

VOLUME 2

E.2 VORTEX/VORTEX II LISTINGS

SUPPLEMENT

92L9905-013B

VORTEX

THESE ARE SUPPLEMENTAL LISTINGS ONLY. THE MODULES IN THIS VOLUME REPLACE THE SAME MODULES IN THE E VORTEX LISTINGS (92L0705-019E). THESE LISTINGS REPLACE THE E.1 LISTINGS (92L9905-013A). THE END OF THE COMMON MODULE CONTAINS THE EDIT CHANGES FROM RELEASE E TO RELEASE E.2. AN ENTRY NAME TO PROGRAM NAME CROSS REFERENCE LIST IS INCLUDED WITH THE COMMON MODULE. A LISTINGS OF THE E.2 SGL IS INCLUDED AT THE END OF THE VORTEX AND VORTEX II MODULES.

E.2 VORTEX LISTINGS
 ALPHABETICAL ORDER INDEX
 PROGRAM PAGE SYS

PROGRAM	PAGE	SYS
AF	459	
ALUF	460	
HTPTCH	490	V1
HTPTCH	604	V2
CA2R	264	
CR2A	261	
CCMATH	320	
CI DGC EXP	315	
CRMATH	305	
CSINCCOS	310	
CSORT	300	
CTCT4A	257	
CTCT5A	258	
CTCT6A	259	
CTCT7A	260	
CTC04A	253	
CTC05A	254	
CTC06A	255	
CTC07A	256	
CTIME	269	
CTLP2A	251	
CTLP3A	252	
CTSP0A	496	V1
CTSP0A	335	V2
CTSP1A	503	V1
CTSP1A	343	V2

E.2 VORTEX LISTINGS
 ALPHABETICAL ORDER INDEX
 PROGRAM PAGE SYS

CTSP2A	505	V1
CTSP2A	345	V2
CTSP3A	507	V1
CTSP3A	347	V2
CTSP4A	509	V1
CTSP4A	349	V2
CTSP5A	511	V1
CTSP5A	351	V2
CTSP6A	513	V1
CTSP6A	353	V2
CTSP7A	515	V1
CTSP7A	355	V2
DATAN	436	
DFXP	444	
DTADDSUB	334	
DTMULDIV	328	
DILOG	452	
DSINCS	477	
EXP	468	
FPPWCS	489	
IDINT	487	
ISDA	162	V1
ISDA	183	V2
ISDP	165	V1
ISDP	187	V2
ISDC	170	V1

E.2 VOPTEY LISTINGS
 ALPHABETICAL ORDER INDEX
 PROGRAM PAGE SYS

PROGRAM	PAGE	SYS
ISDC	192	V2
ISDD	174	V1
ISDD	196	V2
LDELAY	271	
MERGE	755	
MICSIM	337	
MIJTTI	559	
MOVE	267	
PATCH	445	V1
PATCH	649	V2
SDE	292	
SD2	280	
SFC	277	
SGC	293	
STC	282	
STE	285	
S4C	295	
S4E	290	
S4E	272	
RPGRT	835	
SDRT	790	
STOPAHS	242	
VCLPS	575	V1
VCLPS	423	V2
VSDASME	282	V1
VSDASME	484	V2

E.2 VORTEX LISTINGS
 ALPHABETICAL ORDER INDEX
 PROGRAM PAGE SYS

PROGRAM	PAGE	SYS	
VDFEBUG	300	V1	
VDFEBUG	593	V2	
1- VDFMATH	644		
VDFORT	1		
VDFORTIO	226		
VDFORTDA	246		
VDFOR0	77		
VDFOR1	94		
VDFOR2	132		
VDFOR3	196		
VDFOR4	213		
VDFUNC	203	V1	
VDFUNC	242	V2	DISPATCH
VDFINC	224	V1	
VDFINC	272	V2	
1- VDFINITIL	716		
VDFJCP	609		
VDFLPD24	521		
VDFABORT	536		
VDFOASSGN	524		
VDFOTIME	547		
VDFRFRF	794	V1	
VDFRFRF	872	V1	
VDFRFRF	850	V2	
VDFRFRF	922	V2	
VDFRFRS	632	V1	

E.2 VORTEX LISTINGS
 ALPHABETICAL ORDER INDEX
 PROGRAM PAGE SYS

PROGRAM	PAGE	SYS
VREFRS	713	V1
VREFRS	700	V2
VREFRS	775	V2
VRSFRV	247	V1
VRSFRV	205	V2
VRSGEN1	1	V1
VRSGEN2	48	V1
VRSGEN4	135	V1
VRSGEN1	1	V2
VRSGEN2	53	V2
VRSGEN4	150	V2
VRSNAP	411	V1
VRSNAP	615	V2
VRSSTD	404	V1
VRSSTD	608	V2
VRSYTASK	178	V1
VRSYTASK	200	V2
VSTYA	517	V1
VSTYA	357	V2
VSBG	297	
V7CPA	611	V1
V7CPA	463	V2
V7CPA	562	V1
V7CPA	409	V2
V7DN	538	V1
V7DN	381	V2

E.2 VORTEX LISTINGS
ALPHABETICAL ORDER INDEX
PROGRAM PAGE SYS

V7LPDY	596	V1
V7LPDX	447	V2
V7SPA	623	V1
V7SPB	475	V2
V1WCSETF	419	V1
V2WCSETF	623	V2
XDCRMP	476	


```

000001 A 1 VORTEX SET 1 PUT LAST FOR VORTEX V2 03 00001
2 * THIS IS A COPYRIGHTED PROGRAM. COPYRIGHT 1972 BY VARAIN DATA MACHINE 03 00002
3 * 03 00003
4 * V.D.M. PART NO. 92L0805-003D 03 00004
5 * 03 00005
6 * 03 00006
7 * RELEASED 03/01/74 03 00007
8 * 03 00008
9 * VSSGEN1 03 00009
10 * 03 00010
11 * 03 00011
000001 A 12 V75 TITLE VSSGEN1 V75*****
13 SET 1 03 00012
14 NAME SGEN1 03 00013
15 EXT IOCS 03 00014
16 * 03 00015
17 * * * * * SGEN COMMON DATA AREA * * * 03 00016
18 * 03 00017
000001 A 19 X EQU 1 03 00018
000002 A 20 B EQU 2 03 00019
000005 A 21 LIS EQU 5 LD EQUIVALENT 03 00020
000003 A 22 DC EQU 3 SD EQUIVALENT 03 00021
000002 A 23 DIR EQU 2 SI EQUIVALENT 03 00022
000500 24 CRG 0500 03 00023
25 EJEC 03 00024
26 * 03 00025
27 * * * * * STACK CONTROL BLOCK * * * 03 00026
28 * 03 00027
000500 29 SGSCB0 BSS 2 EQUIP STACK (HIGHEST STACK IN MEMORY) V2 03 00028
000502 000006 A 30 DATA 6 03 00029
000503 31 SGSCB1 BSS 2 ASSIGN STACK 03 00030
000505 000004 A 32 DATA 4 03 00031
000506 33 SGSCB2 BSS 2 ADD/DELETE/REPLACE STACK 03 00032
000510 000005 A 34 DATA 5 03 00033
000511 35 SGSCB3 BSS 2 PARTITION PARAMETER STACK 03 00034
000513 000004 A 36 DATA 4 03 00035
000514 37 SGSCB4 BSS 2 INTERRUPT MODULE STACK 03 00036
000516 000005 A 38 DATA 5 03 00037
000517 39 SGSCB5 BSS 2 RESIDENT TASK NAME STACK 03 00038
000521 000003 A 40 DATA 3 03 00039
000522 41 SGSCB6 BSS 2 LOADER TABLE STACK 03 00040
000524 000005 A 42 DATA 5 03 00041
000525 43 SGSCB7 BSS 2 DATA PATCH STACK 03 00042
000527 000005 A 44 DATA 5 03 00043
000530 45 SGSCB8 BSS 2 TASK ENTRY NAME STACK 03 00044
000532 000005 A 46 DATA 5 03 00045
000533 47 SGSCB9 BSS 2 TEMPORARY STACK 03 00046
000535 000005 A 48 DATA 5 03 00047
000536 49 SGSC10 BSS 2 OVERLAY DIRECTORY STACK 03 00048
000540 000007 A 50 DATA 7 03 00049
000541 51 SGSC11 BSS 2 RELO DATA FIX-UP STACK 03 00050
000543 000001 A 52 DATA 1 03 00051
000544 53 SGSC12 BSS 2 ADD-ON FIX-UP STACK 03 00052
000546 000001 A 54 DATA 1 03 00053
000547 177777 A 55 ESCB DATA -1 MUST GO AT END OF STACK CONTROL BLOCK 03 00054
000544 A 56 BSTACK EQU SGSC12 MUST POINT TO BASE OF LOWEST STACK 03 00055
57 EJEC 03 00056
58 * 03 00057
59 * * * * * I/O TABLES * * * 03 00058
60 * 03 00059
000550 61 $LUN BSS 1 03 00060
000551 62 $PUN BSS 1 03 00061
000551 A 63 $LUB EQU *-1 LOGICAL UNIT TABLE BASE V2 03 00062
000551 A 64 LUT EQU $LUB LOGICAL UNIT TABLE V2 03 00063
000552 65 BSS 22 LOGICAL UNIT TABLE V2 03 00064
66 * 03 00065
000600 000576 A 67 $PUB EQU *-2 PHYSICAL UNIT TABLE BASE V2 03 00066
68 PUT BSS 44 PHYSICAL UNIT TABLE V2 03 00067
69 * UD 0---BITS 7-0=DEVICE ADDR. -35 03 00068
70 * BITS15-8=BIT NO. -35 03 00069
71 * UD.1---DRIVER DST ADDR. -35 03 00070
72 EJEC 03 00071
73 * 03 00072
74 * * * * * MISC. PARAMETERS * * * 03 00073
75 * 03 00074
000654 76 SGSIZE BSS 1 SIZE OF MAIN MEMORY 03 00075
000655 77 TPROG BSS 1 ADDR. OF HIGHEST LOADED LOCATION 03 00076
000656 78 SCRASE BSS 1 HIGHEST AVAILABLE STACK LOCATION 03 00077
000657 000000 A 79 V$BVM DATA 0 BOTTOM OF VORTEX NUCLEUS 03 00078
000660 000000 A 80 V$LIT DATA 0 TOP OF LITERAL POOL 03 00079
000661 81 V$CRDR BSS 1 ADDR. OF CORE RESIDENT DIRECTORY 03 00080
000662 82 ADCRDR BSS 1 ABSOLUTE ADDR OF 'V$CRDR' 03 00081
000663 83 AD$CAM BSS 1 ABSOLUTE ADDR OF 'V$CAM' 03 00082
84 EJEC 03 00083
85 * 03 00084
86 * * * * * DATA BUFFERS * * * 03 00085
87 * 03 00086
000664 88 SGIBUF BSS 120 INPUT BUFFER 03 00087
001054 89 ITEM BSS 10 STACK ITEM BUFFER 03 00088
001066 001130 A 90 B$SIZ EQU 600 OUTPUT BUFFER. MAKE ROOM FOR PST E2505 03 00089
91 SGOBUF BSS B$SIZ AND BAD TRACK TABLE. -35 03 00090
92 * 03 00091
001066 A 93 SGOBUF EQU SGOBUF VIRTUAL MEMORY BUFFER 03 00092

```


002216		94	SGPBUF	BSS	120	PST BUFFER		03	00093
002406		95	SGLBUF	BSS	60	LIST BUFFER		03	00094
002502		96	TBUF1	BSS	10	DATA MANIPULATION BUFFER		03	00095
002514		97	TBUF2	BSS	10	DATA MANIPULATION BUFFER		03	00096
		98		EJEC				03	00097
	002526	A	MT	EQU	*			03	00098
002526	000000	A	100	DATA	000000			03	00099
002527	000001	A	101	DATA	000001			03	00100
002530	000002	A	102	DATA	000002			03	00101
002531	000004	A	103	DATA	000004			03	00102
002532	000010	A	104	DATA	000010			03	00103
002533	000020	A	105	DATA	000020			03	00104
	002534	A	106	K32 EQU	*			03	00105
002534	000040	A	107	DATA	000040			03	00106
002535	000100	A	108	DATA	000100			03	00107
002536	000200	A	109	DATA	000200			03	00108
002537	000400	A	110	DATA	000400			03	00109
002540	001000	A	111	DATA	001000			03	00110
002541	002000	A	112	DATA	002000			03	00111
002542	004000	A	113	DATA	004000			03	00112
002543	010000	A	114	DATA	010000			03	00113
002544	020000	A	115	DATA	020000			03	00114
002545	040000	A	116	DATA	040000			03	00115
002546	100000	A	117	DATA	0100000			03	00116
002547	177776	A	118	DATA	0177776			03	00117
002550	177775	A	119	DATA	0177775			03	00118
002551	177773	A	120	DATA	0177773			03	00119
002552	177767	A	121	DATA	0177767			03	00120
002553	177757	A	122	DATA	0177757			03	00121
002554	177737	A	123	DATA	0177737			03	00122
002555	177677	A	124	DATA	0177677			03	00123
002556	177577	A	125	DATA	0177577			03	00124
002557	177377	A	126	DATA	0177377			03	00125
002560	176777	A	127	DATA	0176777			03	00126
002561	175777	A	128	DATA	0175777			03	00127
002562	173777	A	129	DATA	0173777			03	00128
002563	167777	A	130	DATA	0167777			03	00129
002564	157777	A	131	DATA	0157777			03	00130
002565	137777	A	132	DATA	0137777			03	00131
002566	077777	A	133	DATA	0077777			03	00132
002567	177777	A	134	DATA	0177777			03	00133
002570	177400	A	135	DATA	0177400			03	00134
002571	000377	A	136	DATA	0003377			03	00135
002572	000003	A	137	DATA	000003			03	00136
002573	000005	A	138	DATA	000005			03	00137
002574	000006	A	139	DATA	000006			03	00138
002575	000007	A	140	DATA	000007			03	00139
002576	000011	A	141	DATA	000011			03	00140
002577	000012	A	142	DATA	000012			03	00141
002600	000017	A	143	DATA	000017			03	00142
002601	000037	A	144	DATA	000037			03	00143
002602	000077	A	145	DATA	000077			03	00144
002603	000177	A	146	DATA	000177			03	00145
002604	000777	A	147	DATA	000777			03	00146
002605	001777	A	148	DATA	001777			03	00147
			149	EJEC				03	00148
			150	*				03	00149
			151	*				03	00150
			152	*				03	00151
			153	*				03	00152
002606	130260	A	154	ER00	'00'			03	00153
002607	130261	A	155	ER01	'01'			03	00154
002610	130262	A	156	ER02	'02'			03	00155
002611	130263	A	157	ER03	'03'			03	00156
002612	130264	A	158	ER04	'04'			03	00157
002613	130265	A	159	ER05	'05'			03	00158
002614	130266	A	160	ER06	'06'			03	00159
002615	130267	A	161	ER07	'07'			03	00160
002616	130270	A	162	ER08	'08'			03	00161
002617	130271	A	163	ER09	'09'			03	00162
002620	130660	A	164	ER10	'10'			03	00163
002621	130661	A	165	ER11	'11'			03	00164
002622	130662	A	166	ER12	'12'			03	00165
002623	130663	A	167	ER13	'13'			03	00166
002624	130664	A	168	ER14	'14'			03	00167
002625	130665	A	169	ER15	'15'			03	00168
002626	131260	A	170	ER20	'20'			03	00169
002627	131261	A	171	ER21	'21'			03	00170
002630	131262	A	172	ER22	'22'			03	00171
002631	131263	A	173	ER23	'23'			03	00172
002632	131264	A	174	ER24	'24'			03	00173
002633	131265	A	175	ER25	'25'			03	00174
002634	131266	A	176	ER26	'26'			03	00175
002635	131660	A	177	ER30	'30'			03	00176
002636	131661	A	178	ER31	'31'			03	00177
002637	131662	A	179	ER32	'32'			03	00178
002640	131663	A	180	ER33	'33'			03	00179
002641	131664	A	181	ER34	'34'			03	00180
002642	132260	A	182	ER40	'40'			03	00181
002643	132261	A	183	ER41	'41'			03	00182
002644	132262	A	184	ER42	'42'			03	00183
002645	132263	A	185	ER43	'43'			03	00184
002646	132264	A	186	ER44	'44'			03	00185

* * ERROR MESSAGE CODE NUMBERS * *

V2

002647	132265	A	187	ER45	DATA	'45'			03	00186	
002650	132266	A	188	ER46	DATA	'46'			03	00187	
002651	132267	A	189	ER47	DATA	'47'			03	00188	
002652	132270	A	190	ER48	DATA	'48'			03	00189	
			191		EJEC				03	00190	
002653			192	ISTART	BSS	0		* * * START OF COMMON AREA INITIALIZED * *	03	00191	
			193	*					03	00192	
			194	*			* * * ERROR RECOVERY TABLE * * *		03	00193	
			195	*					03	00194	
002653	000000	A	196	DREC	DATA	0		RECOVERY FLAG	03	00195	
002654	000000	A	197	IUNIT	DATA	0		CURRENT INPUT UNIT	03	00196	
002655	000000	A	198	MFLAG	DATA	0		RECOVERY MODE FLAG	03	00197	
			199	*					03	00198	
			200		EJEC				03	00199	
			201	*					03	00200	
			202	*			LOAD MODULE GENERATOR INTERFACE TABLE		03	00201	
			203	*					03	00202	
			204	*			THIS TABLE CONTAINS INPUT PARAMETERS		03	00203	
			205	*			ESSENTIAL TO LOAD MODULE GENERATOR OPERATION		03	00204	
			206	*					03	00205	
			207	*					03	00206	
002656	000000	A	208	SGBARS	DATA	0		BASE ADDRESS OF ROOT SEGMENT	03	00207	
002657	000000	A	209	SGBSNR	DATA	0		BASE SECTOR NUMBER OF ROOT SEGMENT	03	00208	
002660	000000	A	210	SGBIAP	DATA	0		BASE ADDRESS OF SGBIAD	03	00209	
002661	000000	A	211	SGBLIT	DATA	0		BASE ADDRESS OF SGBLIT	03	00210	
002662	000000	A	212	SGBAOD	DATA	0		BASE ADDRESS OF OVERLAY DIRECTORY	03	00211	
002663	000000	A	213	SGDDSZ	DATA	0		OVERLAY DIRECTORY SIZE	03	00212	
002664	000000	A	214	SGRPGM	DATA	0		SGRPGM FOR ROOT SEGMENT	03	00213	
002665	000000	A	215	SGRPED	DATA	0		SGRPED FOR ROOT SEGMENT	03	00214	
002666	000000	A	216	SGCIIL	DATA	0		SGCIIL - CURRENT INDIRECT LITERAL PNTR	03	00215	
002667	000000	A	217	SGCIDL	DATA	0		SGCIDL - CURRENT DIRECT LITERAL PNTR	03	00216	
002670	000000	A	218	SGERSE	DATA	0		PNTR INTO LOADER TABLE STACK FOR ROOT SEG	03	00217	
002671	000000	A	219	SGCLUN	DATA	0		LOGICAL UNIT NUMBER FOR CURRENT SEGMENT	03	00218	
002672	000000	A	220	SGCKEY	DATA	0		PROTECT KEY FOR CURRENT SEGMENT BUILD	03	00219	
002673	000000	A	221	SGCSGN	DATA	0		SEGMENT NUMBER OF CURRENT SEGMENT	03	00220	
002674	000000	A	222	SGTALT	DATA	0		TASK AND LOAD TYPE OF CURRENT SEGMENT	03	00221	
002675	000000	A	223	SGCXEQ	DATA	0		SGCXEQ - EXECUTION ADDR OF CURRENT SEGMENT	03	00222	
002676	000000	A	224	SGCHSN	DATA	0		SGCHSN - HIGHEST SECTOR NUM CURRENT SEG	03	00223	
002677	000000	A	225	SGCPGM	DATA	0		SGCPGM FOR CURRENT SEGMENT	03	00224	
002700	000000	A	226	SGCPED	DATA	0		SGCPED FOR CURRENT SEGMENT	03	00225	
002701	000000	A	227	SGCBAD	DATA	0		BASE ADDRESS OF CURRENT SEGMENT	03	00226	
002702	000000	A	228	SGCBSN	DATA	0		BASE SECTOR NUMBER OF CURRENT SEGMENT	03	00227	
002703	000000	A	229	SGSOBP	DATA	0		OUTPUT BUFFER POINTER	03	00228	
			230		EJEC				03	00229	
			231	*			* * * MISC. DATA STORE * * *		03	00230	
			232	*					03	00231	
002704	000000	A	233	SGCLK1	DATA	0		* * * REAL-TIME CLOCK PARAMETERS	03	00232	
002705	000000	A	234	SGCLK2	DATA	0			03	00233	
002706	000000	A	235	SGCLK3	DATA	0			03	00234	
			236	*					03	00235	
002707	000000	A	237	SGMRY1	DATA	0		* * * MAIN MEMORY PARAMETERS	03	00236	
002710	000000	A	238	SGMRY2	DATA	0			03	00237	
002711	000000	A	239	SGMRY3	DATA	0			03	00238	
			240	IEF			VORTEX-2	V2	03	00239	
			241	SGMRY4	DATA	0		PHYSICAL PAGE COUNT	V2	03	00240
			242	*					03	00241	
002712	000000	A	243	SGEDR1	DATA	0		* NUMBER OF EMPTY TIDR'S	03	00242	
002713	000000	A	244	SGEDR2	DATA	0		* STACK SIZE	03	00243	
002714	000000	A	245	SGEDR3	DATA	0		* NUM REASSIGN. LOG. UNITS	03	00244	
002715	000000	A	246	SGEDR4	DATA	0		* NUM NON-REASSIGN. LOG. UNITS	03	00245	
002716	000000	A	247	SGEDR5	DATA	0		* NUM OP-COM REASSIGN. LOG. UNITS	03	00246	
002717	000000	A	248	SGEDR6	DATA	0		* MAX. PARTITION VALUE	03	00247	
002720	000000	A	249	SGEDR7	DATA	0		* (NOT USED)	03	00248	
002721	000000	A	250	SGEDR8	DATA	0		* PAGE SIZE	03	00249	
002722	000000	A	251	SGEDR9	DATA	0		* CHARACTER CODE FLAG	03	00250	
002723	000000	A	252	SGEDRA	DATA	0		* LIST FLAG	03	00251	
			253	*					03	00252	
002724	000000	A	254	SGLUN1	DATA	0		* TOTAL NUMBER OF LOGICAL UNITS	03	00253	
002725	000000	A	255	SGLUN2	DATA	0			03	00254	
002726	000000	A	256	SGLUN3	DATA	0			03	00255	
			257	*					03	00256	
002727	000000	A	258	SGTMP1	DATA	0		* * * GENERAL PURPOSE TEMPORARY STORAGE	03	00257	
002730	000000	A	259	SGTMP2	DATA	0			03	00258	
002731	000000	A	260	SGTMP3	DATA	0			03	00259	
			261	IEF			VORTEX-1	V2	03	00260	
			262	GDID		1			V2	03	00261
			263	*					V2	03	00262
002732	002733	A	264	V\$RFB	DATA	0		BASE ADDRESS OF FOREGROUND COMMON	V2	03	00263
			265	V\$BTB	DATA	0		BASE ADDRESS OF USER BLOCK	V2	03	00264
			266	V\$GFCB	DATA	0		BASE ADDRESS OF GLOBAL FCBS	V2	03	00265
			267	V\$TRT	DATA	0		TOP ADDRESS OF RESIDENT TASKS	V2	03	00266
			268	IEF					V2	03	00267
			269	SGMOD	DATA	*+1		ADDR OF RMD MODEL INDIC.	-35	03	00268
			270	*			WORD 0 = ADDRESS OF *+1		03	00269	
			271	*			WORDS 1-4 INDIC. FOR EACH RMD SPECIFIED ON SYS DIR.		03	00270	
002733	000000	A	272		DATA	0		RMD 1 0=NOEL A+B	-35	03	00271
002734	000000	A	273		DATA	0		RMD 2	-35	03	00272
002735	000000	A	274		DATA	0		RMD 3	-35	03	00273
002736	000000	A	275		DATA	0		RMD 4	-35	03	00274
			276	IEF		V75			V75	03	00275
002737	000000	A	277	SGMRY5	DATA	0		V75 FLAG	V75	03	00276
002740			278	IEFD	BSS	0		* * * END OF COMMON AREA INITIALIZED * *	03	00275	
			279		EJEC				03	00276	


```

280 *****
281 *
282 ****   MASK TABLE DESCRIPTION   ****
283 *
284 *****
002526 A 286 ZERO EQU MT ZERO WORD
002527 A 287 BS0 EQU MT+1 BIT MASK CONTENTS 000001
002530 A 288 BS1 EQU MT+2 000002
002531 A 289 BS2 EQU MT+3 000004
002532 A 290 BS3 EQU MT+4 000010
002533 A 291 BS4 EQU MT+5 000020
002534 A 292 BS5 EQU MT+6 000040
002535 A 293 BS6 EQU MT+7 000100
002536 A 294 BS7 EQU MT+8 000200
002537 A 295 BS8 EQU MT+9 000400
002540 A 296 BS9 EQU MT+10 001000
002541 A 297 BS10 EQU MT+11 002000
002542 A 298 BS11 EQU MT+12 004000
002543 A 299 BS12 EQU MT+13 010000
002544 A 300 BS13 EQU MT+14 020000
002545 A 301 BS14 EQU MT+15 040000
002546 A 302 BS15 EQU MT+16 010000
002547 A 303 BR0 EQU MT+17 BIT MASK CONTENTS 0177776
002550 A 304 BR1 EQU MT+18 0177775
002551 A 305 BR2 EQU MT+19 0177773
002552 A 306 BR3 EQU MT+20 0177767
002553 A 307 BR4 EQU MT+21 0177757
002554 A 308 BR5 EQU MT+22 0177737
002555 A 309 BR6 EQU MT+23 0177677
002556 A 310 BR7 EQU MT+24 0177577
002557 A 311 BR8 EQU MT+25 0177377
002560 A 312 BR9 EQU MT+26 0176777
002561 A 313 BR10 EQU MT+27 0175777
002562 A 314 BR11 EQU MT+28 0173777
002563 A 315 BR12 EQU MT+29 0167777
002564 A 316 BR13 EQU MT+30 0157777
002565 A 317 BR14 EQU MT+31 0137777
002566 A 318 BR15 EQU MT+32 0077777
002567 A 319 NEG EQU MT+33 SET ALL BITS
002570 A 320 LHW EQU MT+34 LEFT HALF WORD MASK 0177400
002571 A 321 RHW EQU MT+35 RIGHT HALF WORD MASK 0377
002572 A 322 ONE EQU MT+1 CONTAINS NUMBER 1
002573 A 323 TWO EQU MT+2 CONTAINS NUMBER 2
002574 A 324 THREE EQU MT+3 CONTAINS NUMBER 3
002575 A 325 FOUR EQU MT+4 CONTAINS NUMBER 4
002576 A 326 FIVE EQU MT+5 CONTAINS NUMBER 5
002577 A 327 SIX EQU MT+6 CONTAINS NUMBER 6
002578 A 328 SEVEN EQU MT+7 CONTAINS NUMBER 7
002579 A 329 EIGHT EQU MT+8 CONTAINS NUMBER 8
002580 A 330 NINE EQU MT+9 CONTAINS NUMBER 9
002581 A 331 TEN EQU MT+10 CONTAINS NUMBER 10
002582 A 332 BM1 EQU MT+1 BIT MASK WORD 00001
002583 A 333 BM3 EQU MT+36 BIT MASK WORD 00003
002584 A 334 BM7 EQU MT+39 BIT MASK WORD 00007
002600 A 335 BM17 EQU MT+42 BIT MASK WORD 00017
002601 A 336 BM37 EQU MT+43 BIT MASK WORD 00037
002602 A 337 BM77 EQU MT+44 BIT MASK WORD 00077
002603 A 338 BM177 EQU MT+45 BIT MASK WORD 00177
002604 A 339 BM377 EQU MT+46 BIT MASK WORD 00377
002605 A 340 BM777 EQU MT+46 BIT MASK WORD 00777
002606 A 341 BM1777 EQU MT+47 BIT MASK WORD 01777
342 EJEC
343 *****
344 *
345 ****   BIT TEST BIT DESIGNATION   ****
346 *
347 *****
000040 A 349 RA0 EQU 040 BT JUMPS WHEN A REGISTER IS 0
000000 A 350 RA1 EQU 000 BT JUMPS WHEN A REGISTER IS 1
000060 A 351 RB0 EQU 060 BT JUMPS WHEN B REGISTER IS 0
000020 A 352 RB1 EQU 020 BT JUMPS WHEN B REGISTER IS 1
354 *****
355 *
356 **   THE BIT CHECKED
357 *
358 *****
000000 A 360 B0 EQU 0
000001 A 361 B1 EQU 1
000002 A 362 B2 EQU 2
000003 A 363 B3 EQU 3
000004 A 364 B4 EQU 4
000005 A 365 B5 EQU 5
000006 A 366 B6 EQU 6
000007 A 367 B7 EQU 7
000010 A 368 B8 EQU 8
000011 A 369 B9 EQU 9
000012 A 370 B10 EQU 10
000013 A 371 B11 EQU 11
000014 A 372 B12 EQU 12
000015 A 373 B13 EQU 13
000016 A 374 B14 EQU 14
000017 A 375 B15 EQU 15
376 EJEC

```



```

003000 377 BRG 03000 -35 03 00374
378 * 03 00375
379 * SG3DPI 03 00376
380 * 03 00377
381 * PURPOSE: TO INITIALIZE CERTAIN STACKS AND 03 00378
382 * PARAMETERS. 03 00379
383 * 03 00380
384 * CALLING SEQUENCE: JMP SG3DPI 03 00381
385 * 03 00382
386 * RETURN PARAMETERS: NONE 03 00383
387 * 03 00384
388 * 03 00385
003000 389 SGEN1 BSS 0 03 00386
003000 390 SG3DPI BSS 0 03 00387
003000 006030 A 391 LDIX ISTART INITIALIZE ALL 03 00388
003001 002653 A 392 DP11 TZB COMMON DATA AREA CELLS 03 00389
003002 005002 A 393 STB 0,X BETWEEN 'ISTART' AND 'IEND' 03 00390
003003 065000 A 394 INCR 045 TO ZERO 03 00391
003004 005145 A 395 SUBI SGMOD 03 00392
003005 006140 A 396 JAN DP11 03 00393
003006 002732 A 397 * 03 00394
003007 001004 A 398 IFT VORTEX-2 V2 03 00395
003010 003003 A 399 GOTO 1 V2 03 00396
400 LDA K32 V2 03 00397
401 STA SGMRY4 V2 03 00398
402 1 CONT V2 03 00399
003011 010000 L 403 LDA =035777 03 00400
003012 052707 A 404 STA SGMRY1 INITIALIZE MAIN MEMORY SIZE 03 00401
003013 010000 L 405 LDA =100 03 00402
003014 052704 A 406 STA SGCLK1 INITIALIZE CLOCK PARAMETERS 03 00403
003015 052703 A 407 STA SGCLK2 03 00404
003016 010000 L 408 LDA =20 03 00405
003017 052706 A 409 STA SGCLK3 03 00406
410 * 03 00407
003020 010000 L 411 LDA =12 INITIALIZE LOGICAL UNIT BLOCK SIZES 03 00408
003021 052724 A 412 STA SGLUN1 03 00409
003022 012574 A 413 LDA SIX 03 00410
003023 052725 A 414 STA SGLUN2 03 00411
415 * 03 00412
003024 006030 A 416 LDIX SGSCB0 INITIALIZE ALL 03 00413
003025 000500 A 417 * 03 00414
003026 020656 A 418 DP3 LDB SGBASE STACK CONTROL BLOCK ADDRESSES 03 00415
003027 065000 A 419 STB 0,X TO HIGHEST STACK LOCATION 03 00416
003030 065001 A 420 STP 1,X 03 00417
003031 005144 A 421 INR 03 00418
003032 005144 A 422 INR 03 00419
003033 005144 A 423 LDA 0,X 03 00420
003034 015000 A 424 JAP DP3 03 00421
003035 001002 A 425 * 03 00422
003036 003027 A 426 097 LDB FASTACK DUMP ALL NOMINAL 03 00423
003037 010000 L 427 LDIX SSGSCB1 DEVICE ASSIGNMENTS 03 00424
003040 030000 L 428 TSB 03 00425
003041 005012 A 429 STB DP8 03 00426
003042 063053 A 430 LDA 0,B 03 00427
003043 015000 A 431 JAZ DP4 INTO 'SGSCB1' 03 00428
003044 001010 A 432 * 03 00429
003045 003057 A 433 CALL SGPOT 03 00430
003046 002000 A 434 JAN DP6 03 00431
003047 010624 A 435 LDAX 0 03 00432
003050 001004 A 436 DP8 RES 0 BUMP ASTACK TABLE POINTER V2 03 00433
003051 003067 A 437 ADD SGSCB1+2 03 00434
003052 006010 A 438 JMP DP7 03 00435
003053 000000 A 439 * 03 00436
003054 120505 A 440 DP4 LDB =DP5 ASK FOR DIRECTIVES C 03 00437
003055 001000 A 441 CALL SGMOD,0 03 00438
003056 003040 A 442 * 03 00439
003057 020000 L 443 JNZ SGSDIR IF NO ERRORS 03 00440
003060 002000 A 444 LDA ER10 WRITE ERROR 03 00441
003061 011443 A 445 BATA 01006 03 00442
003062 000000 A 446 DP6 LDA ER24 IF STACK OVERFLOW 03 00443
003063 001040 A 447 CALL SGMOD FIRST ERROR MESSAGE, 03 00444
003064 003210 A 448 JMP SG3DPI AND TRY AGAIN. 03 00445
003065 012620 A 449 DP5 DATA 0, 'INPUT DIRECTIVES' 03 00446
003066 001006 A 03 00447
003067 012632 A 03 00448
003070 002000 A 03 00449
003071 011173 A 03 00450
003072 001000 A 03 00451
003073 003000 A 03 00452
003074 000010 A 03 00453
003075 144716 A 03 00454
003076 150325 A 03 00455
003077 152249 A 03 00456
003100 142311 A 03 00457
003101 151305 A 03 00458
003102 141724 A 03 00459

```


003103	144726	A							
003104	142723	A							
			449	EJEC				03	00446
			450	*				03	00447
			451	*				03	00448
			452	*				03	00449
			453	*				03	00450
003105			454	ASTACK BSS	0			03	00451
003105	142260	A		DATA	'D00BFL'				
003106	130302	A							
003107	143314	A							
003110	000552	A	455	DATA	0552	FLAG=FIXED		03	00452
003111	142260	A	456	DATA	'D00CBL'			03	00453
003112	130303	A							
003113	141314	A							
003114	000551	A	457	DATA	0551	FLAG=FIXED		03	00454
003115	142260	A	458	DATA	'D00DOM'			03	00455
003116	130304	A							
003117	147715	A							
003120	000550	A	459	DATA	0550	FLAG=FIXED		03	00456
003121	142260	A	460	DATA	'D00ACL'			03	00457
003122	130301	A							
003123	141714	A							
003124	000547	A	461	DATA	0547	FLAG=FIXED		03	00458
003125	142260	A	462	DATA	'D00FSW'			03	00459
003126	130306	A							
003127	151727	A							
003130	000546	A	463	DATA	0546	FLAG=FIXED		03	00460
003131	142260	A	464	DATA	'D00ECU'			03	00461
003132	130305	A							
003133	141725	A							
003134	000545	A	465	DATA	0545	FLAG=FIXED		03	00462
003135	152331	A	466	DATA	'TY00DD'			03	00463
003136	130260	A							
003137	142317	A							
003140	021014	A	467	DATA	021014	FLAG=TY,LP		03	00464
003141	152331	A	468	DATA	'TY00DI'			03	00465
003142	130260	A							
003143	142311	A							
003144	024013	A	469	DATA	024013	FLAG=TY,I		03	00466
003145	142325	A	470	DATA	'DUM PD'			03	00467
003146	146640	A							
003147	150317	A							
003150	050012	A	471	DATA	050012	FLAG=RMD,MT		03	00468
003151	142325	A	472	DATA	'DUM GO'			03	00469
003152	146640	A							
003153	143717	A							
003154	050011	A	473	DATA	050011	FLAG=RMD,MT		03	00470
003155	142325	A	474	DATA	'DUM SS'			03	00471
003156	146640	A							
003157	151723	A							
003160	050010	A	475	DATA	050010	FLAG=RMD,MT		03	00472
003161	142325	A	476	DATA	'DUM BD'			03	00473
003162	146640	A							
003163	141317	A							
003164	052007	A	477	DATA	052007	FLAG=RMD,MT,D		03	00474
003165	142325	A	478	DATA	'DUM BI'			03	00475
003166	146640	A							
003167	141311	A							
003170	054006	A	479	DATA	054006	FLAG=RMD,MT,I		03	00476
003171	152331	A	480	DATA	'TY00LD'			03	00477
003172	130260	A							
003173	146317	A							
003174	073005	A	481	DATA	073005	FLAG=RMD,MT,LP,TY,D		03	00478
003175	152331	A	482	DATA	'TY00PI'			03	00479
003176	130260	A							
003177	150311	A							
003200	074004	A	483	DATA	074004	FLAG=RMD,MT,TY,I		03	00480
003201	152331	A	484	DATA	'TY00SD'			03	00481
003202	130260	A							
003203	151717	A							
003204	020003	A	485	DATA	020003	FLAG=TY		03	00482
003205	152331	A	486	DATA	'TY00SI'			03	00483
003206	130260	A							
003207	151711	A							
003210	074002	A	487	DATA	074002	FLAG=RMD,MT,TY,I		03	00484
003211	152331	A	488	DATA	'TY00DC'			03	00485
003212	130260	A							
003213	147700	A							
003214	020001	A	489	DATA	020001	FLAG=TY		03	00486
003215	000000	A	490	DATA	0	END-OF-TABLE FLAG		03	00487
			491	EJEC				03	00488
			492	*				03	00489
			493	*	SG3DIR			03	00490
			494	*				03	00491
			495	*				03	00492
			496	*	PURPOSE: SG3DIR READS DIRECTIVES AND ROUTES THEM			03	00493
			497	*	TO THE APPLICABLE PROCESSING ROUTINE.			03	00494
			498	*				03	00495
			499	*	CALLING SEQUENCE: JMP SG3DIR			03	00496
			500	*				03	00497
			501	*	RETURN PARAMETERS: NONE			03	00498
			502	*				03	00499
003216			503	SG3DIR BSS	0			03	00500

003216	002000	A	504	CALL	SGRSI	READ DIRECTIVE FROM 'DIR' UNIT	03 00501
003217	011531	A					
003220	001046	A	505	JXNZ	DIR1	IF I/O ERROR	03 00502
003221	003263	A					
003222	006505	A	506	DIR5 JSR	SGGFI,X	GET DIRECTIVE DESIGNATOR	03 00503
003223	010713	A					
003224	003270	A	507	DATA	DIR2,3	STORE 3 CHARS. FROM SGIBUF TO DIR2.-35	03 00504
003225	000003	A					
003226	142531	A	508	SUB	FOUR		03 00505
003227	001002	A	509	JAP	DIR1	IF MORE THAN THREE CHAR IN DIRECTIVE	03 00506
003230	003263	A					
003231	005021	A	510	TBA			03 00507
003232	140000	L	511	SUB	=0254		03 00508
003233	001016	A	512	JANZ	DIR1	IF NOT TERMINATED BY A COMMA	03 00509
003234	003263	A					
003235	006030	A	513	LDXI	DPTAB	DIRECTIVE PROCESSOR ADDR TABLE	03 00510
003236	003272	A					
003237	015000	A	514	DIR3 LDA	0,X	GET FIRST TWO CHAR	03 00511
003240	001010	A	515	JAZ	DIR1	IF END OF TABLE	03 00512
003241	003263	A					
003242	133270	A	516	ERA	DIR2		03 00513
003243	001016	A	517	JANZ	DIR4	IF NO MATCH ON FIRST TWO CHAR	03 00514
003244	003256	A					
003245	015001	A	518	LDA	1,X	GET THIRD CHAR	03 00515
003246	133271	A	519	ERA	DIR2+1		03 00516
003247	150000	L	520	ANA	=0177400		03 00517
003250	001016	A	521	JANZ	DIR4	IF NO MATCH ON THIRD CHARACTER	03 00518
003251	003256	A					
003252	015002	A	522	LDA	2,X		03 00519
003253	053255	A	523	STA	DIR6	SAVE ADDRESS OF PROCESSING ROUTINE	03 00520
003254	001000	A	524	JMP	3	AND GO TO IT	03 00521
003255	000000	A					
003255			525	DIR6 BES	0		03 00522
003256	005144	A	526	DIR4 IXR			03 00523
003257	005144	A	527	IXR		BUMP PNTR TO NEXT TABLE ENTRY	03 00524
003260	005144	A	528	IXR			03 00525
003261	001000	A	529	JMP	DIR3	CONTINUE	03 00526
003262	003237	A					
			530	*			03 00527
			531	*		* * ERROR PROCESSING * *	03 00528
003263			532	DIR1 BSS	0		03 00529
003263	012607	A	533	LDA	ERR1	GET ERROR MESSAGE	03 00530
003264	002000	A	534	CALL	SGBASC	POST ERROR AND RECOVER	03 00531
003265	011323	A					
003266	001000	A	535	JMP	DIR5		03 00532
003267	003222	A					
003270			536	DIR2 BSS	2		03 00533
			537	*			03 00534
			538	*		* * DIRECTIVE PROCESSOR ADDR TABLE * *	03 00535
			539	*			03 00536
			540	*			03 00537
003272			541	DPTAB BSS	0		03 00538
003272	140704	A	542	DATA	'ADD'		03 00539
003273	142240	A					
003274	003350	A	543	DATA	SG3ADD		03 00540
003275	142305	A	544	DATA	'DEL'		03 00541
003276	146240	A					
003277	003352	A	545	DATA	SG3DEL		03 00542
003300	151305	A	546	DATA	'REP'		03 00543
003301	150240	A					
003302	003354	A	547	DATA	SG3REP		03 00544
003303	146301	A	548	DATA	'LAD'		03 00545
003304	142240	A					
003305	003356	A	549	DATA	SG3LAD		03 00546
003306	146304	A	550	DATA	'LDE'		03 00547
003307	142640	A					
003310	003360	A	551	DATA	SG3LDE		03 00548
003311	146322	A	552	DATA	'LRE'		03 00549
003312	142640	A					
003313	003362	A	553	DATA	SG3LRE		03 00550
003314	141714	A	554	DATA	'OLK'		03 00551
003315	145640	A					
003316	004644	A	555	DATA	SG3OLK		03 00552
003317	146722	A	556	DATA	'IRY'		03 00553
003320	154640	A					
003321	004104	A	557	DATA	SG3IRY		03 00554
003322	150222	A	558	DATA	'RR1'		03 00555
003323	152240	A					
003324	004750	A	559	DATA	SG3RR1		03 00556
003325	150311	A	560	DATA	'RIN'		03 00557
003326	146640	A					
003327	004463	A	561	DATA	SG3RIN		03 00558
003330	142721	A	562	DATA	'REP'		03 00559
003331	150240	A					
003332	004160	A	563	DATA	SG3REP		03 00560
003333	140722	A	564	DATA	'ASN'		03 00561
003334	147240	A					
003335	003476	A	565	DATA	SG3ASN		03 00562
003336	152222	A	566	DATA	'ISK'		03 00563
003337	145640	A					
003340	004706	A	567	DATA	SG3ISK		03 00564
003341	142307	A	568	DATA	'OLT'		03 00565
003342	143240	A					

Address	Hex	Op	Label	Op	Code	Comment	Page	Line
003444	155004	A	649	ANA	4,X			03 00646
003445	001010	A	650	JAZ	ADR9	IF MOD BITS NOT SET		03 00647
003446	003452	A						
003447	131060	A	651	ERR	ITEM+4			03 00648
003450	001016	A	652	JANZ	ADR2	ERROR IF FIELDS DO NOT AGREE		03 00649
003451	003471	A						
003452	015000	A	653	ADR9	LDA	4,X		03 00650
003453	111060	A	654	ORA	ITEM+4			03 00651
003454	055004	A	655	STA	4,X	UPDATE MODIFICATION BITS IF NO CONFLICT		03 00652
003455	001000	A	656	JMP	ADR0	GO GET NEXT ITEM		03 00653
003456	003417	A						
			657	*				03 00654
003457	030000	L	658	ADR7	LDX	=SGSCB2		03 00655
003460	020000	L	659		LDB	=ITEM		03 00656
003461	002000	A	660		CALL	SGPUT	PUT NEW ENTRY IN ADR STACK	03 00657
003462	010624	A						
003463	001002	A	661		JAP	ADR0	GO GET NEXT ITEM	03 00658
003464	003417	A						
			662	*				03 00659
003465	012632	A	663	ADR4	LDA	ER24	POST "STACK OVERFLOW ERROR" MESSAGE	03 00660
003466	001005	A	664		DATA	01006		03 00661
003467	012607	A	665	ADR1	LDA	CR01	POST "SYNTAX ERROR" MESSAGE	03 00662
003470	001006	A	666		DATA	01006		03 00663
003471	012610	A	667	ADR2	LDA	LR02	POST "PARAMETER ERROR" MESSAGE	03 00664
003472	002000	A	668		CALL	SGASC		03 00665
003473	011323	A						
003474	001000	A	669		JMP	SGPUR	PURGE TEMPORARY STACK AND RETURN	03 00666
003475	011634	A						
			670		EJEC			03 00667
			671	*				03 00668
			672	*	SGRASN			03 00669
			673	*				03 00670
			674	*		PURPOSE: UNPACK "ASN" DIRECTIVES AND STORE INFORMATION		03 00671
			675	*		CALLING SEQUENCE: INDIRECT JUMP THROUGH DIR PROC TABLE		03 00672
			676	*		RETURN PARAMETERS: NONE		03 00673
			677	*				03 00674
			678	*				03 00675
			679	*				03 00676
			680	*				03 00677
003476	006505	A	681	SGRASN	BSS	0	* * ENTRY POINT * *	03 00678
003476	010717	A	682		JSR	SGGNI,X	GET NEXT LOGICAL UNIT NUMBER	03 00679
003477	001057	A						
003500	001057	A	683		DATA	ITEM+3		03 00680
003501	000034	A	684		DATA	4		03 00681
003502	053520	A	685		STA	ASN4	NO. OF CHARS. FETCHED	03 00682
003503	140000	L	686		SUB	=5	-35	03 00683
003504	001002	A	687		JAP	ASN1	IF MORE THAN 4 DIGITS	03 00684
003505	004010	A						
003506	005021	A	688		TEA			03 00685
003507	140000	L	689		SUB	=0272		03 00686
003510	050533	A	690		SIG	ASN5		03 00687
003511	001010	A	691		JAZ	ASN0	IF COLON TERMINATOR	03 00688
003512	003516	A						
003513	142572	A	692		SUB	=THREE		03 00689
003514	001016	A	693		JANZ	ASN1	IF NOT EQUAL SIGN (OR COLON) TERMINATOR	03 00690
003515	004010	A						
			694	*				03 00691
003516	030000	L	695	ASN3	LDX	=ITEM+3		03 00692
003517	006010	A	696		LDI	2		03 00693
003520	000000	A						03 00694
003521	002000	A	697	ASN4	RES	0	CONVERT LOGICAL UNIT NUM TO BINARY	03 00695
003522	010412	A	698		CALL	SGNV		03 00696
003523	001000	A	699		JOF	ASN2	IF ERROR	03 00697
003524	004010	A						
003525	005021	A	700		TEA			03 00698
003526	142537	A	701		SUB	=8		03 00699
003527	001002	A	702		JAP	ASN2	IF OUT OF BOUNDS	03 00700
003530	004010	A						
003531	061057	A	703		STB	ITEM+3		03 00701
003532	006010	A	704		LDI	0		03 00702
003533	000000	A						
003534	020000	L	705	ASN5	RES	0		03 00703
003535	061056	A	706		SUB	=*		03 00704
003536	001016	A	707		JIE	ITEM+2	STORE BLANKS IF NO LOG. UNIT NAME GIVEN	03 00705
003537	003553	A	708		JANZ	ASN6		03 00706
003540	006505	A	709		JSR	SGGNI,X	GET LOGICAL UNIT NAME	03 00707
003541	010717	A						
003542	001056	A	710		DATA	ITEM+2		03 00708
003543	000002	A	711		DATA	2		03 00709
003544	142572	A	712		SUB	=THREE		03 00710
003545	001002	A	713		JAF	ASN1	IF TOO MANY CHARACTERS	03 00711
003546	004010	A						
003547	005021	A	714		TEA			03 00712
003550	140000	L	715		SUB	=0275		03 00713
003551	001016	A	716		JANZ	ASN1	IF NOT EQUAL SIGN TERMINATOR	03 00714
003552	004010	A						
			717	*				03 00715
003553	010000	L	718	ASN6	LDA	=*00*	INITIALIZE PHYSICAL UNIT TO "00"	03 00716
003554	051057	A	719		SUB	ITEM+1	GET PHYSICAL UNIT NAME	03 00717
003555	006505	A	720		JSR	SGGNI,X		03 00718
003556	010717	A						

003557	001054	A	721	DATA	ITEM		03	00718
003560	000004	A	722	DATA	4		03	00719
003561	140000	L	723	SUB	=5		03	00720
003562	001002	A	724	JAP	ASN1	IF TOO MANY CHARACTERS	03	00721
003563	004010	A						
003564	003021	A	725	TBA			03	00722
003565	140000	L	726	SUB	=0215		03	00723
003566	053662	A	727	STA	ASN7		03	00724
003567	001010	A	728	JAZ	ASN8	IF END OF DIRECTIVE	03	00725
003570	003574	A						
003571	142601	A	729	SUB	BM37		03	00726
003572	001016	A	730	JANZ	ASN1	IF NOT SEMICOLON (OR E-O-R) TERMINATOR	03	00727
003573	004010	A						
			731	*		LOOP TO FIND PHYS. UNIT NAME, SET TYPE FLA	03	00728
003574	030000	L	732	ASN8	LDB	=ASND1	03	00729
003575	015000	A	733	ASN9	LDA	0,X	03	00730
003576	001010	A	734		JAZ	ASN101	03	00731
003577	003627	A				IF END OF TABLE		
003600	131054	A	735	ERA	ITEM		03	00732
003601	005144	A	736	IXR			03	00733
003602	005144	A	737	IXR			03	00734
003603	001016	A	738	JANZ	ASN9	IF MATCH NOT FOUND, CONTINUE	03	00735
003604	003575	A						
			739	*			03	00736
003605	005344	A	740		DXR		03	00737
003606	015000	A	741		LDA	0,X	03	00738
003607	111057	A	742	ASN91	DRA	ITEM+3	03	00739
003610	051057	A	743		STA	ITEM+3	03	00740
			744	*		PUT IN ENTRY	03	00741
			745	*		SEARCH TEMP. STACK FOR MATCHING L.U. NUM	03	00742
003611	010533	A	746		LDA	SGSCB9	03	00743
003612	005014	A	747	ASN10	TAX		03	00744
003613	140534	A	748		SUB	SGSCB9+1	03	00745
003614	001002	A	749		JAP	ASN11	03	00746
003615	003632	A				IF NO MATCH FOUND		
003616	015003	A	750		LDA	0,X	03	00747
003617	131057	A	751		ERA	ITEM+3	03	00748
003620	152571	A	752		ANA	RHW	03	00749
003621	001010	A	753		JAZ	ASN2	03	00750
003622	004012	A				IF MATCH FOUND		
003623	005041	A	754		TXA		03	00751
003624	122573	A	755		ADD	FIVE	03	00752
003625	001000	A	756		JMP	ASN10	03	00753
003626	003612	A				CONTINUE LOOKING		
003627	014253	A	757	ASN101	LDA	ASNDIX	03	00754
003630	001000	A	758		JMP	ASN91	03	00755
003631	003607	A						
			759	*			03	00756
003632	011056	A	760	ASN11	LDA	ITEM+2	03	00757
003633	130000	L	761		ERA		03	00758
003634	001010	A	762		JAZ	ASN13	03	00759
003635	003653	A				IF LOG. UNIT NAME IS BLANK		
			763	*			03	00760
			764	*		SEARCH TEMP. STACK FOR MATCHING L.U. NAME	03	00761
003636	010533	A	765		LDA	SGSCB9	03	00762
003637	005014	A	766	ASN12	TAX		03	00763
003640	140534	A	767		SUB	SGSCB9+1	03	00764
003641	001002	A	768		JAP	ASN13	03	00765
003642	003653	A				IF NO MATCH FOUND		
003643	015002	A	769		LDA	0,X	03	00766
003644	131050	A	770		ERA	ITEM+2	03	00767
003645	001010	A	771		JAZ	ASN2	03	00768
003646	004012	A				IF MATCH FOUND		
003647	005041	A	772		TXA		03	00769
003650	122573	A	773		ADD	FIVE	03	00770
003651	001000	A	774		JMP	ASN12	03	00771
003652	003637	A				CONTINUE LOOKING		
			775	*			03	00772
003653	030000	L	776	ASN13	LDB	=SGSCB9	03	00773
003654	020000	L	777		LDB	=ITEM	03	00774
003655	002000	A	778		CALL	SGGET	03	00775
003656	010624	A				PLACE ENTRY IN TEMP. STACK		
003657	001004	A	779		JAN	ASN14	03	00776
003660	004001	A				IF "STACK OVERFLOW"		
003661	005010	A	780		LDAI	0	03	00777
003662	000000	A						
003663	001016	A	781	ASN7	BES	0	03	00778
003664	003476	A	782		JANZ	SGSASN	03	00779
			783	*			03	00780
			784	*		MOVE TEMP. STACK ENTRIES TO ASN STACK	03	00781
			785	*			03	00782
003665	030000	L	786	ASN23	LDB	=SGSCB9	03	00783
003666	020000	L	787		LDB	=ITEM	03	00784
003667	002000	A	788		CALL	SGGET	03	00785
003670	011111	A						
003671	001004	A	789		JAN	SGSDIR	03	00786
003672	003216	A				* * RETURN IF ALL ITEMS MOVED * *		
			790	*			03	00787
003673	011056	A	791		LDA	ITEM+2	03	00788
003674	130000	L	792		ERA		03	00789
003675	001010	A	793		JAZ	ASN15	03	00790
003676	003714	A				IF L.U. NAME BLANK; DON'T SEARCH FOR NAME		

003677	010503	A	794	*					03	00791
003678	005014	A	795		LDA	SGSCB1	SEARCH ASSIGN STACK FOR MATCHING NAME		03	00792
003679	005014	A	796	ASN16	TAX				03	00793
003701	140504	A	797		SUB	SGSCB1+1			03	00794
003702	001002	A	798		JAP	PSM15	IF END OF STACK (NO MATCH)		03	00795
003703	003710	A								
003704	015002	A	799		LDA	2,X			03	00796
003705	131050	A	800		ERA	ITEM+2			03	00797
003706	001010	A	801		JAZ	ASN18	IF MATCH FOUND		03	00798
003707	004017	A								
003710	005041	A	802		TXA				03	00799
003711	122531	A	803		ADD	FOUR			03	00800
003712	001000	A	804		JMP	ASN16	CONTINUE		03	00801
003713	003700	A								
003714	010503	A	805	*					03	00802
003715	005014	A	806	ASN15	LDA	SGSCB1	SEARCH ASSIGN STACK FOR MATCHING NUMBER		03	00803
003716	140504	A	807	ASN17	TAX				03	00804
003717	001002	A	808		SUB	SGSCB1+1			03	00805
003720	003732	A	809		JAP	ASN19	IF END OF STACK (NO MATCH)		03	00806
003721	015002	A	810		LDA	3,X			03	00807
003722	131057	A	811		ERA	ITEM+3			03	00808
003723	152571	A	812		RNA	RHW			03	00809
003724	001010	A	813		JAZ	ASN20	IF MATCH FOUND		03	00810
003725	004024	A								
003726	005041	A	814		TXA				03	00811
003727	122531	A	815		ADD	FOUR			03	00812
003730	001000	A	816		JMP	ASN17	CONTINUE		03	00813
003731	003715	A								
003732	011057	A	817	*					03	00814
003733	152571	A	818	ASN19	LDA	ITEM+3	GET LOGICAL UNIT NUMBER		03	00815
003734	140000	L	819		RNA	RHW			03	00816
003735	001002	A	820		SUB	=101			03	00817
003736	003747	A	821		JAP	ASN19A	IF NOT FROM FIRST GROUP		03	00818
003737	120000	L	822		ADD	=101			03	00819
003740	142724	A	823		SUB	SGLUN1			03	00820
003741	003004	A	824		XAN	TZA			03	00821
003742	004045	A								
003743	122724	A	825		ADD	SGLUN1			03	00822
003744	052724	A	826		STA	SGLUN1	STORE LARGER OF (SGLUN1) AND NEW UNIT NUM		03	00823
003745	001000	A	827		JMP	ASN19C			03	00824
003746	003770	A								
003747	140000	L	828	ASN19A	SUB	=79			03	00825
003750	001002	A	829		JAP	ASN19B	IF NOT FROM SECOND GROUP		03	00826
003751	003762	A								
003752	120000	L	830		ADD	=80			03	00827
003753	142725	A	831		SUB	SGLUN2			03	00828
003754	003004	A	832		XAN	TZA			03	00829
003755	004045	A								
003756	122725	A	833		ADD	SGLUN2			03	00830
003757	052725	A	834		STA	SGLUN2	STORE LARGER OF (SGLUN2) AND NEW UNIT NUM		03	00831
003760	001000	A	835		JMP	ASN19C			03	00832
003761	003770	A								
003762	005111	A	836	ASN19B	IAR				03	00833
003763	142726	A	837		SUB	SGLUN3			03	00834
003764	003004	A	838		XAN	TZA			03	00835
003765	004045	A								
003766	122726	A	839		ADD	SGLUN3			03	00836
003767	052726	A	840		STA	SGLUN3	STORE LARGER OF (SGLUN3) AND NEW UNIT NUM		03	00837
003770		A	841	ASN19C	BSS	0			03	00838
003771	010000	L	842		LDA	=027000			03	00839
003772	111057	A	843		BRP	ITEM+3			03	00840
003773	051057	A	844		STA	ITEM+3	SET ASSIGN FOR REASSIGNMENT TO ANY UNIT		03	00841
003774	030000	L	845		LDX	SGSCB1			03	00842
003775	020000	L	846		LDI	=ITEM			03	00843
003776	002000	A	847		CALL	SGPUT	MAKE ENTRY IN ASSIGN STACK		03	00844
003777	010624	A								
004000	001002	A	848		JAP	ASN23	IF ENTRY MADE (NO OVERFLOW)		03	00845
004001	003065	A								
			849	*					03	00846
			850	*			POST ERROR MESSAGE AND RETURN		03	00847
			851	*					03	00848
004002	012632	A	852	ASN14	LDA	ERR4	"STACK OVERFLOW ERROR"		03	00849
004003	001006	A	853		DATA	01006			03	00850
004004	012633	A	854	ASN21	LDA	ERR5			03	00851
004005	002000	A	855		CALL	SG3PRO	POST 'ASSIGN STACK ERROR' MESSAGE		03	00852
004006	011173	A								
004007	001000	A	856		JMP	SG3DPI	AND RESTART DIRECTIVE PROCESSING		03	00853
004010	012637	A	857	*					03	00854
004011	001006	A	858	ASN1	LDA	ERR1	"DIRECTIVE SYNTAX ERROR"		03	00855
004012	012610	A	859		DATA	01006			03	00856
004013	002000	A	860	ASN2	LDA	ERR2	"PARAMETER ERROR"		03	00857
004014	011323	A	861		CALL	SG3ASC	POST MESSAGE		03	00858
004015	001000	A	862		JMP	SG3PUR	PURGE TEMPORARY STACK AND RETURN		03	00859
004016	011634	A								
004017	015003	A	863	*					03	00860
004020	131057	A	864	ASN18	LDA	2,X			03	00861
004021	152571	A	865		ERA	ITEM+3			03	00862
004022	001010	A	866		RNA	RHW			03	00863
			867		JANZ	ASN21	IF L.U. NUMBERS DO NOT AGREE		03	00864


```

004023 004003 A      868 *
004024 015003 A      869 ASN20 LDA      3,X      GET ASSIGNABILITY FLAGS
004025 151057 A      870 ANA      ITEM+3    CHECK AGAINST NEW ASSIGNMENT
004026 152570 A      871 ANA      LHM
004027 001010 A      872 JAZ      ASN21    ERROR, IF ASSIGNMENT ILLEGAL
004030 004003 A
004031 011054 A      873 LDA      ITEM      OVERLAY OLD ENTRY WITH NEW
004032 055000 A      874 STA      0,X
004033 011055 A      875 LDA      ITEM+1
004034 055001 A      876 STA      1,X
004035 011056 A      877 LDA      ITEM+2
004036 130000 L      878 ERA      =
004037 001010 A      879 JAZ      ASN23    IF NO NEW NAME, DON'T OVERLAY OLD NAME
004040 003665 A
004041 011056 A      880 LDA      ITEM+2
004042 055002 A      881 STA      2,X      OTHERWISE, OVERLAY OLD NAME
004043 001000 A      882 JMP      ASN23    GO GET NEXT ENTRY TO MOVE
004044 003665 A
004045 005001 A      883 *
004046 152331 A      884 TZA      TZA
004047 020000 A      885 *
004048 141724 A      886 *
004049 020000 A      887 ASN21 DATA  'TY'
004050 141724 A      888 DATA  020000
004051 020000 A      889 DATA  'CT'
004052 142260 A      890 DATA  020000
004053 010000 A      891 DATA  'D0'
004054 142261 A      892 DATA  010000
004055 010000 A      893 DATA  'D1'
004056 142262 A      894 DATA  010000
004057 010000 A      895 DATA  'D2'
004058 142263 A      896 DATA  010000
004059 010000 A      897 DATA  'D3'
004060 142263 A      898 DATA  010000
004061 010000 A      899 DATA  'MT'
004062 146724 P      900 DATA  040000
004063 040000 A      901 DATA  'PT'
004064 150324 A      902 DATA  06000
004065 006000 A      903 DATA  'CR'
004066 141722 A      904 DATA  04000
004067 004000 A      905 DATA  'CP'
004068 141720 A      906 DATA  02000
004069 002000 A      907 DATA  'LF'
004070 146320 A      908 DATA  01000
004071 001000 A      909 DATA  'ET'      EDITOR TERMINAL
004072 142724 A      910 DATA  06000
004073 146730 A      911 DATA  'MX'      MULTIPLEXER
004074 006000 A      912 DATA  06000
004075 142300 A      913 DATA  'DC'      DATA SET
004076 006000 A      914 DATA  0
004077 006000 A      915 DATA  0
004100 142300 A      916 ASN21X DATA  06000
004101 006000 A      917 EJEC
004102 000000 A      918 *
004103 006000 A      919 *
004104 010000 L      920 *
004105 002000 A      921 *
004106 010507 A      922 *
004107 062707 A      923 *
004108 062707 A      924 *
004109 062707 A      925 *
004110 005001 A      926 *
004111 002000 A      927 *
004112 010507 A      928 *
004113 062710 A      929 *
004114 005021 A      930 *
004115 142707 A      931 *
004116 001000 A      932 *
004117 004155 A      933 *
004118 004155 A      934 *
004119 004155 A      935 *
004120 004155 A      936 *
004121 004155 A      937 *
004122 004155 A      938 *
004123 004155 A      939 *
004124 004155 A      940 *
004125 004155 A      941 *
004126 004155 A      942 *
004127 004155 A      943 *
004128 004155 A      944 *
004129 004155 A      945 *
004130 004155 A      946 *
004131 004155 A      947 *
004132 004155 A      948 *
004133 004155 A      949 *
004134 004155 A      950 *
004135 004155 A      951 *
004136 004155 A      952 *
004137 004155 A      953 *
004138 004155 A      954 *
004139 004155 A      955 *
004140 004155 A      956 *
004141 004155 A      957 *
004142 004155 A      958 *
004143 004155 A      959 *
004144 004155 A      960 *
004145 004155 A      961 *
004146 004155 A      962 *
004147 004155 A      963 *
004148 004155 A      964 *
004149 004155 A      965 *
004150 004155 A      966 *
004151 004155 A      967 *
004152 004155 A      968 *
004153 004155 A      969 *
004154 004155 A      970 *
004155 004155 A      971 *
004156 004155 A      972 *
004157 004155 A      973 *
004158 004155 A      974 *
004159 004155 A      975 *
004160 004155 A      976 *
004161 004155 A      977 *
004162 004155 A      978 *
004163 004155 A      979 *
004164 004155 A      980 *
004165 004155 A      981 *
004166 004155 A      982 *
004167 004155 A      983 *
004168 004155 A      984 *
004169 004155 A      985 *
004170 004155 A      986 *
004171 004155 A      987 *
004172 004155 A      988 *
004173 004155 A      989 *
004174 004155 A      990 *
004175 004155 A      991 *
004176 004155 A      992 *
004177 004155 A      993 *
004178 004155 A      994 *
004179 004155 A      995 *
004180 004155 A      996 *
004181 004155 A      997 *
004182 004155 A      998 *
004183 004155 A      999 *
004184 004155 A      1000 *

```


Address	Code	Label	Op/Arg	Description	Register
954	CALL	SG3GAC		GET PHYSICAL PAGE COUNT	V2 03 00943
955	STB	SGMRY4		SAVE	V2 03 00944
956	DECR	021			V2 03 00945
957	LSRA	8			V2 03 00946
958	JANZ	SG3MRE		MEMORY SIZE MUST BE .LE. 256 K	V2 03 00947
959	1	CONT			V2 03 00948
960	IFB	V75			V75*****
961	GOTD	1			V75*****
962	LDAE	SSSVCH		GET TERMINATOR	V75*****
004120	006017	A			
004121	011072	A			
004122	140000	L	963	SUB	=0215
004123	001010	A	964	JAZ	SG3DIR
004124	003216	A			
004125	140000	L	965	SUB	=037
004126	001010	A	966	JANZ	SG3MRE
004127	004155	A			
004128	006505	A	967	JCR	SG3NI,X
004131	010717	A			
004132	002514	A	968	DATA	TBUF2
004133	000003	A	969	DATA	3
004134	142572	A	970	SUB	THREE
004135	001010	A	971	JANZ	SG3MRE
004136	004155	A			
004137	012514	A	972	LDA	TBUF2
004140	006130	A	973	CRAI	'V7'
004141	153267	A			
004142	001010	A	974	JANZ	SG3MRE
004143	004155	A			
004144	012515	A	975	LDA	TBUF2+1
004145	006130	A	976	CRAI	'5'
004146	132640	A			
004147	152070	A	977	ANA	LHW
004150	001010	A	978	JANZ	SG3MRE
004151	004155	A			
004152	042737	A	979	INR	SGMRY5
980	1	CONT			
981	JMP	SG3DIR		EXIT	V2 03 00949
004153	001000	A	982	SG3MRE	EQU
004154	003216	A	983	LDA	LR02
004155	004155	A	984	CALL	SG3ASC
004156	002000	A			
004157	011323	A			
004160	001000	A	985	JMP	DIR5
004161	003222	A			
986	EJEC				
987	*				
988	SG3EQP				
989	*				
990	*				
991	*				
992	*				
993	*				
994	*				
995	*				
996	*				
997	SG3EQP				
004162	010000	L	998	LDA	' '
004163	051054	A	999	STB	ITEM
004164	051055	A	1000	STB	ITEM+1
004165	006505	A	1001	JCR	SG3NI,X
004166	010717	A			
004167	001054	A	1002	DATA	ITEM
004170	008004	A	1003	DATA	4
004171	142572	A	1004	SUB	FIVE
004172	001000	A	1005	JAP	DIR1
004173	004047	A			
004174	005021	A	1006	TBA	
004175	136000	L	1007	LDA	=0254
004176	001010	A	1008	JANZ	DIR1
004177	004047	A			
1009	*				
1010	LDA	=0254			
1011	CALL	SG3GAC		GET AND CONVERT CONTROLLER ADDRESS	
1012	TBA				
1013	SUB	BS6			
1014	JAP	DIR2		IF OUT OF BOUNDS	
1015	STB	ITEM+2			
1016	*				
1017	LDA	=0254			
1018	CALL	SG3GAC		GET AND CONVERT NUMBER-OF-UNITS	
1019	TBA				
1020	JAZ	DIR2		IF OUT OF BOUNDS	
1021	SUB	BY6			
1022	JAP	DIR2		IF OUT OF BOUNDS	
1023	TBA				
1024	LPLA	8			
1025	STB	ITEM+2			
1026	STB	ITEM+2		PACK WITH CONTROLLER ADDR	

PURPOSE: UNPACK "EQP" DIRECTIVES AND STORE INFORMATION
 CALLING SEQUENCE: INDIRECT JUMP THROUGH DIR PRDC TABLE
 RETURN PARAMETERS: NONE

* * ENTRY POINT * *
 BLANK NAME BUFFER

004225	010000	L	1027 *	LDA	=0254			03	00995
004226	002000	A	1028	CALL	SG3GAC	GET AND CONVERT BIC ADDR		03	00996
004227	010507	A	1029					03	00997
004230	005021	A	1030	TBA				03	00998
004231	142535	A	1031	SUB	BS6			03	00999
004232	001002	A	1032	JAP	EQP2	IF OUT OF BOUNDS		03	01000
004233	004451	A	1033						
004234	061057	A	1033	STB	ITEM+3			03	01001
			1034 *					03	01002
004235	005001	A	1035	TZA				V2	03 01003
004236	051060	A	1036	STA	ITEM+4			V2	03 01004
004237	051061	A	1037	STA	ITEM+5			V2	03 01005
004240	002000	A	1038	CALL	SG3GAC	GET AND CONVERT RETRY COUNT		03	01006
004241	010507	A							
004242	054215	A	1039	STA	EQPT	SAVE TERMINATOR		V2	03 01007
004243	005021	A	1040	TBA				03	01008
004244	142535	A	1041	SUB	BS6			03	01009
004245	001002	A	1042	JAP	EQP2	IF OUT OF BOUNDS		03	01010
004246	004451	A							
004247	005021	A	1043	TBA				03	01011
004250	004250	A	1044	LRLA	8			03	01012
004251	111057	A	1045	DRA	ITEM+3			03	01013
004252	001057	A	1046	STA	ITEM+3	PACK WITH BIC ADDR		03	01014
			1047 *					03	01015
004253	014204	A	1048	LDA	EQPT			V2	03 01016
004254	140000	L	1049	SUB	=0215			V2	03 01017
004255	001010	A	1050	JAZ	EQP9	EXIT IF NO MORE PARAMETERS		V2	03 01018
004256	004377	A							
004257	044176	A	1051	SUB	EQPCM			V2	03 01019
004260	001016	A	1052	JANZ	EQP2	ERROR IF TERMINATOR NOT EOL OR ','		V2	03 01020
004261	004451	A							
004262	002000	A	1053	CALL	SGGNC	GET NEXT CHAR		V2	03 01021
004263	011033	A							
004264	170000	I	1054	LDA	SGSVCH			V2	03 01022
004265	006140	A	1055	SUBI	0260			V2	03 01023
004266	000260	A							
004267	001010	A	1056	JAZ	EQP10	IGNORE LEADING ZEROS		V2	03 01024
004270	014262	A							
004271	006140	A	1057	SUBI	','--'0'			D.103	01025
004272	077774	A							
004273	001010	A	1058	JAZ	EQP8	IF A COMMA, TREAT AS A NULL FIELD		D.103	01026
004274	004362	A							
004275	170000	I	1059	LDA	SGSVCH			V2	03 01027
004276	044160	A	1060	SUB	EQPPT			V2	03 01028
004277	001016	A	1061	JANZ	EQP2	MUST BE ','		V2	03 01029
004300	004451	A							
004301	006010	A	1062	LDAI	0130260	TWO ASCII ZEROS.		F	*****
004302	130260	A							
004303	004155	A	1063	STA	EQPT+1	ZERO OUT BUFFER.		F	*****
004304	006505	A	1064	JSR	SGGNI,X	INPUT TWO ASCII DIGITS.		F	*****
004305	000717	A							
004306	004461	A	1065	DATA	EQPT+1			F	*****
004307	000002	A	1066	DATA	2			F	*****
004310	004147	A	1067	STB	EQPT	STORE TERMINATOR.		F	*****
004311	005021	A	1068	TBA		LOAD A WITH TERMINATOR.		F	*****
004312	140000	L	1069	SUB	=0215	IS IT EOL?		F	*****
004313	001010	A	1070	JAZ	EQP10A	JUMP IF YES.		F	*****
004314	004320	A							
004315	144140	A	1071	SUB	EQPCM	IS IT COMMA?		F	*****
004316	001016	A	1072	JANZ	EQP2	IF NO, ERROR.		F	*****
004317	004451	A							
004320	014140	A	1073	LDA	EQPT+1	IS THE BUFFER		F	*****
004321	006140	A	1074	SUBI	0130260	LESS THAN TWO ZEROS?		F	*****
004322	130260	A							
004323	001004	A	1075	JAN	EQP2	YES -- PARAMETER ERROR.		F	*****
004324	004451	A							
004325	006140	A	1076	SUBI	8	NO -- CONVERT .08 AND .09		F	*****
004326	000010	A							
004327	001004	A	1077	JAN	EQP10B	TO .10 (BECAUSE LEADING ZEROS		F	*****
004330	004340	A							
004331	006140	A	1078	SUBI	2				*****
004332	000002	A							*****
004333	001002	A	1079	JAP	EQP10B				*****
004334	004340	A							
004335	006010	A	1080	LDAI	0130660	MAKES THEM LOOK LIKE OCTAL)		F	*****
004336	130660	A							
004337	054121	A	1081	STA	EQPT+1			F	*****
004340	006030	A	1082	LUXI	EQPT+1	BUFFER ADDRESS		F	*****
004341	004461	A							
004342	006010	A	1083	LDAI	2	NUMBER OF DIGITS.		F	*****
004343	000002	A							
004344	002000	A	1084	CALL	SGGNV	CONVERT ASCII TO BINARY.		F	*****
004345	00412	A							
004346	001001	A	1085	JDF	EQP2	PARAMETER ERROR.		F	*****
004347	004451	A							
004350	005001	A	1086	TZA		LOAD MS IN A. LS IS IN B.		F	*****
004351	004046	A	1087	LRLB	6	SHIFT LEFT 2 OCTAL PLACES		F	*****
004352	006170	A	1088	DIVI	100	CONVERT TO BINARY FRACTION.		F	*****
004353	000144	A							
004354	004051	A	1089	LRLB	9	LEFT JUSTIFIED.		F	*****
004355	061061	A	1090	STB	ITEM+5	STORE I/O FRACTION IN STACK.		F	*****
004356	014101	A	1091	LDA	EQPT	TERMINATOR.		F	*****

004473	010000	L	1168	*					03	01136
004474	051055	A	1169		LDA	=	BLANK NAME BUFFER		03	01137
004475	051056	A	1170		STA	ITEM+1			03	01138
004476	051057	A	1171		STA	ITEM+2			03	01139
004477	006505	A	1172		STA	ITEM+3			03	01140
004500	010717	A	1173		JSR	SGGNI,X	GET INTERRUPT PROCESSOR NAME		03	01141
004501	001055	A	1174		DATA	ITEM+1			03	01142
004502	000006	A	1175		DATA	6			03	01143
004503	142575	A	1176		SUB	SEVEN			03	01144
004504	001002	A	1177		JAF	PIM1	IF MORE THAN SIX CHAR		03	01145
004505	004635	A								
004506	005021	A	1178		TBA				03	01146
004507	130000	L	1179		ERA	=0254			03	01147
004510	001016	A	1180		JANZ	PIM1	IF NOT TERMINATED BY COMMA		03	01148
004511	004635	A								
004512	010000	L	1181	*					03	01149
004513	002000	A	1182		LDA	=0254			03	01150
004514	010507	A	1183		CALL	SG3GAC	GET AND CONVERT EVENT WORD		03	01151
004515	061060	A	1184		STB	ITEM+4			03	01152
004516	006505	A	1185	*					03	01153
004517	010717	A	1186		JSR	SGGNI,X	GET DIRECT CONNECT FLAG		03	01154
004520	001061	A	1187		DATA	ITEM+5			03	01155
004521	000001	A	1188		DATA	1			03	01156
004522	005311	A	1189		DAR				03	01157
004523	001016	A	1190		JANZ	PIM1	IF MORE THAN ONE CHAR		03	01158
004524	004635	A								
004525	005021	A	1191		TBA				03	01159
004526	140000	L	1192		SUB	=0215			03	01160
004527	054043	A	1193		STA	PIM4			03	01161
004530	001010	A	1194		JAZ	PIM3			03	01162
004531	004535	A								
004532	140000	L	1195		SUB	=056			03	01163
004533	001016	A	1196		JANZ	PIM1	IF FIELD NOT TERM. BY SEMICOLON OR E-O-R		03	01164
004534	004635	A								
004535	011061	A	1197	*					03	01165
004536	004350	A	1198	PIM3	LDA	ITEM+5			03	01166
004537	140000	L	1199		LSRA	8			03	01167
004540	001010	A	1200		SUB	=0260			03	01168
004541	004553	A	1201		JAZ	PIM5+1	IF NORMAL PROCESSOR	V2	03	01169
004542	005012	A	1202		TAB			V2	03	01170
004543	011054	A	1203		LDA	ITEM		V2	03	01171
004544	112546	A	1204		ORA	BS15		V2	03	01172
004545	005322	A	1205		DBR			V2	03	01173
004546	001020	A	1206		JRZ	PIM5	TYPE 1	V2	03	01174
004547	004552	A						V2	03	01175
			1207		IFT	VORTEX-2		V2	03	01176
			1208		GOTO	1		V2	03	01177
			1209		JRA	RS14	TYPE 2	V2	03	01178
			1210		DBR			V2	03	01179
			1211	1	CONT			V2	03	01180
004550	001026	A	1212		JBNZ	PIM2	ERROR IF NOT TYPE 2	V2	03	01181
004551	004637	A						V2	03	01182
004552	051054	A	1213	PIM5	STA	ITEM		V2	03	01183
			1214	*				V2	03	01184
004553	030000	L	1215		LDX	=SGSCB9		V2	03	01185
004554	020000	L	1216		LDB	=ITEM			03	01186
004555	005301	A	1217		DECR	01			03	01187
004556	002000	A	1218		CALL	SGSAE	SEARCH TEMP. STACK FOR MATCHING INT. LINE		03	01188
004557	011356	A								
004560	000001	A	1219		DATA	1			03	01189
004561	005041	A	1220		TXA				03	01190
004562	001002	A	1221		JAF	PIM2	IF MATCH FOUND (ERROR)		03	01191
004563	004637	A								
004564	030000	L	1222		LDX	=SGSCB9			03	01192
004565	020000	L	1223		LDB	=ITEM			03	01193
004566	002000	A	1224		CALL	SGPUT	PUT ENTRY IN TEMPORARY STACK		03	01194
004567	010624	A								
004570	001004	A	1225		JAN	PIM8	IF NO ROOM FOR STACK ENTRY		03	01195
004571	004633	A								
			1226	*					03	01196
004572	006010	A	1227		LDAI	0			03	01197
004573	000000	A								
004574	001016	A	1228	PIM4	BES	0			03	01198
004575	004463	A	1229		JANZ	SG3PIM	PROCESS NEXT PARAMETER SET IF NOT EOR TERM		03	01199
			1230	*			* LOOP TO MOVE ENTRIES TO IM STACK *		03	01200
004576	030000	L	1231	PIM6	LDX	=SGSCB9			03	01201
004577	020000	L	1232		LDB	=ITEM			03	01202
004600	002000	A	1233		CALL	SGGET	GET NEXT TEMP. STACK ITEM		03	01203
004601	011111	A								
004602	001004	A	1234		JAN	SG3DIR	* EXIT IF STACK EMPTY *		03	01204
004603	003216	A								
			1235	*					03	01205
004604	030000	L	1236		LDX	=SGSCB4			03	01206
004605	020000	L	1237		LDB	=ITEM			03	01207
004606	005301	A	1238		DECR	01			03	01208
004607	002000	A	1239		CALL	SGSAE	SEARCH IM STACK FOR MATCHING INT. LINE		03	01209
004610	011356	A								
004611	000001	A	1240		DATA	1			03	01208

Address	Label	Op	Op2	Op3	Op4	Description	Line	Page
004612	005041	A	1241	TXA			03	01209
004613	001004	A	1242	JAN	PIM7	IF NO MATCH FOUND	03	01210
004614	004625	A						
004615	074004	A	1243	STX	PIM9		03	01211
004616	002000	A	1244	CALL	SGMOV	OVERLAY OLD ENTRY WITH NEW	03	01212
004617	010620	A						
004620	000005	A	1245	DATA	5		03	01213
004621	001054	A	1246	DATA	ITEM		03	01214
004622	000000	A	1247	DATA	0		03	01215
004623	001000	A	1248	JMP	PIM6	GO TO MOVE NEXT ENTRY	03	01216
004624	004576	A						
			1249	*			03	01217
004625	030000	L	1250	PIM7	LDX	=SGSCB4	03	01218
004626	020000	L	1251		LDB	=ITEM	03	01219
004627	002000	A	1252		CALL	SGPUT	03	01220
004630	010624	A						
004631	001002	A	1253	JAP	PIM6	GO TO MOVE NEXT ENTRY	03	01221
004632	004576	A						
			1254	*			03	01222
			1255	*		* * ERROR POSTING * *	03	01223
			1256	*			03	01224
004633	012632	A	1257	PIM8	LDA	FR24	03	01225
004634	001006	A	1258		DATA	01006	03	01226
004635	012607	A	1259	PIM1	LDA	ER01	03	01227
004636	001006	A	1260		DATA	01006	03	01228
004637	012610	A	1261	PIM2	LDA	ER02	03	01229
004640	002000	A	1262		CALL	SG3ASC	03	01230
004641	011323	A						
004642	001000	A	1263	JMP	SGPUR	GO PURGE TEMP. STACKS AND PROC. DIRECTIVE	03	01231
004643	011634	A						
			1264		EJEC		03	01232
			1265	*			03	01233
			1266	*			03	01234
			1267	*			03	01235
			1268	*			03	01236
			1269	*		PURPOSE: UNPACK "CLK" DIRECTIVES AND STORE INFORMATION	03	01237
			1270	*		CALLING SEQUENCE: INDIRECT JUMP THROUGH DIR PROC TABLE	03	01238
			1271	*		RETURN PARAMETERS: NONE	03	01239
			1272	*			03	01240
			1273	*			03	01241
			1274	*			03	01242
004644			1275	SG3CLK	BSS	0	03	01243
004644	010000	L	1276		LDA	#0254	03	01244
004645	002000	A	1277		CALL	SG3GAC	03	01245
004646	010507	A						
004647	062704	A	1278		STB	SGCLK1	03	01246
			1279	*		STORE IN COMMON DATA AREA	03	01247
004650	010000	L	1280		LDA	#0254	03	01248
004651	002000	A	1281		CALL	SG3GAC	03	01249
004652	010507	A						
004653	062705	A	1282		STB	SGCLK2	03	01250
			1283	*		STORE IN COMMON DATA AREA	03	01251
004654	010000	L	1284		LDA	#0215	03	01252
004655	002000	A	1285		CALL	SG3GAC	03	01253
004656	010507	A						
004657	005001	A	1286		TZA		03	01254
004660	172573	A	1287		DIV	FIVE	03	01255
004661	001010	A	1288		JAZ	*+4	03	01256
004662	004665	A						
004663	005122	A	1289		IBR		03	01257
004664	005001	A	1290		TZA		03	01258
004665	162573	A	1291		MUL	FIVE	03	01259
004666	005021	A	1292		TSA		D.100	01260
004667	006140	A	1293		CUBI	51	D.100	01261
004670	000000	A						
004671	001004	A	1294		JAN	CLK1	D.100	01262
004672	004675	A				IF INTERVAL DOES NOT EXCEED 50 MS	D.100	01262
004673	006020	A	1295		LARI	50	D.100	01262
004674	000062	A				SET INTERVAL TO 50 MS MAX		
			1296	CLK1	STB	*	D.100	01264
004675	062706	A	1297		STB	SGCLK3	03	01265
004676	001000	A	1298		JMP	SG3DIR	03	01266
004677	003210	A				* * RETURN * *		
			1299		EJEC		03	01267
			1300	*			03	01268
			1301	*			03	01269
			1302	*			03	01270
			1303	*			03	01271
			1304	*		PURPOSE: UNPACK "TSK" DIRECTIVES AND STORE INFORMATION	03	01272
			1305	*		CALLING SEQUENCE: INDIRECT JUMP THROUGH DIR PROC TABLE	03	01273
			1306	*		RETURN PARAMETERS: NONE	03	01274
			1307	*			03	01275
			1308	*			03	01276
			1309	*			03	01277
004700	030000	L	1310	TSK2	LDX	#SGSCB9	03	01278
004701	020000	L	1311		LDB	ITEM	03	01279
004702	002000	A	1312		CALL	SGPUT	03	01280
004703	010601	A						
004704	001004	A	1313		JAN	TSK3	03	01281
004705	004732	A				IF STACK OVERFLOW		
			1314	*			03	01282
004706		L	1315	SG3TSK	BSS	0	03	01283
004706	010000	L	1316		LDB	*	03	01284

Address	Op	Opnd	Label	Code	Description	Line	Page
004707	051054	A	1317	STA	ITEM	CLEAR ITEM BUFFER	03 01285
004710	051055	A	1318	STA	ITEM+1	TO BLANKS	03 01286
004711	051056	A	1319	STA	ITEM+2		03 01287
			1320	*			03 01288
004712	006505	A	1321	JSR	SGGNI,X	GET NEXT RESIDENT TASK NAME	03 01289
004713	010717	A					
004714	001054	A	1322	DATA	ITEM		03 01290
004715	000006	A	1323	DATA	5		03 01291
004716	140000	L	1324	SUB	=7		03 01292
004717	001002	A	1325	JAP	TSK3	IF NAME IS NOT ACCEPTABLE (TOO LONG)	03 01293
004720	004734	A					
004721	005021	A	1326	TBR			03 01294
004722	140000	L	1327	SUB	=0215		03 01295
004723	001010	A	1328	JAZ	TSK4	IF END OF DIRECTIVE (LAST NAME FIELD)	03 01296
004724	004747	A					
004725	140000	L	1329	SUB	=037		03 01297
004726	001010	A	1330	JAZ	TSK2	IF ACCEPTABLE TERMINATOR (COMMA)	03 01298
004727	004700	A					
			1331	*			03 01299
004730	012607	A	1332	LDA	ER01	POST 'SYNTAX ERROR' MESSAGE	03 01300
004731	001006	A	1333	DATA	01006		03 01301
004732	012632	A	1334	TSK5	LDA	ER24	POST 'STACK OVERFLOW' ERROR MESSAGE
004733	001006	A	1335	DATA	01006		03 01302
004734	012610	A	1336	TSK3	LDA	ER02	POST 'PARAMETER ERROR' MESSAGE
004735	002000	A	1337	CALL	SG3ASC	AND	03 01303
004736	011323	A					
004737	001000	A	1338	JMP	SGPUR	PURGE TEMP STACK AND RETURN	03 01304
004740	011034	A					
			1339	*			03 01307
004741	030000	L	1340	TSK1	LDR	=SGSCB9	GET A NAME FROM TEMPORARY STACK
004742	020000	L	1341	LDR	=ITEM		03 01308
004743	002000	A	1342	CALL	SGGET		03 01309
004744	011111	A					03 01310
004745	001004	A	1343	JAN	SG3DIR	* * RETURN IF ALL NAMES MOVED * *	03 01311
004746	003216	A					
004747	030000	L	1344	TSK4	LDR	=SGSCB5	SEARCH AND ENTER NAME
004750	020000	L	1345	LDR	=ITEM	IN RESIDENT TASK STACK	03 01312
004751	002000	A	1346	CALL	SGSAE	(IF NOT ALREADY THERE)	03 01313
004752	011356	A					03 01314
004753	000003	A	1347	DATA	3		03 01315
004754	001000	A	1348	JMP	TSK1	CONTINUE	03 01316
004755	004741	A					
			1349	FJEC			03 01317
			1350	*			03 01318
			1351	*	SG3PRT		03 01319
			1352	*			03 01320
			1353	*		PURPOSE: UNPACK "PRT" DIRECTIVES AND STORE INFORMATION	03 01321
			1354	*		CALLING SEQUENCE: INDIRECT JUMP THROUGH DIR PROC TABLE	03 01322
			1355	*		RETURN PARAMETERS: NONE	03 01323
			1356	*			03 01324
			1357	*			03 01325
			1358	*			03 01326
			1359	*			03 01327
004756			1360	SG3PRT	BSS	0	* * ENTRY POINT * *
004756	006505	A	1361	JSR	SGGNI,X	GET PARTITION NAME	03 01328
004757	010717	A					
004760	001054	A	1362	DATA	ITEM		03 01330
004761	000004	A	1363	DATA	4		03 01331
004762	142531	A	1364	SUB	FOUR		03 01332
004763	001016	A	1365	JANZ	PRT1	ERROR IF NOT EXACTLY 4 CHAR READ	03 01333
004764	005127	A					
004765	005021	A	1366	TBR			03 01334
004766	130000	L	1367	CRJ	=0254		03 01335
004767	001016	A	1368	JANZ	PRT1	ERROR IF TERMINATOR NOT COMMA	03 01336
004770	005127	A					
004771	011054	A	1369	LDA	ITEM		03 01337
004772	006150	A	1370	ANAI	0177774		03 01338
004773	177771	A					
004774	006130	A	1371	ERAI	0142260		03 01339
004775	142260	A					
004776	001016	A	1372	JANZ	PRT2	ERROR IF NAME NOT "D0", "D1", "D2", OR "D3"	03 01340
004777	005131	A					
005000	011055	A	1373	LDA	ITEM+1		03 01341
005001	006150	A	1374	ANAI	0136340		03 01342
005002	106340	A					
005003	006130	A	1375	ERAI	0130300		03 01343
005004	130300	A					
005005	001016	A	1376	JANZ	PRT2	ERROR IF UNIT NOT NUMBER OR PART. NOT NAME	03 01344
005006	005131	A					
			1377	*			03 01345
005007	010000	L	1378	LDA	=0254		03 01346
005010	002000	A	1379	CALL	SG3ASC	GET AND CONVERT PARTITION SIZE	03 01347
005011	010507	A					
005012	005321	A	1380	DECR	021		03 01348
005013	140000	L	1381	SUB	=1065	MAX. TRKS FOR CDS DISC	03 01349
005014	001002	A	1382	JAP	PRT3	IF OUT OF BOUNDS	03 01350
005015	005131	A					
005016	061057	A	1383	STB	ITEM+3		03 01351
			1384	*			03 01352
005017	006505	A	1385	JSR	SGGNI,X	GET PROTECT KEY	03 01353
005020	010717	A					
005021	001056	A	1386	DATA	ITEM+2		03 01354
005022	000001	A	1387	DATA	1		03 01355

Address	Label	Op	Opnd	Comment	Line	Page
005023	005311	A	1388	BAR		03 01356
005024	001016	A	1389	JANZ	PRT1	03 01357
005025	005127	A				
005026	005021	A	1390	TBR		03 01358
005027	140000	L	1391	SUB	=0215	03 01359
005030	054036	A	1392	STA	PRT4	03 01360
005031	001010	A	1393	JAZ	PRT3	03 01361
005032	005036	A				
005033	140000	L	1394	SUB	=056	03 01362
005034	001016	A	1395	JANZ	PRT1	03 01363
005035	005127	A				
005036	011056	A	1396	* PRT3	LDA	ITEM+2
005037	004350	A	1398	LBR	9	03 01364
005040	051056	A	1399	STA	ITEM+2	03 01365
005041	130000	L	1400	ERA	=0252	03 01366
005042	001010	A	1401	JAZ	PRT5	03 01367
005043	005046	A				03 01368
005044	011056	A	1402	LDA	ITEM+2	03 01369
005045	112546	A	1403	DRA	RS15	03 01370
005046	051056	A	1404	* PRT5	STA	ITEM+2
005047	030000	L	1405			03 01371
005050	020000	L	1406	LDX	=SGSCB9	03 01372
005051	005301	A	1407	LDB	=ITEM	03 01373
005052	002000	A	1408	DECR	01	03 01374
005053	011356	A	1409	CALL	SGSAE	03 01375
005054	000002	A	1410	DATA	2	03 01376
005055	005041	A	1411	TXA		03 01377
005056	001002	A	1412	JAP	PRT2	03 01378
005057	005131	A				03 01379
005060	030000	L	1413	LDX	=SGSCB9	03 01380
005061	020000	L	1414	LDB	=ITEM	03 01381
005062	002000	A	1415	CALL	SGPUT	03 01382
005063	010624	A				03 01383
005064	001004	A	1416	JAN	PRT3	03 01384
005065	005125	A				03 01385
005066	006010	A	1417	* LDAR	0	03 01386
005067	000000	A	1418			
005067	000000	A	1419	* PRT4	BES	?
005070	001016	A	1420	JANZ	SG3PRT	03 01387
005071	004750	A				03 01388
005072	030000	L	1421	* PRT6	LDX	=SGSCB9
005073	020000	L	1422	LDB	=ITEM	03 01389
005074	002000	A	1423	CALL	SGGET	03 01390
005075	011111	A	1424			03 01391
005076	001004	A	1425	JAN	SG3DIR	03 01392
005077	003216	A				03 01393
005100	030000	L	1426	* LDX	=SGSCB3	03 01394
005101	020000	L	1427	LDB	=ITEM	03 01395
005102	005301	A	1428	DECR	01	03 01396
005103	002000	A	1429	CALL	SGSAE	03 01397
005104	011356	A	1430			03 01398
005105	000002	A	1431	DATA	2	03 01399
005106	005041	A	1432	TXA		03 01400
005107	001004	A	1433	JAN	PRT7	03 01401
005110	005117	A				
005111	011056	A	1434	LDA	ITEM+2	03 01402
005112	055002	A	1435	STA	P,X	03 01403
005113	011057	A	1436	LDA	ITEM+3	03 01404
005114	055003	A	1437	STA	P,X	03 01405
005115	001000	A	1438	JMP	PRT6	03 01406
005116	005072	A				03 01407
005117	030000	L	1439	* PRT7	LDX	=SGSCB3
005120	020000	L	1440	LDB	=ITEM	03 01408
005121	002000	A	1441	CALL	SGPUT	03 01409
005122	010624	A	1442			03 01410
005123	001002	A	1443	JAP	PRT6	03 01411
005124	005072	A				03 01412
005125	012632	A	1444	* LDAR	0	03 01413
005126	001006	A	1445	* PRT8	LDA	ER01
005127	012607	A	1446	* DATA	ER06	03 01414
005130	001006	A	1447	* PRT1	LDA	ER01
005131	012610	A	1448	* DATA	ER06	03 01415
005132	002000	A	1449	* PRT2	LDA	ER02
005133	011323	A	1450	* CALL	SG3ASC	03 01416
005134	001000	A	1451	* JMP	SGPUR	03 01417
005135	011634	A	1452	* GO PURGE TEMP. STACKS AND PROC. DIRECTIVE		03 01418
			1454	EJEC		03 01421
			1455	* SG3DEF		D.1 03 01422
			1456	* PURPOSE: TO DEFINE EXTERNAL NAMES		D.1 03 01423
			1457	* SG3DEF	LDA	=*
			1458	* STA	ITEM	D.1 03 01424
005136	010000	L	1459	* SG3DEF	LDA	=*
005137	051054	A	1460	* STA	ITEM	D.1 03 01425

Address	Label	Op	Op2	Op3	Description	Line	Page	Page
005140	051055	A	1462	STA	ITEM+1		D.1	03 01430
005141	051056	A	1463	STA	ITEM+2		D.1	03 01431
005142	056305	A	1464	JSR	SGGNI,X	CLEAR ITEM INPUT NAME	D.1	03 01432
005143	010717	A						
005144	001054	A	1465	DATA	ITEM	INTO ITEM	D.1	03 01433
005145	000006	A	1466	DATA	6	6 CHARS MAX	D.1	03 01434
005146	142575	A	1467	SUB	SEVEN		D.1	03 01435
005147	001002	A	1468	JAP	ADR2	ERROR IF MORE THAN 6 CHARS	D.1	03 01436
005150	013471	A						
005151	005021	A	1469	TBA			D.1	03 01437
005152	140000	L	1470	SUB	=0254		D.1	03 01438
005153	001016	A	1471	JANZ	ADR1	ERROR IF TERMINATOR NOT ','	D.1	03 01439
005154	003467	A						
005155	006505	A	1472	JSR	SGGNI,X	INPUT NUMERIC VALUE	D.1	03 01440
005156	010717	A						
005157	001057	A	1473	DATA	ITEM+3		D.1	03 01441
005160	000006	A	1474	DATA	5		D.1	03 01442
005161	004026	A	1475	STB	SG3DET	SAVE TERMINATOR	D.1	03 01443
005162	000000	L	1476	LDX	=ITEM+3		D.1	03 01444
005163	002000	A	1477	CALL	SGCNV	CONVERT STRING TO BINARY	D.1	03 01445
005164	010412	A						
005165	001001	A	1478	JDF	ASN2	ERROR ON OVERFLOW	D.1	03 01446
005166	004012	A						
005167	061057	A	1479	STB	ITEM+3		D.1	03 01447
005170	030000	L	1480	LDX	=SGSCB7		D.1	03 01448
005171	020000	L	1481	LDB	=ITEM		D.1	03 01449
005172	002000	A	1482	CALL	SGPUT	PUT IN STACK 7	D.1	03 01450
005173	010624	A						
005174	001004	A	1483	JAN	ADR4	ERROR ON STACK OVERFLOW	D.1	03 01451
005175	003465	A						
005176	014011	A	1484	LDA	SG3DET	GET TERMINATOR	D.1	03 01452
005177	140000	L	1485	SUB	=0215		D.1	03 01453
005200	001010	A	1486	JAZ	SG3DIR	EXIT AT END OF LINE	D.1	03 01454
005201	003216	A						
005202	006140	A	1487	SUBI	0273-0215		D.1	03 01455
005203	000056	A						
005204	001010	A	1488	JAZ	SG3DEF	PROCESS NEXT FIELD ON 'I'	03	01456
005205	005136	A						
005206	001000	A	1489	JMP	ADR1	OTHERWISE ERROR	D.1	03 01457
005207	003467	A						
005210	000000	A	1490	SG3DET	DATA	0	D.1	03 01458
			1491	EJEC			03	01459
			1492	*			03	01460
			1493	*	SG3EDR		03	01461
			1494	*			03	01462
			1495	*		PURPOSE: UNPACK "EDR" DIRECTIVES AND STORE INFORMATION	03	01463
			1496	*			03	01464
			1497	*		CALLING SEQUENCE: INDIRECT JUMP THROUGH DIR PROC TABLE	03	01465
			1498	*			03	01466
			1499	*		RETURN PARAMETERS: NONE	03	01467
			1500	*			03	01468
			1501	*			03	01469
			1502	*			03	01470
005211	002000	A	1503	SG3EDR	BSS	0	03	01471
			1503	CALL	EDR3	* * ENTRY POINT * *	03	01472
005212	005342	A				INPUT PROCESSING FLAG		
005213	004470	A	1504	LLRL	24		03	01473
005214	140000	L	1505	SUB	=0106722		03	01474
005215	001010	A	1506	JAZ	EDR2	IF "R" INPUT, GO SET UP PARTIAL SGEN	03	01475
005216	005331	A						
005217	140000	L	1507	SUB	=017401		03	01476
005220	001016	A	1508	JANZ	EDR1	ERROR IF NOT "S"	03	01477
005221	005354	A						
			1509	*			03	01478
005222	010000	L	1510	LDA	=0254		03	01479
005223	002000	A	1511	CALL	SG3GAC	GET AND CONVERT EMPTY TIDB NUMBER	03	01480
005224	010507	A						
005225	005021	A	1512	TBA			03	01481
005226	142540	A	1513	SUB	039		03	01482
005227	001002	A	1514	JAP	EDR1	IF OUT OF BOUNDS	03	01483
005230	005354	A						
005231	062712	A	1515	STB	SGEDR1	STORE IN COMMON DATA AREA	03	01484
			1516	*			03	01485
005232	010000	L	1517	LDA	=0254		03	01486
005233	002000	A	1518	CALL	SG3GAC	GET AND CONVERT STACK SIZE PARAMETER	03	01487
005234	010507	A						
005235	005021	A	1519	TBA			03	01488
005236	142542	A	1520	SUB	0311		03	01489
005237	001002	A	1521	JAP	EDR1	IF OUT OF BOUNDS	03	01490
005240	005354	A						
005241	062713	A	1522	STB	SGEDR2	STORE IN COMMON DATA AREA	03	01491
			1523	*			03	01492
005242	010000	L	1524	LDA	=0254		03	01493
005243	002000	A	1525	CALL	SG3GAC	GET AND CONVERT MAX PARTITION VALUE	03	01494
005244	010507	A						
005245	005321	A	1526	DECR	021		03	01495
005246	140000	L	1527	SUB	=20		03	01496
005247	001002	A	1528	JAP	EDR1	IF OUT OF BOUNDS	03	01497
005250	005354	A						
005251	062717	A	1529	STB	SGEDR6	STORE IN COMMON DATA AREA	03	01498
			1530	*			03	01499
005252	010000	L	1531	LDA	=0254		03	01500
005253	002000	A	1532	CALL	SG3GAC	GET AND CONVERT PAGE SIZE VALUE	03	01500
005254	010507	A						

Address	Label	Op	Opnd	Description	Page	Line		
005255	062721	A	1533	STB	SGEUR8	STORE IN COMMON DATA AREA	03 01501	
			1534	*			03 01502	
005256	010000	L	1535	LDA	=0254		03 01503	
005257	002000	A	1536	CALL	SG3GAC	GET AND CONVERT HDL. CHAR CODE FLAG	03 01504	
005260	010507	A						
005261	005021	A	1537	TBA			03 01505	
005262	140000	L	1538	SUB	=26		03 01506	
005263	001010	A	1539	JAZ	EDR7	IF 026 KEY PUNCH CODE	03 01507	
005264	005271	A						
005265	140000	L	1540	SUB	=3		03 01508	
005266	001016	A	1541	JANZ	EDR1	ERROR IF NOT 029 KEY PUNCH CODE EITHER	03 01509	
005267	005354	A						
005270	010000	L	1542	LDA	=0401	SET UP CODE FOR NUCLEUS 'LOW-CORE'	03 01510	
005271	052722	A	1543	STA	SGEDR9	STORE IN COMMON DATA AREA	03 01511	
			1544	*			03 01512	
005272	005001	A	1545	TZA		SET BAD-TRACK-ANALYSIS FLAG	03 01513	
005273	052720	A	1546	STA	SGEDR7	NOMINALLY FOR FULL ANALYSIS	03 01514	
005274	002000	A	1547	CALL	EDR3	INPUT LIST FLAG	03 01515	
005275	005342	A						
005276	147000	I	1548	SUB	0240		03 01516	
005277	052723	A	1549	STA	SGEDRA	STORE IN COMMON DATA AREA	03 01517	
005300	140000	L	1550	SUB	=0130000		03 01518	
005301	001010	A	1551	JAZ	EDR0	IF LIST FLAG = "0"	03 01519	
005302	005306	A						
005303	140000	L	1552	SUB	=016000		03 01520	
005304	001016	A	1553	JANZ	EDR1	ERROR, IF FLAG NOT "L" OR "0"	03 01521	
005305	005354	A						
005306	005021	A	1554	TBA			03 01522	
005307	140000	L	1555	SUB	=0215		03 01523	
005310	001010	A	1556	JAZ	SG3RMD	EXIT ROUTINE, IF NO MORE PARAMETERS	03 01524	
005311	005363	A						
005312	140000	L	1557	SUB	=0254-0215		03 01525	
005313	001016	A	1558	JANZ	EDR1	ERROR, IF FIELD TERM. NOT E-D-R OR COMMA	03 01526	
005314	005354	A						
005315	002000	A	1559	CALL	EDR0	INPUT BAD-TRACK-ANALYSIS FLAG	03 01527	
005316	005342	A						
005317	004470	A	1560	LRL	24		03 01528	
005320	140000	L	1561	SUB	=0106660	PACK FIELD TERM. AND CHAR. IN (AR); CONVERT	03 01529	
005321	052720	A	1562	STA	SGEDR7	STORE BAD-TRACK ANALYSIS FLAG	03 01530	
005322	001010	A	1563	JAZ	SG3RMD	EXIT ROUTINE, IF FLAG = "0"	03 01531	
005323	005363	A						
005324	005311	A	1564	DAR		CHECK FOR FLAG = "1"	03 01532	
005325	001016	A	1565	JANZ	EDR1	ERROR IF FLAG NOT "L" OR "0"	03 01533	
005326	005354	A						
005327	001000	A	1566	JMP	SG3RMD	GO TO RMD ANALYSIS ROUTINE	03 01534	
005330	005363	A						
			1567	*			03 01535	
005331	006030	A	1568	EDR2	LDXI	EDR8	SET UP SGEN LOADER TO LOAD	03 01536
005332	005335	A						
			1569	EXT	EXIT	THE RESIDENT TASK CONFIGURATOR	03 01537	
005333	001000	A	1570	JMP	EXIT	FOR RESIDENT TASK BUILD	03 01538	
005334	000000	E						
			1571	*			03 01539	
005335	055624	A	1572	EDR8	DATA	055624	(PARTIAL SGEN REQUESTED)	03 01540
005336	031636	A	1573	DATA	031636	LOADER CODE ENTRY FOR 'SCEN4'	03 01541	
005337	000000	A	1574	DATA	0		03 01542	
			1575	EJEC			03 01543	
			1576	*			03 01544	
			1577	*			03 01545	
			1578	*			03 01546	
			1579	*			03 01547	
005340	011034	A	1580	EDR4	LDA	ITEM	(AR)= CHARACTER	03 01548
005341	001000	A	1581	JMP	0	* * RETURN * *	03 01549	
005342	000000	A						
			1582	*			03 01550	
005343	010000	L	1583	EDR3	DES	0	* * ENTRY POINT * *	03 01551
005344	051054	A	1584	LDA	" "		03 01552	
005345	006505	A	1585	STA	ITEM		03 01553	
005346	010717	A	1586	ISR	SGGNI,X	GET NEXT ITEM	03 01554	
005347	001054	A	1587	DATA	ITEM		03 01555	
005350	000001	A	1588	DATA	1		03 01556	
005351	005311	A	1589	DAR			03 01557	
005352	001010	A	1590	JAZ	EDR4	IF A SINGLE CHARACTER	03 01558	
005353	005340	A						
			1591	*			03 01559	
			1592	*			03 01560	
			1593	*			03 01561	
005354	012610	A	1594	EDR1	LDA	EDR8	POST "PARAMETER ERROR" MESSAGE	03 01562
005355	001006	A	1595	DATA	01006		03 01563	
005356	012607	A	1596	EDR9	LDA	EDR1	POST "SYNTAX ERROR" MESSAGE	03 01564
005357	002000	A	1597	CALL	SGGNSC		03 01565	
005360	011323	A						
005361	001000	A	1598	JMP	DIRS	GO TO PROCESS RECOVERY DIRECTIVE	03 01566	
005362	003222	A						
			1599	EJEC			03 01567	
			1600	*			03 01568	
			1601	*	SG3RMD		03 01569	
			1602	*			03 01570	
			1603	*			03 01571	
			1604	*			03 01572	
			1605	*			03 01573	
			1606	*			03 01574	

PURPOSE: TO PERFORM BAD TRACK ANALYSIS ON ALL ROTATING MEMORIES, BUILD PSI'S FOR THEM, AND WRITE PSI'S AND BAD TRACK TABLES ON THE RMD'S.

Address	Op	Opnd	Description	Page	Line
1607	*			03	01575
1608	*			03	01576
1609	*		CALLING SEQUENCE: JMP SG3RMD	03	01577
1610	*			03	01578
1611	*		RETURN PARAMETERS: NONE	03	01579
1612	*			03	01580
005363	SG3RMD	BSS 0	* * ENTRY POINT * *	03	01581
005363	010500	A 1614	LDA SGSCB0	03	01582
005364	001400	A 1615	JSS3 RZ110	V2 03	01583
005365	010371	A			
005366	005014	A 1616	RMD1 TAX	03	01584
005367	077000	I 1617	STX RMDD16	03	01585
005370	140501	A 1618	SUB SGSCB0+1	03	01586
005371	001010	A 1619	JAZ SGRZI	03	01587
005372	010316	A			
1620	*			03	01588
005373	015000	A 1621	RMD3 LDA 0,X	03	01589
005374	057000	I 1622	STA RMDD17	03	01590
005375	130000	L 1623	ERA ='D'	03	01591
005376	152570	A 1624	ANA LHW	03	01592
005377	001016	A 1625	JANZ RMD5	03	01593
005400	006440	A			
1626	*			03	01594
005401	025001	A 1627	LDB 1,X	03	01595
005402	015002	A 1628	LDA 2,X	03	01596
005403	004350	A 1629	LSRA 8	03	01597
005404	120000	L 1630	ADD =0260	03	01598
005405	004450	A 1631	LLRL 8	03	01599
005406	057000	I 1632	STA RMDD17+1	03	01600
1633	*			03	01601
005407	017000	I 1634	RMD26 LDA RMDD17+1	03	01602
1635	*			03	01603
005410	142537	A 1636	IF MORE THAN 1 UNIT ON CONTROLLER, ENTER FROM RMD5-1	-35 03	01604
005411	057000	I 1637	SUB BSS	03	01605
005412	012530	A 1638	STA RMDD17+1	03	01606
005413	054007	A 1639	LDA TWD	* * SCAN SGEN I/O TABLES FOR DRIVER B.2 03	01607
005414	014006	A 1640	RMD8 STA RMDD4	03	01608
005415	140000	L 1641	SUB =025	03	01609
005416	001002	A 1642	JAP RMD38	03	01610
005417	006475	A			
005420	044002	A 1643	INR RMDD4	03	01611
005421	002000	A 1644	CALL IDCS	03	01612
005422	000000	E			
005423	000000	A 1645	RMD4 DATA 0	03	01613
005424	005430	A 1646	DATA *+4,*+3,*+2,*-6	03	01614
005425	005430	A			
005426	005430	A			
005427	005421	A			
005430	015002	A 1647	LDA 2,X	03	01615
005431	137000	I 1648	ERA RMDD17	03	01616
005432	001016	A 1649	JANZ RMD8	03	01617
005433	005414	A			
005434	015003	A 1650	LDA 3,X	03	01618
005435	137000	I 1651	ERA RMDD17+1	03	01619
005436	001016	A 1652	JANZ RMD8	03	01620
005437	005414	A			
005440	017000	I 1653	LDA RMDD4	03	01621
005441	142531	A 1654	SUB FOUR	03	01622
005442	001010	A 1655	JAZ RMD50	B.2 03	01623
005443	006433	A			
1656	*			03	01624
1657	*			03	01625
005444	014231	A 1658	LDA RMD41+1	-35 03	01626
005445	054504	A 1659	STA RMD31+1	-35 03	01627
005446	015027	A 1660	LDA 23,X	03	01628
005447	057000	I 1661	STA RMDD10	03	01629
1662	*			03	01630
005450	015003	A 1663	LDA 3,X	-35 03	01631
005451	152571	A 1664	ANA BM377	-35 03	01632
005452	006140	A 1665	SUBI 0303	-35 03	01633
005453	000303	A			
005454	001004	A 1666	JAN RMD2A	-35 03	01634
005455	005464	A			
005456	005112	A 1667	INCR J12	B=A+1 E2505 03	01635
005457	067000	I 1668	STX* SGMDD	E2505 03	01636
005460	025030	A 1669	LDB 330,X	E2505 03	01637
005461	142530	A 1670	SUB TWD	E2505 03	01638
005462	001004	A 1671	JAN RMD2B	E2505 03	01639
005463	005470	A			
005464	025026	A 1672	RMD2A LDB 22,X	-35 03	01640
005465	005301	A 1673	TZA	-35 03	01641
005466	057000	I 1674	STA* SGMDD	-35 03	01642
005467	175027	A 1675	DIV 23,X	-35 03	01643
005470	067000	I 1676	RMD2B STB RMDD9	-35 03	01644
005471	037000	I 1677	LAX RMDD4	03	01645
005472	074757	A 1678	STX RMDD13	03	01646
005473	074132	A 1679	STX RMD4H	-35 03	01647
005474	005041	A 1680	TXA	03	01648
005475	117000	I 1681	ORA RBIN	03	01649
005476	054302	A 1682	STA RMD28	03	01650
005477	054175	A 1683	STA RMD41	03	01651
005500	054053	A 1684	STA RMD4B	-35 03	01652
005501	005041	A 1685	TXA	03	01653

Address	Hex	Op	Label	Op	Comment	Line	Page
005502	117000	I	1686	DRA	WBIN	FORM 'WRITE BINARY' CODE	03 01654
005503	054244	A	1687	STA	RMD29	AND SAVE IT	03 01655
005504	054444	A	1688	STA	RMD31		03 01656
005505	054652	A	1689	STA	RMD114		03 01657
005506	054112	A	1690	STA	RMD4G		03 01658
005507	005041	A	1691	TXA			03 01659
005510	114775	A	1692	DRA	REW	FORM 'REWIND' CODE	03 01660
005511	054715	A	1693	STA	RMD32	AND SAVE IT	03 01661
005512	054020	A	1694	STA	RMD33		03 01662
005513	054427	A	1695	STA	RMD36		03 01663
005514	054572	A	1696	STA	RMD112		03 01664
005515	054174	A	1697	STA	RMD45		03 01665
005516	054065	A	1698	STA	RMD4D		03 01666
005517	005041	A	1699	TXA			03 01667
005520	114766	A	1700	DRA	SKRF	FORM 'SKIP RECORDS FORWARD' CODE	03 01668
005521	054363	A	1701	STA	RMD30	AND SAVE IT	03 01669
005522	054620	A	1702	STA	RMD113		03 01670
005523	054616	A	1703	STA	RMDSK-1		03 01671
005524	054576	A	1704	STA	RMD130+2		03 01672
005525	054064	A	1705	STA	RMD4E		03 01673
005526	005041	A	1706	TXA			03 01674
005527	114760	A	1707	DRA	SKRR	FORM 'SKIP RECORDS REVERSE' CODE	03 01675
005530	054740	A	1708	STA	RMD34	AND SAVE IT	03 01676
005531	002000	A	1709	CALL	IOCS	REWIND RMD	03 01677
005532	005422	E					
005533	006506	A	1710	RMD33	DATA	REW	(IF ERROR,KEEP TRYING)
005534	006505	A	1711	JSR	RMD12,X		03 01678
005535	006444	A					03 01679
005536	005531	A	1712	RMD4	DATA	RMD22	
005537	017000	I	1713	EQU	*	CHECK IF MODEL A(VRC) OR B(CMD)	03 01680
005540	001010	A	1714	LDA*	SGMOD		03 01681
005541	005661	A	1715	JAZ	RMD23	NOT MODEL 'C' OR 'D',CONTINUE	03 01682
005542	006020	A	1716	LDBI	360		03 01683
005543	000550	A					03 01684
005544	064405	A	1717	STB	RMD31+1	MODIFY TO READ 3 SECTORS FOR 'C'	03 01685
005545	005311	A	1718	DAR			03 01686
005546	001010	A	1719	JAZ	RMD4A		03 01687
005547	005552	A					
005550	014004	A	1720	LDA	RMD4B+1	MODIFY TO READ 5 SECTORS FOR 'D'	03 01688
005551	054400	A	1721	STA	RMD31+1		03 01689
005552	002000	A	1722	RMD4A	CALL	IOCS	03 01690
005553	005532	E					
005554	006504	A	1723	RMD4B	DATA	RBIN	READ IN 3 SECTORS FOR PST AND
005555	001130	A	1724	DATA	BTSIZ,BTB		03 01691
005556	006527	A					03 01692
005557	006505	A	1725	JSR	RMD12,X	CHECK STATUS	03 01693
005560	006444	A					
005561	005531	A	1726	DATA	RMD22	ERROR RETURN	03 01694
005562	002000	A	1727	CALL	SG3PBD	GENERATE PST IN SGOBUF	03 01695
005563	007712	A					
005564	011066	A	1728	LDA	SGOBUF	GET TRK SIZE	03 01696
005565	152571	A	1729	ANA	BMS/7		03 01697
005566	054070	A	1730	STA	RMDTSZ		03 01698
005567	010000	L	1731	LDA	=SGOBUF+2	CLEAR 1ST SECTOR OF EACH PARTITION	03 01699
005570	054067	A	1732	STA	RMDADR	1ST PARTITION ADDR.	03 01700
005571	011067	P	1733	LDA	SGOBUF+1	SIZE OF PST	03 01701
005572	120000	L	1734	ADD	=SGOBUF-3	ADD BASE ADDR -3	03 01702
005573	054061	A	1735	STA	RMDADR	LAST PARTITION	03 01703
005574	021070	A	1736	LDB	SGOBUF+2	1ST TRK TO CLEAR	03 01704
005575	064060	A	1737	STB	RMDTRK	SAVE FOR NEXT PARTITION CHECK	03 01705
005576	005322	A	1738	DBR		TRK NUMBER -1	03 01706
005577	005001	A	1739	TZA			03 01707
005600	164056	A	1740	MUL	RMDTSZ	NOW IN SECTORS	03 01708
005601	064011	A	1741	STR	RMD4E+1	SECTOR SKIP COUNT	03 01709
005602	002000	A	1742	CALL	IOCS		03 01710
005603	005553	E					
005604	006506	P	1743	RMD4D	DATA	REW	03 01711
005605	006505	A	1744	JSR	RMD12,X		03 01712
005606	006444	A					
005607	005602	A	1745	DATA	RMD4D-2		03 01713
005610	002000	A	1746	CALL	IOCS		03 01714
005611	005603	E					
005612	006507	A	1747	RMD4E	DATA	SKRF	03 01715
005613	000000	A	1748	DATA	0	SKIP COUNT	03 01716
005614	006505	A	1749	JSR	RMD12,X		03 01717
005615	006444	A					
005616	005602	A	1750	DATA	RMD4D-2		03 01718
005617	002000	A	1751	RMD4F	CALL	IOCS	03 01719
005620	005611	E					
005621	006505	A	1752	RMD4G	DATA	WBIN	03 01720
005622	000170	A	1753	DATA	120,SGOBUF+120	CLEAR SECTOR	03 01721
005623	001256	A					
005624	002000	A	1754	CALL	IOCS		03 01722
005625	005620	E					
005626	000000	A	1755	RMD4H	DATA	0	03 01723
005627	005633	A	1756	DATA	*+4,*+3,*+2,RMD4H-2	ERP/EDF/EDD/BUSY	03 01724
005630	005633	A					
005631	005633	A					
005632	005624	A					
005633	014024	A	1757	LDA	RMDADR	PST ADDR OF PARTITION PROCESSED	03 01725
005634	122572	A	1758	ADD	THREE		03 01726
005635	054022	A	1759	STA	RMDADR	SAVE FOR NEXT PART.	03 01727

005761	014531	A	1835	LDA	RMD06	IF CLEAR PHASE OF ANALYSIS,	03	01803	
005762	001010	A	1836	JAZ	RMD19	STOP AFTER CLEAR OF FIRST SECTOR	03	01804	
005763	006046	A							
005764	014505	A	1837	LDA	RMD05		03	01805	
005765	144531	A	1838	SUB	RMD10		03	01806	
005766	001004	A	1839	JAN	RMD6	IF MORE SECTORS TO WRITE (THIS TRACK)	03	01807	
005767	005734	A							
			1840	*					
005770	002000	A	1841	CALL	RMD35	SKIP REVERSE TO START OF TRACK	03	01808	
005771	006466	A							
			1842	*					
005772	014520	A	1843	LDA	RMD06		03	01810	
005773	054516	A	1844	STA	RMD02	RESET TEST PATTERN	03	01811	
005774	005001	A	1845	TZA			03	01812	
005775	054474	A	1846	STA	RMD05	RESET SECTOR COUNTER TO ZERO	03	01813	
005776	044473	A	1847	RMD27	RMD05	INCREMENT SECTOR COUNT	03	01814	
005777	002000	A	1848	CALL	IDCS	AND READ SECTOR	03	01815	
006000	005747	E					03	01816	
006001	006504	A	1849	RMD28	RBIN	(IF ERROR, GO BUMP RETRY COUNT	03	01817	
006002	000170	A	1850	DATA	120,SGIBUF	AND START OVER WITH TRACK)	03	01818	
006003	000664	A							
006004	006505	A	1851	JSR	RMD12,X		03	01819	
006005	006444	A							
006006	006035	A	1852	DATA	RMD15		03	01820	
			1853	*					
006007	024502	A	1854	LDB	RMD02	CHECK SECTOR READ IN FOR CORRECT	03	01821	
006010	030000	L	1855	LDX	=120	TEST PATTERN	03	01822	
006011	005344	A	1856	RMD10	DXR		03	01823	
006012	005021	A	1857	TBA			03	01824	
006013	006135	A	1858	ERAE	SGIBUF,X		03	01825	
006014	000664	A					03	01826	
006015	001016	A	1859	JANZ	RMD15	IF MIS-MATCH, GO BUMP RETRY COUNT, ETC.	03	01827	
006016	006035	A							
006017	004047	A	1860	LRLB	7		03	01828	
006020	001046	A	1861	JXNZ	RMD10	IF MORE WORDS TO CHECK	03	01829	
006021	006011	A							
006022	064467	A	1862	STB	RMD02	SAVE CONTINUING TEST PATTERN	03	01830	
006023	014446	A	1863	LDA	RMD05		03	01831	
006024	144472	A	1864	SUB	RMD10		03	01832	
006025	001004	A	1865	JAN	RMD27	IF MORE SECTORS TO READ AND CHECK	03	01833	
006026	005776	A				(THIS TRACK)	03	01834	
			1866	*					
006027	005001	A	1867	TZA			03	01835	
006030	054462	A	1868	STA	RMD06	SET CLEAR FLAG FOR CLEARING TRACK	03	01836	
006031	002000	A	1869	JMPM	RMD35	SKIP REVERSE TO START OF TRACK	03	01837	
006032	006466	A							
006033	001000	A	1870	JMP	RMD18	GO TO CLEAR TRACK	03	01838	
006034	005730	A							
			1871	*					
006035	044436	A	1872	RMD15	INR	INCREMENT RETRY COUNT	03	01839	
006036	014455	A	1873	LDA	RMD07		03	01840	
006037	142531	A	1874	SUB	050		03	01841	
006040	002004	A	1875	JANM	RMD35	IF LESS THAN FOUR TRYS MADE, SKIP REVERSE	03	01842	
006041	006466	A				TO START OF TRACK AND REANALYZE.	03	01843	
006042	001004	A	1876	JAN	RMD20		03	01844	
006043	005726	A							
006044	005101	A	1877	INCR	01	OTHERWISE, SET UP BAD TRACK FLAG	03	01845	
006045	001006	A	1878	DATA	01006	AND GO STORE 17	03	01846	
			1879	*					
006046	005001	A	1880	RMD19	TZA	(AR) = "GOOD" BAD TRACK FLAG	03	01847	
			1881	*					
006047	024445	A	1882	RMD9	LDB	COMPUTE LOC OF FLAG IN BAD TRACK TABLE	03	01848	
006050	004054	A	1883	LRLB	17	AND ENTER FLAG IN TABLE	03	01849	
006051	004154	A	1884	LRLB	12		03	01850	
006052	001020	A	1885	RMD82	JNZ	*	03	01851	
006053	006060	A					03	01852	
006054	004241	A	1886	LRLA	1	TRK 0=BIT 0, TRK 15=BIT 15	03	01853	
006055	005322	A	1887	DBR			03	01854	
006056	001000	A	1888	JMP	RMD82		03	01855	
006057	006052	A							
006060	024434	A	1889	RMD81	LDB	*	03	01856	
006061	004144	A	1890	LRLB	4	*	03	01857	
006062	006116	A	1891	ERAE	STB+64,B		03	01858	
006063	006625	A					03	01859	
006064	006056	A	1892	STAE	STB+64,B		03	01860	
006065	006625	A							
006066	114431	A	1893	ORA	RMD19		03	01861	
006067	054430	A	1894	STA	RMD18	SET BAD TRACK TABLE FLAG	03	01862	
006070	064430	A	1895	STB	RMD19	SET BAD TRACK TABLE SIZE COUNTER	03	01863	
	006071	A	1896	RMD81A	EQU	*	03	01864	
			1897	*					
006071	005001	A	1898	TZA			03	01865	
006072	054421	A	1899	STA	RMD07	RESET RETRY COUNT	03	01866	
006073	044421	A	1900	INR	RMD08	INCREMENT TRACK COUNTER	03	01867	
006074	014420	A	1901	LDA	RMD08		03	01868	
006075	144420	A	1902	SUB	RMD09		03	01869	
006076	001002	A	1903	JMP	RMD16	IF END OF RDD REACHED	03	01870	
006077	006111	A							
			1904	*					
006100	014416	A	1905	LDA	RMD10		03	01872	
006101	144370	A	1906	SUB	RMD05		03	01873	
006102	054003	A	1907	STA	RMD11	COMPUTE PHYSICAL DISTANCE TO END-OF-TRACK	03	01874	
			1908	*			03	01875	
								03	01876

006103	002000	A	1909	CALL	IDCS	MOVE TO START OF NEXT TRACK		03	01877	
006104	006000	E								
006105	006307	A	1910	RMD30	DATA	SKRF	(IN CASE LAST TRACK WAS FLAGGED BAD)	03	01878	
006106	006106	A	1911	RMD11	DATA	*		03	01879	
006107	006303	A	1912	JSR	RMD12,X	IN CASE OF ERROR, START ENTIRE		03	01880	
006110	006444	A								
006111	003661	A	1913	DATA	RMD23	ANALYSIS OF THIS RMD OVER AGAIN		03	01881	
006112	001000	A	1914	JMP	RMD20	GO START ANALYSIS OF NEXT TRACK		03	01882	
006113	005726	A								
			1915	*				03	01883	
006114			1916	RMD16	BSS	0		03	01884	
006114	002000	A	1917	CALL	SG3PBD	GENERATE PST AND PLACE IN "SGBUF"		03	01885	
006115	007712	A								
006116	014377	A	1918	LDA	RMD19		E2505	03	01886	
006117	122600	A	1919	ADD	BM17		E2505	03	01887	
006120	004344	A	1920	LSRA	4	BAD TRK TBL SIZE=(RMD TOTAL	E2505	03	01888	
			1921	*		TRKS + 15)/16	E2505	03	01889	
006121	054014	A	1922	STA	RMD12-2	STORE FOR BUFFER MOVE	-35	03	01890	
006122	031070	A	1923	LDX	SGOBUF+2	GET START TRACK FOR FIRST PARTITION		03	01891	
006123	005344	A	1924	DXR				03	01892	
006124	024500	A	1925	LDB	BTB+64	TRK 0=BIT 0.GET 1ST 32 TRKS.	-35	03	01893	
006125	014500	A	1926	LDA	ETB+65		-35	03	01894	
006126	006420	A	1927	RMD40	BT	ERROR IF BAD TRK IN NUCLEUS AREA.	-35	03	01895	
006127	006477	A								
006130	004541	A	1928	LLSR	1	SHIFT TO CHECK NEXT TRK.	-35	03	01896	
006131	005344	A	1929	DXR				03	01897	
006132	001046	A	1930	JXNZ	RMD40	IF MORE SYSTEM TRACKS TO CHECK		03	01898	
006133	006126	A								
006134	002000	A	1931	CALL	SGMDV	MOVE BAD TRACK TABLE JUST BELOW PST		03	01899	
006135	010620	A								
006136	000040	A	1932	DATA	32	MODIFIED ABOVE	-35	03	01900	
006137	006625	A	1933	DATA	BTB+64	FROM ADDR.	-35	03	01901	
006140	001166	A	1934	RMD12	DATA	SGOBUF+64	TO ADDR. BAD TRK TAB. AREA STARTS	-35	03	01902
			1935	*		AT WORD 64		03	01903	
			1936	*				03	01904	
006141	002000	A	1937	RMD24	CALL	IDCS	REWIND RMD	03	01905	
006142	006104	E								
006143	006506	A	1938	RMD36	DATA	REW	(IF ERROR, KEEP TRYING)	03	01906	
006144	006505	A	1939	JSR	RMD12,X			03	01907	
006145	006444	A								
006146	006141	A	1940	DATA	RMD24			03	01908	
			1941	*				03	01909	
006147	002000	A	1942	CALL	IDCS	WRITE PST AND BAD TRACK TABLE		03	01910	
006150	006142	E								
006151	006505	A	1943	RMD31	DATA	UBIN	IN START OF RMD. THE NO. OF SECTORS-	-35	03	01911
006152	000170	A	1944	DATA	120,SGOBUF	DEPENDS ON BAD TRK TABLE SIZE.	-35	03	01912	
006153	001066	A								
			1945	*		NO. OF WORDS MODIFIED ABOVE.	-35	03	01913	
006154	006505	A	1946	JSR	RMD12,X	IF ERR, REW AND TRY WRITE AGAIN		03	01914	
006155	006444	A								
006156	006141	A	1947	DATA	RMD24			03	01915	
			1948	*				03	01916	
006157	042732	A	1949	INR	SGMOD	INCREMENT POINTER TO NEXT RMD.	-35	03	01917	
			1950	EJEC				03	01918	
			1951	*				03	01919	
			1952	*				03	01920	
			1953	*				03	01921	
			1954	*				03	01922	
			1955	*				03	01923	
006160			1956	RMD100	BSS	0		03	01924	
006160	014342	A	1957	LDA	RMD17			03	01925	
006161	054216	A	1958	STA	RMD103			03	01926	
006162	014341	A	1959	LDA	RMD17+1			03	01927	
006163	152570	A	1960	ANA	LHW			03	01928	
006164	110000	L	1961	DRA	=0301			03	01929	
006165	054213	A	1962	STA	RMD103+1	SET-UP PARTITION NAME		03	01930	
006166	017000	I	1963	LDA	RMD12			03	01931	
006167	005311	A	1964	DAR				03	01932	
006170	054211	A	1965	STA	RMD106	SET-UP SEARCH LENGTH FOR PST		03	01933	
			1966	*				03	01934	
006171	030000	L	1967	LDX	=SGOBUF+2			03	01935	
006172			1968	RMD111	BSS	0		03	01936	
006172	074210	A	1969	STX	RMD110	SET-UP PST POINTER		03	01937	
			1970	*				03	01938	
			1971	*				03	01939	
006173	015000	A	1972	LDA	0,X	COMPUTE EXTENT OF PARTITION		03	01940	
006174	145000	A	1973	SUB	0,X			03	01941	
006175	004560	A	1974	LLSR	16			03	01942	
006176	164320	A	1975	MUL	RMD10			03	01943	
006177	005122	A	1976	IBR				03	01944	
006200	064206	A	1977	STB	RMD120+3	SAVE EXTENT FOR FILE DIRECTORY		03	01945	
006201	064207	A	1978	STB	RMD120+5			03	01946	
			1979	*				03	01947	
006202	015000	A	1980	LDA	0,X	NOW CHECK FOR BAD TRACKS		03	01948	
006203	005311	A	1981	DAR				03	01949	
006204	054017	A	1982	STA	RMD11B+1			03	01950	
006205	005012	A	1983	RMD11C	TAB			03	01951	
006206	004144	A	1984	LSRB	4			03	01952	
006207	152600	A	1985	ANA	BM17			03	01953	
006210	006110	A	1986	DRAI	06460	BUILD BT INSTRUCTION		03	01954	
006211	006460	A								
006212	054002	A	1987	STA	RMD11A			03	01955	
006213	006026	A	1988	LSBE	SGOBUF+64,B	GET BAD TRK WORD		03	01956	

Address	Label	Operation	Comments	Line	Page
006336	006321	A			
006337	000000	A	2054 RMDREC DATA 0	-35	03 02032
	006340	A	2055 RMD131 EQU *	-35	03 02033
006340	002000	A	2066 CALL IOCS SKIP NO. OF MULTIPLES OF 32 K	-35	03 02034
006341	006322	E			
006342	006507	A	2067 SKRF	-35	03 02035
006343	000000	A	2068 RMDSK DATA 0	-35	03 02036
006344	006505	A	2069 JSR RMD12,X	-35	03 02037
006345	006444	A			
006346	006305	A	2070 DATA RMD109	-35	03 02038
006347	002000	A	2071 CALL IOCS POSITION TO START OF REF. PARTITION		03 02039
006350	006341	E			
006351	006507	A	2072 RMD113 DATA SKRF		03 02040
006352	006352	A	2073 RMD115 DATA *		03 02041
006353	006505	A	2074 JSR RMD12,X		03 02042
006354	006444	A			
006355	006305	A	2075 DATA RMD109 STATUS ERROR RETURN ADDR.		03 02043
	2076	*			03 02044
006356	002000	A	2077 CALL IOCS WRITE FILE NAME DIRECTORY ON RMD		03 02045
006357	006350	E			
006360	006505	A	2078 RMD114 DATA WBIN		03 02046
006361	000170	A	2079 DATA 120,SGPBUF		03 02047
006362	002216	A			
006363	006505	A	2080 JSR RMD12,X		03 02048
006364	006444	A			
006365	006305	A	2081 DATA RMD109 STATUS ERROR RETURN ADDR.		03 02049
	2082	*			03 02050
	2083	*			03 02051
006366		A	2084 RMD108 BSS 0		03 02052
006366	044012	A	2085 INR RMD103+1 BUMP PARTITION INDEX		03 02053
006367	014013	A	2086 LDA RMD110		03 02054
006370	122572	A	2087 ADD THREE		03 02055
006371	005014	A	2088 TAX		03 02056
006372	144007	A	2089 SUB RMD106 BUMP PST POINTER		03 02057
006373	001002	A	2090 JAP RMD25 IF END OF PST REACHED		03 02058
006374	006425	A			
006375	001000	A	2091 JMP RMD111 OTHERWISE, CONTINUE		03 02059
006376	006172	A			
	2092	*			03 02060
	2093	*			03 02061
006377	000000	A	2094 RMD102 DATA 0 ASSIGN STACK POINTER		03 02062
006400		A	2095 RMD103 BSS 2 PARTITION NAME		03 02063
006402	000000	A	2096 RMD106 DATA 0 PST LENGTH COUNTER		03 02064
006403	000000	A	2097 RMD110 DATA 0 PST ENTRY POINTER		03 02065
006404	120240	A	2098 RMD120 DATA * ,0,2,0,1 FILE NAME DIRECTORY ENTRY BUFFER		03 02066
006405	120240	A			
006406	120240	A			
006407	000000	A			
006410	000002	A			
006411	000000	A			
006412	000001	A			
	2099	*			03 02067
	2100	*			03 02068
006413		A	2101 NAMTAB BSS 0 TABLE OF LOGICAL UNITS NEEDING FILES		03 02069
006413	151711	A	2102 DATA 'SI'		03 02070
006414	146317	A	2103 DATA 'LD'		03 02071
006415	141311	A	2104 DATA 'BI'		03 02072
006416	141317	A	2105 DATA 'BD'		03 02073
006417	151727	A	2106 DATA 'SW'		03 02074
006420	143717	A	2107 DATA 'GD'		03 02075
006421	151723	A	2108 DATA 'SS'		03 02076
006422	150317	A	2109 DATA 'PD'		03 02077
006423	150311	A	2110 DATA 'PI'		03 02078
006424	000000	A	2111 DATA 0 END OF TABLE FLAG		03 02079
	2112	*			03 02080
006425	002000	A	2113 RMD25 CALL IOCS REWIND RMD		03 02081
006426	006357	E			
006427	006505	A	2114 RMD32 DATA REN (IF ERROR, KEEP TRYING)		03 02082
006430	006505	A	2115 JSR RMD12,X		03 02083
006431	006444	A			
006432	006425	A	2116 DATA RMD25		03 02084
	2117	*			03 02085
006433		A	2118 RMD50 BSS 0		03 02086
006433	014070	A	2119 LDA RMD17+1		03 02087
006434	130000	L	2120 CPA =0		03 02088
006435	152570	A	2121 ANA LHM		03 02089
006436	001015	A	2122 JANZ RMD26 IF MORE UNITS ON PRESENT CONTROLLER		03 02090
006437	005407	A			
006440	014061	A	2123 RMD5 LDA RMD16		03 02091
006441	120502	A	2124 ADD SGSC90+2 BUMP EQUIP STACK POINTER	V2	03 02092
006442	001000	A	2125 JMP RMD1 AND GO FETCH NEXT ITEM		03 02093
006443	005366	A			
	2126	*			03 02094
	2127	*			03 02095
006444	015000	A	2128 RMD12 LDA 0,X		03 02096
006445	054017	A	2129 STA RMD14 SAVE ERROR RETURN ADDRESS		03 02097
006446	005144	A	2130 IXR		03 02098
006447	074010	A	2131 STX RMD13 SAVE NORMAL RETURN ADDRESS		03 02099
	2132	*			03 02100
006450	002000	A	2133 CALL IOCS CALL IOCS TO SENSE OPERATION COMPLETE		03 02101
006451	006426	E			
006452	000000	A	2134 RMD13 DATA 0		03 02102
006453	006461	A	2135 DATA RMD14,*+3,*+2,*-6		03 02103

Address	Hex	Label	Op-Code	Value	Description	Page	Line
006454	006457	A					
006455	006457	A					
006456	006450	A					
006457	001000	A 2136	JMP	0	* * NORMAL RETURN * *	03	02104
006460	000000	A					
006461	012620	A 2137	RMD13	BES	0		03 02105
006462	002000	A 2138	RMD14	LDA	ER10		03 02106
006463	011173	A 2139		CALL	SG3PRO		03 02107
006464	001000	A 2140	JMP	0	* * ERROR RETURN * *	03	02108
006465	000000	A					
006466	000000	A 2141	RMD14	BES	0		03 02109
006467	002000	A 2142	*				03 02110
006470	006451	E 2143	*				03 02111
006471	006510	A 2144	RMD35	ENR			03 02112
006472	000000	A 2145		CALL	IDCS		03 02113
006473	001000	A 2146	RMD34	DATA	SKRR		03 02114
006474	106466	A 2147	RMD35	DATA	0		03 02115
		A 2148		JMP*	RMD35		03 02116
		A 2149	*				03 02117
		A 2150	*				03 02118
006475	012626	A 2151	RMD38	LDA	ER20		03 02119
006476	001006	A 2152		DATA	01006		03 02120
006477	012624	A 2153	RMD37	LDA	ER14		03 02121
006500	002000	A 2154		CALL	SG3PRO		03 02122
006501	011173	A					
006502	001000	A 2155		JMP	SG3DPI		03 02123
006503	003000	A					
006504	040400	A 2156	RBIN	DATA	040400		03 02124
006505	041000	A 2157	WBIN	DATA	041000		03 02125
006506	002000	A 2158	REN	DATA	02000		03 02126
006507	003000	A 2159	SKRF	DATA	03000		03 02127
006510	103000	A 2160	SKRR	DATA	0103000		03 02128
		A 2161	*				03 02129
		A 2162	*				03 02130
006511	070707	A 2163	RMDD1	DATA	070707		03 02131
006512	000000	A 2164	RMDD2	DATA	0		03 02132
006513	000000	A 2165	RMDD6	DATA	0		03 02133
		A 2166	*				03 02134
006514	000000	A 2167	RMDD7	DATA	0		03 02135
		A 2168	*				03 02136
006515	000000	A 2169	RMDD8	DATA	0		03 02137
006516	000000	A 2170	RMDD9	DATA	0		03 02138
006517	000000	A 2171	RMDD10	DATA	0		03 02139
006520	000000	A 2172	RMDD18	DATA	0		03 02140
006521	000000	A 2173	RMDD19	DATA	0		03 02141
		A 2174	*				03 02142
006522	000000	A 2175	RMDD16	DATA	0		03 02143
006523		A 2176	RMDD17	BSS	2		03 02144
		A 2177	*				03 02145
006525		A 2178	BTF	BSS	BTS1Z		03 02146
		A 2179		EJEC			03 02147
		A 2180	*				03 02148
		A 2181	*		SG3P80		03 02149
		A 2182	*				03 02150
		A 2183	*				03 02151
		A 2184	*				03 02152
		A 2185	*				03 02153
		A 2186	*				03 02154
		A 2187	*				03 02155
		A 2188	*				03 02156
		A 2189	*				03 02157
		A 2190	*				03 02158
007655	005101	A 2191	PB08	INCR	01		03 02159
007656	054322	A 2192		STA	PB010		03 02160
007657	012503	A 2193	PB07	LDA	TEUF1+1		03 02161
007660	152571	A 2194		ANA	RH4		03 02162
007661	042503	A 2195		INR	TEUF1+1		03 02163
007662	140000	L 2196		SUB	=0340		03 02164
007663	142717	A 2197		SUB	SGEUR6		03 02165
007664	001004	A 2198		JAN	PR04		03 02166
007665	010040	A					
007666	030000	L 2199		LDB	=SGSCB3		03 02167
007667	020000	L 2200		LDB	=TEUF1		03 02168
007670	005301	A 2201		DECR	01		03 02169
007671	002000	A 2202		CALL	SGSRE		03 02170
007672	011356	A					
007673	000002	A 2203		DATA	2		03 02171
007674	005041	A 2204		TMA			03 02172
007675	001002	A 2205		JAP	EDR1		03 02173
007676	005354	A					
007677	014310	A 2206		LDA	PB05A		03 02174
007700	001016	A 2207		JANZ	PB07A		03 02175
007701	007705	A					
007702	011066	A 2208		LDA	SG03UF		03 02176
007703	152571	A 2209		ANA	BM377		03 02177
007704	051066	A 2210		STA	SG03UF		03 02178
		A 2211	PB07A	EQU	*		03 02179
007705	014275	A 2212		LDA	PB012		03 02180
007706	140000	L 2213		SUB	=SG03UF		03 02181
007707	005111	A 2214		IAR			03 02182

PURPOSE: TO GENERATE A PST FOR THE UNIT ASSOCIATED WITH THE SPECIFIED LOGICAL UNIT.

CALLING SEQUENCE: CALL SG3P80

RETURN PARAMETERS: NONE

Address	Op	Opnd	Description	Line	Page
007710	STA	SGOBUF+1	SET SIZE OF PST IN 2ND WORD	03	02183
007711	JMP	0	* * RETURN * *	03	02184
007712					
007712	BES	0	* * ENTRY POINT * *	03	02185
007713	ENTER	FROM BAD TRACK	ANALYSIS ROUTINE.RMD16	03	02186
007714	TZB		-35	03	02187
007715	STB	PBD10	INITIALIZE SEARCH (POSSIBLE HOLE) FLAG	03	02188
007716	STB	PBD5A	CLEAR COUNT OF BAD TRACKS ON RMD	03	02189
007717	LDX	=BTSIZ	=600 E2505	03	02190
007718	DXR		CLEAR BUFFER FOR CONSTRUCTION OF PST	03	02191
007719	STBE	SGOBUF,X		03	02192
007720					
007721	JXNZ	PBD1		03	02194
007722					
007723					
007724			* * OUTPUT PARTITION LISTING HEADER	03	02195
007725				03	02196
007726				03	02197
007727	LDB	=PBD100		03	02198
007728	LDB	=PBD100		C	03
007729	CALL	SGWSD,1		C	03
007730					
007731	LDB	=PBD103		C	03
007732	CALL	SGWSD,1		C	03
007733					
007734	LDB	=PBD101		C	03
007735	CALL	SGWSD,1		C	03
007736					
007737	LDB	=PBD102		C	03
007738	CALL	SGWSD,1		C	03
007739					
007740	LDB	=PBD103		C	03
007741	CALL	SGWSD,1		C	03
007742					
007743	LDB	=PBD103		C	03
007744	CALL	SGWSD,1		C	03
007745					
007746	LDA	=SGOBUF+2		03	02209
007747	STA	PBD12	INITIALIZE PST ENTRY INDEX	03	02210
007748				03	02211
007749	LDA	RMDD9	= TOTAL NUMBER OF TRACKS ON RMD	03	02212
007750	STA	PBD13	-35	03	02213
007751	ADD	BM17	CONVERT TO NUMBER OF BAD TRACK TABLE WORDS	03	02214
007752	LSRA	4		03	02215
007753	TAB			03	02216
007754	LRLA	S	E2505	03	02217
007755	ANA	LHW	E2505	03	02218
007756	ADD	RMDD10	NUMBER OF SECTORS PER TRACK.	03	02219
007757	STA	SGOBUF	1ST WORD OF PST.	03	02220
007758	TBA		GET SIZE OF BAD TRK TABLE	03	02221
007759	ADD	BS6	ADD 64 FOR PST	03	02222
007760	LSLR	16	B=A.....A=0	03	02223
007761	DIV	=120		03	02224
007762	JAZ	*+3		03	02225
007763				03	02226
007764	IBR			E2505	03
007765	STB	PBD20	SAVE SIZE OF PST/BTT IN SECTORS	E2505	03
007766	LDA	RMDD10		03	02227
007767	STA	PBD15	SAVE NUM SECTORS/TRACK ON RMD (FROM 1ST)	03	02228
007768	LDB	RMDD17		03	02229
007769	STB	TBUF1	SAVE PARTITION NAME FOR SEARCH	03	02230
007770	LDA	RMDD17+1		03	02231
007771	ANA	LHW	AND PARTITION LETTER (INITIALLY "A")	03	02232
007772	ORA	=0301		03	02233
007773	STA	TBUF1+1		03	02234
007774				03	02235
007775	LDAE	RMDD4		D.1	03
007776					
007777	SUB	SEVEN	SYSTEM LUN=7	D.1	03
007778	LDB	TWD		03	02239
007779	JANZ	PBD9	IF NOT RMD CONTAINING SYS, START ON TR. 1	03	02240
007780					
007781			* * COMPUTE SIZE OF NUCLEUS VIR. MEM.	03	02241
007782	RDF			V2	03
007783	LDB	SGMRY1		V2	03
007784	IBR			V2	03
007785	JOFN	*+4	OVERFLOW ?	V2	03
007786					
007787	IAR		YES	V2	03
007788	TZB			V2	03
007789	DIV	=120		03	02247
007790	JAZ	*-3		03	02248
007791					
007792	IBR			03	02249
007793	TBA			03	02250
007794	ADDI	0	ADD SECTORS FOR PST/BTT	E2505	03
007795					
007796	BES	0		E2505	03
007797	TAB			03	02254
007798	TZA			03	02255
007799				03	02256

Address	Hex	Label	Op	Op	Op	Op	Op	Op	Op	Op	Op	Op
010032	174153	A	2289	DIV	PB015							
010033	001010	A	2290	JAZ	*+3							
010034	010036	A										
010035	005122	A	2291	IBR								
010036	005122	A	2292	IBR								
			2293									
010037	064145	A	2294	PB09	STB	PB014						
			2295									
010040	030000	L	2296	PB04	LDB	=SGSCB3						
010041	020000	L	2297		LDB	=TBUF1						
010042	005301	A	2298		DECR	01						
010043	002000	A	2299		CALL	SGSAE						
010044	011336	A										
010045	000002	A	2300		DATA	2						
010046	005041	A	2301		TXA							
010047	001004	A	2302		JAN	PB08						
010050	007635	A										
			2303									
			2304									
010051	014127	A	2305	PB03	LDA	PB010						
010052	001016	A	2306		JANZ	PB06						
010053	010174	A										
010054	024126	A	2307		LDB	PB012						
010055	014127	A	2308		LDA	PB014						
010056	056000	A	2309		STA	0,B						
010057	054122	A	2310		STA	PB011						
010060	015002	A	2311		LDA	2,X						
010061	056001	A	2312		STA	1,B						
010062	015003	A	2313		LDA	3,X						
010063	124121	A	2314		ADD	PB014						
010064	056003	A	2315		STA	3,B						
010065	005311	A	2316		DAR							
010066	054122	A	2317		STA	PB019						
010067	144114	A	2318		SUB	PB013						
010070	005311	A	2319		DAR							
010071	001002	A	2320		JAP	PB06						
010072	010174	A										
			2321									
010073	005002	A	2322		TZB							
010074	064112	A	2323		STB	PB05						
010075	014104	A	2324	PB02	LDA	PB011						
010076	005311	A	2325		DAR							
010077	004454	A	2326		LLRL	12						
010100	004354	A	2327		LSRA	12						
010101	005014	A	2328		TAX							
010102	006016	A	2329		LDAE	BT+64,B						
010103	006625	A										
010104	006155	A	2330		ANAE	MT+1,X						
010105	002527	A										
010106	001010	A	2331		JAZ	*+3						
010107	010111	A										
010110	044076	A	2332		INR	PB05						
010111	005002	A	2333		TZB							
010112	014067	A	2334		LDA	PB011						
010113	044066	A	2335		INR	PB011						
010114	144074	A	2336		SUB	PB019						
010115	001004	A	2337		JAN	PB02						
010116	010075	A										
010117	024063	A	2338		LDB	PB012						
010120	014066	A	2339		LDA	PB05						
010121	056002	A	2340		STA	2,B						
010122	124065	A	2341		ADD	PB05A						
010123	054064	A	2342		STA	PB05A						
			2343									
			2344									
010124	020000	L	2345		LDB	=						
010125	030000	L	2346		LDB	=60						
010126	005344	A	2347	PB017	DAR							
010127	006055	A	2348		STBE	SGLBUF,X						
010130	002400	A										
010131	001046	A	2349		JKNZ	PB017						
010132	010126	A										
			2350									
010133	012502	A	2351		LDA	TBUF1						
010134	052407	A	2352		STA	SGLBUF+1						
010135	012503	A	2353		LDA	TBUF1+1						
010136	052410	A	2354		STA	SGLBUF+2						
			2355									
010137	014045	A	2356		LDA	PB014						
010140	002000	A	2357		CALL	PB0200						
010141	010264	A										
010142	072413	A	2358		STX	SGLBUF+5						
010143	052414	A	2359		STA	SGLBUF+6						
			2360									
010144	014044	A	2361		LDA	PB019						
010145	002000	A	2362		CALL	PB0200						
010146	010264	A										
010147	072417	A	2363		STX	SGLBUF+9						
010150	052420	A	2364		STA	SGLBUF+10						
			2365									
010151	014035	A	2366		LDA	PB05						
010152	002000	A	2367		CALL	PB0200						
010153	010264	A										

PB015 = NUMBER OF SECTORS / TRK -35
 B = NUMBER OF TRACKS REQUIRED. -35

03 02257
 03 02258

03 02259
 03 02260
 03 02261
 03 02262
 03 02263
 03 02264
 03 02265
 03 02266
 03 02267

03 02268
 03 02269
 03 02270

03 02271
 03 02272
 03 02273
 03 02274

03 02275
 03 02276
 03 02277
 03 02278
 03 02279
 03 02280
 03 02281
 03 02282
 03 02283
 03 02284
 03 02285
 03 02286
 03 02287
 03 02288

03 02289
 03 02290
 03 02291
 03 02292
 03 02293
 03 02294
 03 02295
 03 02296
 03 02297

03 02298
 03 02299

03 02300
 03 02301
 03 02302
 03 02303
 03 02304
 03 02305

03 02306
 03 02307
 03 02308
 03 02309
 03 02310
 03 02311
 03 02312
 03 02313
 03 02314
 03 02315
 03 02316

03 02317
 03 02318
 03 02319
 03 02320
 03 02321
 03 02322
 03 02323
 03 02324
 03 02325
 03 02326
 03 02327
 03 02328
 03 02329
 03 02330
 03 02331
 03 02332
 03 02333
 03 02334
 03 02335

SAVE START TRACK NUMBER
 OF FIRST PARTITION. -35
 SEARCH PARTITION PARAMETER STACK FOR MATCH

IF NO MATCH, CONTINUE

* * CONSTRUCT PST ENTRY * *

ERROR, IF "HOLE" IN PARTITION ASSIGNMENT

ENTER START TRACK FOR NEW PARTITION
 AND SAVE FOR BAD TRACK COUNT

ENTER PROTECT KEY AND FLAG FROM PP STACK

ENTER END TRACK +1 FOR PARTITION

SAVE END TRACK VALUE
 PB013 = NUMBER OF TRACKS ON RND -35

ERROR, IF PAST END OF RND

INITIALIZE BAD TRACK COUNTER
 COUNT NOW 0-15

FETCH BAD TRK TABLE WORD. -35

MASK OUT CORRECT BIT

IF TRACK GOOD

BUMP BAD TRACK COUNT

PARTITION START TRACK NUMBER -35
 BUMP TRACK COUNTER

PARTITION END TRACK NUMBER -35
 IF MORE TRACKS TO CHECK

ENTER BAD TRACK VALUE IN PST
 UPDATE COUNT OF BAD TRKS ON RND -35

CLEAR "SGLBUF" FOR PARTITION LISTING

ENTER NAME OF PARTITION IN BUFFER

CONVERT START TRACK TO DECIMAL (ASCII)
 AND ENTER IN BUFFER

CONVERT END TRACK TO DECIMAL (ASCII)
 AND ENTER IN BUFFER

CONVERT BAD TRACK VALUE TO DECIMAL (ASCII)
 AND ENTER IN BUFFER


```

010154 072423 A 2368 STX SGLBUF+13 03 02336
010155 052424 A 2369 STA SGLBUF+14 03 02337
2370 * 03 02338
010156 020000 L 2371 LDB =14 SET UP AND OUTPUT LIST LINE 03 02339
010157 062406 A 2372 STB SGLBUF 03 02340
010160 020000 L 2373 LDB =SGLBUF 03 02341
010161 002000 A 2374 CALL SGWSD,1 C 03 02342
010162 011443 A
010163 000001 A
2375 * 03 02343
010164 014024 A 2376 LDA PBD19 INITIALIZE START TRACK FOR NEXT PARTITION 03 02344
010165 005111 A 2377 IAR 03 02345
010166 054016 A 2378 STA PBD14 03 02346
010167 014013 A 2379 LDA PBD12 03 02347
010170 122572 A 2380 ADD THREE 03 02348
010171 054011 A 2381 STA PBD12 UPDATE PST ENTRY INDEX 03 02349
010172 001000 A 2382 JMP PBD7 CONTINUE 03 02350
010173 007657 A
2383 * 03 02351
2384 * 03 02352
2385 * 03 02353
010174 012634 A 2386 PBD6 LDA ER26 POST "PARTITIONING PROBLEM ERROR" MESSAGE 03 02354
010175 002000 A 2387 CALL SG3PRO 03 02355
010176 011173 A
010177 001000 A 2388 JMP SG3DPI START OVER WITH DIRECTIVE PROCESSING 03 02356
010200 003000 A
2389 * 03 02357
2390 * 03 02358
2391 * 03 02359
010201 000000 A 2392 PBD10 DATA 0 SEARCH FLAG 03 02360
2393 * 03 02361
010202 000000 A 2394 PBD11 DATA 0 TEMPORARY COUNTER FOR BAD TR. TABLE 03 02362
2395 * 03 02363
010203 000000 A 2396 PBD12 DATA 0 PST ENTRY INDEX 03 02364
2397 * 03 02365
010204 000000 A 2398 PBD13 DATA 0 TOTAL NUMBER OF TRACKS ON RMD 03 02366
2399 * 03 02367
010205 000000 A 2400 PBD14 DATA 0 START TRACK OF NEXT PARTITION 03 02368
2401 * 03 02369
010206 000000 A 2402 PBD15 DATA 0 NUMBER OF SECTORS/TRACK ON RMD 03 02370
2403 * 03 02371
010207 000000 A 2404 PBD5 DATA 0 BAD TRACK COUNTER 03 02372
2405 * 03 02373
010210 000000 A 2406 PBD5A DATA 0 NUMBER OF BAD TRACKS ON RMD -35 03 02374
010211 000000 A 2407 PBD19 DATA 0 END TRACK OF NEXT PARTITION 03 02375
2408 * 03 02376
010212 000010 A 2409 PBD100 DATA 9, 'RMD PARTITIONING' 03 02377
010213 151315 A
010214 142240 A
010215 150301 A
010216 151324 A
010217 144724 A
010220 144717 A
010221 147311 A
010222 147307 A
010223 000016 A 2410 PBD101 DATA 14, 'NAME FIRST LAST BAD' 03 02378
010224 147301 A
010225 146705 A
010226 120240 A
010227 120240 A
010230 143311 A
010231 151323 A
010232 152240 A
010233 120240 A
010234 146301 A
010235 151724 A
010236 120240 A
010237 120240 A
010240 141301 A
010241 142240 A
010242 000017 A 2411 PBD102 DATA 15, ' TRACK TRACK TRACKS' 03 02379
010243 120240 A
010244 120240 A
010245 120240 A
010246 120240 A
010247 152322 A
010250 140703 A
010251 145640 A
010252 120240 A
010253 152322 A
010254 140703 A
010255 145640 A
010256 120240 A
010257 152322 A
010260 140703 A
010261 145723 A
010262 000001 A 2412 PBD103 DATA 1, ' ' 03 02380
010263 120240 A
2413 * 03 02381
2414 * 03 02382
2415 * PBD200 03 02383
2416 * 03 02384
2417 * PURPOSE: CONVERT 4-PLACE OCTAL NUMBER TO DECIMAL (ASCII) 03 02385

```


2418	*								03	02386
2419	*								03	02387
2420	*								03	02388
2421	*								03	02389
2422	*								03	02390
2423	*								03	02391
2424	*								03	02392
2425	*								03	02393
010264	000000	A	2426	PDD200	ENTR				03	02394
010265	020000	L	2427		LDB	=*00*			03	02395
010266	140000	L	2428		SUB	=1000			03	02396
010267	005122	A	2429		IBR				03	02397
010270	001002	A	2430		JAP	*-2			03	02398
010271	010266	A								
010272	005322	A	2431		DBR				03	02399
010273	120000	L	2432		ADD	=1000			03	02400
010274	004050	A	2433		LRLB	8			03	02401
010275	140000	L	2434		SUB	=100			03	02402
010276	005122	A	2435		IBR				03	02403
010277	001002	A	2436		JAP	*-2			03	02404
010300	010275	A								
010301	005324	A	2437		DECR	024			03	02405
010302	120000	L	2438		ADD	=100			03	02406
010303	020000	L	2439		LDB	=*00*			03	02407
010304	140000	L	2440		SUB	=10			03	02408
010305	005122	A	2441		IBR				03	02409
010306	001002	A	2442		JAP	*-2			03	02410
010307	010304	A								
010310	005322	A	2443		DBR				03	02411
010311	120000	L	2444		ADD	=10			03	02412
010312	004050	A	2445		LRLB	8			03	02413
010313	005031	A	2446		MERG	031			03	02414
010314	001000	A	2447		JMP*	PDD200			03	02415
010315	110264	A								
2448	*				EJEC				03	02416
2449	*								03	02417
2450	*				SGRZI				03	02418
2451	*								03	02419
2452	*								03	02420
2453	*								03	02421
2454	*								03	02422
2455	*								03	02423
2456	*								03	02424
2457	*								03	02425
2458	*								03	02426
2459	*								03	02427
010316			2460	SGRZI	BSS	0		* * ENTRY POINT * *	03	02428
010316	012717	A	2461		LDA	SGEDRS			03	02429
010317	120000	L	2462		ADD	=0300			03	02430
010320	054057	A	2463		STA	RZ11		CALCULATE AND STORE PARTITION LETTER OF MA	03	02431
			2464	*					03	02432
010321	010000	L	2465		LDA	=0050			03	02433
010322	054056	A	2466		STA	RZ12		INITIALIZE CONTROLLER COUNTER	03	02434
010323	054056	A	2467	RZ18	STA	RZ13		...AND UNIT COUNTER	03	02435
			2468	*					03	02436
010324	014056	A	2469		LDA	RZ14			03	02437
010325	152570	A	2470		ANA	LH1			03	02438
010326	114052	A	2471		ORA	RZ12			03	02439
010327	054053	A	2472		STA	RZ11		FORM FIRST TWO CHAR OF NAME	03	02440
010330	014051	A	2473	RZ17	LDA	RZ13			03	02441
010331	004250	A	2474		LRLA	8			03	02442
010332	110000	L	2475		ORA	=0301			03	02443
010333	054050	A	2476		STA	RZ14+1		FORM UNIT/PARTITION "A" AS 2ND TWO CHAR	03	02444
			2477	*					03	02445
010334	005301	A	2478		DECR	01			03	02446
010335	020000	L	2479		LDB	=RZ14			03	02447
010336	030000	L	2480		LDX	=SGSCB3			03	02448
010337	002000	A	2481		CALL	SGSAE		SEARCH FOR "DCUA" PARTITION	03	02449
010340	011356	A								
010341	000002	A	2482		DATA	2			03	02450
010342	005041	A	2483		TXA				03	02451
010343	001004	A	2484		JAN	RZ15		IF NONE FOUND, TRY NEXT UNIT	03	02452
010344	010361	A								
			2485	*					03	02453
010345	044036	A	2486	RZ16	INR	RZ14+1		PUMP PARTITION LETTER	03	02454
010346	005001	A	2487		TCA				03	02455
010347	020000	L	2488		LDB	=RZ14			03	02456
010350	030000	L	2489		LDX	=SGSCB3			03	02457
010351	002000	A	2490		CALL	SGSAE		SEARCH FOR PARTITION NAME	03	02458
010352	011356	A								
010353	000002	A	2491		DATA	2		...AND ENTER DUMMY PARTITION IF NONE	03	02459
			2492	*					03	02460
010354	014027	A	2493		LDA	RZ14+1			03	02461
010355	152571	A	2494		ORA	RH1			03	02462
010356	144021	A	2495		SUB	RZ11			03	02463
010357	001004	A	2496		JAN	RZ16		IF NOT TO MAX PARTITION	03	02464
010360	010345	A								
			2497	*					03	02465
010361	044020	A	2498	RZ15	INR	RZ13			03	02466
010362	014017	A	2499		LDA	RZ13			03	02467
010363	140000	L	2500		SUB	=0264			03	02468
010364	001004	A	2501		JAN	RZ17		IF MORE POTENTIAL UNITS ON CONTROLLER	03	02469
010365	010330	A								

Address	Label	Op	Op2	Description	Line	Page
2660	*				03	02628
2661	*			FORWARD MOVE (DATA MOVED STARTING WITH LOWEST LOCATION)	03	02629
2662	*				03	02630
010554	025001	A	2663	LDB 1,X (BR)= FROM ADDR	03	02631
010555	015000	A	2664	LDA 0,X (AR)= WORD COUNT	03	02632
010556	035002	A	2665	LDX 2,X (XR)= TO-ADDR	03	02633
010557	005311	A	2666	DAR MOV2 DECREMENT WORD COUNT	03	02634
010560	001004	A	2667	JAN MOVE JUMP TO CLEAN-UP IF MOVE FINISHED	03	02635
010561	010614	A				
010562	054040	A	2668	STA MOV2 SAVE PRESENT WORD COUNT	03	02636
010563	016000	A	2669	LDA 0,B	03	02637
010564	055000	A	2670	STA 0,X MOVE A WORD	03	02638
010565	005122	A	2671	IBR	03	02639
010566	005144	A	2672	IXR INCREMENT INDICES	03	02640
010567	014033	A	2673	LDA MOV2	03	02641
010570	001000	A	2674	JMP MOV2 CONTINUE	03	02642
010571	010557	A				
2675	*				03	02643
2676	*			REVERSE MOVE (DATA MOVED STARTING WITH HIGHEST LOCATION)	03	02644
2677	*				03	02645
010572	015000	A	2678	MOV2 LDA 0,X	03	02646
010573	125001	A	2679	ADD 1,X	03	02647
010574	005012	A	2680	TAB (BR)= TOP OF "FROM" AREA	03	02648
010575	015000	A	2681	LDA 0,X	03	02649
010576	054024	A	2682	STA MOV2 SAVE WORD COUNT	03	02650
010577	125002	A	2683	ADD 2,X	03	02651
010600	005014	A	2684	TAX (XR)= TOP OF "TO" AREA	03	02652
010601	014021	A	2685	MOV3 LDA MOV2	03	02653
010602	005311	A	2686	DAR DECREMENT WORD COUNT	03	02654
010603	001004	A	2687	JAN MOVE JUMP TO CLEAN-UP IF MOVE FINISHED	03	02655
010604	010614	A				
010605	054015	A	2688	STA MOV2 SAVE PRESENT WORD COUNT	03	02656
010606	005322	A	2689	DCR	03	02657
010607	005344	A	2690	DXR DECREMENT INDICES	03	02658
010610	016000	A	2691	LDA 0,B	03	02659
010611	055000	A	2692	STA 0,X MOVE A WORD	03	02660
010612	001000	A	2693	JMP MOV3 CONTINUE	03	02661
010613	010601	A				
2694	*				03	02662
010614	044003	A	2695	MOV2 INR SGMOV FIX UP RETURN ADDRESS	03	02663
010615	044002	A	2696	INR SGMOV	03	02664
010616	044001	A	2697	INR SGMOV	03	02665
010617	001000	A	2698	JMP 0 RETURN	03	02666
010620	000000	A				
010621	001000	A	2699	SGMOV BES 0 ENTRY POINT	03	02667
010622	010547	A	2700	JMP MOV1	03	02668
010623	000000	A	2701	*	03	02669
2702	MOV2	DATA	0	CURRENT WORD COUNT REGISTER	03	02670
2703	*				03	02671
2704	EJEC				03	02672
2705	*				03	02673
2706	SGPUT				03	02674
2707	*				03	02675
2708	*			PURPOSE: SGPUT IS CALLED TO ENTER A STACK ITEM	03	02676
2709	*			INTO A DESIGNATED STACK.	03	02677
2710	*				03	02678
2711	*			CALLING SEQUENCE: (XR)= ADDR. OF STACK CONTROL BLOCK	03	02679
2712	*			(BR)= ADDR. OF STACK ITEM BUFFER	03	02680
2713	*			CALL SGPUT	03	02681
2714	*				03	02682
2715	*			RETURN PARAMETERS: (AR)= +1 IF ITEM PLACED ON STACK	03	02683
2716	*			-1 IF NO ROOM FOR STACK ITEM	03	02684
2717	*				03	02685
010624	000000	A	2718	SGPUT ENTR	03	02686
010625	074040	A	2719	STX APUT2 SAVE ADDR. OF STACK CONTROL BLOCK	03	02687
010626	064034	A	2720	STB APUT3 SAVE ADDR. OF ITEM BUFFER	03	02688
010627	010544	A	2721	LDA BSTACK COMPARE ADDR. OF BASE OF STACKS	03	02689
010630	145002	A	2722	SUB 2,X AGAINST TOP OF PROGRAM AREA.	03	02690
010631	140655	A	2723	SUB TPROG	03	02691
010632	001002	A	2724	JAP APUT1 JUMP IF ROOM FOR NEW STACK ITEM	03	02692
010633	010637	A				
010634	005301	A	2725	DECR 1	03	02693
010635	001000	A	2726	JMP* SGPUT OTHERWISE RETURN WITH (AR)=-1	03	02694
010636	110624	A				
2727	*				03	02695
010637		A	2728	APUT1 BSS 0	03	02696
010637	015002	A	2729	LDA 2,X GET ENTRY ITEM SIZE	03	02697
010640	054021	A	2730	STA APUT2 AND STORE IN MOVE COUNT	03	02698
010641	015001	A	2731	LDA 1,X GET STACK BOTTOM ADDR.	03	02699
010642	145002	A	2732	SUB 2,X SUBTRACT ITEM SIZE	03	02700
010643	054020	A	2733	STA APUT2+2 AND STORE IN MOVE "TO" ADDR.	03	02701
2734	*				03	02702
010644	010544	A	2735	LDA BSTACK GET BASE OF LOWEST STACK	03	02703
010645	054010	A	2736	STA APUT1+1 AND STORE AS STACK MOVE "FROM" ADDR.	03	02704
010646	145002	A	2737	SUB 2,X STORE BASE MINUS ENTRY SIZE	03	02705
010647	054007	A	2738	STA APUT1+2 AS STACK MOVE "TO" ADDR.	03	02706
010650	015001	A	2739	LDA 1,X GET WORD COUNT FROM BASE OF LOWEST STACK	03	02707
010651	140544	A	2740	SUB BSTACK TO BOTTOM OF CURRENT STACK,	03	02708
010652	054002	A	2741	STA APUT1 AND STORE AS STACK MOVE COUNT.	03	02709
010653	002000	A	2742	CALL SGMOV MOVE STACKS DOWN	03	02710
010654	010620	A				
010655	000000	A	2743	PUTM1 DATA 0	03	02711

010656	000000	A	2744	DATA	0				03	02712
010657	000000	A	2745	DATA	0				03	02713
010660	002000	A	2746	CALL	SGMOV	MOVE ENTRY IN			03	02714
010661	010620	A								
010662	000000	A	2747	PUTM2	DATA	0	NUMBER OF WORDS		03	02715
010663	000000	A	2748	PUTM3	DATA	0	FROM ADDR.		03	02716
010664	000000	A	2749	DATA	0	TO ADDR.			03	02717
			2750	*					03	02718
			2751	*		NOW UPDATE STACK CONTROL BLOCK POINTERS			03	02719
			2752	*					03	02720
010665	006030	A	2753	LDXI	0				03	02721
010666	000000	A								
010666			2754	APUT2	BFS	0			03	02722
010667	005042	A	2755	IXB			(BR)=(XR)=ADDR. OF BASE OF STACK		03	02723
010670	016000	A	2756	LDA	0,B				03	02724
010671	145002	A	2757	SUB	2,X				03	02725
010672	056000	A	2758	STA	0,B		LOWER BASE OF DESIGNATED STACK		03	02726
010673	005122	A	2759	APUT4	IBR				03	02727
010674	005122	A	2760	IBR			INCREMENT PTR TO NEXT STACK'S CONTROL		03	02728
010675	005122	A	2761	IBR					03	02729
010676	016000	A	2762	LDA	0,B				03	02730
010677	001004	A	2763	JAN	APUT5		IF END OF STACK CONTROL BLOCK		03	02731
010700	010710	A								
010701	145002	A	2764	SUB	2,X				03	02732
010702	056000	A	2765	STA	0,B		LOWER STACK BASE		03	02733
010703	016001	A	2766	LDA	1,B				03	02734
010704	145002	A	2767	SUB	2,X				03	02735
010705	056001	A	2768	STA	1,B		LOWER STACK BOTTOM		03	02736
010706	001000	A	2769	JMP	APUT4				03	02737
010707	010673	A								
			2770	*					03	02738
010710	005101	A	2771	APUT5	INCR	1	SET NORMAL RETURN FLAG		03	02739
010711	001000	A	2772	JMP*	SGPUT		RETURN		03	02740
010712	110624	A								
			2773	EJEC					03	02741
			2774	*****					03	02742
			2775	*					03	02743
			2776	*		GET NEXT ITEM ROUTINE			03	02744
			2777	*		THIS SUBROUTINE GETS THE NEXT ITEM FROM SGIBUF AND ENTERS			03	02745
			2778	*		IT IN THE SPECIFIED OUTPUT BUFFER. THE CHARACTERS ARE STORED			03	02746
			2779	*		IN THE OUTPUT BUFFER UNTIL A TERMINATION CHARACTER IS			03	02747
			2780	*		ENCOUNTERED OR UNTIL THE MAXIMUM NUMBER OF CHARACTERS HAVE			03	02748
			2781	*		BEEN STORED. IN THE LATTER CASE, THE POINTERS ARE INCREMENTED			03	02749
			2782	*		UNTIL A TERMINATION CHARACTER IS ENCOUNTERED, OR UNTIL THE			03	02750
			2783	*		END OF 'SGIBUF' IS REACHED. LEGAL TERMINATION CHARACTERS			03	02751
			2784	*		ARE: COMMA, COLON, SEMICOLON, AND EQUAL SIGN.			03	02752
			2785	*					03	02753
			2786	*					03	02754
			2787	*		CALLING SEQUENCES:			03	02755
			2788	*					03	02756
			2789	*		JSR SGGFI,X TO GET THE FIRST CHARACTER FROM 'SGIBUF'			03	02757
			2790	*		DATA OUTPUT BUFFER ADDRESS			03	02758
			2791	*		DATA MAX. NUM. OF CHAR. TO BE STORED			03	02759
			2792	*					03	02760
			2793	*		JSR SGGNI,X TO GET NEXT CHARACTER FROM 'SGIBUF'			03	02761
			2794	*		DATA OUTPUT BUFFER ADDRESS			03	02762
			2795	*		DATA MAX. NUM. OF CHAR. TO BE STORED			03	02763
			2796	*					03	02764
			2797	*					03	02765
			2798	*		RETURN PARAMETERS:			03	02766
			2799	*					03	02767
			2800	*		(AR)= NUMBER OF CHARACTERS FETCHED			03	02768
			2801	*		(BR)= TERMINATION CHARACTER (RIGHT ADJUSTED)			03	02769
			2802	*					03	02770
			2803	*					03	02771
			2804	*		*****			03	02772
			2805	*					03	02773
			2806	*					03	02774
010713			2807	SGGFI	BSS	0	* * GET FIRST ITEM ENTRY * *		03	02775
010713	006010	A	2808	LDAI	SGIBUF		GET INPUT BUFFER BASE ADDRESS		03	02776
010714	000664	A								
010715	004241	A	2809	LRLA	1		COMPUTE BYTE ADDRESS		03	02777
010716	054152	A	2810	STA	SGBBAD		SAVE BASE BYTE ADDR		03	02778
010717			2811	SGGNI	BSS	0	* * GET ANOTHER ITEM ENTRY * *		03	02779
010717	015000	A	2812	LDA	0,X		GET OUTPUT BUFFER BASE ADDRESS		03	02780
010720	004241	A	2813	LRLA	1		COMPUTE BYTE ADDR		03	02781
010721	054146	A	2814	STA	SGBPBA		SAVE OUTPUT BYTE ADDR		03	02782
010722	015001	A	2815	LDA	1,X		GET MAX NO. OF CHAR. TO BE STORED		03	02783
010723	054150	A	2816	STA	SGMND0		SAVE COUNT		03	02784
010724	005144	A	2817	IXR			COMPUTE RETURN ADDR		03	02785
010725	005144	A	2818	IXR					03	02786
010726	074103	A	2819	CTX	SG9825		SAVE RETURN ADDR		03	02787
010727	005001	A	2820	Y2A					03	02788
010730	054142	A	2821	STA	SGNDCS		RESET NO. OF CHAR. IN STRING		03	02789
010731			2822	SG9800	BSS	0			03	02790
010731	002000	A	2823	CALL	SGGNC		GET NEXT CHAR		03	02791
010732	011033	A								
010733	014136	A	2824	LDP	SG9VCH		GET THE CHAR		03	02792
010734	144131	A	2825	SUB	B015		IS IT END OF DIRECTIVE		03	02793
010735	001010	A	2826	JAZ	SG9820		YES-RETURN		03	02794
010736	011027	A								
010737	142601	A	2827	SUB	B07		IS IT A COMMA?		03	02795
010740	001010	A	2828	JAZ	SG9820		YES-RETURN		03	02796

010741	011027	A							
010742	144122	A	2829	SUB	D16	IS IT A COLON?		03	02797
010743	001010	A	2830	JAZ	SG9820	YES-RETURN		03	02798
010744	011027	A							
010745	005311	A	2831	DAR		IS IT A SEMICOLON?		03	02799
010746	001010	A	2832	JAZ	SG9820	YES-RETURN		03	02800
010747	011027	A							
010750	142530	A	2833	SUB	TWO	IS IT AN EQUAL SIGN?		03	02801
010751	001010	A	2834	JAZ	SG9820	YES-RETURN		03	02802
010752	011027	A							
010753	014114	A	2835	LDA	SGOPBA	GET OUTPUT BYTE ADDR		03	02803
010754	044113	A	2836	INR	SGOPBA	INCREMENT OUTPUT BYTE ADDR		03	02804
010755	005002	A	2837	TZE				03	02805
010756	004541	A	2838	LLSR	1	COMPUTE OUTPUT WORD ADDR		03	02806
010757	005014	A	2839	TAX		(XR) + OUTPUT WORD ADDR		03	02807
010760	001026	A	2840	JBNZ	SG9805	JUMP IF TO STORE IN RIGHT BYTE		03	02808
010761	010765	A							
010762	014107	A	2841	LDA	SGSVCH			03	02809
010763	004250	A	2842	LRLA	8	POSITION TO STORE IN LEFT BYTE		03	02810
010764	054105	A	2843	STA	SGSVCH			03	02811
010765		A	2844	BSS	0			03	02812
010765	015000	A	2845	LDA	0,X			03	02813
010766	001020	A	2846	JBZ	SG9810	JUMP IF TO STORE IN LEFT BYTE		03	02814
010767	010772	A							
010770	152570	A	2847	ANA	LHW	AND OUT LEFT HALF OF WORD		03	02815
010771	001006	A	2848	DATA	01006	SKIP NEXT INSTRUCTION		03	02816
010772		A	2849	BSS	0			03	02817
010772	152571	A	2850	ANA	RHW	AND OUT RIGHT HALF OF WORD		03	02818
010773	114076	A	2851	DRA	SGSVCH	OR IN SAVED CHARACTER		03	02819
010774	055000	A	2852	STA	0,X	SET IN OUTPUT BUFFER		03	02820
010775	044075	A	2853	INR	SGNDCS	INCREMENT NO. OF CHAR IN STRING		03	02821
010776	014074	A	2854	LDA	SGNDCS			03	02822
010777	144074	A	2855	SUB	SGMDOC	MAX. NO. OF CHAR. STORED		03	02823
011000	001016	A	2856	JANZ	SG9800	NO - GO GET NEXT CHAR.		03	02824
011001	010731	A							
011002		A	2857	BSS	0			03	02825
011002	002000	A	2858	CALL	SGGNC	GET NEXT CHARACTER		03	02826
011003	011033	A							
011004	014065	A	2859	LDA	SGSVCH	GET THE CHARACTER		03	02827
011005	144060	A	2860	SUB	0215	IS IT END OF DIRECTIVE?		03	02828
011006	001010	A	2861	JAZ	SG9820	YES-RETURN		03	02829
011007	011027	A							
011010	142601	A	2862	SUB	037	IS IT A COMMA?		03	02830
011011	001010	A	2863	JAZ	SG9820	YES-RETURN		03	02831
011012	011027	A							
011013	144051	A	2864	SUB	D16	IS IT A COLON?		03	02832
011014	001010	A	2865	JAZ	SG9820	YES-RETURN		03	02833
011015	011027	A							
011016	005311	A	2866	DAR		IS IT A SEMICOLON?		03	02834
011017	001010	A	2867	JAZ	SG9820	YES-RETURN		03	02835
011020	011027	A							
011021	142530	A	2868	SUB	TWO	IS IT AN EQUAL SIGN?		03	02836
011022	001010	A	2869	JAZ	SG9820	YES-RETURN		03	02837
011023	011027	A							
011024	044046	A	2870	INR	SGNDCS	INCREMENT NUM OF CHAR IN STRING		03	02838
011025	001000	A	2871	JMP	SG9815	CONTINUE		03	02839
011026	011002	A							
011027		A	2872	BSS	0			03	02840
011027	024042	A	2873	LDS	SGSVCH	SET (BR)= TERMINATION CHARACTER		03	02841
011030	014042	A	2874	LDA	SGNDCS	SET (AR)= NUMBER OF CHARACTERS		03	02842
011031	001000	A	2875	JMP	0			03	02843
011032	000000	A							
011032		A	2876	BSS	0	* * RETURN * *		03	02844
		A	2877	EJEC				03	02845
		A	2878	*				03	02846
		A	2879	*				03	02847
		A	2880	*	GET NEXT CHARACTER FROM 'SGIBUF'			03	02848
		A	2881	*				03	02849
		A	2882	*				03	02850
011033	000000	A	2883	SGGNC	ENTR	* ENTRY *		03	02851
011034	014034	A	2884	LDA	SGBBAD	GET BASE BYTE ADDR		03	02852
011035	044033	A	2885	INR	SGBBAD	INCREMENT BASE BYTE ADDR		03	02853
011036	005002	A	2886	TZE				03	02854
011037	004541	A	2887	LLSR	1	COMPUTE INPUT WORD ADDR		03	02855
011040	005014	A	2888	TAX		(XR) + INPUT WORD ADDR		03	02856
011041	006140	A	2889	SUBI	SGIBUF+120	AT END OF BUFFER?		03	02857
011042	001054	A							
011043	001004	A	2890	JAN	SG9900	NO - CONTINUE		03	02858
011044	011051	A							
011045	014020	A	2891	LDA	0215	GET RETURN CHARACTER		03	02859
011046	054023	A	2892	STA	SGSVCH			03	02860
011047	001000	A	2893	RETU*	SGGNC	* RETURN *		03	02861
011050	111033	A							
011051		A	2894	BSS	0			03	02862
011051	015000	A	2895	LDA	0,X	GET INPUT WORD		03	02863
011052	001020	A	2896	JBZ	SG9905	JUMP IF LEFT CHAR.		03	02864
011053	011056	A							
011054	152571	A	2897	ANA	RHW	AND OUT RIGHT BYTE		03	02865
011055	001006	A	2898	DATA	01006	SKIP NEXT INSTRUCTION		03	02866
011056		A	2899	BSS	0			03	02867
011056	004350	A	2900	LSRA	8	POSITION LEFT CHAR TO RIGHT BYTE		03	02868
011057	054012	A	2901	STA	SGSVCH	SAVE THE CHARACTER		03	02869
011060	134006	A	2902	CPA	0240	IS IT A BLANK?		03	02870

Address	Hex	Op	Label	Op	Comment	Page	Line	
011061	001010	A	2903	JAZ	SGGNC+1	GET NEXT CHARACTER IF BLANK	03 02871	
011062	011034	A						
011063	001000	A	2904	RETU*	SGGNC	* RETURN *	03 02872	
011064	111033	A						
			2905	*			03 02873	
			2906	*			03 02874	
011065	000016	A	2907	016	DATA	016	03 02875	
			2908	037	EGU	0M37	03 02876	
011066	000215	A	2909	0215	DATA	0215	03 02877	
011067	000240	A	2910	0240	DATA	0240	03 02878	
011070	000000	A	2911	SGDPBA	DATA	0	03 02879	
011071	000000	A	2912	SGBBAD	DATA	0	03 02880	
011072	000000	A	2913	SGSVCH	DATA	0	03 02881	
011073	000000	A	2914	SGNDCS	DATA	0	03 02882	
011074	000000	A	2915	SGMNDC	DATA	0	03 02883	
			2916	EJEC			03 02884	
			2917	*			03 02885	
			2918	*	SGCLR		03 02886	
			2919	*			03 02887	
			2920	*	PURPOSE: CLEAR READ BUFFER (SGIBUF)		03 02888	
			2921	*			03 02889	
			2922	*	CALLING SEQUENCE: CALL SGCLR		03 02890	
			2923	*			03 02891	
			2924	*	RETURN PARAMETERS: NONE		03 02892	
			2925	*			03 02893	
			2926	*			03 02894	
011075	000000	A	2927	SGCLR	ENTR	* * ENTRY POINT * *	03 02895	
011076	020000	L	2928	LDB	=*		03 02896	
011077	006030	A	2929	LXI	SGIBUF	INITIALIZE BUFFER INDEX	03 02897	
011100	000864	A						
011101	065000	A	2930	CLR1	STB	CLEAR A WORD	03 02898	
011102	005145	A	2931	INCR	045	BUMP INDEX	03 02899	
011103	006140	A	2932	SUBI	SGIBUF+120		03 02900	
011104	001054	A						
011105	001004	A	2933	JAN	CLR1	IF MORE WORDS TO CLEAR	03 02901	
011106	011101	A						
011107	001000	A	2934	JMP*	SGCLR	* * RETURN IF FINISHED * *	03 02902	
011110	111075	A						
			2935	EJEC			03 02903	
			2936	*			03 02904	
			2937	*	SGGET		03 02905	
			2938	*			03 02906	
			2939	*	PURPOSE: SGGET IS CALLED TO FETCH A STACK ITEM		03 02907	
			2940	*	AND PLACE IT IN A SPECIFIED BUFFER AREA.		03 02908	
			2941	*			03 02909	
			2942	*	CALLING SEQUENCE: (XR)= ADDR. OF STACK CONTROL BLOCK		03 02910	
			2943	*	(BR)= ADDR. OF ITEM BUFFER		03 02911	
			2944	*	CALL SGGET		03 02912	
			2945	*			03 02913	
			2946	*	RETURN PARAMETERS: (AR)= 01 IF ITEM FETCHED		03 02914	
			2947	*	-1 IF STACK FOUND EMPTY		03 02915	
			2948	*			03 02916	
011111	000000	A	2949	SGGET	ENTR		03 02917	
011112	064047	A	2950	STB	GETM2+2	SAVE BUFFER ADDRESS	03 02918	
011113	015000	A	2951	LDA	04X	GET BASE ADDR.	03 02919	
011114	145001	A	2952	SUB	14X	MINUS BOTTOM ADDR.	03 02920	
011115	001004	A	2953	JAN	AGET1	IF NOT EMPTY STACK	03 02921	
011116	011122	A						
011117	005301	A	2954	DECR	1	SET STACK EMPTY FLAG	03 02922	
011120	001000	A	2955	JMP*	SGGET	AND RETURN	03 02923	
011121	111111	A						
			2956	*			03 02924	
011122	015002	A	2957	AGET1	LDA	04X	GET STACK ITEM LENGTH	03 02925
011123	054034	A	2958	STA	GETM2	AND STORE IN ITEM MOVE "COUNT"	03 02926	
011124	015001	A	2959	LDA	14X	GET STACK BOTTOM	03 02927	
011125	145002	A	2960	SUB	04X	MINUS ITEM LENGTH	03 02928	
011126	054032	A	2961	STA	GETM2+1	AND STORE IN ITEM MOVE "FROM ADDR."	03 02929	
011127	140544	A	2962	SUB	ESTACK	SUBTRACT BASE ADDR. OF LOWEST STACK	03 02930	
011130	054034	A	2963	STA	GET11	TO GET STACK MOVE "COUNT"	03 02931	
011131	010544	A	2964	LDA	ESTACK	BASE ADDR. OF LOWEST STACK	03 02932	
011132	054033	A	2965	STA	GETM1+1	TO STACK MOVE "FROM ADDR."	03 02933	
011133	125002	A	2966	ADD	04X	PLUS ITEM LENGTH...	03 02934	
011134	054032	A	2967	STA	GETM1+2	ALLOWS STACK MOVE "TO ADDR."	03 02935	
			2968	*			03 02936	
			2969	*	UPDATE BASE AND BOTTOM POINTERS		03 02937	
			2970	*			03 02938	
011135	005042	A	2971	TXB			03 02939	
011136	016000	A	2972	LDA	04B		03 02940	
011137	125002	A	2973	ADD	04X		03 02941	
011140	056000	A	2974	STA	04B	UPDATE BASE POINTER FOR DESIGNATED STACK	03 02942	
011141	005122	A	2975	AGET2	IBR		03 02943	
011142	005122	A	2976	IBR			03 02944	
011143	005122	A	2977	IBR			03 02945	
011144	016000	A	2978	LDA	04B	GET NEXT BASE POINTER	03 02946	
011145	001004	A	2979	JAN	AGET3	IF END OF STACK CONTROL BLOCK	03 02947	
011146	011156	A						
011147	125002	A	2980	ADD	04X		03 02948	
011150	056000	A	2981	STA	04B	UPDATE BASE POINTER	03 02949	
011151	016001	A	2982	LDA	14B		03 02950	
011152	125002	A	2983	ADD	04X		03 02951	
011153	056001	A	2984	STA	14B	UPDATE BOTTOM POINTER	03 02952	
011154	001000	A	2985	JMP	AGET2	CONTINUE	03 02953	
011155	011141	A						


```

011156      2986 *
011156 002000 A 2987 AGET3 BSS 0 03 02954
011157 010620 A 2988 CALL SGMOV MOVE STACK ITEM TO BUFFER 03 02955
011160 000000 A 2989 GETM2 DATA 0 03 02957
011161 000000 A 2990 DATA 0 03 02958
011162 000000 A 2991 DATA 0 03 02959
011163 002000 A 2992 CALL SGMOV MOVE ALL LOWER STACK ITEMS UP 03 02960
011164 010620 A
011165 000000 A 2993 GETM1 DATA 0 03 02961
011166 000000 A 2994 DATA 0 03 02962
011167 000000 A 2995 DATA 0 03 02963
011170 005101 A 2996 INCR 1 SET NORMAL RETURN FLAG 03 02964
011171 001000 A 2997 JMP* SGGET RETURN 03 02965
011172 111111 A
2998 EJEC 03 02966
2999 * 03 02967
3000 * SG3ERR 03 02968
3001 * 03 02969
3002 * PURPOSE: POST ERROR MESSAGES AND EFFECT RECOVERY 03 02970
3003 * WHERE APPLICABLE. 03 02971
3004 * 03 02972
3005 * CALLING SEQ.: (AR)= ERROR CODE OR (AR)= ERROR CODE 03 02973
3006 * CALL SG3ASC CALL SG3PRD 03 02974
3007 * 03 02975
3008 * RETURN PARAMETERS: NONE 03 02976
3009 * 03 02977
3010 * 03 02978
011173 000000 A 3011 SG3PRD ENTR * ENTRY TO POST ERROR ONLY * 03 02979
011174 005002 A 3012 TZB 03 02980
011175 052410 A 3013 ERR1 STA SGLBUF+2 STORE ERROR CODE IN BUFFER 03 02981
011176 062653 A 3014 STB DREC STORE RECOVERY FLAG 03 02982
011177 012530 A 3015 LDA TWO 03 02983
011200 052406 A 3016 STA SGLBUF SET UP ERROR MESSAGE 03 02984
011201 006010 A 3017 LDAI 'SG' 03 02985
011202 151707 A
011203 052407 A 3018 STA SGLBUF+1 03 02986
011204 020000 L 3019 ERR7 IDB =SGLBUF 03 02987
011205 002000 A 3020 CALL SGWSD,0 WRITE MESSAGE TO 'DC' AND 'LIS' C 03 02988
011206 011443 A
011207 000000 A
011210 001046 A 3021 JXNZ ERR7 RETRY IF ERROR 03 02989
011211 011204 A
3022 * 03 02990
011212 002000 A 3023 CALL SGCLR CLEAR SGIBUF TO BLANKS 03 02991
011213 011075 A
3024 * 03 02992
011214 002000 A 3025 ERR6 JMPM IDCS READ MESSAGE FROM 'DC' 03 02993
011215 006470 E
011216 000403 A 3026 DATA HALF+DC 03 02994
011217 000050 A 3027 DATA 40,SGIBUF 03 02995
011220 000664 A
011221 002000 A 3028 JMPM IDCS 03 02996
011222 011215 E
011223 000003 A 3029 DATA DC 03 02997
011224 011214 A 3030 DATA ERR6,ERR6,ERR6,*-6 03 02998
011225 011214 A
011226 011214 A
011227 011221 A
011230 002000 A 3031 JMPM IDCS DETERMINE 'LIS' DEVICE 03 02999
011231 011222 E
011232 000005 A 3032 DATA LIS 03 03000
011233 011237 A 3033 DATA *+4,*+3,*+2,*-6 03 03001
011234 011237 A
011235 011237 A
011236 011230 A
011237 015002 A 3034 LDA 2,X 03 03002
011240 130000 L 3035 ERA ='TY' 03 03003
011241 001016 A 3036 JANZ ERR9 IF NOT TELETYPE 03 03004
011242 011247 A
011243 015003 A 3037 LDA 3,X 03 03005
011244 130000 L 3038 ERA ='00' 03 03006
011245 001010 A 3039 JAZ ERR9 IF 'DC' TELETYPE, DON'T LIST 03 03007
011246 011263 A
3040 * 03 03008
011247 002000 A 3041 ERR9 JMPM IDCS LIST RECOVERY MESSAGE 03 03009
011250 011231 E
011251 001005 A 3042 DATA HALF+LIS 03 03010
011252 000050 A 3043 DATA 40,SGIBUF 03 03011
011253 000664 A
011254 002000 A 3044 JMPM IDCS 03 03012
011255 011250 E
011256 000005 A 3045 DATA LIS 03 03013
011257 011263 A 3046 DATA ERR8,ERR8,ERR8,*-6 03 03014
011260 011263 A
011261 011263 A
011262 011254 A
3047 * 03 03015
011263 3048 ERR8 BSS 0 03 03016
011263 012653 A 3049 LDA DREC 03 03017
011264 001010 A 3050 JAZ* SG3PRD * RETURN IF NO RECOVERY REQUESTED * 03 03018
011265 111173 A
011266 006505 A 3051 JSR SGGFI,X GET RECOVERY PARAMETER 03 03019

```


Address	Hex	Op	Label	Op	Description	Page	
011366	017000	I	3125	LDA*	SGSAE	03 03093	
011367	054047	A	3126	STA	SAED7	03 03094	
011370	047000	I	3127	INR	SGSAE	03 03095	
011371	015000	A	3128	LDA	0,X	03 03096	
011372	001000	A	3129	JMP	SAE6	03 03097	
011373	011331	A	3130	*		03 03098	
			3131	*		03 03099	
			3132	SAE2	LDB	SAED3	03 03100
011374	024036	A	3133	LDA	SAED7	03 03101	
011375	014041	A	3134	STA	SAED8	03 03102	
011376	054041	A	3135	LDA	0,X	03 03103	
011377	015000	A	3136	ERA	0,B	03 03104	
011400	136000	A	3137	ANA	BR15	03 03105	
011401	152566	A	3138	JANZ	SAE1	03 03106	
011402	001016	A	3139	*		03 03107	
011403	011327	A	3140	SAE7	LDA	SAED8	03 03108
011404	014033	A	3141	DAR		03 03109	
011405	005311	A	3142	STA	SAED8	03 03110	
011406	054031	A	3143	JAZ	SAE5	03 03111	
011407	001010	A	3144				
011410	011421	A	3145	IXR		03 03112	
011411	005144	A	3146	IBR		03 03113	
011412	005122	A	3147	LDA	0,X	03 03114	
011413	015000	A	3148	ERA	0,B	03 03115	
011414	136000	A	3149	JANZ	SAE1	03 03116	
011415	001016	A	3150	JMP	SAE7	03 03117	
011416	011327	A	3151	SAE5	LDX	SAED2	03 03118
011417	001000	A	3152	JMP	SAE3	03 03119	
011420	011404	A	3153	SAE4	LDA	ER11	03 03120
011421	034010	A	3154	CALL	SG3PRO	03 03121	
011422	001000	A	3155	JMP	SG3DPI	03 03122	
011423	011354	A	3156	*		03 03123	
011424	012621	A	3157	*		03 03124	
011425	002000	A	3158	*		03 03125	
011426	011173	A	3159	*		03 03126	
011427	001000	A	3160	*		03 03127	
011430	003000	A	3161	SAED1	DATA	03 03128	
			3162	SAED2	DATA	03 03129	
			3163	SAED3	DATA	03 03130	
			3164	SAED4	DATA	03 03131	
			3165	SAED5	DATA	03 03132	
			3166	SAED6	DATA	03 03133	
			3167	SAED7	DATA	03 03134	
			3168	SAED8	DATA	03 03135	
			3169	EJEC		03 03136	
			3170	*		03 03137	
			3171	*		03 03138	
			3172	SGWSD		03 03139	
			3173	*		03 03140	
			3174	*		03 03141	
			3175	*		03 03142	
			3176	*		03 03143	
			3177	*		03 03144	
			3178	*		03 03145	
			3179	*		03 03146	
			3180	*		03 03147	
			3181	*		03 03148	
			3182	*		03 03149	
			3183	*		03 03150	
			3184	*		03 03151	
			3185	*		03 03152	
			3186	*		03 03153	
			3187	*		03 03154	
011441	035001	A	3188	WS05	LDX	1,X	03 03155
011442	001000	A	3189	JMP	0	03 03156	
011443	000000	A	3190	*		03 03157	
			3191	SGWSD	BES	0	03 03158
011443	016000	A	3192	LDA	0,B	03 03159	
011444	054014	A	3193	STA	WS01	03 03160	
011445	054044	A	3194	STA	WS02	03 03161	
011446	005122	A	3195	IBR		03 03162	
011447	064012	A	3196	STB	WS03	03 03163	
011450	064042	A	3197	STB	WS04	03 03164	
011451	027000	I	3198	LDB	SGWSD	03 03165	
011452	016000	A	3199	LDA	0,B	03 03166	
011453	047000	I	3200	INR	SGWSD	03 03167	
011454	001016	A	3201	JANZ	WS02-3	03 03168	
011455	011510	A	3202	*		03 03169	
			3203	WS01	EQU	*+3	03 03170
			3204	WS03	EQU	*+4	03 03171
011457	002000	A	3205	JMPM	IOCS	03 03172	
011460	011310	E				03 03173	
011461	001003	A	3206	DATA	HALF+DC	03 03174	

STORE KEY SIZE AND SET UP
RETURN ADDR

* * COMPARISON LOOP * *
SET UP INDEX AND COUNTER

IGNORE SIGN BIT OF FIRST WORD
IF WORDS DO NOT MATCH

UPDATE MATCH KEY SIZE COUNTER
IF MATCH CHECKS ON ALL WORDS

GET NEXT WORD IN ENTRY

IF WORDS DO NOT MATCH

IF MORE WORDS TO CHECK

GET ENTRY ADDR IN (XR)

POST ERROR MESSAGE (FATAL ERROR)

AND GO TO RESTART DIRECTIVE PROCESSING

* * TEMPORARY DATA CELLS * *

SEARCH ONLY FLAG
STACK POINTER
ITEM BUFFER ADDR
STACK CONTROL BLOCK ADDR
END OF STACK ADDR
STACK ENTRY SIZE
MATCH KEY SIZE
MATCH KEY SIZE COUNTER

PURPOSE: TO OUTPUT A MESSAGE TO THE "DC" DEVICE
AND THE "LIS" DEVICE, IF IT IS DIFFERENT
FROM "DC".

