VOLUME 02A MACHINE 3705- -0015984 MODEL E08 SYSTEM 0004XBW MODE BOX SHIP 82/12/30

LOGIC TYPE -0- SYSTEMS DIAGRAMS

PAGE NUM	SH	TITLE	PART NUM	EC NUM	FEATURE B/M OR B/MS
CW000		CENTRAL CONTROL UNIT	0001785373	319139	.W. 0001750039
CW001		CENTRAL CONTROL UNIT	0001750202	315053	.W. 0001750039
CW011		CENTRAL CONTROL UNIT	0001750203	315053	.W. 0001750039
CW012		CENTRAL CONTROL UNIT	0001750204	315053	.W. 0001750039
CW050		CENTRAL CONTROL UNIT	0001785374	309949	.W. 0001750039
CW051		CENTRAL CONTROL UNIT	0001785375	309538	.W. 0001750039
CW101		CENTRAL CONTROL UNIT	0001785320	309538	.W. 0001750039
CW102		CENTRAL CONTROL UNIT	0001785321	309538	.W. 0001750039
CW103		CENTRAL CONTROL UNIT	0001785322	309538	.W. 0001750039
CW104		CENTRAL CONTROL UNIT	0001785323	309538	.W. 0001750039
CW105		CENTRAL CONTROL UNIT	0001785324	309538	.W. 0001750039
CW106		CENTRAL CONTROL UNIT	0001785325	309538	.W. 0001750039
CW107		CENTRAL CONTROL UNIT	0001785326	309538	.W. 0001750039
CW108		CENTRAL CONTROL UNIT	0001785327	309538	.W. 0001750039
CW109		CENTRAL CONTROL UNIT	0001785328	309538	.W. 0001750039
CW110		CENTRAL CONTROL UNIT	0001785329	309538	.W. 0001750039
CW111		CENTRAL CONTROL UNIT	0001785330	309538	.W. 0001750039
CW112		CENTRAL CONTROL UNIT	0001785331	309538	.W. 0001750039
CW113		CENTRAL CONTROL UNIT	0001785332	309538	.W. 0001750039
CW114		CENTRAL CONTROL UNIT	0001785333	309538	.W. 0001750039
CW115		CENTRAL CONTROL UNIT	0001785334	309538	.W. 0001750039
CW116		CENTRAL CONTROL UNIT	0001785335	309538	.W. 0001750039
CW117		CENTRAL CONTROL UNIT	0001785336	309538	.W. 0001750039
CW118		CENTRAL CONTROL UNIT	0001785337	309538	.W. 0001750039
CW119		CENTRAL CONTROL UNIT	0001785338	309538	.W. 0001750039
CW120		CENTRAL CONTROL UNIT	0001785339	309538	.W. 0001750039
CW121		CENTRAL CONTROL UNIT	0001785340	309538	.W. 0001750039
CW122		CENTRAL CONTROL UNIT	0001785341	309538	.W. 0001750039
CW123		CENTRAL CONTROL UNIT	0001785342	309538	.W. 0001750039
CW124		CENTRAL CONTROL UNIT	0001785343	309538	.W. 0001750039
CW150		CENTRAL CONTROL UNIT	0001785376	309538	.W. 0001750039
CW151		CENTRAL CONTROL UNIT	0001785377	309949	.W. 0001750039
CW201		CENTRAL CONTROL UNIT	0001785344	309538	.W. 0001750039
CW202		CENTRAL CONTROL UNIT	0001785345	309538	.W. 0001750039
CW203		CENTRAL CONTROL UNIT	0001785346	309538	.W. 0001750039
CW204		CENTRAL CONTROL UNIT	0001785347	309538	.W. 0001750039
CW205		CENTRAL CONTROL UNIT	0001785348	309538	.W. 0001750039
CW206		CENTRAL CONTROL UNIT	0001785349	309538	.W. 0001750039
CW207		CENTRAL CONTROL UNIT	0001785350	309538	.W. 0001750039
CW208		CENTRAL CONTROL UNIT	0001785351	309538	.W. 0001750039
CW209		CENTRAL CONTROL UNIT	0001785352	309538	.W. 0001750039
CW210		CENTRAL CONTROL UNIT	0001785353	309538	.W. 0001750039

VOLUME 02A MACHINE 3705- -0015984 MODEL E08 SYSTEM 0004XBW MODE BOX SHIP 82/12/30

LOGIC TYPE -0- SYSTEMS DIAGRAMS

PAGE NUM	SH	TITLE	PART NUM	EC NUM	FEATURE B/M OR B/MS			
CW211		CENTRAL CONTROL UNIT	0001785354	309538	.W.	0001750039		
CW212		CENTRAL CONTROL UNIT	0001785355	309538	.W.	0001750039		
CW213		CENTRAL CONTROL UNIT	0001785356	309538	.W.	0001750039		
CW214		CENTRAL CONTROL UNIT	0001785357	309538	.W.	0001750039		
CW215		CENTRAL CONTROL UNIT	0001785358	309538	.W.	0001750039		
CW216		CENTRAL CONTROL UNIT	0001785359	309538	.W.	0001750039		
CW217		CENTRAL CONTROL UNIT	0001785360	309538	.W.	0001750039		
CW218		CENTRAL CONTROL UNIT	0001785361	309538	.W.	0001750039		
CW219		CENTRAL CONTROL UNIT	0001785362	309538	.W.	0001750039		
CW220		CENTRAL CONTROL UNIT	0001785363	309538	.W.	0001750039		
CW301		CA TYPE 1 & 2 ROS IN	0001785364	309538	.W.	0001750039		
CW302		CA TYPE 1 & 2 ROS IN	0001785365	309538	.W.	0001750039		
CW303		CA TYPE 1 & 2 ROS IN	0001785366	309538	.W.	0001750039		
CW304		CA TYPE 1 & 2 ROS IN	0001785367	309538	.W.	0001750039		
CW305		CA TYPE 1 & 2 ROS IN	0001785368	309538	.W.	0001750039		
CW306		CA TYPE 1 & 2 ROS IN	0001785369	309538	.W.	0001750039		
CW307		CA TYPE 1 & 2 ROS IN	0001785370	309538	.W.	0001750039		
CW308		CA TYPE 1 & 2 ROS IN	0001785371	309538	.W.	0001750039		
CW309		CA TYPE 1 & 2 ROS IN	0001785372	309538	.W.	0001750039		
CW500		CA4 N-TYPE ROS	0001749500	316673	.W.	0001750039	.W.	0001648305
CW501		CA4 N-TYPE ROS	0001749501	316673	.W.	0001750039	.W.	0001648305
CW502		CA4 N-TYPE ROS	0001749502	316673	.W.	0001750039	.W.	0001648305
CW503		CA4 N-TYPE ROS	0001749503	316673	.W.	0001750039	.W.	0001648305
CW504		CA4 N-TYPE ROS	0001749504	316673	.W.	0001750039	.W.	0001648305
CW505		CA4 N-TYPE ROS	0001749505	316673	.W.	0001750039	.W.	0001648305
CW506		CA4 N-TYPE ROS	0001749506	316673	.W.	0001750039	.W.	0001648305
CW507		CA4 N-TYPE ROS	0001749507	316673	.W.	0001750039	.W.	0001648305
CW508		CA4 N-TYPE ROS	0001749508	316673	.W.	0001750039	.W.	0001648305
CW509		CA4 N-TYPE ROS	0001749509	316673	.W.	0001750039	.W.	0001648305
CW510		CA4 N-TYPE ROS	0001749510	316673	.W.	0001750039	.W.	0001648305
CW511		CA4 N-TYPE ROS	0001749511	316673	.W.	0001750039	.W.	0001648305
CW512		CA4 N-TYPE ROS	0001749512	316673	.W.	0001750039	.W.	0001648305
CW513		CA4 N-TYPE ROS	0001749513	316673	.W.	0001750039	.W.	0001648305
CW514		CA4 N-TYPE ROS	0001749514	316673	.W.	0001750039	.W.	0001648305
CW515		CA4 N-TYPE ROS	0001749515	316673	.W.	0001750039	.W.	0001648305
CW516		CA4 N-TYPE ROS	0001749516	316673	.W.	0001750039	.W.	0001648305
CW517		CA4 N-TYPE ROS	0001749517	316673	.W.	0001750039	.W.	0001648305
CW518		CA4 N-TYPE ROS	0001749518	316673	.W.	0001750039	.W.	0001648305
CW519		CA4 N-TYPE ROS	0001749519	316673	.W.	0001750039	.W.	0001648305
CW520		CA4 N-TYPE ROS	0001749520	316673	.W.	0001750039	.W.	0001648305
CW521		CA4 N-TYPE ROS	0001749521	316673	.W.	0001750039	.W.	0001648305
CW522		CA4 N-TYPE ROS	0001749522	316673	.W.	0001750039	.W.	0001648305