CALLING SEQUENCE: (BR)= ADDR OF MESSAGE
CALL SGWSD,N
WHERE N=0 FOR LIST TO DC/LD C
N=1 FOR LIST TO LD C

RETURN PARAMETERS: (XR)= 0 IF ALL I/O COMPLETED
(XR),BITS#0-2,= 1 IF I/O ERROR
2 IF I/O EOF
3 IF I/O DECD

GET ABNORMAL I/O STATUS FROM DRIVER
* RETURN *

* ENTRY POINT *

SAVE MESSAGE WORD COUNT

SAVE MESSAGE STARTING ADDRESS

LIST PARAMETER

UPDATE RETURN ADDR
JUMP OF DC LIST IS TO BE SUPPRESSED

WRITE MESSAGE TO "DC" DEVICE

Address	Hex	Label	Op	Op	Op	Op	Op	Op	Op
011462	000000	A	3207	DATA	0,0				03 03175
011463	000000	A							
011464	002000	A	3208	JMPM	IDCS				03 03176
011465	011460	E							
011466	000003	A	3209	DATA	DC				03 03177
011467	011441	A	3210	DATA	WSD5,WSD5,WSD5,*-6				03 03178
011470	011441	A							
011471	011441	A							
011472	011464	A							
			3211	*					
011473	074011	A	3212	STX	WSD6	SAVE DC DRIVER ADDR			03 03179
011474	002000	A	3213	JMPM	IDCS				03 03180
011475	011465	E							03 03181
011476	000003	A	3214	DATA	LIS				03 03182
011477	011441	A	3215	DATA	WSD5,WSD5,WSD5,*-6				03 03183
011500	011441	A							
011501	011441	A							
011502	011474	A							
			3216	*					
011503	005041	A	3217	TXA					03 03184
011504	006130	A	3218	ERAI	0				03 03185
011505	000000	A							03 03186
011505			3219	WSD6	BES	0			03 03187
011506	001010	A	3220	JAZ	WSD7	IF DC AND LIS ARE SAME DEVICE, RETURN			03 03188
011507	011524	A							
	011513	A	3221	WSD2	EQU	*+3			03 03189
	011514	A	3222	WSD4	EQU	*+4			03 03190
011510	002000	A	3223	JMPM	IDCS	WRITE MESSAGE TO 'LIS' DEVICE			03 03191
011511	011475	E							
011512	001005	A	3224	DATA	HALF+LIS				03 03192
011513	000000	A	3225	DATA	0,0				03 03193
011514	000000	A							
011515	002000	A	3226	JMPM	IDCS				03 03194
011516	011511	E							
011517	000005	A	3227	DATA	LIS				03 03195
011520	011441	A	3228	DATA	WSD5,WSD5,WSD5,*-6				03 03196
011521	011441	A							
011522	011441	A							
011523	011515	A							
011524	005004	A	3229	WSD7	TXZ	SET NORMAL I/O FLAG			03 03197
011525	001000	A	3230	JMP*	SGWSD	* RETURN *			03 03198
011526	111443	A							
			3231		EJEC				03 03199
			3232	*					03 03200
			3233	*	SGRSI				03 03201
			3234	*					03 03202
			3235	*					03 03203
			3236	*					03 03204
			3237	*					03 03205
			3238	*					03 03206
			3239	*					03 03207
			3240	*					03 03208
			3241	*					03 03209
			3242	*					03 03210
			3243	*					03 03211
			3244	*					03 03212
			3245	*					03 03213
			3246	*					03 03214
			3247	*					03 03215
			3248	*					03 03216
011527	035001	A	3249	RSI1	LIX	1,X	GET ABNORMAL I/O STATUS FROM DRIVER		03 03217
011530	001000	A	3250	JMP	0	* RETURN *			03 03218
011531	000000	A							
011531			3251	SGRSI	BES	0	* ENTRY POINT *		03 03219
011532	002000	A	3252	CALL	SGCLR	CLEAR INPUT BUFFER TO BLANKS			03 03220
011533	011075	A							
			3253	*					
011534	002000	A	3254	RSI4	JMPM	IDCS	INPUT MESSAGE FROM 'DIR' DEVICE		03 03221
011535	011516	E							03 03222
011536	000403	A	3255	DATA	HALF+DIR				03 03223
011537	000050	A	3256	DATA	40,SGIBUF				03 03224
011540	000664	A							
011541	002000	A	3257	JMPM	IDCS				03 03225
011542	011535	E							
011543	000002	A	3258	DATA	DIR				03 03226
011544	011527	A	3259	DATA	RSI1,RSI1,RSI1,*-6				03 03227
011545	011527	A							
011546	011527	A							
011547	011541	A							
011550	015000	A	3260	LDA	0,X				03 03228
011551	001010	A	3261	JAZ	RSI4	IF ZERO WORDS READ			03 03229
011552	011534	A							
			3262	*					
			3263	*					
011553	002000	A	3264	RS15	JMPM	IDCS	SKIP OUTPUT ON "DC"		03 03230
011554	011542	E							03 03231
011555	001005	A	3265	DATA	HALF+LIS	OUTPUT MESSAGE TO LIS DEVICE			03 03232
011556	000050	A	3266	DATA	40,SGIBUF				03 03233
011557	000664	A							
			3267	*					
011560	002000	A	3268	RS13	JMPM	IDCS			03 03235
011561	011554	E							03 03236
011562	000005	A	3269	DATA	LIS				03 03237

PURPOSE: TO INPUT A MESSAGE FROM THE "DIR" DEVICE AND OUTPUT IT ON THE "DC" DEVICE IF "DIR" IS NOT TELETYPE. IF THE "LIS" DEVICE IS DIFFERENT FROM THE "DC" DEVICE, THE MESSAGE IS ALSO OUTPUT ON "LIS".

CALLING SEQUENCE: CALL SGRSI

RETURN PARAMETERS: (XR)= 0 IF ALL I/O COMPLETED
 (XR),BITS#0-3, = 1 IF I/O ERROR
 2 IF I/O EOF
 3 IF I/O BEGD


```

011563 011527 A 3270 DATA RS11,RS11,RS11,*-6 03 03238
011564 011527 A
011565 011527 A
011566 011560 A
011567 003004 A 3271 RS17 TZX SET NORMAL I/O FLAG 03 03239
011570 001000 A 3272 JMP* SGRSI * RETURN * 03 03240
011571 111531 A
000400 A 3273 PALF EQU 0400 03 03241
001000 A 3274 HALF EQU 01000 03 03242
3275 EQU 03 03243
3276 * 03 03244
3277 * SG4LIS 03 03245
3278 * 03 03246
3279 * PURPOSE: TO OUTPUT A MESSAGE TO THE LIS DEVICE 03 03247
3280 * 03 03248
3281 * CALLING SEQUENCE: (BR)= ADDR OF MESSAGE TO LIST 03 03249
3282 * CALL SGLIS TO LIST 03 03250
3283 * ARBITRARY 03 03251
3284 * MESSAGES 03 03252
3285 * CALL SGLISB TO LIST 6 WORDS 03 03253
3286 * FROM (SGLBUF) 03 03254
3287 * 03 03255
3288 * RETURN PARAMETERS: NONE (WILL NOT RETURN UNTIL MESSAGE 03 03256
3289 * HAS BEEN SUCCESSFULLY OUTPUT) 03 03257
3290 * 03 03258
3291 * 03 03259
011572 3292 SGLISB BSS 0 * * ENTRY POINT TO LIST FROM BUFFER * * 03 03260
011572 017000 J 3293 LDA SGLISB 03 03261
011573 054025 H 3294 STA SGLIS SET UP RETURN ADDR 03 03262
011574 012574 A 3295 LDA SIX 03 03263
011575 054011 A 3296 STA LIST1 SET NUMBER OF WORDS = 6 03 03264
011576 020000 L 3297 LDB =SGLBUF SET BUFFER ADDR 03 03265
011577 064010 A 3298 LIST5 STB LIST2 TO (SGLBUF) 03 03266
3299 * 03 03267
3300 * 03 03268
011600 012723 A 3301 LIST4 LDA SGEDRA 03 03269
011601 130000 L 3302 ERA =0130000 03 03270
011602 001010 A 3303 JAZ* SGLIS IF NO LISTING REQUESTED, RETURN * * 03 03271
011603 111621 A
011604 011607 A 3304 LIST1 EQU *+3 03 03272
011605 011610 A 3305 LIST2 EQU *+4 03 03273
011606 002000 E 3306 CALL IDCS POST MESSAGE ON "LIS" 03 03274
011607 001005 A 3307 DATA HALF+LIS 03 03275
011608 000000 A 3308 DATA 0,0 03 03276
011610 000000 A
011611 002000 A 3309 CALL IDCS 03 03277
011612 011605 E
011613 000005 A 3310 DATA LIS 03 03278
011614 011627 A 3311 DATA LIST3,LIST3,LIST3,*-6 03 03279
011615 011627 A
011616 011627 A
011617 011611 A
011620 001000 A 3312 JMP 0 * * RETURN * * 03 03280
011621 000000 A
3313 * 03 03281
011621 3314 SGLIS RES 0 * * ENTRY POINT TO POST GENERAL MESSAGE * 03 03282
011622 016000 A 3315 LDA 0,0 03 03283
011623 057000 I 3316 STA LIST1 SET UP NUMBER OF WORDS 03 03284
011624 005122 A 3317 LER SET UP BUFFER ADDR 03 03285
011625 001000 A 3318 JMP LIST5 GO POST MESSAGE 03 03286
011626 011577 A
3319 * 03 03287
3320 * * * ERROR MESSAGE * * 03 03288
3321 * 03 03289
011627 012621 A 3322 LIST3 LDA ER11 POST "WRITE ERROR IN SGEN2" MESSAGE 03 03290
011630 002000 A 3323 CALL SG3PRD 03 03291
011631 011173 A
011632 001000 A 3324 JMP LIST4 TRY AGAIN 03 03292
011633 011600 A
3325 EQU 03 03293
3326 * 03 03294
3327 * SGPUR 03 03295
3328 * 03 03296
3329 * PURPOSE: PURGE TEMPORARY STACK AND RETURN TO PROCESS 03 03297
3330 * ERROR RECOVERY DIRECTIVE. 03 03298
3331 * 03 03299
3332 * CALLING SEQUENCE: JMP SGPUR 03 03300
3333 * 03 03301
3334 * RETURN PARAMETERS: NONE 03 03302
3335 * 03 03303
3336 * 03 03304
011634 3337 SGPUR BSS 0 03 03305
011634 030000 L 3338 LDX =SGSCB9 03 03306
011635 020000 L 3339 LDB =TBUF2 03 03307
011636 002000 A 3340 CALL SGGET GET NEXT ITEM FROM TEMPORARY STACK 03 03308
011637 011111 A
011640 001002 A 3341 JAP SGPUR IF STACK NOT EMPTY 03 03309
011641 011634 A
011642 001000 A 3342 JMP DIR5 GO TO PROCESS RECOVERY DIRECTIVE 03 03310
011643 003222 A
003000 A 3343 END SGEN1 03 03311

```

ENTRY NAMES


```

003000 A SGEN1
EXTERNAL NAMES
010374 E EXIT 011612 E IOCS
SYMBOLS
000551 A SLUB 000550 A SLUN 000576 A SPUB 000551 A SPUN
000663 A AD$CAM 000663 A ADCRDR 003417 A ADR0 003467 A ADR1
003471 A ADR2 003425 A ADR3 003465 A ADR4 003364 A ADR5
003457 A ADR7 003443 A ADR8 003452 A ADR9 011122 A AGET1
011141 A AGET2 011136 A AGET3 010637 A APUT1 010666 A APUT2
010673 A APUT4 010710 A APUT5 004010 A ASN1 003612 A ASN10
003627 A ASN101 003632 A ASN11 003637 A ASN12 003653 A ASN13
004001 A ASN14 003714 A ASN15 003700 A ASN16 003715 A ASN17
004017 A ASN18 003732 A ASN19 003747 A ASN19A 003762 A ASN19B
003770 A ASN19C 004012 A ASN2 004024 A ASN20 004003 A ASN21
003665 A ASN23 003516 A ASN3 003520 A ASN4 003533 A ASN5
003553 A ASN6 003662 A ASN7 003574 A ASN8 003575 A ASN9
003607 A ASN91 004046 A ASND1 004103 A ASND1X 003105 A ASTACK
000002 A B 000000 A B0 000001 A B1 000012 A B10
000013 A B11 000014 A B12 000015 A B13 000016 A B14
000017 A B15 000002 A B2 000003 A B3 000004 A B4
000005 A B5 000006 A B6 000007 A B7 000010 A B8
000011 A B9 002527 A BM1 002600 A BM17 002603 A BM177
002605 A BM1777 002572 A BM3 002601 A BM37 002571 A BM377
002575 A BM7 002602 A BM77 002604 A BM777 002547 A BR0
002550 A BR1 002561 A BR10 002562 A BR11 002563 A BR12
002564 A BR13 002565 A BR14 002566 A BR15 002551 A BR2
002552 A BR3 002553 A BR4 002554 A BR5 002555 A BR6
002556 A BR7 002557 A BR8 002560 A BR9 002527 A BS0
002530 A BS1 002541 A BS10 002542 A BS11 002543 A BS12
002544 A BS13 002545 A BS14 002546 A BS15 002531 A BS2
002532 A BS3 002533 A BS4 002534 A BS5 002535 A BS6
002536 A BS7 002537 A BS8 002540 A BS9 002544 A BSTACK
006525 A BTB 001130 A BTSIZ 004675 A CLK1 011101 A CLR1
010440 A CNV1 010435 A CNV2 010500 A CNV3 010505 A CNV31
010506 A CNVD2 000002 A DIR 003263 A DIR1 003270 A DIR2
003237 A DIR3 003256 A DIR4 003222 A DIR5 003255 A DIR6
003027 A DP3 003057 A DP4 003074 A DP5 003067 A DP6
003040 A DP7 003053 A DP8 003093 A DPI1 003272 A DPTAB
002653 A DREC 005306 A EDR0 005354 A EDR1 005331 A EDR2
005342 A EDR3 005340 A EDR4 005252 A EDR5 005271 A EDR7
005335 A EDR8 005356 A EDR9 002532 A EIGHT 004447 A EQP1
004262 A EQP10 004320 A EQP10A 004340 A EQP10B 004451 A EQP2
004434 A EQP3 004437 A EQP4 004402 A EQP5 004454 A EQP6
004427 A EQP7 004362 A EQP8 004377 A EQP9 004456 A EQPCM
004457 A EQPPT 004460 A EQPT 002606 A ER00 002607 A ER01
002610 A ER02 002611 A ER03 002612 A ER04 002613 A ER05
002614 A ER06 002615 A ER07 002616 A ER08 002617 A ER09
002620 A ER10 002621 A ER11 002622 A ER12 002623 A ER13
002624 A ER14 002625 A ER15 002626 A ER20 002627 A ER21
002630 A ER22 002631 A ER23 002632 A ER24 002633 A ER25
002634 A ER26 002635 A ER30 002636 A ER31 002637 A ER33
002640 A ER33 002641 A ER34 002642 A ER40 002643 A ER41
002644 A ER42 002645 A ER43 002646 A ER44 002647 A ER45
002550 A ER46 002651 A ER47 002652 A ER48 011175 A ERR1
011274 A ERR3 011303 A ERR4 011316 A ERR5 011214 A ERR6
011204 A ERR7 011263 A ERR8 011217 A ERR9 000547 A ESC6
010374 E EXIT 002573 A FIVE 002531 A FOUR 010542 A GAC1
010537 A GAC2 010541 A GAC3 010539 A GACD1 010524 A GACD2
010546 A GACT 011165 A GETM1 011160 A GETM2 002740 A IEND
002654 A INUNIT 011612 E IOCS 002653 A ISTART 001054 A ILEN
002534 A K32 002570 A LHW 000005 A LIS 011607 A LIS*1
011610 A LIST2 011627 A LIST3 011600 A LIST4 011577 A LIST5
000551 A LUT 002655 A MFLAG 010547 A MOV1 010557 A MOV2
010601 A MOV3 010623 A MOV6 010614 A MOVE 010572 A MOVK
002526 A MT 006413 A NAMTAB 002567 A NEG 002576 A NINE
002532 A D10 011065 A D16 011066 A D215 011067 A D243
010503 A D250 010504 A D270 002601 A D37 000003 A Q0
002527 A ONE 007717 A P01 010201 A P010 010212 A P0100
010223 A P0101 010242 A P0102 010249 A P0103 010252 A P0104
010203 A P0112 010204 A P0113 010205 A P0114 010206 A P0115
010126 A P0117 010211 A P0119 010075 A P02 010027 A P010A
010264 A P0200 010051 A P03 010040 A P04 010207 A P03
010210 A P05A 010174 A P06 007667 A P07 007705 A P07A
007655 A P08 010037 A P09 004535 A PIM1 004637 A PIM2
004535 A PIM3 004573 A PIM4 004553 A PIM5 004575 A PIM6
004625 A PIM7 004633 A PIM8 004622 A PIM9 005127 A PRT1
005131 A PRT2 005036 A PRT3 005067 A PRT4 005046 A PRT5
005072 A PRT6 005117 A PRT7 005125 A PRT8 000600 A PUT
010655 A PUTM1 010662 A PUT*2 010663 A PUTM3 000040 A RP1
000000 A RA1 000400 A RALF 000060 A R30 000020 A RB1
006504 A RBIN 006506 A REN 002571 A KHU 005366 A RMD1
006011 A RMD10 006160 A RMD100 006234 A RMD101 006377 A RMD102
006400 A RMD103 006276 A RMD104 006252 A RMD105 006492 A RMD106
006302 A RMD107 006356 A RMD108 006305 A RMD109 005735 A RMD11
006403 A RMD110 006172 A RMD111 006307 A RMD112 006251 A RMD113
006360 A RMD114 006352 A RMD115 006215 A RMD11A 006220 A RMD11B
006205 A RMD11C 006444 A RMD12 006404 A RMD120 006275 A RMD121
006460 A RMD13 006321 A RMD130 006310 A RMD131 006461 A RMD14
006035 A RMD15 006114 A RMD16 005732 A RMD17 005730 A RMD18
006046 A RMD19 005706 A RMD20 005663 A RMD21 005531 A RMD22
005661 A RMD23 006141 A RMD24 006425 A RMD25 005407 A RMD26
005776 A RMD27 006001 A RMD28 005750 A RMD29 005464 A RMD2A
005470 A RMD2B 005373 A RMD3 006135 A RMD30 006131 A RMD31
    
```



```

006427 A RMD32 005533 A RMD33 006471 A RMD34 006466 A RMD35
006143 A RMD36 006477 A RMD37 006475 A RMD38 005537 A RMD4
006126 A RMD40 005675 A RMD41 005706 A RMD42 005710 A RMD43
005720 A RMD44 005712 A RMD45 005552 A RMD4A 005554 A RMD4B
005604 A RMD4D 005612 A RMD4E 005617 A RMD4F 005621 A RMD4G
005626 A RMD4H 006440 A RMD5 006433 A RMD50 005734 A RMD6
005736 A RMD7 005414 A RMD8 006060 A RMD81 006071 A RMD81A
006052 A RMD82 006047 A RMD9 005660 A RMDADR 006511 A RMDDD1
006517 A RMDDD10 006106 A RMDDD11 006140 A RMDDD12 006452 A RMDDD13
006465 A RMDDD14 006522 A RMDDD16 006523 A RMDDD17 006520 A RMDDD18
006521 A RMDDD19 006512 A RMDDD2 005423 A RMDDD4 006472 A RMDDD5
006513 A RMDDD6 006514 A RMDDD7 006515 A RMDDD8 006516 A RMDDD9
005655 A RMDDEAD 006337 A RMDREC 006343 A RMDSK 005656 A RMDTRK
005657 A RMDTSZ 011553 A RS15 011527 A RS11 011560 A RS13
011534 A RS14 011567 A RS17 010400 A RZ11 010371 A RZ110
010401 A RZ12 010402 A RZ13 010403 A RZ14 010361 A RZ15
010345 A RZ16 010330 A RZ17 010323 A RZ18 010407 A RZ19
011327 A SAE1 011374 A SAE2 011354 A SAE3 011424 A SAE4
011421 A SAE5 011331 A SAE6 011404 A SAE7 011431 A SAED1
011432 A SAED2 011433 A SAED3 011434 A SAED4 011435 A SAED5
011436 A SAED6 011437 A SAED7 011440 A SAED8 002575 A SEVEN
003350 A SG3ADD 011323 A SG3ASC 003476 A SG3ASN 004644 A SG3CLK
005136 A SG3DEF 003352 A SG3DEL 005210 A SG3DET 003216 A SG3DIR
003000 A SG3DPI 005211 A SG3EDR 004162 A SG3EQP 010507 A SG3GAC
003356 A SG3LAD 003360 A SG3LDE 003362 A SG3LRE 004155 A SG3MRE
004104 A SG3MRY 007712 A SG3PRD 004463 A SG3PIM 011173 A SG3PRD
004756 A SG3PRT 003354 A SG3REP 005363 A SG3RMD 004706 A SG3TSK
002703 A SG50BP 010731 A SG9800 010765 A SG9805 010772 A SG9810
011002 A SG9815 011027 A SG9820 011032 A SG9825 011051 A SG9900
011056 A SG9905 002662 A SGBAD 002656 A SGBARS 000656 A SGBASE
011071 A SGBBAD 002660 A SGBIAP 002661 A SGBLIT 002657 A SGBSNR
002701 A SGCBAD 002702 A SGCBSN 002676 A SGCHSN 002667 A SGCIDL
002666 A SGCILL 002672 A SGCKEY 002704 A SGCLK1 002705 A SGCLK2
002706 A SGCLK3 011075 A SGCLR 002671 A SGCLUN 010412 A SGCONV
002700 A SGCPED 002677 A SGCPGM 002673 A SGCSGN 002675 A SGCXEQ
002712 A SGEDR1 002713 A SGEDR2 002714 A SGEDR3 002715 A SGEDR4
002716 A SGEDR5 002717 A SGEDR6 002720 A SGEDR7 002721 A SGEDR8
002722 A SGEDR9 002723 A SGEDRA 003000 A SGEN1 002670 A SGERSE
011111 A SGGET 010713 A SGGFI 011033 A SGGHC 010717 A SGGNI
000664 A SGI BUF 002406 A SGLBUF 011621 A SGLIS 011572 A SGL1SB
002724 A SGLUN1 002725 A SGLUN2 002726 A SGLUN3 011074 A SGMHDC
002732 A SGMDB 010620 A SGMDB 002707 A SGMRY1 002710 A SGMRY2
002711 A SGMRY3 002737 A SGMRY5 011073 A SGMDCS 001066 A SGOBUF
002663 A SGOVSZ 011070 A SGOPBA 002216 A SGPBUF 011634 A SGPUR
010624 A SGPUR 002665 A SGRPED 002664 A SGRPGM 011531 A SGRST
010316 A SGRZI 011356 A SGSAE 000536 A SGSC10 000541 A SGSC11
000544 A SGSC12 000500 A SGSCB0 000503 A SGSCB1 000506 A SGSCB2
000511 A SGSCB3 000514 A SGSCB4 000517 A SGSCB5 000520 A SGSCB6
000525 A SGSCB7 000530 A SGSCB8 000533 A SGSCB9 000654 A SGSTZE
011072 A SGSVCH 002674 A SGTALT 002727 A SGTMP1 002730 A SGTMP2
002731 A SGTMP3 001066 A SGVBUF 011443 A SGVSD 002574 A SIX
006507 A SKRF 006510 A SKRR 002502 A TBUF1 002514 A TRUF2
002577 A TEN 002572 A THREE 000695 A TPRDG 004741 A TSK1
004700 A TSK2 004734 A TSK3 004747 A TSK4 004732 A TSK5
002530 A TWO 004045 A TZA 000657 A V$BVN 000661 A V$CRDR
000660 A V$ELIT 000001 A V75 000001 A VORTEX 001000 A WALF
006505 A WBIN 011462 A WSD1 011513 A WSD2 011463 A WSD3
011514 A WSD4 011441 A WSD5 011505 A WSD6 011524 A WSD7
000001 A X 002526 A ZERD
0 ERRORS ASSEMBLY COMPLETE

```

63	\$LUB	64								
453	ASTACK	426								
20	B	430								
90	BTSIZ	91								
0	DIR1	505	509	512	515					
0	DIR2	507	516	519						
0	DIR4	517	521							
525	DIR6	523								
418	DP3	424								
439	DP4	431								
448	DP5	439								
445	DP6	433								
427	DP7	437								
435	DP8	429								
393	DPI1	390								
0	DPTAB	513								
164	ER10	443								
174	ER24	443								
325	FOUR	508								
0	IDCS	14								
192	ISTART	391								
106	K32	400								
99	MT	286	287	288	289	290	291	292	293	294
		295	296	297	298	299	300	301	302	303
		304	305	306	307	308	309	310	311	312
		313	314	315	316	317	318	319	320	321
		322	323	324	325	326	327	328	329	330
		331	332	333	334	335	336	337	338	339
		340	341							
503	SG3DIR	441								
390	SG3DPI	447								

0	SG3PRO	446							
78	SGBASE	417							
233	SGCLK1	406							
234	SGCLK2	407							
235	SGCLK3	409							
389	SGEN1	13							
0	SGGFI	508							
254	SGLUN1	412							
255	SGLUN2	414							
269	SGMOD	395							
237	SGMRY1	404							
241	SGMRY4	401							
91	SGDBUF	93							
0	SGPUT	432							
0	SGRSI	504							
53	SGSC12	56							
29	SGSCB0	416							
31	SGSCB1	427	436						
0	SGWSD	440							
327	SIX	413							
0	V\$SGEN	11							
12	V75	276							
1	VORTEX	240	261	398					
19	X	393	418	419	423	506	514	518	522


```

000001 A 1 VORTEX SET 1 PUT LAST FOR VORTEX V2 05 00001
2 * THIS IS A COPYRIGHTED PROGRAM. COPYRIGHTED 1972 BY VARIAN DATA MACHINE 05 00002
3 * 05 00003
4 * V.D.M. PART. NO. 92L0805-004D 05 00004
5 * 05 00005
6 * 05 00006
7 * 05 00007
8 * 05 00008
9 * 05 00009
10 * 05 00010
11 * 05 00011
000001 A 12 V75 TITLE V*SGEN2 V75***** 05 00012
13 SET 1 05 00013
14 NAME SGEN2 05 00014
15 EXT IOCS 05 00015
16 * 05 00016
17 * * * SGEN COMMON DATA AREA * * * 05 00017
18 * 05 00018
000001 A 19 X EQU 1 05 00019
000002 A 20 B EQU 2 05 00020
000007 A 21 SYS EQU 7 FIRST SYSTEM DEVICE 05 00021
000006 A 22 ALT EQU 6 BI EQUIVALENT 05 00022
000005 A 23 LIS EQU 5 LD EQUIVALENT 05 00023
000004 A 24 LIB EQU 4 PI EQUIVALENT 05 00024
000003 A 25 DC EQU 3 SD EQUIVALENT 05 00025
000002 A 26 DIR EQU 2 SI EQUIVALENT 05 00026
27 * 05 00027
040400 A 28 RBIN EQU 040400 05 00028
041000 A 29 WBIN EQU 041000 05 00029
003000 A 30 SKRF EQU 03000 05 00030
103000 A 31 SKRR EQU 0103000 05 00031
000500 32 ORG 0500 05 00032
33 EJEC 05 00033
34 * 05 00034
35 * * STACK CONTROL BLOCK * 05 00035
36 * 05 00036
000500 37 SGSCB0 BSS 2 EQUIP STACK (HIGHEST STACK IN MEMORY) V2 05 00037
000502 000006 A 38 DATA 6 05 00038
000503 39 SGSCB1 BSS 2 ASSIGN STACK 05 00039
000505 000004 A 40 DATA 4 05 00040
000506 41 SGSCB2 BSS 2 ADD/DELETE/REPLACE STACK 05 00041
000510 000005 A 42 DATA 5 05 00042
000511 43 SGSCB3 BSS 2 PARTITION PARAMETER STACK 05 00043
000513 000004 A 44 DATA 4 05 00044
000514 45 SGSCB4 BSS 2 INTERRUPT MODULE STACK 05 00045
000516 000005 A 46 DATA 5 05 00046
000517 47 SGSCB5 BSS 2 RESIDENT TASK NAME STACK 05 00047
000521 000003 A 48 DATA 3 05 00048
000522 49 SGSCB6 BSS 2 LOADER TABLE STACK 05 00049
000524 000005 A 50 DATA 5 05 00050
000525 51 SGSCB7 BSS 2 DATA PATCH STACK 05 00051
000527 000005 A 52 DATA 5 05 00052
000530 53 SGSCB8 BSS 2 TASK ENTRY NAME STACK 05 00053
000532 000005 A 54 DATA 5 05 00054
000533 55 SGSCB9 BSS 2 TEMPORARY STACK 05 00055
000535 000005 A 56 DATA 5 05 00056
000536 57 SGSC10 BSS 2 OVERLAY DIRECTORY STACK 05 00057
000540 000007 A 58 DATA 7 05 00058
000541 59 SGSC11 BSS 2 RELD DATA FIX-UP STACK 05 00059
000543 000001 A 60 DATA 1 05 00060
000544 61 SGSC12 BSS 2 ADD-ON FIX-UP STACK 05 00061
000546 000001 A 62 DATA 1 05 00062
000547 177777 A 63 ESCB DATA -1 MUST GO AT END OF STACK CONTROL BLOCK 05 00063
000544 A 64 BSTACK EQU SGSC12 MUST POINT TO BASE OF LOWEST STACK 05 00064
65 EJEC 05 00065
66 * 05 00066
67 * * * I/O TABLES * * * 05 00067
68 * 05 00068
000550 69 $LUN BSS 1 05 00069
000551 70 $PUN BSS 1 05 00070
000551 A 71 $LUB EQU *-1 V2 05 00071
000551 A 72 LUT EQU $LUB V2 05 00072
000552 73 BSS 22 LOGICAL UNIT TABLE V2 05 00073
74 * 05 00074
000576 A 75 $PUB EQU *-2 PHYSICAL UNIT TABLE BASE V2 05 00075
000600 76 PUT BSS 44 PHYSICAL UNIT TABLE 05 00076
77 EJEC 05 00077
78 * 05 00078
79 * * * MISC. PARAMETERS * * * 05 00079
80 * 05 00080
000654 81 SGSIZE BSS 1 SIZE OF MAIN MEMORY 05 00081
000655 82 TPROG BSS 1 ADDR. OF HIGHEST LOADED LOCATION 05 00082
000656 83 SGBASE BSS 1 HIGHEST AVAILABLE STACK LOCATION 05 00083
000657 000000 A 84 V$BVN DATA 0 BOTTOM OF VORTEX NUCLEUS 05 00084
000660 000000 A 85 V$LIT DATA 0 TOP OF LITERAL POOL 05 00085
000661 86 V$CRDR BSS 1 ADDR OF CORE RESIDENT DIRECTORY 05 00086
000662 87 ADCRDR BSS 1 ABSOLUTE ADDR OF 'V$CRDR' 05 00087
000663 88 AD$CAM BSS 1 ABSOLUTE ADDR OF 'V$CAM' 05 00088
89 EJEC 05 00089
90 * 05 00090
91 * * * DATA BUFFERS * * * 05 00091
92 * 05 00092
001130 A 93 BTSIZ EQU 300 SET UP FOR 8120 TRKS MAX. E2505 05 00092

```


Address	Label	Symbol	Type	Value	Description	Offset	Value
000664		94	SGIBUF	BSS	BTSIZ		
002014		95	ITEM	BSS	10		
002026		96	SGOBUF	BSS	120		
002026	A	97	SGVBUF	EQU	SGOBUF		
002216		98	SGPBUF	BSS	120		
002406		99	SGLBUF	BSS	60		
002406	A	100	SGWBUF	EQU	SGLBUF		
002502		101	TBUF1	BSS	10		
002514		102	TBUF2	BSS	5		
002521		103	TBUF3	BSS	5		
002216	A	104	TBUF4	EQU	SGPBUF		
000664	A	105	LGMIB	EQU	SGIBUF		
002026	A	106	LGOUB	EQU	SGOBUF		
		107		EJEC			
002526	A	108	MT	EQU	*		
000000	A	109		DATA	000000		
000001	A	110		DATA	000001		
000002	A	111		DATA	000002		
000004	A	112		DATA	000004		
000010	A	113		DATA	000010		
000020	A	114		DATA	000020		
002534	A	115	KD32	EQU	*		
000040	A	116		DATA	000040		
002535	A	117	KD64	EQU	*		
000100	A	118		DATA	000100		
000200	A	119		DATA	000200		
000400	A	120		DATA	000400		
001000	A	121		DATA	001000		
002000	A	122		DATA	002000		
004000	A	123		DATA	004000		
010000	A	124		DATA	010000		
020000	A	125		DATA	020000		
040000	A	126		DATA	040000		
100000	A	127		DATA	0100000		
177776	A	128		DATA	0177776		
177775	A	129		DATA	0177775		
177773	A	130		DATA	0177773		
177767	A	131		DATA	0177767		
177757	A	132		DATA	0177757		
177737	A	133		DATA	0177737		
177677	A	134		DATA	0177677		
177577	A	135		DATA	0177577		
177377	A	136		DATA	0177377		
176777	A	137		DATA	0176777		
175777	A	138		DATA	0175777		
173777	A	139		DATA	0173777		
167777	A	140		DATA	0167777		
157777	A	141		DATA	0157777		
137777	A	142		DATA	0137777		
077777	A	143		DATA	0077777		
177777	A	144		DATA	0177777		
177400	A	145		DATA	0177400		
000377	A	146		DATA	0000377		
000003	A	147		DATA	0000003		
000005	A	148		DATA	0000005		
000006	A	149		DATA	0000006		
000007	A	150		DATA	0000007		
000011	A	151		DATA	0000011		
000012	A	152		DATA	0000012		
002600	A	153	K15	EQU	*		
000017	A	154		DATA	000017		
000037	A	155		DATA	000037		
000077	A	156		DATA	000077		
000177	A	157		DATA	000177		
000777	A	158		DATA	000777		
001777	A	159		DATA	001777		
		160		EJEC			
		161	*				
		162	*				
		163	*				
		164	*				
130260	A	165	ER00	DATA	'00'		
130261	A	166	ER01	DATA	'01'		
130262	A	167	ER02	DATA	'02'		
130263	A	168	ER03	DATA	'03'		
130264	A	169	ER04	DATA	'04'		
130265	A	170	ER05	DATA	'05'		
130266	A	171	ER06	DATA	'06'		
130267	A	172	ER07	DATA	'07'		
130270	A	173	ER08	DATA	'08'		
130271	A	174	ER09	DATA	'09'		
130660	A	175	ER10	DATA	'10'		
130661	A	176	ER11	DATA	'11'		
130662	A	177	ER12	DATA	'12'		
130663	A	178	ER13	DATA	'13'		
130664	A	179	ER14	DATA	'14'		
130665	A	180	ER15	DATA	'15'		
131260	A	181	ER20	DATA	'20'		
131261	A	182	ER21	DATA	'21'		
131262	A	183	ER22	DATA	'22'		
131263	A	184	ER23	DATA	'23'		
131264	A	185	ER24	DATA	'24'		
131265	A	186	ER25	DATA	'25'		

* * ERROR MESSAGE CODE NUMBERS * *

-35

05 00093

05 00094

05 00095

05 00096

05 00097

05 00098

05 00099

05 00100

05 00101

05 00102

05 00103

05 00104

05 00105

05 00106

05 00107

05 00108

05 00109

05 00110

05 00111

05 00112

05 00113

D.1 05 00114

V2 05 00115

05 00116

05 00117

05 00118

05 00119

05 00120

05 00121

05 00122

05 00123

05 00124

05 00125

05 00126

05 00127

05 00128

05 00129

05 00130

05 00131

05 00132

05 00133

05 00134

05 00135

05 00136

05 00137

05 00138

05 00139

05 00140

05 00141

05 00142

05 00143

05 00144

05 00145

05 00146

05 00147

05 00148

05 00149

05 00150

05 00151

D.1 05 00152

05 00153

05 00154

05 00155

05 00156

05 00157

05 00158

05 00159

05 00160

05 00161

05 00162

05 00163

05 00164

05 00165

05 00166

05 00167

05 00168

05 00169

05 00170

05 00171

05 00172

05 00173

05 00174

05 00175

05 00176

05 00177

05 00178

05 00179

05 00180

05 00181

05 00182

05 00183

05 00184

05 00185

002634	131266	A	187	ER26	DATA	'26'			05	00186	
002635	131660	A	188	ER30	DATA	'30'			05	00187	
002636	131661	A	189	ER31	DATA	'31'			05	00188	
002637	131662	A	190	ER32	DATA	'32'			05	00189	
002640	131663	A	191	ER33	DATA	'33'			05	00190	
002641	131664	A	192	ER34	DATA	'34'			05	00191	
002642	132260	A	193	ER40	DATA	'40'			05	00192	
002643	132261	A	194	ER41	DATA	'41'			05	00193	
002644	132262	A	195	ER42	DATA	'42'			05	00194	
002645	132263	A	196	ER43	DATA	'43'			05	00195	
002646	132264	A	197	ER44	DATA	'44'			05	00196	
002647	132265	A	198	ER45	DATA	'45'			05	00197	
002650	132266	A	199	ER46	DATA	'46'			05	00198	
002651	132267	A	200	ER47	DATA	'47'			05	00199	
002652	132270	A	201	ER48	DATA	'48'			05	00200	
			202		EJEC				05	00201	
002653			203	ISTART	BSS	0		* * START OF COMMON AREA INITIALIZED * *	05	00202	
			204	*					05	00203	
			205	*			* * * ERROR RECOVERY TABLE * * *		05	00204	
			206	*					05	00205	
002653	000000	A	207	DREC	DATA	0		RECOVERY FLAG	05	00206	
002654	000000	A	208	INUNIT	DATA	0		CURRENT INPUT UNIT	05	00207	
002655	000000	A	209	MFLAG	DATA	0		RECOVERY MODE FLAG	05	00208	
			210	*					05	00209	
			211	*	EJEC				05	00210	
			212	*					05	00211	
			213	*				LOAD MODULE GENERATOR INTERFACE TABLE	05	00212	
			214	*					05	00213	
			215	*				THIS TABLE CONTAINS INPUT PARAMETERS	05	00214	
			216	*				ESSENTIAL TO LOAD MODULE GENERATOR OPERATION	05	00215	
			217	*					05	00216	
			218	*					05	00217	
002656	000000	A	219	SGBAR	DATA	0		BASE ADDRESS OF ROOT SEGMENT	05	00218	
002657	000000	A	220	SGBSNR	DATA	0		BASE SECTOR NUMBER OF ROOT SEGMENT	05	00219	
002660	000000	A	221	SGBIAP	DATA	0		BASE ADDRESS OF SG\$IAD	05	00220	
002661	000000	A	222	SGBLIT	DATA	0		BASE ADDRESS OF SG\$LIT	05	00221	
002662	000000	A	223	SGBAOD	DATA	0		BASE ADDRESS OF OVERLAY DIRECTORY	05	00222	
002663	000000	A	224	SGODSZ	DATA	0		OVERLAY DIRECTORY SIZE	05	00223	
002664	000000	A	225	SGRPGM	DATA	0		SG\$PGM FOR ROOT SEGMENT	05	00224	
002665	000000	A	226	SGRPED	DATA	0		SG\$PED FOR ROOT SEGMENT	05	00225	
002666	000000	A	227	SGCIIL	DATA	0		SG\$IIL - CURRENT INDIRECT LITERAL PNTR	05	00226	
002667	000000	A	228	SGCIDL	DATA	0		SG\$IDL - CURRENT DIRECT LITERAL PNTR	05	00227	
002670	000000	A	229	SGERSE	DATA	0		PNTR INTO LOADER TABLE STACK FOR ROOT SEG	05	00228	
002671	000000	A	230	SGCLUN	DATA	0		LOGICAL UNIT NUMBER FOR CURRENT SEGMENT	05	00229	
002672	000000	A	231	SGCKEY	DATA	0		PROTECT KEY FOR CURRENT SEGMENT BUILD	05	00230	
002673	000000	A	232	SGCSGN	DATA	0		SEGMENT NUMBER OF CURRENT SEGMENT	05	00231	
002674	000000	A	233	SGTALT	DATA	0		TASK AND LOAD TYPE OF CURRENT SEGMENT	05	00232	
002675	000000	A	234	SGCXEQ	DATA	0		SG\$XEQ - EXECUTION ADDR OF CURRENT SEGMENT	05	00233	
002676	000000	A	235	SGCHSN	DATA	0		SG\$HSN - HIGHEST SECTOR NUM CURRENT SEG	05	00234	
002677	000000	A	236	SGCPGM	DATA	0		SG\$PGM FOR CURRENT SEGMENT	05	00235	
002700	000000	A	237	SGCPED	DATA	0		SG\$PED FOR CURRENT SEGMENT	05	00236	
002701	000000	A	238	SGCBAD	DATA	0		BASE ADDRESS OF CURRENT SEGMENT	05	00237	
002702	000000	A	239	SGCBSN	DATA	0		BASE SECTOR NUMBER OF CURRENT SEGMENT	05	00238	
002703	000000	A	240	SG\$OBP	DATA	0		OUTPUT BUFFER POINTER	05	00239	
002704			241	IEND	BSS	0		* * END OF COMMON AREA INITIALIZED * *	05	00240	
			242	*					05	00241	
			243	*				* * * MISC. DATA STORE * * *	05	00242	
			244	*				THE VALUES IN THE FOLLOWING ITEMS ARE STORED BY V\$SGEN1 -35	05	00243	
			245	*				AND CARRIED OVER FOR USE BY V\$SGEN2,V\$SGEN3 -35	05	00244	
			246	*					05	00245	
002704			247	SGCLK1	BSS	1		*	05	00246	
002705			248	SGCLK2	BSS	1		* REAL-TIME CLOCK PARAMETERS	05	00247	
002706			249	SGCLK3	BSS	1		*	05	00248	
			250	*					05	00249	
002707			251	SGMRY1	BSS	1		*	05	00250	
002710			252	SGMRY2	BSS	1		* MAIN MEMORY PARAMETERS	05	00251	
002711			253	SGMRY3	BSS	1		*	05	00252	
			254	IFF	VORTEX-2				05	00253	
			255	SGMRY4	BSS	1			V2	05	00254
			256	*					V2	05	00255
002712			257	SGEDR1	BSS	1		* NUMBER OF EMPTY TIDB'S	05	00256	
002713			258	SGEDR2	BSS	1		* STACK SIZE	05	00257	
002714			259	SGEDR3	BSS	1		* NUM REASSIGN LOG UNITS	05	00258	
002715			260	SGEDR4	BSS	1		* NUM NON-REASSIGN LOG UNITS	05	00259	
002716			261	SGEDR5	BSS	1		* NUM OP-COM REASSIGN LOG UNITS	05	00260	
002717			262	SGEDR6	BSS	1		* MAX PARTITION VALUE	05	00261	
002720			263	SGEDR7	BSS	1		* (NOT USED)	05	00262	
002721			264	SGEDR8	BSS	1		* PAGE SIZE	05	00263	
002722			265	SGEDR9	BSS	1		* CHARACTER CODE FLAG	05	00264	
002723			266	SGEDRA	BSS	1		* LIST FLAG	05	00265	
			267	*					05	00266	
002724			268	SGLUN1	BSS	1		* TOTAL NUMBER OF LOGICAL UNITS	05	00267	
002725			269	SGLUN2	BSS	1		*	05	00268	
002726			270	SGLUN3	BSS	1		*	05	00269	
			271	*					05	00270	
002727	000000	A	272	SGTMP1	DATA	0		*	05	00271	
002730	000000	A	273	SGTMP2	DATA	0		* GENERAL PURPOSE TEMPORARY STORAGE	05	00272	
002731	000000	A	274	SGTMP3	DATA	0		*	05	00273	
			275	IFF	VORTEX-1				05	00274	
			276	GOTO		1			V2	05	00275
			277	*					V2	05	00276
			278	V\$BFC	DATA	0		BASE ADDRESS OF FOREGROUND COMMON	V2	05	00277
			279	V\$BTE	DATA	0		BASE ADDRESS OF USER BLOCK	V2	05	00278

002732
002737

```

280 V$GFCB DATA 0 BASE ADDRESS OF GLOBAL FCB'S V2 05 00279
281 V$TRT DATA 0 TOP ADDRESS OF RESIDENT TASKS V2 05 00280
282 1 CONT V2 05 00281
283 SGMOD BSS 5 RMD MODEL INDIC.,0=MODEL A,B -35 05 00282
284 IFT V75 V75*****
285 SGMRY5 BSS 1 V75 FLAG V75*****
286 * WORD 0 = ADDRESS OF *+1 05 00283
287 * WORDS 1-4 INDIC. FOR EACH RMD SPECIFIED ON SYS DIR. 05 00284
288 EJEC 05 00285
289 ***** 05 00286
290 * 05 00287
291 **** MASK TABLE DESCRIPTION *** 05 00288
292 * 05 00289
293 ***** 05 00290
002526 A 295 ZERO EQU MT ZERO WORD 05 00292
002527 A 296 BS0 EQU MT+1 BIT MASK CONTENTS 000001 05 00293
002530 A 297 BS1 EQU MT+2 000002 05 00294
002531 A 298 BS2 EQU MT+3 000004 05 00295
002532 A 299 BS3 EQU MT+4 000010 05 00296
002533 A 300 BS4 EQU MT+5 000020 05 00297
002534 A 301 BS5 EQU MT+6 000040 05 00298
002535 A 302 BS6 EQU MT+7 000100 05 00299
002536 A 303 BS7 EQU MT+8 000200 05 00300
002537 A 304 BS8 EQU MT+9 000400 05 00301
002540 A 305 BS9 EQU MT+10 001000 05 00302
002541 A 306 BS10 EQU MT+11 002000 05 00303
002542 A 307 BS11 EQU MT+12 004000 05 00304
002543 A 308 BS12 EQU MT+13 010000 05 00305
002544 A 309 BS13 EQU MT+14 020000 05 00306
002545 A 310 BS14 EQU MT+15 040000 05 00307
002546 A 311 BS15 EQU MT+16 0100000 05 00308
002547 A 312 BR0 EQU MT+17 BIT MASK CONTENTS 0177776 05 00309
002550 A 313 BR1 EQU MT+18 0177775 05 00310
002551 A 314 BR2 EQU MT+19 0177773 05 00311
002552 A 315 BR3 EQU MT+20 0177767 05 00312
002553 A 316 BR4 EQU MT+21 0177757 05 00313
002554 A 317 BR5 EQU MT+22 0177737 05 00314
002555 A 318 BR6 EQU MT+23 0177677 05 00315
002556 A 319 BR7 EQU MT+24 0177577 05 00316
002557 A 320 BR8 EQU MT+25 0177377 05 00317
002560 A 321 BR9 EQU MT+26 0176777 05 00318
002561 A 322 BR10 EQU MT+27 0175777 05 00319
002562 A 323 BR11 EQU MT+28 0173777 05 00320
002563 A 324 BR12 EQU MT+29 0167777 05 00321
002564 A 325 BR13 EQU MT+30 0157777 05 00322
002565 A 326 BR14 EQU MT+31 0137777 05 00323
002566 A 327 BR15 EQU MT+32 0077777 05 00324
002567 A 328 NEG EQU MT+33 SET ALL BITS 05 00325
002570 A 329 LHW EQU MT+34 LEFT HALF WORD MASK 0177400 05 00326
002571 A 330 RHW EQU MT+35 RIGHT HALF WORD MASK 0377 05 00327
002572 A 331 ONE EQU MT+1 CONTAINS NUMBER 1 05 00328
002573 A 332 TWO EQU MT+2 CONTAINS NUMBER 2 05 00329
002574 A 333 THREE EQU MT+3 CONTAINS NUMBER 3 05 00330
002575 A 334 FOUR EQU MT+4 CONTAINS NUMBER 4 05 00331
002576 A 335 FIVE EQU MT+5 CONTAINS NUMBER 5 05 00332
002577 A 336 SIX EQU MT+6 CONTAINS NUMBER 6 05 00333
002578 A 337 SEVEN EQU MT+7 CONTAINS NUMBER 7 05 00334
002579 A 338 EIGHT EQU MT+8 CONTAINS NUMBER 8 05 00335
002580 A 339 NINE EQU MT+9 CONTAINS NUMBER 9 05 00336
002581 A 340 TEN EQU MT+10 CONTAINS NUMBER 10 05 00337
002582 A 341 BM1 EQU MT+1 BIT MASK WORD 00001 05 00338
002583 A 342 BM2 EQU MT+2 BIT MASK WORD 00003 05 00339
002584 A 343 BM3 EQU MT+3 BIT MASK WORD 00007 05 00340
002585 A 344 BM4 EQU MT+4 BIT MASK WORD 00017 05 00341
002586 A 345 BM5 EQU MT+5 BIT MASK WORD 00037 05 00342
002587 A 346 BM6 EQU MT+6 BIT MASK WORD 00077 05 00343
002588 A 347 BM7 EQU MT+7 BIT MASK WORD 00177 05 00344
002589 A 348 BM8 EQU MT+8 BIT MASK WORD 00377 05 00345
002590 A 349 BM9 EQU MT+9 BIT MASK WORD 00777 05 00346
002591 A 350 BM10 EQU MT+10 BIT MASK WORD 01777 05 00347
002592 A 351 EJEC 05 00348
002593 A 352 ***** 05 00349
002594 A 353 * 05 00350
002595 A 354 **** BIT TEST BIT DESIGNATION *** 05 00351
002596 A 355 * 05 00352
002597 A 356 ***** 05 00353
000040 A 358 RA0 EQU 040 BT JUMPS WHEN A REGISTER IS 0 05 00355
000000 A 359 RA1 EQU 000 BT JUMPS WHEN A REGISTER IS 1 05 00356
000060 A 360 RB0 EQU 000 BT JUMPS WHEN B REGISTER IS 0 05 00357
000020 A 361 RB1 EQU 020 BT JUMPS WHEN B REGISTER IS 1 05 00358
002598 A 363 ***** 05 00360
002599 A 364 * 05 00361
002600 A 365 ** THE BIT CHECKED 05 00362
002601 A 366 * 05 00363
002602 A 367 ***** 05 00364
000000 A 369 B0 EQU 0 05 00366
000001 A 370 B1 EQU 1 05 00367
000002 A 371 B2 EQU 2 05 00368
000003 A 372 B3 EQU 3 05 00369
000004 A 373 B4 EQU 4 05 00370
000005 A 374 B5 EQU 5 05 00371
000006 A 375 B6 EQU 6 05 00372
000007 A 376 B7 EQU 7 05 00373

```



```

000010 A 377 B8 EQU 8 05 00374
000011 A 378 B9 EQU 9 05 00375
000012 A 379 B10 EQU 10 05 00376
000013 A 380 B11 EQU 11 05 00377
000014 A 381 B12 EQU 12 05 00378
000015 A 382 B13 EQU 13 05 00379
000016 A 383 B14 EQU 14 05 00380
000017 A 384 B15 EQU 15 05 00381
003000 385 EJEC 05 00382
386 DRG 03000 05 00383
387 * 05 00384
388 * SG4VNI 05 00385
389 * 05 00386
390 * PURPOSE: TO INITIALIZE CERTAIN STACKS AND PARAMETERS 05 00387
391 * FOR FUTURE PROCESSING. 05 00388
392 * 05 00389
393 * CALLING SEQUENCE: JMP SG4VNI 05 00390
394 * 05 00391
395 * RETURN PARAMETERS: NONE 05 00392
396 * 05 00393
397 * 05 00394
003000 398 SGEN2 BSS 0 05 00395
003000 399 SG4VNI BSS 0 * * ENTRY POINT * * 05 00396
003000 005002 A 400 TZB CLEAR COMMON DATA AREA FROM 05 00397
003001 006030 A 401 LDXI ISTART "ISTART" TO "IEND" 05 00398
003002 002653 A 402 VNI1 STB 0,X 05 00399
003003 065000 A 403 INCR 045 05 00400
003004 005145 A 404 SURJ IEND 05 00401
003005 006140 A 405 JAN VNI1 05 00402
003006 002704 A 406 STB CBS+1 INDICATE VIRTUAL MEMORY NOT USED YET 05 00403
003007 001004 A 407 DECR 01 05 00404
003010 003003 A 408 STA CBS 05 00405
003011 067000 I 409 * 05 00406
003012 005301 A 410 LDA FOUR 05 00407
003013 057000 I 411 STA SGCLUN INITIALIZE INPUT LOGICAL UNIT TO "LIB" 05 00408
412 * 05 00409
003016 030000 L 413 VNI2 LDX =SGSCB6 PURGE LOADER TABLE STACK 05 00410
003017 020000 L 414 LDB =ITEM 05 00411
003020 002000 A 415 CALL SGGET 05 00412
003021 014616 A 416 JAP VNI2 05 00413
003022 001002 A 417 * 05 00414
003023 003016 A 418 VNI3 LDX =SGSCB7 CONVERT DEF NAMES D.105 00415
003024 030000 L 419 LDB =TBUF1 D.105 00416
003025 020000 L 420 CALL SGGET 05 00417
003026 002000 A 421 JAN VNI4 EXIT WHEN STACK EMPTY D.105 00418
003027 014616 A 422 JSR SG4PKK,X CONVERT CHARS TO LOADER CODE D.105 00419
003028 000006 A 423 DATA 6,TBUF1 D.105 00420
003029 002502 A 424 LDB SGSCB6 D.105 00421
003030 010522 A 425 STA VNI1 SAVE STACK POINTER D.105 00422
003031 053116 A 426 LDX =SGSCB6 D.105 00423
003032 030000 L 427 CALL SG4ENT ENTER IN LOADER TABLE D.105 00424
003033 002000 A 428 DATA TBUF1 D.105 00425
003034 013544 A 429 LDA SGSCB6 D.105 00426
003035 002502 A 430 SUB VNI1 D.105 00427
003036 010522 A 431 JANZ VNI3 D.105 00428
003037 143116 A 432 JMP ADR2 ERROR IF MULTIPLE ENTRY D.105 00429
003038 001016 A 433 * 05 00430
003039 003024 A 434 VNI4 LDX =SGSCB8 PURGE TASK ENTRY STACK 05 00431
003040 001000 A 435 LDB =ITEM 05 00432
003041 004165 A 436 CALL SGGET 05 00433
003042 003000 L 437 JAP VNI4 05 00434
003043 002000 A 438 CALL SGEQDL SET DELETES IF TC ENTRY D.105 00435
003044 003271 A 439 DATA VNI1 D.105 00436
003045 003250 A 440 DATA 2 D.105 00437
003046 000002 A 441 DATA VNICP D.105 00438
003047 003126 A 442 JANZ VNIL11 DONT SET MUX IF NOT LOCATED D.105 00439
003048 001016 A 443 VNIL1 CALL SGEQDL SET DELETES IF MX ENTRY D.105 00440
003049 003076 A 444 DATA VNI2 D.105 00441
003050 003252 A 445 DATA 2 D.105 00442
003051 000002 A 446 DATA VNI2IP D.105 00443
003052 003120 A 447 JAZ VNIL2 DONT SET MUX FLAG IF NOT LOCATED D.105 00444
003053 001010 A 448 VNIL11 INCR 1 D.105 00445
003054 003100 A 449 STA MXFLG SET MUX FLAG D.105 00446
003055 005101 A 450 VNIL2 CALL SGEQDL SET DELETES IF SP ENTRY D.105 00447
003056 002000 A
003057 003271 A
003058 003252 A
003059 000002 A
003060 003120 A
003061 001010 A
003062 003100 A
003063 005101 A
003064 002000 A
003065 003271 A
003066 003252 A
003067 000002 A
003068 003120 A
003069 001010 A
003070 003100 A
003071 005101 A
003072 002000 A
003073 003271 A
003074 003252 A
003075 000002 A
003076 003120 A
003077 001010 A
003078 003100 A
003079 005101 A
003080 002000 A
003081 003271 A
003082 003252 A
003083 000002 A
003084 003120 A
003085 001010 A
003086 003100 A
003087 005101 A
003088 002000 A
003089 003271 A
003090 003252 A
003091 000002 A
003092 003120 A
003093 001010 A
003094 003100 A
003095 005101 A
003096 002000 A
003097 003271 A
003098 003252 A
003099 000002 A
003100 003120 A
003101 001010 A
003102 003100 A
003103 005101 A
003104 002000 A
003105 003271 A
003106 003252 A
003107 000002 A
003108 003120 A
003109 001010 A
003110 003100 A
003111 005101 A
003112 002000 A
003113 003271 A
003114 003252 A
003115 000002 A
003116 003120 A
003117 001010 A
003118 003100 A
003119 005101 A
003120 002000 A
003121 003271 A
003122 003252 A
003123 000002 A
003124 003120 A
003125 001010 A
003126 003100 A
003127 005101 A
003128 002000 A
003129 003271 A
003130 003252 A
003131 000002 A
003132 003120 A
003133 001010 A
003134 003100 A
003135 005101 A
003136 002000 A
003137 003271 A
003138 003252 A
003139 000002 A
003140 003120 A
003141 001010 A
003142 003100 A
003143 005101 A
003144 002000 A
003145 003271 A
003146 003252 A
003147 000002 A
003148 003120 A
003149 001010 A
003150 003100 A
003151 005101 A
003152 002000 A
003153 003271 A
003154 003252 A
003155 000002 A
003156 003120 A
003157 001010 A
003158 003100 A
003159 005101 A
003160 002000 A
003161 003271 A
003162 003252 A
003163 000002 A
003164 003120 A
003165 001010 A
003166 003100 A
003167 005101 A
003168 002000 A
003169 003271 A
003170 003252 A
003171 000002 A
003172 003120 A
003173 001010 A
003174 003100 A
003175 005101 A
003176 002000 A
003177 003271 A
003178 003252 A
003179 000002 A
003180 003120 A
003181 001010 A
003182 003100 A
003183 005101 A
003184 002000 A
003185 003271 A
003186 003252 A
003187 000002 A
003188 003120 A
003189 001010 A
003190 003100 A
003191 005101 A
003192 002000 A
003193 003271 A
003194 003252 A
003195 000002 A
003196 003120 A
003197 001010 A
003198 003100 A
003199 005101 A
003200 002000 A
003201 003271 A
003202 003252 A
003203 000002 A
003204 003120 A
003205 001010 A
003206 003100 A
003207 005101 A
003208 002000 A
003209 003271 A
003210 003252 A
003211 000002 A
003212 003120 A
003213 001010 A
003214 003100 A
003215 005101 A
003216 002000 A
003217 003271 A
003218 003252 A
003219 000002 A
003220 003120 A
003221 001010 A
003222 003100 A
003223 005101 A
003224 002000 A
003225 003271 A
003226 003252 A
003227 000002 A
003228 003120 A
003229 001010 A
003230 003100 A
003231 005101 A
003232 002000 A
003233 003271 A
003234 003252 A
003235 000002 A
003236 003120 A
003237 001010 A
003238 003100 A
003239 005101 A
003240 002000 A
003241 003271 A
003242 003252 A
003243 000002 A
003244 003120 A
003245 001010 A
003246 003100 A
003247 005101 A
003248 002000 A
003249 003271 A
003250 003252 A
003251 000002 A
003252 003120 A
003253 001010 A
003254 003100 A
003255 005101 A
003256 002000 A
003257 003271 A
003258 003252 A
003259 000002 A
003260 003120 A
003261 001010 A
003262 003100 A
003263 005101 A
003264 002000 A
003265 003271 A
003266 003252 A
003267 000002 A
003268 003120 A
003269 001010 A
003270 003100 A
003271 005101 A
003272 002000 A
003273 003271 A
003274 003252 A
003275 000002 A
003276 003120 A
003277 001010 A
003278 003100 A
003279 005101 A
003280 002000 A
003281 003271 A
003282 003252 A
003283 000002 A
003284 003120 A
003285 001010 A
003286 003100 A
003287 005101 A
003288 002000 A
003289 003271 A
003290 003252 A
003291 000002 A
003292 003120 A
003293 001010 A
003294 003100 A
003295 005101 A
003296 002000 A
003297 003271 A
003298 003252 A
003299 000002 A
003300 003120 A
003301 001010 A
003302 003100 A
003303 005101 A
003304 002000 A
003305 003271 A
003306 003252 A
003307 000002 A
003308 003120 A
003309 001010 A
003310 003100 A
003311 005101 A
003312 002000 A
003313 003271 A
003314 003252 A
003315 000002 A
003316 003120 A
003317 001010 A
003318 003100 A
003319 005101 A
003320 002000 A
003321 003271 A
003322 003252 A
003323 000002 A
003324 003120 A
003325 001010 A
003326 003100 A
003327 005101 A
003328 002000 A
003329 003271 A
003330 003252 A
003331 000002 A
003332 003120 A
003333 001010 A
003334 003100 A
003335 005101 A
003336 002000 A
003337 003271 A
003338 003252 A
003339 000002 A
003340 003120 A
003341 001010 A
003342 003100 A
003343 005101 A
003344 002000 A
003345 003271 A
003346 003252 A
003347 000002 A
003348 003120 A
003349 001010 A
003350 003100 A
003351 005101 A
003352 002000 A
003353 003271 A
003354 003252 A
003355 000002 A
003356 003120 A
003357 001010 A
003358 003100 A
003359 005101 A
003360 002000 A
003361 003271 A
003362 003252 A
003363 000002 A
003364 003120 A
003365 001010 A
003366 003100 A
003367 005101 A
003368 002000 A
003369 003271 A
003370 003252 A
003371 000002 A
003372 003120 A
003373 001010 A
003374 003100 A
003375 005101 A
003376 002000 A
003377 003271 A
003378 003252 A
003379 000002 A
003380 003120 A
003381 001010 A
003382 003100 A
003383 005101 A
003384 002000 A
003385 003271 A
003386 003252 A
003387 000002 A
003388 003120 A
003389 001010 A
003390 003100 A
003391 005101 A
003392 002000 A
003393 003271 A
003394 003252 A
003395 000002 A
003396 003120 A
003397 001010 A
003398 003100 A
003399 005101 A
003400 002000 A
003401 003271 A
003402 003252 A
003403 000002 A
003404 003120 A
003405 001010 A
003406 003100 A
003407 005101 A
003408 002000 A
003409 003271 A
003410 003252 A
003411 000002 A
003412 003120 A
003413 001010 A
003414 003100 A
003415 005101 A
003416 002000 A
003417 003271 A
003418 003252 A
003419 000002 A
003420 003120 A
003421 001010 A
003422 003100 A
003423 005101 A
003424 002000 A
003425 003271 A
003426 003252 A
003427 000002 A
003428 003120 A
003429 001010 A
003430 003100 A
003431 005101 A
003432 002000 A
003433 003271 A
003434 003252 A
003435 000002 A
003436 003120 A
003437 001010 A
003438 003100 A
003439 005101 A
003440 002000 A
003441 003271 A
003442 003252 A
003443 000002 A
003444 003120 A
003445 001010 A
003446 003100 A
003447 005101 A
003448 002000 A
003449 003271 A
003450 003252 A
003451 000002 A
003452 003120 A
003453 001010 A
003454 003100 A
003455 005101 A
003456 002000 A
003457 003271 A
003458 003252 A
003459 000002 A
003460 003120 A
003461 001010 A
003462 003100 A
003463 005101 A
003464 002000 A
003465 003271 A
003466 003252 A
003467 000002 A
003468 003120 A
003469 001010 A
003470 003100 A
003471 005101 A
003472 002000 A
003473 003271 A
003474 003252 A
003475 000002 A
003476 003120 A
003477 001010 A
003478 003100 A
003479 005101 A
003480 002000 A
003481 003271 A
003482 003252 A
003483 000002 A
003484 003120 A
003485 001010 A
003486 003100 A
003487 005101 A
003488 002000 A
003489 003271 A
003490 003252 A
003491 000002 A
003492 003120 A
003493 001010 A
003494 003100 A
003495 005101 A
003496 002000 A
003497 003271 A
003498 003252 A
003499 000002 A
003500 003120 A
003501 001010 A
003502 003100 A
003503 005101 A
003504 002000 A
003505 003271 A
003506 003252 A
003507 000002 A
003508 003120 A
003509 001010 A
003510 003100 A
003511 005101 A
003512 002000 A
003513 003271 A
003514 003252 A
003515 000002 A
003516 003120 A
003517 001010 A
003518 003100 A
003519 005101 A
003520 002000 A
003521 003271 A
003522 003252 A
003523 000002 A
003524 003120 A
003525 001010 A
003526 003100 A
003527 005101 A
003528 002000 A
003529 003271 A
003530 003252 A
003531 000002 A
003532 003120 A
003533 001010 A
003534 003100 A
003535 005101 A
003536 002000 A
003537 003271 A
003538 003252 A
003539 000002 A
003540 003120 A
003541 001010 A
003542 003100 A
003543 005101 A
003544 002000 A
003545 003271 A
003546 003252 A
003547 000002 A
003548 003120 A
003549 001010 A
003550 003100 A
003551 005101 A
003552 002000 A
003553 003271 A
003554 003252 A
003555 000002 A
003556 003120 A
003557 001010 A
003558 003100 A
003559 005101 A
003560 002000 A
003561 003271 A
003562 003252 A
003563 000002 A
003564 003120 A
003565 001010 A
003566 003100 A
003567 005101 A
003568 002000 A
003569 003271 A
003570 003252 A
003571 000002 A
003572 003120 A
003573 001010 A
003574 003100 A
003575 005101 A
003576 002000 A
003577 003271 A
003578 003252 A
003579 000002 A
003580 003120 A
003581 001010 A
003582 003100 A
003583 005101 A
003584 002000 A
003585 003271 A
003586 003252 A
003587 000002 A
003588 003120 A
003589 001010 A
003590 003100 A
003591 005101 A
003592 002000 A
003593 003271 A
003594 003252 A
003595 000002 A
003596 003120 A
003597 001010 A
003598 003100 A
003599 005101 A
003600 002000 A
003601 003271 A
003602 003252 A
003603 000002 A
003604 003120 A
003605 001010 A
003606 003100 A
003607 005101 A
003608 002000 A
003609 003271 A
003610 003252 A
003611 000002 A
003612 003120 A
003613 001010 A
003614 003100 A
003615 005101 A
003616 002000 A
003617 003271 A
003618 003252 A
003619 000002 A
003620 003120 A
003621 001010 A
003622 003100 A
003623 005101 A
003624 002000 A
003625 003271 A
003626 003252 A
003627 000002 A
003628 003120 A
003629 001010 A
003630 003100 A
003631 005101 A
003632 002000 A
003633 003271 A
003634 003252 A
003635 000002 A
003636 003120 A
003637 001010 A
003638 003100 A
003639 005101 A
003640 002000 A
003641 003271 A
003642 003252 A
003643 000002 A
003644 003120 A
003645 001010 A
003646 003100 A
003647 005101 A
003648 002000 A
003649 003271 A
003650 003252 A
003651 000002 A
003652 003120 A
003653 001010 A
003654 003100 A
003655 005101 A
003656 002000 A
003657 003271 A
003658 003252 A
003659 000002 A
003660 003120 A
003661 001010 A
003662 003100 A
003663 005101 A
003664 002000 A
003665 003271 A
003666 003252 A
003667 000002 A
003668 003120 A
003669 001010 A
003670 003100 A
003671 005101 A
003672 002000 A
003673 003271 A
003674 003252 A
003675 000002 A
003676 003120 A
003677 001010 A
003678 003100 A
003679 005101 A
003680 002000 A
003681 003271 A
003682 003252 A
003683 000002 A
003684 003120 A
003685 001010 A
003686 003100 A
003687 005101 A
003688 002000 A
003689 003271 A
003690 003252 A
003691 000002 A
003692 003120 A
003693 001010 A
003694 003100 A
003695 005101 A
003696 002000 A
003697 003271 A
003698 003252 A
003699 000002 A
003700 003120 A
003701 001010 A
003702 003100 A
003703 005101 A
003704 002000 A
003705 003271 A
003706 003252 A
003707 000002 A
003708 003120 A
003709 001010 A

```


003102	003254	A	451	DATA	VNIT3			D.105	00448
003103	000002	A	452	DATA	2			D.105	00449
003104	003134	A	453	DATA	VNITSP			D.105	00450
003105	002000	A	454	CALL	SGEQDL	SET DELETE IF NO STATUS DRIVER FOUND		D.105	00451
003106	003271	A							
003107	003256	A	455	DATA	VNIT4			D.105	00452
003110	000004	A	456	DATA	4			D.105	00453
003111	003140	A	457	DATA	VNITST			D.105	00454
003112	002000	A	458	VNIZ	CALL	SGPUR	PURGE TEMP STACK	D.105	00455
003113	014243	A							
003114	001000	A	459	JMP	SG4ICR	* * EXIT ROUTINE * *		05	00456
003115	003443	A							
003116	000000	A	460	VNIT	DATA	0		D.105	00457
003117	000000	A	461	MXFLG	DATA	0	MUX FLAG	D.105	00458
003120	003142	A	462	VNITIP	DATA	VNIN1		D.105	00459
003121	003147	A	463		DATA	VNIN2		D.105	00460
003122	003154	A	464		DATA	VNIN3		D.105	00461
003123	003161	A	465		DATA	VNIN4		D.105	00462
003124	003166	A	466		DATA	VNIN5		D.105	00463
003125	000000	A	467		DATA	0		D.105	00464
003126	003173	A	468	VNICP	DATA	VNIN6		D.105	00465
003127	003200	A	469		DATA	VNIN7		D.105	00466
003130	003205	A	470		DATA	VNIN8		D.105	00467
003131	003212	A	471		DATA	VNIN9		D.105	00468
003132	003217	A	472		DATA	VNIN10		D.105	00469
003133	000000	A	473	VNITP	DATA	?		D.105	00470
003134	003224	A	474	VNITSP	DATA	VNIN11		D.105	00471
003135	003231	A	475		DATA	VNIN12		D.105	00472
003136	003236	A	476		DATA	VNIN13		D.105	00473
003137	000000	A	477		DATA	?		D.105	00474
003140	003243	A	478	VNITST	DATA	VNIN14		D.105	00475
003141	000000	A	479		DATA	0		D.105	00476
003142	152311	A	480	VNIN1	DATA	'TIDIWP	' , 4	D.105	00477
003143	142311	A							
003144	153720	A							
003145	120240	A							
003146	000004	A							
003147	152311	A	481	VNIN2	DATA	'TIDDOCL	' , 4	D.105	00478
003150	142317	A							
003151	141714	A							
003152	120240	A							
003153	000004	A							
003154	152311	A	482	VNIN3	DATA	'TIDCEX	' , 4	D.105	00479
003155	142303	A							
003156	142730	A							
003157	120240	A							
003160	000004	A							
003161	153324	A	483	VNIN4	DATA	'VTPDP	' , 4	D.105	00480
003162	150317	A							
003163	150240	A							
003164	120240	A							
003165	000004	A							
003166	153324	A	484	VNIN5	DATA	'VTPUSH	' , 4	D.105	00481
003167	150325	A							
003170	151710	A							
003171	120240	A							
003172	000004	A							
003173	152311	A	485	VNIN6	DATA	'TIDTEX	' , 4	D.105	00482
003174	142324	A							
003175	142730	A							
003176	120240	A							
003177	000004	A							
003200	152311	A	486	VNIN7	DATA	'TIDDOCT	' , 4	D.105	00483
003201	142317	A							
003202	141724	A							
003203	120240	A							
003204	000004	A							
003205	152303	A	487	VNIN8	DATA	'TIDCEX	' , 4	D.105	00484
003206	122303	A							
003207	142730	A							
003210	120240	A							
003211	000004	A							
003212	153324	A	488	VNIN9	DATA	'VTSTCO	' , 4	D.105	00485
003213	122324	A							
003214	141721	A							
003215	120240	A							
003216	000004	A							
003217	152331	A	489	VNIN10	DATA	'TYREAD	' , 4	D.105	00486
003220	151305	A							
003221	140704	A							
003222	120240	A							
003223	000004	A							
003224	152311	A	490	VNIN11	DATA	'TIDLST	' , 4	D.105	00487
003225	142314	A							
003226	151724	A							
003227	120240	A							
003230	000004	A							
003231	153244	A	491	VNIN12	DATA	'VSSPLC	' , 4	D.105	00488
003232	151720	A							
003233	146303	A							
003234	120240	A							
003235	000004	A							
003236	153244	A	492	VNIN13	DATA	'VSSPRM	' , 4	D.105	00489

003237	151720	A							
003240	151315	A							
003241	120240	A							
003242	000004	A							
003243	153244	A	493	VNIN14	DATA	'V\$CLPS	'4		D.105 00490
003244	141714	A							
003245	150323	A							
003246	120240	A							
003247	000004	A							
003250	152303	A	494	VNIT1	DATA	'TC'			D.105 00491
003251	000000	A	495		DATA	0			D.105 00492
003252	146730	A	496	VNIT2	DATA	'MX'			D.105 00493
003253	000000	A	497		DATA	0			D.105 00494
003254	151720	A	498	VNIT3	DATA	'SP'			D.105 00495
003255	000000	A	499		DATA	0			D.105 00496
003256	146320	A	500	VNIT4	DATA	'LP D'			D.105 00497
003257	120304	A							
003260	146320	A	501	VNIT5	DATA	'LP E'			D.105 00498
003261	120305	A							
003262	146320	A	502	VNIT6	DATA	'LP G'			D.105 00499
003263	120307	A							
003264	146320	A	503	VNIT7	DATA	'LP H'			D.105 00500
003265	120310	A							
003266	146320	A	504	VNIT8	DATA	'LP J'			D.105 00501
003267	120312	A							
003270	000000	A	505		DATA	0			D.105 00502
			506		EJEC				D.103 00503
			507	*					D.105 00504
			508	*	SGEQDL				D.105 00505
			509	*					D.105 00506
			510	*					D.105 00507
			511	*					D.105 00508
			512	*					D.105 00509
			513	*					D.105 00510
			514	*					D.105 00511
			515	*					D.105 00512
			516	*	CALL	SGEQDL			D.105 00513
			517	*	DATA	ADDR OF REQUESTED NAME			D.105 00514
			518	*	DATA	# CHARACTERS TO MATCH			D.105 00515
			519	*	DATA	ADDR OF DELETE ENTRIES IF NO MATCH			D.105 00516
			520	*		ENCOUNTERED.			D.105 00517
			521	*					D.105 00518
			522	*					D.105 00519
			523	*					D.105 00520
			524	*					D.105 00521
			525	*					D.105 00522
			526	*					D.105 00523
			527	*					D.105 00524
			528	*					D.105 00525
			529	*					D.105 00526
			530	*	SGEQDL	BSS	1		D.105 00527
			531	*					D.105 00528
			532	*					D.105 00529
			533	*	LDB	SGEQDL			D.105 00530
			534	*	LDX	0,B			D.105 00531
			535	*	STX	EQDL58			D.105 00532
			536	*	LDA	1,B			D.105 00533
			537	*	STA	EQDL50			D.105 00534
			538	*	LDA	2,B			D.105 00535
			539	*	STA	EQDL51			D.105 00536
			540	*	TBA	THREE			D.105 00537
			541	*	ADU	SGEQDL			D.105 00538
			542	*	STA				D.105 00539
			543	*					D.105 00540
			544	*					D.105 00541
			545	*	EQDL	EQU	*		D.105 00542
			546	*	LDA	EQDL50			D.105 00543
			547	*	STA	EQDL55			D.105 00544
			548	*	LDA	0,X			D.105 00545
			549	*	LSRA	8			D.105 00546
			550	*	CALL	EQDL25			D.105 00547
			551	*					D.105 00548
			552	*	LDA	0,X			D.105 00549
			553	*	ANA	EQDL53			D.105 00550
			554	*	CALL	EQDL25			D.105 00551
			555	*	IXR				D.105 00552
			556	*	JMP	EQDL00			D.105 00553
			557	*					D.105 00554
			558	*	EQDL03	LDA	SGSCB0		D.105 00555
			559	*	STA	EQDL54			D.105 00556
			560	*					D.105 00557
			561	*	EQDL05	LDA	EQDL50		D.105 00558
			562	*	STA	EQDL55			D.105 00559
			563	*	LDA	0,X			D.105 00560
			564	*	ANA	EQDL53			D.105 00561
			565	*	CALL	EQDL15			D.105 00562
			566	*	IXR				D.105 00563
			567	*	JMP	EQDL10			D.105 00564

PURPOSE: TO PLACE ENTRIES ON THE DELETE STACK WHEN REQUESTED NAMES ARE NOT LOCATED IN EQUIPMENT STACK.

CALLING SEQUENCE:

CALL SGEQDL
 DATA ADDR OF REQUESTED NAME
 DATA # CHARACTERS TO MATCH
 DATA ADDR OF DELETE ENTRIES IF NO MATCH ENCOUNTERED.

RETURN PARAMETERS:

A = 0 IF NO MATCH AND ENTRIES ARE MADE
 NON ZERO IF MATCH

NOTE:

ASSEMBLED FOR MAX COMPARE COUNT OF 4.
 BLANK IN REQUEST NAME SPECIFIES IGNORE THAT CHARACTER POSITION.


```

003337 003325 A
568 *
569 *
570 *
571 *
572 *
573 EQDL15 BSS 1
003340 EQDL15 BSS 1
003341 053440 A 574 STA EQDL56 SAVE CHARACTER
003342 013437 A 575 LDA EQDL55 FETCH TEMPORARY COUNT
003343 005313 A 576 DECR 013
003344 001004 A 577 JAN (SGEQDL)* ITS A MATCH; GO EXIT
003345 103271 A
003346 053437 A 578 STA EQDL55 SET NEW COUNT
003347 006016 A 579 LDAE EQDL52,B FETCH TARGET BYTE
003350 003431 A
003351 143441 A 580 SUB EQDL57 IS IT A BLANK?
003352 001010 A 581 JAZ (EQDL15)* YES; IGNORE IT
003353 103340 A
003354 123441 A 582 ADD EQDL57
003355 143440 A 583 SUB EQDL56 IS IT EQUIP CHARAC?
003356 001010 A 584 JAZ (EQDL15)* YES; EXIT- MATCH SO FAR
003357 103340 A
585 *
586 *
003360 013436 A 587 LDA EQDL54
003361 120502 A 588 ADD SGSCB0+2
003362 005014 A 589 TAX
003363 053436 A 590 STA EQDL54
003364 140501 A 591 SUB SGSCB0+1 AT TABLE END?
003365 001016 A 592 JANZ EQDL05 NO; GO TEST NEXT ENTRY
003366 003323 A
003367 013427 A 593 LDA EQDL50 GET TO NEXT NAME
003370 005111 A 594 IAR
003371 004341 A 595 LSRA 1 FORCE BYTE COUNT TO WORD COUNT
003372 123442 A 596 ADD EQDL58
003373 053442 A 597 STA EQDL58 SET NEXT POSSIBLE NAME ADDR
003374 005014 A 598 TAX
003375 015000 A 599 LDA 0,X TEST FOR TERMINATOR
003376 001016 A 600 JANZ EQDL NO--GO TRY NEXT NAME
003377 003304 A
601 *
602 *
003400 023430 A 603 EQDL20 LDB EQDL51
003401 043430 A 604 INR EQDL51
003402 026000 A 605 LDB 0,B
003403 005001 A 606 TZA
003404 001020 A 607 JBZ (SGEQDL)* SET POSSIBLE COMPLETE FLAG
003405 103271 A
003406 030000 L 608 LDX =SGSCB2
003407 002000 A 609 CALL SGPUT PUT NAME IN DELETE STACK
003410 014331 A
003411 001004 A 610 JAN TDF3 ERROR ON STACK OVERFLOW
003412 005110 A
003413 001000 A 611 JMP EQDL20 GO MOVE NEXT ENTRY
003414 003400 A
612 *
613 *
614 *
003415 EQDL25 BSS 1
003416 023437 A 616 LDB EQDL55
003417 001020 A 617 JAZ EQDL03 FETCH COUNT
003420 003321 A
003421 005322 A 618 DBR
003422 063437 A 619 STB EQDL55
003423 006056 A 620 STAE EQDL52,B STORE CHARACTER
003424 003431 A
003425 001000 A 621 JMP (EQDL25)* AND EXIT
003426 103415 A
622 *
623 EQDL50 BSS 1 STORAGE AREA
624 EQDL51 BSS 1 CHAR COUNT
625 EQDL52 BSS 4 DELETE TABLE ADDR
626 EQDL53 DATA 0377 4 TARGET BYTES
627 EQDL54 BSS 1 BYTE MASK
628 EQDL55 BSS 1 EQUIP TABLE FWA
629 EQDL56 BSS 1 TEMP CHAR COUNT
630 EQDL57 DATA 0240 EQUIP CHAR STORAGE
631 EQDL58 DATA 0 BLANK TEST
632 EQUJ NAME SEARCH FWA
633 *
634 *
635 *
636 *
637 *
638 *
639 *
640 *
641 *
642 *
643 *
644 *
645 *
646 *
PURPOSE: TO INPUT THE FIRST RECORD OF EACH COMPONENT,
CHECK FOR ADD/DELETE/REPLACE, AND ROUTE
TO APPLICABLE PROCESSOR. (NAME IN TBUF1)
CALLING SEQUENCE: JMP SG4ICR INPUTS AND ROUTES
JMP SG4IND ROUTES ONLY (ASSUMES
RECORD IN SGIBUF)
RETURN PARAMETERS: NONE
    
```


003443		647 *					05	00644
003443	012671	A	648	SG4ICR	BSS	0	05	00645
003444	142531	A	649		LDA	SGCLUN	05	00646
003445	001016	A	650		SUB	FOUR	05	00647
003446	003633	A	651		JANZ	ICR1	05	00648
						IF CURRENT INPUT UNIT IS "ALT"		
			652 *				05	00649
003447	012655	A	653		LDA	MFLAG	05	00650
003450	001004	A	654		JAN	ICR2	05	00651
003451	003606	A				IF "ADD NEXT FLAG" IS SET		
003452	002000	A	655		CALL	SGCLR	05	00652
003453	014602	A						
			656 *				05	00653
003454	002000	A	657		CALL	IDCS	05	00654
003455	000000	E				INPUT A RECORD FROM "LIB"		
003456	000404	A	658		DATA	RALF+LIB	05	00655
003457	000074	A	659		DATA	60,SGIBUF	05	00656
003460	000664	A				READ A RECORD		
003461	002000	A	660		CALL	IDCS	05	00657
003462	003455	E						
003463	000004	A	661		DATA	LIB	05	00658
003464	004065	A	662		DATA	ICR4,ICR4,ICR4,*-6	05	00659
003465	004065	A						
003466	004065	A						
003467	003461	A						
003470	015000	A	663	SG4IND	LDA	0,X	05	00660
003471	112546	A	664		ORA	BS15	05	00661
003472	057000	I	665		STA	RS	05	00662
						SET "RECORD READ" FLAG FOR LMG STORE NUMBER OF WORDS READ		
			666 *				05	00663
003473	010664	A	667		LDA	SGIBUF	05	00664
003474	150000	L	668		ANA	=0173400	05	00665
003475	130000	L	669		ERA	=060400	05	00666
003476	001010	A	670		JAZ	ICR5	05	00667
003477	003575	A				IF FIRST RECORD OF AN OBJECT MODULE		
			671 *				05	00668
003500	006505	A	672		JSR	SGGFI,X	05	00669
003501	014420	A				GET DIRECTIVE MNEUMONIC		
003502	002502	A	673		DATA	TBUF1,3	05	00670
003503	000003	A						
003504	142531	A	674		SUB	FOUR	05	00671
003505	001002	A	675		JAP	ICR6	05	00672
003506	004063	A				ERROR IF MORE THAN THREE CHAR		
003507	005021	A	676		TBA		05	00673
003510	140000	L	677		SUB	=0215	05	00674
003511	053544	A	678		STA	ICR10	05	00675
003512	001010	A	679		JAZ	ICR7	05	00676
003513	003517	A				SAVE INDICATOR IF E-O-R		
003514	140000	L	680		SUB	=0254-0215	05	00677
003515	001016	A	681		JANZ	ICR6	05	00678
003516	004063	A				ERROR IF TERMINATOR NOT COMMA OR E-O-R		
003517	006030	A	682	ICR7	LDXI	CRTAB	05	00679
003520	004152	A				* * SEARCH "CRTAB" TABLE FOR MNEUMONIC *		
003521	015000	A	683		LDA	0,X	05	00680
003522	001010	A	684		JAZ	ICR6	05	00681
003523	004063	A				ERROR IF NO MATCH FOUND		
003524	132502	A	685		ERA	TBUF1	05	00682
003525	001016	A	686		JANZ	ICR18	05	00683
003526	003534	A				IF NO MATCH ON FIRST TWO CHAR		
003527	015001	A	687		LDA	1,X	05	00684
003530	132503	A	688		ERA	TBUF1+1	05	00685
003531	152570	A	689		ANA	LHW	05	00686
003532	001010	A	690		JAZ	ICR8	05	00687
003533	003541	A				IF MATCH FOUND.		
003534	005144	A	691	ICR18	IXR		05	00688
003535	005144	A	692		IXR		05	00689
003536	005144	A	693		IXR		05	00690
003537	001000	A	694		JMP	ICR7+2	05	00691
003540	003521	A				BUMP POINTER TO NEXT TABLE ITEM AND CONTINUE		
			695 *				05	00692
003541	015002	A	696	ICR8	LDA	2,X	05	00693
003542	053574	A	697		STA	ICR9	05	00694
003543	006010	A	698		LDAI	0	05	00695
003544	000000	A				SAVE ADDR. OF APPLICABLE PROCESSING ROUTIN		
003544			699	ICR10	BES	0	05	00696
003545	001010	A	700		JAZ*	ICR9	05	00697
003546	103574	A				GO TO ROUTINE IF NO NAME ON CONTROL REC.		
			701 *				05	00698
003547	010000	L	702		LDA	=*	05	00699
003550	052503	A	703		STA	TBUF1+1	05	00700
003551	052504	A	704		STA	TBUF1+2	05	00701
003552	052505	A	705		STA	TBUF1+3	05	00702
003553	006505	A	706		JSR	SGGNI,X	05	00703
003554	014424	A				GET NAME ON CONTROL RECORD		
003555	002502	A	707		DATA	TBUF1,8	05	00704
003556	000010	A						
003557	142575	A	708		SUB	SEVEN	05	00705
003560	001002	A	709		JAP	ICR6	05	00706
003561	004063	A				ERROR IF MORE THAN SIX CHAR		
003562	005021	A	710		TBA		05	00707
003563	140000	L	711		SUB	=0215	05	00708
003564	001010	A	712		JAZ	ICR11	05	00709
003565	003571	A						
003566	140000	L	713		SUB	=0254-0215	05	00710


```

003567 001016 A 714 JANZ ICR6 ERROR IF TERMINATOR NOT COMMA OR E-D-R 05 00711
003570 004063 A 715 ICR11 CALL SG4ADR SEARCH ADD/DELETE/REPLACE STACKS FOR MODS 05 00712
003571 002000 A 716 JMP 0 JUMP TO PROCESSING ROUTINE 05 00713
003572 004402 A 717 ICR9 RES 0 05 00714
003573 001000 A 718 * 05 00715
003574 000000 A 719 * * CHECK NAME OF OBJECT MODULE * * 05 00716
720 * 05 00717
721 ICR5 CALL SGMOV MOVE D.M. NAME TO "TBUF1" 05 00718
003575 002000 A 722 DATA 4 05 00719
003576 014325 A 723 DATA SGIBUF+3 05 00720
003577 000004 A 724 DATA TBUF1 05 00721
003600 000667 A 725 CALL SG4ADR SEARCH ADD/DELETE/REPLACE STACKS FOR MODS 05 00722
003601 002502 A 726 JMP SG4LMP JUMP TO PROCESSING ROUTINE 05 00723
003602 002000 A 727 * 05 00724
003603 004402 A 728 * * HANDLE INPUT OF NEW COMPONENT (ADD OR REPLACE) * * 05 00725
003604 001000 A 729 * 05 00726
003605 012153 A 730 ICR2 ANA BR15 TURN OFF "ADD NEXT FLAG" 05 00727
003606 152566 A 731 ORA TWO TURN ON "CURRENTLY ADDING FLAG" 05 00728
003607 112530 A 732 STA MFLAG AND SAVE MODE 05 00729
003610 052655 A 733 BT RA1+B2,ICR3 IF "CURRENTLY REPLACING" 05 00730
003611 006402 A 734 CALL SGMOV MOVE NAME TO "ADD AFTER" MESSAGE 05 00731
003612 003623 A 735 DATA 4 05 00732
003613 002000 A 736 DATA TBUF1 05 00733
003614 014325 A 737 DATA ICR12+6 05 00734
003615 000004 A 738 LDB =ICR12 (BR)=POINTER TO "ADD AFTER" MESSAGE 05 00735
003616 002502 A 739 JMP ICR17 05 00736
003617 004042 A 740 ICR3 CALL SGMOV MOVE NAME TO "REPLACE" MESSAGE 05 00737
003620 020000 L 741 DATA 4 05 00738
003621 001000 A 742 DATA TBUF1 05 00739
003622 003631 A 743 DATA ICR13+5 05 00740
003623 002000 A 744 LDB =ICR13 (BR)= POINTER TO "REPLACE" MESSAGE 05 00741
003624 014325 A 745 ICR17 CALL SGWSD PRINT MESSAGE 05 00742
003625 000004 A 746 ICR1 LDB =ICR14 05 00743
003626 002502 A 747 CALL SGWSD PRINT "READY" 05 00744
003627 004053 A 748 ICR16 CALL SGCLR 05 00745
003630 020000 L 749 JMPM IDCS INPUT REPLY ON "DC" DEVICE 05 00746
003631 002000 A 750 DATA RALF+DC 05 00747
003632 015054 A 751 DATA 10,SGIBUF E.2*****
003633 020000 L 752 JMPM IDCS 05 00749
003634 002000 A 753 DATA DC 05 00750
003635 015054 A 754 DATA ICR16,ICR16,ICR16,*-6 05 00751
003636 002000 A 755 LDA SGIBUF 05 00752
003637 014602 A 756 SUB =*AL* 05 00753
003640 002000 A 757 JANZ ICR15 IF REPLY SAID "ALT" 05 00754
003641 003462 E 758 SUB =*LI*-*AL* 05 00755
003642 000403 A 759 JANZ ICR1 REJECT IF REPLY NOT "LIB" OR "ALT" 05 00756
003643 000012 A 760 LDA FOUR 05 00757
003644 000664 A 761 STA SGCLUN SET LUN TO "LIB" 05 00758
003645 002000 A 762 LZA 05 00759
003646 003641 E 763 STA MFLAG SET MODE FLAG TO NORMAL PROCESSING 05 00760
003647 000003 A 764 JMP SG4ICR GO GET NEXT COMPONENT 05 00761
003648 003636 A 765 * * HANDLE INPUT FROM "ALT" * * 05 00762
003649 003636 A 766 * 05 00763
003650 003636 A 767 ICR15 LDA SGIBUF+1 E.2*****
003651 003636 A 768 SUB =*T* E.2*****
003652 003636 A 769 JANZ ICR19 IF NO NAME SPECIFIED E.2*****
003653 003636 A 770 CALL SGMOV MOVE TARGET NAME TO STORAGE E.2*****
003654 010664 A 771 DATA 4,SGIBUF+2,ICR20 E.2*****
003655 140000 L 772 JSIN ICR19 IF SSW1 NOT SET DO NOT REWIND ALT E.2*****
003656 001016 A 773 CALL IDCS REWIND ALT UNIT E.2*****
003657 003716 A 774 DATA REM+ALT E.2*****
003658 002000 A 775 CALL IDCS E.2*****
003659 003705 E 776 DATA ALT E.2*****
003660 140000 L 777 DATA ICR4,ICR4,ICR19,*-6 E.2*****
003661 001016 A 778
003662 003633 A 779
003663 012531 A 780
003664 052671 A 781
003665 005001 A 782
003666 052655 A 783
003667 001000 A 784
003668 003443 A 785

```



```

003713 004065 A
003714 003716 A
003715 003707 A
003716 002000 A 778 ICR19 CALL SGCLR CLEAR BUFFER E.2*****
003717 014602 A
003720 012574 A 779 LDA SIX
003721 052671 A 780 STA SGCLUN SET LUN TO "ALT" C 05 00765
003722 002000 A 781 CALL IDCS READ A RECORD FROM "ALT" 05 00766
003723 003710 E 05 00767
003724 000406 A 782 DATA RALF+ALT 05 00768
003725 000074 A 783 DATA 60,SGIBUF 05 00769
003726 000664 A
003727 002000 A 784 CALL IDCS 05 00770
003730 003723 E
003731 000006 A 785 DATA ALT 05 00771
003732 004065 A 786 DATA ICR4,ICR4,ICR4,*-6 05 00772
003733 004065 A
003734 004065 A
003735 003727 A
003736 074072 A 787 STX ICR31 E.2*****
003737 014135 A 788 LDA ICR20 E.2*****
003740 001010 A 789 JAZ ICR30 IF NAME SEARCH NOT SPECIFIED E.2*****
003741 004026 A
003742 010664 A 790 ICR19A LDA SGIBUF FETCH FIRST WORD E.2*****
003743 004355 A 791 LSRA 13 E.2*****
003744 152572 A 792 ANA THREE E.2*****
003745 142572 A 793 SUB THREE E.2*****
003746 001010 A 794 JAZ ICR25 IF OBJECT MODULE E.2*****
003747 004007 A
003750 010664 A 795 LDA SGIBUF E.2*****
003751 006140 A 796 SUBI 'TD' E.2*****
003752 152304 A
003753 001010 A 797 JAZ ICR21 IF FOUND E.2*****
003754 003757 A
003755 001000 A 798 JMP ICR6 REPORT CONTROL REC ERROR E.2*****
003756 004063 A
003757 003757 A 799 ICR21 EQU * E.2*****
003760 006030 A 800 LDXI SGIBUF+2 E.2*****
003761 006020 A 801 LDBI ICR20 E.2*****
003762 004075 A
003763 002000 A 802 CALL SGCLR COMPARE TO TARGET NAME E.2*****
003764 004101 A
003765 001010 A 803 JAZ ICR30 IF MATCH, CONTINUE ALT PROCESSING E.2*****
003766 004026 A
003767 002000 A 804 ICR22 CALL SGCLR CLEAR BUFFER E.2*****
003770 014602 A
003771 002000 A 805 CALL IDCS GET NEXT RECORD FROM ALT E.2*****
003772 003730 E
003773 000406 A 806 DATA RALF+ALT E.2*****
003774 000074 A 807 DATA 60,SGIBUF E.2*****
003775 000664 A
003776 002000 A 808 CALL IDCS IF EOF, POST MODULE NOT FOUND E.2*****
003777 003772 E
004000 000006 A 809 DATA ALT E.2*****
004001 004065 A 810 DATA ICR4,ICR35,ICR4,*-6 E.2*****
004002 004072 A
004003 004065 A
004004 003776 A
004005 001000 A 811 JMP ICR19A CHECK THIS RECORD E.2*****
004006 003742 A
004007 004007 A 812 ICR25 EQU * E.2*****
004010 010664 A 813 LDA SGIBUF E.2*****
004011 150000 L 814 ANA =0173400 E.2*****
004012 130000 L 815 SRA =060400 E.2*****
004013 001016 A 816 JANZ ICR22 IGNORE IF NOT FIRST RECORD E.2*****
004014 006030 A 817 LDXI SGIBUF+3 MODULE NAME WORDS E.2*****
004015 000667 A
004016 006020 A 818 LDBI ICR20 E.2*****
004017 004075 A
004020 002000 A 819 CALL SGCLR COMPARE TO TARGET NAME E.2*****
004021 004101 A
004022 001010 A 820 JAZ ICR30 IF MATCH, CONTINUE ALT PROCESSING E.2*****
004023 004026 A
004024 001000 A 821 JMP ICR22 CONTINUE SEARCH E.2*****
004025 003767 A
004026 004026 A 822 ICR30 EQU * E.2*****
004027 054045 A 823 IZA E.2*****
004030 006030 A 824 STA ICR20 E.2*****
004031 000000 A 825 LDXI 0 RESTORE X E.2*****
004031 826 ICR31 RES 0 E.2*****
004032 001000 A 827 JMP SG4IND GO ANALYZE RECORD TYPE 05 00773
004033 003470 A
828 * 05 00774
829 * * * MESSAGES * * 05 00775
830 * 05 00776
004034 000011 A 831 ICR12 DATA 9,'ADD AFTER' 05 00777
004035 140704 A
004036 142240 A
004037 140706 A
004040 152305 A

```


Address	Label	Operation	Comments	Page	Line
004152		902 * BSS	0	05	00795
004152	151714 A	903 CRTAB DATA	'SLM'	05	00796
004153	146640 A	904		05	00797
004154	004476 A	905 DATA	SG4LMI	05	00798
004155	152304 A	906 DATA	'TDF'	05	00799
004156	143240 A				
004157	004614 A	907 DATA	SG4TDF	05	00800
004160	142716 A	908 DATA	'END'	05	00801
004161	142240 A				
004162	005126 A	909 DATA	SG4END	05	00802
		910 IFT	VORTEX-2	V2	05 00803
		911 GOTO	1	V2	05 00804
		912 DATA	'CTL'	V2	05 00805
		913 DATA	SGCTL	V2	05 00806
		914 1 CONT		V2	05 00807
004163	000000 A	915 DATA	0	05	00808
		916 IFT	VORTEX-2	V2	05 00809
		917 GOTO	1	V2	05 00810
		918 EJECT		V2	05 00811
		919 *		V2	05 00812
		920 * SGCTL		V2	05 00813
		921 *		V2	05 00814
		922 *	PURPOSE: TO PROCESS DIRECTIVE: CTL:21	V2	05 00815
		923 *		V2	05 00816
		924 *	ENTRY: DIRECT TO SGCTL	V2	05 00817
		925 *		V2	05 00818
		926 *	EXIT: DIRECT TO SG4LHG	V2	05 00819
		927 *		V2	05 00820
		928 SGCTL LDA	TBUF1	V2	05 00821
		929 SUBI	'21'	V2	05 00822
		930 JANZ	ICR6	V2	05 00823
		931 JMP	SG4LHG	V2	05 00824
		932 1 CONT		V2	05 00825
		933 EJECT		V2	05 00826
		934 *		05	00827
		935 * SG4ADR		05	00828
		936 *		05	00829
		937 *	PURPOSE: TO DETERMINE THE ADD/DELETE/REPLACE STATUS	05	00830
		938 *	OF A COMPONENT AND PERFORM DELETE OPERATION	05	00831
		939 *	IF REQUIRED.	05	00832
		940 *		05	00833
		941 *	CALLING SEQUENCE: CALL SG4ADR	05	00834
		942 *		05	00835
		943 *	RETURN PARAMETERS: NONE	05	00836
		944 *		05	00837
		945 *		05	00838
004164	005001 A	946 ADR1 TZA	SET PROCESSING MODE (MFLAG) TO NORMAL	05	00839
		947 *		05	00840
004165	052655 A	948 ADR2 STA	MFLAG	05	00841
004166	006010 A	949 LDAI	0177777	05	00842
004167	177777 A				
004170	054045 A	950 STA	ADR12A+1	05	00843
004171	054051 A	951 STA	ADR12B	B.2	05 00844
004172	012502 A	952 LDA	TBUF1	05	00845
004173	140000 L	953 SUB	'CT'	05	00846
004174	001010 A	954 JAZ	ADR10	05	00847
004175	004232 A				
004176	140000 L	955 SUB	'IS'-'CT'	05	00848
004177	001010 A	956 JAZ	ADR11	05	00849
004200	004357 A				
004201	140000 L	957 SUB	'TB'-'IS'	05	00850
004202	001010 A	958 JAZ	ADR10	05	00851
004203	004232 A				
004204	140000 L	959 SUB	'VZ'-'TB'	05	00852
004205	001016 A	960 JANZ	ADR8A	D.105	00853
004206	004267 A				
004207	006020 A	961 LDBI	0377	B.2	05 00854
004210	000377 A				
004211	064031 A	962 STB	ADR12B	B.2	05 00855
		963 *		05	00856
004212	012504 A	964 LDA	TBUF1+2	05	00857
004213	130000 L	965 ERA	' '	05	00858
004214	001016 A	966 JANZ	ADR9	05	00859
004215	004226 A				
004216	006010 A	967 LDAI	0177400	05	00860
004217	177400 A				
004220	054015 A	968 STA	ADR12A+1	05	00861
004221	054021 A	969 STA	ADR12B	B.2	05 00862
004222	012503 A	970 LDA	TBUF1+1	05	00863
004223	020000 L	971 LDB	'D0'	05	00864
004224	062503 A	972 STB	TBUF1+1	05	00865
004225	001006 A	973 DATA	01006	05	00866
		974 *		05	00867
004226	010000 L	975 ADR9 LDA	'0'	05	00868
004227	022504 A	976 LDB	TBUF1+2	05	00869
004230	004450 A	977 LLRL	8	05	00870
004231	052504 A	978 STA	TBUF1+2	05	00871
		979 ADR10 EQU	*	B.2	05 00872
004232	004232 A	980 LDX	SGSCB0	05	00873
004233	015000 A	981 ADR12 LDA	9,8	05	00874
004234	142503 A	982 SUB	TBUF1+1	05	00875
004235	006150 A	983 ADR12A ANAI	0177777	05	00876

004236	177777	A								
004237	054011	A	984	STA	ADR13	COMPARE AND SAVE FIRST WORD OF NAME		05	00877	
004240	012504	A	985	LDA	TBUF1+2			05	00878	
004241	145001	A	986	SUB	1,X	COMPARE SECOND WORD OF NAME		05	00879	
004242	006150	A	987	ANAI	0177777			R.2	05	00880
004243	177777	A								
004243		A	988	ADR12B	BES	0	MASK MODIFIED ABOVE	R.2	05	00881
004244	054006	A	989	STA	ADR14	SAVE SECOND WORD OF NAME		05	00882	
004245	154003	A	990	ANA	ADR13			05	00883	
004246	001016	A	991	JANZ	ADR15	IF NEITHER WORD ZERO (BAD MATCH)		05	00884	
004247	004256	A								
004250	006010	A	992	LDAI	0			05	00885	
004251	000000	A								
004251		A	993	ADR13	BES	0		05	00886	
004252	006110	A	994	BRAI	0	COMBINE TWO WORDS		05	00887	
004253	000000	A								
004253		A	995	ADR14	BES	0		05	00888	
004254	001010	A	996	JAZ	ADR8	IF EXACT MATCH, RETURN		05	00889	
004255	004401	A								
004256	005041	A	997	ADR15	TXA			05	00890	
004257	120502	A	998	ADD	SGSCB0+2	BUMP INDEX		05	00891	
004260	005014	A	999	TAX				05	00892	
004261	140501	A	1000	SUB	SGSCB0+1			05	00892	
004262	001016	A	1001	JANZ	ADR12	IF MORE ENTRIES TO CHECK		05	00894	
004263	004233	A								
004264	012531	A	1002	LDA	FOUR	SET UP DELETE		05	00895	
004265	001000	A	1003	JMP	ADR3	AND GO DO IT		05	00896	
004266	004431	A								
004267	023117	A	1004	ADR8A	LDB	MXFLG		D.105	00897	
004270	001026	A	1005	JANZ	ADR8	EXIT IF MUX PRESENT		D.105	00898	
004271	004401	A								
004272	006140	A	1006	SUBI	'C5'-'VZ'			D.105	00899	
004273	166333	A								
004274	001016	A	1007	JANZ	ADR8E			D.105	00900	
004275	004303	A								
004276	012503	A	1008	LDA	TBUF1+1			D.105	00901	
004277	006140	A	1009	SUBI	'2'			D.105	00902	
004300	131240	A								
004301	001000	A	1010	JMP	ADR8E			D.105	00903	
004302	004351	A								
004303	006140	A	1011	ADR8B	SUBI	'CC'-'C5'		D.105	00904	
004304	000016	A								
004305	001010	A	1012	JAZ	ADR8D			D.105	00905	
004306	004346	A								
004307	006140	A	1013	SUBI	'TC'-'CC'			D.105	00906	
004310	010400	A								
004311	001010	A	1014	JAZ	ADR8D			D.105	00907	
004312	004346	A								
004313	006140	A	1015	SUBI	'VT'-'TC'			D.105	00908	
004314	001021	A								
004315	001016	A	1016	JANZ	ADR8	EXIT IF NONE OF THESE		D.105	00909	
004316	004401	A								
004317	012503	A	1017	LDA	TBUF1+1			D.105	00910	
004320	006140	A	1018	SUBI	'PU'			D.105	00911	
004321	150325	A								
004322	001016	A	1019	JANZ	ADR8C			D.105	00912	
004323	004333	A								
004324	012504	A	1020	LDA	TBUF1+2			D.105	00913	
004325	006140	A	1021	SUBI	'SH'			D.105	00914	
004326	151710	A								
004327	001010	A	1022	JAZ	ADR8F	NAME IS 'VIPUSH'		D.105	00915	
004330	004354	A								
004331	001000	A	1023	JMP	ADR8	OTHERWISE EXIT		D.105	00916	
004332	004401	A								
004333	006140	A	1024	ADR8C	SUBI	'PD'-'PU'		D.105	00917	
004334	177777	A								
004335	001016	A	1025	JANZ	ADR8D			D.105	00918	
004336	004346	A								
004337	012503	A	1026	LDA	TBUF1+1			D.105	00919	
004340	006140	A	1027	SUBI	'P'			D.105	00920	
004341	150240	A								
004342	001010	A	1028	JAZ	ADR8F	NAME IS 'VTPDP'		D.105	00921	
004343	004354	A								
004344	001000	A	1029	JMP	ADR8	OTHERWISE EXIT		D.105	00922	
004345	004401	A								
004346	012503	A	1030	ADR8D	LDA	TBUF1+1		D.105	00923	
004347	006140	A	1031	SUBI	'S'			D.105	00924	
004350	122240	A								
004351	152370	A	1032	ADR8E	ANA	LHW	TEST 3RD CHAR	D.105	00925	
004352	001016	A	1033	JANZ	ADR8	EXIT IF NO MATCH		D.105	00926	
004353	004401	A								
004354	012531	A	1034	ADR8F	LDA	FOUR		D.105	00927	
004355	001000	A	1035	JMP	ADR3	OTHERWISE DELETE		D.105	00928	
004356	004431	A								
004357	002000	A	1036	*				05	00929	
004360	003777	E	1037	ADR11	CALL	1005	LOCATE SYSTEM RMD'S DST	05	00930	
004361	000007	A	1038							
004362	004066	A	1039	DATA	7			05	00931	
004363	004066	A		DATA	*+4,*+3,*+2,*-6			05	00932	
004364	004066	A								
004365	004057	A								
004366	015002	A	1040	LDA	2,X	FORM NAME OF RMD		05	00933	


```

004367 004350 A 1041 LSRA 8 05 00934
004370 025003 A 1042 LDB 3,X 05 00935
004371 004050 A 1043 LRLB 8 05 00936
004372 004450 A 1044 LLRL 8 05 00937
004373 132503 A 1045 ERA TBUF1+1 COMPARE MODEL CODE TO INITIALIZER NAME 05 00938
004374 001010 A 1046 JAZ* SG4ADR RETURN; IF SAME 05 00939
004375 104402 A
004376 012531 A 1047 LDA FOUR 05 00940
004377 001000 A 1048 JMP ADR3 OTHERWISE, DELETE THIS INITIALIZER 05 00941
004400 004431 A
1049 * 05 00942
004401 001000 A 1050 ADR8 JMP 0 * * RETURN * * 05 00943
004402 000000 A
1051 * 05 00944
004402 1052 SG4ADR BES 0 * * ENTRY POINT * * 05 00945
004403 012671 A 1053 LDA SGCLUN 05 00946
004404 142574 A 1054 SUB SIX 05 00947
004405 001010 A 1055 JAZ* SG4ADR IGNORE A/D/R IF LU=ALT 05 00948
004406 104402 A
004407 005301 A 1056 DECR 01 SET SEARCH ONLY FLAG 05 00949
004410 020000 L 1057 LDB =TBUF1 05 00950
004411 030000 L 1058 LDX =SGSCB2 05 00951
004412 002000 A 1059 CALL SGSAE AND SEARCH A/D/R STACK FOR NAME MATCH 05 00952
004413 014744 A
004414 000004 A 1060 DATA 4 WITH COMPONENT. 05 00953
004415 005041 A 1061 TXA 05 00954
004416 001004 A 1062 JAN ADR1 IF NO NAME MATCH 05 00955
004417 004164 A
004420 015004 A 1063 LDA 4,X 05 00956
004421 150000 L 1064 ANA =014 05 00957
004422 001010 A 1065 JAZ ADR2 IF A/D/R DOESN'T REFER TO NUCLEUS PROC. 05 00958
004423 004165 A
004424 006402 A 1066 BT RA1+B2,ADR3 IF DELETE OR REPLACE 05 00959
004425 004431 A
004426 012546 A 1067 LDA BS15 05 00960
004427 001000 A 1068 JMP ADR2 GO SET (MFLAG) FOR "ADD NEXT"; RETURN 05 00961
004430 004165 A
1069 * 05 00962
004431 005102 A 1070 ADR3 INCR 02 05 00963
004432 062655 A 1071 STB MFLAG SET (MFLAG) FOR "CURRENTLY DELETING" 05 00964
004433 006443 A 1072 BT RA0+B3,ADR4 IF REQUEST IS FOR "DELETE ONLY" 05 00965
004434 004437 A
004435 020000 L 1073 LDB =0100005 SET (MFLAG) FOR "ADD NEXT", "CURRENTLY 05 00966
004436 062655 A 1074 STB MFLAG DELETING", "REPACE REQUESTED" 05 00967
004437 010664 A 1075 ADR4 LDA SGIBUF 05 00968
004440 150000 L 1076 ANA =064400 05 00969
004441 130000 L 1077 ERA =064400 05 00970
004442 001016 A 1078 JANZ ADR5 IF BINARY END RECORD OR NON-BINARY REC. 05 00971
004443 004462 A
1079 * 05 00972
004444 002000 A 1080 CALL IOCS READ A RECORD 05 00973
004445 004360 E
004446 040404 A 1081 DATA RBIN+LIB 05 00974
004447 000074 A 1082 DATA CO,SGIBUF 05 00975
004450 000664 A
004451 002000 A 1083 CALL IOCS AND CHECK STATUS 05 00976
004452 004445 E
004453 000004 A 1084 DATA LIB 05 00977
004454 004467 A 1085 DATA ADR6,ADR7,ADR7,*-6 05 00978
004455 004471 A
004456 004471 A
004457 004451 A
004460 001000 A 1086 JMP ADR4 IF O.K., GO READ (DELETE) SOME MORE 05 00979
004461 004437 A
1087 * 05 00980
004462 012655 A 1088 ADR5 LDA MFLAG 05 00981
004463 152550 A 1089 ANA BR1 05 00982
004464 052653 A 1090 STB MFLAG TURN OFF "CURRENTLY DELETING" FLAG 05 00983
004465 001000 A 1091 JMP SG4ICR AND START NEXT COMPONENT PROCESSING 05 00984
004466 003443 A
1092 * 05 00985
1093 * 05 00986
004467 012606 A 1094 ADR6 LDA ER00 POST "READ ERROR" MESSAGE 05 00987
004470 001006 A 1095 DATA 01006 05 00988
004471 012616 A 1096 ADR7 LDA ER08 POST "EOF OR BEOD ERROR" MESSAGE 05 00989
004472 002000 A 1097 CALL SG4PRO 05 00990
004473 013617 A
004474 001000 A 1098 JMP ADR5 TURN OFF FLAG AND RETURN 05 00991
004475 004462 A
1099 EJEC 05 00992
1100 * 05 00993
1101 * SG4LMI 05 00994
1102 * 05 00995
1103 * PURPOSE: DEFINE VIRTUAL MEMORY AND SET OTHER OPTIONS 05 00996
1104 * FOR THE LOAD MODULE PROCESSOR. 05 00997
1105 * 05 00998
1106 * CALLING SEQUENCE: INDIRECT JUMP THROUGH CR PROC TABLE 05 00999
1107 * 05 01000
1108 * RETURN PARAMETERS: NONE 05 01001
1109 * 05 01002
1110 * 05 01003
004476 1111 SG4LMI BSS 0 05 01004
004476 002000 A 1112 CALL IOCS GET VORTEX SYSTEM DST ADDRESS IN X D.105 01005

```


Address	Code	Label	Op	Opnd	Comment	Hex	Hex
1187			IFF	VORTEX-2		V2	05 01080
1188	KD80		DATA	80		V2	05 01081
1189			EJEC				05 01082
1190	*						05 01083
1191	*	SG4TDF					05 01084
1192	*						05 01085
1193	*						05 01086
1194	*				PURPOSE: TO UNPACK "TDF" CONTROL RECORDS AND BUILD RESIDENT TIDB'S.		05 01087
1195	*						05 01088
1196	*				CALLING SEQUENCE: INDIRECT JUMP FROM SG4ICR		05 01089
1197	*						05 01090
1198	*				RETURN PARAMETERS: NONE		05 01091
1199	*						05 01092
1200	*						05 01093
004614		1201	SG4TDF	BSS	0		05 01094
004614	012700	A	1202	LDA	SGCPED		05 01095
004615	005311	A	1203	DAR			05 01096
004616	057000	I	1204	STA	MA		05 01097
			1205	*			05 01098
004617	005001	A	1206	TZA			05 01099
			1207	IFT	VORTEX-1		V75*****
			1208	GOTO	1		V75*****
			1209	IFT	V75		V75*****
004620	030000	L	1210	LDX	=36		V75*****
			1211	IFF	V75		V75*****
			1212	LDX	=36		V75*****
			1213	1	CONT		V75*****
			1214	IFT	VORTEX-2		V75*****
			1215	GOTO	1		V75*****
			1216	IFT	V75		V75*****
			1217	LDX	=39		V75*****
			1218	IFF	V75		V75*****
			1219	LDX	=29		V75*****
			1220	1	CONT		V75*****
004621	005344	A	1221	TDF1	DXR		05 01104
004622	006055	A	1222	STAE	SGWBUF,X		05 01105
004623	002406	A					
004624	001046	A	1223	JXNZ	TDF1		05 01106
004625	004621	A					
			1224	*			05 01107
			1225	*			05 01108
004626	010000	L	1226	LDA	=*		05 01109
004627	052514	A	1227	STA	TBUF2		05 01110
004630	052515	A	1228	STA	TBUF2+1		05 01111
004631	052516	A	1229	STA	TBUF2+2		05 01112
004632	006505	A	1230	JSR	SGGNI,X		05 01113
004633	014424	A					
004634	002514	A	1231	DATA	TBUF2,8		05 01114
004635	000010	A					
004636	142575	A	1232	SUB	SEVEN		05 01115
004637	001002	A	1233	JAP	TDF5		05 01116
004640	005117	A					
004641	005021	A	1234	TBA			05 01117
004642	140000	L	1235	SUB	=0254		05 01118
004643	001016	A	1236	JANZ	TDF5		05 01119
004644	005117	A					
004645	002000	A	1237	CALL	SGMOV		05 01120
004646	014325	A					
004647	000003	A	1238	DATA	3		05 01121
004650	002514	A	1239	DATA	TBUF2		05 01122
004651	002430	A	1240	DATA	SGWBUF+18		05 01123
			1241	*			05 01130
004652	010000	L	1242	LDA	=*		05 01131
004653	052216	A	1243	STA	TBUF4		05 01132
004654	052217	A	1244	STA	TBUF4+1		05 01133
004655	052220	A	1245	STA	TBUF4+2		05 01134
004656	006505	A	1246	JSR	SGGNI,X		05 01135
004657	014424	A					
004660	002216	A	1247	DATA	TBUF4,8		05 01136
004661	000010	A					
004662	142575	A	1248	SUB	SEVEN		05 01137
004663	001002	A	1249	JAP	TDF5		05 01138
004664	005117	A					
004665	005021	A	1250	TBA			05 01139
004666	140000	L	1251	SUB	=0254		05 01140
004667	001016	A	1252	JANZ	TDF5		05 01141
004670	005117	A					
			1253	*			05 01142
004671	010000	L	1254	LDA	=0254		05 01143
004672	002000	A	1255	CALL	SGGAC		05 01144
004673	014203	A					
004674	005021	A	1256	TBA			05 01145
004675	142566	A	1257	SUB	BR15		05 01146
004676	001002	A	1258	JAP	TDF6		05 01147
004677	005121	A					
004700	062407	A	1259	STB	SGWBUF+1		05 01148
			1260	IFT	VORTEX-2		V2 05 01149
			1261	GOTO	1		V2 05 01150
			1262	LDA	SGWBUF+1		V2 05 01151
			1263	BT	RA1+B10,TDF7		V2 05 01152
			1264	LDA	TBUF2		V2 05 01153
			1265	SUB	TDF0		V2 05 01154
			1266	JANZ	TDF8		V2 05 01155

Address	Label	Op	Opnd	Comment	Hex	Dec
1267	LDA		TBUF2+1		V2	05 01156
1268	SUB		TDFD+1		V2	05 01157
1269	JANZ		TDF8		V2	05 01158
1270	LDA		TBUF2+2		V2	05 01159
1271	SUB		TDFD+2		V2	05 01160
1272	JANZ		TDF8	IS NAME 'V\$OPCM' ?	V2	05 01161
1273	LDA	TDF7	SGWBUF+2		V2	05 01162
1274	JRA		BS8	SET TBPL BIT 8	V2	05 01163
1275	STA		SGWBUF+2		V2	05 01164
1276	EQU	TDF8	*		V2	05 01165
1277	CONT	1			V2	05 01166
1278		*			V2	05 01167
004701	TZA				V75	*****
004702	CALL		SG3GAC	GET AND CONVERT PRIORITY LEVEL	05	01169
004703						
004704	TBA				05	01170
004705	SUB		BS5		05	01171
004706	JAP		TDF6	IF GREATER THAN 31	05	01172
004707						
004710	ADD		BM37		05	01173
004711	JAN		TDF6	IF LESS THAN 1	05	01174
004712						
004713	TBA				V2	05 01175
004714	DRA		SGWBUF+2	MERGE PRIORITY LEVEL	V2	05 01176
004715	STA		SGWBUF+2		V2	05 01177
004716	STB		TBUF1+4		05	01178
1290		*			05	01179
1291	IFF		V75		V75	*****
1292	GOTO		1		V75	*****
004717	LDA		SGMRY5		V75	*****
004720	JAZ		TDF8C	V75 SYSTEM ?	V75	*****
004721					V75	*****
004722	LDAE		SGSVCH	YES	V75	*****
004723						
004724	SUB		=0254	GET TERMINATOR	V75	*****
1296	IFF		VORTEX-2		V75	*****
1297	JANZ		TDF8C	TEST FOR COMMA	V75	*****
1298	IFT		VORTEX-1		V75	*****
1299	GOTO		2		V75	*****
004725	JAZ		TDF8A	TEST FOR COMMA	V75	*****
1300						
004726	LDA		SGWBUF+1		V75	*****
004727	BT		RA3+11,TDF8B	RESIDENT TIDB ?	V75	*****
004730						
004731	JMP		TDF8C	YES	V75	*****
004732						
004733	CONT	2			V75	*****
004734	JSR	TDF8A	SGGNI,X	YES. GET NEXT 3 CHARS	V75	*****
004735						
004736	DATA		TBUF1+5		V75	*****
004737	DATA		3		V75	*****
004740	SUB		THREE		V75	*****
004741	JANZ		TDF6		V75	*****
004742						
004743	LDA		TBUF1+5		V75	*****
004744	ERAI		'V7'		V75	*****
004745						
004746	JANZ		TDF6	ERROR IF NOT 'V75'	V75	*****
004747						
004750	LDA		TBUF1+6		V75	*****
004751	ERAI		'3'		V75	*****
004752						
004753	ANA		LHM		V75	*****
004754	JANZ		TDF6	LONG TIDB ?	V75	*****
004755						
004756	LDA		BS14	YES	V75	*****
004757	DRA		SGWBUF+2	SET V75 FLAG	V75	*****
004760	STA		CGWBUF+2		V75	*****
004761	LDRAI	TDF8B	-10		V75	*****
004762						
004763	DATA		A1006		V75	*****
1322	CONT	1			V75	*****
004764	TZA	TDF8C	V75		V75	*****
1325	IFT		V75		V75	*****
004765	STA		TBUF1+5	SAVE V75 FLAG	V75	*****
004766	ADD		NA		V75	*****
1327	IFF		VORTEX-1		V75	*****
1328	SUB		=25		V75	*****
004767	IFF		VORTEX-2		V75	*****
1330	SUB		-28		V75	*****
1331	STA		TBUF1+3	STORE TIDB BASE ADDRESS	V75	*****
004770	JSR		SG4PKK,X	PACK NAME IN LOADER CODE	05	01180
004771						
004772	DATA		6,TBUF1		05	01181
004774						
1335		*			05	01182
004775	LDA		TBUF1+3		05	01183
004776	STA		ITEM	SAVE ADDRESS	05	01184
004777	LDA		TBUF1+4		05	01185
005000	LRLA		4		05	01186
005001	DRA		ITEM+4		05	01187
005002	STA		ITEM+4	PUT PRIORITY IN ENTRY	05	01188
005003	LBB		=ITEM		05	01189

Address	Op/Label	Op/Label	Description	Address
005004	LDX	=SGSCB8		05 01190
005005	DECR	01		05 01191
005006	CALL	SGSAE	SEARCH TASK ENTRY STACK FOR NAME	05 01192
005007				
005010	DATA	0		05 01193
005011	TXA			05 01194
005012	JAP	TDF6	ERROR, IF IT'S BEEN USED BEFORE	05 01195
005013				
005014	LDB	=ITEM		05 01196
005015	LDX	=SGSCB8		05 01197
005016	CALL	SGPUT	PUT ENTRY NAME IN STACK	05 01198
005017				
005020	JAN	TDF3	ERROR, IF NO ROOM	05 01199
005021				
005022	LDX	=SGSCB6		05 01200
005023	CALL	SG4ENT	PUT ENTRY NAME IN LOADER TABLE	05 01201
005024				
005025	DATA	TBUF1		05 01202
	IFT	VORTEX-2		V2 05 01203
	GOTO	1		V2 05 01204
	LDA	SGWBUF+1	GET STATUS WORD	V2 05 01205
	BT	RA1+B10,TDF9	IS TASK RESIDENT ?	V2 05 01206
	LDAI	0143152	NO	V2 05 01207
	STA	SGWBUF+010	LOAD FL LIB/KEY	V2 05 01208
	EQU	*		V2 05 01209
	CONT			V2 05 01210
				05 01211
	IFF	VORTEX-2		V75*****
	LDA	=29		V75*****
	IFF	VORTEX-1		V75*****
005026	LDA	=26		V75*****
	IFT	V75		V75*****
	SUB	TBUF1+5		V75*****
	TAB			V75*****
	JBR			V75*****
	LDAE	SGWBUF,B		05 01216
				05 01217
	STA	VDATA		05 01218
	JSR	VANCT,X		05 01219
	LDA	MA		05 01220
	DAR			05 01221
	STA	MA		05 01222
	JBNZ	TDF2	IF MORE WORDS TO STORE	05 01223
				05 01224
	INCR	012		05 01225
	STB	SGCPED	RESTORE LOCATION COUNTER	05 01226
	SUB	SS9		05 01227
	JAN	TDF4	IF NUCLEUS EXCEEDS AVAILABLE MEMORY	05 01228
				05 01229
	LDA	SGWBUF+1	GET STATUS WORD	05 01230
	IFF	VORTEX-1		V2 05 01231
	BT	RA0+B0,SG4ICR	AND RETURN IF TASK NON-RESIDENT(B0=0	C 05 01232
	IFF	VORTEX-1		V2 05 01233
	GOTO	1		V2 05 01234
	BT	RA1+B0,TDF10	IS TASK RESIDENT ?	D.105 01235
	LDA	SGWBUF+2	NO	V2 05 01236
	BT	RA1+B8,TDF11	IS TASK VORTEX II OPCOM ?	V2 05 01237
	JMP	SG4ICR	NO. EXIT	V2 05 01238
	CONT			V2 05 01239
				V2 05 01240
005054	LDA	MA		05 01241
	ADD	TEN		05 01242
	STA	TBUF2+3	SAVE ADDR. OF TIDB CELL NEEDING PROC. ADDR	05 01243
	LDX	=SGSCB6		05 01244
	CALL	SG4EXT	PLACE EXTERNAL FOR TASK IN LOADER TABLE	05 01245
				05 01246
	DATA	TBUF2		05 01247
	LDA	MA		05 01248
	ADD	EIGHT		05 01249
	STA	TBUF2+3	SAVE ADDR. OF TIDB CELL NEEDING PROC. ADDR	05 01250
	LDX	=SGSCB6		05 01251
	CALL	SG4EXT	PLACE EXTERNAL FOR TASK IN LDR TABLE	05 01252
				05 01253
	DATA	TBUF2		05 01254
	IFT	VORTEX-2		V2 05 01255
	GOTO	1		V2 05 01256
	LDA	MA		V2 05 01257
	ADDI	28	STORE LINK ADDRESS OF 'V\$MING'	V2 05 01258
	STA	TDFM+3		V2 05 01259
	LDX	=SGSCB6		V2 05 01260
	CALL	SG4EXT	ENTER IN SYMBOL TABLE	V2 05 01261
	DATA	TDFM		V2 05 01262
	CONT			V2 05 01263
				V2 05 01264
	LDA	TBUF4	GET FIRST CHAR OF SPECIAL OPCOM LINK	05 01265
	LSRA	8		05 01266
	ERA	=0260		05 01267
	JAZ	SG4ICR	* * RETURN, IF NO SPECIAL LINK	05 01268
	LDA	MA		05 01269
	ADD	NINE		05 01270

Address	Code	Label	Instruction	Description	Line	Page
005101	052221	A	1423	STA TBUF4+3	COMPUTE ADDR FOR SPECIAL LINK	05 01267
005102	030000	L	1424	LDX =SGSCB6		05 01268
005103	002000	A	1425	CALL SG4EXT	MAKE EXTERNAL ENTRY FOR SPECIAL LINK	05 01269
005104	013440	A				
005105	002216	A	1426	DATA TBUF4		05 01270
005106	001000	A	1427	JMP SG4ICR	* * RETURN * *	05 01271
005107	003443	A				
			1428	*		05 01272
			1429	*	* * POST ERROR MESSAGES * *	05 01273
			1430	*		05 01274
005110	012632	A	1431	TDF3 LDA ER24	POST 'STACK OVERFLOW ERROR' MESSAGE	05 01275
005111	001006	A	1432	DATA 01006		05 01276
005112	012635	A	1433	TDF4 LDA ER30	POST 'NUCLEUS SIZE ERROR' MESSAGE	05 01277
005113	002000	A	1434	CALL SG4PRD		05 01278
005114	013617	A				
005115	001000	A	1435	JMP RELOAD	GO RELOAD DIRECTIVE PROCESSOR	05 01279
005116	015031	A				
			1436	*		05 01280
005117	012611	A	1437	TDF5 LDA ER03	POST 'SYNTAX ERRIR' MESSAGE	05 01281
005120	001006	A	1438	DATA 01006		05 01282
005121	012612	A	1439	TDF6 LDA ER04	POST 'PARAMETER ERROR' MESSAGE	05 01283
005122	002000	A	1440	CALL SG4ASC	RECOVER TO REREAD CONTROL RECORD	05 01284
005123	013766	A				
005124	001000	A	1441	JMP SG4IND		05 01285
005125	003470	A				
			1442	IFT VORTEX-2		V2 05 01286
			1443	GOTO 1		V2 05 01287
			1444	TDFM DATA 'V\$MIMG',0		V2 05 01288
			1445	TDFD DATA 'V\$OPCM'		V2 05 01289
			1446	1		V2 05 01290
			1447	EJEC		05 01291
			1448	*		05 01292
			1449	*	SG4END	05 01293
			1450	*		05 01294
			1451	*	PURPOSE: PURGE LOAD-MODULE-GENERATOR STACKS	05 01295
			1452	*		05 01296
			1453	*	CALLING SEQUENCE: INDIRECT JUMP FROM SG4ICR	05 01297
			1454	*		05 01298
			1455	*	RETURN PARAMETERS: NONE	05 01299
			1456	*		05 01300
			1457	*		05 01301
005126			1458	SG4END BSS 0		05 01302
005126	002000	A	1459	CALL SG4PUR	PURGE TEMPORARY STACK	05 01303
005127	014243	A				
005130	012672	A	1460	LDA SPUKEY		05 01304
005131	140000	L	1461	SUB = 'VQ'		05 01305
			1462	IFF VORTEX-2		V2 05 01306
			1463	JAZ SG4SAC		V2 05 01307
			1464	IFF VORTEX-1		V2 05 01308
005132	001010	A	1465	JAZ SG4LHG	IF PROCESSING NUCLEUS, GENERATE TABLES	05 01309
005133	005136	A				
005134	001000	A	1466	JMP SG4ICR	* * EXIT ROUTINE * *	05 01310
005135	003443	A				
			1467	EJEC		05 01311
			1468	*		05 01312
			1469	*	SG4LHG	05 01313
			1470	*	PURPOSE: TO GENERATE INTERRUPT LINE HANDLERS	05 01314
			1471	*		05 01315
			1472	*	CALLING SEQUENCE: JMP SG4LHG	05 01316
			1473	*		05 01317
			1474	*	RETURN PARAMETERS: NONE	05 01318
			1475	*		05 01319
			1476	*		05 01320
005136			1477	SG4LHG BSS 0	* * ENTRY POINT * *	05 01321
005136	012700	A	1478	LDA SG4PEB		05 01322
005137	005011	A	1479	PAR		05 01323
005140	057000	I	1480	STA NA	SET UP VIRTUAL MEMORY ADDRESS REGISTER	05 01324
005141	054265	A	1481	STA LMG9+3		05 01325
005142	030000	L	1482	LDX =SGSCB6		05 01326
005143	002000	A	1483	CALL SG4ENT	PUT "V\$END" IN LDR TABLE	05 01327
005144	013544	A				
005145	005424	A	1484	DATA LMG9		05 01328
			1485	*		05 01329
005146	012571	A	1486	LDA RM377	INITIALIZE ALL INTERRUPT MASKS TO DISABLED	05 01330
005147	052216	A	1487	STA TBUF4		05 01331
005150	052217	A	1488	STA TBUF4+1		05 01332
005151	052220	A	1489	STA TBUF4+2		05 01333
005152	052221	A	1490	STA TBUF4+3		05 01334
005153	052222	A	1491	STA TBUF4+4		05 01335
005154	052223	A	1492	STA TBUF4+5		05 01336
005155	052224	A	1493	STA TBUF4+6		05 01337
005156	052225	A	1494	STA TBUF4+7		05 01338
			1495	*		05 01339
			1496	*		05 01340
			1497	*		05 01341
005157	010514	A	1498	LDA SGSCB4		05 01342
005160	005014	A	1499	LHG1 TAX	(XR)= POINTER TO INTERRUPT STACK	05 01343
005161	074126	A	1500	STX LMG9	SAVE POINTER	05 01344
005162	140515	A	1501	SUB SGSCB4+1		05 01345
005163	001016	A	1502	CANZ LMG9	IF NOT END OF STACK	05 01346
003164	005245	A				
			1503	*		05 01347
005165	017000	I	1504	LDA NA		05 01348

Address	Op	Opnd	Comment	Line	Page	
005166	005111	A 1505	IAR		05 01349	
005167	054233	A 1506	STA	LHG8+3	05 01350	
005170	030000	L 1507	LDX	=SGSCB6	05 01351	
005171	002000	A 1508	CALL	SG4ENT	05 01352	
005172	013544	A		PUT "V\$LHD" IN LDR TABLE		
005173	005420	A 1509	DATA	LHG8	05 01353	
		1510 *			05 01354	
005174	017000	I 1511	LDA	MA	05 01355	
005175	057000	I 1512	STA	ILC	05 01356	
005176	142540	A 1513	SUB	BS9	05 01357	
005177	001004	A 1514	JAN	LHG14	05 01358	
005200	005240	A		RESTORE LOCATION COUNTER		
		1515 *		ERROR, IF MEMORY SPACE EXCEEDED	05 01358	
005201	006505	A 1516	JSR	SG4PKK,X	05 01359	
005202	013772	A		CONVERT "\$\$IM" TO LOADER CODE	05 01360	
005203	000006	A 1517	DATA	6,LHG12	05 01361	
005204	005431	A				
005205	005301	A 1518	DECR	01	05 01362	
005206	030000	L 1519	LDX	=SGSCB6	05 01363	
005207	020000	L 1520	LDB	=ITEM	05 01364	
005210	002000	A 1521	CALL	SGSAE	05 01365	
005211	014744	A		SEARCH DATA PATCH STACK FOR "\$\$IM"		
005212	000000	A 1522	DATA	0	05 01366	
005213	122575	A 1523	ADD	SEVEN	05 01367	
005214	057000	I 1524	STA	MA	05 01368	
005215	005041	A 1525	TXA		05 01369	
005216	001004	A 1526	JAN	LHG15	05 01370	
005217	005236	A		ERROR, IF "\$\$IM" NOT FOUND	05 01370	
		1527 *			05 01371	
005220	022532	A 1528	LDB	EIGHT	05 01372	
005221	005322	A 1529	LHG13	DBR	05 01372	
005222	006016	A 1530	LDAE	TBUF4,B	05 01373	
005223	002216	A		STORE 8-WORDS OF PIM MASK IN LOW CORE		
005224	057000	I 1531	STA	VDATA	05 01375	
005225	006505	A 1532	JSR	VMWCT,X	05 01376	
005226	013215	A		AT (\$\$IM)		
005227	017000	I 1533	LDA	MA	05 01377	
005230	005311	A 1534	DAR		05 01378	
005231	057000	I 1535	STA	MA	05 01379	
005232	001026	A 1536	JBNZ	LHG13	05 01380	
005233	005221	A		DECREMENT MEMORY ADDRESS		
005234	001000	A 1537	JMP	SG4FTG	05 01381	
005235	005433	A		* * EXIT * *	05 01381	
		1538 *			05 01382	
		1539 *			05 01383	
		1540 *			05 01384	
005236	012647	A 1541	LHG15	LDA	ER45	05 01385
005237	001006	A 1542	DATA	01006	05 01385	
005240	012635	A 1543	LHG14	LDA	ER30	05 01386
005241	002000	A 1544	CALL	SG4PRD	05 01387	
005242	013617	A		POST "UNDEFINED EXTERNAL" MESSAGE		
005243	001000	A 1545	JMP	RELOAD	05 01388	
005244	015031	A		POST "MEMORY SIZE ERROR" MESSAGE	05 01388	
		1546 *		AND GO RELOAD DIRECTIVE PROCESSOR	05 01389	
		1547 *			05 01390	
005245	017000	I 1548	LHG3	LDA	MA	05 01391
005246	054161	A 1549	STA	LHG10	05 01392	
005247	142531	A 1550	SUB	FOUR	05 01393	
		1551	IFT	VORTEX-2	05 01394	
		1552	GOTO	1	05 01395	
		1553	LDB	0,X	05 01396	
		1554	LRLB	1	05 01397	
		1555	ASRB	15	05 01398	
		1556	XBNZ	DAR	05 01399	
		1557	CONT		05 01400	
005250	057000	I 1558	STA	VDATA	05 01401	
		1559 *		TYPE 2 DIRECT CONNECT IS 6 WORDS	05 01402	
		1560	LDA	0,X	05 01403	
005251	015000	A 1561	ANA	RW	05 01404	
005252	152571	A 1562	LRLA	1	05 01405	
005253	004241	A 1563	ADD	336	05 01406	
005254	122533	A 1564	IAR		05 01407	
005255	005111	A 1565	STA	MA	05 01408	
005256	057000	I 1566	IFT	VORTEX-2	05 01409	
		1567	GOTO	1	05 01410	
		1568	STA	LHG17	05 01411	
		1569	LDA	VDATA	05 01412	
		1570	STA	LHG18	05 01413	
		1571	LDX	=SGSCB6	05 01414	
		1572	LDB	LHG16	05 01415	
		1573	DECR	1	05 01416	
		1574	CALL	SGSAE	05 01417	
		1575	DATA	0	05 01418	
		1576	TXA		05 01419	
		1577	JAN	LHG15	05 01420	
		1578	LDA	0,X	05 01421	
		1579	JAP	LHG15	05 01422	
		1580	STX	LHG19	05 01423	
		1581	LHG11	ANA	BR15	05 01424
		1582	JAZ	LHG22	05 01425	
		1583	STA	LHG20	05 01426	
		1584	STA	MA	05 01427	
		1585	JSR	VMWCT,X	05 01428	
				SAVE CURRENT MEMORY ADDRESS		
				SET-UP ADDR. OF CURRENT LINE HANDLER		
				COMPUTE TRAP (LOC+1) FOR INTERRUPT LINE		
				SAVE MA		
				SAVE VDATA		
				SEARCH LOADER TABLE FOR "V\$MPI0"		
				ERROR IF NOT IN TABLE		
				ERROR IF DEFINED		
				SAVE CURRENT LINK		
				EXIT AT CHAIN END		
				SAVE FORWARD LINK		
				READ NEXT LINK		

		1586	LDA	MA		V2	05	01430	
		1587	SUB	LHG17		V2	05	01431	
		1588	JAZ	LHGX1	LINK FOUND ?	V2	05	01432	
		1589	LDA	LHG20	NO	V2	05	01433	
		1590	STA	LHG19	UPDATE	V2	05	01434	
		1591	LDA	VDATA		V2	05	01435	
		1592	JMP	LHGL1	LOOP	V2	05	01436	
	LHGX1	1593	LDA	LHG19		V2	05	01437	
		1594	STA	MA		V2	05	01438	
		1595	JSR	VMWCT,X	LINK OVER ITEM	V2	05	01439	
	LHGX2	1596	EQU	*		V2	05	01440	
		1597	LDA	LHG18		V2	05	01441	
		1598	STA	VDATA		V2	05	01442	
		1599	LDA	LHG17	RESTORE VIRTUAL PARAMETERS	V2	05	01443	
		1600	STA	MA		V2	05	01444	
	1	1601	CONT			V2	05	01445	
005257	006505	A	1602	JSR	VMWCT,X		05	01446	
					AND STORE ADDR OF LINE HANDLER				
005260	013215	A							
005261	005311	A	1603	DAR			05	01447	
005262	057000	I	1604	STA	MA		05	01448	
005263	012541	A	1605	LDA	BS10		05	01449	
005264	057000	I	1606	STA	VDATA		05	01450	
005265	006505	A	1607	JSR	VMWCT,X	STORE "JMPN" INSTR IN TRAP (LOC)	05	01451	
005266	013215	A							
		1608	*				05	01452	
005267	034020	A	1609	LDX	LHG2		05	01453	
005270	015000	A	1610	LDA	0,X	GET INTERRUPT LINE NUMBER	05	01454	
005271	152571	A	1611	ANA	RHW	REMOVE POSSIBLE DIRECT-CONNECT BIT	05	01455	
005272	004543	A	1612	LLSR	3		05	01456	
005273	004135	A	1613	LSRB	13	(BR)= PIM LINE NUMBER	05	01457	
005274	005011	A	1614	TAY		(XR)= PIM MODULE NUMBER	05	01458	
005275	006016	A	1615	LDAL	MT+1,B		05	01459	
005276	002527	A							
005277	006135	A	1616	ERAE	TBUF4,X		05	01460	
005300	002216	A							
005301	006055	A	1617	STAE	TBUF4,X	TURN OFF (ENABLE) PIM MASK BIT	05	01461	
005302	002216	A							
		1618	*				05	01462	
005303	014124	A	1619	LDA	LHG10		05	01463	
005304	057000	I	1620	STA	MA	RESTORE (MA) TO LINE HANDLER REGION	05	01464	
		1621	*				05	01465	
005305	002000	A	1622	CALL	SGMOV	GET NAME OF INTERRUPT PROCESSOR	05	01466	
005306	014325	A							
005307	000005	A	1623	DATA	3		05	01467	
005310	000000	A	1624	LHG2	DATA	0,TBUF1	05	01468	
005311	002502	A							
005312	012506	A	1625	LDA	TBUF1+4		05	01469	
005313	057000	I	1626	STA	VDATA	SAVE INTERRUPT EVENT WORD	05	01470	
005314	012502	A	1627	LDA	TBUF1		05	01471	
005315	001004	A	1628	JAN	LHG2	IF DIRECTLY-CONNECTED INTERRUPT	05	01472	
005316	005364	A							
		1629	*				05	01473	
005317	017000	I	1630	LDA	MA		05	01474	
005320	052506	A	1631	STA	TBUF1+4	ADDR OF HANDLER LOC NEEDING PROC. ADDR.	05	01475	
005321	005311	A	1632	DAR			05	01476	
005322	057000	I	1633	STA	MA	SET UP VIRTUAL MEMORY ADDR.	05	01477	
005323	006505	A	1634	JSR	VMWCT,X	AND STORE EVENT WORD	05	01478	
005324	013215	A							
005325	030000	L	1635	LDX	=SGSCB6		05	01479	
005326	002000	A	1636	CALL	SG4EXT	PLACE EXTERNAL TO PROCESSOR IN LDR TABLE	05	01480	
005327	013440	A							
005330	002503	A	1637	DATA	TBUF1+1		05	01481	
005331	017000	I	1638	LDA	MA		05	01482	
005332	005311	A	1639	DAR			05	01483	
005333	057000	I	1640	STA	MA	DECR VIR. MEM. ADDR.	05	01484	
005334	054062	A	1641	STA	LHG5+3		05	01485	
005335	030000	L	1642	LDX	=SGSCB6		05	01486	
005336	002000	A	1643	CALL	SG4EXT	PLACE EXT. TO COMMON HANDLER IN LDR TABLE	05	01487	
005337	013440	A							
005340	005414	A	1644	DATA	LHG5		05	01488	
005341	012541	A	1645	LDA	BS10		05	01489	
005342	057000	I	1646	STA	VDATA	SET UP "JMPN" INSTR.	05	01490	
005343	017000	I	1647	LDA	MA		05	01491	
005344	005311	A	1648	DAR			05	01492	
005345	057000	I	1649	STA	MA	DECR VIR. MEM. ADDR.	05	01493	
005346	006505	A	1650	LHG7	JSR	VMWCT,X	AND STORE "JMPN"	05	01494
005347	013215	A							
005350	005311	A	1651	DAR			05	01495	
005351	057000	I	1652	STA	MA	DECR VIR. MEM. ADDR.	05	01496	
005352	005002	A	1653	TZB	*		05	01497	
005353	067000	I	1654	STB	VDATA	*	05	01498	
005354	006505	A	1655	JSR	VMWCT,X	AND STORE "ENTR" (ENTRY POINT)	05	01499	
005355	013215	A							
005356	005311	A	1656	DAR			05	01500	
005357	057000	I	1657	STA	MA	DECR VIR. MEM. ADDR.	05	01501	
005360	017000	I	1658	LDA	LHG2		05	01502	
005361	122573	A	1659	ADD	FIVE	UPDATE POINTER TO INTERRUPT STACK	05	01503	
005362	001000	A	1660	JMP	LHG1	AND CONTINUE	05	01504	
005363	005160	A							
		1661	*				05	01505	
		1662	*				05	01506	
005364	006505	A	1663	LHG6	JSR	VMWCT,X	STORE EVENT WORD	05	01507
005365	013215	A							

Address	Op	Opnd	Comment	Label	Line
005366	I	1664	LDA MA		05 01508
005367	A	1665	DAR		05 01509
005370	I	1666	STA MA	DECR VIR. MEM. ADDR.	05 01510
005371	A	1667	STA TBUF1+4		05 01511
005372	L	1668	LDX =SGSCB6		05 01512
005373	A	1669	CALL SG4EXT	PLACE EXT TO INT. PROC. IN LDR TABLE	05 01513
005375	A	1670	DATA TBUF1+1		05 01514
		1671	IFT VORTEX-2		V2 05 01515
		1672	GOTO 1		V2 05 01516
		1673	LDA TBUF1		V2 05 01517
		1674	LRLA 1		V2 05 01518
		1675	JAP LHG22	TEST FOR SPECIAL DIRECT CONNECT	V2 05 01519
		1676	LDA MA		V2 05 01520
		1677	DAR	DROP ADDRESS	V2 05 01521
		1678	STA MA		V2 05 01522
		1679	STA LHG21+3		V2 05 01523
		1680	LDX =SGSCB6		V2 05 01524
		1681	CALL SG4EXT	SET 'V\$DHD'	V2 05 01525
		1682	DATA LHG21		V2 05 01526
		1683	EQU *		V2 05 01527
		1684	CONT 1		V2 05 01528
005376	A	1685	LDA BS10		05 01529
005377	I	1686	STA VDATA	SET UP 'JMPM' INSTR.	05 01530
005400	I	1687	LDA MA	*	05 01531
005401	A	1688	DAR	*	05 01532
005402	I	1689	STA MA	DECR VIR. MEM. ADDR.	05 01533
005403	A	1690	JSR VMWCT,X	AND STORE 'JMPM'	05 01534
005404	A	1691	DAR		05 01535
005405	I	1692	STA MA	DECR VIR. MEM. ADDR.	05 01536
005407	A	1693	LDB LHG4	*	05 01537
005410	I	1694	STB VDATA	SET UP INTERRUPT DISABLE INSTR.	05 01538
005411	A	1695	JMP LHG7	REJOIN COMMON ROUTINE TO FINISH	05 01539
005412	A	1696	*		05 01540
		1697	*		05 01541
005413	A	1698	LHG4 EXC 0747	CLOCK INTERRUPT DISABLE (INSTRUCTION)	05 01542
		1699	*		05 01543
005414	A	1700	LHG5 DATA 'V\$IHD',0	EXTERNAL SET-UP FOR COMMON INT. HANDLER	05 01544
005415	A	1701	*		05 01545
005416	A	1702	*		05 01546
005417	A	1703	*		05 01547
005420	A	1704	LHG8 DATA 'V\$SLHD',0		05 01548
005421	A	1705	*		05 01549
005422	A	1706	*		05 01550
005423	A	1707	*		05 01551
005424	A	1708	LHG9 DATA 'V\$END',0		05 01552
005425	A	1709	*		05 01553
005426	A	1710	*		05 01554
005427	A	1711	*		05 01555
005430	A	1712	LHG10 DATA 0	TEMPORARY STORE FOR (MA)	05 01556
		1713	*		05 01557
005431	A	1714	LHG12 DATA 'V\$IM ',0		05 01558
005432	A	1715	*		05 01559
005433	A	1716	*		05 01560
005434	A	1717	*		05 01561
		1718	IFT VORTEX-2		V2 05 01562
		1719	GOTO 1		V2 05 01563
		1720	LHG16 DATA *-1		V2 05 01564
		1721	DATA 05157	'V\$MPI0' IN LOADER CODE	V2 05 01565
		1722	DATA 0102267		V2 05 01566
		1723	DATA 015		V2 05 01567
		1724	LHG17 BSS 1	SAVE MA	V2 05 01568
		1725	LHG18 BSS 1	SAVE VDATA	V2 05 01569
		1726	LHG19 BSS 1	BACK LINK	V2 05 01570
		1727	LHG20 BSS 1	FORWARD LINK	V2 05 01571
		1728	LHG21 DATA 'V\$DHD',0		V2 05 01572
		1729	CONT 1		V2 05 01573
		1730	EJEC		V2 05 01574
		1731	*		05 01575
		1732	*		05 01576
		1733	SG4FTG		05 01577
		1734	*	PURPOSE: TO GENERATE THE BIC FLAG TABLE	05 01578
		1735	*	CALLING SEQUENCE: JMP SG4FTG	05 01579
		1736	*	RETURN PARAMETERS: NONE	05 01580
		1737	*		05 01581
		1738	*		05 01582
005435	I	1739	LDA LLC		05 01583
005436	I	1740	STA MA	SET UP VIRTUAL MEMORY ADDR. REGISTER	05 01584
005437	A	1741	LDAI 'IB'		05 01585
005440	A	1742	STA TBUF2	FIRST TWO CHAR OF EVERY LOADER TABLE	05 01586
005441	A	1743	*	ITEM GENERATED BY THIS ROUTINE	05 01587
005442	A	1744	LDA SGSCB0		05 01588
005443	A	1745	TAX	(XR)= POINTER TO EQUIP STACK	05 01589

006031	017000	I	1977	*					05	01762
006032	057000	I	1978	CDT4	LDA	MA			05	01763
006033	142540	I	1979		STA	LLC	RESTORE LOADING LOCATION COUNTER		05	01764
006034	001004	A	1980		SUB	BS9			05	01765
006035	006050	A	1981		JAN	CDT5	IF SYSTEM MEMORY SIZE ERROR		05	01766
006036	030000	L	1982	*					05	01767
006037	002000	A	1983		LDX	=SGSCB7			05	01768
006040	013544	A	1984		CALL	SG4ENT	MAKE DATA PATCH ENTRY FOR NUM-CONTROLLERS		05	01769
006041	006063	A	1985		DATA	CDT7			05	01770
006042	030000	L	1986		LDX	=SGSCB6			05	01771
006043	002000	A	1987		CALL	SG4ENT	MAKE LOADER TABLE ENTRY FOR		05	01772
006044	013544	A								
006045	006057	A	1988		DATA	CDT6	START OF CONTROLLER ADDRESS TABLE		05	01773
006046	001000	A	1989	*					05	01774
006047	006067	A	1990		JMP	SG4DSB	* * EXIT ROUTINE * *		05	01775
006050	012635	A	1991	*					05	01776
006051	002000	A	1992	CDT5	LDA	ER30	POST "SYSTEM MEMORY SIZE ERROR" MESSAGE		05	01777
006052	013617	A	1993		CALL	SG4PRO			05	01778
006053	001000	A	1994		JMP	RELOAD	GO TO RELOAD SYSTEM		05	01779
006054	015031	A								
006055	000000	A	1995	*					05	01780
006056	000000	A	1996	*					05	01781
006057	153244	A	1997	CDT1	DATA	0	COTAD RELATIVE POINTER		05	01782
006060	141717	A	1998	*					05	01783
006061	152301	A	1999	CDT2	DATA	0	EQUIP STACK POINTER		05	01784
006062	000000	A	2000	*					05	01785
006063	121644	A	2001	CDT6	DATA	'V\$COTA'	COTAD START LOCATION - LOADER		05	01786
006064	147303	A								
006065	152322	A	2002		DATA	0	TABLE ENTRY		05	01787
006066	000000	A	2003	*					05	01788
006067	005001	A	2004	CDT7	DATA	'#\$NCTR',0	NUM OF CONTROLLERS FOR LOW-CORE		05	01789
006068										
006069			2005		EJEC				05	01790
006070			2006	*					05	01791
006071			2007	*	SG4DSB				05	01792
006072			2008	*					05	01793
006073			2009	*			PURPOSE: TO GENERATE THE DST BLOCK AND PROVIDE		05	01794
006074			2010	*			LINKAGE TO IT. (MUST FOLLOW SG4CUT)		05	01795
006075			2011	*					05	01796
006076			2012	*			CALLING SEQUENCE: JMP SG4DSB		05	01797
006077			2013	*					05	01798
006078			2014	*			RETURN PARAMETERS: NONE		05	01799
006079			2015	*					05	01800
006080			2016	*					05	01801
006081			2017	*	SG4DSB	BSS.	0	* * ENTRY POINT * *	05	01802
006082			2018	*		TZA			05	01803
006083			2019	*		STA	VDATA		05	01804
006084			2020	*		LDA	LLC	SET UP VIRTUAL MEMORY ADDRESS	05	01805
006085			2021	*		STA	MA		05	01806
006086			2022	*					05	01807
006087			2023	*		JSR	VMNCT,X	STORE TWO ZEROS TO INDICATE END OF DST BLK	05	01808
006088										
006089			2024	*		DAR			05	01809
006090			2025	*		STA	MA		05	01810
006091			2026	*		JSR	VMNCT,X		05	01811
006092										
006093			2027	*		DAR		UPDATE MEMORY ADDRESS	05	01812
006094			2028	*		STA	MA		05	01813
006095			2029	*					05	01814
006096			2030	*		LDA	SGSCB0	GET CONTROLLER/UNIT INFO FROM EQUIP STACK	05	01815
006097			2031	*	DSB1	TAX		SAVE PNTR TO EQUIP STACK	05	01816
006098			2032	*		STX	DSB2		05	01817
006099			2033	*		SUB	SGSCB0+1	IF MORE ITEMS IN STACK (BUILD ANOTHER DST)	05	01818
006100			2034	*		JANZ	DSB3		05	01819
006101										
006102			2035	*					05	01820
006103			2036	*		LDA	MA	RESTORE LOCATION COUNTER	05	01821
006104			2037	*		STA	LLC		05	01822
006105			2038	*		INCR	012	PUT DST START ADDR. IN LINK ENTRY	05	01823
006106			2039	*		STB	DSB5+3		05	01824
006107			2040	*		STB	DSB8		05	01825
006108			2041	*		SUB	BS9	ERROR: IF NUCLEUS EXCEEDS MEMORY SPACE	05	01826
006109			2042	*		JAN	DSB6		05	01827
006110										
006111			2043	*					05	01828
006112			2044	*		TZA		INITIALIZE NUM. DST ENTRIES TO ZERO	05	01829
006113			2045	*	DSB101	STA	DSB4		05	01830
006114			2046	*		LDX	=SGSCB9		05	01831
006115			2047	*		LDB	=TBUF2		05	01832
006116			2048	*		CALL	SGGET	GET DST LINK NAME	05	01833
006117										
006118			2049	*		JAN	DSB102	IF NO MORE DST LINKS	05	01834
006119										
006120			2050	*		INR	DSB4		05	01835
006121			2051	*		LDA	DSB4		05	01836
006122			2052	*		LRLA	8		05	01837