VOLUME 02A MACHINE 3705- -0015984 MODEL E08 SYSTEM 0004XBW MODE BOX SHIP 82/12/30

LOGIC TYPE -0- SYSTEMS DIAGRAMS

PAGE NUM	SH	TITLE	PART NUM	EC NUM	FEATURE B/M OR B/MS			
CW523		CA4 N-TYPE ROS	0001749523	316673	.W.	0001750039	.W.	0001648305
CW524		CA4 N-TYPE ROS	0001749524	316673	.W.	0001750039	.W.	0001648305
CW525		CA4 N-TYPE ROS	0001749525	316673	.W.	0001750039	.W.	0001648305
CW526		CA4 N-TYPE ROS	0001749526	316673	.W.	0001750039	.W.	0001648305
CW527		CA4 N-TYPE ROS	0001749527	316673	.W.	0001750039	.W.	0001648305
CW528		CA4 N-TYPE ROS	0001749528	316673	.W.	0001750039	.W.	0001648305
CW529		CA4 N-TYPE ROS	0001749529	316673	.W.	0001750039	.W.	0001648305
CW530		CA4 N-TYPE ROS	0001749530	316673	.W.	0001750039	.W.	0001648305
CW531		CA4 N-TYPE ROS	0001749531	316673	.W.	0001750039	.W.	0001648305
CW532		CA4 N-TYPE ROS	0001749532	316673	.W.	0001750039	.W.	0001648305
CX001		CENTRAL CONTROL UNIT	0001750205	315053	.W.	0001750039		
CX002		CENTRAL CONTROL UNIT	0005997663	309545	.W.	0001750039		
CX003		CENTRAL CONTROL UNIT	0005997664	309533	.W.	0001750039		
CX004		CENTRAL CONTROL UNIT	0005997665	309545	.W.	0001750039		
CX005		CENTRAL CONTROL UNIT	0005997666	309545	.W.	0001750039		
CX006		CENTRAL CONTROL UNIT	0005997667	309545	.W.	0001750039		
CX007		CENTRAL CONTROL UNIT	0005997668	309548	.W.	0001750039		
CX008		CENTRAL CONTROL UNIT	0005997669	309545	.W.	0001750039		
CX009		CENTRAL CONTROL UNIT	0005997670	309533	.W.	0001750039		
CX010		CENTRAL CONTROL UNIT	0005997671	309545	.W.	0001750039		
CX011		CENTRAL CONTROL UNIT	0005997672	309545	.W.	0001750039		
CZ001		CENTRAL CONTROL UNIT	0001750206	315053	.W.	0001750039		
CZ002		CENTRAL CONTROL UNIT	0001750207	315053	.W.	0001750039		
CZ003		CENTRAL CONTROL UNIT	0001750208	315053	.W.	0001750039		
CZ004		CENTRAL CONTROL UNIT	0005997676	315053	.W.	0001750039		
CZ005		CENTRAL CONTROL UNIT	0005997677	310268	.W.	0001750039		

TOTAL PART NUMBERS THIS VOLUME 110

C	1785373

PART NO	LOGIC PG NO
1785373	CW000

CHANNEL ADAPTER ROS BOOTSTRAP LOADER REFERENCE MATERIAL

I. CHANNEL ADAPTER TYPE 1 ROS LOADER

1. THIS ROS IS PRESENT IN 3705 WITH FEATURE BILL OF MATERIAL 5997484 - CA TYPE 1 ROS.
2. CARD P.N. 8211470 MUST BE PRESENT IN 01A-B4F2.
3. ROS FLOW CHARTS - CW050 - CW051
4. PROGRAM LISTINGS - CW101 - CW124
5. ROS INSTRUCTION TEST SIMULATION RUN LISTING - CW301 - CW309