006134	114361	A	2053	ORA	DSB4			05	01838
006135	052517	A	2054	STA	TBUF2+3	PUT DST ENTRY NUMBER IN LINK ENTRY		05	01839
006136	030000	L	2055	LDX	=SGSCB7			05	01840
006137	002000	A	2056	CALL	SG4ENT	SEARCH AND ENTER IN DATA PATCH STACK		05	01841
006140	013544	A							
006141	002514	A	2057	DATA	TBUF2			05	01842
006142	012514	A	2058	LDA	TBUF2			05	01843
006143	152560	A	2059	ANA	BR9	CONVERT LABEL FROM "#X.." TO "!XX..."		05	01844
006144	052514	A	2060	STA	TBUF2			05	01845
006145	014356	A	2061	LDA	DSB8	SET-UP LINK ADDRESS		05	01846
006146	052517	A	2062	STA	TBUF2+3			05	01847
006147	122572	A	2063	ADD	THREE			05	01848
006150	054353	A	2064	STA	DSB9	SET-UP ADDR FOR NEXT DST ENTRY		05	01849
			2065	*				05	01850
006151	030000	L	2066	LDX	=SGSCB6			05	01851
006152	002000	A	2067	CALL	SG4ENT	MAKE LDR STACK ENTRY		05	01852
006153	013544	A							
006154	002514	A	2068	DATA	TBUF2			05	01853
006155	001000	A	2069	JMP	DSB101	GO GET ANOTHER		05	01854
006156	006123	A							
			2070	*				05	01855
006157	030000	L	2071	DSB102	LDX	=SGSCB6		05	01856
006160	002000	A	2072	CALL	SG4ENT	SEARCH AND ENTER "DST BLOCK ADDR" LINK		05	01857
006161	013544	A							
006162	006517	A	2073	DATA	DSB5			05	01858
006163	001000	A	2074	JMP	SG4LUT	* * EXIT * *		05	01859
006164	006545	A							
			2075	*				05	01860
			2076	*		* * PROCESS CONTROLLER DATA-BUILD DST * *		05	01861
			2077	*				05	01862
006165	015002	A	2078	DSB3	LDP	2,X		05	01863
006166	004350	A	2079	LSRA	8			05	01864
006167	054333	A	2080	STA	DSB7	SAVE NUMBER OF UNITS (ON CONTROLLER)		05	01865
			2081	*				05	01866
006170	010000	L	2082	LDA	= ' #'	BUILD DATA PATCH NAME FOR CONTROLLER		05	01867
006171	025000	A	2083	LDB	0,X	ADDRESS TABLE (COTAD) POINTER.		05	01868
006172	062515	A	2084	STB	TBUF2+1	(OF THE FORM:		05	01869
006173	004450	A	2085	LLRL	8			05	01870
006174	052502	A	2086	STA	TBUF1	#MMCX - FOR NON-RMD		05	01871
006175	010000	L	2087	LDA	= ' '			05	01872
006176	004450	A	2088	LLRL	8	OR #DCX - FOR RMD)		05	01873
006177	025001	A	2089	LDB	1,X			05	01874
006200	004450	A	2090	LLRL	8			05	01875
006201	052503	A	2091	STA	TBUF1+1			05	01876
006202	152571	A	2092	ANA	RHW			05	01877
006203	054322	A	2093	STA	DSB103	SAVE CONTROLLER NUMBER (FOR NON-RMD)		05	01878
006204	062504	A	2094	STB	TBUF1+2			05	01879
			2095	*				05	01880
006205	006505	A	2096	JSR	SG4PKK,X	CONVERT (COTAD) PNTR ENTRY TO LDR CODE		05	01881
006206	013772	A							
006207	000006	A	2097	DATA	6-TBUF1			05	01882
006210	002502	A							
006211	005301	A	2098	DECR	01			05	01883
006212	030000	L	2099	LDX	=SGSCB7			05	01884
006213	020000	L	2100	LDB	=ITEM			05	01885
006214	002000	A	2101	CALL	SGSRE	SEARCH DATA PATCH TABLE FOR (COTAD) PNTR		05	01886
006215	014744	A							
006216	000000	A	2102	DATA	0			05	01887
006217	005041	A	2103	TXA				05	01888
006220	001004	A	2104	JAN	DSB106	ERROR IF PNTR NAME NOT FOUND		05	01889
006221	006532	A							
006222	015000	A	2105	LDA	0,X			05	01890
006223	001004	A	2106	JAN	DSB106	ERROR IF PNTR NOT DEFINED		05	01891
006224	006532	A							
006225	052516	A	2107	STA	TBUF2+2	SAVE (COTAD) POINTER		05	01892
			2108	*				05	01893
006226	010000	L	2109	LDA	=0260			05	01894
006227	054273	A	2110	STA	DSB20	INITIALIZE UNIT NUMBER (IN ASCII)		05	01895
			2111	*				05	01896
006230	012515	A	2112	DSB19	LDA	TBUF2+1	GET FIRST TWO CHAR OF CONTROLLER NAME	05	01897
006231	130000	L	2113	CRA	= 'D'			05	01898
006232	152570	A	2114	ANA	LHW			05	01899
006233	001010	A	2115	JAZ	DCB22	IF RMD DEVICE		05	01900
006234	006306	A							
			2116	*				05	01901
006235	014270	A	2117	LDA	DSB103			05	01902
006236	004250	A	2118	LRLA	8			05	01903
006237	114265	A	2119	ORA	DSB20			05	01904
006240	052514	A	2120	STA	TBUF2	PUT CONTROLLER-UNIT CHARS TOGETHER		05	01905
			2121	*				05	01906
006241	002000	A	2122	CALL	DSB200	CHECK ASSIGN STACK AND DEFINE ASSIGNABILITY		05	01907
006242	006400	A							
006243	012514	A	2123	DSB10	LDA	TBUF2	PACK CONTROLLER/UNIT CHARS	05	01908
006244	140000	L	2124	SUB	= '00'	IN DST FORMAT		05	01909
006245	004546	A	2125	LLSR	8	*		05	01910
006246	004342	A	2126	LSRA	8	*		05	01911
006247	004452	A	2127	LLRL	10	*		05	01912
006250	052514	A	2128	STA	TBUF2	AND SAVE IN (TBUF2)		05	01913
006251	004251	A	2129	LRLA	8			05	01914
006252	150000	L	2130	ANA	=060000			05	01915
006253	112516	A	2131	CRA	TBUF2+2	REDUCE UNIT NUM TO 2 BITS		05	01916
006254	052516	A	2132	STA	TBUF2+2	AND "OR" INTO DST		05	01917
			2133	*				05	01918


```

2214 *
2215 * DSB200
2216 *
2217 *
2218 * PURPOSE: TO SCAN ASSIGN STACK AND DETERMINE
2219 * ASSIGNABILITY CODE FOR DEVICE WHOSE NAME
2220 * IS IN (TBUF2) OF THE FORM:
2221 *
2222 * (TBUF2) = CU DR UP
2223 * (TBUF2+2) = MM DC
2224 *
2225 * CALLING SEQUENCE: CALL DSB200
2226 *
2227 * RETURN PARAMETERS: (DSB11)= ASSIGNABILITY CODE
2228 * (011= NO ASSIGNS MADE)
2229 *
006400 000000 A 2230 DSB200 ENTR
006401 012572 A 2231 LDA THREE
006402 054125 A 2232 DSB11 INITIALIZE CODE WORD
006403 010303 A 2233 STA SGSCB1 SEARCH ASSIGN STACK
006404 005014 A 2234 DSB14 TAX
006405 140504 A 2235 SUB SGSCB1+1
006406 001010 A 2236 JAZ* DSB200 RETURN, IF SEARCH COMPLETE
006407 106400 A
006410 015000 A 2237 LDA 0,X
006411 132515 A 2238 ERA TBUF2+1
006412 001016 A 2239 JANZ DSB16 CONTINUE IF NO MATCH
006413 006453 A
006414 015001 A 2240 LDA 1,X
006415 132514 A 2241 ERA TBUF2
006416 001016 A 2242 JANZ DSB16 CONTINUE IF NO MATCH
006417 006453 A
006420 015003 A 2243 LDA 3,X
006421 152571 A 2244 ANA RHW GET ASSOCIATED LUN
006422 142527 A 2245 SUB JNE
006423 001016 A 2246 JANZ DSB18 IF NOT "OPCOM" UNIT
006424 006432 A
006425 012542 A 2247 LDA BS11
006426 112516 A 2248 ORA TBUF2+2
006427 052516 A 2249 STA TBUF2+2 SET OPCOM FLAG IN DST
006430 001000 A 2250 JMP DSB12 SET ASSIGN CODE TO CLASS #1
006431 006443 A
006432 006140 A 2251 DSB18 SUBI 100 D.105 02036
006433 000144 A
006434 001004 A 2252 JAN DSB12 IF UNIT 2 TO 100, SET TO CLASS #1
006435 006443 A
006436 140000 L 2253 SUB =79
006437 001004 A 2254 JAN DSB13 IF UNJT 101 TO 179, SET TO CLASS #2
006440 006445 A
006441 005102 A 2255 INCR 02 SET TO CLASS #3
006442 001006 A 2256 DATA 01006
006443 005002 A 2257 DSB12 TCB SET TO CLASS #1
006444 001006 A 2258 DATA 01006
006445 022530 A 2259 DSB13 LDB TWO SET TO CLASS #2
006446 014061 A 2260 LDA DSB11
006447 132572 A 2261 ERA THREE
006450 001016 A 2262 JANZ DSB16 IF CLASS PREVIOUSLY DETERMINED V2
006451 006453 A
006452 064055 A 2263 STB DSB11 STORE CLASS CODE
006453 005041 A 2264 DSB16 TXA
006454 122531 A 2265 ADD FOUR BUMP STACK POINTER
006455 001000 A 2266 JMP DSB14 SEARCH SOME-MORE
006456 006404 A
2267 * EJEC
2268 *
2269 * DSB201
2270 *
2271 * PURPOSE: PACK ASSIGNABILITY CODE IN DST AND STORE
2272 * DST IN VIRTUAL MEMORY
2273 *
2274 * CALLING SEQUENCE: CALL DSB201
2275 *
2276 * RETURN PARAMETERS: NONE
2277 *
2278 *
006457 000000 A 2279 DSB201 ENTR
006460 014047 A 2280 LDA DSB11
006461 132572 A 2281 ERA THREE
006462 001010 A 2282 JAZ *+3 IF ASSIGNABILITY CODE NOT SET,
006463 006465 A SET TO CLASS #1
006464 014043 A 2283 LDA DSB11
006465 004255 A 2284 LRLA 13
006466 112514 A 2285 ORA TBUF2
006467 052514 A 2286 STA TBUF2 PACK CLASS CODE INTO DST
2287 *
006470 022516 A 2288 LDB TBUF2+2
006471 067000 I 2289 STB VIATA
006472 006505 A 2290 JSR VMMCT,X OUTPUT LAST WORD OF DST ENTRY
006473 013215 A
006474 017000 I 2291 LDA 29
006475 005311 A 2292 BAR
006476 057000 I 2293 STA NA
006477 022515 A 2294 LDB TBUF2+1

```



```

006500 067000 I 2295 STB VDATA 05 02080
006501 006505 A 2296 JSR VMWCT,X OUTPUT SECOND WORD OF DST ENTRY 05 02081
006502 013215 A 2297 DAR 05 02082
006503 005311 A 2298 STA MA 05 02083
006504 057000 I 2299 LDB TBUF2 05 02084
006505 022514 A 2300 STB VDATA 05 02085
006506 067000 I 2300 JSR VMWCT,X OUTPUT FIRST WORD OF DST ENTRY 05 02086
006507 006505 A 2301 DAR 05 02087
006510 013215 A 2302 STA MA (MA)= NEXT AVAILABLE CELL 05 02088
006511 005311 A 2303 JMP* DSB201 * * RETURN * * 05 02089
006512 057000 I 2304 05 02090
006513 001000 A 2305 * * DATA CELLS * * 05 02091
006514 106457 A 2306 * 05 02092
2307 * 05 02093
006515 000000 A 2308 DSB2 DATA 0 EQUIP STACK PNTR 05 02093
006516 000000 A 2309 DSB4 DATA 0 DST ENTRY COUNTER 05 02094
006517 153244 A 2310 DSB5 DATA 'V$DSTB',0 LDR TABLE ENTRY FOR BASE OF DST BLOCK 05 02095
006520 142323 A 2311 DSB7 DATA 0 NUMBER OF UNITS 05 02096
006521 152302 A 2312 DSB8 DATA 0 DST ADDRESS COUNTER 05 02097
006522 000000 A 2313 DSB20 DATA 0 UNIT NUMBER (ASCII) 05 02098
006523 000000 A 2314 DSB103 DATA 0 CONTROLLER NUMBER (ASCII) 05 02099
006524 000000 A 2315 DSB204 DATA 0 PARTITION LETTER (ASCII) 05 02100
006525 000000 A 2316 DSB11 DATA 0 ASSIGNABILITY CODE 05 02101
006526 000000 A 2317 DSB26 DATA 0 PARTITION STACK POINTER 05 02102
006527 000000 A 2318 * 05 02103
006528 000000 A 2319 * * ERROR MESSAGES * * 05 02104
006529 000000 A 2320 * 05 02105
006532 012647 A 2321 DSB106 LDA ER45 UNDEFINED EXTERNAL 05 02106
006533 001006 A 2322 DATA 01006 05 02107
006534 012635 A 2323 DSB6 LDA ER30 NUCLEUS TOO LARGE 05 02108
006535 001006 A 2324 DATA 01006 05 02109
006536 012632 A 2325 DSB104 LDA ER24 STACK OVERFLOW 05 02110
006537 001006 A 2326 DATA 01006 05 02111
006540 012650 A 2327 DSB105 LDA ER46 ASSIGNABILITY CODE CONFLICT 05 02112
006541 002000 A 2328 CALL SG4PRD 05 02113
006542 013617 A 2329 JMP RELOAD 05 02114
006543 001000 A 2330 EJEC 05 02115
006544 015031 A 2331 * 05 02116
2332 * SG4LUT 05 02117
2333 * 05 02118
2334 * PURPOSE: TO GENERATE THE LOGICAL UNIT TABLES 05 02119
2335 * 05 02120
2336 * CALLING SEQUENCE: JMP SG4LUT 05 02121
2337 * 05 02122
2338 * RETURN PARAMETERS: NONE 05 02123
2339 * 05 02124
2340 * 05 02125
006545 2341 SG4LUT BSS 0 * * ENTRY POINT * * 05 02126
006546 017000 I 2342 LDA LLC 05 02127
006547 005002 A 2343 TZE 05 02128
006548 067000 I 2344 STB VDATA SET DATA REGISTER TO CLEAR VIR. MEMORY 05 02129
006549 022724 A 2345 LDB SGLUN1 INITIALIZE COUNTER TO CLEAR LUT1 05 02130
006550 057000 I 2346 LUT1 STA MA SET VIR. MEMORY ADDR. REGISTER FOR CLEAR 05 02131
006551 001020 A 2347 JNZ LUT2 IF ENTIRE BLOCK CLEARED 05 02132
006552 006562 A 2348 JSR VMWCT,X OTHERWISE, CLEAR ANOTHER CELL 05 02133
006553 013215 A 2349 DAR 05 02134
006554 006505 A 2350 DAR 05 02135
006555 013215 A 2351 JMP LUT1 CONTINUE 05 02136
006556 005322 A 2352 LUT2 STA LUTA+3 SAVE ADDRESS OF START OF LUT1 05 02137
006557 005311 A 2353 STA SGTMP1 AND POINTER INTO IT 05 02138
006558 030000 L 2354 LDX =SGSCB6 05 02139
006559 002000 A 2355 CALL SG4ENT MAKE LOADER TABLE ENTRY FOR START OF LUT1 05 02140
006560 001000 A 2356 DATA LUTA 05 02141
006561 006551 A 2357 LDA SGLUN1 05 02142
006562 054166 A 2358 STA VDATA 05 02143
006563 052727 A 2359 JSR VMWCT,X STORE SIZE OF LUT1 IN FIRST LOCATION 05 02144
006564 030000 L 2360 LDA MA 05 02145
006565 002000 A 2361 DAR (MA) TO NEXT AVAILABLE CELL 05 02146
006566 013544 A 2362 * 05 02147
006567 006746 A 2363 TZE GO THRU VIR. MEMORY CLEAR PROCESS FOR LUT2 05 02148
006568 012724 A 2364 STB VDATA 05 02149
006569 057000 I 2365 LDB SGLUN2 05 02150
006570 006505 A 2366 LUT3 STA MA 05 02151
006571 013215 A 2367 JNZ LUT4 05 02152
006572 017000 I 2368 JSR VMWCT,X 05 02153
006573 005311 A 2369 DAR 05 02154
006574 017000 I 2370 DAR 05 02155
006575 005311 A 2371 JMP LUT3 05 02156
006600 022725 A 2372 05 02157
006601 057000 I 2373 05 02158
006602 001020 A 2374 05 02159
006603 006612 A 2375 05 02160
006604 006505 A 2376 05 02161
006605 013215 A 2377 05 02162
006606 005322 A 2378 05 02163
006607 005311 A 2379 05 02164
006608 001000 A 2380 05 02165
006609 006601 A 2381 05 02166

```


006612	054142	A	2372	LUT4	STA	LUTB+3	SAVE ADDRESS OF START OF LUT2	05	02157
006613	140000	L	2373		SUB	=100	AND...	05	02158
006614	052730	A	2374		STA	SGTMP2	POINTER INTO IT	05	02159
006615	030000	L	2375		LDX	=SGSCB6		05	02160
006616	002000	A	2376		CALL	SG4EXT	MAKE LOADER TABLE ENTRY FOR START OF LUT2	05	02161
006617	013544	A							
006620	006752	A	2377		DATA	LUTB		05	02162
006621	012725	A	2378		LDA	SGLUN2		05	02163
006622	057000	I	2379		STA	VDATA		05	02164
006623	006505	A	2380		JSR	VMWCT,X	STORE SIZE OF LUT2 IN FIRST LOCATION	05	02165
006624	013215	A							
006625	017000	I	2381		LDA	MA		05	02166
006626	005311	A	2382		DAR		BUMP (MA) TO NEXT AVAILABLE CELL	05	02167
			2383	*				05	02168
006627	005002	A	2384		TZE		GO THRU VIR. MEMORY CLEAR PROCESS FOR LUT3	05	02169
006630	057000	I	2385		STB	VDATA		05	02170
006631	022726	A	2386		LDB	SGLUN3		05	02171
006632	057000	I	2387	LUT5	STA	MA		05	02172
006633	001020	A	2388		JBZ	LUT5		05	02173
006634	006643	A							
006635	006505	A	2389		JSR	VMWCT,X		05	02174
006636	013215	A							
006637	005322	A	2390		DAR			05	02175
006640	005311	A	2391		DAR			05	02176
006641	001000	A	2392		JMP	LUT5		05	02177
006642	006632	A							
006643	054115	A	2393	LUT6	STA	LUTC+3	SAVE ADDRESS OF START OF LUT3	05	02178
006644	140000	L	2394		SUB	=179	AND...	05	02179
006645	052731	A	2395		STA	SGTMP3	POINTER INTO IT	05	02180
006646	030000	L	2396		LDX	=SGSCB6		05	02181
006647	002000	A	2397		CALL	SG4EXT	MAKE LOADER TABLE ENTRY FOR START OF LUT3	05	02182
006650	013544	A							
006651	006756	A	2398		DATA	LUTC		05	02183
006652	012726	A	2399		LDA	SGLUN3		05	02184
006653	057000	I	2400		STA	VDATA		05	02185
006654	006505	A	2401		JSR	VMWCT,X	STORE SIZE OF LUT3 IN FIRST LOCATION	05	02186
006655	013215	A							
006656	017000	I	2402		LDA	MA		05	02187
006657	005311	A	2403		DAR		BUMP (MA) TO NEXT AVAILABLE CELL	05	02188
			2404	*				05	02189
006660	057000	I	2405		STA	LLC	AND RESTORE LOADING LOCATION COUNTER	05	02190
006661	142540	A	2406		SUB	339		05	02191
006662	001004	A	2407		JAN	LUT11	IF SYSTEM MEMORY SIZE ERROR	05	02192
006663	006741	A							
			2408	*				05	02193
006664	010503	A	2409	LUT7	LDA	SGSCB1	INITIALIZE POINTER TO ASSIGN STACK	05	02194
006665	005014	A	2410		TAX			05	02195
006666	074073	A	2411		STX	LUTD	SAVE POINTER	05	02196
006667	140504	A	2412		SUB	SGSCB1+1		05	02197
006670	001002	A	2413		JAP	SG4LOG	IF END OF ASSIGN STACK REACHED	05	02198
006671	006763	A							
006672	015003	A	2414		LDA	3,Y		05	02199
006673	152571	A	2415		ANA	RPM	GET LOGICAL UNIT NUMBER	05	02200
006674	054013	A	2416		STA	LUT12	AND SAVE IT	05	02201
006675	022727	A	2417		LDB	SGTMP1	GET LUT1 RELATIVE ADDR.	05	02202
006676	140000	L	2418		SUB	=101		05	02203
006677	001000	A	2419		JAN	LUT8	IF LUT1 LOGICAL UNIT	05	02204
006700	006706	A							
006701	022730	A	2420		LDB	SGTMP2	GET LUT2 RELATIVE ADDR.	05	02205
006702	140000	L	2421		SUB	=70		05	02206
006703	001004	A	2422		JAN	LUT8	IF LUT2 LOGICAL UNIT	05	02207
006704	006706	A							
006705	022731	A	2423		LDB	SGTMP3	GET LUT3 RELATIVE ADDR.	05	02208
006706	005021	A	2424	LUT8	TBA		FORM ADDRESS TO PROPER LUT CELL	05	02209
006707	006120	A	2425		ADDI	0	AND...	05	02210
006710	000000	A							
006711	110000	L	2426	LUT12	RES	0		05	02211
006712	052505	A	2427		DRA	00 00000	MAKE IT A STRING ADDRESS	05	02212
			2428		STA	TBUF1+3	FOR DATA PATCH EXTERNAL ITEM	05	02213
			2429	*				05	02214
006713	015000	A	2430	LUT9	LDA	0,X	MOVE PHYSICAL UNIT NAME TO 'TBUF1'	05	02215
006714	005012	A	2431		TAB			05	02216
006715	130000	L	2432		DRA	=*DU*		05	02217
006716	001010	A	2433		JAB	LUT10	IGNORE IF DUMMY UNIT	05	02218
006717	006735	A							
006720	010000	L	2434		LDA	=*#*		05	02219
006721	004450	A	2435		CLRL	0		05	02220
006722	052502	A	2436		STA	TBUF1		05	02221
006723	010000	L	2437		LDA	=*		05	02222
006724	004450	A	2438		CLRL	0		05	02223
006725	025001	A	2439		LDB	1,X		05	02224
006726	004450	A	2440		CLRL	0		05	02225
006727	052503	A	2441		STA	TBUF1+1		05	02226
006730	062504	A	2442		STB	TBUF1+2		05	02227
006731	030000	L	2443		LDX	=SGSCB7		05	02228
006732	002000	A	2444		CALL	SG4EXT	PUT EXTERNAL IN DATA PATCH STACK	05	02229
006733	013440	A							
006734	002502	A	2445		DATA	TBUF1		05	02230
			2446	*				05	02231
006735	014024	A	2447	LUT10	LDA	LUTD	BUMP STACK POINTER	05	02232
006736	120505	A	2448		ADD	SGSCB1+2	TO NEXT ENTRY	05	02233
006737	001000	A	2449		JMP	LUT7	CONTINUE	05	02234
006740	006665	A							


```

006741 012635 A 2450 *
006742 002000 A 2451 *
006743 013617 A 2452 LUT11 LDA ER30 POST "SYSTEM MEMORY SIZE ERROR" MESSAGE
006744 001000 A 2453 CALL SG4PRD
006745 015031 A 2454 JMP RELOAD GO RELOAD SGEN
2455 *
2456 *
2457 *
006746 153244 A 2458 LUTA DATA 'V$LUT1' LOADER TABLE ITEM: START OF LUT1
006747 146325 A
006750 152261 A
006751 000000 A 2459 DATA 0
2460 *
006752 153244 A 2461 LUTB DATA 'V$LUT2' LOADER TABLE ITEM: START OF LUT2
006753 146325 A
006754 152262 A
006755 000000 A 2462 DATA 0
2463 *
006756 153244 A 2464 LUTC DATA 'V$LUT3' LOADER TABLE ITEM: START OF LUT3
006757 146325 A
006760 152263 A
006761 000000 A 2465 DATA 0
2466 *
006762 000000 A 2467 LUTD DATA 0 STACK INDEX
2468 EJEC
2469 *
2470 * SG4LOG
2471 *
2472 * PURPOSE: TO BUILD THE LOGICAL UNIT NAME TABLE
2473 *
2474 * CALLING SEQUENCE: JMP SG4LOG
2475 *
2476 * RETURN PARAMETERS: NONE
2477 *
2478 *
006763 2479 SG4LOG BSS 0 * * ENTRY POINT * *
006763 005001 A 2480 TZA
006764 057000 I 2481 STA VDATA SET UP LAST WORD OF LOG. UNIT NAME TABLE
006765 017000 I 2482 LDA LLC
006766 057000 I 2483 STA MA INITIALIZE VIR. MEMORY ADDR. REGISTER
006767 006505 A 2484 JSR VMNCT,X WRITE OUT LAST WORD
006770 013215 A
006771 005311 A 2485 DAR AND BUMP ADDR. REGISTER FOR NEXT WORD
006772 057000 I 2486 STA MA
2487 *
006773 010503 A 2488 LDA SGSCB1 INITIALIZE ASSIGN STACK POINTER
006774 005012 A 2489 LOG1 TAB
006775 140504 A 2490 SUB SGSCB1+1
006776 001002 A 2491 JAP LOG3 IF END OF STACK SCAN
006777 007030 A
2492 *
007000 016002 A 2493 LDA 2,B GET LOGICAL UNIT NAME FROM STACK ITEM
007001 130000 L 2494 ERA =
007002 001010 A 2495 JAZ LOG4 IF NO NAME, GET NEXT STACK ITEM
007003 007024 A
2496 *
007004 016003 A 2497 LDA 3,B GET LOGICAL UNIT NUMBER
007005 152571 A 2498 ANA RHW AND PUT IN TABLE
007006 057000 I 2499 STA VDATA
007007 006505 A 2500 JSR VMNCT,X
007010 013215 A
2501 *
007011 017000 I 2502 LDA MA
007012 005311 A 2503 DAR
007013 057000 I 2504 STA MA DECR ADDR REGISTER TO NEXT TABLE LOCATION
007014 016002 A 2505 LDA 2,B AND PUT CORRESPONDING NAME
007015 057000 I 2506 STA VDATA IN TABLE
007016 006505 A 2507 JSR VMNCT,X
007017 013215 A
2508 *
007020 017000 I 2509 LDA MA
007021 054031 A 2510 STA LOG2+3 SAVE START-OF-TABLE ADDR FOR LOADER TABLE
007022 005311 A 2511 DAR
007023 057000 I 2512 STA MA DECR ADDR REGISTER TO NEXT TABLE LOCATION
007024 005021 A 2513 TBA
007025 120505 A 2514 ADD SGSCB1+2 ADJUST STACK POINTER TO NEXT ITEM
007026 001000 A 2515 JMP LOG1 AND CONTINUE
007027 006774 A
2516 *
007030 017000 I 2517 LOG3 LDA MA
007031 057000 I 2518 STA LLC RESTORE LOADING LOCATION COUNTER
007032 142540 A 2519 SUB BS9
007033 001004 A 2520 JAN LOG5 IF SYSTEM MEMORY SIZE ERROR
007034 007043 A
2521 *
007035 030000 L 2522 LDX =SGSCB6
007036 002000 A 2523 CALL SG4ENT MAKE START-OF-TABLE ENTRY IN LOADER TABLE
007037 013544 A
007040 007050 A 2524 DATA LOG2
007041 001000 A 2525 JMP SGVTAM * * ROUTINE EXIT * *
007042 007054 A

```


007162	054474	A	2600	STA	SGVTCB	SAVE SIZE OF CIRCULAR BUFFER	D.105	02385
007163	017000	I	2601	LDA	LLC		D.105	02386
007164	144472	A	2602	SUB	SGVTCB		D.105	02387
007165	144471	A	2603	SUB	SGVTCB	ALLOCATE BUFFER OF 2*CBSIZE WORDS	D.105	02388
007166	142573	A	2604	SUB	FIVE	ALLOCATE 5 WORDS FOR BUFFER CONTROL	D.105	02389
007167	057000	I	2605	STA	MA		D.105	02390
007170	057000	I	2606	STA	LLC		D.105	02391
007171	054516	A	2607	STA	SGVTN3+3		D.105	02392
007172	005111	A	2608	IAR			D.105	02393
007173	054520	A	2609	STA	SGVTN4+3		D.105	02394
007174	005111	A	2610	IAR			D.105	02395
007175	054522	A	2611	STA	SGVTN5+3		D.105	02396
007176	005111	A	2612	IAR			D.105	02397
007177	054524	A	2613	STA	SGVTN6+3		D.105	02398
007200	005111	A	2614	IAR			D.105	02399
007201	054526	A	2615	STA	SGVTN7+3		D.105	02400
007202	005101	A	2616	INCR	1		D.105	02401
007203	057000	I	2617	STA	VDATA		D.105	02402
007204	006505	A	2618	JSR	VMWCT,X	PUT 1 IN CC\$FLG	D.105	02403
007205	013215	A						
007206	030000	L	2619	LDX	=SGSCB6		D.105	02404
007207	002000	A	2620	CALL	SG4ENT	ENTER 'CC\$FLG' IN LOADER TABLE	D.105	02405
007210	013544	A						
007211	007705	A	2621	PZE	SGVTN3		D.105	02406
007212	017000	I	2622	LDA	MA		D.105	02407
007213	122573	A	2623	ADD	FIVE		D.105	02408
007214	057000	I	2624	STA	VDATA		D.105	02409
007215	054455	A	2625	STA	SGVTT	SAVE BUFFER ADDRESS	D.105	02410
007216	047000	I	2626	INR	MA	BUMP LDC COUNTER	D.105	02411
007217	006505	A	2627	JSR	VMWCT,X	WRITE BUFFER ADDR IN CC\$FIL	D.105	02412
007220	013215	A						
007221	030000	L	2628	LDX	=SGSCB6		D.105	02413
007222	002000	A	2629	CALL	SG4ENT	DEFINE 'CC\$FIL'	D.105	02414
007223	013544	A						
007224	007711	A	2630	PZE	SGVTN4		D.105	02415
007225	047000	I	2631	INR	MA		D.105	02416
007226	014444	A	2632	LDA	SGVTT		D.105	02417
007227	057000	I	2633	STA	VDATA	RESTORE VDATA	D.105	02418
007230	006505	A	2634	JSR	VMWCT,X	WRITE BUFFER ADDRESS IN CC\$EMT	D.105	02419
007231	013215	A						
007232	030000	L	2635	LDX	=SGSCB6		D.105	02420
007233	002000	A	2636	CALL	SG4ENT	DEFINE 'CC\$EMT'	D.105	02421
007234	013544	A						
007235	007715	A	2637	PZE	SGVTN5		D.105	02422
007236	047000	I	2638	INR	MA		D.105	02423
007237	014433	A	2639	LDA	SGVTT		D.105	02424
007240	057000	I	2640	STA	VDATA	RESTORE VDATA	D.105	02425
007241	006505	A	2641	JSR	VMWCT,X	WRITE BUFFER ADDRESS IN CC\$STR	D.105	02426
007242	013215	A						
007243	030000	L	2642	LDX	=SGSCB6		D.105	02427
007244	002000	A	2643	CALL	SG4ENT	DEFINE 'CC\$STR'	D.105	02428
007245	013544	A						
007246	007721	A	2644	PZE	SGVTN6		D.105	02429
007247	014423	A	2645	LDA	SGVTT		D.105	02430
007250	124406	A	2646	ADD	SGVTCB		D.105	02431
007251	124405	A	2647	ADD	SGVTCB		D.105	02432
007252	005311	A	2648	DAR		GET LAST ADDRESS OF BUFFER	D.105	02433
007253	057000	I	2649	STA	VDATA		D.105	02434
007254	047000	I	2650	INR	MA		D.105	02435
007255	006505	A	2651	JSR	VMWCT,X	WRITE LAST BUFFER ADDR IN CC\$END	D.105	02436
007256	013215	A						
007257	030000	L	2652	LDX	=SGSCB6		D.105	02437
007260	002000	A	2653	CALL	SG4ENT	DEFINE 'CC\$END'	D.105	02438
007261	013544	A						
007262	007725	A	2654	PZE	SGVTN7		D.105	02439
			2655	* ALLOCATE STACK AREA			D.105	02440
			2656	*			D.105	02441
007263	030000	L	2657	LDX	=SGSCB6		D.105	02442
007264	024444	A	2658	LDB	SGVTN8		D.105	02443
007265	005301	A	2659	DECR	1		D.105	02444
007266	002000	A	2660	CALL	SGSAE	SEARCH FOR 'VTSTKZ'	D.105	02445
007267	014744	A						
007270	000000	A	2661	DATA	0		D.105	02446
007271	001002	A	2662	JAP	*+4	FIND ?	D.105	02447
007272	007275	A						
007273	006010	A	2663	LDAI	50	NO. USE 50 AS DEFAULT VALUE	D.105	02448
007274	000062	A						
007275	054374	A	2664	STA	SGVTST	SAVE STACK SIZE	D.105	02449
007276	017000	I	2665	LDA	LLC		D.105	02450
007277	144372	A	2666	SUB	SGVTST	GET STACK ADDRESS	D.105	02451
007300	057000	I	2667	STA	VDATA		D.105	02452
007301	142530	A	2668	SUB	TWO	ALLOW TWO WORDS OF STACK CONTROL	D.105	02453
007302	057000	I	2669	STA	HP		D.105	02454
007303	057000	I	2670	STA	LLC		D.105	02455
007304	054433	A	2671	STA	SGVTN9+3		D.105	02456
007305	005111	A	2672	IAR			D.105	02457
007306	054435	A	2673	STA	SGVT10+3		D.105	02458
007307	006505	A	2674	JSR	VMWCT,X	LOAD VTVOLA	D.105	02459
007310	013215	A						
007311	047000	I	2675	INR	MA		D.105	02460
007312	006505	A	2676	JSR	VMWCT,X	LOAD VTSTAK	D.105	02461
007313	013215	A						
007314	030000	L	2677	LDX	=SGSCB6		D.105	02462

007315	002030	A	2678	CALL	SG4ENT	ENTER 'VTVOLA' IN LOADER TABLE	D.105	02463	
007316	013544	A					D.105	02464	
007317	007735	A	2679	PZE	SGVTN9		D.105	02465	
007320	030000	L	2680	LDX	=SGSCB6		D.105	02466	
007321	002000	A	2681	CALL	SG4ENT	ENTER 'VTSTAK' IN LOADER TABLE	D.105	02467	
007322	013544	A					D.105	02468	
007323	007741	A	2682	PZE	SGVT10		D.105	02469	
			2683	* ALLOCATE LOGICAL LINE TABLE				D.105	02470
			2684	*				D.105	02471
007324	030000	L	2685	LDX	=SGSCB6		D.105	02472	
007325	024417	A	2686	LDB	SGVT11		D.105	02473	
007326	005301	A	2687	DECR	1		D.105	02474	
007327	002000	A	2688	CALL	SGSAE	SEARCH FOR 'NUMLL'	D.105	02475	
007330	014744	A					D.105	02476	
007331	000000	A	2689	DATA	0		D.105	02477	
007332	001002	A	2690	JAP	*+4	DEFINED ?	D.105	02478	
007333	007336	A					D.105	02479	
007334	006010	A	2691	LDAI	20	NO. USE 20 AS DEFAULT VALUE	D.105	02480	
007335	000024	A					D.105	02481	
007336	054332	A	2692	STA	SGVTNL	SAVE LOGICAL LINE COUNT	D.105	02482	
007337	005002	A	2693	TZB			D.105	02483	
007340	004541	A	2694	LLSR	1		D.105	02484	
007341	001020	A	2695	JBZ	*+3		D.105	02485	
007342	007344	A					D.105	02486	
007343	005111	A	2696	IAR			D.105	02487	
007344	005211	A	2697	CPA			D.105	02488	
007345	005111	A	2698	IAR		GET -(WORD COUNT)	D.105	02489	
007346	152566	A	2699	ANA	BR15		D.105	02490	
007347	054307	A	2700	STA	SGVTCB		D.105	02491	
007350	005301	A	2701	DECR	1		D.105	02492	
007351	057000	I	2702	STA	VDATA		D.105	02493	
007352	017000	I	2703	LDA	LLC		D.105	02494	
007353	005311	A	2704	DAR			D.105	02495	
007354	057000	I	2705	STA	MA		D.105	02496	
007355	006505	A	2706	JSR	VMMCT,X	FILL TABLE WITH BITS	D.105	02497	
007356	013215	A					D.105	02498	
007357	017000	I	2707	LDA	MA		D.105	02499	
007360	007400	A	2708	RDF			D.105	02500	
007361	044275	A	2709	INR	SGVTCB	BUMP LOOP COUNTER	D.105	02501	
007362	001007	A	2710	JOFN	SGVTL4	LOOP TILL DONE	D.105	02502	
007363	007353	A					D.105	02503	
007364	005311	A	2711	DAR			D.105	02504	
007365	057000	I	2712	STA	MA		D.105	02505	
007366	057000	I	2713	STA	LLC		D.105	02506	
007367	054364	A	2714	STA	SGVT12+3		D.105	02507	
007370	014300	A	2715	LDA	SGVTNL		D.105	02508	
007371	057000	I	2716	STA	VDATA		D.105	02509	
007372	006505	A	2717	JSR	VMMCT,X	WRITE LINE COUNT IN C52LLT	D.105	02510	
007373	013215	A					D.105	02511	
007374	030000	L	2718	LDX	=SGSCB6		D.105	02512	
007375	002000	A	2719	CALL	SG4ENT	DEFINE 'C52LLT'	D.105	02513	
007376	013544	A					D.105	02514	
007377	007751	A	2720	PZE	SGVT12		D.105	02515	
			2721	* ALLOCATE PHYSICAL LINE TABLES				D.105	02516
			2722	*				D.105	02517
007400	005004	A	2723	TZX			D.105	02518	
007401	006015	A	2724	SGVTL7	LDAE	SGVTMT,X	D.105	02519	
007402	007661	A					D.105	02520	
007403	001010	A	2725	JAZ	SGVTX7	SCAN MUX TABLE	D.105	02521	
007404	007452	P					D.105	02522	
007405	074266	A	2726	STX	SGVTI+1	SAVE X	D.105	02523	
007406	004350	A	2727	LSRA	2		D.105	02524	
007407	152575	A	2728	ANA	SEVEN		D.105	02525	
007410	054262	A	2729	STA	SGVTT	SAVE MUX NUMBER M	D.105	02526	
007411	014344	A	2730	LDA	SGVT13+1		D.105	02527	
007412	006150	A	2731	ANAI	0177770		D.105	02528	
007413	177770	A					D.105	02529	
007414	114256	A	2732	ORA	SGVTT	CONSTRUCT 'NUMENM' IN LOADER CODE	D.105	02530	
007415	054340	A	2733	STA	SGVT13+1		D.105	02531	
007416	014344	A	2734	LDA	SGVT14+2		D.105	02532	
007417	006150	A	2735	ANAI	0177770		D.105	02533	
007420	177770	A					D.105	02534	
007421	114251	A	2736	ORA	SGVTT		D.105	02535	
007422	054340	A	2737	STA	SGVT14+2		D.105	02536	
007423	030000	L	2738	LDX	=SGSCB6		D.105	02537	
007424	024330	A	2739	LDB	SGVT13		D.105	02538	
007425	005301	A	2740	DECR	1		D.105	02539	
007426	002000	A	2741	CALL	SGSAE	SEARCH FOR 'NUMENM'	D.105	02540	
007427	014744	A					D.105	02541	
007430	000000	A	2742	DATA	0		D.105	02542	
007431	001002	A	2743	JAP	*+3	DEFINED ?	D.105	02543	
007432	007434	A					D.105	02544	
007433	012535	A	2744	LDA	MM14	NO. USE 64 AS DEFAULT VALUE	D.105	02545	
007434	057000	I	2745	STA	VDATA	SAVE ENTRY COUNT	D.105	02546	
007435	017000	I	2746	LDA	LLC		D.105	02547	
007436	147000	I	2747	SUB	VDATA		D.105	02548	
007437	142530	A	2748	SUB	MM	GET TABLE BASE ADDRESS	D.105	02549	
007440	054223	A	2749	STA	SGVT14+3		D.105	02550	
007441	057000	I	2750	STA	LLC		D.105	02551	
007442	057000	I	2751	STA	MA		D.105	02552	
007443	006505	A	2752	JSR	VMMCT,X	WRITE ENTRY COUNT IN C52PLM	D.105	02553	
007444	013215	A					D.105	02554	
007445	030000	L	2753	LDM	=SGSCB6		D.105	02555	

Address	Op	Opnd	Label	Comment	Line	Page
007577	005311	A	2831	DAR		D.105 02616
007600	054072	A	2832	STA	SGVTT	D.105 02617
007601	001016	A	2833	JANZ	SGVTL5	D.105 02618
007602	007567	A				
007603	057000	I	2834	STA	VDATA	D.105 02619
007604	017000	I	2835	LDA	MA	D.105 02620
007605	005311	A	2836	DAR		D.105 02621
007606	057000	I	2837	STA	MA	D.105 02622
007607	006505	A	2838	JSR	VMWCT,X	D.105 02623
007610	013215	A				
007611	017000	I	2839	LDA	MA	D.105 02624
007612	005311	A	2840	DAR		D.105 02625
007613	057000	I	2841	STA	MA	D.105 02626
007614	122530	A	2842	ADD	W0	D.105 02627
007615	057000	I	2843	STA	VDATA	D.105 02628
007616	006505	A	2844	JSR	VMWCT,X	D.105 02629
007617	013215	A				
007620	017000	I	2845	LDA	MA	D.105 02630
007621	005311	A	2846	DAR		D.105 02631
007622	057000	I	2847	STA	MA	D.105 02632
007623	057000	I	2848	STA	LLC	D.105 02633
007624	054153	A	2849	STA	SGVT19+3	D.105 02634
007625	014032	A	2850	LDA	SGVTK1	D.105 02635
007626	057000	I	2851	STA	VDATA	D.105 02636
007627	006505	A	2852	JSR	VMWCT,X	D.105 02637
007630	013215	A				
007631	030000	L	2853	LDX	=SGSCB6	D.105 02638
007632	002000	A	2854	CALL	SG4ENT	D.105 02639
007633	013544	A				
007634	010005	A	2855	PZE	SGVT19	D.105 02640
2856				* ALLOCATE	CHAIN HEADERS	D.105 02641
2857				*		D.105 02642
007635	017000	I	2858	LDA	LLC	D.105 02643
007636	005311	A	2859	DAR		D.105 02644
007637	054154	A	2860	STA	SGVT20+3	D.105 02645
007640	030000	L	2861	LDX	=SGSCB6	D.105 02646
007641	002000	A	2862	CALL	SG4ENT	D.105 02647
007642	013544	A				
007643	010011	A	2863	PZE	SGVT20	D.105 02648
007644	017000	I	2864	LDA	LLC	D.105 02649
007645	142530	A	2865	SUB	TW0	D.105 02650
007646	054151	A	2866	STA	SGVT21+3	D.105 02651
007647	005311	A	2867	DAR		D.105 02652
007650	057000	I	2868	STA	LLC	D.105 02653
007651	030000	L	2869	LDX	=SGSCB6	D.105 02654
007652	002000	A	2870	CALL	SG4ENT	D.105 02655
007653	013544	A				
007654	010015	A	2871	PZE	SGVT21	D.105 02656
007655	001000	A	2872	JMP	SG4PSC	D.105 02657
007656	010023	A				
007657	000000	A	2873	SGVTCB	DATA	D.105 02658
007660	000021	A	2874	SGVTK1	DATA	D.105 02659
007661	000000	A	2875	SGVTMT	DATA	D.105 02660
007662	000000	A				
007663	000000	A				
007664	000000	A				
007665	000000	A				
007666	000000	A				
007667	000000	A				
007670	000000	A				
007671	000000	A	2876	SGVTNL	DATA	D.105 02661
007672	000000	A	2877	SGVTST	DATA	D.105 02662
007673	000000	A	2878	SGVTT	DATA	D.105 02663
007674	000000	A				
007675	141724	A	2879	SGVTN1	DATA	D.105 02664
007676	146730	A				
007677	127256	A				
007700	000000	A				
007701	007700	A	2880	SGVTN2	PZE	D.105 02665
007702	117245	A	2881		DATA	D.105 02666
007703	161316	A	2882		DATA	D.105 02667
007704	000010	A	2883		DATA	D.105 02668
007705	141703	A	2884	SGVTN3	DATA	D.105 02669
007706	122306	A				
007707	146397	A				
007710	000000	A				
007711	141703	A	2885	SGVTN4	DATA	D.105 02670
007712	122306	A				
007713	144714	A				
007714	000000	A				
007715	141703	A	2886	SGVTN5	DATA	D.105 02671
007716	122305	A				
007717	146724	A				
007720	000000	A				
007721	141703	A	2887	SGVTN6	DATA	D.105 02672
007722	122322	A				
007723	152322	A				
007724	000000	A				
007725	141703	A	2888	SGVTN7	DATA	D.105 02673
007726	122305	A				
007727	147304	A				
007730	000000	A				
007731	007730	A	2889	SGVTN8	PZE	D.105 02674

Address	Hex	Op	Label	Op	Hex	Text	Dest	Hex
007732	045372	A	2890	DATA	045372	'VTSTKZ' IN LOADER CODE	D.105	02675
007733	132317	A	2891	DATA	0132317		D.105	02676
007734	000015	A	2892	DATA	015		D.105	02677
007735	153324	A	2893	SGVTM9	DATA	'VTVDLA',0	D.105	02678
007736	153317	A						
007737	146301	A						
007740	000000	A						
007741	153324	A	2894	SGVT10	DATA	'VTSTAK',0	D.105	02679
007742	151724	A						
007743	140713	A						
007744	000000	A						
007745	007744	A	2895	SGVT11	PZE	*-1	D.105	02680
007746	155454	A	2896	DATA	0155454	'NUMLL' IN LOADER CODE	D.105	02681
007747	027326	A	2897	DATA	027326		D.105	02682
007750	000000	A	2898	DATA	0		D.105	02683
007751	141665	A	2899	SGVT12	DATA	'C52LLT',0	D.105	02684
007752	131314	A						
007753	146324	A						
007754	000000	A						
007755	007754	A	2900	SGVT13	PZE	*-1	D.105	02685
007756	055620	A	2901	DATA	055620	'NUMENM' IN LOADER CODE	D.105	02686
007757	132666	A	2902	DATA	0132666		D.105	02687
007760	000013	A	2903	DATA	013		D.105	02688
007761	141665	A	2904	SGVT14	DATA	'C52PL0',0	D.105	02689
007762	131320	A						
007763	146260	A						
007764	000000	A						
007765	007764	A	2905	SGVT15	PZE	*-1	D.105	02690
007766	166420	A	2906	DATA	0166420	'BCTNTM' IN LOADER CODE	D.105	02691
007767	121722	A	2907	DATA	0121722		D.105	02692
007770	000010	A	2908	DATA	010		D.105	02693
007771	141303	A	2909	SGVT16	DATA	'BCTX0A',0	D.105	02694
007772	152330	A						
007773	130301	A						
007774	000000	A						
007775	007774	A	2910	SGVT17	PZE	*-1	D.105	02695
007776	144554	A	2911	DATA	0144554	'NULEL' IN LOADER CODE	D.105	02696
007777	027326	A	2912	DATA	027326		D.105	02697
010000	000000	A	2913	DATA	0		D.105	02698
010001	010000	A	2914	SGVT18	PZE	*-1	D.105	02699
010002	044554	A	2915	DATA	044554	'NUTEL' IN LOADER CODE	D.105	02700
010003	027327	A	2916	DATA	027327		D.105	02701
010004	000000	A	2917	DATA	0		D.105	02702
010005	153324	A	2918	SGVT19	DATA	'VTSMPI',0	D.105	02703
010006	122315	A						
010007	150261	A						
010010	000000	A						
010011	141703	A	2919	SGVT20	DATA	'CC\$DCM',0	D.105	02704
010012	122317	A						
010013	141715	A						
010014	000000	A						
010015	141703	A	2920	SGVT21	DATA	'CC\$LSD',0	D.105	02705
010016	122314	A						
010017	151704	A						
010020	000000	A						
010021	141703	A	2921	SGVT22	DATA	'CC\$MET',0	D.105	02706
010022	122315	A						
010023	142724	A						
010024	000000	A						
			2922	EJEC			05	02707
			2923	*			05	02708
			2924	SG4PSC			05	02709
			2925	*			05	02710
			2926	*	PURPOSE: TO READ PST/BAD TRACK TABLES FROM RMD,		05	02711
			2927	*	ALLOCATE MEMORY SPACE IN NUCLEUS, AND		05	02712
			2928	*	STORE AND LINK TABLES.		05	02713
			2929	*			05	02714
			2930	*	CALLING SEQUENCE: JMP SG4PSC		05	02715
			2931	*			05	02716
			2932	*	RETURN PARAMETERS: NONE		05	02717
			2933	*			05	02718
			2934	*			05	02719
010025			2935	SG4PSC	BSS	0	05	02720
010025	017000	I	2936	LDA	LLC	* * ENTRY POINT * *	05	02721
010026	057000	I	2937	STA	MA	SET UP VIRTUAL MEMORY ADDR. REGISTER	05	02722
010027	006010	A	2938	LDAI	'!P'		05	02723
010030	120720	A						
010031	054272	A	2939	STA	PSC5	FIRST I CHAR OF ALL LDR TBL ITEMS CREATED	05	02724
			2940	*		BY THIS ROUTINE	05	02725
010032	010500	A	2941	LDA	SGSCB0	SET UP SCAN OF EQUIP STACK	05	02726
010033	005014	A	2942	PSC4	TAX	(FOR RMD ENTRIES)	05	02727
010034	074266	A	2943	STX	PSC1		05	02728
010035	140501	A	2944	SUB	SGSCB0+1		05	02729
010036	001016	A	2945	JANZ	PSC2	IF MORE ENTRIES TO CHECK	05	02730
010037	010047	A						
			2946	*			05	02731
010040	017000	I	2947	LDA	MA		05	02732
010041	057000	I	2948	STA	LLC	RESTORE LOCATION COUNTER	05	02733
010042	142540	A	2949	SUB	SS9		05	02734
010043	001004	A	2950	JAN	PSC16	ERROR, IF NUCLEUS TOO LARGE	05	02735
010044	010271	A						
			2951	IFT	VORTEX-2		V2	05 02736
			2952	GUTD	1		V2	05 02737

			2953	CALL	IDCS	GET DEVICE TYPE OF LUN 4(LIB)	V2	05	02738
			2954	DATA	LIB		V2	05	02739
			2955	DATA	*+4,*+3,*+2,*-6		V2	05	02740
			2956	LDA	2,X		V2	05	02741
			2957	ERA	= 'D'		V2	05	02742
			2958	LSRA	8		V2	05	02743
			2959	JANZ	SG4CLK	EXIT IF LIB NOT RMD	V2	05	02744
			2960	PSCL1	CALL	READ RECORD FROM LIB UNIT	V2	05	02745
			2961	DATA	RALF+LIB		V2	05	02746
			2962	DATA	60,SGIBUF		V2	05	02747
			2963	CALL	IDCS	STAT	V2	05	02748
			2964	DATA	LIB		V2	05	02749
			2965	DATA	*+4,*+3,*+2,*-6		V2	05	02750
			2966	LDA	SGIBUF		V2	05	02751
			2967	ERAI	'CT'		V2	05	02752
			2968	JANZ	PSCL1	TEST 1ST WORD	V2	05	02753
			2969	LDA	SGIBUF+2		V2	05	02754
			2970	ERAI	'21'		V2	05	02755
			2971	JANZ	PSCL1	LOOP TILL 'CTL,' RECORD FOUND	V2	05	02756
			2972	JMP	SG4CLK		V2	05	02757
			2973	1	CONT		V2	05	02758
			2974	IFF	VORTEX-1		V2	05	02759
010045	001000	A	2975	JMP	SG4USA	* * EXIT * *	V2	05	02760
010046	010331	A							
			2976	*				05	02761
010047	015000	A	2977	PSC2	LDA	0,X		05	02762
010050	054254	A	2978		STA	PSC5+1		05	02763
010051	130000	L	2979		ERA	= 'D'		05	02764
010052	152570	A	2980		ANA	LHW		05	02765
010053	001016	A	2981		JANZ	PSC3		05	02766
010054	010257	A				CONTINUE SCAN IF ITEM NOT RMD		05	02766
			2982	*				05	02767
010055	005001	A	2983		TZA			05	02768
010056	054250	A	2984		STA	PSC5+3		05	02769
010057	025001	A	2985		LDB	1,X		05	02770
010060	015002	A	2986		LDA	2,X		05	02771
010061	004350	A	2987		LSRA	8		05	02772
010062	120000	L	2988		ADD	=0260		05	02773
010063	004450	A	2989		LLRL	8		05	02774
010064	054243	A	2990		STA	PSC19		05	02775
010065	152571	A	2991		ANA	RHW		05	02776
010066	120000	L	2992		ADD	=0132400		05	02777
010067	054236	A	2993		STA	PSC5+2		05	02778
			2994	*		SAVE UNIT/MODEL OF HI POSSIBLE PHYS UNIT		05	02779
010070	014235	A	2995	PSC17	LDA	PSC5+2		05	02780
010071	142537	A	2996		SUB	BS8		05	02781
010072	054233	A	2997		STA	PSC5+2		05	02782
010073	144234	A	2998		SUB	PSC19		05	02783
010074	001002	A	2999		JAP	PSC18		05	02784
010075	010246	A				IF UNIT NOT IN SYSTEM, SET UP DUMMY LINK		05	02784
			3000	*				05	02785
010076	022574	A	3001		LDB	SIX		05	02786
010077	064003	A	3002		STB	PSC6		05	02787
010100	044002	A	3003	PSC14	INR	PSC6		05	02788
010101	002000	A	3004		CALL	IDCS		05	02789
010102	004477	E							
010103	000000	A	3005	PSC6	DATA	0		05	02790
010104	010110	A	3006		DATA	*+4,*+3,*+2,*-6		05	02791
010105	010110	A							
010106	010110	A							
010107	010101	A							
010110	015002	A	3007		LDA	2,X		05	02792
010111	134213	A	3008		ERA	PSC5+1		05	02793
010112	001016	A	3009		JANZ	PSC7		05	02794
010113	010263	A				IF NO MATCH, CONTINUE SCAN		05	02794
010114	015003	A	3010		LDA	3,X		05	02795
010115	134210	A	3011		ERA	PSC5+2		05	02796
010116	001016	A	3012		JANZ	PSC7		05	02797
010117	010263	A				IF NO MATCH, CONTINUE SCAN		05	02797
			3013	*				05	02798
010120	017000	I	3014	PSC13	LDA	PSC6		05	02799
010121	054007	A	3015		STA	PSC8		05	02800
010122	112541	A	3016		DRA	BS10		05	02801
010123	054002	A	3017		STA	PSC9		05	02802
			3018	*				05	02803
010124	002000	A	3019		CALL	IDCS		05	02804
010125	010102	E				REWIND REFERENCED UNIT		05	02804
010126	002000	A	3020	PSC9	DATA	REW		05	02805
010127	002000	A	3021		CALL	IDCS		05	02806
010130	010125	E							
010131	000000	A	3022	PSC8	DATA	0		05	02807
010132	010276	A	3023		DATA	PSC10,PSC10,*+2,*-6		05	02808
010133	010276	A							
010134	010136	A							
010135	010127	A							
			3024	*				05	02809
010136	017000	I	3025		LDA	PSC6		05	02810
010137	054011	A	3026		STA	PSC11		05	02811
010140	110000	L	3027		DRA	=040400		05	02812
010141	054002	A	3028		STA	PSC12		05	02813
			3029	*				05	02814
010142	002000	A	3030		CALL	IDCS		05	02815
010143	010130	E				READ PST/BAD TRACK TABLE FROM REF. UNIT		05	02815

Address	Hex	Op	Label	Op	Description	Page	Line
3103	*			*	* ERROR MESSAGES *	05	02888
3104	*					05	02889
010267	012626	A	3105	LDA	ER20	POST "DRIVER NOT LOADED ERROR" MESSAGE	05 02890
010270	001006	A	3106	DATA	01006		05 02891
010271	012635	A	3107	PSC16	ER30	POST "NUCLEUS TOO BIG ERROR" MESSAGE	05 02892
010272	002000	A	3108	CALL	SG4PRD		05 02893
010273	013617	A					
010274	001000	A	3109	JMP	RELOAD	RELOAD DIRECTIVE PROCESSOR	05 02894
010275	013031	A					
010276	012606	A	3110	*			05 02895
010277	002000	A	3111	PSC10	ER00	POST "IO READ ERROR" MESSAGE	05 02896
010300	013617	A	3112	CALL	SG4PRD		05 02897
010301	001000	A	3113	JMP	PSC13	TRY AGAIN	05 02898
010302	010120	A					
010303	000000	A	3114	PSC1	DATA	0	D.105 02899
			3115	EJEC			05 02900
			3116	*			05 02901
			3117	*	PSC20		05 02902
			3118	*			05 02903
			3119	*			05 02904
			3120	*			05 02905
			3121	*			05 02906
			3122	*			05 02907
			3123	*			05 02908
			3124	*			05 02909
			3125	*			05 02910
			3126	*			05 02911
			3127	*			05 02912
010304	000000	A	3128	PSC20	ENTR	* * ENTRY POINT * *	05 02913
010305	054003	A	3129	STA	PSC22	SAVE BASE ADDR.	05 02914
010306	017000	I	3130	LD..	MA		05 02915
010307	005322	A	3131	PSC15	DBR		05 02916
010310	006036	A	3132	LDX	SGIBUF,B	GET NEXT WORD	05 02917
010311	000664	A					
010311			3133	PSC22	BES	0	05 02918
010312	077000	I	3134	STX	VDATA	PUT WORD IN VIRTUAL MEMORY BUFFER	05 02919
010313	006505	A	3135	JSR	VMWCT,X	STORE WORD IN VIRTUAL MEMORY	05 02920
010314	013215	A					
010315	005311	A	3136	DAR			05 02921
010316	057000	I	3137	STA	MA	DECR MEMORY ADDR BUFFER	05 02922
010317	001026	A	3138	JBNZ	PSC15	IF MORE TO STORE	05 02923
010320	010307	A					
010321	001000	A	3139	JMP*	PSC20	* * RETURN * *	05 02924
010322	110304	A					
			3140	*			05 02925
			3141	*			05 02926
			3142	*			05 02927
010323	000000	A	3143	PSC1	DATA	0	05 02928
010324			3144	PSC5	BSS	0	05 02929
010327	000000	A	3145	PSC21	DATA	0	05 02930
010330	000000	A	3146	PSC19	DATA	0	05 02931
			3147	IFF	VORTEX-2		05 02932
			3148	GOTO	J		V2 05 02933
			3149	EJEC			V2 05 02934
			3150	*			05 02935
			3151	*	SG4USA		05 02936
			3152	*			05 02937
			3153	*			05 02938
			3154	*			05 02939
			3155	*			05 02940
			3156	*			05 02941
			3157	*			05 02942
			3158	*			05 02943
			3159	*			05 02944
010331			3160	SG4USA	BSS	0	05 02945
010331	012712	A	3161	LDA	SGERR1	* * ENTRY POINT * *	05 02946
010332	054062	A	3162	STA	USA1	SAVE EMPTY TIDE NUMBER	05 02947
010333	027000	I	3163	LDB	LLC	(BR)= VIRTUAL MEMORY ADDRESS POINTER	05 02948
010334	005001	A	3164	TZA			05 02949
010335	054060	A	3165	STA	USA2	SET UP LAST CHAIN ADDRESS	05 02950
			3166	*			05 02951
010336	014056	A	3167	USA4	LDA	USA1	05 02952
010337	001010	A	3168	JAZ	USA7	IF ALL EMPTY TIDE'S BUILT	05 02953
010340	010375	A					
010341	005311	A	3169	DAR			05 02954
010342	054052	A	3170	STA	USA1	DECREMENT COUNTER AND SAVE	05 02955
010343	005001	A	3171	TZA			05 02956
010344	057000	I	3172	STA	VDATA	SET DATA REGISTER TO CLEAR VIR. MEM.	05 02957
			3173	IFF	V75		V75*****
			3174	GOTO	2		V75*****
010345	012737	A	3175	LDA	SGMRY5		V75*****
010346	001010	A	3176	JAZ	USA4A	V75 SYSTEM ?	V75*****
010347	010351	A					
010350	012577	A	3177	LDA	TEN	YES	V75*****
	010351	A	3178	USA4A	EQU	*	V75*****
			3179	2	CONT		V75*****
010351	120000	L	3180	ADD	#25		V75*****
010352	067000	I	3181	USA5	STA	SET UP VIR. MEM. ADDR. REGISTER	05 02959
010353	001010	A	3182	JAZ	USA6	IF 25-WORDS CLEARED AND ALLOCATED	05 02960
010354	010363	A					
010355	006595	A	3183	JSR	VMWCT,X	CLEAR ANOTHER WORD	05 02961
010356	013215	A					

010357	005322	A	3184	DBR					05	02962
010360	005311	A	3185	DAR			BUMP COUNTERS		05	02963
010361	001000	A	3186	JMP	USA5		CONTINUE		05	02964
010362	010352	A								
			3187	*					05	02965
010363	014032	A	3188	USA6	LDA	USA2			05	02966
010364	057000	I	3189		STA	VDATA	SET UP CHAIN ADDRESS FOR FIRST WORD		05	02967
010365	006505	A	3190		JSR	VMNCT,X	AND WRITE IT		05	02968
010366	013215	A								
010367	064026	A	3191		STB	USA2	SAVE NEXT CHAIN ADDRESS		05	02969
010370	064031	A	3192		STB	USA3+3			05	02970
010371	005322	A	3193		DBR				05	02971
010372	067000	I	3194		STB	MA	SAVE NEXT LOC. ADDR.		05	02972
010373	001000	A	3195		JMP	USA4	GO SEE ABOUT ALLOCATING ANOTHER TIDB		05	02973
010374	010336	A								
			3196	*					05	02974
010375	017000	I	3197	USA7	LDA	MA			05	02975
010376	057000	I	3198		STA	LLC	RESTORE LOADING LOCATION COUNTER		05	02976
010377	142540	A	3199		SUB	BS9			05	02977
010400	001002	A	3200		JAP	USA8	IF ALLOCATION WENT O.K.		05	02978
010401	010407	A								
			3201	*					05	02979
010402	012635	A	3202		LDA	ER30	POST "SYSTEM MEMORY EXCEEDED" ERROR		05	02980
010403	002000	A	3203		CALL	SG4PRD			05	02981
010404	013617	A								
010405	001000	A	3204		JMP	RELOAD	GO TO RELOAD SGEN		05	02982
010406	015031	A								
			3205	*					05	02983
010407	030000	L	3206	USA8	LDX	=SGSCB6			05	02984
010410	002000	A	3207		CALL	SG4ENT	PUT START-OF-AREA ADDRESS IN LOADER TABLE		05	02985
010411	013544	A								
010412	010417	A	3208		DATA	USA3			05	02986
010413	001000	A	3209		JMP	SG4SAC	EXIT ROUTINE		05	02987
010414	010423	A								
			3210	*					05	02988
			3211	*					05	02989
010415	000000	A	3212	USA1	DATA	0	TIDB COUNTER		05	02990
			3213	*					05	02991
010416	000000	A	3214	USA2	DATA	0	CHAIN ADDRESS REGISTER		05	02992
			3215	*					05	02993
010417	153244	A	3216	USA3	DATA	'V\$UTB'	ENTRY ITEM		05	02994
010420	152724	A								
010421	141240	A								
010422	000000	A	3217		DATA	0			05	02995
			3218	1	CUNT			V2	05	02996
			3219		EJEC				05	02997
			3220	*					05	02998
			3221	*	SG4SAC				05	02999
			3222	*					05	03000
			3223	*			PURPOSE: ALLOCATE SPACE FOR STORAGE-AND-REENTRY STACK.		05	03001
			3224	*			CALLING SEQUENCE: JMP SG4SAC		05	03002
			3225	*			RETURN PARAMETERS: NONE		05	03003
			3226	*					05	03004
			3227	*					05	03005
			3228	*					05	03006
			3229	*					05	03007
010423			3230	SG4SAC	BSS	0	* * ENTRY POINT * *		05	03008
			3231		IFT	VORTEX-2		V2	05	03009
			3232		GOTO	1		V2	05	03010
			3233		LDA	SGCPED		V2	05	03011
			3234		DAR			V2	05	03012
			3235	1	CUNT			V2	05	03013
			3236		IFF	VORTEX-1		V2	05	03014
010423	017000	I	3237		LDA	LLC			05	03015
010424	057000	I	3238		STA	MA	SET UP VIR. MEM. ADDR. REG. FOR ALLOCATION		05	03016
010425	005111	A	3239		IAR				05	03017
010426	054032	A	3240		STA	SAC2	SAVE END-OF-AREA POINTER		05	03018
010427	030000	L	3241		LDX	=SGSCB6			05	03019
010430	002000	A	3242		CALL	SG4ENT	ENTER FIRST STACK PTR IN LOADER TABLE		05	03020
010431	013544	A								
010432	010476	A	3243		DATA	SAC1			05	03021
			3244	*			ZERO STACK AREA ON VIRTUAL MEMORY		05	03022
010433	005001	A	3245		TZA				05	03023
010434	057000	I	3246		STA	VDATA			05	03024
010435	017000	I	3247		LDA	MA			05	03025
010436	022713	A	3248		LDS	SGEUR2			05	03026
010437	057000	I	3249	SAC3	STA	MA			05	03027
010440	001020	A	3250		JBZ	SAC4	IF STACK AREA ALLOCATION COMPLETE		05	03028
010441	010450	A								
010442	006505	A	3251		JSR	VMNCT,X	WRITE A ZERO TO VIRTUAL MEMORY		05	03029
010443	013215	A								
010444	005311	A	3252		DAR				05	03030
010445	005322	A	3253		DBR				05	03031
010446	001000	A	3254		JMP	SAC3	CONTINUE		05	03032
010447	010437	A								
			3255	*					05	03033
010450	057000	I	3256	SAC4	STA	LLC	SAVE ADDR OF BEGINNING OF STACK AREA		05	03034
010451	005112	A	3257		INCR	012			05	03035
010452	064032	A	3258		STB	SAC7			05	03036
010453	064035	A	3259		STB	SAC9			05	03037
010454	142540	A	3260		SUB	BS9			05	03038
			3261		IFF	VORTEX-2		V2	05	03039
			3262		STA	SGCPED		V2	05	03040


```

3414 SUB FOUR
3415 JAN SG4ICR EXIT IF .LT. 32K
3416 TAB GET LOOP COUNT IN B
3417 SG4VP1 JNZ SG4VP2 TEST DONE
3418 JSR VMWCT,X WRITE TO VM
3419 INR MA BUMP ADDRESS
3420 LDA SG4VPT+1
3421 JAZ *+3 IF EVEN 8K
3422 DBR SET FOR PARTIAL PAGE WORD
3423 DBR DECREMENT LOOP COUNT
3424 JMP SG4VP1 CONTINUE
3425 SG4VP2 LDAI 0140000
3426 STA VDATA INITIALIZE
3427 LDA SG4VPT+1
3428 JAZ SG4ICR EXIT IF DONE
3429 SG4VP3 DAR DECREMENT LOOP COUNT
3430 STA SG4VPT+1
3431 JAZ SG4VP4
3432 LDA VDATA
3433 ASRA 2 ENABLE 1K MORE
3434 STA VDATA
3435 LDA SG4VPT+1
3436 JMP SG4VP3 CONTINUE
3437 SG4VP4 JSR VMWCT,X WRITE OUT LAST PARTIAL WORD OF V$PAGE
3438 JMP SG4ICR RESUME PROCESSING
3439 SG4VPB DATA 'V$PTM',0
3440 SG4VPP DATA 'V$PAGE',0
3441 SG4VPM DATA 'V$MING',0
3442 SG4VPT DATA 0,0 TEMP STORE
3443 1 CONT
3444 EJEC
3445 *
3446 * SG4TBC
3447 *
3448 * PURPOSE: TO CHAIN ADDRESSES OF NUCLEUS-BUILT TIDB'S
3449 * BY PRIORITY.
3450 *
3451 * CALLING SEQUENCE: JMP SG4TBC
3452 *
3453 * RETURN PARAMETERS: NONE
3454 *
3455 *
010613 SG4TBC BSS 0
010613 005002 A 3457 T2B
010614 067000 I 3458 STB VDATA SET UP LAST CHAIN ADDR AS ZERO
010615 005102 A 3459 INCR B
010616 064054 A 3460 TBC8 TBC1 INITIALIZE TO LOWEST PRIORITY LEVEL
010617 010530 A 3461 LDA SGSCB8 AND START OF ENTRY NAME STACK
010620 005012 A 3462 TBC5 TAB
010621 140531 A 3463 SUB SGSCB8+1
010622 001002 A 3464 JAP TBC7 IF END OF STACK REACHED
010623 010653 A
3465 *
010624 016004 A 3466 LDA 4,B
010625 004344 A 3467 LSRA 4 GET PRIORITY OF CURRENT STACK ITEM
010626 144044 A 3468 SUB TBC1
010627 001010 A 3469 JAZ TBC6 IF EQUAL TO CURRENT PRIORITY
010630 010635 A
3470 *
010631 005021 A 3471 TBC4 TBA
010632 120532 A 3472 ADD SGSCB8+2 BUMP POINTER TO NEXT STACK ITEM
010633 001000 A 3473 JMP TBC5 CONTINUE SEARCH
010634 010620 A
3474 *
010635 016000 A 3475 TBC6 LDA 0,B
010636 001004 A 3476 JAN TBC9 ERROR IF TIDB ADDRESS UNDEFINED
010637 010666 A
010640 057000 I 3477 STA MA SAVE TIDB ADDRESS
010641 006505 A 3478 JSR VMWCT,X AND WRITE ADDR OF PREVIOUS TIDB INTO IT
010642 013213 A
010643 016004 A 3479 LDA 4,B
010644 152600 A 3480 ANA B#17 DESTROY ENTRY
010645 056004 A 3481 STA 4,B
010646 017000 I 3482 LDA MA
010647 057000 I 3483 STA VDATA UPDATE CHAIN ADDR
010650 054026 A 3484 STA TBC7
010651 001000 A 3485 JMP TBC6 CONTINUE
010652 010631 A
3486 *
010653 014017 A 3487 TBC7 LDA TBC1 * END OF STACK REACHED, CHECK PRIORITY
010654 005112 A 3488 INCR 012
010655 140000 L 3489 SUB #31
010656 001016 A 3490 JANZ TBC9 IF MORE PRIORITIES TO CHAIN
010657 010616 A
3491 *
010660 030000 L 3492 LDX =SGSCB6 OTHERWISE, ENTER ADDR OF HIGHEST PRIORITY
010661 002000 A 3493 CALL SG4CNT TIDB IN TO LOADER TABLE
010662 013544 A
010663 010674 A 3494 DATA TBC7
010664 001000 A 3495 JMP SG4LCF * * EXIT ROUTINE * *
010665 010700 A
3496 *
3497 *

```



```

010666 012647 A 3498 TBC9 LDA ER45 POST "UNDEFINED EXTERNAL ERROR" MESSAGE 05 03276
010667 002000 A 3499 CALL SG4PRD 05 03277
010670 013617 A
010671 001000 A 3500 JMP RELOAD GO RELOAD SGEN 05 03278
010672 015031 A
3501 * 05 03279
3502 * 05 03280
3503 * 05 03281
010673 000000 A 3504 TBC1 DATA 0 PRIORITY LEVEL COUNTER 05 03282
3505 * 05 03283
010674 153244 A 3506 TBC2 DATA 'V$TB' 05 03284
010675 152302 A
010676 120240 A
010677 000000 A 3507 TBC3 DATA 0 'V$TB' TIDB ADDRESS 05 03285
3508 EJEC 05 03286
3509 * 05 03287
3510 * SG4LCF 05 03288
3511 * 05 03289
3512 * PURPOSE: TO GENERATE SPECIAL PARAMETERS FOR "LOW-CORE" 05 03290
3513 * 05 03291
3514 * CALLING SEQUENCE: JMP SG4LCF 05 03292
3515 * 05 03293
3516 * RETURN PARAMETERS: NONE 05 03294
3517 * 05 03295
3518 * 05 03296
010700 3519 SG4LCF BSS 0 * * ENTRY POINT * * 05 03297
3520 * 05 03298
3521 * SET-UP PIM MODULE VALUES FOR TELETYPES AND CRT'S 05 03299
3522 * 05 03300
010700 030514 A 3523 LDX SGSCB4 SET POINTER TO INT. MODULE STACK 05 03301
010701 074043 A 3524 LCF24 STX LCF21 SAVE POINTER 05 03302
010702 015002 A 3525 LDA 2,X GET DEVICE MNEUMONIC 05 03303
010703 054336 A 3526 STA LCF20+1 AND SAVE IT 05 03304
010704 140000 L 3527 SUB ='CT' 05 03305
010705 001010 A 3528 JAZ LCF22 IF 'CT' DEVICE 05 03306
010706 010712 A
010707 140000 L 3529 SUB ='TY'-'CT' 05 03307
010710 001016 A 3530 JANZ LCF23 IF NOT 'CT' OR 'TY', CHECK MORE ITEMS 05 03308
010711 010744 A
010712 015004 A 3531 LCF22 LDA 4,X 05 03309
010713 142530 A 3532 SUB 7HD 05 03310
010714 001016 A 3533 JANZ LCF23 IF NOT "WRITE" PIM (EVENT WORD=2) 05 03311
010715 010744 A
010716 015003 A 3534 LDA 3,X SET-UP NAME FOR ENTRY IN DATA PATCH 05 03312
010717 054323 A 3535 STA LCF20+2 05 03313
010720 010000 L 3536 LDA ='#I' 05 03314
010721 054317 A 3537 STA LCF20 SET NAME FOR PIM MODULE NUMBER 05 03315
010722 015000 A 3538 LDA 0,X 05 03316
010723 004343 A 3539 LSRA 3 05 03317
010724 152575 A 3540 ANA SEVEN 05 03318
010725 054316 A 3541 STA LCF20+3 SET-UP PIM MODULE VALUE 05 03319
010726 030000 L 3542 LDX =SGSCB7 05 03320
010727 002000 A 3543 CALL SG4ENT ENTER NAME/VALUE IN DATA PATCH STACK 05 03321
010730 013544 A
010731 011241 A 3544 DATA LCF20 05 03322
010732 010000 L 3545 LDA ='#L' 05 03323
010733 054305 A 3546 STA LCF20 SET NAME FOR PIM LINE NUMBER 05 03324
010734 034010 A 3547 LDX LCF21 05 03325
010735 015000 A 3548 LDA 0,X 05 03326
010736 152575 A 3549 ANA SEVEN 05 03327
010737 054304 A 3550 STA LCF20+3 SET-UP PIM LINE VALUE 05 03328
010740 030000 L 3551 LDX =SGSCB7 05 03329
010741 002000 A 3552 CALL SG4ENT ENTER NAME/VALUE IN DATA PATCH STACK 05 03330
010742 013544 A
010743 011241 A 3553 DATA LCF20 05 03331
010744 006010 A 3554 LCF23 LDA 0 GET STACK POINTER 05 03332
010745 000000 A
010745 3555 LCF21 BES 0 05 03333
010746 120516 A 3556 ADD SGSCB4+2 BUMP TO NEXT ENTRY 05 03334
010747 005014 A 3557 TAX 05 03335
010750 140515 A 3558 SUB SGSCB4+1 05 03336
010751 001016 A 3559 JANZ LCF24 IF NOT END OF STACK 05 03337
010752 010701 A
3560 * 05 03338
010753 030000 L 3561 LDX =SGSCB6 E.1 *****
010754 024274 A 3562 LDB LCF25 E.1 *****
010755 005301 A 3563 DECR 1 SET FOR SEARCH ONLY E.1 *****
010756 002000 A 3564 CALL SGSAE SEARCH FOR V$PTSZ E.1 *****
010757 014744 A
010760 000000 A 3565 DATA 0 E.1 *****
010761 001004 A 3566 JAN LCF21A IF NOT FOUND E.1 *****
010762 010775 A
010763 054301 A 3567 STA LCTHP SAVE PATCH AREA SIZE E.1 *****
010764 017000 I 3568 LDA LLC CURRENT V$BVN E.1 *****
010765 054272 A 3569 STA LCF26+3 E.1 *****
010766 030000 L 3570 LDX =SGSCB6 E.1 *****
010767 002000 A 3571 CALL SG4ENT ADD ENTRY FOR V$PEND E.1 *****
010770 013544 A
010771 011255 A 3572 DATA LCF26 E.1 *****
010772 017000 I 3573 LDA LLC CURRENT V$BVN E.1 *****
010773 144271 A 3574 SUB LCTHP PATCH AREA SIZE E.1 *****
010774 057000 I 3575 STA LLC UPDATE V$BVN E.1 *****
010775 A 3576 LCF21A EQU * E.1 *****

```


Address	Label	Op	Op2	Op3	Description	Page
010775	017000	I	3577	LDA	LLC	05 03339
010776	006150	A	3578	ANAI	0177000	E.1 *****
010777	177000	A			SET TO PAGE BOUNDARY	
011000	005111	A	3579	IAR		E.2*****
011001	054007	A	3580	STA	LCF21B+1	E.2*****
011002	147000	I	3581	SUB	LLC	E.2*****
011003	001004	A	3582	JAN	LCF21B	E.2*****
011004	011010	A			OK, ORIGINAL V\$BVN ABOVE NEW V\$BVN.	
011005	127000	I	3583	ADD	LLC	E.2*****
011006	001000	A	3584	JMP	LCF21C	E.2*****
011007	011012	A			RESTORE V\$BVN, CANNOT SAVE ROOM	
011010	006010	A	3585	LCF21B LDAI	0	E.2*****
011011	000000	A			NEW V\$BVN VALUE	
011012	011012	A	3586	LCF21C EQU	*	E.2*****
011013	057000	I	3587	STA	LLC	E.1*****
011014	050657	A	3588	STA	V\$BVN	05 03340
011015	054247	A	3589	STA	LCF27+3	E.1*****
011016	030000	L	3590	LDX	=SGSCB6	E.1*****
011017	002000	A	3591	CALL	SG4ENT	E.1*****
011020	011261	A	3592	DATA	LCF27	E.1*****
011021	017000	I	3593	LDA	LLC	E.1*****
011022	054165	A	3594	STA	LCF13+3	05 03341
011023	005111	A	3595	IAR		05 03342
011024	052700	A	3596	STA	SGCPED	05 03343
011025	012707	A	3598	LDA	SGMRY1	05 03344
011026	054145	A	3599	STA	LCF10+3	05 03345
011027	142710	A	3600	SUB	SGMRY2	05 03346
011030	005111	A	3601	IAR		05 03347
011031	054146	A	3602	STA	LCF11+3	V2 05 03348
011032	012604	A	3603	LDA	BM777	05 03349
011033	054150	A	3604	STA	LCF12+3	05 03350
011034	030000	L	3605	LDX	=SGSCB6	05 03351
011035	002000	A	3606	CALL	SG4ENT	05 03352
011036	013544	A	3607	CALL	SG4ENT	05 03353
011037	011171	A	3608	DATA	LCF10	05 03354
011040	030000	L	3609	LDX	=SGSCB6	05 03355
011041	002000	A	3610	CALL	SG4ENT	05 03356
011042	013544	A	3611	CALL	SG4ENT	05 03357
011043	011175	A	3612	DATA	LCF11	05 03358
011044	030000	L	3613	LDX	=SGSCB6	05 03359
011045	002000	A	3614	CALL	SG4ENT	05 03360
011046	013544	A	3615	CALL	SG4ENT	05 03361
011047	011201	A	3616	DATA	LCF12	05 03362
011050	030000	L	3617	LDX	=SGSCB6	05 03363
011051	002000	A	3618	CALL	SG4ENT	05 03364
011052	013544	A	3619	CALL	SG4ENT	05 03365
011053	011205	A	3620	DATA	LCF13	05 03366
011054	012717	A	3621	DATA	LCF13	05 03367
011055	054162	A	3622	LDA	SGEDR6	05 03368
011056	030000	L	3623	STA	LCF19+3	05 03369
011057	002000	A	3624	LDX	=SGSCB7	05 03370
011060	013544	A	3625	CALL	SG4ENT	05 03371
011061	011235	A	3626	DATA	LCF19	05 03372
011062	012722	A	3627	DATA	LCF19	05 03373
011063	054150	A	3628	LDA	SGEDR9	05 03374
011064	012737	A	3629	STA	LCF18+3	05 03375
011065	001010	A	3630	IFF	V75	05 03376
011066	011072	A	3631	GOTO	1	V75*****
011067	014144	A	3632	LDA	SGMRY5	V75*****
011070	112530	A	3633	JAZ	LCF2A	V75*****
011071	054142	A	3634	LDA	LCF18+3	V75*****
011072	011072	A	3635	ORA	BS!	V75*****
011073	030000	L	3636	STA	LCF18+3	V75*****
011074	013544	A	3637	EQU	*	V75*****
011075	011231	A	3638	COBT	1	V75*****
011076	012721	A	3639	LDX	=SGSCB7	05 03377
011077	054130	A	3640	CALL	SG4ENT	05 03378
011100	030000	L	3641	LDX	=SGSCB7	05 03379
011101	002000	A	3642	CALL	SG4ENT	05 03380
011102	013544	A	3643	CALL	SG4ENT	05 03381
011103	011225	A	3644	DATA	LCF18	05 03382
011104	002000	A	3645	DATA	LCF17	05 03383
011105	010150	E	3646	CALL	IDDS	05 03384
011106	000007	A	3647	CALL	IDDS	* * GET DEVICE ADDR AND BIC ADDR OF SYS
011107	011113	A	3648	DATA	SYN	05 03385
011110	011113	A	3649	DATA	"*+4,*+3,*+2,*-6	05 03386
011111	011113	A	3650	DATA		05 03387
011112	011104	A	3651	DATA		05 03388
011113	035021	A	3652	LDX	17,X	05 03389

011114	015000	A	3653	LDA	0,X	GET BIC DEVICE ADDR	05	03391
011115	054106	A	3654	STA	LCF16+3		05	03392
011116	015005	A	3655	LDA	0,X	GET RMD DEVICE ADDR	05	03393
011117	054100	A	3656	STA	LCF15+3		05	03394
011120	030000	L	3657	LDX	=SGSCB7		05	03395
011121	002000	A	3658	CALL	SG4ENT	PUT DEVICE ADDR IN DATA PATCH (FOR INIT)	05	03396
011122	013544	A						
011123	011213	A	3659	DATA	LCF15		05	03397
011124	030000	L	3660	LDX	=SGSCB7		05	03398
011125	002000	A	3661	CALL	SG4ENT	PUT BIC ADDR IN DATA PATCH (FOR INIT)	05	03399
011126	013544	A						
011127	011221	A	3662	DATA	LCF16		05	03400
			3663	IFF	VORTEX-2		V2	05 03401
			3664	GOTO	1		V2	05 03402
			3665					05 03403
			3666			* * SET-UP MEMORY ALLOCATION WORDS FOR LOW-CORE * *		05 03404
			3667					05 03405
011130	006505	A	3668	JSR	SG4PKK,X	CONVERT "V\$CAM" TO LOADER CODE	05	03406
011131	013772	A						
011132	000006	A	3669	DATA	6,LCF2		05	03407
011133	011245	A						
011134	005301	A	3670	DECR	01		05	03408
011135	030000	L	3671	LDX	=SGSCB6		05	03409
011136	020000	L	3672	LDB	=ITEM		05	03410
011137	002000	A	3673	CALL	SGSAE	SEARCH LOADER TABLE FOR "V\$CAM"	05	03411
011140	014744	A						
011141	000000	A	3674	DATA	0		05	03412
011142	050663	A	3675	STA	AD\$CAM	SAVE ADDR OF "V\$CAM"	05	03413
011143	005041	A	3676	TXA			05	03414
011144	001004	A	3677	JAN	LCF6	ERROR, IF "V\$CAM" NOT FOUND	05	03415
011145	011164	A						
			3678				05	03416
			3679				05	03417
			3680	CONT	1		V2	05 03418
011146	006505	A	3681	JSR	SG4PKK,X	SEARCH LOADER TABLE FOR "V\$CRDR"	05	03419
011147	013772	A						
011150	000006	A	3682	DATA	6,LCF14		05	03420
011151	011211	A						
011152	005301	A	3683	DECR	01		05	03421
011153	030000	L	3684	LDX	=SGSCB6		05	03422
011154	020000	L	3685	LDB	=ITEM		05	03423
011155	002000	A	3686	CALL	SGSAE		05	03424
011156	014744	A						
011157	000000	A	3687	DATA	0		05	03425
011160	050662	A	3688	STA	ADCRDR	SAVE ADDR OF "V\$CRDR" FOR RES TASK CONFIG.	05	03426
011161	005041	A	3689	TXA			05	03427
011162	001002	A	3690	JAP	SG4CLO	* * EXIT IF "V\$CRDR" FOUND * *	05	03428
011163	011266	A						
			3691				05	03429
011164	012647	A	3692	LDA	ER45		05	03430
011165	002000	A	3693	CALL	SG4PRD	POST "UNDEFINED ENTRY" ERROR	05	03431
011166	013617	A						
011167	001000	A	3694	JMP	RELOAD	AND RELOAD DPROC.	05	03432
011170	015031	A						
			3695				05	03433
			3696				05	03434
011171	153244	A	3697	LCF10	DATA	'V\$TFC',0	05	03435
011172	152306	A						
011173	141640	A						
011174	000000	A						
			3698				05	03436
011175	153244	A	3699	LCF11	DATA	'V\$BFC',0	05	03437
011176	141306	A						
011177	141640	A						
011200	000000	A						
			3700				05	03438
011201	153244	A	3701	LCF12	DATA	'V\$LIT',0	05	03439
011202	146311	A						
011203	152240	A						
011204	000000	A						
			3702				05	03440
011205	153244	A	3703	LCF13	DATA	'V\$BVN',0	05	03441
011206	141326	A						
011207	147240	A						
011210	000000	A						
			3704				05	03442
011211	153244	A	3705	LCF14	DATA	'V\$CRDR',0	05	03443
011212	141722	A						
011213	142322	A						
011214	000000	A						
			3706				05	03444
011215	121704	A	3707	LCF15	DATA	'#BSYS',0	05	03445
011216	151731	A						
011217	151640	A						
011220	000000	A						
			3708				05	03446
011221	121702	A	3709	LCF16	DATA	'#BSYS',0	05	03447
011222	151731	A						
011223	151640	A						
011224	000000	A						
			3710				05	03448
011225	121644	A	3711	LCF17	DATA	'#LCNT',0	05	03449
011226	146303	A						


```

011227 147324 A
011230 000000 A
          3712 *
011231 121644 A 3713 LCF18 DATA '#$CRDM',0
011232 141722 A
011233 142315 A
011234 000000 A
          3714 *
011235 121644 A 3715 LCF19 DATA '#$PST ',0
011236 150323 A
011237 152240 A
011240 000000 A
          3716 *
011241 121711 A 3717 LCF20 DATA '#I ',0
011242 120240 A
011243 120240 A
011244 000000 A
          3718 *
011245 153244 A 3719 LCF2 DATA '$SCAM',0
011246 141701 A
011247 146640 A
011250 000000 A
011251 011250 A 3720 LCF25 PZE *-1
011252 046372 A 3721 DATA 046372 V$PTSZ
011253 102303 A 3722 DATA 0102303 IN
011254 000015 A 3723 DATA 015 LOADER CODE
011255 153244 A 3724 LCF26 DATA '$$PEND',0 ENTRY FOR $$PEND
011256 150305 A
011257 147304 A
011260 000000 A
011261 153244 A 3725 LCF27 DATA '$$PSTR',0 ENTRY FOR $$PSTR
011262 150323 A
011263 152322 A
011264 000000 A
011265 000000 A 3726 LCTMP DATA 0 TEMP STORAGE
          3727 EJEC
          3728 *
          3729 * SG4CLD
          3730 *
          3731 * PURPOSE: FOR GENERATE "CL" LIBRARY ON RMD
          3732 *
          3733 * CALLING SEQUENCE: JMP SG4CLD
          3734 *
          3735 * RETURN PARAMETERS: NONE
          3736 *
          3737 *
          3738 * * ENTRY POINT * *
011266 020000 L 3739 SG4CLD BSS 0
011267 016000 A 3740 LDB =SGSCB6
011270 054542 A 3741 LDA 0,B CURRENT START OF STACK
011271 016001 A 3742 STA SRSTR
011272 054541 A 3743 LDA 1,B
011273 016002 A 3744 STA SREND END OF STACK
011274 054542 A 3745 LDA 2,B ITEM SIZE
011275 002000 A 3746 STA SRINC ITEM SIZE
011276 011760 A CALL SGRST SORT CL DIRECTORY
011277 020000 L 3747 LDB =CLD12 POST "CORE RESIDENT LIBRARY" LISTING
011300 002000 A 3748 CALL SGLIS HEADER (IF LISTING REQUESTED).
011301 015267 A
011302 020000 L 3749 LDB =CLD13
011303 002000 A 3750 CALL SGLIS
011304 015267 A
011305 020000 L 3751 LDB =CLD14
011306 002000 A 3752 CALL SGLIS
011307 015267 A
011310 020000 L 3753 LDB =CLD13
011311 002000 A 3754 CALL SGLIS
011312 015267 A
011313 005001 A 3755 TZA
011314 054375 A 3756 STA CLD1 RESET "UNDEFINED" FLAG
          3757 *
          3758 * * FIND "SYS" UNIT PST IN VIRTUAL MEMORY * *
          3759 *
011315 002000 A 3760 CALL INCS LOCATE SYSTEM RMD NAME
011316 011105 E
011317 000007 A 3761 DATA SYS
011320 011324 A 3762 DATA *+4,*+3,*+2,*-6
011321 011324 A
011322 011324 A
011323 011315 A
011324 015002 A 3763 LDA 2,X
011325 054420 A 3764 STA CLD15+1 SAVE RMD NAME
011326 015003 A 3765 LDA 3,X
011327 054417 A 3766 STA CLD15+2
011330 006505 A 3767 JSR SG4PKK,X PACK NAME IN LOADER CODE
011331 013772 A
011332 000006 A 3768 DATA 6,CLD15
011333 011745 A
011334 005301 A 3769 DECR 01
011335 020000 L 3770 LDB =ITEM
011336 030000 L 3771 LDX =SGSCB6
011337 002000 A 3772 CALL SGRSAE SEARCH LDR TABLE STACK FOR "IPD00"
011340 014744 A
    
```


011341	000000	A	3773	DATA	0			05	03496	
011342	005311	A	3774	DAR				05	03497	
011343	057000	I	3775	STA	MA	SAVE PST BASE ADDR (IF FOUND)		05	03498	
011344	005041	A	3776	TXA				05	03499	
011345	001004	A	3777	JAN	CLO16	ERROR, IF NOT FOUND		05	03500	
011346	011703	A								
			3778	*						
011347	020000	L	3779	LDB	=-6	INPUT FIRST SIX WORDS OF PST TO (CLO17)		05	03501	
011350	006505	A	3780	CLO18	JSR	VMRCT,X		05	03502	
011351	013210	A								
011352	017000	I	3781	LDA	VDATA			05	03504	
011353	006056	A	3782	STAE	CLO17+6,B			05	03505	
011354	011756	A								
011355	047000	I	3783	INR	MA			05	03506	
011356	005122	A	3784	IBR				05	03507	
011357	001026	A	3785	JENZ	CLO18			05	03508	
011360	011350	A								
011361	014366	A	3786	LDA	CLO17			05	03509	
011362	152571	A	3787	ANA	RHW			05	03510	
011363	054364	A	3788	STA	CLO17			05	03511	
			3789	*						
011364	014367	A	3790	LDA	CLO17+4			05	03513	
011365	001010	A	3791	JAZ	CLO20	IF NO BAD TRACKS IN PARTITION		05	03514	
011366	011406	A								
011367	014361	A	3792	LDA	CLO17+1			05	03515	
011370	057000	I	3793	STA	MA			05	03516	
011371	006505	A	3794	JSR	VMRCT,X	INPUT FIRST WORD OF BAD TRACK TABLE		05	03517	
011372	013210	A								
011373	027000	I	3795	LDB	VDATA	B=1ST WD OF BT TABLE	-35	05	03518	
011374	047000	I	3796	INR	MA			05	03519	
011375	006505	A	3797	JSR	VMRCT,X	INPUT SECOND WORD OF BAD TRACK TABLE		05	03520	
011376	013210	A								
011377	017000	I	3798	LDA	VDATA	A=2ND WD OF BT TABLE	-35	05	03521	
011400	034351	A	3799	LDX	CLO17+2			05	03522	
011401	005344	A	3800	DXR				05	03523	
011402	004541	A	3801	CLO11	LLSR	1	MOVE B TO A FOR NEXT TRK.	-35	05	03524
011403	005344	A	3802	DXR				05	03525	
011404	001046	A	3803	JXNZ	CLO11			05	03526	
011405	011402	A								
011406	064347	A	3804	CLO20	STB	CLO19	BIT 0 IN B REG. IS TRK DESIRED	-35	05	03527
			3805	*						
011407	002000	A	3806	CALL	IOCS	REWIND "SYS" DEVICE		05	03529	
011410	011316	E								
011411	002007	A	3807	DATA	REW+SYS			05	03530	
011412	002000	A	3808	CALL	IOCS			05	03531	
011413	011410	E								
011414	000007	A	3809	DATA	SYS			05	03532	
011415	011705	A	3810	DATA	CLO21,CLO21,*+2,*-6			05	03533	
011416	011705	A								
011417	011421	A								
011420	011412	A								
			3811	*						
011421	005001	A	3812	TZA				05	03534	
011422	024327	A	3813	LDB	CLO17+2	POSITION "SYS" DEVICE TO BEGINNING OF "CL"		05	03535	
011423	005322	A	3814	DBR				05	03536	
011424	164323	A	3815	MUL	CLO17	CONVERT TO SECTORS TO SKIP		05	03538	
011425	064003	A	3816	STB	CLO22			05	03539	
011426	002000	A	3817	CALL	IOCS			05	03540	
011427	011413	E								
011430	003007	A	3818	DATA	SKRF+SYS			05	03541	
011431	000000	A	3819	CLO22	DATA	0		05	03542	
011432	002000	A	3820	CALL	IOCS			05	03543	
011433	011427	E								
011434	000007	A	3821	DATA	SYS			05	03544	
011435	011705	A	3822	DATA	CLO21,CLO21,CLO21,*-6			05	03545	
011436	011705	A								
011437	011705	A								
011440	011432	A								
			3823	*						
			3824	*						
011441	005001	A	3825	TZA				05	03546	
011442	052506	A	3826	STA	TBUF1+4	INITIALIZE PARTITION RELATIVE POINTER		05	03547	
011443	014304	A	3827	CLO24	LDA	CLO17		05	03548	
011444	054312	A	3828	STA	CLO23	INITIALIZE SECTORS/TRACK COUNTER		05	03549	
011445	054010	A	3829	STA	CLO26	SET-UP SKIP TRACK		05	03550	
011446	014307	A	3830	LDA	CLO19			05	03551	
011447	006440	A	3831	BT	RA0,CLO9	IF CURRENT TRK IS GOOD	-35	05	03552	
011450	011470	A								
011451	004341	A	3832	LSRA	1	MOVE NEXT TRK TO BIT 0	-35	05	03553	
011452	054303	A	3833	STA	CLO19	SET UP FLAG FOR NEXT TRACK		05	03554	
011453	002000	A	3834	CALL	IOCS	AND SKIP OVER CURRENT TRACK		05	03555	
011454	011433	E								
011455	003007	A	3835	DATA	SKRF+SYS			05	03556	
011456	000000	A	3836	CLO26	DATA	0		05	03557	
011457	002000	A	3837	CALL	IOCS			05	03558	
011460	011454	E								
011461	000007	A	3838	DATA	SYS			05	03559	
011462	011705	A	3839	DATA	CLO21,CLO21,CLO21,*-6			05	03560	
011463	011705	A								
011464	011705	A								
011465	011457	A								
011466	001000	A	3840	JMP	CLO24	GO CHECK FOR BAD TRACK		05	03561	
011467	011443	A								

011470	005002	A	3841	*					05	03564
011471	030000	L	3842	CL09	TZB			CLEAR OUT (SGIBUF) FOR FILE DIRECTORY BUILD	05	03565
011472	005344	A	3843		LDX	=120		AND (SGOBUF) FOR OBJECT MODULE BUILD	05	03566
011473	006065	A	3844	CL02	DXR				05	03567
011474	000664	A	3845		STBE	SGIBUF,X			05	03568
011475	001046	A	3846		JXNZ	CL02			05	03569
011476	011472	A								
011477	030000	L	3847		LDX	=120			05	03570
011500	005344	A	3848	CL03	DXR				05	03571
011501	006065	A	3849		STBE	SGOBUF,X			05	03572
011502	002026	A								
011503	001046	A	3850		JXNZ	CL03			05	03573
011504	011500	A								
			3851	*					05	03574
011505	012506	A	3852		LDA	TBUF1+4		UPDATE PARTITION RELATIVE POINTER	05	03575
011506	122530	A	3853		ADD	TWO		AND INITIALIZE	05	03576
011507	052506	A	3854		STA	TBUF1+4		FILE DIRECTORY ENTRY BUFFER	05	03577
011510	005111	A	3855		IAR			FOR NEXT OBJ. MOD./DIRECTORY	05	03578
011511	052505	A	3856		STA	TBUF1+3		* AND LINK TO NEXT FILE DIRECTORY	05	03579
011512	052507	A	3857		STA	TBUF1+5			05	03580
011513	051001	A	3858		STA	SGIBUF+77			05	03581
			3859	*					05	03582
011514	010000	L	3860		LDA	=SGIBUF			05	03583
011515	122573	A	3861		ADD	FIVE			05	03584
011516	054066	A	3862		STA	CL04		SET UP FILE DIRECTORY ENTRY POINTER	05	03585
011517	010000	L	3863		LDA	=SGOBUF			05	03586
011520	120000	L	3864		ADD	=11			05	03587
011521	054171	A	3865		STA	CL05		SET UP OBJECT MODULE BUFFER POINTER	05	03588
			3866	*					05	03589
011522	010000	L	3867		LDA	=0160400			05	03590
011523	052026	A	3868		STA	SGOBUF		CREATE OBJ. MOD. RECORD CONTROL WORD	05	03591
011524	030000	L	3869		LDX	=SGSCB6			05	03592
011525	020000	L	3870		LDB	=ITEM			05	03593
011526	002000	A	3871		CALL	SGGET		GET NEXT LOADER TABLE ENTRY	05	03594
011527	014616	A								
011530	001004	A	3872		JAN	CL027		IF LOADER TABLE STACK EXHAUSTED	05	03595
011531	011676	A								
011532	012020	A	3873	CL06	LDA	ITEM+4		BUILD LOADER CODE FOR "ENTRY"	05	03596
011533	152600	A	3874		ANA	BM17			05	03597
011534	110000	L	3875		ORA	=010760			05	03598
011535	057000	I	3876		STA*	CL05			05	03599
011536	044154	A	3877		INR	CL05			05	03600
011537	012017	A	3878		LDA	ITEM+3			05	03601
011540	057000	I	3879		STA*	CL05			05	03602
011541	044151	A	3880		INR	CL05			05	03603
011542	012016	A	3881		LDA	ITEM+2			05	03604
011543	057000	I	3882		STA*	CL05			05	03605
011544	044146	A	3883		INR	CL05			05	03606
011545	012014	A	3884		LDA	ITEM			05	03607
011546	057000	I	3885		STA*	CL05			05	03608
011547	114142	A	3886		ORA	CL01		MERGE DEFINED/UNDEFINED BITS	05	03609
011550	054141	A	3887		STA	CL01		AND SAVE FOR LATER CHECK	05	03610
011551	044141	A	3888		INR	CL05			05	03611
			3889	*					05	03612
011552	002000	A	3890		CALL	SG4UPK		UNPACK ENTRY NAME AND LIST (IF DESIRED)	05	03613
011553	015302	A								
			3891	*					05	03614
011554	012406	A	3892	CL07	LDA	SGLBUF		LEFT ADJUST UNPACKED NAME IN (SGLBUF)	05	03615
011555	152573	A	3893		ANA	LHW			05	03616
011556	130000	L	3894		ERA	=0120000			05	03617
011557	001016	A	3895		JANZ	CL025		IF LEFT ADJUSTED	05	03618
011560	011574	A								
011561	012406	A	3896		LDA	SGLBUF			05	03619
011562	022407	A	3897		LDB	SGLBUF+1			05	03620
011563	004450	A	3898		LLRL	8			05	03621
011564	052400	A	3899		STA	SGLBUF			05	03622
011565	004050	A	3900		LCLB	8			05	03623
011566	012410	A	3901		LDA	SGLBUF+2			05	03624
011567	004450	A	3902		LLRL	8			05	03625
011570	062407	A	3903		STB	SGLBUF+1			05	03626
011571	052410	A	3904		STA	SGLBUF+2			05	03627
011572	001000	A	3905		JMP	CL07			05	03628
011573	011554	A								
			3906	*					05	03629
011574	002000	A	3907	CL025	CALL	SGMBV		COMBINE ENTRY NAME AND FILE/SECTOR	05	03630
011575	014325	A								
011576	000003	A	3908		DATA	3		INFORMATION IN (TBUF1) AND MOVE	05	03631
011577	002406	A	3909		DATA	SGLBUF		IT INTO OBJ. MOD. IN (SGOBUF)	05	03632
011600	002502	A	3910		DATA	TBUF1			05	03633
011601	002000	A	3911		CALL	SGMBV			05	03634
011602	014325	A								
011603	000006	A	3912		DATA	6			05	03635
011604	002502	A	3913		DATA	TBUF1			05	03636
011605	000000	A	3914	CL04	DATA	0			05	03637
			3915	*					05	03638
011606	017000	I	3916		LDA	CL04			05	03639
011607	122574	A	3917		ADD	SIX			05	03640
011610	057000	I	3918		STA	CL04		UPDATE OBJ. MOD. BUFFER POINTER	05	03641
011611	040664	A	3919		INR	SGIBUF		UPDATE NUMBER-OF-ENTRIES IN FILE DIRECTORY	05	03642
011612	010664	A	3920		LDA	SGIBUF			05	03643
011613	140000	L	3921		SUB	-12			05	03644
011614	001016	A	3922		JANZ	CL045		JUMP IF FILE DIRECTORY NOT FULL	05	03645


```

011615 011627 A
011616 030000 L 3923 LDX =SGSCB6 FILE DIRECTORY FULL - CHECK STACK 05 03646
011617 015000 A 3924 LDA 0,X BASE ADDRESS OF STACK 05 03647
011620 145001 A 3925 SUB 1,X MINUS BOTTOM ADDRESS 05 03648
011621 001004 A 3926 JAP CLD8 JUMP IF STACK NOT EMPTY 05 03649
011622 011637 A
011623 005101 A 3927 INCR 01 STACK EMPTY - 05 03650
011624 057000 I 3928 STA* CLD4 SET END OF DIRECTORY FLAG 05 03651
011625 001009 A 3929 JMP CLD8 05 03652
011626 011637 A
3930 * 05 03653
3931 * 05 03654
011627 030000 L 3932 CLD45 LDX =SGSCB6 GET NEXT ITEM FROM LOADER TABLE STACK 05 03655
011630 020000 L 3933 LDB =ITEM 05 03656
011631 002000 A 3934 CALL SGGET 05 03657
011632 014616 A
011633 001002 A 3935 JAP CLD6 GO PROCESS ITEM 05 03658
011634 011532 A
011635 005101 A 3936 INCR 01 05 03659
011636 057000 I 3937 STA* CLD4 SET END-OF-DIRECTORY FLAG IF DONE 05 03660
3938 * 05 03661
3939 CLD8 CALL IOCS OUTPUT FILE DIRECTORY RECORD 05 03662
011640 011460 E
011641 041007 A 3940 DATA WBIN+SYS 05 03663
011642 000170 A 3941 DATA 120,SGIBUF 05 03664
011643 000664 A
011644 002000 A 3942 CALL IOCS 05 03665
011645 011640 E
011646 000007 A 3943 DATA SYS 05 03666
011647 011705 A 3944 DATA CLD21,CLD21,CLD21,*-6 05 03667
011650 011705 A
011651 011705 A
011652 011644 A
011653 002000 A 3945 CALL IOCS OUTPUT OBJECT MODULE RECORD 05 03668
011654 011645 E
011655 041007 A 3946 DATA WBIN+SYS 05 03669
011656 000170 A 3947 DATA 120,SGOBUF 05 03670
011657 002026 A
011660 002000 A 3948 CALL IOCS 05 03671
011661 011654 E
011662 000007 A 3949 DATA SYS 05 03672
011663 011705 A 3950 DATA CLD21,CLD21,CLD21,*-6 05 03673
011664 011705 A
011665 011705 A
011666 011660 A
3951 * 05 03674
3952 * 05 03675
011667 014067 A 3952 LDA CLD23 05 03676
011670 142530 A 3953 SUB TWO 05 03677
011671 054065 A 3954 STA CLD23 DECR SECTORS/TRACK COUNTER 05 03678
011672 001010 A 3955 JAP CLD24 IF AT END OF TRACK, CHECK FOR BAD TRACK
011673 011443 A
011674 001000 A 3956 JMP CLD9 OTHERWISE, PROCESS NORMALLY 05 03679
011675 011470 A
3957 * 05 03680
3958 CLD27 LDA CLD1 05 03681
011676 014013 A 3958 CLD1 05 03682
011677 001002 A 3959 JAP SG4TSL * * EXIT, IF NO "UNDEFINED"
011700 012041 A
3960 * 05 03683
3961 * 05 03684
3962 * * * ERROR MESSAGES * * 05 03685
3963 * 05 03686
011701 012647 A 3964 CLD10 LDA ER45 POST "LDR-TABLE-ENTRY-UNDEFINED ERROR" 05 03687
011702 001006 A 3965 DATA 01006 05 03688
011703 012633 A 3966 CLD16 LDA ER25 POST "INCOMPLETE SYS DEFINITION ERROR" 05 03689
011704 001006 A 3967 DATA 01006 05 03690
011705 012621 A 3968 CLD21 LDA ER11 POST "WRITE ERROR" MESSAGE 05 03691
011706 002000 A 3969 CALL SG4PRO 05 03692
011707 013617 A
011710 001000 A 3970 JMP RELOAD GO RELOAD DIRECTIVE PROCESSER 05 03693
011711 015031 A
3971 * 05 03694
3972 * * * DATA CELLS * * 05 03695
3973 * 05 03696
011712 000000 A 3974 CLD1 DATA 0 "UNDEFINED EXTERNALS" FLAG 05 03697
011713 000000 A 3975 CLD5 DATA 0 OBJECT MODULE BUFFER POINTER 05 03698
011714 000013 A 3976 CLD12 DATA 11,'CORE RESIDENT LIBRARY' 05 03699
011715 141717 A
011716 151305 A
011717 120322 A
011720 142723 A
011721 144704 A
011722 142716 A
011723 152240 A
011724 146311 A
011725 141322 A
011726 140722 A
011727 154640 A
011730 000001 A 3977 CLD13 DATA 1,' ' 05 03700
011731 120240 A
011732 000012 A 3978 CLD14 DATA 10,'NAME LOCATION' 05 03701
011733 147301 A
011734 146705 A
011735 120240 A

```



```

011736 120240 A
011737 120240 A
011740 120240 A
011741 146317 A
011742 141701 A
011743 152311 A
011744 147716 A
011745 120720 A 3979 CLO15 DATA *IP 05 03702
011746 120240 A
011747 120240 A
011750 3980 CLO17 BSS 6 NUMBER OF 120-WORD RECORDS/TRACK 05 03703
3981 * BAD TRACK TABLE ADDRESS 05 03704
3982 * STARTING TRACK NUMBER 05 03705
3983 * PROTECT KEY 05 03706
3984 * NUMBER OF BAD TRACKS 05 03707
3985 * LAST TRACK (+1) NUMBER 05 03708
011756 3986 CLO19 BSS 1 BAD TRACK TABLE 05 03709
011757 000000 A 3987 CLO23 DATA 0 SECTORS/TRACK COUNTER 05 03710
3988 *
3989 *
3990 * SG4SRT
3991 *
3992 *
3993 *
3994 *
3995 *
3996 *
3997 *
3998 *
3999 *
4000 *
PURPOSE: SORT CL STACK NUMERICALLY, HIGH TO LOW
CALLING SEQUENCE: CALL SG4SRT
LOC SRSTR = START OF STACK
LOC SREND = END OF STACK
LOC SRINC = STACK ITEM SIZE
RETURN PARAMETERS: NONE
011760 000000 A 4001 SG4SRT ENTR
011761 014051 A 4002 SR05 LDA SRSTR STACK START
011762 124054 A 4003 ADD SRINC ITEM SIZE
011763 054051 A 4004 STA SRITM SET NEXT ITEM
011764 034046 A 4005 SR10 LDX SRSTR
011765 024047 A 4006 LDB SRITM NEXT ITEM
011766 015000 A 4007 LDA 0,X
011767 146000 A 4008 SUB 0,B
011770 001002 A 4009 JAP SR20 IF CURRENT ITEM LE TOP ITEM
011771 012013 A
011772 014044 A 4010 LDA SRINC
011773 054042 A 4011 STA SRCNT SET EXCHANGE COUNT
011774 015000 A 4012 SR15 LDA 0,X
011775 054042 A 4013 STA SRTMP EXCHANGE
011776 016000 A 4014 LDA 0,B
011777 055000 A 4015 STA 0,X DNE
012000 014037 A 4016 LDA SRTMP
012001 056000 A 4017 STA 0,B WORD
012002 014033 A 4018 LDA SRCNT LOOP COUNT
012003 005311 A 4019 DAR
012004 001010 A 4020 JAZ SR20 IF DONE
012005 012013 A
012006 054027 A 4021 STA SRCNT
012007 005144 A 4022 IXR
012010 005122 A 4023 IBR
012011 001000 A 4024 JMP SR15 CONTINUE EXCHANGE
012012 011774 A
012013 014021 A 4025 SR20 LDA SRITM CURRENT ITEM
012014 124022 A 4026 ADD SRINC ITEM SIZE
012015 054017 A 4027 STA SRITM SET FOR NEXT ITEM
012016 144015 A 4028 SUB SREND END OF STACK
012017 001002 A 4029 JAP SR30 IF END OF STACK
012020 012023 A
012021 001000 A 4030 JMP SR10 CONTINUE BUBBLE SORT
012022 011764 A
012023 014007 A 4031 SR30 LDA SRSTR CURRENT TOP OF SORT
012024 124012 A 4032 ADD SRINC ITEM SIZE
012025 054005 A 4033 STA SRSTR SET NEW TOP
012026 144005 A 4034 SUB SREND END OF STACK
012027 001002 A 4035 JAP* SG4SRT RETURN IF SORT DONE
012030 111760 A
012031 001000 A 4036 JMP SR05
012032 011761 A
4037 *
012033 000000 A 4038 SRSTR DATA 0 START OF STACK
012034 000000 A 4039 SREND DATA 0 END OF STACK
012035 000000 A 4040 SRITM DATA 0 CURRENT ITEM
012036 000000 A 4041 SRCNT DATA 0 EXCHANGE COUNT
012037 000000 A 4042 SRINC DATA 0 ITEM SIZE
012040 000000 A 4043 SRTMP DATA 0 TEMP STORAGE
4044 *
4045 *
4046 * SG4TSL
4047 *
4048 *
4049 *
4050 *
4051 *
4052 *
4053 *
4054 *
4055 *
PURPOSE: LIST NON-SCHEDULED TASK NAMES AND PURGE
ALL STACKS NOT USED BY LOAD MODULE
GENERATOR.
CALLING SEQUENCE: JMP SG4TSL
RETURN PARAMETERS: NONE (CALLS SGLDR TO LOAD SGEN3)

```



```

012041          4056 *
012041 020000 L 4057 SG4TSL BSS 0
012042 002000 A 4058 LDB =TSL2 * * ENTRY POINT * *
012043 015267 A 4059 CALL SGLIS POST "NON-SCHEDULED TASK" HEADER
012044 020000 L 4060 LDB =TSL3
012045 002000 A 4061 CALL SGLIS
012046 015267 A
012047 020000 L 4062 LDB =TSL4
012050 002000 A 4063 CALL SGLIS
012051 015267 A
012052 020000 L 4064 LDB =TSL3
012053 002000 A 4065 CALL SGLIS
012054 015267 A
012055 030000 L 4066 *
012055 030000 L 4067 TSL5 LDX =SGSCB8
012056 020000 L 4068 LDB =ITEM
012057 002000 A 4069 CALL SGGET GET ITEM FROM RESIDENT TASK NAME STACK
012060 014616 A
012061 001004 A 4070 JAN TSL1 IF STACK EXHAUSTED
012062 012067 A
012063 002000 A 4071 CALL SG4UPK CONVERT NAME AND ADDR TO ASCII AND LIST
012064 015302 A
012065 001000 A 4072 JMP TSL5 CONTINUE
012066 012055 A
012067 030000 L 4073 *
012067 030000 L 4074 TSL1 LDX =SGSCB6 PURGE LOADER TABLE STACK
012070 020000 L 4075 LDB =ITEM
012071 002000 A 4076 CALL SGGET
012072 014616 A
012073 001002 A 4077 JAP TSL1
012074 012067 A
012075 030000 L 4078 *
012075 030000 L 4079 TSL7 LDX =SGSCB7 PURGE DATA PATCH STACK
012076 020000 L 4080 LDB =ITEM
012077 002000 A 4081 CALL SGGET
012100 014616 A
012101 001002 A 4082 JAP TSL7
012102 012075 A
012103 002000 A 4083 *
012103 002000 A 4084 CALL SGPUR PURGE TEMPORARY STACK
012104 014243 A
012105 006030 A 4085 LDXI TSL9
012106 012120 A
012107 001400 A 4086 JSS3 EXIT
012110 000000 E
012111 006030 A 4087 LDXI TSL8
012112 012115 A
012113 001000 A 4088 JMP EXIT GO LOAD SGEN3 (LOAD-MODULE-GENERATOR)
012114 012110 E
012115 055623 A 4089 *
012115 055623 A 4090 * * * DATA CELLS * *
012116 031636 A 4091 *
012116 031636 A 4092 TSL8 DATA 055623 LOADER CODE FOR SGEN3
012117 000000 A 4093 DATA 031636
012120 055624 A 4094 DATA 0
012121 031636 A 4095 TSL9 DATA 055624 'SGEN4'
012122 000000 A 4096 DATA 031636
012122 000000 A 4097 DATA 0
012123 000012 A 4098 *
012123 000012 A 4099 TSL2 DATA 10,'NON-SCHEDULED TASKS'
012124 147317 A
012125 147255 A
012126 151703 A
012127 144305 A
012130 142325 A
012131 146305 A
012132 142240 A
012133 152301 A
012134 151713 A
012135 151640 A
012136 017000 I 4100 TSL3 EQU CLD13
012137 027000 I 4101 TSL4 EQU CLD14
012138 017000 I 4102 EQU
012139 017000 I 4103 *
012140 056000 A 4104 * LGCUL
012141 005301 A 4105 *
012142 057000 I 4106 *
012143 017000 I 4107 * PURPOSE: LGCUL IS CALLED TO FINISH OFF A PASS THROUGH
012144 001004 A 4108 * THE "LOADER" PORTION OF LMGEN.
012145 003443 A 4109 * CALLING SEQUENCE: JMP LGCUL
012146 006505 A 4110 * EXIT: RETURN FROM LGSTAR; NO EXIT PARAMETERS
012146 006505 A 4111 *
012146 006505 A 4112 *
012146 006505 A 4113 LGCUL LDA LPT
012146 006505 A 4114 LDB PART
012146 006505 A 4115 STA C,B UPDATE PROGRAM REGION POINTER (SGCPED/REV)
012146 006505 A 4116 DECR 01
012146 006505 A 4117 STA MA
012146 006505 A 4118 LDA CBS
012146 006505 A 4119 JAN SG4ICR JUMP IF VIRTUAL MEMORY NOT USED
012146 006505 A 4120 JSR IDW,X WRITE OUT CURRENT VIRTUAL MEMORY BUFFER

```



```

012147 013240 A
012150 013415 A 4121 DATA BSS+1 05 03788
012151 001000 A 4122 JMP SG4ICR GO READ NEXT RECORD 05 03789
012152 003443 A
4123 EJEC 05 03790
4124 * 05 03791
4125 * SG4LMP 05 03792
4126 * 05 03793
4127 * 05 03794
4128 * PURPOSE: TO CONVERT ONE OR MORE OBJECT MODULES 05 03795
4129 * TO NUCLEUS COMPONENT CODE. 05 03796
4130 * CALLING SEQUENCE: INDIRECT JUMP FROM SG4ICR 05 03797
4131 * 05 03798
4132 * RETURN PARAMETERS: NONE (RETURNS TO SG4IND UPON 05 03799
4133 * DETECTION OF "TDF" OR 05 03800
4134 * "ENE" CONTROL RECORD) 05 03801
4135 * 05 03802
4136 * 05 03803
012153 4137 SG4LMP BSS 0 * * ENTRY POINT * * 05 03804
012153 005001 A 4138 TZA 05 03805
012154 057000 I 4139 STA ECW CLEAN UP ERROR CONTROL WORD 05 03806
012155 012671 A 4140 LDA SGCLUN 05 03807
012156 054247 A 4141 STA CLUN STORE CURRENT LU NUMBER IN INPUT READ CALL 05 03808
012157 001000 A 4142 JMP LGEND 05 03809
012160 012201 A
4143 * 05 03810
4144 * LGEND 05 03811
4145 * 05 03812
4146 * PURPOSE: LGEND IS CALLED UPON ENTRY TO THE LOADER/ 05 03813
4147 * GENERATOR AND BETWEEN PROCESSING OF INPUT 05 03814
4148 * OBJECT MODULES. IT UPDATES VARIOUS INTER- 05 03815
4149 * PROGRAM REGISTERS AND PERFORMS LIBRARY 05 03816
4150 * SEARCHES TO SATISFY UNDEFINED EXTERNALS. 05 03817
4151 * 05 03818
4152 * CALLING SEQ.: JMP LGEND -TO ENTER FROM LGSTAR- 05 03819
4153 * JMP ENDR -TO ENTER FROM LGEND- 05 03820
4154 * 05 03821
4155 * EXIT: TO LGDAFT TO START OBJECT MODULE PROCESSING; 05 03822
4156 * TO LGCUL TO CLEAN UP AND RETURN. 05 03823
4157 * 05 03824
4158 * ENTER HERE FROM LGEND --- 05 03825
012161 012673 A 4159 END20 LDA SGCSGN 05 03826
012162 152566 A 4160 ANA BR15 05 03827
012163 052673 A 4161 STA SGCSGN RESET FIRST OBJ. MODULE FLAG 05 03828
012164 030522 A 4162 LDX SGSCB6 (XR)= BASE OF LOADER TABLE STACK 05 03829
012165 015000 A 4163 END50 LRA 0,X 05 03830
012166 001004 A 4164 JAN END40 IF ITEM AN EXTERNAL 05 03831
012167 012173 A
012170 015004 A 4165 LDA 4,X 05 03832
012171 112543 A 4166 ORA RS14 05 03833
012172 055004 A 4167 STA 4,X SET 'NO COMMON BIAS UPDATE' FLAG 05 03834
012173 005041 A 4168 END40 TXA 05 03835
012174 122573 A 4169 ADD FIVE 05 03836
012175 005014 A 4170 TAX (XR)= PNTR TO NEXT ITEM 05 03837
012176 140523 A 4171 SUB SGSCB6+1 05 03838
012177 001016 A 4172 JANZ END50 IF NOT END OF STACK 05 03839
012200 012165 A
4173 * 05 03840
4174 * ENTER HERE FROM LGSTAR 05 03841
012201 4175 LGEND BSS 0 05 03842
012201 030522 A 4176 LDX SGSCB6 05 03843
012202 012666 A 4177 LDA SGCIIL 05 03844
012203 012667 A 4178 LRA SGCIDL 05 03845
012204 012700 A 4179 LDA SGCP5D 05 03846
012205 057000 I 4180 STA LPT UPDATE END-UP-LOAD ADDR REGISTER 05 03847
012206 017000 I 4181 LDA STCB 05 03848
012207 057000 I 4182 STA STCV 05 03849
012210 057000 I 4183 STA STCM RESET RECORD CONTROL WORD CHECK MASKS 05 03850
012211 010000 L 4184 LDP 60 05 03851
012212 057000 I 4185 STA TMC RESET INPUT BUFFER INDEX 05 03852
012213 001000 A 4186 JMP LGDAFT 05 03853
012214 012215 A
4187 EJEC 05 03854
4188 * 05 03855
4189 * LGDAFT 05 03856
4190 * 05 03857
4191 * PURPOSE: LGDAFT UNPACKS AND INTERPRETS LOADER CODE, 05 03858
4192 * THEN SETS UP A JUMP TO THE PROPER ROUTINE 05 03859
4193 * FOR PROCESSING THE LOAD ITEM. AS PART OF 05 03860
4194 * THIS PROCESS, IT USES THE LOADER CODE WORD 05 03861
4195 * AND FIRST DATA WORD TO SET UP SEVERAL DATA 05 03862
4196 * REGISTERS FOR LATER USE. 05 03863
4197 * 05 03864
4198 * CALLING SEQ.: JMP LGDAFT - TO PROCESS NEW LOADER CODE 05 03865
4199 * OR 05 03866
4200 * JMP DAFT - TO PROCESS NEXT ABS DATA 05 03867
4201 * WORD (IN A SET OF ABS WORDS) 05 03868
4202 * 05 03869
4203 * EXIT: TO THE PROPER ROUTINE (SEE JUMP TABLE); 05 03870
4204 * 05 03871
4205 * (AR)= FIRST DATA WORD MODIFIED BY PNTR VALUE 05 03872
4206 * (BR)= NUMBER OF LOAD POINTER 05 03873
4207 * (XR)= ADDRESS OF LOAD POINTER 05 03874

```


012215	002000	A	4208	*					05	03875
			4209	*					05	03876
012216	012360	A	4210		LGDAFT	CALL	LGGEWD	GET LOADER CODE WORD.	05	03877
012217	001010	A	4211			JAZ	LGDAFT	IGNORE ZERO LOADER CODE WORDS	05	03878
012220	012215	A								
012221	057000	I	4212		STA	DCW		(DCW)= LOADER CODE WORD	05	03879
012222	004555	A	4213		LLSR	13			05	03880
012223	005311	A	4214		DAR				05	03881
012224	001002	A	4215		JAP	DAFO		JUMP IF LOADER CODE NOT ZERO	05	03882
012225	012231	A								
012226	005021	A	4216		TBA				05	03883
012227	004354	A	4217		LSRA	12		UNPACK LOADER SUBCODE	05	03884
012230	122572	A	4218		ADD	THREE		AND SET UP REFERENCE PT. INTO JUMP TABLE	05	03885
			4219	*					05	03886
012231	006120	A	4220		DAFO	ADDI	JTAB+0100000		05	03887
012232	112263	A								
012233	054027	A	4221		STA	DAF3		(DAF3)= ADDRESS OF LDR CODE PROCESS ROUTIN	05	03888
012234	004451	A	4222		LLRL	9			05	03889
012235	152601	A	4223		ANA	BM37		UNPACK LOAD POINTER NUMBER	05	03890
012236	005315	A	4224		DECR	013			05	03891
012237	057000	I	4225		STA	PTM1		(PTM1)= LOAD PNTR NUMBER -1	05	03892
			4226	*					05	03893
012240	005211	A	4227		DAF1	CPA			05	03894
012241	006120	A	4228		ADDI	LPT		(AR)= LPT - LOAD PNTR NUMBER	05	03895
012242	013377	A								
012243	057000	I	4229		STA	PEP		(PEP)= ADDRESS OF CURRENT LOAD POINTER	05	03896
012244	005145	A	4230		INCR	045			05	03897
012245	142601	A	4231		SUB	BM37			05	03898
012246	001010	A	4232		JAZ	DAF1		IF ABS LD PNTR, SET (PEP)= LPT-040	05	03899
012247	012240	A								
012250	005001	A	4233		TZA				05	03900
012251	004444	A	4234		LLRL	4		UNPACK NAME FIELD OF LOADER CODE WORD	05	03901
012252	057000	I	4235		STA	SNAM		(SNAM)= FIRST 4-BITS OF NAME (IF ANY)	05	03902
			4236	*					05	03903
012253	002000	A	4237		DAF2	CALL	LGGEWD	GET FIRST DATA WORD	05	03904
012254	012360	A								
012255	057000	I	4238		STA	SNAM+1		(SNAM+1)= CONTINUATION OF NAME (IF ANY)	05	03905
012256	037000	I	4239		LDX	PEP			05	03906
012257	125000	A	4240		ADD	0,X			05	03907
012260	054364	A	4241		STA	DATA		(DATA)= DATA WORD + LOAD PNTR BIAS	05	03908
012261	027000	I	4242		LDB	PTM1		(BR)= LOAD PNTR NUMBER -1	05	03909
012262	001000	A	4243		JMP	0		JUMP TO APPLICABLE ROUTINE	05	03910
012263		A	4244	*					05	03911
			4245		DAF3	BES	0	ADDRESS OF PROCESSING ROUTINE	05	03912
			4246			EJEC			05	03913
			4247	*					05	03914
			4248	*					05	03915
			4249	*					05	03916
			4250	*					05	03917
			4251	*					05	03918
			4252	*					05	03919
			4253	*					05	03920
			4254	*					05	03921
012263		A	4255		JTAB	BES	0		05	03922
012264	012500	A	4256		DATA	LGREL	2	RELATIVE DATUM	05	03923
012265	013330	A	4257		DATA	TEXT	3	LITERAL - TEXT ERROR	05	03924
012266	012503	A	4258		DATA	LGABS	4	ABSOLUTE DATUM	05	03925
012267	012531	A	4259		DATA	LGORG	0	ORIGIN SET	05	03926
012270	012707	A	4260		DATA	LGSTR	0	STRING DEFINITION	05	03927
012271	013330	A	4261		DATA	TEXT	0	NOT USED - TEXT ERROR	05	03928
012272	013330	A	4262		DATA	TEXT	0	NOT USED - TEXT ERROR	05	03929
012273	013330	A	4263		DATA	TEXT	0	NOT USED - TEXT ERROR	05	03930
012274	013330	A	4264		DATA	TEXT	0	NOT USED - TEXT ERROR	05	03931
012275	013317	A	4265		DATA	LGXEQ	0	EXECUTION ADDRESS SET	05	03932
012276	012643	A	4266		DATA	LGENT	0	ENTRY DEFINITION	05	03933
012277	012575	A	4267		DATA	LGDE	0	POINTER DEFINITION	05	03934
012300	012657	A	4268		DATA	LGEXT	0	EXTERNAL DEFINITION	05	03935
012301	013330	A	4269		DATA	TEXT	0	EXT. LITERAL - TEXT ERROR	05	03936
012302	013330	A	4270		DATA	TEXT	0	NOT USED - TEXT ERROR	05	03937
012303	013330	A	4271		DATA	TEXT	0	NOT USED - TEXT ERROR	05	03938
012304	013330	A	4272		DATA	TEXT	0	NOT USED - TEXT ERROR	05	03939
012305	013330	A	4273		DATA	TEXT	0	NOT USED - TEXT ERROR	05	03940
			4274			EJEC			05	03941
			4275	*					05	03942
			4276	*					05	03943
			4277	*					05	03944
			4278	*					05	03945
			4279	*					05	03946
			4280	*					05	03947
			4281	*					05	03948
			4282	*					05	03949
			4283	*					05	03950
			4284	*					05	03951
			4285	*					05	03952
			4286	*					05	03953
			4287	*					05	03954
			4288	*					05	03955
			4289	*					05	03956
			4290	*					05	03957
			4291	*					05	03958
012306	017000	I	4292		LGDFRC	LDA	DCW		05	03959

PURPOSE: PROVIDE JUMP ADDRESS FOR LGDAFT AS A FCN OF LOADER CODE AND SUBCODE.

NAME	CODE	SUB-CODE	DESCRIPTION
0	1	-	NOT USED
1	2	-	RELATIVE DATUM
2	3	-	LITERAL - TEXT ERROR
3	4	-	ABSOLUTE DATUM
4	0	1	ORIGIN SET
5	0	2	STRING DEFINITION
6	0	3	NOT USED - TEXT ERROR
7	0	4	NOT USED - TEXT ERROR
8	0	5	NOT USED - TEXT ERROR
9	0	6	NOT USED - TEXT ERROR
10	0	7	EXECUTION ADDRESS SET
11	0	10	ENTRY DEFINITION
12	0	11	POINTER DEFINITION
13	0	12	EXTERNAL DEFINITION
14	0	13	EXT. LITERAL - TEXT ERROR
15	0	14	NOT USED - TEXT ERROR
16	0	15	NOT USED - TEXT ERROR
17	0	16	NOT USED - TEXT ERROR
18	0	17	NOT USED - TEXT ERROR

PURPOSE: LGDFRC IS ENTERED FROM LGLCMC AFTER A LOAD ITEM HAS BEEN PROCESSED. IF THE LOAD ITEM WAS AN ABSOLUTE LOAD, MORE DATA WORDS MAY REMAIN TO BE LOADED UNDER THE SAME LOADER TEXT WORD. LGDFRC DETERMINES IF THIS IS THE CASE AND, IF SO, EXITS TO DAF2 TO PROCESS THE NEXT DATA WORD.

CALLING SEQUENCE: JMP LGDFRC

EXIT: TO LGDAFT TO PROCESS NEXT LOAD ITEM;
TO DAF2 TO PROCESS NEXT ABS DATA WORD.
THERE ARE NO EXIT PARAMETERS.

Address	Hex	Op	Label	Code	Description	Page	Line
012307	005311	A	4293	DAR		05	03960
012310	057000	I	4294	STA	DCW	05	03961
012311	001002	A	4295	JAP	LGDAFT	05	03962
012312	012215	A					
012313	001000	A	4296	JMP	DAF2	05	03963
012314	012253	A					
			4297	EJEC		05	03964
			4298			05	03965
			4299	LGGEWD		05	03966
			4300			05	03967
			4301			05	03968
			4302			05	03969
			4303			05	03970
			4304			05	03971
			4305			05	03972
			4306			05	03973
			4307			05	03974
			4308			05	03975
			4309			05	03976
			4310			05	03977
			4311			05	03978
			4312			05	03979
			4313			05	03980
			4314			05	03981
012315	017000	I	4315	GEW3 LDA	DTCV	05	03982
012316	152571	A	4316	ANA	BM377	05	03983
012317	001016	A	4317	JANZ	SEQM	05	03984
012320	012466	A					
012321	017000	I	4318	LDA	DTCV	05	03985
012322	142571	A	4319	SUB	BM377	05	03986
012323	112537	A	4320	DRA	BS8	05	03987
012324	057000	I	4321	STA	DTCV	05	03988
			4322	*		05	03989
012325	017000	I	4323	LDA	DTCV	05	03990
012326	152543	A	4324	ANA	BS1F	05	03991
012327	006414	A	4325	BT	RA1*812,GEW5	05	03992
012330	012351	A					
			4326	*		05	03993
012331	006030	A	4327	LDXI	LLC	05	03994
012332	013432	A					
012333	012674	A	4328	LDA	SGTALT	05	03995
012334	027000	I	4329	LDB	LP1	05	03996
012335	006445	A	4330	BT	RA0*B5,GEW4	05	03997
012336	012344	A					
			4331	*		05	03998
012337	017000	I	4332	LDA	LPT	05	03999
012340	140666	A	4333	SUB	LGDMIB+2	05	04000
012341	057000	I	4334	STA	LPT	05	04001
012342	006030	A	4335	LDXI	SGOPED	05	04002
012343	002700	A					
			4336	*		05	04003
012344	077000	I	4337	GEW4 STX	BAPT	05	04004
012345	017000	I	4338	LDA	LPT	05	04005
012346	057000	I	4339	STA	LLC	05	04006
012347	005301	A	4340	DECR	Q1	05	04007
012350	057000	I	4341	STA	LOPT	05	04008
			4342	*		05	04009
012351	152573	A	4343	GEW5 ANA	NINE	05	04010
012352	005112	A	4344	INCR	Q12	05	04011
012353	005122	A	4345	IBR		05	04012
			4346	*		05	04013
012354	067000	I	4347	GEW6 STB	RWC	05	04014
012355	006016	A	4348	LDAB	LGDMIB,B	05	04015
012356	000664	A					
012357	001000	A	4349	JMP	Q	05	04016
012360	000000	A					
			4350	*		05	04017
			4351	*	ENTRY POINT	05	04018
			4352	*		05	04019
012360			4353	LGGEWD BES	Q	05	04020
012361	017000	I	4354	LDA	MC	05	04021
012362	005113	A	4355	INCR	Q13	05	04022
012363	140000	L	4356	SUB	RLL	05	04023
012364	001004	A	4357	JAN	GEW6	05	04024
012365	012354	A					
			4358	*		05	04025
012366	017000	I	4359	LDA	DTCV	05	04026
012367	157000	I	4360	ANA	DTCL	05	04027
012370	001010	A	4361	JAZ	SGCL	05	04028
012371	012136	A					
012372	017000	I	4362	GEW8 LDA	RS	05	04029
012373	001002	A	4363	JAP	Q95	05	04030
012374	012400	A					
012375	004517	A	4364	LASR	15	05	04031
012376	001000	A	4365	JMP	GEW7	05	04032
012377	012434	A					
012400	140000	L	4366	SUB	RLL	05	04033
012401	001010	A	4367	JAZ	GEW8	05	04034
012402	012413	A					
012403	002000	A	4368	CALL	SGPCV	05	04035
012404	014323	A					
012405	000074	A	4369	DATA	RL	05	04036
012406	000760	A	4370	DATA	LGDMIB+RL	05	04037

PURPOSE: LGGEWD IS CALLED TO FETCH A WORD OF OBJECT TEXT FROM THE INPUT BUFFER. LGGEWD MAINTAINS A POINTER TO THE NEXT WORD, INPUTS AND VERIFYS A NEW RECORD WHEN THE BUFFER IS EMPTY, SETS POINTERS IF REVERSE LOADING, AND DETECTS LAST RECORD IN EACH OBJECT MODULE.

CALLING SEQ.: CALL LGGEWD (NO ENTRANCE PARAMETERS).

EXIT: TO LGEND IF BUFFER IS EMPTY AND RECORD IS END; TO LGEP IF RECORD, SEQUENCE, OR CHECKSUM ERROR. OTHERWISE, RETURN TO CALLING PROGRAM.

ERROR IF BAD SEQUENCE NUMBER

(DTCV)=MASK FOR REC CONTROL WORD, NEXT REC

JUMP IF NOT START RECORD

(BR)=PROGRAM REGION LOAD POINTER
JUMP IF FORWARD LOAD

FOR REVERSE LOAD, REDUCE PROGRAM REGION LOAD POINTER BY THE SIZE OF THE NEW OBJECT MODULE (INPUT)

(BAPT)=LLC*FORWARD LOAD; LGOPED:REV LOAD

(LLC)= PROGRAM REGION LOAD REGION

(LOPT)= -1+ PROG REGION LOAD PTR NUMBER

(AR) =NINE/FIRST REC; =ZERO:ALL OTHER REC
(BR)=(AR)+1

UPDATE INPUT BUFFER INDEX
FETCH NEXT WORD

RETURN

(AR)=INDEX TO LAST WORD READ FROM LGDMIB
(AR)=(BR)+(AR)+1
RL = 60
JUMP IF BUFFER NOT EMPTY

JUMP IF 'END RECORD'

(RS)=NUMBER OF WORDS IN BUFFER
IF 'RECORD READ' FLAG NOT SET

REMOVE SIGN
GO CHECK RECORD ALREADY IN

RL = 60
JUMP IF BUFFER EMPTY

LEFT JUSTIFY NEXT RECORD


```

4445 *
4446 * CALLING SEQ.: (AR)= WORD TO BE STORED 05 04112
4447 * JMP LGSTOW 05 04114
4448 * 05 04115
4449 * EXIT: EXIT IS TO LGLCMC TO CHECK IF (LC) ARE STILL 05 04116
4450 * WITHIN LIMITS; THERE ARE NO EXIT PARAMETERS. 05 04117
4451 * 05 04118
4452 * 05 04119
012507 054135 A 4453 LGSTOW STA DATA 05 04120
012510 054700 A 4454 STA VDATA (VDATA)= VIRTUAL MEMORY DATA BUFFER 05 04121
012511 024720 A 4455 LDB LLC 05 04122
012512 064675 A 4456 STB MA (MA)= VIRTUAL MEMORY ADDRESS REGISTER 05 04123
012513 014717 A 4457 LDA LCPT 05 04124
012514 005311 A 4458 DAB 05 04125
012515 005311 A 4459 DAB 05 04126
012516 001002 A 4460 JAB STOW1 JUMP IF LOAD POINTER POINTS TO NAMED COMMO 05 04127
012517 012524 A
012520 006505 A 4461 JSR VMWCT,X STORE WORD IN CURRENT SEQ. VIRTUAL MEMORY 05 04128
012521 013215 A
012522 001000 A 4462 JMP STOW2 05 04129
012523 012525 A
012524 006505 A 4463 STOW1 JSR VMWRT,X STORE WORD IN ROOT SEGMENT VIRTUAL MEMORY 05 04130
012525 013175 A
012526 044703 A 4464 STOW2 INR LLC UPDATE LOCATION COUNTER 05 04131
012527 001000 A 4465 JMP LGLCMC GO TO CHECK VALIDITY OF NEW (LC) 05 04132
012530 012543 A
4466 * EJEC 05 04133
4467 * 05 04134
4468 * LGORG 05 04135
4469 * 05 04136
4470 * PURPOSE: LGORG IS ENTERED FROM THE LOAD ITEM DECODER 05 04137
4471 * (LGDAFT) TO PROCESS CHANGES TO THE LOCATION 05 04138
4472 * COUNTER. 05 04139
4473 * 05 04140
4474 * CALLING SEQUENCE: (AR)= NEW LOAD POINTER VALUE 05 04141
4475 * (BR)= LOAD POINTER NUMBER -1 05 04142
4476 * JMP LGORG 05 04143
4477 * 05 04144
4478 * EXIT: TO LGLCMC OR LGEF (IF ERROR); NO EXIT PARAMETERS 05 04145
4479 * 05 04146
4480 * 05 04147
012531 054700 A 4481 LGORG STA LLC SET LOCATION COUNTER TO NEW VALUE 05 04148
012532 064700 A 4482 STB LCPT 05 04149
012533 005122 A 4483 LBR (BR)= LOAD POINTER NUMBER 05 04150
012534 001026 A 4484 JBNZ BRG1 JUMP IF NOT POINTING TO PROGRAM REGION 05 04151
012535 012541 A
012536 142677 A 4485 SUB SGORGM 05 04152
012537 001004 A 4486 JAN PSIZ ERROR IF (LC) BELOW CURRENT PROGRAM REGION 05 04153
012540 013326 A
012541 4487 BRG1 BSS 0 05 04154
012541 001000 A 4488 JMP LGLCMC NORMAL EXIT TO CHECK UPPER BOUNDARY OF (LC) 05 04155
012542 012543 A
4489 * EJEC 05 04156
4490 * 05 04157
4491 * LGLCMC 05 04158
4492 * 05 04159
4493 * PURPOSE: LGLCMC MAINTAINS IN ($PED) THE HIGHEST 05 04160
4494 * REFERENCED PROGRAM AREA LOCATION. IN ADDITION 05 04161
4495 * IT CHECKS (LC), ($PED), AND ($COM) TO INSURE 05 04162
4496 * LOAD MODULE GENERATION IS STAYING WITHIN 05 04163
4497 * REQUIRED BOUNDS. 05 04164
4498 * 05 04165
4499 * CALLING SEQ.: JMP LGLCMC -TO MAINTAIN ($PED) 05 04166
4500 * JMP COCK -TO CHECK BOUNDARIES 05 04167
4501 * 05 04168
4502 * EXIT: TO LGDFRC TO PROCESS NEXT INPUT WORD; 05 04169
4503 * TO LGEF IF AN ERROR CONDITION WAS FOUND; 05 04170
4504 * THERE ARE NO EXIT PARAMETERS. 05 04171
4505 * 05 04172
4506 * 05 04173
012543 014667 A 4507 LGLCMC LDA LCPT 05 04174
012544 001002 A 4508 JAB LGDFRC IF (LC) REFERS TO COM, NO NEED TO CHECK 05 04175
012545 012306 A
012546 024663 A 4509 LDB LLC 05 04176
012547 005321 A 4510 DECR 05 04177
012550 142730 A 4511 SUB SGORPED 05 04178
012551 001002 A 4512 JAB UPED IF (LC)>($PED), UPDATE ($PED) 05 04179
012552 012561 A
012553 005021 A 4513 TRC 05 04180
012554 142677 A 4514 SUB SGORGM 05 04181
012555 001004 A 4515 JAN PSIZ ERROR IF (LC) BELOW PROGRAM REGION 05 04182
012556 013326 A
012557 001000 A 4516 JMP LGDFRC (LC) CHECKS OUT; GO PROCESS NEXT DATA WORD 05 04183
012560 012306 A
4517 * 05 04184
012561 062700 A 4518 UPED STB SGORPED UPDATE ($PED) 05 04185
4519 * 05 04186
012562 005001 A 4520 COCK TZA 05 04187
012563 022674 A 4521 LTB SGTALT 05 04188
012564 006460 A 4522 BT 360-COCK1 IF BACKGROUND PROGRAM 05 04189
012565 012567 A
4523 * 05 04190
012566 012540 A 4524 LDA BSS 05 04191

```



```

012567 122700 A 4525 COCK1 ADD SGCPEB 05 04192
012570 142560 A 4526 SUB BR15 05 04193
012571 001002 A 4527 JAF PSIZ IF LOAD MODULE TOO LARGE 05 04194
012572 013326 A 4528 JMP LGDFRC CONTINUE 05 04195
012573 001000 A
012574 012306 A
4529 * 05 04196
4530 * 05 04197
4531 * 05 04198
4532 * 05 04199
4533 * 05 04200
4534 * 05 04201
4535 * 05 04202
4536 * 05 04203
4537 * 05 04204
4538 * 05 04205
4539 * 05 04206
4540 * 05 04207
4541 * 05 04208
4542 * 05 04209
4543 * 05 04210
4544 * 05 04211
4545 * 05 04212
4546 * 05 04213
4547 * 05 04214
4548 * 05 04215
4549 * 05 04216
4550 * 05 04217
4551 * 05 04218
4552 * 05 04219
4553 * 05 04220
4554 * 05 04221
4555 * 05 04222
4556 * 05 04223
4557 * 05 04224
4558 * 05 04225
012575 005001 A 4558 LGPDE TZA 05 04226
012576 055000 A 4559 STA 0,X ZERO LOAD POINTER 05 04227
012577 014624 A 4560 LDA SNAM 05 04228
012600 112545 A 4561 ORA BS14 SET BIT FOR NO COMMON BIAS UPDATE 05 04229
012601 054622 A 4562 STA SNAM 05 04230
012602 002000 A 4563 CALL LGSAB SEARCH LOADER TABLE STACK FOR MATCH 05 04231
012603 012752 A
012604 100000 A 4564 MZE 0 05 04232
012605 001004 A 4565 JAN PDE0 JUMP IF NO MATCH FOUND 05 04233
012606 012617 A
012607 024626 A 4566 LDB PEP 05 04234
012610 056000 A 4567 STA 0,B SET COMMON BLOCK BASE ADDR INTO LOAD PNTR 05 04235
4568 * 05 04236
012611 012710 A 4569 LDA SGMRY2 05 04237
012612 144615 A 4570 SUB CSIZ 05 04238
012613 001002 A 4571 JAF LGDAFT GO PROCESS NEXT ITEM IF LESS THAN ALLO 05 04239
012614 012215 A
012615 001000 A 4572 JMP COMN COMMON ERROR 05 04240
012616 013322 A
4573 * 05 04241
4574 * 05 04242
4575 * 05 04243
012617 152566 A 4576 PDE0 ANA BR15 SET STACK ITEM ADDRESS TO ZERO 05 04244
012620 055000 A 4577 STA 0,X 05 04245
4578 * 05 04246
012621 024607 A 4579 LDB STM1 05 04247
012622 005322 A 4580 DBR 05 04248
012623 001026 A 4581 IBNZ COMN ERROR, IF NOT DEFINING BLANK COMMON 05 04249
012624 013322 A
4582 * 05 04250
012625 012710 A 4583 LDA SGMRY2 GET SIZE OF BLANK COMMON AREA 05 04251
012626 144601 A 4584 SUB CSIZ 05 04252
012627 001004 A 4585 JAN COMN ERROR, IF DESIRED BLOCK TOO LARGE 05 04253
012630 013322 A
012631 012707 A 4586 LDA SGMRY1 05 04254
012632 142710 A 4587 SUB SGMRY2 (AR)= BASE ADDRESS 05 04255
012633 005111 A 4588 JAR 05 04256
4589 * 05 04257
012634 024601 A 4590 LDB PEP 05 04258
012635 056000 A 4591 STA 0,B STORE BASE ADDR OF COMMON IN LOAD POINTER 05 04259
012636 025000 A 4592 LDB 0,X 05 04260
012637 055000 A 4593 STA 0,A STORE BASE ADDR OF COMN IN LDR TBLF ITEM 05 04261
012640 005024 A 4594 TDX (XR)= STRING ADDR 05 04262
012641 001000 A 4595 JMP STR1 GO TO THREAD ADDR THROUGH ANY REFERENCES 05 04263
012642 012711 A
4596 * 05 04264
4597 * 05 04265
4598 * 05 04266
4599 * 05 04267
4600 * 05 04268
4601 * 05 04269
4602 * 05 04270
4603 * 05 04271
4604 * 05 04272
4605 * 05 04273
4606 * 05 04274
4607 * 05 04275
4608 *

```

NOTE: THE ABOVE LOAD MODULE SIZE CHECK ONLY GUARDS AGAINST GROSS MISCALCULATIONS. AT ANY GIVEN TIME, A LOAD MODULE MAY PASS THIS TEST YET BE TOO LARGE TO LOAD ON THE CURRENT SYSTEM CONFIGURATION.

EJEC

LGPDE

PURPOSE: LGPDE CHECKS COMMON BLOCK ASSIGNMENTS TO SEE IF THEY ARE MADE AT APPROPRIATE TIMES AND ARE CONSISTENT WITH PREVIOUS ASSIGNMENTS. LGPDE THEN HANDLES THE GENERATION OF LOADER TABLE STACK ITEMS AND THE ASSIGNMENT OF LOAD POINTERS FOR COMMON.

CALLING SEQ.: (XR)= POINTER TO LOC. OF LOAD POINTER
JMP LGPDE

EXIT: TO LGDAFT IF COMMON BLOCK ALREADY ASSIGNED.
TO LGSTR IF NEW COMMON BLOCK ASSIGNMENT.

...WITH (AR)= BASE ADDR OF ASSIGNED AREA
(XR)= POINTER TO STACK ENTRY DEFINITION ADDRESS

WE GOT HERE BECAUSE COMMON WAS NOT PREVIOUSLY DEFINED

V2

PURPOSE: PROCESS ENTRY NAME LOAD ITEMS. IF A NAME IS IN THE LOADER TABLE STACK ALREADY, BUT ITS LOCATION IS UNDEFINED, LGENT - THROUGH LGSTR - DEFINES THE CXTERAL'S ADDRESS. IF THE NAME IS NOT IN THE STACK, LGENT PUTS IT IN THE STACK (DEFINED). IF THE NAME IS IN THE STACK AND DEFINED, THE NEW ENTRY NAME LOAD ITEM IS IGNORED.


```

4609 * CALLING SEQ.: JMP LGENT 05 04276
4610 * 05 04277
4611 * EXIT: TO LGSTR TO DEFINE AN ADDRESS AND SATISFY A STRIN 05 04278
4612 * (AR)= THREAD/DEFINITION ADDRESS LOCATION IN STACK 05 04279
4613 * ITEM 05 04280
4614 * 05 04281
4615 * TO LGDAFT TO PROCESS NEXT LOAD ITEM 05 04282
4616 * 05 04283
4617 * 05 04284
012643 002000 A 4618 LGENT CALL LGSAE INPUT REST OF LOAD ITEM; DO STACK SEARCH 05 04285
012644 012752 A 4619 * 05 04286
012645 000000 A 4620 DATA DATA 0 05 04287
4621 * 05 04288
012646 001002 A 4622 JAP LGDAFT IF ENTRY ALREADY DEFINED; PROCESS NEXT ITEM 05 04289
012647 012215 A 4623 * 05 04290
012650 152566 A 4624 ANA BR15 TURN OFF UNDEFINED FLAG. 05 04291
012651 005012 A 4625 TAE (BR)= STRING ADDRESS 05 04292
012652 017000 I 4626 LDA DATA 05 04293
012653 055000 A 4627 STA 0,X DEFINE LOADER TABLE ITEM 05 04294
012654 005024 A 4628 TBX (XR)= STRING ADDRESS 05 04295
012655 001000 A 4629 JMP STR2 NOW GO STRING 05 04296
012656 012712 A 4630 EJEC 05 04297
4631 * 05 04298
4632 * LGEXT 05 04299
4633 * 05 04300
4634 * PURPOSE: PROCESS EXTERNAL REQUEST LOAD ITEMS. 05 04301
4635 * 05 04302
4636 * IF THE REQUEST IS FOUND -ALREADY DEFINED- 05 04303
4637 * IN THE LOADER TABLE STACK, EXIT IS TO LGSTR 05 04304
4638 * TO THREAD DEFINITION ADDRESS THROUGH EXTERNAL 05 04305
4639 * STRING. 05 04306
4640 * 05 04307
4641 * IF THE REQUEST IS FOUND -NOT DEFINED- IN STACK 05 04308
4642 * EXIT IS TO LGSTR TO CONNECT STRING OF NEW 05 04309
4643 * REQUEST TO ALREADY EXISTING STRING. 05 04310
4644 * 05 04311
4645 * IF THE REQUEST IS NOT FOUND IN THE STACK, 05 04312
4646 * LGSAE ENTERS IT. EXIT IS TO LGSTR TO ENTER 05 04313
4647 * THE STRING ADDRESS IN THE LOADER TABLE STACK 05 04314
4648 * ITEM. 05 04315
4649 * 05 04316
4650 * CALLING SEQ.: JMP LGEXT 05 04317
4651 * 05 04318
4652 * EXIT: TO LGSTR TO HANDLE STRINGS: 05 04319
4653 * 05 04320
4654 * IF ENTERING AT STR0: (AR)= DEFINITION ADDR 05 04321
4655 * 05 04322
4656 * IF ENTERING AT STR2: (XR)= STRING ADDR 05 04323
4657 * 05 04324
4658 * 05 04325
012657 002000 A 4659 LGEXT CALL LGSAE INPUT REST OF LOAD ITEM; DO STACK SEARCH 05 04326
012660 012752 A 4660 * 05 04327
012661 100000 A 4661 * 05 04328
012662 025004 A 4662 LBE 4,X 05 04329
012663 001002 A 4663 JAP STR0 IF ENTRY DEFINED; GO STRING DEFINITION ADDR 05 04330
012664 012710 A 4664 * 05 04331
012665 152566 A 4665 ANA BR15 TURN OFF UNDEFINED BIT 05 04332
012666 001016 A 4666 JANZ EXT20 JUMP IF NO STRINGS CONNECTED TO EXT. YET 05 04333
012667 012675 A 4667 * 05 04334
012670 017000 I 4668 LDA DATA (AR)=STRING ADDRESS WITH UNDEFINED BIT SET 05 04335
012671 112546 A 4669 ORA 0,15 STORE ADDR. IN LOADER TABLE STACK 05 04336
012672 055000 A 4670 STA 0,X 05 04337
012673 001000 A 4671 * 05 04338
012674 012562 A 4672 * 05 04339
4673 * THE FOLLOWING CODE TRACES AN EXISTING STRING TO ITS 05 04340
4674 * ORIGIN SO THAT A NEW STRING CAN BE CONNECTED TO THE END 05 04341
012675 054512 A 4675 EXT20 STA 00 05 04342
012676 006505 A 4676 JSP MROCT,X READ CONTENTS OF ADDR IN (MPC) FROM V.MEM. 05 04343
012677 013210 A 4677 * 05 04344
012700 014510 A 4678 LDA 0000 05 04345
012701 152566 A 4679 ANA BR15 05 04346
012702 034505 A 4680 LBE 00 JUMP TO CONNECT STRINGS IF ENB FOUND 05 04347
012703 001010 A 4681 * 05 04348
012704 012712 A 4682 * 05 04349
012705 001000 A 4683 * 05 04350
012706 012675 A 4684 * LGSTR 05 04351
4685 * 05 04352
4686 * PURPOSE: LGSTR IS CALLED TO: 05 04353
4687 * 05 04354
4688 * A) GO THROUGH A STRING SATISFYING DEF. ADDR. 05 04355
4689 * B) STORE END-OF-STRING ADDR IN LOADER 05 04356
4690 * TABLE STACK ITEM. 05 04357
4691 * C) CONNECT A NEW STRING TO THE BEGINNING 05 04358

```



```

4692 *           DF AN OLD STRING.                                05 04359
4693 *
4694 *           CALLING SEQ.:           FOR ENTRY AT:            05 04360
4695 *
4696 *           JMP LGSTR           LGSTR                          05 04361
4697 *
4698 *           (AR)=DEFINED ADDR                                05 04362
4699 *           JMP STRO           STRO                            05 04363
4700 *
4701 *           (AR)=DEFINED ADDR                                05 04364
4702 *           (XR)=STRING ADDR                                05 04365
4703 *           JMP STR1           STR1                            05 04366
4704 *
4705 *           (XR)=STRING ADDR                                05 04367
4706 *           JMP STR2           STR2                            05 04368
4707 *
4708 *           EXIT: TO LGLCMC TO CHECK FOR CORE OVERFLOW; NO EXIT 05 04369
4709 *           PARAMETERS.                                       05 04370
4710 *
4711 *
012707 014522 A 4712 LGSTR LDA LLC                                05 04371
4713 *
012710 037000 I 4714 STRO LDX DATA                            05 04372
4715 *
012711 057000 I 4716 STR1 STA DATA                            05 04373
4717 *
012712 001040 A 4718 STR2 JXZ COCK JUMP IF END OF STRING HAS BEEN REACHED 05 04374
012713 012562 A
012714 074473 A 4719 STX MA                                    05 04375
012715 006505 A 4720 JSR VMRCT,X                               05 04376
012716 013210 A
012717 014471 A 4721 LDA VDATA (AR)=(VDATA)= NEXT ADDR IN STRING          05 04377
012720 152566 A 4722 ANA BR15                                05 04378
012721 005012 A 4723 TAB (BR)= NEXT ADDR -WITHOUT INDIRECT BIT          05 04379
012722 134466 A 4724 ERA VDATA                                05 04380
012723 127000 I 4725 ADD DATA (AR)=DEFINED OR STRING ADDRESS 05 04381
4726 *           WITH INDIRECT BIT PRESERVED.                   05 04382
012724 054464 A 4727 STA VDATA (AR)=DEFINED OR STRING ADDRESS 05 04383
012725 006505 A 4728 JSR VMUCT,X WRITE ADDRESS INTO VIRTUAL MEMORY 05 04384
012726 013215 A
012727 005024 A 4729 TBX (XR)= NEXT STRING ADDRESS          05 04385
012730 001000 A 4730 JMP STR2                                05 04386
012731 012712 A
4731 *           EJEC                                           05 04387
4732 *
4733 *           LGSAE                                           05 04388
4734 *
4735 *           PURPOSE: LGSAE MAINTAINS THE LOADER TABLE STACK 05 04389
4736 *           A) COMPLETES INPUT OF ENTRY OR EXT LOAD ITEM    05 04390
4737 *           B) SEARCHES LOADER TABLE STACK FOR MATCH      05 04391
4738 *           C) IF NO MATCH, ENTERS LOAD ITEM IN STACK      05 04392
4739 *
4740 *           CALLING SEQ.: CALL LGSAE -FOR ENTRY              05 04393
4741 *           DATA N                                          05 04394
4742 *
4743 *           CALL LGSAE -FOR EXTERNAL                         05 04395
4744 *           MZE 0                                           05 04396
4745 *
4746 *           EXIT: (AR)= POINTER TO FIRST WORD OF STACK ENTRY 05 04397
4747 *           (THREAD/ENTRY LOCATION)                          05 04398
4748 *
4749 *
012732 015004 A 4750 SAE0 LDA 4,X COMPARE FIRST 4-BITS OF NAME 05 04399
012733 134470 A 4751 ERA SNAM                                05 04400
012734 152600 A 4752 ANA BM17                                05 04401
012735 001016 A 4753 JANZ SAE60 JUMP IF NO MATCH              05 04402
012736 013016 A
4754 *
012737 015003 A 4755 LDA 8,X COMPARE NEXT 16-BITS OF NAME 05 04403
012740 134464 A 4756 ERA SNAM+1                              05 04404
012741 001016 A 4757 JANZ SAE60 JUMP IF NO MATCH              05 04405
012742 013016 A
4758 *
012743 015002 A 4759 LDA 2,X COMPARE LAST 16-BITS OF NAME 05 04406
012744 134461 A 4760 ERA SNAM+2                              05 04407
012745 001016 A 4761 JANZ SAE60 JUMP IF NO MATCH              05 04408
012746 013016 A
4762 *
012747 015000 A 4763 SAE30 LDA 0,X (AR)= THREAD/DEFINITION ADDRESS 05 04409
012750 044001 A 4764 INR LGSAE                                05 04410
012751 001000 A 4765 JMP 0 RETURN                                           05 04411
012752 000000 A
4766 *
4767 *           ROUTINE ENTRY POINT                               05 04412
4768 *
012752 *           LGSAE                                           05 04413
012753 002000 A 4769 LGSAE BBS 0                                05 04414
012754 012360 A 4770 CALL LGGEND FETCH LAST 16-BITS OF NAME 05 04415
012755 054450 A 4771 STA SNAM+2                                05 04416
012756 002000 A 4772 CALL LGGEND FETCH COMMON SIZE OR DEFINITION ADDRESS 05 04417
012757 012360 A
012760 054447 A 4773 STA CSIZ * STORE IN CASE OF COMMON 05 04418
012761 024454 A 4774 LDB PEP 05 04419

```


Address	Hex	Op	Label	Op	Comment	Hex	Hex
012762	126000	A	4775	ADD	0,2	* MODIFY BY LOAD POINTER VALUE	05 04442
012763	057000	I	4776	STA	DATA	* AND STORE IN CASE OF ENTRY ITEM	05 04443
			4777	*			05 04444
			4778	*		* * DETERMINE WHICH STACK TO SEARCH/ENTR	05 04445
012764	014437	A	4779	LDA	SNAM		05 04446
012765	024437	A	4780	LDB	SNAM+1		05 04447
012766	152500	A	4781	ANA	BM17		05 04448
012767	004442	A	4782	LLRL	2		05 04449
012770	001016	A	4783	JANZ	SAE10		05 04450
012771	013000	A					
012772	004446	A	4784	LLRL	6	SAE40	05 04451
012773	001016	A	4785	JANZ	SAE10		05 04452
012774	013000	A					
012775	004446	A	4786	LLRL	6		05 04453
012776	001016	A	4787	JANZ	SAE10		05 04454
012777	013000	A					
013000	004442	A	4788	LLRL	2		05 04455
013001	024424	A	4789	LDB	SNAM+2		05 04456
013002	004444	A	4790	LLRL	4		05 04457
013003	001010	A	4791	JAZ	SAE40		05 04458
013004	012772	A					
013005	020000	L	4792	LDB	=SGSCB7	SAE10	05 04459
013006	132572	A	4793	ERA	THREE		05 04460
013007	001010	A	4794	JAZ	*+3		05 04461
013010	013012	A					
013011	020000	L	4795	LDB	=SGSCB6		05 04462
013012	064035	A	4796	STB	SAE100		05 04463
013013	005122	A	4797	IBR			05 04464
013014	064054	A	4798	STB	SAE101		05 04465
013015	036000	A	4799	LDB	0,3		05 04466
			4800	*			05 04467
			4801	*	START STACK SEARCH		05 04468
			4802	*			05 04469
013016	005041	A	4803	TXA		SAE60	05 04470
013017	142573	A	4804	SUB	FIVE		05 04471
013020	005014	A	4805	TAX			05 04472
013021	147000	I	4806	SUB*	SAE100	(XR)= POINTER TO NEXT STACK ENTRY	05 04473
013022	001002	A	4807	JAP	SACS	JUMP TO CONTINUE SEARCH IF NOT AT STACK EN	05 04474
013023	012732	A					
			4808	*			05 04475
013024	037000	I	4809	LDB	LSGAE		05 04476
			4810	*			05 04477
013025	014402	A	4811	LDA	CRIZ		05 04478
013026	052015	A	4812	STA	ITEM+1	(ITEM+1)= SIZE OF COMMON (IF ANY)	05 04479
			4813	*			05 04480
013027	014376	A	4814	LDA	SNAM+2	(ITEM+2)= LAST 16-BITS OF NAME	05 04481
013030	052016	A	4815	STA	ITEM+2		05 04482
			4816	*			05 04483
013031	014373	A	4817	LDA	SNAM+1	(ITEM+3)= NEXT 16-BITS OF NAME	05 04484
013032	052017	A	4818	STA	ITEM+3		05 04485
			4819	*			05 04486
013033	005002	A	4820	ITZB		SET FLAG FLAG TO ADD (=0)	05 04487
013034	015000	A	4821	LDA	0,X		05 04488
013035	052014	A	4822	STA	ITEM	(ITEM)= THREAD/DEFINITION ADDRESS	05 04489
013036	001004	A	4823	JAN	SAE20	JUMP IF ADDR NOT YET DEFINED	05 04490
013037	013050	A					
			4824	*			05 04491
013040	012674	A	4825	LDA	SGTALT		05 04492
013041	006440	A	4826	BT	040+SAE20	JUMP IF BACKGROUND PROGRAM (BIT #0 =0)	05 04493
013042	013050	A					
			4827	*			05 04494
013043	012671	A	4828	LDA	SGCOLM		05 04495
013044	130000	L	4829	ERA	=100		05 04496
013045	001010	A	4830	JAZ	SAE20	JUMP IF PROCESSING SYSTEM PARAMETERS	05 04497
013046	013050	A					
			4831	*			05 04498
			4832	*	WE GOT HERE BECAUSE WE'RE:		05 04499
			4833	*	A) GENERATING A FORGROUND PROGRAM		05 04500
			4834	*	B) NOT INPUTTING SYSTEM PARAMETERS		05 04501
			4835	*	C) LOAD ITEM IS DEFINED (I.E. AN ENTRY)		05 04502
			4836	*			05 04503
			4837	*	THEREFORE, SET FLAG INDICATING DEFINITION ADDR. IS RELOCATABLE		05 04504
			4838	*			05 04505
013047	022546	A	4839	LDB	DS15	SET FLAG	05 04506
			4840	*			05 04507
013050	014053	A	4841	LDA	SNAM	SAE20	05 04508
013051	152566	A	4842	ANA	DS15		05 04509
013052	005001	A	4843	MERG	031	OR IN FLAG BIT	05 04510
013053	052020	A	4844	STA	ITEM+4	(ITEM+4)= FIRST 4-BITS OF NAME, AND FLAG	05 04511
			4845	*			05 04512
013054	020000	L	4846	LDB	*ITEM		05 04513
013055	034012	A	4847	LDB	SAE100		05 04514
013056	002000	A	4848	CALL	SSPUT	PUT NEW LOAD ITEM IN LOADER TABLE STACK	05 04515
013057	014031	A					
			4849	*			05 04516
013060	001004	A	4850	JAN	0017	ERROR IF NO ROOM FOR STACK ENTRY	05 04517
013061	013024	A					
013062	034006	A	4851	LDB	SAE101		05 04518
013063	015000	A	4852	LDB	0,X	(AR)= LOADER TABLE STACK BOTTOM ADDRESS	05 04519
013064	142570	A	4853	SMB	FIVE		05 04520
013065	005014	A	4854	TAX		(XR)= ADDRESS OF NEW STACK ENTRY	05 04521
013066	001000	A	4855	JMP	SAE20	JUMP TO SET RETURN POINTERS	05 04522
013067	012747	A					


```

013070 000000 A 4856 *
013071 000000 A 4857 SAE100 DATA 0 05 04523
4858 SAE101 DATA 0 05 04524
4859 EJEC 05 04525
4860 * 05 04526
4861 * LGVMS 05 04527
4862 * 05 04528
4863 * 05 04529
4864 * PURPOSE: LGVMS READS DATA FROM AND STORES DATA INTO 05 04530
4865 * VIRTUAL MEMORIES CREATED ON THE SYSTEM 05 04531
4866 * WORKING FILE OF MASS MEMORY. 05 04532
4867 * 05 04533
4868 * CALLING SEQ.: JSR 1,VMRRT READS FROM ROOT SEGMENT 05 04534
4869 * JSR 1,VMWRT WRITES INTO ROOT SEGMENT 05 04535
4870 * JSR 1,VMRCT READS FROM CURRENT SEGMENT 05 04536
4871 * JSR 1,VMWCT WRITES INTO CURRENT SEGMENT 05 04537
4872 * 05 04538
4873 * 05 04539
4874 * 05 04540
4875 * EXIT: RETURNS TO CALLING ROUTINE: (AR) AND (BR) RESTORE 05 04541
4876 * 05 04542
013072 000000 A 4877 LGVMS ENTR 05 04543
013073 014314 A 4878 LDA MA (AR)= VIRTUAL MEMORY ADDRESS 05 04544
013074 144321 A 4879 SUB BA 05 04545
013075 005016 A 4880 MERG 016 (AR)=(XR)=(BR)=(MA)-(BA) 05 04546
013076 005001 A 4881 TZA 05 04547
013077 170000 L 4882 DIV =120 05 04548
013100 064311 A 4883 STB PN (BR)=(PN)=NUM OF VIRTUAL MEMORY PAGE 05 04549
013101 005221 A 4884 COMP 021 05 04550
013102 001002 A 4885 JAP PSIZ ERROR IF (PN) IS NEGATIVE 05 04551
013103 013326 A 4886 * 05 04552
013104 005112 A 4887 INCR 012 (BR)=- (PN) 05 04553
013105 005041 A 4888 TXA 05 04554
013106 160000 L 4889 MUL =120 05 04555
013107 064303 A 4889 STB RLP (RLP)=(MA)-(BA)-((PN)*120) 05 04556
4890 * 05 04557
013110 014301 A 4891 VMS1 LDA PN 05 04558
013111 124305 A 4892 ADD SA 05 04559
013112 144302 A 4893 SUB CBS+1 05 04560
013113 001010 A 4894 JAZ VMS2 JUMP TO READ/WRITE IF CORRECT PAGE IN CORE 05 04561
013114 013157 A 4895 * 05 04562
013115 014276 A 4896 LDA CBS 05 04563
013116 001004 A 4896 JAN VMS3 SKIP WRITE OF OLD PAGE IF FIRST OPERATION
013117 013123 A 4897 * 05 04564
013120 006505 A 4897 JSR IOW,X WRITE OLD PAGE BUFFER CONTENTS TO VIR. MEM
013121 013240 A 4898 * 05 04565
013122 013415 A 4898 DATA CBS+1 SYSTEM WORKING FILE LOGICAL UNIT
4899 * 05 04566
013123 014266 A 4900 VMS3 LDA PN 05 04567
013124 054267 A 4901 STA CBS 05 04568
013125 124271 A 4902 ADD SA 05 04569
013126 054266 A 4903 STA CBS+1 SET NEW PAGE BUFFER STATUS 05 04570
013127 142676 A 4904 SUB SGCHSN 05 04571
013130 005311 A 4905 DAR 05 04572
013131 001004 A 4906 JAN VMS6 IF CURRENT PAGE HAS BEEN WRITTEN ON BEFORE
013132 013152 A 4907 * CLEAN OUT VIRTUAL MEMORY UP TO THIS POINT. 05 04573
4908 * 05 04574
013133 005001 A 4908 TZA 05 04575
013134 030000 L 4909 LDX =120 05 04576
013135 005344 A 4910 VMS5 DXR 05 04577
013136 006055 A 4911 STAE LGOUTB,X 05 04578
013137 002026 A 4912 * 05 04579
013140 001046 A 4912 JXNZ VMS5
013141 013135 A 4913 * 05 04580
013142 042676 A 4913 VMS7 INR SGCHSN UPDATE HIGHEST SECTOR NUMBER
013143 006505 A 4914 JSR IOW,X AND WRITE ZEROS IN SECTOR 05 04581
013144 013240 A 4915 * 05 04582
013145 002676 A 4915 DATA SGCHSN
4916 * 05 04583
013146 012676 A 4917 LDA SGCHSN (AR)= SECTOR NUMBER 05 04584
013147 144245 A 4918 SUB CBS+1 05 04585
013150 001016 A 4919 JANZ VMS7 FALL THROUGH IF MEMORY CLEANED OUT 05 04586
4920 * 05 04587
013152 006505 A 4921 VMS6 JSR IOR,X READ REQUIRED PAGE OF MEMORY INTO BUFFER 05 04588
013153 013234 A 4922 * 05 04589
013154 013415 A 4922 DATA CBS+1
013155 001000 A 4923 JMP VMS1 JUMP TO READ OR WRITE WORD 05 04590
4924 * 05 04591
4925 * READ/WRITE OPERATION 05 04592
4926 * 05 04593
013157 024233 A 4927 VMS2 LDB RLP (BR)=RELATIVE POINTER INTO PAGE 05 04594
013160 034226 A 4928 LDX MODE 05 04595
013161 001046 A 4929 JXNZ VMS4 05 04596
4930 * 05 04597
013163 006016 A 4931 LDAE LGOUTB,B * READ OPERATION * 05 04598
013164 002026 A 4932 * 05 04599
013165 054223 A 4932 STA VDATA (VDATA)=DESIRED WORD 05 04599
013166 001000 A 4933 JNP* LGVMS 05 04600
013167 113072 A 4934 * * WRITE OPERATION * 05 04601

```


Address	Hex	Mode	Label	Op	Op2	Description	Page	Line
013170	014220	A	4935 VMS4	LDA	VDATA		05	04602
013171	006056	A	4936	STAE	LGOUTB,B	STORE (VDATA) INTO CURRENT PAGE BUFFER	05	04603
013172	002026	A						
			4937 *				05	04604
013173	001000	A	4938	JMP*	LGVMS	RETURN	05	04605
013174	113072	A						
			4939 *				05	04606
			4940 *				05	04607
			4941 *				05	04608
			4942 *				05	04609
			4943 *				05	04610
			4944 *				05	04611
013175	074035	A	4945 VMRT	STX	VM2	SAVE RETURN ADDRESS	05	04612
013176	005104	A	4946	INCR	04		05	04613
013177	074207	A	4947	STX	MODE	SET READ/WRITE MODE TO WRITE	05	04614
013200	054217	A	4948 VMRT	STA	VMAS		05	04615
013201	064217	A	4949	STB	VMBS	SAVE REGISTERS	05	04616
013202	012656	A	4950	LDA	SGTARS		05	04617
013203	054212	A	4951	STA	BA	(BA)= BASE ADDRESS/ROOT SEG. VIRTUAL MEMOR	05	04618
013204	012657	A	4952	LDA	SGBSNR		05	04619
013205	054211	A	4953	STA	SA	(SA)= BASE SECTOR NUM/ROOT SEG. VIRTUAL ME	05	04620
013206	001000	A	4954	JMP	VM1		05	04621
013207	013226	A						
			4955 *				05	04622
			4956 *				05	04623
			4957 *				05	04624
013210	074022	A	4958 VMRCT	STX	VM2	SAVE RETURN ADDRESS	05	04625
013211	005004	A	4959	TX			05	04626
013212	074174	A	4960	STX	MODE	SET READ/WRITE MODE TO READ	05	04627
013213	001000	A	4961	JMP	VMCT		05	04628
013214	013220	A						
			4962 *				05	04629
			4963 *				05	04630
			4964 *				05	04631
013215	074015	A	4965 VMWCT	STX	VM2	SAVE RETURN ADDRESS	05	04632
013216	005104	A	4966	INCR	04		05	04633
013217	074167	A	4967	STX	MODE	SET READ/WRITE MODE TO WRITE	05	04634
013220	054177	A	4968 VMCT	STA	VMAS		05	04635
013221	064177	A	4969	STB	VMBS	SAVE REGISTERS	05	04636
013222	012701	A	4970	LDA	SGCAD		05	04637
013223	054172	A	4971	STA	BA	(BA)= BASE ADDR/CURRENT SEG. VIRTUAL MEMOR	05	04638
013224	012702	A	4972	LDA	SGCBSN		05	04639
013225	054171	A	4973	STA	SA	(SA)= BASE SECTOR/CURRENT SEG. VIRTUAL MEN	05	04640
			4974 *				05	04641
			4975 *				05	04642
013226	002000	A	4976 VM1	CALL	LGVMS	OPERATE ON VIRTUAL MEMORY	05	04643
013227	013072	A						
013230	014167	A	4977	LDA	VMAS		05	04644
013231	024167	A	4978	LDB	VMBS	RESTORE REGISTERS	05	04645
013232	001000	A	4979	JMP	0		05	04646
013233	000000	A						
			4980 VM2	PES	J	RETURN	05	04647
			4981	EJEC			05	04648
			4982 *				05	04649
			4983 *				05	04650
			4984 *				05	04651
			4985 *				05	04652
			4986 *				05	04653
			4987 *				05	04654
			4988 *				05	04655
			4989 *				05	04656
			4990 *				05	04657
			4991 *				05	04658
			4992 *				05	04659
			4993 *				05	04660
			4994 *				05	04661
			4995 *				05	04662
			4996 *				05	04663
			4997 *				05	04664
			4998 *				05	04665
			4999 *				05	04666
			5000 *				05	04667
013234		L	5001	BSS	0	* * READ - ENTRY POINT * *	05	04668
013234	010000	L	5001	LDP	=040407		05	04669
013235	054040	A	5002	STB	103	SET UP READ OPERATION	05	04670
013236	001000	A	5003	JMP	102		05	04671
013237	013242	A						
			5004 *				05	04672
013240		L	5005	BSS	0	* * WRITE - ENTRY POINT * *	05	04673
013240	010000	L	5005	LDA	=041007		05	04674
013241	054034	A	5007	STB	103	SET UP WRITE OPERATION	05	04675
			5008 *				05	04676
013242	025000	A	5009	LDB	0,R		05	04677
013243	016000	A	5010	LDB	0,R		05	04678
013244	054017	A	5011	STB	107	SAVE SECTOR NUMBER	05	04679
013245	005144	P	5012	INR			05	04680
013246	074042	A	5013	STX	101	SAVE RETURN ADDRESS	05	04681
013247	002000	A	5014	CALL	100S	STATUS 'SYS' TO GET POSITION	05	04682
013250	012425	E						
013251	000007	A	5015	DATA	0YS		05	04683
013252	013312	A	5016	DATA	'08,*+3,*+2,*-0		05	04684
013253	013256	A						
013254	013256	A						
013255	013247	A						

Address	Label	Operation	Parameters	Page	Line
013256	002000	A	5017 CALL IDCS	-35	05 04684
013257	013250	E			
013260	002007	A	5018 DATA REW+SYS REWIND	-35	05 04685
			5019 *		05 04686
013261	002000	A	5020 CALL IDCS POSITION RMD		05 04687
013262	013257	E			
013263	003007	A	5021 DATA 03007 SKIP FORWARD	-35	05 04688
013264	000000	A	5022 ID7 DATA 0 COUNT OF SECTORS TO SKIP	-35	05 04689
013265	002000	A	5023 CALL IDCS		05 04690
013266	013262	E			
013267	000007	A	5024 DATA SYS		05 04691
013270	013312	A	5025 DATA I08, I08, I08, *-6		05 04692
013271	013312	A			
013272	013312	A			
013273	013265	A			
			5026 *		05 04693
013274	002000	A	5027 CALL IDCS READ OR WRITE		05 04694
013275	013266	E			
013276	040407	A	5028 ID3 DATA RBIN+SYS, 120, SGOBUF		05 04695
013277	000170	A			
013300	002026	A			
013301	002000	A	5029 CALL IDCS		05 04696
013302	013275	E			
013303	000007	A	5030 DATA SYS		05 04697
013304	013312	A	5031 DATA I08, I08, I08, *-6		05 04698
013305	013312	A			
013306	013312	A			
013307	013301	A			
			5032 *		05 04699
013310	001000	A	5033 JMP 0 * * RETURN * *		05 04700
013311	000000	A			
			5034 ID1 BES 0		05 04701
			5035 *		05 04702
			5036 *		05 04703
013312	012606	A	5037 ID8 LDA ER00 POST "READ ERROR" MESSAGE		05 04704
013313	002000	A	5038 CALL SG4PRD		05 04705
013314	013617	A			
013315	001000	A	5039 JMP I09 AND TRY AGAIN		05 04706
013316	013247	A			
			5040 EJEC		05 04707
			5041 *		05 04708
			5042 LGXEQ		05 04709
			5043 *		05 04710
			5044 *		05 04711
			5045 *		05 04712
			5046 *		05 04713
			5047 *		05 04714
			5048 *		05 04715
			5049 *		05 04716
			5050 *		05 04717
			5051 *		05 04718
			5052 *		05 04719
			5053 *		05 04720
013317	052675	A	5054 LGXEQ STA SGXEQ		05 04721
013320	001000	A	5055 JMP LGDAFT		05 04722
013321	012215	A			
			5056 EJEC		05 04723
			5057 *		05 04724
			5058 LGEF		05 04725
			5059 *		05 04726
			5060 *		05 04727
			5061 *		05 04728
			5062 *		05 04729
			5063 *		05 04730
			5064 *		05 04731
			5065 *		05 04732
			5066 *		05 04733
			5067 *		05 04734
			5068 *		05 04735
			5069 *		05 04736
			5070 *		05 04737
013322	012640	A	5071 COMN LDA ER33 COMMON ERROR		05 04738
013323	001006	A	5072 DATA 01006		05 04739
013324	012632	A	5073 GSIZ LDA ER24 LMSN STACKS EXCEEDED AVAILABLE MEMORY		05 04740
013325	001006	A	5074 DATA 01006		05 04741
013326	012635	A	5075 PSIZ LDA ER30 PRG BEING GENERATED EXCEEDED DEFINED AREA		05 04742
013327	001006	A	5076 DATA 01006		05 04743
013330	012646	A	5077 TEXT LDA ER40 ILLEGAL LOADER CODE DETECTED		05 04744
013331	001006	A	5078 DATA 01006		05 04745
013332	012643	A	5079 NAME LDA ER41 ENTRY NAME LOAD ITEM NOT FOUND		05 04746
013333	001006	A	5080 DATA 01006		05 04747
013334	012621	A	5081 WRITE LDA ER11 WRITE ERROR ON OUTPUT UNIT		05 04748
013335	002000	A	5082 CALL SG4PRD		05 04749
013336	013617	A			
013337	001000	A	5083 JMP RELOAD GO RELOAD DIRECTIVE PROCESSOR		05 04750
013340	015031	A			
			5084 EJEC		05 04751
			5085 *		05 04752
			5086 LOAD POINTER TABLE		05 04753
			5087 *		05 04754
			5088 *		05 04755
			5089 *		05 04756
			5090 *		05 04757

PURPOSE: THE FOLLOWING LOCATIONS CONTAIN LOAD POINTERS FOR THE PROGRAM AND COMMON REGIONS.

Address	Value	Label	Type	Size	Description	Offset	Hex
013341		5091 * 5092 LPTB	BSS	0	LOAD POINTER TABLE BASE	05	04758
		5093 *				05	04759
013341		5094	BSS	28	NAMED COMMON REGION POINTERS	05	04760
013375	000000	A 5095	DATA	0	BLANK COMMON REGION POINTER	05	04761
013376	000000	A 5096	DATA	0	- NOT USED -	05	04762
013377	000000	A 5097 LPT	DATA	0	PROGRAM REGION POINTER	05	04763
		5098 *				05	04764
		5099 *				05	04765
		5100 *				05	04766
		5101 RL	EQU	60	RECORD LENGTH	05	04767
013400	000000	A 5102 END10	DATA	0	BUFFER POINTER ADDR FROM 'FMSD'	05	04768
013401	000000	A 5103 RS	DATA	0	(RS)= NUMBER OF WORDS READ	05	04769
013402	000000	A 5104 RWC	DATA	0	(RWC)= POINTER TO LAST WD READ FROM LGOMIB	05	04770
013403	060400	A 5105 DTCB	DATA	060400		05	04771
013404	064400	A 5106 DTEM	DATA	064400		05	04772
013405	000000	A 5107 DTCW	DATA	0		05	04773
013406	000000	A 5108 DTCV	DATA	0		05	04774
		5109 *				05	04775
		5110 *				05	04776
		5111 *				05	04777
		5112 MODE	DATA	0	=1 FOR WRITE; =0 FOR READ	05	04778
013407	000000	A 5113 MA	DATA	0	MEMORY ADDRESS REGISTER	05	04779
013410	000000	A 5114 VDATA	DATA	0	MEMORY BUFFER REGISTER	05	04780
013411	000000	A 5115 PN	DATA	0	COMPUTED PAGE NUMBER	05	04781
013412	000000	A 5116 RLP	DATA	0	COMPUTED PAGE RELATIVE POINTER	05	04782
013413	000000	A 5117 CBS	DATA	-1	NUM OF V.M. PAGE CURRENTLY IN VMBUF	05	04783
013414	177777	A 5118	DATA	0	SECTOR NUM OF V.M. PAGE CURRENTLY IN VMBUF	05	04784
013415	000000	A 5119 BA	DATA	0	BASE ADDR/CURRENT SEG. OF VIRTUAL MEMORY	05	04785
013416	000000	A 5120 SA	DATA	0	BASE SECTOR/CURRENT SEG. OF VIRTUAL MEMORY	05	04786
013417	000000	A 5121 VMAS	DATA	0	(AR) TEMP. STORE.	05	04787
013420	000000	A 5122 VMBS	DATA	0	(BR) TEMP. STORE.	05	04788
013421	000000	A 5123 ADDRE	DATA	0		05	04789
013422	000000	A 5124 *				05	04790
		5125 *				05	04791
		5126 *				05	04792
		5127 *				05	04793
013423	000000	A 5128 LITS	DATA	0	LITERAL ROUTINE TEMPORARY STORE	05	04794
		5129 *				05	04795
		5130 *				05	04796
		5131 *				05	04797
		5132 SNAM	BSS	4	BUFFER FOR ENTRY/EXTERNAL LOAD ITEM NAMES	05	04798
013424		A 5133 CSIZ	DATA	0	HOLDS SIZE OF COM DURING DEFINITION	05	04799
013430	000000	A 5134 PTM1	DATA	0	LOAD POINTER NUMBER -1	05	04800
013431	000000	A 5135 LLC	DATA	0	LOADING LOCATION COUNTER	05	04801
013432	000000	A 5136 LCPT	DATA	0	NUM OF LAST LC LOAD POINTER -1	05	04802
013433	000000	A 5137 BOM	DATA	0	CURRENT LOADER TEXT CONTROL WORD	05	04803
013434	000000	A 5138 ECH	DATA	0	ERROR FLAG WORD	05	04804
013435	000000	A 5139 PEP	DATA	0	ADDR OF CURRENT LOAD POINTER	05	04805
013436	000000	A 5140 BAPT	DATA	0	(BAPT)= (LOAD:FORWARD LOAD):REV LOAD	05	04806
013437	000000	A 5141 *				05	04807
		5142 *				05	04808
		5143 *				05	04809
		5144 *				05	04810
		5145 *				05	04811
		5146 *				05	04812
		5147 *				05	04813
		5148 *				05	04814
		5149 *				05	04815
		5150 *				05	04816
		5151 *				05	04817
		5152 *				05	04818
		5153 *				05	04819
		5154 *				05	04820
		5155 *				05	04821
		5156 *				05	04822
		5157 *				05	04823
		5158 *				05	04824
		5159 *				05	04825
		5160 *				05	04826
		5161 *				05	04827
		5162 *				05	04828
		5163 *				05	04829
		5164 *				05	04830
		5165 *				05	04831
		5166 *				05	04832
		5167 *				05	04833
		5168 *				05	04834
		5169 *				05	04835
		5170 *				05	04836
		5171 *				05	04837
		5172 *				05	04838
		5173 *				05	04839
		5174 *				05	04840
		5175 *				05	04841
		5176 *				05	04842
		5177 *				05	04843
		5178 *				05	04844
		5179 *				05	04845

PURPOSE: TO ENTER 'EXTERNALS' IN THE LOADER TABLE STACK AND 'DATA REQUESTS' IN THE DATA PATCH STACK AND CONNECT STRINGS.

CALLING SEQUENCE: (XR)= STACK CONTROL BLOCK PNTR
CALL SG4EXT
DATA LOC. OF 4-WORD ITEM

RETURN PARAMETERS: NONE

013440	000000	A 5165 SG4EXT	ENTR			05	04832
013441	017000	A 5166	LDA	0		05	04833
013442	054075	A 5167	STX	EXT1		05	04834
013443	074073	A 5168	STX	EXT2	SAVE STACK POINTER	05	04835
013444	027000	A 5169	LDB*	SG4EXT	GET LOC. OF 'EXTERNAL'	05	04836
013445	064006	A 5170	STP	EXT1		05	04837
013446	016003	A 5171	STP	EXT2		05	04838
013447	054066	A 5172	STX	EXT2	SAVE NEW STRING ADDRESS	05	04839
013450	047000	A 5173	LDR	SG4EXT	SET UP RETURN ADDRESS	05	04840
013451	006505	A 5174	LDR	SG4PKK,X	CONVERT ASCII CHAR TO LOADER CODE	05	04841
013452	013773	A 5175				05	04842
013453	000006	A 5176	DATA	0		05	04843
013454	000000	A 5177	EXT1	0	LOC. OF 'EXTERNAL'	05	04844
013455	010000	A 5178	LDA	0100000		05	04845
013456	052014	A 5179	STX	ITEM		05	04846
013457	005001	A 5180	LDA	0		05	04847
013460	052015	A 5181	STX	ITEM+1		05	04848
013461	034055	A 5182	LDB	EXT3		05	04849
013462	020000	A 5183	LDB	ITEM		05	04850
013463	002000	A 5184	CALL	SG4EXT	SEARCH AND ENTER ITEM IN PROPER STACK	05	04851
013464	014744	A 5185				05	04852
013465	000000	A 5186	DATA	0		05	04853
013466	001002	A 5187	JAP	EXT3	IF ITEM ALREADY DEFINED	05	04854
013467	013514	A 5188				05	04855
		5176 *				05	04843
013470	152566	A 5177	AND	OR15	TURN OFF UNDEFINED BIT	05	04844
013471	001016	A 5178	JANZ	EXT4	JUMP IF STRINGS ALREADY CONNECTED TO EXT.	05	04845
013472	013502	A 5179				05	04846
013473	014042	A 5180	LDA	EXT2		05	04847

Address	Hex	Mode	Label	Op	Op2	Description	Start	End
013474	112546	A	5180	DRA	BR15		05	04847
013475	055000	A	5181	STA	0,X	OTHERWISE PUT NEW STRING ADDR. IN EXTERNAL	05	04848
013476	014041	A	5182	LDA	EXT7	RESTORE OLD VALUE FOR (MA)	05	04849
013477	057000	I	5183	STA	MA		05	04850
013500	001000	A	5184	JMP*	SG4EXT	AND RETURN	05	04851
013501	113440	A						
			5185	*			05	04852
			5186	*		* * TRACE OLD STRING TO BEGINNING	05	04853
			5187	*			05	04854
013502	057000	I	5188	EXT4	STA	MA	05	04855
013503	006505	A	5189	JSR	VMRCT,X	FETCH NEXT STRING ADDRESS	05	04856
013504	013210	A						
013505	017000	I	5190	LDA	VDATA		05	04857
013506	152566	A	5191	ANA	BR15	REMOVE INDIRECT BIT	05	04858
013507	037000	I	5192	LDX	MA	KEEP LAST ADDR IN CASE STRING END REACHED	05	04859
013510	001010	A	5193	JAZ	EXT6	IF AT STRING END	05	04860
013511	013516	A						
013512	001000	A	5194	JMP	EXT4	OTHERWISE, FOLLOW STRING	05	04861
013513	013502	A						
			5195	*			05	04862
			5196	*		* * WE GOT HERE TO:	05	04863
			5197	*		A)ENTER VALUE THROUGH STRING IF ITEM	05	04864
			5198	*		PREVIOUSLY DEFINED,OR	05	04865
			5199	*		B)CONNECT OLD STRING TO NEW STRING	05	04866
			5200	*			05	04867
013514	034021	A	5201	EXT5	LDX	EXT2	05	04868
013515	054020	A	5202	STA	EXT2		05	04869
013516	001040	A	5203	EXT6	JXZ	EXT8	05	04870
013517	013476	A				RETURN IF END OF STRING		
013520	077000	I	5204	STX	MA		05	04871
013521	006505	A	5205	JSR	VMRCT,X	FETCH NEXT STRING VALUE	05	04872
013522	013210	A						
013523	017000	I	5206	LDA	VDATA		05	04873
013524	152566	A	5207	ANA	BR15	TURN OFF INDIRECT BIT	05	04874
013525	005012	A	5208	TAP			05	04875
013526	137000	I	5209	ERA	VDATA	SAVE INDIRECT BIT	05	04876
013527	124006	A	5210	ADD	EXT2		05	04877
013530	057000	I	5211	STA	VDATA	STORE VALUE OR STRING CONNECT	05	04878
013531	006505	A	5212	JSR	VMRCT,X		05	04879
013532	013215	A						
013533	005024	A	5213	TBX			05	04880
013534	001000	A	5214	JMP	EXT6	CONTINUE	05	04881
013535	013516	A						
			5215	*			05	04882
			5216	*			05	04883
013536	000000	A	5217	EXT2	DATA	0	05	04884
013537	000000	A	5218	EXT3	DATA	0	05	04885
013540	000000	A	5219	EXT7	DATA	0	05	04886
			5220		EXEC		05	04887
			5221	*			05	04888
			5222	*	SG4ENT		05	04889
			5223	*			05	04890
			5224	*		PURPOSE: MAKE AN ENTRY IN THE LOADER TABLE OR	05	04891
			5225	*		DATA PATCH STACK	05	04892
			5226	*			05	04893
			5227	*		CALLING SEQUENCE: (XR)= STACK CONTROL BLOCK PNTR	05	04894
			5228	*		CALL SG4ENT	05	04895
			5229	*		DATA LOC. OF 4-WORD ITEM	05	04896
			5230	*			05	04897
			5231	*		RETURN PARAMETERS: NONE	05	04898
			5232	*			05	04899
			5233	*			05	04900
013541	014054	A	5234	ENT5	LDA	ENT4	05	04901
013542	057000	I	5235	STA	MA	RESTORE OLD VALUE FOR (MA)	05	04902
013543	001000	A	5236	JMP	0	* * RETURN * *	05	04903
013544	000000	A					05	04904
013545	017000	I	5237	SG4ENT	BFS	0	05	04905
013546	054047	A	5238	LDA	MA		05	04906
013547	074015	A	5239	STP	ENT4		05	04907
013550	037000	I	5240	STX	ENT2	SAVE PNTR TO PROPER STACK	05	04908
013551	074006	A	5241	LDX*	SG4ENT		05	04909
013552	015003	A	5242	STX	ENT1	SAVE LOC. OF ITEM	05	04910
013553	052014	A	5243	LDA	0,X		05	04911
013554	047000	I	5244	STA	ITEM	SAVE DEFINITION ADDR OR DATA VALUE	05	04912
013555	006505	A	5245	JSR	SG4ENT	SET UP RETURN ADDR.	05	04913
013556	013772	A	5246	JSR	SG4PKK,X	CONVERT ITEM NAME FROM ASCII	05	04914
013557	000000	A	5247			TO LOADER CODE AND PUT IN (ITEM,+1)	05	04915
013560	000000	A	5248	ENT1	DATA	0	05	04916
013561	005001	A	5249	TZA			05	04917
013562	052015	A	5250	STA	ITEM+1		05	04918
013563	020000	L	5251	LDE	-ITEM		05	04919
013564	006030	A	5252	LDXI	0		05	04920
013565	000000	A						
013565	002000	A	5253	ENT2	BFS	0	05	04921
013567	014744	A	5254	CALL	SG4AE	SEARCH AND ENTER ITEM IN STACK	05	04922
013570	000000	A	5255				05	04923
013571	001002	A	5256	JAP	ENT5	RETURN IF NO EXTERNAL ENCOUNTERED	05	04924
013572	013541	A						
			5257	*			05	04925
013573	152566	A	5258	ANA	BR15		05	04926
013574	005012	A	5259	TAB		SAVE EXTERNAL STRING ADDRESS	05	04927

013706			5327 *					05	04994
013706	012653	A	5328	EAR8	BSS	0		05	04995
013707	001010	A	5329		LDA	DREC		05	04996
013710	113617	A	5330		JAZ*	SG4PRD	* RETURN IF NO RECOVERY REQUESTED *	05	04997
013711	006505	A	5331		JSR	SGGFI,X	GET RECOVERY PARAMETER	05	04998
013712	014420	A							
013713	013717	A	5332		DATA	EAR3,2		05	04999
013714	000002	A							
013715	005312	A	5333		DECR	012	(BR)=NUMBER OF CHAR. READ MINUS ONE	05	05000
013716	006010	A	5334		LDAI	0		05	05001
013717	000000	A							
013720	006140	A	5335	EAR3	BSS	0		05	05002
013721	141400	A	5336		SUBI	0141400		05	05003
013722	001030	A	5337		JIF	030,EAR4	IF RECOVERY SPECIFIES READ FROM 'LIB/ALT'	05	05004
013723	013726	A							
013724	001000	A	5338		JMP*	SG4ASC	* RETURN WITH NEW CONTROL REC. IN SGIBUF *	05	05005
013725	113766	A							
013726			5339	EAR4	BSS	?		05	05006
013726	012671	A	5340		LDA	SGCLUN	SET UP I/O OPERATIONS ON INPUT UNIT	05	05007
013727	054014	A	5341		STA	EAR2		05	05008
013730	054027	A	5342		STA	EAR11		05	05009
013731	122537	A	5343		ADD	BSS		05	05010
013732	054020	A	5344		STA	EAR10		05	05011
013733	006120	A	5345		ADDI	0103000-0400		05	05012
013734	102400	A							
013735	054002	A	5346		STA	EAR12		05	05013
			5347 *						
013736	002000	A	5348		CALL	IDCS	BACKSPACE TO REREAD LAST INPUT RECORD	05	05014
013737	013700	E						05	05015
013740	000000	A	5349	EAR12	DATA	0		05	05016
013741	000001	A	5350		DATA	1		05	05017
013742	002000	A	5351		CALL	IDCS	STATUS BACKSPACE OPERATION	05	05018
013743	013737	E							
013744	000000	A	5352	EAR2	DATA	0		05	05019
013745	013751	A	5353		DATA	*+4,*+3,*+2,*-6		05	05020
013746	013751	A							
013747	013751	A							
013750	013742	A							
			5354 *						
013751	002000	A	5355	EAR5	CALL	IDCS	READ THE RECORD	05	05021
013752	013743	E						05	05022
013753	000000	A	5356	EAR10	DATA	0		05	05023
013754	000170	A	5357		DATA	120,SGIBUF		05	05024
013755	000664	A							
013756	002000	A	5358		CALL	IDCS	STATUS READ OPERATION AND RETRY IF ERROR	05	05025
013757	013752	E							
013760	000000	A	5359	EAR11	DATA	0		05	05026
013761	013765	A	5360		DATA	*+4,*+3,*+2,*-6		05	05027
013762	013765	A							
013763	013765	A							
013764	013756	A							
013765	001000	A	5361		JMP	0	* * RETURN * *	05	05028
013766	000000	A							
			5362 *						
013766			5363	SG4ASC	BSS	0	* ENTRY TO POST ERROR AND RECOVER *	05	05029
013767	005102	A	5364		INCR	B	SET RECOVERY FLAG	05	05030
013770	001000	A	5365		JMP	EAR1		05	05032
013771	013621	A							
			5366		EJEC			05	05033
			5367 *					05	05034
			5368 *		SG4PKK			05	05035
			5369 *					05	05036
			5370 *				PURPOSE: CONVERT ASCII CHARACTER FIELD TO	05	05037
			5371 *				LOADER CODE	05	05038
			5372 *					05	05039
			5373 *					05	05040
			5374 *				CALLING SEQUENCE: JSR SG4PKK,X	05	05041
			5375 *				DATA NUMBER OF CHARACTERS (1 TO 6)	05	05042
			5376 *				DATA POINTER TO BUFFER	05	05043
			5377 *					05	05044
			5378 *				RETURN PARAMETERS: NONE	05	05045
			5379 *					05	05046
013772	015000	A	5380	SG4PKK	LDA	0,X		05	05047
013773	054107	A	5381		STA	PKK1	SAVE NUMBER OF CHARACTERS	05	05048
013774	015001	A	5382		LDA	1,X		05	05049
013775	005144	A	5383		INR			05	05050
013776	005144	A	5384		INR			05	05051
013777	074104	A	5385		STX	PKK2	SAVE RETURN ADDRESS	05	05052
014000	005014	A	5386		TAX		(XR)= POINTER TO BUFFER	05	05053
014001	005001	A	5387		LZA			05	05054
014002	052016	A	5388		STA	ITEM+2	CLEAR ITEM BUFFER	05	05055
014003	052017	A	5389		STA	ITEM+3		05	05056
014004	052020	A	5390		STA	ITEM+4		05	05057
			5391 *					05	05058
014005	015000	A	5392		LDA	0,X	GET FIRST CHARACTER	05	05059
014006	004350	A	5393		LSPA	8	AND CONVERT	05	05060
014007	140000	L	5394		SUB	0040	TO LOADER CODE	05	05061
014010	005012	A	5395		TAB		HOLD IT IN (BR)	05	05062
014011	014071	A	5396		LDA	PKK1		05	05063
014012	140000	L	5397		SUB	=6		05	05064
014013	001016	A	5398		JANZ	PKK3	IF LESS THAN SIX CHARACTERS	05	05065

014014	014022	A									
014015	005021	A	5399	TBA						05	05066
014016	004142	A	5400	LSRB	2			SPLIT FIRST CHARACTER		05	05067
014017	062023	A	5401	STB	ITEM+4			AND PUT MS 4 BITS IN (ITEM+4)		05	05068
014020	150000	L	5402	ANA	#3					05	05069
014021	005012	A	5403	TAB						05	05070
014022	062010	A	5404	STB	ITEM+2			(ITEM+2) GETS EITHER FULL CHAR OR LS 2-BIT		05	05071
			5405							05	05072
014023	014057	A	5406	PKK3						05	05073
014024	005311	A	5407	PKK4	LDA	PKK1				05	05074
014025	054055	A	5408	DAR				DECREMENT CHARACTER COUNT		05	05075
014026	001010	A	5409	STA	PKK1			RETURN IF ALL CHAR CONVERTED AND PACKED		05	05076
014027	114104	A		JAZ*	PKK2						
014030	015000	A	5410	LDA	0,X					05	05077
014031	152571	A	5411	ANA	000					05	05078
014032	140000	L	5412	SUB	#0240					05	05079
014033	054055	A	5413	STA	PKK5			CONVERT RIGHT HALF CHAR AND SAVE		05	05080
014034	022017	A	5414	LDB	ITEM+3					05	05081
014035	012016	A	5415	LDA	ITEM+2			GET PREVIOUSLY STORED CHAR		05	05082
014036	004446	A	5416	LLRL	6			AND SHIFT TO MAKE ROOM		05	05083
014037	114045	A	5417	ORA	PKK5			BRING IN NEW CHAR		05	05084
014040	062017	A	5418	STB	ITEM+3					05	05085
014041	052016	A	5419	STA	ITEM+2			AND RESAVE CONVERTED CHAR		05	05086
014042	005104	A	5420	IXR				BUMP INDEX		05	05087
014043	014037	A	5421	LDA	PKK1					05	05088
014044	005311	A	5422	DAR						05	05089
014045	054055	A	5423	STA	PKK1					05	05090
014046	001010	A	5424	JAZ	PKK6			IF ALL CHAR CONVERTED, RIGHT JUSTIFY		05	05091
014047	014063	A									
			5425							05	05092
014050	015000	A	5426	LDA	0,X					05	05093
014051	004350	A	5427	LSR*	8					05	05094
014052	140000	L	5428	SUB	#0240					05	05095
014053	054055	A	5429	STA	PKK5			CONVERT LEFT HALF CHAR AND SAVE		05	05096
014054	012016	A	5430	LDA	ITEM+2			GET PREVIOUSLY STORED CHAR		05	05097
014055	004446	A	5431	LLRL	6			AND SHIFT TO MAKE ROOM		05	05098
014056	114026	A	5432	ORA	PKK5			BRING IN NEW CHAR		05	05099
014057	062017	A	5433	STB	ITEM+3					05	05100
014060	052016	A	5434	STA	ITEM+2			AND RESAVE		05	05101
014061	001000	A	5435	JMP	PKK4			CONTINUE		05	05102
014062	014023	A									
			5436							05	05103
014063	012016	A	5437	PKK6	LDA	ITEM+2		GET RIGHT-MOST CHAR		05	05104
014064	150000	L	5438	ANA	#077					05	05105
014065	001010	A	5439	ANZ*	PKK2			RETURN, IF RIGHT CHAR NOT BLANK		05	05106
014066	114104	A									
014067	012023	A	5440	LDA	ITEM+4					05	05107
014070	022017	A	5441	LSR	ITEM+3					05	05108
014071	004546	A	5442	LSR	6					05	05109
014072	012017	A	5443	LDA	ITEM+3					05	05110
014073	062017	A	5444	STB	ITEM+3					05	05111
014074	022016	A	5445	LDB	ITEM+2					05	05112
014075	004546	A	5446	LSR	6					05	05113
014076	062016	A	5447	STB	ITEM+2					05	05114
014077	005002	A	5448	STB						05	05115
014100	062020	A	5449	SUB	ITEM+4					05	05116
014101	001000	A	5450	STP	PKK6					05	05117
014102	014063	A									
			5451							05	05118
			5452							05	05119
014103	000000	A	5453	PKK1	DATA	0		NUMBER OF CHARACTERS		05	05120
014104	000000	A	5454	PKK2	DATA	0		RETURN ADDRESS		05	05121
014105	000000	A	5455	PKK5	DATA	0		TEMPORARY REGISTER		05	05122
			5456		COCC					05	05123
			5457							05	05124
			5458							05	05125
			5459							05	05126
			5460							05	05127
			5461							05	05128
			5462							05	05129
			5463							05	05130
			5464							05	05131
			5465							05	05132
			5466							05	05133
			5467							05	05134
			5468							05	05135
			5469							05	05136
			5470							05	05137
			5471							05	05138
			5472							05	05139
014106	000000	A	5473	SGCNV	ENTR	0		* * ENTRY POINT * *		05	05140
014107	007400	A	5474	RCF				RESET ERROR FLAG		05	05141
014110	005002	A	5475	TIB				RESET ACCUMULATOR		05	05142
014111	054067	A	5476	STB	CNVD1			STOP NON-NO CHAR		05	05143
014112	012532	A	5477	LDA	010					05	05144
014113	054066	A	5478	STB	CNVD2			SET BASE TO OCTAL		05	05145
			5479							05	05146
014114	015000	A	5480	LDA	0,X			GET FIRST CHAR		05	05147
014115	004350	A	5481	LSRA	8					05	05148
014116	144061	A	5482	SUB	#072					05	05149
014117	001002	A	5483	JAZ	CNVD			IF CHAR NOT NUMBER		05	05150
014120	014174	A									
014121	122577	A	5484	ADD	TEN					05	05151

PURPOSE: TO CONVERT A DECIMAL OR OCTAL ASCII NUMBER TO BINARY.

CALLING SEQUENCE: (XR)= POINTER TO FIRST DIGIT
 (AR)= NUMBER OF DIGITS
 CALL SGCNV

RETURN PARAMETERS: (BR)= BINARY VALUE
 (CF)= 0 IF NO ERROR
 1 IF OVERFLOW OR NON-NUMERIC CHARACTER ENCOUNTERED

014316	055000	A	5642	STA	0,X	MOVE A WORD	05	05307
014317	001000	A	5643	JMP	MOV3	CONTINUE	05	05308
014320	014306	A						
			5644	*				
014321	014003	A	5645	MOVE	INR	SGMOV	05	05309
014322	044002	A	5646		INR	SGMOV	05	05310
014323	044001	A	5647		INP	SGMOV	05	05311
014324	001000	A	5648	JMP	0	RETURN	05	05312
014325	000000	A					05	05313
014325			5649	SGMOV	BES	0	05	05314
014326	001000	A	5650	JMP	MOV1	ENTRY POINT	05	05315
014327	014254	A						
			5651	*			05	05316
014330	000000	A	5652	MOVC	DATA	0	05	05317
			5653	*		CURRENT WORD COUNT REGISTER	05	05318
			5654	*	EJEC		05	05319
			5655	*			05	05320
			5656	*	SGPUT		05	05321
			5657	*			05	05322
			5658	*		PURPOSE: SGPOT IS CALLED TO ENTER A STACK ITEM	05	05323
			5659	*		INTO A DESIGNATED STACK.	05	05324
			5660	*			05	05325
			5661	*		CALLING SEQUENCE: (XR)= ADDR. OF STACK CONTROL BLOCK	05	05326
			5662	*		(BR)= ADDR. OF STACK ITEM BUFFER	05	05327
			5663	*		CALL SGPOT	05	05328
			5664	*			05	05329
			5665	*		RETURN PARAMETERS: (AR)= +1 IF ITEM PLACED ON STACK	05	05330
			5666	*		-1 IF NO ROOM FOR STACK ITEM	05	05331
			5667	*			05	05332
014331	000000	A	5668	SGPUT	ENTR		05	05333
014332	074040	A	5669	STA	APUT2	SAVE ADDR. OF STACK CONTROL BLOCK	05	05334
014333	064034	A	5670	STB	PUTM3	SAVE ADDR. OF ITEM BUFFER	05	05335
014334	010544	A	5671	LDA	BSTACK	COMPARE ADDR. OF BASE OF STACKS	05	05336
014335	145002	A	5672	SUB	0,X	AGAINST TOP OF PROGRAM AREA.	05	05337
014336	140655	A	5673	SUB	IPROG		05	05338
014337	001002	A	5674	JAP	APUT1	JUMP IF ROOM FOR NEW STACK ITEM	05	05339
014340	014344	A						
014341	005301	A	5675	DECR	1		05	05340
014342	001000	A	5676	JMP*	SGPUT	OTHERWISE RETURN WITH (AR)=-1	05	05341
014343	114331	A						
			5677	*			05	05342
014344			5678	APUT1	BSS	0	05	05343
014344	015002	A	5679	LDA	0,X	GET ENTRY ITEM SIZE	05	05344
014345	054021	A	5680	STA	PUTM2	AND STORE IN MOVE COUNT	05	05345
014346	015001	A	5681	LDA	1,X	GET STACK BOTTOM ADDR.	05	05346
014347	145002	A	5682	SUB	0,X	SUBTRACT ITEM SIZE,	05	05347
014350	054020	A	5683	STA	PUTM2+2	AND STORE IN MOVE "TO" ADDR.	05	05348
			5684	*			05	05349
014351	010544	A	5685	LDA	BSTACK	GET BASE OF LOWEST STACK	05	05350
014352	054010	A	5686	STA	PUTM1+1	AND STORE AS STACK MOVE "FROM" ADDR.	05	05351
014353	145002	A	5687	SUB	2,X	STORE BASE MINUS ENTRY SIZE	05	05352
014354	054007	A	5688	STA	PUTM1+2	AS STACK MOVE "TO" ADDR.	05	05353
014355	015001	A	5689	LDA	1,X	GET WORD COUNT FROM BASE OF LOWEST STACK	05	05354
014356	140544	A	5690	SUB	BSTACK	TO BOTTOM OF CURRENT STACK,	05	05355
014357	054002	A	5691	STA	PUTM1	AND STORE AS STACK MOVE COUNT.	05	05356
014360	002000	A	5692	CALL	SGMOV	MOVE STACKS DOWN	05	05357
014361	014325	A						
014362	000000	A	5693	PUTM1	DATA	0	05	05358
014363	000000	A	5694	DATA	0		05	05359
014364	000000	A	5695	DATA	0		05	05360
014365	002000	A	5696	CALL	SGMOV	MOVE ENTRY IN	05	05361
014366	014325	A						
014367	000000	A	5697	PUTM2	DATA	0	05	05362
014370	000000	A	5698	PUTM3	DATA	0	05	05363
014371	000000	A	5699	DATA	0		05	05364
			5700	*			05	05365
			5701	*		NOW UPDATE STACK CONTROL BLOCK POINTERS	05	05366
			5702	*			05	05367
014372	006030	A	5703	LDXI	0		05	05368
014373	000000	A						
014373			5704	APUT2	BSS	0	05	05369
014374	005042	A	5705	TXB		(BR)=(XR)=ADDR. OF BASE OF STACK	05	05370
014375	016002	A	5706	LDA	0,B		05	05371
014376	143002	A	5707	SUB	0,X		05	05372
014377	056002	A	5708	STB	0,B	LOWER BASE OF DESIGNATED STACK	05	05373
014400	005122	A	5709	APUT4	IBR		05	05374
014401	005122	A	5710	IBR		INCREMENT PTR TO NEXT STACK'S CONTROL	05	05375
014402	005122	A	5711	IBR			05	05376
014403	016000	A	5712	LDC	0,B		05	05377
014404	001004	A	5713	JAN	APUT5	IF END OF STACK CONTROL BLOCK	05	05378
014405	014415	A						
014406	145002	A	5714	SUB	0,X		05	05379
014407	056000	A	5715	STR	0,B	LOWER STACK BASE	05	05380
014410	016001	A	5716	LDA	1,B		05	05381
014411	145002	A	5717	SUB	0,X		05	05382
014412	056001	A	5718	STB	1,B	LOWER STACK BOTTOM	05	05383
014413	001000	A	5719	JMP	APUT4		05	05384
014414	014400	A						
			5720	*			05	05385
014415	005101	A	5721	APUT5	INCR	1	05	05386
014416	001000	A	5722	JMP*	SGPUT	SET NORMAL RETURN FLAG	05	05387
014417	114331	A				RETURN	05	05388
			5723	EJEC			05	05389


```

5724 *****
5725 *
5726 *
5727 *           GET NEXT ITEM ROUTINE
5728 * THIS SUBROUTINE GETS THE NEXT ITEM FROM SGIBUF AND ENTERS
5729 * IT IN THE SPECIFIED OUTPUT BUFFER. THE CHARACTERS ARE STORED
5730 * IN THE OUTPUT BUFFER UNTIL A TERMINATION CHARACTER IS
5731 * ENCOUNTERED OR UNTIL THE MAXIMUM NUMBER OF CHARACTERS HAVE
5732 * BEEN STORED. IN THE LATTER CASE, THE POINTERS ARE INCREMENTED
5733 * UNTIL A TERMINATION CHARACTER IS ENCOUNTERED, OR UNTIL THE
5734 * END OF 'SGIBUF' IS REACHED. LEGAL TERMINATION CHARACTERS
5735 * ARE: COMMA, COLON, SEMICOLON, AND EQUAL SIGN.
5736 *
5737 * CALLING SEQUENCES:
5738 *
5739 * JSR   SGGFI,X       TO GET THE FIRST CHARACTER FROM 'SGIBUF'
5740 * DATA OUTPUT BUFFER ADDRESS
5741 * DATA MAX. NUM. OF CHAR. TO BE STORED
5742 *
5743 * JSR   SGGNI,X       TO GET NEXT CHARACTER FROM 'SGIBUF'
5744 * DATA OUTPUT BUFFER ADDRESS
5745 * DATA MAX. NUM. OF CHAR. TO BE STORED
5746 *
5747 * RETURN PARAMETERS:
5748 *
5749 * (AR)= NUMBER OF CHARACTERS FETCHED
5750 * (BR)= TERMINATION CHARACTER (RIGHT ADJUSTED)
5751 *
5752 *
5753 *
5754 *****
5755 *
5756 *

```

014420	006010	A	5757	SGGFI	BSS	0	* * GET FIRST ITEM ENTRY * *	05	05389
014420	000664	A	5758		LDRI	SGIBUF	GET INPUT BUFFER BASE ADDRESS	05	05390
014422	004241	A	5759		LRLA	1	COMPUTE BYTE ADDRESS	05	05391
014424	054152	A	5760		STA	SGRPA	SAVE BASE BYTE ADDR	05	05392
014424	015000	A	5761	SGGNI	BSS	0	* * GET ANOTHER ITEM ENTRY * *	05	05393
014425	004241	A	5762		LDA	0,X	GET OUTPUT BUFFER BASE ADDRESS	05	05394
014426	054146	A	5763		LRLA	1	COMPUTE BYTE ADDR	05	05395
014427	015001	A	5764		STA	SGRPA	SAVE OUTPUT BYTE ADDR	05	05396
014430	054150	A	5765		LDA	1,X	GET MAX NO. OF CHAR. TO BE STORED	05	05397
014431	005144	A	5766		STA	SGMND	SAVE COUNT	05	05398
014432	005144	A	5767		IXR		COMPUTE RETURN ADDR	05	05399
014433	074103	A	5768		IXR			05	05400
014434	005001	A	5769		STX	SG9825	SAVE RETURN ADDR	05	05401
014435	054142	A	5770		TZA			05	05402
014436			5771		STA	SGMND	RESET NO. OF CHAR. IN STRING	05	05403
014436	002009	A	5772	SG9800	BSS	0		05	05404
014437	014540	A	5773		CALL	SGGMC	GET NEXT CHAR	05	05405
014440	014136	A	5774		LDA	SGSVCH	GET THE CHAR	05	05406
014441	144131	A	5775		SUB	0215	IS IT END OF DIRECTIVE	05	05407
014442	001010	A	5776		JAZ	SG9820	YES-RETURN	05	05408
014443	014534	A						05	05409
014444	142601	A	5777		SUB	037	IS IT A COMMA?	05	05410
014445	001010	A	5778		JAZ	SG9820	YES-RETURN	05	05411
014446	014534	A						05	05412
014447	144122	A	5779		SUB	016	IS IT A COLON?	05	05413
014450	001010	A	5780		JAZ	SG9820	YES-RETURN	05	05414
014451	014534	A						05	05415
014452	005911	A	5781		BAR		IS IT A SEMICOLON?	05	05416
014453	001010	A	5782		JAZ	SG9820	YES-RETURN	05	05417
014454	014534	A						05	05418
014455	142530	A	5783		SUB	1ND	IS IT AN EQUAL SIGN?	05	05419
014456	001010	A	5784		JAZ	SG9820	YES-RETURN	05	05420
014457	014534	A						05	05421
014460	014114	A	5785		LDA	SGRPA	GET OUTPUT BYTE ADDR	05	05422
014461	044110	A	5786		INR	SGRPA	INCREMENT OUTPUT BYTE ADDR	05	05423
014462	005002	A	5787		TZR			05	05424
014463	004541	A	5788		CLR	1	COMPUTE OUTPUT WORD ADDR	05	05425
014464	005014	A	5789		TAX		(X0) ← OUTPUT WORD ADDR	05	05426
014465	001025	A	5790		JBNZ	SG9805	JUMP IF TO STORE 1+ RIGHT BYTE	05	05427
014466	014472	A						05	05428
014467	014107	A	5791		LDA	SGSVCH		05	05429
014470	004250	A	5792		LRLA	0	POSITION TO STORE IN LEFT BYTE	05	05430
014471	054105	A	5793		STA	SGSVCH		05	05431
014472			5794	SG9805	BSS	0		05	05432
014472	015000	A	5795		LDA	1,X		05	05433
014473	001020	A	5796		JBT	SG9810	JUMP IF TO STORE IN LEFT BYTE	05	05434
014474	014477	A						05	05435
014475	152570	A	5797		AND	LRN	AND OUT LEFT HALF OF WORD	05	05436
014476	001006	A	5798		DATA	11006	SKIP NEXT INSTRUCTION	05	05437
014477			5799	SG9810	BSS	0		05	05438
014477	152571	A	5800		AND	LRN	AND OUT RIGHT HALF OF WORD	05	05439
014500	114076	A	5801		ORA	SGSVCH	OR IN SAVED CHARACTER	05	05440
014501	055000	A	5802		STA	0,X	SET IN OUTPUT BUFFER	05	05441
014502	044075	A	5803		INR	SGMND	INCREMENT NO. OF CHAR IN STRING	05	05442
014503	014074	A	5804		LDA	SGMND		05	05443
014504	144074	A	5805		SUB	SGMND	MAX. NO. OF CHAR. STORED	05	05444
014505	001016	A	5806		JBNZ	SG9800	NO → GO GET NEXT CHAR.	05	05445
014506	014436	A						05	05446

014507			5807	SG9815	BSS	0			05	05472
014507	002000	A	5808		CALL	SGGNC	GET NEXT CHARACTER		05	05473
014510	014540	A								
014511	014065	A	5809		LDA	SGSVCH	GET THE CHARACTER		05	05474
014512	144060	A	5810		SUB	0215	IS IT END OF DIRECTIVE?		05	05475
014513	001010	A	5811		JAZ	SG9820	YES-RETURN		05	05476
014514	014534	A								
014515	142601	A	5812		SUB	037	IS IT A COMMA?		05	05477
014516	001010	A	5813		JAZ	SG9820	YES- RETURN		05	05478
014517	014534	A								
014520	144051	A	5814		SUB	016	IS IT A COLON?		05	05479
014521	001010	A	5815		JAZ	SG9820	YES- RETURN		05	05480
014522	014534	A								
014523	005311	A	5816		DAR		IS IT A SEMICOLON?		05	05481
014524	001010	A	5817		JAZ	SG9820	YES- RETURN		05	05482
014525	014534	A								
014526	142530	A	5818		SUB	TWO	IS IT AN EQUAL SIGN?		05	05483
014527	001010	A	5819		JAZ	SG9820	YES- RETURN		05	05484
014530	014534	A								
014531	044046	A	5820		INR	SGNDCS	INCREMENT NUM OF CHAR IN STRING		05	05485
014532	001000	A	5821		JMP	SG9815	CONTINUE		05	05486
014533	014507	A								
014534			5822	SG9820	BSS	0			05	05487
014534	024042	A	5823		LDB	SGSVCH	SET (BR)= TERMINATION CHARACTER		05	05488
014535	014042	A	5824		LDA	SGNDCS	SET (AR)= NUMBER OF CHARACTERS		05	05489
014536	001000	A	5825		JMP	0			05	05490
014537	000000	A								
014537			5826	SG9825	BES	0	* * RETURN * *		05	05491
			5827		EJEC				05	05492
			5828	*					05	05493
			5829	*					05	05494
			5830	*	GET NEXT CHARACTER FROM 'SGIBUF'				05	05495
			5831	*					05	05496
			5832	*					05	05497
014540	000000	A	5833	SGGNC	ENTR		* ENTRY *		05	05498
014541	014034	A	5834		LDA	SGBBAD	GET BASE BYTE ADDR		05	05499
014542	044033	A	5835		INR	SGBBAD	INCREMENT BASE BYTE ADDR		05	05500
014543	005002	A	5836		TZB				05	05501
014544	004541	A	5837		LLSR	1	COMPUTE INPUT WORD ADDR		05	05502
014545	005014	A	5838		TAX		(XR) ← INPUT WORD ADDR		05	05503
014546	006140	A	5839		SUBI	SGIBUF+60	AT END OF BUFFER	C	05	05504
014547	000760	A								
014550	001004	A	5840		JAN	SG9900	NO - CONTINUE		05	05505
014551	014556	A								
014552	014020	A	5841		LDA	0215	GET RETURN CHARACTER		05	05506
014553	054023	A	5842		STP	SGSVCH			05	05507
014554	001000	A	5843		RETU*	SGGNC	* RETURN *		05	05508
014555	114540	A								
014556			5844	SG9900	BSS	0			05	05509
014556	015000	A	5845		LDA	0,X	GET INPUT WORD		05	05510
014557	001020	A	5846		JEZ	SG9905	JUMP IF LEFT CHAR.		05	05511
014560	014563	A								
014561	152571	A	5847		ANA	RHW	AND OUT RIGHT BYTE		05	05512
014562	001006	A	5848		DATA	01006	SKIP NEXT INSTRUCTION		05	05513
014563			5849	SG9905	BSS	0			05	05514
014563	004350	A	5850		LSRA	8	POSITION LEFT CHAR TO RIGHT BYTE		05	05515
014564	054012	A	5851		STA	SGSVCH	SAVE THE CHARACTER		05	05516
014565	134006	A	5852		ERA	0240	IS IT A BLANK?		05	05517
014566	001010	A	5853		JAZ	SGGNC+1	GET NEXT CHARACTER IF BLANK		05	05518
014567	014541	A								
014570	001000	A	5854		RETU*	SGGNC	* RETURN *		05	05519
014571	114540	A								
			5855	*					05	05520
			5856	*					05	05521
014572	000016	A	5857	016	DATA	016			05	05522
	002601	A	5858	037	EQU	2M37			05	05523
014573	000215	A	5859	0215	DATA	0215			05	05524
014574	000240	A	5860	0240	DATA	0240			05	05525
014575	000000	A	5861	SGGPBA	DATA	0	OUTPUT BYTE ADDR		05	05526
014576	000000	A	5862	SGBBAD	DATA	0	INPUT BASE BYTE ADDR		05	05527
014577	000000	A	5863	SGSVCH	DATA	0	SAVE CHARACTER AREA		05	05528
014600	000000	A	5864	SGNDCS	DATA	0	NUMBER OF CHAR STORED		05	05529
014601	000000	A	5865	SGMNDC	DATA	0	MAX NO. OF CHAR TO BE STORED		05	05530
			5866		EJEC				05	05531
			5867	*					05	05532
			5868	*	SGCLR				05	05533
			5869	*					05	05534
			5870	*	PURPOSE: CLEAR READ BUFFER (SGIBUF)				05	05535
			5871	*					05	05536
			5872	*	CALLING SEQUENCE: CALL SGCLR				05	05537
			5873	*					05	05538
			5874	*	RETURN PARAMETERS: NONE				05	05539
			5875	*					05	05540
			5876	*					05	05541
014602	000000	A	5877	SGCLR	ENTR		* * ENTRY POINT * *		05	05542
014603	020000	L	5878		LDB	=			05	05543
014604	006030	A	5879		LXI	SGIBUF	INITIALIZE BUFFER INDEX		05	05544
014605	000664	A								
014606	065000	A	5880	CLR1	STB	0,X	CLEAR A WORD		05	05545
014607	005145	A	5881		INCR	045	BUMP INDEX		05	05546
014610	006140	A	5882		SUBI	SGIBUF+120			05	05547
014611	001054	A								
014612	001004	A	5883		JAN	CLR1	IF MORE WORDS TO CLEAR		05	05548


```

014613 014606 A
014614 001000 A 5884 JMP* SGCLR * * RETURN IF FINISHED * * 05 05549
014615 114602 A
5885 EJEC 05 05550
5886 * 05 05551
5887 * SGGET 05 05552
5888 * 05 05553
5889 * PURPOSE: SGGET IS CALLED TO FETCH A STACK ITEM 05 05554
5890 * AND PLACE IT IN A SPECIFIED BUFFER AREA. 05 05555
5891 * 05 05556
5892 * CALLING SEQUENCE: (XR)= ADDR. OF STACK CONTROL BLOCK 05 05557
5893 * (BR)= ADDR. OF ITEM BUFFER 05 05558
5894 * CALL SGGET 05 05559
5895 * 05 05560
5896 * RETURN PARAMETERS: (AR)= +1 IF ITEM FETCHED 05 05561
5897 * -1 IF STACK FOUND EMPTY 05 05562
5898 * 05 05563
014616 000000 A 5899 SGGET ENTR 05 05564
014617 064047 A 5900 STB GETM2+2 SAVE BUFFER ADDRESS 05 05565
014620 015000 A 5901 LDA 0,X GET BASE ADDR. 05 05566
014621 145001 A 5902 SUB 1,X MINUS BOTTOM ADDR. 05 05567
014622 001004 A 5903 JAN AGET1 IF NOT EMPTY STACK 05 05568
014623 014627 A
014624 005301 A 5904 DECR 1 SET STACK EMPTY FLAG 05 05569
014625 001000 A 5905 JMP* SGGET AND RETURN 05 05570
014626 114616 A
5906 * 05 05571
014627 015002 A 5907 AGET1 LDA 2,X GET STACK ITEM LENGTH 05 05572
014630 054034 A 5908 STA GETM2 AND STORE IN ITEM MOVE "COUNT" 05 05573
014631 015001 A 5909 LDA 1,X GET STACK BOTTOM 05 05574
014632 145002 A 5910 SUB 2,X MINUS ITEM LENGTH 05 05575
014633 054032 A 5911 STP GETM2+1 AND STORE IN ITEM MOVE "FROM ADDR." 05 05576
014634 140544 A 5912 SUB 2,STACK SUBTRACT BASE ADDR. OF LOWEST STACK 05 05577
014635 054034 A 5913 STA GETM1 TO GET STACK MOVE "COUNT" 05 05578
014636 010544 A 5914 LDA 2,STACK BASE ADDR. OF LOWEST STACK 05 05579
014637 054033 A 5915 STA GETM1+1 IS STACK MOVE "FROM ADDR." 05 05580
014640 125002 A 5916 ADD 2,X PLUS ITEM LENGTH... 05 05581
014641 054032 A 5917 STA GETM1+2 BECOMES STACK MOVE "TO ADDR." 05 05582
5918 * 05 05583
5919 * UPDATE BASE AND BOTTOM POINTERS 05 05584
5920 * 05 05585
014642 005042 A 5921 TXB 05 05586
014643 016000 A 5922 LDA 0,B 05 05587
014644 125002 A 5923 ADD 2,X 05 05588
014645 056000 A 5924 STA 0,B UPDATE BASE POINTER FOR DESIGNATED STACK 05 05589
014646 005122 A 5925 AGET2 IER 05 05590
014647 005122 A 5926 IER 05 05591
014650 005122 A 5927 IER 05 05592
014651 016000 A 5928 LDA 0,B GET NEXT BASE POINTER 05 05593
014652 001004 A 5929 JAN AGET3 IF END OF STACK CONTROL BLOCK 05 05594
014653 014663 A
014654 125002 A 5930 ADD 2,X 05 05595
014655 056000 A 5931 STA 0,B UPDATE BASE POINTER 05 05596
014656 016001 A 5932 LDA 1,B 05 05597
014657 125002 A 5933 ADD 2,X 05 05598
014660 056001 A 5934 STA 1,B UPDATE BOTTOM POINTER 05 05599
014661 001000 A 5935 JMP AGET2 CONTINUE 05 05600
014662 014646 A
5936 * 05 05601
014663 5937 AGET3 BSC 0 05 05602
014663 002000 A 5938 CALL SGMOV MOVE STACK ITEM TO BUFFER 05 05603
014664 014325 A
014665 000000 A 5939 GETM2 DATA 0 05 05604
014666 000000 A 5940 DATA 0 05 05605
014667 000000 A 5941 DATA 0 05 05606
014670 002000 A 5942 CALL SGMOV MOVE ALL LOWER STACK ITEMS UP 05 05607
014671 014325 A
014672 000000 A 5943 GETM1 DATA 0 05 05608
014673 000000 A 5944 DATA 0 05 05609
014674 000000 A 5945 DATA 0 05 05610
014675 005101 A 5946 INCR 1 SET NORMAL RETURN FLAG 05 05611
014676 001000 A 5947 JMP* SGGET RETURN 05 05612
014677 114616 A
5948 EJEC 05 05613
5949 * 05 05614
5950 * SSSAE 05 05615
5951 * 05 05616
5952 * PURPOSE: TO SEARCH A DESIGNATED STACK FOR AN ENTRY 05 05617
5953 * WITH NAME MATCHING THE INPUT "KEY". 05 05618
5954 * OPTION AS TO WHETHER TO MAKE AN ENTRY OR 05 05619
5955 * NOT; IF A MATCH IS NOT FOUND. 05 05620
5956 * 05 05621
5957 * CALLING SEQUENCE: (AR): =-1 IF SEARCH ONLY 05 05622
5958 * =>0 IF SEARCH AND ENTER 05 05623
5959 * (BR): ADDR OF NEW ITEM BUFFER 05 05624
5960 * (XR): ADDR OF STACK CONTROL BLOCK 05 05625
5961 * CALL SSSAE 05 05626
5962 * DATA SIZE OF KEY(IF 0: SPEC SEARCH) 05 05627
5963 * 05 05628
5964 * RETURN PARAMETERS: (XR)= PTRN TO ENTRY (-1 IF SEARCH 05 05629
5965 * ONLY AND NOT FOUND) 05 05630
5966 * (AR)= THREAD/DEFINITION ADDR 05 05631
5967 * 05 05632

```


			6044 *						05 05709
			6045 *						05 05710
			6046 *						05 05711
			6047 *						05 05712
			6048 *						05 05713
015021	000000	A	6049	SAED1	DATA	0		SEARCH ONLY FLAG	05 05714
015022	000000	A	6050	SAED2	DATA	0		STACK POINTER	05 05715
015023	000000	A	6051	SAED3	DATA	0		ITEM BUFFER ADDR	05 05716
015024	000000	A	6052	SAED4	DATA	0		STACK CONTROL BLOCK ADDR	05 05717
015025	000000	A	6053	SAED5	DATA	0		END OF STACK ADDR	05 05718
015026	000000	A	6054	SAED6	DATA	0		STACK ENTRY SIZE	05 05719
015027	000000	A	6055	SAED7	DATA	0		MATCH KEY SIZE	05 05720
015030	000000	A	6056	SAED8	DATA	0		MATCH KEY SIZE COUNTER	05 05721
			6057		EJEC				05 05722
			6058 *						05 05723
			6059 *		RELOAD				05 05724
			6060 *						05 05725
			6061 *					PURPOSE: TO REWIND 'LIB' AND CALL (SGLDR)	05 05726
			6062 *					TO RELOAD THE DIRECTIVE PROCESSOR.	05 05727
			6063 *						05 05728
			6064 *					CALLING SEQUENCE: JMP RELOAD	05 05729
			6065 *						05 05730
			6066 *					RETURN PARAMETERS: DOES NOT RETURN	05 05731
			6067 *						05 05732
015031			6068	RELOAD	DSS	0		* * ENTRY POINT * *	05 05733
015031	002000	A	6069		CALL	0		REWIND 'LIB'	05 05734
015032	013757	E							
015033	002004	A	6070		DATA			REW+LIB	05 05735
015034	002000	A	6071		CALL			IDCS AND STATUS 'LIB'	05 05736
015035	015032	E							
015036	000004	A	6072		DATA			LIB	05 05737
015037	015031	A	6073		DATA			RELOAD,LOA1,LOA1,*-6	05 05738
015040	015043	A							
015041	015043	A							
015042	015034	A							
			6074 *						05 05739
015043	006030	A	6075	LOA1	LDXI	LOA2		SET UP POINTER TO NAME (SGEN1)	05 05740
015044	015047	A							
			6076 *		EXT	EXIT			05 05741
015045	001000	A	6077		JMP	EXIT		GO TO (SGLDR)	05 05742
015046	012114	E							
			6078 *						05 05743
015047	055621	A	6079	LOA2	DATA	055621		LOADER CODE ENTRY FOR (SGEN1)	05 05744
015050	031636	A	6080		DATA	031636			05 05745
015051	000000	A	6081		DATA	0			05 05746
			6082 *						05 05747
	002000	A	6083	REW	EQU	02000			05 05748
			6084		EJEC				05 05749
			6085 *						05 05750
			6086 *		SGWSD				05 05751
			6087 *						05 05752
			6088 *					PURPOSE: TO OUTPUT A MESSAGE TO THE "DC" DEVICE	05 05753
			6089 *					AND THE "LIS" DEVICE, IF IT IS DIFFERENT	05 05754
			6090 *					FROM 'DC'.	05 05755
			6091 *						05 05756
			6092 *					CALLING SEQUENCE: (BR)= ADDR OF MESSAGE	05 05757
			6093 *					CALL SGWSD	05 05758
			6094 *						05 05759
			6095 *					RETURN PARAMETERS: (XR)= 0 IF ALL I/O COMPLETED	05 05760
			6096 *					(XR),BITS#0-3, = 1 IF I/O ERROR	05 05761
			6097 *					2 IF I/O EOF	05 05762
			6098 *					3 IF I/O BEED	05 05763
			6099 *						05 05764
			6100 *						05 05765
015052	035001	A	6101	WSD5	LDX	1,X		GET ABNORMAL I/O STATUS FROM DRIVER	05 05766
015053	001000	A	6102		JMP	0		* RETURN *	05 05767
015054	000000	A							
			6103 *						05 05768
015054			6104	SGWSD	BES	0		* ENTRY POINT *	05 05769
015055	016000	A	6105		LDA	0,B			05 05770
015056	054007	A	6106		STA	WSD1		SAVE MESSAGE WORD COUNT	05 05771
015057	054037	A	6107		STA	WSD2			05 05772
015060	005122	A	6108		IBR				05 05773
015061	064005	A	6109		STB	WSD3		SAVE MESSAGE STARTING ADDRESS	05 05774
015062	064035	A	6110		STB	WSD4			05 05775
			6111 *						05 05776
	015066	A	6112	WSD1	EQU	*+3			05 05777
	015067	A	6113	WSD3	EQU	*+4			05 05778
015063	002000	A	6114		IMPM	IDCS		WRITE MESSAGE TO 'DC' DEVICE	05 05779
015064	015035	E							
015065	001003	A	6115		DATA	WALF+DC			05 05780
015066	000000	A	6116		DATA	0,0			05 05781
015067	000000	A							
015070	002000	A	6117		JNPM	IDCS			05 05782
015071	015064	E							
015072	000003	A	6118		DATA	7C			05 05783
015073	015052	A	6119		DATA	WSD1,WSD5,WSD5,*-6			05 05784
015074	015052	A							
015075	015052	A							
015076	015070	A							
			6120 *						05 05785
015077	074011	A	6121		STX	WSD6		SAVE DC DRIVER ADDR	05 05786
015100	002000	A	6122		JNPM	IDCS			05 05787


```

015301 015246 A
6256      EJEC
6257      *
6258      *      SG4UPK
6259      *
6260      *      PURPOSE:  TO UNPACK LOADER CODE ENTRIES AND LIST
6261      *      THEM ON THE "LIS" DEVICE.
6262      *
6263      *      CALLING SEQUENCE:  CALL  SG4UPK
6264      *      ...WITH LDR CODE ITEM IN (ITEM)
6265      *
6266      *      RETURN PARAMETERS:  NONE
6267      *
015302 000000 A 6268 SG4UPK ENTR      * * ENTRY POINT * *
015303 030000 L 6269      LDX      =ITEM      (XR)= PNTR TO LDR CODE ITEM
015304 010000 L 6270      LDA      =SGLBUF
015305 054060 A 6271      STA      SPBP      (SPBP)=PNTR TO LIST BUFFER
015306 015004 A 6272      LDA      4,X
015307 025003 A 6273      LDB      3,X
015310 004445 A 6274      LLRL      5
015311 002000 A 6275      CALL     SPOT      PACK FIRST TWO CHAR OF NAME
015312 015351 A
015313 015003 A 6276      LDA      3,X
015314 004441 A 6277      LLRL      1
015315 002000 A 6278      CALL     SPOT      PACK SECOND TWO CHAR OF NAME
U15316 015351 A
015317 004455 A 6279      LLRL      13
015320 002000 A 6280      CALL     SPOT      PACK THIRD TWO CHAR OF NAME
015321 015351 A
015322 004557 A 6281      LLSR      15
015323 001010 A 6282      JAZ      *+3
015324 015326 A
015325 010000 L 6283      LDA      =0170
015326 122530 A 6284      ADD      TWO
015327 002000 A 6285      CALL     SPOT      PACK SPACE AND HIGH ORDER DIGIT OF ADDR
015330 015351 A
015331 004551 A 6286      LLSR      9
015332 152575 A 6287      ANA      SEVEN
015333 004243 A 6288      LRLA      3
015334 120000 L 6289      ADD      =0202
015335 002000 A 6290      CALL     SPOT      PACK NEXT TWO DIGITS OF ADDR
015336 015351 A
015337 004543 A 6291      LLSR      3
015340 152575 A 6292      ANA      SEVEN
015341 004243 A 6293      LRLA      3
U15342 120000 L 6294      ADD      =0202
015343 002000 A 6295      CALL     SPOT      PACK LAST TWO DIGITS OF ADDR
015344 015351 A
015345 002000 A 6296      CALL     SGLISB   OUTPUT ENTRY TO "LIS" DEVICE
015346 015297 A
015347 001000 A 6297      JMP*     SG4UPK   * * RETURN * *
015350 115302 A
6298      *
6299      *      * * SPOT * * STORE PAIR IN OUTPUT BUFFER
6300      *
015351 000000 A 6301 SPOT ENTR
015352 004543 A 6302      LLSR      2
015353 150000 L 6303      ANA      =077
015354 004242 A 6304      LRLA      2
015355 004446 A 6305      LLRL      6
015356 120000 L 6306      ADD
015357 024006 A 6307      LDB      SPBP
015360 056000 A 6308      STA      0,B
015361 044004 A 6309      INR      SPBP
015362 015000 A 6310      LDA      0,X
015363 025002 A 6311      LDB      2,X
015364 001000 A 6312      JMP*     SPOT
015365 115351 A
015366 003000 A 6313 *
6314 SPBP BSS 1
6315 END SGEM2

```

ENTRY NAMES

003000 A SGEM2

EXTERNAL NAMES

015046 E EXIT

015260 E IOCS

SYMBOLS

```

000551 A $LUB 000550 A $LUN 000576 A $PUB 000551 A $PUM
000663 A AD$CAM 000662 A ADCRDR 013422 A ADDRE 004164 A ADR1
004232 A ADR10 004357 A ADR11 004233 A ADR12 004235 A ADR12A
004243 A ADR12B 004251 A ADR13 004253 A ADR14 004256 A ADR15
004165 A ADR2 004431 A ADR3 004437 A ADR4 004462 A ADR5
004467 A ADR6 004471 A ADR7 004491 A ADR8 004267 A ADR8A
004303 A ADR8B 004333 A ADR8C 004346 A ADR8D 004351 A ADR8E
004354 A ADR8F 004226 A ADR9 014627 A AGET1 014646 A AGET2
014663 A AGET3 000006 A ALT 014344 A APUT1 014373 A APUT2
014400 A APUT4 014415 A APUT5 000002 A B 000000 A B0
000001 A B1 000012 A B10 000013 A B11 000014 A B12
000015 A B13 000016 A B14 000017 A B15 000002 A B2
000003 A B3 000004 A B4 000005 A B5 000006 A B6
000007 A B7 000010 A B8 000011 A B9 013416 A BA
013437 A BAPT 002527 A BM1 002600 A BM17 002603 A BM177
002605 A BM1777 002572 A BM3 002601 A BM37 002571 A BM377
002575 A BM7 002602 A BM77 002604 A BM777 002547 A BR0

```


002550	A	BR1	002561	A	BR10	002562	A	BR11	002563	A	BR12
002564	A	BR13	002565	A	BR14	002566	A	BR15	002551	A	BR2
002552	A	BR3	002553	A	BR4	002554	A	BR5	002555	A	BR6
002556	A	BR7	002557	A	BR8	002560	A	BR9	002527	A	BS0
002530	A	BS1	002541	A	BS10	002542	A	BS11	002543	A	BS12
002544	A	BS13	002545	A	BS14	002546	A	BS15	002531	A	BS2
002532	A	BS3	002533	A	BS4	002534	A	BS5	002535	A	BS6
002536	A	BS7	002537	A	BS8	002540	A	BS9	000544	A	BSTACK
001130	A	BTSIZ	013414	A	CBS	012472	A	CKSM	010567	A	CLK1
010573	A	CLK2	010577	A	CLK3	010600	A	CLK4	010607	A	CLK5
011712	A	CLO1	011701	A	CLO10	011402	A	CLO11	011714	A	CLO12
011730	A	CLO13	011732	A	CLO14	011745	A	CLO15	011703	A	CLO16
011750	A	CLO17	011350	A	CLO18	011756	A	CLO19	011472	A	CLO2
011406	A	CLO20	011705	A	CLO21	011431	A	CLO22	011757	A	CLO23
011443	A	CLO24	011574	A	CLO25	011456	A	CLO26	011676	A	CLO27
011500	A	CLOC	011605	A	CLO4	011627	A	CLO45	011713	A	CLO5
011532	A	CLO6	011554	A	CLO7	011637	A	CLO8	011470	A	CLO9
014606	A	CLR1	012426	A	CLUM	014134	A	CNV1	014131	A	CNV2
014174	A	CNV3	014201	A	CNVD1	014202	A	CNVD2	012562	A	COCK
012567	A	COCK1	013322	A	COMM	006055	A	COT1	006056	A	COT2
005703	A	COT3	006031	A	COT4	006050	A	COT5	006057	A	COT6
006063	A	COT7	004141	A	CPF10	004130	A	CPFTCH	004104	A	CPR10
004147	A	CPRB	004151	A	CPRT	004124	A	CPRTN	004150	A	CPRX
004152	A	CRTAB	013430	A	CSIZ	012231	A	DAFO	012240	A	DAF1
012253	A	DAF2	012263	A	DAF3	005321	A	DAR	012645	A	DATA
013434	A	DCW	000002	A	DIR	002653	A	DREC	006104	A	DSB1
006243	A	DSB10	006123	A	DSB101	006157	A	DSB102	006526	A	DSB103
006536	A	DSB104	006540	A	DSB105	006532	A	DSB106	006530	A	DSB11
006443	A	DSB12	006443	A	DSB13	006404	A	DSB14	006453	A	DSB16
006432	A	DSB18	006230	A	DSP19	006515	A	DSB2	006525	A	DSB20
006400	A	DSB200	006457	A	DSB201	006527	A	DSB204	006306	A	DSB22
006307	A	DSB23	006531	A	DSB26	006374	A	DSB27	006271	A	DSB28
006165	A	DSB3	006516	A	DSB4	006517	A	DSB5	006534	A	DSB6
006523	A	DSB7	006524	A	DSB8	012505	A	DWH1	013621	A	EAR1
013753	A	EAR10	013760	A	EAR11	013740	A	EAR12	013744	A	EAR2
013717	A	EAR3	013726	A	EAR4	013751	A	EAR5	013637	A	EAR6
013630	A	EAR7	013706	A	EAR8	013672	A	EAR9	013435	A	ECW
002532	A	EIGHT	013400	A	END10	012161	A	END20	012173	A	END40
012165	A	END50	013560	A	ENT1	013565	A	ENT2	013577	A	ENT3
013616	A	ENT4	013541	A	ENT5	003304	A	EQDL	003306	A	EQDL00
003321	A	EQDL03	003323	A	EQDL05	003325	A	EQDL10	003340	A	EQDL15
003400	A	EQDL20	003415	A	EQDL25	003427	A	EQDL50	003430	A	EQDL51
003431	A	EQDL52	003435	A	EQDL53	003436	A	EQDL54	003437	A	EQDL55
003440	A	EQDL56	003441	A	EQDL57	003442	A	EQDL58	002606	A	ER00
002607	A	ER01	002610	A	ER02	002611	A	ER03	002612	A	ER04
002613	A	ER05	002614	A	ER06	002615	A	ER07	002616	A	ER08
002617	A	ER09	002620	A	ER10	002621	A	ER11	002622	A	ER12
002623	A	ER13	002624	A	ER14	002625	A	ER15	002626	A	ER20
002627	A	ER21	002630	A	ER22	002631	A	ER23	002632	A	ER24
002633	A	ER25	002634	A	ER26	002635	A	ER30	002636	A	ER31
002637	A	ER32	002640	A	ER33	002641	A	LR34	002642	A	ER40
002643	A	ER41	002644	A	ER42	002645	A	ER43	002646	A	ER44
002647	A	ER45	002650	A	ER46	002651	A	ER47	002652	A	ER48
005547	A	ESCB	013046	E	EXIT	013454	A	EXT1	013503	A	EXT0
012675	A	EXT20	013537	A	EXT3	013562	A	EXT4	013514	A	EXT5
013516	A	EXT6	013540	A	EXT7	013476	A	EXT8	002573	A	FIVE
002531	A	FOUR	005061	A	FTG1	005514	A	FTG11	005563	A	FTG13
005566	A	FTG14	005633	A	FTG15	005615	A	FTG16	005637	A	FTG2
005574	A	FTG3	005611	A	FTG4	005595	A	FTG5	005470	A	FTG6
005644	A	FTG7	005443	A	FTG9	005511	A	FTG9	005659	A	FTGTBL
014231	A	GAC2	014234	A	GAC3	014223	A	GACD1	014217	A	GACD2
014672	A	GETM1	014665	A	GETM2	012413	A	GEW1	012452	A	GEW2
012315	A	GEW3	012344	A	GEW4	012351	A	GEW5	012354	A	GEW6
012434	A	GEW7	012372	A	GEW8	012421	A	GEW9	013324	A	GSIZ
003633	A	ICR1	003544	A	ICR10	003571	A	ICR11	004034	A	ICR12
004046	A	ICR13	004037	A	ICR14	003671	A	ICR15	003636	A	ICR16
003631	A	ICR17	003534	A	ICR18	003716	A	ICR19	003742	A	ICR19A
003606	A	ICR2	004075	A	ICR20	003751	A	ICR21	003767	A	ICR22
004007	A	ICR25	003623	A	ICR3	004026	A	ICR30	004031	A	ICR31
004072	A	ICR35	004065	A	ICR4	003525	A	ICR5	004063	A	ICR6
003517	A	ICR7	003541	A	ICR8	003574	A	ICR9	002784	A	IEND
002054	A	INUNIT	013311	A	ID1	013242	A	ID2	013276	A	ID3
013264	A	ID7	013312	A	ID8	013247	A	ID9	015250	E	IDCS
013234	A	IDR	013240	A	IDW	002653	A	ISTART	002014	A	ITEM
012263	A	JTAB	002600	A	K15	002524	A	KD32	002535	A	KB64
011171	A	LCF10	011175	A	LCF11	011201	A	LCF12	011203	A	LCF13
011211	A	LCF14	011213	A	LCF15	011221	A	LCF16	011223	A	LCF17
011231	A	LCF18	011233	A	LCF19	011245	A	LCF2	011241	A	LCF10
010743	A	LCF21	010775	A	LCF21A	011010	A	LCF21B	011012	A	LCF21C
010712	A	LCF22	010744	A	LCF23	010791	A	LCF24	011251	A	LCF25
011255	A	LCF26	011261	A	LCF27	011072	A	LCF2A	011164	A	LCF5
013133	A	LCPT	011265	A	LCTMP	012500	A	LGABS	012136	A	LGCOL
012213	A	LGDAFT	012206	A	LGDFRC	012201	A	LGEND	012643	A	LGENT
012657	A	LGEXT	012350	A	LGGENB	012543	A	LGLCNC	000664	A	LGMIB
012531	A	LGORG	002026	A	LGOUTB	012571	A	LGPDE	012500	A	LGREL
012752	A	LGSAE	012507	A	LGSTON	012707	A	LGSTR	013072	A	LGVEB
013317	A	LGXEQ	005160	A	LHG1	005401	A	LHG10	005431	A	LHG12
005221	A	LHG13	005240	A	LHG14	005236	A	LHG15	005310	A	LHG2
005245	A	LHG3	005413	A	LHG4	005414	A	LHG5	005304	A	LHG6
005346	A	LHG7	005420	A	LHG9	005424	A	LHG3	002520	A	LHW
000004	A	LIB	000005	A	LIS	015255	A	LIST1	015256	A	LIST2
015275	A	LIST3	015246	A	LIST4	015245	A	LIST5	013483	A	LITS
013432	A	LLC	004755	A	LMI1	004572	A	LMI2	004537	A	LMI3

004570	A	LMI4	004607	A	LMIS	015043	A	LOA1	015047	A	LOA2
006774	A	LOG1	007050	A	LOG2	007030	A	LOG3	007024	A	LOG4
007043	A	LOG5	013377	A	LPT	013341	A	LPTB	000551	A	LUT
006551	A	LUT1	006735	A	LUT10	006741	A	LUT11	006710	A	LUT12
006562	A	LUT2	006601	A	LUT3	006612	A	LUT4	006632	A	LUT5
006643	A	LUT6	006665	A	LUT7	006706	A	LUT8	006713	A	LUT9
006746	A	LUT9	006752	A	LUT8	006756	A	LUTC	006752	A	LUTD
013410	A	MA	002655	A	MFLAG	013407	A	MODE	014254	A	MOV1
014264	A	MOV2	014306	A	MOV3	014330	A	MOV6	014321	A	MOVE
014277	A	MOVR	002526	A	MT	003117	A	MXFLG	013332	A	NAME
002567	A	NEG	002576	A	NINE	002532	A	O10	014572	A	O16
014573	A	O213	014574	A	O240	014177	A	O260	014200	A	O272
002601	A	O37	000003	A	OC	002527	A	ONE	012541	A	ORG1
013403	A	OTCB	013406	A	OTCV	013405	A	OTCW	013404	A	OTEM
012617	A	PDE0	013436	A	PEP	014103	A	PKK1	014104	A	PKK2
014022	A	PKK3	014023	A	PKK4	014105	A	PKK5	014063	A	PKK6
013412	A	PH	010323	A	PSC1	010276	A	PSC10	010151	A	PSC11
010223	A	PSC11A	010171	A	PSC11B	010173	A	PSC11C	010144	A	PSC12
010120	A	PSC13	010100	A	PSC14	010307	A	PSC15	010271	A	PSC16
010070	A	PSC17	010246	A	PSC18	010330	A	PSC19	010047	A	PSC2
010304	A	PSC20	010327	A	PSC21	010311	A	PSC22	010257	A	PSC3
010217	A	PSC31	010033	A	PSC4	010324	A	PSC5	010103	A	PSC6
010263	A	PSC7	010131	A	PSC8	010126	A	PSC9	010303	A	PSC7
013326	A	PSIZ	013431	A	PTN1	000600	A	PUT	014362	A	PUTM1
014367	A	PUTM2	014370	A	PUTM3	000040	A	RA0	000000	A	RA1
000400	A	RALF	000060	A	RE0	000020	A	RE1	040400	A	RBIN
012464	A	RCRD	012470	A	READ	015031	A	RELOAD	002000	A	REW
002571	A	RHW	000074	A	RL	013413	A	RLP	013401	A	RS
015133	A	RSI1	015174	A	RSI3	015140	A	RSI4	015167	A	RSI5
015215	A	RSI6	015234	A	RSI7	013402	A	RWC	013417	A	SA
010476	A	SAC1	010501	A	SAC2	010437	A	SAC3	010450	A	SAC4
010464	A	SAC5	010502	A	SACC	010505	A	SAC7	010506	A	SAC8
010511	A	SAC9	012732	A	SAE0	014715	A	SAE1	013005	A	SAE10
013070	A	SAE100	013071	A	SAE101	014762	A	SAE2	013030	A	SAE20
014742	A	SAE3	012747	A	SAE30	015014	A	SAE4	012772	A	SAE40
015011	A	SAE5	014717	A	SAE6	013016	A	SAE60	014774	A	SAE7
014700	A	SAE8	015021	A	SAED1	015022	A	SAED2	015023	A	SAED3
015024	A	SAED4	015025	A	SAED5	015026	A	SAED6	015027	A	SAED7
015030	A	SAED8	012466	A	SEQN	002575	A	SEVEN	014203	A	SG3GAC
004402	A	SG4ADR	013766	A	SG4ASC	010512	A	SG4CLK	011266	A	SG4CLO
005670	A	SG4CDT	006067	A	SG4DSB	005126	A	SG4END	013544	A	SG4ENT
013440	A	SG4EXT	005435	A	SG4FTG	003443	A	SG4ICR	003470	A	SG4IND
010700	A	SG4LCF	005136	A	SG4LHG	004476	A	SG4LMI	012113	A	SG4LMP
006763	A	SG4LOG	006545	A	SG4LUT	013772	A	SG4PKK	013617	A	SG4PRJ
010025	A	SG4PSC	010423	A	SG4SAC	010613	A	SG4IBC	004614	A	SG4TDF
012041	A	SG4TSL	015302	A	SG4UPK	010331	A	SG4USA	003000	A	SG4VNT
002703	A	SG5CBP	014436	A	SG9800	014472	A	SG9805	014477	A	SG9810
014507	A	SG9815	014534	A	SG9820	014537	A	SG9825	014556	A	SG9900
014563	A	SG9905	002662	A	SGBADB	002656	A	SGBARS	000656	A	SGBASE
014576	A	SGBBAD	002660	A	SGBIAP	002651	A	SGBLIT	002657	A	SGBSNR
002701	A	SGC3AD	002702	A	SGC3SN	002676	A	SGC3SN	002667	A	SGC3DL
002666	A	SGC1IL	002672	A	SGCKEY	002704	A	SGCLK1	002705	A	SGCLK2
002706	A	SGCLK3	014602	A	SGCLR	002671	A	SGCLUM	014106	A	SGC3V
002700	A	SGCPEB	002677	A	SGCPJM	004101	A	SGCPR	002673	A	SGC3GN
002675	A	SGCXEQ	002712	A	SGEDR1	002713	A	SGEDR2	002714	A	SGEDR3
002715	A	SGEDR4	002716	A	SGEDR5	002717	A	SGEDR6	002720	A	SGEIR7
002721	A	SGEDR8	002722	A	SGEDR9	002723	A	SGEDRA	003000	A	SGENE
003271	A	SGEODL	002670	A	SGE9SE	014616	A	SGGET	014420	A	SGFI
014540	A	SGGHC	014424	A	SGGNI	000664	A	SGI2UF	002406	A	SGLEUF
015267	A	SGLIS	015237	A	SGLISB	002724	A	SGLUN1	002725	A	SGLUN2
002726	A	SGLUN3	014601	A	SGMND	002732	A	SGMDB	014325	A	SGMOV
002707	A	SGMRY1	002710	A	SGMRY2	002711	A	SGMRY3	002737	A	SGMRY5
014600	A	SGNDCC	002026	A	SGDBUF	002663	A	SGDBSZ	014575	A	SGDPBA
002216	A	SGPBUF	014243	A	SGPUR	014331	A	SGPUT	002665	A	SGRPEB
002664	A	SGRPGM	015135	A	SGRSI	014744	A	SGSAE	000536	A	SGSC10
000541	A	SGSC11	000544	A	SGSC12	000500	A	SGSCB0	000543	A	SGSCB1
000506	A	SGSCB2	000511	A	SGSCB3	000514	A	SGSCB4	000517	A	SGSCB5
000522	A	SGSCB6	000525	A	SGSCB7	000530	A	SGSCB8	000533	A	SGSCB9
000654	A	SGSIZE	011760	A	SGSRT	014577	A	SGSVCH	002674	A	SGTOLT
002727	A	SGTMP1	002730	A	SGTMP2	002731	A	SGTMP3	002606	A	SGVBUF
007741	A	SGVT10	007745	A	SGVT11	007751	A	SGVT12	007755	A	SGVT13
007761	A	SGVT14	007765	A	SGVT15	007771	A	SGVT16	007775	A	SGVT17
010001	A	SGVT18	010005	A	SGVT19	010011	A	SGVT20	010015	A	SGVT21
010021	A	SGVT22	007102	A	SGVTA	007034	A	SGVTAM	007657	A	SGVTCB
007660	A	SGVTK1	007057	A	SGVTL1	007065	A	SGVTL2	007127	A	SGVTL3
007353	A	SGVTL4	007567	A	SGVTL5	007457	A	SGVTL6	007401	A	SGVTL7
007661	A	SGVTMT	007675	A	SGVTN1	007701	A	SGVTN2	007705	A	SGVTN3
007711	A	SGVTN4	007715	A	SGVTN5	007721	A	SGVTN6	007725	A	SGVTN7
007731	A	SGVTN8	007735	A	SGVTN9	007671	A	SGVTNL	007672	A	SGVTST
007673	A	SGVTT	007145	A	SGVTX3	007533	A	SGVTX6	007452	A	SGVTX7
002406	A	SGWBUF	015054	A	SGWSB	002574	A	SIX	003000	A	SKRF
103000	A	SKRR	013424	A	SNAM	015366	A	SPBP	015351	A	SPOT
011761	A	SR05	011764	A	SR10	011774	A	SR15	012013	A	SR20
012023	A	SR30	012036	A	SRCNT	012034	A	SREND	012037	A	SRINC
012035	A	SRITM	012033	A	SRSTR	012040	A	SRTYP	012524	A	STDW1
012526	A	STDW2	012710	A	STRO	012711	A	STR1	012712	A	STR2
000007	A	SYS	010673	A	TBC1	010074	A	TBC2	010677	A	TBC3
010631	A	TBC4	010620	A	TBC5	010635	A	TBC6	010633	A	TBC7
010616	A	TBC8	010666	A	TBC9	002592	A	TBUF1	002514	A	TBUF2
002521	A	TBUF3	002216	A	TBUF4	004621	A	TDF1	005054	A	TDF10
005031	A	TDF2	005110	A	TDF3	005112	A	TDF4	005117	A	TDF5
005121	A	TDF6	004734	A	TDF8A	004761	A	TDF8B	004764	A	TDF8C
002577	A	TEN	013330	A	TEXT	002572	A	THRE	000655	A	TPRUG


```

012067 A TSL1      012123 A TSL2      011730 A TSL3      011732 A TSL4
012055 A TSL5      012075 A TSL7      012115 A TSL8      012120 A TSL9
002530 A TWO       012561 A UPED     010415 A USA1      010416 A USA2
010417 A USA3      010336 A USA4      010351 A USA4A     010352 A USA5
010363 A USA6      010375 A USA7      010407 A USA8      000657 A V$BYN
000661 A V$CRDR    000660 A V$LIT     000001 A V75       013411 A VDATA
013226 A VM1       013233 A VM2       013420 A VMAS      013421 A VMS3
013220 A VMCT     013210 A VMROCT    013200 A VMRT      013110 A VMS1
013157 A VMS2     013123 A VMS3      013170 A VMS4      013135 A VMS5
013152 A VMS6     013142 A VMS7      013215 A VMWCT     013175 A VMWRT
003003 A VNI1      003016 A VNI2      003004 A VNI3      003052 A VNI4
003126 A VNICP    003067 A VNIL1     003076 A VNIL11    003100 A VNIL2
003142 A VNIN1    003217 A VNIN10    003224 A VNIN11    003231 A VNIN12
003236 A VNIN13    003243 A VNIN14    003147 A VNIN2     003154 A VNIN3
003161 A VNIN4    003166 A VNIN5     003173 A VNIN6     003200 A VNIN7
003205 A VNIN8    003212 A VNIN9     003116 A VNIT      003250 A VNIT1
003252 A VNIT2    003254 A VNIT3     003233 A VNIT4     003260 A VNIT5
003262 A VNIT6    003264 A VNIT7     003266 A VNIT8     003120 A VNITIP
003133 A VNITP    003134 A VNITSP    003140 A VNITST    003110 A VNIZ
000001 A VORTEX    001000 A WALF      041000 A WBIN      013334 A WRITE
015066 A WSD1      015117 A WSD2      015067 A WSD3      015120 A WSD4
015052 A WSD5      015111 A WSD6      015130 A WSD7      000001 A X
002526 A ZERO
0 ERRORS ASSEMBLY COMPLETE
    
```

```

71 $LUB          72
0 ADR2          432
93 BTSIZ        94
0 CBS           406      408
334 FOUR        410
241 IEND        404
0 IDCS          14
203 ISTART      401
95 ITEM         414
108 MT          295      435
                296      297      298      299      300      301      302      303
                304      305      306      307      308      309      310      311      312
                313      314      315      316      317      318      319      320      321
                322      323      324      325      326      327      328      329      330
                331      332      333      334      335      336      337      338      339
                340      341      342      343      344      345      346      347      348
                349      350
461 MXFLG       449
0 SG4ENT        427
0 SG4ICR        459
0 SG4PKK        422
230 SGCLUN      411
398 SGEN2       13
0 SGEQDL        438      443      450      451
0 SGGET         415      420      436
94 SGIBUF       105
99 SGLBUF       100
96 SGDBUF       97      106
98 SGPBUF       104
0 SGPUR         458
61 SGSC12       64
49 SGSCB6       413      424      426      429
51 SGSCB7       418
53 SGSCB8       434
101 TBUF1       419      423      428
0 V$SGEN        11
12 V75          284
402 VNI1        405
413 VNI2        416
418 VNI3        431
434 VNI4        421      437
468 VNICP       441
448 VNIL11      442
450 VNIL3       447
480 VNIN1       462
489 VNIN10      472
490 VNIN11      474
491 VNIN12      475
492 VNIN13      476
493 VNIN14      478
481 VNIN2       463
482 VNIN3       464
483 VNIN4       465
484 VNIN5       466
485 VNIN6       468
486 VNIN7       469
487 VNIN8       470
488 VNIN9       471
460 VNIT        425      430
494 VNIT1       439
496 VNIT2       444
498 VNIT3       451
500 VNIT4       455
462 VNITIP      446
474 VNITSP      453
478 VNITSP      457
1 VORTEX        254      275
19 X            402      422
    
```



```

000001 A 1 VORTEX SET 1 PUT LAST FOR VORTEX V2 02 00001
2 *THIS IS A COPYRIGHTED PROGRAM. COPYRIGHT 1972 BY VARIAN DATA MACHINE 02 00002
3 * 02 00003
4 * V.D.M. PART NO. 92L0805-006D 02 00004
5 * 02 00005
6 * 02 00006
7 * RELEASED 03/01/74 02 00007
8 * 02 00008
9 * 02 00009
10 * 02 00010
11 * 02 00011
12 NAME SGEN4 02 00012
13 TITLE V$SGEN4 02 00013
14 EXT INCS 02 00014
15 EXT EXIT 02 00015
16 * * * SGEN COMMON DATA AREA * * * 02 00016
17 * 02 00017
000001 A 18 A EQU 1 02 00018
000001 A 19 X EQU 1 02 00019
000002 A 20 B EQU 2 02 00020
000005 A 21 LIS EQU 5 LD EQUIVALENT 02 00021
000005 A 22 LD SET 5 V2 02 00022
000003 A 23 DC EQU 3 SD EQUIVALENT 02 00023
000002 A 24 DIR EQU 2 SI EQUIVALENT 02 00024
000007 A 25 RMD EQU 7 02 00025
000500 26 BRG 0500 02 00026
27 EJEC 02 00027
28 * 02 00028
29 * 02 00029
30 * 02 00030
000500 31 SGSCB0 BSS 2 EQUIP STACK (HIGHEST STACK IN MEMORY) 02 00031
000502 000006 A 32 DATA 6 V2 02 00032
000503 33 SGSCB1 BSS 2 ASSIGN STACK 02 00033
000505 000004 A 34 DATA 4 02 00034
000506 35 SGSCB2 BSS 2 ADD/DELETE/REPLACE STACK 02 00035
000510 000005 A 36 DATA 5 02 00036
000511 37 SGSCB3 BSS 2 PARTITION PARAMETER STACK 02 00037
000513 000004 A 38 DATA 4 02 00038
000514 39 SGSCB4 BSS 2 INTERRUPT MODULE STACK 02 00039
000516 000005 A 40 DATA 5 02 00040
000517 41 SGSCB5 BSS 2 RESIDENT TASK NAME STACK 02 00041
000521 000003 A 42 DATA 3 02 00042
000522 43 SGSCB6 BSS 2 LOADER TABLE STACK 02 00043
000524 000005 A 44 DATA 2 02 00044
000525 45 SGSCB7 BSS 2 DATA PATCH STACK 02 00045
000527 000005 A 46 DATA 5 02 00046
000530 47 SGSCB8 BSS 2 TASK ENTRY NAME STACK 02 00047
000532 000005 A 48 DATA 5 02 00048
000533 49 SGSCB9 BSS 2 TEMPORARY STACK 02 00049
50 IFF VORTEX-2 V2 02 00050
51 DATA 7 V2 02 00051
52 IFF VORTEX-1 V2 02 00052
000535 000005 A 53 DATA 5 02 00053
000536 54 SGSC10 BSS 2 OVERLAY DIRECTORY STACK 02 00054
000540 000007 A 55 DATA 7 02 00055
000541 56 SGSC11 BSS 2 RELO DATA FIX-UP STACK 02 00056
000543 000001 A 57 DATA 1 02 00057
000544 58 SGSC12 BSS 2 ADD-ON FIX-UP STACK 02 00058
000546 000001 A 59 DATA 1 02 00059
000547 177777 A 60 ESCB DATA -1 MUST GO AT END OF STACK CONTROL BLOCK 02 00060
000544 A 61 BSTACK EQU 0500 MUST POINT TO BASE OF LOWEST STACK 02 00061
62 EJEC 02 00062
63 * 02 00063
64 * 02 00064
65 * 02 00065
000550 66 $LUN BSS 1 02 00066
000551 67 $PUN BSS 1 02 00067
000551 A 68 $LUB EQU *-1 BASE OF LOGICAL UNIT TABLE V2 02 00068
000551 A 69 LUT EQU $LUB LOGICAL UNIT TABLE V2 02 00069
000552 70 BSS 2 02 00070
71 * 02 00071
000600 000576 A 72 $PUB EQU *-2 PHYSICAL UNIT TABLE BASE V2 02 00072
73 PUT BSS 4 PHYSICAL UNIT TABLE 02 00073
74 EJEC 02 00074
75 * 02 00075
76 * 02 00076
77 * 02 00077
000654 78 SG SIZE BSS 1 SIZE OF MAIN MEMORY 02 00078
000655 79 TPROG BSS 1 ADDR. OF HIGHEST LOADED LOCATION 02 00079
000656 80 SGBASE BSS 1 HIGHEST AVAILABLE STACK LOCATION 02 00080
000657 81 V$BVN BSS 1 BOTTOM OF VORTEX NUCLEUS 02 00081
000660 000777 A 82 V$LIT DATA 0777 TOP OF LITERAL POOL 02 00082
000661 83 V$CRDR BSS 1 ADDRESS OF CORE RESIDENT DIRECTORY 02 00083
000662 000341 A 84 ADDRDR DATA 0341 ABSOLUTE ADDRESS OF 'V$CRDR' 02 00084
000663 000334 A 85 ADDRDR DATA 0334 ABSOLUTE ADDRESS OF 'V$CRDR' 02 00085
000415 A 86 V$BFC SET 0415 ADDRESS OF V$BFC V2 02 00086
000331 A 87 V$BT SET 0331 ADDRESS OF V$BT V2 02 00087
000416 A 88 V$TFC SET 0416 ADDRESS OF V$TFC V2 02 00088
000332 A 89 V$GFC SET 0332 ADDRESS OF V$GFC V2 02 00089
000333 A 90 V$MIM SET 0333 ADDRESS OF V$MIM V2 02 00090
000316 A 91 V$NP SET 0316 ADDRESS OF V$NP V2 02 00091
000357 A 92 V$PGT SET 0357 ADDRESS OF V$PAGE V2 02 00092
93 EJEC 02 00093

```


Address	Label	Segment	Start	End	Value	Description	Page	Code
94	*							02 00094
95	*							02 00095
96	*							02 00096
000664	SGIBUF	BSS	120			INPUT BUFFER		02 00097
001054	SGOBUF	EQU	SGIBUF			OUTPUT BUFFER		02 00098
001130	SGVBUF	BSS	120			VIRTUAL MEMORY BUFFER	E2505	02 00099
001244	BTSIZ	EQU	600					02 00100
002374	SGPBUF	BSS	BTSIZ			PST BUFFER		02 00101
002470	SGLBUF	BSS	60			LIST BUFFER		02 00102
002502	ITEM	BSS	10			STACK ITEM BUFFER		02 00103
002514	TBUF1	BSS	10			DATA MANIPULATION BUFFER		02 00104
	TBUF2	BSS	10			DATA MANIPULATION BUFFER		02 00105
								02 00106
								02 00107
002526	002526	A	107			NT		02 00108
002527	000000	A	108		000000	DATA		02 00109
002530	000001	A	109		000001	DATA		02 00110
002531	000002	A	110		000002	DATA		02 00111
002532	000004	A	111		000004	DATA		02 00112
002533	000010	A	112		000010	DATA		02 00113
002534	000020	A	113		000020	DATA		02 00114
002535	002534	A	114		*	KD32	V2	02 00115
002536	000040	A	115		000040	DATA		02 00116
002537	000100	A	116		000100	DATA		02 00117
002540	000200	A	117		000200	DATA		02 00118
002541	000400	A	118		000400	DATA		02 00119
002542	002540	A	119		*	B39	V2	02 00120
002543	001000	A	120		001000	DATA		02 00121
002544	002000	A	121		002000	DATA		02 00122
002545	004000	A	122		004000	DATA		02 00123
002546	010000	A	123		010000	DATA		02 00124
002547	020000	A	124		020000	DATA		02 00125
002550	040000	A	125		040000	DATA		02 00126
002551	100000	A	126		0100000	DATA		02 00127
002552	177776	A	127		0177776	DATA		02 00128
002553	177775	A	128		0177775	DATA		02 00129
002554	177773	A	129		0177773	DATA		02 00130
002555	177767	A	130		0177767	DATA		02 00131
002556	177757	A	131		0177757	DATA		02 00132
002557	177737	A	132		0177737	DATA		02 00133
002558	177677	A	133		0177677	DATA		02 00134
002559	177577	A	134		0177577	DATA		02 00135
002560	177377	A	135		0177377	DATA		02 00136
002561	176777	A	136		0176777	DATA		02 00137
002562	175777	A	137		0175777	DATA		02 00138
002563	173777	A	138		0173777	DATA		02 00139
002564	167777	A	139		0167777	DATA		02 00140
002565	157777	A	140		0157777	DATA		02 00141
002566	137777	A	141		0137777	DATA		02 00142
002567	077777	A	142		0077777	DATA		02 00143
002570	177777	A	143		0177777	DATA		02 00144
002571	177400	A	144		0177400	DATA		02 00145
002572	000377	A	145		0000377	DATA		02 00146
002573	000003	A	146		000003	DATA		02 00147
002574	000005	A	147		000005	DATA		02 00148
002575	000006	A	148		000006	DATA		02 00149
002576	000007	A	149		000007	DATA		02 00150
002577	000011	A	150		000011	DATA		02 00151
002600	000012	A	151		000012	DATA		02 00152
002601	000017	A	152		000017	DATA		02 00153
002602	000037	A	153		000037	DATA		02 00154
002603	000077	A	154		000077	DATA		02 00155
002604	000177	A	155		000177	DATA		02 00156
002605	000777	A	156		000777	DATA		02 00157
	017777	A	157		017777	DATA		02 00158
			158			EJEC		02 00159
	*		159					02 00160
	*		160					02 00161
	*		161					02 00162
	*		162					02 00163
002606	130260	A	163		'00'	ER00		02 00164
002607	130261	A	164		'01'	ER01		02 00165
002610	130262	A	165		'02'	ER02		02 00166
002611	130263	A	166		'03'	ER03		02 00167
002612	130264	A	167		'04'	ER04		02 00168
002613	130265	A	168		'05'	ER05		02 00169
002614	130266	A	169		'06'	ER06		02 00170
002615	130267	A	170		'07'	ER07		02 00171
002616	130270	A	171		'08'	ER08		02 00172
002617	130271	A	172		'09'	ER09		02 00173
002620	130660	A	173		'10'	ER10		02 00174
002621	130661	A	174		'11'	ER11		02 00175
002622	130662	A	175		'12'	ER12		02 00176
002623	130663	A	176		'13'	ER13		02 00177
002624	130664	A	177		'14'	ER14		02 00178
002625	130665	A	178		'15'	ER15		02 00179
002626	131260	A	179		'20'	ER20		02 00180
002627	131261	A	180		'21'	ER21		02 00181
002630	131262	A	181		'22'	ER22		02 00182
002631	131263	A	182		'23'	ER23		02 00183
002632	131264	A	183		'24'	ER24		02 00184
002633	131265	A	184		'25'	ER25		02 00185
002634	131266	A	185		'26'	ER26		02 00186
002635	131660	A	186		'30'	ER30		02 00186

002636	131661	A	187	ER31	DATA	'31'			02	00187
002637	131662	A	188	ER32	DATA	'32'			02	00188
002640	131663	A	189	ER33	DATA	'33'			02	00189
002641	131664	A	190	ER34	DATA	'34'			02	00190
002642	132260	A	191	ER40	DATA	'40'			02	00191
002643	132261	A	192	ER41	DATA	'41'			02	00192
002644	132262	A	193	ER42	DATA	'42'			02	00193
002645	132263	A	194	ER43	DATA	'43'			02	00194
002646	132264	A	195	ER44	DATA	'44'			02	00195
002647	132265	A	196	ER45	DATA	'45'			02	00196
002650	132266	A	197	ER46	DATA	'46'			02	00197
002651	132267	A	198	ER47	DATA	'47'			02	00198
002652	132270	A	199	ER48	DATA	'48'			02	00199
			200		EJEC				02	00200
002653			201	ISTART	SSS	0		* * * START OF COMMON AREA INITIALIZED * *	02	00201
			202	*					02	00202
			203	*			* * * ERROR RECOVERY TABLE * * *		02	00203
			204	*					02	00204
002653	000000	A	205	DREC	DATA	0		RECOVERY FLAG	02	00205
002654	000000	A	206	INUNIT	DATA	0		CURRENT INPUT UNIT	02	00206
002655	000000	A	207	MFLAG	DATA	0		RECOVERY MODE FLAG	02	00207
			208	*					02	00208
			209	*	EJEC				02	00209
			210	*					02	00210
			211	*				LOAD MODULE GENERATOR INTERFACE TABLE	02	00211
			212	*					02	00212
			213	*				THIS TABLE CONTAINS INPUT PARAMETERS	02	00213
			214	*				ESSENTIAL TO LOAD MODULE GENERATOR OPERATION	02	00214
			215	*					02	00215
			216	*					02	00216
002656	000000	A	217	SGXARS	DATA	0		BASE ADDRESS OF ROOT SEGMENT	02	00217
002657	000000	A	218	SGBSNR	DATA	0		BASE SECTOR NUMBER OF ROOT SEGMENT	02	00218
002660	000000	A	219	SGBIAP	DATA	0		BASE ADDRESS OF SGBIAD	02	00219
002661	000000	A	220	SGBLIT	DATA	0		BASE ADDRESS OF SGBLIT	02	00220
002662	000000	A	221	SGBAOD	DATA	0		BASE ADDRESS OF OVERLAY DIRECTORY	02	00221
002663	000000	A	222	SGODSZ	DATA	0		OVERLAY DIRECTORY SIZE	02	00222
002664	000000	A	223	SGRPGM	DATA	0		SGRPGM FOR ROOT SEGMENT	02	00223
002665	000000	A	224	SGRPED	DATA	0		SGRPED FOR ROOT SEGMENT	02	00224
002666	000000	A	225	SGCIL	DATA	0		SGCIL - CURRENT INDIRECT LITERAL PNTR	02	00225
002667	000000	A	226	SGCIDL	DATA	0		SGCIDL - CURRENT DIRECT LITERAL PNTR	02	00226
002670	000000	A	227	SGERSE	DATA	0		PNTR INTO LOADER TABLE STACK FOR ROOT SEG	02	00227
002671	000000	A	228	SGCLUN	DATA	0		LOGICAL UNIT NUMBER FOR CURRENT SEGMENT	02	00228
002672	000000	A	229	SGCKEY	DATA	0		PROTECT KEY FOR CURRENT SEGMENT BUILD	02	00229
002673	000000	A	230	SGCSGN	DATA	0		SEGMENT NUMBER OF CURRENT SEGMENT	02	00230
002674	000000	A	231	SGTALT	DATA	0		TASK AND LOAD TYPE OF CURRENT SEGMENT	02	00231
002675	000000	A	232	SGCXEQ	DATA	0		SGCXEQ - EXECUTION ADDR OF CURRENT SEGMENT	02	00232
002676	000000	A	233	SGCHSN	DATA	0		SGCHSN - HIGHEST SECTOR NUM CURRENT SEG	02	00233
002677	000000	A	234	SGCPGM	DATA	0		SGCPGM FOR CURRENT SEGMENT	02	00234
002700	000000	A	235	SGCPED	DATA	0		SGCPED FOR CURRENT SEGMENT	02	00235
002701	000000	A	236	SGCBAD	DATA	0		BASE ADDRESS OF CURRENT SEGMENT	02	00236
002702	000000	A	237	SGCBSN	DATA	0		BASE SECTOR NUMBER OF CURRENT SEGMENT	02	00237
002703	000000	A	238	SGSDRP	DATA	0		OUTPUT BUFFER POINTER	02	00238
			239	*	EJEC				02	00239
			240	*				* * * MISC. DATA STORE * * *	02	00240
			241	*					02	00241
002704	000000	A	242	SGCLK1	DATA	0		* REAL-TIME CLOCK PARAMETERS	02	00242
002705	000000	A	243	SGCLK2	DATA	0			02	00243
002706	000000	A	244	SGCLK3	DATA	0			02	00244
			245	*					02	00245
002707			246	SGMRY1	SSS	1		* MAIN MEMORY PARAMETERS	V2	00246
002710			247	SGMRY2	SSS	1			V2	00247
002711			248	SGMRY3	SSS	1			V2	00248
			249	IF	IF		VORTEX-2		V2	00249
			250	SGMRY4	SSS				V2	00250
			251	*					02	00251
002712	000000	A	252	SGEDR1	DATA	0			02	00252
002713	000000	A	253	SGEDR2	DATA	0			02	00253
002714	000000	A	254	SGEDR3	DATA	0			02	00254
002715	000000	A	255	SGEDR4	DATA	0		* END DIRECTIVE PARAMETERS	02	00255
002716	000000	A	256	SGEDR5	DATA	0			02	00256
002717	000000	A	257	SGEDR6	DATA	0			02	00257
002720	000000	A	258	SGEDR7	DATA	0			02	00258
002721	000000	A	259	SGEDR8	DATA	0			02	00259
002722	000000	A	260	SGEDR9	DATA	0			02	00260
002723	000000	A	261	SGEDRA	DATA	0			02	00261
			262	*					02	00262
002724	000000	A	263	SGLUN1	DATA	0		* TOTAL NUMBER OF LOGICAL UNITS	02	00263
002725	000000	A	264	SGLUN2	DATA	0			02	00264
002726	000000	A	265	SGLUNC	DATA	0			02	00265
			266	*					02	00266
002727	000000	A	267	SGTMP1	DATA	0			02	00267
002730	000000	A	268	SGTMP2	DATA	0		* GENERAL PURPOSE TEMPORARY STORAGE	02	00268
002731	000000	A	269	SGTMP3	DATA	0			02	00269
			270	IF	IF		VORTEX-1		V2	00270
			271	GITO	GITO	1			V2	00271
			272	*					V2	00272
002732			273	V\$BFC	DATA	0		BASE ADDRESS OF FOREGROUND COMMON	V2	00273
			274	V\$BTS	DATA	0		BASE ADDRESS OF USER BLOCK	V2	00274
			275	V\$GFCB	DATA	0		BASE ADDRESS OF GLOBAL PCB'S	V2	00275
			276	V\$IRT	DATA	0		TOP ADDRESS OF RESIDENT TASKS	V2	00276
			277	1	1				V2	00277
			278	SGMOD	SSS	5		RND MODEL INDIC., 0=MODEL A,B	V2	00278
			279	*				WORD 0 = ADDRESS OF *+1	02	00279

002737

```

280 *          WORDS 1-4 INDIC. FOR EACH RMD SPECIFIED ON SYS DIR.
281 IEND      BSS          0          * * END OF COMMON AREA INITIALIZED * *
282          EJECT
283 *****
284 *
285 ****      MASK TABLE DESCRIPTION          ****
286 *
287 *****
002526 A 289 ZERO      EQU      MT          ZERO WORD
002527 A 290 BS0      EQU      MT+1        BIT MASK CONTENTS 000001
002530 A 291 BS1      EQU      MT+2        000002
002531 A 292 BS2      EQU      MT+3        000004
002532 A 293 BS3      EQU      MT+4        000010
002533 A 294 BS4      EQU      MT+5        000020
002533 A 295 K16     EQU      MT+5
002534 A 296 BS5      EQU      MT+6        000040
002535 A 297 BS6      EQU      MT+7        000100
002536 A 298 BS7      EQU      MT+8        000200
002537 A 299 BS8      EQU      MT+9        000400
002540 A 300 BS9      EQU      MT+10       001000
002541 A 301 BS10     EQU      MT+11       002000
002542 A 302 BS11     EQU      MT+12       004000
002543 A 303 BS12     EQU      MT+13       010000
002544 A 304 BS13     EQU      MT+14       020000
002545 A 305 BS14     EQU      MT+15       040000
002546 A 306 BS15     EQU      MT+16       0100000
002547 A 307 BR0      EQU      MT+17       BIT MASK CONTENTS 0177776
002550 A 308 BR1      EQU      MT+18       0177775
002551 A 309 BR2      EQU      MT+19       0177773
002552 A 310 BR3      EQU      MT+20       0177767
002553 A 311 BR4      EQU      MT+21       0177757
002554 A 312 BR5      EQU      MT+22       0177737
002555 A 313 BR6      EQU      MT+23       0177677
002556 A 314 BR7      EQU      MT+24       0177577
002557 A 315 BR8      EQU      MT+25       0177377
002560 A 316 BR9      EQU      MT+26       0176777
002561 A 317 BR10     EQU      MT+27       0175777
002562 A 318 BR11     EQU      MT+28       0173777
002563 A 319 BR12     EQU      MT+29       0167777
002564 A 320 BR13     EQU      MT+30       0157777
002565 A 321 BR14     EQU      MT+31       0137777
002566 A 322 BR15     EQU      MT+32       0077777
002567 A 323 NEG      EQU      MT+33       SET ALL BITS
002570 A 324 LHW      EQU      MT+34       LEFT HALF WORD MASK 0177400
002571 A 325 RHW      EQU      MT+35       RIGHT HALF WORD MASK 0377
002572 A 326 ONE      EQU      MT+1        CONTAINS NUMBER 1
002530 A 327 TWO      EQU      MT+2        CONTAINS NUMBER 2
002572 A 328 THREE     EQU      MT+36       CONTAINS NUMBER 3
002531 A 329 FOUR      EQU      MT+3        CONTAINS NUMBER 4
002573 A 330 FIVE      EQU      MT+37       CONTAINS NUMBER 5
002574 A 331 SIX       EQU      MT+38       CONTAINS NUMBER 6
002575 A 332 SEVEN     EQU      MT+39       CONTAINS NUMBER 7
002532 A 333 EIGHT     EQU      MT+4        CONTAINS NUMBER 8
002576 A 334 NINE      EQU      MT+40       CONTAINS NUMBER 9
002577 A 335 TEN       EQU      MT+41       CONTAINS NUMBER 10
002527 A 336 BM1      EQU      MT+1        BIT MASK WORD 00001
002572 A 337 BM3      EQU      MT+36       BIT MASK WORD 00003
002575 A 338 BM7      EQU      MT+39       BIT MASK WORD 00007
002600 A 339 BM17     EQU      MT+42       BIT MASK WORD 00017
002601 A 340 BM37     EQU      MT+43       BIT MASK WORD 00037
002602 A 341 BM77     EQU      MT+44       BIT MASK WORD 00077
002603 A 342 BM177    EQU      MT+45       BIT MASK WORD 00177
002571 A 343 BM377    EQU      MT+35       BIT MASK WORD 00377
002604 A 344 BM777    EQU      MT+46       BIT MASK WORD 00777
002605 A 345 BM1777   EQU      MT+47       BIT MASK WORD 01777
346          EJECT
347 *****
348 *
349 ****      BIT TEST BIT DESIGNATION          ****
350 *
351 *****
000040 A 353 RA0      EQU      040          BT JUMPS WHEN A REGISTER IS 0
000000 A 354 RA1      EQU      000          BT JUMPS WHEN A REGISTER IS 1
000060 A 355 RP0      EQU      000          BT JUMPS WHEN B REGISTER IS 0
000020 A 356 RB1      EQU      020          BT JUMPS WHEN B REGISTER IS 1
358 *****
359 *
360 **      THE BIT CHECKED
361 *
362 *****
000000 A 364 B0      EQU      0
000001 A 365 B1      EQU      1
000002 A 366 B2      EQU      2
000003 A 367 B3      EQU      3
000004 A 368 B4      EQU      4
000005 A 369 B5      EQU      5
000006 A 370 B6      EQU      6
000007 A 371 B7      EQU      7
000010 A 372 B8      EQU      8
000011 A 373 B9      EQU      9
000012 A 374 B10     EQU     10
000013 A 375 B11     EQU     11
000014 A 376 B12     EQU     12

```



```

000015 A 377 B13 EQU 13 02 00377
000016 A 378 B14 EQU 14 02 00378
000017 A 379 B15 EQU 15 02 00379
003000 380 EJEC 02 00380
381 DRG 03000 -35 02 00381
382 ***** 02 00382
383 * 02 00383
384 * SG5RTC 02 00384
385 * 02 00385
386 * PURPOSE: SG5RTC LOADS THE VORTEX NUCLEUS WITH THE RESIDENT FORE- 02 00386
387 * GROUND TASKS AND GENERATES THE 'CORE RESIDENT DIRECTORY'. 02 00387
388 * 02 00388
389 * CALLING SEQUENCE: CALL SG5RTC 02 00389
390 * 02 00390
391 ***** 02 00391
003000 A 392 SGEN4 EQU * 02 00392
003000 A 393 SG5RTC EQU * 02 00393
394 ***** 02 00394
395 * REWIND ROTATING MEMORY * 02 00395
396 ***** 02 00396
003000 002000 A 397 CALL IQCS 02 00397
003001 000000 E 398 02 00398
003002 002007 A 399 ***** 02 00399
400 * INPUT PST * 02 00400
401 ***** 02 00401
003003 002000 A 402 CALL IQCS 02 00402
003004 003001 E 403 02 00403
003005 040407 A 404 DATA 040400+RMD 02 00404
003006 001130 A 405 DATA BTSIZ WORD COUNT -35 02 00405
003007 001244 A 406 DATA SGPBUF BUFFER ADDRESS 02 00406
003010 015003 A 407 LI 3,X X=0ST ADDR, WORD 3 = DEVICE NAME E.2*****
003011 152571 A 408 ANA RHW ISOLATE DEVICE TYPE E.2*****
003012 006140 A 409 SUBI 0302 E.2*****
003013 000302 A 410 02 00409
003014 001002 A 409 JAP RTC0 IF MODEL B,C, OR D E.2*****
003015 003017 A 410 02 00410
003016 005001 A 411 TZA 02 00411
003017 052733 A 412 RTC0 STA SGMDD+1 SET DEVICE TYPE (0=A/B, 1=C, 2=D) E.2*****
413 ***** 02 00412
414 * CHECK STATUS * 02 00413
415 ***** 02 00414
003020 003020 A 415 RTC005 EQU * 02 00415
003021 003004 E 416 CALL IQCS 02 00416
003022 000007 A 417 DATA RMD 02 00417
003023 003506 A 418 DATA RTC000 ERR 02 00418
003024 003506 A 419 DATA RTC000 EDF 02 00419
003025 003506 A 420 DATA RTC000 BEGD 02 00420
003026 003020 A 421 DATA RTC005 BUDV 02 00421
003027 011244 A 422 LDA SGPBUF SAVE NO. OF WORDS IN BAD TRK TABL -35 02 00422
003030 004350 A 423 LSRA 8 -35 02 00423
003031 057000 I 424 STA #ADTK -35 02 00424
003032 001010 A 425 JAZ RTC001 JMP, IF NO BAD TRKS E2505 02 00425
003033 003044 A 426 02 00426
003034 015003 A 426 LDA 3,X LOOK AT MODEL LETTER IN E2505 02 00427
003035 152571 A 427 ANA THW CONTROLLEX TABLE E2505 02 00428
003036 140000 I 428 SUB #304 E2505 02 00429
003037 001016 A 429 JANZ RTC001 JUMP IF NOT MODEL 'D' E2505 02 00430
003040 003044 A 430 02 00431
003041 006010 A 430 LDAI 508 MODEL 'D' HAS 508 WORDS IN BTT E2505 02 00432
003042 000774 A 431 02 00433
003043 057000 I 431 STA #ADTK E2505 02 00434
003044 003044 A 432 RTC001 EQU * E2505 02 00435
003045 011244 A 433 LDA SGPBUF 02 00436
003046 152571 A 434 ANA RHW SET NO. OF WORDS / SECTOR ONLY 02 00437
003046 051244 A 435 STA SGPBUF 02 00438
436 * BUILD PST ENTRY FOR VORTEX NUCLEUS * 02 00439
003047 012527 A 437 LDA ONE START TRACK NUMBER 02 00440
003050 053513 A 438 STA RTCVNE 02 00441
003051 011246 A 439 LDA SGPBUF+2 END+1 TRACK NUMBER 02 00442
003052 053516 A 440 STA RTCVNE+3 02 00443
003053 010000 L 441 LDA #RTCVNE 02 00444
003054 053520 A 442 STA SGPSTE SET VORTEX NUCLEUS PST ENTRY ADDRESS 02 00445
443 * BUILD VIRTUAL MEMORY FOR VORTEX NUCLEUS * 02 00446
003055 012530 A 444 LDA TMD -35 02 00447
003056 022733 A 445 LDB SGMDD+1 CHECK SYS RMD MODEL TYPE. -35 02 00448
003057 001020 A 446 JNZ RTC008 JUMP IF A,B, OR NOT C,D E2505 02 00449
003060 003066 A 447 02 00450
003061 012531 A 447 LDA TMD TYPE C -35 02 00451
003062 005322 A 448 JBR 'C'? E2505 02 00452
003063 001020 A 449 JNZ RTC008 YES E2505 02 00453
003064 003066 A 450 02 00454
003065 012574 A 450 LDA SIX NO. 'D' E2505 02 00455
003066 052657 A 451 RTC008 STA SGRSNE SET BASE SECTOR FOR VORTEX NUCLEUS E2505 02 00456
003067 005001 A 452 TZA 02 00457
003070 052656 A 453 STA SGBARS SET BASE ADDRESS FOR VORTEX NUCLEUS 02 00458
003071 005301 A 454 BEOR 0 02 00459
003072 057000 I 455 STA ORS INDICATE VIRTUAL MEMORY NOT YET USED 02 00460
003073 005001 A 456 TZA 02 00461
003074 057000 I 457 STA ORS+1 02 00462
458 * SET ADDRESS OF BOTTOM OF LAST TASK * 02 00463
003075 006010 A 459 LDAI 0414 ABSOLUTE ADDRESS OF 'V$BVN' 02 00464

```



```

003076 000414 A
003077 057000 I 460 STA MA
003100 006505 A 461 JSR VMRRRT,X GET VALUE OF 'V$BVN'
003101 004360 A
003102 017000 I 462 LDA VDATA
463 IFT VORTEX-2
464 GOTO 1
465 STA V$BVN SAVE BASE OF NUCLEUS ADDRESS
466 LDA PS10 SET PHYSICAL BASE ADDRESS TO 02000
467 1
003103 050661 A 468 STA V$CRDR
469 *****
470 * GET RESIDENT TASK NAME *
471 *****
003104 003104 A 472 RTC010 EQU *
003104 030000 L 473 LDX =SGSCB5
003105 020000 L 474 LDB =ITEM
003106 002000 A 475 CALL SGGET
003107 004507 A
003110 001001 A 476 JAN RTC200 JUMP IF NO MORE NAMES
003111 003320 A
003112 003112 A 477 RTC015 EQU *
478 *****
479 * SEARCH DIRECTORY FOR NAME *
480 *****
003112 006505 A 481 JSR SG$SDR,X
003113 003546 A
003114 002470 A 482 DATA ITEM
003115 000002 A 483 DATA 2 'FL' LIBRARY
003116 001001 A 484 JDB RTC020 JUMP IF NAME FOUND
003117 003136 A
485 *****
486 * OUTPUT 'NOT FOUND' MESSAGE *
487 *****
003120 002000 A 488 CALL SGMOV MOVE NAME TO OUTPUT BUFFER
003121 004731 A
003122 000004 A 489 DATA 4 COUNT
003123 002470 A 490 DATA ITEM FROM
003124 003522 A 491 DATA SGHFND TO
003125 003125 A 492 RTC017 EQU *
003125 006505 A 493 JSR SG$WAR,X
003126 003700 A
003127 000005 A 494 DATA LIS LUN
003130 003522 A 495 DATA SGHFND BUFFER ADDRESS
003131 000011 A 496 DATA 9 COUNT
003132 001004 A 497 JAN RTC017 JUMP IF WRITE ERROR
003133 003125 A
003134 001000 A 498 JMP RTC010
003135 003104 A
003136 003136 A 499 RTC020 EQU *
500 *****
501 * COPY LOAD MODULE TO NUCLEUS *
502 *****
003136 016004 A 503 * INPUT PSEUDO TIBB *
003137 053145 A 504 LDA 4,B GET START FILE ADDRESS
003140 005111 A 505 STA RTC030
003141 053517 A 506 IAR
003142 010000 L 507 STA PYOCIA SAVE CURRENT INPUT FILE ADDRESS
003143 006505 A 508 LDA =SGRBUF+5
003144 003740 A 509 JSR SG$SRM,X
003145
510 RTC000 BSS 1 RELATIVE SECTOR NUMBER
511 IFF VORTEX-2
512 DATA 9
513 IFF VORTEX-1
003146 000007 A 514 DATA 7 WORD COUNT
003147 002502 A 515 DATA TBUF1 BUFFER ADDRESS
003150 001000 A 516 JAN SGGEN4 JUMP IF READ ERROR
003151 003000 A
003152 010661 A 517 * COMPUTE TASK START ADDRESS *
518 LDA V$CRDR
519 IFT VORTEX-1
520 GOTO 1
003153 142510 A 521 SUB TBUF1+6
003154 050661 A 522 STA V$CRDR
523 1
003155 057000 I 524 STA MA SET FOR VIRTUAL MEMORY STORE
525 * COMPUTE TASK ENTRY ADDRESS *
526 IFF VORTEX-2
527 LDA TBUF1+1
528 IFF VORTEX-1
003156 122503 A 529 ADD TBUF1+1
003157 052473 A 530 STA TBUF1+3
531 IFT VORTEX-2
532 GOTO 1
533 LDA V$CRDR GET TASK 1ST ADDRESS
534 LSRA 9 CONVERT TO PAGE
535 STA ITEM+4
536 LDA TBUF1+2
537 STA ITEM+5
538 LDB TBUF1+7
539 STA ITEM+6
540 LDA V$CRDR GET TASK ADDRESS

```


			541	LLSR	9	CONVERT TO PAGE	V2	02	00535
			542	ADD	TBUF1+2	BUMP PAGE NUMBER	V2	02	00536
			543	LRLA	9		V2	02	00537
			544	STA	V\$CRDR	UPDATE BASE	V2	02	00538
			545	BAR			V2	02	00539
			546	SUB	V\$BVN		V2	02	00540
			547	JAP	RTC231	ERROR ON MEMORY OVERFLOW	V2	02	00541
			548	CONT			V2	02	00542
			549	* SAVE	ENTRY ADDR & NAME OF TASK *				
003160	030000	L	550	LDX	=SGSCB9				
003161	020000	L	551	LDB	=ITEM				
003162	002000	A	552	CALL	SGPUT				
003163	004571	A							
	003164	A	553	RTC040	EQU *				
			554	* READ	A SECTOR OF DATA *				
003164	013517	A	555	LDA	RTCCIA	GET CURRENT INPUT FILE ADDRESS			
003165	053171	A	556	STA	RTC050				
003166	010000	L	557	LDA	=SGPBUF+5				
003167	006505	A	558	JSR	SGSRM,X				
003170	003740	A							
003171			559	RTC050	BSS	1			
003172	000170	A	560	DATA	120	RELATIVE SECTOR NUMBER			
003173	000664	A	561	DATA	SGIBUF	WORD COUNT			
003174	001004	A	562	JAN	SGEN4	BUFFER ADDRESS			
003175	003000	A				JUMP IF READ ERROR			
003176	043517	A	563	INR	RTCCIA	INCREMENT CURRENT INPUT FILE ADDRESS			
			564	* OUTPUT DATA TO VORTEX NUCLEUS *					
003177	005002	A	565	TZB					
	003200	A	566	RTC060	EQU *				
003200	006016	A	567	LDAE	SGIBUF,B				
003201	000664	A							
003202	057000	I	568	STA	VDATA				
003203	006505	A	569	JSR	VWRT,X	OUTPUT WORD			
003204	004365	A							
003205	047000	I	570	INR	MA	INCREMENT MEMORY ADDRESS			
003206	005122	A	571	IBR		INCREMENT DATA POINTER			
003207	005021	A	572	TBA					
003210	142505	A	573	SUB	TBUF1+3	SUBTRACT ROOT SEGMENT SIZE			
			574	IFF	VORTEX-2		V2	02	00568
			575	JAZ	RTC010		V	02	00569
			576	IFF	VORTEX-1		V2	02	00570
			577	JAZ	RTC070	JUMP IF ALL WORDS STORED			
003211	001010	A							
003212	003224	A							
003213	005021	A	578	TBA					
003214	140000	L	579	SUB	=120				
003215	001016	A	580	JANZ	RTC060	JUMP IF NOT AT END OF BUFFER			
003216	003200	A							
003217	012505	A	581	LDA	TBUF1+3				
003220	140000	L	582	SUB	=120	DECREMENT ROOT SEGMENT SIZE			
003221	052505	A	583	STA	TBUF1+3				
003222	001000	A	584	JMP	RTC040	READ NEXT SECTOR			
003223	003164	A							
			585	IFF	VORTEX-2		V2	02	00579
			586	GOTO	1		V2	02	00580
	003224	A	587	RTC070	EQU *				
			588	* INPUT RELO FIX-UP DATA *					
003224	013517	A	589	LDA	RTCCIA	GET CURRENT INPUT FILE ADDRESS			
003225	053231	A	590	STA	RTC080				
003226	010000	L	591	LDA	=SGPBUF+5				
003227	006505	A	592	JSR	SGSRM,X				
003230	003740	A							
003231			593	RTC080	BSS	1			
003232	000170	A	594	DATA	120	RELATIVE SECTOR NUMBER			
003233	000664	A	595	DATA	SGIBUF	WORD COUNT			
003234	001004	A	596	JAN	SGEN4	BUFFER ADDRESS			
003235	003000	A				JUMP IF READ ERROR			
003236	043517	A	597	INR	RTCCIA				
			598	* FIX-UP RELO BITS *					
003237	005004	A	599	TXB					
	003240	A	600	RTC090	EQU *				
003240	006015	A	601	LDAE	SGIBUF,X	GET WORD FROM RELO FIX-UP DATA			
003241	000664	A							
003242	001002	A	602	JAP	RTC110	JUMP IF RELO BITS			
003243	003263	A							
003244	005211	A	603	CPA		CONVERT TO RELATIVE ADDRESS			
003245	005012	A	604	TAB					
003246	005111	A	605	TAB					
003247	001004	A	606	JAN	RTC010	JUMP IF DONE WITH RELO FIX-UP			
003250	003104	A							
003251	005021	A	607	TBA					
003252	120661	A	608	LDI	V\$CRDR	COMPUTE ACTUAL ADDRESS			
003253	057000	I	609	STA	MA				
	003254	A	610	RTC100	EQU *				
003254	005144	A	611	IXR					
003255	005041	A	612	TXA					
003256	140000	L	613	SUB	=120				
003257	001010	A	614	JAP	RTC070	JUMP IF END OF THIS 120 WORD BUFFER			
003260	003224	A							
003261	001000	A	615	JMP	RTC090				
003262	003240	A							
	003263	A	616	RTC110	EQU *				
003263	073315	A	617	STX	RTC170	SAVE BUFFER POINTER			
003264	030000	L	618	LDX	=15				


```

003265 073305 A 619 STX RTC140 SET BIT COUNTER 02 00613
003266 003266 A 620 RTC120 EQU * 02 00614
003267 053311 A 621 LRLA 1 MOVE RELO BIT TO BIT POSITION 15 02 00615
003270 001002 A 622 STA RTC150 SAVE RELO BITS 02 00616
003271 003301 A 623 JAP RTC130 JUMP IF NOT TO BE RELOCATED 02 00617
003272 006505 A 624 JSR VMRRT,X GET WORD TO BE RELOCATED 02 00618
003273 004360 A 625 LDA VDATA 02 00619
003274 017000 I 626 ADD V$CRDR RELOCATE IT 02 00620
003275 120661 A 627 STA VDATA 02 00621
003277 006505 A 628 JSR VMWRT,X PUT RELOCATED WORD BACK 02 00622
003300 004365 A 629 RTC130 EQU * 02 00623
003301 047000 I 630 INR MA INCREMENT POINTER TO NEXT WORD 02 00624
003302 013305 A 631 LDA RTC140 02 00625
003303 005311 A 632 DAR 02 00626
003304 006050 A 633 STAI 0 DECREMENT BIT COUNTER 02 00627
003305 000000 A 634 RTC140 EQU *-1 02 00628
003306 001010 A 635 JAZ RTC160 JUMP IF ALL 15 BITS PROCESSED 02 00629
003307 003314 A 636 LDAI 0 GET RELO BITS 02 00630
003310 006010 A 637 RTC150 EQU *-1 02 00631
003311 000000 A 638 JMP RTC120 02 00632
003312 001000 A 639 RTC160 EQU * 02 00633
003313 003266 A 640 LDXI 0 GET BUFFER POINTER 02 00634
003314 006030 A 641 RTC170 EQU *-1 02 00635
003315 000000 A 642 JMP RTC100 02 00636
003316 001000 A 643 1 CONT V2 02 00637
003317 003254 A 644 RTC200 EQU * 02 00638
003320 005001 A 645 * BUILD CORE RESIDENT DIRECTORY * 02 00639
003321 057000 I 646 TZA 02 00640
003322 010661 A 647 STA VDATA *0* DENOTES END OF DIRECTORY 02 00641
003323 005311 A 648 LDA V$CRDR 02 00642
003324 050661 A 649 IFT VORTEX-2 V2 02 00643
003325 057000 I 650 GOTO 1 V2 02 00644
003326 006505 A 651 STA V$TRT MARK TOP OF RESIDENT TASKS V2 02 00645
003327 004365 A 652 LDA V$BYN GET BOTTOM OF NUCLEUS V2 02 00646
003328 003330 A 653 1 CONT V2 02 00647
003329 005311 A 654 DAR 02 00648
003330 050661 A 655 STA V$CRDR 02 00649
003331 057000 I 656 STA MA 02 00650
003332 006505 A 657 JSR VMWRT,X OUTPUT END OF CORE RESIDENT DIRECTORY 02 00651
003333 004365 A 658 RTC210 EQU * 02 00652
003334 001004 A 659 * GET CORE RESIDENT DIRECTORY ENTRY * 02 00653
003335 003335 A 660 LDX =SGSCB9 02 00654
003336 022531 A 661 LDB =ITEM 02 00655
003337 005322 A 662 CALL SGGET 02 00656
003338 010661 A 663 JAN RTC230 JUMP IF NO MORE ENTRIES 02 00657
003339 005311 A 664 * PUT ENTRY IN VIRTUAL CORE * 02 00658
003340 010661 A 665 IFF VORTEX-2 V2 02 00659
003341 005311 A 666 LDB SEVEN V2 02 00660
003342 050661 A 667 IFF VORTEX-1 V2 02 00661
003343 057000 I 668 LDB FOUR 02 00662
003344 006016 A 669 RTC220 EQU * 02 00663
003345 002470 A 670 DAR DECREMENT DATA POINTER 02 00664
003346 057000 I 671 LDA V$CRDR 02 00665
003347 006505 A 672 DAR DECREMENT MEMORY POINTER 02 00666
003348 004365 A 673 STA V$CRDR 02 00667
003349 001020 A 674 STA MA SET MEMORY ADDRESS 02 00668
003350 003330 A 675 LDRE ITEM,B GET DATA TO BE STORED 02 00669
003351 001020 A 676 STA VDATA 02 00670
003352 003330 A 677 JSR VMWRT,X STORE DATA IN VIRTUAL MEMORY 02 00671
003353 001000 A 678 JNZ RTC210 JUMP IF ALL OF ENTRY STORED 02 00672
003354 003337 A 679 JMP RTC220 JMP TO STORE NEXT WORD 02 00673
003355 003355 A 680 RTC230 EQU * 02 00674
003356 010662 A 681 IFT VORTEX-2 V2 02 00675
003357 057000 I 682 GOTO 1 V2 02 00676
003358 010661 A 683 LDA V$CRDR V2 02 00677
003359 057000 I 684 SUB V$TRT V2 02 00678
003360 010661 A 685 JAP RTC007 MEMORY OVERFLOW ? V2 02 00679
003361 057000 I 686 RTC231 LDAI '32' YES V2 02 00680
003362 010661 A 687 CALL SGSEAR POST '32' ERROR V2 02 00681
003363 057000 I 688 JMP RTC301 RELOAD V2 02 00682
003364 010661 A 689 1 CONT V2 02 00683
003365 057000 I 690 RTC007 EQU * 02 00684
003366 010661 A 691 * SET 'V$CRDR' IN VIRTUAL MEMORY * 02 00685
003367 057000 I 692 LDA ADCRDR GET ADDRESS OF WHERE TO STORE 'V$CRDR' 02 00686
003368 010661 A 693 STA MA 02 00687
003369 057000 I 694 LDA V$CRDR GET 'V$CRDR' 02 00688
003370 057000 I 695 STA VDATA 02 00689

```



```

003361 006505 A 696 JSR VMWRT,X STORE 'V$CRDR' 02 00690
003362 004365 A
697 *****
698 * BUILD CORE ALLOCATION MASK TABLE *
699 *****
700 IFF VORTEX-2 V2 02 00694
701 GOTO 1 V2 02 00695
003363 010663 A 702 LDA ADSCAM 02 00696
003364 122531 A 703 ADD FOUR 02 00697
003365 057000 I 704 STA MA SET TABLE ADDRESS 02 00698
003366 012566 A 705 LDA BR15 02 00699
003367 053521 A 706 STA RTCCMA SET CURRENT MEMORY ADDRESS = 32K 02 00700
003370 022546 A 707 RTC232 EQU * 02 00701
003371 005004 A 708 LDB BS15 (B) = 0100000 02 00702
003372 003372 A 709 TZX (X) = 0 02 00703
003373 013521 A 710 RTC234 EQU * 02 00704
003374 140661 A 711 LDA RTCCMA 02 00705
003375 001004 A 712 SUB V$CRDR 02 00706
003376 003377 A 713 JAN RTC236 JUMP IF 512-WORD BLOCK BELOW 'V$CRDR' 02 00707
003377 005064 A 714 MERG 064 SET NONALLOCATABLE BIT 02 00708
003378 003377 A 715 RTC236 EQU * 02 00709
003379 013521 A 716 LDA RTCCMA 02 00710
003400 142540 A 717 SUB BS9 02 00711
003401 053521 A 718 STA RTCCMA DECREMENT CURRENT MEMORY ADDR BY 512 WORDS 02 00712
003402 005001 A 719 TZA 02 00713
003403 004477 A 720 LLRL 31 SHIFT ALLOCATION BIT OVER 02 00714
003404 001010 A 721 JAZ RTC234 JUMP IF NOT END OF SK 02 00715
003405 003372 A
003406 077000 I 722 STX VDATA SET WORD TO BE STORED 02 00716
003407 017000 I 723 LDA MA 02 00717
003410 005311 A 724 DAP DECREMENT VIRTUAL MEMORY ADDRESS OF TABLE 02 00718
003411 057000 I 725 STA MA 02 00719
003412 006505 A 726 JSR VMWRT,X STORE WORD 02 00720
003413 004365 A
003414 013521 A 727 LDA RTCCMA 02 00721
003415 001002 A 728 JAP RTC232 JUMP IF MORE MEMORY TO CHECK 02 00722
003416 003370 A
003417 017000 I 729 LDA VDATA 02 00723
003420 112527 A 730 ORG ONE SET FIRST 512-WORDS FOR NONALLOCATABLE 02 00724
003421 057000 I 731 STA VDATA 02 00725
003422 006505 A 732 JSR VMWRT,X STORE WORD 02 00726
003423 004365 A
003424 006505 A 733 JSR IDW,X OUTPUT LAST PAGE OF VIRTUAL MEMORY 02 00727
003425 004464 A
003426 004432 A 734 DATA CBS+1 02 00728
735 1 CONT V2 02 00729
736 IFF VORTEX-2 V2 02 00730
737 GOTO 1 V2 02 00731
738 ***** V2 02 00732
739 * INITIALIZE * V2 02 00733
740 ***** V2 02 00734
741 JSR RTCCB,X SPACE V2 02 00735
742 DATA RTCC11 V2 02 00736
743 DATA 1 V2 02 00737
744 JSR RTCCB,X OUTPUT HEADER LINE NUMBER 1 V2 02 00738
745 DATA RTCC11 V2 02 00739
746 DATA 023 V2 02 00740
747 JSR RTCCB,X SPACE V2 02 00741
748 DATA RTCC11 V2 02 00742
749 DATA 1 V2 02 00743
750 JSR RTCCB,X OUTPUT HEADER LINE NUMBER 2 V2 02 00744
751 DATA RTCC12 V2 02 00745
752 DATA 016 V2 02 00746
753 JSR RTCCB,X SPACE V2 02 00747
754 DATA RTCC11 V2 02 00748
755 DATA 1 V2 02 00749
756 LDAI V$GFCB V2 02 00750
757 STA MA V2 02 00751
758 JSR VMWRT,X V2 02 00752
759 LDA VDATA GET V$GFCB V2 02 00753
760 STA V$GFCB V2 02 00754
761 LDAI V$BT V2 02 00755
762 STA MA V2 02 00756
763 JSR VMWRT,X V2 02 00757
764 LDA VDATA GET V$BTM V2 02 00758
765 STA V$BTB V2 02 00759
766 LDAI V$BF V2 02 00760
767 STA MA V2 02 00761
768 JSR VMWRT,X V2 02 00762
769 LDA VDATA GET V$BFC V2 02 00763
770 STA V$BFC V2 02 00764
771 LDAI V$TF V2 02 00765
772 STA MA V2 02 00766
773 JSR VMWRT,X V2 02 00767
774 LDA VDATA GET V$TFC V2 02 00768
775 STA V$TFC V2 02 00769
776 LDAI V$PRT V2 02 00770
777 STA MA GET ADDRESS OF V$PAGE V2 02 00771
778 JSR VMWRT,X V2 02 00772
779 LDA VDATA GET ADDRESS OF V$PAGE V2 02 00773
780 ISR BUMP OVER 1ST WORD V2 02 00774
781 STA RTCCVP SAVE V2 02 00775

```



```

782 TZA TZA RTCPN INITIALIZE PAGE NO V2 02 00776
783 STA SGMRY4 GET PHYSICAL MEMORY SIZE IN K V2 02 00777
784 LDA K032 SUBTRACT OFF 1ST 32K V2 02 00778
785 SUB TZA CONVERT TO PAGES V2 02 00779
786 XAN 1 INITIALIZE AVAILABLE PAGE COUNT V2 02 00780
787 LRLA RTCAP V2 02 00781
788 STA V$NIM V2 02 00782
789 LDAI MA V2 02 00783
790 STA VMRRT,X V2 02 00784
791 JSR VDATA GET ADDRESS OF PAGE 0 MAP IMAGE V2 02 00785
792 LDA V$MING SAVE V2 02 00786
793 STA ***** V2 02 00787
794 ***** V2 02 00788
795 * PROCESS PAGE 0 * V2 02 00789
796 ***** V2 02 00790
797 JSR RTCOL,X OUTPUT PAGE 0 LINE V2 02 00791
798 DATA RTCM3 V2 02 00792
799 DATA 020 V2 02 00793
800 TZA V2 02 00794
801 STA RTCPF SET PAGE FLAG V2 02 00795
802 INCR 1 SET MAP 0 FLAG V2 02 00796
803 STA RTCM0F V2 02 00797
804 CALL RTCPF FLAG PAGE 0 AS NOT AVAILABLE V2 02 00798
805 TZA V2 02 00799
806 STA RTCM0F TURN OFF MAP 0 FLAG V2 02 00800
807 ***** V2 02 00801
808 * PROCESS RESIDENT TASK AREA * V2 02 00802
809 ***** V2 02 00803
810 LDA V$CRDR V2 02 00804
811 IAR V2 02 00805
812 SUB V$BVN V2 02 00806
813 JAZ RTCX1 ANY RESIDENT TASKS ? V2 02 00807
814 INR RTCPF YES. FLAG PAGE 1 AVAILABLE V2 02 00808
815 INCR 03 V2 02 00809
816 LDXI RTCM6 V2 02 00810
817 CALL RTCCR OUTPUT UNALLOCATED LINE V2 02 00811
818 JSR RTCOL,X V2 02 00812
819 DATA RTCM6 V2 02 00813
820 DATA 014 V2 02 00814
821 CALL RTCPF FLAG PAGE AS UNALLOCATED V2 02 00815
822 LDA V$CRDR V2 02 00816
823 STA RTCMA INITIALIZE ADDRESS V2 02 00817
824 TZA V2 02 00818
825 STA RTCPF RESIDENT TASK SPACE IS UNAVAILABLE V2 02 00819
826 RTCL1 EQU * V2 02 00820
827 JMPM RTCGV GET DATA FROM VIRTUAL MEMORY V2 02 00821
828 JAZ RTCX1 EXIT AT END OF CORE RESIDENT DIRECTORY V2 02 00822
829 STA RTCM5+016 MOVE 1ST WORD OF NAME V2 02 00823
830 JMPM RTCGV V2 02 00824
831 STA RTCM5+017 MOVE 2ND WORD V2 02 00825
832 JMPM RTCGV V2 02 00826
833 STA RTCM5+020 MOVE 3RD WORD V2 02 00827
834 JMPM RTCGV GORBLE ENTRY ADDRESS V2 02 00828
835 JMPM RTCGV GET STARTING PAGE NUMBER V2 02 00829
836 SUB RTCPN V2 02 00830
837 JAZ RTC1 CHECK VALIDITY V2 02 00831
838 RTC2 LDAI '35' V2 02 00832
839 CALL $GSEAR OUTPUT ERROR MESSAGE V2 02 00833
840 JMP RELOAD EXIT V2 02 00834
841 RTCL1 JMPM RTCGV GET PAGE COUNT V2 02 00835
842 STA RTCPN SAVE V2 02 00836
843 LDB RTCPN GET BASE PAGE NUMBER V2 02 00837
844 LDXI RTCM5 POINT X AT MESSAGE V2 02 00838
845 JMPM RTCCR CONVERT RANGE TO ASCII/STORE V2 02 00839
846 JSR RTCOL,X OUTPUT RESIDENT TASK LINE V2 02 00840
847 DATA RTCM5 V2 02 00841
848 DATA 021 V2 02 00842
849 JMPM RTCGV GORBLE LAST WORD V2 02 00843
850 RTCL2 EQU * V2 02 00844
851 JMPM RTCPF FLAG PAGE AS OCCUPIED V2 02 00845
852 LDA RTCPN V2 02 00846
853 DAR DROP PAGE COUNT V2 02 00847
854 STA RTCL2 V2 02 00848
855 JANZ RTCL2 FLAG ALL PAGES IN TASK V2 02 00849
856 JMP RTCL1 CONTINUE V2 02 00850
857 ***** V2 02 00851
858 * PROCESS MEMORY FROM RESIDENT TASKS TO NUCLEUS * V2 02 00852
859 ***** V2 02 00853
860 RTCX1 EQU * V2 02 00854
861 JMP 1 V2 02 00855
862 STA RTCPF SET PAGES AVAILABLE V2 02 00856
863 LDA V$CRDR GET RESIDENT DIRECTORY BASE V2 02 00857
864 LSRA 9 CONVERT TO PAGE V2 02 00858
865 SUB RTCPN V2 02 00859
866 JAN RTC2 ERROR IF RESIDENT TASK BEYOND DIRECT V2 02 00860
867 JAZ RTCX2 EXIT AT END V2 02 00861
868 STA RTCPN SAVE PAGE COUNT V2 02 00862
869 LDB RTCPN V2 02 00863
870 LDXI RTCM6 V2 02 00864
871 CALL RTCCR LOAD ASCII RANGE STRING V2 02 00865
872 JSR RTCOL,X OUTPUT UNALLOCATED LINE V2 02 00866
873 DATA RTCM6 V2 02 00867
874 DATA 014 V2 02 00868

```



```

875 RTCL3 EQU *
876 CALL RTCFP FLAG PAGE AS UNALLOCATED
877 LDA RTCFP
878 DAR DROP PAGE COUNT
879 STA RTCFP
880 JANZ RTCL3 LOOP TILL DONE
881 *****
882 * PROCESS NUCLEUS *
883 *****
884 RTCX2 EQU *
885 TZA
886 STA RTCFP FLAG ALL NUCLEUS PAGES UNAVAILABLE
887 INCR 1
888 STA RTCM0F ALL NUCLEUS IS IN MAP ZERO
889 LDA V$BTB GET USER BLOCK ADDRESS
890 TZE
891 LLSR 9 CONVERT TO PAGE
892 SUB RTCFN GET PAGE COUNT
893 JNZ *+3
894 IAR BUMP FOR ODD PAGES
895 STA RTCFP SAVE
896 LDB RTCFN GET STARTING PAGE NUMBER
897 LDXI RTCM7
898 CALL RTCCR GET ASCII RANGE STRING
899 JSR RTCOL,X OUTPUT NUCLEUS PROGRAM LINE
900 DATA RTCM7
901 DATA 022
902 *****
903 * PROCESS USER BLOCK *
904 *****
905 LDB V$BTB
906 LSRB 9 GET BASE PAGE NUMBER OF NUCLEUS TABLES
907 TBA
908 LRLA 9 CONVERT TO BASE ADDRESS
909 STA RTCFP SAVE
910 LDA V$GFCB
911 SUB RTCFP GET SIZE IN WORDS
912 STB RTCFP SAVE BASE PAGE
913 TZE
914 LLSR 9 GET PAGE COUNT
915 JNZ *+3
916 IAR BUMP ON ODD PAGE
917 LDB RTCFP
918 LDXI RTCM8
919 CALL RTCCR CONVERT TO RANGE STRING
920 JSR RTCOL,X OUTPUT NUCLEUS TABLE LINE
921 DATA RTCM8
922 DATA 021
923 *****
924 * PROCESS GLOBAL FOR BLOCK *
925 *****
926 LDB V$GFCB
927 LSRB 9 GET GLOBAL FOR PAGE NUMBER
928 IN 9
929 LDXI RTCM9
930 CALL RTCCR LOAD ASCII RANGE STRING
931 JSR RTCOL,X OUTPUT GLOBAL FOR LINE
932 DATA RTCM9
933 DATA 016
934 *****
935 * PROCESS FOREGROUND COMMON BLOCK *
936 *****
937 RTCX6 EQU *
938 LDA $GMRV2
939 JANZ RTCX7 ANY FOREGROUND COMMON ?
940 LDB V$BFC YES
941 LSRB 9 GET BASE PAGE NUMBER
942 TBA
943 LRLA 9 GET BASE ADDRESS
944 STA RTCFP SAVE
945 LDA V$BFC
946 IAR GET TOP ADDRESS OF FOREGROUND COMMON
947 SUB RTCFP
948 STB RTCFP SAVE BASE PAGE
949 TZE
950 LLSR 9 GET PAGE COUNT
951 JNZ *+3
952 IAR BUMP FOR ODD PAGE
953 LDB RTCFP LOAD BASE PAGE
954 LDXI RTCM10
955 CALL RTCCR LOAD ASCII RANGE STRING
956 JSR RTCOL,X OUTPUT COMMON LINE
957 DATA RTCM10
958 DATA 023
959 RTCX7 EQU *
960 RTCL3 LDB $GMRV4
961 IAR
962 SUB K032
963 JAN *+3 .LT. 32K ?
964 LDB K032 NO
965 IAR
966 LRLA 1 GET PAGE COUNT
967 SUB RTCFN

```

```

V2 02 00869
V2 02 00870
V2 02 00871
V2 02 00872
V2 02 00873
V2 02 00874
V2 02 00875
V2 02 00876
V2 02 00877
V2 02 00878
V2 02 00879
V2 02 00880
V2 02 00881
V2 02 00882
V2 02 00883
V2 02 00884
V2 02 00885
V2 02 00886
V2 02 00887
V2 02 00888
V2 02 00889
V2 02 00890
V2 02 00891
V2 02 00892
V2 02 00893
V2 02 00894
V2 02 00895
V2 02 00896
V2 02 00897
V2 02 00898
V2 02 00899
V2 02 00900
V2 02 00901
V2 02 00902
V2 02 00903
V2 02 00904
V2 02 00905
V2 02 00906
V2 02 00907
V2 02 00908
V2 02 00909
V2 02 00910
V2 02 00911
V2 02 00912
V2 02 00913
V2 02 00914
V2 02 00915
V2 02 00916
V2 02 00917
V2 02 00918
V2 02 00919
V2 02 00920
V2 02 00921
V2 02 00922
V2 02 00923
V2 02 00924
V2 02 00925
V2 02 00926
V2 02 00927
V2 02 00928
V2 02 00929
V2 02 00930
V2 02 00931
V2 02 00932
V2 02 00933
V2 02 00934
V2 02 00935
V2 02 00936
V2 02 00937
V2 02 00938
V2 02 00939
V2 02 00940
V2 02 00941
V2 02 00942
V2 02 00943
V2 02 00944
V2 02 00945
V2 02 00946
V2 02 00947
V2 02 00948
V2 02 00949
V2 02 00950
V2 02 00951
V2 02 00952
V2 02 00953
V2 02 00954
V2 02 00955
V2 02 00956
V2 02 00957
V2 02 00958
V2 02 00959
V2 02 00960
V2 02 00961

```



```

968          DAR          RTCX8          TEST FOR END          V2 02 00962
969          JAN          RTCX8          TEST FOR END          V2 02 00963
970          CALL         RTCFP          FLAG PAGE           V2 02 00964
971          JMP          RTCL6          LOOP TILL DONE        V2 02 00965
972 *****
973 * PROCESS MEMORY BEYOND 32K *
974 *****
975 RTCX8 EQU *
976 LDA SGMRY4
977 SUB KD32          GET REMAINING K COUNT
978 JAN RTCX9
979 JAZ RTCX9
980 LRLA 1          CONVERT TO PAGES T
981 LDB RTCPN
982 LDXI RTCM6
983 CALL RTCCR          LOAD ASCII RANGE STRING
984 JSR RTCOL,X      OUTPUT UNALLOCATED LINE
985 DATA RTCM6
986 DATA 014
987 RTCX9 EQU *
988 JSR RTCOL,X      SPACE
989 DATA RTCM11
990 DATA 1
991 LDAI /SNP
992 STA MA
993 LDA RTCAP          GET COUNT OF AVAILABLE PAGES
994 STA VDATA
995 JSR VMWRT,X      WRITE INTO VIRTUAL LOW CORE
996 JSR IOW,X        OUTPUT LAST PAGE OF VIRTUAL MEMORY
997 DATA CBS+1
998 1 CONT
999 *****
1000 * OUTPUT 'VORTEX SYSTEM READY' *
1001 *****
003427 006505 A 1002 JSR SG5WAR,X
003430 003700 A
003431 000003 A 1003 DATA DC LUN
003432 003533 A 1004 DATA SGVRDY BUFFER ADDRESS
003433 000013 A 1005 DATA 11 WORD COUNT
003434 073446 A 1006 STX RTC250 SAVE DST ADDRESS
003435 002000 A 1007 CALL IOCS
003436 003021 E
003437 000005 A 1008 DATA LIS,RTC240,RTC240,RTC240,RTC240
003440 003444 A
003441 003444 A
003442 003444 A
003443 003444 A
003444 003444 A 1009 RTC240 EQU *
003444 005041 A 1010 TXA
003445 006130 A 1011 ERAI 0
003446 000000 A
003446 003446 A 1012 RTC250 EQU *-1
003447 001010 A 1013 JAZ RTC260 JUMP IF DC =LIS
003450 003456 A
003451 006505 A 1014 JSR SG5WAR,X
003452 003700 A
003453 000005 A 1015 DATA LIS LUN
003454 003533 A 1016 DATA SGVRDY BUFFER ADDRESS
003455 000013 A 1017 DATA 11 WORD COUNT
003455 003456 A 1018 RTC260 EQU *
1019 *****
1020 * LOAD INITIALIZER *
1021 *****
003456 005102 A 1022 INCR 02
003457 012733 A 1023 LDA SGMOD+1 CHECK SYS RMD MODEL TYPE -35
003460 001010 A 1024 JAZ RTC270 RMD MODEL A,B OR NOT C,D -35 E2505
003461 003467 A
003462 022572 A 1025 LDB THREE MODEL C -35
003463 005311 A 1026 DAR E2505
003464 001010 A 1027 JAZ RTC270 'C' E2505
003465 003467 A
003466 022573 A 1028 LDB FIVE 'D' E2505
003467 063476 A 1029 RTC270 STB RTLOAD SECTOR ADDR. WHERE VORTEX NUCLEUS E2505
003470 002000 A 1030 CALL IOCS REWIND RMD
003471 003436 E
003472 002007 A 1031 DATA 002000+RMD
003473 002000 A 1032 CALL IOCS SKIP SECTOR
003474 003471 E
003475 003007 A 1033 RTLOAD DATA 003000+RMD
003476 000003 A 1034 RTLOAD EQU * -35
003477 002000 A 1035 DATA ? FIRST 3 ARE FOR PST /BAD TRK TABLE -35
003477 002000 A 1036 CALL IOCS READ ROTATING MEMORY
003500 003474 E
003501 040407 A 1037 DATA 040400+RMD
003502 001130 A 1038 DATA 600 WORD COUNT
003503 000000 A 1039 DATA 3 BUFFER ADDRESS
003504 001000 A 1040 JMP 0600 EXECUTE INITIALIZER
003505 000600 A
003506 003506 A 1041 RTC300 EQU *
1042 *****
1043 * PST READ ERROR *
1044 *****
003506 012623 A 1045 LDA CR13

```


Address	Label	Operation	Comments	Page	Line
003507	002000	A	1046 RTC301 CALL SG5EAR	V202	01040
003510	003642	A			
003511	001000	A	1047 JMP RELOAD RESTART DIRECTIVE PROCESSING	02	01041
003512	004735	A			
1048			IFT VORTEX-2	V2	02 01042
1049			GOTO 1	V2	02 01043
1050			*****	V2	02 01044
1051			* SET/RESET MEMORY FLAGS IN V\$PAGE *	V2	02 01045
1052			*****	V2	02 01046
1053			RTCFP ENTR	V2	02 01047
1054			TZB	V2	02 01048
1055			LDA RTCPN GET PAGE NUMBER	V2	02 01049
1056			LLSR 4	V2	02 01050
1057			LSRB 12	V2	02 01051
1058			ADD RTCAVP GET ADDRESS OF V\$PAGE FLAG WORD	V2	02 01052
1059			STA MA	V2	02 01053
1060			COMP 021	V2	02 01054
1061			ADD K16	V2	02 01055
1062			TAB	V2	02 01056
1063			JSR VMRRT,X	V2	02 01057
1064			LDA VDATA GET V\$PAGE FLAG WORD	V2	02 01058
1065			ANAE ZR0,B CLEAR PAGE FLAG BIT	V2	02 01059
1066			LDX RTCFP	V2	02 01060
1067			JXZ RTCFP1 IS PAGE FLAG TO BE SET ?	V2	02 01061
1068			ORAE RSO,B YES. SET IT	V2	02 01062
1069			STA VDATA	V2	02 01063
1070			JSR VMRRT,X RESTORE FLAG WORD IN V\$PAGE	V2	02 01064
1071			LDA RTCFP	V2	02 01065
1072			JAZ #+3 IS PAGE AVAILABLE ?	V2	02 01066
1073			INR RTCAP YES. BUMP AVAILABLE PAGE COUNT	V2	02 01067
1074			LDA RTCPN SET A=UNASSIGNED PAGE	V2	02 01068
1075			LDB RTCMOF	V2	02 01069
1076			JBZ #+3 IS PAGE IN MAP ZERO ?	V2	02 01070
1077			ORA RSO YES. SET READ/WRITE	V2	02 01071
1078			STA VDATA	V2	02 01072
1079			LDA V\$MING	V2	02 01073
1080			ADD RTCPN	V2	02 01074
1081			STA MA	V2	02 01075
1082			JSR VMWRT,X WRITE PAGE ZERO MAP WORD	V2	02 01076
1083			INR RTCPN BUMP PAGE NUMBER	V2	02 01077
1084			JMP* RTCFP EXIT	V2	02 01078
1085			1 CNT	V2	02 01079
003513			1086 RTCVNE BSS 4 PST ENTRY FOR VORTEX NUCLEUS	02	01080
003517			1087 RTCCIA BSS 1 CURRENT INPUT FILE ADDRESS FROM 'FL'	02	01081
003520			1088 SGPSTE BSS 1 PST ENTRT ADDRESS	02	01082
003521			1089 RTCCMA BSS 1 CURRENT MEMORY ADDRESS	02	01083
003522	120240	A	1090 SGNFND DATA * NOT FOUND*	02	01084
003523	120240	A			
003524	120240	A			
003525	120240	A			
003526	120316	A			
003527	147724	A			
003530	120306	A			
003531	147725	A			
003532	147304	A			
1091			IFF VORTEX-2	V2	02 01085
1092			SGVRDY DATA 'VORTEX II SYSTEM READY'	V2	02 01086
1093			IFF VORTEX-1	V2	02 01087
003533	120240	A	1094 SGVRDY DATA ' VORTEX SYSTEM READY '	02	01088
003534	153317	A			
003535	151324	A			
003536	142730	A			
003537	120323	A			
003540	154723	A			
003541	152303	A			
003542	146340	A			
003543	151305	A			
003544	140704	A			
003545	154640	A			
1095			IFT VORTEX-2	V2	02 01089
1096			GOTO 1	V2	02 01090
1097			RTCAP DATA 0 AVAILABLE PAGE COUNT	V2	02 01091
1098			RTCAVP DATA 0 V\$PAGE ADDRESS	V2	02 01092
1099			RTCMOF DATA 0 MAP ZERO FLAG	V2	02 01093
1100			RTCMA DATA 0 CURRENT VIRTUAL ADDRESS	V2	02 01094
1101			RTCPN DATA 0+0 PAGE COUNT	V2	02 01095
1102			RTCFP DATA 0 PAGE FLAG	V2	02 01096
1103			RTCPN DATA 0 CURRENT PAGE NO	V2	02 01097
1104			V\$MING DATA 0 ADDRESS OF MAP 0 IMAGE	V2	02 01098
1105			V\$TFC DATA 0 TOP OF FOREGROUND COMMON	V2	02 01099
1106			*****	V2	02 01100
1107			* CONVERT NUMERICS TO ASCII RANGE STRING *	V2	02 01101
1108			*****	V2	02 01102
1109			RTCCR ENTR	V2	02 01103
1110			STA RTCCRA SAVE REGS	V2	02 01104
1111			STR RTCCRB	V2	02 01105
1112			STR RTCCRX	V2	02 01106
1113			DAR	V2	02 01107
1114			JANZ RTCCR1 SINGLE PAGE ?	V2	02 01108
1115			LDA RTCCBL YES	V2	02 01109
1116			STR D'X BLANK OUT 1ST FIELD IN BUFFER	V2	02 01110
1117			STR #X	V2	02 01111
1118			STR #D	V2	02 01112


```

1119          JMP          RTCCR2          V2 02 01113
1120 RTCCR1   TBA          V2 02 01114
1121          JMPM         RTCCN          V2 02 01115
1122          ORA          RTCCBL         V2 02 01116
1123          LDX          RTCCR2         V2 02 01117
1124          STA          2,X           V2 02 01118
1125          STB          3,X           V2 02 01119
1126          LDA          RTCCDB         V2 02 01120
1127          STA          4,X           V2 02 01121
1128 RTCCR2   LDA          RTCCRB         V2 02 01122
1129          ADD          RTCCRA         V2 02 01123
1130          DAR          V2 02 01124
1131          JMPM         RTCCN          V2 02 01125
1132          LDX          RTCCR2         V2 02 01126
1133          ORA          4,X           V2 02 01127
1134          STA          4,X           V2 02 01128
1135          STB          5,X           V2 02 01129
1136          JMP*         RTCCR         V2 02 01130
1137 *****
1138 * CONVERT NUMERIC TO ASCII OCTAL *   V2 02 01131
1139 *****                               V2 02 01132
1140 RTCCN     ENTR          V2 02 01133
1141          TZB          V2 02 01134
1142          TZX          V2 02 01135
1143          LLSR         6              V2 02 01136
1144          XANZ         RTCCNL         V2 02 01137
1145          LRLA         5              V2 02 01138
1146          LLRL         3              V2 02 01139
1147          XANZ         RTCCNL         V2 02 01140
1148          ORAE         RTCCBL,X      V2 02 01141
1149          LSPB         5              V2 02 01142
1150          LLPL         0              V2 02 01143
1151          ORA          RTCCBL+1      V2 02 01144
1152          LLRL         16             V2 02 01145
1153          ANA          RHW           V2 02 01146
1154          JMP*         RTCCN         V2 02 01147
1155 RTCCRA   DATA        0            V2 02 01148
1156 RTCCRB   DATA        0            V2 02 01149
1157 RTCCR2   DATA        0            V2 02 01150
1158 RTCCDB   DATA        ' '          V2 02 01151
1159 RTCCNT   DATA        0,0         V2 02 01152
1160 RTCCBL   DATA        ' '          V2 02 01153
1161          DATA        '0'          V2 02 01154
1162          DATA        '00'         V2 02 01155
1163 RTCCNL   IXR          V2 02 01156
1164 *****                               V2 02 01157
1165 * GET WORD FROM VIRTUAL ADDRESS RTMA * V2 02 01158
1166 *****                               V2 02 01159
1167 RTCGV    ENTR          V2 02 01160
1168          LDA          RTMA          V2 02 01161
1169          STA          MA            V2 02 01162
1170          IAR          V2 02 01163
1171          STA          RTMA          V2 02 01164
1172          JSR          VMRRT,X       V2 02 01165
1173          LDA          VDATA         V2 02 01166
1174          JMP*         RTCGV         V2 02 01167
1175 *****                               V2 02 01168
1176 * OUTPUT PHYSICAL MAP LINE TO DC AND LD * V2 02 01169
1177 *****                               V2 02 01170
1178 RTCDL    LDA          0,X           V2 02 01171
1179          STA          RTCDL+3        V2 02 01172
1180          STA          RTCDL+3        V2 02 01173
1181          LDA          1,X           V2 02 01174
1182          STA          RTCDL+4        V2 02 01175
1183          STA          RTCDL+4        V2 02 01176
1184          IXR          V2 02 01177
1185          IXR          V2 02 01178
1186          STX          RTCDLX         V2 02 01179
1187          LDA          SGEDRA        V2 02 01180
1188          SRA          #0130000      V2 02 01181
1189          JAZ*         RTCDLX         V2 02 01182
1190 RTCDL    JSR          SSGWAR,X       V2 02 01183
1191          DATA        DC            V2 02 01184
1192          DATA        0            V2 02 01185
1193          DATA        0            V2 02 01186
1194          STX          RTCDL         V2 02 01187
1195          CALL        IDCS           V2 02 01188
1196          DATA        LD,RTCDL,RTCDL,RTCDL,RTCDL V2 02 01189
1197 RTCDL    TXA          V2 02 01190
1198          EFA          RTCDL         V2 02 01191
1199          JAZ*         RTCDLX         V2 02 01192
1200 RTCDL    JSR          SSGWAR,X       V2 02 01193
1201          DATA        LD            V2 02 01194
1202          DATA        0            V2 02 01195
1203          DATA        0            V2 02 01196
1204 RTCDL    CALL        IDCS           V2 02 01197
1205          DATA        LD            V2 02 01198
1206          DATA        RTCDLZ,RTCDLZ,RTCDLZ,RTCDLZ V2 02 01199
1207 RTCDL    JMP*         RTCDLX         V2 02 01200
1208 RTCDL    DATA        0            V2 02 01201
1209 RTCDLX   DATA        0            V2 02 01202
1210 *****                               V2 02 01203
1211 * MESSAGE TEXT *                       V2 02 01204

```



```

1212 *****
1213 RTCM1 DATA * VORTEX II PHYSICAL MEMORY ALLOCATION*
1214 RTCM2 DATA * PAGES(OCTAL) ALLOCATED TO*
1215 RTCM3 DATA * 0 PAGE 0 SYSTEM DATA*
1216 RTCM5 DATA * RESIDENT TASK *
1217 RTCM6 DATA * UNALLOCATED*
1218 RTCM7 DATA * NUCLEUS PROGRAM MODULE*
1219 RTCM8 DATA * NUCLEUS TABLE MODULE*
1220 RTCM9 DATA * GLOBAL FCB PAGE*
1221 RTCM10 DATA * FOREGROUND BLANK COMMON*
1222 RTCM11 DATA * SPACE
1223 1 CONT
1224 EJEC
1225 *****
1226 *
1227 * SG5SDR
1228 *
1229 * PURPOSE: SG5SDR SEARCHES THE FILE-NAME DIRECTORY FOR THE NAME
1230 * SUPPLIED.
1231 *
1232 * CALLING SEQUENCE: JSR SG5SDR,X
1233 * DATA ADDRESS OF NAME
1234 * DATA RELATIVE POINTER INTO PST
1235 *
1236 * ENTRANCE PARAMETERS: (SGPBUF) = PST
1237 *
1238 * EXIT PARAMETERS: OVERFLOW SET; NAME FOUND, (B) = BUFFER ADDRESS
1239 * OVERFLOW RESET; NAME NOT FOUND
1240 *
1241 *****
003546 A 1242 SG5SDR EQU *
1243 *****
1244 * COMPUTE PST ENTRY ADDRESS *
1245 *****
003546 073641 A 1246 STX SDRRTA SAVE RETURN ADDRESS
003547 023001 A 1247 LDB 1,X GET RELATIVE POINTER
003550 010000 L 1248 LDA =SGPBUF-1
003551 162572 A 1249 MUL THREE
003552 063556 A 1250 STB SDR008 SAVE PST ENTRY ADDRESS
1251 *****
1252 * INPUT FILE-NAME DIRECTORY *
1253 *****
003553 012527 A 1254 LDA ONE GET FILE-NAME DIRECTORY ADDRESS
003554 053561 A 1255 SDR005 EQU *
003555 006010 A 1256 STA SDR010 SET IN READ CALL
003556 000000 A 1257 LDAI 0
003557 003556 A 1258 SDR008 EQU *-1
003558 006505 A 1259 JSR SG5SDR,X
003560 003740 A
003561 000000 A 1260 SDR010 DATA 0 SECTOR NUMBER
003562 000170 A 1261 DATA 120 WORD COUNT
003563 000664 A 1262 DATA SGIBUF BUFFER ADDRESS
003564 001004 A 1263 JAR SDR050 JUMP IF READ ERROR
003565 003631 A
1264 *****
1265 * COMPARE NAMES *
1266 *****
003566 010664 A 1267 LDA SGIBUF
003567 001010 A 1268 JAZ SDR050 JUMP IF NO ENTRIES
003570 003631 A
003571 012573 A 1269 LDA FIVE
003572 120000 L 1270 ADD =SGIBUF COMPUTE FIRST ENTRY ADDRESS
003573 005012 A 1271 TAB
003574 033641 A 1272 LDX SDRRTA
003575 035000 A 1273 LDX 0,X GET ADDRESS OF NAME
003576 003576 A 1274 SDR020 EQU *
003577 001010 P 1275 LDA 0,B
003600 003616 A 1276 JAZ SDR030 JUMP IF ENTRY DELETED
003601 001002 A 1277 JAR SDR040 JUMP IF END OF DIRECTORY
003602 003623 A
003603 135000 A 1278 ERA 0,X
003604 001016 A 1279 JARZ SDR030 JUMP IF FIRST TWO DON'T COMPARE
003605 003616 A
003606 016001 A 1280 LDA 1,B
003607 135001 A 1281 ERA 1,X
003610 001016 A 1282 JARZ SDR030 JUMP IF SECOND TWO DON'T COMPARE
003611 003616 A
003612 016002 A 1283 LDA 0,B
003613 135002 A 1284 ERA 0,X
003614 001012 A 1285 JAZ SDR060 JUMP IF ENTRY FOUND
003615 003635 A
003616 003616 A 1286 SDR030 EQU *
1287 *****
1288 * UPDATE DIRECTORY POINTER *
1289 *****
003616 005021 A 1290 YBA
003617 122574 A 1291 ADD SIX
003620 005012 A 1292 JAB
003621 001000 A 1293 JMP SDR020
003622 003576 A
003623 A 1294 SDR040 EQU *

```



```

1295 *****
1296 * AT END OF DIRECTORY *
1297 *****
003623 005311 A 1298 DAR
003624 001010 A 1299 JAZ SDR050 JUMP IF NAME NOT FOUND
003625 003631 A
003626 005111 A 1300 IAR
003627 001000 A 1301 JMP SDR005 JUMP TO INPUT NEXT FILE-NAME DIRECTORY
003630 003554 A
003631 A 1302 SDR050 EQU *
1303 *****
1304 * NAME NOT FOUND *
1305 *****
003631 007400 A 1306 ROF
003632 033641 A 1307 LDX SDRRTA
003633 006705 A 1308 IJMP 2,X RETURN
003634 000002 A
003635 A 1309 SDR060 EQU *
1310 *****
1311 * NAME FOUND *
1312 *****
003635 007401 A 1313 SDF
003636 033641 A 1314 LDX SDRRTA
003637 006705 A 1315 IJMP 2,X RETURN
003640 000002 A
003641 A 1316 SDRRTA BSS 1 RETURN ADDRESS
1317 EJEC
1318 *****
1319 *
1320 * SG5EAR
1321 *
1322 * PURPOSE: SG5EAR OUTPUTS THE APPROPRIATE ERROR MESSAGE AND ATTEMPTS-
1323 * RECOVERY.
1324 *
1325 * CALLING SEQUENCE: CALL SG5EAR
1326 *
1327 * ENTRANCE PARAMETERS: (A) = TWO ASCII CHARACTERS OUTPUT ALONG WITH
1328 * 'SGXX'.
1329 *
1330 * EXIT PARAMETERS: NONE
1331 *
1332 *****
003642 000000 A 1333 SG5EAR ENTR
1334 *****
1335 * OUTPUT ERROR MESSAGE *
1336 *****
003643 053677 A 1337 STA SGEMSG+1 SET ERROR IN OUTPUT BUFFER
003644 003644 A 1338 EAR010 EQU *
003645 003500 E 1339 CALL IOCS OUTPUT ERROR TO 'OC'
003646 001003 A 1340 DATA DC+01000 LUN
003647 000002 A 1341 DATA 2 WORD COUNT
003650 003676 A 1342 EAR020 EQU SGEMSG LOCATION
003651 002000 A 1343 CALL IOCS *
003652 003645 E 1344 CALL IOCS CHECK STATUS
003653 000003 A 1345 DATA DC LUN
003654 003644 A 1346 EAR010 ERR
003655 003644 A 1347 EAR010 EOF
003656 003644 A 1348 EAR010 BEDD
003657 003651 A 1349 EAR020 BUSY
003660 002000 A 1350 EAR030 EQU *
003661 003652 E 1351 CALL IOCS OUTPUT ERROR TO 'LO'
003662 001005 A 1352 DATA LIS+01000 LUN
003663 000002 A 1353 DATA 2 WORD COUNT
003664 003676 A 1354 EAR040 EQU SGEMSG LOCATION
003665 002000 A 1355 CALL IOCS CHECK STATUS
003666 003661 E
003667 000005 A 1357 DATA LIS LUN
003670 003660 A 1358 EAR030 ERR
003671 003660 A 1359 EAR030 EOF
003672 003660 A 1360 EAR030 BEDD
003673 003665 A 1361 EAR040 BUSY
003674 001000 A 1362 JMP* SG5EAR RETURN
003675 103542 A
003676 151707 A 1363 SGEMSG DATA 'SG '
003677 120243 A
1364 EJEC
1365 *****
1366 *
1367 * SG5WAR
1368 *
1369 * PURPOSE: SG5WAR OUTPUTS A RECORD TO THE DEVICE SPECIFIED.
1370 *
1371 * CALLING SEQUENCE: JSR SG5WAR,X
1372 * DATA LUN
1373 * DATA BUFFER ADDRESS
1374 * DATA WORD COUNT
1375 *
1376 *****
003700 A 1377 SG5WAR EQU *

```



```

1378 *****
1379 * BUILD I/O CALL *
1380 *****
003700 015000 A 1381 LDA 0,X GET LUN
003701 053722 A 1382 STA WARSLU SET IN STATUS CALL
003702 112540 A 1383 ORA BSS SET WRITE ALPHAMERIC MODE
003703 053715 A 1384 STA WARLUN SET IN CALL
003704 015001 A 1385 LDA 1,X GET BUFFER ADDRESS
003705 053717 A 1386 STA WARLOC SET IN CALL
003706 015002 A 1387 LDA 2,X GET WORD COUNT
003707 053716 A 1388 STA WARWDC SET IN CALL
003710 005041 A 1389 TXA COMPUTE RETURN ADDRESS
003711 122572 A 1390 ADD THREE
003712 053731 A 1391 STA WAR030
1392 *****
1393 * OUTPUT RECORD *
1394 *****
003713 003713 A 1395 WAR010 EQU *
003714 002000 A 1396 CALL IOCS
003715 000000 A 1397 WARLUN DATA 0 LUN
003716 000000 A 1398 WARWDC DATA 0 WORD COUNT
003717 000000 A 1399 WARLOC DATA 0 LOCATION
1400 *****
1401 * CHECK I/O STATUS *
1402 *****
003720 003720 A 1403 WAR020 EQU *
003721 003714 E 1404 CALL IOCS
003722 000000 A 1405 WARSLU DATA 0 LUN
003723 003732 A 1406 DATA WAP040 ERR
003724 003732 A 1407 DATA WAR040 EOF
003725 003732 A 1408 DATA WAR040 BEDD
003726 003720 A 1409 DATA WAR020 BUSY
003727 005101 A 1410 INCR A
003730 001000 A 1411 WAR025 EQU *
003731 000000 A 1412 JMP A RETURN
003732 012625 A 1413 WAR030 EQU *-1
003733 002000 A 1414 WAR040 EQU *
003734 003642 A 1415 LDA ER15
003735 005301 A 1416 CALL SG5EAR OUTPUT WRITE ERROR
003736 001000 A 1417 DECR A
003737 003730 A 1418 JMP WAR025
1419 EJEC
1420 *****
1421 *
1422 * SG5ERM
1423 *
1424 * PURPOSE: SG5ERM INPUTS THE NUMBER OF WORDS SPECIFIED FROM THE
1425 * ROTATING MEMORY DEVICE.
1426 *
1427 * CALLING SEQUENCE: JSR SG5ERM,X
1428 * DATA SECTOR NUMBER
1429 * DATA WORD COUNT
1430 * DATA BUFFER ADDRESS
1431 *
1432 * ENTRANCE PARAMETERS: (A) = PST ENTRY ADDRESS
1433 *
1434 *****
003740 003740 A 1435 SG5ERM EQU *
003741 074044 A 1436 STA RRM002 SET PST ENTRY ADDRESS IN CALL
003742 015000 A 1437 STX RRM004 SAVE RETURN ADDRESS
003743 053747 A 1438 LDA 0,X GET RELATIVE SECTOR NUMBER
003744 006505 A 1439 STA RRM004 SET RELATIVE SECTOR NUMBER IN CALL
003745 004116 A 1440 JSR SG5BTT,X CONVERT TO ACTUAL SECTOR NUMBER
003746 1441 RRM002 BSS 1 PST ENTRY ADDRESS
003747 1442 RRM004 BSS 1 RELATIVE SECTOR NUMBER
003750 001004 A 1443 JAN RRM050 JUMP IF ERROR
003751 004001 A 1444 CALL RRM1KP SKIP TO PROPER SECTOR
003752 002000 A
003753 004056 A
1445 *****
1446 * READ ROTATING MEMORY *
1447 *****
003754 034031 A 1448 LDX 0,0+STA
003755 015001 A 1449 LDA 1,X
003756 053764 A 1450 STA RRM020 SET WORD COUNT IN CALL
003757 015002 A 1451 LDA 2,X
003760 053765 A 1452 STA RRM030 SET BUFFER ADDRESS IN CALL
003761 002000 A 1453 CALL IOCS
003762 003721 F
003763 040407 A 1454 DATA 040400+RMD
003764 000000 A 1455 RRM020 DATA 0
003765 000000 A 1456 RRM030 DATA 0
1457 *****
1458 * CHECK STATUS *
1459 *****
003766 003766 A 1460 RRM040 EQU *
003766 002000 A 1461 CALL IOCS

```



```

003767 003762 E
003770 000007 A 1462 DATA RMD 02 01456
003771 004001 A 1463 DATA RRM050 ERR 02 01457
003772 004001 A 1464 DATA RRM050 EOF 02 01458
003773 004001 A 1465 DATA RRM050 BECD 02 01459
003774 003766 A 1466 DATA RRM040 BUSY 02 01460
003775 015000 A 1467 LDA 0,X GET WORD COUNT 02 01461
003776 003776 A 1468 RRM045 EQU * 02 01462
003777 034007 A 1469 LDX RRMRTA 02 01463
004000 006705 A 1470 IJMP 3,X RETURN 02 01464
004000 000003 A
004001 004001 A 1471 RRM050 EQU * 02 01465
1472 ***** 02 01466
1473 * I/O ERROR * 02 01467
1474 ***** 02 01468
004001 012623 A 1475 LDA ER13 02 01469
004002 002000 A 1476 CALL SGSEAR READ ERROR 02 01470
004003 003642 A
004004 001000 A 1477 JMP RELOAD RESTART DIRECTIVE PROCESSING 02 01471
004005 004735 A
004006 1478 RRMRTA BSS 1 RETURN ADDRESS 02 01472
1479 EJEC 02 01473
1480 ***** 02 01474
1481 * 02 01475
1482 * SG5WRM 02 01476
1483 * 02 01477
1484 * PURPOSE: SG5WRM OUTPUTS THE NUMBER OF WORDS SPECIFIED TO THE 02 01478
1485 * ROTATING MEMORY DEVICE. 02 01479
1486 * 02 01480
1487 * CALLING SEQUENCE: JSR SG5WRM,X 02 01481
1488 * DATA SECTOR NUMBER 02 01482
1489 * DATA WORD COUNT 02 01483
1490 * DATA BUFFER ADDRESS 02 01484
1491 * 02 01485
1492 * ENTRANCE PARAMETERS: (A) = PST ENTRY ADDRESS 02 01486
1493 * 02 01487
1494 ***** 02 01488
004007 004007 A 1495 SG5WRM EQU * 02 01489
004010 054005 A 1496 STA WRM002 SET PST ENTRY ADDRESS IN CALL 02 01490
004011 074044 A 1497 STX RRMRTA SAVE RETURN ADDRESS 02 01491
004012 015000 A 1498 LDA 0,X GET RELATIVE SECTOR NUMBER 02 01492
004013 054003 A 1499 STA WRM004 SET RELATIVE SECTOR NUMBER IN CALL 02 01493
004014 006505 A 1500 JSR SG5BTT,X CONVERT TO ACTUAL SECTOR NUMBER 02 01494
004015 004116 A
004016 1501 WRM002 BSS 1 PST ENTRY ADDRESS 02 01495
004017 1502 WRM004 BSS 1 RELATIVE SECTOR NUMBER 02 01496
004020 001004 A 1503 JAN WRM050 JUMP IF ERROR 02 01497
004021 004050 A
004022 1504 CALL RRMSKP -35 02 01498
004022 004056 A
1505 ***** 02 01499
1506 * WRITE ROTATING MEMORY * 02 01500
1507 ***** 02 01501
004023 034031 A 1508 LDX RRMRTA 02 01502
004024 015001 A 1509 LDA 1,X 02 01503
004025 054005 A 1510 STA WRM020 SET WORD COUNT IN CALL 02 01504
004026 015002 A 1511 LDA 2,X 02 01505
004027 054004 A 1512 STA WRM030 SET BUFFER ADDRESS IN CALL 02 01506
004030 002000 A 1513 CALL IDCS 02 01507
004031 003767 E
004032 041007 A 1514 DATA 041000+RMD 02 01508
004033 000000 A 1515 WRM020 DATA 0 02 01509
004034 000000 A 1516 WRM030 DATA 3 02 01510
1517 ***** 02 01511
1518 * CHECK STATUS * 02 01512
1519 ***** 02 01513
004035 004035 A 1520 WRM040 EQU * 02 01514
004036 002000 A 1521 CALL IDCS 02 01515
004037 000007 E
004040 004050 A 1522 DATA RMD 02 01516
004041 004050 A 1523 DATA WRM050 ERR 02 01517
004042 004050 A 1524 DATA WRM050 EOF 02 01518
004043 004035 A 1525 DATA WRM050 BECD 02 01519
004044 005101 A 1526 DATA WRM040 BUSY 02 01520
004045 004045 A 1527 INCR A 02 01521
004046 034007 A 1528 WRM045 EQU * 02 01522
004047 006705 A 1529 LDX RRMRTA 02 01523
004047 000003 A 1530 IJMP 3,X RETURN 02 01524
004050 004050 A 1531 WRM050 EQU * 02 01525
1532 ***** 02 01526
1533 * I/O ERROR * 02 01527
1534 ***** 02 01528
004050 012623 A 1535 LDA ER13 02 01529
004051 002000 A 1536 CALL SGSEAR WRITE ERROR 02 01530
004052 003642 A
004053 001000 A 1537 JMP RELOAD RESTART DIRECTIVE PROCESSING 02 01531
004054 004735 A
004055 1538 RRMRTA BSS 1 RETURN ADDRESS 02 01532
1539 * 02 01533
1540 * 02 01534
1541 * PURPOSE RRMSKP WILL REWIND THAN SKIP FORWARD TO THE 02 01535
1542 * SECTOR COUNT SPECIFIED IN THE A,B REGS. -3 02 01536

```



```

1543 *
1544 * CALLING SEQ. CALL RRMSKP -35 02 01537
1545 *
1546 * ENTRANCE PARAMETER A,B REGS. CONTAIN SECTOR COUNT -35 02 01539
1547 *
1548 *
1549 *
004056 000000 A 1550 RRMSKP EJEC -35 02 01543
004057 054027 A 1551 RRMSKP ENTR -35 02 01544
004060 064006 A 1552 STA RRM016 SAVE COUNT -35 02 01545
004061 002000 A 1553 STB RRM010 -35 02 01546
004062 004036 E 1554 CALL IDCS REW -35 02 01547
004063 002007 A 1555 DATA 02000+RMD -35 02 01548
004064 002000 A 1556 CALL IDCS NOW SKIP FORWARD -35 02 01549
004065 004062 E 1557
004066 003007 A 1558 RRM010 DATA 03000+RMD -35 02 01550
004067 000000 A 1559 RRM010 DATA 0 -35 02 01551
004070 014016 A 1560 LDA RRM016 -35 02 01552
004071 054007 A 1561 STA RRM012 -35 02 01553
004072 001010 A 1562 JAZ* RRMSKP NO. OF SECTORS NOT GTR THAN 32K -35 02 01554
004073 104056 A 1563
004074 005311 A 1564 DAR -35 02 01555
004075 054011 A 1565 STA RRM016 STORE FOR SKIP LOOP -35 02 01556
004076 002000 A 1566 CALL IDCS STORE FOR SKIP LOOP -35 02 01557
004077 004063 E 1567
004100 003007 A 1568 RRM012 DATA 03000+RMD SKIP FORWARD -35 02 01558
004101 000000 A 1569 RRM012 DATA 0 NO. OF MULTIPLES OF 32K -35 02 01559
004102 002000 A 1570 CALL IDCS -35 02 01560
004103 004077 E 1571
004104 003007 A 1572 RRM014 DATA 03000+RMD -35 02 01561
004105 077777 A 1573 RRM014 DATA 077777 SECTOR COUNT 32K-1 -35 02 01562
004106 006010 A 1574 LDA * -35 02 01563
004107 004106 A 1575
004110 001010 A 1576 RRM016 EQU *-1 -35 02 01564
004111 104036 A 1577 JAZ* RRMSKP -35 02 01565
004112 005311 A 1578 DAR -35 02 01566
004113 057000 I 1579 STA RRM016 -35 02 01567
004114 001000 A 1580 JMP RRM012+1 JMP TO SKIP -35 02 01568
004115 004102 A 1581
1575 * EJEC 02 01569
1576 ***** 02 01570
1577 * 02 01571
1578 * SG5BTT 02 01572
1579 * 02 01573
1580 * PURPOSE: SG5BTT CONVERTS A RELATIVE SECTOR NUMBER IN A PARTITION 02 01574
1581 * TO AN ABSOLUTE SECTOR NUMBER ON THE RMD, SKIPPING ALL 02 01575
1582 * BAD TRACKS. 02 01576
1583 * 02 01577
1584 * CALLING SEQUENCE: JSR SG5BTT,X 02 01578
1585 * DATA PST ENTRY ADDRESS 02 01579
1586 * DATA RELATIVE SECTOR NUMBER IN PARTITION 02 01580
1587 * 02 01581
1588 * ENTRANCE PARAMETERS: PST IN (SGPBUF) 02 01582
1589 * 02 01583
1590 ***** 02 01584
004116 004116 A 1591 SG5BTT EQU * ENTRY 02 01585
004117 074155 A 1592 STX BTT01A SAVE RETURN ADDRESS 02 01586
004120 015000 A 1593 LDX #X PARTITION ENTRY ADDR. 02 01587
004121 054154 A 1594 LDA 0,X GET PARTITION START TRK NO. 02 01588
1595 STA BTT01D 02 01589
1596 ***** 02 01590
1597 * CHECK FOR BAD TRACK TABLE * 02 01591
1598 ***** 02 01592
004122 014156 A 1599 LDA BTT01K NO. OF WORDS IN BAD TRK TABLE -35 02 01593
004123 001010 A 1600 JAZ BTT030 JUMP IF NO BAD TRACK TABLE 02 01594
004124 004161 A 1601
1602 ***** 02 01595
1603 * COMPUTE ADDRESS OF TRACK IN BTT * 02 01596
1604 ***** 02 01597
004125 024150 A 1605 LDR BTT01D 02 01598
004126 005322 A 1606 DER 02 01599
004127 005001 A 1607 TZA 02 01600
004130 170000 L 1608 DIV #16 COMPUTE RELATIVE POSITION IN BTT 02 01601
004131 005014 A 1609 TAX SAVE RELATIVE POSITION IN BTT ENTRY 02 01602
004132 005021 A 1610 TBA 02 01603
004133 120000 L 1611 ADD =SGPBUF+64 START OF BAD TRK TABLE -35 02 01604
004134 054143 A 1612 STA BTT01R SAVE ADDRESS OF BTT ENTRY 02 01605
004135 005144 A 1613 TXR 02 01606
004136 004136 A 1614 BTT010 EQU * 02 01607
1615 ***** 02 01608
1616 * CHECK FOR NEXT GOOD TRACK * 02 01609
1617 ***** 02 01610
004136 005041 A 1618 TXA 02 01611
004137 006120 A 1619 ADDI 04007 02 01612
004140 004337 A 1620
004141 054002 A 1621 STA BTT020 02 01613
004142 024135 A 1622 LDR BTT01R 02 01614
004143 016000 A 1623 LDA #R 02 01615
004144 004340 A 1624 BTT020 LSRA 0 SHIFT TO BIT 0 02 01616
004145 006440 A 1625 BT RAO,BTT030 JMP IF TRK GOOD 02 01617
004146 004161 A 1626
004147 044126 A 1627 INR BTT01D UPDATE TRK COUNT. 02 01618