II. CHANNEL ADAPTER TYPE 2 ROS LOADER

1. THIS ROS IS PRESENT IN 3705 WITH FEATURE BILL OF MATERIAL 5997485 - CA TYPE 2 ROS.
2. CARD P.N. 8211471 MUST BE PRESENT IN 01A-B4F2.
3. ROS FLOW CHARTS - CW150 - CW151
4. PROGRAM LISTINGS - CW201 - CW220
5. ROS INSTRUCTION TEST SIMULATION RUN LISTING - CW301 - CW309

III. DUAL CHANNEL ADAPTER ROS LOADER.

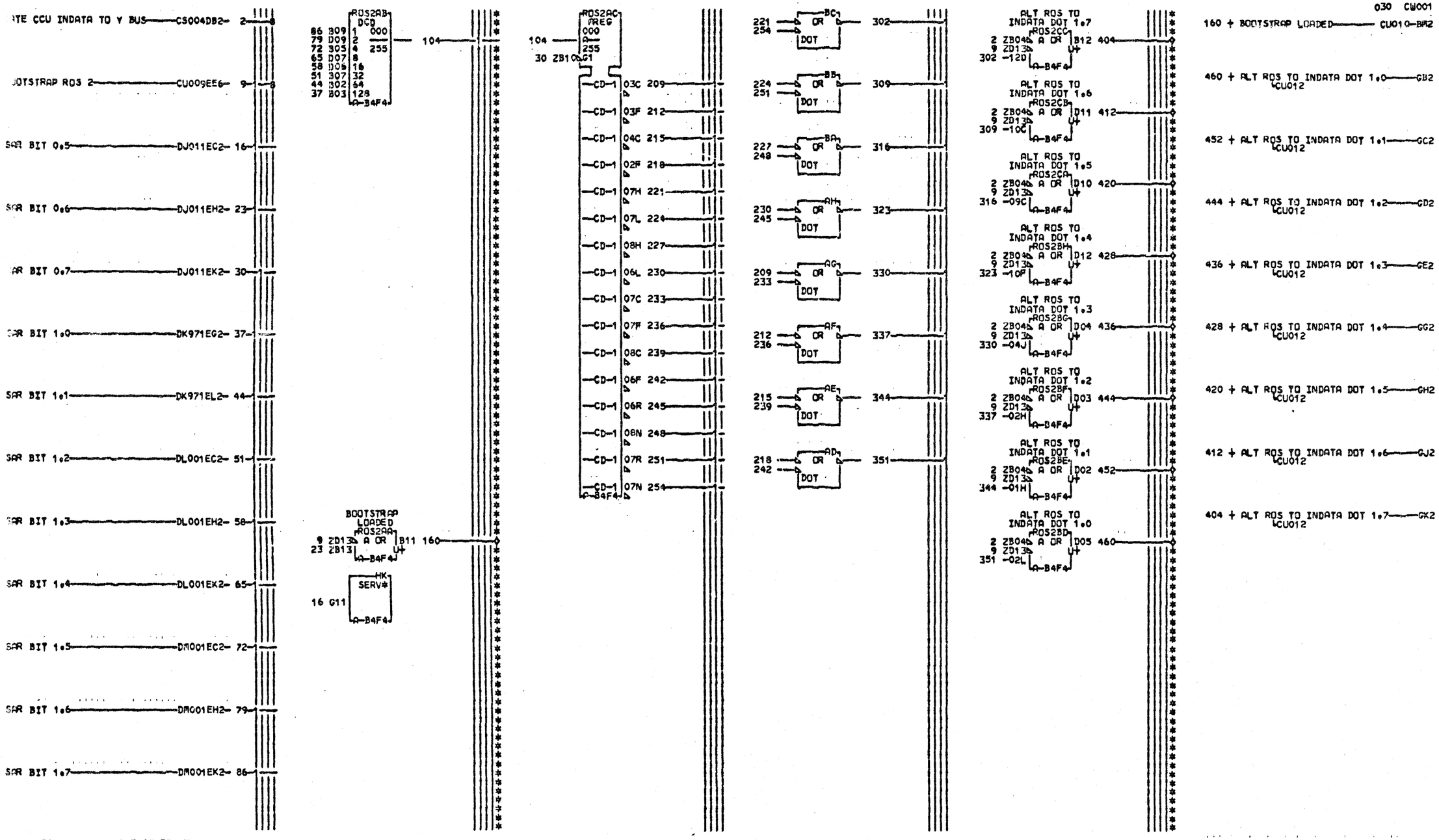
1. THIS ROS IS PRESENT IN 3705 WITH FEATURE BILL OF MATERIAL 5997486 - DUAL CA ROS.
2. CARD P/N 8254580 MUST BE PRESENT IN 01A-B4F2.
3. ROS FLOW CHARTS - CW350 THRU CW355.
4. PROGRAM LISTINGS - CW401 - CW434
5. ROS INSTRUCTION TEST SIMULATION RUN LISTING - CW301 - CW309