```



```

004150 005144 A 1625 IXR
004151 005041 A 1626 TXA
004152 140000 L 1627 SUB =17
004153 001004 A 1628 JAN BTT010 JUMP IF NOT DONE CHECKING ENTRY
004154 004136 A
004155 032527 A 1629 LDX ONE
004156 044121 A 1630 INR BTTADR
004157 001000 A 1631 JMP BTT010 CHECK NEXT ENTRY
004160 004136 A
004161 004161 A 1632 BTT030 EQU *
004162 034112 A 1633 LDX BTTRTA
004163 025001 A 1634 LDB 1,X GET RELATIVE SECTOR NUMBER
004164 005322 A 1635 DBR
004165 005001 A 1636 TZA
004166 171244 A 1637 DIV SGPBUF DIVIDE BY NO. OF SECTORS / TRK
004167 054106 A 1638 STA BTTRSN
004167 005021 A 1639 TBA
004170 124105 A 1640 ADD BTTTND B= RELATIVE TRK NO. IN PARTITION
004171 054105 A 1641 STA BTTTND+1 ADD BASE TRK NO. OF PARTITION.
1642 * SAVE ACTUAL TRK NO. REQUIRED.
1643 *
1644 * NOW ADJUST FOR BAD TRACKS.
1645 *
004172 004172 A 1646 SGBDT EQU * ADJUST FOR BAD TRACKS WITHIN
004173 012740 A 1647 LDA IEND+1 RANGE IN BTTTND AND BTTTND+1
004174 004255 A 1648 JAZ BTT040 NO BAD TRACKS.
004175 035000 A 1649 LDX 0,X
004176 015002 A 1650 LDA 2,X PST ENTRY ADDR.
004177 001010 A 1651 JAZ BTT040 NO. OF BAD TRKS IN PARTITION.
004200 004255 A NONE.
004201 010000 L 1652 LDA =SGPBUF+64
004202 054020 A 1653 STA SGBD03+1 BAD TRK TABLE ADDR.
004203 014073 A 1654 LDA BTTTND+1 TRK NO. REQUIRED.
004204 144071 A 1655 SUB BTTTND TRUE PARTITION
004205 005014 A 1656 TAX NO. OF TRKS TO TEST -1
004206 014067 A 1657 LDA BTTTND START TRK.
004207 005311 A 1658 DAB
004210 005012 A 1659 TAB
004211 004144 A 1660 LSRE 4 B= INDEX INTO BAD TRK TABLE
004212 152600 A 1661 ANA BM17 NOW 0-15
004213 054040 A 1662 STA SGBD09 SAVE COUNT
004214 124032 A 1663 ADD SGBD07+1 LSRA INSTRUCTION
004215 054000 A 1664 STA SGBD05
004216 014025 A 1665 LDB SGBD07-2 =077760
004217 124034 A 1666 ADD SGBD09
004220 152566 A 1667 PNA BR15
004221 054032 A 1668 STA SGBD09
004222 006016 A 1669 SGBD03 LDRE *B GET BAD TRK TABLE WORD.
004223 004222 A
004224 004340 A 1670 SGBD05 LSRA 0 MODIFIED ABOVE.
004225 006440 A 1671 BT RA0+0, SGBD06 1= BAD TRK
004226 004232 A
004227 044047 A 1672 INR BTTTND+1 INCREMENT TO NEXT TRACK
004230 001000 A 1673 JMP SGBD06+3
004231 004235 A
004232 001040 A 1674 SGBD06 JXZ BTT040 ALL TRKS CHECKED. OK IF WITHIN PART.
004233 004255 A
004234 005344 A 1675 DXR DECREMENT NO. OF TRKS TO TEST.
004235 007400 A 1676 RDB
004236 044015 A 1677 INR SGBD09 BIT COUNT
004237 004341 A 1678 LSRA 1
004240 001007 A 1679 JDFN SGBD05+1 TEST NEXT TRK
004241 004225 A
004242 005122 A 1680 IER IF OVERFLOW ON, GET NEXT BAD TRK WD
004243 006010 A 1681 LDAI 077760
004244 077760 A
004245 054006 A 1682 STA SGBD09
004246 006010 A 1683 SGBD07 LDAI 04340 LSRA 0
004247 004340 A
004250 006057 A 1684 STAE SGBD05
004251 004221 A
004252 001001 A 1685 JDF SGBD03 ALWAYS JMP. RESET OVERFLOW.
004253 004222 A
004254 000000 A 1686 SGBD09 DATA 0 BIT COUNT FOR BAD TRK WORD.
004255 A 1687 *
1688 * BTT040 EQU *
1689 *****
1690 * CHECK FOR END OF PARTITION *
1691 *****
004255 034016 A 1692 LDX BTTRTA GET RETURN ADDRESS
004256 025000 A 1693 LDB 0,X GET PST INFO ADDRESS
004257 014017 A 1694 LDA BTTTND+1
004260 146003 A 1695 SUB 0,B SUBTRACT END OF PARTITION
004261 001002 A 1696 JAP BTT050 JUMP IF PAST END OF PARTITION
004262 004271 A
1697 *****
1698 * COMPUTE ACTUAL SECTOR NUMBER *
1699 *****
004263 024013 A 1700 LDB BTTTND+1 GET ACTUAL TRK NUMBER.
004264 005322 A 1701 DBR
004265 014007 A 1702 LDA BTTRSN GET RELATIVE SECTOR NO. IN TRACK
004266 161244 A 1703 MUL SGPBUF MULTIPLY BY NO. OF SECTORS / TRACK

```


Address	Code	Label	Op	Op2	Description	Line	Page
004267	006705	A	1704	I JMP	2,X	RETURN	02 01698
004270	000002	A					
	004271	A	1705	BTT050	EQU *		02 01699
			1706		*****		02 01700
			1707		* RETURN WITH ERROR *		02 01701
			1708		*****		02 01702
004271	005301	A	1709	DECR	A		02 01703
004272	006703	A	1710	I JMP	2,X	RETURN	02 01704
004273	000002	A					
004274			1711	BTTRTA	BSS 1	RETURN ADDRESS	02 01705
004275			1712	BTTTRN	BSS 1	RELATIVE SECTOR NUMBER IN TRACK	02 01706
004276			1713	BTTTND	BSS 2	ACTUAL TRK NUMBER	02 01707
004300			1714	BYTADR	BSS 1	ADDRESS OF BIT ENTRY	02 01708
004301	000000	A	1715	BADTK	DATA 0	NO. OF WORDS IN PAD TRK TABLE	02 01709
			1716		EJEC		02 01710
			1717		*		02 01711
			1718		* SGVMS		02 01712
			1719		*		02 01713
			1720		*	PURPOSE: SGVMS READS DATA FROM AND STORES DATA INTO	02 01714
			1721		*	VIRTUAL MEMORIES CREATED ON THE SYSTEM	02 01715
			1722		*	WORKING FILE OF MASS MEMORY.	02 01716
			1723		*		02 01717
			1724		*	CALLING SEQ.: JSR VMRRT,X READS FROM ROOT SEGMENT	02 01718
			1725		*		02 01719
			1726		*	JSR VMWRT,X WRITES INTO ROOT SEGMENT	02 01720
			1727		*		02 01721
			1728		*	JSR VMRCT,X READS FROM CURRENT SEGMENT	02 01722
			1729		*		02 01723
			1730		*	JSR VMWCT,X WRITES INTO CURRENT SEGMENT	02 01724
			1731		*		02 01725
			1732		*	EXIT: RETURNS TO CALLING ROUTINE; (AR) AND (BR) RESTORE	02 01726
			1733		*		02 01727
004302	000000	A	1734	SGVMS	ENIR		02 01728
004303	014121	A	1735	LDA	MA	(AR)= VIRTUAL MEMORY ADDRESS	02 01729
004304	144126	A	1736	SUB	BA		02 01730
004305	005016	A	1737	BERG	016	(AR)=(XR)=(BR)=(MA)-(BA)	02 01731
004306	005001	A	1738	TZA			02 01732
004307	170000	L	1739	DIV	=120		02 01733
004310	064116	A	1740	STB	PN	(BR)=(PN)=NUM OF VIRTUAL MEMORY PAGE	02 01734
004311	005221	A	1741	COMP	021		02 01735
004312	005112	A	1742	INCR	012	(BR)--(PN)	02 01736
004313	005041	A	1743	TXA			02 01737
004314	160000	L	1744	MUL	=120		02 01738
004315	064112	A	1745	STB	RLP	(RLP)=(MA)-(BA)-((PN)X120)	02 01739
			1746		*		02 01740
004316	014110	A	1747	VMS1	LDA	PN	02 01741
004317	124114	A	1748	ADD	BA		02 01742
004320	144111	A	1749	SUB	CBS+1		02 01743
004321	001010	A	1750	JAZ	VMS2	JUMP TO READ/WRITE IF CORRECT PAGE IN CORE	02 01744
004322	004342	A					
004323	014105	A	1751	LDA	CBS		02 01745
004324	001004	A	1752	JAN	VMS3	SKIP WRITE OF OLD PAGE IF FIRST OPERATION	02 01746
004325	004331	A					
004326	006505	A	1753	JSR	TDW,X	WRITE OLD PAGE BUFFER CONTENTS TO VIR. MEM	02 01747
004327	004464	A					
004330	004432	A	1754		DATA CBS+1	SYSTEM WORKING FILE LOGICAL UNIT	02 01748
			1755		*		02 01749
004331	014075	A	1756	VMS3	LDA	PN	02 01750
004332	054076	A	1757	STA	CBS		02 01751
004333	124100	A	1758	ADD	BA		02 01752
004334	054075	A	1759	STA	CBS+1	SET NEW PAGE BUFFER STATUS	02 01753
			1760		*		02 01754
004335	006505	A	1761	VMS6	JSR	TDW,X	02 01755
004336	004441	A					
004337	004432	A	1762		DATA CBS+1		02 01756
004340	001000	A	1763	JMP	VMS1	JUMP TO READ OR WRITE WORD	02 01757
004341	004316	A					
			1764		*		02 01758
			1765		* READ/WRITE OPERATION		02 01759
			1766		*		02 01760
004342	024065	A	1767	VMS2	LDB	RLP	(BR)=RELATIVE POINTER INTO PAGE
004343	034060	A	1768	LDB	MODE		02 01761
004344	001046	A	1769	JKNZ	VMS4		02 01762
004345	004353	A					02 01763
			1770		*	* READ OPERATION *	02 01764
004346	006016	A	1771	LDAB	SGVBUF,B		02 01765
004347	001054	A					
004350	054053	A	1772	STA	VDATA	(VDATA)=DESIRED WORD	02 01766
004351	001000	A	1773	JMP*	SGVMS		02 01767
004352	104302	A					
			1774		*	* WRITE OPERATION *	02 01768
004353	014052	A	1775	VMS4	LDA	VDATA	02 01769
004354	006056	A	1776	STAB	SGVBUF,B	STORE (VDATA) INTO CURRENT PAGE BUFFER	02 01770
004355	001054	A					
004356	001000	A	1777	JMP*	SGVMS	RETURN	02 01771
004357	104302	A					
			1778		*		02 01772
			1779		* NORMAL ENTRY POINTS FOR SGVMS		02 01773
			1780		*		02 01774
			1781		*	READ FROM ROOT SEGMENT	02 01775
			1782		*		02 01776
004360	074042	A	1783	VMRRT	STX	VM2	02 01777
004361	005004	A	1784		TX	SAVE RETURN ADDRESS	02 01778


```

004362 074041 A 1785 STX MODE SET READ/WRITE MODE TO READ 02 01779
004363 001000 A 1786 JMP VMRT 02 01780
004364 004370 A 1787 * 02 01781
1788 * WRITE INTO ROOT SEGMENT 02 01782
1789 * 02 01783
004365 074035 A 1790 VMWRT STX VM2 SAVE RETURN ADDRESS 02 01784
004366 005104 A 1791 INCR 04 02 01785
004367 074034 A 1792 STX MODE SET READ/WRITE MODE TO WRITE 02 01786
004370 054044 A 1793 VMRT STA VMAS 02 01787
004371 064044 A 1794 STB VMBS SAVE REGISTERS 02 01788
004372 012656 A 1795 LDA SGBARS 02 01789
004373 054037 A 1796 STA BA (BA)= BASE ADDRESS/ROOT SEG. VIRTUAL MEMOR 02 01790
004374 012657 A 1797 LDA SGBSNR 02 01791
004375 054036 A 1798 STA SA (SA)= BASE SECTOR NUM/ROOT SEG. VIRTUAL ME 02 01792
004376 001000 A 1799 JMP VM1 02 01793
004377 004416 A 1800 * 02 01794
1801 * READ FROM CURRENT SEGMENT 02 01795
1802 * 02 01796
004400 074022 A 1803 VMWRT STX VM2 SAVE RETURN ADDRESS 02 01797
004401 005004 A 1804 TZX 02 01798
004402 074021 A 1805 STX MODE SET READ/WRITE MODE TO READ 02 01799
004403 001000 A 1806 JMP VMCT 02 01800
004404 004410 A 1807 * 02 01801
1808 * WRITE INTO CURRENT MODE 02 01802
1809 * 02 01803
004405 074015 A 1810 VMWCT STX VM2 SAVE RETURN ADDRESS 02 01804
004406 005104 A 1811 INCR 04 02 01805
004407 074014 A 1812 STX MODE SET READ/WRITE MODE TO WRITE 02 01806
004410 054024 A 1813 VMCT STA VMAS 02 01807
004411 064024 A 1814 STB VMBS SAVE REGISTERS 02 01808
004412 012701 A 1815 LDA SGBBAD 02 01809
004413 054017 A 1816 STA BA (BA)= BASE ADDR/CURRENT SEG. VIRTUAL MEMOR 02 01810
004414 012702 A 1817 LDA SGBCSN 02 01811
004415 054016 A 1818 STA SA (SA)= BASE SECTOR/CURRENT SEG. VIRTUAL MEM 02 01812
1819 * 02 01813
1820 * 02 01814
004416 002000 A 1821 VM1 CALL SGVMS OPERATE ON VIRTUAL MEMORY 02 01815
004417 004302 A 1822 LDA VMAS 02 01816
004420 014014 A 1823 LDB VMBS RESTORE REGISTERS 02 01817
004422 001000 A 1824 JMP 0 02 01818
004423 000000 A 1825 VM2 BES 0 RETURN 02 01819
004423 000000 A 1826 * VIRTUAL MEMORY DATA REGISTERS 02 01820
1827 * 02 01821
004424 000000 A 1828 MODE DATA 0 =1 FOR WRITE; =0 FOR READ 02 01822
004425 000000 A 1829 MA DATA 0 MEMORY ADDRESS REGISTER 02 01823
004426 000000 A 1830 VDATA DATA 0 MEMORY BUFFER REGISTER 02 01824
004427 000000 A 1831 PN DATA 0 COMPUTED PAGE NUMBER 02 01825
004430 000000 A 1832 RLP DATA 0 COMPUTED PAGE RELATIVE POINTER 02 01826
004431 000000 A 1833 CRS DATA 0 NUM OF V.M. PAGE CURRENTLY IN VMBUF 02 01827
004432 000000 A 1834 DATA 0 SECTOR NUM OF V.M. PAGE CURRENTLY IN VMBUF 02 01828
004433 000000 A 1835 BA DATA 0 BASE ADDR/CURRENT SEG. OF VIRTUAL MEMORY 02 01829
004434 000000 A 1836 SA DATA 0 BASE SECTOR/CURRENT SEG. OF VIRTUAL MEMORY 02 01830
004435 000000 A 1837 VMAS DATA 0 (AR) TEMP. STORE. 02 01831
004436 000000 A 1838 VMBS DATA 0 (BR) TEMP. STORE. 02 01832
004437 000000 A 1839 ADDRE DATA 0 02 01833
004440 000000 A 1840 LITS DATA 0 LITERAL POUTINE TEMPORARY STORE 02 01834
1841 EQU 02 01835
1842 * 02 01836
1843 * SPECIAL READ/WRITE ROUTINE FOR VIRTUAL MEMORY. 02 01837
1844 * 02 01838
1845 * PURPOSE: TO READ DATA FROM SPECIFIED SECTOR OF SYSTEM 02 01839
1846 * WORKING FILE TO "LGOUTB". 02 01840
1847 * TO WRITE DATA FROM "LGOUTB" TO SPECIFIED 02 01841
1848 * SECTOR OF SYSTEM WORKING FILE. 02 01842
1849 * 02 01843
1850 * CALLING SEQ.: JSR IDR,X * READS 120 WORDS FROM 02 01844
1851 * DATA NUM * SECTOR #'NUM' TO 'SGVBUF' 02 01845
1852 * 02 01846
1853 * JSR IDW,X * WRITES 120 FROM 'SGVBUF' 02 01847
1854 * DATA NUM * INTO SECTOR #'NUM' 02 01848
1855 * 02 01849
1856 * EXIT: RETURN IF NORMAL READ OR WRITE; 02 01850
1857 * TO READ/WRITE ERROR IF I/O ERROR; 02 01851
1858 * TO PSIZ ERROR IF EOF OR BEDD RETURN FROM I/O. 02 01852
1859 * 02 01853
1860 * 02 01854
004441 004441 A 1861 IDR EQU * 02 01855
004441 074017 A 1862 STX IDR1 SAVE RETURN POINTER 02 01856
004442 035000 A 1863 LDX 0,X 02 01857
004443 015000 A 1864 LDA 0,X 02 01858
004444 054003 A 1865 STA IDR2 PUT SECTOR NUMBER IN CALL 02 01859
004445 013520 A 1866 LDA SGPSTE (A) = PST ENTRY ADDRESS 02 01860
004446 006505 A 1867 JSR SGPSTX READ DATA INTO SGVBUF 02 01861
004447 003740 A 1868 * 02 01862
004450 000000 A 1868 IDR2 DATA 0 02 01863
004451 000170 A 1869 DATA 120 02 01864
004452 001054 A 1870 DATA SGVBUF 02 01865
004453 001002 A 1871 JAP IDR2 JUMP IF NOT READ ERROR 02 01866

```


004454	004460	A							
004455	034003	A	1872	LDX	IQR1			02	01866
004456	001000	A	1873	JMP	IQR			02	01867
004457	004441	A							
	004460	A	1874	IQRZ	EQU	*		02	01868
004460	006030	A	1875	LDXI	0			02	01869
004461	000000	A							
004461		A	1876	IQR1	BES	0		02	01870
004462	006705	A	1877	IJMP	1,X		RETURN	02	01871
004463	000001	A							
		A	1878	*				02	01872
	004464	A	1879	IDW	EQU	*		02	01873
004464	074017	A	1880	STX	IDW1		SAVE RETURN POINTER	02	01874
004465	035000	A	1881	LDX	0,X			02	01875
004466	015000	A	1882	LDA	0,X			02	01876
004467	054003	A	1883	STA	IDW2		PUT SECTOR NUMBER IN CALL	02	01877
004470	013520	A	1884	LDA	SGPSTE		(A) = PST ENTRY ADDRESS	02	01878
004471	006503	A	1885	JSR	SGSWRM,X		WRITE DATA FROM SGVBUF	02	01879
004472	004007	A							
004473	000000	A	1886	IDW2	DATA	0		02	01880
004474	000170	A	1887	DATA	120			02	01881
004475	001054	A	1888	DATA	SGVBUF			02	01882
004476	001002	A	1889	JAP	IQRX		JUMP IF NOT WRITE ERROR	02	01883
004477	004503	A							
004500	034003	A	1890	LDX	IDW1			02	01884
004501	001000	A	1891	JMP	IDW			02	01885
004502	004464	A							
	004503	A	1892	IQRX	EQU	*		02	01886
004503	006030	A	1893	LDXI	0			02	01887
004504	000000	A							
004504		A	1894	IDW1	BES	0		02	01888
004505	006705	A	1895	IJMP	1,X		RETURN	02	01889
004506	000001	A							
		A	1896	EJEC				02	01890
		A	1897	*				02	01891
		A	1898	*	SGGET			02	01892
		A	1899	*				02	01893
		A	1900	*				02	01894
		A	1901	*			PURPOSE: SGGET IS CALLED TO FETCH A STACK ITEM	02	01895
		A	1902	*			AND PLACE IT IN A SPECIFIED BUFFER AREA.	02	01896
		A	1903	*				02	01897
		A	1904	*			CALLING SEQUENCE: (XR)= ADDR. OF STACK CONTROL BLOCK	02	01898
		A	1905	*			(BR)= ADDR. OF ITEM BUFFER	02	01899
		A	1906	*			CALL SGGET	02	01900
		A	1907	*				02	01901
		A	1908	*			RETURN PARAMETERS: (AR)= +1 IF ITEM FETCHED	02	01902
		A	1909	*			-1 IF STACK FOUND EMPTY	02	01903
004507	000000	A	1910	SGGET	ENTR			02	01904
004510	064047	A	1911	STB	GETM2+2			02	01905
004511	015000	A	1912	LDA	0,X		GET BASE ADDR.	02	01906
004512	145001	A	1913	SUB	1,X		MINUS BOTTOM ADDR.	02	01907
004513	001004	A	1914	JAN	AGET1		IF NOT EMPTY STACK	02	01908
004514	004520	A							
004515	005301	A	1915	DECR	1		SET STACK EMPTY FLAG	02	01909
004516	001000	A	1916	JMP*	SGGET		AND RETURN	02	01910
004517	104507	A							
		A	1917	*				02	01911
004520	015002	A	1918	AGET1	LDA	2,X	GET STACK ITEM LENGTH	02	01912
004521	054034	A	1919	STA	GETM2		AND STORE IN ITEM MOVE "COUNT"	02	01913
004522	015001	A	1920	LDA	1,X		GET STACK BOTTOM	02	01914
004523	145002	A	1921	SUB	2,X		MINUS ITEM LENGTH	02	01915
004524	054032	A	1922	STA	GETM2+1		AND STORE IN ITEM MOVE "FROM ADDR."	02	01916
004525	140544	A	1923	SUB	BSTACK		SUBTRACT BASE ADDR. OF LOWEST STACK	02	01917
004526	054034	A	1924	STA	GETM1		TO GET STACK MOVE "COUNT"	02	01918
004527	010544	A	1925	LDA	BSTACK		BASE ADDR. OF LOWEST STACK	02	01919
004530	054033	A	1926	STA	GETM1+1		IS STACK MOVE "FROM ADDR."	02	01920
004531	125002	A	1927	ADD	2,X		PLUS ITEM LENGTH...	02	01921
004532	054032	A	1928	STA	GETM1+2		BECOMES STACK MOVE "TO ADDR."	02	01922
		A	1929	*				02	01923
		A	1930	*			UPDATE BASE AND BOTTOM POINTERS	02	01924
		A	1931	*				02	01925
004533	005042	A	1932	TXB				02	01926
004534	016000	A	1933	LDA	0,B			02	01927
004535	125002	A	1934	ADD	2,X			02	01928
004536	056000	A	1935	STA	0,B		UPDATE BASE POINTER FOR DESIGNATED STACK	02	01929
004537	005122	A	1936	IBR				02	01930
004540	005122	A	1937	IBR				02	01931
004541	005122	A	1938	IBR				02	01932
004542	016000	A	1939	LDA	0,B		GET NEXT BASE POINTER	02	01933
004543	001004	A	1940	JAN	AGET3		IF END OF STACK CONTROL BLOCK	02	01934
004544	004554	A							
004545	125002	A	1941	ADD	2,X			02	01935
004546	056000	A	1942	STA	0,B		UPDATE BASE POINTER	02	01936
004547	016001	A	1943	LDA	1,B			02	01937
004550	125002	A	1944	ADD	2,X			02	01938
004551	056001	A	1945	STR	1,B		UPDATE BOTTOM POINTER	02	01939
004552	001000	A	1946	JMP	AGET2		CONTINUE	02	01940
004553	004537	A							
		A	1947	*				02	01941
004554		A	1948	AGET3	BSS	?		02	01942
004554	002000	A	1949	CALL	SGMDV		MOVE STACK ITEM TO BUFFER	02	01943
004555	004731	A							
004556	000000	A	1950	GETM2	DATA	0		02	01944

004557	000000	A	1951	DATA	0			02	01945
004560	000000	A	1952	DATA	0			02	01946
004561	002000	A	1953	CALL	SGMOV	MOVE ALL LOWER STACK ITEMS UP		02	01947
004562	004731	A							
004563	000000	A	1954	GETM1	DATA	0		02	01948
004564	000000	A	1955	DATA	0			02	01949
004565	000000	A	1956	DATA	0			02	01950
004566	005101	A	1957	INCR	1	SET NORMAL RETURN FLAG		02	01951
004567	001000	A	1958	JMP*	SGGET	RETURN		02	01952
004570	104507	A							
			1959	EJEC				02	01953
			1960	*				02	01954
			1961	**	SGPUT			02	01955
			1962	**				02	01956
			1963	**				02	01957
			1964	**		PURPOSE: SGPUP IS CALLED TO ENTER A STACK ITEM		02	01958
			1965	**		INTO A DESIGNATED STACK.		02	01959
			1966	**				02	01960
			1967	**		CALLING SEQUENCE: (XR)= ADDR. OF STACK CONTROL BLOCK		02	01961
			1968	**		(BR)= ADDR. OF STACK ITEM BUFFER		02	01962
			1969	**		CALL SGPUP		02	01963
			1970	**				02	01964
			1971	**		RETURN PARAMETERS: (AR)= +1 IF ITEM PLACED ON STACK		02	01965
			1972	**		-1 IF NO ROOM FOR STACK ITEM		02	01966
004571	000000	A	1973	SGPUT	ENTR			02	01967
004572	074040	A	1974	STX	APUT2	SAVE ADDR. OF STACK CONTROL BLOCK		02	01968
004573	064034	A	1975	STB	PUTM3	SAVE ADDR. OF ITEM BUFFER		02	01969
004574	010544	A	1976	LDA	BSTACK	COMPARE ADDR. OF BASE OF STACKS		02	01970
004575	145002	A	1977	SUB	2,X	AGAINST TOP OF PROGRAM AREA.		02	01971
004576	140655	A	1978	SUB	TPROG			02	01972
004577	001002	A	1979	JAP	APUT1	JUMP IF ROOM FOR NEW STACK ITEM		02	01973
004600	004604	A							
004601	005301	A	1980	DECR	1			02	01974
004602	001000	A	1981	JMP*	SGPUT	OTHERWISE RETURN WITH (AR)=-1		02	01975
004603	104571	A							
			1982	*				02	01976
004604		A	1983	APUT1	BSS	0		02	01977
004604	015002	A	1984	LDA	2,X	GET ENTRY ITEM SIZE		02	01978
004605	054021	A	1985	STA	PUTM2	AND STORE IN MOVE COUNT		02	01979
004606	015001	A	1986	LDA	1,X	GET STACK BOTTOM ADDR.,		02	01980
004607	145002	A	1987	SUB	2,X	SUBTRACT ITEM SIZE,		02	01981
004610	054020	A	1988	STA	PUTM2+2	AND STORE IN MOVE "TO" ADDR.		02	01982
			1989	*				02	01983
004611	010544	A	1990	LDA	BSTACK	GET BASE OF LOWEST STACK		02	01984
004612	054010	A	1991	STA	PUTM1+1	AND STORE AS STACK MOVE "FROM" ADDR.		02	01985
004613	145002	A	1992	SUB	2,X	STORE BASE MINUS ENTRY SIZE		02	01986
004614	054007	A	1993	STA	PUTM1+2	AS STACK MOVE "TO" ADDR.		02	01987
004615	015001	A	1994	LDR	1,X	GET WORD COUNT FROM BASE OF LOWEST STACK		02	01988
004616	140544	A	1995	SUB	BSTACK	TO BOTTOM OF CURRENT STACK,		02	01989
004617	054002	A	1996	STA	PUTM1	AND STORE AS STACK MOVE COUNT.		02	01990
004620	002000	A	1997	CALL	SGMOV	MOVE STACKS DOWN		02	01991
004621	004731	A							
004622	000000	A	1998	PUTM1	DATA	0		02	01992
004623	000000	A	1999	DATA	0			02	01993
004624	000000	A	2000	DATA	0			02	01994
004625	002000	A	2001	CALL	SGMOV	MOVE ENTRY IN		02	01995
004626	004731	A							
004627	000000	A	2002	PUTM2	DATA	0		02	01996
004630	000000	A	2003	PUTM3	DATA	0		02	01997
004631	000000	A	2004	DATA	0			02	01998
			2005	*				02	01999
			2006	**		NOW UPDATE STACK CONTROL BLOCK POINTERS		02	02000
			2007	**				02	02001
004632	006030	A	2008	LXI	0			02	02002
004633	000000	A							
004633		A	2009	APUT2	BES	0		02	02003
004634	005042	A	2010	TBS		(BR)=(XR)=ADDR. OF BASE OF STACK		02	02004
004635	016000	A	2011	LDA	0,B			02	02005
004636	145002	A	2012	SUB	2,X			02	02006
004637	056000	A	2013	STA	0,B	LOWER BASE OF DESIGNATED STACK		02	02007
004640	005122	A	2014	APUT4	IBR			02	02008
004641	005122	A	2015	IBR		INCREMENT PTR TO NEXT STACK'S CONTROL		02	02009
004642	005122	A	2016	IBR				02	02010
004643	016000	A	2017	LEA	0,B			02	02011
004644	001004	A	2018	JAN	APUT5	IF END OF STACK CONTROL BLOCK		02	02012
004645	004655	A							
004646	145002	A	2019	SUB	2,X			02	02013
004647	056000	A	2020	STA	0,B	LOWER STACK BASE		02	02014
004650	016001	A	2021	LDA	1,B			02	02015
004651	145002	A	2022	SUB	2,X			02	02016
004652	056001	A	2023	STA	1,B	LOWER STACK BOTTOM		02	02017
004653	001000	A	2024	JMP	APUT4			02	02018
004654	004640	A							
			2025	*				02	02019
004655	005101	A	2026	APUT5	INCR	1	SET NORMAL RETURN FLAG	02	02020
004656	001000	A	2027	JMP*	SGPUT	RETURN		02	02021
004657	104571	A							
			2028	EJEC				02	02022
			2029	*				02	02023
			2030	**	SGMOV			02	02024
			2031	**				02	02025
			2032	**		PURPOSE: SGMOV MOVES A CONTIGUOUS BLOCK OF DATA FROM		02	02026
			2033	**		ONE ADDRESS IN MEMORY TO ANOTHER.		02	02027


```

2034 *
2035 * CALLING SEQ: CALL SGMOV
2036 * DATA NUMBER OF WORDS TO MOVE
2037 * DATA FROM-ADDRESS
2038 * DATA TO-ADDRESS
2039 *
2040 * EXIT: RETURN TO CALLING PROGRAM; NO EXIT PARAMETERS
2041 *
2042 *
004660 034050 A 2043 MOV1 LDX MOVH
004661 015001 A 2044 LDA 1,X (AR)= DATA FROM-ADDRESS
004662 145002 A 2045 SUB 2,X IF TO-ADDR LOWER IN CORE THAN FROM-ADDR,
004663 001004 A 2046 JAN MOVH MOVE DATA IN REVERSE ORDER.
004664 004703 A
2047 *
2048 * FORWARD MOVE (DATA MOVED STARTING WITH LOWEST LOCATION)
2049 *
004665 025001 A 2050 LDB 1,X (BR)= FROM ADDR
004666 015000 A 2051 LDA 0,X (AR)= WORD COUNT
004667 035002 A 2052 LDX 2,X (XR)= TO-ADDR
004670 005311 A 2053 MOV2 DAB DECREMENT WORD COUNT
004671 001004 A 2054 JAN MOVE JUMP TO CLEAN-UP IF MOVE FINISHED
004672 004725 A
004673 054040 A 2055 STA MOVH SAVE PRESENT WORD COUNT
004674 016000 A 2056 LDA 0,B
004675 055000 A 2057 STA 0,X MOVE A WORD
004676 005122 A 2058 IBR
004677 005144 A 2059 IXR INCREMENT INDICES
004700 014033 A 2060 LDA MOVH
004701 001000 A 2061 JMP MOV2 CONTINUE
004702 004670 A
2062 *
2063 * REVERSE MOVE (DATA MOVED STARTING WITH HIGHEST LOCATION)
2064 *
004703 015000 A 2065 MOV3 LRA 0,X
004704 125001 A 2066 ARD 1,X
004705 005012 A 2067 TAB (BR)= TOP OF "FROM" AREA
004706 015000 A 2068 LDA 0,X
004707 054024 A 2069 STA MOVH SAVE WORD COUNT
004710 125002 A 2070 ADD 2,X
004711 005014 A 2071 TAB (XR)= TOP OF "TO" AREA
004712 014021 A 2072 MOV3 LDA MOVH
004713 005311 A 2073 DAB DECREMENT WORD COUNT
004714 001004 A 2074 JAN MOVE JUMP TO CLEAN-UP IF MOVE FINISHED
004715 004725 A
004716 054015 A 2075 STA MOVH SAVE PRESENT WORD COUNT
004717 005322 A 2076 DBR
004720 005344 A 2077 DXR DECREMENT INDICES
004721 016000 A 2078 LDA 0,B
004722 055000 A 2079 STA 0,X MOVE A WORD
004723 001000 A 2080 JMP MOV3 CONTINUE
004724 004710 A
2081 *
004725 044003 A 2082 MOVE INR MOVH FIX UP RETURN ADDRESS
004726 044002 A 2083 INR MOVH
004727 044001 A 2084 INR MOVH
004730 001000 A 2085 JMP 0 RETURN
004731 000000 A
004731 2086 SGMOV RES 0 ENTRY POINT
004731 MOVH RES 0
004732 001000 A 2088 JMP MOV1
004733 004660 A
2089 *
004734 000000 A 2090 MOVH DATA 0 CURRENT WORD COUNT REGISTER
2091 *
2092 * EXEC
2093 *
2094 *
2095 * RELOAD
2096 *
2097 * PURPOSE: TO REWIND 'LIB' AND CALL (SGLD) TO RELOAD THE DIRECTIVE
2098 * PROCESSOR.
2099 *
2100 * CALLING SEQUENCE: JMP RELOAD
2101 *
2102 * NOTE: THIS ROUTINE DOES NOT RETURN - CALLS 'EXIT'
2103 *
2104 *
004735 004735 A 2105 RELOAD EQU *
004736 002000 A 2106 CALL 1000 REWIND 'LIB'
004737 002004 A 2107 DATA 02000+4
004740 002000 A 2108 CALL 1000 CHECK STATUS
004741 004736 E
004742 000004 A 2109 DATA 4
004743 004735 A 2110 DATA RELOAD,RELOAD1,RELOAD1,*-6
004744 004747 A
004745 004747 A
004746 004740 A
004747 004747 A 2111 RELOAD1 EQU *
004747 002000 A 2112 CALL 1000 PAUSE FOR RECOVERY
004750 004741 E
004751 000403 A 2113 DATA 0400+0C

```



```

004752 000074 A 2114 DATA 60 02 02108
004753 000664 A 2115 DATA SGIBUF 02 02109
004754 002000 A 2116 CALL IOCS CHECK STATUS 02 02110
004755 004750 E
004756 000003 A 2117 DATA DC 02 02111
004757 004763 A 2118 DATA RELOD2,RELOD2,RELOD2,*-6 02 02112
004760 004763 A
004761 004763 A
004762 004754 A
004763 004763 A 2119 RELOD2 EQU * 02 02113
004763 006030 A 2120 LDXI RELOD3 02 02114
004764 004767 A
004765 001000 A 2121 JMP EXIT GO TO (SGLDR) 02 02115
004766 000000 E
004767 055621 A 2122 RELOD3 DATA 055621 LOADER CODE ENTRY FOR *DIRECTIVE PROCESSOR 02 02116
004770 031636 A 2123 DATA 031636 02 02117
004771 000000 A 2124 DATA 0 02 02118
003000 A 2125 END SGEN4 02 02119

```

ENTRY NAMES

003000 A SGEN4

EXTERNAL NAMES

004766 E EXIT 004755 E IOCS

SYMBOLS

```

000551 A $LUB 000550 A $LUN 000576 A $PUB 000551 A $PUN
000001 A A 000663 A ADSCAM 000662 A ADCRDR 004437 A ADDRE
004520 A AGET1 004537 A AGET2 004554 A AGET3 004604 A APUT1
004633 A APUT2 004640 A APUT4 004655 A APUT5 000002 A B
000000 A B0 000001 A B1 000012 A B10 000013 A B11
000014 A B12 000015 A B13 000016 A B14 000017 A B15
000002 A B2 000003 A B3 000004 A B4 000005 A B5
000006 A B6 000007 A B7 000010 A B8 000011 A B9
004433 A BA 004301 A BADTK 002527 A BM1 002600 A BM17
002603 A BM177 002605 A BM1777 002572 A BM3 002601 A BM37
002571 A BM377 002575 A BM7 002602 A BM77 002604 A BM777
002547 A BR0 002550 A BR1 002561 A BR10 002562 A BR11
002563 A BR12 002564 A BR13 002565 A BR14 002566 A BR15
002551 A BR2 002552 A BR3 002553 A BR4 002554 A BR5
002555 A BR6 002556 A BR7 002557 A BR8 002560 A BR9
002527 A BS0 002530 A BS1 002541 A BS10 002542 A BS11
002543 A BS12 002544 A BS13 002545 A BS14 002546 A BS15
002531 A BS2 002532 A BS3 002533 A BS4 002534 A BS5
002535 A BS6 002536 A BS7 002537 A BS8 002540 A BS9
000544 A BSTACK 001130 A BTSIZ 004136 A BTT010 004144 A BTT020
004161 A BTT030 004255 A BTT040 004271 A BTT050 004300 A BTTADR
004275 A BTTRSN 004274 A BTTRTA 004276 A BTTTND 004431 A CBS
000002 A DIR 002653 A DREC 003644 A EAR010 003651 A EAR020
003660 A EAR030 003665 A EAR040 002532 A EIGHT 002606 A ER00
002607 A ER01 002610 A ER02 002611 A ER03 002612 A ER04
002613 A ER05 002614 A ER06 002615 A ER07 002616 A ER08
002617 A ER09 002620 A ER10 002621 A ER11 002622 A ER12
002623 A ER13 002624 A ER14 002625 A ER15 002626 A ER20
002627 A ER21 002630 A ER22 002631 A ER23 002632 A ER24
002633 A ER25 002634 A ER26 002635 A ER30 002636 A ER31
002637 A ER32 002640 A ER33 002641 A ER34 002642 A ER40
002643 A ER41 002644 A ER42 002645 A ER43 002646 A ER44
002647 A ER45 002650 A ER46 002651 A ER47 002652 A ER48
000547 A ESCB 004766 E EXIT 002573 A FIVE 002531 A FOUR
004563 A GETM1 004556 A GETM2 002737 A IEND 002654 A INUNTY
004755 E IOCS 004441 A IDR 004461 A IDR1 004450 A IDR2
004503 A IDRX 004460 A IDRZ 004464 A IDW 004504 A IDW1
004473 A IDW2 002653 A ISTART 002470 A ITEM 002533 A K16
002534 A KD32 002570 A LHW 000005 A LIS 004440 A LITS
000005 A LD 000551 A LUT 004425 A MA 002655 A MFLAG
004424 A MODE 004660 A MOV1 004670 A MOV2 004712 A MOV3
004734 A MOVE 004725 A MOVE 004793 A MOVE 004731 A MOVW
002526 A MT 002567 A NEG 002576 A NINE 000003 A DC
002527 A ONE 004427 A PN 000600 A PUT 004622 A PUTM1
004627 A PUTM2 004630 A PUTM3 000040 A RAO 000000 A RA1
000060 A RB0 003020 A RB1 004735 A RELOAD 004747 A RELOD1
004763 A RELOD2 004767 A RELOD3 002571 A RHW 004430 A RLP
000007 A RND 003746 A RRM002 003747 A RRM004 004067 A RRM010
004101 A RRM012 004105 A RRM014 004107 A RRM016 003764 A RRM020
003765 A RRM030 003766 A RRM040 003776 A RRM045 004001 A RRM050
004006 A RRMRTA 004056 A RRMSKP 003017 A RTC0 003044 A RTC001
003020 A RTC005 003355 A RTC007 003066 A RTC008 003104 A RTC010
003112 A RTC015 003125 A RTC017 003136 A RTC020 003145 A RTC030
003164 A RTC040 003171 A RTC050 003200 A RTC060 003224 A RTC070
003231 A RTC080 003240 A RTC090 003254 A RTC100 003263 A RTC110
003266 A RTC120 003301 A RTC130 003305 A RTC140 003311 A RTC150
003314 A RTC160 003315 A RTC170 003320 A RTC200 003320 A RTC210
003337 A RTC220 003355 A RTC230 003370 A RTC232 003372 A RTC234
003377 A RTC236 003444 A RTC240 003446 A RTC250 003456 A RTC260
003467 A RTC270 003505 A RTC300 003507 A RTC301 003517 A RTC01A
003521 A RTCCMA 003513 A RTCVNE 003476 A RTLOAD 004434 A SA
003554 A SDR005 003556 A SDR008 003561 A SDR010 003576 A SDR020
003616 A SDR030 003623 A SDR040 003631 A SDR050 003635 A SDR060
003641 A SDRRTA 002575 A SEVEN 004116 A SG5BTT 003642 A SG5EAR
002703 A SG5DBP 003740 A SG5RRM 003000 A SG5RTC 003546 A SG5SDR
003700 A SG5WAR 004007 A SG5HRM 002662 A SGBADD 002656 A SGBARS
000656 A SGBASE 004222 A SGBD03 004224 A SGBD05 004232 A SGBD06
004246 A SGBD07 004254 A SGBD09 004172 A SGBDT 002660 A SGBIAP
002661 A SGBLIT 002657 A SGBSNR 002701 A SGCBAD 002702 A SGCBSN
002676 A SGCHSN 002667 A SGCIDL 002666 A SGCIL 002672 A SGCKEY

```


002704	A	SGCLK1	002700	A	SGCLK3	002676	A	SGCLKN	002671	A	SGCLKN
002700	A	SGCPCN	002677	A	SGCPCN	002673	A	SGCPCN	002675	A	SGCPCN
002712	A	SGEDR1	002713	A	SGEDR2	002714	A	SGEDR3	002715	A	SGEDR4
002716	A	SGEDR5	002717	A	SGEDR6	002718	A	SGEDR7	002719	A	SGEDR8
002722	A	SGEDR9	002723	A	SGEDR10	002724	A	SGEDR11	002725	A	SGEDR12
002729	A	SGEDR13	002730	A	SGEDR14	002731	A	SGEDR15	002732	A	SGEDR16
002734	A	SGEDR17	002735	A	SGEDR18	002736	A	SGEDR19	002737	A	SGEDR20
002739	A	SGEDR21	002740	A	SGEDR22	002741	A	SGEDR23	002742	A	SGEDR24
002744	A	SGEDR25	002745	A	SGEDR26	002746	A	SGEDR27	002747	A	SGEDR28
002749	A	SGEDR29	002750	A	SGEDR30	002751	A	SGEDR31	002752	A	SGEDR32
002754	A	SGEDR33	002755	A	SGEDR34	002756	A	SGEDR35	002757	A	SGEDR36
002759	A	SGEDR37	002760	A	SGEDR38	002761	A	SGEDR39	002762	A	SGEDR40
002764	A	SGEDR41	002765	A	SGEDR42	002766	A	SGEDR43	002767	A	SGEDR44
002769	A	SGEDR45	002770	A	SGEDR46	002771	A	SGEDR47	002772	A	SGEDR48
002774	A	SGEDR49	002775	A	SGEDR50	002776	A	SGEDR51	002777	A	SGEDR52
002779	A	SGEDR53	002780	A	SGEDR54	002781	A	SGEDR55	002782	A	SGEDR56
002784	A	SGEDR57	002785	A	SGEDR58	002786	A	SGEDR59	002787	A	SGEDR60
002789	A	SGEDR61	002790	A	SGEDR62	002791	A	SGEDR63	002792	A	SGEDR64
002794	A	SGEDR65	002795	A	SGEDR66	002796	A	SGEDR67	002797	A	SGEDR68
002799	A	SGEDR69	002800	A	SGEDR70	002801	A	SGEDR71	002802	A	SGEDR72
002804	A	SGEDR73	002805	A	SGEDR74	002806	A	SGEDR75	002807	A	SGEDR76
002809	A	SGEDR77	002810	A	SGEDR78	002811	A	SGEDR79	002812	A	SGEDR80
002814	A	SGEDR81	002815	A	SGEDR82	002816	A	SGEDR83	002817	A	SGEDR84
002819	A	SGEDR85	002820	A	SGEDR86	002821	A	SGEDR87	002822	A	SGEDR88
002824	A	SGEDR89	002825	A	SGEDR90	002826	A	SGEDR91	002827	A	SGEDR92
002829	A	SGEDR93	002830	A	SGEDR94	002831	A	SGEDR95	002832	A	SGEDR96
002834	A	SGEDR97	002835	A	SGEDR98	002836	A	SGEDR99	002837	A	SGEDR100
002839	A	SGEDR101	002840	A	SGEDR102	002841	A	SGEDR103	002842	A	SGEDR104
002844	A	SGEDR105	002845	A	SGEDR106	002846	A	SGEDR107	002847	A	SGEDR108
002849	A	SGEDR109	002850	A	SGEDR110	002851	A	SGEDR111	002852	A	SGEDR112
002854	A	SGEDR113	002855	A	SGEDR114	002856	A	SGEDR115	002857	A	SGEDR116
002859	A	SGEDR117	002860	A	SGEDR118	002861	A	SGEDR119	002862	A	SGEDR120
002864	A	SGEDR121	002865	A	SGEDR122	002866	A	SGEDR123	002867	A	SGEDR124
002869	A	SGEDR125	002870	A	SGEDR126	002871	A	SGEDR127	002872	A	SGEDR128
002874	A	SGEDR129	002875	A	SGEDR130	002876	A	SGEDR131	002877	A	SGEDR132
002879	A	SGEDR133	002880	A	SGEDR134	002881	A	SGEDR135	002882	A	SGEDR136
002884	A	SGEDR137	002885	A	SGEDR138	002886	A	SGEDR139	002887	A	SGEDR140
002889	A	SGEDR141	002890	A	SGEDR142	002891	A	SGEDR143	002892	A	SGEDR144
002894	A	SGEDR145	002895	A	SGEDR146	002896	A	SGEDR147	002897	A	SGEDR148
002899	A	SGEDR149	002900	A	SGEDR150	002901	A	SGEDR151	002902	A	SGEDR152
002904	A	SGEDR153	002905	A	SGEDR154	002906	A	SGEDR155	002907	A	SGEDR156
002909	A	SGEDR157	002910	A	SGEDR158	002911	A	SGEDR159	002912	A	SGEDR160
002914	A	SGEDR161	002915	A	SGEDR162	002916	A	SGEDR163	002917	A	SGEDR164
002919	A	SGEDR165	002920	A	SGEDR166	002921	A	SGEDR167	002922	A	SGEDR168
002924	A	SGEDR169	002925	A	SGEDR170	002926	A	SGEDR171	002927	A	SGEDR172
002929	A	SGEDR173	002930	A	SGEDR174	002931	A	SGEDR175	002932	A	SGEDR176
002934	A	SGEDR177	002935	A	SGEDR178	002936	A	SGEDR179	002937	A	SGEDR180
002939	A	SGEDR181	002940	A	SGEDR182	002941	A	SGEDR183	002942	A	SGEDR184
002944	A	SGEDR185	002945	A	SGEDR186	002946	A	SGEDR187	002947	A	SGEDR188
002949	A	SGEDR189	002950	A	SGEDR190	002951	A	SGEDR191	002952	A	SGEDR192
002954	A	SGEDR193	002955	A	SGEDR194	002956	A	SGEDR195	002957	A	SGEDR196
002959	A	SGEDR197	002960	A	SGEDR198	002961	A	SGEDR199	002962	A	SGEDR200
002964	A	SGEDR201	002965	A	SGEDR202	002966	A	SGEDR203	002967	A	SGEDR204
002969	A	SGEDR205	002970	A	SGEDR206	002971	A	SGEDR207	002972	A	SGEDR208
002974	A	SGEDR209	002975	A	SGEDR210	002976	A	SGEDR211	002977	A	SGEDR212
002979	A	SGEDR213	002980	A	SGEDR214	002981	A	SGEDR215	002982	A	SGEDR216
002984	A	SGEDR217	002985	A	SGEDR218	002986	A	SGEDR219	002987	A	SGEDR220
002989	A	SGEDR221	002990	A	SGEDR222	002991	A	SGEDR223	002992	A	SGEDR224
002994	A	SGEDR225	002995	A	SGEDR226	002996	A	SGEDR227	002997	A	SGEDR228
002999	A	SGEDR229	003000	A	SGEDR230	003001	A	SGEDR231	003002	A	SGEDR232
003004	A	SGEDR233	003005	A	SGEDR234	003006	A	SGEDR235	003007	A	SGEDR236
003009	A	SGEDR237	003010	A	SGEDR238	003011	A	SGEDR239	003012	A	SGEDR240
003014	A	SGEDR241	003015	A	SGEDR242	003016	A	SGEDR243	003017	A	SGEDR244
003019	A	SGEDR245	003020	A	SGEDR246	003021	A	SGEDR247	003022	A	SGEDR248
003024	A	SGEDR249	003025	A	SGEDR250	003026	A	SGEDR251	003027	A	SGEDR252
003029	A	SGEDR253	003030	A	SGEDR254	003031	A	SGEDR255	003032	A	SGEDR256
003034	A	SGEDR257	003035	A	SGEDR258	003036	A	SGEDR259	003037	A	SGEDR260
003039	A	SGEDR261	003040	A	SGEDR262	003041	A	SGEDR263	003042	A	SGEDR264
003044	A	SGEDR265	003045	A	SGEDR266	003046	A	SGEDR267	003047	A	SGEDR268
003049	A	SGEDR269	003050	A	SGEDR270	003051	A	SGEDR271	003052	A	SGEDR272
003054	A	SGEDR273	003055	A	SGEDR274	003056	A	SGEDR275	003057	A	SGEDR276
003059	A	SGEDR277	003060	A	SGEDR278	003061	A	SGEDR279	003062	A	SGEDR280
003064	A	SGEDR281	003065	A	SGEDR282	003066	A	SGEDR283	003067	A	SGEDR284
003069	A	SGEDR285	003070	A	SGEDR286	003071	A	SGEDR287	003072	A	SGEDR288
003074	A	SGEDR289	003075	A	SGEDR290	003076	A	SGEDR291	003077	A	SGEDR292
003079	A	SGEDR293	003080	A	SGEDR294	003081	A	SGEDR295	003082	A	SGEDR296
003084	A	SGEDR297	003085	A	SGEDR298	003086	A	SGEDR299	003087	A	SGEDR300
003089	A	SGEDR301	003090	A	SGEDR302	003091	A	SGEDR303	003092	A	SGEDR304
003094	A	SGEDR305	003095	A	SGEDR306	003096	A	SGEDR307	003097	A	SGEDR308
003099	A	SGEDR309	003100	A	SGEDR310	003101	A	SGEDR311	003102	A	SGEDR312
003104	A	SGEDR313	003105	A	SGEDR314	003106	A	SGEDR315	003107	A	SGEDR316
003109	A	SGEDR317	003110	A	SGEDR318	003111	A	SGEDR319	003112	A	SGEDR320
003114	A	SGEDR321	003115	A	SGEDR322	003116	A	SGEDR323	003117	A	SGEDR324
003119	A	SGEDR325	003120	A	SGEDR326	003121	A	SGEDR327	003122	A	SGEDR328
003124	A	SGEDR329	003125	A	SGEDR330	003126	A	SGEDR331	003127	A	SGEDR332
003129	A	SGEDR333	003130	A	SGEDR334	003131	A	SGEDR335	003132	A	SGEDR336
003134	A	SGEDR337	003135	A	SGEDR338	003136	A	SGEDR339	003137	A	SGEDR340
003139	A	SGEDR341	003140	A	SGEDR342	003141	A	SGEDR343	003142	A	SGEDR344
003144	A	SGEDR345	003145	A	SGEDR346	003146	A	SGEDR347	003147	A	SGEDR348
003149	A	SGEDR349	003150	A	SGEDR350	003151	A	SGEDR351	003152	A	SGEDR352
003154	A	SGEDR353	003155	A	SGEDR354	003156	A	SGEDR355	003157	A	SGEDR356
003159	A	SGEDR357	003160	A	SGEDR358	003161	A	SGEDR359	003162	A	SGEDR360
003164	A	SGEDR361	003165	A	SGEDR362	003166	A	SGEDR363	003167	A	SGEDR364
003169	A	SGEDR365	003170	A	SGEDR366	003171	A	SGEDR367	003172	A	SGEDR368
003174	A	SGEDR369	003175	A	SGEDR370	003176	A	SGEDR371	003177	A	SGEDR372
003179	A	SGEDR373	003180	A	SGEDR374	003181	A	SGEDR375	003182	A	SGEDR376
003184	A	SGEDR377	003185	A	SGEDR378	003186	A	SGEDR379	003187	A	SGEDR380
003189	A	SGEDR381	003190	A	SGEDR382	003191	A	SGEDR383	003192	A	SGEDR384
003194	A	SGEDR385	003195	A	SGEDR386	003196	A	SGEDR387	003197	A	SGEDR388
003199	A	SGEDR389	003200	A	SGEDR390	003201	A	SGEDR391	003202	A	SGEDR392
003204	A	SGEDR393	003205	A	SGEDR394	003206	A	SGEDR395	003207	A	SGEDR396
003209	A	SGEDR397	003210	A	SGEDR398	003211	A	SGEDR399	003212	A	SGEDR400
003214	A	SGEDR401	003215	A	SGEDR402	003216	A	SGEDR403	003217	A	SGEDR404
003219	A	SGEDR405	003220	A	SGEDR406	003221	A	SGEDR407	003222	A	SGEDR408
003224	A	SGEDR409	003225	A	SGEDR410	003226	A	SGEDR411	003227	A	SGEDR412
003229	A	SGEDR413	003230	A	SGEDR414	003231	A	SGEDR415	003232	A	SGEDR416
003234	A	SGEDR417	003235	A	SGEDR418	003236	A	SGEDR419	003237	A	SGEDR420
003239	A	SGEDR421	003240	A	SGEDR422	003241	A	SGEDR423	003242	A	SGEDR424
003244	A	SGEDR425	003245	A	SGEDR426	003246	A				

000701			43	IN1	BSS	1		OUTPUT "01034" TO BIC	02	00043
000702	010731	A	44		LDA	TOP			02	00044
000703			45	IN2	BSS	1		OUTPUT "TOP OF MEMORY" TO BIC	02	00045
000704	010733	A	46		LDA	BICN			02	00046
000705	110730	A	47		DRA	BS15			02	00047
000706	050707	A	48		STA	*+1		SET-UP "ENABLE BIC" COMMAND	02	00048
000707			49		BSS	1		AND EXECUTE IT	02	00049
000710	010732	A	50		LDA	DEV			02	00050
000711	110730	A	51		DRA	BS15			02	00051
000712	050716	A	52		STA	IN3		SET-UP "SELECT READ MODE" COMMAND	02	00052
000713	006110	A	53		DRAI	03200			02	00053
000714	003200	A								
000715	050717	A	54		STA	IN4		SET-UP "QBR" COMMAND	02	00054
000716			55	IN3	BSS	1		AND EXECUTE COMMANDS	02	00055
000717			56	IN4	BSS	1			02	00056
000720	010733	A	57		LDA	BICN			02	00057
000721	006110	A	58		DRAI	0101000			02	00058
000722	101000	A								
000723	050724	A	59		STA	*+1		SET-UP "SENSE BIC NOT BUSY" COMMAND	02	00059
000724			60	IN6	BSS	1		AND EXECUTE IT	02	00060
000725	000734	A	61		DRAI	IN7			02	00061
000726	001000	A	62		JMP	IN6		WAIT IF BIC BUSY	02	00062
000727	000724	A								
			63	*					02	00063
			64	*					02	00064
000730	100000	A	65	BS15	DATA	0100000			02	00065
			66		EXT	V\$TFC			02	00066
000731	000000	E	67	TOP	DATA	V\$TFC		ADDRESS OF TOP OF MEMORY	02	00067
			68		EXT	V\$SYS			02	00068
000732	000000	E	69	DEV	DATA	#BSYS		DRUM DEVICE ADDRESS	02	00069
			70		EXT	#BSYS			02	00070
000733	000000	E	71	BICN	DATA	#BSYS		BIC DEVICE ADDRESS	02	00071
	000001	A	72	X	EXT	1			02	00072
			73	*					02	00073
			74	*					02	00074
000734			75	INS	BSS	0			02	00075
			76		EXT	V\$DISP			02	00076
			77	*					02	00077
			78	***				REAL TIME CLOCK INITIALIZER	02	00078
			79	*					02	00079
	000047	A	80	CLOCK	COU	047		CLOCK DEVICE NUMBER 047	02	00080
	000352	A	81	V\$SCV	COU	0352		CLOCK SELECTED COUNT VALUE (1 TO 4095)	02	00081
000734	103047	A	82		COU	CLOCK,V\$SCV		OUTPUT INTERVAL SELECT REGISTER	02	00082
000735	000352	A								
000736	100647	A	83		COU	0600+CLOCK		INITIALIZE VARIABLE INTERVAL INT. COUNTER	02	00083
			84	*					02	00084
			85		TFT	VORTEX-2			V2	00085
			86		GETD	I\$DRA20			V2	00086
			87	***	MAP	MEMORY PROTECT			V2	00087
			88	***	LOAD	MAP REGISTERS			V2	00088
			89		EXT	V\$MLD			V2	00089
			90	V\$MING	COU	0353		MAP 0 IMAGE ADDRESS	V2	00090
			91		LDR	V\$MING		B=MAP 0 IMAGE ADDR.	V2	00091
			92		LDR	V\$MING		A=MAP REGISTER NUMBER	V2	00092
			93		JCR	V\$MLD,X		NOH LOAD MAP 0 REGISTERS	V2	00093
			94		DATA	04		NUMBER OF MAPS	V2	00094
			95		JANZ	*+P		CHECK FOR INTERRUPT	V2	00095
			96		HIT			HULT, SOMETHING WRONG WITH MAP LOAD	V2	00096
			97	V\$BVN	COU	0414			V2	00097
			98	V\$CRDR	COU	0341			V2	00098
			99		LDA	V\$CRDR		BOTTOM OF CORE RESIDENT DIRECTORY	V2	00099
			100		LDBA	0			V2	00100
			101		JTA	V\$BVN		CONVERT TO PAGE NUMBER FOR SAL	V2	00101
			102	I\$DRA20	COU				V2	00102
			103		JTA	VORTEX-2			V2	00103
			104		GETD	I\$CRDR		ASSEMBLE IF NOT VORTEX II	V2	00104
			105	***	MEMORY	PROTECT MASK			V2	00105
			106	*					V2	00106
	000330	A	107	V\$MPM	COU	0330		MEMORY PROTECT MASK	V2	00107
	000045	A	108	MP	COU	045		MEMORY PROTECT DEVICE ADDRESS 045	V2	00108
000737	006010	A	109		LDAI	0127777		SET ALL CORE PROTECTED	V2	00109
000740	177777	A								
000741	100045	A	110		EXT	MP			V2	00110
000742	103145	A	111		EXT	MP			V2	00111
000743	103145	A	112		EXT	0100+MP			V2	00112
000744	103145	A	113		EXT	MP			V2	00113
000745	100245	A	114		EXT	0200+MP			V2	00114
000746	103145	A	115		EXT	MP			V2	00115
000747	100345	A	116		EXT	0300+MP			V2	00116
000750	103145	A	117		EXT	MP			V2	00117
			118		EXT	VORTEX-2			V2	00118
			119	I\$DB22	COU				V2	00119
			120	*					V2	00120
			121	***	PIM	INTERRUPT INITIALIZE			V2	00121
			122	*					V2	00122
	000363	A	123	V\$PIMN	COU	0363		EXTERNAL DEVICE ADDRESS TABLE	V2	00123
000751	006010	A	124		LDAI	010020		SET UP LDA INST. FOR PIM MASK	V2	00124
000752	010320	A								
000753	051007	A	125		EXT	0508			V2	00125
000754	006010	A	126		LDAI	000363		SET UP LDA INST. FOR PIM DEVICE ADDRESS TA	V2	00126
000755	023853	A								
000756	050761	A	127		STA	BINADR			V2	00127
000757	006030	A	128		LDAI	00		NO. OF PIMS TO INITIALIZE	V2	00128


```

000760 000007 A
000761 020363 A 129 PIMADR LDB V$PIMN GET PIM DEVICE ADDRESS 02 00128
000762 001020 A 130 JBZ PIMCK IF ZERO ADDRESS, PIM NOT USED 02 00129
000763 000776 A
000764 006010 A 131 LDAI 0100000 LOAD EXC COMMAND - INITIALIZE 02 00130
000765 100000 A
000766 005031 A 132 MERGE 031 ADD PIM DEVICE ADDRESS 02 00131
000767 051006 A 133 STA INIT STORE INST. 02 00132
000770 006010 A 134 LDAI 0103100 LOAD OAR INST. - OUTPUT MASK INST. 02 00133
000771 103100 A
000772 005031 A 135 MERGE 031 ADD PIM DEVICE ADDRESS 02 00134
000773 051010 A 136 STA OUT STORE INST. 02 00135
000774 002000 A 137 JMPM INPIMS 02 00136
000775 001005 A
138 IFF VORTEX-2 V2 02 00137
139 PIMCK JXZ MPEXT V2 02 00138
140 IFT VORTEX-2 V2 02 00139
141 PIMCK JXZ V$DISP V2 02 00140
000776 001040 A
000777 000000 E
001000 005340 A 142 DXR DECREMENT PIM COUNT 02 00141
001001 041007 A 143 INR PADR MODIFY INST. TO LOAD NEXT VALUE IN TABLE 02 00142
001002 040761 A 144 INR PIMADR MODIFY INST. TO LOAD NEXT VALUE IN TABLE 02 00143
001003 001000 A 145 JMP PIMADR 02 00144
001004 000761 A
001005 000000 A 146 INPIMS ENTR 02 00145
001006 100040 A 147 INIT EXC 040 INITIALIZE PIM 02 00146
001007 010320 A 148 PADR LDA 0320 GET PIM MASK 02 00147
001010 103140 A 149 OUT OAR 040 PUT PIM MASK 02 00148
001011 001000 A 150 JMP* INPIMS 02 00149
001012 101005 A
151 IFT VORTEX-2 V2 02 00150
152 GOTO I$DB24 V2 02 00151
153 MP EQU 046 ASSEMBLE IF VORTEX II V2 02 00152
154 MPEXT EXC2 0100+MP MAP DEVICE ADDR. V2 02 00153
155 EXC2 0600+MP SET MAP ACTIVE V2 02 00154
156 JMP V$DISP ENABLE MEMORY PROTECT V2 02 00155
157 I$DB24 CONT V2 02 00156
158 END V2 02 00157

```

ENTRY NAMES

```

000600 A I$DA
EXTERNAL NAMES
000733 E #BSYS 000732 E #DSYS 000777 E V$DISP 000731 E V$TFC
SYMBOLS
000733 E #BSYS 000732 E #DSYS 000730 A BICN 000730 A BS15
000047 A CLOCK 000732 A DEV 000600 A I$DA 000600 A IN00
000701 A IN1 000703 A IN2 000710 A IN3 000712 A IN4
000734 A IN5 000724 A IN6 001000 A INIT 001005 A INPIMS
000045 A MP 001010 A OUT 001007 A PADR 000761 A PIMADR
000776 A PIMCK 000731 A TOP 000777 E V$DISP 000330 A V$MCM
000363 A V$PIMN 000352 A V$SCV 000731 E V$TFC 000001 A VORTEX
000001 A X
0 ERRORS ASSEMBLY COMPLETE

```

```

0 #BSYS 70 71
0 #DSYS 63 69
71 BICN 31 37 45 57
65 BS15 33 47 51
80 CLOCK 82 83
69 DEV 50
26 I$DA 11 24
102 I$DA20 88
119 I$DB22 104
157 I$DB24 152
30 IN00 27
43 IN1 39
45 IN2 41
55 IN3 53
56 IN4 54
75 IN5 61
60 IN6 62
147 INIT 133
146 INPIMS 137 150
138 MP 110 111 112 113 114 115 116 117 154
154 MPEXT 139
149 OUT 136
148 PADR 125 143
129 PIMADR 127 144 145
139 PIMCK 130
37 TOP 44
97 V$BVN 101
98 V$CRDR 99
0 V$DISP 76 141 150
90 V$MCM 91
0 V$MLD 89 93
123 V$PIMN 129
81 V$SCV 82
0 V$TFC 66 67
1 VORTEX 85 103 112 138 140 151
72 X 93

```


000702	050747	A	46	STA	IN8	FORM "SELECT SECTOR MODE" INSTR.	02	00046	
000703	121072	A	47	ADD	0100		02	00047	
000704	050731	A	48	STA	IN1	FORM "INITIALIZE CONTROLLER" INSTR.	02	00048	
000705	121073	A	49	ADD	0400		02	00049	
000706	050735	A	50	STA	IN6	FORM "SENSE SEEK COMPLETE" INSTR.	02	00050	
000707	121073	A	51	ADD	0400		02	00051	
000710	050761	A	52	STA	IN14	FORM "SENSE CONTROLLER BUSY" INSTR.	02	00052	
000711	121100	A	53	ADD	X01A		02	00053	
000712	050742	A	54	STA	IN2	FORM "INPUT STATUS WORD" INSTR.	02	00054	
000713	050763	A	55	STA	IN15		02	00055	
000714	121073	A	56	ADD	0400		02	00056	
000715	050735	A	57	STA	IN5	FORM "OUTPUT SET-UP WORD" INSTR.	02	00057	
000716	050751	A	58	STA	IN9		02	00058	
			59	*			02	00059	
			60	*			02	00060	
000717	005001	A	61	INO	TZA	INITIALIZE TRACK COUNTER...	02	00061	
000720	051102	A	62	STA	IN20		02	00062	
000721	011074	A	63	LDA	01130	...START ADDR.	02	00063	
000722	051103	A	64	STA	IN21		02	00064	
000723	006010	A	65	LDRI	5040		02	00065	
000724	011660	A							
000725	051104	A	66	STA	IN22	...NUMBER OF WORDS	02	00066	
000726	006010	A	67	LDRI	6		02	00067	
000727	000006	A							
000730	051103	A	68	STA	IN24	...SECTOR NUMBER	02	00068	
			69	*			02	00069	
			70	*			02	00070	
000731	100416	A	71	IN1	EXC 0400+DA	INITIALIZE CONTROLLER	02	00071	
000732	104016	A	72	IN3	EXC2 DA	SELECT UNIT	02	00072	
000733	100216	A	73	IN4	EXC 0200+DA	SELECT SEEK MODE	02	00073	
000734	011102	A	74	LDA	IN20		02	00074	
000735	103116	A	75	IN5	BAR DA	OUTPUT SEEK SET-UP WORD	02	00075	
000736	101016	A	76	IN6	SEM DA, IN2	SENSE SEEK COMPLETE	02	00076	
000737	000742	A							
000740	001000	A	77	JMP	*-2	WAIT, IF NO1	02	00077	
000741	000736	A							
000742	102516	A	78	IN2	CIA DA	INPUT STATUS WORD	02	00078	
000743	151076	A	79	ANA	MASK	SELECT ERROR BITS	02	00079	
000744	001016	A	80	JANZ	INO	IF ANY ERROR, START OVER	02	00080	
000745	000717	A							
			81	*			02	00081	
000746	100020	A	82	IN7	EXC BIC	INITIALIZE BIC	02	00082	
000747	100316	A	83	IN8	EXC 0300+DA	SELECT SECTOR MODE	02	00083	
000750	011105	A	84	LDA	IN24		02	00084	
000751	103116	A	85	IN9	BAR DA	SET CONTROLLER (UNIT) TO PROPER SECTOR	02	00085	
000752	011103	A	86	LDA	IN21		02	00086	
000753	103120	A	87	IN10	BAR BIC	OUTPUT INITIAL ADDR.	02	00087	
000754	121104	A	88	ADD	IN22		02	00088	
000755	005311	A	89	BAR			02	00089	
000756	103120	A	90	IN11	BAR BIC	OUTPUT FINAL ADDR.	02	00090	
000757	100020	A	91	IN12	EXC BIC	ACTIVATE BIC	02	00091	
000760	100016	A	92	IN13	EXC DA	CONNECT DISC TO BIC; SET TO READ MODE	02	00092	
000761	101416	A	93	IN14	SEM 0400+DA,*	SENSE CONTROLLER BUSY	02	00093	
000762	000761	A							
000763	102516	A	94	IN15	CIA DA	INPUT STATUS WORD	02	00094	
000764	151076	A	95	ANA	MASK	SELECT ERROR BITS	02	00095	
000765	001016	A	96	JANZ	INO	IF ANY ERROR, START OVER	02	00096	
000766	000717	A							
			97	*			02	00097	
			98	*			02	00098	
000767	005001	A	99	TZA			02	00099	
000770	051105	A	100	STA	IN24	SET-UP FUTURE READS TO START IN SECTOR #0	02	00100	
000771	041102	A	101	INR	IN20	BUMP TRACK COUNTER	02	00101	
000772	011103	A	102	LDA	IN21	SET START ADDR. FOR NEXT READ	02	00102	
000773	121104	A	103	ADD	IN22		02	00103	
000774	051103	A	104	STA	IN21		02	00104	
000775	011067	A	105	LDA	FOR		02	00105	
000776	141103	A	106	SUB	IN21	COMPUTE SIZE OF READ	02	00106	
000777	141073	A	107	SUB	05760		02	00107	
001000	001004	A	108	JAN	*+3	IF LESS THAN 5760-WORDS, LIMIT SIZE	02	00108	
001001	001003	A							
001002	005001	A	109	TZA			02	00109	
001003	121073	A	110	ADD	05760		02	00110	
001004	051104	A	111	STA	IN22	SAVE SIZE OF READ	02	00111	
001005	005311	A	112	BAR			02	00112	
001006	001002	A	113	JAP	IN1	IF MORE TRACKS TO READ IN	02	00113	
001007	000731	A							
			114	*			02	00114	
			115	*			02	00115	
			116	***	REAL TIME CLOCK INITIALIZER		02	00116	
			117	*			02	00117	
000047	A		118	CLOCK	EQU 047	CLOCK DEVICE NUMBER 047	02	00118	
000352	A		119	V\$SCV	EQU 0952	CLOCK SELECTED COUNT VALUE (1 TO 4095)	02	00119	
001010	103047	A	120	DNE	CLOCK, V\$SCV	OUTPUT INTERVAL SELECT REGISTER	02	00120	
001011	000352	A							
001012	100647	A	121	EXC	0600+CLOCK	INITIALIZE VARIABLE INTERVAL INT. COUNTER	02	00121	
			122	*			02	00122	
			123	IFT	VORTEX-2		V2	02	00123
			124	GOTD	I\$0320	ASSEMBLE CODE FOR V2	V2	02	00124
			125	***	MAP MEMORY PROTECT		V2	02	00125
			126	***	LOAD MAP REGISTERS		V2	02	00126
			127	EXT	V\$MLD		V2	02	00127
			128	V\$MIMG	EQU 0333	MAP 0 IMAGE ADDRESS	V2	02	00128

		129	LDB	V\$MIMG	B=MAP 0 IMAGE ADDR.	V2	02	00129
		130	TZA		A=MAP REGISTER NUMBER	V2	02	00130
		131	ISR	V\$MLD,X	NOW LOAD MAP 0 REGISTERS	V2	02	00131
		132	DATA	04	NUMBER OF WORDS	V2	02	00132
		133	JANZ	*-3	CHECK FOR TIMEOUT	V2	02	00133
		134	HLI		MULI; SOMETHING WRONG WITH MAP LOAD	V2	02	00134
		135	V\$EVN	000		V2	02	00135
		136	V\$CRDR	000		V2	02	00136
		137	LDA	M\$CRDR	BOTTOM OF CORE RESIDENT DIRECTORY	V2	02	00137
		138	L\$PA	0		V2	02	00138
		139	010	V\$EVN	CONVERT TO PAGE NUMBER FOR SAL	V2	02	00139
		140	100B20	0000		V2	02	00140
		141	000	VORTEX-2		V2	02	00141
		142	GOTO	100B22	ASSEMBLE IF NOT VORTEX II	V2	02	00142
		143	***	MEMORY PROTECT MASK		V2	02	00143
		144	*			V2	02	00144
	000330	145	V\$MPM	000	MEMORY PROTECT MASK	V2	02	00145
	000045	146	MP	045	MEMORY PROTECT DEVICE ADDRESS 045	V2	02	00146
001013	000010	147	LDAI	0122777	SET ALL CORE PROTECTED	V2	02	00147
001014	1777777					V2	02	00148
001015	100045	148	EXC	MP		V2	02	00149
001016	100145	149	GAR	MP		V2	02	00150
001017	100145	150	EXC	0100+MP		V2	02	00151
001020	100145	151	GAR	MP		V2	02	00152
001021	100245	152	EXC	0200+MP		V2	02	00153
001022	100145	153	GAR	MP		V2	02	00154
001023	100345	154	EXC	0300+MP		V2	02	00155
001024	100145	155	GAR	MP		V2	02	00156
		156	000	VORTEX-2		V2	02	00157
		157	100B22	0000		V2	02	00158
		158	*			V2	02	00159
		159	***	PIM INTERRUPT INITIALIZE		V2	02	00160
		160	*			V2	02	00161
	000363	161	V\$PIMN	000	EXTERNAL DEVICE ADDRESS TABLE	V2	02	00162
001025	000010	162	LDAI	010320	SET UP LDA INST. FOR PIM MASK	V2	02	00163
001026	010320					V2	02	00164
001027	051063	163	STA	PADR		V2	02	00165
001030	000010	164	LDAI	020363	SET UP LDB INST. FOR PIM DEVICE ADDRESS TA	V2	02	00166
001031	020363					V2	02	00167
001032	051035	165	STA	PIMADR		V2	02	00168
001033	000030	166	LDBI	07	NO. OF PIMS TO INITIALIZE	V2	02	00169
001034	000007					V2	02	00170
001035	020363	167	PIMADR	V\$PIMN	GET PIM DEVICE ADDRESS	V2	02	00171
001036	001020	168	000	PIMCK	IF ZERO ADDRESS, PIM NOT USED	V2	02	00172
001037	001050					V2	02	00173
001040	000010	169	LDAI	0100000	LOAD EXC COMMAND - INITIALIZE	V2	02	00174
001041	100000					V2	02	00175
001042	005031	170	MERGE	001	ADD PIM DEVICE ADDRESS	V2	02	00176
001043	051063	171	STA	INIT	STORE INST.	V2	02	00177
001044	000010	172	LDAI	0103100	LOAD GAR INST. - OUTPUT MASK INST.	V2	02	00178
001045	100100					V2	02	00179
001046	005031	173	MERGE	001	ADD PIM DEVICE ADDRESS	V2	02	00180
001047	051064	174	STA	OUT	STORE INST.	V2	02	00181
001050	002000	175	MPM	INPIMS		V2	02	00182
001051	001061					V2	02	00183
		176	000	VORTEX-2		V2	02	00184
		177	PIMCK	000	NOW SET MAP ACTIVE	V2	02	00185
		178	000	VORTEX-2		V2	02	00186
		179	PIMCK	000		V2	02	00187
001052	001040					V2	02	00188
001053	000000					V2	02	00189
001054	005344	180	EXC		DECREMENT PIM COUNT	V2	02	00190
001055	041063	181	INR	PADR	MODIFY INST. TO LOAD NEXT VALUE IN TABLE	V2	02	00191
001056	041035	182	INR	PIMADR	MODIFY INST. TO LOAD NEXT VALUE IN TABLE	V2	02	00192
001057	001000	183	JAP	PIMADR		V2	02	00193
001060	001035					V2	02	00194
		184	IFT	VORTEX-2		V2	02	00195
		185	GOTO	100B24	ASSEMBLE IF VORTEX II	V2	02	00196
		186	MP	046	MAP DEVICE ADDR.	V2	02	00197
		187	MPEXT	0100+MP	SET MAP ACTIVE	V2	02	00198
		188	EXC02	0600+MP	ENABLE MEMORY PROTECT	V2	02	00199
		189	000	V\$DISP	GOTO DISPATCHER	V2	02	00200
		190	I\$DB24	0000		V2	02	00201
001061	000000	191	INPIMS	000	INITIALIZE PIM	V2	02	00202
001062	100040	192	INIT	040	GET PIM MASK	V2	02	00203
001063	010320	193	PADR	0000	RESET PIM MASK	V2	02	00204
001064	100140	194	OUT	040		V2	02	00205
001065	001000	195	000	INPIMS		V2	02	00206
001066	101061					V2	02	00207
		196	*			V2	02	00208
		197	*			V2	02	00209
		198	EXT	V\$DISP		V2	02	00210
		199	EXT	V\$IFC		V2	02	00211
001067	000000	200	TDP	DATA	ADDRESS OF TOP OF MEMORY	V2	02	00212
		201	EXT	V\$SYS		V2	02	00213
001070	000000	202	DEV	DATA	DRUM DEVICE ADDRESS	V2	02	00214
		203	EXT	V\$SYS		V2	02	00215
001071	000000	204	BICN	DATA	BIC DEVICE ADDRESS	V2	02	00216
	000001	205	X	000		V2	02	00217
		206	*			V2	02	00218
		207	*			V2	02	00219
001072	000100	208	D100	DATA	0100	V2	02	00220
001073	000400	209	D400	DATA	0400	V2	02	00221
001074	001130	210	D1130	DATA	01130	V2	02	00222

E.2 VORTEX LISTING

ISDB

PROGRAM PAGE

5

LISTING PAGE (169)

0	V\$MLD	127	131				
181	V\$PIMN	167					
119	V\$SCV	120					
0	V\$TFC	199	200				
1	VORTEX	123	141	156	176	178	184
205	X	131					
220	XCIA	53					
219	XEXC	31	40				
221	XBAR	35					


```

000001 A      1 VORTEX SET          1          PUT LAST FOR VORTEX          V2      01 00001
                2 * THIS IS A COPYRIGHTED PROGRAM. COPYRIGHT 1972 BY VARIAN DATA MACHINES 01 00002
                3 * * * * *                                01 00003
                4 *   V.D.M. PART NO.          92L0705-021B          01 00004
                5 * * * * *                                01 00005
                6 * * * * *                                01 00006
                7 * * * * *                                01 00007
                8 * * * * *                                01 00008
                9 * * * * *                                01 00009
               10 * * * * *                                01 00010
               11 * * * * *                                01 00011
               12 * * * * *                                01 00012
               13 * * * * *                                01 00013
               14 * * * * *                                01 00014
               15 *   SYSTEM INITIALIZER FOR 620-35 (CDS) DISC 01 00015
               16 *   TITLE I$DC                                01 00016
               17 *   NAME I$DC                                01 00017
               18 *   ORG 0000                                01 00018
               19 I$DC * * ENTRY POINT * *                    01 00019
                   JMP IN00 SKIP SGEN OVERLAY (ZEROS) TO EXEC. INIT.
000600          20 DUP 6 LEAVE 060 ZEROS AS OVERLAY FOR SGEN PUT 01 00020
000601 001000 A 21 DATA 0,0,0,0,0,0,0,0 01 00021
000602 000000 A
000603 000000 A
000604 000000 A
000605 000000 A
000606 000000 A
000607 000000 A
000610 000000 A
000611 000000 A
000612 000000 A 21 DATA 0,0,0,0,0,0,0,0 01 00021
000613 000000 A
000614 000000 A
000615 000000 A
000616 000000 A
000617 000000 A
000620 000000 A
000621 000000 A
000622 000000 A 21 DATA 0,0,0,0,0,0,0,0 01 00021
000623 000000 A
000624 000000 A
000625 000000 A
000626 000000 A
000627 000000 A
000630 000000 A
000631 000000 A
000632 000000 A 21 DATA 0,0,0,0,0,0,0,0 01 00021
000633 000000 A
000634 000000 A
000635 000000 A
000636 000000 A
000637 000000 A
000640 000000 A
000641 000000 A
000642 000000 A 21 DATA 0,0,0,0,0,0,0,0 01 00021
000643 000000 A
000644 000000 A
000645 000000 A
000646 000000 A
000647 000000 A
000650 000000 A
000651 000000 A
000652 000000 A 21 DATA 0,0,0,0,0,0,0,0 01 00021
000653 000000 A
000654 000000 A
000655 000000 A
000656 000000 A
000657 000000 A
000660 000000 A
000661 000000 A
000662          22 IN00 BSS 0 01 00022
                23 * * * * *                                01 00023
                24 * BIC SET UP                                01 00024
                25 *   LDA DCUCOM                                01 00025
                26 *   DRA BICN                                01 00026
                27 *   STA IO5 ACTIVATE BIC INSTR.            01 00027
                28 *   IAR                                01 00028
                29 *   STA IO2 INITIALIZE BIC INSTR.         01 00029
                30 *   LDA DCUCOM+1                          01 00030
                31 *   DRA BICN                                01 00031
                32 *   STA IO3 OUTPUT INITIAL ADDRESS TO BIC INSTR. 01 00032
                33 *   IAR                                01 00033
                34 *   STA IO4 OUTPUT FINAL ADDRESS TO BIC INSTR. 01 00034
                35 * * * * *                                01 00035
                36 * CONSTRUCT EXTERNAL CONTROL COMMANDS 01 00036
                37 *   LDA DCUCOM =1000XX                    01 00037
                38 *   DRA DEV OR IN DEVICE ADDRESS          01 00038
                39 *   STA IO1 STOP TRANSFER AND INITIALIZE INSTR. 01 00039
                40 *   STA LDDPX                                01 00040
                41 *   LDA DCUCOM+5                          01 00041
                42 *   DRA DEV                                01 00042
                43 *   STA EXECUT READ SECTOR INSTR          01 00043
                44 *   ADD C0100 =1005XX                    01 00044
                45 *   STA LDDPX+3 SEEK HOME INSTR.X        01 00045
000662 011101 A
000663 111072 A
000664 050762 A
000665 005111 A
000666 050755 A
000667 011102 A
000670 111072 A
000671 050757 A
000672 005111 A
000673 050761 A
000674 011101 A
000675 111071 A
000676 050754 A
000677 050722 A
000700 011106 A
000701 111071 A
000702 050767 A
000703 121075 A
000704 050725 A

```


000705	011102	A	46	LDA	DCUCOM+1	=1031XX	01	00046
000706	111071	A	47	DRA	DEV	DR IN DEVICE ADDRESS	01	00047
000707	050724	A	48	STA	LDDPX+2	OUTPUT SUM INSTR.	01	00048
000710	050766	A	49	STA	ID6	OUTPUT SUM INSTR.	01	00049
000711	011103	A	50	LDA	DCUCOM+2	=1074XX	01	00050
000712	111071	A	51	DRA	DEV	DR IN DEVICE ADDRESS	01	00051
000713	050770	A	52	STA	ID7	DCU NOT BUSY SENSE	01	00052
000714	011104	A	53	LDA	DCUCOM+3	=101XXX	01	00053
000715	111071	A	54	DRA	DEV	DR IN DEVICE ADDRESS	01	00054
000716	050726	A	55	STA	LDDPX+4	SEEKING A CYL SENSE INSTR.	01	00055
000717	011105	A	56	LDA	DCUCOM+4	=1025XX	01	00056
000720	111071	A	57	DRA	DEV	DR IN DEVICE ADDR.	01	00057
000721	050774	A	58	STA	ID9	INPUT HARDWARE INSTR.	01	00058
			59	*			01	00059
			60	EJEC			01	00060
000722	100000	A	61	LDDPX	0	STOP XFER AND INITIALIZE	01	00061
000723	005001	A	62	TZA			01	00062
000724	103100	A	63	DAR	0	OUTPUT SUM=0	01	00063
000725	100500	A	64	ENC	0500	RECALIBRATE; SEEK TO HOME	01	00064
000726	101000	A	65	SEN	0; *+4	SEEK COMPLETE?	01	00065
000730	001000	A	66	JMP	*-2	NO* WAIT	01	00066
000731	000726	A						
000732	006010	A	67	LBRAI	8		01	00067
000733	000010	A						
000734	051073	A	68	STA	SECT0	SET FIRST SECTOR TO BE READ TO SECTOR 8	01	00068
000735	005000	A	69	TZA		ZERO PARTIAL SECTOR READ FLAG	01	00069
000736	005001	A	70	TZA			01	00070
000737	051074	A	71	STA	(HEAD	SET CURRENT HEAD TO ZERO	01	00071
000740	006010	A	72	LBRAI	01127		01	00072
000741	001127	A						
000742	051100	A	73	STA	RC05+1	PRESET BIC INITIAL ADDRESS TO ZERO	01	00073
			74	*			01	00074
	000743	A	75	ID11	FCU	*	01	00075
000743	011100	A	76	TZA	RC05+1	GET LAST ADDRESS FILLED BY BIC	01	00076
000744	005111	A	77	DAR			01	00077
000745	051077	A	78	STA	RC05	SET UP BIC STARTING ADDRESS	01	00078
000746	006120	A	79	ADDI	117		01	00079
000747	000167	A						
000750	051100	A	80	STA	RC05+1	SET UP BIC FINAL ADDRESS	01	00080
000751	141070	A	81	SUB	TOP	SUBTRACT TOP OF COPE LOCATION	01	00081
000752	001000	A	82	JAP	RLAST	ONLY NEED TO READ PART OF THIS SECTOR	01	00082
000753	001012	A						
			83	*			01	00083
000754	100000	A	84	ID1	ENC	00	01	00084
000755	100000	A	85	ID2	ENC	00	01	00085
000756	011077	A	86	LDA	RC05	GET INITIAL BIC ADDR.	01	00086
000757	103100	A	87	TZA	00	OUTPUT INITIAL ADDR.	01	00087
000760	011100	A	88	LDA	RC05+1	GET FINAL BIC ADDR.	01	00088
000761	103100	A	89	DAR	00	OUTPUT FINAL ADDR.	01	00089
000762	100000	A	90	ID5	ENC	00	01	00090
000763	011074	A	91	LDA	CHDAD	ACTIVATE BIC	01	00091
000764	004250	A	92	LRLA	8	GET CURRENT HEAD NO.	01	00092
000765	111073	A	93	DRA	SECT0	SHIFT TO BUILD SUM	01	00093
000766	103100	A	94	ID6	ENC	00	01	00094
000767	100000	A	95	EXXCUT	FCU	00	01	00095
000770	101000	A	96	ID7	SEN	00; *+4	01	00096
000771	000774	A						
000772	001000	A	97	JMP	*-2		01	00097
000773	000770	A						
000774	102500	A	98	ID9	CIA	00	01	00098
000775	001010	A	99	JAP	*+0	GET STATUS	01	00099
000776	001000	A				DO NEXT IF STATUS CLEAR		
000777	000000	A	100	HLT		A-REG STATUS WORD	01	00100
			101	*			01	00101
001000	041073	A	102	INR	SECT0	INCREMENT SECTOR ADDRESS	01	00102
001001	011073	A	103	TZA	SECT0		01	00103
001002	141076	A	104	SUB	024		01	00104
001003	001004	A	105	JAP	1711	DO NEXT SECTOR AT THIS HEAD ADDRESS	01	00105
001004	000743	A						
			106	*			01	00106
001005	005001	A	107	TZA		MUST POSITION TO NEXT HEAD	01	00107
001006	051073	A	108	STA	SECT0	RESET TO SECTOR ZERO	01	00108
001007	041074	A	109	TNP	CHDAD	INCREMENT HEAD ADDRESS	01	00109
001010	001000	A	110	JMP	1311	DO NEXT SECTOR AT THIS HEAD ADDRESS	01	00110
001011	000743	A						
			111	*			01	00111
	001012	A	112	RLAST	FCU	*	01	00112
001012	001026	A	113	JANZ	*+7	READ LAST PARTIAL SECTOR	01	00113
001013	001021	A				DONE IF LAST PARTIAL SECTOR READ		
001014	005122	A	114	LPR		SEE PARTIAL SECTOR READ FLAG	01	00114
001015	011070	A	115	LDA	TOP		01	00115
001016	051100	A	116	STA	RC05+1	FINAL BIC ADDR.	01	00116
001017	001000	A	117	JMP	ID1	PERFORM LAST READ	01	00117
001020	000754	A						
			118	EJEC			01	00118
			119	*			01	00119
			120	*			01	00120
			121	***	REAL TIME CLOCK INITIALIZER		01	00121
			122	*			01	00122
	000047	A	123	CLOCK	FCU	047	01	00123
	000352	A	124	V\$SCV	FCU	0352	01	00124
001021	103047	A	125	DNE	CLOCK, V\$SCV	OUTPUT INTERVAL SELECT REGISTER	01	00125


```

000001 A 1 VORTEX SET 1 PUT LAST FOR VORTEX V2 02 00001
2 * THIS IS A COPYRIGHTED PROGRAM. COPYRIGHT 1972 BY VARIAN DATA MACHINES 02 00002
3 * 02 00003
4 * V.D.M. PART NO. 92L0705-023B 02 00004
5 * 02 00005
6 * 02 00006
7 * 02 00007
8 * 02 00008
9 * 02 00009
10 * 02 00010
11 * 02 00011
12 * SYSTEM INITIALIZER FOR E2505 DISC 02 00012
13 TITLE I$DD 02 00013
14 NAME I$DD 02 00014
15 ORG 0600 02 00015
16 I$DD RSS 0 * * ENTRY POINT * * 02 00016
17 JMP IN00 SKIP SGEN OVERLAY (ZEROS) TO EXEC. INIT. 02 00017
18 DUP 6 LEAVE 060 ZEROS AS OVERLAY FOR SGEN PUT 02 00018
19 DATA 0,0,0,0,0,0,0,0 02 00019
20 000602 000000 A 18 DATA 0,0,0,0,0,0,0,0 02 00020
21 000603 000000 A 02 00021
22 000604 000000 A 02 00022
23 000605 000000 A 02 00023
24 000606 000000 A 02 00024
25 000607 000000 A 02 00025
26 000610 000000 A 02 00026
27 000611 000000 A 02 00027
28 000612 000000 A 18 DATA 0,0,0,0,0,0,0,0 02 00028
29 000613 000000 A 02 00029
30 000614 000000 A 02 00030
31 000615 000000 A 02 00031
32 000616 000000 A 02 00032
33 000617 000000 A 02 00033
34 000620 000000 A 02 00034
35 000621 000000 A 18 DATA 0,0,0,0,0,0,0,0 02 00035
36 000622 000000 A 02 00036
37 000623 000000 A 02 00037
38 000624 000000 A 02 00038
39 000625 000000 A 02 00039
40 000626 000000 A 02 00040
41 000627 000000 A 02 00041
42 000630 000000 A 02 00042
43 000631 000000 A 18 DATA 0,0,0,0,0,0,0,0 02 00043
44 000632 000000 A 02 00044
45 000633 000000 A 02 00045
46 000634 000000 A 02 00046
47 000635 000000 A 02 00047
48 000636 000000 A 02 00048
49 000637 000000 A 02 00049
50 000640 000000 A 02 00050
51 000641 000000 A 18 DATA 0,0,0,0,0,0,0,0 02 00051
52 000642 000000 A 02 00052
53 000643 000000 A 02 00053
54 000644 000000 A 02 00054
55 000645 000000 A 02 00055
56 000646 000000 A 02 00056
57 000647 000000 A 02 00057
58 000650 000000 A 02 00058
59 000651 000000 A 18 DATA 0,0,0,0,0,0,0,0 02 00059
60 000652 000000 A 02 00060
61 000653 000000 A 02 00061
62 000654 000000 A 02 00062
63 000655 000000 A 02 00063
64 000656 000000 A 02 00064
65 000657 000000 A 02 00065
66 000660 000000 A 02 00066
67 000661 000000 A 02 00067
68 000662 000000 A 19 IN00 RSS 0 02 00068
69 20 * 02 00069
70 21 * BIC SET UP 02 00070
71 22 LDA DCUCOM 02 00071
72 23 ORA BICN 02 00072
73 24 STA I05 ACTIVATE BIC INSTR. 02 00073
74 25 IAR 02 00074
75 26 STA I02 INITIALIZE BIC INSTR. 02 00075
76 27 LDA DCUCOM+1 02 00076
77 28 ORA BICN 02 00077
78 29 STA I03 OUTPUT INITIAL ADDRESS TO BIC INSTR. 02 00078
79 30 IAR 02 00079
80 31 STA I04 OUTPUT FINAL ADDRESS TO BIC INSTR. 02 00080
81 32 * 02 00081
82 33 * CONSTRUCT EXTERNAL CONTROL COMMANDS 02 00082
83 34 LDA DCUCOM =1000XX 02 00083
84 35 ORA DEV OR IN DEVICE ADDRESS 02 00084
85 36 STA I01 STOP TRANSFER AND INITIALIZE INSTR. 02 00085
86 37 STA LOOPX 02 00086
87 38 LDA DCUCOM+5 02 00087
88 39 ORA DEV 02 00088
89 40 STA EXECUT READ SECTOR INSTR 02 00089
90 41 ADD C0100 =1005XX 02 00090
91 42 STA LOOPX+3 SEEK HOME INSTR.X 02 00091
92 43 LDA DCUCOM+1 =1031XX 02 00092
93 44 ORA DEV OR IN DEVICE ADDRESS 02 00093
94 45 STA LOOPX+2 OUTPUT SUM INSTR. 02 00094
95 000662 011073 A 02 00095
96 000663 111064 A 02 00096
97 000664 050756 A 02 00097
98 000665 005111 A 02 00098
99 000666 050744 A 02 00099
000667 011074 A 02 00100
000670 111065 A 02 00101
000671 050745 A 02 00102
000672 005111 A 02 00103
000673 050755 A 02 00104
000674 011073 A 02 00105
000675 111064 A 02 00106
000676 050743 A 02 00107
000677 050722 A 02 00108
000700 011100 A 02 00109
000701 111064 A 02 00110
000702 050763 A 02 00111
000703 121070 A 02 00112
000704 050723 A 02 00113
000705 011074 A 02 00114
000706 111064 A 02 00115
000707 050724 A 02 00116

```


Address	Hex	Mode	Op	Op2	Op3	Description	Line	Label
000710	050762	A	STA	106		OUTPUT SUM INSTR.	02	00046
000711	011075	A	LDA	DCUCOM+2		=1024XX	02	00047
000712	111064	A	OPA	DEV		OP IN DEVICE ADDRESS	02	00048
000713	050764	A	STA	107		DCU NOT BUSY SENSE	02	00049
000714	011076	A	LDA	DCUCOM+3		=101XXX	02	00050
000715	111064	A	OPA	DEV		OP IN DEVICE ADDRESS	02	00051
000716	050766	A	STA	LOOPX+4		SEEKING A CYL SENSE INSTR.	02	00052
000717	011077	A	LDA	DCUCOM+4		=1025XX	02	00053
000720	111064	A	OPA	DEV		OP IN DEVICE ADDR.	02	00054
000721	050770	A	STA	108		INPUT HARDWARE INSTR.	02	00055
			*					
			EXEC					
000722	100000	A	STOP			STOP XFER AND INITIALIZE	02	00056
000723	005001	A	OPR	0			02	00057
000724	103100	A	OPR	0		OUTPUT SUM=0	02	00058
000725	100500	H	OPR	0		RECALIBRATE, SEEK TO HOME	02	00059
000726	101000	A	SEN	017+4		SEC: COMPLETED	02	00060
000727	000732	A						
000730	001000	A	JMP	*-2		NO. WAIT	02	00063
000731	000726	*						
000732	005010	A	LDAI	10			02	00064
000733	000010	A						
000734	051066	A	STA	SECT0		SET FIRST SECTOR TO BE READ TO SECTOR 10	02	00065
000735	005001	A	TZA				02	00066
000736	051067	A	STR	CHEAD		SET CURRENT HEAD TO ZERO	02	00067
000737	006020	A	LBSI	01127			02	00068
000740	001127	A						
000741	007400	A	OPR				02	00069
			*					
			IO11					
000742	000742	A	OPR	*			02	00070
			INCR	021				
			*					
000743	100000	A	STOP			STOP TRANSFER AND INITIALIZE	02	00071
000744	100000	A	OPR	0		INITIALIZE BIC	02	00072
000745	103100	A	OPR	0		OUTPUT INITIAL ADDR.	02	00073
000746	006120	A	ABSI	119			02	00074
000747	000167	A						
000750	005010	A	TAP				02	00075
000751	141063	A	OPR	108		SUBTRACT TOP OF CORE	02	00076
000752	001002	A	JAP	RMST		JUMP IF ONLY NEED TO READ PART OF LAST SEC	02	00077
000753	001006	A						
000754	005021	A	TZA				02	00078
000755	103100	A	OPR	00		OUTPUT FINAL ADDR.	02	00079
000756	100000	A	OPR	00		ACTIVATE BIC	02	00080
000757	011067	A	LDA	CHEAD		GET CURRENT HEAD NO.	02	00081
000760	004250	A	LFLA	0		SHIFT TO WORD SUM	02	00082
000761	111066	A	OPA	SECT0		OP IN THE SECTOR NO.	02	00083
000762	103100	A	OPR	00		OUTPUT SUM	02	00084
000763	100000	A	OPR	00		EXECUTE COMMAND	02	00085
000764	101000	A	OPR	00+*+4		DCU NOT BUSY	02	00086
000765	000770	A						
000766	001000	A	JMP	*-2			02	00089
000767	000764	A						
000770	102500	A	STA	109		GET STATUS	02	00091
000771	001010	A	OPR	*+2		DO NEXT IF STATUS CLEAR	02	00092
000772	000774	A						
000773	000000	A	HLT			A-RAG-STATUS WORD	02	00093
			*					
000774	041066	A	OPR	SECT0		INCREMENT SECTOR ADDRESS	02	00094
000775	011066	A	OPR	0000			02	00095
000776	141071	A	OPR	021			02	00096
000777	001004	A	OPR	001		DO NEXT SECTOR AT THIS HEAD ADDRESS	02	00097
000800	000742	A						
			*					
001001	005001	A	TZA			MOVE POSITION TO NEXT HEAD	02	00099
001002	051066	A	STA	SECT0		RESET TO SECTOR ZERO	02	00100
001003	041067	A	OPR	01130		INCREMENT HEAD ADDRESS	02	00101
001004	001000	A	OPR	011		DO NEXT SECTOR AT THIS HEAD ADDRESS	02	00102
001005	000742	A						
			*					
			RLAST					
001006	001006	A	OPR	*		READ LAST PARTIAL SECTOR	02	00104
001007	001001	A	JOP	*+6		DONE IF LAST PARTIAL SECTOR READ	02	00105
001008	001014	A						
001010	007401	A	OPR			GET PARTIAL SECTOR READ FLAG	02	00107
001011	011066	A	LDA	TOP			02	00108
001012	001000	A	JOP	104		PERFORM LAST READ	02	00109
001013	000755	A						
			EXEC				02	00110
			*					
			***			REAL TIME CLOCK INITIALIZER		
			*					
	000047	A	OPR	047		CLOCK DEVICE NUMBER 047	02	00115
	0000352	A	OPR	0372		CLOCK SELECTED COUNT VALUE (1 TO 4095)	02	00116
001014	103047	A	OPR	CLOCK,V\$SCV		OUTPUT INTERVAL SELECT REGISTER	02	00117
001015	000352	A						
001016	100647	A	OPR	0000+CLOCK		INITIALIZE VARIABLE INTERVAL INT. COUNTER	02	00118
			IF1	VORTEX-2			55	00119
			OPR	10020			55	00120
			***			MAP MEMORY PROTECT	55	00121
			***			LOAD MAP REGISTERS	55	00122
			OPR	V\$MLD			55	00123
			X	OPR	1		55	00124

Address	Label	Op	Op2	Op3	Description	Reg	Value
125	V\$MIMG	FOU	0333		MAP 0 IMAGE ADDRESS	58	02 00125
126		LDB	V\$MIMG		B=MAP 0 IMAGE ADDR.	58	02 00126
127		TZA			A=RAM REGISTER NUMBER	58	02 00127
128		JSR	V\$MLD,X		NOW LOAD MAP 0 REGISTERS	58	02 00128
129		DATA	54		NUMBER OF WORDS	58	02 00129
130		JANZ	*+3		CHECK FOR TIMEOUT	58	02 00130
131		HLT			HULT; SOMETHING WRONG WITH MAP LOAD	58	02 00131
132	V\$BVN	EQU	0414			58	02 00132
133	V\$CRDR	EQU	0041			E.2	*****
134		LDA	V\$CRDR		BOTTOM OF CORE RESIDENT DIRECTORY	E.2	*****
135		LSRA	9			58	02 00134
136		STA	V\$BVN		CONVERT TO PAGE NUMBER FOR SAL	V7	02 00135
137	I\$DD20	CONT				V7	02 00136
138		IFF	VORTEX-2			VX	02 00137
139		GOTO	I\$DD22			VX	02 00138
140		*					02 00139
141		***	MEMORY PROTECT MASK				02 00140
142		*					02 00141
143	V\$MPM	EQU	0330		MEMORY PROTECT MASK		02 00142
144	MP	EQU	045		MEMORY PROTECT DEVICE ADDRESS 045		02 00143
145		DECR	01		SET ALL CORE PROTECTED		02 00144
146		EXC	MP				02 00145
147		DAR	MP				02 00146
148		EXC	0100+MP				02 00147
149		DAR	MP				02 00148
150		EXC	0200+MP				02 00149
151		DAR	MP				02 00150
152		EXC	0300+MP				02 00151
153		DAR	MP				02 00152
154		IFF	VORTEX-2			VX	02 00153
155	I\$DD22	CONT				VX	02 00154
156		*					02 00155
157		***	PIM INTERRUPT INITIALIZE				02 00156
158		*					02 00157
159	V\$PIMN	EQU	0363		EXTERNAL DEVICE ADDRESS TABLE		02 00158
160		LDPI	010320		SET UP LDA INST. FOR PIM MASK		02 00159
161		STA	PADR				02 00160
162		LDPI	020363		SET UP LDB INST. FOR PIM DEVICE ADDRESS TA		02 00161
163		STA	PIMADR				02 00162
164		LDXI	?		NO. OF PIMS TO INITIALIZE		02 00163
165	PIMADR	LDB	V\$PIMN		GET PIM DEVICE ADDRESS		02 00164
166		JEZ	PIMCK		IF ZERO ADDRESS, PIM NOT USED		02 00165
167		LDA	DCUCDM		LOAD EXC COMMAND - INITIALIZE		02 00166
168		MERGE	031		ADD PIM DEVICE ADDRESS		02 00167
169		STA	INIT		STORE INST.		02 00168
170		LDA	DCUCDM+1		LOAD DAR INST. - OUTPUT MASK INST.		02 00169
171		MERGE	071		ADD PIM DEVICE ADDRESS		02 00170
172		STA	OUT		STORE INST.		02 00171
173	INIT	EXC	040		INITIALIZE		02 00172
174	PADR	LDA	0020		GET PIM MASK		02 00173
175	OUT	DAR	040		OUTPUT PIM MASK		02 00174
176		IFF	VORTEX-2			V2	02 00175
177	PIMCK	JXZ	MPEXT		NOW SET MAP ACTIVE	V2	02 00176
178		IFT	VORTEX-2			V2	02 00177
179	PIMCK	JXZ	V\$DISP			V2	02 00178
180		DXR			DECREMENT PIM COUNT		02 00179
181		INR	PADR		MODIFY INST. TO LOAD NEXT VALUE IN TABLE		02 00180
182		INR	PIMADR		MODIFY INST. TO LOAD NEXT VALUE IN TABLE		02 00181
183		JMP	PIMADR				02 00182
184		IFT	VORTEX-2			V2	02 00183
185		GOTO	I\$DD24			V2	02 00184
186	MP	EQU	046		MAP DEVICE ADDR.	V2	02 00185
187	MPEXT	EXC2	0100+MP		SET MAP ACTIVE	V2	02 00186
188		EXC2	0600+MP		ENABLE MEMORY PROTECT	V2	02 00187
189		JMP	V\$DISP		GOTO DISPATCHER	V2	02 00188
190	I\$DD24	CONT				V2	02 00189
191		*					02 00190
192		*					02 00191
193		EJEC					02 00192
194		EXT	V\$DISP				02 00193
195		EXT	V\$TFC				02 00194
196	TOP	DATA	V\$TFC		ADDRESS OF TOP OF MEMORY		02 00195
197		EXT	\$BSYS				02 00196
198	DEV	DATA	\$BSYS		DISC DEVICE ADDRESS		02 00197
199		EXT	\$BSYS				02 00198
200	BICN	DATA	\$BSYS		BIC DEVICE ADDRESS		02 00199
201	SECT0	DATA	0		SECTOR ADDRESS		02 00200
202	CHEAD	DATA	0		CURRENT HEAD ADDRESS		02 00201
203	C0100	DATA	0100		CONSTANT		02 00202
204	C24	DATA	24		CONSTANT		02 00203
205	RC05	DATA	0				02 00204
206	DCUCDM	EQU	*		DISC CONTROLLER COMMANDS		02 00205
207		DATA	0100000				02 00206
208		DATA	0103100				02 00207
209		DATA	0101400				02 00208
210		DATA	0101000				02 00209
211		DATA	0102500				02 00210


```

000001 A 1 VORTEX SET 1 PUT LAST FOR VORTEX 03 00001
000001 A 2 * THIS IS A COPYRIGHTED PROGRAM.COPYRIGHT 1972 BY VARIAN DATA MACHINES 03 00002
000001 A 3 V75 SET 1 V75*****
4 *
5 * V.D.M. PART NO. 92L0705-007D 03 00003
6 * 03 00004
7 * 03 00005
8 * 03 00006
9 * 03 00007
10 * 03 00008
11 * 03 00009
12 * 03 00010
13 * 03 00011
14 * 03 00012
15 * 03 00013
16 * 03 00014
17 * 03 00015
18 TBIRD EQU 0 TASK4 THREAD 03 00017
19 TBST EQU 1 TASK STATUS 03 00018
20 TBPL EQU 2 STATUS CNT. (BITS15-6),PRIORITY LEVEL(5-0 03 00019
21 TBEVNT EQU 3 INTERRUPT EVENT 03 00020
22 TBRSA EQU 4 A REENRANT AND SUSPEND STACK 03 00021
23 TBRSE EQU 5 B REENRANT AND SUSPEND STACK 03 00022
24 TBRSE EQU 6 X REENRANT AND SUSPEND STACK 03 00023
25 TBRSE EQU 7 DF/P REENRANT AND SUSPEND STACK 03 00024
26 TBRSTS EQU 8 TEMP. STG. REENRANT AND SUSPEND STACK 03 00025
27 TBENTY EQU 9 TASK ENTRY LOCATION 03 00026
28 TBTMS EQU 10 TIME COUNTER - CLOCK RESOLUTION IN 5MS INC 03 00027
29 TBTMIN EQU 11 TIME COUNTER - CLOCK MINUTE INCREMENTS 03 00028
30 TBISA EQU 12 A INTERRUPT STACK 03 00029
31 TBISB EQU 13 B INTERRUPT STACK 03 00030
32 TBISX EQU 14 X INTERRUPT STACK 03 00031
33 TBISP EQU 15 DF/P INTERRUPT STACK 03 00032
34 TBISRS EQU 16 REENT. STACK INTERRUPT STACK 03 00033
35 TBID EQU 17 I/O THRED(15-8),I/O ACT(7-8) V2 03 00034
36 TBKN1 EQU 18 TASK NAME 03 00035
37 TBKN2 EQU 19 TASK NAME 03 00036
38 TBKN3 EQU 20 TASK NAME 03 00037
39 TBTLC EQU 21 1ST LOC. OF TASK ALLOCATABLE 03 00038
40 VORTEX SET 1 PUT LAST FOR VORTEX 03 00001
41 * THIS IS A COPYRIGHTED PROGRAM.COPYRIGHT 1972 BY VARIAN DATA MACHINES 03 00002
42 * V75 SET 1 V75*****
43 * 03 00003
44 * V.D.M. PART NO. 92L0705-007D 03 00004
45 * 03 00005
46 * 03 00006
47 * 03 00007
48 * 03 00008
49 * 03 00009
50 * 03 00010
51 * 03 00011
52 * 03 00012
53 * 03 00013
54 * 03 00014
55 * 03 00015
56 * 03 00016
57 TBTRD EQU 0 TASK THREAD 03 00017
58 TBST EQU 1 TASK STATUS 03 00018
59 TBPL EQU 2 STATUS CNT. (BITS15-6),PRIORITY LEVEL(5-0 03 00019
60 TBEVNT EQU 3 INTERRUPT EVENT 03 00020
61 TBRSA EQU 4 A REENRANT AND SUSPEND STACK 03 00021
62 TBRSE EQU 5 B REENRANT AND SUSPEND STACK 03 00022
63 TBRSE EQU 6 X REENRANT AND SUSPEND STACK 03 00023
64 TBRSE EQU 7 DF/P REENRANT AND SUSPEND STACK 03 00024
65 TBRSTS EQU 8 TEMP. STG. REENRANT AND SUSPEND STACK 03 00025
66 TBENTY EQU 9 TASK ENTRY LOCATION 03 00026
67 TBTMS EQU 10 TIME COUNTER - CLOCK RESOLUTION IN 5MS INC 03 00027
68 TBTMIN EQU 11 TIME COUNTER - CLOCK MINUTE INCREMENTS 03 00028
69 TBISA EQU 12 A INTERRUPT STACK 03 00029
70 TBISB EQU 13 B INTERRUPT STACK 03 00030
71 TBISX EQU 14 X INTERRUPT STACK 03 00031
72 TBISP EQU 15 DF/P INTERRUPT STACK 03 00032
73 TBISRS EQU 16 REENT. STACK INTERRUPT STACK 03 00033
74 TBID EQU 17 I/O THRED(15-8),I/O ACT(7-8) V2 03 00034
75 TBKN1 EQU 18 TASK NAME 03 00035
76 TBKN2 EQU 19 TASK NAME 03 00036
77 TBKN3 EQU 20 TASK NAME 03 00037
78 TBTLC EQU 21 1ST LOC. OF TASK ALLOCATABLE 03 00038
79 TBCPTH EQU 22 BACKGROUND TASK QUEUE 03 00039
80 TBATSK EQU 23 TIDB LOC. OF ACTIVATING TASK 03 00040
81 TBRSE EQU 24 TASK ERROR CODE 03 00041
82 TBSIZ EQU 25 TASK SIZE V2 03 00042
83 SMRY V2 03 00043
93 SALE1A CNT V2 03 00051
94 EJEC V2 03 00052
95 ***** 03 00053
96 * 03 00054
97 * TASK STATUS DESCRIPTION (BIT SET WORD 1) *** 03 00055
98 * 03 00056
99 * 03 00057
000017 A 101 TBS15 EQU 15 INTERRUPT SUSPEND 03 00059
000016 A 103 TBS14 EQU 14 TASK SUSPEND 03 00061
000015 A 104 TBS13 EQU 13 TASK ABORT 03 00062
000014 A 105 TBS12 EQU 12 TASK EXIT 03 00063
000013 A 107 TBS11 EQU 11 TIDB CORE RESIDENT 03 00065

```


000012	A	108	TBS10	EDU	10	CORE RESIDENT TASK	03	00060
000011	A	109	TBS9	EDU	9	BACKGROUND TASK	03	00067
000010	A	111	TBS8	EDU	8	TASK PROTECTED	03	00069
000007	A	112	TBS7	EDU	7	TASK SCHEDULED BY TIME DELAY	03	00070
000006	A	113	TBS6	EDU	6	TIME DELAY ACTIVE	03	00071
000005	A	115	TBS5	EDU	5	TASK WAITING TO BE LOADED	03	00073
000004	A	116	TBS4	EDU	4	TASK ERROR	03	00074
000003	A	117	TBS3	EDU	3	TASK INTERRUPT EXPECTED	03	00075
000002	A	119	TBS2	EDU	2	OVERLAY TASK	03	00077
000001	A	120	TBS1	EDU	1	UPON TERMINATION ACTIVATE TASK SCHED TASK	03	00078
000000	A	121	TBS0	EDU	0	TASK SEARCH-ALLOCATED-LOADED	03	00079
122			EJEC					
123						*****		
124								
125						*** TASK STATUS DESCRIPTION (BIT SET WORD 2) ***		
126						*****		
127								
128						BIT 15 - TASK OPENED		
129						BIT 14 - UNUSED		
130						BIT 13 - OVERLAY LOAD		
131						BIT 12 - TASK WAITING FOR BACKGROUND TASK I/O TO COMPLETE		
132						TASK LOCKED-OUT UNTIL BG I/O COMPLETE OR BIT 11		
133						IS SET (ALLOCATABLE SPACE AVAILABLE)		
134						BIT 11 - DEFINES THAT ALLOCATABLE SPACE IS AVAILABLE, TRY		
135						ALLOCATING TASK AGAIN. OVERRIDES BIT 12 SET UP		
136						BIT 5 IN STATUS WORD.		
137						BIT 10 - BACKGROUND TASK BEING WRITTEN ON CHECKPOINT FILE.		
138						BIT 9 - TASK WAITING FOR A TIDE TO COME AVAILABLE FOR		
139						SCHEDULING.		
140								
141								
142								
143								
144								
145								
146								
147								
148								
149								
150								
151								
152								
153								
154								
155								
156								
157								
158								
159								
160								
161								
162								
163								
164								
165								
166								
167								
168								
169								
170								
171								
172								
173								
174								
175								
176								
177								
178								
179								
180								
181								
182								
183								
184								
185								
186								
187								
188								
189								
190								
191								
192								
193								
194								
195								
196								
197								
198								
199								
200								
201								
202								
203								
204								
205								
206								
207								
208								
209								
210								
211								
212								
213								
214								
215								
216								
217								
218								
219								
220								
221								
222								
223								
224								
225								
226								
227								
228								
229								
230								
231								
232								
233								
234								


```

000351 A 235 V$CTMS EQU LC+41 CLOCK RESOLUTION IN 5 MILLISECOND INCR. 03 00193
000352 A 236 V$SCV EQU LC+42 CLOCK SELECTED COUNT VALUE (1 TO 4095) 03 00194
000353 A 240 V$CKB EQU LC+43 BASIC CLOCK INTERRUPT RATE IN MICROSECONDS 03 00198
000354 A 241 V$CRM EQU LC+44 CLOCK RESOLUTION INCR. FOR 1 MINUTE. 03 00199
000355 A 242 V$DSTB EQU LC+45 BASE ADDR. FOR DST BLOCK 03 00200
000356 A 243 V$LIT EQU LC+46 LAST LOCATION OF BACKGROUND LITERAL TABLE 03 00201
247 * EQU LC+47 UNUSED 03 00205
000360 A 248 V$CTAD EQU LC+48 BASE ADDR. FOR CONTROLLER ADDR. TABLE 03 00206
000361 A 249 V$SCTL EQU LC+49 CURRENT CONTROLLER IN SCAN 03 00207
000362 A 250 V$MCTR EQU LC+50 NO. OF CONTROLLERS 03 00208
000363 A 251 V$PIMN EQU LC+51 EXTERNAL DEVICE ADDRESS TABLE FOR PIMS 03 00209
252 * EQU LC+52 (8 WORDS DEFINED IN PIM NO ORDER) 03 00210
255 * EQU LC+59 UNUSED 03 00213
256 * EQU LC+60 UNUSED 03 00214
257 LCD5 CONT V2 03 00215
262 LCD6 CONT V2 03 00220
000375 A 263 V$SLFG EQU LC+61 SAL TASK BUSY FLAG 1=BUSY, 0=NOT BUSY 03 00221
000376 A 264 V$ERFG EQU LC+62 ERROR TASK BUSY FLAG 1=BUSY, 0=NOT BUSY 03 00222
000377 A 265 V$JOP EQU LC+63 JCP OPERATING FLAG 03 00223
000400 A 266 V$LUT1 EQU LC+64 START LUN ADDR FOR JCP/OPCOM ASSIGNABLE 03 00224
000401 A 267 V$LUT2 EQU LC+65 START LUN ADDR FOR UNASSIGNABLE 03 00225
000402 A 268 V$LUT3 EQU LC+66 START LUN ADDR FOR JPCOM ASSIGNABLE 03 00226
000403 A 269 V$1MIN EQU LC+67 32767 - (60000/(5*V$CTMS)) + 1 03 00227
272 * EQU LC+68 UNUSED 03 00230
273 * EQU LC+69 UNUSED 03 00231
274 * EQU LC+70 UNUSED 03 00232
275 * EQU LC+71 UNUSED 03 00233
276 LCD7 CONT V2 03 00234
283 LCD8 CONT V2 03 00241
000410 A 284 V$IDA EQU LC+72 I/O ALGORITHM 03 00242
000411 A 285 V$CKIT EQU LC+73 CLOCK INT. IN PIM BEFORE LOCKOUT FLAG. 03 00243
000412 A 286 V$JCB EQU LC+74 ALL SYSTEM BACKGROUND PROGRAMS AND JCP USE 03 00244
287 * EQU LC+75 THIS SYSTEM BUFFER TO READ DIRECTIVES AND 03 00245
288 * EQU LC+75 SOURCE RECORDS IN. 03 00246
000413 A 289 V$DCB EQU LC+75 DPCOM WILL READ OPERATOR KEY-IN REQUESTS 03 00247
290 * EQU LC+75 IN THIS BUFFER. IF JCP IS SET NOT ACTIVE 03 00248
291 * EQU LC+75 AND A 1 DIRECTIVE IS INPUTED, DPCOM 03 00249
292 * EQU LC+75 WILL MOVE THE DIRECTIVE TO V$JCB BEFORE 03 00250
293 * EQU LC+75 SCHEDULING JCP. 03 00251
000414 A 294 V$RVN EQU LC+76 BOTTOM OF VORTEX NUCLEUS 03 00252
000415 A 295 V$BFC EQU LC+77 TOP OF FG RES. AREA/BOTTOM OF FG BLK COMM. 03 00253
000416 A 296 V$TFC EQU LC+78 TOP OF FG BLK COMMON/TOP OF VORTEX CORE. 03 00254
297 * EQU LC+79 UNUSED 03 00255
298 EJECT 03 00256
299 ***** 03 00257
300 * 03 00258
301 **** MASK TABLE DESCRIPTION **** 03 00259
302 * 03 00260
303 ***** 03 00261
000420 A 305 MT SET 0420 03 00262
000420 A 306 ZERO EQU MT 03 00263
000421 A 307 BS0 EQU MT+1 ZERO WORD 03 00264
000422 A 308 BS1 EQU MT+2 BIT MASK CONTENTS 000001 03 00265
000423 A 309 BS2 EQU MT+3 000002 03 00266
000424 A 310 BS3 EQU MT+4 000004 03 00267
000425 A 311 BS4 EQU MT+5 000010 03 00268
000426 A 312 BS5 EQU MT+6 000020 03 00269
000427 A 313 BS6 EQU MT+7 000040 03 00270
000430 A 314 BS7 EQU MT+8 000100 03 00271
000431 A 315 BS8 EQU MT+9 000200 03 00272
000432 A 316 BS9 EQU MT+10 000400 03 00273
000433 A 317 BS10 EQU MT+11 001000 03 00274
000434 A 318 BS11 EQU MT+12 002000 03 00275
000435 A 319 BS12 EQU MT+13 004000 03 00276
000436 A 320 BS13 EQU MT+14 008000 03 00277
000437 A 321 BS14 EQU MT+15 010000 03 00278
000440 A 322 BS15 EQU MT+16 020000 03 00279
000441 A 323 BR0 EQU MT+17 BIT MASK CONTENTS 0177776 03 00281
000442 A 324 BR1 EQU MT+18 0177775 03 00282
000443 A 325 BR2 EQU MT+19 0177773 03 00283
000444 A 326 BR3 EQU MT+20 0177767 03 00284
000445 A 327 BR4 EQU MT+21 0177757 03 00285
000446 A 328 BR5 EQU MT+22 0177737 03 00286
000447 A 329 BR6 EQU MT+23 0177677 03 00287
000450 A 330 BR7 EQU MT+24 0177577 03 00288
000451 A 331 BR8 EQU MT+25 0177377 03 00289
000452 A 332 BR9 EQU MT+26 0176777 03 00290
000453 A 333 BR10 EQU MT+27 0175777 03 00291
000454 A 334 BR11 EQU MT+28 0173777 03 00292
000455 A 335 BR12 EQU MT+29 0167777 03 00293
000456 A 336 BR13 EQU MT+30 0157777 03 00294
000457 A 337 BR14 EQU MT+31 0137777 03 00295
000460 A 338 BR15 EQU MT+32 0077777 03 00296
000461 A 339 NEG EQU MT+33 SET ALL BITS 03 00297
000462 A 340 LHW EQU MT+34 LEFT HALF WORD MASK 0177400 03 00298
000463 A 341 RHW EQU MT+35 RIGHT HALF WORD MASK 0377 03 00299
000421 A 342 ONE EQU MT+1 CONTAINS NUMBER 1 03 00300
000422 A 343 TWO EQU MT+2 CONTAINS NUMBER 2 03 00301
000464 A 344 THREE EQU MT+36 CONTAINS NUMBER 3 03 00302
000423 A 345 FOUR EQU MT+3 CONTAINS NUMBER 4 03 00303
000465 A 346 FIVE EQU MT+37 CONTAINS NUMBER 5 03 00304
000466 A 347 SIX EQU MT+38 CONTAINS NUMBER 6 03 00305
000467 A 348 SEVEN EQU MT+39 CONTAINS NUMBER 7 03 00306

```



```

000424 A 349 EIGHT EQU MT+4 CONTAINS NUMBER 8 03 00307
000470 A 350 NINE EQU MT+40 CONTAINS NUMBER 9 03 00309
000471 A 351 TEN EQU MT+41 CONTAINS NUMBER 10 03 00309
000421 A 352 BM1 EQU MT+1 BIT MASK WORD 00001 03 00310
000464 A 353 BM3 EQU MT+36 BIT MASK WORD 00003 03 00311
000467 A 354 BM7 EQU MT+39 BIT MASK WORD 00007 03 00312
000472 A 355 BM17 EQU MT+42 BIT MASK WORD 00017 03 00313
000473 A 356 BM37 EQU MT+43 BIT MASK WORD 00037 03 00314
000474 A 357 BM77 EQU MT+44 BIT MASK WORD 00077 03 00315
000475 A 358 BM177 EQU MT+45 BIT MASK WORD 00177 03 00316
000463 A 359 BM377 EQU MT+35 BIT MASK WORD 00377 03 00317
000476 A 360 BM777 EQU MT+46 BIT MASK WORD 00777 03 00318
000477 A 361 BM1777 EQU MT+47 BIT MASK WORD 01777 03 00319
362 EQU 03 00320
363 ***** 03 00321
364 * 03 00322
365 **** BIT TEST BIT DESIGNATION *** 03 00323
366 * 03 00324
367 ***** 03 00325
000040 A 369 RA0 EQU 040 BT JUMPS WHEN A REGISTER IS 0 03 00327
000000 A 370 RA1 EQU 050 BT JUMPS WHEN A REGISTER IS 1 03 00328
000060 A 371 RB0 EQU 060 BT JUMPS WHEN B REGISTER IS 0 03 00329
000020 A 372 RB1 EQU 020 BT JUMPS WHEN B REGISTER IS 1 03 00330
373 * 03 00331
374 ***** 03 00332
375 * 03 00333
376 ** THE BIT CHECKED 03 00334
377 * 03 00335
378 ***** 03 00336
000000 A 380 B0 EQU 0 03 00338
000001 A 381 B1 EQU 1 03 00339
000002 A 382 B2 EQU 2 03 00340
000003 A 383 B3 EQU 3 03 00341
000004 A 384 B4 EQU 4 03 00342
000005 A 385 B5 EQU 5 03 00343
000006 A 386 B6 EQU 6 03 00344
000007 A 387 B7 EQU 7 03 00345
000010 A 388 B8 EQU 8 03 00346
000011 A 389 B9 EQU 9 03 00347
000012 A 390 B10 EQU 10 03 00348
000013 A 391 B11 EQU 11 03 00349
000014 A 392 B12 EQU 12 03 00350
000015 A 393 B13 EQU 13 03 00351
000016 A 394 B14 EQU 14 03 00352
000017 A 395 B15 EQU 15 03 00353
396 EQU 03 00354
397 ***** 03 00355
398 * 03 00356
399 **** DEVICE AND FUNCTION CODES *** 03 00357
400 * 03 00358
401 ***** 03 00359
402 ***** 03 00360
403 **** REAL TIME CLOCK *** 03 00361
000047 A 404 CLOCK EQU 047 DEVICE NUMBER 047 03 00362
405 * 03 00363
000747 A 406 DISCLK EQU 0700+CLOCK DISABLE CLOCK 03 00364
000147 A 407 ENCLK EQU 0100+CLOCK ENABLE CLOCK 03 00365
408 * 03 00366
409 ***** 03 00367
410 **** PIM *** 03 00368
000044 A 411 APIM EQU 044 ALL PIMS DEVICE NUMBER 03 00369
000041 A 412 PIM1 EQU 040 03 00370
000041 A 413 PIM2 EQU 041 03 00371
000042 A 414 PIM3 EQU 042 03 00372
000043 A 415 PIM4 EQU 043 03 00373
000043 A 416 PIM5 EQU 040 03 00374
000043 A 417 PIM6 EQU 040 03 00375
000040 A 418 PIM7 EQU 040 03 00376
000040 A 419 PIM8 EQU 040 03 00377
420 * 03 00378
000444 A 421 DISPIM EQU 0100+APIM 03 00379
000244 A 422 ENAPIM EQU 0200+APIM 03 00380
423 * 03 00381
424 ***** 03 00382
425 **** MEMORY PROTECT *** 03 00383
000045 A 427 MP EQU 045 DEVICE ADDRESS 045 03 00384
000745 A 428 DISMP EQU 0700+MP DISABLE MEMORY PROTECT 03 00385
000645 A 429 ENAMP EQU 0600+MP ENABLE MEMORY PROTECT 03 00386
000045 A 430 MPMR0 EQU 0000+MP SELECT MASK REGISTER 0 03 00387
000145 A 431 MPMR1 EQU 0100+MP SELECT MASK REGISTER 1 03 00388
000245 A 432 MPMR2 EQU 0200+MP SELECT MASK REGISTER 2 03 00389
000345 A 433 MPMR3 EQU 0300+MP SELECT MASK REGISTER 3 03 00390
434 MPM EQU 03 00391
435 M EQU 03 00392
436 EQU 03 00393
437 * 03 00394
438 MPM EQU 03 00395
439 * 03 00396
440 * 03 00397
441 EQU 03 00398
442 ***** 03 00399
443 ***** 03 00400
444 * 03 00401
445 **** SYSTEM TASKS *** 03 00402
446 * 03 00403
447 * 03 00404
448 * 03 00405
449 * 03 00406
450 ***** 03 00407
451 ***** 03 00408
454 EQU 03 00409

```


V\$EROR=64D50

455	*****					03	00413			
456	*					03	00414			
457	*	ERROR SYSTEM TASK				03	00415			
458	*	THE ERROR TASK IS A FUNCTION OF THE DISPATCHER AND IS				03	00416			
459	*	ACTIVATED WHENEVER THE SYSTEM DETECTS AN ERROR				03	00417			
460	*	CONDITION. WHEN AN ERROR IS DETECTED BY IDC OR RTE				03	00418			
461	*	SERVICES, THE TASK IS SUSPENDED, A ERROR CODE IS STORED.				03	00419			
462	*	IN WORD 24 OF TIBD AND THE ERROR STATUS BIT IS SET.				03	00420			
463	*	UPON ENTRANCE, THIS ERROR CODE IS BROKEN DOWN INTO A				03	00421			
464	*	READABLE OUTPUT MESSAGE AND PRINTED ON THE DC				03	00422			
465	*	DEVICE. THE ERROR STATUS IS CLEARED. THE ERROR CODE				03	00423			
466	*	IS THEN CHECKED TO DETERMINE THE DISPOSITION OF TASK				03	00424			
467	*	IN ERROR.				03	00425			
468	*					03	00426			
469	*****					03	00427			
471		NAME	V\$EROR			03	00429			
472		EXT	V\$DISP			03	00430			
000000	074142	A	474	V\$EROR	STX	ERTIDB	03	00432		
000001	015022	A	475		LDA	TBKN1,1	03	00433		
000002	054131	A	476		STA	OUTBN	03	00434		
000003	015023	A	477		LDA	TBKN2,1	03	00435		
000004	054130	A	478		STA	OUTBN+1	03	00436		
000005	015024	A	479		LDA	TBKN3,1	03	00437		
000006	054127	A	480		STA	OUTBN+2	03	00438		
000007	020467	A	481		LDB	SEVEN	03	00439		
000010	015030	A	482		LDA	TBRSE,1	03	00440		
000011	006454	A	483		BT	RA0+B12,ERDR3	03	00441		
000012	000023	R								
			502	ERDR1	CONT		V2	03	00460	
000013	015004	A	503		LDA	TBRSA,1	03	00463		
000014	054123	A	506		STA	OUTBN+4	03	00464		
000015	015005	A	507		LDA	TBRSE,1	03	00465		
000016	054122	A	508		STA	OUTBN+5	03	00466		
000017	015006	A	509		LDA	TBRSE,1	03	00467		
000020	054121	A	510		STA	OUTBN+6	03	00468		
000021	006020	A	511		LDBI	11	03	00469		
000022	000013	A								
			512	ERR2	CONT			03	00470	
000023	064101	A	513	ERRDR3	STB	ERRDRB		03	00471	
000024	015030	A	514		LDA	TBRSE,1		03	00472	
000025	004346	A	515		LDB	0		03	00473	
000026	005311	A	516		DAR			03	00474	
000027	150464	A	517		ANA	BM3		03	00475	
000030	005012	A	518		TAB			03	00476	
000031	006026	A	519		LDBE	ERTYPE,2		03	00477	
000032	000144	R								
000033	064075	A	520	ERRDR4	STB	OUTX		03	00478	
000034	015030	A	521		LDA	TBRSE,1		03	00479	
000035	150474	A	522		ANA	BM77		03	00480	
000036	004543	A	523		LDB	0		03	00481	
000037	004140	A	524		LDB	0		03	00482	
000040	004543	A	525		LDB	0		03	00483	
000041	004145	A	526		LDB	0		03	00484	
000042	005021	A	527		TBA			03	00485	
000043	006120	A	528		ADDI	0130260		03	00486	
000044	130260	A								
000045	054064	A	529	ERRDR4	STA	OUTE+1		03	00487	
			530	ERRDR4	WRITE	ERRDRB,1,0,1		03	00488	
000046	006505	A								
000047	000000	E								
000050	100000	A								
000051	010401	A								
000052	000125	R								
000053	000000	A								
000054	000000	A								
			591	ER1	CONT			03	00525	
000055	034065	A	592	ERRDR5	LDB	ERTIDB		03	00526	
000056	015001	A	593		LDA	TBST,1		03	00527	
000057	150445	A	594		ANA	PC4		03	00528	
000060	055001	A	595		STA	TBST,1		03	00529	
000061	015030	A	596		LDA	TBRSE,1		03	00530	
000062	004351	A	597		LDB	0		03	00531	
000063	150464	A	598		ANA	BM3		03	00532	
000064	001010	A	599		JAZ	ERRDR6		03	00533	
000065	000112	R								
000066	005311	A	600		DAR			03	00534	
000067	001010	A	601		JANZ	ERRDR7		03	00535	
000070	000115	R								
000071	015030	A	604		LDA	TBRSE,X		FF	03	00538
000072	150474	A	605		ANA	BM77		FF	03	00539
000073	006140	A	606		SUBI	033		FF	03	00540
000074	000033	A								
000075	001010	A	607		JAZ	*+3		FF	03	00541
000076	000100	R								
000077	005311	A	608		DAR			FF	03	00542
000100	001016	A	609		JANZ	ERRDR5B		FF	03	00543
000101	000105	R								
000102	015001	A	610		LDA	TBST,X		FF	03	00544
000103	110440	A	611		DRP	RS15		FF	03	00545
000104	055001	A	612		STA	TBST,X		FF	03	00546
	000105	R	613	ERRDR5B	EQU	*		FF	03	00547
			614	1	CONT			FF	03	00548
			633	ER2	CONT			03	00567	

000105	015001	A	634	LDA	TEST,1	TYPE ONE - SET TASK IN ERROR ACTIVE.	03	00568	
000106	150457	A	635	AND	BR14		03	00569	
000107	055001	A	636	STA	TEST,1		03	00570	
000110	001000	A	637	JMP	ERRR7		09	00571	
000112	015001	A	638	ERRR6	LDA	TEST,1	03	00572	
000113	110436	A	639	ORA	BS13	ALERT TASK	03	00573	
000114	055001	A	640	STA	TEST,1		03	00574	
000115	030300	A	641	ERRR7	LDX	V&CTL	03	00575	
000116	015001	A	642	LDA	TEST,1	SET ERROR TASK SUSPENDED	03	00576	
000117	110437	A	643	ORA	BS14		03	00577	
000120	055001	A	644	STA	TEST,1		03	00578	
000121	005001	A	645	TZA		CLEAR ERROR TASK ACTIVE	03	00579	
000122	050376	A	646	STA	V&ERFG		03	00580	
000123	001000	A	647	JMP	V&DISP		03	00581	
000124	000000	E	648	ERRRDB	DCB	7,OUTB-1	03	00582	
000125	000007	A							
000126	000130	R							
000127	000000	A							
000130	120240	A	649		DATA	' '	03	00583	
000131	000000	A	650	OUTB	DATA	0	03	00584	
000132	000000	A	651		DATA	0	03	00585	
000133	126240	A	652		DATA	' '	03	00586	
000134	000000	A	653	OUTBN	DATA	0,0,0	03	00587	
000135	000000	A							
000136	000000	A							
000137	120240	A	654		DATA	' ',0,0,0	03	00588	
000140	000000	A							
000141	000000	A							
000142	000000	A							
000143	000000	A	657	ERTIDB	DATA	0	03	00591	
000144	142730	A	658	ERTYPE	DATA	'EX'	03	00592	
000145	144717	A	659		DATA	'ID'	03	00593	
000146	147703	A	660		DATA	'DC'	03	00594	
000147	000000	A	677	ERRA	CONT		03	00595	
000150	005001	A	678	ASCONV	ENTR	ASC CONVERSION	V75	00596	
000151	004441	A	679		TZA	ENTER WITH B=OCTAL NUMBER	V2	00597	
000152	004245	A	680		LRL	X=BUFFER ADDR.	V2	00598	
000153	004443	A	681		LRL		V2	00599	
000154	114017	A	682		LRL		V2	00600	
000155	055000	A	683		ORA	XDKASC	V2	00601	
000156	005001	A	684		STA	B,X	V2	00602	
000157	004440	A	685		TZA		V2	00603	
000158	004245	A	686		LRL		V2	00604	
000160	004245	A	687		LRL		V2	00605	
000161	004443	A	688		LRL		V2	00606	
000162	114011	A	689		ORA	XDKASC	V2	00607	
000163	055001	A	690		STA	B,X	V2	00608	
000164	005001	A	691		TZA		V2	00609	
000165	004440	A	692		LRL		V2	00610	
000166	004245	A	693		LRL		V2	00611	
000167	004443	A	694		LRL		V2	00612	
000170	114003	A	695		ORA	XDKASC	V2	00613	
000171	055000	A	696		STA	B,X	V2	00614	
000172	001000	A	697		JMP*	ASCONV	V2	00615	
000173	100147	A					V2	00616	
000174	130260	A	698	XDKASC	DATA	0130260	V2	00617	
			701	MPDCBV	DCB	EV75MG-MPMSGV,MPMSGV	V75	00618	
000175	000032	A							
000176	000200	R							
000177	000000	A							
000200	120240	A	702	MPMSGV	DATA	' R3='	V75	00619	
000201	126322	A							
000202	131675	A							
000203	130261	A	703	MPMGR3	DATA	'012345,R4='	V75	00620	
000204	131263	A							
000205	132265	A							
000206	126322	A							
000207	132275	A							
000210	130261	A	704	MPMGR4	DATA	'012345,R5='	V75	00621	
000211	131263	A							
000212	132265	A							
000213	126322	A							
000214	132275	A							
000215	130261	A	705	MPMGR5	DATA	'012345,R6='	V75	00622	
000216	131263	A							
000217	132265	A							
000220	126322	A							
000221	132275	A							
000222	130261	A	706	MPMGR6	DATA	'012345,R7='	V75	00623	
000223	131263	A							
000224	132265	A							
000225	126322	A							
000226	132275	A							
000227	130261	A	707	MPMGR7	DATA	'012345'	V75	00624	
000230	131263	A							
000231	132265	A							
	000232	R	708	EV75MG	EQU	*	V75	00625	
			709	2	CONT		V75	00626	
			710		EJEC		03	00627	
			711	*****				03	00628
			712	*****				03	00629

6-13

Address	Hex	Op	Label	Op	Comment	Line	Col	Page	
000344	006505	A	795	JSR	READ,X	READ PSEUDO TIDB INTO SALBUF	V2	03 007	
000345	001620	R							
000346	006037	A	796	LDXE	SALLDT	GET TIDB LOC OF TASK LOADING.		02 007	
000347	001415	R							
000350	006020	A	797	LDBT	SALBUF	STORE PSEUDO TIDB INFORMATION INTO TIDB.		03 007	
000351	001720	R							
000352	006017	A	798	LDAE	LUN	CHECK FOR SW FILE, LOGICAL UNIT 102		03 007	
000353	001372	R							
000354	006130	A	799	ERAI	0146			03 007	
000355	000146	A							
000356	001016	A	800	JANZ	NJCPEX			03 007	
000357	000410	R							
000360	014140	A	801	LDA	SALDFB+7	SET CURRENT END OF FILE TO		03 007	
000361	054135	A	802	STA	SALDFB+5	THE END OF THE FILE		03 007	
000362	015002	A	803	LDA	7BPL,1	CHECK FOR PRIORITY LEVEL 0		03 007	
000363	150473	A	804	ANA	BM37			03 007	
000364	001016	A	805	JANZ	NJCPEX			03 007	
000365	000410	R							
000366	016000	A	806 *		PRIORITY 0 TASK FROM SW FILE.		V2	03 007	
000367	150420	A	807	LDA	0,2	CLEAR STATUS WORD IN PSEUDO TIDB		03 007	
000370	056000	A	808	ANA	BS2			03 007	
000371	016001	A	809	STA	0,2			03 007	
000372	140316	A	810	LDA	1,2	CHECK TASK ENTRY LOC. IN PSEUDO TIDB		03 007	
000373	001002	A	811	CONT				03 007	
000374	000377	R						03 007	
000375	010316	A	820	LDA	V\$LUP	STORE DEFAULT ADDRESS IN PSEUDO TIDB		03 007	
000376	056001	A	821	STA	1,2			03 007	
000377	016003	A	822	CONT				03 007	
000400	150460	A	823	LDA	0,2	CHECK LM/ROOT SEG. SIZE		03 007	
000401	056003	A	824	ANA	BR15			03 007	
000402	016002	A	825	STA	0,2			03 007	
000403	150474	A	826	LDA	2,2	CHECK NO. OF BLKS. TO ALLOCATE		03 007	
000404	001016	A	827	ANA	BM77			03 007	
000405	000407	R	828	JANZ	*+3	MUST BE GTR 0 AND LEQ 63		03 007	
000406	003111	A	829	IAR				03 007	
000407	056002	A	830	STA	2,2			03 007	
000410	016000	A	831	LDA	0,2	TASK STATUS		03 007	
000411	113001	A	832	ORA	TBST,1	SET UP BIT 9(FOREGROUND TASK), BIT 8(TASK		03 007	
000412	053001	A	833	STA	TBST,1	PROTECTED, BIT 2 (OVERLAY)		03 007	
000413	016001	A	834	LDA	1,2	TASK ENTRY		03 007	
000414	053011	A	835	STA	TBENTY,1			03 007	
000415	016011	A	836	LDA	0,2	STORE TASK EXECUTION ADDR.	V2	03 007	
000416	001016	A	837	JANZ	*+3		V2	03 007	
000417	000421	R							
000420	013011	A	838	LDA	TBENTY,X	IF 0, SET TBESP=TBENTY	V2	03 007	
000421	053007	A	839	STA	TBESP,X	DIFFERS IF DEBUG	V2	03 007	
000422	016002	A	840	LDA	2,2	NO. OF BLOCKS TO BE ALLOCATED		03 007	
000423	004232	A	841	LRLA	10			03 007	
000424	053031	A	842	STA	TBSIZ,X	LOAD MODULE OR ROOT SEGMENT SIZE	V2	03 007	
000425	016003	A	843	LDA	0,2			03 007	
000426	053012	A	844	STA	TBTMS,1			03 007	
000427	016004	A	861	SALED1	CONT		V2	03 007	
000430	053013	A	864	LDA	0,2	FILE ADDRESS OF RELO BITS		03 007	
000431	024060	A	865	STA	TBTMIN,1			03 007	
000432	016002	A	866	SALDIA	CONT			03 007	
000433	053014	A	867	LDA	SALDFB	SAVE FILE CONTROL INFORMATION		03 007	
000434	016003	A	868	LDA	2,2	ACCESS METHOD/ PROTECT KEY		03 007	
000435	053015	A	869	STA	TBISA,1			03 007	
000436	016004	A	870	LDA	0,2	ACTUAL ADDRESS		03 007	
000437	053016	A	871	STA	TBISB,1			03 007	
000440	016005	A	872	LDA	4,2	CURRENT EOF		03 007	
000441	053017	A	873	STA	TBISX,1	BEGINNING FILE ADDRESS		03 007	
000442	016006	A	874	LDA	0,2	END FILE ADDRESS		03 007	
000443	053020	A	875	STA	TBISY,1			03 007	
000444	013002	A	876	LDA	6,2	SET TASK OPEN STATUS BIT		03 007	
000445	110440	A	877	ORA	TBICRS,1			03 007	
000446	053002	A	878	LDA	TBPL,1			03 007	
000447	150473	A	879	ANA	BS13			03 007	
000450	004341	A	880	STA	TBPL,1			03 007	
000451	003012	A	881	ANR	BM37			03 007	
000452	015001	A	882	LRA	1	PRIORITY LEVEL = 1		03 007	
000453	001026	A	883	TAB		STATUS		03 007	
000454	000525	R	884	JANZ	TBST,1	CHECK IF BACKGROUND PRIORITY LEVEL 0 OR 1		03 007	
000455	006431	A	888	JANZ	CALL			03 007	
000456	000463	R	889	JT	CALL+09,SALIA	YES - ERROR IF PG TASK STATUS BIT SET.		03 007	
000457	150452	A	890	ANA	0,2	CLEAR FOREGROUND TASK STATUS		03 007	
000460	053001	A	891	STA	TBST,1			03 007	
000461	001000	A	892	JAP	CALL			03 007	
000462	000315	R							
000463	010315	A	893	SALIA	LDA	V\$BIB	CHECK IF BACKGROUND BUSY		03 007
000464	001010	A	894	JANZ	CALL			03 007	
000465	001571	R							
000466	020342	A	895	LDB	TBTOT	YES ITS BUSY THREAD TO WAITING STACK		03 007	
000467	001026	A	896	JANZ	CALL	CHECK IF STACK EMPTY		03 007	
000470	000474	R							
000471	070342	A	897	STX	V\$BIB	YES - SET AS FIRST ENTRY		03 007	
000472	001000	A	898	JMP	SALIA			03 007	
000473	000503	R							

474	016026	A	899	SAL2	LDA	TBCPTH,2			03	00822
475	001010	A	900		JAZ	SAL3			03	00823
476	000502	R								
477	005012	A	901		TAB		GET NEXT TIDB IN THREAD		03	00824
500	001000	A	902		JMP	SAL2			03	00825
501	000474	R								
502	076026	A	903	SAL3	STX	TBCPTH,2	YES - SET UP POINTING TO WAITING TIDB		03	00826
503	005001	A	904	SAL4	TZA				03	00827
504	055026	A	905		STA	TBCPTH,1	SET TO LAST ENTRY IN STACK		03	00828
505	015001	A	906		LDA	TBST,1	SET TIDB SUSPENDED		03	00829
506	110437	A	907		DRA	RC14			03	00830
507	055001	A	908		STA	TBST,1			03	00831
510	001000	A	909		JMP	SALRET			03	00832
511	001571	R								
512	000513	R	911	SALDFB	DATA	*+1			03	00834
			912	FCB		120,SALBUF,2,0,0,0+0			03	00835
513	000170	A								
514	001720	R								
515	001000	A								
516	000000	A								
517	000000	A								
520	000000	A								
521	000000	A								
522	000000	A								
523	000000	A								
524	000000	A								
			913		EJEC				03	00836
			914	*	LOAD	TASK - PREVIOUSLY OPENED			03	00837
525	015001	A	917	SAL8	LDA	TBST,1			03	00840
			923	SALED4	CONT			V2	03	00846
526	006411	A	924		BT	RA1+B9,SAL9	CHECK IF FOREGROUND LOAD		03	00847
527	000626	R								
			950	SLED2A	CONT			V2	03	00872
530	015031	A	953		LDA	TBSIZ,1	CALC NO. OF 512 BLKS TO ALLOCATE	V2	03	00875
531	120055	A	954		ADD	V\$JCFG	EXTRA BLOCK DEFINED BY JCP CORE REQUEST		03	00877
532	004352	A	955		LSRA	10			03	00878
533	054027	A	956		STA	NBLOC+1			03	00879
534	010341	A	957		LDA	V\$CRDR	CALCULATE NO. OF ALLOCATABLE BLOCKS		03	00880
535	004351	A	958		LSRA	9	AVAILABLE		03	00881
536	005311	A	959		DAR				03	00882
537	144023	A	960		SUB	NBLOC+1	CHECK IF BG WILL FIT IN ALLOCATABLE CORE.		03	00883
540	001000	A	961		JAP	SALBZ			03	00884
541	000551	R								
542	010055	A	962		LDA	V\$JCFG	CLEAR EXTRA BLOCKS		03	00885
543	150477	A	963		ANA	BM1777			03	00886
544	050055	A	964		STA	V\$JCFG			03	00887
545	006010	A	965		LDAI	0105	ERROR - NOT ENOUGH ROOM FOR BG.		03	00888
546	000105	A								
547	001000	A	966		JMP	SALER1			03	00889
550	001226	R								
551	005004	A	967	SALBZ	TZX		INITIALIZE BLOCK COUNT		03	00890
552	074156	A	968		STX	COUNT			03	00891
553	020421	A	969		LDB	ONE			03	00892
554	015330	A	970	SALBG	LDA	V\$MPM,1	SET UP BIT ALLOCATION		03	00893
555	156441	A	971		ANA	BR0,2	0 = UNPROTECTED		03	00894
556	055330	A	972		STA	V\$MPM,1	1 = PROTECTED		03	00895
557	044151	A	973		INR	COUNT	INCR. BLOCK COUNT		03	00896
558	005122	A	974		IBR		INCR. BIT COUNT		03	00897
559	014147	A	975		LDA	COUNT	CHECK IF ALL BLOCKS UNPROTECTED		03	00898
560	006140	A	976	NBLOC	SUBI	*-*			03	00899
561	000000	A								
562	001010	A	977		JAZ	SALBG2			03	00900
563	000576	R								
564	005021	A	978		TBR		CHECK IF A 16 BIT WORD SETUP		03	00901
565	144137	A	979		SUB	SIXTN			03	00902
566	001016	A	980		JANZ	SALBG			03	00903
567	000554	R								
568	005144	A	981		IXR		SET UP NEXT WORD OF ALLOCATION		03	00904
569	005002	A	982		TZX		INITIALIZE BIT COUNT		03	00905
570	001000	A	983		JMP	SALBG			03	00906
571	000554	R								
572	006505	A	984	SALBG2	JSR	BGCK,1	CHECK IF CORE AVAILABLE TO ALLOCATE.		03	00907
573	002142	R								
574	001016	A	985		JANZ	SALRET			03	00908
575	001571	R								
576	006505	A	986	SALBG4	JSR	DRMPCA,1	ALLOCATE BACKGROUND MEMORY		03	00909
577	002126	R								
578	006506	A	987		JSR	V\$EMP,2	ENABLE MP MASK		03	00910
579	02110	R								
580	06017	A	988		LDAE	NALOC+1	SET UP LOC. OF LAST UNPROTECTED MEMORY		03	00911
581	00560	R								
582	05111	A	989		IAR				03	00912
583	14251	A	990		LRLA	9			03	00913
584	05311	A	991		DAR				03	00914
585	00317	A	992		STA	V\$LLUP			03	00915
586			993	SALED2	CONT			V2	03	00916
587	4600	A	994		LDB	SALLDI	SET UP BACKGROUND TIDB POINTER.		03	00917
588	0315	A	995		STX	V\$BIB			03	00918
589	5010	A	996		LDAI	0500	BACKGROUND LOAD LOCATION		03	00919
590	1500	A								
591	1025	A	997		STA	TBILC,1	CLEAR EXTRA BLOCK		03	00920
592	055	A	1000		LDA	V\$JCFG			03	00923
593	477	A	1001		ANA	BM1777			03	00924

Address	Hex	Op	Label	Op	Comment	PC	PC
000623	050055	A	1002	STA	V\$JCFG	03	00925
000624	001000	R	1003	JMP	CALLOB	03	00926
000625	001060	R					
000626	015031	A	1004	SAL9	LDA	1BSIZ,1	GET NO. OF BLKS TO BE ALLOCATED.
000627	004352	A	1005	LSRA	10	V2	03 00927
000628	054071	A	1006	STA	ALDOCSZ+1		03 00928
000629	005008	A	1007	12B			03 00929
000630	064076	A	1008	STB	COUNT	ZERO COUNTER AND PSEUDO MASK REGISTER	03 00930
000631	064076	A	1009	STB	PSEUDO		03 00931
000632	064076	A	1010	STB	PSEUDO+1		03 00932
000633	064076	A	1011	STB	PSEUDO+2		03 00933
000634	064076	A	1012	STB	PSEUDO+3		03 00934
000635	004076	A	1013	LDA	THREE	QUICK CORE ALLOCATION REG. CHECK	03 00935
000636	005111	A	1014	ALDC	LDA	V\$CAM,1	03 00936
000637	001016	A	1015	IAR			03 00937
000638	000650	R	1016	JANZ	ALDC1		03 00938
000639	001040	A	1017	JXZ	CALNOA	ALL REGISTERS CHECKED - NO CORE AVAILABLE	03 00939
000640	001010	R					
000641	005344	A	1018	EXR			03 00941
000642	005021	A	1019	EXR			03 00942
000643	124056	A	1020	ADD	SIXTN	ADD 16 TO BIT ALLOCATION POINTER	03 00943
000644	005013	A	1021	TAZ			03 00944
000645	001000	A	1022	JMP	ALDC		03 00945
000646	000640	R					
000647	064123	A	1023	ALDC1	STB	BNUM	BIT NUMBER TO START CORE ALLOCATION
000648	014004	A	1024	ALDC2	LDA	BTEST	SET UP BIT TEST TO TEST HIGHEST ORDER BIT
000649	110470	A	1025	ORA	BN17		03 00949
000650	054002	A	1026	STA	BTEST		03 00950
000651	024047	A	1027	LDR	FIFTEEN	INITIALIZE BIT COUNTER	03 00951
000652	015034	A	1028	ALDC3	LDA	V\$CAM,1	LOAD CORE ALLOCATION MASK
000653	006435	A	1029	BTEST	BT	AND B15,ALDC6	TEST BITS LEFT TO RIGHT
000654	000712	R					03 00954
000655	005001	A	1030	12B		BLOCK ALLOCATED - NOT AVAILABLE	03 00955
000656	054043	A	1031	STA	COUNT		03 00956
000657	054043	A	1032	STA	PSEUDO		03 00957
000658	054043	A	1033	STA	PSEUDO+1		03 00958
000659	054043	A	1034	STA	PSEUDO+2		03 00959
000660	054043	A	1035	STA	PSEUDO+3		03 00960
000661	044114	A	1036	ALDC4	INR	BNUM	INCREMENT BIT COUNT
000662	001000	A	1037	JBZ	ALDC5	CHECK IF ALL 16 BIT CHECKED.	03 00962
000663	000705	R					
000664	005322	A	1038	EXR			03 00964
000665	006017	A	1039	LDRE	BTEST	MODIFY BT INST. TO TEST NEXT RIGHT BIT	03 00965
000666	000600	R					
000667	005311	A	1040	EXR			03 00967
000668	006057	A	1041	LDRE	BTEST		03 00968
000669	000660	R					
000670	001000	A	1042	JMP	ALDC3		03 00970
000671	000661	R					
000672	001040	A	1043	ALDC5	JXZ	CALNOA	TEST IF ALL ALLOCATION MASK WORDS CHECKED
000673	001010	R					
000674	005344	A	1044	EXR		NO - TEST NEXT WORD	03 00974
000675	001000	A	1045	JMP	ALDC2		03 00975
000676	000655	R					
000677	044016	A	1046	ALDC6	INR	COUNT	BLOCK NOT ALLOCATED
000678	006015	A	1047	LDRE	PSEUDO,1		03 00978
000679	000732	R					
000680	116421	A	1048	ORA	BN,2	SET ALLOCATE BIT IN PSEUDO ALLOCATION TABLE	03 00980
000681	006055	A	1049	LDRE	PSEUDO,1		03 00981
000682	000732	R					
000683	014010	A	1050	LDA	COUNT	CHECK IF ENOUGH BLOCKS ALLOCATED	03 00983
000684	006140	A	1051	ALDOCSZ	SUBT	1-*	03 00984
000685	000000	R					
000686	001016	A	1052	JANZ	ALDC4		03 00986
000687	000672	R					
000688	001000	A	1053	JMP	CALALC		03 00988
000689	000733	R					
000690	000020	A	1054	SIXTN	DATA	16	03 00990
000691	000017	A	1055	FIFTEEN	DATA	15	03 00991
000692	000003	A	1056	COUNT	DATA	3	03 00992
000693	000000	A	1057	PSEUDO	DATA	1-0+0+0	03 00993
000694	000000	A	1058			NUMBER OF AVAILABLE 512 WORD BLOCKS.	03 00994
000695	000000	A				MASK TABLE FOR CORE ALLOCATION	03 00995
000696	000000	A					
000697	000000	A					
000698	000000	A					
000699	000000	A					
000700	000000	A					
000701	000000	A					
000702	000000	A					
000703	000000	A					
000704	000000	A					
000705	000000	A					
000706	000000	A					
000707	000000	A					
000708	000000	A					
000709	000000	A					
000710	000000	A					
000711	000000	A					
000712	000000	A					
000713	000000	A					
000714	000000	A					
000715	000000	A					
000716	000000	A					
000717	000000	A					
000718	000000	A					
000719	000000	A					
000720	000000	A					
000721	000000	A					
000722	000000	A					
000723	000000	A					
000724	000000	A					
000725	000000	A					
000726	000000	A					
000727	000000	A					
000728	000000	A					
000729	000000	A					
000730	000000	A					
000731	000000	A					
000732	000000	A					
000733	000000	A					
000734	000000	A					
000735	000000	A					
000736	000000	A					
000737	000000	A					
000738	000000	A					
000739	000000	A					
000740	000000	A					
000741	000000	A					
000742	000000	A					
000743	000000	A					
000744	000000	A					
000745	000000	A					
000746	000000	A					
000747	000000	A					
000748	000000	A					
000749	000000	A					
000750	000000	A					
000751	000000	A					
000752	000000	A					
000753	000000	A					
000754	000000	A					
000755	000000	A					
000756	000000	A					
000757	000000	A					

Address	Hex	Op	Label	Op	Comment	Line	Page	
001227	055030	A	1358	STA	TBRSE,1	03	01281	
001230	015001	A	1359	LDA	TBST,1	03	01282	
001231	110425	A	1360	ORA	BS4	03	01283	
001232	055001	A	1361	STA	TBST,1	03	01284	
001233	001000	A	1362	JMP	SALRET	03	01285	
001234	001571	R						
			1377	SA1	CONT			
001235	015001	A	1382	LDA	TBST,1	03	01300	
001236	006442	A	1383	BT	RA0+TBS2,SALD7	03	01305	
					CHECK IF OVERLAY TASK	03	01306	
001237	001305	R						
001240	006411	A	1388	BT	RA1+TBS9,SALD3	03	01311	
					CHECK IF FOREGROUND TASK			
001241	001251	R						
001242	010356	A	1389	LDA	VSLIT	03	01312	
					BACKGROUND TASK			
001243	120424	A	1390	ADD	EIGHT	03	01313	
001244	005012	A	1391	TAB		03	01314	
					GET LOC. OF OVERLAY SEGMENT INF. TABLE			
001245	006030	A	1392	LDXI	FORBG	03	01315	
					GET FILE CONTROL BLOCK LOCATION			
001246	001501	R						
001247	001000	A	1393	JMP	SALD4	03	01316	
001250	001255	R						
001251	015025	A	1394	SALD3	LDA	03	01317	
					TBFLC,1			
			1395	SA1A	CONT	03	01318	
001252	005014	A	1396	TAX		03	01319	
					FILE CONTROL BLOCK LOC.			
001253	120467	A	1397	ADD	SEVEN	03	01320	
					GET LOC. OF OVERLAY SEGMENT INF. TABLE			
001254	005012	A	1398	TAB		03	01321	
001255	074441	A	1399	SALD4	STX	03	01322	
					LDCFCB			
001256	034136	A	1400	LDX	SALLDT	03	01323	
					SAVE FCB LOCATION			
001257	035006	A	1401	LDX	TBRX,1	03	01324	
					GET PARAMETER LIST LOC.			
			1407	SA1B	CONT	03	01330	
001260	015000	A	1408	LDA	0,1	03	01331	
					GET TYPE			
001261	054134	A	1409	STA	TYPE	03	01332	
001262	016000	A	1410	SALD5	LDA	03	01333	
					2,2			
001263	001010	A	1411	JAZ	SALD7	03	01334	
					SEARCH OVERLAY SEGMENT TABLE FOR NAME			
					SPECIFIED IF OVERLAY SERVICE REQUEST			
001264	001305	R						
001265	135001	A	1412	ERA	1,1	03	01335	
					IF 1ST WORD ZERO - SEARCH COMPLETE			
001266	001010	A	1413	JANZ	SALD6	03	01336	
					CHECK 1ST TWO CHARACTERS			
001267	001300	R						
001270	016001	A	1414	LDA	1,2	03	01337	
001271	135002	A	1415	ERA	2,1	03	01338	
001272	001010	A	1416	JANZ	SALD6	03	01339	
					CHECK 2ND TWO CHARACTERS			
001273	001300	R						
001274	016002	A	1417	LDA	2,2	03	01340	
001275	135003	A	1418	ERA	3,1	03	01341	
001276	001010	A	1419	JAZ	SALD8	03	01342	
001277	001311	R						
001300	005021	A	1420	SALD6	TBR	03	01343	
001301	120467	A	1421	ADD	SEVEN	03	01344	
001302	005012	A	1422	TAB		03	01345	
001303	001000	A	1423	JMP	SALD5	03	01346	
001304	001262	R						
001305	006010	A	1424	SALD7	LDAI	03	01347	
					0107			
001306	000107	A						
001307	001000	A	1427	JMP	SALER1	03	01350	
001310	001226	R						
			1452	SA2	CONT			
001311	034405	A	1455	SALD8	LDX	V2	03	01375
					LDCFCB			
001312	015003	A	1456	LDA	0,1	03	01378	
					TASK SEGMENT FOUND			
001313	054056	A	1457	STA	LUN	03	01379	
001314	016003	A	1458	LDA	0,2	03	01380	
001315	055003	A	1459	SIA	0,1	03	01381	
					FILE ADDRESS OF OVERLAY SEGMENT			
001316	016004	A	1460	LDA	4,2	03	01382	
001317	055000	A	1461	STA	0,1	03	01383	
					SEGMENT SIZE			
001320	016003	A	1462	LDA	5,2	03	01384	
001321	054076	A	1463	STA	SEGENT	03	01385	
					OVERLAY SEGMENT ENTRY			
001322	016006	A	1464	LDA	6,2	03	01386	
001323	054073	A	1465	STA	FILEADR	03	01387	
					FILE ADDR. OF RELO. BITS.			
			1466	SALED7	CONT	V2	03	01388
			1472	SA2A	CONT			
001324	014045	A	1473	LDA	LUN	03	01389	
001325	024371	A	1477	LDB	LDCFCB	03	01390	
001326	006505	A	1478	JSR	READ,1	03	01400	
001327	001620	R						
001330	034064	A	1479	LDX	SALLDT	03	01402	
001331	015007	A	1480	LDA	TBRSP,1	03	01403	
					STORE RETURN LOC IN X REGISTER.			
001332	150460	A	1481	ANA	BR15	03	01404	
					WITH BIT 15 CLEARED (OF)			
001333	055006	A	1482	STA	TBRX,1	03	01405	
001334	014063	A	1483	LDA	SEGENT	03	01406	
					GET ENTRY LOCATION			
001335	025001	A	1486	LDB	TBST,1	03	01409	
001336	006471	A	1487	BT	RD0+TBS9,*+3	03	01410	
					CHECK IF FOREGROUND			
001337	001341	R						
001340	125025	A	1488	ADD	TBTLC,1	03	01411	
					YES - ADD RELO.			
			1489	SALED9	CONT	V2	03	01412
001341	024054	A	1490	LDB	TYPE	03	01413	
					GET TYPE LOAD			
001342	006420	A	1491	BT	RD1+BD,*+5	03	01414	
					CHECK IF LOAD AND EXECUTE			
001343	001347	R						
001344	055007	A	1492	STA	TBRSP,1	03	01415	
					YES - ENTRY LOC. FOLLOWING BY LOAD.			
001345	001000	A	1496	JMP	SALD10	03	01419	
					LOCATION IN X REGISTER.			
001346	001350	R						
001347	055006	A	1497	STA	TBRX,1	03	01420	
					NO - LOAD AND RETURN - RETURN WITH ENTRY			
001350	015001	A	1500	SALD10	LDA	03	01423	
					TBST,1			
					CHECK IF BACKGROUND LOAD			
001351	006451	A	1501	BT	RD0+TBS9,SALD12	03	01424	
001352	001406	R						
001353	024343	A	1502	LDB	LDCFCB	03	01425	
001354	014123	A	1503	LDA	DRCH20	03	01425	
					BACKGROUND LOAD - GET RELOCATION FILE			

Address	Hex	Op	Label	Op	Comment	Line	Page
001355	056000	A	1504	STA	0,2	SET UP 120 WORD BUFFER	03 01427
001356	014040	A	1505	LDA	FILEADR	FILE ADDRESS	03 01428
001357	001004	A	1506	JAN	SALD12	IF NEG. NO RELOCATION FILE	03 01429
001360	001406	R					
001361	056003	A	1507	STA	3,2		03 01430
001362	016001	A	1508	LDA	1,2	SAVE OVERLAY BUFFER ADDRESS	03 01431
001363	054033	A	1509	STA	FILEADR		03 01432
001364	006010	A	1510	LDAI	SALBUF		03 01433
001365	001720	R					
001366	056001	A	1511	STA	1,2		03 01434
001367	015025	A	1512	LDA	TBILC,1	SET UP RELOCATION BYST	03 01435
001370	054070	A	1513	STA	SALBAD+1		03 01436
001371	006010	A	1514	SALD11	LDAI		03 01437
001372	000000	A					
001372			1515	LUN	BES	0	03 01438
001373	024323	A	1516	LDB	LDFCB		03 01439
001374	006505	A	1517	JSR	PCAD,1		03 01440
001375	001620	R					
001376	046003	A	1518	INR	3,2	INCREMENT TO NEXT 120 WORD RECORD	03 01441
001377	002000	A	1519	CALL	RELD		03 01442
001400	001421	R					
001401	001010	A	1520	JAZ	SALD11		03 01443
001402	001371	R					
001403	024313	A	1521	LDB	LDFCB		03 01444
001404	014012	A	1522	LDA	FILEADR		03 01445
001405	056001	A	1523	STA	1,2		03 01446
			1524	SALE10	CONT		V2 03 01447
001406	034310	A	1525	SALD12	LIX	LDFCB	03 01448
001407	006017	A	1526	LDAE	LUN		V2 03 01449
001410	001372	R					
			1532	SA2C	CONT		03 01455
001411	055003	A	1533	STA	3,1		03 01456
			1539	SA2D	CONT		03 01462
001412	034002	A	1540	LIX	SALLDT		03 01463
001413	001000	A	1541	JMP	SAL31		03 01464
001414	001177	R					
001415	000000	A	1544	SALLDT	DATA	0	LOC. OF TIDE OF TASK TO BE LOADED.
001416	000000	A	1545	TYPE	DATA	0	
001417	000000	A	1546	FILEADR	DATA	0	FILE ADDR. OF RELO. BITS.
001420	000000	A	1547	SEMENT	DATA	0	OVERLAY SEGMENT ENTRY
001421	000000	A	1551	RELD	ENTR		
001422	024054	A	1552	LDB	RELABR		
001423	005004	A	1553	TZX			
001424	006015	A	1554	SAL20	LDAE	SALBUF,1	
001425	001720	R					
001426	001002	A	1555	JAP	SAL22	CHECK IF ADDRESS	03 01473
001427	001450	R					
001430	005211	A	1556	CPA		ADDRESS	03 01475
001431	005012	A	1557	TAB			03 01480
001432	005111	A	1558	IAR		CHECK IF COMPLETED	03 01481
001433	001004	A	1559	JAN*	RELD		03 01482
001434	101421	R					
001435	005021	A	1560	TBA			03 01483
001436	124022	A	1561	ADD	SALBAD+1		03 01484
001437	005012	A	1562	TAB			03 01485
001440	005144	A	1563	SAL21	IXR		03 01486
001441	005041	A	1564	TXA		CHECK IF ONE 120 WORD BUFFER CHECKER	03 01487
001442	144035	A	1565	SUB	DNEH20		03 01488
001443	064033	A	1566	STB	RFLADR		03 01489
001444	001010	A	1567	JAZ*	RELD		03 01490
001445	101421	R					
001446	001000	A	1568	JMP	SAL20		03 01491
001447	001424	R					
001450	074023	A	1569	SAL22	STX	SAL25+1	RELO BITS
001451	006030	A	1570	LIXI	14		03 01493
001452	000016	A					
001453	004241	A	1571	SAL23	LRLA	1	CHECK IF ZERO OR ONE
001454	054013	A	1572	STA	SVA+1		03 01494
001455	001002	A	1573	JAP	SAL24		03 01495
001456	001463	R					
001457	016000	A	1574	LDA	0,2	SET - ADD RELOCATION TO WRDD	03 01497
001460	006120	A	1575	SALBAD	ANDI	*-*	03 01498
001461	000000	A					
001462	056000	A	1576	STA	0,2		03 01499
001463	005122	A	1577	SAL24	IER	INCR BIT COUNT	03 01500
001464	001040	A	1578	JXZ	SAL25	CHECK IF 15 BITS TESTED.	03 01501
001465	001473	R					
001466	005344	A	1579	DXR			03 01502
001467	006010	A	1580	SVA	LDAI	*-*	03 01503
001470	000000	A					
001471	001000	A	1581	JMP	SAL23		03 01504
001472	001453	R					
001473	006030	A	1582	SAL25	LIXI	*-*	03 01505
001474	000000	A					
001475	001000	A	1583	JMP	SAL21		03 01506
001476	001446	R					
001477	000000	A	1584	RELADR	DATA	0	03 01507
			1585	SALE11	CONT		V2 03 01508
			1591	SA11A	CONT		03 01511
001500	000170	A	1593	DNEH20	DATA	120	DATA BUFFER SIZE
			1594	FOBBG	FCB	0,0,2,0,0,0	BACKGROUND FILE CONTROL BLOCK (OVERLAY)
001501	000000	A					03 01512
001502	000000	A					

Address	Hex	Op	Label	Op	Comment	Op	Address
001503	001000	A					
001504	000000	A					
001505	000000	A					
001506	000000	A					
001507	000000	A					
001510	000000	A					
001511	000000	A					
001512	000000	A					
	1595		EJEC				03 01518
	1596	*	MEMORY RESIDENT TASK SCHEDULED			V2	03 01519
001513	005042	A	SALCR	TXB	CORE RESIDENT TASK - SEARCH CORE RESIDENT		03 01520
001514	030341	A		LDX	V\$CRDR		03 01521
001515	015000	A	SALCR1	LDA	0,1	TASK LIBRARY	03 01522
001516	001010	A		JAZ	SALCR6	V2	03 01523
001517	001611	R					
001520	136022	A	1601	ERA	TBKN1,2		03 01524
001521	001016	A	1602	JANZ	SALCR2	CHECK IF 1ST 2 CHAR. MATCH	03 01525
001522	001604	R					
001523	015001	A	1603	LDA	1,1		03 01526
001524	136023	A	1604	ERA	TBKN2,2		03 01527
001525	001016	A	1605	JANZ	SALCR2	CHECK IF 2ND 2 CHAR. MATCH	03 01528
001526	001604	R					
001527	015002	A	1606	LDA	2,1		03 01529
001530	136024	A	1607	ERA	TBKN3,2		03 01530
001531	001016	A	1608	JANZ	SALCR2	CHECK IF 3RD 2 CHAR. MATCH	03 01531
001532	001604	R					
001533	015003	A	1609	LDA	3,1	YES - SAVE IN ENTRY LOC. AND P REENT.	03 01532
001534	056011	A	1610	STA	TBENTY,2	STACK WORD	03 01533
001535	056007	A	1611	STA	TBRSP,2		03 01534
	1662		SALE12	CONT			03 01584
	1663			LDAI	003401	SET CORE RESIDENT TASK, PROTECTED TASK,	03 01585
001536	006010	A	1664	DRA	TBET,2	BACKGROUND TASK,	03 01586
001537	003401	A	1665	STA	TBET,2	AND TASK SEARCHED, ALLOCATED AND LOADED.	03 01587
001540	116001	A	1667	STB	SAL2C		03 01589
001541	056001	A	1668	*	COMMON RETURN TO DISPATCHER		03 01590
001542	064017	A	1669	SALRT2	EDU		03 01591
	1670			LDXI	TIBSL2	SAL2 TIB	03 01592
001543	006030	A	1671	LDA	TBPL,X	SAL2 FLAG	03 01593
001544	000000	E	1672	ANAI	077777	CLEAR	03 01594
001545	015002	A	1673	STA	TBPL,X	SAL2(TIB) FLAG	03 01595
001546	006150	A	1674	LDA	TBET,1		03 01596
001547	077777	A	1675	DRA	BS14	SET SUSPEND BIT	03 01597
001550	055002	A	1676	STA	TBET,1		03 01598
001551	015001	A	1677	TZA			03 01599
001552	110437	A	1678	STA	TBKN1,1	CLEAR SAL2 TASK ACTIVE STATUS	03 01600
001553	055001	A	1679	LDXE	SAL2C	SCAN TIB FROM TASK PROCESSED	03 01601
001554	005001	A					
001555	055022	A					
001556	006037	A					
001557	001562	R					
	1680			EXT	V\$DP1		03 01602
001560	001000	A	1681	JMP	V\$DP1		03 01603
001561	000000	E					
001562	000000	A	1682	SAL2C	DATA	0	03 01604
	1683	*				ERROR EXIT SAME AS SALER11	03 01605
001563	055030	A	1684	SALER2	STA	TBRSE,1	03 01606
001564	015001	A	1685	LDA	TBET,1		03 01607
001565	110423	A	1686	DRA	BS4		03 01608
001566	055001	A	1687	STA	TBET,1		03 01609
001567	001000	A	1688	JMP	SALRT2		03 01610
001570	001543	R					
001571	030300	A	1689	SALRET	LDX	V\$CTL	03 01611
001572	015001	A	1690	LDA	TBET,1		03 01612
001573	110437	A	1691	DRA	BS14	SET SUSPEND BIT	03 01613
001574	055001	A	1692	STA	TBET,1		03 01614
001575	005001	A	1693	TZA		CLEAR SAL TASK ACTIVE STATUS	03 01615
001576	055022	A	1694	STA	TBKN1,1		03 01616
001577	100444	A	1695	EXC	BTSPIM		03 01617
001600	100747	A	1696	EXC	BISCLK		03 01618
001601	050375	A	1697	STA	V\$DIFG		03 01619
001602	001000	A	1698	JMP	V\$DISP		03 01620
001603	000124	E					
001604	005041	A	1699	SALCR2	TXA		03 01621
001605	120423	A	1703	ADD	FOUR		03 01625
001606	005014	A	1704	TAX			03 01626
001607	001000	A	1705	JMP	SALCR1		03 01627
001610	001513	R					
001611	005024	A	1706	SALCR6	TBX	X=TIB ADDR	V2 03 01629
001612	010347	A	1707	LDA	V\$FGLB	SET TO FOREGROUND LIB	V2 03 01630
001613	055010	A	1708	STA	TBRSTS,X		V2 03 01630
001614	006077	A	1709	STXE	SAL2C		E 03 01631
001615	001562	R					
001616	001000	A	1710	JMP	SALRT2		E 03 01632
001617	001543	R					
	1739	SL6	CONT				03 01661
	1740		EJEC				03 01662
	1741	*	COMMON I/O HANDLER FOR SAL TASK				03 01663
	1742	*	READ, WRITE, OPEN AND REWIND ARE HANDLED BY THIS ROUTINE				03 01664
	1743	*	THE I/O ROUTINES ARE CALLED VIA A JUMP-AND-SET IN X REG.				03 01665
	1744	*	INSTRUCTION WITH THE A REG. CONTAINING LUN. NO. AND B REG.				03 01666
	1745	*	CONTAINING FILE CONTROL BLOCK LOCATION.				03 01667
001620	074022	A	1746	READ	STX	V\$TLOC+1	03 01668
001621	030426	A	1747	LDX	ZERO	READ DP-CODE	03 01669

E.2 VORTEX LISTING

V*SYTASK

PROGRAM PAGE 16

LISTING PAGE (193)

001622	001000	A	1748	JMP	IO			03	01670
001623	001651	R							
001624	074016	A	1749	WRITE	STX	RETLOC+1		03	01671
001625	030421	A	1750		LDX	ONE	WRITE OP-CODE	03	01672
001626	001000	A	1751		JMP	IO		03	01673
001627	001651	R							
001630	074012	A	1752	OPEN	STX	RETLOC+1		03	01674
001631	030466	A	1753		LDX	SIX	OPEN OP-CODE	03	01675
001632	001000	A	1754		JMP	IO		03	01676
001633	001651	R							
001634	074000	A	1755	REW	STX	RETLOC+1		03	01677
001635	030466	A	1756		LDX	THREE	REWIND OP-CODE	03	01678
001636	001000	A	1757		JMP	IO		03	01679
001637	001651	R							
001640	024022	A	1758	IDEND	LDB	IOREQ+4	RETURN FILE CONTROL BLOCK	03	01680
001641	014017	A	1759		LDA	IOREQ+2		03	01681
001642	001000	A	1760	RETLOC	JMP	*-*	RETURN TO CALLER	03	01682
001643	000000	A							
001644	006400	A	1761	IOER	BT	RAI+B1, IDEND	IF REWIND EOD STATUS - CONTINUE	03	01683
001645	000000	A							
001646	000000	A	1762		HLT	01	EOD STATUS - IRRECOVERABLE CHECKPOINT	03	01684
001647	001000	A	1763		JMP	IOREQ	WRITE ERROR. *****	03	01685
001650	001657	R							
001651	064011	A	1764	IO	STB	IOREQ+4	STORE FCB LOC. IN I/O REQUEST	03	01686
001652	074031	A	1765		STX	IOE1		03	01687
001653	005042	A	1766		TXB			03	01688
001654	004050	A	1767		LRLB	0	SET UP OP-CODE AND LOGICAL UNIT NO. IN	03	01689
001655	005031	A	1768		MERG	031	I/O REQUEST.	03	01690
001656	054003	A	1769		STA	IOREQ+3		03	01691
			1770	IOREQ	READ	0,0,0,0		03	01692
001657	006505	A							
001660	000047	E							
001661	100000	A							
001662	000000	A							
001663	000000	A							
001664	000000	A							
001665	000000	A							
			1771	STUS	STAT	IOREQ, IOE1, IOE2, IDEND, STUS		03	01693
001666	006505	A							
001667	000000	A							
001670	001657	R							
001671	001677	R							
001672	001702	R							
001673	001640	R							
001674	001666	R							
001675	001000	A	1772		JMP	IDEND		03	01694
001676	001640	R							
001677	020421	A	1773	IOE1	LDB	ONE	I/O ERROR STATUS B=1	03	01695
001678	001000	A	1774		JMP	IOE		03	01696
001681	001703	R							
001682	005002	A	1775	IOE2	TXB		EOD STATUS B=0	03	01697
001683	006010	A	1776	IOE	LDAI	*-*	CHECK IF WRITE OR REW OPERATION OF CHECK-	03	01698
001684	000000	A							
001685	006400	A	1777		BT	RAI+B0, IOER	POINT FILE - HALT ON ERROR.	03	01699
001686	001644	R							
001687	001010	A	1778		JAZ	IOE2	CHECK IF REW ERROR	03	01700
001688	001713	R							
001689	001000	A	1779	IOE1	JMP	CALLR	OPEN ERROR - ABORT TASK REQUESTING LOAD.	03	01701
001690	001024	R							
			1784	IOE1	CONT				
001693	001024	A	1787	IOE2	CBZ	IOE1	IF EOD READ - ABORT TASK IF RE LOADED	03	01702
001694	001711	R							
001695	001000	A	1788		JMP	IOREQ	OTHERWISE RETRY READ.	03	01703
001696	001657	R							
			1789	IOE	CONT				
001697	000000	A	1790	LDFCB	DATA	0			
001698			1791	CALLBUF	ASC	100			
			1794		ASC				
			1795		ASC				
			1796	VSEMP	LDA	VSEMP	B = RETURN LOCATION		
002110	010030	A	1797		END	VSEMP	SELECT MASK REG. 0		
002111	100045	A	1798		END	VSEMP			
002112	103145	A	1799		END	VSEMP			
002113	010031	A	1800		LDA	VSEMP+1	SELECT MASK REG. 1		
002114	100145	A	1801		END	VSEMP			
002115	103145	A	1802		LDA	VSEMP+2	SELECT MASK REG. 2		
002116	010030	A	1803		END	VSEMP			
002117	100245	A	1804		END	VSEMP			
002118	103145	A	1805		LDA	VSEMP+3	SELECT MASK REG. 3		
002119	010030	A	1806		END	VSEMP			
002120	100345	A	1807		END	VSEMP			
002121	103145	A	1808		END	VSEMP			
002122	006700	A	1809		JMP	VSEMP			
002123	000000	A							
			1809	*			EXCLUSIVE OR MEMORY PROTECT MASK WITH CORE ALLOCATION AND STORE		
			1810	*			IF CORE ALLOCATION MASK.		
002126	020464	A	1811	URMPCA	LDB	THREE			
002127	016330	A	1812		LDB	VSEMP+2	GET MEMORY PROTECT MASK		
002128	005217	A	1813		CPB		COMPLEMENT		
002129	136334	A	1814		CPB	VSEMP+2	END. OR		
002130	056334	A	1815		STA	VSEMP+2	SET UP NEW CORE ALLOCATION MASK		
002131	001020	A	1816		CBZ	*-*	CHECK IF 4 WORD TABLE UPDATED.		
002132	002140	R							
002133	005322	A	1817		DBR				

*VP 00 300
LOSSING*

636A

63710

63710

63733

002136	001000	A	1818	JMP	*-7			03	01740		
002137	002127	R									
002140	006705	A	1819	IJMP	0,1	RETURN TO CALLER		03	01741		
002141	000000	A									
002142	020464	A	1820	BGCK	LDB	FNREF		03	01742		
002143	016030	A	1821	BGCK1	LDA	V\$MFM,2		03	01743		
002144	005211	A	1822		CPA			03	01744		
002145	156334	A	1823		ANA	V\$CAM,2	CHECK IF TASK ALLOCATED IN BG AREA	03	01745		
002146	001016	A	1824		JANZ	BGCK2		03	01746		
002147	002155	R									
002150	001020	A	1825		JBZ	BGCK2		03	01747		
002151	002155	R									
002152	005322	A	1826		DBR			03	01748		
002153	001000	A	1827		JMP	BGCK1		03	01749		
002154	002143	R									
002155	006705	A	1828	BGCK2	IJMP	0,1	RETURN TO CALLER	03	01750		
002156	000000	A									
			1829	SALE13	CONT			V2	03 01751		
			1830		EJEC				03 01752		
			1831	*****						03	01753
			1832	*****						03	01754
			1833	*****						03	01755
			1834	*****						03	01756
			1835	*****						03	01757
			1836	*****						03	01758
			1837	*****						03	01759
			1838	*****						03	01760
			1839	*****						03	01761
			1840	*****						03	01762
			1841	*****						03	01763
			1842	*****						03	01764
			1843	*****						03	01765
			1844	*****						03	01766
			1845	*****						03	01767
			1846	*****						03	01768
			1847	*****						03	01769
			1849	NAME	V\$FNIS				03 01771		
002157	074324	A	1851	V\$FNIS	STX	FNIS1K	SAVE LOC. OF TASK EXITING.		03 01773		
002160	006451	A	1852	FNIS	BT	RA0+TBS9, FNISBG	CHECK IF BACKGROUND TASK		03 01774		
002161	002302	R									
002162	006412	A	1853		BT	RA1+TBS10, FNIS12	CHECK IF TASK CORE RESIDENT		03 01775		
02163	002356	R									
			1860	FNIS0	CONT				03 01782		
002164	006440	A	1862		BT	RA0+TBS0, FNIS2	CHECK IF ALLOCATED, IF SO,		03 01784		
002165	002222	R									
			1863	*****						03	01785
002166	015031	A	1866	LDA	TBSIZ,1			V2	03 01788		
002167	004352	A	1867	LSRA	10				03 01789		
002170	054030	A	1869	STA	FNISNA		NO. OF 512 WORD BLOCKS TO BE ALLOCATED.		03 01790		
002171	054163	A	1869	STA	FNISNP				03 01791		
002172	025025	A	1870	LDB	TBYLC,1		GET BLOCK NUMBER TO DEALLOCATE		03 01792		
002173	004151	A	1871	LSRB	9				03 01793		
002174	005001	A	1872	TZA					03 01794		
002175	174022	A	1873	DIV	SIXTIN		B = BIT LOCATION (0-16)		03 01795		
002176	005014	A	1874	TAX			A = CORE ALLOCATION WORD NUMBER (0 TO 3)		03 01796		
002177	016334	A	1875	FNIS1	LDA	V\$CAM,2	GET CORE ALLOCATION WORD		03 01797		
002200	155441	A	1876		ANA	BRO,1	CLEAR BIT		03 01798		
002201	056334	A	1877		STA	V\$CAM,2			03 01799		
002202	014016	A	1878		LDA	FNISNA	GET NUMBER OF BLOCKS		03 01800		
002203	005311	A	1879	JAR					03 01801		
002204	001010	A	1880	JAZ	FNIS2		IF ZERO - CORE DEALLOCATED.		03 01802		
002205	002222	R									
002206	054012	A	1881	JAR	FNISNA				03 01803		
002207	005144	A	1882	IXR					03 01804		
002210	005041	A	1883	TXA			CHECK IF DEALLOCATION FLOWS INTO NEXT WORD		03 01805		
002211	144006	A	1884	SUB	SIXTIN				03 01806		
002212	001016	A	1885	JANZ	FNIS1				03 01807		
002213	002177	R									
002214	005122	A	1886	IBR			YES - INCR. B TO GET NEXT WORD.		03 01808		
002215	005004	A	1887	TXZ					03 01809		
002216	001000	A	1888	JMP	FNIS1				03 01810		
002217	002177	R									
002220	000020	A	1889	SIXTIN	DATA	16			03 01811		
002221	000000	A	1890	FNISNA	DATA	0	COUNTER FOR NUMBER OF BLOCKS TO DEALLOCATE		03 01812		
			1891	SALE15	CONT			V2	03 01813		
002222	010310	A	1893	FNIS2	LDA	V\$CKPT			03 01814		
002223	001010	A	1897		JAZ	FNIS4			03 01817		
002224	002251	R									
002225	006505	A	1900	JSR	BGCK,1		CHECK IF FG ALLOCATED IN BG AREA.		03 01822		
002226	002142	R									
002227	001016	A	1901		JANZ	FNIS4			03 01823		
002230	002251	R									
			1902	SALE16	CONT			V2	03 01824		
002231	020315	A	1903		LDB	V\$BTB			03 01825		
002232	016001	A	1904		LDA	TBST,2			03 01826		
002233	006445	A	1905		BT	RA0+B5, FNIS3	CK IF WRITTEN ON CK FILE, JMP IF NO	V2	03 01827		
002234	002247	R									
			1941	SALE26	CONT			V2	03 01863		
002235	006505	A	1943		JSR	BRMPCA,1			03 01865		
002236	002126	R									
002237	014274	A	1944	FNISRW	LDA	CU	READ CHECKPOINT FILE		03 01866		
002240	024274	A	1945		LDB	PCBCK			03 01867		
002241	005505	A	1946		JSR	READ,1			03 01868		

66227

base for log sum

Address	Offset	Mode	Year	Label	Op	Op2	Op3	Description	Page	Line
002242	001620	R								
002243	020315	A	1952	FR1	CONT					02 01874
002244	016001	A	1953	FNISC2	LDB	V\$BTB				03 01875
002245	150446	A	1954		LDA	TBST,2		CLEAR CHECK POINT STATUS OF BACKGROUND TAS		03 01876
002246	056001	A	1955		ANA	BR9				03 01877
002247	005001	A	1956		STA	TBST,2				03 01878
002248	005001	A	1957	FNIS3	TZA			CLEAR CHECKPOINT FLAG.		03 01879
002249	050310	A	1958		STA	V\$CKPT				03 01880
002250	030303	A	1961	FNIS4	LDB	V\$BTB		SEARCH ALL TIDBS AND SET BIT 11 IN TBPL		03 01881
			1962	*				IF BIT 12 IN TBPL OR BIT 5 IN TBST IS		03 01882
			1963	*				SET.		03 01883
002252	025001	A	1964		LDB	TBST,1				03 01884
002253	015002	A	1965		LDA	TBPL,1				03 01885
002254	006471	A	1966		BT	R30+TBS9, FNIS6		CHECK IF FOREGROUND TASK		03 01886
002255	002264	R								03 01887
002256	006425	A	1969		BT	R81+TBS5, FNIS5		CHECK IF NOT WAITING FOR CORE ALLOCATIO		03 01891
002257	002262	R								03 01892
002258	006454	A	1970		BT	RA0+B12, FNIS6		CHECK IF TASK WAITING FOR BG I/O TO COM		03 01893
002259	002264	R								03 01894
002260	110434	A	1971	FNIS5	ORA	BR11		SET FLAG FOR DISPATCHER TO ACTIVE SAL TASK		03 01895
002261	055002	A	1972		STA	TBPL,1		TO TRY AGAIN TO ALLOCATE TASK		03 01896
002262	006411	A	1973	FNIS6	BT	RA1+B9, FNIS7		CHECK IF TASK WAITING FOR TIDB.		03 01897
002263	002273	R								03 01898
002264	035000	A	1974		LDB	TBRD,1		CHECK IF ALL TASKS SEARCHED.		03 01899
002265	001046	A	1975		JXNZ	FNIS4+1				03 01900
002266	002250	R								03 01901
002267	001000	A	1976		JMP	FNIS12				03 01902
002268	002356	R								03 01903
002269	150452	A	1977	FNIS7	ANA	BR9		RESET BIT 9		03 01904
002270	055002	A	1978		STA	TBPL,1				03 01905
002271	005021	A	1979		TBA					03 01906
002272	150457	A	1980		ANA	BR14		SET TASK ACTIVE - TRY SCHEDULE AGAIN.		03 01907
002273	055001	A	1981		STA	TBST,1				03 01908
002274	001000	A	1982		JMP	FNIS6+2				03 01909
002275	002266	R								03 01910
			1983	*						03 01911
002277	010315	A	1984	FNISBG	LDA	V\$BTB		CHECK IF NON-ACTIVE BG TASK ABORTING		03 01912
002278	001010	A	1985		JAZ	TAS				03 01913
002279	002310	R								03 01914
002280	134176	A	1986		ERA	FNISTK		DUE TO SCHEDULING ERROR.		03 01915
002281	001010	A	1987		LXNZ	FNIS4				03 01916
002282	002251	R								03 01917
002283	010314	A	1988		LDA	V\$JCP		CHECK IF JCP TASK		03 01918
002284	130315	A	1989		ERA	V\$BTB				03 01919
002285	005002	A	1990		TZB					03 01920
002286	060315	A	1991		TIB	V\$BTB				03 01921
			1997	F1	CONT					03 01922
			1999		JAZ	FNIS9C				03 01923
002288	001010	A	2000	FNIS8	LDB	V\$BTGT		NOT JCP - CHECK IF ANY OTHER BACKGROUND		03 01924
002289	002033	R	2001		JXNZ	FNIS10		TASKS SCHEDULED.		03 01925
002290	001026	A								03 01926
002291	002351	P								03 01927
002292	010055	A	2002		LDA	V\$JCFG		JCP FLAGS		03 01928
002293	006403	A	2003		BT	RA1+B3, FNISDP		CHECK IF DUMP FLAG SET		03 01929
002294	002445	P								03 01930
002295	020314	A	2004	FNIS8A	LDB	V\$JCP		SET JCP NOT SUSPENDED.		03 01931
002296	010075	A	2005		LDA	V\$GLB		SET UP KEY AND LU OF LIB WHERE JCP LOADED		03 01932
002297	056010	A	2006		STA	TBRST,2				03 01933
002298	016001	A	2007	FNIS9	LDA	TBS1,2		SET BG TASK ACTIVE AND NOT LOADED.		03 01934
002299	150457	A	2008		ANA	BR16				03 01935
002300	150441	A	2009		ANA	BR9				03 01936
002301	056001	A	2010		STA	TBST,2				03 01937
002302	015001	A	2013	FNIS9C	LDA	TBRST,1		IF NOT LOADED IN MEMORY		03 01938
002303	006440	A	2014		BT	RA0, FNIS4		DO NOT DEALLOCATE		03 01939
002304	002251	R								03 01940
002305	006505	A	2015		JSR	DRMPCA,1		OTHERWISE DEALLOCATE		03 01941
002306	002126	R								03 01942
002307	005201	A	2016		COMF	01		SET ALL CORE PROTECTED.		03 01943
002308	050330	A	2017		STA	V\$MPM				03 01944
002309	050331	A	2018		STA	V\$MPM+1				03 01945
002310	050332	A	2019		STA	V\$MPM+2				03 01946
002311	050333	A	2020		STA	V\$MPM+3				03 01947
002312	006506	A	2021	FNIS9B	JSR	V\$MMP,2		PROTECT ALL MEMORY		03 01948
002313	002110	R								03 01949
			2022	SALE17	CONT					03 01950
			2023		JMP	FNIS4				03 01951
002314	001000	A	2024	FNIS10	LDA	TBRPTH,2		SET TASK WAITING TO BE EXECUTED IN BG		03 01952
002315	002251	R						ACTIVE.		03 01953
002316	016026	A	2025		STA	V\$BTGT				03 01954
002317	050342	A	2026		JMP	FNIS9				03 01955
002318	001000	A								03 01956
002319	002027	R								03 01957
002320	000000	A	2028	FNIS8B	DATA	0		NUMBER OF BLOCKS TO DEALLOCATE.		03 01958
002321	034125	A	2030	FNIS12	LDB	FNISTK				03 01959
002322	015001	A	2031		LDA	TBRST,1		CHECK IF BIT 1 SET (UPON TERMINATION,		03 01960
002323	006441	A	2032		BT	RA0+TBS1, FNIS17		ACTIVATE TASK SCHEDULING THIS TASK)		03 01961
002324	002370	R								03 01962
002325	150442	A	2033		ANA	BR1		CLEAR BIT ONE		03 01963
002326	055001	A	2034		STA	TBRST,1				03 01964
002327	025027	A	2035		LDB	TBRSTK,1				03 01965
002328	016001	A	2036		LDA	TBRST,2				03 01966
002329	150457	A	2037		ANA	BR14		CLEAR SUSPEND OF SCHEDULING TASK		03 01967
002330	056001	A	2038		STA	TBRST,2				03 01968
002331	015001	A	2039	FNIS17	LDA	TBRST,1				03 01969

002513	024021	A	2219	LDB	FCBCK					02	02134
002514	006505	A	2220	JSR	REW,1					03	02135
002515	001634	A									
002516	006047	A	2221	INRE	REWFG+1	LOCK-OUT	REWIND			03	02136
002517	002507	R									
002520	010317	A	2226	WCPFF1	LDA	V\$LLUP				03	02141
002521	140313	A	2227		SUB	V\$LUP				03	02142
002522	005111	A	2228		IAR					03	02143
002523	054012	A	2229		STA	FNISFB				03	02144
002524	010318	A	2230		LDA	V\$LUP				03	02145
			2231	SALE23	CDNT					03	02146
002525	054011	A	2234		STA	FNISFB+1				03	02149
002526	014005	A	2235		LDA	CU				03	02150
002527	024005	A	2236		LDB	FCBCK				03	02151
002530	006505	A	2237		JSR	WRITE,1				03	02152
002531	001824	R									
002532	001000	A	2238	JMP*	WCPFF					03	02157
002533	102505	R									
002534	000145	R	2239	CU	DATA	101	LOGICAL UNIT NO OF CHECKPOINT UNIT			03	02157
002535	002536	R	2240	FCBCK	DATA	#11				03	02158
			2241	FNISFB	FCB	0,0,2,'S',, ,', ,', ,'				03	02159
002536	000000	A									
002537	000000	A									
002540	001320	A									
002541	000000	A									
002542	000000	A									
002543	000000	A									
002544	000000	A									
002545	120240	A									
002546	120240	A									
002547	120240	A									

3130 SYSKIP CNT
3131 END

ENTRY NAMES

002110	R	V\$EMP	000000	R	V\$ERRR	002157	R	V\$FNIS	000232	R	V\$SAL
001544	E	TIDSLR	002477	E	V\$DIRR	001561	E	V\$DP1	002467	E	V\$EXED
001660	E	V\$IDC	001667	E	V\$IDST						
SYMBOLS											
000640	R	ALDC	000654	R	ALDC1	000655	R	ALDC2	000661	R	ALDC3
000672	R	ALDC4	000705	R	ALDC5	000712	R	ALDC6	000721	R	ALDCSZ
000104	A	APIM	000147	R	ASCONV	000002	A	B	000000	A	B0
000301	A	B1	000012	A	B10	000013	A	B11	000014	A	B12
000315	A	B13	000016	A	B14	000017	A	B15	000002	A	B2
000303	A	B3	000004	A	B4	000005	A	B5	000006	A	B6
000307	A	B7	000010	A	B8	000011	A	B9	002157	R	BOOK
000443	R	BGCK1	000475	R	BGCK2	001007	R	BKNUM	000481	R	BM1
000472	R	BM17	000475	R	BM177	000477	R	BM1777	000464	R	BM3
000473	R	BM37	000463	R	BM377	000457	R	BM7	000474	R	BM77
000376	R	BM777	000441	R	BR0	000442	R	BR1	000453	R	BR10
000454	R	BR11	000455	R	BR12	000456	R	BR13	000457	R	BR14
000460	R	BR15	000443	R	BR2	000444	R	BR3	000445	R	BR4
000446	R	BR5	000447	R	BR6	000450	R	BR7	000451	R	BR8
000452	R	BR9	000421	R	BS0	000422	R	BS1	000423	R	BS10
000424	R	BS11	000425	R	BS12	000426	R	BS13	000427	R	BS14
000440	R	BS15	000428	R	BS2	000424	R	BS3	000425	R	BS4
000426	R	BS5	000427	R	BS6	000428	R	BS7	000429	R	BS8
000432	R	BS9	000662	R	BTEST	001026	R	BTET	000047	R	CLOCK
000731	R	CDUNT	002534	R	CU	000747	R	DISCLK	000748	R	DISHP
000344	R	DISPIM	000424	R	EIGHT	000147	R	ENACLK	000645	R	ENAMP
000344	R	EHAPIM	000023	R	ERJRS	000033	R	ERDR4	000053	R	ERDR5
000105	R	ERDR5E	000112	R	ERDR6	000113	R	ERDR7	000123	R	ERDR8
000046	R	ERDRWR	000143	R	ERTIDB	000144	R	ERTYPE	000232	R	EV754G
001501	R	FCBEG	002535	R	FCBCK	001211	R	FCBLC	000730	R	FIFTEEN
000465	A	FIVE	001417	R	FLEADR	002405	R	FN13A	002160	R	FN12
002177	R	FN131	002351	R	FN1310	002351	R	FN1312	002403	R	FN1313
002414	R	FN1314	002421	R	FN1315	002422	R	FN1316	002378	R	FN1317
002227	R	FN132	002430	R	FN1320	002420	R	FN1321	002410	R	FN1322
002247	R	FN133	002251	R	FN134	002230	R	FN135	002234	R	FN136
002273	R	FN137	002316	R	FN138	002324	R	FN138A	002377	R	FN139
002345	R	FN139B	002333	R	FN139C	002302	R	FN139G	002240	R	FN139H
002454	R	FN13D	002445	R	FN13DP	002506	R	FN13FB	002471	R	FN13KL
002221	R	FN13HA	002355	R	FN13HB	002237	R	FN13HW	002504	R	FN13TK
000423	A	FOUR	001601	R	ID	001703	R	IGE	001711	R	IDE1
001713	R	IDB2	001677	R	IGEE	001702	R	IDEF	001640	R	IDEND
001344	R	IDER	001657	R	IDRF0	000300	A	LC	000050	A	LOOP
000462	A	LHW	001717	R	LOCFCB	001372	R	LUN	000045	A	MP
000175	R	MFCBVB	000203	R	MFMGR3	000210	R	MFMGR4	000215	R	MFMGR5
000222	R	MFMGR6	000227	R	MFMGR7	000045	A	MFMRO	000145	A	MFMPL
000245	R	MFMRE	000345	A	MFMRE	000200	R	MFMSEV	000400	R	MT
000562	R	NBLOC	000461	A	NEG	000470	A	NINE	000410	R	NJCOPEN
000421	A	ONE	001500	R	ONEH20	001630	R	OPEN	002156	R	ORMPOR
000131	R	OUTB	000134	R	OUTRN	000010	A	PIM1	000041	A	PIND
000042	A	PIM3	000043	A	PIM4	000040	A	PIM5	000049	A	PIND
000040	A	PIM7	000040	A	PIM8	000732	R	PSEUDO	000043	A	RAC
000000	H	RA*	000000	A	RRO	000000	A	RB1	001620	R	READ
001477	R	RELADR	001421	R	RELI	001642	R	RETLDC	001623	R	REW
002506	R	REWFG	000463	A	RHW	000240	R	SAL01	000256	R	SAL1
000737	R	SAL11	000773	R	SAL13	000715	R	SAL13A	001000	R	SAL13B
000766	R	SAL13C	000773	R	SAL13D	001003	R	SAL14	001004	R	SAL15
001046	R	SAL16	001142	R	SAL19	000463	R	SAL1A	000474	R	SAL2
001424	R	SAL20	001440	R	SAL21	001430	R	SAL22	001450	R	SAL23
001463	R	SAL24	001473	R	SAL25	001562	R	SAL2C	000502	R	SAL3

V2

02 00041
03 00041


```

001173 R SAL30 001177 R SAL31 000503 R SAL4 000525 R SAL3
000551 R SAL8Z 000626 R SAL9 000736 R SALALC 001460 R SALBAD
000554 R SALBG 000576 R SALBG2 000602 R SALBG4 001720 R SALBUF
000313 R SALC2 000321 R SALC3 000315 R SALCE 001513 R SALCR
001515 R SALCR1 001604 R SALCR2 001611 R SALCR6 001224 R SALER
001226 R SALER1 001563 R SALER2 001212 R SALFCR 001022 R SALFL
001415 R SALLDT 001060 R SALLDD 001010 R SALMDA 001124 R SALD1
001350 R SALD10 001371 R SALD11 001406 R SALD12 001130 R SALD2
001251 R SALD3 001255 R SALD4 001252 R SALD5 001300 R SALD6
001305 R SALD7 001311 R SALD8 000512 R SALDFB 001235 R SALDL
001160 R SALRD 001571 R SALRET 001543 R SALRT2 001420 R SEGENT
000467 A SEVEN 000466 A SIX 002220 R SIXTIN 000727 R SIXTN
001666 R STUS 001467 R SVA 000027 A TBATSK 000026 A TBCPTH
000377 R TBENDK 000011 A TBENTY 000003 A TBEVNT 000021 A TBIE
000014 A TBIS3 000015 A TBISB 000017 A TBISP 000020 A TBISRS
000016 A TBISX 000022 A TBKN1 000023 A TBKN2 000024 A TBKN3
000002 A TBPL 000004 A TBRSA 000005 A TBRSE 000033 A TBRSE
000007 A TBRSP 000010 A TBRSTS 000006 A TBRSX 000000 A TBS0
000001 A TBS1 000012 A TBS10 000013 A TBS11 000014 A TBS12
000015 A TBS13 000016 A TBS14 000017 A TBS15 000002 A TBS2
000003 A TBS3 000004 A TBS4 000005 A TBS5 000006 A TBS6
000007 A TBS7 000010 A TBS8 000011 A TBS9 000031 A TBS1Z
000001 A TBSY 000025 A TBTLC 000013 A TBTMIN 000012 A TBTMS
000000 A TSTRD 000471 A TEN 000454 A THREE 001544 E TIDSL2
000422 A THD 001416 R TYPE 000403 A V$1MIN 000415 A V$BFC
000075 A V$EGLB 000056 A V$EIC1 000315 A V$EIT 000414 A V$EIVN
000334 A V$CAM 000353 A V$CKE 000411 A V$CKIT 000310 A V$CKPT
000301 A V$CPL 000075 A V$CRDM 000341 A V$CRDR 000354 A V$CRM
000302 A V$CRS 000360 A V$CTAD 000300 A V$CTL 000351 A V$CTMS
000070 A V$DATE 002477 E V$DISP 001561 E V$DP1 000350 A V$DSTB
002110 R V$EMP 000376 A V$ERFG 000000 R V$ERDR 002467 E V$EXEC
000347 A V$FLR 000306 A V$FLRS 002157 R V$FNIS 000350 A V$FREE
000320 A V$IM 000410 A V$IDA 001660 E V$IDC 001637 E V$IDST
000412 A V$JCR 000055 A V$JCFG 000077 A V$JCTM 000050 A V$JNAM
000377 A V$JOP 000054 A V$LCNT 000313 A V$LER 000356 A V$LIT
000317 A V$LLUP 000307 A V$LSK 000312 A V$LSAL 000340 A V$LUNT
000316 A V$LUP 000406 A V$LUT1 000401 A V$LUT2 000402 A V$LUT3
000330 A V$MFM 000362 A V$NCTR 000413 A V$DCE 000346 A V$DPCF
000311 A V$DPC 000363 A V$PIMN 000074 A V$PLOT 000305 A V$PIVB
000232 R V$SAL 000361 A V$SCTL 000342 A V$SCV 000375 A V$SLFG
000303 A V$TE 000342 A V$TEGT 000416 A V$TFC 000314 A V$TJCP
000344 A V$TMN 000343 A V$TMS 000304 A V$UTE 000001 A V75
000001 A VORTEX 002505 R WCPF 002520 R WCPF! 001624 R WRITE
000001 A X 000174 R XDKASC 000420 A ZERO

```

0 ERRORS ASSEMBLY COMPLETE

```

1014 ALDC 1022 1106
1023 ALDC1 1016
1024 ALDC2 1045
1028 ALDC3 1042
1036 ALDC4 1052
1043 ALDC5 1037
1046 ALDC6 1029
1051 ALDCSZ 1006
411 APIM 421 422
678 ASCDNV 492 499 556 559 562 565 575 578 581
584 587 697
436 B 546 548 550 552 571 734 775 1243 1343
1369 1431 1433 1435 1440 1442 1444 1446 1448
1450
391 B11 1081
392 B12 483 538 618 856 1134
393 B13 745
394 B14 572
395 B15 735 751 1029
385 B5 1136
388 B8 921 1079
389 B9 889 924 1108 1336
0 BCK 984 1074
1152 BKNUM 1020 1036 1059
355 BM17 625 1025 1111 1118 1173 1205 1242 1262 1345
1368
351 BM1777 963 1001
353 BM3 517 598
356 BM37 804 881
359 BM377 747 1181
357 BM77 437 522 339 605 619 753 827 848 1068
1339
323 BR0 971
334 BR11 1185
336 BR13 1325
337 BR14 635 1326
338 BR15 824 1335
327 BR4 594
328 BR5 1139
302 BR9 890
307 BR0 1048 1324
317 BS10 853 946 1342
319 BS12 1184
320 BS13 639
321 BS14 643 907
322 BS15 611 626 630 879

```


309	BS2	808								
311	BS4	1360								
312	BS5	1164	1189							
315	BS8	1096								
316	BS9	813	859	1260	1385					
1029	BTST	1024	1026	1009	1041					
1107	BTET	1142								
404	CLOCK	406	407							
1057	COUNT	968	973	975	1002	1031	1046	1050		
406	DISCLK	1405								
401	DISPIM	1104								
349	EIGHT	1090								
407	ENACLK	1089								
422	ENAP1M	1088								
591	ER1	532								
333	ER2	616								
677	ER2A	662								
663	ERDCB2	566								
582	EREB1	485								
494	ERDR1	489								
513	ERDR3	483	501							
592	ERDR5	538	541	543						
622	ERDR5A	618	631							
613	ERDR5B	609	621	623						
608	ERDR6	599								
611	ERDR7	601	637							
648	ERDR8	495	513	530						
512	ERR2	504								
657	ERTIDB	474	496	500	536	570	592			
658	ERTY17	519								
599	ERV1	572								
703	EV75MG	701								
0	FCB95	1274	1392							
1353	FCBLC	1246	1308							
1056	FIFTEEN	1027								
0	IOE2	814								
104	LC	185	186	187	188	189	190	191	192	193
		194	195	196	197	198	201	205	207	208
		211	212	217	218	219	220	231	222	223
		224	225	227	228	229	230	231	232	233
		234	235	236	238	240	241	242	243	245
		248	249	250	251	263	264	265	266	267
		268	269	284	285	286	289	294	295	296
202	LDB1	200								
203	LDB2	204								
214	LDB3	210								
228	LDB4	216								
257	LDB5	254								
272	LDB6	259								
276	LDB7	271								
288	LDB8	278								
159	LCUP	160	161	162	169	170	171	172	173	176
330	LHW	782								
0	LDC10	569	583							
0	LDC11	569	586							
0	LDC2	534	514							
0	LDC3	534	507							
0	LDC4	534	508							
0	LDC5	534	503							
0	LDC6	534	555							
0	LDC7	569	574							
0	LDC8	569	577							
0	LDC9	569	580							
0	LDCFCB	1399	1438	1455						
0	LUN	749	792	794	798	1245	1290	1307	1441	1457
439	MAP	1265	1293	1376	1406	1426	1437	1439		
427	MP	423	429	430	431	432	433			
434	MP1	424								
440	MP2	428								
701	MPBCBV	588								
703	MPMGR3	573								
704	MPMGR4	576								
705	MPMGR5	579								
706	MPMGR6	582								
707	MPMGR7	585								
664	MPMSG1	663	663							
665	MPMSG2	547	549	551	553					
666	MPMSG3	554								
667	MPMSG4	558								
668	MPMSG5	561								
669	MPMSG6	564								
702	MPMSGV	701	701							
676	MPMSG7	663								
671	MPTYP	546	548	550	552					
665	MT	306	307	303	309	310	311	312	313	314
		315	316	317	313	319	320	321	322	323
		324	325	326	327	328	329	330	331	332
		333	334	335	336	337	338	339	340	341
		342	343	344	345	346	347	348	349	350
		351	352	353	354	355	356	357	358	359
		360	361							
376	NBLDC	956	960	988						

E.2 VORTEX LISTING

V\$SYTASK

PROGRAM PAGE

25

LISTING PAGE (202)

197	VSTJCP	764								
3	V75	90	567	699						
1	VORTEX	84	143	150	199	203	209	215	237	239
		244	246	253	258	270	277	423	437	484
		503	531	602	615	655	661	771	778	811
		816	845	862	885	887	916	918	925	951
		998	1076	1128	1145	1169	1192	1211	1214	1216
		1238	1249	1257	1267	1292	1294	1316	1321	1328
		1337	1363	1379	1381	1384	1386	1402	1425	1428
		1453								
0	WOPF	1191								
435	X	490	497	537	604	610	612	617	624	627
		629	684	690	696	776	793	795	838	839
		842	847	855	858	860	920	922	936	945
		1078	1080	1082	1086	1091	1094	1095	1097	1100
		1102	1107	1110	1116	1117	1120	1172	1195	1198
		1200	1202	1204	1208	1241	1247	1251	1252	1261
		1341	1344	1347	1367	1380	1434	1436	1443	1445
		1447	1449	1451						
698	XDKASC	683	689	695						

Address	Mode	Label	Segment	Value	Description	Address	Value
000010	A	97	SS	EQU	SS LOGICAL UNIT NUMBER	03	00089
000011	A	98	GD	EQU	GD LOGICAL UNIT NUMBER	03	00090
000003	A	99	SD	EQU		03	00091
		100	*			03	00092
000074	A	101	DBSZ	EQU	OBJECT RECORD SIZE	03	00093
		102	*			03	00094
000000		103	LR2P1	BSS	(=LBUF*2+1)	03	00095
000001		104	LR2P8	BSS	=LBUF*2+8	03	00096
000002		105	LR2P22	BSS	=LBUF*2+22	03	00097
000003		106	LR2P28	BSS	=LBUF*2+28	03	00098
000004		107	LR2P36	BSS	=LBUF*2+36	03	00099
000005		108	LR2P51	BSS	=LBUF*2+51	03	00100
000006	R	109	ZBEG	EQU		03	00101
000007		110	PGND	BSS	LISTING PAGE NUMBER	03	00102
000010		111	LCT	BSS	LISTING LINE COUNTER	03	00103
000011		112	ERCT	BSS	ERROR COUNT	03	00104
000012		113	ERSC	BSS	ERROR SUB COUNT	03	00105
		114	ERSK	BSS	ERROR STACK	03	00106
		115				V75	*****
000016		116	V75ED	BSS	V75 LIST EDIT SWITCH	V75	*****
000017		117	LNCT	BSS	LISTING LINE COUNTER	03	00107
000020		118	PC	BSS	PROGRAM LOCATION COUNTER	03	00108
000021		119	RLC	BSS	LOCATION COUNTER RELOCATION	03	00109
000022		120	AS	BSS	ADDRESS SIZE	03	00110
000023		121	IWA	BSS	INSTRUCTION MODEL	03	00111
000024		122	SBTA	BSS	STORE BYTE ADDRESS	03	00112
000025		123	RDF	BSS	REDEFINE FLAG	03	00113
000026		124	SIGM	BSS	DATA, PZE, MZE SIGN FLAG	03	00114
000027		125	ENDT	BSS	TEMP STORAGE FOR END	03	00115
000027		126	E	BSS	EXPONENT PART OF A FLOATING POINT NUMBER	03	00116
000027		127	TST	BSS	TEMP STORAGE FOR INSTRUCTION PROCESSING	03	00117
000027		128	FT1	BSS	TEMP STORAGE FOR FORM PROCESSING	03	00118
000030		129	FT2	BSS	TEMP STORAGE FOR FORM PROCESSING	03	00119
000031		130	POBP	BSS	PREVIOUS OUTPUT BUFFER POINTER	03	00120
000032		131	IADF	BSS	INDIRECT ADDRESS FLAG	03	00121
000033		132	ICPO	BSS	INITIAL VALUE OF ICP	03	00122
000034		133	ICP	BSS	INPUT CHACT POINTER	03	00123
000035		134	MLF	BSS	MACRO LEVEL FLAG	03	00124
000036		135	CODE	BSS	LOADER (SUB)CODE	03	00125
000037		136	SMFL	BSS	SUMMARY/DETAIL FLAG	03	00126
000040		137	LAB2	BSS	INSTRUCTION FIELD + LABEL TEMP	03	00127
000044		138	LAB1	BSS	LABEL FIELD	03	00128
000050		139	RVAL	BSS	RELOCATION VALUE OF VAL	03	00129
000051		140	VAL	BSS	VALUE FROM EXPRESSION EVALUATOR	03	00130
000052		141	EP	BSS	EXPRESSION POINTER	03	00131
000053		142	AF	BSS	EXPRESSION ARITHMETIC FLAG	03	00132
000054		143	PRF	BSS	PROGRAM RELOCATION FLAG	03	00133
000055		144	CRF	BSS	COMMON RELOCATION FLAG	03	00134
000056		145	PLF	BSS	PRINT LINE FLAG	03	00135
000057		146	DIPF	BSS	DUP IN PROCESS FLAG	03	00136
000060		147	M	BSS	MANTISSA OF FLOATING POINT NUMBER	03	00137
000060		148	IDSA	BSS	INPUT DIGIT ACCUMULATOR	03	00138
000062		149	ZEND	BSS	*****	03	00139
000062		150	DEPT	BSS	OUTPUT BUFFER POINTER	03	00140
000063		151	PASS	BSS	ASSEMBLY PASS	03	00141
000064		152	DPF	BSS	DEFINED PASS FLAG	03	00142
000065		153	IBBA	BSS	INPUT BUFFER BYTE ADDRESS (=SBUF*2)	03	00143
000066	R	154	BT1	DATA	BEGIN OF CODE TABLE	03	00144
000067		155	ET1	BSS	END OF CODE TABLE	03	00145
000067	R	156	BT2	DATA	BEGIN OF CODE TABLE	03	00146
000070		157	ET2	BSS	END OF CODE TABLE	03	00147
000070		158	BT3	BSS	BEGIN MACRO TABLE	03	00148
000071		159	ET3	BSS	BEGIN RETURN STACK	03	00149
		160	*			03	00150
000072		161	BT4	BSS	BEGIN EXPRESSION STACK	03	00151
000073		162	ET4	BSS	END EXPRESSION STACK	03	00152
000073		163	BT5	BSS	BEGIN MACRO PARAMETER TABLE	03	00153
000074		164	ET5	BSS	END MACRO PARAMETER TABLE	03	00154
000074		165	BT6	BSS	BEGIN SYMBOL TABLE	03	00155
000075		166	ET6	BSS	END SYMBOL TABLE	03	00156
000075		167	BT7	BSS	BEGIN DUP TABLE	03	00157
000076		168	OPCW	BSS	PROGRAM CONTROL WORD	03	00158
000077		169	SDUT	BSS	BEGIN DUP TABLE-40	03	00159
000100	A	170	C1	PZE	MAGNITUDE BITS	03	00160
000101	A	171	C2	MZE	SIGN BIT ONLY	03	00161
		172	*			03	00162
000102	A	173	PIRMD	DATA	RMD FLAG	03	00163
		174	*			03	00164
000103	A	175	PORMD	DATA	RMD FLAG	03	00165
		176	*			03	00166
000104	A	177	SSRMD	DATA	RMD FLAG	03	00167
		178	*			03	00168
000105	A	179	BORMD	DATA	RMD FLAG	03	00169
		180	*			03	00170
000106	A	181	GORMD	DATA	RMD FLAG	03	00171
		182	*			03	00172
000107	A	183	LORMD	DATA	RMD FLAG	03	00173
000110	A	184	PIRF	DATA	PI SECTOR RECORD FLAG	03	00174
		185	*			03	00175
000111	A	186	PORF	DATA	PO SECTOR RECORD FLAG	03	00176
		187	*			03	00177
000112	A	188	SSRF	DATA	SS SECTOR RECORD FLAG	03	00178
		189	*			03	00179

C.1

Address	Label	Op	Opnd	Description	Page
000763	005001	A	244	TZA	
000764	170466	A	245	DIV	SIX
000765	004250	A	246	LRLA	8
000766	006127	A	247	ADDE	QBBR+2
000767	000734	R			
000770	006057	A	248	STAE	QBBR+2
000771	000734	R			
000772	005001	A	249	TZA	
000773	170471	A	250	DIV	TEN
000774	004250	A	251	LRLA	8
000775	004470	A	252	LLRL	24
000776	006120	A	253	ADDI	0130260
000777	130260	A			
001000	006057	A	254	STAE	QBBR+1
001001	000733	R			
001002	006505	A	255	POPEN	OPEN
001003	000000	E			
001004	100000	A			
001005	003012	A			
001006	000000	E			
001007	000000	A			
001010	000000	A			
256	*				
257	*				
258	*			RESTORE ORIGINAL STATE OF MACRO TABLES	
259	*				
260	*			THIS IS THE ASSEMBLER INITIALIZATION NECESSARY AT THE	
261	*			BEGINNING OF PASS ONE AND PASS TWO.	
262	*				
263	*				
001011	001011	R	S2	EQU	*
001011	017000	I	265	LDA	ET1
001012	054003	A	266	STA	M+4
001013	002000	A	267	CALL	MOVW
001014	011761	R			
001015	001306	A	268	DATA	BMET-BMPT
001016	001016	R	269	DATA	*
001017	014750	R	270	DATA	BMPT
001020	006010	A	271	LDPI	EIT
001021	014750	R			
001022	057000	I	272	STA	ET1
001023	006010	A	273	LDPI	BMET
001024	016256	R			
001025	057000	I	274	STA	ET2
001026	005001	A	275	TZA	
001027	057000	I	276	STA	QMSZ
001030	057000	I	277	STA	EROT
001031	002000	A	278	JMPM	SAR
001032	011705	R			
001033	000054	A	279	DATA	ZEND-ZBEG
001034	000006	R	280	DATA	ZREG
001035	047000	I	281	INR	RLC
001036	002000	A	282	JMPM	TUF
001037	010066	R			
001040	037000	I	283	LDX	BT6
001041	005141	A	284	INCR	641
001042	147000	I	285	SUB	ET6
001043	001002	A	286	JAP	S22
001044	001065	R			
001045	015004	A	287	LDA	STA,X
001046	150000	L	288	ANA	#0600
001047	130000	L	289	ERA	#0400
001050	001010	A	290	JAZ	M+4
001051	001054	R			
001052	001000	A	291	JMP	S22
001053	001060	R			
292	*				
001054	055003	A	293	STA	STV,X
001055	015004	A	294	LDA	STA,X
001056	150000	L	295	ANA	=-4
001057	055004	A	296	STA	STA,X
001060	005041	A	297	TXA	
001061	120000	L	298	ADD	=5
001062	005014	A	299	TAX	
001063	001000	A	300	JMP	S21
001064	001041	R			
301	*				
001065	001065	R	302	EQU	*
001065	017000	I	303	LDA	ET5
001066	057000	I	304	STA	ET5
001067	057000	I	305	STA	ET4
001070	017000	I	306	LDA	ET3
001071	057000	I	307	TZA	ET3
001072	005001	A	308	TZA	
001073	057000	I	309	STA	MLF
001074	057000	I	310	STA	DUPF
001075	002000	A	311	JMPM	RNR
001076	006570	R			
001077	002000	A	312	JMPM	ASSR
001100	001103	A			
001101	001000	A	313	JMP	S22
001102	001065	R			

001103	000000	A	320	ASSR	DATA	0			03	00303
001104	002000	A	321		JMPM	REC	STACK RETURN ADDRESS		03	00310
001105	007112	R								
001106	005001	A	322	ASSB	TZA		INITIATE		03	00311
001107	057000	I	323		STA	IADF	INDIRECT ADDRESS FLAG		03	00312
001110	057000	I	324		STA	ERSC	ERROR SUBCOUNT		03	00313
001111	057000	I	325		STA	PLF	PRINT LINE FLAG		03	00314
001112	057000	I	326		STA	SIGM	DATA SIGN CONTROL		03	00315
001113	057000	I	327		STA	RDF	REDEFINE FLAG		03	00316
001114	057000	I	328		STA	RVAL	ATTRIBUTE WORD		03	00317
			329		IFT	V75				V75*****
001115	006057	A	330		STAE	V75ED	DISABLE V75 LIST EDIT			V75*****
001116	000016	R								
001117	030000	L	331		LDX	=72			03	00318
001120	002000	A	332		JMPM	SBK	SKIP BLANKS		03	00319
001121	007126	R								
001122	001020	A	333		JBZ	ASR4	JUMP IF RECORD IS BLANK THRU COLUMN 72		03	00320
001123	001222	R								
001124	017000	I	334		LDA	ICP0	RESTORE		03	00321
001125	057000	I	335		STA	ICP	ICP		03	00322
001126	002000	A	336		JMPM	GNC0	GET NEXT CHACT		03	00323
001127	007707	R								
001130	130000	L	337		ERA	=**			03	00324
001131	001010	A	338		JAZ	ASR4	JUMP IF COMMENT RECORD		03	00325
001132	001222	R								
001133	002000	A	339		JMPM	ISM	INPUT SYMBOL IN LABEL FIELD		03	00326
001134	007474	R								
001135	000044	R	340		DATA	LAB1	PUT IT INTO LAB1		03	00327
001136	002010	A	341		JAZM	IDS	TRY TO INPUT A DIGIT STRING IF NO SYMBOL		03	00328
001137	007521	R								
001140	030000	L	342		LDX	=72			03	00329
001141	002000	A	343		JMPM	SBK	SKIP BLANKS		03	00330
001142	007126	R								
001143	002000	A	344		JMPM	CTST	COMMA ALLOW TEST		03	00331
001144	007677	R								
001145	002000	A	345		JMPM	ISM	INPUT SYMBOL IN OPERATION FIELD		03	00332
001146	007474	R								
001147	000040	R	346		DATA	LAB2	PUT IT INTO LAB2		03	00333
001150	001010	A	347		JAZ	ASR5	JUMP IF NO OP CODE		03	00334
001151	001226	R								
001152	002000	A	348		JMPM	OCFD	SEARCH OP CODE TABLE		03	00335
001153	007416	R								
001154	000040	R	349		DATA	LAB2			03	00336
001155	001040	A	350		JXZ	ASR5	JUMP IF NOT FOUND		03	00337
001156	001226	R								
001157	015004	A	351		LDA	4,X	GET ADDRESS WORD		03	00338
001160	057000	I	352		STA	IWA			03	00339
001161	015003	A	353		LDA	3,X			03	00340
001162	150000	L	354		ANA	=0777	EXTRACT AS		03	00341
001163	057000	I	355		STA	AS			03	00342
001164	015003	A	356		LDA	3,X			03	00343
001165	004352	A	357		LSRA	10			03	00344
001166	001010	A	358		JAZ	ASR2	JUMP IF DIRECTIVE		03	00345
001167	001176	R								
001170	006120	A	359		ADDI	MDPT-1+0100000	+BASE OF TABLE+INDIRECT BIT		03	00346
001171	112123	R								
001172	057000	I	360		STA	MDPJ			03	00347
001173	006010	A	361		LDAI	MDP			03	00348
001174	003531	R								
001175	001006	A	362		DATA	01006	SKIP NEXT WORD		03	00349
001176	015004	A	363	ASR2	LDA	4,X	GET ADDRESS OF DIRECTIVE PROCESSING ROUTIN		03	00350
001177	004021	A	364		STA	ASRJ	SET JUMP ADDRESS		03	00351
001200	002000	A	365		JMPM	GNC0	GET NEXT CHACT		03	00352
001201	007707	R								
001202	130000	L	366		ERA	=**			03	00353
001203	001010	A	367		JAZ	*+4	JUMP IF ** FOLLOWING OPERATION MNEMONIC		03	00354
001204	001207	R								
001205	001000	A	368		JMP	ASR3			03	00355
001206	001212	R								
001207	010000	L	369		LDA	=0100000			03	00356
001210	057000	I	370		STA	IADF	SET INDIRECT ADDRESS FLAG		03	00357
001211	047000	I	371		INR	ICP	GET PAST ASTERISK		03	00358
001212	030000	L	372	ASR3	LDX	=8			03	00359
001213	002000	A	373		JMPM	SBK	SKIP BLANKS		03	00360
001214	007126	R								
001215	002000	A	374		JMPM	CTST	COMMA ALLOW TEST		03	00361
001216	007677	R								
001217	005007	A	375		ZERD	7	A=B=X=0		03	00362
001220	001000	A	376		JMP	0	GO TO IT 'BABY'		03	00363
001221	000000	A								
			377	ASRJ	BES	0			03	00364
			378	*					03	00365
			379	*					03	00366
			380	*					03	00367
			381	*					03	00368
001222	002000	A	382	ASR4	JMPM	LLN	LIST LINE		03	00369
001223	010300	R								

314 *
 315 * THIS IS THE ASSEMBLER PORTION OF THIS PROGRAM
 316 * CALLING SEQUENCE
 317 * JMPM ASSR
 318 * RETURN
 319 *

V75*****
 V75*****


```

001224 001000 A 383      JMP      RET      EXIT ASSR                03 00370
001225 007115 R
384 *
385 *
386 *      WE GET HERE IF THE OPERATION FIELD IS VOID OR
387 *      IT IS NOT IN THE TABLE.
001226 002000 A 388 ASR5  JMPM    DFLO      ASSIGN SYMBOL                03 00373
001227 007142 R
001230 020000 L 389      LDB     =*OP*
001231 002000 A 390      JMPM    ERR      ERROR                    03 00376
001232 007747 R
001233 057000 I 391      STA     RVAL     RVAL = ABSD                03 00379
001234 010000 L 392      LDA     =05000
001235 057000 I 393      STA     VAL
001236 002000 A 394      JMPM    DLV     OUTPUT FIRST *NOP*         03 00381
001237 010161 R
001240 002000 A 395      JMPM    DLV     OUTPUT SECOND *NOP*        03 00382
001241 010161 R
001242 001000 A 396      JMP     RET      EXIT ASSR                03 00383
001243 007115 R
397 *
398 *
399 *      THIS IS THE ORG DIRECTIVE PROCESSING
001244 002000 A 400 DRG  JMPM    ORLC     DO IT                    03 00385
001245 001254 R
001246 001000 A 401      JMP     RES1    OUTPUT NEW ORIGIN         03 00388
001247 001321 R
402 *
403 *
404 *      THIS IS THE LOC DIRECTIVE PROCESSING
001250 002000 A 405 LOC  JMPM    ORLC     DO IT                    03 00392
001251 001254 R
001252 001000 A 406      JMP     BCK     BLANK CHECK                03 00393
001253 005274 R
407 *
408 *
409 *      THIS IS A SUBROUTINE TO THE LOC + ORG PROCESSING
001254 000000 A 410 ORLC  DATA  0
001255 002000 A 411      JMPM    EXN     GET VALUE                  03 00396
001256 005337 R
001257 057000 I 412      STA     PC      PC = VAL                    03 00399
001260 067000 I 413      STB     PLC     PLC = RVAL                  03 00400
001261 002000 A 414      JMPM    DFLO     ASSIGN SYMBOL              03 00401
001262 007142 R
001263 002000 A 415      JMPM    LL      LIST LOCATION              03 00402
001264 010205 R
001265 001000 A 416      JMP*   ORLC     RETURN                    03 00403
001266 101254 R
417 *
418 *
419 *      THIS IS THE BSS DIRECTIVE PROCESSING
001267 002000 A 420 BSS  JMPM    DFLO     ASSIGN SYMBOL              03 00404
001270 007142 R
001271 002000 A 421      JMPM    IAC     GET VALUE                  03 00408
001272 005317 R
001273 002000 A 422      JMPM    LL      LIST LOCATION              03 00409
001274 010205 R
001275 017000 I 423      LDA     VAL
001276 001010 A 424      JAZ     BCK     JUMP IF VAL = 0 (BSS 0)    03 00410
001277 005274 R
001300 127000 I 425      ADD     PC
001301 057000 I 426      STA     PC      *LC = LC + VAL              03 00413
001302 001000 A 427      JMP     RES1    OUTPUT NEW ORIGIN         03 00413
001303 001321 R
428 *
429 *
430 *      THIS IS THE BES DIRECTIVE PROCESSING
001304 002000 A 431 BES  JMPM    IAC     GET VALUE                  03 00415
001305 005317 R
001306 127000 I 432      ADD     PC
001307 005311 A 433      DAR
001310 057000 I 434      STA     PC      LC = LC + VAL - 1          03 00421
001311 002000 A 435      JMPM    DFLO     ASSIGN SYMBOL              03 00422
001312 007142 R
001313 002000 A 436      JMPM    LL      LIST LOCATION              03 00423
001314 010205 R
001315 047000 I 437      INR     PC      LC = LC + 1                03 00424
001316 017000 I 438      LDA     VAL
001317 001010 A 439      JAZ     BCK     JUMP IF VAL = 0 (BES 0)    03 00425
001320 005274 R
001321 002000 A 440 DES1 JMPM    ORG     OUTPUT NEW ORIGIN         03 00427
001322 010644 R
001323 001000 A 441      JMP     BCK
001324 005274 R
442 *
443 *
444 *      THIS IS THE SET DIRECTIVE PROCESSING
001325 047000 I 445 SET  INR     RDF     SET REDEFINE FLAG          03 00432
446 *
447 *
448 *      THIS IS THE EQU DIRECTIVE PROCESSING
001326 017000 I 449 EQU  LDA     LAB1
001327 020000 L 450      LDB     =*NS*

```


001330	002010	A	451	JAZM	ERR	ERROR IF NO SYMBOL IN LABEL FIELD	03	00438	
001331	007747	R							
001332	002000	A	452	JMPM	EXN	GET VALUE	03	00439	
001333	005337	R							
001334	002000	A	453	JMPM	DEFI	ASSIGN SYMBOL	03	00440	
001335	007164	R							
001336	002000	A	454	JMPM	LV	LIST VALUE	03	00441	
001337	010223	R							
001340	001000	A	455	JMP	BCK	BLANK CHECK	03	00442	
001341	005274	R							
			456	*			03	00443	
			457	*	THIS IS THE CALL DIRECTIVE PROCESSING		03	00444	
			458	*			03	00445	
			459	CALL	JMPM	DFLC	ASSIGN SYMBOL	03	00446
001342	002000	A							
001343	007142	R							
001344	002000	A	460	JMPM	EXP	GET VALUE	03	00447	
001345	005476	R							
001346	057000	I	461	STA	T5T	SAVE VALUE	03	00448	
001347	067000	I	462	STB	T5T+1	SAVE ATTRIBUTES	03	00449	
001350	005000	A	463	TZE		RELD = ABSO	03	00450	
001351	014000	A	464	LDA	*+1	VAL = 02000 (JMPM)	03	00451	
001352	002000	A	465	JMPM	DSUB	OUTPUT AN ABSOLUTE 02000	03	00452	
001353	001704	R							
001354	017000	I	466	LDA	T5T	GET VALUE	03	00453	
001355	027000	I	467	LDB	T5T+1	GET ATTRIBUTES	03	00454	
001356	001000	A	468	JMP	DA3	GO TO DATA DIRECTIVE TO FINISH CALL PROCES	03	00455	
001357	001400	R							
			469	*			03	00456	
			470	*	THIS IS THE MZE DIRECTIVE PROCESSING		03	00457	
			471	*			03	00458	
001360	047000	I	472	MZE	INR	SIGM	03	00459	
			473	*			03	00460	
			474	*	THIS IS THE PZE DIRECTIVE PROCESSING		03	00461	
			475	*			03	00462	
001361	047000	I	476	PZE	INR	SIGM	03	00463	
			477	*			03	00464	
			478	*	THIS IS THE DATA DIRECTIVE PROCESSING		03	00465	
			479	*			03	00466	
001362	002000	A	480	DATA	JMPM	DFLC	ASSIGN SYMBOL	03	00467
001363	007142	R							
001364	002000	A	481	JMPM	IADC	CHECK FOR NO INDIRECT ADDRESSING	03	00468	
001365	010007	R							
001366	002000	A	482	DA1	JMPM	GNC0	GET NEXT CHACT	03	00469
001367	007707	R							
001370	140000	L	483	SUB	=****		03	00470	
001371	001010	A	484	JAZ	DAQ	JUMP IF QUOTE	03	00471	
001372	001410	R							
001373	140000	L	485	SUB	=)*-*****		03	00472	
001374	001010	A	486	JAZ	DA7	JUMP IF RIGHT PARENTHESIS	03	00473	
001375	001462	R							
001376	002000	A	487	JMPM	EXP	GET VALUE	03	00474	
001377	005476	R							
001400	002000	A	488	DA3	JMPM	DSUB	OUTPUT DATA WORD	03	00475
001401	001704	R							
001402	002000	A	489	DA2	JMPM	CTST	ALLDW A COMMA	03	00476
001403	007677	R							
001404	001010	A	490	JAZ	DA1	JUMP IF COMMA	03	00477	
001405	001366	R							
001406	001000	A	491	JMP	BCK	OTHERWISE, GO TO BLANK CHECK	03	00478	
001407	005274	R							
			492	*			03	00479	
			493	*	WE GET HERE TO INPUT A CHARACTER STRING		03	00480	
			494	*			03	00481	
001410	047000	I	495	DAQ	INR	ICP	INCREMENT CHACT POINTER	03	00482
001411	005001	A	496	DAQ2	TZA		INITIATE	03	00483
001412	057000	I	497	DAQ3	STA	VAL	VAL	03	00484
001413	002000	A	498		JMPM	GNC1		03	00485
001414	007737	R							
001415	001010	A	499	JAZ	DAQ7	JUMP IF EDL	03	00486	
001416	001455	R							
001417	130000	L	500	ERA	=****		03	00487	
001420	001010	A	501	JAZ	DAQ4	JUMP IF QUOTE	03	00488	
001421	001436	R							
001422	017000	I	502	DAQ6	LDA	VAL		03	00489
001423	001010	A	503	JAZ	DAQ1	JUMP IF NO CHACTS YET	03	00490	
001424	001433	R							
001425	005031	A	504	MERG	031	A=A,DR,B	03	00491	
001426	005002	A	505	TZE			03	00492	
001427	002000	A	506	JMPM	DSUB	OUTPUT	03	00493	
001430	001704	R							
001431	001000	A	507	JMP	DAQ2		03	00494	
001432	001411	R							
			508	*			03	00495	
001433	004470	A	509	DAQ1	LLRL	NBIT+8	03	00496	
001434	001000	A	510	JMP	DAQ3		03	00497	
001435	001412	R							
			511	*			03	00498	
001436	002000	A	512	DAQ4	JMPM	GNC0	GET NEXT CHACT	03	00499
001437	007707	R							
001440	130000	L	513	ERA	=****		03	00500	
001441	001010	A	514	JAZ	DAQ5	JUMP IF DOUBLE QUOTE	03	00501	
001442	001452	R							
001443	017000	I	515	DAQ8	LDA	VAL	03	00502	

001444	001010	A	516	JAZ	DA2	JUMP IF NO CHACT LEFTOVER	03	00503
001445	001402	R						
001446	110000	L	517	DRA	= ' '	SUPPLY TRAILING BLANK CHACT	03	00504
001447	005002	A	518	TZB			03	00505
001450	001000	A	519	JMP	DA3		03	00506
001451	001400	R						
			520 *					
001452	047000	I	521	DAQ5	INR	ICP	03	00507
001453	001000	A	522	JMP	DAQ6	INCREMENT INPUT CHACT POINTER	03	00508
001454	001422	R					03	00509
			523 *					
001455	020000	L	524	DAQ7	LDB	= 'MQ'	03	00510
001456	002000	A	525	JMPM	ERR	ERROR MISSING QUOTE SIGN	03	00511
001457	007747	R					03	00512
001460	001000	A	526	JMP	DAQ8		03	00513
001461	001443	R						
			527 *					
			528 *					
			529 *					
001462	047000	I	530	DAF	INR	ICP	03	00514
001463	005001	A	531		TZA	INITIATE	03	00515
001464	054214	A	532		STA	MD	03	00516
001465	057000	I	533		STA	M	03	00517
001466	057000	I	534		STA	M+1	03	00518
001467	057000	I	535		STA	E+1	03	00519
001470	057000	I	536		STA	E+1	03	00520
001471	002000	A	537		JMPM	ISG	03	00521
001472	007502	R					03	00522
001473	054206	A	538		STA	MS	03	00523
001474	002000	A	539		JMPM	IDN	03	00524
001475	007656	R					03	00525
001476	000060	R	540		DATA	M	03	00526
001477	002000	A	541		JMPM	GNCO	03	00527
001500	007707	R					03	00528
001501	130000	L	542		ERA	= ' . '	03	00529
001502	001010	A	543		JAZ	DAF1	03	00530
001503	001540	R						
001504	002000	A	544	DAF2	JMPM	GNCO	03	00531
001505	007707	R					03	00532
001506	130000	L	545		ERA	= ' E '	03	00533
001507	003010	A	546		XAZ	DAF	03	00534
001510	001462	R					03	00535
001511	002000	A	547		JMPM	ISG	03	00536
001512	007502	R					03	00537
001513	054167	A	548		STA	ES	03	00538
001514	002000	A	549		JMPM	IDN	03	00539
001515	007656	R					03	00540
001516	000027	R	550		DATA	E	03	00541
001517	017000	I	551		LDA	E+1	03	00542
001520	024162	A	552		LDB	ES	03	00543
001521	001020	A	553		JRZ	**+4	03	00544
001522	001525	R					03	00545
001523	005211	A	554		CPA	TWOES	03	00546
001524	005111	A	555		JAR	COMPLEMENT	03	00547
001525	144153	A	556		SUB	MD	03	00548
001526	054152	A	557		STA	MD	03	00549
001527	006010	A	558		LDAI	-NBIT*2-126	03	00550
001530	177542	A					03	00551
001531	057000	I	559		STA	E	03	00552
001532	017000	I	560		LDA	M	03	00553
001533	027000	I	561		LDB	M+1	03	00554
001534	001030	A	562		JIF	62+32, DAF8	03	00555
001535	001663	R					03	00556
001536	001000	A	563		JMP	DAF3	03	00557
001537	001553	R					03	00558
			564 *					
			565 *					
			566 *					
001540	047000	I	567	DAF1	INR	ICP	03	00559
001541	002000	A	568		JMPM	IDN	03	00560
001542	007656	R					03	00561
001543	000060	R	569		DATA	M	03	00562
001544	054134	A	570		STA	MD	03	00563
001545	001000	A	571		JMP	DAF2	03	00564
001546	001504	R					03	00565
			572 *					
001547	047000	I	573	DAF4	INR	E	03	00566
001550	017000	I	574		LDA	N	03	00567
001551	027000	I	575		LDB	N+1	03	00568
001552	004401	A	576		LRSL	1	03	00569
001553	057000	I	577	DAF5	STA	E	03	00570
001554	067000	I	578		STB	M+1	03	00571
001555	004241	A	579	DAF3	LRLA	1	03	00572
001556	001002	A	580		JAP	DAF4	03	00573
001557	001547	R					03	00574
001560	014120	A	581		LDA	MD	03	00575
001561	001010	A	582		JAZ	DAF7	03	00576
001562	001635	R					03	00577
001563	001004	A	583		JAN	DAF6	03	00578
001564	001604	R					03	00579
			584 *					
001565	005311	A	585		DAR	MULTIPLY BY TEN	03	00580
001566	054112	A	586		STA	MD	03	00581


```

001567 017000 I 587 LDA E INCREMENT 03 00574
001570 140423 A 588 SUB FOUR EXPONENT (=4) 03 00575
001571 057000 I 589 STA E BY FOUR (M*16) 03 00576
001572 017000 I 590 LDA M 03 00577
001573 027000 I 591 LDB M+1 03 00578
001574 004501 A 592 LASR 1 (M*16)/2 03 00579
001575 057000 I 593 STA M 03 00580
001576 067000 I 594 STB M+1 03 00581
001577 004502 A 595 LASR 2 (M*16)/8 03 00582
001600 002000 A 596 JMPM DAF5 5*(M*16)/8=M*10 03 00583
001601 007663 R
001602 001000 A 597 JMP DAF5 KEEP TRYING 03 00584
001603 001553 R
598 * DIVIDE BY TEN 03 00585
001604 044074 A 599 DAF6 INR MD INCREMENT DIGIT COUNTER 03 00586
001605 017000 I 600 LDA M 03 00587
001606 027000 I 601 LDB M+1 03 00588
001607 004501 A 602 LASR 1 M/2 03 00589
001610 057000 I 603 STA M 03 00590
001611 067000 I 604 STB M+1 03 00591
001612 004501 A 605 LASR 1 M/4 03 00592
001613 002000 A 606 JMPM DAF5 3M/4 03 00593
001614 007663 R
001615 057000 I 607 STA M 03 00594
001616 067000 I 608 STB M+1 03 00595
001617 004503 A 609 LASR 3 3M/32 03 00596
001620 002000 A 610 JMPM DAF5 59M/64 03 00597
001621 007663 R
001622 030466 A 611 LDX SIX INITIATE ITERATION COUNT (=6) 03 00598
001623 004503 A 612 LASR 3 LASR 4 IS 59M/512 03 00599
001624 004501 A 613 LASR 1 03 00600
001625 002000 A 614 JMPM DAF5 03 00601
001626 007663 R
001627 004503 A 615 LASR 3 03 00602
001630 005344 A 616 DXR 03 00603
001631 001040 A 617 JXZ DAF5 JUMP IF END OF ITERATION COUNT 03 00604
001632 001553 R
001633 001000 A 618 JMP *-7 KEEP TRYING 03 00605
001634 001624 R
619 * 03 00606
620 * WE GET HERE TO PUT THE FLOATING POINT NUMBER TOGETHER 03 00607
621 * 03 00608
001635 017000 I 622 DAF7 LDA E GET EXPONENT 03 00609
001636 001004 A 623 JAN DAF9 JUMP IF NO EXPONENT UNDERFLOW 03 00610
001637 001647 R
001640 001010 A 624 JAZ DAF9 JUMP IF NO EXPONENT UNDERFLOW 03 00611
001641 001647 R
001642 020000 L 625 LDB =*SZ* EXPONENT UNDERFLOW 03 00612
001643 002000 A 626 JMPM ERR 03 00613
001644 007747 R
001645 001000 A 627 JMP DAF8 03 00614
001646 001663 R
628 * 03 00615
001647 020000 L 629 DAF9 LDB =*SZ* 03 00616
001650 120000 L 630 ADD =0377 03 00617
001651 002004 A 631 JANM ERR JUMP IF EXPONENT TOO LARGE 03 00618
001652 007747 R
001653 005001 A 632 TZA 03 00619
001654 147000 I 633 SUB E MAKE EXPONENT POSITIVE 03 00620
001655 027000 I 634 LDB M GET MSH OF MANTISSA 03 00621
001656 004407 A 635 LASL NBIT-9 PUT EXPONENT AND MSH OF MANTISSA TOGETHER 03 00622
001657 034022 A 636 LDX MS 03 00623
001660 001040 A 637 JXZ *-3 JUMP IF POSITIVE MANTISSA 03 00624
001661 001663 R
001662 005211 A 638 CPA 03 00625
001663 057000 I 639 DAF8 STA M 03 00626
001664 005001 A 640 TZA 03 00627
001665 004410 A 641 LASL 8 03 00628
001666 027000 I 642 LDB M+1 GET LSH OF MANTISSA 03 00629
001667 004407 A 643 LASL NBIT-9 03 00630
001670 057000 I 644 STA M+1 03 00631
001671 017000 I 645 LDA M 03 00632
001672 005002 A 646 TZB 03 00633
001673 002000 A 647 JMPM DSUB OUTPUT FIRST WORD 03 00634
001674 001704 R
001675 017000 I 648 LDA M+1 03 00635
001676 005002 A 649 TZR 03 00636
001677 001000 A 650 JMP DAF8 OUTPUT SECOND WORD + KEEP TRYING 03 00637
001700 001400 R
001701 000000 A 651 MD DATA 0 NUMBER OF FRACTIONAL DIGITS IN MANTISSA 03 00638
001702 000000 A 652 MS DATA 0 SIGN OF MANTISSA 03 00639
001703 000000 A 653 ES DATA 0 SIGN OF EXPONENT 03 00640
654 * 03 00641
655 * 03 00642
656 * THIS IS A SUBROUTINE TO SET THE SIGN OF THE NUMBER 03 00643
657 * IN THE A REGISTER ACCORDING TO THE CONTENTS OF SIGM 03 00644
658 * AND OUTPUT IT AND THE ROUNDABILITY IN THE B REGISTER 03 00645
659 * 03 00646
001704 000000 A 660 DSUB DATA 0 03 00647
001705 037000 I 661 LDX SIGM 03 00648
001706 001040 A 662 JXZ 001 JUMP IF DATA 03 00649
001707 001715 R
001710 157000 I 663 ANA 01 TURN OFF SIGN BIT 03 00650

```


001711	005344	A	664	DXR				03	00651
001712	001040	A	665	JXZ	DS1	JUMP IF PZE		03	00652
001713	001713	R							
001714	117000	I	666	ORA	CR	MUST BE MZE (=SIGN BIT)		03	00653
001715	057000	I	667	STA	VAL			03	00654
001716	067000	I	668	STB	RVAL			03	00655
001717	002000	A	669	JNPM	PLV	OUTPUT		03	00656
001720	010161	R							
001721	001000	A	670	JMP*	DSUB	RETURN		03	00657
001722	101700	R							
			671	*				03	00658
			672	*	THIS IS THE NULL DIRECTIVE PROCESSING			03	00659
			673	*				03	00660
001723	002000	A	674	NULL	JNPM	DFLC	ASSIGN SYMBOL	02	00661
001724	007142	R							
001725	002000	A	675	JNPM	LL	LIST LOCATION		03	00662
001726	010203	R							
001727	001000	A	676	JMP	RET			03	00663
001730	007115	R							
			677	*				03	00664
			678	*	THIS IS THE COMN DIRECTIVE PROCESSING			03	00665
			679	*				03	00666
001731	002000	A	680	COMN	JNPM	IAC	GET VALUE	03	00667
001732	005317	R							
001733	027000	I	681	LDB	CMSZ	GET COMMON SIZE ALREADY ACCUMULATED		03	00668
001734	067000	I	682	STB	VAL			03	00669
001735	127000	I	683	ADD	CMSZ			03	00670
001736	057000	I	684	STA	CMSZ	NEW ACCUMULATED COMMON SIZE		03	00671
001737	005021	A	685	TBA				03	00672
001740	020000	L	686	LDB	=2			03	00673
001741	067000	I	687	STB	RVAL			03	00674
001742	002000	A	688	JNPM	DEFI	ASSIGN SYMBOL		03	00675
001743	007164	R							
001744	002000	A	689	JNPM	LV	LIST VALUE		03	00676
001745	010223	R							
001746	001000	A	690	JMP	ROK	EXIT TO BLANK CHECK ROUTINE		03	00677
001747	005274	R							
			691	*				03	00678
			692	*	THIS IS THE EXT DIRECTIVE PROCESSING			03	00679
			693	*				03	00680
001750	002000	A	694	EXT	JNPM	LLN	LIST LINE	03	00681
001751	010300	R							
001752	005001	A	695	EXT1	TZA			03	00682
001753	020000	L	696	LDB	=0400	ST = 2		03	00683
001754	002000	A	697	JNPM	DEFI	ASSIGN SYMBOL		03	00684
001755	007164	R							
001756	002000	A	698	JNPM	ISM	INPUT SYMBOL		03	00685
001757	007474	R							
001760	000044	R	699	DATA	LAB1	PUT IT INTO LAB1		03	00686
001761	001010	A	700	JAZ	ROK	JUMP IF NO SYMBOL		03	00687
001762	005274	R							
001763	002000	A	701	JNPM	CTST	ALLOW A COMMA		03	00688
001764	007677	R							
001765	001000	A	702	JMP	EXT1	KEEP TRYING		03	00689
001766	001752	R							
			703	*				03	00690
			704	*	THIS IS THE NAME DIRECTIVE PROCESSING			03	00691
			705	*				03	00692
001767	002000	A	706	NAME	JNPM	LLN	LIST LINE	03	00693
001770	010300	R							
001771	002000	A	707	JNPM	ISM	INPUT SYMBOL		03	00694
001772	007474	R							
001773	000044	R	708	DATA	LAB1	PUT IT INTO LAB1		03	00695
001774	001010	A	709	JAZ	NAM4	JUMP IF NO SYMBOL		03	00696
001775	002040	R							
001776	002000	A	710	NAMS	JNPM	LFND	SEARCH SYMBOL TABLE	03	00697
001777	007346	R							
002000	000044	R	711	DATA	LAB1			03	00698
002001	001040	A	712	JXZ	NAM1	JUMP IF NOT FOUND		03	00699
002002	002030	R							
002003	015004	A	713	LDA	STA,X	GET ATTRIBUTE WORD		03	00700
002004	150000	L	714	ANA	=0200	EXTRACT ST		03	00701
002005	130000	L	715	ERA	=0400			03	00702
002006	001010	A	716	JAZ	NAM1	JUMP IF EXTERNALLY DEFINED		03	00703
002007	002030	R							
002010	015004	A	717	LDA	STA,X	GET ATTRIBUTE WORD		03	00704
002011	110000	L	718	ORA	=0200	ST = 1		03	00705
002012	055004	A	719	STA	STA,X			03	00706
002013	150423	A	720	ANA	FOUR	EXTRACT D1 (=4)		03	00707
002014	027000	I	721	LDB	OSYQ	(='SY')		03	00708
002015	002010	A	722	JAZM	ERR	ERROR IF NOT DEFINED IN PASS 1		03	00709
002016	007747	R							
002017	002000	A	723	NAM2	JNPM	CTST	COMMA ALLOW TEST	03	00710
002020	007677	R							
002021	002000	A	724	JNPM	ISM	INPUT SYMBOL		03	00711
002022	007474	R							
002023	000044	R	725	DATA	LAB1	PUT IT INTO LAB1		03	00712
002024	001010	A	726	JAZ	ROK	JUMP IF NO SYMBOL		03	00713
002025	005274	R							
002026	001000	A	727	JMP	NAMS	KEEP TRYING		03	00714
002027	001776	R							
			728	*				03	00715
002030	020000	L	729	NAM1	LDB	=0200	ST = 1	03	00716

002031	002000	A	730	JMPM	DEFI	ASSIGN SYMBOL		03	00717
002032	007164	R							
002033	015004	A	731	LDA	STA,X	GET ATTRIBUTE WORD		03	00718
002034	150000	L	732	ANA	=-5	TURN OFF BIT-2		03	00719
002035	055004	A	733	STA	STA,X			03	00720
002036	001000	A	734	JMP	NAM2			03	00721
002037	002017	P							
			735	*				03	00722
002040	020000	L	736	NAM4	LDB	= 'NS'		03	00723
002041	002000	A	737	JMPM	ERR			03	00724
002042	007747	R							
002043	001000	A	738	JMP	BCK			03	00725
002044	005274	R							
			739	*				03	00726
			740	*	THIS IS THE SMRY DIRECTIVE PROCESSING			03	00727
			741	*				03	00728
002045	005101	A	742	SMRY	INCR	1	SET SUMMARY FLAG	03	00729
			743	*				03	00730
			744	*	THIS IS THE DETL DIRECTIVE PROCESSING			03	00731
			745	*				03	00732
002046	057000	I	746	DETL	STA	SMFL	SET/RESET SUMMARY FLAG	03	00733
002047	001000	A	747	JMP	CONT			03	00734
002050	002065	R							
			748	*				03	00735
			749	*	THIS IS THE EJEC DIRECTIVE PROCESSING			03	00736
			750	*				03	00737
	002051	R	751	EJEC	EQU	*		03	00738
002051	005101	A	752	INCR	1			03	00739
002052	157000	I	753	ANA	SPCW	EXTRACT BIT-0 (\$PCW)		03	00740
002053	001016	A	754	JANZ	CONT	DO NOT EJECT LISTING		E.1	*****
002054	002065	R							
002055	006017	A	755	LDAE*	FRMP	IF WE JUST DID TOP,		E.1	*****
002056	100675	R							
002057	006140	A	756	SURI	2	DO NOT DO REDUNDANT TOP.		E.1	*****
002060	000002	A							
002061	006147	A	757	SUBE	LCT			E.1	*****
002062	000007	R							
002063	002016	A	758	JANZM	TOP	OTHERWISE, DO TOP.		E.1	*****
002064	010066	R							
			759	*				03	00742
			760	*	THIS IS THE CONT DIRECTIVE PROCESSING			03	00743
			761	*				03	00744
002065	002000	A	762	CONT	JMPM	LLN	LIST LINE	03	00745
002066	010300	R							
002067	001000	A	763	JMP	RET	EXIT ASSEMBLER		03	00746
002070	007115	R							
			764	*				03	00747
			765	*	THIS IS THE NLIS DIRECTIVE PROCESSING			03	00748
			766	*				03	00749
002071	002000	A	767	NLIS	JMPM	LLN	LIST THE 'NLIS' LINE	03	00750
002072	010300	R							
002073	047000	I	768	INR	\$LIST	SET NOLIST FLAG		03	00751
002074	001000	A	769	JMP	RET			03	00752
002075	007115	R							
			770	*				03	00753
			771	*	THIS IS THE LIST DIRECTIVE PROCESSING			03	00754
			772	*				03	00755
002076	005001	A	773	LISTF	TZA			03	00756
002077	057000	I	774	STA	\$LIST			03	00757
002100	002000	A	775	JMPM	LLN			03	00758
002101	010300	R							
002102	001000	A	776	JMP	RET			03	00759
002103	007115	R							
			777	*				03	00760
			778	*	THIS IS THE SPACE DIRECTIVE PROCESSING			03	00761
			779	*				03	00762
002104	002000	A	780	SPAC	JMPM	LIST	LIST A BLANK LINE	03	00763
002105	010117	R							
002106	001000	A	781	JMP	RET	EXIT ASSEMBLER		03	00764
002107	007115	R							
			782	*				03	00765
			783	*	THIS IS THE GOTO DIRECTIVE PROCESSING			03	00766
			784	*				03	00767
002110	002000	A	785	GOTO	JMPM	GND0	GET NEXT CHACT	03	00768
002111	007707	R							
002112	002000	A	786	JMPM	ISA	IS IT ALPHA		03	00769
002113	010030	R							
002114	001002	A	787	JAP	GDT1	JUMP IF ALPHA		03	00770
002115	002150	R							
002116	002000	A	788	JMPM	IDS	INPUT DIGIT STRING		03	00771
002117	007521	R							
002120	017000	I	789	LDA	IDSA	(FOR NUMERIC LABEL IN GOTO)		03	00772
002121	057000	I	790	STA	LAB1	SAVE VALUE		03	00773
002122	002000	A	791	JMPM	GTS			03	00774
002123	002212	R							
002124	002000	A	792	GDT2	JMPM	RNR	READ NEXT RECORD	03	00775
002125	006570	R							
002126	002000	A	793	JMPM	GND0	GET NEXT CHACT		03	00776
002127	007707	R							
002130	002000	A	794	JMPM	ISD	IS IT A DIGIT		03	00777
002131	010054	R							
002132	001002	A	795	JAP	*+4	JUMP IF DIGIT		03	00778
002133	002136	R							

002134	001000	A	796	JMP	GOT7	OTHERWISE IGNORE	03	00779
002135	002144	R						
			797 *				03	00780
002136	002000	A	798	JMPM	IDS	INPUT DIGIT STRING	03	00781
002137	007521	R						
002140	017000	I	799	LDA	IDSA	(FOR NUMERIC LABEL IN GOTO)	03	00782
002141	137000	I	800	ERA	LAB1		03	00783
002142	001010	A	801	JAZ	GOT5	JUMP IF MATCH	03	00784
002143	002206	R						
002144	002000	A	802	GOT7	JMPM	GOTL	03	00785
002145	002225	R						
002146	001000	A	803	JMP	GOT2	KEEP TRYING	03	00786
002147	002124	R						
			804 *				03	00787
002150	002000	A	805	GOT1	JMPM	ISM	03	00788
002151	007474	R						
002152	000044	R	806	DATA	LAB1	PUT IT IN LAB1	03	00789
002153	002000	A	807	JMPM	GTS		03	00790
002154	002212	R						
002155	002000	A	808	GOT3	JMPM	RNR	03	00791
002156	006570	R						
002157	002000	A	809	JMPM	ISM	INPUT SYMBOL	03	00792
002160	007474	R						
002161	000040	R	810	DATA	LAB2	PUT IT LAB2	03	00793
002162	017000	I	811	LDA	LAB1+1		03	00794
002163	137000	I	812	ERA	LAB2+1		03	00795
002164	001010	A	813	JAZ	*+4	JUMP IF FIRST TWO CHACTS MATCH	03	00796
002165	002170	R						
002166	001000	A	814	JMP	GOT4		03	00797
002167	002202	R						
002170	017000	I	815	LDA	LAB1+2		03	00798
002171	137000	I	816	ERA	LAB2+2		03	00799
002172	001010	A	817	JAZ	*+4	JUMP IF SECOND TWO CHACTS MATCH	03	00800
002173	002176	R						
002174	001000	A	818	JMP	GOT4		03	00801
002175	002202	R						
002176	017000	I	819	LDA	LAB1+3		03	00802
002177	137000	I	820	ERA	LAB2+3		03	00803
002200	001010	A	821	JAZ	GOT5	JUMP IF THIRD TWO CHACTS MATCH	03	00804
002201	002206	R						
002202	002000	A	822	GOT4	JMPM	GOTL	03	00805
002203	002225	R						
002204	001000	A	823	JMP	GOT3	KEEP TRYING	03	00806
002205	002155	R						
			824 *				03	00807
002206	017000	I	825	GOT5	LDA	ICP0	03	00808
002207	057000	I	826	STA	ICP	RESTORE INPUT	03	00809
002210	001000	A	827	JMP	ASSB	CHACT POINTER	03	00810
002211	001106	R				GO AND ASSEMBLE THE LINE	03	00811
			828 *				03	00812
			829 *				03	00813
			830 *				03	00814
002212	000000	A	831	GTS	DATA	0	03	00815
002213	002000	A	832	JMPM	GTST	COMMA ALLOW TEST	03	00816
002214	007677	R						
002215	054022	A	833	STA	GOT	SET GOTO LIST FLAG	03	00817
002216	002000	A	834	JMPM	ACKS	BLANK CHECK	03	00818
002217	005302	R						
002220	017000	I	835	LDA	SMFL		03	00819
002221	002010	A	836	JAZM	LLN	LIST 'GOTO' LINE	03	00820
002222	010300	R						
002223	001000	A	837	JMP*	GTS	RETURN	03	00821
002224	102210	R						
			838 *				03	00822
			839 *				03	00823
			840 *				03	00824
			841 *				03	00825
002225	000000	A	842	GOTL	DATA	0	03	00826
002226	014011	A	843	LDA	GOT		03	00827
002227	001010	A	844	JAZ*	GOTL	RETURN IF SUPPRESS	03	00828
002230	102225	R						
002231	005001	A	845	TZA			03	00829
002232	057000	I	846	STA	PLF	RESET SOURCE LINE SUPPRESS FLAG	03	00830
002233	017000	I	847	LDA	SMFL		03	00831
002234	002010	A	848	JAZM	LLN	LIST LINE	03	00832
002235	010300	R						
002236	001000	A	849	JMP*	GOTL	RETURN	03	00833
002237	102225	R						
002240	000000	A	850	GOT	DATA	0	03	00834
			851 *				03	00835
			852 *				03	00836
			853 *				03	00837
002241	017000	I	854	OPSY	LDA	LAB1	03	00838
002242	001010	A	855	JAZ	OPSI	JUMP IF NO SYMBOL IN LABEL FIELD	03	00839
002243	002300	R						
002244	002000	A	856	JMPM	ISM	INPUT SYMBOL	03	00840
002245	007474	R						
002246	000040	R	857	DATA	LAB2	PUT IT IN LAB2	03	00841
002247	001010	A	858	JAZ	OPSI	JUMP IF NO SYMBOL IN VARIABLE FIELD	03	00842
002250	002300	R						
002251	002000	A	859	JMPM	OCFD	SEARCH OP CODE TABLE	03	00843
002252	007416	R						
002253	000040	R	860	DATA	LAB2		03	00844

002254	001040	A	861	JXZ	DPS2	JUMP IF NOT FOUND	03	00844
002255	002305	R						
002256	077000	I	862	STX	LAB2	SAVE DP CODE POINTER	03	00845
002257	010000	L	863	LDA	=5		03	00846
002260	002000	A	864	JMPM	GS1	GET SPACE TABLE #1	03	00847
002261	011441	R						
002262	001004	A	865	JAN	DPS4	JUMP IF NO SPACE	03	00848
002263	002277	R						
002264	017000	I	866	LDA	LAB1+1	GET FIRST TWO CHACTS	03	00849
002265	055000	A	867	STA	STS,X	STORE INTO TABLE	03	00850
002266	017000	I	868	LDA	LAB1+2	GET SECOND TWO CHACTS	03	00851
002267	055001	A	869	STA	STS+1,X	STORE INTO TABLE	03	00852
002270	017000	I	870	LDA	LAB1+3	GET THIRD TWO CHACTS	03	00853
002271	055002	A	871	STA	STS+2,X	STORE INTO TABLE	03	00854
002272	027000	I	872	LDB	LAB2	GET OLD DP CODE POINTER	03	00855
002273	016004	A	873	LDA	STA,B	GET OLD ATTRIBUTE WORD	03	00856
002274	055004	A	874	STA	STA,X	STORE INTO TABLE	03	00857
002275	016003	A	875	LDA	STV,B	GET OLD VALUE WORD	03	00858
002276	055003	A	876	STA	STV,X	STORE INTO TABLE	03	00859
002277	002000	A	877	DPS4	JMPM	LLN	03	00860
002300	010300	R						
002301	001000	A	878	JMP	RCK	GO TO BLANK CHECK ROUTINE	03	00861
002302	005274	R						
			879	*			03	00862
002303	020000	L	880	DPS1	LDB	=*NS*	03	00863
002304	001006	A	881		DATA	01006	03	00864
002305	027000	I	882	DPS2	LDB	OSYQ	03	00865
002306	002000	A	883		JMPM	ERR	03	00866
002307	007747	R						
002310	001000	A	884	JMP	DPS4		03	00867
002311	002277	R						
			885	*			03	00868
			886	*	THIS IS THE DUP DIRECTIVE PROCESSING		03	00869
			887	*			03	00870
002312	017000	I	888	DUP	LDA	DIPF	03	00871
002313	001010	A	889		JAZ	DUP1	03	00872
002314	002324	R						
002315	020000	L	890		LDB	=*DP*	03	00873
002316	002000	A	891		JMPM	ERR	03	00874
002317	007747	R						
002320	002000	A	892		JMPM	LLN	03	00875
002321	010300	R						
002322	001000	A	893		JMP	RET	03	00876
002323	007115	R						
			894	*			03	00877
002324	047000	I	895	DUP1	INR	DIPF	03	00878
002325	002000	A	896		JMPM	IAC	03	00879
002326	005317	R						
002327	054122	A	897		STA	DPCT	03	00880
002330	002000	A	898		JMPM	CTST	03	00881
002331	007677	R						
002332	001010	A	899		JAZ	*+5	03	00882
002333	002337	R						
002334	005102	A	900		INCR	2	03	00883
002335	001000	A	901		JMP	DUP2	03	00884
002336	002351	R						
			902	*			03	00885
002337	002000	A	903		JMPM	IAC	03	00886
002340	005317	R						
002341	005012	A	904		TAB		03	00887
002342	140423	A	905		SUB	FOUR	03	00888
002343	001004	A	906		JAN	DUP2	03	00889
002344	002351	R						
002345	020000	L	907		LDB	=*S2*	03	00890
002346	002000	A	908		JMPM	ERR	03	00891
002347	007747	R						
002350	020000	L	909		LDB	=3	03	00892
002351	064101	A	910	DUP2	STB	DPLN	03	00893
002352	002000	A	911		JMPM	RCKS	03	00894
002353	005302	R						
002354	017000	I	912		LDA	SNFL	03	00895
002355	002010	A	913		JAZM	LLN	03	00896
002356	010300	R						
002357	017000	I	914		LDA	BDUT	03	00897
002360	054020	A	915		STA	DUP3	03	00898
002361	017000	I	916		LDA	LNCT	03	00899
002362	054062	A	917		STA	DUPC	03	00900
002363	014067	A	918		LDA	DPLN	03	00901
002364	005311	A	919	DUP6	BAR		03	00902
002365	001004	A	920		JAN	DUP7	03	00903
002366	002405	R						
002367	054064	A	921		STA	DUP5	03	00904
002370	002000	A	922		JMPM	RNR	03	00905
002371	006570	R						
002372	014006	A	923		LDA	DUP3	03	00906
002373	124003	A	924		ADD	340	03	00907
002374	054004	A	925		STA	DUP3	03	00908
002375	002000	A	926		JMPM	MOVH	03	00909
002376	011761	R						
002377	000030	A	927	D40	DATA	40	03	00910
002400	000124	R	928		DATA	\$BUF	03	00911
002401	000000	A	929	DUP3	DATA	0	03	00912
002402	014051	A	930		LDA	TUP5	03	00913

002522	014037	A	1004	LDA	IFTP			03	00987
002523	147000	I	1005	SUB	VAL	A-2		03	00988
002524	001002	A	1006	JAP	IF5	JUMP IF A .GE. B		03	00989
002525	002545	R							
002526	017000	I	1007	LDA	VAL			03	00990
002527	054032	A	1008	STA	IFTP	SAVE VALUE OF SECOND EXPRESSION		03	00991
002530	002000	A	1009	JMPM	CTST	COMMA ALLOW TEST		03	00992
002531	007677	R							
002532	002000	A	1010	JMPM	IAC	GET THIRD VALUE		03	00993
002533	005317	R							
002534	144025	A	1011	SUB	IFTP	C-R		03	00994
002535	001004	A	1012	JAN	IF2	JUMP IF B .GT. C		03	00995
002536	002541	R							
002537	005101	A	1013	INCR	1	A=1		03	00996
002540	001006	A	1014	DATA	01006	SKIP NEXT WORD		03	00997
002541	005001	A	1015	TZA				03	00998
002542	057000	I	1016	IF4	STA	VAL		03	00999
002543	001000	A	1017	JMP	IFE			03	01000
002544	002465	R							
			1018	*					
002545	002000	A	1019	IF5	JMPM	CTST	COMMA ALLOW TEST	03	01001
002546	007677	R						03	01002
002547	002000	A	1020	JMPM	IAC	GET THIRD VALUE ANYWAY		03	01003
002550	005317	R							
002551	005001	A	1021	TZA				03	01004
002552	001000	A	1022	JMP	IF2			03	01005
002553	002541	R							
			1023	*				03	01006
			1024	*	WE GET HERE FOR THE FORM 'A,B'			03	01007
			1025	*				03	01008
002554	002000	A	1026	IF3	JMPM	IAC	GET SECOND VALUE	03	01009
002555	005317	R							
002556	134003	A	1027	ERA	IFTP			03	01010
002557	001000	A	1028	JMP	IF4			03	01011
002560	002542	R							
002561	000000	A	1029	IFFG	DATA	0	IF FLAG	03	01012
002562	000000	A	1030	IFTP	DATA	0	TEMP STORAGE FOR IFT/IFF PROCESSING	03	01013
			1031	*				03	01014
			1032	*	THIS IS THE END DIRECTIVE PROCESSING			03	01015
			1033	*				03	01016
002563	002000	A	1034	END	JMPM	DFLC	ASSIGN SYMBOL	03	01017
002564	007142	R							
002565	005001	A	1035	TZA				03	01018
002566	057000	I	1036	STA	SLIST			03	01019
002567	017000	I	1037	LDA	PASS			03	01020
002570	001002	A	1038	JAP	ENC	JUMP IF PASS 2		03	01021
002571	003052	R							
			1039	*				03	01022
			1040	*	THIS IS THE END OF PASS 1			03	01023
			1041	*				03	01024
002572	005101	A	1042	INCR	1	A++1		03	01025
002573	057000	I	1043	STA	PASS	SET PASS 2		03	01026
002574	010000	L	1044	LDA	0010	SET DEFINED		03	01027
002575	057000	I	1045	STA	OFF	PASS FLAG FOR PASS 2		03	01028
			1046	*				03	01029
002576	006010	A	1047	LDAI	WRPD	STATUS CHECK PD		03	01030
002577	006737	R							
002600	002000	A	1048	CALL	STAT	BEFORE STARTING PASS 2		03	01031
002601	006752	R							
			1049	*				03	01032
			1050	*	CHECK STATUS OF RMD DEVICES			03	01033
			1051	*	AT END OF PASS 1			03	01034
			1052	*				03	01035
002602	006030	A	1053	LDXI	PDFCB	SAVE FCB		03	01036
002603	001006	E							
002604	006020	A	1054	LDRI	SSFCB			03	01037
002605	000000	E							
002606	006010	A	1055	LDAI	0BUF	INITIALIZE		03	01038
002607	000124	R							
002610	055001	A	1056	STA	1,1	FCB BUFFER ADDR		03	01039
002611	056001	A	1057	STA	1,2			03	01040
002612	017000	I	1058	LDA	RENMD	IS PD NON RMD		03	01041
002613	001010	A	1059	JAZ	EN04	YES		03	01042
002614	002637	R							
002615	006017	A	1060	LDRE	RENMD	IS PI RMD ?		03	01043
002616	000102	R							
002617	001016	A	1061	JANZ	EN04	YES-RECORD ALREADY WRITTEN		03	01044
002620	002637	R							
002621	017000	I	1062	LDA	PDFR	IS PD AT THE BEGINNING OF A SECTOR#		03	01045
002622	001010	A	1063	JAZ	EN04	YES		03	01046
002623	002637	R							
			1064	*				03	01047
			1065	*				03	01048
			1066	FPDWR	EQU	* WRITE FINAL SOURCE RECORDS ON PD		03	01049
			1067	WRITE	PDFCB,PD,0,1			03	01050
002624	006505	A							
002625	001002	E							
002626	100000	A							
002627	010412	A							
002630	002603	E							
002631	000000	A							
002632	000000	A							
			1068	*				03	01051

E.2 VORTEX LISTING

V\$DASMR

PROGRAM PAGE 16

LISTING PAGE (297)

002633	006010	A	1069	LDAI	FPOWR	STATUS CHECK	03	01052
002634	002624	R						
002635	002000	A	1070	CALL	STAT	PD WRITE	03	01053
002636	006762	R						
			1071 *					03 01054
	002637	R	1072	EQU	* EN04			03 01055
			1073	CLOSE	POFCB,PD,0,1	CLOSE AND UPDATE PD		03 01056
002637	006505	A						
002640	002625	E						
002641	100000	A						
002642	013412	A						
002643	002630	E						
002644	000000	A						
002645	000000	A						
			1074 *					03 01057
002646	006010	A	1075	LDAI	EN04	STATUS CHECK	03	01058
002647	002637	R						
002650	002000	A	1076	CALL	STAT	PD CLOSE	03	01059
002651	006762	R						
			1077 *					03 01060
002652	017000	I	1078	LDA	SSRMD	IS SS AN RMD#	03	01061
002653	001010	A	1079	JAZ	EN9A	NO	03	01062
002654	002715	R						
002655	014520	A	1080	LDA	POSS	ARE PD AND SS THE SAME?	03	01063
002656	001010	A	1081	JAZ	*+4		03	01064
002657	002662	R						
002660	001000	A	1082	JMP	EN08	NO	03	01065
002661	002675	R						
			1083 *					03 01066
	002662	R	1084	EQU	* EN05			03 01067
			1085	OPEN	SSFCB,SS,0,0	OPEN AND REWIND SS		03 01068
002662	006505	A						
002663	002640	E						
002664	100000	A						
002665	003010	A						
002666	002605	E						
002667	000000	A						
002670	000000	A						
			1086 *					03 01069
002671	006010	A	1087	LDAI	EN05	STATUS CHECK WITHOUT BOD ERROR EXIT	03	01070
002672	002662	R						
002673	002000	A	1088	CALL	STAT		03	01071
002674	006762	R						
			1089	EQU	* EN08			03 01072
002675	006017	A	1090	LDAE	PIRMD	PI ON RMD FLAG	03	01073
002676	000102	R						
002677	001016	A	1091	JANZ	EN09	JUMP IF YES	03	01074
002700	002710	R						
002701	017000	I	1092	LDA	SSRF	IS SS ON SECTOR BOUNDARY#	03	01075
002702	001004	A	1093	JAN	EN11	NO	03	01076
002703	002754	R						
			1094 *					03 01077
002704	002000	A	1095	CALL	SSREAD	READ 1ST SECTOR OF SS TO START PASS 2	03	01078
002705	012327	R						
002706	001000	A	1096	JMP	EN11		03	01079
002707	002754	R						
002710	005301	A	1097	DECR	01	SET SS RECORD FLAG	03	01080
002711	006057	A	1098	STAE	SSRF	TO BEGIN OF SECTOR	03	01081
002712	000112	R						
002713	001000	A	1099	JMP	EN11		03	01082
002714	002754	R						
			1100	EQU	* EN9A			03 01083
002715	014460	A	1101	LDA	POSS	ARE PD AND SS THE SAME?	03	01084
002716	001010	A	1102	JAZ	*+4		03	01085
002717	002722	R						
002720	001000	A	1103	JMP	EN10-1	NO, REPOSITION BY SKIPPING RECORDS.	03	01086
002721	002733	R						
			1104 *					03 01087
			1105	REW	SSFCB,SS,0,1	REWIND SS AND WAIT FOR COMPLETION	03	01088
002722	006505	A						
002723	002663	E						
002724	100000	A						
002725	001410	A						
002726	002666	E						
002727	000000	A						
002730	000000	A						
002731	001300	A	1106	JMP	EN11		03	01089
002732	002754	R						
			1107 *					03 01090
002733	027000	I	1108	LDB	NPEC	NO. OF RECORDS IN SOURCE ASSEMBLY	03	01091
	002734	R	1109	EQU	* EN10			03 01092
			1110	CREC	SSFCB,SS,0,1	RESET SS FOR PASS 2		03 01093
002734	006505	A						
002735	002723	E						
002736	100000	A						
002737	012010	A						
002740	002726	E						
002741	000000	A						
002742	000000	A						
			1111 *					03 01094
002743	006010	A	1112	LDAI	EN10	STATUS CHECK THE SS FILE	03	01095
002744	002734	R						
002745	002000	A	1113	CALL	STAT		03	01096

Address	Hex	Op	Label	Op	Comment	Page	Line
003074	005300	R					
003075	002000	A	1181 EN21	JMPM	LLN		03 01164
003076	010300	R					
003077	006010	A	1182	.LDAI	012000		03 01165
003100	012000	A					
003101	057000	I	1183	STA	CODE	LOADER SUBCODE 012	03 01166
003102	037000	I	1184	LDX	BT6	GET BEGIN OF SYMBOL TABLE	03 01167
003103	005141	A	1185 EN23	INCR	041	A=X+1	03 01168
003104	147000	I	1186	SUB	ET6		03 01169
003105	001002	A	1187	JAP	EN22	JUMP IF END OF SYMBOL TABLE	03 01170
003106	003121	R					
003107	015004	A	1188	LDA	STA,X	GET SYMBOL TABLE ATTRIBUTE WORD	03 01171
003110	150000	L	1189	ANA	=0600	EXTRACT ST	03 01172
003111	130000	L	1190	ERA	=0400		03 01173
003112	002010	A	1191	JAZM	NDUT	JUMP IF EXTERNAL NAME	03 01174
003113	003440	R					
003114	005041	A	1192	TXA			03 01175
003115	120000	L	1193	ADD	=5		03 01176
003116	005014	A	1194	TAX			03 01177
003117	001000	A	1195	JMP	EN23		03 01178
003120	003103	R					
			1196 *				03 01179
003121	017000	I	1197 EN22	LDA	DRUF		03 01180
003122	006150	A	1198	ANAI	0173777	TURN OFF BIT 11	03 01181
003123	173777	A					
003124	057000	I	1199	STA	DRUF		03 01182
003125	002000	A	1200	JMPM	WRIT	OUTPUT LAST LOADER TEXT RECORD	03 01183
003126	011303	R					
003127	017000	I	1201	LDA	\$PCW	GET PROGRAM CONTROL WORD (\$PCW)	03 01184
003130	004255	A	1202	LRLA	NRIT-3	PUT BIT 2 INTO A(SIGN)	03 01185
003131	001004	A	1203	JAN	EN2A	JUMP IF MEMORY MAP SUPPRESS	03 01186
003132	003240	R					
003133	002000	A	1204	JMPM	MOVW		03 01187
003134	011761	R					
003135	000000	A	1205	DATA	6		03 01188
003136	003377	R	1206	DATA	ENM1	'ENTRY NAMES '	03 01189
003137	000314	R	1207	DATA	LBUF		03 01190
003140	002000	A	1208	JMPM	LST	LIST SUBHEADING	03 01191
003141	010145	R					
003142	037000	I	1209	LDX	BT6	GET BEGIN OF SYMBOL TABLE	03 01192
003143	005141	A	1210 EN24	INCR	041	A=X+1	03 01193
003144	147000	I	1211	SUB	ET6		03 01194
003145	001002	A	1212	JAP	EN25	JUMP IF END OF SYMBOL TABLE	03 01195
003146	003161	R					
003147	015004	A	1213	LDA	STA,X	GET SYMBOL TABLE ATTRIBUTE WORD	03 01196
003150	150000	L	1214	ANA	=0600	EXTRACT ST	03 01197
003151	130000	L	1215	ERA	=0200		03 01198
003152	002010	A	1216	JAZM	LDUT	JUMP IF ENTRY NAME	03 01199
003153	003461	R					
003154	005041	A	1217	TXA			03 01200
003155	120000	L	1218	ADD	=5		03 01201
003156	005014	A	1219	TAX			03 01202
003157	001000	A	1220	JMP	EN24	KEEP TRYING	03 01203
003160	003143	R					
			1221 *				03 01204
003161	003161	R	1222 EN25	EQU	*		03 01205
003162	017000	I	1223	LDA	LR2P1	(=LBUF*2+1)	03 01206
003163	147000	I	1224	SUB	SBTA		03 01207
003164	002004	A	1225	JANM	LST	LIST LINE IF SOMETHING TO LIST	03 01208
003165	010145	R					
003166	011761	R	1226	JMPM	MOVW		03 01209
003167	000010	A	1227	DATA	8		03 01210
003170	003405	R	1228	DATA	EN22	'EXTERNAL NAMES'	03 01211
003171	000314	R	1229	DATA	LBUF		03 01212
003172	002000	A	1230	JMPM	LST	LIST SUBHEADING	03 01213
003173	010145	R					
003174	037000	I	1231	LDX	BT6	GET BEGIN OF SYMBOL TABLE	03 01214
003175	005141	A	1232 EN26	INCR	041	A=X+1	03 01215
003176	147000	I	1233	SUB	ET6		03 01216
003177	001002	A	1234	JAP	EN27	JUMP IF END OF SYMBOL TABLE	03 01217
003200	003213	R					
003201	015004	A	1235	LDA	STA,X	GET SYMBOL TABLE ATTRIBUTE WORD	03 01218
003202	150000	L	1236	ANA	=0600	EXTRACT ST	03 01219
003203	130000	L	1237	ERA	=0400		03 01220
003204	002010	A	1238	JAZM	LDUT	JUMP IF EXTERNAL NAME	03 01221
003205	003461	R					
003206	005041	A	1239	TXA			03 01222
003207	120000	L	1240	ADD	=5		03 01223
003210	005014	A	1241	TAX			03 01224
003211	001000	A	1242	JMP	EN26	KEEP TRYING	03 01225
003212	003175	R					
			1243 *				03 01226
003213	003210	R	1244 EN27	EQU	*		03 01227
003214	017000	I	1245	LDA	LR2P1	(=LBUF*2+1)	03 01228
003215	147000	I	1246	SUB	SBTA		03 01229
003216	002004	A	1247	JANM	LST	LIST LINE IF SOMETHING TO LIST	03 01230
003217	010145	R					
003220	011761	R	1248	JMPM	MOVW		03 01231
003221	000004	A	1249	DATA	4		03 01232
003222	000417	R	1250	DATA	ENM3	'SYMBOLS '	03 01233
003223	000314	R	1251	DATA	DRUF		03 01234

003224	002000	A	1252	JMPM	LST	LIST SUBHEADING		03	01235
003225	010145	R							
003226	037000	I	1253	LDX	B76	GET BEGIN OF SYMBOL TABLE		03	01236
003227	005141	A	1254	EN28	INCR	A=X+1		03	01237
003230	147000	I	1255		SUB			03	01238
003231	001002	A	1256		JAP	EN29	JUMP IF END OF SYMBOL TABLE	03	01239
003232	003242	R							
003233	002000	A	1257	JMPM	LQUT	OUTPUT SYMBOL		03	01240
003234	003461	R							
003235	005041	A	1258		TXA			03	01241
003236	120000	L	1259		ADD	=5		03	01242
003237	005014	A	1260		TAX			03	01243
003240	001000	A	1261		JMP	EN28	KEEP TRYING	03	01244
003241	003227	R							
			1262	*				03	01245
	003242	R	1263	EN29	EQU	*		03	01246
003242	017000	I	1264		LDA	LBPP1	(=LBUF*2+1)	03	01247
003243	147000	I	1265		SUB	SBTA		03	01248
003244	002004	A	1266		JANM	LST	LIST LINE IF SOMETHING TO LIST	03	01249
003245	010145	R							
	003246	R	1267	EN2A	EQU	*		03	01250
003246	017000	I	1268		LDA	ERCT	GET ERROR COUNTER	03	01251
003247	002000	A	1269		JMPM	B2A	CONVERT TO ASCII	03	01252
003250	012030	R							
003251	057000	I	1270		STA	LBUF		03	01253
003252	067000	I	1271		STB	LBUF+1		03	01254
003253	002000	A	1272		JMPM	MDVW		03	01255
003254	011761	R							
003255	000015	A	1273		DATA	13		03	01256
003256	003422	R	1274		DATA	ENM4		03	01257
003257	000316	R	1275		DATA	LBUF+2	' ERRORS ASSEMBLY COMPLETE '	03	01258
003260	017000	I	1276		LDA	ERLN	LAST ERROR LINE NUMBER	D	03 01259
003261	001010	A	1277		JAZ	EN2B	DONT REF IN NO ERRORS	D	03 01260
003262	003275	R							
003263	002000	A	1278		CALL	B2A		D	03 01261
003264	012030	R							
003265	057000	I	1279		STA	LBUF+16	STORE IN	D	03 01262
003266	067000	I	1280		STB	LBUF+17	MESSAGE	D	03 01263
003267	006010	A	1281		LDAI	' < '		D	03 01264
003270	120250	A							
003271	057000	I	1282		STA	LBUF+15		D	03 01265
003272	006010	A	1283		LDAI	') '		D	03 01266
003273	124640	A							
003274	057000	I	1284		STA	LBUF+18		D	03 01267
	003275	R	1285	EN2B	EQU	*		D	03 01268
003275	002000	A	1286		JMPM	LST	LIST MESSAGE UNCONDITIONALLY	03	01269
003276	010145	R							
	003277	R	1287	EN2H	EQU	*		03	01270
003277	006030	A	1288		LDXI	BDFCB		03	01271
003300	000000	E							
003301	006020	A	1289		LDBI	GDFCB		03	01272
003302	000000	E							
003303	006010	A	1290		LDAI	QBUF+60	RESET BUFF ADDR	03	01273
003304	000504	R							
003305	055001	A	1291		STA	1,1		03	01274
003306	056001	A	1292		STA	1,2		03	01275
003307	017000	I	1293		LDA	\$PCW	CHECK FOR BD SUPPRESS	03	01276
003310	004256	A	1294		LRLA	NBIT-2		03	01277
003311	001004	A	1295		JAN	EN2I	SKIP BD WRITE IF SUPPRESS BIT SET	03	01278
003312	003342	R							
003313	017000	I	1296		LDA	BDRMD	IS BD AN RMD?	03	01279
003314	001010	A	1297		JAZ	EN2I	NO, PROCESS GO FILE	03	01280
003315	003342	R							
003316	017000	I	1298		LDA	BDRF	IS BD POSITIONED AT START OF RMD SECTOR	03	01281
003317	001004	A	1299		JAN	EN2I	YES, PROCESS GO UNIT	03	01282
003320	003342	R							
			1300	*				03	01283
003321	006010	A	1301		LDAI	WRBD	STATUS CHECK LAST	03	01284
003322	011227	R							
003323	002000	A	1302		CALL	STAT	BD WRITE	03	01285
003324	006762	R							
			1303	*				03	01286
	003325	R	1304	BOWR	EQU	*		03	01287
			1305		WRITE	BDFCB, BD, 0, 0	WRITE BD AND WAIT FOR COMPLETION	03	01288
003325	006505	A							
003326	002735	E							
003327	100000	A							
003330	000407	A							
003331	003300	E							
003332	000000	A							
003333	000000	A							
			1306	*				03	01289
003334	006010	A	1307		LDAI	BOWR	STATUS CHECK	03	01290
003335	003325	R							
003336	002000	A	1308		CALL	STAT	THE BD WRITE	03	01291
003337	006762	R							
003340	005301	A	1309		DECR	1	START BD OF NEXT ASSEMBLY	03	01292
003341	057000	I	1310		STA	BDRF	ON EVEN SECTOR BOUNDARY	03	01293
			1311	*				03	01294
	003342	R	1312	EN2I	EQU	*		03	01295
			1313	*				03	01296
003342	017000	I	1314		LDA	\$PCW	GO OPTION SPECIFIED	03	01297
003343	001002	A	1315		JAZ	S1	NO	03	01298

003344	000740	R								
			1316	*						03 01299
003345	017000	I	1317		LDA	GORMD	IS GO FILE ON RMD?			03 01300
003346	001010	A	1318		JAZ	S1	NO, START NEXT ASSEMBLY			03 01301
003347	000740	R								
003350	017000	I	1319		LDA	GDRF	IS NXT GO REC POSITIONED AT START OF SECT			03 01302
003351	001004	A	1320		JAN	S1	YES			02 01303
003352	000740	R								
			1321	*						03 01304
003353	006010	A	1322		LDAI	WRGD	STATUS CHECK LAST			03 01305
003354	011255	R								
003355	002000	A	1323		CALL	STAT	GO WRITE			03 01306
003356	006762	R								
			1324	*						03 01307
			1325	*						03 01308
	003357	R	1326		GDWR	EQU	* GDFCB,GO,0,0			03 01309
			1327		WRITE		WRITE GO FILE AND WAIT			03 01310
003357	006505	A								
003358	003326	E								
003359	100000	A								
003360	000411	A								
003361	003302	E								
003362	000000	A								
003363	000000	A								
003364	000000	A								
003365	000000	A								
			1328	*						03 01311
003366	006010	A	1329		LDAI	GDWR	STATUS CHECK			03 01312
003367	003357	R								
003368	002000	A	1330		CALL	STAT	GO WRITE			03 01313
003369	006762	R								
003371	005301	A	1331		DECR	1	START GO OF NEXT ASSEMBLY			03 01314
003372	057000	I	1332		STA	GDRF	ON EVEN SECTOR BOUNDARY			03 01315
003373	001000	A	1333		JMP	S1	ASSEMBLE NEXT PROG			03 01316
003374	000740	R								
003375			1334	POSS	BSS	1	PO/SS COMPARE FLAG (=0, PO=SS)			03 01317
003376			1335	*						03 01318
003377	120005	A	1336		ENM1	DATA	' ENTRY NAMES '			03 01319
003378	147000	A								
003379	151001	A								
003380	120016	A								
003381	140715	A								
003382	142720	A								
003383	120005	A	1337	ENM2	DATA	' EXTERNAL NAMES '				03 01320
003384	154000	A								
003385	154000	A								
003386	142720	A								
003387	147001	A								
003388	146000	A								
003389	147001	A								
003390	146000	A								
003391	151000	A								
003392	142720	A	1338	QEXQ	DATA	' EX '	(ALSO USED AS A CONSTANT)			03 01321
003393	151000	A	1339	QSYQ	DATA	' SY '	(ALSO USED AS A CONSTANT)			03 01322
003394	120005	A	1340	ENM3	DATA	' SYMBOLS '				03 01323
003395	154715	A								
003396	141000	A								
003397	140000	A								
003398	120005	A	1341	ENM4	DATA	' ERRORS ASSEMBLY COMPLETE '				03 01324
003399	151000	A								
003400	140720	A								
003401	151000	A								
003402	140720	A								
003403	151000	A								
003404	140720	A								
003405	151000	A								
003406	140720	A								
003407	151000	A								
003408	140720	A								
003409	151000	A								
003410	140720	A								
003411	151000	A								
003412	140720	A								
003413	151000	A								
003414	140720	A								
003415	151000	A								
003416	140720	A								
003417	151000	A								
003418	140720	A								
003419	151000	A								
003420	140720	A								
003421	151000	A								
003422	140720	A								
003423	151000	A								
003424	140720	A								
003425	151000	A								
003426	140720	A								
003427	151000	A								
003428	140720	A								
003429	151000	A								
003430	140720	A								
003431	151000	A								
003432	140720	A								
003433	151000	A								
003434	140720	A								
003435	151000	A								
003436	140720	A								
003437	151000	A								
003438	140720	A								
003439	151000	A								
003440	000000	A	1342	QEQQ	BSS	0	(ALSO USED AS A CONSTANT)			03 01325
003441	013000	A	1343	*						03 01326
003442	057000	I	1344	*						03 01327
003443	013001	A	1345	*						03 01328
003444	057000	I	1346	*						03 01329
003445	015002	A	1347	*						03 01330
003446	057000	I	1348	*						03 01331
003447	015004	A	1349	*						03 01332
003448	057000	I	1350	*						03 01333
003449	015003	A	1351		NOUT	DATA	0			03 01334
003450	057000	I	1352		LDA	STX,X				03 01335
003451	015003	A	1353		STA	LAB1+1				03 01336
003452	057000	I	1354		LDA	STX+1,X				03 01337
003453	015002	A	1355		STA	LAB1+2				03 01338
003454	057000	I	1356		LDA	STX+2,X				03 01339
003455	015004	A	1357		STA	LAB1+3				03 01340
003456	057000	I	1358		LDA	STX,X	GET SYMBOL TABLE ATTRIBUTE WORD			03 01341
003457	015003	A	1359		STA	RVAL	GET SYMBOL TABLE VALUE WORD			03 01342
003458	057000	I	1360		LDA	STV,X				03 01343
003459	015003	A	1361		STA	VAL				03 01344
003460	057000	I	1362		STX	SNBT	SAVE X REG			03 01345
003461	002000	A	1363		JMP	OUT4	OUTPUT NAME TO LOADER TEXT			03 01346
003462	011070	R								
003463	037000	I	1364		LDB	ENDT	RESTORE X REG			03 01347
003464	001000	A	1365		JMP*	NOUT	RETURN			03 01348

003460	103440	R	1366	*				03	01349
			1367	*	THIS IS A SUBROUTINE TO THE END DIRECTIVE PROCESSING			03	01350
			1368	*	TO OUTPUT A NAME IN THE SYMBOL TABLE TO THE LIST BUFFER			03	01351
			1369	*	CALLING SEQUENCE			03	01352
			1370	*	JMPM LOUT WITH X REG POINTING TO SYMBOL TABLE ENTRY			03	01353
			1371	*	RETURN X REG NOT DESTROYED			03	01354
			1372	*				03	01355
003461	000000	A	1373		LOUT DATA 0			03	01356
003462	025000	A	1374		LDB STV,X GET SYMBOL TABLE VALUE WORD			03	01357
003463	002000	A	1375		JMPM DD OUTPUT OCTAL			03	01358
003464	010260	R							
003465	015004	A	1376		LDA STA,X GET SYMBOL TABLE ATTRIBUTE WORD			03	01359
003466	057000	I	1377		STA RVAL			03	01360
003467	002000	A	1378		JMPM TOUT OUTPUT SYMBOL TYPE			03	01361
003470	010575	R							
003471	015000	A	1379		LDA STS,X			03	01362
003472	004350	A	1380		LSRA 8			03	01363
003473	002000	A	1381		JMPM SBT OUTPUT FIRST CHACT			03	01364
003474	011765	R							
003475	015000	A	1382		LDA STS,X			03	01365
003476	002000	A	1383		JMPM SBT OUTPUT SECOND CHACT			03	01366
003477	011765	R							
003500	015001	A	1384		LDA STS+1,X			03	01367
003501	004350	A	1385		LSRA 8			03	01368
003502	002000	A	1386		JMPM SBT OUTPUT THIRD CHACT			03	01369
003503	011765	R							
003504	015001	A	1387		LDA STS+1,X			03	01370
003505	002000	A	1388		JMPM SBT OUTPUT FOURTH CHACT			03	01371
003506	011765	R							
003507	015002	A	1389		LDA STS+2,X			03	01372
003510	004350	A	1390		LSRA 8			03	01373
003511	002000	A	1391		JMPM SBT OUTPUT FIFTH CHACT			03	01374
003512	011765	R							
003513	015002	A	1392		LDA STS+2,X			03	01375
003514	002000	A	1393		JMPM SBT OUTPUT SIXTH CHACT			03	01376
003515	011765	R							
003516	047000	I	1394		INR SBTA AND A BLANK CHACT			03	01377
003517	017000	I	1395		LDA SBTA			03	01378
003520	147000	I	1396		SUB LB2P51 (=LBUF*2+51)			03	01379
003521	001004	A	1397		JAN* LOUT RETURN IF NOT END OF LINE			03	01380
003522	103461	R							
003523	077000	I	1398		STX ENDT SAVE X REGISTER			03	01381
003524	002000	A	1399		JMPM LST LIST LINE			03	01382
003525	010145	R							
003526	037000	I	1400		LDX ENDT RESTORE X REGISTER			03	01383
003527	001000	A	1401		JMP* LOUT RETURN			03	01384
003530	103461	R							
			1402	*				03	01385
			1403	*	THIS IS THE START OF THE MACHINE INSTRUCTION,			03	01386
			1404	*	MACRO EXPANSION, AND FORM EXPANSION PROCESSING ROUTINES			03	01387
			1405	*				03	01388
003531	002000	A	1406		MOP JMPM DFLO ASSIGN SYMBOL			03	01389
003532	007142	R							
003533	001000	A	1407		JMP 0 GO TO IT			03	01390
003534	000000	A							
			1408		MOPJ BES 0			03	01391
			1409	*				03	01392
			1410	*	THIS IS THE FORM DIRECTIVE PROCESSING			03	01393
			1411	*				03	01394
003535	017000	I	1412		FORM LDA LAB1			03	01395
003536	001010	A	1413		JAZ FRM9 JUMP IF NO SYMBOL IN LABEL FIELD			03	01396
003537	003626	R							
003540	005001	A	1414		TZA INITIATE			03	01397
003541	057000	I	1415		STA FT1 FORM DEFINITION WORD			03	01398
003542	057000	I	1416		STA FT2 FORM BIT ACCUMULATOR			03	01399
003543	002000	A	1417		FRM3 JMPM IAC GET VALUE			03	01400
003544	005317	R							
003545	005014	A	1418		TAX SAVE VALUE IN X REGISTER			03	01401
003546	017000	I	1419		LDA FT1 GET FORM DEFINITION WORD			03	01402
003547	027000	I	1420		LDB C2 (=SIGN BIT)			03	01403
003550	001040	A	1421		FRM1 JXZ FRM2 JUMP IF END OF COUNT			03	01404
003551	003057	R							
003552	004491	A	1422		LRRL 1 DECREMENT COUNT			03	01405
003553	005344	A	1423		DXR			03	01406
003554	047000	I	1424		INR FT2 INCREMENT FORM BIT ACCUMULATOR			03	01407
003555	001000	A	1425		JMP FRM1			03	01408
003556	003550	R							
			1426	*				03	01409
003557	057000	I	1427		FRM2 STA FT1 SAVE PARTIAL FORM DEFINITION WORD			03	01410
003560	002000	A	1428		JMPM C2ST ALLOW A COMMA			03	01411
003561	007677	R							
003562	001010	A	1429		JAZ FRM3 JUMP IF COMMA			03	01412
003563	003543	R							
003564	017000	I	1430		LDA FT2			03	01413
003565	001010	A	1431		JAZ FRM7 JUMP IF SUM OF FORM BITS .EQ. ZERO			03	01414
003566	003630	R							
003567	140000	L	1432		SUB ANBIT+1			03	01415
003570	001002	A	1433		JMP FRM7 JUMP IF SUM OF FORM BITS .GT. NBIT			03	01416
003571	003630	R							
003572	002000	A	1434		JMPM CCFD SEARCH OPERATION CODE TABLE			03	01417
003573	007416	R							
003574	000044	R	1435		DATA LAB1			03	01418

003575	001040	A	1436	JXZ	FRMA*	JUMP IF NOT FOUND	03	01419
003576	003603	R						
003577	015003	A	1437	LDA	3,X		03	01420
003600	130000	L	1438	ERA	=04000		03	01421
003601	001010	A	1439	JAZ	FRM5	JUMP IF FORM REDEFINITION	03	01422
003602	003620	R						
003603	010000	L	1440	FRMA	LDA	=5	03	01423
003604	002000	A	1441	JMPM	GS1	GET SPACE TABLE #1	03	01424
003605	011441	R						
003606	001004	A	1442	JAN	FRM8	JUMP IF NO ROOM	03	01425
003607	003622	R						
003610	017000	I	1443	LDA	LAB1+1		03	01426
003611	055000	A	1444	STA	3,X		03	01427
003612	017000	I	1445	LDA	LAB1+2		03	01428
003613	055001	A	1446	STA	1,X		03	01429
003614	017000	I	1447	LDA	LAB1+3		03	01430
003615	055002	A	1448	STA	2,X		03	01431
003616	010000	L	1449	LDA	=04000		03	01432
003617	055003	A	1450	STA	3,X	STORE CONTROL WORD	03	01433
003620	017000	J	1451	FRM5	LDA	FT1	03	01434
003621	055004	A	1452	STA	4,X	STORE FORM DEFINITION WORD	03	01435
003622	002000	A	1453	FRM8	JMPM	LLN	03	01436
003623	010000	R						
003624	001000	A	1454	JMP	BCK	EXIT TO BLANK CHECK ROUTINE	03	01437
003625	005274	R						
			1455	*			03	01438
003626	020000	L	1456	FRM9	LDB	=*NS*	03	01439
003627	001006	A	1457	DATA	01006	SKI* NEXT WORD	03	01440
003630	020000	L	1458	FRM7	LDB	=*SZ*	03	01441
003631	002000	A	1459	JMPM	ERR		03	01442
003632	007747	R						
003633	001000	A	1460	JMP	FRM8		03	01443
003634	003622	R						
			1461	*			03	01444
			1462	*	THIS IS THE FORM EXPANSION PROCESSOR		03	01445
			1463	*			03	01446
003635	002000	A	1464	FEX	JMPM	BFLC	03	01447
003636	007142	R						
003637	005001	A	1465	TZA		INITIATE	03	01448
003640	057000	I	1466	STA	FT1	FORM CONSTRUCTION WORD	03	01449
003641	057000	I	1467	STA	FT2	FORM BIT ACCUMULATOR	03	01450
003642	017000	I	1468	LDA	IWA	GET FORM DEFINITION WORD	03	01451
003643	001004	A	1469	JAN	FEX1	JUMP IF LEFT JUSTIFIED	03	01452
003644	003652	R						
003645	117000	I	1470	DPA	02	(=SIGN BIT)	03	01453
003646	004241	A	1471	LPLA	1		03	01454
003647	047000	I	1472	INR	FT2	INCREMENT BIT ACCUMULATOR	03	01455
003650	001002	A	1473	JAP	*-3	JUMP IF NOT LEFT JUSTIFIED YET	03	01456
003651	003643	R						
003652	057000	I	1474	FEX1	STA	IWA	03	01457
003653	002000	A	1475	FEX3	JMPM	IAC	03	01458
003654	005317	R						
003655	005002	A	1476	TZE			03	01459
003656	017000	I	1477	LPA	IWA	GET FORM DEFINITION WORD	03	01460
003657	004241	A	1478	LPLA	1		03	01461
003660	004041	A	1479	LPLB	1		03	01462
003661	005122	A	1480	INR			03	01463
003662	047000	I	1481	INR	FT2	INCREMENT FORM BIT ACCUMULATOR	03	01464
003663	001002	A	1482	JAP	*-4	JUMP IF NOT END OF FIELD DEFINITION	03	01465
003664	003657	R						
003665	057000	I	1483	STA	IWA	SAVE REMAINDER OF FORM DEFINITION	03	01466
003666	005024	A	1484	TEX		SAVE MASK	03	01467
003667	005221	A	1485	COMP	021	A=NOT.B	03	01468
003670	157000	I	1486	AND	VAL		03	01469
003671	001010	A	1487	JAZ	FEX2	JUMP IF POSITIVE FIELD FITS	03	01470
003672	003702	R						
003673	005031	A	1488	MERG	031	A=A.UR.B	03	01471
003674	005111	A	1489	JAR			03	01472
003675	001010	A	1490	JAZ	FEX2	JUMP IF NEGATIVE FIELD FITS	03	01473
003676	003702	R						
003677	020000	L	1491	LDB	=*SZ*		03	01474
003700	002000	A	1492	JMPM	ERR		03	01475
003701	007747	R						
003702	005041	A	1493	FEX2	TXA	GET MASK	03	01476
003703	027000	I	1494	LDB	FT1	GET PARTIAL ASSEMBLED WORD	03	01477
003704	004341	A	1495	LXRA	1	MAKE ROOM FOR	03	01478
003705	004041	A	1496	LPLB	1	NEXT FIELD	03	01479
003706	001010	A	1497	JAZ	*+1	JUMP IF ROOM MADE	03	01480
003707	003712	R						
003710	001000	A	1498	JMP	*-4	OTHERWISE KEEP TRYING	03	01481
003711	003704	R						
003712	005041	A	1499	TXA		GET MASK	03	01482
003713	157000	I	1500	AND	VAL	TRUNCATE FIELD IF NECESSARY	03	01483
003714	005031	A	1501	MERG	031	PUT TOGETHER	03	01484
003715	057000	I	1502	STA	FT1	SAVE PARTIAL WORD	03	01485
003716	002000	A	1503	JMPM	LIST	COMMA ALLOW TEST	03	01486
003717	007677	R						
003720	001010	A	1504	JAZ	FEX3	JUMP IF COMMA	03	01487
003721	003653	R						
003722	010000	L	1505	LDA	ENBIT		03	01488
003723	147000	I	1506	SUB	FT2		03	01489
003724	007000	I	1507	LIX	FT1		03	01490
003725	020000	L	1508	LDB	=*SZ*		03	01491

004322	005001	A	1717	MAC5	TZA		RESET	03	01646
004323	0057000	I	1718		STA	FLF	PRINT SUPPRESS FLAG	03	01647
004324	002000	A	1719		JMPM	LLN	LIST LINE	03	01648
004325	010300	R							
004326	037000	I	1720		LDX	LAB1	GET MACRO POINTER	03	01649
004327	005001	A	1721		TZA		CLEAR OUT MACRO NAME	03	01650
004330	055001	A	1722		STA	1,X	IN OP. CODE TABLE	03	01651
004331	055002	A	1723		STA	2,X	SO IT CANNOT BE FOUND	03	01652
004332	001000	A	1724		JMP	RET		03	01653
004333	007115	R							
			1725	*				03	01654
			1726	*				03	01655
			1727	*				03	01656
			1728	MEX	LDA	DIPF		C.1	03 01657
004334	017000	I	1729		JANZ	MEX8	JUMP IF DUP IN PROCESS	C.1	03 01658
004336	004441	R							
004337	002000	A	1730		JMPM	DFLO	ASSIGN SYMBOL	C.1	03 01659
004340	007142	R							
004341	037000	I	1731		LDX	RTZ		03	01660
004342	005001	A	1732		TZA		INITIATE	03	01661
004343	055000	A	1733		STA	0,X	P(0) VALUE	03	01662
004344	055001	A	1734		STA	1,X	P(0) ATTRIBUTE	03	01663
004345	002000	A	1735		JMPM	GNC0	GET NEXT CHACT	03	01664
004346	007707	R							
004347	001010	A	1736		JAZ	MEX6	JUMP IF EDL	03	01665
004350	004375	R							
004351	130000	L	1737		ERA	= * *		03	01666
004352	001010	A	1738		JAZ	MEX6	JUMP IF BLANK	03	01667
004353	004375	R							
004354	002000	A	1739	MEX2	JMPM	EXP	GET VALUE	03	01668
004355	005476	R							
004356	047000	I	1740		INR*	BTZ	INCREMENT P(0)	03	01669
004357	017000	I	1741		LDA*	BTZ	GET P(0)	03	01670
004360	127000	I	1742		ADR*	BTZ	2*P(0)	03	01671
004361	127000	I	1743		ADD	BTZ	+BASE OF TABLE	03	01672
004362	005014	A	1744		TAX			03	01673
004363	017000	I	1745		LDA	VAL		03	01674
004364	055000	A	1746		STA	0,X		03	01675
004365	017000	I	1747		LDA	RVAL		03	01676
004366	055001	A	1748		STA	1,X		03	01677
004367	002000	A	1749		JMPM	CTST	COMMA TEST	03	01678
004370	007677	R							
004371	001010	A	1750		JAZ	MEX2	JUMP IF COMMA	03	01679
004372	004354	R							
004373	002000	A	1751		JMPM	BCKS	BLANK CHECK	03	01680
004374	005302	R							
004375	010000	L	1752	MEX6	LDA	#2		03	01681
004376	002000	A	1753		JMPM	GS5	GET SPACE TABLE #5	03	01682
004377	011572	R							
004400	001004	A	1754		JAN	MEX5	JUMP IF NO SPACE	03	01683
004401	004451	R							
004402	017000	I	1755		LDA	ICP	STACK	03	01684
004403	055000	A	1756		STA	0,X	INPUT CHACT POINTER	03	01685
004404	017000	I	1757		LDA	ICP0	STACK	03	01686
004405	055001	A	1758		STA	1,X		03	01687
004406	005101	A	1759		INCR	1	A++1	03	01688
004407	127000	I	1760		ADR*	BTZ	1+P(0)	03	01689
004410	004241	A	1761		LRLA	1	2*(1+P(0))	03	01690
004411	054013	A	1762		STA	MEX3	SAVE SIZE	03	01691
004412	002000	A	1763		JMPM	GS5	GET SPACE TABLE #5	03	01692
004413	011572	R							
004414	001004	A	1764		JAN	MEX7	JUMP IF NO SPACE	03	01693
004415	004446	R							
004416	074010	A	1765		STX	MEX3+2	TO ADDRESS	03	01694
004417	017000	I	1766		LDA	INA		03	01695
004420	127000	I	1767		ADD	INA		03	01696
004421	057000	I	1768		STA	ICP		03	01697
004422	057000	I	1769		STX	ICP0		03	01698
004423	002000	A	1770		JMPM	ADVM		03	01699
004424	011761	R							
004425	000000	A	1771	MEX3	DATA	0	COUNT	03	01700
004426	000000	A	1772		DATA	0	FROM ADDRESS (\$COM)	03	01701
004427	000000	A	1773		DATA	0	TO ADDRESS	03	01702
004430	002000	A	1774		JMPM	LEN	LIST MACRO CALL LINE	03	01703
004431	010300	R							
004432	047000	I	1775		INR	MLF	INCREMENT MACRO LEVEL FLAG	03	01704
004433	002000	A	1776	MEX4	JMPM	ASCR	ASSEMBLE NEXT LINE	03	01705
004434	001103	R							
004435	002000	A	1777		JMPM	RNR	READ NEXT RECORD	03	01706
004436	006570	R							
004437	001000	A	1778		JMP	MEX4	KEEP TRYING	03	01707
004440	004433	R							
004441	020000	L	1779	MEX8	LAB	1,00*		C.1	03 01708
004442	002000	A	1780		JMPM	ERR	ERROR	C.1	03 01709
004443	007747	R							
004444	001000	A	1781		JMP	MEX5		C.1	03 01710
004445	004451	R							
			1782	*				03	01711
004446	010000	L	1783	MEX7	LDA	#-2		03	01712
004447	002000	A	1784		JMPM	GS5	DELETE SPACE FROM TABLE #5	03	01713
004450	011572	R							
004451	002000	A	1785	MEX5	JMPM	LLN	LIST LINE	03	01714
004452	010300	R							

Address	Hex	Op	Label	Comment	Line
004453	001000	A	1786	JMP RET	03 01715
004454	007115	R	1787		03 01716
			1788		03 01717
			1789		03 01718
004455	017000	I	1790	EMAC LDA MLF GET MACRO LEVEL FLAG	03 01719
004456	005311	A	1791	DAR DECREMENT	03 01720
004457	001004	A	1792	JAN EMA1 JUMP IF NOT WITHIN A MACRO	03 01721
004460	004500	R			
004461	057000	I	1793	STA MLF	03 01722
004462	005301	A	1794	DECR 1 A=-1	03 01723
004463	147000	I	1795	SUB* BT5 GET SIZE OF ENTRY	03 01724
004464	004201	A	1796	ASLA 1 *2	03 01725
004465	002000	A	1797	JMPM G35 DELETE SPACE FROM TABLE #5	03 01726
004466	011572	R			
004467	025000	A	1798	LDB 0,X UNSTACK	03 01727
004470	067000	I	1799	STB ICP INFUT CHACT POINTER	03 01728
004471	025001	A	1800	LDB 1,X UNSTACK	03 01729
004472	067000	I	1801	STB ICP0	03 01730
004473	010000	L	1802	LDA =-2	03 01731
004474	002000	A	1803	JMPM G35 DELETE SPACE FROM TABLE #5	03 01732
004475	011572	R			
004476	001000	A	1804	JMP RET EXIT ASSEMBLER	03 01733
004477	007115	R			
			1805		03 01734
004500	027000	I	1806	EMA1 LDB 0E00 (= 'E ')	03 01735
004501	002000	A	1807	JMPM ERR	03 01736
004502	007747	R			
004503	002000	A	1808	JMPM LLN LIST LINE	03 01737
004504	010300	A			
004505	001000	A	1809	JMP RET EXIT ASSEMBLER	03 01738
004506	007115	R			
			1810		03 01739
			1811		03 01740
			1812		03 01741
			1813		03 01742
004507	002000	A	1814	T1 JMPM EXP GET VALUE	03 01743
004510	005476	R			
004511	005021	A	1814	TBA	03 01744
004512	150000	L	1815	ANA =0600 EXTRACT ST	03 01744
004513	130000	L	1816	ERA =0400	03 01745
004514	001010	A	1817	JAZ T1C JUMP IF EXTERNAL	03 01746
004515	004725	R			
004516	005021	A	1818	TBA	03 01747
004517	150000	L	1819	ANA =0100000 EXTRACT IADF BIT-15	03 01748
004520	001010	A	1820	JAZ T13 JUMP IF NO INDIRECT ADDRESSING	03 01749
004521	004573	R			
004522	002000	A	1821	JMPM LITC LITERAL CHECK	03 01750
004523	007773	R			
004524	017000	I	1822	LDA RVAL	03 01751
004525	150000	L	1823	ANA =3 EXTRACT RELO	03 01752
004526	001010	A	1824	JAZ T12 JUMP IF ABS0	03 01753
004527	004563	R			
004530	017000	I	1825	T1H LDA RVAL	03 01754
004531	150000	L	1826	ANA =0100000 EXTRACT INDIRECT ADDRESS FLAG BIT-15	03 01755
004532	117000	I	1827	DRA VAL	03 01756
004533	057000	I	1828	STA VAL	03 01757
004534	017000	I	1829	T11 LDA IWA	03 01758
004535	110000	L	1830	DRA =07000 MAKE INSTRUCTION INDIRECT	03 01759
004536	057000	I	1831	STA IWA	03 01760
004537	017000	I	1832	LDA RVAL	03 01761
004540	117000	I	1833	DRA 02000 SET T1 INDIRECT ADDR. FLAG BIT-10 (=02000)	03 01762
004541	057000	I	1834	STA RVAL FOR LISTING	03 01763
004542	010000	L	1835	T14 LDA =000000 LOADER CODE = 3	03 01764
004543	057000	I	1836	STA CODE	03 01765
004544	002000	A	1837	JMPM DUT3	03 01766
004545	011044	R			
004546	017000	I	1838	LDA IWA PUT IWA INTO	03 01767
004547	057000	I	1839	STA VAL VAL FOR LISTING	03 01768
004550	012000	A	1840	JMPM LLV	03 01769
004551	010170	R			
004552	017000	I	1841	LDA SPCW	03 01770
004553	150423	A	1842	ANA 334	03 01771
004554	001010	A	1843	JAZ PCK EXIT IF NO I OPTION	03 01772
004555	005274	R			
004556	024212	A	1844	LDB 011E	03 01773
004557	002000	A	1845	JMPM ERR FLAG ERROR	03 01774
004560	007747	R			
004561	001000	A	1846	JMP BCK	03 01775
004562	005274	R			
			1847		03 01776
004563	017000	I	1848	T12 LDA VAL	03 01777
004564	147000	I	1849	SUB 01000 (=512)	03 01778
004565	001002	A	1850	JAP T1H JUMP IF .GT. 511	03 01779
004566	004530	R			
004567	017000	I	1851	LDA IWA	03 01780
004570	110000	L	1852	DRA =07000 MAKE INSTRUCTION INDIRECT	03 01781
004571	001000	A	1853	JMP T16	03 01782
004572	004630	R			
			1854		03 01783
004573	005021	A	1855	T13 TBA	03 01784
004574	157000	I	1856	ANA 01000 EXTRACT LITERAL FLAG BIT-9 (=01000)	03 01785
004575	001010	A	1857	JAZ T15 JUMP IF NOT LITERAL	03 01786
004576	004601	R			

E.2 *****
E.2 *****
E.2 *****
E.2 *****
E.2 *****
E.2 *****

004577	001000	D	1858	JMP	T14			00	01781
004600	004542	R							
			1859 *						00 01782
004601	005021	A	1860	T15	TBA			00	01783
004602	150000	L	1861		ANA	=3	EXTRACT RELO	00	01784
004603	130000	L	1862		ERA	=2		00	01785
004604	001010	A	1863		JAZ	T1H	JUMP IF COMMON	00	01786
004605	004530	R							
004606	017000	I	1864		LDA	VAL		00	01787
004607	001004	A	1865		JAN	T1H	JUMP IF VALUE NEGATIVE	00	01788
004610	004530	R							
004611	002000	A	1866		JMPM	CTST	COMMA ALLOW TEST	00	01789
004612	007677	R							
004613	001010	A	1867		JAZ	T1G	JUMP IF COMMA	00	01790
004614	004656	R							
004615	017000	I	1868		LDA	RVAL		00	01791
004616	150000	L	1869		ANA	=3	EXTRACT RELO	00	01792
004617	001010	A	1870		JAZ	*+4	JUMP IF ABSO	00	01793
004620	004623	R							
004621	001000	A	1871		JMP	T17		00	01794
004622	004640	R							
			1872 *						00 01795
004623	017000	I	1873		LDA	VAL		00	01796
004624	140000	L	1874		SUB	=2048		00	01797
004625	001002	A	1875		JAP	T17	JUMP IF .GT. 2047	00	01798
004626	004640	R							
004627	017000	I	1876		LDA	IWA		00	01799
004630	117000	I	1877	T16	ORA	VAL		00	01800
004631	057000	I	1878	T18	STA	VAL		00	01801
004632	010000	L	1879		LDA	=0100000	LOADER CODE = 4	00	01802
004633	057000	I	1880		STA	CODE		00	01803
004634	002000	A	1881		JMPM	OUT2	OUTPUT WORD TO LOADER TEXT	00	01804
004635	011016	R							
004636	001000	A	1882		JMP	T1D		00	01805
004637	004765	R							
			1883 *						00 01806
004640	017000	I	1884	T17	EQU	*		00	01807
004641	147000	I	1885		LDA	PC		00	01808
004642	001002	A	1886		SUB	VAL		00	01809
004643	004534	R			JAP	T11	JUMP IF LC BEHIND OR .EQ. TO WHERE	00	01810
004644	005211	A	1888		ORA			00	01811
004645	147000	I	1889		SUB	D1000	(=512)	00	01812
004646	001002	A	1890		JAP	T11	JUMP IF BEYOND 512 FORWARD	00	01813
004647	004534	R							
004650	120000	L	1891		ADD	=35000	MAKE ADDRESS POSITIVE AND RELATIVE	00	01814
004651	117000	I	1892		ORA	IWA		00	01815
004652	005002	A	1893		TAB		SET RVAL	00	01816
004653	067000	I	1894		STB	RVAL	TO ABSO	00	01817
004654	001000	A	1895		JMP	T18		00	01818
004655	004631	R							
			1896 *						00 01819
004656	017000	I	1897	T1G	LDA	RVAL		00	01820
004657	150000	L	1898		ANA	=3	EXTRACT RELO	00	01821
004660	001010	A	1899		JAZ	T19	JUMP IF ABSO	00	01822
004661	004667	R							
004662	137000	I	1900		ERA	RVAL		00	01823
004663	057000	I	1901		STA	RVAL		00	01824
004664	020000	L	1902		LDB	=R		00	01825
004665	002000	A	1903		JMPM	ERR		00	01826
004666	007747	R							
004667	017000	I	1904	T19	LDA	VAL		00	01827
004670	006150	A	1905		ANAI	=312		00	01828
004671	177000	A							
004672	001010	A	1906		JAZ	T1A	JUMP IF .LT. 512	00	01829
004673	004701	R							
004674	137000	I	1907		EPA	VAL		00	01830
004675	057000	I	1908		STA	VAL		00	01831
004676	020000	L	1909		LDB	=R		00	01832
004677	002000	A	1910		JMPM	ERR		00	01833
004700	007747	R							
004701	017000	I	1911	T1A	LDA	VAL	SAVE	00	01834
004702	057000	I	1912		STA	TST		00	01835
004703	002000	A	1913		JMPM	IAC	GET INDEX REGISTER SPECIFICATION	00	01836
004704	005317	R							
004705	020000	L	1914		LDB	=05000		00	01837
004706	005311	A	1915		DAR			00	01838
004707	001010	A	1916		JAZ	T1B	JUMP IF X REGISTER SPECIFIED	00	01839
004710	004720	R							
004711	020000	L	1917		LDB	=06000		00	01840
004712	005311	A	1918		DAR			00	01841
004713	001010	A	1919		JAZ	T12	JUMP IF B REGISTER SPECIFIED	00	01842
004714	004720	R							
004715	020000	L	1920		LDB	=TF		00	01843
004716	002000	A	1921		JMPM	ERR		00	01844
004717	007747	R							
004720	005021	A	1922	T1B	TBA			00	01845
004721	117000	I	1923		ORA	IWA		00	01846
004722	117000	I	1924		ORA	T51		00	01847
004723	001000	A	1925		JMP	T18		00	01848
004724	004631	R							
			1926 *						00 01849
004725	017000	I	1927	T1C	LDA	VAL	GET SYMBOL POINTER	00	01850

Address	OpCode	Mode	Year	Instruction	Comment	Line	Page
004726	054003	A	1928	STA *+4		03	01851
004727	002000	A	1929	JMPM MOVW		03	01852
004730	011761	R					
004731	000003	A	1930	DATA 3	COUNT	03	01853
004732	000000	A	1931	DATA 0	FROM ADDRESS	03	01854
004733	000045	R	1932	DATA LAB1+1	TO ADDRESS	03	01855
004734	002000	A	1933	JMPM IADC	INDIRECT ADDRESS CHECK	03	01856
004735	010007	R					
004736	017000	I	1934	LDA RVAL		03	01857
004737	157000	I	1935	ANA 01000	EXTRACT LITERAL FLAG BIT-9 (=01000)	03	01858
004740	005012	A	1936	TAB		03	01859
004741	017000	I	1937	LDA IWA		03	01860
004742	003020	A	1938	XBZ TIX	MAKE INDIRECT INST. IF NOT LITERAL	03	01861
004743	004570	R					
004744	057000	I	1939	STA VAL		03	01862
004745	006010	A	1940	LDAI 013760	LOADER SUB CODE 013	03	01863
004746	013760	A					
004747	057000	I	1941	STA CODE		03	01864
004750	002000	A	1942	JMPM OUT4		03	01865
004751	011073	R					
004752	002000	A	1943	JMPM LLV			E.2*****
004753	010170	R					
004754	017000	J	1944	LDA SPCW			E.2*****
004755	150425	A	1945	ANA PS4			E.2*****
004756	001010	A	1946	JAZ BCK	EXIT IF NO I OPTION		E.2*****
004757	005274	R					
004760	024010	A	1947	LDR QIIE			E.2*****
004761	002000	A	1948	JMPM ERR			E.2*****
004762	007747	R					
004763	001000	A	1949	JMP BCK			E.2*****
004764	005274	R					
004765	002000	A	1950 T1D	JMPM LLV	LIST LOCATION & VALUE	03	01866
004766	010170	R					
004767	001000	A	1951	JMP BCK	EXIT TO BLANK CHECK ROUTINE	03	01867
004770	005274	R					
004771	144711	A	1952 QIIE	DATA 'II'			E.2*****
			1953 *			03	01868
			1954 *	THIS IS THE TYPE THREE MACHINE INSTRUCTION PROCESSING		03	01869
			1955 *			03	01870
004772	017000	I	1956 T3	LDA IADF	SAVE	03	01871
004773	057000	I	1957	STA TST	INDIRECT ADDRESS FLAG	03	01872
004774	005001	A	1958	TZA		03	01873
004775	057000	I	1959	STA IADF		03	01874
004776	002000	A	1960	JMPM S345	GET VALUE	03	01875
004777	005254	R					
005000	017000	I	1961	LDA TST	RESTORE	03	01876
005001	057000	I	1962	STA IADF	INDIRECT ADDRESS FLAG	03	01877
005002	002000	A	1963	JMPM CTST	ALLOW A COMMA	03	01878
005003	007677	R					
			1964 *	NOW PROCESS IT LIKE A TYPE 2 INSTRUCTION		03	01879
			1965 *			03	01880
			1966 *	THIS IS THE TYPE TWO MACHINE INSTRUCTION PROCESSING		03	01881
			1967 *			03	01882
005004	002000	A	1968 T2	JMPM EXP	GET VALUE	03	01883
005005	005476	R					
005006	057000	I	1969	STA TST	SAVE	03	01884
005007	067000	I	1970	STB TST+1	VALUE	03	01885
005010	017000	I	1971 T22	LDA IWA		03	01886
005011	057000	I	1972	STA VAL	VAL=INSTRUCTION WORD	03	01887
005012	005001	A	1973	TZA		03	01888
005013	057000	I	1974	STA RVAL	RVAL=ABSD	03	01889
005014	002000	A	1975	JMPM DLV	OUTPUT FIRST WORD	03	01890
005015	010161	R					
005016	017000	I	1976	LDA TST+1	RESTORE	03	01891
005017	057000	I	1977	STA RVAL	RVAL	03	01892
005020	017000	I	1978	LDA TST	RESTORE	03	01893
005021	057000	I	1979 T21	STA VAL	VAL	03	01894
005022	002000	A	1980	JMPM DLV	OUTPUT SECOND WORD	03	01895
005023	010161	R					
005024	001000	A	1981	JMP BCK	EXIT TO BLANK CHECK ROUTINE	03	01896
005025	005274	R					
			1982 *			03	01897
			1983 *	THIS IS THE TYPE FOUR MACHINE INSTRUCTION PROCESSING		03	01898
			1984 *			03	01899
005026	002000	A	1985 T4	JMPM S345	GET VALUE	03	01900
005027	005254	R					
005030	017000	I	1986 T41	LDA IWA			V75*****
005031	001000	A	1987	JMP T21	NOW GO AND OUTPUT IT	03	01902
005032	005021	R					
			1988 *			03	01903
			1989 *	THIS IS THE TYPE FIVE MACHINE INSTRUCTION PROCESSING		03	01904
			1990 *			03	01905
005033	002000	A	1991 T5	JMPM EXP	GET VALUE	03	01906
005034	005476	R					
005035	057000	I	1992	STA TST	SAVE VALUE	03	01907
005036	067000	I	1993	STB TST+1	AND ATTRIBUTES	03	01908
005037	002000	A	1994	JMPM CTST	ALLOW A COMMA	03	01909
005040	007677	R					
005041	001010	A	1995	JAZ *+4	JUMP IF COMMA	03	01910
005042	005045	R					
005043	001000	A	1996	JMP T22		03	01911
005044	005010	R					
			1997 *			03	01912


```

005045 002000 A 1998 JPM EXN GET VALUE 03 01913
005046 005337 R LDB =2 03 01914
005047 020000 L 1999 LDB =2 03 01915
005048 005311 A 2000 DAR 03 01916
005051 001010 A 2001 JAZ T51 JUMP IF VALUE IS 1 DENOTING THE X REGISTER 03 01916
005052 005066 R 03 01917
005053 005322 A 2002 DBR 03 01918
005054 005311 A 2003 DAR 03 01919
005055 001010 A 2004 JAZ T51 JUMP IF VALUE IS 2 DENOTING THE B REGISTER 03 01919
005056 005066 R 03 01920
005057 005002 A 2005 TZR 03 01921
005060 140000 L 2006 SUB =5 03 01921
005061 001010 A 2007 JAZ T51 JUMP IF VALUE IS 7 DENOTING NO REGISTER 03 01922
005062 005066 R 03 01923
005063 020000 L 2008 LDB =TF' OTHERWISE 03 01923
005064 002000 A 2009 JPM ERR ERROR 03 01924
005065 007747 R 03 01925
005066 005021 A 2010 T51 TBA 03 01926
005067 137000 I 2011 ERA IWA 03 01927
005070 057000 I 2012 STA IWA 03 01927
005071 002000 A 2013 JPM CTST ALLOW A COMMA 03 01928
005072 007677 R 03 01929
005073 001010 A 2014 JAZ *+4 JUMP IF COMMA 03 01929
005074 005077 R 03 01930
005075 001000 A 2015 JMP T22 03 01930
005076 005010 R 03 01931
005077 002000 A 2016 JPM 3345 GET THIRD VALUE 03 01931
005100 005254 A 03 01932
005101 001000 A 2017 JMP T22 NOW GO AND OUTPUT IT 03 01932
005102 005010 R 03 01932
2018 IFF V75 V75*****
2019 GOTO 1 V75*****
2020 * V75*****
2021 * PROCESS V75 INSTRUCTION SET V75*****
2022 * V75*****
2023 V75INS LDA $PCW V75*****
2024 BT 043,ASR5 WAS THERE AN 'E' PARAMETER ON '/DASMR' ? V75*****
005103 017000 I 2025 LDA IADF YES V75*****
005104 006443 A 2026 STA V75TMP SAVE INDIRECT ADDRESS FLAG V75*****
005105 001226 R 2027 TZR V75*****
005106 017000 I 2028 STA IADF CLEAR INDIRECT ADDRESS FLAG V75*****
005107 034143 A 2029 LDB AS V75*****
005110 003001 A 2030 LDBE V75JT,B INDEX INTO JUMP TABLE V75*****
005111 057000 I 2031 IJMP 0,B V75*****
005112 027000 I 2032 V75JT PZE V751 TYPE 0 V75*****
005113 006026 A 2033 PZE V757 TYPE 1 V75*****
005114 005117 R 2034 PZE V752 TYPE 2 V75*****
005115 006706 A 2035 PZE V752A TYPE 3 V75*****
005116 000000 A 2036 PZE V752A TYPE 4 V75*****
005117 005127 R 2037 PZE V751 TYPE 5 V75*****
005120 005223 R 2038 PZE V752 TYPE 6 V75*****
005121 005134 R 2039 PZE V752 TYPE 7 V75*****
005122 005140 R 2040 * V75 INSTRUCTIONS WITH REGISTER OP IN BITS 3-5(TYPE 0,5) V75*****
005123 005140 R 2041 * V75 INSTRUCTIONS WITH REGISTER OP IN BITS 3-5(TYPE 0,5) V75*****
005124 005127 R 2042 * V75 INSTRUCTIONS WITH REGISTER OP IN BITS 3-5(TYPE 0,5) V75*****
005125 005134 R 2043 V751 CALL GV75R GET REGISTER NUMBER V75*****
005126 005134 R 2044 LRLA 3 POSITION V75*****
005127 002000 A 2045 JMP V753 V75*****
005130 011411 R 2046 * V75 INSTRUCTIONS WITH REGISTER OP IN BITS 0-2(TYPE 2,6,7) V75*****
005131 004243 A 2047 * V75 INSTRUCTIONS WITH REGISTER OP IN BITS 0-2(TYPE 2,6,7) V75*****
005132 001000 A 2048 * V75 INSTRUCTIONS WITH REGISTER OP IN BITS 0-2(TYPE 2,6,7) V75*****
005133 005161 R 2049 V752 CALL GV75R GET REGISTER NUMBER V75*****
2050 JMP V753 AND EXIT V75*****
005134 002000 A 2051 * V75 INSTRUCTIONS WHERE REG MUST BE 0 OR 4(TYPE 3,4) V75*****
005135 011411 R 2052 * V75 INSTRUCTIONS WHERE REG MUST BE 0 OR 4(TYPE 3,4) V75*****
005136 001000 A 2053 * V75 INSTRUCTIONS WHERE REG MUST BE 0 OR 4(TYPE 3,4) V75*****
005137 005161 R 2054 V752A CALL GV75R GET REGISTER NUMBER V75*****
005140 002000 A 2055 JAZ V753 ZERO OK V75*****
005141 011411 R 2056 SUB FOUR V75*****
005142 001010 A 2057 JAZ V752B FOUR OK V75*****
005143 005161 R 2058 LDB =S2' V75*****
005144 140423 A 2059 CALL ERR OUTPUT ERROR MESSAGE V75*****
005145 001010 A 2060 V752B LDA AS GET INSTRUCTION TYPE V75*****
005146 005152 R 2061 SUB IN.PEE V75*****
005147 020000 L 2062 TAB V75*****
005150 002000 A 2063 LDA FOUR V75*****
005151 007747 R 2064 JAZ V753 TYPE 3 ? V75*****
005152 017000 I 2065 LRLA 4 NO. TYPE 4 V75*****
005153 140464 A 2066 V753 ORA IWA MERGE IN INSTRUCTION V75*****
005154 005012 A 2067 STA IWA V75*****
005155 010423 A 2068 LDA AS GET TYPE V75*****
005156 001020 A 2068 LDA AS GET TYPE V75*****
005157 005161 R 2068 LDA AS GET TYPE V75*****
005160 004244 A 2068 LDA AS GET TYPE V75*****
005161 117000 I 2068 LDA AS GET TYPE V75*****
005162 057000 I 2068 LDA AS GET TYPE V75*****
005163 017000 I 2068 LDA AS GET TYPE V75*****

```


Address	OpCode	Register	Label	Instruction	Comment	Line	Page
005302	000000	A	2136	*		03	01959
005303	002000	A	2137	BCKS	DATA 0	03	01960
005304	007707	R	2138	JMPM	GNC0 GET CHACT	03	01961
005305	001010	A	2139	JAZ*	BCKS RETURN IF CHACT IS EOL	03	01962
005306	105302	R					
005307	130000	L	2140	ERA	=* ' RETURN IF CHACT IS BLANK	03	01963
005310	001010	A	2141	JAZ*	BCKS	03	01964
005311	105302	R					
005312	027000	I	2142	LDB	REB0 (=*E *)	03	01965
005313	002000	A	2143	JMPM	ERR SYNTAX ERROR	03	01966
005314	007747	R					
005315	001000	A	2144	JMP*	BCKS RETURN	03	01967
005316	105302	R					
			2145	*		03	01968
			2146	*	THIS IS A SUBROUTINE TO CALL UPON EXN TO GET THE VALUE IN THE	03	01969
			2147	*	VARIABLE FIELD AND THEN MAKE SURE THAT IT WAS ABSOLUTE	03	01970
			2148	*		03	01971
			2149	IAC	DATA 0	03	01972
005317	000000	A	2149	JMPM	EXN GET VALUE	03	01973
005320	002000	A	2150	JMPM	EXN	03	01974
005321	005337	P					
005322	005021	A	2151	TBA		03	01974
005323	150000	L	2152	ANA	=3 EXTRACT RELOCATABILITY	03	01975
005324	001010	A	2153	JAZ	IAC1 JUMP IF ABSD	03	01976
005325	005334	R					
005326	137000	I	2154	ERA	RVAL FORCT ABSD	03	01977
005327	057000	I	2155	STA	RVAL	03	01978
005330	020000	L	2156	LDB	=*R	03	01979
005331	002000	A	2157	JMPM	ERR ERROR	03	01980
005332	007747	R					
005333	027000	I	2158	LDB	RVAL	03	01981
005334	017000	I	2159	LDA	VAL	03	01982
005335	001000	A	2160	JMP*	IAC RETURN	03	01983
005336	105317	R					
			2161	*		03	01984
			2162	*	THIS IS A SUBROUTINE TO CALL UPON EXP TO GET THE VALUE IN THE	03	01985
			2163	*	VARIABLE FIELD AND THEN MAKE SURE THAT IT WAS NOT A LITERAL,	03	01986
			2164	*	DID NOT SPECIFY INDIRECT ADDRESSING, OR WAS NOT AN EXTERNALLY	03	01987
			2165	*	DEFINED SYMBOL	03	01988
			2166	*		03	01989
			2167	EXN	DATA 0	03	01990
005337	000000	A	2167	JMPM	EXP GET VALUE	03	01991
005340	002000	A	2168	JMPM	EXP	03	01992
005341	005476	R					
005342	005021	A	2169	TBA		03	01992
005343	150000	L	2170	ANA	=0600 EXTRACT ST	03	01993
005344	130000	L	2171	ERA	=0400	03	01994
005345	020000	L	2172	LDB	=*R	03	01995
005346	002010	A	2173	JAZM	ERR JUMP IF EXTERNAL	03	01996
005347	007747	R					
005350	002000	A	2174	JMPM	IAC0 INDIRECT ADDRESS CHECK	03	01997
005351	010007	R					
005352	002000	A	2175	JMPM	LIT0 LITERAL CHECK	03	01998
005353	007773	R					
005354	017000	I	2176	LDA	RVAL	03	01999
005355	006150	A	2177	ANCI	=0601 FORCE ST=INTERNAL	03	02000
005356	177177	A					
005357	057000	I	2178	STA	RVAL	03	02001
005360	005012	A	2179	TAB		03	02002
005361	017000	I	2180	LDA	VAL	03	02003
005362	001000	A	2181	JMP*	EXN RETURN	03	02004
005363	105337	R					
			2182	*		03	02005
			2183	*	THIS IS A SUBROUTINE TO EVALUATE THE VALUE OF THE NEXT EXPRESSIO	03	02006
			2184	*	CALLING SEQUENCE	03	02007
			2185	*	JMPM EXP	03	02008
			2186	*	RETURN	03	02009
			2187	*	THE A REGISTER CONTAINS THE VALUE	03	02010
			2188	*	THE B REGISTER CONTAINS THE ATTRIBUTES	03	02011
			2189	EXP2	INR ICP INCREMENT INPUT CHACT POINTER	03	02012
005364	047000	I	2189	LDA	RVAL	03	02013
005365	017000	I	2190	ORA	01000 SET LITERAL FLAG BIT-9 (=01000)	03	02014
005366	117000	I	2191	ORA	01000	03	02015
005367	057000	I	2192	STA	RVAL	03	02016
005370	010000	L	2193	LDA	=2	03	02017
005371	002000	A	2194	JMPM	034 GET SPACE TABLE #4	03	02018
005372	011554	R					
005373	001004	A	2195	JAN	EXP2 JUMP IF NO ROOM	03	02019
005374	005471	R					
005375	005001	A	2196	TZA		03	02020
005376	055000	A	2197	STA	0,X IN CASE OF	03	02021
005377	055001	A	2198	STA	1,X A BLANK FIELD	03	02022
005400	002000	A	2199	JMPM	EX GET VALUE	03	02023
005401	005516	R					
005402	037000	I	2200	LDB	BT4	03	02024
005403	015001	A	2201	LDA	1,X GET ATTRIBUTE WORD	03	02025
005404	002000	A	2202	JMPM	000B	03	02026
005405	006277	R					
005406	015001	A	2203	LDA	1,X GET ATTRIBUTE WORD	03	02027
005407	150000	L	2204	ANA	=-4 FORCE ABSD	03	02028
005410	055001	A	2205	STA	1,X	03	02029
005411	130000	L	2206	ANA	=0600 EXTRACT ST	03	02030
005412	130000	L	2207	ERA	=0*00	03	02031
005413	001010	A	2208	JAZ	*+4 JUMP IF EXTERNAL	03	02032
005414	005417	R					


```

005537 007115 R
2282 *
2283 * WE GET HERE TO PROCESS THE BINARY MINUS SIGN
2284 *
005540 047000 I 2285 EX2 INR ICP INCREMENT INPUT CHACT POINTER
005541 002000 A 2286 JNPM TERM TEST FOR TERM
005542 005644 R
005543 001004 A 2287 JAN EX3 JUMP IF NOT TERM
005544 005562 R
005545 002000 A 2288 JNPM SUB SUBTRACT TOP TWO ENTRIES IN STACK
005546 000222 R
005547 001000 A 2289 JMP EX5 KEEP TRYING
005550 005525 R
2290 *
2291 * WE GET HERE TO PROCESS THE BINARY PLUS SIGN
2292 *
005551 047000 I 2293 EX1 INR ICP INCREMENT INPUT CHACT POINTER
005552 002000 A 2294 JNPM TERM TEST FOR TERM
005553 005644 R
005554 001004 A 2295 JAN EX3 JUMP IF NOT TERM
005555 005562 R
005556 002000 A 2296 JNPM ADD ADD TOP TWO ENTRIES IN STACK
005557 006263 R
005560 001000 A 2297 JMP EX5 KEEP TRYING
005561 005525 R
2298 *
005562 027000 I 2299 EX3 LDB QEXQ (= 'EX')
005563 002000 A 2300 JNPM ERR
005564 007747 R
005565 005301 A 2301 DECR 1 A=-1
005566 001000 A 2302 JMP RET RETURN FALSE
005567 007115 R
2303 * THIS IS THE EXPRESSION EVALUATOR UNARY OPERATOR SUBROUTINE
2304 * UNOP = '-' TERM .OUT('SUB') /
2305 * '*' TERM /
2306 * TERM ..
2307 * CALLING SEQUENCE
2308 * JNPM UNOP
2309 * RETURN
2310 *
005570 000000 A 2311 UNOP DATA 0
005571 002000 A 2312 JNPM REC STACK RETURN ADDRESS
005572 007112 R
005573 002000 A 2313 JNPM GNC0 GET NEXT CHACT
005574 007737 R
005575 140000 L 2314 SUB = '+'
005576 001010 A 2315 JAZ UN2 JUMP IF PLUS SIGN
005577 005631 R
005600 140000 L 2316 SUB = '- - + +
005601 001010 A 2317 JAZ UN1 JUMP IF MINUS SIGN
005602 005637 R
005603 002000 A 2318 JNPM TERM TEST FOR TERM
005604 005644 R
005605 001000 A 2319 JMP RET RETURN
005606 007115 R
2320 *
2321 * WE GET HERE TO PROCESS THE UNARY MINUS SIGN
2322 *
005607 047000 I 2323 UN1 INR ICP INCREMENT INPUT CHACT POINTER
005610 010000 L 2324 LTA #2
005611 002000 A 2325 JNPM G04 GET SPACE TABLE #4
005612 011554 R
005613 001004 A 2326 JAN RET RETURN IF NO ROOM
005614 007115 R
005615 005001 A 2327 TZA INITIATE
005616 055000 A 2328 STA 0,X VALUE WORD
005617 055001 A 2329 STA 1,X ATTRIBUTE WORD
005620 002000 A 2330 JNPM TERM TEST FOR TERM
005621 005644 R
005622 001004 A 2331 JAN UN3 JUMP IF NOT TERM
005623 005635 R
005624 002000 A 2332 JNPM SUB SUBTRACT TOP TWO ENTRIES IN STACK
005625 006262 R
005626 005101 A 2333 INCR 1 A=1
005627 001000 A 2334 JMP RET RETURN TRUE
005630 007115 R
2335 *
2336 * WE GET HERE TO PROCESS THE UNARY PLUS SIGN
2337 *
005631 047000 I 2338 UN2 INR ICP INCREMENT INPUT CHACT POINTER
005632 002000 A 2339 JNPM TERM TEST FOR TERM
005633 005644 R
005634 001004 A 2340 JAZ RET RETURN TRUE IF TERM
005635 007113 R
005636 027000 L 2341 UN3 LDB QEXQ (= 'EX')
005637 002000 A 2342 JNPM ERR
005640 007747 R
005641 005301 A 2343 DECR 1 A=-1
005642 001000 A 2344 JMP RET RETURN FALSE
005643 007115 R
2345 *
2346 * THIS IS THE EXPRESSION EVALUATOR TERM SUBROUTINE
2347 * TERM = PRIMARY $ ('*' PRIMARY .OUT('MUL') /

```



```

2348 *          ' / ' PRIMARY .OUT('DIV') /          03 02171
2349 *          (' * (' / ' / ' / EOL) .OUT('SETIADF')) ., 03 02172
2350 *          CALLING SEQUENCE          03 02173
2351 *          JMPM TERM          03 02174
2352 *          RETURN          03 02175
2353 *          03 02176
005644 000000 A 2354 TERM DATA 0          03 02177
005645 002000 A 2355 JMPM REC          STACK RETURN ADDRESS 03 02178
005646 007112 R          03 02179
005647 002000 A 2356 JMPM PRI          TEST FOR PRIMARY
005650 005735 R          03 02180
005651 001004 A 2357 JAN RET          RETURN IF NOT PRIMARY
005652 007115 R          03 02181
005653 002000 A 2358 TRM7 JMPM GNCO          GET NEXT CHACT
005654 007707 R          03 02182
005655 140000 L 2359 SUB = '* '          03 02183
005656 001010 A 2360 JAZ TRM2          JUMP IF ASTERISK
005657 005677 R          03 02184
005660 140000 L 2361 SUB = '/'- '* '          03 02185
005661 001010 A 2362 JAZ TRM1          JUMP IF SLASH
005662 005666 R          03 02186
005663 005101 A 2363 TRM3 INCR 1          A=1
005664 001000 A 2364 JMP RET          RETURN TRUE
005665 007115 R          03 02187
2365 *          03 02188
2366 *          WE GET HERE TO PROCESS THE SLASH CHACT 03 02189
2367 *          03 02190
005666 047000 I 2368 TRM1 INR ICP          INCREMENT INPUT CHACT POINTER
005667 002000 A 2369 JMPM PRI          TEST FOR PRIMARY
005670 005735 R          03 02191
005671 001004 A 2370 JAN TRM6          JUMP IF NOT PRIMARY
005672 005722 R          03 02192
005673 002000 A 2371 JMPM DIV          DIVIDE TOP TWO ENTRIES IN STACK
005674 006344 R          03 02193
005675 001000 A 2372 JMP TRM7          KEEP TRYING
005676 005653 R          03 02194
2373 *          03 02195
2374 *          WE GET HERE TO PROCESS THE ASTERISK CHACT 03 02196
2375 *          03 02197
005677 047000 I 2376 TRM2 INR ICP          INCREMENT INPUT CHACT POINTER
005700 002000 A 2377 JMPM PRI          TEST FOR PRIMARY
005701 005735 R          03 02198
005702 001004 A 2378 JAN TRM4          JUMP IF NOT PRIMARY
005703 005710 R          03 02199
005704 002000 A 2379 JMPM MUL          MULTIPLY TOP TWO ENTRIES IN STACK
005705 006457 R          03 02200
005706 001000 A 2380 JMP TRM7          KEEP TRYING
005707 005653 R          03 02201
2381 *          03 02202
2382 *          TRM7 JMPM GNCO          GET NEXT CHACT
005710 002000 A 2382 TRM7 JMPM GNCO          GET NEXT CHACT
005711 007707 R          03 02203
005712 001010 A 2383 JAZ TRM5          JUMP IF EOL
005713 005730 R          03 02204
005714 140000 L 2384 SUB = ' '          03 02205
005715 001010 A 2385 JAZ TRM5          JUMP IF BLANK
005716 005730 R          03 02206
005717 140000 L 2386 SUB = ', '          03 02207
005720 001010 A 2387 JAZ TRM5          JUMP IF COMMA
005721 005730 R          03 02208
005722 027000 I 2388 TRM6 LDB QEXQ          OTHERWISE ERROR (= 'EX')
005723 002000 A 2389 JMPM ERR          03 02209
005724 007747 R          03 02210
005725 005301 A 2390 DECR 1          A=-1
005726 001000 A 2391 JMP RET          RETURN FALSE
005727 007115 R          03 02211
2392 *          03 02212
2393 *          TRM5 LDA =010000          SET
005730 010000 L 2393 TRM5 LDA =010000          SET
005731 117000 I 2394 ORA RVAL          INDIRECT ADDRESS FLAG
005732 007000 I 2395 STA RVAL          03 02213
005733 001000 A 2396 JMP TRM3          03 02214
005734 005663 R          03 02215
2397 *          03 02216
2398 *          THIS IS THE EXPRESSION EVALUATOR PRIMARY SUBROUTINE 03 02217
2399 *          PRIMARY = .STRING .OUT ('LDD',*) / 03 02218
2400 *          (' EX ') / 03 02219
2401 *          ' * ' .OUT ('LDD',LC) / 03 02220
2402 *          .NUMBER .OUT ('LDD',*) / 03 02221
2403 *          ' ( ' EX ' ) ' .OUT ('GETPAR') / 03 02222
2404 *          .ID .OUT ('LDD',*) ., 03 02223
2405 *          CALLING SEQUENCE          03 02224
2406 *          JMPM PRI          03 02225
2407 *          RETURN          03 02226
2408 *          03 02227
005735 000000 A 2409 PRI DATA 0          03 02228
005736 002000 A 2410 JMPM REC          STACK RETURN ADDRESS 03 02229
005737 007112 R          03 02230
005740 002000 A 2411 JMPM GNCO          GET NEXT CHACT
005741 007707 R          03 02231
005742 140000 L 2412 SUB = ' * '          03 02232
005743 001010 A 2413 JAZ PRI          JUMP IF CHACT STRING
005744 006145 R          03 02233
005745 005311 A 2414 BAR (= ' ( ' - ' * ' ) '          03 02234
005746 001010 A 2415 JAZ BRIP          JUMP IF LEFT PARENTHESIS

```


005747	006120	R							
005750	140000	L	2416	SUB	=*-*-*				03 02239
005751	001010	A	2417	JAZ	PR1A	JUMP IF ASTERISK			07 02240
005752	006130	R							
005753	140466	A	2418	SUB	SIX	(=*0*-**)			03 02241
005754	001010	A	2419	JAZ	PR17	JUMP IF NOT DIGIT			03 02242
005755	005761	R							
005756	000000	L	2420	SUB	=*1*-*0*				01 02243
005757	001010	A	2421	JAZ	PR1B	JUMP IF DIGIT			03 02244
005758	000000	A	2422	PR17	JMPM	END			03 02245
005759	007470	R							
005760	000000	A	2423	DATA	LABE	PUT IT INTO LABE			03 02246
005761	000000	A	2424	DATA	RET	RETURN FALSE IF NO SYMBOL			03 02247
005762	000000	A	2425	JAZ	RET				03 02248
005763	002110	R							
005764	012000	I	2426	LDA	MLF				03 02249
005765	001010	A	2427	JAZ	PR19	JUMP IF NOT WITHIN A MACRO			03 02250
005766	000000	R							
005767	000000	A	2428	JMPM	END	GET NEXT CHACT			03 02251
005768	007700	R							
005769	130000	A	2429	ERA	*10*				03 02252
005770	001010	A	2430	JAZ	*14	JUMP IF POSSIBLE MACRO PARAMETER			03 02253
005771	000000	R							
005772	001000	A	2431	JMP	PR19				03 02254
005773	000000	R							
005774	130000	A	2432	ERA	*10*				03 02252
005775	001010	A	2433	JAZ	*14	JUMP IF POSSIBLE MACRO PARAMETER			03 02253
005776	000000	R							
005777	001000	A	2434	JMP	PR19				03 02254
005778	000000	R							
005779	000000	A	2435	JMPM	END	INCREMENT INPUT CHACT POINTER			03 02255
005780	042000	I	2436	INR	TOP				03 02255
005781	012000	I	2437	LDA	TOP+1				07 02256
005782	130000	I	2438	ERA	*10*				03 02257
005783	001010	A	2439	JAZ	*14	JUMP IF MACRO PARAMETER			03 02258
005784	000000	R							
005785	001000	A	2440	JMP	PR19				03 02259
005786	000000	R							
005787	000000	A	2441	JMPM	END				03 02260
005788	000000	R							
005789	000000	I	2442	LDB	PR20	(=*0*)			03 02261
005790	002000	I	2443	JARM	*OR	ERROR IF NOT AN EXPRESSION			03 02262
005791	007700	R							
005792	000000	A	2444	JMPM	END	GET NEXT CHACT			03 02263
005793	007737	R							
005794	130000	I	2445	ERA	*10*				03 02264
005795	001010	A	2446	JAZ	PR16	JUMP IF TRAILING PAREN			03 02265
005796	006025	R							
005797	027000	I	2447	LDB	PR20*	(=0*)			03 02266
005798	002000	A	2448	JMPM	ERR				03 02267
005799	007747	R							
005800	007000	I	2449	PR16	LDR	B14			03 02268
005801	015000	A	2450	LDY	B15				03 02269
005802	150404	A	2451	ORR	PR20	IF NOT PAREN			03 02270
005803	001010	A	2452	JAZ	PR19	JUMP IF NOT PAREN			03 02271
005804	000000	R							
005805	020000	I	2453	LDR	*10*				03 02272
005806	002000	A	2454	JMPM	END				03 02273
005807	007747	R							
005808	000000	I	2455	LDB	B14				03 02274
005809	015000	A	2456	LDY	B15	GET SUBSCRIPT VALUE			03 02275
005810	007747	R	2457	JAZ	PR19	JUMP IF NOT SUBSCRIPT			03 02276
005811	000000	R							
005812	000000	I	2458	LDB*	B14	GET VAL			03 02277
005813	000000	A	2459	LDY	B15				03 02278
005814	000000	A	2460	JAZ	PR19	JUMP IF WITHIN PARAMETER RANGE			03 02279
005815	000000	R							
005816	000000	I	2461	LDY	B15	IF NOT WITHIN RANGE			03 02280
005817	000000	A	2462	JAZ	PR19	IF NOT WITHIN RANGE			03 02281
005818	000000	R							
005819	000000	A	2463	JMP	PR19				03 02282
005820	000000	R							
005821	000000	I	2464	LDY	B15	GET SUBSCRIPT VALUE			03 02283
005822	000000	A	2465	JAZ	PR19	JUMP IF NOT SUBSCRIPT			03 02284
005823	000000	R							
005824	000000	A	2466	JMP	PR19				03 02285
005825	000000	R							
005826	000000	A	2467	JMP	PR19				03 02286
005827	000000	R							
005828	000000	A	2468	JMP	PR19				03 02287
005829	000000	R							
005830	000000	A	2469	JMP	PR19				03 02288
005831	000000	R							
005832	000000	A	2470	JMP	PR19				03 02289
005833	000000	R							
005834	000000	A	2471	JMP	PR19				03 02290
005835	000000	R							
005836	000000	A	2472	JMP	PR19				03 02291
005837	000000	R							
005838	000000	A	2473	JMP	PR19				03 02292
005839	000000	R							
005840	000000	A	2474	JMP	PR19				03 02293
005841	000000	R							
005842	000000	A	2475	JMP	PR19				03 02294
005843	000000	R							
005844	000000	A	2476	JMP	PR19				03 02295
005845	000000	R							
005846	000000	A	2477	JMP	PR19				03 02296
005847	000000	R							
005848	000000	A	2478	JMP	PR19				03 02297
005849	000000	R							
005850	000000	A	2479	JMP	PR19				03 02298
005851	000000	R							
005852	000000	A	2480	JMP	PR19				03 02299
005853	000000	R							
005854	000000	A	2481	JMP	PR19				03 02300
005855	000000	R							
005856	000000	A	2482	JMP	PR19				03 02301
005857	000000	R							
005858	000000	A	2483	JMP	PR19				03 02302
005859	000000	R							
005860	000000	A	2484	JMP	PR19				03 02303
005861	000000	R							
005862	000000	A	2485	JMP	PR19				03 02304
005863	000000	R							
005864	000000	A	2486	JMP	PR19				03 02305
005865	000000	R							
005866	000000	A	2487	JMP	PR19				03 02306
005867	000000	R							
005868	000000	A	2488	JMP	PR19				03 02307
005869	000000	R							
005870	000000	A	2489	JMP	PR19				03 02308
005871	000000	R							
005872	000000	A	2490	JMP	PR19				03 02309
005873	000000	R							
005874	000000	A	2491	JMP	PR19				03 02310
005875	000000	R							
005876	000000	A	2492	JMP	PR19				03 02311
005877	000000	R							
005878	000000	A	2493	JMP	PR19				03 02312
005879	000000	R							
005880	000000	A	2494	JMP	PR19				03 02313
005881	000000	R							
005882	000000	A	2495	JMP	PR19				03 02314
005883	000000	R							
005884	000000	A	2496	JMP	PR19				03 02315
005885	000000	R							
005886	000000	A	2497	JMP	PR19				03 02316
005887	000000	R							
005888	000000	A	2498	JMP	PR19				03 02317
005889	000000	R							
005890	000000	A	2499	JMP	PR19				03 02318
005891	000000	R							
005892	000000	A	2500	JMP	PR19				


```

006102 0160003 A 2481 PRIB LDA STV,B GET VALUE WORD 03 02304
006103 0550000 A 2482 STA 0,X STORE IN EXPRESSION STACK 03 02305
006104 0160004 A 2483 LDA STA,B GET ATTRIBUTE WORD 03 02306
006105 0550001 A 2484 STA 1,X STORE IN EXPRESSION STACK 03 02307
006106 0051001 A 2485 PRIB INCR 1 A+=1 03 02308
006107 0010000 A 2486 JMP RET RETURN TRUE 03 02309
006110 0071115 R 2487 *
006111 0270000 I 2488 PR11 LDB QSYQ (= 'SY') 03 02310
006112 0020000 A 2489 CALL ERR 03 02311
006113 0077477 R R 2490 LDXI MOPT+4 03 02312
006114 0060300 A 2491 JMP PRI2 03 02313
006115 0121300 R R 2492 *
006116 0010000 A 2493 ** WE GET HERE TO PROCESS THE LEFT PARENTHESIS CHACT 03 02314
006117 0060733 R 2494 **
006120 0470000 I 2495 PRIP INR ICP INCREMENT INPUT CHACT POINTER 03 02315
006121 0020000 A 2496 JMPM EX TEST FOR EXPRESSION 03 02316
006122 0055116 R R 2497 JAN PRI5 JUMP IF NOT EXPRESSION 03 02317
006123 0010004 A 2498 JMPM GNC1 GET NEXT CHACT 03 02318
006124 0062100 R R 2499 ERA = '>' RETURN TRUE IF RIGHT PARENTHESIS 03 02319
006125 0020000 A 2500 JAZ RET 03 02320
006126 0077337 R R 2501 JMP PRI5 03 02321
006127 1300000 L 2502 *
006128 0010100 A 2503 ** WE GET HERE TO PROCESS THE ASTERISK CHACT 03 02322
006129 0071115 R 2504 **
006134 0470000 I 2505 PR1A INR ICP INCREMENT INPUT CHACT POINTER 03 02323
006135 0060300 A 2506 LDXI RLC-STA 03 02324
006136 0000113 R R 2507 JMP PRI2 03 02325
006137 0010000 A 2508 *
006140 0060733 R 2509 ** WE GET HERE TO PROCESS A DIGIT STRING 03 02326
006141 0020000 A 2510 **
006142 0075221 R 2511 PR1D JMPM JDS INPUT DIGIT STRING 03 02327
006143 0010000 A 2512 JMP PQ4 03 02328
006144 0062004 R 2513 *
006145 0050003 A 2514 ** WE GET HERE TO INPUT A CHATACTER STRING 03 02329
006146 0570000 I 2515 **
006147 0670000 I 2516 PR1Q ZFRD 0 A=B=0 03 02330
006148 0470000 I 2517 PQ1 STA IDSA+1 STORE ACCUMULATOR OVERFLOW 03 02331
006149 0050000 I 2518 STA IDSA STORE ACCUMULATOR 03 02332
006150 0050000 I 2519 INR ICP INCREMENT INPUT CHACT POINTER 03 02333
006151 0050000 A 2520 JMPM GNC0 GET NEXT CHACT 03 02334
006152 0077477 R R 2521 JAZ PQ5 JUMP IF EOL 03 02335
006153 00101010 R R 2522 ERA = '""' 03 02336
006154 0062001 R R 2523 JAZ PQ2 JUMP IF QUOTE SIGN 03 02337
006155 1300000 L 2524 ERA = '""' 03 02338
006156 00101010 R R 2525 JAZ PQ2 JUMP IF QUOTE SIGN 03 02339
006157 0061477 R R 2526 PQ3 YBX 0 SAVE CHACT IN X-REG. 03 02340
006158 0050000 I 2527 LDIA IDSA+1 03 02341
006159 0270000 I 2528 LDB IDSA 03 02342
006160 0044000 A 2529 LIRL 0 03 02343
006161 0050000 A 2530 MERG 002 B=B,PR,X 03 02344
006162 0010000 A 2531 JMP PQ1 KEEP TRYING 03 02345
006163 0061463 R R 2532 PQ2 INR ICP INCREMENT INPUT CHACT POINTER 03 02346
006164 0050000 I 2533 JMPM GNC0 GET NEXT-NEXT CHACT 03 02347
006165 1300000 L 2534 ERA = '""' 03 02348
006166 00101010 R R 2535 JAZ PQ3 JUMP IF DOUBLE QUOTE 03 02349
006167 0061463 R R 2536 PQ4 YBX 0 CHECK OVERFLOW 03 02350
006168 0050000 I 2537 LDIA IDSA+1 03 02351
006169 0075733 A 2538 LDB IDSA 03 02352
006170 0050000 A 2539 MERG 002 B=B,PR,X 03 02353
006171 0010000 A 2540 JMP PQ1 KEEP TRYING 03 02354
006172 0061463 R R 2541 PQ5 LDB = 'HQ' 03 02355
006173 0020000 A 2542 JMPM ERR 03 02356
006174 0060300 A 2543 PQ4 LDXI IDSA-9 03 02357
006175 0020000 A 2544 JMP PRI2 03 02358
006176 0075733 R R 2545 *
006177 0010000 A 2546 ** THIS IS A SUBROUTINE TO SUBTRACT THE TOP TWO ENTRIES 03 02359
006200 0062004 R 2547 **
006201 0200000 L 2548 PR15 LDB QEXQ (= 'EX') 03 02360
006202 0020000 A 2549 JMPM ERR 03 02361
006203 0077477 R R 2550 PQ4 LDXI IDSA-9 03 02362
006204 0060300 A 2551 JMP PRI2 03 02363
006205 0000055 R R 2552 *
006206 0010000 A 2553 ** 03 02364
006207 0060733 R 2554 ** 03 02365
006210 0270000 I 2555 PR15 LDB QEXQ (= 'EX') 03 02366
006211 0020000 A 2556 JMPM ERR 03 02367
006212 0077477 R R 2557 PQ4 LDXI IDSA-9 03 02368
006213 0060300 A 2558 JMP PRI2 03 02369
006214 0010000 A 2559 *
006215 0071115 R 2560 ** THIS IS A SUBROUTINE TO SUBTRACT THE TOP TWO ENTRIES 03 02370

```


006333	001000	A	2625	JMP*	ADDS	RETURN	03	02448
006334	106313	R						
			2626	*			03	02449
			2627	*			03	02450
			2628	*			03	02451
006335	000000	A	2629	ADF	DATA	0	03	02452
006336	020000	L	2630	LDB	=*S2'		03	02453
006337	002000	A	2631	JMPM	ERR		03	02454
006340	007747	R						
006341	037000	I	2632	LDX	BT4	RESTORE X REGISTER	03	02455
006342	001000	A	2633	JMP*	ADF		03	02456
006343	106335	R						
			2634	*			03	02457
			2635	*			03	02458
			2636	*			03	02459
			2637	*			03	02460
006344	000000	A	2638	ADIV	DATA	0	03	02461
006345	047000	I	2639	INR	AF	SET ARITHMETIC FLAG	03	02462
006346	037000	I	2640	LDX	BT4		03	02463
006347	015001	A	2641	LDA	1,X		03	02464
006350	115003	A	2642	ORA	3,X		03	02465
006351	055003	A	2643	STA	3,X		03	02466
006352	150000	L	2644	ANA	=3	EXTRACT RELOCATABILITY	03	02467
006353	001010	A	2645	JAZ	DIV1	JUMP IF BOTH ABSD	03	02468
006354	006363	R						
006355	135003	A	2646	ERA	3,X	FORCE ABSD	03	02469
006356	055003	A	2647	STA	3,X		03	02470
006357	020000	L	2648	LDB	=*R		03	02471
006360	002000	A	2649	JMPM	ERR		03	02472
006361	007747	R						
006362	037000	I	2650	LDX	BT4		03	02473
006363	005003	A	2651	ZERO	3	A=B=0	03	02474
006364	145000	A	2652	OR	0,X		03	02475
006365	001010	A	2653	JAZ	DIV2	JUMP IF DIVISOR IS ZERO	03	02476
006366	006422	R						
006367	001004	A	2654	JAN	*+4	JUMP IF DIVISOR IS POSITIVE	03	02477
006370	006373	R						
006371	055000	A	2655	STA	0,X		03	02478
006372	005222	A	2656	CPB		COMPLEMENT QUOTIENT SIGN	03	02479
006373	015002	A	2657	LDA	2,X		03	02480
006374	001002	A	2658	JAF	*+3	JUMP IF DIVIDEND IS POSITIVE	03	02481
006375	006401	R						
006376	005211	A	2659	CPA		TWOS COMPLEMENT	03	02482
006377	005111	A	2660	IAR		DIVIDEND	03	02483
006400	005222	A	2661	CPB		COMPLEMENT QUOTIENT SIGN	03	02484
006401	065001	A	2662	STB	1,X	SAVE QUOTIENT SIGN	03	02485
006402	005302	A	2663	DECR	2	B=-1	03	02486
006403	145000	A	2664	SUB	3,X		03	02487
006404	005122	A	2665	IBR		COUNT SUCCESSFUL SUBTRACTIONS	03	02488
006405	001002	A	2666	JAP	*-2		03	02489
006406	006403	R						
006407	015001	A	2667	LDA	1,X	GET QUOTIENT SIGN	03	02490
006410	001010	A	2668	JAZ	*+4	JUMP IF POSITIVE	03	02491
006411	006414	R						
006412	005222	A	2669	CPB		TWOS COMPLEMENT	03	02492
006413	005122	A	2670	IBR		QUOTIENT	03	02493
006414	065002	A	2671	STB	2,X		03	02494
006415	005144	A	2672	IXR			03	02495
006416	005144	A	2673	IXR			03	02496
006417	077000	I	2674	STX	BT4		03	02497
006420	001000	A	2675	JMP*	DIV	RETURN	03	02498
006421	106344	R						
			2676	*			03	02499
006422	002000	A	2677	DIV2	JMPM	ADF	03	02500
006423	006335	R						
006424	027000	I	2678	LDB	C1	GIVE LARGEST POSSIBLE NUMBER	03	02501
006425	001000	A	2679	JMP	DIV3		03	02502
006426	006414	R						
			2680	*			03	02503
			2681	*			03	02504
			2682	*			03	02505
			2683	*			03	02506
006427	004460	A	2684	MUL2	LLRL	NSIT	03	02507
006430	001002	A	2685	JAP	*+3		03	02508
006431	006433	R						
006432	127000	I	2686	ADD	C2	(=SIGN BIT)	03	02509
006433	004460	A	2687	LLRL	NSIT		03	02510
006434	003801	A	2688	XDF	MUL3		03	02511
006435	006524	R						
006436	002001	A	2689	JOPM	ADF	JUMP IF OVERFLOW	03	02512
006437	006335	R						
006440	001010	A	2690	JAZ	MUL4	JUMP IF NO OVERFLOW AND POSITIVE	03	02513
006441	006451	R						
006442	005111	A	2691	IAR			03	02514
006443	001010	A	2692	JAZ	*+5	JUMP IF NO OVERFLOW AND NEGATIVE	03	02515
006444	006450	R						
006445	002000	A	2693	JMPM	ADF	JUMP OVERFLOW, RESULT .LT. -2**15	03	02516
006446	006335	R						
006447	001006	A	2694	DATA	01006	SKIP NEXT WORD	03	02517
006450	005301	A	2695	DECR	1	A=-1	03	02518
006451	004417	A	2696	MUL4	LLSL	NSBIT-1	03	02519
006452	005002	A	2697	STA	2,X	STORE RESULT	03	02520
006453	005144	A	2698	IXR			03	02521

Address	Hex	Mode	Label	Op	Opnd	Description	PC	PC+1
006454	005144	A	2699	IXR			00	02522
006455	077000	I	2700	STX	BT4		00	02523
006456	001000	A	2701	JMP	0	RETURN	00	02524
006457	000000	A	2702	MUL	BES	0	00	02525
006460	047000	I	2703	INR	AF	SET ARITHMETIC FLAG	00	02526
006461	037000	I	2704	LIX	BT4		00	02527
006462	015001	A	2705	LIA	1,X		00	02528
006463	115003	A	2706	ORA	0,X		00	02529
006464	055000	A	2707	STA	0,X		00	02530
006465	150000	L	2708	ANA	=3	EXTRACT RELOCATABILITY	00	02531
006466	001010	A	2709	JAZ	MUL1	JUMP IF BOTH ABSO	00	02532
006470	105000	A	2710	ERA	0,X	FORCE ABSO	00	02533
006471	055000	A	2711	STA	0,X		00	02534
006472	020000	L	2712	LDB	=R		00	02535
006473	002000	A	2713	JMPM	ERR		00	02536
006474	007747	R						
006475	037000	I	2714	LIX	BT4		00	02537
006476	017000	I	2715	MUL1	01		00	02538
006477	140000	L	2716	SUB	=NBIT-1		00	02539
006500	055001	A	2717	STA	1,X	ITERATION COUNTER	00	02540
006501	007400	A	2718	ROF			00	02541
006502	005001	A	2719	TZA			00	02542
006503	123000	A	2720	LDB	0,X	GET MULTIPLIER	00	02543
006504	040001	A	2721	MUL3	1,X	'DECREMENT' ITERATION COUNTER	00	02544
006505	001001	A	2722	JOF	MUL2	JUMP IF END OF COUNT	00	02545
006506	006427	R						
006507	004460	A	2723	LLRL	NBIT	EQUIVILANT TO	00	02546
006510	004457	A	2724	LLRL	NBIT-1	A LLRR 1	00	02547
006511	127000	I	2725	ADD	02	(=SIGN BIT)	00	02548
006512	004441	A	2726	LLRL	1		00	02549
006513	003001	A	2727	XOF	MULA	ADD IN VALUE IF BIT WAS TRUE	00	02550
006514	006522	R						
006515	004301	A	2728	LACR	1		00	02551
006516	003001	A	2729	XOF	MULE		00	02552
006517	006523	R						
006520	001000	A	2730	JMP	MUL3		00	02553
006521	006304	R						
006522	125002	A	2731	MULA	2,X		00	02554
006523	137000	I	2732	MULE	02	(=SIGN BIT)	00	02555
006524	145002	A	2733	MULS	2,X		00	02556
2734							00	02557
2735							00	02558
2736						THIS IS A READ NEXT INPUT RECORD SUBROUTINE	00	02559
2737							00	02560
2738							00	02561
2739						WE GET HERE TO PROCESS A PASS 2 READ	00	02562
2740							00	02563
006525	006525	R	2741	RNP2	EQU	*	00	02564
006526	017000	I	2742	LDA	SSRF	GET SS SECT REC ADDR FLAG	00	02565
006527	002000	A	2743	CALL	GSRCAD	UPDATE SECT REC ADDR FLAG AND SSFCB ADDR	00	02566
006530	012164	A	2744	STA	RNR2+4	CURRENT BUFFER ADDRESS	00	02567
006531	057000	I	2745	STA	L40+1	SOURCE RECORD ADDR FOR DUP	00	02568
006532	057000	I	2746	STA	DUP4+1	SOURCE RECORD MOVE ADDR FOR DUP	00	02569
006533	057000	I	2747	STA	LLNJ-2	SOURCE RECORD ADDR FOR LIST OUTPUT	00	02570
006534	057000	I	2748	STA	BUF#	SET POINTER TO CURRENT BUFFER	00	02571
006535	006030	A	2749	LIXI	SSFCB		00	02572
006536	002740	E						
006537	055001	A	2750	STA	1,1	PUT CURR REC ADDR IN SS FOR	00	02573
006540	004241	A	2751	LRLA	1	DOUBLE IT TO	00	02574
006541	057000	I	2752	STA	1BBA	SET INPUT BUFFER BYTE ADDR.	00	02575
006542	017000	I	2753	LDA	GRAF	UPDATE	00	02576
006543	057000	I	2754	STA	SSRF	SS SECT REC ADDR. FLAG	00	02577
2755							00	02578
006544	017000	I	2756	LDA	SSRMD	IS SS AN RMD?	00	02579
006545	001010	A	2757	JAZ	RNR2	NO, THEN ALWAYS READ A REC	00	02580
006546	006554	R						
006547	017000	I	2758	LDA	SSRF	IS SECT REC ADDR FLAG SET TO READ NXT REC	00	02581
006550	001010	A	2759	JAZ	RUSS		00	02582
006551	006561	R						
006552	001000	A	2760	JMP	RNP4	SKIP READ COMMAND	00	02583
006553	006563	R						
006554	017000	I	2761	RNR2	LDA	0BBA	00	02584
006555	002000	A	2762	JMPM	SAB	(=* *)	00	02585
006556	011705	R				CLEAR SBUF TO BLANKS	00	02586
006557	000050	A	2763	DATA	40		00	02587
006560	000124	R	2764	DATA	SBUF		00	02588
2765							00	02589
006561	006561	R	2765	RUSS	EQU	*	00	02590
006561	002000	A	2767	CALL	SSREAD	READ NXT SECT FROM SS FILE	00	02591
006562	012327	R						
2768							00	02592
006563	047000	I	2769	RNP4	EQU	*	00	02593
006564	017000	I	2770	RNR4	INR	LNCT	00	02594
006565	057000	I	2771	RNR4	LDA	1BBA	00	02595
006566	057000	I	2772	RNR5	STA	ICP	00	02596
006567	001000	A	2773	RNR5	STA	ICP0	00	02597
006570	000000	A	2774	JMP	0	RETURN	00	02598
006570	000000	A	2775	RNR	BES	0	00	02599
006571	017000	I	2776	RNR	LDA	MLF	00	02600


```

006572 001010 A 2777 JAZ RNR1 JUMP IF NOT WITHIN A MACRO 03 02600
006573 006612 R 2778 * 03 02601
2779 * WE GET HERE TO PROCESS A 'MACRO READ' 03 02602
2780 * 03 02603
006574 002000 A 2781 JMPM GNC1 GET CHACT 03 02604
006575 007737 R 2782 JAZ *+4 JUMP IF EDL 03 02605
006576 001010 A 2783 JMP *-4 KEEP LOOKING FOR EDL 03 02606
006577 006602 R 2784 * 03 02607
006600 001000 A 2785 INR ICP INCREMENT INPUT CHACT POINTER 03 02608
006601 006574 R 2786 JMPM GNC0 GET NEXT CHACT 03 02609
006602 047000 I 2787 XAZ XICP INCREMENT INPUT CHACT POINTER IF EDL 03 02610
006603 002000 A 2788 LDA ICP 03 02611
006604 007707 R 2789 JMP RNR5 03 02612
006605 003010 A 2790 RNR1 LDA PASS 03 02613
006606 007744 R 2791 JAP RNP2 JUMP IF PASS 2 03 02614
006607 017000 I 2792 * 03 02615
006610 001000 A 2793 * WE GET HERE TO PROCESS A PASS 1 READ 03 02616
006611 006566 R 2794 * 03 02617
006612 017000 I 2795 LDA PDRMD IS PD AN RMD? 03 02618
006613 001002 A 2796 JAZ RND7 NO 03 02619
006614 006525 R 2797 LDA PDRF IS BUFFER ADDR. SET FOR START OF SECTOR? 03 02620
2798 JAZ RND8 YES 03 02621
006615 017000 I 2799 RND1 EQU * 03 02622
006616 001010 A 2800 JAP RND3 NO, SET FOR SECOND OF 3 RECORD SECTOR 03 02623
006617 006715 R 2801 LDA PIRF IS PI FLAG SET TO READ IN NEW SOURCE REC? 03 02624
006620 017000 I 2802 JAP RND3 NO, AND DON'T STATUS CHECK PD WRITE YET 03 02625
006621 001010 A 2803 RND2 EQU * 03 02626
006622 006723 R 2804 LDAI WRPD STATUS CHECK THE 03 02627
006623 006623 R 2805 CALL STAT PD DEVICE FOR PREVIOUS WRITE 03 02628
006624 006634 R 2806 RND3 EQU * 03 02629
006625 017000 I 2807 LDA PIRF GET PI SECTOR REC FLAG 03 02630
006626 001002 A 2808 CALL GSRCAD UPDATE SECT REC FLAG AND SOURCE REC. ADDR. 03 02631
006627 006634 R 2809 STA RNR3+4 SET ADDR. TO CLEAR BUFFER BEFORE READ 03 02632
006630 006630 R 2810 STA $BUF$ SAVE POINTER TO START OF NEXT SOURCE REC. 03 02633
006631 006737 R 2811 STA STEP-2 SOURCE RECORD W. '/' FOR JCB BUFFER 03 02634
006632 002000 A 2812 STA D40+1 SOURCE REC ADDR FOR DUP 03 02635
006633 006762 R 2813 STA DUP4+1 SOURCE REC ADDR FOR DUP 03 02636
006634 017000 I 2814 LDX PIREAD+5 03 02637
006635 002000 A 2815 STA 1,1 UPDATE PI FCB BUFFER ADDR 03 02638
006636 012164 R 2816 LRLA 1 DOUBLE IT FOR 03 02639
006637 054026 A 2817 STA $BBA INPUT BUFFER BYTE ADDR. 03 02640
006640 057000 I 2818 LDA SRAF UPDATE 03 02641
006641 054143 A 2819 STA PIRF PI SECTOR REC ADDR. FLAG 03 02642
006642 057000 I 2820 LDA PIRMD IS PI AN RMD? 03 02643
006643 057000 I 2821 JAZ RNR3 NO 03 02644
006644 037000 I 2822 LDA PIRF READY TO INPUT NEXT SECTOR FROM PI 03 02645
006645 055001 A 2823 JAZ RND4 YES 03 02646
006646 004241 A 2824 JMP RND5 03 02647
006647 057000 I 2825 * 03 02648
006650 017000 I 2826 RNR3 LDA QBBO (= ' ') 03 02649
006651 057000 I 2827 JMPM SAR CLEAR $BUF TO BLANKS 03 02650
006652 006667 R 2828 DATA 40 03 02651
006653 006010 A 2829 DATA $BUF 03 02652
006654 007007 R 2830 RND4 EQU * 03 02653
006655 017005 R 2831 LDAI STEP SET E-O-F EXIT ON 03 02654
006656 006010 A 2832 STA STA1-3 PI READ DURING PASS 1 03 02655
006657 054075 A 2833 CALL PIREAD READ NEXT SOURCE FROM PI DEVICE 03 02656
006658 007007 R 2834 LDAI STER SET ERROR RETURN ON E-O-F 03 02657
006659 012345 R 2835 STA STA1-3 FOR ALL OTHER I/O 03 02658
006660 007070 R 2836 * 03 02659
006661 006677 R 2837 RND5 EQU * 03 02660
006662 017000 I 2838 LDA PDRF GET PD SECT REC ADDR FLAG 03 02661
006663 002000 A 2839 CALL GSRCAD UPDATE SECT REC FLAG 03 02662
006664 011705 R 2840 STA PRRT C.1 03 02663
006665 000050 A 2841 LDA SRAF UPDATE 03 02664
006666 000124 R 2842 STA PDRF PD SECT REC ADDR FLAG 03 02665
006667 006010 A 2843 LDA PDRMD IS PD AN RMD? 03 02666
006668 007007 R 2844 JAZ RND9 NO 03 02667
006669 006010 A 2845 LDA PDRF IS PD SECT REC FLAG SET FOR WRITE 03 02668
006670 012164 R
006671 054055 A
006672 017000 I
006673 057000 I
006674 006010 A
006675 007070 R
006676 054071 A
006677 017000 I
006678 002000 A
006679 012164 R
006700 002000 A
006701 012164 R
006702 054055 A
006703 017000 I
006704 057000 I
006705 017000 I
006706 001010 A
006707 006730 R
006710 017000 I

```


Address	Hex	Op	Label	Op	Comment	Page
007016	003331	E				
007017	006020	A	2908	LDBI	GOFCB GLOBAL FCB ADDRESS	03 02731
007020	003363	E				
007021	017000	I	2909	LDA	\$PCW TEST FOR 'GO' OPTION	03 02732
007022	001004	A	2910	JAN	*+4 YES	03 02733
007023	007020	R				
007024	001000	A	2911	JMP	STEND TRY NEXT ASSEMBLY	03 02734
007025	007040	R				
007026	017000	I	2912	LDA	BURMD IS GO AN RMD#	03 02735
007027	001010	A	2913	JAZ	STEND NO	03 02736
007030	007040	R				
			2914	CLOSE	GOFCB,GO,0,1 CLOSE AND UPDATE GO	03 02737
007031	006505	A				
007032	006740	E				
007033	100000	A				
007034	013411	A				
007035	007020	E				
007036	000000	A				
007037	000000	A				
	007040	R	2915	STEND	EQU *	03 02738
007040	017000	I	2916	LDA	\$PCW CHECK BO SUPPRESS BIT	03 02739
007041	004256	A	2917	LRLA	NBIT-2 DON'T CLOSE BO FILE	03 02740
007042	001004	A	2918	JAN	STEND1 IF BO WAS SUPPRESSED	03 02741
007043	007056	R				
			2919	*		03 02742
007044	017000	I	2920	LDA	BORMD IS BO AN RMD#	03 02743
007045	001010	A	2921	JAZ	STEND1 NO	03 02744
007046	007056	R				
			2922	CLOSE	BOFCB,BO,0,1 CLOSE AND UPDATE BO	03 02745
007047	006505	A				
007050	007032	E				
007051	100000	A				
007052	013407	A				
007053	007016	E				
007054	000000	A				
007055	000000	A				
	007056	R	2923	STEND1	EQU *	03 02746
	007056	R	2924	STEND2	EQU *	03 02750
			2925	FUNC	LDRDCB,LD,0 GO TO TOP OF FORM (WAIT TIL DONE)	03 02751
007056	006505	A				
007057	007050	E				
007060	100000	A				
007061	002405	A				
007062	012363	R				
007063	000000	A				
007064	000000	A				
			2926	EXIT	NORMAL EXIT	03 02752
007065	006505	A				
007066	000750	E				
007067	000200	A				
	007070	R	2927	STEN	EQU *	03 02753
007070	010423	A	2928	LDA	FOUR PUT ERROR CODE IN	03 02754
007071	110055	A	2929	DRA	V#JCFG JCP ERROR WORD	03 02755
007072	050055	A	2930	STA	V#JCFG	03 02756
			2931	*		03 02757
			2932	*		03 02758
007073	001000	A	2933	JMP	STEND2 EXIT	03 02759
007074	007056	R				
			2934	*		03 02760
			2935	*		03 02761
			2936	*	THIS IS THE RECURSIVE SUBROUTINE ENTRY SUBROUTINE	03 02762
			2937	*	CALLING SEQUENCE	03 02763
			2938	*	DATA ADDRESS TO BE PUT INTO STACK	03 02764
			2939	*	JMPM REC	03 02765
			2940	*	RETURN IF ROOM IN STACK #3	03 02766
007075	005101	A	2941	REC1	INCR 1 A=1	03 02767
007076	002000	A	2942	JMPM	GS3 GET SPACE TABLE #3	03 02768
007077	011536	R				
007100	024011	A	2943	LDB	REC	03 02769
007101	005322	A	2944	DBR		03 02770
007102	005322	A	2945	DBR		03 02771
007103	005322	A	2946	DBR		03 02772
007104	026000	A	2947	LDB	C,B GET ADDRESS TO PUT INTO THE STACK	03 02773
007105	064001	A	2948	STB	*+2	03 02774
007106	001004	A	2949	JAN	0 JUMP IF NO ROOM	03 02775
007107	000000	A				
007110	065000	A	2950	STB	0,X STACK RETURN ADDRESS	03 02776
007111	001000	A	2951	JMP	0 RETURN	03 02777
007112	000000	A				
			2952	REC	BES 0	03 02778
007113	001000	A	2953	JMP	REC1	03 02779
007114	007075	R				
			2954	*		03 02780
			2955	*	THIS IS THE RECURSIVE SUBROUTINE RETURN SUBROUTINE	03 02781
			2956	*	THE A REGISTER IS TRANSPARENT	03 02782
			2957	*	CALLING SEQUENCE	03 02783
			2958	*	JMP RET	03 02784
			2959	*		03 02785
007115	037000	I	2960	RET	LDX ET3	03 02786
007116	005344	A	2961	DXR		03 02787
007117	025000	A	2962	LDB	0,X GET THE RETURN ADDRESS	03 02788
007120	077000	I	2963	STX	ET3	03 02789
007121	064001	A	2964	STB	*+2	03 02790


```

007122 001000 A 2965 JMP 0 RETURN 03 02791
007123 000000 A 2966 * 03 02792
2967 * THIS IS A SUBROUTINE TO SKIP UP TO THE NUMBER OF BLANK 03 02793
2968 * CHACTS SPECIFIED IN THE X REGISTER 03 02794
2969 * CALLING SEQUENCE 03 02795
2970 * LDX =MAXIMUM NUMBER OF BLANKS TO BE SKIPPED 03 02796
2971 * JMPM SBK 03 02797
2972 * RETURN THE TERMINATING CHACT IS IN THE B REGISTER 03 02798
2973 * 03 02799
007124 047000 I 2974 SBK1 INR ICP INCREMENT INPUT CHACT POINTER 03 02800
007125 001006 A 2975 DATA 01006 SKIP NEXT CHACT 03 02801
007126 000000 A 2976 SBK DATA 0 03 02802
007127 002000 A 2977 JMPM GNC0 GET NEXT CHACT 03 02803
007130 007707 R 2978 DECR 045 A=X=X-1 03 02804
007131 005345 A 2979 JAN* SBK RETURN IF END OF COUNT 03 02805
007133 107126 R 2980 TBA 03 02806
007134 005021 A 2981 ERA 03 02807
007135 130000 L 2982 JAZ SBK1 JUMP IF BLANK 03 02808
007136 001010 A 2983 JMP* SBK OTHERWISE RETURN 03 02809
007137 007124 R
007140 001000 A
007141 107126 R
2984 * 03 02810
2985 * THIS IS A SUBROUTINE TO ASSIGN THE SYMBOL IN LAB1 TO THE 03 02811
2986 * CURRENT VALUE AND RELOCATABILITY OF THE LOCATION COUNTER 03 02812
2987 * 03 02813
007142 000000 A 2988 DF21 DATA 0 03 02814
007143 017000 I 2989 LDA PC 03 02815
007144 027000 I 2990 LDB RLC 03 02816
007145 002000 A 2991 JMPM DEFI REALLY DO IT 03 02817
007146 007164 R
007147 001000 A 2992 JMP* DF21 RETURN 03 02818
007150 107142 R
2993 * 03 02819
2994 * THIS IS A SUBROUTINE TO DEFINE THE SYMBOL IN LAB1 WITH THE 03 02820
2995 * VALUE IN THE A REGISTER AND THE RELOCATABILITY IN THE B REGISTER 03 02821
2996 * 03 02822
007151 034121 A 2997 DEF6 LDX DEF5 03 02823
007152 001006 A 2998 DATA 01006 SKIP NEXT WORD 03 02824
007153 015004 A 2999 DEF8 LDA STA,X GET ATTRIBUTE WORD 03 02825
007154 114122 A 3000 DEF1 JRA DEFT GET ATTRIBUTES 03 02826
007155 024122 A 3001 LDB DEFT+1 GET VALUE 03 02827
007156 065003 A 3002 STB STV,X STORE VALUE WORD 03 02828
007157 117000 I 3003 QRA DPF SET DEFINED THIS PASS 03 02829
007160 055004 A 3004 STA STA,X STORE ATTRIBUTE WORD 03 02830
007161 005001 A 3005 DEF2 TBA RESET 03 02831
007162 057000 I 3006 DF21 STA RDF REDEFINE FLAG 03 02832
007163 001000 A 3007 JMP 0 RETURN 03 02833
007164 000000 A
007165 037000 I 3008 DEF1 BES 0 ENTRY 03 02834
007166 001040 A 3009 LDX LAB1 03 02835
007167 007161 R 3010 JXZ DF21 JUMP IF NO SYMBOL TO ASSIGN 03 02836
007170 054107 A 3011 STA DEFT+1 SAVE VALUE 03 02837
007171 064105 A 3012 SYB DEFT SAVE ATTRIBUTES 03 02838
007172 002000 A 3013 JMPM LFND SEARCH SYMBOL TABLE 03 02839
007173 007346 R
007174 000044 A 3014 DATA LAB1 03 02840
007175 001040 A 3015 JXZ DEF3 JUMP IF NOT FOUND 03 02841
007176 007257 R
007177 017000 I 3016 LDA RDF 03 02842
007200 005311 A 3017 DAR 03 02843
007201 001010 A 3018 JAZ DEF1 JUMP IF REDEFINE FLAG SET 03 02844
007202 007154 R
007203 014073 A 3019 LRA DEFT GET ATTRIBUTE WORD 03 02845
007204 150000 L 3020 ANA =0600 EXTRACT ST 03 02846
007205 130000 L 3021 ERA =0400 03 02847
007206 001010 A 3022 JAZ DF21 JUMP IF EXTERNAL 03 02848
007207 007162 R
007210 015004 A 3023 LDA STA,X GET ATTRIBUTE WORD 03 02849
007211 150000 L 3024 ANA =0600 EXTRACT ST 03 02850
007212 130000 L 3025 ERA =0400 03 02851
007213 001010 A 3026 JAZ DEF1 JUMP IF EXTERNAL 03 02852
007214 007154 R
007215 017000 I 3027 LDA PASS 03 02853
007216 001002 A 3028 JAP DEF4 JUMP IF PASS 2 03 02854
007217 007235 R
3029 * 03 02855
007220 015004 A 3030 LDA STA,X GET SYMBOL TABLE ATTRIBUTE WORD 03 02856
007221 157000 I 3031 ANA DPF EXTRACT DEFINED PASS FLAG 03 02857
007222 001010 A 3032 JAZ DEF8 JUMP IF NOT DEFINED THIS PASS 03 02858
007223 007153 R
007224 015003 A 3033 LDA STV,X GET SYMBOL TABLE VALUE WORD 03 02859
007225 134052 A 3034 ERA DEFT+1 03 02860
007226 001010 A 3035 JAZ DF21 JUMP IF VALUE IS THE SAME 03 02861
007227 007162 R
007230 015004 A 3036 LDA STA,X GET SYMBOL TABLE ATTRIBUTE WORD 03 02862
007231 110000 L 3037 QRA =040 SET DUPLICATE FLAG BIT-5 03 02863
007232 055004 A 3038 STA STA,X 03 02864
007233 001000 A 3039 JMP DEF2 03 02865
007234 007161 R

```


007235	015004	A	3040	* PASS 2					03	02866
007236	150000	L	3041	DEF4	LDA	STA,X	GET ATTRIBUTE WORD		03	02867
007237	001010	A	3042		ANA	=040	EXTRACT DUPLICATE FLAG BIT-5		03	02868
007240	007246	R	3043		JAZ	DEF7	JUMP IF NOT DUPLICATE		03	02869
007241	020000	L	3044		LDB	= 'DD'			03	02870
007242	002000	A	3045		JMPM	ERR			03	02871
007243	007747	R								
007244	001000	A	3046		JMP	DF21			03	02872
007245	007162	R								
			3047	* DEF7					03	02873
007246	015003	A	3048		LDA	STV,X	GET VALUE WORD		03	02874
007247	134030	A	3049		ERA	DEFT+1			03	02875
007250	001010	A	3050		JAZ	DF21	JUMP IF VALUE IS THE SAME		03	02876
007251	007162	R								
007252	020000	L	3051		LDB	= 'SE'			03	02877
007253	002000	A	3052		JMPM	ERR			03	02878
007254	007747	R								
007255	001000	A	3053		JMP	DF21			03	02879
007256	007162	R								
			3054	* DEF3					03	02880
007257	005021	A	3055		TBA				03	02881
007260	140000	L	3056		SUB	=5			03	02882
007261	054011	A	3057		STA	DEF5	SAVE TO ADDRESS		03	02883
007262	010000	L	3058		LDA	=5			03	02884
007263	002000	A	3059		JMPM	GR6	GET SPACE TABLE #6		03	02885
007264	011627	R								
007265	001004	A	3060		JAN	DEF2	JUMP IF NO ROOM		03	02886
007266	007161	R								
007267	002000	A	3061		JMPM	MOVW	MOVW NEW ENTRY INTO SYMBOL TABLE		03	02887
007270	011761	R								
007271	000003	A	3062		DATA	3	COUNT		03	02888
007272	000045	R	3063		DATA	LAB1+1	'FROM' ADDRESS		03	02889
007273	000000	A	3064	DEF5	DATA	0	'TO' ADDRESS		03	02890
007274	005001	A	3065		TZA				03	02891
007275	001000	A	3066		JMP	DEF6			03	02892
007276	007151	R								
007277	000000	A	3067	DEFT	DATA	0			03	02893
007300	000000	A	3068		DATA	0			03	02894
			3069	*					03	02895
			3070	*	THIS IS	A SUBROUTINE TO SEARCH THE SYMBOL TABLE			03	02896
			3071	*	FOR THE	SYMBOL SPECIFIED			03	02897
			3072	*	CALLING	SEQUENCE			03	02898
			3073	*	JMPM	LFND			03	02899
			3074	*	DATA	ADDRESS OF 4-WORD SYMBOL BLOCK			03	02900
			3075	*	RETURN				03	02901
			3076	*		X REGISTER .EQ. ZERO IF NOT FOUND AND THE B REGISTER			03	02902
			3077	*		POINTS TO WHERE THE SYMBOL SHOULD GO.			03	02903
			3078	*		X REGISTER POINTS TO TABLE ENTRY IF FOUND.			03	02904
			3079	*					03	02905
007301	024044	A	3080	LF1	LDB	LFND			03	02906
007302	044043	A	3081		INR	LFND	ADJUST RETURN ADDRESS		03	02907
007303	026000	A	3082		LDR	1,B	GET ADDRESS OF SYMBOL		03	02908
007304	016000	A	3083		LDA	0,B	GET NUMBER OF CHACTS IN SYMBOL		03	02909
007305	001010	A	3084		JAZ	LF3	JUMP IF NO SYMBOL		03	02910
007306	007343	R								
007307	037000	I	3085		LDX	BT6	GET BEGIN OF SYMBOL TABLE		03	02911
007310	005141	A	3086	LF2	INCR	041	A=X+1		03	02912
007311	147000	I	3087		SUB	ET6			03	02913
007312	001002	A	3088		JAP	LF3	JUMP IF END OF SYMBOL TABLE		03	02914
007313	007343	R								
007314	015000	A	3089		LDA	STS,X			03	02915
007315	146001	A	3090		SUB	1,B			03	02916
007316	001010	A	3091		JAZ	*+4	JUMP IF FIRST TWO CHACTS MATCH		03	02917
007317	007322	R								
007320	001000	A	3092		JMP	LF4			03	02918
007321	007334	R								
007322	015001	A	3093		LDA	STS+1,X			03	02919
007323	146002	A	3094		SUB	2,B			03	02920
007324	001010	A	3095		JAZ	*+4	JUMP IF SECOND TWO CHACTS MATCH		03	02921
007325	007330	R								
007326	001000	A	3096		JMP	LF4			03	02922
007327	007334	R								
007330	015002	A	3097		LDA	STS+2,X			03	02923
007331	146003	A	3098		SUB	3,B			03	02924
007332	001010	A	3099		JAZ*	LFND	RETURN IF THIRD TWO CHACTS MATCH		03	02925
007333	107346	R								
007334	001002	A	3100	LF4	JAP	LF3	JUMP IF WE HAVE SEARCHED FAR ENOUGH		03	02926
007335	007343	R								
007336	005041	A	3101		TXA				03	02927
007337	120000	L	3102		ADD	=5			03	02928
007340	005014	A	3103		TAX				03	02929
007341	001000	A	3104		JMP	LF2	KEEP TRYING		03	02930
007342	007310	R								
			3105	* LF3					03	02931
007343	005042	A	3106		TXB		TELL'EM SOME WHERE		03	02932
007344	005004	A	3107		TXZ		AND TELL'EM NOT FOUND		03	02933
007345	001000	A	3108		JMP	0	AND RETURN		03	02934
007346	000000	A								
007346		A	3109	LFND	BES	0	ENTRY		03	02935
007347	001000	A	3110		JMP	LF1			03	02936
007350	007301	R								
			3111	*					03	02937


```

3112 * THIS IS A SUBROUTINE TO SEARCH THE OPERATION CODE TABLE FOR 03 02938
3113 * A MATCH TO THE MNEMONIC SPECIFIED 03 02939
3114 * CALLING SEQUENCE 03 02940
3115 * JPM DCFD 03 02941
3116 * DATA ADDRESS OF 4-WORD SYMBOL BLOCK 03 02942
3117 * RETURN 03 02943
3118 * X REGISTER .EQ. ZERO IF NOT FOUND 03 02944
3119 * X REGISTER POINTS TO TABLE IF FOUND 03 02945
3120 *
007351 024044 A 3121 DCF5 LDB DCFD 03 02946
007352 044043 A 3122 INR DCFD ADJUST RETURN ADDRESS 03 02947
007353 026000 A 3123 LDB 0,B GET ADDRESS OF SYMBOL 03 02948
007354 017000 I 3124 CTI GET END OF OP CODE TABLE 03 02949
007355 140000 L 3125 DCF3 SUB =5 03 02950
007356 005014 A 3126 DCF6 TAX 03 02951
007357 147000 I 3127 SUB BT1 03 02952
007360 001004 A 3128 JAN DCF1 JUMP IF END OF TABLE 03 02953
007361 007414 R 03 02954
007362 015000 A 3129 LDA 0,X GET FIRST WORD OF ENTRY 03 02955
007363 004240 A 3130 LRLA NBIT-16 ADJUST FOR 18-BIT 03 02956
007364 001004 A 3131 JAN DCF2 JUMP IF NOT POINTER 03 02957
007365 007371 R
007366 015000 A 3132 LDA 0,X GET POINTER TO NEXT ENTRY 03 02958
007367 001000 A 3133 JMP DCF6 AND KEEP TRYING 03 02959
007370 007356 R
3134 * 03 02960
007371 015000 A 3135 DCF2 LDA 0,X 03 02961
007372 136001 A 3136 ERA 1,B 03 02962
007373 001010 A 3137 JAZ *+4 JUMP IF FIRST TWO CHACTS MATCH 03 02963
007374 007377 R
007375 001000 A 3138 JMP DCF4 03 02964
007376 007411 R
007377 015001 A 3139 LDA 1,X 03 02965
007400 136002 A 3140 ERA 2,B 03 02966
007401 001010 A 3141 JAZ *+4 JUMP IF SECOND TWO CHACTS MATCH 03 02967
007402 007405 R
007403 001000 A 3142 JMP DCF4 03 02968
007404 007411 R
007405 015002 A 3143 LDA 2,X 03 02969
007406 136003 A 3144 ERA 3,B 03 02970
007407 001010 A 3145 JAZ* DCFD RETURN IF THIRD TWO CHACTS MATCH 03 02971
007410 107416 R
007411 005041 A 3146 DCF4 TXA 03 02972
007412 001000 A 3147 JMP DCF3 AND KEEP TRYING 03 02973
007413 007355 R
3148 * 03 02974
007414 005004 A 3149 DCF1 TZX 03 02975
007415 001000 A 3150 JMP 0 RETURN 03 02976
007416 000000 A
3151 DCFD BES 0 ENTRY 03 02977
007417 001000 A 3152 JMP DCF5 03 02978
007420 007351 R
3153 * 03 02979
3154 * THIS IS A SUBROUTINE TO INPUT A SYMBOL IF THERE IS ONE TO INPUT 03 02980
3155 * CALLING SEQUENCE 03 02981
3156 * JPM ISM 03 02982
3157 * DATA ADDRESS OF A FOUR WORD SYMBOL BLOCK 03 02983
3158 * ADDR = NUMBER OF CHACTS IN THE SYMBOL 03 02984
3159 * ADDR+1 = FIRST TWO CHACTS OF SYMBOL 03 02985
3160 * ADDR+2 = SECOND TWO CHACTS OF SYMBOL 03 02986
3161 * ADDR+3 = THIRD TWO CHACTS OF SYMBOL 03 02987
3162 * SYMBOLS ARE SUPPLIED WITH TRAILING BLANKS IF NECESSARY 03 02988
3163 * RETURN A REGISTER .EQ. NUMBER OF CHACTS IN SYMBOL 03 02989
3164 *
007421 034052 A 3165 ISM1 LDX ISM 03 02990
007422 025000 A 3166 LDB 0,X GET ADDRESS OF SYMBOL BLOCK 03 02991
007423 005001 A 3167 TZA INITIATE 03 02992
007424 056000 A 3168 STA 0,B NUMBER OF CHACTS IN SYMBOL 03 02993
007425 017000 I 3169 LDA 0,B0 (= ' ') 03 02994
007426 056001 A 3170 STA 1,B 03 02995
007427 056002 A 3171 STA 2,B 03 02996
007430 056003 A 3172 STA 3,B 03 02997
007431 005122 A 3173 IBR 03 02998
007432 004041 A 3174 LRLB 1 03 03000
007433 067000 I 3175 STB 3BTA STORE BYTE ADDRESS 03 03001
007434 006030 A 3176 LDXI 6 MAXIMUM NUMBER OF CHARS (6 NORMALLY) 03 03002
007435 000006 A
007436 002000 A 3177 JPM GNC0 GET NEXT CHACT 03 03003
007437 007707 R
007440 002000 A 3178 ISM7 JPM ISA IS IT ALPHA 03 03004
007441 010030 R
007442 001004 A 3179 JAN ISM6 JUMP IF NOT ALPHA 03 03005
007443 007405 R
007444 005341 A 3180 ISM2 DECR 041 A=X-1 03 03006
007445 001004 A 3181 JAN ISM3 JUMP IF END OF COUNT 03 03007
007446 007453 R
007447 005344 A 3182 DXR DECREMENT COUNT 03 03008
007450 005021 A 3183 TBA GET CHACT 03 03009
007451 002000 A 3184 JPM SBT STORE CHACT 03 03010
007452 011765 R
007453 047000 I 3185 ISM3 INR ICP INCREMENT INPUT CHACT POINTER 03 03011
007454 002000 A 3186 JPM GNC0 GET NEXT CHACT 03 03012
007455 007707 R

```


007456	002000	A	3187	JMPM	ISD	IS IT A DIGIT	03	03013	
007457	010054	R							
007460	001002	A	3188	JAP	ISM2	JUMP IF DIGIT	03	03014	
007461	007444	R							
007462	005021	A	3189	TBA		GET CHACT	03	03015	
007463	001000	A	3190	JMP	ISM7	TRY ALPHA	03	03016	
007464	007440	R							
			3191	*					
007465	005241	A	3192	ISM6	COMP	041	A=1-X	03	03017
007466	034005	A	3193		LDX	ISM		03	03018
007467	035000	A	3194		LDX	0,X		03	03019
007470	120467	A	3195		ADD	SEVEN	(=7)	03	03020
007471	055000	A	3196		STA	0,X	SET SYMBOL CHACT COUNT	03	03021
007472	044001	A	3197		INR	ISM	ADJUST RETURN ADDRESS	03	03022
007473	001000	A	3198		JMP	0	AND RETURN	03	03023
007474	000000	A						03	03024
007474			3199	ISM	BES	0	ENTRY	03	03025
007475	001000	A	3200		JMP	ISM1		03	03026
007476	007421	R							
			3201	*				03	03027
			3202	*				03	03028
			3203	*				03	03029
			3204	*				03	03030
			3205	*				03	03031
			3206	*				03	03032
			3207	*				03	03033
			3208	*				03	03034
007477	005301	A	3209	ISG2	DECR	1	A=-1	03	03035
007500	047000	I	3210	ISG1	INR	ICP	INCREMENT INPUT CHACT POINTER	03	03036
007501	001000	A	3211		JMP	0	RETURN	03	03037
007502	000000	A							
007502			3212	ISG	BES	0	ENTRY	03	03038
007503	002000	A	3213		JMPM	GNCO	GET NEXT CHACT	03	03039
007504	007707	R							
007505	140000	L	3214		SUB	='+'		03	03040
007506	001010	A	3215		JAZ	ISG1	JUMP IF PLUS SIGN	03	03041
007507	007500	R							
007510	140000	L	3216		SUB	='-'		03	03042
007511	001010	A	3217		JAZ	ISG2	JUMP IF MINUS SIGN	03	03043
007512	007477	R							
007513	005001	A	3218		TZA		A=0	03	03044
007514	001000	A	3219		JMP*	ISG	RETURN	03	03045
007515	107502	R							
			3220	*				03	03046
			3221	*				03	03047
			3222	*				03	03048
			3223	*				03	03049
			3224	*				03	03050
			3225	*				03	03051
007516	002000	A	3226	IDS4	JMPM	IDDF	CHECK DIGIT OVERFLOW	03	03052
007517	007574	R							
007520	001000	A	3227		JMP	0	RETURN	03	03053
007521	000000	A							
007521			3228	IDS	BES	0	ENTRY	03	03054
007522	002000	A	3229		JMPM	GNCO	GET NEXT CHACT	03	03055
007523	007707	R							
007524	140000	L	3230		SUB	='0'		03	03056
007525	005014	A	3231		TAX		X.EQ.0 OCTAL,X.NE.0 DECIMAL CONVERSION	03	03057
007526	005003	A	3232		ZERO	3	A=B=0	03	03058
007527	057000	I	3233	IDS1	STA	IDSA	DIGIT ACCUMULATOR	03	03059
007530	067000	I	3234		SYB	IDSA+1	DIGIT OVERFLOW ACCUMULATOR	03	03060
007531	002000	A	3235		JMPM	GNCO	GET NEXT CHACT	03	03061
007532	007707	R							
007533	140000	L	3236		SUB	='0'		03	03062
007534	054036	A	3237		STA	IDSD	SAVE DIGIT VALUE	03	03063
007535	001004	A	3238		JAN	IDS4	JUMP IF NOT A DIGIT	03	03064
007536	007516	R							
007537	140000	L	3239		SUB	='-'		03	03065
007540	001002	A	3240		JAP	IDS4	JUMP IF NOT A DIGIT	03	03066
007541	007516	R							
007542	047000	I	3241		JNR	ICP	INCREMENT INPUT CHACT POINTER	03	03067
007543	007400	A	3242		RDF			03	03068
007544	001040	A	3243		JXZ	IDS2	JUMP IF OCTAL CONVERSION	03	03069
007545	007560	R							
			3244	*				03	03070
007546	017000	I	3245		LDA	IDSA	DECIMAL CONVERSION	03	03071
007547	027000	I	3246		LDE	IDSA+1		03	03072
007550	004441	A	3247		LLRL	1	*2	03	03073
007551	057000	I	3248		STA	IDSA+1		03	03074
007552	004442	A	3249		LLRL	2	*8	03	03075
007553	127000	I	3250		ADD	IDSA+1	*10	03	03076
007554	124016	A	3251		ADD	IDSD	+NEXT DIGIT	03	03077
007555	005522	A	3252		ADFB			03	03078
007556	001000	A	3253		JMP	IDS1	KEEP TRYING	03	03079
007557	007527	R							
			3254	*				03	03080
007560	014012	A	3255	IDS2	LDA	IDSD	OCTAL CONVERSION	03	03081
007561	140000	L	3256		SUB	=8		03	03082
007562	020000	L	3257		LDB	=DC		03	03083
007563	002002	A	3258		JAPM	ERR	JUMP IF DIGIT .GT. 7	03	03084
007564	007747	R							
007565	017000	I	3259		LDA	IBSA		03	03085
007566	027000	I	3260		LDB	IDSA+1		03	03086


```

007567 004443 A 3261 LLRL 3
007570 114002 A 3262 ORA IDSD
007571 001000 A 3263 JMP IDSI KEEP TRYING
007572 007527 R
007573 000000 A 3264 IDSD DATA 0
3265 *
3266 * THIS IS A SUBROUTINE TO CHECK FOR AN OVERFLOW IN THE
3267 * INPUT DIGIT ACCUMULATOR
3268 *
007574 000000 A 3269 IDDF DATA 0
007575 017000 I 3270 LDA IDSA+1
007576 001010 A 3271 JAZ* IDDF RETURN IF NO OVERFLOW
007577 107574 R
007600 020000 L 3272 LDB = 'S2'
007601 002000 A 3273 JMPM ERR
007602 007747 R
007603 001000 A 3274 JMP* IDDF RETURN
007604 107574 R
3275 *
3276 * THIS IS A SUBROUTINE TO INPUT A DECIMAL DIGIT STRING AND CONVERT
3277 * TO DOUBLE PRECISION BINARY
3278 * CALLING SEQUENCE
3279 * JMPM IDN
3280 * DATA ADDRESS OF A TWO WORD DOUBLE PRECISION ACCUMULATOR
3281 * RETURN THE NUMBER OF DIGITS IS IN THE A REGISTER
3282 *
007605 034050 A 3283 IDN1 LDX IDN
007606 035000 A 3284 LDX 0,X GET ADDRESS OF ACCUMULATOR
007607 044046 A 3285 INR IDN ADJUST RETURN ADDRESS
007610 005001 A 3286 TZA INITIATE
007611 054050 A 3287 STA IDNC DIGIT COUNTER
007612 002000 R 3288 IDN2 JMPM GNC0
007613 007707 R
007614 140000 L 3289 SUB = '0'
007615 001004 A 3290 JAN IDN3 JUMP IF NOT A DIGIT
007616 007654 R
007617 054041 A 3291 STA IDND SAVE DIGIT VALUE
007620 140000 L 3292 SUB = '0'
007621 001002 A 3293 JAP IDN3 JUMP IF NOT A DIGIT
007622 007654 R
007623 047000 I 3294 INR ICP INCREMENT INPUT CHACT POINTER
007624 015000 A 3295 LDA 0,X GET MSH
007625 006140 A 3296 SUBI 06315
007626 006315 A
007627 001002 A 3297 JAP IDN2 JUMP IF NO ROOM FOR THIS DIGIT
007630 007612 R
007631 044030 A 3298 INR IDNC INCREMENT DIGIT COUNTER
007632 015000 A 3299 LDA 0,X GET MSH
007633 025001 A 3300 LDB 1,X GET LSH
007634 004401 A 3301 LASL 1 *2
007635 055000 A 3302 STA 0,X
007636 065001 A 3303 STB 1,X
007637 004402 A 3304 LASL 2 *8
007640 125000 A 3305 ADD 0,X *10
007641 055000 A 3306 STA 0,X
007642 005021 A 3307 TBA
007643 125001 A 3308 ADD 1,X *10
007644 124014 A 3309 ADD IDND +NEXT DIGIT
007645 001002 A 3310 JAP *+4 JUMP IF NO OVERFLOW FROM LSH
007646 007651 R
007647 045000 A 3311 INR 0,1 INCREMENT MSH
007650 137000 I 3312 ERA C2 TURN OFF SIGN BIT OF LSH
007651 055001 A 3313 STA 1,X
007652 001000 A 3314 JMP IDN2 KEEP TRYING
007653 007612 R
3315 *
007654 014005 A 3316 IDN3 LDA IDNC GET DIGIT COUNT
007655 001000 A 3317 JMP 0 RETURN
007656 000000 A
007656 3318 IDN RES 0 ENTRY
007657 001000 A 3319 JMP IDN1
007660 007605 R
007661 000000 A 3320 IDND DATA 0
007662 000000 A 3321 IDNC DATA 0
3322 *
3323 * THIS IS A SUBROUTINE TO DAF TO ADD THE DOUBLE PRECISION
3324 * NUMBER IN M AND M+1 TO THE DOUBLE PRECISION NUMBER IN A,B.
3325 *
007662 000000 A 3326 DAFS DATA 0
007664 007400 A 3327 RDE
007665 004460 A 3328 LLRL NBIT EXCHANGE A&B
007666 127000 I 3329 ADD M+1
007667 157000 I 3330 ANA C1 EXTRACT MAGNITUDE BITS
007670 004460 A 3331 LLRL NBIT EXCHANGE A&B
007671 005511 A 3332 ADFA ADD OVERFLOW FROM LSH
007672 127000 I 3333 ADD M
007673 001000 A 3334 JMP* DAFS RETURN
007674 107663 R
3335 *
3336 * THIS IS A SUBROUTINE TO CHECK THE NEXT CHACT TO SEE IF IT IS
3337 * A COMMA AND IF IT IS, SKIP IT.
3338 * ON RETURN THE B REGISTER CONTAINS THE CHACT AND THE A REGISTER
3339 * .EQ. ZERO IF IT IS A COMMA.

```



```

007675 047000 I 3340 *
007676 001000 A 3341 CTS1 INR ICP INCREMENT INPUT CHACT POINTER 03 03166
007677 000000 A 3342 JMP 0 RETURN 03 03167
007677 000000 A 3343 CTST BES 0 ENTRY 03 03169
007700 002000 A 3344 JMPM GNCO GET CHACT 03 03170
007701 007707 R
007702 130000 L 3345 ERA =*,*
007703 001010 A 3346 JAZ CTS1 JUMP IF COMMA 03 03171
007704 007675 R
007705 001000 A 3347 JMP* CTST RETURN 03 03172
007706 107677 R
3348 * 03 03174
3349 * THIS IS A SUBROUTINE TO GET THE NEXT INPUT CHACT 03 03175
3350 * ON RETURN, THE CHACT WILL BE CONTAINED IN THE A REG.+ B REG., 03 03176
3351 * 03 03177
007707 000000 A 3352 GNCO DATA 0 03 03178
007710 017000 I 3353 LDA MLF 03 03179
007711 001010 A 3354 JAZ GN02 JUMP IF NOT IN A MACRO 03 03180
007712 007727 R
007713 017000 I 3355 LDA ICP 03 03181
007714 127000 I 3356 ADD BT2 03 03182
007715 127000 I 3357 ADD BT2 03 03183
007716 005012 A 3358 TAB 03 03184
007717 001006 A 3359 DATA 01006 SKIP NEXT WORD 03 03185
007720 027000 I 3360 GN03 LDB ICP GET INPUT CHACT POINTER 03 03186
007721 002000 A 3361 JMPM BYTE GET BYTE WORD 03 03187
007722 012012 R
007723 150000 L 3362 ANA =0377 EXTRACT BYTE 03 03188
007724 005012 A 3363 GN01 TAB 03 03189
007725 001000 A 3364 JMP* GNCO RETURN 03 03190
007726 107707 R
3365 * 03 03191
007727 017000 I 3366 GN02 LDA ICP GET INPUT CHACT POINTER 03 03192
007730 147000 I 3367 SUB IBRA (=SBUF*2) 03 03193
007731 140000 L 3368 SUB =72 03 03194
007732 001004 A 3369 JAN GN03 JUMP IF NOT EOL 03 03195
007733 007720 R
007734 005001 A 3370 TZA 03 03196
007735 001000 A 3371 JMP GN01 03 03197
007736 007724 R
3372 * 03 03198
3373 * THIS IS A SUBROUTINE TO GET THE NEXT INPUT CHACT 03 03199
3374 * AND INCREMENT THE INPUT CHACT POINTER (ICP) 03 03200
3375 * BUT NOT BEYOND THE END OF A LINE. 03 03201
3376 * ON RETURN, THE CHACT WILL BE CONTAINED IN THE A REG.+ B REG., 03 03202
3377 * 03 03203
007737 000000 A 3378 GN01 DATA 0 03 03204
007740 002000 A 3379 JMPM GNCO GET NEXT CHACT 03 03205
007741 007707 R
007742 001010 A 3380 JAZ* GN01 RETURN IF EOL 03 03206
007743 107737 R
007744 047000 I 3381 XICP INR ICP INCREMENT INPUT CHACT POINTER 03 03207
007745 001000 A 3382 JMP* GN01 RETURN 03 03208
007746 107737 R
3383 * 03 03209
3384 * THIS IS A SUBROUTINE TO STACK UP TO FOUR ERROR CODES 03 03210
3385 * CALLING SEQUENCE 03 03211
3386 * LDB =*TWO CHACT ERROR CODE* 03 03212
3387 * JMPM ERR 03 03213
3388 * RETURN A=B=X=VAL=IDSA=IDSA+1=0 03 03214
3389 * 03 03215
007747 000000 A 3390 ERR DATA 0 03 03216
007750 017000 I 3391 LDA PASS SKIP IF PASS 1 03 03217
007751 001004 A 3392 JAN ERR1 03 03218
007752 007765 R
007753 017000 I 3393 LDA ERSC 03 03219
007754 140000 L 3394 SUB =3 03 03220
007755 001002 A 3395 JAP ERR1 JUMP IF ALREADY HAVE FOUR ERRORS 03 03221
007756 007765 R
007757 017000 I 3396 LDA ERSC 03 03222
007760 006120 A 3397 ADDI ERSK COMPUTE 03 03223
007761 000012 R
007762 005014 A 3398 TAX STB ERSK,1 03 03224
007763 065000 A 3399 STB 0,X STACK ERROR CODE 03 03225
007764 047000 I 3400 INR ERSC INCREMENT ERROR SUB COUNT 03 03226
007765 005007 A 3401 ERR1 ZERD 7 A=B=X=0 03 03227
007766 057000 I 3402 STA VAL 03 03228
007767 057000 I 3403 STA IDSA 03 03229
007770 057000 I 3404 STA IDSA+1 03 03230
007771 001000 A 3405 JMP* ERR RETURN 03 03231
007772 107747 R
3406 * 03 03232
3407 * THIS IS A SUBROUTINE TO CHECK TO MAKE SURE THAT A 03 03233
3408 * LITERAL IS NOT SPECIFIED 03 03234
3409 * 03 03235
007773 000000 A 3410 LITC DATA 0 03 03236
007774 017000 I 3411 LDA RVAL 03 03237
007775 157000 I 3412 ANA 01000 EXTRACT LITERAL FLAG BIT-9 (=01000) 03 03238
007776 001010 A 3413 JAZ* LITC RETURN IF NO LITERAL 03 03239
007777 107773 R
010000 137000 I 3414 ERA RVAL OTHERWISE 03 03240
010001 057000 I 3415 STA RVAL TURN IT OFF 03 03241

```


010002	020000	L	3416	LDB	==	AND		03	03242
010003	002000	A	3417	JMPM	ERR	GIVE	ERROR	03	03243
010004	007747	R							
010005	001000	A	3418	JMP*	LITC	RETURN		03	03244
010006	107773	R							
			3419	*				03	03245
			3420	*				03	03246
			3421	*	THIS IS A SUBROUTINE TO CHECK TO MAKE SURE THAT			03	03247
			3422	*	INDIRECT ADDRESSING IS NOT SPECIFIED			03	03248
			3423	IADC	DATA	0		03	03249
010007	000000	A	3424	LDA	RVAL			03	03250
010010	017000	I	3425	ANA	=0100000	EXTRACT	INDIRECT ADDRESS FLAG BIT 15	03	03251
010011	150000	L	3426	DRA	IADF			03	03252
010012	117000	I	3427	JAZ*	IADC	RETURN	IF NO INDIRECT ADDRESSING	03	03253
010013	001010	A							
010014	110007	R							
010015	027000	I	3428	LDB	QEBQ	(='E')		03	03254
010016	002000	A	3429	JMPM	ERR			03	03255
010017	007747	R							
010020	057000	I	3430	STA	IADF			03	03256
010021	017000	I	3431	LDA	RVAL			03	03257
010022	150000	L	3432	ANA	=027777	TURN	OFF INDIRECT ADDRESS FLAG BIT-15	03	03258
010023	057000	I	3433	STA	RVAL			03	03259
010024	001000	A	3434	JMP*	IADC	RETURN		03	03260
010025	110007	R							
			3435	*				03	03261
			3436	*				03	03262
			3437	*	THIS IS A SUBROUTINE TO TEST THE ASCII CHACT IN THE A REGISTER			03	03263
			3438	*	TO BE AN ALPHA CHACT.			03	03264
			3439	*	ON RETURN, THE A REG. IS POSITIVE IF CHACT IS ALPHA OR			03	03265
			3440	*	NEGATIVE IF THE CHACT IS NOT ALPHA.			03	03266
			3441	ISA1	INCR	1	A=+1	03	03267
010026	005101	A	3442	JMP	0	RETURN		03	03268
010027	001000	A							
010030	000000	A							
010031	140000	L	3443	ISA	BES	0	ENTRY	03	03269
010032	001004	A	3444	SUB	='!'			03	03270
010033	110030	R	3445	JAN*	ISA	RETURN	IF NOT ALPHA	03	03271
010034	140466	A	3446	SUB	SIX	(='''-'!')		03	03272
010035	001004	A	3447	JAN	ISA1	JUMP	IF ALPHA	03	03273
010036	010026	R							
010037	140000	L	3448	SUB	='''-'!''			03	03274
010040	001004	A	3449	JAN*	ISA	RETURN	IF NOT ALPHA	03	03275
010041	110030	R							
010042	140000	L	3450	SUB	='''-'!''			03	03276
010043	001004	A	3451	JAN	ISA1	JUMP	IF ALPHA	03	03277
010044	010026	R							
010045	005311	A	3452	DAR				03	03278
010046	001004	A	3453	JAN*	ISA	RETURN	IF NOT ALPHA	03	03279
010047	110030	R							
010050	001000	A	3454	JMP	ISA1	MUST	BE ALPHA	03	03280
010051	010026	R							
			3455	*				03	03281
			3456	*				03	03282
			3457	*	THIS IS A SUBROUTINE TO TEST THE ASCII CHACT IN THE A REGISTER			03	03283
			3458	*	TO BE A DIGIT CHACT.			03	03284
			3459	*	ON RETURN, THE A REG. IS POSITIVE IF THE CHACT IS A DIGIT OR			03	03285
			3460	*	NEGATIVE IF THE CHACT IS NOT A DIGIT.			03	03286
			3461	ISD1	INCR	1	A=+1	03	03287
010052	005101	A	3462	JMP	0	RETURN		03	03288
010053	001000	A							
010054	000000	A							
010055	140000	L	3463	ISD	BES	0	ENTRY	03	03289
010056	001004	A	3464	SUB	='0'			03	03290
010057	110054	R	3465	JAN*	ISD	RETURN	IF NOT DIGIT	03	03291
010060	140000	L	3466	SUB	='''-'0'			03	03292
010061	001004	A	3467	JAN	ISD1	JUMP	IF DIGIT	03	03293
010062	010052	R							
010063	005301	A	3468	DECR	1	A=-1		03	03294
010064	001000	A	3469	JMP*	ISD	RETURN		03	03295
010065	110054	R							
			3470	*				03	03296
			3471	*				03	03297
			3472	*	THIS IS A SUBROUTINE TO REQUEST A TOP OF FORM ON LD			03	03298
			3473	TDF	DATA	0		03	03299
010066	000000	A	3474	LDA	PASS			03	03300
010067	017000	I	3475	JAN	TDF1	JUMP	IF PASS 1	03	03301
010071	010111	R							
010072	047000	I	3476	INR	PGND	INCREMENT	PAGE NUMBER	03	03302
010073	017000	I	3477	LDA	PGND	GET	BINARY PAGE NUMBER	03	03303
010074	002000	A	3478	JMPM	DOA	CONVERT	TO ASCII	03	03304
010075	012030	R							
010076	057000	I	3479	STA	HEB+3			03	03305
010077	067000	I	3480	STB	HEB+4	REQUEST	TOP OF FORM AND	03	03306
010100	002000	A	3481	CALL	MOVW	MOVE	PAGE HEADING INTO LIST BUFFER	03	03307
010101	011761	R							
010102	000042	A	3482	DATA	34			03	03308
010103	000676	R	3483	DATA	HEB	FROM	ADDR	03	03309
010104	000314	R	3484	DATA	LBUF	TO	ADDR	03	03310
			3485	*				03	03311
			3486	*				03	03312
010105	002000	A	3487	CALL	LOWRIT	GO	TO TOP OF FORM AND	03	03313
010106	012252	R				PRINT	HEADER AND WAIT FOR COMPLETION	03	03314
			3488	*				03	03314

E.2 VORTEX LISTING

V*DASMR

PROGRAM PAGE 51

LISTING PAGE (332)

```

010107 002000 A 3489 CALL LDWRIT SPACE I LINE AFTER HEADER 03 03315
010110 012252 R 3490 * 03 03316
010111 010111 R 3491 TOF1 EQU * 03 03317
010112 006017 A 3492 LDAE* FRMS V75*****
010113 100675 R 3493 SUB =2 INITIATE 03 03317
010114 057000 I 3494 STA LCT LISTING LINE COUNTER 03 03320
010115 001000 A 3495 JMP* TOF RETURN 03 03321
010116 110066 R 3496 * 03 03322
3497 * THIS IS A SUBROUTINE TO LIST THE CURRENT CONTENTS OF LBUF 03 03323
3498 * 03 03324
010117 000000 A 3499 LIST DATA 0 03 03325
010120 017000 I 3500 LDA PASS 03 03326
010121 001004 A 3501 JAN LIST02 CHECK FOR PASS 2 C 03 03327
010122 010134 R 3502 INCR 1 C 03 03328
010123 005101 A 3503 ANA @PCN CHECK FOR PRINT SUPPRESS C 03 03329
010124 157000 I 3504 DAR C 03 03330
010125 005311 A 3505 JAP LIST02 C 03 03331
010126 001002 A 3506 LIST01 JMPM LST PRINT IF NOT SUPPRESSED C 03 03332
010127 010134 R 3507 JMP LIST03 C 03 03333
010128 001000 A 3508 LIST02 LDA ERSC ELSE PRINT ERROR LINES ONLY C 03 03334
010129 010141 R 3509 JANZ LIST01 C 03 03335
010130 017000 I 3510 JMPM CLRBUF IF LINE NOT PRINTED, CLEAR BUFFER C 03 03336
010131 010145 R 3511 LIST03 LDA LB2P1 INITIATE (=LBUF*2+1) C 03 03337
010132 001000 A 3512 STA SBTA STORE BYTE ADDRESS 03 03338
010133 010141 R 3513 JMP* LIST 03 03339
010134 017000 I 3514 * 03 03340
010135 001016 A 3515 * LIST SUBROUTINE 03 03341
010136 010130 R 3516 * 03 03342
010137 002000 A 3517 LST DATA 0 03 03343
010138 012252 R 3518 CALL LDWRIT LIST CONTENTS OF LBUF 03 03344
010139 017000 I 3519 LDA LB2P1 INITIATE (=LBUF*2+1) 03 03345
010140 057000 I 3520 STA SBTA STORE BYTE ADDRESS 03 03346
010141 017000 I 3521 LDA LCT GET LISTING LINE COUNT 03 03347
010142 005311 A 3522 DAR DECREMENT 03 03348
010143 057000 I 3523 STA LCT STORE BACK 03 03349
010144 002010 A 3524 JAZM TOF JUMP IF END OF COUNT 03 03350
010145 010066 R 3525 JMP* LST RETURN 03 03351
010146 110145 R 3526 * 03 03352
3527 * THIS IS A SUBROUTINE TO OUTPUT THE LOCATION AND VALUE 03 03353
3528 * FIELDS TO THE LISTING AN THE VALUE TO THE LOADER TEXT 03 03354
3529 * 03 03355
010147 000000 A 3530 DLV DATA 0 03 03356
010148 002000 A 3531 JMPM DWL 03 03357
010149 010724 R 3532 JMPM LLV LIST LOCATION + VALUE FIELDS 03 03358
010150 002000 A 3533 JMP* DLV 03 03359
010151 010170 R 3534 * 03 03360
3535 * THIS IS A SUBROUTINE TO OUTPUT THE LOCATION AND VALUE 03 03361
3536 * FIELDS TO THE LISTING 03 03362
3537 * 03 03363
010152 000000 A 3538 LLV DATA 0 03 03364
010153 017000 I 3539 LDA PASS 03 03365
010154 001004 A 3540 JAN LLV1 JUMP IF PASS 1 03 03366
010155 010202 R 3541 JMPM TL OUTPUT LOCATION TO LISTING 03 03367
010156 010241 R 3542 JMPM TV OUTPUT VALUE TO LISTING 03 03368
010157 002000 A 3543 JMPM LLN1 LIST LINE 03 03369
010158 002000 A 3544 LLV1 EQU * 03 03370
010159 010335 R 3545 INR PC INCR PRDG LOC COUNTER 03 03371
010160 010202 R 3546 JMP* LLV RETURN 03 03372
010161 010202 R 3547 * 03 03373
3548 * THIS IS A SUBROUTINE TO OUTPUT THE LOCATION FIELD 03 03374
3549 * TO THE LISTING 03 03375
3550 * 03 03376
010162 000000 A 3551 LL DATA 0 03 03377
010163 017000 I 3552 LDA PASS 03 03378
010164 001004 A 3553 JAN* LL RETURN IF PASS 1 03 03379
010165 110205 R 3554 LDA MUF 03 03380
010166 017000 I 3555 DAR 03 03381
010167 005311 A 3556 JAP* LL RETURN IF WITHIN A MACRO 03 03382
010168 001002 A 3557 JMPM TL OUTPUT LOCATION TO LISTING 03 03383
010169 110205 R 010205
010170 002000 A 010206
010171 010241 R 010207
010172 002000 A 010208
010173 010202 R 010209
010174 010241 R 010210
010175 002000 A 010211
010176 010251 R 010212
010177 002000 A 010213
010178 010335 R 010214
010179 010202 R 010215
010180 047000 I 010216
010181 001000 A 010217
010182 110170 R 010218

```


E.2 VORTEX LISTING

V*DASMR

PROGRAM PAGE 52

LISTING PAGE (333)

Address	OpCode	OpType	OpLabel	OpValue	Comment	Page	Line	
010217	002000	A	3558	JMPM LLN	LIST LINE	03	03384	
010220	010300	R						
010221	001000	A	3559	JMP* LL	RETURN	03	03385	
010222	110205	R						
			3560	*		03	03386	
			3561	*	THIS IS A SUBROUTINE TO OUTPUT THE VALUE FIELD	03	03387	
			3562	*	TO THE LISTING	03	03388	
			3563	*		03	03389	
010223	000000	A	3564	LV	DATA 0	03	03390	
010224	017000	I	3565	LDA PASS		03	03391	
010225	001004	A	3566	JAN* LV	RETURN IF PASS 1	03	03392	
010226	110223	R						
010227	017000	I	3567	LDA MLF		03	03393	
010230	005311	A	3568	DAR		03	03394	
010231	001002	A	3569	JAP* LV	RETURN IF WITHIN A MACRO	03	03395	
010232	110223	R						
010233	002000	A	3570	JMPM TV	OUTPUT VALUE TO LISTING	03	03396	
010234	010251	R						
010235	002000	A	3571	JMPM LLN	LIST LINE	03	03397	
010236	010300	R						
010237	001000	A	3572	JMP* LV	RETURN	03	03398	
010240	110223	R						
			3573	*		03	03399	
			3574	*	THIS IS A SUBROUTINE TO OUTPUT THE CONTENTS OF THE	03	03400	
			3575	*	LOCATION COUNTER TO THE LISTING BUFFER	03	03401	
			3576	*		03	03402	
010241	000000	A	3577	TL	DATA 0	03	03403	
010242	017000	I	3578	LDA LB2P1	(=LBUF*2+1) INITIATE THE	03	03404	
010243	057000	I	3579	STA SBTA	STORE BYTE ADDRESS	03	03405	
010244	027000	I	3580	LDB PC	GET LOCATION COUNTER	03	03406	
010245	002000	A	3581	JMPM DD	AND REALLY DO IT	03	03407	
010246	010263	R						
010247	001000	A	3582	JMP* TL	RETURN	03	03408	
010250	110241	R						
			3583	*		03	03409	
			3584	*	THIS IS A SUBROUTINE TO OUTPUT THE CONTENTS OF	03	03410	
			3585	*	VAL TO THE LISTING BUFFER	03	03411	
			3586	*		03	03412	
010251	000000	A	3587	TV	DATA 0	03	03413	
010252	017000	I	3588	LDA LB2P8	INITIALIZE THE (=LBUF*2+8)	03	03414	
010253	057000	I	3589	STA SBTA	STORE BYTE ADDRESS	03	03415	
010254	027000	I	3590	LDB VAL	GET VALUE	03	03416	
010255	002000	A	3591	JMPM DD	AND REALLY DO IT	03	03417	
010256	010263	R						
010257	002000	A	3592	JMPM TOUT	OUTPUT VALUE TYPE	03	03418	
010260	010575	R						
010261	001000	A	3593	JMP* TV	RETURN	03	03419	
010262	110231	R						
			3594	*		03	03420	
			3595	*	THIS IS A SUBROUTINE TO OUTPUT THE SIX OCTAL CHACTS PACKED	03	03421	
			3596	*	IN THE B REGISTER TO WHEREVER THE STORE BYTE ADDRESS (SBTA)	03	03422	
			3597	*	IS ALREADY SET	03	03423	
			3598	*		03	03424	
010263	000000	A	3599	DD	DATA 0	03	03425	
010264	005001	A	3600	TZA		03	03426	
010265	004441	A	3601	LLRL NBIT-15	GET FIRST DIGIT	03	03427	
010266	005122	A	3602	IBR	SET B0=1	03	03428	
010267	120000	L	3603	ADD =0'	MAKE DIGIT ASCII	03	03429	
010270	002000	A	3604	JMPM SBT	STORE ASCII CHACT	03	03430	
010271	011765	R						
010272	005001	A	3605	TZA		03	03431	
010273	004443	A	3606	LLRL 3	GET NEXT DIGIT	03	03432	
010274	001020	A	3607	JBZ* DD	RETURN IF END OF DIGITS	03	03433	
010275	110263	R						
010276	001000	A	3608	JMP DD1	OTHERWISE, KEEP TRYING	03	03434	
010277	010267	R						
			3609	*		03	03435	
			3610	*	THIS IS A SUBROUTINE TO LIST THE ASSEMBLY LINE IN LBUF	03	03436	
			3611	*		03	03437	
010300	000000	A	3612	LLN	DATA 0	03	03438	
010301	017000	I	3613	LDA MLF		03	03439	
010302	002010	A	3614	JAZM LLN1	JUMP IF NOT WITHIN A MACRO	03	03440	
010303	010335	R						
010304	002000	A	3615	JMPM LE	LIST ERRORS	03	03441	
010305	010525	R						
010306	001000	A	3616	JMP* LLN	RETURN	03	03442	
010307	110300	R						
			3617	*		03	03443	
			3618	*	THIS IS A SUBROUTINE TO PUT THE LINE NUMBER AND SOURCE LINE	03	03444	
			3619	*	INTO THE LIST BUFFER	03	03445	
			3620	*		03	03446	
010310	002000	A	3621	LLNH	JMPM MOVK	03	03447	
010311	011761	R						
010312	000044	A	3622	DATA 36	COUNT	03	03448	
010313	000124	R	3623	DATA \$BUF	FROM ADDRESS	03	03449	
010314	000327	R	3624	DATA LBUF+11	TO ADDRESS	03	03450	
010315	017000	I	3625	LLNJ	LDA LUF\$	(=\$BUF)	03	03451
010316	120000	L	3626	ADD =36		03	03452	
010317	054003	A	3627	STA LLNK		03	03453	
010320	002000	A	3628	JMPM MOVK	MOVE COLUMNS 73 THRU 80	03	03454	
010321	011761	R						
010322	000004	A	3629	DATA 4	COUNT	03	03455	
010323	000000	A	3630	LLNK	DATA 0	03	03456	
					FROM ADDRESS (=\$BUF+36)			

010324	000373	R	3631	DATA	LBUF+47	TO ADDRESS	03	03457
010325	014175	A	3632	LDA	LLNT	RESTORE INPUT	03	03458
010326	057030	I	3633	STA	ICP	CHACT POINTER	03	03459
010327	047000	I	3634	INR	PLF	SET SOURCE LINE SUPPRESS FLAG	03	03460
010330	002000	A	3635	JMPM	LIST	LIST LINE	03	03461
010331	010117	R						
010332	002000	A	3636	JMPM	LE	LIST ERRORS	03	03462
010333	010525	R						
010334	001000	A	3637	JMP	0	RETURN	03	03463
010335	000000	A						
010335			3638	LLN1	BES	0	03	03464
010336	017000	I	3639	LDA	MLF		03	03465
010337	117000	I	3640	DRA	PLF	GET SOURCE LINE SUPPRESS FLAG	03	03466
010340	001010	A	3641	JAZ	*+4	JUMP IF NOT WITHIN A MACRO OR SUPPRESS	03	03467
010341	010344	R						
			3642	*		SOURCE LINE	03	03468
010342	001000	A	3643	JMP	LLN2		03	03469
010343	010330	R						
010344	017000	I	3644	LDA	LNCT	GET LISTING LINE COUNT	03	03470
010345	002000	A	3645	JMPM	B2A	CONVERT TO ASCII	03	03471
010346	012030	R						
010347	005024	A	3646	TBX		SAVE LSH	03	03472
010350	004040	A	3647	LRLB	NBIT-16	ADJUST FOR 18-BIT	03	03473
010351	004550	A	3648	LLSR	8		03	03474
010352	004140	A	3649	LSRB	NBIT-16	ADJUST FOR 18-BIT	03	03475
010353	006110	A	3650	DRAI	0120000	LEADING BLANK	03	03476
010354	120000	A						
010355	057000	I	3651	STA	LBUF+8		03	03477
010356	067000	I	3652	STB	LBUF+9		03	03478
010357	005042	A	3653	TXB			03	03479
010360	004240	A	3654	LRLA	NBIT-16	ADJUST FOR 18-BIT	03	03480
010361	004450	A	3655	LLRL	8	TRAILING BLANK	03	03481
010362	067000	I	3656	STB	LBUF+10		03	03482
010363	017000	I	3657	LDA	ICP	SAVE INPUT	03	03483
010364	054136	A	3658	STA	LLNT	CHACT POINTER	03	03484
010365	017000	I	3659	LDA	IBBA	(=LBUF*2)	03	03485
010366	057000	I	3660	STA	ICP	RE-INITIATE ICP	03	03486
010367	002000	A	3661	JMPM	GNC0	GET NEXT CHACT	03	03487
010370	007707	R						
010371	130000	L	3662	ERA	=*		03	03488
010372	001010	A	3663	JAZ	LLNH	JUMP IF COMMENT RECORD	03	03489
010373	010310	R						
			3664	*			03	03490
			3665	*	REFORMAT LABEL FIELD		03	03491
			3666	*			03	03492
010374	017000	I	3667	LDA	LB2P22	INITIATE (=LBUF*2+22)	03	03493
010375	057000	I	3668	STA	SBTA	STORE BYTE ADDRESS	03	03494
010376	002000	A	3669	JMPM	GNC1	GET NEXT CHACT	03	03495
010377	007737	R						
010400	001010	A	3670	JAZ	LLNJ	JUMP IF END OF LINE	03	03496
010401	010315	R						
010402	140000	L	3671	SUB	=*		03	03497
010403	001010	A	3672	JAZ	LLNB	JUMP IF BLANK	03	03498
010404	010415	R						
010405	140000	L	3673	SUB	=*,		03	03499
010406	001010	A	3674	JAZ	LLNB	JUMP IF COMMA	03	03500
010407	010415	R						
010410	005021	A	3675	TBA			03	03501
010411	002000	A	3676	JMPM	SBT	STORE CHACT	03	03502
010412	011765	R						
010413	001000	A	3677	JMP	LLNA	KEEP TRYING	03	03503
010414	010376	R						
			3678	*			03	03504
			3679	*	REFORMAT OPERATION FIELD		03	03505
			3680	*			03	03506
010415	030000	L	3681	LLNB	LDB	=72	03	03507
010416	002000	A	3682	JMPM	SBK	SKIP BLANK CHACTS	03	03508
010417	007126	R						
010420	002000	A	3683	JMPM	CTST	COMMA ALLOW TEST	03	03509
010421	007677	R						
010422	017000	I	3684	LDA	ICP	SAVE INPUT	03	03510
010423	054100	A	3685	STA	LLNT+1	CHACT POINTER	03	03511
010424	017000	I	3686	LDA	LB2P28	(=LBUF*2+28)	03	03512
010425	057000	I	3687	STA	SBTA	STORE BYTE ADDRESS	03	03513
010426	010000	L	3688	LDA	=*		03	03514
010427	002000	A	3689	JMPM	SBT	STORE CHACT	03	03515
010430	011765	R						
010431	002000	A	3690	JMPM	GNC1	GET NEXT CHACT	03	03516
010432	007737	R						
010433	001010	A	3691	JAZ	LLNJ	JUMP IF END OF LINE	03	03517
010434	010315	R						
010435	140000	L	3692	SUB	=*		03	03518
010436	001010	A	3693	JAZ	LLND	JUMP IF BLANK	03	03519
010437	010457	R						
010440	140000	L	3694	SUB	=*,		03	03520
			3695	IFT	V75		V75	03520
010441	001010	A	3696	JAZ	LLNV75	JUMP IF COMMA	V75	03520
010442	010446	R						
			3697	IFE	V75		V75	03520
			3698	JAZ	LLND	JUMP IF COMMA	03	03521
010443	005021	A	3699	TBA			V75	03521
010444	001000	A	3700	JMP	LLNC	KEEP TRYING	03	03522
010445	010427	R						


```

010563 124640 A
010564 057000 I 3772 STA LBUF+5
010565 002000 A 3773 LE2 JMPM LST LIST ERROR MESSAGE
010566 010145 R
010567 017000 I 3774 LDA LNCT CURRENT LINE COUNT
010570 054003 A 3775 STA ERLN UPDATE ERROR LINE CHAIN
010571 047000 I 3776 INR ERCT INCREMENT ERROR COUNT
010572 001000 A 3777 JMP LE1 KEEP TRYING
010573 010526 R
010574 000000 A 3778 * ERLN DATA 0 LAST ERROR LINE NUMBER
010575 000000 A 3779 *
010576 047000 I 3780 *
010577 020000 L 3781 * THIS IS A SUBROUTINE TO DETERMINE THE DATA WORD TYPE AND
010578 017000 I 3782 * OUTPUT THE TYPE PRECEDED AND FOLLOWED WITH A BLANK CHACT
010579 015000 L 3783 * TO THE LISTING WHEREVER THE STORE BYTE ADDRESS
010580 013000 L 3784 * (SBTA) IS CURRENTLY POINTING
010581 011000 A 3785 *
010582 000000 A 3786 TOUT DATA 0
010583 047000 I 3787 INR SBTA OUTPUT BLANK
010584 020000 L 3788 LDB ='E'
010585 017000 I 3789 LDA RVAL
010586 015000 L 3790 ANA =0600 EXTRACT ST
010587 013000 L 3791 ERA =0400
010588 011000 A 3792 JAZ TOUT1 JUMP IF EXTERNAL
010589 010636 R
010590 020000 L 3793 LDB ='I'
010591 017000 I 3794 LDA RVAL
010592 015000 L 3795 ANA 02000 EXTRACT T1 IND. POINT. FLAG BIT-10 (=02000)
010593 013000 L 3796 JAZ *+4 JUMP IF NOT TYPE 1 INDIRECT
010594 011000 A 3797 JMP TOUT1
010595 010636 R
010596 020000 L 3798 LDB ='L'
010597 017000 I 3799 LDA RVAL
010598 015000 L 3800 ANA 01000 EXTRACT LITERAL FLAG BIT-9 (=01000)
010599 013000 L 3801 JAZ *+4
010600 011000 A 3802 JMP TOUT1 JUMP IF LITERAL
010601 010636 R
010602 020000 L 3803 LDB ='C'
010603 017000 I 3804 LDA RVAL
010604 015000 L 3805 ANA =3 EXTRACT RELOCATABILITY
010605 013000 L 3806 SUB =2
010606 011000 A 3807 JAZ TOUT1 JUMP IF COMMON
010607 010636 R
010608 020000 L 3808 LDB ='R'
010609 017000 I 3809 IAR
010610 015000 L 3810 JAZ TOUT1 JUMP IF RELO
010611 013000 L 3811 LDB ='A' OTHERWISE CALL IT ABSO
010612 011000 A 3812 TOUT1 TBA GET CHACT
010613 005021 A 3813 JMPM SBT STORE DATA TYPE CHACT
010614 002000 A
010615 011765 R
010616 047000 I 3814 INR SBTA OUTPUT BLANK
010617 001000 A 3815 JMP* TOUT RETURN
010618 110575 R
010619 *
010620 * ^ THIS IS A SUBROUTINE TO OUTPUT A NEW ORIGIN TO THE LOADER TEXT
010621 *
010622 *
010623 *
010624 *
010625 *
010626 *
010627 *
010628 *
010629 *
010630 *
010631 *
010632 *
010633 *
010634 *
010635 *
010636 *
010637 *
010638 *
010639 *
010640 *
010641 *
010642 *
010643 *
010644 000000 A 3819 DORG DATA 0
010645 037000 I 3820 LDH POBP GET PREVIOUS OBUF POINTER
010646 001040 A 3821 JXZ DDR2 JUMP IF NO PREVIOUS LOADER CODE
010647 010655 R
010648 015000 A 3822 LDA 0,X GET LOADER CODE/SUBCODE WORD
010649 013000 L 3823 ANA =0177000 EXTRACT CODE+SUBCODE BITS 15-9
010650 011000 A 3824 ERA 01000 (=01000)
010651 001010 A 3825 JAZ DDR1 JUMP IF ORIGIN SUBCODE BIT 9
010652 010671 R
010653 017000 I 3826 DDR2 LDA RLC
010654 015000 L 3827 STA RVAL
010655 013000 L 3828 LDA PC
010656 011000 A 3829 STA VAL
010657 0057000 I 3830 LDA 01000 (=01000)
010658 002000 A 3831 STA CODE
010659 011136 R 3832 JMPM ARPT
010660 002000 A 3833 JMPM OUT2 OUTPUT NEW ORIGIN CODE
010661 011016 R 3834 JMP* DORG RETURN
010662 001000 A
010663 010644 R
010664 077000 I 3835 *
010665 001000 A 3836 DDR1 STX OBPT SET NEW CURRENT OBUF POINTER
010666 010655 R 3837 JMP DDR2 OUTPUT NEW ORIGIN TO OVERLAY LAST ONE
010667 *
010668 *
010669 *
010670 *
010671 *
010672 *
010673 *
010674 017000 I 3838 *
010675 150000 L 3839 * THIS IS A SUBROUTINE TO OUTPUT THE WORD OR LITERAL TO THE
010676 130000 L 3840 * LOADER TEXT
010677 001010 A 3841 *
010678 010760 R 3842 *
010679 015000 L 3843 DNL2 LDA RVAL
010680 130000 L 3844 ANA =0600 EXTRACT ST
010681 001010 A 3845 ERA =0400
010682 010760 R 3846 JAZ DNL7 JUMP IF EXTERNAL

```



```

011025 027000 I 3922   LDB   PDBP   GET PREVIOUS OBUF POINTER      03 03723
011026 001020 A 3923   JBZ   DT21   JUMP IF NONE                      03 03724
011027 011001 R
011030 016000 A 3924   LIA   0,B
011031 004240 A 3925   LRLA  NBIT-16  ADJUST FOR 18-BIT                03 03725
011032 001002 A 3926   JAP   DT21   JUMP IF LAST LOADER CODE NOT ABSO 03 03726
011033 011001 R
011034 017000 I 3927   LDA   CODE
011035 004240 A 3928   LRLA  NBIT-16  ADJUST FOR 18-BIT                03 03728
011036 001002 A 3929   JAP   DT21   JUMP IF THIS LOADER CODE NOT ABSO 03 03729
011037 011001 R
011040 046000 A 3930   INR   0,B    INCREMENT ABSO LOADER CODE WORD COUNT 03 03730
011041 037000 I 3931   LDX   DBPT   GET OUTPUT BUFFER POINTER      03 03731
011042 001000 A 3932   JMP
011043 011011 R
3933 *
3934 *   THIS IS A SUBROUTINE TO OUTPUT THE THREE WORDS CONTAINED IN
3935 *   SYMBOLIC LOCATIONS CODE, VAL, AND IWA TO THE LOADER TEXT
3936 *
011044 000000 A 3937   OUT3  DATA  0
011045 017000 I 3938   LDA   PASS
011046 001004 A 3939   JAN*  OUT3   RETURN IF PASS 1
011047 111044 R
011050 010000 L 3940   LDA   =3
011051 002000 A 3941   JMPM  COUT   CHECK SPACE
011052 011126 R
011053 002000 A 3942   JMPM  ARPT
011054 011136 R
011055 037000 I 3943   LDX   DBPT   GET OUTPUT BUFFER POINTER      03 03744
011056 017000 I 3944   LDA   CODE
011057 055000 A 3945   STA   0,X    STORE LOADER CODE/SUBCODE WORD      03 03745
011060 017000 I 3946   LDA   VAL
011061 055001 A 3947   STA   1,X    STORE DATA WORD
011062 017000 I 3948   LDA   IWA
011063 055002 A 3949   STA   2,X    STORE LITERAL
011064 077000 I 3950   STX   PDBP   UPDATE PREVIOUS OBUF POINTER      03 03751
011065 005144 A 3951   IXR
011066 005144 A 3952   IXR
011067 005144 A 3953   IXR
011070 077000 I 3954   STX   DBPT   UPDATE CURRENT OBUF POINTER    03 03754
011071 001000 A 3955   JMP*  OUT3   RETURN
011072 111044 R
3956 *
3957 *   THIS IS A SUBROUTINE TO OUTPUT FOUR WORDS CONTAINED IN
3958 *   SYMBOLIC LOCATIONS CODE, VAL, AND LAB1+1 THRU LAB1+3
3959 *   TO THE LOADER TEXT
3960 *
011073 000000 A 3961   OUT4  DATA  0
011074 017000 I 3962   LIA   PASS
011075 001004 A 3963   JAN*  OUT4   RETURN IF PASS 1
011076 111073 R
011077 010423 A 3964   LDA   FOUR   (=4)
011100 002000 A 3965   JMPM  COUT   CHECK SPACE
011101 011126 R
011102 002000 A 3966   JMPM  ARPT
011103 011136 R
011104 002000 A 3967   JMPM  CSYM   CONVERT 8-BIT CHACTS TO 6-BIT CHACTS 03 03768
011105 011321 R
011106 037000 I 3968   LDX   DBPT   GET OUTPUT BUFFER POINTER      03 03769
011107 017000 I 3969   LDA   CODE
011110 117000 I 3970   BRA   LAB1+1
011111 055000 A 3971   STA   0,X    STORE LOADER CODE/SUBCODE WORD      03 03772
011112 017000 I 3972   LDA   LAB1+2
011113 055001 A 3973   STA   1,X
011114 017000 I 3974   LDA   LAB1+3
011115 055002 A 3975   STA   2,X
011116 017000 I 3976   LDA   VAL
011117 055003 A 3977   STA   3,X
011120 077000 I 3978   STX   PDBP   UPDATE PREVIOUS OBUF POINTER    03 03779
011121 005041 A 3979   TXA
011122 120423 A 3980   ADD   FOUR   (=4)
011123 057000 I 3981   STA   DBPT   UPDATE CURRENT OBUF POINTER    03 03782
011124 001000 A 3982   JMP*  OUT4   RETURN
011125 111073 R
3983 *
3984 *   THIS IS A SUBROUTINE TO CHECK TO SEE IF SUFFICIENT
3985 *   ADDITIONAL SPACE IS AVAILABLE IN OBUF
3986 *   CALLING SEQUENCE
3987 *   LDA   TADDITIONL WORDS NEEDED
3988 *   JMPM  COUT
3989 *   RETURN
3990 *
011126 000000 A 3991   COUT  DATA  0
011127 127000 I 3992   ADD   DBPT
011130 006140 A 3993   SUBI  OBUF+OBSZ+1
011131 000503 R
011132 002002 A 3994   JAPM  WRIT   OUTPUT OBUF IF NOT SUFFICIENT ROOM 03 03795
011133 011303 R
011134 001000 A 3995   JMP*  COUT   RETURN
011135 111126 R
3996 *
3997 *   THIS IS A SUBROUTINE TO GENERATE THE CORRECT LOADER TEXT
3998 *   POINTER AND 'OR' IT INTO THE CODE
3999 *

```


E.2 VORTEX LISTING

V#DASMR

PROGRAM PAGE

59

LISTING PAGE (340)

011252	006010	A	4068	LDAI	DBUF+60		03	03869
011253	000504	R						
011254	055001	A	4069	STA	1,1		03	03870
			4070	*			03	03871
	011255	R	4071	WRGD	EQU *		03	03872
			4072	WRITE	GDFCB,GO,1,0		03	03873
011255	006505	A						
011256	011230	E						
011257	100000	A						
011260	100411	A						
011261	007035	E						
011262	000000	A						
011263	000000	A						
			4073	*			03	03874
			4074	*			03	03875
	011264	R	4075	WR5	EQU *		03	03876
011264	005001	A	4076	TZA		INITIATE	03	03877
011265	057000	I	4077	STA	POBP	PREVIOUS DBUF POINTER	03	03878
011266	002000	A	4078	JMPM	SAR	DBUF TO ZEROS	03	03879
011270	000073	A	4079	DATA	DBSZ-1	BUT NOT THE	03	03880
011271	000411	R	4080	DATA	DBUF+1	FIRST WORD	03	03881
011272	006010	A	4081	LDAI	DBUF+2	INITIALIZE	03	03882
011273	000412	R						
011274	057000	I	4082	STA	DBPT	CURRENT DBUF POINTER	03	03883
011275	017000	I	4083	LDA	DBUF	GET RECORD CONTROL WORD	03	03884
011276	005111	A	4084	IAR		INCREMENT RECORD NUMBER	03	03885
011277	150000	L	4085	ANA	=0377	EXTRACT JUST IN CASE	03	03886
011300	110000	L	4086	DRA	=074400		03	03887
011301	057000	I	4087	STA	DBUF		03	03888
011302	001000	A	4088	JMP	0	RETURN	03	03889
011303	000000	A						
011303			4089	WRIT	BES	ENTRY	03	03890
011304	006030	R	4090	LDXI	DBUF+DBSZ		03	03891
011305	000504	A						
011306	005002	A	4091	TZE		INITIATE CHECKSUM ACCUMULATOR	03	03892
011307	005345	A	4092	WR2	DECR	A=X=X-1	03	03893
011310	006140	A	4093	SUBI	DBUF		03	03894
011311	000410	R						
011312	001004	A	4094	JAN	WR1	JUMP IF END OF COUNT	03	03895
011313	011160	R						
011314	005021	A	4095	TBA			03	03896
011315	135000	A	4096	ERA	0,X		03	03897
011316	005012	A	4097	TAB		SAVE CHECKSUM SO FAR	03	03898
011317	001000	A	4098	JMP	WR2	KEEP TRYING	03	03899
011320	011307	R						
			4099	*			03	03900
			4100	*			03	03901
			4101	*			03	03902
			4102	*			03	03903
			4103	CSYM	DATA	0	03	03904
011321	000000	A	4104	LDA	LAB1+1	GET FIRST TWO CHACTS	03	03905
011322	017000	I	4105	JMPM	0826	CONVERT TO 6-BIT	03	03906
011323	002000	A						
011324	011402	R						
011325	057000	I	4106	STA	LAB1+1	SAVE	03	03907
011326	017000	I	4107	LDA	LAB1+2	GET SECOND TWO CHACTS	03	03908
011327	002000	A	4108	JMPM	0826	CONVERT TO 6-BIT	03	03909
011330	011402	R						
011331	057000	I	4109	STA	LAB1+2	SAVE	03	03910
011332	017000	I	4110	LDA	LAB1+3	GET THIRD TWO CHACTS	03	03911
011333	002000	A	4111	JMPM	0826	CONVERT TO 6-BIT	03	03912
011334	011402	R						
011335	057000	I	4112	STA	LAB1+3	SAVE	03	03913
011336	117000	I	4113	DRA	LAB1+2		03	03914
011337	117000	I	4114	DRA	LAB1+1		03	03915
011340	001010	A	4115	JAZ*	CSYM	RETURN IF ALL CHACTS BLANKS	03	03916
011341	111321	R						
011342	027000	I	4116	LDB	LAB1+3		03	03917
011343	017000	I	4117	LDA	LAB1+2		03	03918
011344	004044	A	4118	LRLB	NBIT-12	LEFT ADJUST	03	03919
011345	004544	A	4119	LLSR	4	RIGHT	03	03920
011346	004140	A	4120	LSRB	NBIT-16	ADJUST	03	03921
011347	067000	I	4121	STB	LAB1+3	STORE LEAST SIGNIFICANT WORD	03	03922
011350	004550	A	4122	LLSR	8		03	03923
011351	017000	I	4123	LDA	LAB1+1		03	03924
011352	004550	A	4124	LLSR	8		03	03925
011353	004140	A	4125	LSRB	NBIT-16		03	03926
011354	067000	I	4126	STB	LAB1+2	STORE MID SIGNIFICANT WORD	03	03927
011355	057000	I	4127	STA	LAB1+1	STORE MOST SIGNIFICANT WORD	03	03928
011356	017000	I	4128	CSY1	LDA	LAB1+3	03	03929
011357	150000	L	4129	ANA	=077	EXTRACT LEAST SIGNIFICANT CHACT	03	03930
011360	001010	A	4130	JAZ	*+4	JUMP IF BLANK	03	03931
011361	011364	R						
011362	001000	A	4131	JMP*	CSYM	OTHERWISE RETURN	03	03932
011363	111321	R						
011364	027000	I	4132	LDB	LAB1+3		03	03933
011365	017000	I	4133	LDA	LAB1+2		03	03934
011366	004040	A	4134	LRLB	NBIT-16	LEFT ADJUST FOR 16-BIT	03	03935
011367	004546	A	4135	LLSR	6		03	03936
011370	004140	A	4136	LSRB	NBIT-16	RIGHT ADJUST FOR 16-BIT	03	03937
011371	067000	I	4137	STB	LAB1+3		03	03938
011372	004552	A	4138	LLSR	10		03	03939
011373	017000	I	4139	LDA	LAB1+1		03	03940

E.2 VORTEX LISTING

VSDASMR

PROGRAM PAGE 60

LISTING PAGE (341)

```

011374 004546 A 4140 LLSR 6
011375 004140 A 4141 LSRB NBIT-16 RIGHT ADJUST FOR 18-BIT
011376 067000 I 4142 STB LAB1+2
011377 057000 I 4143 STA LAB1+1
011400 001000 A 4144 JMP CSY1 KEEP TRYING
011401 011358 R 4145 *
4146 *
4147 * THIS IS A SUBROUTINE TO CONVERT THE TWO 8-BIT ASCII CHACTS IN
4148 * THE A REGISTER TO TWO 6-BIT CHACTS RIGHT JUSTIFIED IN THE A REG
011402 000000 A 4149 C826 DATA 0
011403 147000 I 4150 SUB WBB0 MAKE CHACTS INTO 6-BIT (= ' ')
011404 004546 A 4151 LLSR 6 RIGHT
011405 004342 A 4152 LSRB 3 ADJUST
011406 004446 A 4153 LRL 6 THEM
011407 001000 A 4154 JMP* C826 RETURN
011410 111402 R 4155 *
4156 * GET V75 REGISTER NUMBER
4157 *
4158 * IFF V75
4159 * GOTO 1
011411 000000 A 4160 GV75R ENTR
011412 002000 R 4161 CALL IAC GET ABS REGISTER NUMBER
011413 005317 R 4162 LDB #'32'
011414 020000 L 4163 LSRB 3
011415 004343 A 4164 JANZM ERR ERROR IF REG NOT 0-7
011416 002016 A 4165 LDA VAL RESTORE A
011417 007747 R 4166 JAZ* GV75R A=0 OK
011420 017000 I 4167 TAB
011421 001010 A 4168 SUB THREE
011422 111411 R 4169 ROF
011423 005012 A 4170 XAN SDF SET OVFL ON 1,2
011424 140464 A 4171 TBA
011425 007400 A 4172 XDF GV75RE FLIP 1,2
011426 003004 A 4173 JMP* GV75R EXIT
011427 011436 R 4174 GV75RE ERA THREE
011430 005021 A 4175 SDF
011431 003001 A 4176 1
011432 011435 R 4177 *
011433 001000 A 4178 * THIS IS A SUBROUTINE TO GET MORE SPACE OR RETURN SPACE
011434 111411 R 4179 * TO TABLE #1.
011435 130464 A 4180 * CALLING SEQUENCE
011436 007401 A 4181 * LDA +SPACE TO GET SPACE
4182 * LDA -SPACE TO RETURN SPACE
4183 * JMPM GS1
4184 * RETURN
4185 * A REG. IS NEGATIVE IF NO SPACE AVAILABLE
4186 * A REG. IS POSITIVE IF SPACE AVAILABLE AND
4187 * X REG. POINTS TO BEGIN OF SPACE
011437 011437 R 4188 GS11 EQU *
011438 001000 A 4189 JMP NOROOM NO ROOM LEFT IN TABLE
011440 012236 R 4190 GS1 ENTR
011441 000000 A 4191 STA GST SAVE INCREMENT
011442 054223 A 4192 ADD ET3
011443 127000 I 4193 SUB B14
011444 147000 I 4194 JAZ GS11 JUMP IF NO ROOM
011445 001000 A 4195 LDA ET1
011446 011437 R 4196 STA GS1M+1 FROM ADDRESS
011447 017000 I 4197 ADD GST
011448 054010 A 4198 STA GS1M+2 TO ADDRESS
011449 124214 A 4199 LDA ET3
011450 017000 I 4200 SUB ET1
011451 054007 A 4201 STA GS1M COUNT
011452 147000 I 4202 JMPM MOVW MOVE TABLES 2&3 OUT OF WAY
011453 017000 I 4203 GS1M DATA 0
011454 054002 A 4204 DATA 0
011455 002000 A 4205 DATA 0
011456 011761 R 4206 LRA ET1
011457 000000 A 4207 TAX
011458 000000 A 4208 ADD GST
011459 017000 I 4209 STA ET1 (&B12)
011460 057000 I 4210 LDA ET2
011461 124173 A 4211 ADD GST
011462 017000 I 4212 STA ET2 (&B13)
011463 057000 I 4213 LDA ET3
011464 124172 A 4214 ADD GST
011465 057000 I 4215 STA ET3
011466 001000 A 4216 JMP* GS1 RETURN (A REG. IS POSITIVE)
011476 111441 R 4217 *
4218 * THIS IS A SUBROUTINE TO GET MORE SPACE OR RETURN SPACE
4219 * TO TABLE #2.
4220 * CALLING SEQUENCE

```



```

4221 *   LDA      +SPACE TO GET SPACE      03 04000
4222 *   LDA      -SPACE TO RETURN SPACE   03 04001
4223 *   JPM      GS2                      03 04002
4224 *   RETURN                                03 04003
4225 *   A REG. IS NEGATIVE IF NO SPACE AVAILIABLE 03 04004
4226 *   A REG. IS POSITIVE IS SPACE AVAILIABLE AND 03 04005
4227 *   X REG. POINTS TO BEGIN OF SPACE      03 04006
011477 011477 R 4228 GS21 EQU      *                      03 04007
011500 012236 R 4229 JMP      NDRROOM      NO ROOM LEFT IN TABLE 03 04008
011501 000000 A 4230 GS2  ENTR                                03 04009
011502 054163 A 4231 STA      GST          SAVE INCREMENT      03 04010
011503 127000 I 4232 ADD      ET3          03 04011
011504 147000 I 4233 SUB      BT4          03 04012
011505 001002 A 4234 JAP      GS21        JUMP IF NO ROOM      03 04013
011506 011477 R
011507 017000 I 4235 LDA      ET2                      03 04014
011510 054010 A 4236 STA      GS2M+1      FROM ADDRESS      03 04015
011511 124154 A 4237 ADD      GST          03 04016
011512 054007 A 4238 STA      GS2M+2      TO ADDRESS      03 04017
011513 017000 I 4239 LDA      ET3          03 04018
011514 147000 I 4240 SUB      ET2          03 04019
011515 054002 A 4241 STA      GS2M        COUNT      03 04020
011516 002000 A 4242 JPM      MOVW        MOVE TABLE 3 OUT OF WAY 03 04021
011517 011761 R
011520 000000 A 4243 GS2M DATA 0          COUNT      03 04022
011521 000000 A 4244 DATA 0          FROM ADDRESS 03 04023
011522 000000 A 4245 DATA 0          TO ADDRESS  03 04024
011523 017000 I 4246 LDA      ET2          03 04025
011524 005014 A 4247 TAX                                03 04026
011525 124140 A 4248 ADD      GST          03 04027
011526 057000 I 4249 STA      ET2          (&BT3)  03 04028
011527 017000 I 4250 LDA      ET3          03 04029
011530 124135 A 4251 ADD      GST          03 04030
011531 057000 I 4252 STA      ET3          03 04031
011532 001000 A 4253 JPM*     GS2          RETURN (A REG. IS POSITIVE) 03 04032
011533 111501 R
4254 *
4255 *   THIS IS A SUBROUTINE TO GET MORE SPACE OR RETURN SPACE 03 04033
4256 *   TO TABLE #3. 03 04034
4257 *   CALLING SEQUENCE 03 04035
4258 *   LDA      +SPACE TO GET SPACE      03 04036
4259 *   LDA      -SPACE TO RETURN SPACE   03 04037
4260 *   JPM      GS3                      03 04038
4261 *   RETURN                                03 04039
4262 *   A REG. IS NEGATIVE IF NO SPACE AVAILIABLE 03 04040
4263 *   A REG. IS POSITIVE IS SPACE AVAILIABLE AND 03 04041
4264 *   X REG. POINTS TO BEGIN OF SPACE      03 04042
011534 011534 R 4265 GS31 EQU      *                      03 04043
011534 001000 A 4266 JMP      NDRROOM      NO ROOM LEFT IN TABLE 03 04044
011535 012236 R
011536 000000 A 4267 GS3  ENTR                                03 04045
011537 054126 A 4268 STA      GST          SAVE INCREMENT      03 04046
011540 127000 I 4269 ADD      ET3          03 04047
011541 147000 I 4270 SUB      BT4          03 04048
011542 001002 A 4271 JAP      GS31        JUMP IF NO ROOM      03 04049
011543 011534 R
011544 017000 I 4272 LDA      ET3          03 04050
011545 005014 A 4273 TAX                                03 04051
011546 124117 A 4274 ADD      GST          03 04052
011547 057000 I 4275 STA      ET3          03 04053
011550 001000 A 4276 JPM*     GS3          RETURN (A REG. IS POSITIVE) 03 04054
011551 111536 R
4277 *
4278 *   THIS IS A SUBROUTINE TO GET MORE SPACE OR RETURN SPACE 03 04055
4279 *   TO TABLE #4. 03 04056
4280 *   CALLING SEQUENCE 03 04057
4281 *   LDA      +SPACE TO GET SPACE      03 04058
4282 *   LDA      -SPACE TO RETURN SPACE   03 04059
4283 *   JPM      GS4                      03 04060
4284 *   RETURN                                03 04061
4285 *   A REG. IS NEGATIVE IF NO SPACE AVAILIABLE 03 04062
4286 *   A REG. IS POSITIVE IS SPACE AVAILIABLE AND 03 04063
4287 *   X REG. POINTS TO BEGIN OF SPACE      03 04064
011552 011552 R 4288 GS41 EQU      *                      03 04065
011552 001000 A 4289 JMP      NDRROOM      NO ROOM LEFT IN TABLE 03 04066
011553 012236 R
011554 000000 A 4290 GS4  ENTR                                03 04067
011555 054110 A 4291 STA      GST          SAVE INCREMENT      03 04068
011556 127000 I 4292 ADD      ET3          03 04069
011557 147000 I 4293 SUB      BT4          03 04070
011560 001002 A 4294 JAP      GS41        JUMP IF NO ROOM      03 04071
011561 011552 R
011562 017000 I 4295 LDA      BT4          03 04072
011563 144102 A 4296 SUB      GST          03 04073
011564 005014 A 4297 TAX                                03 04074
011565 057000 I 4298 STA      BT4          03 04075
011566 001000 A 4299 JPM*     GS4          RETURN (A REG. IS POSITIVE) 03 04076
011567 111554 R
4300 *
4301 *   THIS IS A SUBROUTINE TO GET MORE SPACE OR RETURN SPACE 03 04077
4302 *   TO TABLE #5. 03 04078
4303 *   CALLING SEQUENCE 03 04079

```



```

4304 * LDA +SPACE TO GET SPACE 03 04083
4305 * LDA -SPACE TO RETURN SPACE 03 04084
4306 * JMPM GS5 03 04085
4307 * RETURN A REG. IS NEGATIVE IF NO SPACE AVAILIABLE 03 04086
4308 * A REG. IS POSITIVE IS SPACE AVAILIABLE AND 03 04087
4309 * X REG. POINTS TO BEGIN OF SPACE 03 04088
4310 *
011570 R 4311 GS51 EQU * 03 04089
011571 A 4312 JMP NDRROOM NO ROOM LEFT IN TABLE 03 04090
011572 000000 A 4313 GS5 ENTR 03 04091
011573 054072 A 4314 STA GST SAVE INCREMENT 03 04092
011574 127000 I 4315 ADD ET3 03 04093
011575 147000 I 4316 SUB BT4 03 04094
011576 001002 A 4317 JAP GS51 JUMP IF NO ROOM 03 04095
011577 011570 R 4318 LDA BT4 03 04096
011600 017000 I 4319 STA GS5M+1 FROM ADDRESS 03 04097
011601 054010 A 4320 SUB GST 03 04098
011602 144063 A 4321 STA GS5M+2 TO ADDRESS 03 04099
011603 054007 A 4322 LDA BT5 03 04100
011604 017000 I 4323 SUB BT4 03 04101
011605 147000 A 4324 STA GS5M COUNT 03 04102
011606 054002 A 4325 JMPM MOVW MOVE TABLE 4 OUT OF WAY 03 04103
011607 002000 A 4326 GS5M DATA 0 COUNT 03 04104
011610 011761 R 4327 DATA 0 FROM ADDRESS 03 04105
011611 000000 A 4328 DATA 0 TO ADDRESS 03 04106
011612 000000 A 4329 LDA BT5 03 04107
011613 000000 A 4330 SUB GST 03 04108
011614 017000 I 4331 TAX 03 04109
011615 144050 A 4332 STA BT5 (&BT4) 03 04110
011616 005014 A 4333 LDA BT4 03 04111
011617 057000 I 4334 SUB GST 03 04112
011620 017000 I 4335 STA BT4 03 04113
011621 144044 A 4336 JMP* GS5 RETURN (A REG. IS POSITIVE) 03 04114
011622 057000 I 4337 * 03 04115
011623 001000 A 4338 * 03 04116
011624 111572 R 4339 * 03 04117
4340 * THIS IS A SUBROUTINE TO GET MORE SPACE OR RETURN SPACE 03 04118
4341 * TO TABLE #6. 03 04119
4342 * CALLING SEQUENCE 03 04120
4343 * THE B-REG. PLUS THE A-REG. CONTAINS THE HIGHEST LOCATION 03 04121
4344 * IN TABLE #6 TO BE MOVED 03 04122
4345 * LDA +SPACE TO GET SPACE 03 04123
4346 * LDA -SPACE TO RETURN SPACE 03 04124
4347 * JMPM GS6 03 04125
4348 * RETURN A REG. IS NEGATIVE IF NO SPACE AVAILIABLE 03 04126
4349 * A REG. IS POSITIVE IS SPACE AVAILIABLE AND 03 04127
4350 * X REG. POINTS TO BEGIN OF SPACE 03 04128
011625 R 4351 GS61 EQU * 03 04129
011626 001000 A 4352 JMP NDRROOM NO ROOM LEFT IN TABLE 03 04130
011627 012236 R 4353 GS6 ENTR 03 04131
011630 054033 A 4354 STA GST SAVE INCREMENT 03 04132
011631 127000 I 4355 ADD ET3 03 04133
011632 147000 I 4356 SUB BT4 03 04134
011633 001002 A 4357 JAP GS61 JUMP IF NO ROOM 03 04135
011634 011625 R 4358 LDA BT4 03 04136
011635 017000 I 4359 STA GS6M+1 FROM ADDRESS 03 04137
011636 054011 A 4360 SUB GST 03 04138
011637 144026 A 4361 STA GS6M+2 TO ADDRESS 03 04139
011640 054010 A 4362 TAX 03 04140
011641 005021 A 4363 STA BT5 (&BT5) 03 04141
011642 124023 A 4364 LDA BT4 03 04142
011643 147000 I 4365 SUB GST 03 04143
011644 054007 A 4366 STA GS6M COUNT 03 04144
011645 002000 A 4367 JMPM MOVW MOVE TABLES 4&5 OUT OF WAY 03 04145
011646 011761 R 4368 GS6M DATA 0 COUNT 03 04146
011647 000000 A 4369 DATA 0 FROM ADDRESS 03 04147
011650 000000 A 4370 DATA 0 TO ADDRESS 03 04148
011651 000000 A 4371 LDA BT6 03 04149
011652 017000 I 4372 SUB GST 03 04150
011653 144012 A 4373 TAX 03 04151
011654 005014 A 4374 STA BT6 (&BT5) 03 04152
011655 057000 I 4375 LDA BT4 03 04153
011656 017000 I 4376 SUB GST 03 04154
011657 144006 A 4377 STA BT4 (&BT5) 03 04155
011660 057000 I 4378 LDA BT4 03 04156
011661 017000 I 4379 SUB GST 03 04157
011662 144003 A 4380 STA BT4 03 04158
011663 057000 I 4381 JMP* GS6 RETURN (A REG. IS POSITIVE) 03 04159
011664 001000 A 4382 * 03 04160
011665 111627 R 4383 * 03 04161
011666 000000 A 4384 * 03 04162
4385 * THIS IS A SUBROUTINE TO STORE THE A-REGISTER REPEATIATELY 03 04163
4386 * CALLING SEQUENCE 03 04164
4387 * JMPM SAR 03 04165
4388 * DATA COUNT 03 04166
4389 * DATA DATA ADDRESS 03 04167
4390 * RETURN 03 04168

```


011667	034015	A	4389	SAR1	LDX	SAR	GET ADDRESS OF CALL	03	04168	
011670	005012	A	4390		TAB		PUT A-REG. INTO B-REG.	03	04169	
011671	015000	A	4391		LDA	0,X	GET COUNT	03	04170	
011672	035001	A	4392		LDX	1,X	GET DATA ADDRESS	03	04171	
011673	005311	A	4393	SAR2	DAR		DECREMENT COUNT	03	04172	
011674	001004	A	4394		JAN	SAR3	JUMP IF END OF COUNT	03	04173	
011675	011702	R								
011676	065000	A	4395		STB	0,X	STORE 'A-REGISTER'	03	04174	
011677	005144	A	4396		IXR		INCREMENT DATA ADDRESS	03	04175	
011700	001000	A	4397		JMP	SAR2	KEEP TRYING	03	04176	
011701	011673	R								
			4398	*					03	04177
011702	044002	A	4399	SAR3	INR	SAR	ADJUST	03	04178	
011703	044001	A	4400		INR	SAR	RETURN ADDRESS	03	04179	
011704	001000	A	4401		JMP	0	RETURN	03	04180	
011705	000000	A								
011705			4402	SAR	BES	0	ENTRY	03	04181	
011706	001000	A	4403		JMP	SAR1		03	04182	
011707	011667	R								
			4404	*					03	04183
			4405	*					03	04184
			4406	*					03	04185
			4407	*					03	04186
			4408	*					03	04187
			4409	*					03	04188
			4410	*					03	04189
			4411	*					03	04190
			4412	*					03	04191
			4413	*					03	04192
			4414	*					03	04193
			4415	*					03	04194
011710	034050	A	4416	MOV1	LDX	MOVW		03	04195	
011711	015001	A	4417		LDA	1,1	GET 'FROM' ADDRESS	03	04196	
011712	145002	A	4418		SUB	2,1	SUBTRACT 'TO' ADDRESS	03	04197	
011713	001004	A	4419		JAN	MOVW	JUMP IF REVERSE MOVE	03	04198	
011714	011733	R								
			4420	*					03	04199
011715	025001	A	4421		FORWARD	MOVE		03	04200	
011716	015000	A	4422		LDB	1,1	GET 'FROM' ADDRESS	03	04201	
011717	035002	A	4423		LDA	0,1	GET COUNT	03	04202	
011720	005311	A	4424	MOV2	LDX	2,1	GET 'TO' ADDRESS	03	04203	
011721	001004	A	4425		DAR		DECREMENT COUNT	03	04204	
011722	011755	R			JAN	MOVE	JUMP IF END OF COUNT	03	04205	
011723	054040	A	4426		STA	MOVW		03	04206	
011724	016000	A	4427		LDA	0,2		03	04207	
011725	055000	A	4428		STA	0,1		03	04208	
011726	005122	A	4429		IXR			03	04209	
011727	005144	A	4430		IXR			03	04210	
011730	014033	A	4431		LDA	MOVW	GET COUNT	03	04211	
011731	001000	A	4432		JMP	MOV2	KEEP TRYING	03	04212	
011732	011720	R								
			4433	*					03	04213
011733	015000	A	4434	MOVW	REVERSE	MOVE		03	04214	
011734	125001	A	4435		LDA	0,1	GET COUNT	03	04215	
011735	005012	A	4436		ADD	1,1	ADD 'FROM' ADDRESS	03	04216	
011736	015000	A	4437		TAB			03	04217	
011737	054024	A	4438		LDA	0,1	GET COUNT	03	04218	
011740	125002	A	4439		STA	MOVW	SAVE	03	04219	
011741	005014	A	4440		ADD	2,1	ADD 'TO' ADDRESS	03	04220	
011742	014021	A	4441	MOV3	TAX			03	04221	
011743	005311	A	4442		LDA	MOVW		03	04222	
011744	001004	A	4443		DAR		DECREMENT COUNT	03	04223	
011745	011755	R			JAN	MOVE	JUMP IF END OF COUNT	03	04224	
011746	054015	A	4444		STA	MOVW		03	04225	
011747	005322	A	4445		DBR			03	04226	
011750	005344	A	4446		DXR			03	04227	
011751	016000	A	4447		LDA	0,2		03	04228	
011752	055000	A	4448		STA	0,1		03	04229	
011753	001000	A	4449		JMP	MOV3	KEEP TRYING	03	04230	
011754	011742	R								
			4450	*					03	04231
011755	044003	A	4451	MOVE	INR	MOVW	ADJUST	03	04232	
011756	044002	A	4452		INR	MOVW	RETURN	03	04233	
011757	044001	A	4453		INR	MOVW	ADDRESS	03	04234	
011760	001000	A	4454		JMP	0	RETURN	03	04235	
011761	000000	A								
011761			4455	MOVW	BES	0	ENTRY	03	04236	
011762	001000	A	4456		JMP	MOV1		03	04237	
011763	011710	R								
011764	000000	A	4457	MOVW	DATA	0	TEMP STORAGE FOR MOVW	03	04238	
			4458	*					03	04239
			4459	*					03	04240
			4460	*					03	04241
			4461	*					03	04242
			4462	*					03	04243
			4463	*					03	04244
			4464	*					03	04245
			4465	*					03	04246
			4466	*					03	04247
011765	000000	A	4467	SBT	DATA	0		03	04248	
011766	064040	A	4468		STB	SBT3	SAVE B-REGISTER	03	04249	
011767	150000	L	4469		ANA	=0377	EXTRACT BYTE JUST IN CASE	03	04250	
011770	054035	A	4470		STA	SBT1	SAVE BYTE	03	04251	

Address	Label	Op	Op2	Description	Page	Line
011771	027000	I	4471	LDB SBT4		03 04250
011772	002000	A	4472	JMPM BYTE		03 04251
011773	012012	R				
011774	006150	A	4473	ANAI -256		03 04252
011775	177400	A				
011776	114027	A	4474	ORA SBT1		03 04253
011777	001001	A	4475	JDF *+3		03 04254
012000	012002	R				
012001	004250	A	4476	LRLA 8		03 04255
012002	056000	A	4477	STA 0,2		03 04256
012003	014022	A	4478	LDA SBT1		03 04257
012004	047000	I	4479	INR SBT4		03 04258
012005	024021	A	4480	LDB SBT3		03 04259
012006	001000	A	4481	JMP* SBT		03 04260
012007	111765	R				
			4482	*		03 04261
			4483	*		03 04262
			4484	*		03 04263
			4485	BYT1 LDA 0,2	GET DATA WORD	03 04264
012010	016000	A	4486	JMP 0	RETURN	03 04265
012011	001000	A				
012012	000000	A				
012012			4487	BYTE BES 0	ENTRY	03 04266
012013	005021	A	4488	TBA		03 04267
012014	005002	A	4489	TZB		03 04268
012015	004457	A	4490	LLRL NBIT-1	COMPUTE WORD ADDRESS, DIV=2.	03 04269
012016	007400	A	4491	ROF		03 04270
012017	127000	I	4492	ADD C2	SET OVERFLOW INDICATOR TO REFLECT A(SIGN)	03 04271
012020	001002	A	4493	JAP BYT1	JUMP IF RIGHT BYTE	03 04272
012021	012010	R				
012022	016000	A	4494	LDA 0,2	GET DATA WORD	03 04273
012023	004250	A	4495	LRLA NBIT-8	LEFT BYTE	03 04274
012024	001000	A	4496	JMP* BYTE	EXIT	03 04275
012025	112012	R				
012026	000000	A	4497	SBT1 DATA 0	TEMP STORAGE FOR SBT+LBT	03 04276
012027	000000	A	4498	SBT3 DATA 0	TEMP STORAGE FOR SBT+LBT	03 04277
			4499	*		03 04278
			4500	*		03 04279
			4501	*		03 04280
			4502	*		03 04281
			4503	*		03 04282
			4504	*		03 04283
			4505	*		03 04284
			4506	*		03 04285
			4507	*		03 04286
012030	000000	A	4508	B2A DATA 0		03 04287
012031	030000	L	4509	LDX -TENS+3	INITIATE TABLE ADDRESS	03 04288
012032	005002	A	4510	TZB		03 04289
012033	002000	A	4511	JMPM B2S1	SUBTRACT OFF TEN THOUSAND'S DIGIT	03 04290
012034	012075	R				
012035	007400	A	4512	ROF		03 04291
012036	003020	A	4513	ABZ XSOE	SET NO LEADING ZERO IF ANY 10,000'S DIGIT	03 04292
012037	014014	R				
012040	005002	A	4514	TZB	CLEAR ACCUMULATOR	03 04293
012041	002000	A	4515	JMPM B2S1	SUBTRACT OFF THOUSAND'S DIGIT	03 04294
012042	012075	R				
012043	002000	A	4516	JMPM B2S1	SUBTRACT OFF HUNDRED'S DIGIT	03 04295
012044	012075	R				
012045	002000	A	4517	JMPM B2S1	SUBTRACT OFF TEN'S DIGIT	03 04296
012046	012075	R				
012047	005032	A	4518	MERG 002	B=B.OR.A	03 04297
012050	004040	A	4519	LRLB NBIT-16	ADJUST FOR 18 BIT	03 04298
012051	002000	A	4520	JMPM B2AB	GET THOUSAND'S DIGIT	03 04299
012052	012107	R				
012053	004250	A	4521	LRLA 8	MOVE IT OVER AND	03 04300
012054	005014	A	4522	TAX	SAVE THOUSAND'S DIGIT	03 04301
012055	002000	A	4523	JMPM B2AB	GET HUNDRED'S DIGIT	03 04302
012056	012107	R				
012057	005054	A	4524	MERG 054	X = X .OR. A	03 04303
012060	002000	A	4525	JMPM B2AB	GET TEN'S DIGIT	03 04304
012061	012107	R				
012062	004244	A	4526	LRLA 4		03 04305
012063	004444	A	4527	LLRL 4		03 04306
012064	120000	L	4528	ADD =*0*		03 04307
012065	005012	A	4529	TAB		03 04308
012066	005041	A	4530	TAP		03 04309
012067	001000	A	4531	JMP* B2A	RETURN	03 04310
012070	112030	R				
			4532	*		03 04311
012071	125000	A	4533	B2S2 ADD 0,1	ADD BACK IN	03 04312
012072	005344	A	4534	ORR	GET TO NEXT POWER OF TEN'S	03 04313
012073	004044	A	4535	LRLB 4	MOVE ACCUMULATED DIGITS OVER	03 04314
012074	001000	A	4536	JMP 0	RETURN	03 04315
012075	000000	A				
012075			4537	B2S1 RES 0	ENTRY	03 04316
012076	145000	A	4538	B2S3 SUB 0,1	SUBTRACT DIVISOR	03 04317
012077	001004	A	4539	JAN B2S2	JUMP WHEN NEGATIVE	03 04318
012100	012071	R				
012101	005122	A	4540	IBR	COUNT SUCCESSFUL SUBTRACTIONS	03 04319
012102	001000	A	4541	JMP B2S3	KEEP TRYING	03 04320
012103	012076	R				
			4542	*		03 04321
012104	007401	A	4543	B2B1 SOF	KEEP LEADING ZERO FLAG SET	03 04322
012105	120000	L	4544	ADD =*	MAKE IT AN ASCII BLANK	03 04323


```

012106 001000 A 4545. JMP 0 RETURN 03 04324
012107 000000 A BES 0 ENTRY 03 04325
012107 4546 B2AB TZA 0 03 04326
012110 005001 A 4547 LLRL 4 GET A CHACT 03 04327
012111 004444 A 4548 JIF 011,B2B1 JUMP IF LEADING ZERO (AZ+DF) 03 04328
012112 001011 A 4549 RDF RESET LEADING ZERO FLAG 03 04329
012113 012104 R 4550 ADD =*0* MAKE IT AN ASCII CHACT. 03 04330
012114 007400 A 4551 JMP* B2AB RETURN 03 04331
012115 120000 L 4552 * 03 04332
012116 001000 A 4553 TENS DATA 10,100,1000,10000 03 04333
012117 112107 R 4554 * 03 04334
012120 000012 A 4555 MDPT DATA MEX,FEK,T1,T2,T3,T4,T5 03 04335
012121 000144 A 4556 * 03 04336
012122 001750 A 4557 IFT V75 V75*****
012123 023420 A 4558 PZE V75INS V75 INSTRUCTION SET V75*****
012124 004334 R 4559 DATA C,0 03 04337
012125 003635 R 4560 * 03 04338
012126 004507 R 4561 TITLE EQU * 03 04339
012127 005004 R 4562 LDA RBBQ SET WORD 4 OF TITLE BLOCK 03 04340
012130 004772 R 4563 STA TTLBLK+4 TO BLANKS 03 04341
012131 005026 R 4564 LDA EIGHT SET NUMBER OF CHARS 03 04342
012132 005033 R 4565 STA ISM7-3 TO 8 03 04343
012133 005103 R 4566 CALL ISM INPUT IST 6 CHARACTERS OF TITLE 03 04344
012134 000000 A 4567 DATA TTLBLK 03 04345
012135 000000 A 4568 LDAI 6 RESET NUMBER OF CHARS 03 04346
012136 012136 R 4569 STA ISM7-3 TO 6 03 04347
012137 017000 I 4570 LDAI 8 03 04348
012140 014010 A 4571 EIGHT EQU *-1 03 04349
012141 057000 I 4572 STA TTLBLK RESTORE NUMBER OF CHARS 03 04350
012142 002000 A 4573 * 03 04351
012143 007474 R 4574 CALL MOVW MOVE IT INTO PAGE HEADER BUFFER 03 04352
012144 000117 R 4575 DATA 4 03 04353
012145 006010 A 4576 DATA TTLBLK+1 03 04354
012146 000006 A 4577 DATA MED+24 03 04355
012147 057000 I 4578 CALL LLN LIST THE TITLE DIRECTIVE STATEMENT 03 04356
012150 006010 A 4579 JMP RET AND RETURN 03 04357
012151 000010 A 4580 * 03 04358
012152 012151 R 4581 * GET SECTOR RECORD ADDRESS 03 04359
012153 002000 R 4582 * 03 04360
012154 011761 R 4583 GSRCAD ENTR GSRC01 03 04361
012155 000004 A 4584 JAP 03 04362
012156 000120 R 4585 IAR UPDATE 03 04363
012157 000726 R 4586 STA SRAF SECTOR RECORD ADDRESS FLAG 03 04364
012160 002000 A 4587 LDAI $BUF GET RECORD BUFFER POINTER 03 04365
012161 010300 R 4588 JMP* GSRCAD RETURN 03 04366
012162 001000 A 4589 * 03 04367
012163 007115 R 4590 GSRC01 EQU * 03 04368
012164 000000 A 4591 JAZ GSRC02 03 04369
012165 001002 A 4592 DECR 1 UPDATE 03 04370
012166 012175 R 4593 STA SRAF SECTOR RECORD ADDRESS FLAG 03 04371
012167 005111 A 4594 LDAI $BUF+80 GET RECORD BUFFER POINTER 03 04372
012170 057000 I 4595 JMP* GSRCAD RETURN 03 04373
012171 006010 A 4596 * 03 04374
012172 000124 R 4597 GSRC02 EQU * 03 04375
012173 001000 A 4598 IAR UPDATE 03 04376
012174 112164 R 4599 STA SRAF SECTOR RECORD ADDRESS FLAG 03 04377
012175 012175 R 4600 LDAI $BUF+40 GET RECORD BUFFER POINTER 03 04378
012176 012205 R 4601 JMP* GSRCAD RETURN 03 04379
012177 005301 A 4602 * 03 04380
012200 057000 I 4603 * 03 04381
012201 006010 A 4604 GET B0 (G4) BUFFER MOVE ADDR 03 04382
012202 000244 R 4605 * 03 04383
012203 001000 A 4606 GSRCAD ENTR GSRC01 03 04384
012204 112164 R 4607 JAZ 03 04385
012205 012205 R 4608 IAR 03 04386
012206 005111 A 4609 STA SRAF UPDATE FLAG (ALTERNATE 0 AND -1) 03 04387
012207 006010 A 4600 03 04388
012210 000174 R 4601 03 04389
012211 001000 A 4602 03 04390
012212 112164 R 4603 03 04391
012213 000000 A 4604 03 04392
012214 001010 A 4605 03 04393
012215 012230 R 4606 03 04394
012216 005111 A 4607 03 04395
012217 057000 I 4608 03 04396

```


Address	Label	Op	Op2	Description	Page	Line
012220	002000	A	4610	CALL SAR		03 04387
012221	011705	R				
012222	000170	A	4611	DATA 120		03 04388
012223	000504	R	4612	DATA DBUF+60		03 04389
012224	006010	A	4613	LDAI DBUF+60		03 04390
012225	000504	R				
012226	001000	A	4614	JMP* GBOND		03 04391
012227	112213	R				
			4615	* GBOND1 EQU *		03 04392
	012230	R	4616			03 04393
012230	005311	A	4617	DAR		03 04394
012231	057000	I	4618	STA GSRF		03 04395
012232	006010	A	4619	LDAI DBUF+120		03 04396
012233	000600	R				
012234	001000	A	4620	JMP* GBOND		03 04397
012235	112213	R				
			4621	* THIS ROUTINE IS CALLED WHEN		03 04398
			4622	* NO ROOM IS LEFT IN AN ASSEMBLER TABLE		03 04399
			4623	* ALL ERRORS ENCOUNTERED ON THE		03 04400
			4624	* CURRENT STATEMENT ARE LISTED, ALONG WITH		03 04401
			4625	* THE 'NR' MESSAGE.		03 04402
			4626	* THE ASSEMBLY IS THEN ABORTED.		03 04403
			4627	*		03 04404
			4628	*		03 04405
			4629	*		03 04406
			4630	*		03 04407
	012236	R	4631	NORDOM EQU *		03 04408
			4632	*		03 04409
012236	020000	L	4633	LDB ='NR'		03 04410
012237	002000	A	4634	CALL ERR		03 04411
012240	007747	R				
012241	017000	I	4635	LDA OBBO		03 04412
012242	002000	A	4636	CALL SAR		03 04413
012243	011705	R				
012244	000074	A	4637	DATA LBSZ		03 04414
012245	000314	R	4638	DATA LBUF		03 04415
012246	002000	A	4639	CALL LE		03 04416
012247	010525	R				
012250	001000	A	4640	JMP STER		03 04417
012251	007070	R				
			4641	* WRITE ONE LINE ON LD DEVICE		03 04418
			4642	* CHECK AFTER WRITE		03 04419
			4643	* AND BLANK FILL THE LIST BUFFER		03 04420
			4644	*		03 04421
			4645	*		03 04422
012252	000000	A	4646	LOWRIT ENTR		03 04423
012253	014112	A	4647	LDA \$LIST		03 04424
012254	001016	A	4648	JANZ LOWR1		03 04425
012255	012271	R				
	012256	R	4649	LOWR01 EQU *		03 04426
			4650	WRITE LDRDCB, LD, 0, 1		03 04427
012256	006505	A				
012257	011256	E				
012260	100000	A				
012261	010405	A				
012262	000000	E				
012263	000000	A				
012264	000000	A				
			4651	*		03 04428
012265	006010	A	4652	LDAI LOWR01		03 04429
012266	012256	R				
012267	002000	A	4653	CALL STAT		03 04430
012270	006762	R				
	012271	R	4654	LOWR1 EQU *		03 04431
012271	002000	A	4655	JMPM CLRBUF		03 04432
012272	012275	R				
012273	001000	A	4656	JMP* LOWRIT		03 04433
012274	112252	R				
			4657	* CLRBUF ENTR		03 04434
012275	000000	A	4658			03 04435
			4659	*		03 04436
012276	017000	I	4660	LDA GSRF		03 04437
012277	002000	A	4661	JMPM SAR		03 04438
012300	011705	R				
012301	000074	A	4662	DATA LBSZ		03 04439
012302	000314	R	4663	DATA LBUF		03 04440
012303	001000	A	4664	JMP* CLRBUF		03 04441
012304	112275	R				
			4665	* LEADER ENTR		03 04442
012305	000000	A	4666			03 04443
012306	017000	I	4667	LDA SPCW		03 04444
012307	004256	A	4668	LRLA NBIT-2		03 04445
012310	001004	A	4669	JAN* LEADER		03 04446
012311	112305	R				
	012312	R	4670	LEADR1 EQU *		03 04447
			4671	PUNC LDRDCB, BD, 0		03 04448
012312	006505	A				
012313	012257	E				
012314	100000	A				
012315	002407	A				
012316	012363	R				
012317	000000	A				
012320	000000	A				

012321	006010	A	4672 *					03	04449
			4673	LDAI	LEADR1			03	04450
012322	012312	R							
012323	002000	A	4674	CALL	STAT			03	04451
012324	006762	R							
			4675 *					03	04452
012325	001000	A	4676	JMP*	LEADER			03	04453
012326	112305	R							
			4677 *					03	04454
			4678 *			READ NEXT SS RECORD		03	04455
			4679 *					03	04456
012327	000000	A	4680	SSREAD	ENTR			03	04457
			4681	READ	SSFCB,SS,0,1			03	04458
012330	006505	A							
012331	012313	E							
012332	100000	A							
012333	010010	A							
012334	006536	E							
012335	000000	A							
012336	000000	A							
			4682 *					03	04459
012337	006010	A	4683	LDAI	SSREAD+1	STATUS CHECK SS READ		03	04460
012340	012330	R							
012341	002000	A	4684	CALL	STAT			03	04461
012342	006762	R							
			4685 *					03	04462
012343	001000	A	4686	JMP*	SSREAD	RETURN		03	04463
012344	112327	R							
			4687 *					03	04464
			4688 *					03	04465
			4689 *			PI READ AN STATUS CHECK ROUTINE		03	04466
			4690 *					03	04467
012345	000000	A	4691	PIREAD	ENTR			03	04468
			4692	READ	PIFCB,PI,0,1	READ W. WAIT OPTION		03	04469
012346	006505	A							
012347	012331	E							
012350	100000	A							
012351	010004	A							
012352	000000	E							
012353	000000	A							
012354	000000	A							
			4693 *					03	04470
012355	006010	A	4694	LDAI	PIREAD+1	CHECK STATUS		03	04471
012356	012346	R							
012357	002000	A	4695	CALL	STAT	FOLLOWING THE PI READ		03	04472
012360	006762	R							
			4696 *					03	04473
012361	001000	A	4697	JMP*	PIREAD	RETURN		03	04474
012362	112345	R							
			4698 *					03	04475
			4699 *					03	04476
			4700 *			LEADER/TRAILER FUNC PCB		03	04477
	012363	R	4701	LDRDCB	EQU			03	04478
			4702	DCR	#	60,0BUF+60,0		03	04479
012363	000074	A							
012364	000504	R							
012365	000000	A							
012366	000000	A	4703	\$LIST	DATA	0		03	04480
			4704 *					03	04481
			4705 *					03	04482
			4706 *					03	04483
			4707 *			BEGIN DIRECTIVE TABLE		03	04484
			4708 *					03	04485
012367	147722	A	4709	BDT'	DATA	'ORG ',0,ORG		03	04486
012370	143640	A							
012371	120240	A							
012372	000000	A							
012373	001244	R							
012374	147314	A	4710	DATA	'NLIS ',0,NLIS			03	04487
012375	144723	A							
012376	120240	A							
012377	000000	A							
012400	002071	R							
012401	146311	A	4711	DATA	'LIST ',0,LISTF			03	04488
012402	151724	A							
012403	120240	A							
012404	000000	A							
012405	002076	R							
012406	146317	A	4712	DATA	'LDC ',0,LDC			03	04489
012407	141640	A							
012410	120240	A							
012411	000000	A							
012412	001250	R							
012413	141323	A	4713	DATA	'BSS ',0,BSS			03	04490
012414	151640	A							
012415	120240	A							
012416	000000	A							
012417	001267	R							
012420	141303	A	4714	DATA	'BES ',0,BES			03	04491
012421	151640	A							
012422	120240	A							
012423	000000	A							
012424	001304	R							

Address	Hex	Label	Instruction	Comment	Page
012562	000000	A			
012563	002455	R			
012564	144706	A	4734	DATA 'IFF ',0,IFF	03 04511
012565	143240	A			
012566	120240	A			
012567	000000	A			
012570	002456	R			
012571	142716	A	4735	DATA 'END ',0,END	03 04512
012572	142240	A			
012573	120240	A			
012574	000000	A			
012575	002563	R			
012576	143317	A	4736	DATA 'FORM ',0,FORM	03 04513
012577	151315	A			
012600	120240	A			
012601	000000	A			
012602	003535	R			
012603	146701	A	4737	DATA 'MAC ',0,MAC	03 04514
012604	141640	A			
012605	120240	A			
012606	000000	A			
012607	003735	R			
012610	142715	A	4738	DATA 'EMAC ',0,EMAC	03 04515
012611	140703	A			
012612	120240	A			
012613	000000	A			
012614	004455	R			
			4739 *	TITLE DIRECTIVE FOR	03 04516
			4740 *	VORTEX PAGE HEADER	03 04517
012615	152311	A	4741	DATA 'TITLE ',0,TITLE	03 04518
012616	152314	A			
012617	142640	A			
012620	000000	A			
012621	012136	R			
			4742 *		03 04519
			4743 *		03 04520
			4744 *		03 04521
			4745 *	END DIRECTIVE TABLE	03 04522
			4746 *		03 04523
			4747 *	BEGIN INSTRUCTION TABLE	03 04524
			4748 *		03 04525
			4749 *	TYPE 1 INSTRUCTIONS	03 04526
			4750 *		03 04527
012622	146304	A	4751	DATA 'LDA ',06000,010000	03 04528
012623	140640	A			
012624	120240	A			
012625	006000	A			
012626	010000	A			
012627	146304	A	4752	DATA 'LDB ',06000,020000	03 04529
012630	141240	A			
012631	120240	A			
012632	006000	A			
012633	020000	A			
012634	146304	A	4753	DATA 'LDX ',06000,030000	03 04530
012635	154240	A			
012636	120240	A			
012637	006000	A			
012640	030000	A			
012641	151724	A	4754	DATA 'STA ',06000,050000	03 04531
012642	140640	A			
012643	120240	A			
012644	006000	A			
012645	050000	A			
012646	151724	A	4755	DATA 'STB ',06000,060000	03 04532
012647	141240	A			
012650	120240	A			
012651	006000	A			
012652	060000	A			
012653	151724	A	4756	DATA 'STX ',06000,070000	03 04533
012654	154240	A			
012655	120240	A			
012656	006000	A			
012657	070000	A			
012660	140704	A	4757	DATA 'ADD ',06000,0120000	03 04534
012661	142240	A			
012662	120240	A			
012663	006000	A			
012664	120000	A			
012665	151725	A	4758	DATA 'SUB ',06000,0140000	03 04535
012666	141240	A			
012667	120240	A			
012670	006000	A			
012671	140000	A			
012672	144716	A	4759	DATA 'INR ',06000,040000	03 04536
012673	151240	A			
012674	120240	A			
012675	006000	A			
012676	040000	A			
012677	142722	A	4760	DATA 'ERA ',06000,0130000	03 04537
012700	140640	A			
012701	120240	A			
012702	006000	A			
012703	130000	A			

012704	147722	A	4761	DATA	'DRA	',06000,0110000		03 04538
012705	140640	A						
012706	120240	A						
012707	006000	A						
012710	110000	A						
012711	140716	A	4762	DATA	'ANA	',06000,0150000		03 04539
012712	140640	A						
012713	120240	A						
012714	006000	A						
012715	150000	A						
012716	146725	A	4763	DATA	'MUL	',06000,0160000		03 04540
012717	146240	A						
012720	120240	A						
012721	006000	A						
012722	160000	A						
012723	142311	A	4764	DATA	'DIV	',06000,0170000		03 04541
012724	153240	A						
012725	120240	A						
012726	006000	A						
012727	170000	A						
			4765 *					03 04542
			4766 *	TYPE 2 INSTRUCTIONS				03 04543
			4767 *					03 04544
			4768	DATA	'RETI	',010000,01000		03 04545
012730	151305	A						
012731	152325	A						
012732	120240	A						
012733	010000	A						
012734	001000	A						
012735	146304	A	4769	DATA	'LDAI	',010000,06010		03 04546
012736	140711	A						
012737	120240	A						
012740	010000	A						
012741	006016	A						
012742	146304	A	4770	DATA	'LDBI	',010000,06020		03 04547
012743	141311	A						
012744	120240	A						
012745	010000	A						
012746	006020	A						
012747	146304	A	4771	DATA	'LDXI	',010000,06030		03 04548
012750	154311	A						
012751	120240	A						
012752	010000	A						
012753	006030	A						
012754	151724	A	4772	DATA	'STAI	',010000,06050		03 04549
012755	140711	A						
012756	120240	A						
012757	010000	A						
012760	006050	A						
012761	151724	A	4773	DATA	'STBI	',010000,06060		03 04550
012762	141311	A						
012763	120240	A						
012764	010000	A						
012765	006060	A						
012766	151724	A	4774	DATA	'STXI	',010000,06070		03 04551
012767	154311	A						
012770	120240	A						
012771	010000	A						
012772	006070	A						
012773	140704	A	4775	DATA	'ADDI	',010000,06120		03 04552
012774	142311	A						
012775	120240	A						
012776	010000	A						
012777	006120	A						
013000	151725	A	4776	DATA	'SUBI	',010000,06140		03 04553
013001	141311	A						
013002	120240	A						
013003	010000	A						
013004	006140	A						
013005	144716	A	4777	DATA	'INRI	',010000,06040		03 04554
013006	151311	A						
013007	120240	A						
013010	010000	A						
013011	006040	A						
013012	142722	A	4778	DATA	'ERAI	',010000,06130		03 04555
013013	140711	A						
013014	120240	A						
013015	010000	A						
013016	006130	A						
013017	147722	A	4779	DATA	'ORAI	',010000,06110		03 04556
013020	140711	A						
013021	120240	A						
013022	010000	A						
013023	006110	A						
013024	140716	A	4780	DATA	'ANAI	',010000,06150		03 04557
013025	140711	A						
013026	120240	A						
013027	010000	A						
013030	006150	A						
013031	146725	A	4781	DATA	'MULI	',010000,06160		03 04558
013032	146311	A						
013033	120240	A						
013034	010000	A						
013035	006160	A						

013036	142311	A	4782	DATA	'DIVI	',010000,06170		03	04559
013037	153311	A							
013040	120240	A							
013041	010000	A							
013042	006170	A							
013043	145315	A	4783	DATA	'JMP	',010000,01000		03	04560
013044	150240	A							
013045	120240	A							
013046	010000	A							
013047	001000	A							
013050	145317	A	4784	DATA	'JDF	',010000,01001		03	04561
013051	143240	A							
013052	120240	A							
013053	010000	A							
013054	001001	A							
013055	145301	A	4785	DATA	'JAN	',010000,01004		03	04562
013056	147240	A							
013057	120240	A							
013060	010000	A							
013061	001004	A							
013062	145301	A	4786	DATA	'JAP	',010000,01002		03	04563
013063	150240	A							
013064	120240	A							
013065	010000	A							
013066	001002	A							
013067	145301	A	4787	DATA	'JAZ	',010000,01010		03	04564
013070	155240	A							
013071	120240	A							
013072	010000	A							
013073	001010	A							
013074	145302	A	4788	DATA	'JBZ	',010000,01020		03	04565
013075	155240	A							
013076	120240	A							
013077	010000	A							
013100	001020	A							
013101	145330	A	4789	DATA	'JXZ	',010000,01040		03	04566
013102	155240	A							
013103	120240	A							
013104	010000	A							
013105	001040	A							
013106	145323	A	4790	DATA	'JSS1	',010000,01100		03	04567
013107	151661	A							
013110	120240	A							
013111	010000	A							
013112	001100	A							
013113	145323	A	4791	DATA	'JSS2	',010000,01200		03	04568
013114	151662	A							
013115	120240	A							
013116	010000	A							
013117	001200	A							
013120	145323	A	4792	DATA	'JSS3	',010000,01400		03	04569
013121	151663	A							
013122	120240	A							
013123	010000	A							
013124	001400	A							
013125	145315	A	4793	DATA	'JMPM	',010000,02000		03	04570
013126	150315	A							
013127	120240	A							
013130	010000	A							
013131	002000	A							
013132	145317	A	4794	DATA	'JDFM	',010000,02001		03	04571
013133	143315	A							
013134	120240	A							
013135	010000	A							
013136	002001	A							
013137	145301	A	4795	DATA	'JANM	',010000,02004		03	04572
013140	147315	A							
013141	120240	A							
013142	010000	A							
013143	002004	A							
013144	145301	A	4796	DATA	'JAPM	',010000,02002		03	04573
013145	150315	A							
013146	120240	A							
013147	010000	A							
013150	002002	A							
013151	145301	A	4797	DATA	'JAZM	',010000,02010		03	04574
013152	155315	A							
013153	120240	A							
013154	010000	A							
013155	002010	A							
013156	145302	A	4798	DATA	'JBZM	',010000,02020		03	04575
013157	155313	A							
013160	120240	A							
013161	010000	A							
013162	002020	A							
013163	145330	A	4799	DATA	'JXZM	',010000,02040		03	04576
013164	155315	A							
013165	120240	A							
013166	010000	A							
013167	002040	A							
013170	145323	A	4800	DATA	'JS1M	',010000,02100		03	04577
013171	130715	A							
013172	120240	A							

013173	010000	A					
013174	002100	A					
013175	145323	A	4801	DATA	'JS2H	*,010000,02200	03 04578
013176	131315	A					
013177	120240	A					
013200	010000	A					
013201	002200	A					
013202	145323	A	4802	DATA	'JS3M	*,010000,02400	03 04579
013203	131715	A					
013204	120240	A					
013205	010000	A					
013206	002400	A					
013207	154305	A	4803	DATA	'XEC	*,010000,03000	03 04580
013210	141640	A					
013211	120240	A					
013212	010000	A					
013213	003000	A					
013214	154317	A	4804	DATA	'XDF	*,010000,03001	03 04581
013215	143240	A					
013216	120240	A					
013217	010000	A					
013220	003001	A					
013221	154301	A	4805	DATA	'XAM	*,010000,03004	03 04582
013222	147240	A					
013223	120240	A					
013224	010000	A					
013225	003004	A					
013226	154301	A	4806	DATA	'XAP	*,010000,03002	03 04583
013227	150240	A					
013230	120240	A					
013231	010000	A					
013232	003002	A					
013233	154301	A	4807	DATA	'XAZ	*,010000,03010	03 04584
013234	155240	A					
013235	120240	A					
013236	010000	A					
013237	003010	A					
013240	154302	A	4808	DATA	'XBZ	*,010000,03020	03 04585
013241	155240	A					
013242	120240	A					
013243	010000	A					
013244	003020	A					
013245	154303	A	4809	DATA	'XXZ	*,010000,03040	03 04586
013246	155240	A					
013247	120240	A					
013250	010000	A					
013251	003040	A					
013252	154323	A	4810	DATA	'XS1	*,010000,03100	03 04587
013253	130640	A					
013254	120240	A					
013255	010000	A					
013256	003100	A					
013257	154323	A	4811	DATA	'XS2	*,010000,03200	03 04588
013260	131240	A					
013261	120240	A					
013262	010000	A					
013263	003200	A					
013264	154323	A	4812	DATA	'XS3	*,010000,03400	03 04589
013265	131640	A					
013266	120240	A					
013267	010000	A					
013270	003400	A					
013271	154317	A	4813	DATA	'XDFN	*,010000,03007	03 04590
013272	143316	A					
013273	120240	A					
013274	010000	A					
013275	003007	A					
013276	154301	A	4814	DATA	'XANZ	*,010000,03016	03 04591
013277	147332	A					
013300	120240	A					
013301	010000	A					
013302	003016	A					
013303	154302	A	4815	DATA	'XBENZ	*,010000,03026	03 04592
013304	147332	A					
013305	120240	A					
013306	010000	A					
013307	003026	A					
013310	154330	A	4816	DATA	'XXNZ	*,010000,03046	03 04593
013311	147332	A					
013312	120240	A					
013313	010000	A					
013314	003046	A					
013315	154323	A	4817	DATA	'XS1N	*,010000,03106	03 04594
013316	130716	A					
013317	120240	A					
013320	010000	A					
013321	003106	A					
013322	154323	A	4818	DATA	'XS2N	*,010000,03206	03 04595
013323	131316	A					
013324	120240	A					
013325	010000	A					
013326	003206	A					
013327	154323	A	4819	DATA	'XS3N	*,010000,03406	03 04596

013330	131716	A				
013331	120240	A				
013332	010000	A				
013333	003406	A				
013334	145317	A	4820	DATA	'JDFNM ',010000,02007	03 04597
013335	143316	A				
013336	146640	A				
013337	010000	A				
013340	002007	A				
013341	145301	A	4821	DATA	'JANZM ',010000,02016	03 04598
013342	147332	A				
013343	146640	A				
013344	010000	A				
013345	002016	A				
013346	145302	A	4822	DATA	'JBNZM ',010000,02026	03 04599
013347	147332	A				
013350	146640	A				
013351	010000	A				
013352	002026	A				
013353	145330	A	4823	DATA	'JXNZM ',010000,02046	03 04600
013354	147332	A				
013355	146640	A				
013356	010000	A				
013357	002046	A				
013360	145323	A	4824	DATA	'JS1NM ',010000,02106	03 04601
013361	130716	A				
013362	146640	A				
013363	010000	A				
013364	002106	A				
013365	145323	A	4825	DATA	'JS2NM ',010000,02206	03 04602
013366	131316	A				
013367	146640	A				
013370	010000	A				
013371	002206	A				
013372	145323	A	4826	DATA	'JS3NM ',010000,02406	03 04603
013373	131716	A				
013374	146640	A				
013375	010000	A				
013376	002406	A				
013377	145317	A	4827	DATA	'JDFN ',010000,01007	03 04604
013400	143316	A				
013401	120240	A				
013402	010000	A				
013403	001007	A				
013404	145301	A	4828	DATA	'JANZ ',010000,01016	03 04605
013405	147332	A				
013406	120240	A				
013407	010000	A				
013410	001016	A				
013411	145302	A	4829	DATA	'JBNZ ',010000,01026	03 04606
013412	147332	A				
013413	120240	A				
013414	010000	A				
013415	001026	A				
013416	145330	A	4830	DATA	'JXNZ ',010000,01046	03 04607
013417	147332	A				
013420	120240	A				
013421	010000	A				
013422	001046	A				
013423	145323	A	4831	DATA	'JS1N ',010000,01106	03 04608
013424	130716	A				
013425	120240	A				
013426	010000	A				
013427	001106	A				
013430	145323	A	4832	DATA	'JS2N ',010000,01206	03 04609
013431	131316	A				
013432	120240	A				
013433	010000	A				
013434	001206	A				
013435	145323	A	4833	DATA	'JS3N ',010000,01406	03 04610
013436	131716	A				
013437	120240	A				
013440	010000	A				
013441	001406	A				
			4834			03 04611
			4835			03 04612
			4836			03 04613
			4837			03 04614
				TYPE 3 INSTRUCTIONS		
013442	145311	A		DATA	'JIF ',013777,01000	
013443	143240	A				
013444	120240	A				
013445	013777	A				
013446	001000	A				
013447	145315	A	4838	DATA	'JMIF ',013777,02000	03 04615
013450	144706	A				
013451	120240	A				
013452	013777	A				
013453	002000	A				
013454	145311	A	4839	DATA	'JIFM ',013777,02000	03 04616
013455	143315	A				
013456	120240	A				
013457	013777	A				
013460	002000	A				
013461	154311	A	4840	DATA	'XIF ',013777,03000	03 04617

013462	143240	A						
013463	120240	A						
013464	013777	A						
013465	003000	A						
013466	151705	A	4841	DATA	'SEN	',013777,0101000		03 04618
013467	147240	A						
013470	120240	A						
013471	013777	A						
013472	101000	A						
013473	144715	A	4842	DATA	'IME	',013777,0102000		03 04619
013474	142640	A						
013475	120240	A						
013476	013777	A						
013477	102000	A						
013500	147715	A	4843	DATA	'DME	',013777,0103000		03 04620
013501	142640	A						
013502	120240	A						
013503	013777	A						
013504	103000	A						
013505	141324	A	4844	DATA	'BT	',012077,06400		03 04621
013506	120240	A						
013507	120240	A						
013510	012077	A						
013511	006400	A						
			4845	*				03 04622
			4846	*	TYPE 4 INSTRUCTIONS			03 04623
			4847	*				03 04624
			4848	*				03 04625
013512	142716	A						
013513	152322	A						
013514	120240	A						
013515	014000	A						
013516	000000	A						
013517	152332	A	4849	DATA	'TZA	',014000,05001		03 04626
013520	140640	A						
013521	120240	A						
013522	014000	A						
013523	005001	A						
013524	152332	A	4850	DATA	'TZE	',014000,05002		03 04627
013525	141240	A						
013526	120240	A						
013527	014000	A						
013530	005002	A						
013531	152332	A	4851	DATA	'TZX	',014000,05004		03 04628
013532	154240	A						
013533	120240	A						
013534	014000	A						
013535	005004	A						
013536	144701	A	4852	DATA	'IAR	',014000,05111		03 04629
013537	151240	A						
013540	120240	A						
013541	014000	A						
013542	005111	A						
013543	144702	A	4853	DATA	'IBR	',014000,05122		03 04630
013544	151240	A						
013545	120240	A						
013546	014000	A						
013547	005122	A						
013550	144730	A	4854	DATA	'IXR	',014000,05144		03 04631
013551	151240	A						
013552	120240	A						
013553	014000	A						
013554	005144	A						
013555	142301	A	4855	DATA	'JAR	',014000,05311		03 04632
013556	151240	A						
013557	120240	A						
013560	014000	A						
013561	005311	A						
013562	142302	A	4856	DATA	'DER	',014000,05322		03 04633
013563	151240	A						
013564	120240	A						
013565	014000	A						
013566	005322	A						
013567	142333	A	4857	DATA	'DXR	',014000,05344		03 04634
013570	151240	A						
013571	120240	A						
013572	014000	A						
013573	005344	A						
013574	141720	A	4858	DATA	'CPA	',014000,05211		03 04635
013575	140640	A						
013576	120240	A						
013577	014000	A						
013600	005211	A						
013601	141720	A	4859	DATA	'CPB	',014000,05222		03 04636
013602	141240	A						
013603	120240	A						
013604	014000	A						
013605	005222	A						
013606	141720	A	4860	DATA	'CPX	',014000,05244		03 04637
013607	154240	A						
013610	120240	A						
013611	014000	A						
013612	005244	A						
013612		A	4861	XCPX	DES	0		03 04638

013613	152301	A	4862	DATA	'TAB	*,014000,05012			03 04639
013614	141240	A							
013615	120240	A							
013616	014000	A							
013617	005012	A							
013620	152302	A	4863	DATA	'TBA	*,014000,05021			03 04640
013621	140640	A							
013622	120240	A							
013623	014000	A							
013624	005021	A							
013625	152301	A	4864	DATA	'TAX	*,014000,05014			03 04641
013626	154240	A							
013627	120240	A							
013630	014000	A							
013631	005014	A							
013632	152330	A	4865	DATA	'TXA	*,014000,05041			03 04642
013633	140640	A							
013634	120240	A							
013635	014000	A							
013636	005041	A							
013637	152302	A	4866	DATA	'TBX	*,014000,05024			03 04643
013640	154240	A							
013641	120240	A							
013642	014000	A							
013643	005024	A							
013644	152330	A	4867	DATA	'TXB	*,014000,05042			03 04644
013645	141240	A							
013646	120240	A							
013647	014000	A							
013650	005042	A							
013651	152323	A	4868	DATA	'TSA	*,014000,07402			03 04645
013652	140640	A							
013653	120240	A							
013654	014000	A							
013655	007402	A							
013656	146323	A	4869	DATA	'LSRA	*,014037,04340			03 04646
013657	151301	A							
013660	120240	A							
013661	014037	A							
013662	004340	A							
013663	146323	A	4870	DATA	'LSRB	*,014037,04140			03 04647
013664	151302	A							
013665	120240	A							
013666	014037	A							
013667	004140	A							
013670	146322	A	4871	DATA	'LRLA	*,014037,04240			03 04648
013671	146301	A							
013672	120240	A							
013673	014037	A							
013674	004240	A							
013675	146322	A	4872	DATA	'LRLB	*,014037,04040			03 04649
013676	146302	A							
013677	120240	A							
013700	014037	A							
013701	004040	A							
013702	140723	A	4873	DATA	'ASRA	*,014037,04300			03 04650
013703	151301	A							
013704	120240	A							
013705	014037	A							
013706	004300	A							
013707	140723	A	4874	DATA	'ASRB	*,014037,04100			03 04651
013710	151302	A							
013711	120240	A							
013712	014037	A							
013713	004100	A							
013714	140723	A	4875	DATA	'ASLA	*,014037,04200			03 04652
013715	146301	A							
013716	120240	A							
013717	014037	A							
013720	004200	A							
013721	140723	A	4876	DATA	'ASLB	*,014037,04000			03 04653
013722	146302	A							
013723	120240	A							
013724	014037	A							
013725	004000	A							
013726	146314	A	4877	DATA	'LLSR	*,014037,04540			03 04654
013727	151722	A							
013730	120240	A							
013731	014037	A							
013732	004540	A							
013733	146314	A	4878	DATA	'LLRL	*,014037,04440			03 04655
013734	151314	A							
013735	120240	A							
013736	014037	A							
013737	004440	A							
013740	146301	A	4879	DATA	'LASR	*,014037,04500			03 04656
013741	151722	A							
013742	120240	A							
013743	014037	A							
013744	004500	A							
013745	146301	A	4880	DATA	'LASL	*,014037,04400			03 04657
013746	151714	A							
013747	120240	A							

013750	014037	A							
013751	004400	A							
013752	140717	A	4881	DATA	'ADFA	*,014000,05511			03 04658
013753	143301	A							
013754	120240	A							
013755	014000	A							
013756	005511	A							
013757	140717	A	4882	DATA	'ADFB	*,014000,05522			03 04659
013760	143302	A							
013761	120240	A							
013762	014000	A							
013763	005522	A							
013764	140717	A	4883	DATA	'ADFX	*,014000,05544			03 04660
013765	143330	A							
013766	120240	A							
013767	014000	A							
013770	005544	A							
013771	151717	A	4884	DATA	'SDFA	*,014000,05711			03 04661
013772	143301	A							
013773	120240	A							
013774	014000	A							
013775	005711	A							
013776	151717	A	4885	DATA	'SDFB	*,014000,05722			03 04662
013777	143302	A							
014000	120240	A							
014001	014000	A							
014002	005722	A							
014003	151717	A	4886	DATA	'SDFX	*,014000,05744			03 04663
014004	143330	A							
014005	120240	A							
014006	014000	A							
014007	005744	A							
014010	151717	A	4887	DATA	'SDF	*,014000,07401			03 04664
014011	143240	A							
014012	120240	A							
014013	014000	A							
014014	007401	A							
014014		A	4888	XSDF	BES	0			03 04665
014015	151317	A	4889	DATA	'RDF	*,014000,07400			03 04666
014016	143240	A							
014017	120240	A							
014020	014000	A							
014021	007400	A							
014022	144314	A	4890	DATA	'HLT	*,014777,0			03 04667
014023	152240	A							
014024	120240	A							
014025	014777	A							
014026	006000	A							
014027	147317	A	4891	DATA	'NDP	*,014000,05000			03 04668
014030	150240	A							
014031	120240	A							
014032	014000	A							
014033	005000	A							
014034	142730	A	4892	DATA	'EXC	*,014777,0100000			03 04669
014035	141640	A							
014036	120240	A							
014037	014777	A							
014040	100000	A							
014041	151705	A	4893	DATA	'SEL	*,014777,0100000			03 04670
014042	146240	A							
014043	120240	A							
014044	014777	A							
014045	100000	A							
014046	142730	A	4894	DATA	'EXC2	*,014777,0104000			03 04671
014047	141662	A							
014050	120240	A							
014051	014777	A							
014052	104000	A							
014053	151705	A	4895	DATA	'SEL2	*,014777,0104000			03 04672
014054	146262	A							
014055	120240	A							
014056	014777	A							
014057	104000	A							
014060	144716	A	4896	DATA	'INA	*,014077,0102100			03 04673
014061	140640	A							
014062	120240	A							
014063	014077	A							
014064	102100	A							
014065	144716	A	4897	DATA	'IMB	*,014077,0102200			03 04674
014066	141240	A							
014067	120240	A							
014070	014077	A							
014071	102200	A							
014072	144716	A	4898	DATA	'INAB	*,014077,0102300			03 04675
014073	140702	A							
014074	120240	A							
014075	014077	A							
014076	102300	A							
014077	141711	A	4899	DATA	'CIA	*,014077,0102500			03 04676
014100	140640	A							
014101	120240	A							
014102	014077	A							
014103	102500	A							

Address	Hex	Asm	Label	Program Page	Listing Page
014104	141711	A	4900	DATA 'CIB ',014077,0102600	03 04677
014105	141240	A			
014106	120240	A			
014107	014077	A			
014110	102600	A			
014111	141711	A	4901	DATA 'CIAB ',014077,0102700	03 04678
014112	140702	A			
014113	120240	A			
014114	014077	A			
014115	102700	A			
014116	147701	A	4902	DATA 'DAR ',014077,0103100	03 04679
014117	151240	A			
014120	120240	A			
014121	014077	A			
014122	103100	A			
014123	147702	A	4903	DATA 'DBR ',014077,0103200	03 04680
014124	151240	A			
014125	120240	A			
014126	014077	A			
014127	103200	A			
014130	147701	A	4904	DATA 'DAB ',014077,0103300	03 04681
014131	141240	A			
014132	120240	A			
014133	014077	A			
014134	103300	A			
014135	155305	A	4905	DATA 'ZERO ',014777,05000	03 04682
014136	151317	A			
014137	120240	A			
014140	014777	A			
014141	005000	A			
014142	146705	A	4906	DATA 'MERG ',014777,05000	03 04683
014143	151307	A			
014144	120240	A			
014145	014777	A			
014146	005000	A			
014147	146705	A	4907	DATA 'MERGE ',014777,05000	03 04684
014150	151307	A			
014151	142640	A			
014152	014777	A			
014153	005000	A			
014154	142305	A	4908	DATA 'DECR ',014777,05300	03 04685
014155	141722	A			
014156	120240	A			
014157	014777	A			
014160	005300	A			
014161	141717	A	4909	DATA 'COMP ',014777,05200	03 04686
014162	146720	A			
014163	120240	A			
014164	014777	A			
014165	005200	A			
014166	141717	A	4910	DATA 'COMPL ',014777,05200	03 04687
014167	146720	A			
014170	146240	A			
014171	014777	A			
014172	005200	A			
014173	144716	A	4911	DATA 'INCR ',014777,05100	03 04688
014174	141722	A			
014175	120240	A			
014176	014777	A			
014177	005100	A			
			4912 *		03 04689
			4913 *	TYPE 5 INSTRUCTIONS	03 04690
			4914 *		03 04691
			4915	DATA 'LDAE ',016200,06017	03 04692
014200	146304	A			
014201	140705	A			
014202	120240	A			
014203	016200	A			
014204	006017	A			
014205	146304	A	4916	DATA 'LDDE ',016200,06027	03 04693
014206	141305	A			
014207	120240	A			
014210	016200	A			
014211	006027	A			
014212	146304	A	4917	DATA 'LDXE ',016200,06037	03 04694
014213	154305	A			
014214	120240	A			
014215	016200	A			
014216	006037	A			
014217	151724	A	4918	DATA 'STAE ',016200,06057	03 04695
014220	140705	A			
014221	120240	A			
014222	016200	A			
014223	006057	A			
014224	151724	A	4919	DATA 'STBE ',016200,06067	03 04696
014225	141305	A			
014226	120240	A			
014227	016200	A			
014230	006067	A			
014231	151724	A	4920	DATA 'STXE ',016200,06077	03 04697
014232	154305	A			
014233	120240	A			
014234	016200	A			
014235	006077	A			

014236	144716	A	4921	DATA	'INRE	*,016200,06047	03 04698
014237	151305	A					
014240	120240	A					
014241	016200	A					
014242	006047	A					
014243	140704	A	4922	DATA	'ADDE	*,016200,06127	03 04699
014244	142305	A					
014245	120240	A					
014246	016200	A					
014247	006127	A					
014250	151723	A	4923	DATA	'SUBE	*,016200,06147	03 04700
014251	141303	A					
014252	120240	A					
014253	016200	A					
014254	006147	A					
014255	147722	A	4924	DATA	'ORAE	*,016200,06117	03 04701
014256	140705	A					
014257	120240	A					
014260	016200	A					
014261	006117	A					
014262	142722	A	4925	DATA	'ERAE	*,016200,06137	03 04702
014263	140705	A					
014264	120240	A					
014265	016200	A					
014266	006137	A					
014267	140716	A	4926	DATA	'ANAE	*,016200,06157	03 04703
014270	140705	A					
014271	120240	A					
014272	016200	A					
014273	006157	A					
014274	146725	A	4927	DATA	'MULE	*,016200,06167	03 04704
014275	146305	A					
014276	120240	A					
014277	016200	A					
014300	006167	A					
014301	142311	A	4928	DATA	'DIVE	*,016200,06177	03 04705
014302	153305	A					
014303	120240	A					
014304	016200	A					
014305	006177	A					
014306	144712	A	4929	DATA	'IJMP	*,016000,06707	03 04706
014307	146720	A					
014310	120240	A					
014311	016000	A					
014312	006707	A					
014313	145323	A	4930	DATA	'JSR	*,016000,06507	03 04707
014314	151240	A					
014315	120240	A					
014316	016000	A					
014317	006507	A					
014320	151722	A	4931	DATA	'SRE	*,016070,06607	03 04708
014321	142640	A					
014322	120240	A					
014323	016070	A					
014324	006607	A					
4932	*						V75*****
4933	*	V75 INSTRUCTIONS					V75*****
4934	*						V75*****
4935		IFF			V75		V75*****
4936		GOTO			1		V75*****
4937	*						V75*****
4938	*	TYPE 0					V75*****
4939	*						V75*****
014325	146304	A	4940	DATA	'LD	*,020000,07000	V75*****
014326	120240	A					
014327	120240	A					
014330	020000	A					
014331	007000	A					
014332	151724	A	4941	DATA	'ST	*,020000,07100	V75*****
014333	120240	A					
014334	120240	A					
014335	020000	A					
014336	007100	A					
014337	140704	A	4942	DATA	'AD	*,020000,07200	V75*****
014340	120240	A					
014341	120240	A					
014342	020000	A					
014343	007200	A					
014344	151702	A	4943	DATA	'SB	*,020000,07300	V75*****
014345	120240	A					
014346	120240	A					
014347	020000	A					
014350	007300	A					
4944	*						V75*****
4945	*	TYPE 1					V75*****
4946	*						V75*****
014351	146302	A	4947	DATA	'LBT	*,020001,07460	V75*****
014352	152240	A					
014353	120240	A					
014354	020001	A					
014355	007460	A					
014356	151702	A	4948	DATA	'SBT	*,020001,07470	V75*****
014357	152240	A					

014360 120240 A
014361 020001 A
014362 007470 A

4949 *
4950 * TYPE 2
4951 *

014363 145332 A
014364 120240 A
014365 120240 A
014366 020002 A
014367 006720 A
014370 145316 A
014371 155240 A
014372 120240 A
014373 020002 A
014374 006730 A
014375 145316 A
014376 120240 A
014377 120240 A
014400 020002 A
014401 006740 A
014402 145320 A
014403 120240 A
014404 120240 A
014405 020002 A
014406 006750 A

4952 DATA 'JZ ',020002,06720
4953 DATA 'JNZ ',020002,06730
4954 DATA 'JN ',020002,06740
4955 DATA 'JP ',020002,06750

V75*****
V75*****
V75*****
V75*****

V75*****

V75*****

V75*****

4956 *
4957 * TYPE 3
4958 *

014407 145304 A
014410 155240 A
014411 120240 A
014412 020003 A
014413 006760 A
014414 145304 A
014415 147332 A
014416 120240 A
014417 020003 A
014420 006770 A

4959 DATA 'JDZ ',020003,06760
4960 DATA 'JDNZ ',020003,06770

V75*****
V75*****
V75*****
V75*****

V75*****

4961 *
4962 * TYPE 4
4963 *

014421 142314 A
014422 142240 A
014423 120240 A
014424 020004 A
014425 004600 A
014426 142323 A
014427 152240 A
014430 120240 A
014431 020004 A
014432 004610 A
014433 142301 A
014434 142304 A
014435 120240 A
014436 020004 A
014437 004620 A
014440 142323 A
014441 152702 A
014442 120240 A
014443 020004 A
014444 004630 A
014445 142301 A
014446 147240 A
014447 120240 A
014450 020004 A
014451 004640 A
014452 142317 A
014453 151240 A
014454 120240 A
014455 020004 A
014456 004650 A
014457 142305 A
014460 151240 A
014461 120240 A
014462 020004 A
014463 004660 A

4964 DATA 'DLD ',020004,04600
4965 DATA 'DST ',020004,04610
4966 DATA 'DADD ',020004,04620
4967 DATA 'DSUB ',020004,04630
4968 DATA 'DAN ',020004,04640
4969 DATA 'DDR ',020004,04650
4970 DATA 'DER ',020004,04660

V75*****
V75*****
V75*****
V75*****

V75*****

V75*****

V75*****

V75*****

V75*****

V75*****

4971 *
4972 * TYPE 5
4973 *

014464 140704 A
014465 151240 A
014466 120240 A
014467 020005 A
014470 007500 A
014471 151702 A
014472 151240 A
014473 120240 A
014474 020005 A
014475 007600 A
014476 152240 A
014477 120240 A
014500 120240 A

4974 DATA 'ADR ',020005,07500
4975 DATA 'SBR ',020005,07600
4976 DATA 'T ',020005,07700

V75*****
V75*****
V75*****
V75*****

V75*****

V75*****


```

014501 020005 A
014502 007700 A
      4977 *
      4978 * TYPE 6
      4979 *
014503 144716 A 4980 DATA 'INC ',020006,07410
014504 141640 A
014505 120240 A
014506 020006 A
014507 007410 A
014510 142305 A 4981 DATA 'DEC ',020006,07420
014511 141640 A
014512 120240 A
014513 020006 A
014514 007420 A
014515 141717 A 4982 DATA 'CDM ',020006,07430
014516 146640 A
014517 120240 A
014520 020006 A
014521 007430 A
      4983 *
      4984 * TYPE 7
      4985 *
      4986 *
014522 146304 A 4986 DATA 'LDI ',020007,07440
014523 144640 A
014524 120240 A
014525 020007 A
014526 007440 A
014527 140704 A 4987 DATA 'ADI ',020007,07450
014530 144640 A
014531 120240 A
014532 020007 A
014533 007450 A
      4988 1
      4989 *
      4990 *
      4991 *
      4992 *
014534 146661 A 4992 DATA 'M1 ',02000,MC0-MC0
014535 120240 A
014536 120240 A
014537 002000 A
014540 000000 A
014541 151305 A 4993 DATA 'READ ',02000,MC1-MC0
014542 140704 A
014543 120240 A
014544 002000 A
014545 000064 A
014546 153722 A 4994 DATA 'WRITE ',02000,MC2-MC0
014547 144724 A
014550 142640 A
014551 002000 A
014552 000105 A
014553 153705 A 4995 DATA 'WEOF ',02000,MC3-MC0
014554 147706 A
014555 120240 A
014556 002000 A
014557 000126 A
014560 151305 A 4996 DATA 'REW ',02000,MC4-MC0
014561 153640 A
014562 120240 A
014563 002000 A
014564 000146 A
014565 151722 A 4997 DATA 'SREC ',02000,MC5-MC0
014566 142703 A
014567 120240 A
014570 002000 A
014571 000166 A
014572 143325 A 4998 DATA 'FUNC ',02000,MC6-MC0
014573 147300 A
014574 120240 A
014575 002000 A
014576 000207 A
014577 147720 A 4999 DATA 'OPEN ',02000,MC7-MC0
014600 142716 A
014601 120240 A
014602 002000 A
014603 000227 A
014604 141714 A 5000 DATA 'CLOSE ',02000,MC8-MC0
014605 147723 A
014606 142640 A
014607 002000 A
014610 000250 A
014611 151724 A 5001 DATA 'STAT ',02000,MC9-MC0
014612 140724 A
014613 120240 A
014614 002000 A
014615 000271 A
014616 142303 A 5002 DATA 'DCB ',02000,MC10-MC0
014617 141240 A
014620 120240 A
014621 002000 A
014622 000332 A
014623 143303 A 5003 DATA 'FCB ',02000,MC11-MC0

```

V75*****
V75*****
V75*****
V75*****

V75*****

V75*****

V75*****
V75*****
V75*****
V75*****

V75*****

V75*****
03 04709
03 04710
03 04711
V2 03 04712

V2 03 04713

V2 03 04714

V2 03 04715

V2 03 04716

V2 03 04717

V2 03 04718

V2 03 04719

V2 03 04720

V2 03 04721

V2 03 04722

V2 03 04723

014624	141240	A							
014625	120240	A							
014626	002000	A							
014627	000351	A							
014630	146662	A	5004	DATA	'M2',02000,MC12-MC0		V2	03	04724
014631	120240	A							
014632	120240	A							
014633	002000	A							
014634	000423	A							
014635	151703	A	5005	DATA	'SCHED',02000,MC13-MC0		V2	03	04725
014636	144305	A							
014637	142240	A							
014640	002000	A							
014641	000444	A							
014642	142730	A	5006	DATA	'EXIT',02000,MC14-MC0		V2	03	04726
014643	144724	A							
014644	120240	A							
014645	002000	A							
014646	000526	A							
014647	151725	A	5007	DATA	'SUSPND',02000,MC15-MC0		V2	03	04727
014650	151720	A							
014651	147304	A							
014652	002000	A							
014653	000543	A							
014654	151305	A	5008	DATA	'RESUME',02000,MC16-MC0		V2	03	04728
014655	151725	A							
014656	146705	A							
014657	002000	A							
014660	000571	A							
014661	140702	A	5009	DATA	'ABORT',02000,MC17-MC0		V2	03	04729
014662	147722	A							
014663	152240	A							
014664	002000	A							
014665	000615	A							
014666	140714	A	5010	DATA	'ALDC',02000,MC18-MC0		V2	03	04730
014667	147703	A							
014670	120240	A							
014671	002000	A							
014672	000641	A							
014673	142305	A	5011	DATA	'DEALDC',02000,MC19-MC0		V2	03	04731
014674	140714	A							
014675	147703	A							
014676	002000	A							
014677	000660	A							
014700	150313	A	5012	DATA	'PMSK',02000,MC20-MC0		V2	03	04732
014701	151713	A							
014702	120240	A							
014703	002000	A							
014704	000675	A							
014705	142305	A	5013	DATA	'DELAY',02000,MC21-MC0		V2	03	04733
014706	146301	A							
014707	154640	A							
014710	002000	A							
014711	000742	A							
014712	152311	A	5014	DATA	'TIME',02000,MC22-MC0		V2	03	04734
014713	146705	A							
014714	120240	A							
014715	002000	A							
014716	001001	A							
014717	147726	A	5015	DATA	'DVLAY',02000,MC23-MC0		V2	03	04735
014720	146301	A							
014721	154640	A							
014722	002000	A							
014723	001016	A							
014724	144717	A	5016	DATA	'IDLINK',02000,MC24-MC0		V2	03	04736
014725	146311	A							
014726	147313	A							
014727	002000	A							
014730	001060	A							
			5017	IFF	VORTEX-2		V2	03	04737
			5018	DATA	'PASS',02000,MC25-MC0		V2	03	04738
			5019	DATA	'LCB',02000,MC26-MC0		V2	03	04739
014731	146303	A							
014732	141240	A							
014733	120240	A							
014734	002000	A							
014735	001115	A							
014736	146304	A	5020	DATA	'LDELAY',02000,MC27-MC0		C.1	03	04740
014737	142714	A							
014740	140731	A							
014741	002000	A							
014742	001210	A							
014743	152302	A	5021	DATA	'TBEVNT',02000,MC28-MC0		V2	03	04741
014744	142726	A							
014745	147324	A							
014746	002000	A							
014747	001247	A							
			5022	IFT	VORTEX-2		V2	03	04742
			5023	GOTO	1		V2	03	04743
			5024	DATA	'ALDCPG',02000,MC29-MC0		V2	03	04744
			5025	DATA	'DEALPG',02000,MC30-MC0		V2	03	04745
			5026	DATA	'KAPIN',02000,MC31-MC0		V2	03	04746
			5027	DATA	'FAGNUM',02000,MC32-MC0		V2	03	04747
			5028	CONT			V2	03	04748

015072	120305	A	5050	DATA	' EMAC ',0				
015073	146701	A							
015074	141640	A							
015075	000000	A							
			5051	*WEOF					
			5052	MC3	' M1 P(3),0,2,P(2),P(1)',0		V2	03	04771
015076	120315	A							
015077	130640	A							
015100	150250	A							
015101	131651	A							
015102	126260	A							
015103	126262	A							
015104	126320	A							
015105	124262	A							
015106	124654	A							
015107	150250	A							
015110	130651	A							
015111	000000	A							
015112	120305	A	5053	DATA	' EMAC ',0				03 04773
015113	146701	A							
015114	141640	A							
015115	000000	A							
			5054	*REW					
			5055	MC4	' M1 P(3),0,3,P(2),P(1)',0		V2	03	04774
015116	120315	A							
015117	130640	A							
015120	150250	A							
015121	131651	A							
015122	126260	A							
015123	126263	A							
015124	126320	A							
015125	124262	A							
015126	124654	A							
015127	150250	A							
015130	130651	A							
015131	000000	A							
015132	120305	A	5056	DATA	' EMAC ',0				03 04776
015133	146701	A							
015134	141640	A							
015135	000000	A							
			5057	*SREC					
			5058	MC5	' M1 P(3),P(4),4,P(2),P(1)',0124400		V2	03	04777
015136	120315	A							
015137	130640	A							
015140	150250	A							
015141	131651	A							
015142	126320	A							
015143	124264	A							
015144	124654	A							
015145	132254	A							
015146	150250	A							
015147	131251	A							
015150	126320	A							
015151	124261	A							
015152	124400	A							
015153	120305	A	5059	DATA	' EMAC ',0				03 04779
015154	146701	A							
015155	141640	A							
015156	000000	A							
			5060	*FUNC					
			5061	MC6	' M1 P(3),0,5,P(2),P(1)',0		V2	03	04780
015157	120315	A							
015160	130640	A							
015161	150250	A							
015162	131651	A							
015163	126260	A							
015164	126265	A							
015165	126320	A							
015166	124262	A							
015167	124654	A							
015170	150250	A							
015171	130651	A							
015172	000000	A							
015173	120305	A	5062	DATA	' EMAC ',0				03 04782
015174	146701	A							
015175	141640	A							
015176	000000	A							
			5063	*OPEN					
			5064	MC7	' M1 P(3),P(4),6,P(2),P(1)',0124400		V2	03	04783
015177	120315	A							
015200	130640	A							
015201	150250	A							
015202	131651	A							
015203	126320	A							
015204	124264	A							
015205	124654	A							
015206	133254	A							
015207	150250	A							
015210	131251	A							
015211	126320	A							
015212	124261	A							
015213	124400	A							
015214	120305	A	5065	DATA	' EMAC ',0				03 04785
015215	146701	A							
015216	141640	A							
015217	000000	A							
			5066	*CLOSE					
			5067	MC8	' M1 P(3),P(4),7,P(2),P(1)',0124400		V2	03	04786
015220	120315	A							

015221	130640	A							
015222	150250	A							
015223	131651	A							
015224	126320	A							
015225	124264	A							
015226	124654	A							
015227	133654	A							
015230	150250	A							
015231	131251	A							
015232	126320	A							
015233	124261	A							
015234	124400	A							
015235	120305	A	5068	DATA	' EMAC ',0			03	04788
015236	146701	A							
015237	141640	A							
015240	000000	A							
			5069	*STAT					
015241	120305	A	5070	MC9	DATA	' EXT V#IDS',0152000		V2	03 04789
015242	154324	A							03 04790
015243	120326	A							
015244	122311	A							
015245	147723	A							
015246	152000	A							
			5071	IFF	VORTEX-1			V2	03 04791
015247	120312	A	5072	DATA	' JSR V#IDST,',0130400				03 04792
015250	151722	A							
015251	120326	A							
015252	122311	A							
015253	147723	A							
015254	152254	A							
015255	130400	A							
			5073	IFF	VORTEX-2			V2	03 04793
			5074	DATA	' JSR 0373,',0130400			V2	03 04794
015256	120304	A	5075	DATA	' DATA P(1),P(2),P(3),P(4),P(5)',0				03 04795
015257	140724	A							
015260	140640	A							
015261	150250	A							
015262	130651	A							
015263	126320	A							
015264	124262	A							
015265	124654	A							
015266	150250	A							
015267	131651	A							
015270	126320	A							
015271	124264	A							
015272	124654	A							
015273	150250	A							
015274	132651	A							
015275	000000	A							
015276	120305	A	5076	DATA	' EMAC ',0			03	04796
015277	146701	A							
015300	141640	A							
015301	000000	A							
			5077	*DCB					
015302	120304	A	5078	MC10	DATA	' DATA P(1),P(2),P(3)',0		V2	03 04797
015303	140724	A							03 04798
015304	140640	A							
015305	150250	A							
015306	130651	A							
015307	126320	A							
015310	124262	A							
015311	124654	A							
015312	150250	A							
015313	131651	A							
015314	000000	A							
015315	120305	A	5079	DATA	' EMAC ',0			03	04799
015316	146701	A							
015317	141640	A							
015320	000000	A							
			5080	*FCB					
015321	120304	A	5081	MC11	DATA	' DATA P(1),P(2),0124400		V2	03 04800
015322	140724	A							03 04801
015323	140640	A							
015324	150250	A							
015325	130651	A							
015326	126320	A							
015327	124262	A							
015330	124400	A							
015331	143240	A	5082	DATA	' F FORM 6,2,8',0			03	04802
015332	143317	A							
015333	151315	A							
015334	120260	A							
015335	126262	A							
015336	126270	A							
015337	000000	A							
015340	120306	A	5083	DATA	' F 0,P(3),P(4)',0			03	04803
015341	120260	A							
015342	126320	A							
015343	124263	A							
015344	124654	A							
015345	150250	A							
015346	132251	A							
015347	000000	A							

015477	131240	A							
015500	000000	A							
015501	120304	A	5103	DATA	' DATA 0200',0			03	04823
015502	140724	A							
015503	140640	A							
015504	130262	A							
015505	130260	A							
015506	000000	A							
015507	120305	A	5104	DATA	' EMAC ',0			03	04824
015510	146701	A							
015511	141640	A							
015512	000000	A							
			5105	*SUSPND					
015513	120315	A	5106	MC15	DATA	' M2 ',0		V2	03 04825
015514	131240	A							03 04826
015515	000000	A							
015516	143240	A	5107	DATA	' F FORM 4,6,4,2',0			03	04827
015517	143317	A							
015520	151315	A							
015521	120264	A							
015522	126266	A							
015523	126264	A							
015524	126262	A							
015525	000000	A							
015526	120306	A	5108	DATA	' F 0,3,0,P(1',0124400			03	04828
015527	120260	A							
015530	126263	A							
015531	126260	A							
015532	126320	A							
015533	124261	A							
015534	124400	A							
015535	120305	A	5109	DATA	' EMAC ',0			03	04829
015536	146701	A							
015537	141640	A							
015540	000000	A							
			5110	*RESUME					
015541	120315	A	5111	MC16	DATA	' M2 ',0		V2	03 04830
015542	131240	A							03 04831
015543	000000	A							
015544	120304	A	5112	DATA	' DATA 0400,P(1),P(2),P(3',0124400			03	04832
015545	140724	A							
015546	140640	A							
015547	130264	A							
015550	130260	A							
015551	126320	A							
015552	124261	A							
015553	124654	A							
015554	150250	A							
015555	131251	A							
015556	126320	A							
015557	124263	A							
015560	124400	A							
015561	120305	A	5113	DATA	' EMAC ',0			03	04833
015562	146701	A							
015563	141640	A							
015564	000000	A							
			5114	*ABORT					
015565	120315	A	5115	MC17	DATA	' M2 ',0		V2	03 04834
015566	131240	A							03 04835
015567	000000	A							
015570	120304	A	5116	DATA	' DATA 0500,P(1),P(2),P(3',0124400			03	04836
015571	140724	A							
015572	140640	A							
015573	130265	A							
015574	130260	A							
015575	126320	A							
015576	124261	A							
015577	124654	A							
015580	150250	A							
015581	131251	A							
015582	126320	A							
015583	124263	A							
015584	124400	A							
015585	120305	A	5117	DATA	' EMAC ',0			03	04837
015586	146701	A							
015587	141640	A							
015588	000000	A							
			5118	*ALDC					
015589	120315	A	5119	MC18	DATA	' M2 ',0		V2	03 04838
015592	131240	A							03 04839
015593	000000	A							
015594	120304	A	5120	DATA	' DATA 0600,P(1',0124400			03	04840
015595	140724	A							
015596	140640	A							
015597	130266	A							
015598	130260	A							
015599	126320	A							
015600	124261	A							
015601	124400	A							
015602	120305	A	5121	DATA	' EMAC ',0			03	04841
015603	146701	A							
015604	141640	A							
015605	000000	A							
015606	000000	A							
015607	000000	A							
015608	000000	A							
015609	000000	A							
015610	000000	A							
015611	000000	A							
015612	000000	A							
015613	000000	A							
015614	000000	A							
015615	000000	A							
015616	000000	A							
015617	000000	A							
015618	000000	A							
015619	000000	A							
015620	000000	A							
015621	000000	A							
015622	000000	A							
015623	000000	A							
015624	000000	A							
015625	000000	A							
015626	000000	A							
015627	000000	A							

015630	120315	A	5122 *DEALDC						
015631	131240	A	5123 MC19	DATA	' M2 ',0			V2	03 04842
015632	000000	A							03 04843
015633	120304	A	5124	DATA	' DATA 0700 ',0				03 04844
015634	140724	A							
015635	140640	A							
015636	130267	A							
015637	130260	A							
015640	000000	A							
015641	120305	A	5125	DATA	' EMAC ',0				03 04845
015642	146701	A							
015643	141640	A							
015644	000000	A							
015645	120315	A	5126 *PMSK						03 04846
015646	131240	A	5127 MC20	DATA	' M2 ',0			V2	03 04847
015647	000000	A							
015650	143261	A	5128	DATA	' F1 FORM 4,6,5 ',0130400				03 04848
015651	120306	A							
015652	147722	A							
015653	146640	A							
015654	132254	A							
015655	133254	A							
015656	132254	A							
015657	130400	A							
015660	120306	A	5129	DATA	' F1 0,010,0,P(3) ',0				03 04849
015661	130640	A							
015662	130254	A							
015663	130261	A							
015664	130254	A							
015665	130254	A							
015666	150250	A							
015667	131651	A							
015670	000000	A							
015671	143240	A	5130	DATA	' F FORM 8,8 ',0				03 04850
015672	143317	A							
015673	151315	A							
015674	120270	A							
015675	126270	A							
015676	000000	A							
015677	120306	A	5131	DATA	' F P(1),P(2) ',0				03 04851
015700	120320	A							
015701	124261	A							
015702	124654	A							
015703	150250	A							
015704	131251	A							
015705	000000	A							
015706	120306	A	5132	DATA	' EMAC ',0				03 04852
015707	146701	A							
015710	141640	A							
015711	000000	A							
015712	120315	A	5133 *DELAY						03 04853
015713	131240	A	5134 MC21	DATA	' M2 ',0			V2	03 04854
015714	000000	A							
015715	143240	A	5135	DATA	' F FORM 4,6,4,2 ',0				03 04855
015716	143317	A							
015717	151315	A							
015720	120264	A							
015721	126266	A							
015722	126264	A							
015723	126262	A							
015724	000000	A							
015725	120306	A	5136	DATA	' F 0,011,0,P(3) ',0124400				03 04856
015726	120260	A							
015727	126260	A							
015730	130661	A							
015731	126260	A							
015732	126320	A							
015733	124263	A							
015734	124400	A							
015735	120304	A	5137	DATA	' DATA P(1),P(2) ',0124400				03 04857
015736	140724	A							
015737	140640	A							
015740	150250	A							
015741	130651	A							
015742	126320	A							
015743	124262	A							
015744	124400	A							
015745	120305	A	5138	DATA	' EMAC ',0				03 04858
015746	146701	A							
015747	141640	A							
015750	000000	A							
015751	120315	A	5139 *TIME						03 04859
015752	131240	A	5140 MC22	DATA	' M2 ',0			V2	03 04860
015753	000000	A							
015754	120304	A	5141	DATA	' DATA 0120 ',0130000				03 04861
015755	140724	A							
015756	140640	A							
015757	130261	A							
015760	131260	A							

015761	120000	A						
015762	120305	A	5142	DATA	'EMAC',0			03 04862
015763	146701	A						
015764	141640	A						
015765	000000	A						
			5143	*OVLAY				
015766	120315	A	5144	MC23	DATA	'M2',0	V2	03 04863
015767	131240	A						03 04864
015770	000000	A						
015771	143240	A	5145		DATA	'FORM 4,6,5,1',0		03 04865
015772	143317	A						
015773	151315	A						
015774	120264	A						
015775	126266	A						
015776	126265	A						
015777	126261	A						
016000	000000	A						
016001	120306	A	5146		DATA	'F 0,013,0,P(1',0124400		03 04866
016002	120260	A						
016003	126260	A						
016004	130663	A						
016005	126260	A						
016006	126320	A						
016007	124261	A						
016010	124400	A						
016011	120304	A	5147		DATA	'DATA P(2),P(3),P(4)',0		03 04867
016012	140724	A						
016013	140640	A						
016014	150250	A						
016015	131251	A						
016016	126320	A						
016017	124263	A						
016020	124654	A						
016021	150250	A						
016022	132251	A						
016023	000000	A						
016024	120305	A	5148		DATA	'EMAC',0		03 04868
016025	146701	A						
016026	141640	A						
016027	000000	A						
			5149	*IDLINK				
016030	120315	A	5150	MC24	DATA	'M2',0	V2	03 04869
016031	131240	A						03 04870
016032	000000	A						
016033	143240	A	5151		DATA	'FORM 4,6,6',0		03 04871
016034	143317	A						
016035	151315	A						
016036	120264	A						
016037	126266	A						
016040	126266	A						
016041	000000	A						
016042	120306	A	5152		DATA	'F 0,014,P(1',0124400		03 04872
016043	120260	A						
016044	126260	A						
016045	130664	A						
016046	126320	A						
016047	124261	A						
016050	124400	A						
016051	120304	A	5153		DATA	'DATA P(2),P(3',0124400		03 04873
016052	140724	A						
016053	140640	A						
016054	150250	A						
016055	131251	A						
016056	126320	A						
016057	124263	A						
016060	124400	A						
016061	120305	A	5154		DATA	'EMAC',0		03 04874
016062	146701	A						
016063	141640	A						
016064	000000	A						
			5155	IFT	VORTEX-2		V2	03 04875
			5156	GOTO	1		V2	03 04876
			5157	*PASS			V2	03 04877
			5158	MC25	DATA	'M2',0	V2	03 04878
			5159		DATA	'FORM 4,6,6',0	V2	03 04879
			5160		DATA	'F 0,016,0',0	V2	03 04880
			5161		DATA	'DATA P(1),P(2),P(3)',0	V2	03 04881
			5162		DATA	'EMAC',0	V2	03 04882
			5163	1	CONT		V2	03 04883
			5164	*LCB				03 04884
016065	120304	A	5165	MC26	DATA	'DATA P(1)',0	V2	03 04885
016066	140724	A						
016067	140640	A						
016070	150250	A						
016071	130651	A						
016072	000000	A						
016073	120311	A	5166		DATA	'IFF P(5',0124400		03 04886
016074	143306	A						
016075	120320	A						
016076	124265	A						
016077	124400	A						
016100	120304	A	5167		DATA	'DATA P(2)',0		03 04887
016101	140724	A						

016102	140640	A					
016103	150250	A					
016104	131251	A					
016105	000000	A					
016106	120311	A	5168	DATA	' IFT P(5)',0124400	03 04888	
016107	143324	A					
016110	120320	A					
016111	124265	A					
016112	124400	A					
016113	120304	A	5169	DATA	' DATA (P(2))',0125000	03 04889	
016114	140724	A					
016115	140640	A					
016116	124320	A					
016117	124262	A					
016120	124651	A					
016121	125000	A					
016122	143240	A	5170	DATA	' F FORM 8,8',0	03 04890	
016123	143317	A					
016124	151315	A					
016125	120270	A					
016126	126270	A					
016127	000000	A					
016130	120306	A	5171	DATA	' F P(4),P(3)',0	03 04891	
016131	120320	A					
016132	124264	A					
016133	124654	A					
016134	150250	A					
016135	131651	A					
016136	000000	A					
016137	120311	A	5172	DATA	' IFF P(0),,6',0	03 04892	
016140	143306	A					
016141	120320	A					
016142	124260	A					
016143	124654	A					
016144	126266	A					
016145	000000	A					
016146	120304	A	5173	DATA	' DATA P(6)',0	03 04893	
016147	140724	A					
016150	140640	A					
016151	150250	A					
016152	133251	A					
016153	000000	A					
016154	120305	A	5174	DATA	' EMAC ',0	03 04894	
016155	146701	A					
016156	141640	A					
016157	000000	A					
			5175	*DELAY3		03 04895	
016160	120315	A	5176	MC27	DATA	' M2 ',0	C.1 03 04896
016161	131240	A					
016162	000000	A					
016163	120304	A	5177	DATA	' DATA 01107,P(1),P(2)',0124400	C.1 03 04897	
016164	140724	A					
016165	140640	A					
016166	130261	A					
016167	130660	A					
016170	133654	A					
016171	150250	A					
016172	130651	A					
016173	126320	A					
016174	124262	A					
016175	124400	A					
016176	143240	A	5178	DATA	' F FORM 8,8',0	C.1 03 04898	
016177	143317	A					
016200	151315	A					
016201	120270	A					
016202	126270	A					
016203	000000	A					
016204	120306	A	5179	DATA	' F P(4),P(3)',0	C.1 03 04899	
016205	120320	A					
016206	124264	A					
016207	124654	A					
016210	150250	A					
016211	131651	A					
016212	000000	A					
016213	120305	A	5180	DATA	' EMAC ',0	C.1 03 04900	
016214	146701	A					
016215	141640	A					
016216	000000	A					
			5181	* EVENT WORD		V2 03 04901	
016217	120315	A	5182	MC28	DATA	' M2 ',0	V2 03 04902
016220	131240	A					
016221	000000	A					
016222	143240	A	5183	DATA	' F FORM 4,6,6',0	V2 03 04903	
016223	143317	A					
016224	151315	A					
016225	120261	A					
016226	126266	A					
016227	126266	A					
016230	000000	A					
016231	120306	A	5184	DATA	' F 0,017,0',0	V2 03 04904	
016232	120260	A					
016233	126260	A					
016234	130667	A					


```

016235 126260 A
016236 000000 A
016237 120304 A 5185 DATA ' DATA P(1),P(2),P(3)',0 D.1 03 04905
016240 140724 A
016241 140640 A
016242 150250 A
016243 130651 A
016244 126320 A
016245 124262 A
016246 124654 A
016247 150250 A
016250 131651 A
016251 000000 A
016252 120305 A 5186 DATA ' EMAC ',0 V2 03 04906
016253 146701 A
016254 141640 A
016255 000000 A

5187 IFT VORTEX-2 V2 03 04907
5188 GOTO 1 V2 03 04908
5189 * ALLOCATE PHYSICAL PAGE V2 03 04909
5190 MC29 DATA ' M2 ',0 V2 03 04910
5191 DATA ' F FORM 4,6,6',0 V2 03 04911
5192 DATA ' F 0,020,0',0 V2 03 04912
5193 DATA ' DATA P(1),P(2),P(3)',0 V2 03 04913
5194 DATA ' EMAC ',0 V2 03 04914
5195 * DEALLOCATE PHYSICAL PAGE V2 03 04915
5196 MC30 DATA ' M2 ',0 V2 03 04916
5197 DATA ' F FORM 4,6,6',0 V2 03 04917
5198 DATA ' F 0,021,0',0 V2 03 04918
5199 DATA ' DATA P(1),P(2),P(3)',0 V2 03 04919
5200 DATA ' EMAC ' V2 03 04920
5201 * MAP IN V2 03 04921
5202 MC31 DATA ' M2 ',0 V2 03 04922
5203 DATA ' F FORM 4,6,6',0 V2 03 04923
5204 DATA ' F 0,022,0',0 V2 03 04924
5205 DATA ' DATA P(1),P(2),P(3),P(4)',0124400 V2 03 04925
5206 DATA ' EMAC ' V2 03 04926
5207 * PAGE NUMBER V2 03 04927
5208 MC32 DATA ' M2 ',0 V2 03 04928
5209 DATA ' F FORM 4,6,6',0 V2 03 04929
5210 DATA ' F 0,023,0',0 V2 03 04930
5211 DATA ' DATA P(1)',0 V2 03 04931
5212 DATA ' EMAC ',0 V2 03 04932
5213 1 CONT V2 03 04933
016256 R 5214 BNET EQU * V2 03 04934
5215 EJECT V75*****
5216 ***** V75*****
5217 * V75*****
5218 * INITIALIZE ASSEMBLER ( INIT ) V75*****
5219 * V75*****
5220 * FUNCTION: TO INITIALIZE VORTEX/VORTEX II DASMR ASSEMBLER V75*****
5221 * V75*****
5222 * ENTRY: DIRECT TO LABEL DASMR FROM VORTEX DISPATCHER V75*****
5223 * V75*****
5224 * EXIT : DIRECT TO P1INIT V75*****
5225 * INIT IS OVERLAYED BY DASMR TABLES V75*****
5226 * V75*****
5227 ***** V75*****
5228 ***** V75*****
5229 ***** V75*****
5230 * CONSTRUCT BYTE POINTERS FOR LIST BUFFER * V75*****
5231 ***** V75*****
5232 ***** V75*****
5233 DASMR, LDAI LBUF V75*****
016256 006010 A 5234 LRLA 1 GET BYTE POINTER TO LBUF V75*****
016257 000314 R 5235 IAR V75*****
016260 004241 A 5236 STA LB2P1 +1 ADDRESS FIELD V75*****
016261 005111 A 5237 ADD SEVEN V75*****
016262 057000 I 5238 STA LB2P8 +8 VALUE FIELD V75*****
016263 120467 A 5239 ADDI 14 V75*****
016264 057000 I
016265 006120 A
016266 000016 A
016267 057000 I 5240 STA LB2P22 +22 LABEL FIELD V75*****
016270 120466 A 5241 ADD SIX V75*****
016271 057000 I 5242 STA LB2P28 +28 OP CODE FIELD-1 V75*****
016272 127000 I 5243 ADD EIGHT V75*****
016273 057000 I 5244 STA LB2P36 +36 OPERAND FIELD-1 V75*****
016274 120472 A 5245 ADD K915 V75*****
016275 057000 I 5246 STA LB2P51 +51 COMMENT FIELD V75*****
5248 ***** V75*****
5249 * MAP 'DASMR' PARAMETER CHARS INTO SPCW BITS * V75*****
5250 ***** V75*****
016276 005002 A 5252 17B 03 04969
016277 067000 I 5253 STB 03 04970
016300 064644 A 5254 STB PEF 03 04971
016301 030412 A 5255 LDM VALCB JCP BUFFER ADDRESS 03 04972
016302 016302 R 5256 VDASM1 EQU 03 04973
016303 015000 A 5257 LDA J,1 GET 1ST (NEXT) BUFFER WORD 03 04974
016304 001010 A 5258 JAZ 001 ALL DONE 03 04975
016304 016422 R
016305 003020 A 5259 X8Z LSP8 RIGHT ADJUST CHAR AND 03 04976
016306 016355 R
016307 006150 A 5260 ANAI 03,7 MASK OUT CHAR IN UPPER HALF OF WORD 03 04977
016310 000377 A
016311 006140 A 5261 SUBI 0240 CHECK FOR BLANK 03 04978

```



```

016430 016423 E
016431 001412 A
016432 000124 R
016433 000050 A
                    5327 *
                    5328      IDLINK  SS,$BUF,40
016434 006505 A
016435 016430 E
016436 001410 A
016437 000124 R
016440 000050 A
                    5329 *
016441 006010 A 5330      LDAI    SI          CHECK SI FOR RMD
016442 000002 A
016443 002000 A 5331      CALL    RMDTST
016444 017076 R
016445 064510 A 5332      STB    SILUN       SAVE SI DST INDEX
016446 006010 A 5333      LDAI    PI          CHECK IF PI IS AN RMD
016447 000004 A
016450 002000 A 5334      CALL    RMDTST       ON RETURN, SET
016451 017076 R
016452 064504 A 5335      STB    PIRUN       SAVE PI DST INDEX
016453 057000 I 5336      STA    PIRMD       PI RMD FLAG=1 IF PI=RMD, OTHERWISE ZERO
016454 005021 A 5337      TBA    GET A=PI DST INDEX
016455 134500 A 5338      ERA    SILUN       COMPARE SI AND PI
016456 005012 A 5339      TAB
016457 017000 I 5340      LDA    PIRMD       TEST IF
016460 005311 A 5341      DAR    PI=RMD
016461 006030 A 5342      LDXI   PIFCB       POINTER TO GLOBAL PI FCB
016462 012352 E
016463 001022 A 5343      JIF    022,DAS0    JUMP IF PI-RMD=SI
016464 016473 R
016465 001002 A 5344      JAP    DAS$00      JUMP IF PI-RMD#SI
016466 016514 R
016467 005001 A 5345      TZA
016470 057000 I 5346      STA    PORF        SET PD SECT REC FLAG 0 IF PI IS NOT RMD
016471 001000 A 5347      JMP    DAS$01
016472 016517 R
016473 015005 A 5348      LDA    5,X         PI=RMD=SI
016474 001016 A 5349      JNZ    DAS$00      IS PI GLOBAL FCB ACTIVE ?
016475 016514 R
016476 067000 I 5350      STB    PIRMD       NO. THIS IS RMD JOB STACK
016477 067000 I 5351      STB    PORF        SET FLAG FOR PI .NE. RMD
016500 006030 A 5352      LDXI   PIREAD+5   SUBSTITUTE
016501 012352 R
016502 006010 A 5353      LDAI   SIFCB       SI FCB FOR PI FCB IN READ MACRO
016503 000000 E
016504 055000 A 5354      STA    0,1
                    5355 *
                    5356      IDLINK  SI,$BUF,40
016505 006505 A
016506 016435 E
016507 001402 A
016510 000124 R
016511 000050 A
016512 001000 A 5357      JMP    DAS$01
016513 016517 R
016514 006010 A 5358      DAS$00 EQU    *
016515 000170 A 5359      LDAI   120        SET SOURCE BUFF LENGTH
016516 055000 A 5360      STA    0,1        IN PI FCB
016517 016517 R 5361      DAS$01 EQU    *
016520 000012 A 5362      LDAI   PD
016521 002000 A 5363      CALL    RMDTST
016522 017076 R
016523 064431 A 5364      STB    PDLUN       STORE PD DST INDEX
016524 057000 I 5365      STA    PORND       A=0 IF PD NOT RMD
016525 027000 I 5366      LDB    PORF
016526 006030 A 5367      LDXI   PUFCE       POINTER TO GLOBAL PD FCB
016527 006745 E
016530 003010 A 5368      MAZ    DECB       SET PORF=-1 IF PD NOT RMD
016531 017161 R
016532 067000 I 5369      STB    PORF
016533 001010 A 5370      MAZ    DAS$02     OTHERWISE, LEAVE ALONE
016534 016553 R
016535 006010 A 5371      LDAI   120        SET FCB REC LEN = 120
016536 000170 A
016537 055000 A 5372      STA    0,1
                    5373 *
016540 R 5374      POPN   EQU    *
                    5375      OPEN   PUFCE,PD,0,0
016540 006505 A
016541 012347 E
016542 100000 R
016543 003010 R
016544 016527 E
016545 000000 R
016546 000000 R
016547 006010 A 5376      LDAI   POPN
016550 016540 R
016551 002000 A 5377      CALL    STAT
016552 006762 R

```


			5378 *						03 05084
016553	016553	R	5379	DASS02	EQU	*			03 05085
016554	006010	A	5380		LDAI	SS			03 05086
016555	002000	A	5381		CALL	RMDTST			03 05087
016556	017076	R							
016557	006030	A	5382		LDXI	SSFCB	POINTER TO GLOBAL SS FCB		03 05088
016560	012334	E							
016561	064372	A	5383		STB	SSLUN	SAVE SS DST INDEX	V75*****	
016562	057000	I	5384		STA	SSRMD	A=1 IF SS=RMD,ZERO OTHERWISE	V75*****	
016563	001010	A	5385		JAZ	*+5	JUMP IF NOT RMD		03 05091
016564	016570	R							
016565	006010	A	5386		LDAI	120	SET FCB REC. LENGTH= 120		03 05092
016566	000170	A							
016567	055000	A	5387		STA	0,1			03 05093
016570	014363	A	5388		LDA	SSLUN	COMPARE SS		03 05094
016571	134363	A	5389		ERA	POLUN	AND PD FOR SAME DEVICE OR RMD PARTITION	V75*****	
016572	006030	A	5390		LDXI	POSS			03 05096
016573	003376	R							
016574	055000	A	5391		STA	0,1	POSS=0 IF SS=PD		03 05097
016575	001010	A	5392		JAZ	*+4	PD=SS		03 05098
016576	016601	R							
016577	001000	A	5393		JMP	DASS03			03 05099
016600	016606	R							
016601	002000	A	5394		CALL	MOVW			03 05100
016602	011761	R							
016603	000012	A	5395		DATA	10	MOVE ALL 10 WORDS		03 05101
016604	016544	E	5396		DATA	POFCB	FROM THE PD FCB		03 05102
016605	016560	E	5397		DATA	SSFCB	TO THE SS FCB		03 05103
	016606	R	5398	DASS03	EQU	*			03 05104
016606	017000	I	5399		LDA	SSRMD	IS SS AN RMD#		03 05105
016607	001010	A	5400		JAZ	DASS05	NO		03 05106
016610	016633	R							
016611	014344	A	5401		LDA	SILUN	COMPARE SI DEVICE/PARTITION	V75*****	
016612	134341	A	5402		ERA	SSLUN	WITH SS	V75*****	
016613	057000	I	5403		STA	SSRMD	IF EQUAL, RESET SS RMD FLAG TO 0 (NON RMD)		03 05109
016614	001010	A	5404		JAZ	DASS04	AND JUMP		03 05110
016615	016626	R							
			5405 *						03 05111
016616	014340	A	5406		LDA	PI LUN	COMPARE PI DEVICE/PARTITION	V75*****	
016617	134334	A	5407		ERA	SSLUN	WITH SS	V75*****	
016620	005311	A	5408		BAR				03 05114
016621	001002	A	5409		JAP	DASS05	PI .NE. SS		03 05115
016622	016633	R							
			5410 *						03 05116
016623	006010	A	5411		LDAI	PIFCB	PI = SS = RMD		03 05117
016624	016462	E					PREPARE TO TRANSFER THE		
016625	054003	A	5412		STA	DASS04+3	CONTENTS OF THE PI FCB TO THE SS FCB		03 05118
	016626	R	5413	DASS04	EQU	*			03 05119
016626	002000	A	5414		CALL	MOVW			03 05120
016627	011761	R							
016630	000012	A	5415		DATA	10	MOVE ALL 10 WORDS		03 05121
016631	016503	E	5416		DATA	SIFCB	FROM THE SI (OR PI) FCB		03 05122
016632	016605	E	5417		DATA	SSFCB	TO THE SS FCB		03 05123
	016633	R	5418	DASS05	EQU	*			03 05124
016633	017000	I	5419		LDA	SPCW	CHECK PD SUPPRESS BIT AND		03 05125
016634	004256	A	5420		LRLA	NBIT-2			03 05126
016635	001004	A	5421		JAN	DASS50	SKIP BD SETUP IF SUPPRESS BIT SET		03 05127
016636	016677	R							
			5422		IOLINK	BD, DBUF+60, 60			03 05128
016637	006505	A							
016640	016506	E							
016641	001407	A							
016642	000506	R							
016643	000074	A							
			5423 *						03 05129
016644	006010	A	5424		LDAI	BD			03 05130
016645	000007	A							
016646	002000	A	5425		CALL	RMDTST			03 05131
016647	017076	R							
016650	006030	A	5426		LDXI	BDFCB	POINTER TO GLOBAL BD FCB		03 05132
016651	011233	E							
016652	057000	I	5427		STA	SSRMD			03 05133
016653	001010	A	5428		JAZ	DASS50	JUMP IF NOT RMD		03 05134
016654	016677	R							
016655	006010	A	5429		LDAI	120	SET SECTOR SIZE IN FCB		03 05135
016656	000170	A							
016657	055000	A	5430		STA	0,1			03 05136
016660	015004	A	5431		LDA	0,1	CHECK IF BD FCB		03 05137
016661	005311	A	5432		BAR		IS ALREADY OPENED		03 05138
016662	001002	A	5433		JAP	DASS50	YES, DON'T RE-OPEN		03 05139
016663	016677	R							
	016664	R	5434	BOPEN	EQU	*			03 05140
		R	5435		OPEN	BDFCB, BD, 0, 1	OPEN AND LEAVE THE BD FILE		03 05141
016664	006505	A							
016665	016541	E							
016666	100000	A							
016667	013007	A							
016670	016651	E							
016671	000000	A							
016672	000000	A							
016673	006010	A	5436		LDAI	BOPEN	STATUS CHECK BD OPEN		03 05142
016674	016664	R							

Address	Hex	Op	Label	Op	Comment	Page	Line
016675	002000	A	5437	CALL	STAT		03 05143
016676	006762	R					
	016677	R	5438	DASS50 EQU	*		03 05144
016677	017000	I	5439	LDA	\$PCW	DONT SET GO FCB IF GO OPTION NOT SPECIFIED	03 05145
016700	001002	A	5440	JAP	DASS06	JUMP IF 'GO' OPTION NOT SPECIFIED	03 05146
016701	016742	R					
			5441	IDLINK	GO,GBUF+60,60		03 05147
016702	006505	A					
016703	016640	E					
016704	001411	A					
016705	000504	R					
016706	000074	A					
016707	006010	A	5442	LDAI	GO		03 05148
016710	000011	A					
016711	002000	A	5443	CALL	RMDTST		03 05149
016712	017076	R					
016713	006030	A	5444	LDMI	GOFCB	POINTER TO GLOBAL GO FCB	03 05150
016714	011261	E					
016715	057000	I	5445	STA	GURMD		03 05151
016716	001010	A	5446	JAZ	DASS06	JUMP IF NOT RMD	03 05152
016717	016742	R					
016720	006010	A	5447	LDAI	120	SET SECTOR SIZE IN FCB	03 05153
016721	000170	A					
016722	055000	A	5448	STA	0,1		03 05154
016723	015004	A	5449	LDA	4,1	CHECK IF GO FCB	03 05155
016724	005311	A	5450	DAR		IS ALREADY OPENED	03 05156
016725	001002	A	5451	JAP	DASS06	YES, DON'T RE-OPEN	03 05157
016726	016742	R					
			5452	* GOPN EQU	*		03 05158
	016727	R	5453	DOPN	GOFCB,GO,0,1	OPEN AND LEAVE GO FILE	03 05159
			5454				03 05160
016727	006505	A					
016730	016665	E					
016731	100000	A					
016732	013011	A					
016733	016714	E					
016734	000000	A					
016735	000000	A					
016736	006010	A	5455	LDAI	GOPN	CHECK STATUS	03 05161
016737	016727	R					
016740	002000	A	5456	CALL	STAT	OF OPEN	03 05162
016741	006762	R					
	016742	R	5457	DASS06 EQU	*		03 05163
			5458	* IDLINK	LD,LBUF,60		03 05164
			5459				03 05165
016742	006505	A					
016743	016703	E					
016744	001405	A					
016745	000314	R					
016746	000074	A					
016747	006010	A	5460	LDAI	LD		03 05166
016750	000005	A					
016751	002000	A	5461	CALL	RMDTST		03 05167
016752	017076	R					
016753	006030	A	5462	LDXI	LOFCB	POINTER TO GLOBAL LD FCB	03 05168
016754	012262	E					
016755	001010	A	5463	JAZ	DASS60	JUMP IF NOT RMD	03 05169
016756	016777	R					
016757	057000	I	5464	STA	LORMD		C.1 03 05170
			5465	* LDA	4,1	CHECK IF LD FCB	03 05171
016760	015004	A	5466	DAR		IS ALREADY OPENED	03 05172
016761	005311	A	5467	JAP	DASS60	YES, DONT RE-OPEN	03 05173
016762	001002	A	5468				03 05174
016763	016777	R					
			5469	* LOPEN EQU	*		03 05175
	016764	R	5470	DOPEN	LOFCB,LD,0,1	OPEN AND LEAVE THE LD FILE	03 05176
			5471				03 05177
016764	006505	A					
016765	016730	E					
016766	100000	A					
016767	013005	A					
016770	016754	E					
016771	000000	A					
016772	000000	A					
016773	006010	A	5472	LDAI	LOPEN	CHECK STATUS	03 05178
016774	016764	R					
016775	002000	A	5473	CALL	STAT	OF LD OPEN	03 05179
016776	006762	R					
			5474	* DASS60 EQU	*		03 05180
	016777	R	5475	DOPN	MOVN	MOVE JOB NAME INTO HEADER	03 05181
			5476				03 05182
016777	002000	A					
017000	011761	R					
017001	000004	A	5477	DATA	4		03 05183
017002	000050	A	5478	DATA	\$JNAM	FROM ADDRESS	03 05184
017003	000711	R	5479	DATA	HEB+11	TO ADDRESS	03 05185
017004	002000	A	5480	JAPN	MOVN		03 05186
017005	011761	R					
017006	000004	A	5481	DATA	4		03 05187
017007	000070	A	5482	DATA	\$DATE	FROM ADDR	03 05188
017010	000704	R	5483	DATA	HEB+6	TO ADDRESS	03 05189
017011	017000	I	5484	LDA	BUF0	INITIATE (= \$BUF)	03 05190
017012	127000	I	5485	ADD	BUF0	INPUT BUFFER (= \$BUF)	03 05191
017013	057000	I	5486	STA	IBBA	BYTE ADDRESS	03 05192

Address	Hex	Op	Label	Code	Comment	Page	Line	
017014	010317	A	5487	LDA	V\$LLUP	ADDR OF TOP OF SYMBOL TABLE	03 05193	
017015	006140	A	5488	SUBI	120		03 05194	
017016	000170	A						
017017	057000	I	5489	STA	MACM+1		03 05195	
017020	057000	I	5490	STA	MEX3+1		03 05196	
017021	057000	I	5491	STA	BT7		03 05197	
017022	147000	I	5492	SUB	D40	(=40)	03 05198	
017023	057000	I	5493	STA	BDUT	BEGIN DUP TABLE-40	03 05199	
			5494	*			03 05200	
017024	010412	A	5495	LDA	V\$JCB	JCP BUFFER ADDRESS	03 05201	
017025	057000	I	5496	STA	STEF-1	TO MOVE FINAL '/' DATA	03 05202	
017026	017000	I	5497	LDA	QBBO		03 05203	
017027	002000	A	5498	CALL	SAR	BLANK FILL THE	03 05204	
017030	011705	R						
017031	000074	A	5499	DATA	LBSZ		03 05205	
017032	000314	R	5500	DATA	LBUF	LIST BUFFER	03 05206	
017033	002000	A	5501	CALL	LEADER	OUTPUT LEADER/TRAILER ON BD DEVICE	03 05207	
017034	012305	R						
			5502	*			03 05208	
017035	014107	A	5503	LDA	PEF	CHECK IF PARAMETER ERROR	03 05209	
017036	001010	A	5504	JAZ	S1		03 05210	
017037	000740	R						
			5505		WRITE	SDDCB,SD,0,1	03 05211	
017040	006505	A						
017041	016765	E						
017042	100000	A						
017043	010403	A						
017044	017146	R						
017045	000000	A						
017046	000000	A						
017047	006505	A	5506	JSR	V\$SOLO,X	CHECK IF SD = LD	03 05212	
017050	017130	R						
017051	001010	A	5507	JAZ	S1		03 05213	
017052	000740	R						
			5508		IDLINK	LD,BUFER,3	SET UP FCB	03 05214
017053	006505	A						
017054	016743	E						
017055	001405	A						
017056	017151	R						
017057	000003	A						
			5509		WRITE	LD,FCB,LD,0,1	WRITE LC02 AND WAIT	03 05215
017060	006505	A						
017061	017041	E						
017062	100000	A						
017063	010405	A						
017064	016770	E						
017065	000000	A						
017066	000000	A						
			5510		IDLINK	LD,LBUF,60	RESET FCB	03 05216
017067	006505	A						
017070	017054	E						
017071	001405	A						
017072	000314	R						
017073	000074	A						
017074	001000	A	5511	JMP	S1	NOW START THE ASSEMBLY PROCESS	03 05217	
017075	000740	R						
			5512	*			03 05218	
			5513	*			03 05219	
017076	000000	A	5514	RMDTST	ENTR	CHECK IF S1 IS AN RMD	03 05220	
017077	120400	A	5515	ADD	V\$LUTI	ADDRESS OF LUN TABLE	03 05221	
017100	005012	A	5516	TAB			03 05222	
017101	016000	A	5517	LDA	C,R	GET DISPLACEMENT INTO DST'S	03 05223	
017102	006150	A	5518	PNAI	0377		03 05224	
017103	000377	A						
017104	054022	A	5519	STA	LUN	SAVE ACTUAL LUN	03 05225	
017105	005311	A	5520	DAR			03 05226	
017106	054053	A	5521	STA	TEMP		03 05227	
017107	004201	A	5522	ASLA	1		03 05228	
017110	124051	A	5523	ADD	TEMP		03 05229	
017111	120355	A	5524	ADD	V\$DSTB	ADDRESS OF DST'S	03 05230	
017112	005014	A	5525	JAX			03 05231	
017113	005002	A	5526	TZB		SET FLAG FOR NON-RMD	03 05232	
017114	015001	A	5527	LDA	I,X	GET DEVICE NAME	03 05233	
017115	006150	A	5528	ANAI	0177400		03 05234	
017116	177400	A						
017117	006130	A	5529	ERAI	0142000	IS IT AN RMD TYPE? IF	03 05235	
017120	142000	A						
017121	003010	A	5530	XAZ	018R	SET FLAG FOR RMD	03 05236	
017122	017160	R						
017123	005021	A	5531	TDA			03 05237	
017124	024002	A	5532	LIE	LUN	RETURN WITH LUN IN B-REG	03 05238	
017125	001000	A	5533	JMP*	RMDTST	NO	03 05239	
017126	117076	R						
017127			5534	LUN	BSS	1	03 05240	
			5535		EJEC		03 05241	
			5536	*			03 05242	
			5537	*			03 05243	
			5538	*			03 05244	
			5539	*			03 05245	
			5540	*			03 05246	
			5541	*			03 05247	
			5542	*			03 05248	
			5543	*			03 05249	


```

5544 *
5545 *
5546 *
5547 *
5548 *
5549 *
5550 *
5551 *
5552 *
017130 074012 A 5553 VSSOLD STX SOLD1
017131 030400 A 5554 LDX V$LUT1
017132 015003 A 5555 LDA 0,X GET SD CURRENT
017133 150463 A 5556 ANA RHW ASSIGNMENT
017134 054007 A 5557 STA SOLD2
017135 015005 A 5558 LOA 0,X GET LD CURRENT
017136 150463 A 5559 ANA RHW ASSIGNMENT
017137 144004 A 5560 SUB SOLD2 TAKE DIFFERENCE
017140 034002 A 5561 LDX SOLD1
017141 006705 A 5562 IJMP 0,X RETURN
017142 000000 A
017143 000000 A 5563 SOLD1 DATA 0
017144 000000 A 5564 SOLD2 DATA 0
017145 000000 A 5565 PEF DATA 0
017146 000003 A 5566 SDFCB DATA 0,BUFER,0
017147 017151 R
017150 000000 A
017151 120240 A 5567 BUFER DATA ' JC02'
017152 145303 A
017153 130262 A
017154 5568 SSLUN PSS 1
017155 5569 POLUN PSS 1
017156 000000 A 5570 SILUN DATA 0
017157 5571 PILUN PSS 1
017160 005102 A 5572 DIER INCR 0
017161 005302 A 5573 DECB DECR 2
017162 5574 TEMP BSS 1
5575 *
017163 5576 PSS 01044 EXTEND TO TOP OF 8K
020227 5577 DASEND ORG *
016256 R 5578 END DASMR

```

```

ENTRY NAMES
016256 R DASMR
INTERNAL NAMES
016670 E BOFCB 016733 E GDFCB 017064 E LOFCB 016624 E PIFCB
016604 E POFCB 016631 E SIFCB 016632 E SSFCB 017070 E V$EXEC
017061 E V$IDC 006765 E V$IDST
SYMBOLS
000124 R $BUF 012366 R $LIST 000076 R $PCW 006260 R ADD
006273 R ADD1 006275 R ADD2 006277 R ADD3 006312 R ADDS
000053 R AF 006335 R ADF 000002 A AP 011152 R ARP1
011136 R ARPT 000022 R AS 001176 R ASR2 001212 R ASR3
001222 R ASR4 001226 R ASR5 001221 R ASRJ 001106 R ASSB
001103 R ASSR 000010 A AZ 000002 A B 012030 R B2A
012107 R B2AB 012104 R B2B1 012075 R B2S1 012071 R B2SA
012076 R B2S3 000000 R B2SE 005274 R BCK 005302 R BCK3
012367 R BDT 000077 R BDU 001300 R BES 001321 R BES1
016256 R BMET 014750 R BMPT 000007 A BO 016670 E BOFCB
011204 R BOMDV 016664 R BOPEN 016357 R BOPT 000113 R BORT
000105 R BORMD 003325 R BOWR 000481 A BS0 000424 A BS3
000425 A BS4 000427 A BS6 001267 R BSS 000066 R BT1
000067 R BT2 000070 R BT3 000072 R BT4 000073 R BT5
000074 R BT6 000075 A BT7 000674 R BUF$ 017151 R BUFER
012010 R BYT! 012012 R BYTE 000020 A BZ 000100 R C1
000101 R C2 011402 R CS26 001342 R CALL 012275 R CLRBUF
000050 R CMSZ 000036 R CODE 001731 R COMN 002065 R CNT
011126 R COUT 000055 R CRF 011356 R CSY1 011321 R CSYM
007673 R CTS1 007677 R CTST 002377 R D40 001360 R DA1
001402 R D42 001400 R D43 001462 R D4F 001540 R D4F1
001504 R D4F2 001555 R D4F3 001547 R D4F4 001553 R D4F5
001604 R D4F6 001635 R D4F7 001643 R D4F8 001647 R D4F9
007663 R D4F9 001410 R DA0 001433 R DA01 001411 R DA02
001412 R DA03 001436 R DA04 001452 R DA05 001422 R DA06
001455 R DA07 001443 R DA08 016514 R DAS$00 016517 R DAS$01
016553 R DAS$02 016606 R DAS$03 016612 R DAS$04 016627 R DAS$05
016742 R DAS$06 016677 R DAS$07 016777 R DAS$08 016473 R DAS0
020227 R DASTNB 016256 R DASMR 001362 R DATA 017101 R DECB
007154 R DEF1 007161 R DEF2 007257 R DEF3 007235 R DEF4
007273 R DEF5 007131 R DEF6 007216 R DEF7 007150 R DEF8
007164 R DEF1 007277 R DEFT 002016 R DETL 007162 R DF21
007142 R DFLO 017160 R DIB2 000057 R DIPF 006312 R DIV
006362 R DIV1 006427 R DIV2 006413 R DIV3 002452 R DFCT
000064 R DPF 002453 R DPLN 001715 R DS1 001724 R DSUB
000012 R DUP 002324 R DUP1 002371 R DUP2 002401 R DUP3
002432 R DUP4 002454 R DUP5 002364 R DUP6 002403 R DUP7
002417 R DUP8 002446 R DUP9 002475 R DUP8 002447 R DUP9
000037 R E 012151 R EIGHT 014750 R EIT 002001 R EJOB
004500 R EM41 004455 R EMAC 002637 R EN04 002662 R EN05
002675 R EN08 002710 R EN09 002734 R EN10 002754 R EN11
003013 R EN12 003031 R EN15 003050 R EN2 003070 R EN21
003121 R EN22 003103 R EN23 003143 R EN24 003161 R EN25
003175 R EN26 003212 R EN27 003227 R EN28 003242 R EN29
003246 R EN2A 003275 R EN2B 003277 R EN2M 003342 R EN21
002715 R EN2A 002563 R END 000027 R ENDT 003377 R ENM1

```


003405	R	ENM2	003417	R	ENM3	003423	R	ENM4	016365	R	EQPT
000052	R	EP	001326	R	EQU	000010	R	ERCT	010574	R	ERLN
007747	R	ERR	007765	R	ERR1	000011	R	ERSC	000012	R	ERSK
001703	R	ES	000067	R	ET1	000070	R	ET2	000071	R	ET3
000073	R	ET4	000074	R	ET5	000075	R	ET6	005516	R	EX
005551	R	EX1	005540	R	EX2	005562	R	EX3	005525	R	EX5
005337	R	EXN	005476	R	EXP	005370	R	EXP1	005364	R	EXP2
005441	R	EXP3	005463	R	EXP4	005454	R	EXP5	005434	R	EXP6
005471	R	EXP7	005461	R	EXP8	005462	R	EXP9	001750	R	EXT
001752	R	EXT1	003635	R	FEX	003652	R	FEX1	003702	R	FEX2
003653	R	FEX3	000465	A	FIVE	003535	R	FORM	000423	A	FOUR
002624	R	FPOWER	000675	R	FRMS	003550	R	FRM1	003557	R	FRM2
003543	R	FRM3	003620	R	FRM5	003630	R	FRM7	003622	R	FRM8
003626	R	FRM9	003603	R	FRMA	000027	R	FT1	000030	R	FT2
012213	R	GBDMO	012230	R	GBDMO1	007724	R	GN01	007727	R	GN02
007720	R	GN03	007707	R	GNC0	007737	R	GNC1	000011	A	GO
016733	E	GDFCB	016727	R	GDPN	000114	R	GDRF	000106	R	GDRMD
002240	R	GDT	002150	R	GDT1	002124	R	GDT2	002155	R	GDT3
002202	R	GDT4	002206	R	GDT5	002144	R	GDT7	002225	R	GDTL
002110	R	GOTO	003357	R	GOWR	011441	R	GS1	011437	R	GS11
011460	R	GS1M	011501	R	GS2	011477	R	GS21	011520	R	GS2M
011536	R	GS3	011534	R	GS31	011554	R	GS4	011552	R	GS41
011572	R	GS5	011570	R	GS51	011611	R	GS5M	011627	R	GS6
011625	R	GS61	011647	R	GS6M	012175	R	GSRC01	012205	R	GSRC02
012164	R	GSRCAD	011666	R	GST	002212	R	GTS	011411	R	GV75R
011435	R	GV75RE	000676	R	HED	005317	R	IAC	005334	R	IAC1
010007	R	IADC	000032	R	IADF	000065	R	IBBA	000034	R	ICP
000033	R	ICP0	007656	R	IDN	007605	R	IDN1	007612	R	IDN2
007654	R	IDN3	007662	R	IDNC	007661	R	IDND	007574	R	IDDF
007521	R	IDR	007527	R	IDS1	007560	R	IDS2	007516	R	IDS4
000060	R	IDSA	007573	R	IDS0	002512	R	IF1	002541	R	IF2
002554	R	IF3	002542	R	IF4	002545	R	IF5	002465	R	IFE
002456	R	IFF	002561	R	IFFG	002455	R	IFT	002502	R	IFTP
016372	R	IOPT	010030	R	ISA	010026	R	ISA1	010054	R	ISD
010052	R	ISD1	007502	R	ISG	007500	R	ISG1	007477	R	ISG2
007474	R	ISM	007421	R	ISM1	007444	R	ISM2	007453	R	ISM3
007465	R	ISM6	007440	R	ISM7	000023	R	IWA	016356	R	IYR
000472	A	KD15	000044	R	LAB1	000040	R	LAB2	000000	R	LB2P1
000002	R	LB2P22	000003	R	LB2P28	000004	R	LB2P36	000005	R	LB2P51
000001	R	LB2P8	000074	A	LBS2	000314	R	LBUF	000300	A	LC
000050	A	LCJP	000007	R	LCT	012363	R	LDRDCB	010525	R	LE
010526	R	LE1	010565	R	LE2	012305	R	LEADER	012312	R	LEADR1
007301	R	LF1	007310	R	LF2	007343	R	LF3	007334	R	LF4
007346	R	LFND	010117	R	LIST	010130	R	LIST01	010134	R	LIST02
010141	R	LIST03	002076	R	LISTF	007773	R	LITC	010205	R	LL
010300	R	LLM	010335	R	LLN1	010330	R	LLN2	010376	R	LLNA
010415	R	LLNB	010427	R	LLNC	010413	R	LLNC1	010457	R	LLND
010477	R	LLNE	010319	R	LLN4	010315	P	LLNJ	010323	R	LLNK
010516	R	LLNL	010475	R	LLNM	010523	R	LLNT	010446	R	LLNV75
010170	R	LLV	010202	R	LLV1	000017	R	LNCT	000005	A	LO
001250	R	LOC	017064	E	LOFCB	016754	R	LOPEN	016377	R	LOPT
000107	R	LORMD	003461	R	LOUT	012256	R	LOWR01	012271	R	LOWR1
012252	R	LOWRIT	016355	R	LSR8	010113	R	LST	017127	R	LUN
010223	R	LV	000060	R	M	003735	R	MAC	003756	R	MAC1
003747	R	MAC2	004010	R	MAC3	003752	R	MAC4	004322	R	MAC5
004317	R	MAC6	004004	R	MAC7	003717	R	MAC8	004277	R	MAC9
004031	R	MACA	004050	R	MACE	004112	R	MACC	004126	R	MACC1
004132	R	MACC2	004137	R	MACC3	004171	R	MACC4	004204	R	MACC5
004216	R	MACC6	004221	R	MACC8	004222	R	MACCMC	004223	R	MACD
004232	P	MACE	004251	R	MACE7	004274	R	MACH	016410	R	MAPT
014750	R	MC0	015034	R	MC1	015302	R	MC10	015321	R	MC11
015373	R	MC12	015414	R	MC13	015476	R	MC14	015513	R	MC15
015541	R	MC16	015565	R	MC17	015611	R	MC18	015630	R	MC19
015055	R	MC2	015645	R	MC20	015712	R	MC21	015751	R	MC22
015766	R	MC23	016030	R	MC24	016063	R	MC26	016160	R	MC27
016217	R	MC28	015076	R	MC3	015116	R	MC4	015106	R	MC5
015157	R	MC6	015177	R	MC7	015220	R	MC8	015241	R	MC9
001701	R	MD	004334	R	MEX	004354	P	MEX2	004425	R	MEY3
004433	R	MEX4	004451	R	MEX5	004375	R	MEX6	004446	R	MEX7
004441	R	MEX8	000035	R	MLF	003521	R	MOP	003534	R	MOPJ
012124	R	MOPT	011719	R	MOV1	011720	R	MOV2	011740	R	MOV3
011764	R	MOV0	011755	R	MOVE	011733	R	MOV8	011761	R	MOVW
001702	R	MS	000420	A	MT	006457	R	MUL	006476	R	MUL1
006427	R	MUL2	006504	R	MUL3	006451	R	MUL4	006522	R	MULA
006523	R	MULC	006524	R	MUL5	001360	R	MZE	002030	R	NAM1
002017	R	NAM2	001776	R	NAM3	002040	R	NAM4	001707	R	NAME
000020	A	NBIT	003045	R	NCON	002071	R	NLIS	016415	R	NOPT
012236	R	NORDDM	003440	R	NOUT	006761	R	NREC	001723	R	NULL
001052	R	O1000	001031	R	O2000	000062	R	OBPT	000074	A	OBSSZ
000410	R	OBUF	007414	R	OCF1	007371	R	OCF2	007355	R	OCF3
007411	R	OCF4	007351	R	OCF5	007356	R	OCF6	007416	R	OCFD
010161	R	OLV	000421	A	ONE	010260	R	OO	010267	R	OO1
010671	R	ODR1	010655	R	ODR2	010644	R	ODRG	002303	R	ODS1
002305	R	ODS2	002277	R	ODS4	002241	R	ODSY	001244	R	ODS
001254	R	ODLC	000116	R	ODRF	011001	R	OT21	011011	R	OT22
011016	R	OUT2	011044	R	OUT3	011073	R	OUT4	010724	R	OWL
010751	R	OWL1	010674	R	OWL2	010743	R	OWL3	010720	R	OWL4
010760	R	OWL7	010701	R	OWL8	000740	R	P1INIT	000003	R	PASS
000020	R	PC	017145	R	PEF	000006	R	PGND	000004	A	PI
016624	E	PIFCB	017157	R	PILUN	012315	R	PIREAD	000110	R	PIRF
000102	R	PIRMD	000056	R	PLF	000012	A	PO	000031	R	POSP
016604	E	POFCB	017135	R	POLUN	001002	R	POPEN	016340	R	POPIN
000111	R	PORF	000103	R	PORFD	003376	R	POSS	006146	R	PO1


```

006167 R PQ2      006160 R PQ3      006204 R PQ4      006201 R PQ5
000054 R PRF      005735 R PRI      006111 R PRI1     006073 R PRI2
006036 R PRI3     006052 R PRI4     006210 R PRI5     006025 R PRI6
005761 R PRI7     006106 R PRI8     006066 R PRI9     006134 R PRIA
006102 R PRIB     006141 R PRID     006120 R PRIP     006145 R PRIQ
001361 R PZE      005515 R QADQ     000725 R QBBQ     000732 R QBBR
003437 R QEBQ     003415 R QEXQ     004771 R QIE      003416 R QSYQ
000025 R RDF      006561 R RDSS     007112 R REC      007075 R REC1
007115 R RET      000463 R RHW      000021 R RLC      017076 R RMDTST
006623 R RN01     006630 R RN02     006624 R RN03     006667 R RN04
006677 R RN05     006715 R RN07     006723 R RN08     006733 R RN09
006734 R RN10     006746 R RN11     006525 R RNP2     006563 R RNP4
006570 R RNR      006612 R RNR1     006554 R RNR2     006662 R RNR3
006564 R RNR4     006566 R RNR5     006730 R RNRT     000050 R RVAL
016422 R S01      000740 R S1       001011 R S2       001011 R S21
001065 R S22      001060 R S23     005254 R S345    011705 R SAR
011667 R SAR1     011673 R SAR2     011702 R SAR3     007126 R SBK
007124 R SBK1     011765 R SBT      012026 R SBT1     012027 R SBT3
000024 R SBTA     001325 R SET      000467 R SEVEN    000062 R SI
016631 R SIFCB     000026 R SIGM     017156 R SILUN    000466 R SIX
000037 R SMFL     002045 R SMRY     000003 R SD        017146 R SDDCB
011436 R SDF      017143 R SOLD1    017144 R SOLD2    002104 R SPAC
000115 R SRAF     000010 R SS        016632 R SSFCB     017154 R SSLUN
012327 R SSREAD    000112 R SSRF     000104 R SSRMB     000004 R STA
006764 R STA0     006773 R STA1     006762 R STAT      007067 R STEF
007015 R STEF1    007040 R STEND    007056 R STEND1    007056 R STEND2
007070 R STER     000000 R STS        000000 R STV        006222 R SUB
006256 R SUB1     006216 R SUB2     004587 R T1         004534 R T11
004563 R T12     004573 R T13     004547 R T14     004601 R T15
004630 R T16     004640 R T17     004631 R T18     004667 R T19
004701 R T1A     004720 R T1B     004725 R T1C     004760 R T1D
004656 R T1G     004530 R T1H     004370 R T1X     005004 R T2
005021 R T21     005010 R T22     004772 R T3         005026 R T4
005030 R T41     005033 R T5         005066 R T51     000027 R T5T
017162 R TEMP     000471 R TEN      012120 R TENS     005644 R TERM
000464 R THREE    012136 R TITLE    012241 R TL        010066 R TOP
010111 R TDF1     010636 R TDU1     010575 R TDUT     005666 R TR41
005677 R TRM2     005683 R TRM3     005710 R TRM4     005730 R TRM5
005722 R TRM6     005653 R TRM7     000117 R TTLBLK    010251 R TV
000422 R TND      005607 R UN1       005631 R UN2       005636 R UN3
005370 R UNDP     000070 R VSDATE    000335 R VSDSTB    017070 R VSEXEC
017061 R VSIDC     006765 R VSIDST    000412 R VSJCB     000055 R VSJCFG
000056 R VSJFCB    000059 R VSJNAM    000054 R VSLCNT    000017 R VSLLUP
000400 R VSLUT1    017130 R VSSOLD    000001 R V75       005127 R V751
005134 R V752     005140 R V752A     005152 R V752B     005161 R V753
005202 R V754     005204 R V755     005207 R V756     005223 R V757
005246 R V759     000016 R V75FD     005103 R V75INS    005117 R V75JT
005253 R V75TMP    000051 R VAL       016302 R VDASH1    016345 R VDASH2
000001 R VORTEX    011160 R WR1       011307 R WR2       011236 R WR3
011243 R WR4       011264 R WR5       011227 R WR6       011255 R WR6D
011303 R WRIT     006737 R WRPD     006744 R WRPU1    000001 R X
013612 R XCPX     007744 R XICP     014014 R XSDP     000000 R XZ
000006 R ZBEG     000062 R ZCND
0 ERRORS ASSEMBLY COMPLETE
    
```

202	SBUF	212	928	952	1055	2764	2829	2899	3623	4587
		4594	4500	5024	5326	5328	5356			
4703	SLIST	768	774	1036	4647					
168	SPCH	752	1201	1292	1314	1624	1841	1944	2022	2909
		2916	3503	4042	4058	4667	5253	5288	5289	5292
		5293	5296	5297	5305	5366	5311	5312	5315	5317
		5419	5439							
2586	ADD	2296	2500							
2594	ADD1	2502								
2596	ADD2	2604								
2598	ADD3	2202	2539	2600	2605					
2610	ADD5	2588	2605							
142	AF	2210	2267	2555	2587	2639	2703			
2629	PDF	2561	2616	2733	2677	2639	2693			
4010	PRP1	4005	4008							
4000	PRPT	1177	3832	3942	3966	4014				
120	PS	335	3339	3060	2068	2084	2094	2117		
363	PSR2	358								
372	PSR3	368								
382	PSR4	333	368							
388	PSR5	347	350	2024						
377	PSRJ	364								
322	PSRB	827								
300	PSRR	312	326	1776						
35	PZ	563	1594	1600	1677	1710	2227	2329	2232	
31	P	873	875	1041	1688	2130	2031	2409	2421	2483
		2947	3032	3030	3027	3034	3038	3123	3136	3140
		3144	3168	3170	3171	3172	3750	3724	3936	5517
4538	B2A	1269	1278	3478	3648	2766	4531			
4546	B2AB	4520	4523	4535	4538					
4543	B2B1	4549								
4537	B2S1	4511	4515	4516	4517					
4533	B2S2	4539								
4538	B2S3	4541								
2128	BCK	406	434	439	441	453	491	630	709	726
		738	878	1154	1512	1843	1846	1746	1949	1951

2271	EX	2199	2437	2496						
2293	EX1	2277								
2285	EX2	2279								
2299	EX3	2287	2295							
2275	EX5	2289	2297							
2167	EXN	411	452	1174	1998	2114	2150	2181		
2250	EXP	460	487	1739	1813	1968	1991	2091	2168	
2193	EXP1	2261								
2189	EXP2	2260								
2225	EXP3	2209	2218							
2239	EXP4	2227								
2220	EXP6	2211								
2245	EXP7	2195	2235							
2237	EXP8	2232								
2238	EXP9	2229								
694	EXT	4723								
695	EXT1	702								
1464	FEX	4556								
1474	FEX1	1469								
1493	FEX2	1487	1490							
1475	FEX3	1504								
53	FIVE	1638	2069							
1412	FORM	4736								
47	FOUR	234	588	720	905	2056	2063	2928	3964	3980
		5269	5310							
1066	FPOWR	1069								
213	FRMS	755	3492							
1421	FRM1	1425								
1427	FRM2	1421								
1417	FRM3	1429								
1451	FRM5	1439								
1458	FRM7	1431	1433							
1453	FRM8	1442	1460							
1456	FRM9	1413								
1440	FRMA	1436								
128	FT1	1415	1419	1427	1451	1466	1494	1502	1507	
129	FT2	1416	1424	1430	1467	1472	1481	1506		
4606	GBOMO	4024	4614	4620						
4616	GBOMO1	4607								
3363	GN01	3371								
3366	GN02	3354								
3360	GN03	3369								
3352	GNC0	336	365	482	512	541	544	785	793	1170
		1553	1735	2138	2258	2275	2313	2358	2382	2411
		2428	2520	2531	2786	2977	3177	3186	3213	3229
		3235	3288	3314	3364	3379	3661			
3378	GNC1	498	1564	1609	1674	2440	2498	2781	3380	3392
		3669	3690	3728						
98	GO	1327	2914	4072	5441	5442	5454			
68	GOFCS	1289	1327	2908	2914	4072	5444	5454		
5453	GOPN	5455								
192	GORF	1319	1332	4032	4065					
181	GORMD	1317	2912	4063	5443					
850	GOT	833	843							
805	GOT1	787								
792	GOT2	803								
808	GOT3	823								
822	GOT4	814	818							
825	GOT5	801	821							
802	GOT7	796								
842	GOTL	802	822	844	849					
785	GOTO	4730								
1326	GOWR	1329								
4190	GS1	864	1441	1535	4216					
4188	GS11	4194								
4203	GS1M	4196	4198	4201						
4230	GS2	1692	4253							
4228	GS21	4234								
4243	GS2M	4236	4238	4241						
4267	GS3	2942	4276							
4265	GS31	4271								
4290	GS4	2194	2325	2478	4299					
4288	GS41	4294								
4313	GS5	1753	1763	1784	1797	1803	4336			
4311	GS51	4317								
4326	GS5M	4319	4321	4324						
4352	GS6	3059	4379							
4350	GS61	4356								
4366	GS6M	4358	4360	4364						
4590	GSRC01	4584								
4597	GSRC02	4591								
4583	GSRCAD	2743	2808	2839	4588	4595	4601			
4380	GST	4191	4197	4208	4211	4214	4231	4237	4248	4251
		4268	4274	4291	4296	4314	4320	4330	4334	4353
		4359	4362	4370	4374	4377				
831	GTS	791	807	837						
4160	GV75R	2043	2049	2054	2077	2101	4166	4173		
4174	GV75RE	4172								
214	HED	3479	3480	3483	4577	5479	5483			
2149	IAC	421	431	680	896	903	978	1003	1010	1020
		1026	1417	1473	1913	2160	4161			
2159	IAC1	2153								
3423	IADC	481	1933	2174	3427	3434				

131	IADF	323	370	1956	1959	1962	2025	2028	2251	2256
		3426	3430							
153	IBBA	953	2752	2771	2817	3367	3659	5486		
133	ICP	335	371	495	521	530	567	826	954	1557
		1579	1586	1755	1768	1799	2189	2235	2293	2323
		2338	2368	2376	2432	2495	2505	2519	2530	2772
		2785	2788	2974	3185	3210	3241	3294	3341	3355
		3360	3366	3381	3633	3657	3660	3684	3741	
132	ICPO	334	825	955	1556	1580	1585	1757	1769	1801
		2773								
3318	IDN	539	549	568	3283	3285				
3283	IDN1	3319								
3288	IDN2	3297	3314							
3316	IDN3	3290	3293							
3321	IDN4	3287	3298	3316						
3320	IDND	3291	3309							
3269	IDDF	2534	3226	3271	3274					
3228	IDS	341	788	798	2511					
3233	IDS1	3253	3263							
3255	IDS2	3243								
3226	IDS4	3238	3240							
148	IDSA	789	799	2517	2518	2525	2526	2539	3233	3234
		3245	3246	3248	3250	3259	3260	3270	3403	3404
3264	IDS5	3237	3251	3255	3262					
996	IF1	980								
1015	IF2	1012	1022							
1026	IF3	999								
1016	IF4	1028								
1019	IF5	1006								
981	IFE	1017								
977	IFF	4734								
1029	IFFG	977	987							
973	IFT	4733								
1030	IFTP	997	1004	1008	1011	1027				
5295	IDPT	5270								
3443	ISA	786	3178	3445	3449	3453				
3441	ISA1	3447	3451	3454						
3463	ISD	794	3187	3465	3469					
3461	ISD1	3467								
3212	ISG	537	547	3219						
3210	ISG1	3215								
3209	ISG2	3217								
3199	ISM	339	345	698	707	724	805	809	856	1583
		2422	3165	3193	3197	4566				
3165	ISM1	3200								
3180	ISM2	3188								
3185	ISM3	3181								
3192	ISM6	3179								
3178	ISM7	3190	4565	4569						
121	IWA	352	1468	1474	1477	1483	1766	1767	1829	1831
		1838	1851	1876	1892	1923	1937	1971	1986	2011
		2012	2066	2067	2078	2102	2103	2121	2123	3868
		3876	3948							
5285	IXR	5280								
54	KD15	5245								
138	LAB1	340	449	609	708	711	725	790	800	806
		811	815	819	851	866	868	870	1353	1355
		1357	1412	1435	1443	1445	1447	1517	1528	1537
		1539	1541	1545	1720	1932	3009	3014	3063	3970
		3972	3974	4104	4106	4107	4109	4110	4112	4113
		4114	4116	4117	4121	4123	4126	4127	4128	4132
		4133	4137	4139	4142	4143				
137	LAB2	346	349	810	812	816	820	857	860	862
		872	1584	1589	1592	1595	1598	1629	1702	1705
		1708	2423	2433	2474					
103	LB2P1	1223	1245	1264	3511	3519	3578	5236		
105	LB2P22	3667	5240							
106	LB2P28	3686	3742	5242						
107	LB2P36	3721	3724	5241						
108	LB2P51	1396	3733	5240						
104	LB2P8	3588	5238							
206	LBSZ	1125	4637	4662	5499					
204	LBUF	1126	1207	1229	1251	1270	1271	1275	1279	1280
		1282	1284	3484	3624	3631	3651	3652	3656	3757
		3759	3767	3768	3770	3772	4638	4663	5233	5459
		5500	5510							
33	LC	34	35	36	37					
13	LCJP	14	15	16	22	23				
111	LCT	757	3494	3521	3528					
4701	LDRDCE	2925	4671							
3749	LE	1525	2189	3613	3636	3752	4639			
3750	LE1	3777								
3773	LE2	3762	3764							
4636	LEADER	4669	4676	5501						
4670	LEADR1	4673								
3080	LF1	3110								
3086	LF2	3104								
3106	LF3	3084	3088	3100						
3100	LF4	3092	3096							
3109	LFND	710	2473	3013	3080	3081	3099			
3499	LIST	780	3513	3635						
3506	LIST01	3509								
3508	LIST02	3501	3505							

2775	RNR	311	792	808	922	989	1552	1777		
2790	RNR1	2777								
2761	RNR2	2744	2757							
2826	RNR3	2809	2821							
2771	RNR4	2873	2870							
2773	RNR5	2789								
2877	RNRT	2840	2864							
139	RVAL	328	391	668	687	1359	1377	1747	1822	1825
		1832	1834	1868	1894	1897	1900	1901	1934	1974
		1977	2154	2155	2158	2176	2178	2190	2192	2237
		2238	2240	2241	2252	2394	2395	3411	3414	3415
		3424	3431	3433	3789	3794	3799	3804	3827	3842
		3846	3850	3863	3866	3869	3886	3894	4001	
5323	S01	5258								
228	S1	1315	1318	1320	1333	5504	5507	5511		
264	S2	1158	1163							
284	S21	300								
302	S22	286	313							
297	S23	291								
2113	S345	1960	1985	2016	2124					
4402	SAR	278	1120	1124	2762	2827	4078	4389	4399	4400
		4610	4636	4661	5498					
4389	SAR1	4403								
4393	SAR2	4397								
4399	SAR3	4394								
2976	SBK	332	343	373	1554	1577	1669	2083	2979	2983
		3682	3713							
2974	SBK1	2982								
4467	SBT	1381	1383	1386	1388	1391	1393	1571	1608	1673
		3184	3604	3676	3689	3727	3813	4481		
4497	SBT1	4470	4474	4478						
4498	SBT3	4468	4480							
122	SBTA	1224	1246	1265	1394	1395	1551	1581	1588	1649
		1651	1683	3175	3512	3520	3579	3589	3668	3687
		3720	3725	3732	3787	3814	4471	4479		
445	SET	4715								
56	SEVEN	1678	2085	3195	5237					
92	SI	5330	5356							
64	SIFCB	5353	5416							
124	SIGM	326	472	476	661					
5570	SILUN	5332	5338	5401						
55	SIX	245	611	2418	3446	5241				
136	SMFL	746	835	847	912	982	992			
742	SMRY	4725								
99	SO	5505								
5366	SODCB	5505								
4175	SOF	4170								
5553	SOLD1	5553	5561							
5564	SOLD2	5557	5560							
780	SPAC	4729								
194	SRAF	2753	2818	2841	4586	4593	4599			
97	SS	1085	1105	1110	4681	5328	5390			
66	SSFCB	1054	1085	1105	1110	2749	4681	5382	5397	5417
5568	SSLUN	5383	5388	5402	5407					
4680	SSREAD	1095	2767	4683	4686					
188	SSRF	1092	1098	2742	2754	2758				
177	SSRMD	1078	2756	5384	5399	5403				
90	STA	287	294	296	713	717	719	731	733	873
		874	1147	1188	1213	1235	1358	1375	2483	2506
		2999	3004	3023	3030	3036	3038	3041	3892	3897
2888	STAO	2889								
2890	STAI	2832	2835							
2936	STAT	1048	1070	1076	1088	1113	1302	1308	1323	1330
		2805	2861	2875	2895	4028	4022	4652	4674	4684
		4695	5377	5427	5450	5473				
2901	STEF	2811	2831	5486						
2915	STEND	2911	2913							
2923	STEND1	2918	2921							
2924	STEND2	2933								
2927	STER	2834	2889	2889	2889	2905	4640			
89	STS	867	869	871	1352	1354	1356	1379	1382	1384
		1387	1389	1030	3083	3093	3097			
91	STV	293	875	876	1360	1374	2469	2481	3002	3033
		3048	3090	3893						
2554	SUB	2888	2892	2571	2576	2581				
2578	SUB1	2573								
2559	SUB2	2575								
1813	T1	4556								
1829	T11	1887	1890							
1848	T12	1824								
1855	T13	1820								
1835	T14	1858								
1860	T15	1857								
1877	T16	1853								
1884	T17	1871	1875							
1878	T18	1895	1925							
1904	T19	1899								
1911	T1A	1906								
1922	T1B	1916	1919							
1927	T1C	1817								
1959	T1D	1822								
1897	T1E	1867								
1825	T1H	1850	1863	1865						

1852	T1X	1938									
1968	T2	2086	4556								
1979	T21	1987	2079								
1971	T22	1993	2015	2017	2107						
1956	T3	4556									
1985	T4	4556									
1986	T41	2081									
1991	T5	4556									
2010	T51	2001	2004	2007							
127	T5T	461	462	466	467	1912	1924	1957	1961	1969	
		1970	1976	1978	1992	1993	2092	2093	2105	2106	
5574	TEMP	5521	5523								
57	TEN	241	250								
4554	TENS	4509									
2354	TERM	2286	2294	2318	2330	2339					
60	THREE	2061	2447	4168	4174	5267	5271				
4561	TITLE	4741									
3577	TL	3541	3557	3582							
3473	TDF	282	758	3495	3524						
3491	TDF1	3475									
3812	TDU1	3792	3797	3802	3807	3810					
3786	TOUT	1378	3592	3815							
2368	TRM1	2362									
2376	TRM2	2360									
2363	TRM3	2396									
2382	TRM4	2378									
2393	TRM5	2383	2385	2387							
2388	TRM6	2370									
2358	TRM7	2372	2380								
198	TTL BLK	1133	4563	4567	4572	4576					
3587	TV	1179	3542	3570	3593						
49	TWD	1658	2095								
2323	UN1	2317									
2338	UN2	2315									
2341	UN3	2331									
2311	UNDP	2273									
0	VSDASM	11									
23	VSDATE	1137	5482								
35	VSDSTB	5524									
37	V\$JCB	2900	5255	5495							
16	V\$JCFG	2929	2930	5302	5303						
14	V\$JNAM	5478									
15	V\$LCNT	213									
34	V\$LLUP	5487									
36	V\$LUT1	5515	5554								
5553	V\$SOLD	5506									
12	V75	115	329	1601	1614	1616	1618	1622	2018	3695	
		3697	3701	3718	3730	4158	4557	4935			
2043	V751	2032	2037								
2049	V752	2034	2038	2039							
2054	V752A	2035	2036								
2060	V752B	2057									
2066	V753	2045	2050	2053	2064						
2077	V754	2074									
2078	V755	2076									
2080	V756	2071									
2091	V757	2033									
2104	V759	2096	2098	2100							
116	V75ED	330	1644	1645	1653	2070	2072	3703	3706		
2023	V75INS	4558									
2032	V75JT	2030									
2108	V75TMP	2026	2104								
140	VAL	393	423	436	497	502	515	667	682	984	
		996	1005	1007	1013	1361	1486	1500	1510	1745	
		1827	1828	1839	1848	1864	1873	1877	1878	1886	
		1904	1907	1908	1911	1927	1939	1972	1979	2115	
		2118	2122	2159	2180	2246	3402	3590	3829	3848	
		3849	3877	3889	3891	3912	3946	3976	4165		
5256	VDASM1	5281	5283								
5278	VDASM2	5262	5264	5290	5294	5298	5307	5313	5318		
1	VORTEX	215	217	5017	5022	5035	5037	5071	5073	5088	
		5090	5155	5187							
4018	WR1	4094									
4092	WR2	4098									
4057	WR3	4044	4048								
4062	WR4	4059									
4075	WR5	4068	4066								
4054	WR8D	1301	4019	4025	4046	4049					
4071	WRGD	1322	4021	4023	4064	4067					
4089	WRIT	1208	3994								
2866	WRPD	1047	2804	2860	2874						
2868	WRPD1	2863									
82	X	287	293	294	296	351	353	356	363	713	
		717	719	731	733	867	869	871	874	876	
		1147	1188	1213	1235	1352	1354	1356	1358	1360	
		1374	1376	1379	1382	1384	1387	1389	1392	1437	
		1444	1446	1448	1450	1452	1531	1538	1540	1542	
		1544	1548	1631	1635	1722	1723	1733	1734	1746	
		1748	1756	1758	1798	1800	2197	2198	2201	2203	
		2205	2215	2217	2221	2222	2224	2239	2242	2328	
		2329	2446	2452	2455	2458	2459	2462	2463	2482	


```

000001 A 1 VORTEX SET 1 PUT LAST FOR VORTEX 02 00001
000001 A 2 V75 SET 1 V75 *****
3 *THIS IS A COPYRIGHTED PROGRAM. COPYRIGHT 1972 BY VARIAN DATA MACHINV2 02 00002
4 * 02 00003
5 * V.D.M. PART NO. 92L0205-019C 02 00004
6 * 02 00005
7 * 02 00006
8 * 02 00007
9 * 02 00008
10 * 02 00009
11 * 02 00010
12 * 02 00011
13 * 02 00012
14 * 02 00013
15 * 02 00014
16 * 02 00015
000000 A 18 TBTRD EQU 0 TASK THREAD 02 00017
000001 A 19 TBST EQU 1 TASK STATUS 02 00018
000002 A 20 TBPL EQU 2 STATUS COUNT. (BITS15-6), PRIORITY LEVEL(5-0 02 00019
000003 A 21 TBEVNT EQU 3 INTERRUPT EVENT 02 00020
000004 A 22 TBRSA EQU 4 A REENTRANT AND SUSPEND STACK 02 00021
000005 A 23 TBRSB EQU 5 B REENTRANT AND SUSPEND STACK 02 00022
000006 A 24 TBR SX EQU 6 X REENTRANT AND SUSPEND STACK 02 00023
000007 A 25 TBRSP EQU 7 DF/P REENTRANT AND SUSPEND STACK 02 00024
000010 A 26 TBRSTS EQU 8 TEMP. STG. REENTRANT AND SUSPEND STACK 02 00025
000011 A 27 TBENTY EQU 9 TASK ENTRY LOCATION 02 00026
000012 A 28 TB TMS EQU 10 TIME COUNTER - CLOCK RESOLUTION IN SMS INC 02 00027
000013 A 29 TB TMIN EQU 11 TIME COUNTER - CLOCK MINUTE INCREMENTS 02 00028
000014 A 30 TBISA EQU 12 A INTERRUPT STACK 02 00029
000015 A 31 TBISB EQU 13 B INTERRUPT STACK 02 00030
000016 A 32 TBISX EQU 14 X INTERRUPT STACK 02 00031
000017 A 33 TBISP EQU 15 DF/P INTERRUPT STACK 02 00032
000020 A 34 TBISRS EQU 16 REENT. STACK INTERRUPT STACK 02 00033
000021 A 35 TBID EQU 17 BLK ALLOC(15-10), I/O THR(9-5), I/O ACT(4-0) 02 00034
000022 A 36 TBKN1 EQU 18 TASK NAME 02 00035
000023 A 37 TBKN2 EQU 19 TASK NAME 02 00036
000024 A 38 TBKN3 EQU 20 TASK NAME 02 00037
000025 A 39 TBTLC EQU 21 1ST LOC. OF TASK ALLOCATABLE 02 00038
000026 A 40 TBCPTH EQU 22 BACKGROUND TASK QUEUE 02 00039
000027 A 41 TBATSK EQU 23 TIDB LOC. OF ACTIVATING TASK 02 00040
000030 A 42 TBRSE EQU 24 TASK ERROR CODE 02 00041
43 EJEC 02 00042
44 ***** 02 00043
45 * 02 00044
46 *** TASK STATUS DESCRIPTION (BIT SET WORD 1) *** 02 00045
47 * 02 00046
48 ***** 02 00047
000017 A 50 TBS15 EQU 15 INTERRUPT SUSPEND 02 00049
000016 A 52 TBS14 EQU 14 TASK SUSPEND 02 00051
000015 A 53 TBS13 EQU 13 TASK ABORT 02 00052
000014 A 54 TBS12 EQU 12 TASK EXIT 02 00053
000013 A 56 TBS11 EQU 11 TIDB CORE RESIDENT 02 00055
000012 A 57 TBS10 EQU 10 CORE RESIDENT TASK 02 00056
000011 A 58 TBS9 EQU 9 FOREGROUND TASK 02 00057
000010 A 60 TBS8 EQU 8 TASK PROTECTED 02 00059
000007 A 61 TBS7 EQU 7 TASK SCHEDULED BY TIME DELAY 02 00060
000006 A 62 TBS6 EQU 6 TIME DELAY ACTIVE 02 00061
000005 A 64 TBS5 EQU 5 TASK WAITING TO BE LOADED 02 00063
000004 A 65 TBS4 EQU 4 TASK ERROR 02 00064
000003 A 66 TBS3 EQU 3 TASK INTERRUPT EXPECTED 02 00065
000002 A 68 TBS2 EQU 2 OVERLAY TASK 02 00067
000001 A 69 TBS1 EQU 1 UPON TERMINATION ACTIVATE TASK SCHED TASK 02 00068
000000 A 70 TBS0 EQU 0 TASK SEARCH-ALLOCATED-LOADED 02 00069
71 EJEC 02 00070
72 ***** 02 00071
73 * 02 00072
74 *** TASK STATUS DESCRIPTION (BIT SET WORD 2) *** 02 00073
75 * 02 00074
76 ***** 02 00075
77 * 02 00076
78 * BIT 15 - TASK OPENED 02 00077
80 * BIT 14 V75 FLAG 1=V75 0=NOT A V75 MACHINE V75 *****
000002 A 81 TB75 EQU 2 WORD 2 V75 *****
000016 A 82 TB75B EQU 14 BIT 14 V75 *****
000001 A 83 TB75Z EQU 1 1 BIT LONG V75 *****
84 * BIT 13 - OVERLAY LOAD 02 00080
85 * BIT 12 - TASK WAITING FOR BACKGROUND TASK I/O TO COMPLETE 02 00081
86 * TASK LOCKED-OUT UNTIL BG I/O COMPLETE OR BIT 11 02 00082
87 * IS SET (ALLOCATABLE SPACE AVAILABLE) 02 00083
89 * BIT 11 - DEFINES THAT ALLOCATABLE SPACE IS AVAILABLE, TRY 02 00085
90 * ALLOCATING TASK AGAIN. OVERRIDES BIT 12 SET OR 02 00086
91 * BIT 5 IN STATUS WORD. 02 00087
92 * BIT 10 - BACKGROUND TASK BEING WRITTEN ON CHECKPOINT FILE. 02 00088
93 * BIT 9 - TASK WAITING FOR A TIDB TO COME AVAILABLE FOR 02 00089
94 * SCHEDULING. 02 00090
96 * BIT 8 TO 6 - UNUSED 02 00092
97 EJEC 02 00093
98 ***** 02 00094
99 * 02 00095
100 *** JOB PROCESSOR LOW CORE EQUATES *** 02 00096
101 * 02 00097
102 ***** 02 00098
000050 A 104 LCJP EQU 950 02 00100
000050 A 105 V$JNAM EQU LCJP JCP NAME 02 00101

```


000054	A	106	V\$LCNT	EQU	LCJP+4	LINE COUNT	02	00102
000055	A	107	V\$JCFG	EQU	LCJP+5	JCP FLAGS	02	00103
		108	*			BIT 2-0 = LOAD AND GO FLAGS	02	00104
		109	*			BIT 3 = DUMP FLAG 1=DUMP, 0=NO DUMP	02	00105
		110	*			BIT 4 = DUMP FLAG IF LOAD AND GO	02	00106
		111	*			BIT 9-5 = UNUSED	02	00107
		112	*			BIT 15-10 = BG EXTRA CORE BLOCKS TO ALLOC	02	00108
000056	A	114	V\$BIC1	EQU	LCJP+6	BIC INTERRUPT ADDRESS TABLE (10 WORDS)	02	00110
000070	A	115	V\$DATE	EQU	LCJP+16	JCP DATE RECORD	02	00111
000074	A	116	V\$PLCT	EQU	LCJP+20	PERMUTE LINE COUNT	02	00112
000075	A	117	V\$BGLB	EQU	LCJP+21	JCP LIB KEY AND LU NO. (BACKGROUND LIB)	02	00113
000076	A	118	V\$CRDM	EQU	LCJP+22	CARD KEYPUNCH TYPE, 0=026, 1=029	02	00114
		119	*			BIT 0 = SYSTEM NOMINAL KEYPUNCH MODE.	02	00115
		120	*			BIT 9 = CURRENT JOB KEYPUNCH MODE.	02	00116
000077	A	121	V\$JCTM	EQU	LCJP+23	TEMP. STORAGE FOR ZMEM BLOCK	02	00117
		122	EJEC				02	00118
		123	*****			*****	02	00119
		124	*				02	00120
		125	***		LOW CORE DESCRIPTION	***	02	00121
		126	*				02	00122
		127	*****			*****	02	00123
000300	A	129	LC	EQU	0300	CURRENT TASK TIBB LOCATION	02	00125
000300	A	130	V\$CTL	EQU	LC	CURRENT PRIORITY LEVEL	02	00126
000301	A	131	V\$CPL	EQU	LC+1	CURRENT REENRANT STACK POINTER	02	00127
000302	A	132	V\$CRS	EQU	LC+2	POINTER TO HIGHEST PRIORITY TIBB	02	00128
000303	A	133	V\$TB	EQU	LC+3	POINTER TO UNUSED TASK TIBB	02	00129
000304	A	134	V\$UTB	EQU	LC+4	POINTER TO NEXT ENTRY IN REENRANT STACK	02	00130
000305	A	135	V\$PTVB	EQU	LC+5	FIRST LOC. OF REENRANT STACK	02	00131
000306	A	136	V\$FLRS	EQU	LC+6	LAST LOC. OF REENRANT STACK+1	02	00132
000307	A	137	V\$LRSK	EQU	LC+7	CHECKPOINT FLAG 1=ON, 0=OFF	02	00133
000310	A	138	V\$CKPT	EQU	LC+8	LOC. OF TIBB FOR OPCODEM TASK	02	00134
000311	A	139	V\$OPCL	EQU	LC+9	LOC. OF TIBB FOR SYSTEM SAL TASK	02	00135
000312	A	140	V\$LSAL	EQU	LC+10	LOC. OF TIBB FOR SYSTEM ERROR TASK	02	00136
000313	A	141	V\$LER	EQU	LC+11	LOC. OF TIBB FOR JOB CONTROL PROCESSOR TIBB	02	00137
000314	A	142	V\$TJCP	EQU	LC+12	LOC. OF CURRENT ACTIVE BACKGROUND TSK TIBB	02	00138
000315	A	143	V\$STB	EQU	LC+13	LOC. OF 1ST UNPROTECTED WORD	02	00139
000316	A	144	V\$LUP	EQU	LC+14	LOC. OF LAST UNPROTECTED WORD	02	00140
000317	A	145	V\$LLUP	EQU	LC+15	INTERRUPT MASK (8 WORDS)	02	00141
000320	A	146	V\$IM	EQU	LC+16	MEMORY PROTECT MASK (4 WORDS)	02	00142
000330	A	147	V\$MPM	EQU	LC+24	CORE ALLOCATION MASK (4 WORDS)	02	00143
000334	A	148	V\$CAM	EQU	LC+28	UNUSED	02	00144
		149	*			UNUSED	02	00145
000341	A	150	V\$CRDR	EQU	LC+33	CORE RESIDENT DIRECTORY LOCATION	02	00146
000342	A	151	V\$TBGT	EQU	LC+34	TOP OF THREAD OF BG TSK WAITING TO BE ALLO	02	00147
000343	A	152	V\$TMS	EQU	LC+35	TIME OF DAY IN 5 MILLISECOND INCREMENTS	02	00148
000344	A	153	V\$TMN	EQU	LC+36	TIME OF DAY IN MINUTE INCREMENTS	02	00149
000345	A	154	V\$LUNT	EQU	LC+37	ADDR. OF LOGICAL UNIT NAME TABLE	02	00150
000346	A	155	V\$OPCF	EQU	LC+38	OPCODEM LOCKOUT FLAG	02	00151
000347	A	156	V\$TGLB	EQU	LC+39	KEY AND LU NO. FOR FOREGROUND LIB	02	00152
000350	A	157	V\$FREE	EQU	LC+40	FREE RUNNING COUNTER INCR. IN MICROSECONDS	02	00153
000351	A	158	V\$CTMS	EQU	LC+41	CLOCK RESOLUTION IN 5 MILLISECOND INCR.	02	00154
000352	A	159	V\$SCV	EQU	LC+42	CLOCK SELECTED COUNT VALUE (1 TO 4095)	02	00155
000353	A	160	V\$CKB	EQU	LC+43	BASIC CLOCK INTERRUPT RATE IN MICROSECONDS	02	00156
000354	A	161	V\$CRM	EQU	LC+44	CLOCK RESOLUTION INCR. FOR 1 MINUTE.	02	00157
000355	A	162	V\$DSTB	EQU	LC+45	BASE ADDR. FOR DST BLOCK	02	00158
000356	A	163	V\$LIT	EQU	LC+46	LAST LOCATION OF BACKGROUND LITERAL TABLE	02	00159
		164	*			UNUSED	02	00160
000360	A	165	V\$CTAD	EQU	LC+48	BASE ADDR. FOR CONTROLLER ADDR. TABLE	02	00161
000361	A	166	V\$SCTL	EQU	LC+49	CURRENT CONTROLLER IN SCAN	02	00162
000362	A	167	V\$NCTR	EQU	LC+50	NO. OF CONTROLLERS	02	00163
000363	A	168	V\$PIMN	EQU	LC+51	EXTERNAL DEVICE ADDRESS TABLE FOR PIMS	02	00164
		169	*			(8 WORDS DEFINED IN PIM NO ORDER)	02	00165
		170	*			UNUSED	02	00166
		171	*			UNUSED	02	00167
000375	A	172	V\$SLFG	EQU	LC+61	SAL TASK BUSY FLAG 1=BUSY, 0=NOT BUSY	02	00168
000376	A	173	V\$ERFG	EQU	LC+62	ERROR TASK BUSY FLAG 1=BUSY, 0=NOT BUSY	02	00169
000377	A	174	V\$JOP	EQU	LC+63	JCP OPERATING FLAG	02	00170
000400	A	175	V\$LUT1	EQU	LC+64	START LUN ADDR FOR JCP/OPCODEM ASSIGNABLE	02	00171
000401	A	176	V\$LUT2	EQU	LC+65	START LUN ADDR FOR UNASSIGNABLE	02	00172
000402	A	177	V\$LUT3	EQU	LC+66	START LUN ADDR FOR OPCODEM ASSIGNABLE	02	00173
000403	A	178	V\$IMIN	EQU	LC+67	32767 - (60000/15*V\$CTMS) + 1	02	00174
		179	*			UNUSED	02	00175
		180	*			UNUSED	02	00176
		181	*			UNUSED	02	00177
		182	*			UNUSED	02	00178
000410	A	183	V\$IDA	EQU	LC+72	I/O ALGORITHM	02	00179
000411	A	184	V\$CKIT	EQU	LC+73	CLOCK INT. IN PIM BEFORE LOCKOUT FLAG.	02	00180
000412	A	185	V\$JCB	EQU	LC+74	ALL SYSTEM BACKGROUND PROGRAMS AND JCP USE	02	00181
		186	*			THIS SYSTEM BUFFER TO READ DIRECTIVES AND	02	00182
		187	*			SOURCE RECORDS IN.	02	00183
000413	A	188	V\$DCB	EQU	LC+75	OPCODEM WILL READ OPERATOR KEY-IN REQUESTS	02	00184
		189	*			IN THIS BUFFER. IF JCP IS SET NOT ACTIVE	02	00185
		190	*			AND A 1 DIRECTIVE IS INPUT, OPCODEM	02	00186
		191	*			WILL MOVE THE DIRECTIVE TO V\$JCB BEFORE	02	00187
		192	*			SCHEDULING JCP.	02	00188
000414	A	193	V\$BYN	EQU	LC+76	BOTTOM OF VORTEX NUCLEUS	02	00189
000415	A	194	V\$BFC	EQU	LC+77	TOP OF FG OPS. AREA/POSITION OF FG BLK COMM.	02	00190
000416	A	195	V\$TFC	EQU	LC+78	TOP OF FG BLK COMMON/TOP OF VORTEX CORE.	02	00191
		196	*			UNUSED	02	00192
		197	*			UNUSED	02	00193
		198	*****			*****	02	00194
		199	*				02	00195
200			***		MASK TABLE DESCRIPTION	***	02	00196


```

201 *
202 *****
000420 A 204 MT SET 0420
000420 A 205 ZERO EQU MT ZERO WORD
000421 A 206 BS0 EQU MT+1 BIT MASK CONTENTS 000001
000422 A 207 BS1 EQU MT+2 000002
000423 A 208 BS2 EQU MT+3 000004
000424 A 209 BS3 EQU MT+4 000010
000425 A 210 BS4 EQU MT+5 000020
000426 A 211 BS5 EQU MT+6 000040
000427 A 212 BS6 EQU MT+7 000100
000430 A 213 BS7 EQU MT+8 000200
000431 A 214 BS8 EQU MT+9 000400
000432 A 215 BS9 EQU MT+10 001000
000433 A 216 BS10 EQU MT+11 002000
000434 A 217 BS11 EQU MT+12 004000
000435 A 218 BS12 EQU MT+13 010000
000436 A 219 BS13 EQU MT+14 020000
000437 A 220 BS14 EQU MT+15 040000
000440 A 221 BS15 EQU MT+16 0100000
000441 A 222 BR0 EQU MT+17 BIT MASK CONTENTS 0177776
000442 A 223 BR1 EQU MT+18 0177775
000443 A 224 BR2 EQU MT+19 0177773
000444 A 225 BR3 EQU MT+20 0177767
000445 A 226 BR4 EQU MT+21 0177757
000446 A 227 BR5 EQU MT+22 0177737
000447 A 228 BR6 EQU MT+23 0177677
000450 A 229 BR7 EQU MT+24 0177577
000451 A 230 BR8 EQU MT+25 0177377
000452 A 231 BR9 EQU MT+26 0176777
000453 A 232 BR10 EQU MT+27 0175777
000454 A 233 BR11 EQU MT+28 0173777
000455 A 234 BR12 EQU MT+29 0167777
000456 A 235 BR13 EQU MT+30 0157777
000457 A 236 BR14 EQU MT+31 0137777
000460 A 237 BR15 EQU MT+32 0077777
000461 A 238 NEG EQU MT+33 SET ALL BITS
000462 A 239 LHW EQU MT+34 LEFT HALF WORD MASK 0177400
000463 A 240 RHW EQU MT+35 RIGHT HALF WORD MASK 0377
000421 A 241 ONE EQU MT+1 CONTAINS NUMBER 1
000422 A 242 TWO EQU MT+2 CONTAINS NUMBER 2
000464 A 243 THREE EQU MT+36 CONTAINS NUMBER 3
000423 A 244 FOUR EQU MT+3 CONTAINS NUMBER 4
000465 A 245 FIVE EQU MT+37 CONTAINS NUMBER 5
000466 A 246 SIX EQU MT+38 CONTAINS NUMBER 6
000467 A 247 SEVEN EQU MT+39 CONTAINS NUMBER 7
000424 A 248 EIGHT EQU MT+4 CONTAINS NUMBER 8
000470 A 249 NINE EQU MT+40 CONTAINS NUMBER 9
000471 A 250 TEN EQU MT+41 CONTAINS NUMBER 10
000421 A 251 BM1 EQU MT+1 BIT MASK WORD 00001
000464 A 252 BM3 EQU MT+36 BIT MASK WORD 00003
000467 A 253 BM7 EQU MT+39 BIT MASK WORD 00007
000472 A 254 BM17 EQU MT+42 BIT MASK WORD 00017
000473 A 255 BM37 EQU MT+43 BIT MASK WORD 00037
000474 A 256 BM77 EQU MT+44 BIT MASK WORD 00077
000475 A 257 BM177 EQU MT+45 BIT MASK WORD 00177
000463 A 258 BM377 EQU MT+35 BIT MASK WORD 00377
000476 A 259 BM777 EQU MT+46 BIT MASK WORD 00777
000477 A 260 BM1777 EQU MT+47 BIT MASK WORD 01777
261 EJECT
262 *****
263 *
264 **** BIT TEST BIT DESIGNATION ***
265 *
266 *****
000040 A 268 RA0 EQU 040 BT JUMPS WHEN A REGISTER IS 0
000000 A 269 RA1 EQU 000 BT JUMPS WHEN A REGISTER IS 1
000060 A 270 RB0 EQU 060 BT JUMPS WHEN B REGISTER IS 0
000020 A 271 RB1 EQU 020 BT JUMPS WHEN B REGISTER IS 1
273 *****
274 *
275 ** THE BIT CHECKED
276 *
277 *****
000000 A 279 B0 EQU 0
000001 A 280 B1 EQU 1
000002 A 281 B2 EQU 2
000003 A 282 B3 EQU 3
000004 A 283 B4 EQU 4
000005 A 284 B5 EQU 5
000006 A 285 B6 EQU 6
000007 A 286 B7 EQU 7
000010 A 287 B8 EQU 8
000011 A 288 B9 EQU 9
000012 A 289 B10 EQU 10
000013 A 290 B11 EQU 11
000014 A 291 B12 EQU 12
000015 A 292 B13 EQU 13
000016 A 293 B14 EQU 14
000017 A 294 B15 EQU 15
295 EJECT
296 *****
297 *

```



```

298 **** DEVICE AND FUNCTION CODES *** 02 00294
299 * 02 00295
300 ***** 02 00296
302 **** REAL TIME CLOCK *** 02 00298
000047 A 303 CLOCK EQU 047 DEVICE NUMBER 047 02 00299
304 * 02 00300
000747 A 305 DISCLK EQU 0700+CLOCK DISABLE CLOCK 02 00301
000147 A 306 ENACKL EQU 0100+CLOCK ENABLE CLOCK 02 00302
308 * 02 00304
309 **** PIM *** 02 00305
000044 A 310 APIM EQU 044 ALL PIMS DEVICE NUMBER 02 00306
000040 A 311 PIM1 EQU 040 02 00307
000041 A 312 PIM2 EQU 041 02 00308
000042 A 313 PIM3 EQU 042 02 00309
000043 A 314 PIM4 EQU 043 02 00310
000040 A 315 PIM5 EQU 040 02 00311
000040 A 316 PIM6 EQU 040 02 00312
000040 A 317 PIM7 EQU 040 02 00313
000040 A 318 PIM8 EQU 040 02 00314
319 * 02 00315
000444 A 320 DISPIE EQU 0400+APIM 02 00316
000244 A 321 ENAPIE EQU 0200+APIM 02 00317
322 **** MEMORY PROTECT *** 02 00319
000045 A 324 MP EQU 045 DEVICE ADDRESS 045 02 00320
000745 A 325 DISMP EQU 0700+MP DISABLE MEMORY PROTECT 02 00321
000645 A 326 ENAMP EQU 0600+MP ENABLE MEMORY PROTECT 02 00322
000045 A 327 MPMR0 EQU 0000+MP SELECT MASK REGISTER 0 02 00323
000145 A 328 MPMR1 EQU 0100+MP SELECT MASK REGISTER 1 02 00324
000245 A 329 MPMR2 EQU 0200+MP SELECT MASK REGISTER 2 02 00325
000345 A 330 MPMR3 EQU 0300+MP SELECT MASK REGISTER 3 02 00326
331 * 02 00327
332 * 02 00328
333 * A VTAM TYPE MACRO TO TEST BIT FLAG 02 00329
334 TESTF MAC 02 00330
335 LDA P(2),P(1) PICK UP WORD CONTAINING FLA 02 00331
336 ANA B(0)+P(3) 02 00332
337 ENAC 02 00333
338 * 02 00334
339 SAVE75 MAC SAVE V75 REGISTERS 02 00335
340 ST,3 P(1) 02 00336
341 ST,4 P(2) 02 00337
342 ST,5 P(3) 02 00338
343 ST,6 P(4) 02 00339
344 ST,7 P(5) 02 00340
345 ENAC 02 00341
346 LOAD75 MAC 02 00342
347 LD,3 P(1) 02 00343
348 LD,4 P(2) 02 00344
349 LD,5 P(3) 02 00345
350 LD,6 P(4) 02 00346
351 LD,7 P(5) 02 00347
352 ENAC 02 00348
353 1 CONT 02 00349
354 EJEC 02 00350
355 * 02 00351
356 * DEBUG 02 00352
357 * 02 00353
358 * DEBUG ACCEPTS INPUTS FROM DI LOGICAL UNIT, AND OUTPUTS 02 00354
359 * TO THE DD LOGICAL UNIT. 02 00355
360 * 02 00356
361 * 02 00357
362 * 02 00358
363 * 02 00359
000001 A 364 X EQU 1 02 00360
000002 A 365 B EQU 2 02 00361
000000 A 366 H EQU 0 WAIT 02 00362
000001 A 367 HW EQU 1 NO-WAIT 02 00363
000013 A 368 DI EQU 11 DEBUG INPUT LOGICAL UNIT 02 00364
000014 A 369 DO EQU 12 DEBUG OUTPUT LOGICAL UNIT 02 00365
000000 R 370 DEBUG EQU * 02 00366
000000 006057 A 371 STAE AP SAVE A,B,X AND OVERFLOW V75 *****
000001 001024 R 372 STDE BP V75 *****
000002 006067 A 373 STYE MP V75 *****
000003 001023 R 374 TZA *#3 C.1 02 00347
000004 006077 A 375 JUFH *#3 JUMP IF OVERFLOW NOT ON C.1 02 00348
000005 001026 R 376 TAP SET FOR OVERFLOW ON C.1 02 00349
000006 005001 A 377 STRE DP V75 *****
000007 001007 A 378 IFI VORTEX-2 V2 02 00351
000008 001027 R 379 GDDI ENDDC1 V2 02 00352
000009 001028 R 380 LDPI 01 INDEX INTO LOGICAL UNIT TABLE V2 02 00353
000010 000012 R 381 ADD VALUT1 FROM ABSOLUTE ADDRESS OF ENTRY V2 02 00354
000011 005111 A 382 STA PER STORE ADDR. IN PASS CALL V2 02 00355
000012 006057 A 383 STAC V2 02 00356
000013 001027 R 384 PASS 0, *-*, DILUM V2 02 00357
385 P2A EQU *-2 V2 02 00358
386 SPAC V2 02 00359
387 LDA VSOTL GET TIDB ADDR. V2 02 00360
388 STA P20 STORE ADDR. IN PASS CALL V2 02 00361

```


		389	SPAC				V2	02	00362
		390	PASS	29,*-*,DMSBUF			V2	02	00363
		391	P28 EQU	*-2			V2	02	00364
		392	SPAC				V2	02	00365
		393	LDA	TBKN1+DMSBUF	STORE TASK NAME		V2	02	00366
		394	STA	DMSG11			V2	02	00367
		395	LDA	TBKN2+DMSBUF			V2	02	00368
		396	STA	DMSG11+1			V2	02	00369
		397	LDA	TBKN3+DMSBUF			V2	02	00370
		398	STA	DMSG11+2			V2	02	00371
		399	IFT	V75-1			V75	*****	
		400	GOTO	2			V75	*****	
		401	* TEST IF	A V75 MACHINE			V75	*****	
		402	LDA	DMSBUF+TB75			V75	*****	
		403	ANA	BS14			V75	*****	
		404	STAE	V75FLG	STORE IN DESUG PROPER		V75	*****	
		405	2 CONT				V75	*****	
		406	LDB	DMSBUF+9	DISPLAY TBENTY AS START LOC.		V2	02	00372
		407	ENDC01	CONT			V2	02	00373
		408	IFF	VORTEX-2			V2	02	00374
		409	GOTO	ENDC02			V2	02	00375
000014	020300	A	410	LDB	V\$CTL			02	00376
000015	016022	A	411	LDA	TBKN1,B	STORE TASK NAME		02	00377
000016	054403	A	412	STA	DMSG11			02	00378
000017	016023	A	413	LDA	TBKN2,B			02	00379
000020	054402	A	414	STA	DMSG11+1			02	00380
000021	016024	A	415	LDA	TBKN3,B			02	00381
000022	054401	A	416	STA	DMSG11+2			02	00382
			417	IFT	V75-1		V75	*****	
			418	GOTO	3		V75	*****	
			419	TESTF	B,TB75,TB75B,TB75Z		V75	*****	
000023	016002	A							
000024	150437	A							
000025	006057	A	420	STAE	V75FLG		V75	*****	
000026	001023	R							
000027	026011	A	421	3 CONT			V75	*****	
			422	LDB	TBENTY,B		V2	02	00383
			423	IFF	VORTEX-2		V2	02	00384
			424	ENDC02	CONT		V2	02	00385
			425	IFT	V75-1		V75	*****	
			426	GOTO	4		V75	*****	
			427	* SAVE THE ADDITIONAL REGISTERS IF V75			V75	*****	
000030	006017	A	428	LDAE	V75FLG		V75	*****	
000031	001023	R							
000032	001010	A	429	JAZ	EEE	JMP IF NOT V75	V75	*****	
000033	000046	R							
000034	007130	A	430	SAVE75	R3P,R4P,R5P,R6P,R7P		V75	*****	
000035	001030	R							
000036	007140	A							
000037	001031	R							
000040	007150	A							
000041	001032	R							
000042	007160	A							
000043	001033	R							
000044	007170	A							
000045	001034	R							
	000046	R							
000046	006067	A	431	EEE EQU	*		V75	*****	
000047	001029	R	432	4 CONT			V75	*****	
000050	006030	A	433	STBE	JLDC	SET UP INITIAL TRAP ADDR.	V2	02	00386
000051	000426	R	434	LUXI	DMSG12	CONVERT/STORE 1ST ALLOCATABLE ADDR.		02	00387
000052	002000	A	435	CALL	CVN3			02	00388
000053	000652	R							
000054	006010	A	436	LDAI	11	OUTPUT COMPLETE MESSAGE		02	00389
000055	000013	A							
000056	001000	A	437	JMP	READ1+1			02	00390
000057	000061	R							
	000060	R	438	ENT EQU	*			02	00391
000060	010424	A	439	READ1 LDA	EIGHT			02	00392
000061	054331	A	440	STA	DBDCB1	WORD COUNT		02	00393
			441	WRITE	DBDCB1,DO,W,0			02	00394
000062	006505	A							
000063	000000	E							
000064	100000	A							
000065	000414	A							
000066	000413	R							
000067	000000	A							
000070	000000	A							
000071	006010	A	442	LDAI	DI			02	00395
000072	000013	A							
000073	006505	A	443	JSR	V\$DVTP,X	CHECK IF DI=TY OR CRT		02	00396
000074	001720	R							
000075	001004	A	444	JAN	ICALL	NO.	V75	*****	
000076	000116	R							
			445	IFT	VORTEX-2		V2	02	00398
			446	GOTO	ENDC03		V2	02	00399
			447	LDAE	DILUN	DEBUG INPUT LUN	V2	02	00400
			448	ORAE	DDIUN	CHECK IF SAME AS DEBUG OUTPUT LUN	V2	02	00401
			449	ENDC03	CONT		V2	02	00402
			450	IFF	VORTEX-2		V2	02	00403
			451	GOTO	ENDC04		V2	02	00404

000077	030400	A	452	LDX	V\$LUT1				02 00405
000100	015013	A	453	LDA	DI,X				02 00406
000101	135014	A	454	ERA	DO,X	SEE IF DI=DO			02 00407
			455	IFF	VORTEX-2				V2 02 00408
			456	ENDC04	CONT				V2 02 00409
000102	150463	A	457	ANA	RHW				02 00410
000103	001010	A	458	JAZ	ICALL	YES			V75*****
000104	000116	R							
000105	010423	A	459	LDA	FOUR	YES			02 00412
000106	054304	A	460	STA	DRDCB1				02 00413
			461	WRITE	DRDCB1,DI,NW,0				02 00414
000107	006505	A							
000110	000063	E							
000111	100000	A							
000112	100413	A							
000113	000413	R							
000114	000000	A							
000115	000000	A							
000116	002000	A	462	ICALL	CALL	DINPT	READ INPUT		V75*****
000117	001506	R							
			463	IFT	V75-1				V75*****
			464	GOTO	5				V75*****
			465	*					V75*****
			466	*	THE V75	REGISTERS ARE DESIGNATED R0 THROUGH R7			V75*****
			467	*	WHERE :	R0 IS THE SAME AS A REGISTER			V75*****
			468	*		R1 IS THE SAME AS B REGISTER			V75*****
			469	*		R2 IS THE SAME AS X REGISTER			V75*****
			470	*		R3 THRU R7 ARE THE NEW REGISTERS			V75*****
			471	*	EACH OF	THE RX 2 LETTER REGISTERS IS REPLACED BY			V75*****
			472	*	A ONE	LETTER CODE TO CONFORM WITH THE GENERAL DEB			V75*****
			473	*	PHILOSOPHY.				V75*****
			474	*		R3 THRU R7 BECOMES J,K,L,M,N RESPECTIVELY			V75*****
			475	*		IS DONE VIA THE RTABLE TABLE			V75*****
			476	*					V75*****
000120	014702	A	477	LDA	V75FLG				V75*****
000121	001010	A	478	JAZ	SDF	JUMP IF NOT V75			V75*****
000122	000162	R							
000123	025000	A	479	LDB	0,1	TEST FOR RX CODE			V75*****
000124	005021	A	480	TBA					V75*****
000125	006140	A	481	SUBI	'R0'				V75*****
000126	151260	A							
000127	001004	A	482	JAN	OUT	NOT AN R REGISTER			V75*****
000130	000160	R							
000131	005021	A	483	TBA					V75*****
000132	006140	A	484	SUBI	'R7'+1				V75*****
000133	151270	A							
000134	001002	A	485	JAP	OUT	NOT AN R REGISTER			V75*****
000135	000160	R							
000136	005021	A	486	TBA					V75*****
000137	006120	A	487	ADDI	RTABLE-'R0'	GET PROPER RTABLE ENTRY			V75*****
000140	027132	R							
000141	005012	A	488	TAB					V75*****
000142	016000	A	489	LDA	0,R	GET REGISTER CODE IN THE FO			V75*****
000143	025001	A	490	LDB	1,X	GET NEXT INPUT WORD (UR SPA			V75*****
000144	004450	A	491	LLFL	8	SHIFT 1 BYTE TO LEFT AND			V75*****
000145	055000	A	492	STA	0,X	STORE BACK			V75*****
000146	004150	A	493	LSRB	8				V75*****
000147	015001	A	494	LDA	1,X	CHECK IF NO MORE INPUT CHAR			V75*****
000150	006140	A	495	SUBI	' '	SPACE SPACE ?			V75*****
000151	120240	A							
000152	001010	A	496	JAZ	OUT	IF YES, GET OUT			V75*****
000153	000160	R							
000154	005021	A	497	TBA					V75*****
000155	005144	A	498	IXR		X REG POINTS TO INPUT BUF			V75*****
000156	001000	A	499	JMP	LOOP				V75*****
000157	000143	R							
000160	006030	A	500	OUT	LDXI	BUF	RESTORE X TO BEGINNING OF B		V75*****
000161	001256	R							
			501	S	CONT				V75*****
000162	007401	A	502	SDF					02 00416
000163	015000	A	503	LDA	0,1	X= BUF ADDR.			02 00417
000164	004350	A	504	LSRA	8	GET COMMAND CODE CHARACTER			02 00418
000165	006140	A	505	SUBI	'.'				02 00419
000166	000254	A							
000167	001011	A	506	JIF	011,CNCM				02 00420
000170	000232	R							
000171	006140	A	507	SUBI	'A'-'.'				02 00421
000172	000025	A							
000173	001004	A	508	JAN	NUM!	NOT ALPHABETIC			02 00422
000174	000754	R							
000175	006140	A	509	SUBI	'Z'-'A'+1				02 00423
000176	000032	A							
000177	001002	A	510	JAP	WHAT2	BAD COMMAND CODE.			02 00424
000200	000214	R							
000201	006120	A	511	ADDI	'Z'-'A'+TABL+1	COMPUTE ROUTINE ADDRESS			02 00425
000202	001720	R							
000203	005012	A	512	TAB					02 00426
000204	016000	A	513	LDA	0,2				02 00427
000205	001010	A	514	JAZ	WHAT2	ILLEGAL COMMAND CODE			02 00428
000206	000214	R							
000207	001001	A	515	JBF	OVN1	RESET OVERFLOW FLAG AND JUMP			02 00429
000210	000234	R							
000211	010421	A	516	WHAT	LDA	ONE	ENTER FOR PARAMETER ERROR		02 00430

000212	001000	A	517	JMP	*+3	DG02		02	00431
000213	000213	R							
000214	005001	A	518	WHAT2	TZA			02	00432
000215	006120	A	519		ADDI	0130261	DG01	02	00433
000216	130261	A							
000217	006057	A	520		STAE	DBMSG3+2		02	00434
000220	001631	R							
			521	WRITE	DBDCB3,DD,W,0	OUTPUT ERROR MESSAGE		02	00435
000221	006505	A							
000222	000110	E							
000223	100000	A							
000224	000414	A							
000225	001624	R							
000226	000000	A							
000227	000000	A							
000230	001000	A	522	JMP	ENT			02	00436
000231	000060	R							
000232	006010	A	523	CNCM	LDAI	CNCM	ADDRESS OF CHANGE CONTINUATION ROUTINE	02	00437
000233	001404	R							
000234	004557	A	524	CNV1	LLSR	15	A=ROUT.ADDR, X=BUFFER, OVFLW DN=CHAR N+1	02	00438
000235	004141	A	525		LSRB	1	REMOVE SIGN BIT	02	00439
000236	064145	A	526		STB	GD	SAVE ROUTINE ADDRESS	02	00440
000237	054367	A	527		STA	CNV2	SAVE NUMBER TYPE FLAG	02	00441
000240	120423	A	528		ADD	FOUR		02	00442
000241	004241	A	529		LRLA	1	BASE 8 OR 10	02	00443
000242	054147	A	530		STA	BASE		02	00444
000243	005511	A	531		ADFA			02	00445
000244	054144	A	532		STA	CCNT+1	CHAR N,N+1 FLAG, 1=CHAR N	02	00446
000245	024134	A	533		LDB	APBF		02	00447
000246	064137	A	534		STB	PCNT+1	SET PARAMETER LIST ADDRESS	02	00448
000247	005301	A	535		DECR	1		02	00449
000250	054134	A	536		STA	PCNT	SET PARAMETER COUNT	02	00450
000251	005302	A	537	CNA	DECR	2		02	00451
000252	064135	A	538		STB	CCNT	SET CHARACTER FLAG	02	00452
000253	014353	A	539		LDA	CNV2		02	00453
000254	054375	A	540		STA	CNV3	SET MAXIMUM WORD SIZE FLAG	02	00454
000255	005001	A	541		TZA			02	00455
000256	064130	A	542	NEGA	STB	CSW	SET SIGN FLAG	02	00456
000257	054334	A	543		STA	TEMP		02	00457
000260	025000	A	544	CNB	LDB	0,1		02	00458
000261	001020	A	545		JAZ	CNE	END OF LINE?	02	00459
000262	000374	R							
000263	044125	A	546		INR	CCNT+1		02	00460
000264	005101	A	547		INCR	1		02	00461
000265	154123	A	548		ANA	CCNT+1		02	00462
000266	001010	A	549		JAZ	*+4		02	00463
000267	000272	R							
000270	005144	A	550		IXR		CHAR. N+1	02	00464
000271	004050	A	551		LRLB	8		02	00465
000272	004150	A	552		LSRB	8	SHIFT OUT RHW CHAR	02	00466
000273	005021	A	553		TBA			02	00467
000274	134076	A	554		ERA	SBLA		02	00468
000275	001010	A	555		JAZ	CND		02	00469
000276	000260	R							
000277	005001	A	556		TZA			02	00470
000300	006057	A	557		STAE	CLAST	CLEAR LAST CHAR. IS COMMA FLAG.	02	00471
000301	001475	R							
000302	044105	A	558		INR	CCNT	INITIALLY =177777	02	00472
000303	005021	A	559		TBA			02	00473
000304	006130	A	560		ERAI	0260		02	00474
000305	000260	A							
000306	144103	A	561		SUB	BASE		02	00475
000307	007400	A	562		ROF			02	00476
000310	001002	A	563		JAP	CNC	NOT NUMBER	02	00477
000311	000326	R							
000312	124077	A	564		ADD	BASE		02	00478
000313	024076	A	565		LDB	BASE		02	00479
000314	124277	A	566	CNB2	ADD	TEMP		02	00480
000315	001007	A	567		JDFN	CNB4		02	00481
000316	000321	R							
000317	007400	A	568		ROF			02	00482
000320	044331	A	569		INR	CNV3	COUNT OVFLW, > 1 ERROR, TOO LARGE	02	00483
000321	005322	A	570	CNB4	DBR			02	00484
000322	001020	A	571		JBZ	CNB-1		02	00485
000323	000257	R							
000324	001000	A	572		JMP	CNB2		02	00486
000325	000314	R							
000326	124063	A	573	CNC	ADD	BASE		02	00487
000327	006130	A	574		ERAI	015	CHECK FOR EQUAL SIGN	02	00488
000330	000015	A							
000331	001010	A	575		JAZ	CNF		02	00489
000332	000352	R							
000333	006130	A	576		ERAI	021	CHECK FOR COMMA	02	00490
000334	000021	A							
000335	001010	A	577		JAZ	CNF-2		V2 02	00491
000336	000350	R							
000337	005312	A	578		DECR	012	CHECK IF MINUS SIGN	02	00492
000340	014047	A	579		LDA	CCNT		02	00493
000341	001030	A	580		JIF	030, NEGA	CHECK FOR NEGATIVE SIGN	02	00494
000342	000250	R							
000343	005322	A	581		DBR			02	00495
000344	001020	A	582		JBZ	CNF	PERIOD. PROCESS AS COMMA OR EQUAL SIGN	02	00496
000345	000352	R							

Address	Hex	Mode	Label	Op	Opnd	Description	Page	Line
000346	001000	A	583	JMP	WHAT	ERROR, NON-NUMERIC	02	00497
000347	000211	R						
000350	006047	A	584	INRE	CLAST	SET LAST CHAR IS COMMA FLAG	V2	02 00498
000351	001475	R						
000352	024241	A	585	CNF	LDB	TEMP	02	00499
000353	014033	A	586	LDA	CSW		02	00500
000354	001004	A	587	JAN	*+4		02	00501
000355	000360	R						
000356	005222	A	588	CPB			02	00502
000357	005122	A	589	IBR			02	00503
000360	005021	A	590	TBA		A= NUMBER	02	00504
000361	024024	A	591	LDB	PCNT+1	=PRUF PARAMETER LIST BUFFER	02	00505
000362	056000	A	592	STA	0,2	PUT INTO BUFFER	02	00506
000363	044022	A	593	INR	PCNT+1		02	00507
000364	044020	A	594	INR	PCNT	INCREMENT PARAMETER COUNT	02	00508
000365	014264	A	595	LDA	CNV3		02	00509
000366	004341	A	596	LSRA	1		02	00510
000367	001010	A	597	JAZ	CNA	ONLY 1 OVERFLOW COUNTED	02	00511
000370	000251	R						
000371	001000	A	598	JMP	WHAT	NUMBER TOO LARGE	02	00512
000372	000211	R						
000373	000240	A	599	SBLA	DATA	ASCII BLANK	02	00513
000374	014013	A	600	CNE	LDA	CCNT	02	00514
000375	001002	A	601	JAP	CNF		02	00515
000376	000352	R						
000377	005102	A	602	INCR	2		02	00516
000400	014004	A	603	LDA	PCNT	LOAD NUMBER OF PARAMETERS	02	00517
000401	006030	A	604	LDXI	PRUF	A=NO. OF PARAMETERS; X= PARAMETER LIST BUFF	02	00518
000402	001236	R						
000402	000402	R	605	APBF	EQU	*-1	02	00519
000403	001000	A	606	JMP		GO TO REQUESTED ROUTINE	02	00520
000404	000000	A						
000404	000404	R						
000405			607	GO	EQU	*-1	02	00521
000407			608	PCNT	BSS	2	02	00522
000410			609	CSW	BSS	1	02	00523
000412			610	CCNT	BSS	2	02	00524
			611	RASE	BSS	1	02	00525
			612	DBDCB1	DCB	11, DBMSG1, 0	02	00526
000413	000013	A						
000414	000416	R						
000415	000000	A						
000416	120240	A	613	DBMSG1	DATA	' . ' PRINT CONTROL	02	00527
000417	142307	A	614	DATA	' DG** '		02	00528
000420	125252	A						
000421	120240	A						
000422	147301	A	615	DBMSG11	DATA	' NAME01 ' TASK NAME	02	00529
000423	146705	A						
000424	130261	A						
000425	120240	A						
000426	154330	A	616	DBMSG12	DATA	' XXXXXX ' FIRST ALLOCATABLE LOCATION	02	00530
000427	154330	A						
000430	154330	A						
000431	120240	A						
			617	DBSBUF	IFB	VORTEX-2	02	00531
			618	BSS	29	BUFFER FOR TIDB CONTENT	V2	02 00532
			619	IFB	V75-1		V75	*****
			620	GO TO	1		V75	*****
			621	*			V75	*****
			622	*			V75	*****
			623	*	RTABLE CONVERTS A TWO LETTER REGISTER TO A ONE LETTER REGISTER CODE. FOR V75 USE ONLY (RIGHT JUSTIFIED)		V75	*****
			624	*			V75	*****
			625	RTABLE	EQU	*	V75	*****
000432	000432	R	626	DATA	0301	R0--0A	V75	*****
000433	000302	A	627	DATA	0302	R1--0B	V75	*****
000434	000330	A	628	DATA	0303	R2--0X	V75	*****
000435	000312	A	629	DATA	0312	R3--0J	V75	*****
000436	000313	A	630	DATA	0313	R4--0K	V75	*****
000437	000314	A	631	DATA	0314	R5--0L	V75	*****
000440	000315	A	632	DATA	0315	R6--0M	V75	*****
000441	000316	A	633	DATA	0316	R7--0N	V75	*****
			634	*			V75	*****
			635	CCNT				
			636	EJEC				
			637	*				
			638	*	TRAP ROUTINES (T)			
			639	*				
			640	T	JAZ	T1	02	00537
000442	001010	A				ONE PARAMETER?	02	00537
000443	000450	R						
000444	002000	A	641	CALL	PCNK	TWO PARAMETERS?	02	00538
000445	001476	R						
000446	015001	A	642	LDA	1,1	GET NEW STARTING ADDRESS	02	00539
000447	054350	A	643	STA	JLDC		02	00540
000450	035000	A	644	LAX	0,1	BREAK POINT ADDRESS	02	00541
000451	015000	A	645	LDA	0,1		02	00542
000452	054137	A	646	STA	TRPS	SAVE CONTENTS OF BREAK POINT	02	00543
000453	015001	A	647	LDA	1,1		02	00544
000454	054136	A	648	STA	TRPS+1		02	00545
000455	014045	A	649	LDA	JMPH		02	00546
000456	055000	A	650	STA	0,1		02	00547
000457	006010	A	651	WHAT	BRK		02	00548
000460	001020	R						
000461	055001	A	652	STA	1,1		02	00549
000462	001000	A	653	JMP	GG		02	00550


```

000601 006505 A
000602 000546 E
000603 100000 A
000604 000414 A
000605 001635 R
000606 000000 A
000607 000000 A
000610 001000 A
000611 000060 R
000612 000000 A
000613 000000 A
000614
000615 001304 R
000616 000000 A
000617 006130 A
000620 130255 A
000621 055000 A
000622 005144 A
000623 014410 A
000624 055000 A
000625 005144 A
000626 001000 A
000627 000000 A
000630 000627 R
000630 006010 A
000631 152130 A
000632 004441 A
000633 055000 A
000634 005001 A
000635 005144 A
000636 004443 A
000637 004245 A
000640 004443 A
000641 001020 A
000642 000617 R
000643 114371 A
000644 001000 A
000645 000633 R
717 T4 EQU *
718 1 CONT
719 JMP ENT
720 TRPS DATA 0,0 BREAKPOINT INSTRUCTIONS
721 TEMP BSS 1
722 TDBF DATA LOBF BUF+22 ,START OF OUTPUT BUFFER
723 IFF V75-1
724 RLIMIT DATA 0
725 EJECT
726 *
727 * CNV2
728 *
729 * SUBROUTINE TO CONVERT A BINARY NUMBER TO 6 ASCII OCTAL DIGITS
730 * WITHIN ( ). STORE IN BUFFER SPECIFIED IN X REGISTER.
731 * B=NUMBER, X=ADDRESS OF BUFFER, ALL REGISTERS CHANGED
732 *
733 CV2B ERAI '00'14
734
735 IXR STA 0,1
736 LDA DBLK
737 STA 0,1
738 IXR
739 JMP
740 CNV2 EQU *-1 X=ADDR.OF BUFFER, B=NUMBER
741 LDAR 0152130
742 CV2 LRL 1
743 CV2A STA 0,1
744 TZA
745 IXR
746 LRL 3
747 LRLA 5
748 LRL 3
749 JZ CV2B
750 ORA 000
751 JMP CV2A
752 EJECT
753 *
754 * CNV3
755 *
756 * SUBROUTINE TO CONVERT A BINARY NUMBER TO 6 ASCII OCTAL DIGITS
757 * AND STORE IN BUFFER SPECIFIED IN X REGISTER.
758 * B= NUMBER, X= BUFFER ADDR
759 *
760 CV3B LDA DBLK
761 STA 0,1
762 IXR
763 JMP
764 CNV3 EQU *-1
765 LDAR 0100000
766 CV3A LRL 1 X=ADDR OF BUFFER TO STORE CHAR, B= NUMBER
767 LRLA 5
768 LRL 3
769 ORA 000
770 STA 0,1
771 IXP
772 TZA
773 LRL 3
774 JZ CV3B
775 JMP CV3A
776 EJECT
777 *
778 * REGISTER CHANGE AND DISPLAY ROUTINES (A,B,X,D)
779 *
780 IFT V75-1
781 GOTO 1
782 R7 IBR R7-R3 ARE THE V75 REGISTERS
783 R6 IBR
784 R5 IBR
785 R4 IBR
786 R3 IBR
787 1 CONT
788 D IBR
789 XR IBR
790 ER IBR
791 A LRL 16

```

V75*****
V75*****
02 00586

02 00587

02 00588
02 00589

V75*****
V75*****

02 00590
02 00591
02 00592
02 00593
02 00594
02 00595
02 00596
02 00597
02 00598

02 00599
02 00600
02 00601
02 00602
02 00603
02 00604

02 00605
02 00606

02 00607
02 00608
02 00609
02 00610
02 00611
02 00612
02 00613
02 00614

02 00615
02 00616

02 00617
02 00618
02 00619
02 00620
02 00621
02 00622
02 00623
02 00624
02 00625
02 00626
02 00627
02 00628

02 00629
02 00630

02 00631
02 00632
02 00633
02 00634
02 00635
02 00636
02 00637
02 00638
02 00639

02 00640

02 00641
02 00642
02 00643
02 00644

V75*****
V75*****

V75*****
V75*****
V75*****

V75*****
V75*****

02 00645
02 00646
02 00647
02 00648

Address	Hex	Mode	Label	Op	Op	Comment	Page
000702	006120	A	792	ADDI	AP-1		02 00649
000703	001023	R					
000704	004460	A	793	LLRL	16		02 00650
000705	001010	A	794	JAZ	REGX	1 PARAMETER, CHANGE A,B,X OR DVFL	02 00651
000706	001410	R					
000707	001002	A	795	JAP	WHAT	MORE THAN ONE?	02 00652
000710	000211	R					
000711	001000	A	796	JMP	DCON		02 00653
000712	000714	R					
000713	025000	A	797	NUM1	0,1	GET ADDRESS OF WORD TO BE DISPLAYED	02 00654
000714	026000	A	798	DCON	0,2	GET WORD	02 00655
000715	034035	A	799	LDB	NMBA	GET ADDRESS OF OUTPUT BUFFER	02 00656
000716	014315	A	800	LDA	DBLK	=0120240	02 00657
000717	055000	A	801	STA	0,X	SET PRINT CONTROL WORD	02 00658
000720	005144	A	802	IXR			02 00659
000721	002000	A	803	CALL	CNV2	CONVERT TO CHARACTERS	02 00660
000722	000627	R					
			804	WRITE	DBDCB5, DQ, W, 0	OUTPUT MESSAGE (XXXXXX)	02 00661
000723	006505	A					
000724	000602	E					
000725	100000	A					
000726	000414	A					
000727	001640	R					
000730	000000	A					
000731	000000	A					
000732	002000	A	805	CALL	DINPT	INPUT RESPONSE	02 00662
000733	001506	R					
000734	015000	A	806	LDA	0,1	X=BUF ADDR.	02 00663
000735	001010	A	807	JAZ	ENT	TERMINATE.RESPONSE WAS CR	02 00664
000736	000060	R					
000737	006140	A	808	SUBI	' '		C.1 02 00665
000740	120240	A					
000741	001016	A	809	JANZ	DCON1	IF A NON CARRIAGE RETURN	C.1 02 00666
000742	000746	R					
000743	054527	A	810	STA	CAD+1	CLEAR CONTENT FLAG	C.1 02 00667
000744	001000	A	811	JMP	ENT		C.1 02 00668
000745	000060	R					
000746	000746	R	812	DCON1	EQU	*	C.1 02 00669
000747	006017	A	813	LDAE	GO	GET SAME ROUTINE'S ADDR	02 00670
000750	007401	A	814	SDF		SET FOR CHAR N	02 00671
000751	001000	A	815	JMP	CNV1	COMMON PROCESSING.	02 00672
000752	000234	R					
000753	001304	R	816	NMBA	DATA	LOBF	02 00673
000754	006120	A	817	NUM1	ADDI	'A'-'0'	02 00674
000755	000021	A					
000756	004343	A	818	LSRA	3		02 00675
000757	005311	A	819	DCR			02 00676
000760	001002	A	820	JAP	WHAT	BAD COMMAND CODE	02 00677
000761	000211	R					
000762	006010	A	821	LDAI	NUM	ENTRY ADDRESS	02 00678
000763	001035	R					
000764	000763	R	822	ANUM	EQU	*-1	02 00679
000765	001000	P	823	JMP	CNV1	***	02 00680
000766	005002	A	824	EJEC			02 00681
000767	002000	A	825	* GO TO THE	GIVEN ADDRESS (G)		02 00682
000770	001475	R	826	* G			02 00683
000771	015000	A	827	TZB			02 00684
000772	054025	A	828	CALL	FCHK	ONE PARAMETER	02 00685
000773	007401	A	829	LDA	0,1		02 00686
000774	014032	A	830	STA	JLDC	PUT ADDRESS IN JMP	02 00687
000775	001011	A	831	GG	SDF		02 00688
000776	000777	R	832	LDA	OP		02 00689
			833	JIF	011,*+2	RESTORE OVERFLOW INDICATOR	02 00690
			834	IFT	V75-1		V75 *****
			835	NOTQ	1		V75 *****
000777	014023	A	836	LDA	V75FLG		V75 *****
001000	001010	A	837	JAZ	GG1		V75 *****
001001	001014	R	838	* LDAB75	RESTORE R3 THRU R7 (V75)		V75 *****
			839		R3P,R4P,R5P,R6P,R7P		V75 *****
001002	007030	A					
001003	001030	R					
001004	007040	A					
001005	001031	R					
001006	007050	A					
001007	001032	R					
001010	007060	A					
001011	001033	R					
001012	007070	A					
001013	001034	R					
	001014	R	840	GG1	EQU	*	V75 *****
			841	1	CUNT		V75 *****
001014	014007	A	842	LDA	AP		02 00691
001015	024007	A	843	LDB	BP	LOAD REGISTERS	02 00692
001016	034007	A	844	LDB	XP		02 00693
001017	001000	A	845	JMP			02 00694
001020	000000	A					
	001020	R	846	JLDC	EQU	*-1	02 00695
	001020	R	847	BRK	EQU	JLDC	02 00696

001021	001000	A	848	JMP	BRK1		02 00697
001022	000464	R					
001023	000000	A	849	IFF	V75-1	V75 *****	
001024	000000	A	850	V75FLG	DATA	0	V75 *****
001025	000000	A	851	AP	DATA	0	02 00698
001026	000000	A	852	BP	DATA	0	02 00699
001027	000000	A	853	XP	DATA	0	02 00700
			854	DP	DATA	0	02 00701
			855	IFT	V75-1	V75 *****	
			856	GOTO	1	V75 *****	
001030	000000	A	857	R3P	DATA	0	V75 *****
001031	000000	A	858	R4P	DATA	0	V75 *****
001032	000000	A	859	R5P	DATA	0	V75 *****
001033	000000	A	860	R6P	DATA	0	V75 *****
001034	000000	A	861	R7P	DATA	0	V75 *****
			862	1	CONT		V75 *****
			863		EJEC		02 00702
			864	*			02 00703
			865	*	DISPLAY CORE ROUTINE		02 00704
			866	*			02 00705
001035	001010	A	867	NUM	JAZ	NUMK	02 00706
001036	001132	R					
001037	002000	R					
001040	001476	R	868	CALL	PCHK	ONE PARAMETER? A= NO.OF PARAMETERS,X=PBUF	02 00707
001041	024174	R	869	LDB	PBUF	TWO PARAMETERS?	02 00708
001042	004143	R	870	LSRB	3		02 00709
001043	004003	R	871	ASLB	3	GET TO 8 WORD BOUNDRY	02 00710
001044	064171	R	872	STB	PBUF		02 00711
001045	034106	R	873	NUMA	DBPCB8+1	=LDRF OUTPUT BUFFER ADDR.	02 00712
001046	014165	R	874	LDA	PBLK	=0120240	02 00713
001047	055000	R	875	STA	0,X		02 00714
001050	005144	R	876	IXR			02 00715
001051	002000	R	877	CALL	CVB3	PRINT ADDRESS	02 00716
001052	000652	R					
001053	024162	R	878	NUMB	PBUF		02 00717
001054	026000	R	879	LDB	0,2	GET WORD	02 00718
001055	044160	R	880	IXR	PBUF	INCREMENT ADDRESS	02 00719
001056	002000	R	881	CALL	CVB3	PRINT WORD	02 00720
001057	000652	R					
001060	014155	R	882	LDA	PBUF		02 00721
001061	004503	R	883	LSRB	3		02 00722
001062	005321	R	884	DECR	021	END OF LINE?	02 00723
001063	001002	R	885	JAP	NUMB		02 00724
001064	001033	R					
			886	WRITE	DBICB8,DO,W,0	OUTPUT LINE	02 00725
001065	006505	A					
001066	000724	E					
001067	100000	A					
001070	000414	A					
001071	001153	R					
001072	000000	A					
001073	000000	A					
001074	014141	R	887	NUMC	PBUF		02 00726
001075	144141	R	888	SUB	PBUF+1		02 00727
001076	005311	R	889	DAR			02 00728
001077	001002	R	890	JAP	ENT	EXIT, ALL LINES OUT.	02 00729
001100	000060	R					
001101	014134	R	891	LDA	PBUF		02 00730
001102	140424	R	892	SUB	010	BACK UP 8 WORDS	02 00731
001103	005012	R	893	TAB			02 00732
001104	016000	R	894	LDA	0,2		02 00733
001105	136010	R	895	ERA	0,2	COMPARE FOR EQUAL LINES	02 00734
001106	005122	R	896	IBR			02 00735
001107	001010	R	897	JAZ	*-3		02 00736
001110	001104	R					
001111	005323	R	898	DECR	023		02 00737
001112	004143	R	899	LSRB	2		02 00738
001113	005122	R	900	IBR			02 00739
001114	004043	R	901	LRLE	3		02 00740
001115	144120	R	902	SUB	PBUF	CHECK FOR SKIPPED LINES	02 00741
001116	001004	R	903	JAN	NUMA		02 00742
001117	001045	R					
001120	064115	R	904	STB	PBUF	SET NEW DUMP ADDRESS	02 00743
			905	WRITE	DBDCB6,DO,NW,0	OUTPUT * FOR SKIPPED LINES	02 00744
001121	006505	A					
001122	001066	E					
001123	100000	A					
001124	100414	A					
001125	001643	R					
001126	000000	A					
001127	000000	A					
001130	001000	R	906	JMP	NUMC		02 00745
001131	001074	R					
	001132	R	907	NUMK	EDU	ENTER TO DISPLAY 1 LOCATION	02 00746
001132	025000	R	908	LDB	0,1	GET ADDR OF WORD TO BE DISPLAYED	02 00747
001133	026000	R	909	LDB	0,P	GET WORD	02 00748
001134	034017	R	910	LDB	DBPCB8+1	=LDRF	02 00749
001135	014076	R	911	LDA	PBLK		02 00750
001136	055000	R	912	STA	0,X		02 00751
001137	005144	R	913	IXR			02 00752
001140	002000	R	914	CALL	CVB2	CONVERT TO ASC	02 00753
001141	000627	R					
			915	WRITE	DBDCB5,DO,W,0	DISPLAY 1 LOCATION	02 00754


```

001142 006505 A
001143 001122 E
001144 100000 A
001145 000414 A
001146 001640 R
001147 000000 A
001150 000000 A
001151 001000 A 916 JMP ENT 02 00755
001152 000060 R 917 DBDCB8 DCB 37,LOBF,0 02 00756

001153 000045 A
001154 001304 R
001155 000000 A
918 EJEC 02 00757
919 * 02 00758
920 * SEARCH MEMORY FOR A GIVEN VALUE (S) 02 00759
921 * 02 00760
922 S SUB TWO 02 00761
923 JAZ S3 THREE PARAMETERS? 02 00762

001156 140422 A
001157 001010 A
001160 001202 R
001161 002000 A 924 CALL PCHK FOUR PARAMETERS? 02 00763
001162 001476 R
001163 010471 A 925 LDA TEN 02 00764
000424 A 926 D10 EQU EIGHT 02 00765
001164 054044 A 927 STA DBDCB7 SET WRITE LENGTH 02 00766
001165 024050 A 928 SC LJB PBUF 02 00767
001166 016000 A 929 LDA 0,2 02 00768
001167 134050 A 930 ERA PBUF+2 COMPARE WORD 02 00769
001170 154050 A 931 ANA PBUF+3 MASK OFF OTHER BITS 02 00770
001171 001010 A 932 JAZ S3 EQUAL? 02 00771
001172 001206 R
001173 014042 A 933 SA LDA PBUF 02 00772
001174 044041 A 934 INR PBUF 02 00773
001175 144041 A 935 SUB PBUF+1 02 00774
001176 001010 A 936 JAZ ENT FINISHED? 02 00775
001177 000060 R
001200 001000 A 937 JMP SC 02 00776
001201 001165 R
001202 005301 A 938 S3 DECR 1 02 00777
001203 055003 A 939 STA 2,1 SET DEFAULT MASK 02 00778
001204 001000 A 940 JMP SC-2 02 00779
001205 001163 R
001206 034023 A 941 SB LDX DBDCB7+1 =LOBF 02 00780
001207 014024 A 942 LDA DBLK =0120240 02 00781
001210 055000 A 943 STA 0,X PRINT CONTROL WORD 02 00782
001211 005144 A 944 IXR 02 00783
001212 002000 A 945 CALL CNV3 ADDRESS 02 00784
001213 000652 R
001214 024021 A 946 LDB PBUF 02 00785
001215 026000 A 947 LDB 0,2 02 00786
001216 002000 A 948 CALL CNV2 CONTENTS 02 00787
001217 000627 R 949 WRITE DBDCB7,DO,W,0 02 00788

001220 006505 A
001221 001143 E
001222 100000 A
001223 000414 A
001224 001231 R
001225 000000 A
001226 000000 A
001227 001000 A 950 JMP SA 02 00789
001230 001173 R 951 DBDCB7 PCB 9,LOBF,0 02 00790

001231 000011 A
001232 001304 R
001233 000000 A
001234 120240 A 952 DBLK DATA 0120240 BLANK,BLANK 02 00791
001235 130260 A 953 C00 DATA '00' 02 00792
001236 000000 A 954 PBUF DATA 0 =16 02 00793
955 DUP 14 02 00794
956 DATA 0 02 00795
001237 000000 A 956 DATA 0 02 00796
001240 000000 A 956 DATA 0 02 00797
001241 000000 A 956 DATA 0 02 00798
001242 000000 A 956 DATA 0 02 00799
001243 000000 A 956 DATA 0 02 00800
001244 000000 A 956 DATA 0 02 00801
001245 000000 A 956 DATA 0 02 00802
001246 000000 A 956 DATA 0 02 00803
001247 000000 A 956 DATA 0 02 00804
001250 000000 A 956 DATA 0 02 00805
001251 000000 A 956 DATA 0 02 00806
001252 000000 A 956 DATA 0 02 00807
001253 000000 A 956 DATA 0 02 00808
001254 000000 A 956 DATA 0 02 00809
001255 120240 A 957 DATA 0120240 PRINT CONTROL WORD 02 00810
001256 000000 A 958 RUF DATA 0 =60 02 00811
959 DUP 53 02 00812
001257 000000 A 960 DATA 0 02 00813
001260 000000 A 960 DATA 0 02 00814
001261 000000 A 960 DATA 0 02 00815
001262 000000 A 960 DATA 0 02 00816
001263 000000 A 960 DATA 0 02 00817
001264 000000 A 960 DATA 0 02 00818

```



```

001265 0000000 A 960 DATA 0 02 00799
001266 0000000 A 960 DATA 0 02 00799
001267 0000000 A 960 DATA 0 02 00799
001270 0000000 A 960 DATA 0 02 00799
001271 0000000 A 960 DATA 0 02 00799
001272 0000000 A 960 DATA 0 02 00799
001273 0000000 A 960 DATA 0 02 00799
001274 0000000 A 960 DATA 0 02 00799
001275 0000000 A 960 DATA 0 02 00799
001276 0000000 A 960 DATA 0 02 00799
001277 0000000 A 960 DATA 0 02 00799
001300 0000000 A 960 DATA 0 02 00799
001301 0000000 A 960 DATA 0 02 00799
001302 0000000 A 960 DATA 0 02 00799
001303 0000000 A 960 DATA 0 02 00799
001304 0000000 A 960 DATA 0 02 00799
001305 0000000 A 960 DATA 0 02 00799
001306 0000000 A 960 DATA 0 02 00799
001307 0000000 A 960 DATA 0 02 00799
001310 0000000 A 960 DATA 0 02 00799
001311 0000000 A 960 DATA 0 02 00799
001312 0000000 A 960 DATA 0 02 00799
001313 0000000 A 960 DATA 0 02 00799
001314 0000000 A 960 DATA 0 02 00799
001315 0000000 A 960 DATA 0 02 00799
001316 0000000 A 960 DATA 0 02 00799
001317 0000000 A 960 DATA 0 02 00799
001320 0000000 A 960 DATA 0 02 00799
001321 0000000 A 960 DATA 0 02 00799
001322 0000000 A 960 DATA 0 02 00799
001323 0000000 A 960 DATA 0 02 00799
001324 0000000 A 960 DATA 0 02 00799
001325 0000000 A 960 DATA 0 02 00799
001326 0000000 A 960 DATA 0 02 00799
001327 0000000 A 960 DATA 0 02 00799
001328 0000000 A 960 DATA 0 02 00799
001331 0000000 A 960 DATA 0 02 00799
001332 0000000 A 960 DATA 0 02 00799
001333 0000000 A 960 DATA 0 02 00799
001334 0000000 A 960 DATA 0 02 00799
001335 0000000 A 960 DATA 0 02 00799
001336 0000000 A 960 DATA 0 02 00799
001337 0000000 A 960 DATA 0 02 00799
001340 0000000 A 960 DATA 0 02 00799
001341 0000000 A 960 DATA 0 02 00799
001342 0000000 A 960 DATA 0 02 00799
001343 0000000 A 960 DATA 0 02 00799
001344 0000000 A 960 DATA 0 02 00799
001345 0000000 A 960 DATA 0 02 00799
001346 0000000 A 960 DATA 0 02 00799
001347 0000000 A 960 DATA 0 02 00799
001350 0000000 A 960 DATA 0 02 00800
001350 001304 A 961 LDBF EQU BUF+22 02 00801
001351 005122 A 962 EQU 02 00802
001352 002000 A 963 * 02 00803
001353 001476 A 964 * INITIALIZE CORE (I) 02 00804
001354 025000 A 965 * 02 00805
001355 005322 A 966 I 02 00806
001356 005322 A 967 CALL PCHK THREE PARAMETERS 02 00807
001357 005122 A 968 LDB 0.1 02 00808
001360 145001 A 969 LDB 0.1 02 00809
001361 001000 A 970 LDB 0.1 02 00810
001362 000000 R 971 I1 INCR 003 02 00811
001363 015002 A 972 SUB 1.1 02 00812
001364 056001 A 973 JAP ENT 02 00813
001365 001000 A 974 LDA 0.1 02 00814
001366 001357 A 975 STA 1.2 02 00815
001367 125200 A 976 JMP 11 02 00816
001370 000000 A 977 ASTK DATA * * 02 00817
001370 000000 A 978 SEG DATA 0 02 00818
001370 000000 A 979 EQU 02 00819
001371 024101 A 980 * 02 00820
001372 001020 A 981 * CHANGE CORE (C) 02 00821
001373 001431 R 982 * 02 00822
001374 025000 A 983 C LDB CAD+1 02 00823
001375 064074 A 984 JBNZ CDISP2 02 00824
001376 001010 A 985 LDB 0.1 X=PARAMETER LIST BUFFER 02 00825
001377 001424 R 986 LDB CAD 1 PARAMETER, MUST BE ADDR. 02 00826
001400 005311 A 987 JAP CDISP 02 00827
001401 005144 A 988 BAR 02 00828
001402 005002 A 989 CA LXR 02 00829
001403 064067 A 990 TDB 02 00830
001404 024063 A 991 STA CAD+1 MULTIPLE CHANGES FLAG. 02 00831
001405 001004 A 992 CMCN LDB CAD 02 00832
001406 000211 R 993 JAN WRAT 02 00833
001407 044062 A 994 INR CAD 02 00834
001410 054063 A 995 REGX STA CAD+2 SAVE NO. OF CHANGES. 02 00834

```



```

001411 015000 A 996 LDA 0,1 02 00835
001412 056000 A 997 STA 0,2 02 00836
001413 014060 A 998 LDA CAD+2 02 00837
001414 005311 A 999 DAR 02 00838
001415 001002 A 1000 JAP CA 02 00839
001416 001401 R
001417 014053 A 1001 LDA CAD+1 02 00840
001420 001016 A 1002 JANZ CDISP5 02 00841
                                CHECK IF MULTIPLE CHANGES
                                NO.NOW DISPLAY NEXT LOC. CONTENT
001421 001463 R
001422 001000 A 1003 JMP ENT 02 00842
001423 000060 R
001424 044046 A 1004 CDISP INR CAD+1 02 00843
                                SET TO INDICATE NEXT INPUT IS CONTENT
001425 024044 A 1005 LDB CAD 02 00844
                                GET WORD TO BE DISPLAYED
001426 026000 A 1006 LDB 0,B 02 00845
001427 001000 A 1007 JMP DCON+1 02 00846
                                WAIT FOR RESPONSE FROM OPERATOR
001430 000715 R
001431 006017 A 1008 CDISP2 LDAE DINRD+5 C.1 02 00847
                                NUMBER OF WORDS INPUT
001432 001525 R
001433 001016 A 1009 JANZ CDISP6 C.1 02 00848
                                IF CHANGE MADE
001434 001440 R
001435 054035 A 1010 STA CAD+1 C.1 02 00849
                                CLEAR CONTENT FLAG
001436 001000 A 1011 JMP ENT C.1 02 00850
001437 000060 R
001440 006017 A 1012 CDISP6 LDAE PCNT C.1 02 00851
001441 000405 R
001442 001010 A 1013 JAZ CDISP3 C.1 02 00852
                                ONLY ONE CHARACTER, CHECK IF COMMA
001443 001447 R
001444 005001 A 1014 TZA 02 00853
                                GTR 1 CHAR.
001445 001000 A 1015 JMP CMCN 02 00854
                                NOW SET CHANGE VALUE.
001446 001404 R
001447 014025 A 1016 CDISP3 LDA CLAST 02 00855
001450 001010 A 1017 JAZ CMCN 02 00856
                                NOT COMMA. SET CHANGE
001451 001404 R
001452 006017 A 1018 LDAE BUF 02 00857
001453 001256 R
001454 006130 A 1019 ERAI 0126240 02 00858
                                CHECK COMMA
001456 26240 A
001457 01016 A 1020 JANZ CDISP3-3 02 00859
                                SET CHANGE
001460 044000 R 1021 CDISP4 EQU * 02 00860
                                YES
001461 001000 A 1022 INR CAD 02 00861
                                SET TO NEXT ADDR.
001462 001424 A 1023 JMP CDISP 02 00862
                                DISPLAY NEXT CONTENT
001463 014011 R
001464 001016 A 1024 CDISP5 LDA CLAST 02 00863
                                LAST CHAR. A COMMA
001465 001424 R 25 JANZ CDISP 02 00864
                                COMMA
001466 054003 A 101
001467 054003 A 102 STA CAD 02 00865
                                RESET FLAGS
001470 001000 A 1028 STA CAD+1 02 00866
001471 000060 R JMP ENT 02 00867
001472 000000 A 1029 CAL 02 00868
001473 000000 A DATA 0,0,0 02 00869
001474 000000 A
001475 000000 A 1030 CLAST DATA 0 02 00870
                                LAST CHAR IS COMMA FLAG
                                * EJECT
001476 000000 A 1031 * ENI TO CHECK NUMBER OF PARAMETERS. 02 00871
001477 064005 A 1032 PCHK ENI 02 00872
001500 144004 A 1033 ENI 02 00873
001501 001010 A 1034 STB LOWT 02 00874
001502 101476 R 1035 SUB LOWT 02 00875
001503 001000 A 1036 JAZ* PCHK
001504 000211 R JMP WAT 02 00876
001505 000000 A 1037 LOWT DATA 0 02 00877
001506 000000 A 1038 * EJECT 02 00878
001507 005002 A 1039 * DINPT 02 00879
001510 006030 A 1040 * 02 00880
001511 001236 R 1041 * 02 00881
001512 065000 A 1042 * 02 00882
001513 005145 A 1043 * SUBROUTINE TO CLEAR BUFFER AND EXECUTE READ. INPUT STORED 02 00883
                                IN BUF. RETURN WITH X= BUF ADDRESS.
001514 006140 A 1044 * 02 00884
001515 001323 R 1045 * 02 00885
001516 001004 A 1046 DINPT ENR 02 00886
001517 001512 R 1047 TZA 02 00887
001520 006505 A 1048 LDXI PBUF 02 00888
001521 001221 E 1049 STB 0,X 02 00889
                                ZERO INPUT BUFFER
001522 100000 A 1050 INCR 045 02 00890
001523 010013 A 1051 SUBI BUF+37 02 00891
001524 001621 R
001525 000000 A
001526 000000 A 1052 JAN *-4 02 00892
001527 006505 A 1053 DINRD READ DDDB2,DI,W,1 D.102 00892
001530 000000 E
001531 001520 R
                                STAT DINRD,DICONT,PCDEF,PCDEF,* E.2*****

```


001532	001536	R							
001533	001657	R							
001534	001657	R							
001535	001527	R							
001536			1055	DICONT	BSS	0			D.102 00894
001536	006017	A	1056		LDAE	DINRD+5	GET NO. OF WDS READ		02 00895
001537	001525	R							
001540	054037	A	1057		STA	DINWD+1	STORE WORD COUNT		02 00896
001541	005111	A	1058		IAR				02 00897
001542	054104	A	1059		STA	DBDCB9			02 00898
			1060		IFT	VORTEX-2			V2 02 00899
			1061		GOTO	ENDC05			V2 02 00900
			1062		LDA	DILUN			V2 02 00901
			1063		ERA	DOLUN			V2 02 00902
			1064	ENDC05	CONT				V2 02 00903
			1065		IFF	VORTEX-2			V2 02 00904
			1066		GOTO	ENDC06			V2 02 00905
001543	020400	A	1067		LDB	V\$LUT1	ECHO INPUT IF DI/DD NOT SAME		02 00906
001544	016013	A	1068		LDA	DI,B			02 00907
001545	136014	A	1069		ERA	DD,B			02 00908
			1070		IFF	VORTEX-2			V2 02 00909
			1071	ENDC06	CONT				V2 02 00910
001546	150463	A	1072		ANA	RHW			02 00911
001547	001010	A	1073		JAZ	DINEXT	DONT ECHO		02 00912
001550	001560	R							
			1074		WRITE	DBDCB9,DD,W,0	ECHO INPUT		02 00913
001551	006505	A							
001552	001521	E							
001553	100000	A							
001554	000414	A							
001555	001647	R							
001556	000000	A							
001557	000000	A							
001560	006030	A	1075	DINEXT	LDXI	BUF			02 00914
001561	001256	R							
001562	015000	A	1076		LDA	0,X	GET 1ST WORD		02 00915
001563	004350	A	1077		LSRA	8			02 00916
001564	006130	A	1078		ERAI	0257	SLASH		02 00917
001565	000257	A							
001566	001016	A	1079		JANZ*	DINPT	NOT JCP INPUT, RETURN.		02 00918
001567	101506	R							
001570	010301	A	1080		LDA	V\$CPL	SLASH, CK IF PRIORITY 0 OR 1		02 00919
001571	140422	A	1081		SUB	TWO			02 00920
001572	001002	A	1082		JAP	WHAT2	NO. ERROR.		02 00921
001573	000214	R							
001574	010377	A	1083		LDA	V\$JCP	YES, CK IF JCP OPERATED.		02 00922
001575	001010	A	1084		JAZ	WHAT2	NO. ERROR		02 00923
001576	000214	R							
001577	006010	A	1085	DINWD	LDAI	*	WORD COUNT		02 00924
001600	001577	R							
001601	005311	A	1086		DAR				02 00925
001602	005012	A	1087		TAB				02 00926
001603	120412	A	1088		ADD	V\$JCB	JCP BUFFER ADDR.		02 00927
001604	005014	A	1089		TAX				02 00928
001605	006016	A	1090	DINBF	LDAE	BUF,B	GET WORD FROM BUF		02 00929
001606	001256	R							
001607	055000	A	1091		STA	0,X	STORE IN V\$JCB		02 00930
001610	001020	A	1092		JBZ	DINJCP	DONE		02 00931
001611	001616	R							
001612	005344	A	1093		DXR				02 00932
001613	005322	A	1094		DBR				02 00933
001614	001000	A	1095		JMP	DINBF	TRANSFER NEXT WORD		02 00934
001615	001605	R							
			1096	DINJCP	EXIT		NOW CALL EXIT TO SET JCP ACTIVE.		02 00935
001616	006505	A							
001617	000000	E							
001620	000200	A							
			1097		IFT	VORTEX-2			V2 02 00936
			1098		GOTO	ENDC07			V2 02 00937
			1099	DILUN	DATA	0	DEBUG INPUT LOGICAL UNIT		V2 02 00938
			1100	DOLUN	DATA	0	DEBUG OUTPUT LOGICAL UNIT		V2 02 00939
			1101	ENDC07	CONT				V2 02 00940
			1102		EJEC				02 00941
			1103	DBDCB2	DCB	36, BUF, 0	READ DCB		02 00942
001621	000044	A							
001622	001256	R							
001623	000000	A							
			1104	DBDCB3	DCB	3, DBMSG3, 0			02 00943
001624	000003	A							
001625	001627	R							
001626	000000	A							
001627	120240	A	1105	DBMSG3	DATA	' . '	PRINT CONTROL		02 00944
001630	142307	A	1106		DATA	' DG', '01'	DGXX ERROR MESSAGE		02 00945
001631	130261	A							
			1107	DBDCB4	DCB	25, LOBF, 0	TRAP MESSAGE.		02 00946
001632	000031	A							
001633	001304	R							
001634	000000	A							
			1108		IFF	V75-1			V75 *****
			1109	DCBXR	DCB	20, LOBF, 0	R3 THRU R7		V75 *****
001635	000024	A							
001636	001304	R							
001637	000000	A							


```

001640 000005 A 1110 DBDCB5 DCB 5,LOBF,0 CHANGE/DISPLAY 02 00947
001641 001304 R
001642 000000 A
001643 000001 A 1111 DBDCB6 DCB 1,DBMSG6,0 * FOR SKIP LINE 02 00943
001644 001646 R
001645 000000 A
001646 120252 A 1112 DBMSG6 DATA 0120252 02 00949
1113 DBDCB9 DCB 36,BUF-1,0 WRITE,ECHO INPUT 02 00950
001647 000044 A
001650 001253 R
001651 000000 A
001652 014011 A 1114 EJEC D.102 00951
001653 006057 A 1115 P LDA PC1 PATCH READ TO READ CARDS FROM BI D.102 00952
001654 001523 R 1116 STAE DINRD+3 D.102 00953
001655 001000 A 1117 JMP ENT CONTINUE D.102 00954
001656 000060 R
001657 014005 A 1118 PCEOF LDA PC2 RESTORE READ TO DI D.102 00955
001660 006057 A 1119 STAE DINRD+3 D.102 00956
001661 001523 R
001662 001000 A 1120 JMP ENT D.102 00957
001663 000060 R
001664 010006 A 1121 PC1 DATA 010006 D.102 00958
001665 010013 A 1122 PC2 DATA 010013 D.102 00959
1123 EJEC 02 00960
1124 * 02 00961
1125 * ROUTINE ADDRESS TABLE 02 00962
1126 * 02 00963
1127 IFT V75-1 V75 *****
1128 GOTO 1 V75 *****
1129 * R0,R1,R2 ARE A,B,X RESPECTIVELY V75 *****
1130 * R3 THRU R7 ARE J,K,L,M,N RESPECTIVELY V75 *****
1131 * V75 *****
001666 000701 R 1132 TABL DATA A,BR,C,0,0,0,G,0,I,R3,R4,R5 V75 *****
001667 000700 R
001670 001371 R
001671 000000 A
001672 000000 A
001673 000000 A
001674 000766 R
001675 000000 A
001676 001351 R
001677 000675 R
001700 000674 R
001701 000673 R
001702 000672 R 1133 DATA R6,R7,0,P,0,0,S,T,0,0,0,XR,0,0 V75 *****
001703 000671 R
001704 000000 A
001705 001652 R
001706 000000 A
001707 000000 A
001710 001156 R
001711 000442 R
001712 000000 A
001713 000000 A
001714 000000 A
001715 000677 R
001716 000000 A
001717 000000 A
1134 1 CONT V75 *****
1135 IFF V75-1 V75 *****
1136 GOTO 2 V75 *****
1137 TABL DATA A,BR,C,0,0,0,G,I,0,0,0 V75 *****
1138 DATA 0,0,0,P,0,0,S,T,0,0,0,XR,0,0 V75 *****
1139 2 V75 *****
1140 * V75 *****
1141 * 02 00966
1142 * SUBROUTINE TO DETERMINE IF LOGICAL UNIT IS 02 00967
1143 * ASSIGNED TO TELETYPE OR CRT. CALLING SEQUENCE IS: 02 00968
1144 * JSR V$DVTP,X 02 00969
1145 * 02 00970
1146 * ENTRANCE PARAMETER: A REGISTER CONTAINS LOG. UNIT NO. 02 00971
1147 * 02 00972
1148 * RETURN PARAMETER: A REGISTER EQUALS ZERO - DEVICE IS 02 00973
1149 * A TTY OR CRT. 02 00974
1150 * 02 00975
1151 * A REGISTER NOT EQUAL ZERO - DEVICE 02 00976
1152 * IS NOT A TTY OR CRT. 02 00977
1153 * 02 00978
1154 * B REGISTER IS SAVED. 02 00979
1155 * 02 00980
1156 * 02 00981
001720 064021 A 1157 V$DVTP STB DVTPA 02 00982
1158 IFF VORTEX-2 V2 02 00983
1159 STX DVTPX SAVE RETURN ADDRESS V2 02 00984
001721 120400 A 1160 ADD V$LUT1 02 00985
1161 IFT VORTEX-2 V2 02 00986
1162 GOTO ENDC08 V2 02 00987
1163 STA P2C STORE ADDR. IN PASS CALL V2 02 00988
1164 SPAC V2 02 00989
1165 PASS 1,*-*,DSTNUM V2 02 00990

```


			1166	P2C	EQU	*-2			V2	02	00992
			1167		SPAC				V2	02	00993
			1168		LDA	DSTNUM			V2	02	00994
			1169	ENDC08	CONT				V2	02	00995
			1170		IFF	VORTEX-2			V2	02	00996
			1171		GOTO	ENDC09			V2	02	00997
001722	005012	A	1172		TAB					02	00998
001723	016000	A	1173		LDA	0,B	GET CURRENT DST ENTRY NO.			02	00999
			1174		IFF	VORTEX-2			V2	02	01000
			1175	ENDC09	CONT				V2	02	01001
001724	150463	A	1176		ANA	RHW				02	01002
001725	005312	A	1177		DECR	012				02	01003
001726	010355	A	1178		LDA	V\$DSTB	BASE ADDR.			02	01004
001727	160464	A	1179		MUL	THREE				02	01005
			1180		IFT	VORTEX-2			V2	02	01006
			1181		GOTO	ENDC10			V2	02	01007
			1182		IBR				V2	02	01008
			1183		STB	P2D	STORE ADDR. IN PASS CALL		V2	02	01009
			1184		SPAC				V2	02	01010
			1185		PASS	1,*-*,DVNAME			V2	02	01011
			1186	P2D	EQU	*-2			V2	02	01012
			1187		SPAC				V2	02	01013
			1188		LDA	DVNAME	FIRST TWO CHAR.S OF DEVICE NAME		V2	02	01014
			1189	ENDC10	CONT				V2	02	01015
			1190		IFT	VORTEX-2			V2	02	01016
001730	016001	A	1191		LDA	1,B	GET DEVICE NAME			02	01017
001731	006140	A	1192		SUBT	'TY'	IS IT TY			02	01018
001732	152331	A									
001733	001010	A	1193		JAZ	DVTP1	YES			02	01019
001734	001737	R									
001735	006140	A	1194		SUBI	'CT'-'TY'	IS IT CRT			02	01020
001736	167373	A									
001737	024002	A	1195	DVTP1	LDB	DVTPA	RESTORE B			02	01021
			1196		IFF	VORTEX-2			V2	02	01022
			1197		LDX	DVTPX	RESTORE RETURN ADDRESS		V2	02	01023
001740	006705	A	1198		IJMP	0,X	RETURN			02	01024
001741	000000	A									
001742	000000	A	1199	DVTPA	DATA	0				02	01025
			1200		IFT	VORTEX-2			V2	02	01026
			1201		GOTO	ENDC11			V2	02	01027
			1202	DVTPX	DATA	0	SAVE CONTENTS OF X REG			02	01028
			1203	DSTNUM	DATA	0			V2	02	01029
			1204	DVNAME	DATA	0			V2	02	01030
			1205	ENDC11	CONT				V2	02	01031
			1206		ENT	DEBUG			V2	02	01032

ENTRY NAMES

000000	R	DEBUG									
000001	R	EXTERNAL NAMES									
001517	E	V\$EXEC	001552	E	V\$IDC	001530	E	V\$IDST			
SYMBOLS											
000701	R	A	000763	R	ANUM	001024	R	AP	000402	R	APBF
000044	A	APIM	001367	R	ASTK	000002	A	B	000000	A	B0
000001	A	B1	000012	A	B10	000013	A	B11	000014	A	B12
000015	A	B13	000016	A	B14	000017	A	B15	000002	A	B2
000003	A	B3	000004	A	B4	000005	A	B5	000006	A	B6
000007	A	B7	000010	A	B8	000011	A	B9	000412	R	BASE
000421	A	BM1	000472	A	BM17	000473	A	BM177	000477	A	BM1777
000464	A	BM3	000473	A	BM37	000463	A	BM377	000467	A	BM7
000474	A	BM77	000476	A	BM777	001025	R	BP	000700	R	BR
000441	A	BR0	000442	A	BR1	000453	A	BR10	000454	A	BR11
000455	A	BR12	000456	A	BR13	000457	A	BR14	000460	A	BR15
000443	A	BR2	000444	A	BR3	000445	A	BR4	000446	A	BR5
000447	A	BR6	000450	A	BR7	000451	A	BR8	000452	A	BR9
001020	R	BRK	000464	R	BRK1	000507	R	BRK2	000421	A	BS0
000422	A	BS1	000433	A	BS10	000434	A	BS11	000435	A	BS12
000436	A	BS13	000437	A	BS14	000440	A	BS15	000423	A	BS2
000424	A	BS3	000425	A	BS4	000426	A	BS5	000427	A	BS6
000430	A	BS7	000431	A	BS8	000432	A	BS9	001256	R	BUF
001371	R	C	001235	R	C00	001401	R	CA	001472	R	CAD
000410	R	CCNT	001424	R	CDISP	001431	R	CDISP2	001447	R	CDISP3
001460	R	CDISP4	001463	R	CDISP5	001440	R	CDISP6	001475	R	CLAST
000047	A	CLOCK	001404	R	CNCN	000251	R	CNA	000260	R	CNB
000314	R	CNB2	000321	R	CNB4	000326	R	CNC	000232	R	CNCM
000374	R	CNE	000352	R	CNF	000234	R	CNV1	000627	R	CNV2
000652	R	CNV3	000407	R	CSW	000632	R	CV2	000333	R	CV2A
000617	R	CV2B	000656	R	CV3A	000646	R	CV3B	000413	R	DEDCB1
001021	R	DEDCB2	001624	R	DEDCB3	001632	R	DEDCB4	001640	R	DEDCB5
001642	R	DEDCB6	001231	R	DEDCB7	001153	R	DEDCB8	001647	R	DEDCB9
001234	R	DEBK	000416	R	DEMSG1	001627	R	DEMSG3	001646	R	DEMSG6
001635	R	DCBXR	000000	R	DEBUG	000013	A	DI	001536	R	DICONT
001605	R	DINBF	001560	R	DINEXT	001616	R	DINJCP	001506	R	DINPT
001500	R	DINRD	001577	R	DINWD	000747	A	DISCLK	000745	R	DISAP
000444	A	DISPIM	000422	R	DMSG11	000426	R	DMSG12	000014	A	DO
001737	P	DVTP1	001742	P	DVTPA	000016	R	EEE	000424	A	EIGHT
000147	A	ENACKL	000645	A	ENAMP	000244	A	ENAPIM	000060	R	ENT
000465	A	FIVE	000423	A	FOUR	000766	R	G	000773	R	GG
001014	R	GG1	000404	R	GD	001351	R	I	001357	R	I1
000116	R	ICALL	000622	R	IXR	001020	R	JLDC	000503	R	JMPM
000300	A	LC	000050	A	LCJP	000462	A	LHW	001304	R	LDXF
000143	R	LODP	001503	R	LOHT	000045	A	MP	000045	A	MPMR0
000145	A	MPMR1	000245	A	MPMR2	000345	A	MPMR3	000420	A	MT
000461	A	NEG	000256	R	NEGA	000470	A	NINE	000733	R	NMBA
001035	R	NUM	000713	R	NUM1	001045	R	NUMA	001053	R	NUMB

001074	R	NUMC	000754	R	NUMI	001132	R	NUMK	000001	A	NW
000676	R	D	000424	A	D10	000714	R	DCON	000746	R	DCON1
000421	A	ONE	001027	R	OP	000160	R	OUT	001652	R	P
001236	R	PBUF	001664	R	PC1	001665	R	PC2	001657	R	PCEDF
001476	R	PCHK	000405	R	PCNT	000040	A	PIM1	000041	A	PIM2
000042	A	PIM3	000043	A	PIM4	000040	A	PIM5	000040	A	PIM6
000040	A	PIM7	000040	A	PIM8	000675	R	R3	001030	R	R3P
000674	R	R4	001031	R	R4P	000673	R	R5	001032	R	R5P
000672	R	R6	001033	R	R6P	000671	R	R7	001034	R	R7P
000040	A	RA0	000000	A	RA1	000060	A	RBO	000020	A	RB1
000060	R	READ1	001410	R	REGX	000463	A	RHW	000616	R	RLIMIT
000432	R	RTABLE	001156	R	S	001202	R	S3	001173	R	SA
001206	R	SB	000373	R	SBLA	001165	R	SC	001370	R	SEQ
000467	A	SEVEN	000466	A	SIX	000162	R	SDF	000442	R	T
000450	R	T1	000533	R	T2	000570	R	T3	000610	R	T4
001666	R	TABL	000002	A	TB75	000016	A	TB75B	000001	A	TB75Z
000027	A	TBATSX	000026	A	TBCPTH	000011	A	TBENTY	000003	A	TBEVNT
000021	A	TBI0	000014	A	TBISA	000015	A	TBISB	000017	A	TBISP
000020	A	TBISRS	000016	A	TBISX	000022	A	TBKN1	000023	A	TBKN2
000024	A	TBKN3	000002	A	TBPL	000004	A	TBRSA	000005	A	TBRSB
000030	A	TBRSE	000007	A	TBRSP	000010	A	TBRSTS	000006	A	TBRSX
000000	A	TBS0	000001	A	TBS1	000012	A	TBS10	000013	A	TBS11
000014	A	TBS12	000015	A	TBS13	000016	A	TBS14	000017	A	TBS15
000002	A	TBS2	000003	A	TBS3	000004	A	TBS4	000005	A	TBS5
000006	A	TBS6	000007	A	TBS7	000010	A	TBS8	000011	A	TBS9
000001	A	TBST	000025	A	TBTLC	000013	A	TBTMIN	000012	A	TBTMS
000000	A	TBTRD	000614	R	TEMP	000471	A	TEN	000464	A	THREE
000615	R	T0BF	000612	R	TRPS	000422	A	TND	000403	A	V\$1MIN
000415	A	V\$BFC	000075	A	V\$BGLB	000056	A	V\$BIC1	000315	A	V\$BTB
000414	A	V\$BVN	000334	A	V\$CAM	000353	A	V\$CKB	000411	A	V\$CKIT
000310	A	V\$CKPT	000301	A	V\$CPL	000076	A	V\$CRDM	000341	A	V\$CRDR
000354	A	V\$CRM	000302	A	V\$CRS	000360	A	V\$CTAD	000300	A	V\$CTL
000351	A	V\$CTMS	000070	A	V\$DATE	000355	A	V\$DSTB	001720	R	V\$DVTP
000376	A	V\$ERFG	001617	E	V\$EXEC	000347	A	V\$FGLB	000306	A	V\$FLRS
000350	A	V\$FREE	000320	A	V\$IN	000410	A	V\$IDA	001552	E	V\$IDC
001530	E	V\$IDST	000412	A	V\$JCB	000050	A	V\$JCFG	000077	A	V\$JCTM
000050	A	V\$JNAM	000377	A	V\$JOP	000054	A	V\$LCNT	000313	A	V\$LER
000356	A	V\$LIT	000317	A	V\$LLUP	000307	A	V\$LRSK	000312	A	V\$LSAL
000345	A	V\$LUNT	000316	A	V\$LUP	000400	A	V\$LUT1	000401	A	V\$LUT2
000402	A	V\$LUT3	000330	A	V\$MPM	000362	A	V\$NCTR	000413	A	V\$DCB
000346	A	V\$OPCF	000311	A	V\$OPCL	000363	A	V\$PIMN	000074	A	V\$PLCT
000305	A	V\$PTVB	000361	A	V\$SCTL	000352	A	V\$SCV	000375	A	V\$SLFG
000303	A	V\$TE	000342	A	V\$TBGT	000416	A	V\$TFC	000314	A	V\$TJCP
000344	A	V\$TMN	000343	A	V\$TMS	000304	A	V\$UTB	000001	A	V75
001023	R	V75FLG	000001	A	VORTEX	000000	A	W	000211	R	WHAT
000214	R	WHAT2	000001	A	X	001026	R	XP	000677	R	XR
000420	A	ZERO									

0 ERRORS ASSEMBLY COMPLETE

791	A		1132	1137							
851	AP		371	658	587	792	842				
605	APBF		533								
310	APIM		320	321							
365	B		411	413	415	419	422	489	1006	1068	1069
			1090	1173	1191						
611	BASE		530	561	564	565	573				
852	BP		372	659	843						
790	BR		1132	1137							
847	BRK		651	672							
658	BRK1		848								
669	BRK2		667								
206	BS0		336								
220	BS14		403								
958	BUF		500	961	1018	1051	1075	1090	1103	1113	
983	C		1132	1137							
953	CO0		750	769							
989	CA		1000								
1029	CAD		810	983	986	991	992	994	995	998	1001
			1004	1005	1010	1022	1026	1027			
610	CCNT		532	538	546	548	558	579	600		
1004	CDISP		987	1023	1025						
1008	CDISP2		984								
1016	CDISP3		1013	1020							
1024	CDISP5		1002								
1012	CDISP6		1009								
1030	CLAST		557	584	1016	1024					
303	CLOCK		305	306							
992	CMCN		523	1015	1017						
537	CNA		597								
544	CNB		555	571							
566	CNB2		572								
570	CNB4		567								
573	CNC		563								
523	CNCM		506								
600	CNE		545								
585	CNF		575	577	582	601					
524	CNV1		515	815	822						
740	CNV2		527	539	686	803	914	948			
764	CNV3		435	540	569	595	683	690	711	877	881
			945								
609	CSN		542	586							

798	DCON	796	1007							
812	DCON1	809								
241	ONE	516								
854	OP	377	663	693	832					
500	OUT	482	485	496						
1115	P	335	335	336	1133	1138				
385	P2A	382								
391	P2B	388								
1166	P2C	1163								
1186	P2D	1183								
954	PBUF	604	869	872	878	880	882	887	888	891
		902	904	928	930	931	933	934	935	946
		1048								
1121	PC1	1115								
1122	PC2	1118								
1118	PCEOF	1054	1054							
1033	PCHK	641	828	868	924	967	1036			
608	PCNT	534	536	591	593	594	603	1012		
786	R3	1132								
857	R3P	430	668	708	839					
785	R4	1132								
858	R4P	430	668	839						
784	R5	1132								
859	R5P	430	668	839						
783	R6	1133								
860	R6P	430	668	839						
782	R7	1133								
861	R7P	430	668	706	839					
439	READ1	437								
995	REGX	794								
240	RHW	457	1072	1176						
724	RLIMIT	707	714							
625	RTABLE	487								
922	S	1133	1138							
938	S3	923								
933	SA	950								
941	SB	932								
599	SBLA	554								
928	SC	937	940							
502	SDF	478								
640	T	1133	1138							
644	T1	640								
688	T2	694								
709	T3	715								
717	T4	701								
1132	TABL	511								
81	TE75	402	419							
82	TE75B	419								
83	TE75Z	419								
27	TEBNTY	422								
36	TEKN1	393	411							
37	TEKN2	395	413							
38	TEKN3	397	415							
721	TEMP	543	566	585	688	691	709	712		
250	TEN	925								
243	THREE	1179								
722	TOBF	679	702							
720	TRPS	646	648	671	676					
242	TWO	922	1081							
131	V\$CPL	1080								
130	V\$CTL	387	410							
0	V\$DEBU	12								
162	V\$DSTB	1178								
1157	V\$DVTP	443								
185	V\$JCB	1088								
174	V\$JOP	1083								
175	V\$LUT1	381	452	1067	1160					
2	V75	331	399	417	425	463	619	664	696	723
		780	834	849	855	1108	1127	1135		
850	V75FLG	404	420	428	477	666	700	836		
1	VORTEX	378	408	423	445	450	455	617	1060	1065
		1070	1097	1158	1161	1170	1174	1180	1190	1196
		1200								
366	W	441	521	695	716	804	886	915	949	1053
		1074								
516	WHAT	583	598	795	820	993	1037			
518	WHAT2	510	514	1082	1084					
364	X	443	453	454	490	492	494	681	704	801
		875	912	943	1049	1076	1091	1198		
853	XP	373	660	844						
789	XR	1133	1138							