IV. TYPE 4 CHANNEL ADAPTER 'N' ROS LOADER

1. THIS ROS IS PRESENT IN 3705 WITH FEATURE BILL OF MATERIAL 1648305-'N' CA ROS.
2. CARD P.N. 8252028 MUST BE PRESENT IN 01A-B4F2.
3. ROS FLOW CHARTS - CW500
4. PROGRAM LISTING - CW501
5. ROS INSTRUCTION TEST SIMULATION RUN LISTING - CW301

IBM									
NAME	3705 ROS REFERENCE				DATE	CHANGE NO		DATE	CHANGE NO
					MAR72	309538		DEC78	319139
					FEB73	309936			
DESIGN			SHT OF		OCT73	310275			
DETAIL	VR	MAR72			JAN77	316673			
CHECK			CLASSIFICATION		MUST CONFORM TO ENG SPEC		DEVELOPMENT NO	LOGIC PG NO	
APPRO								CW000	

1785373 C



THIS PAGE IS FOR 3705-II ONLY.

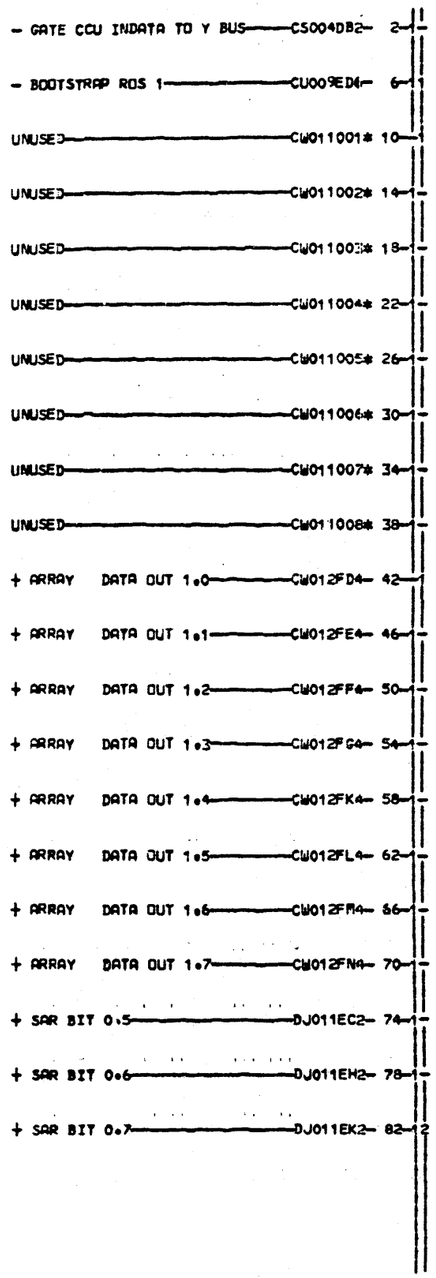
LOC. TYPE
A-B4F4 2937

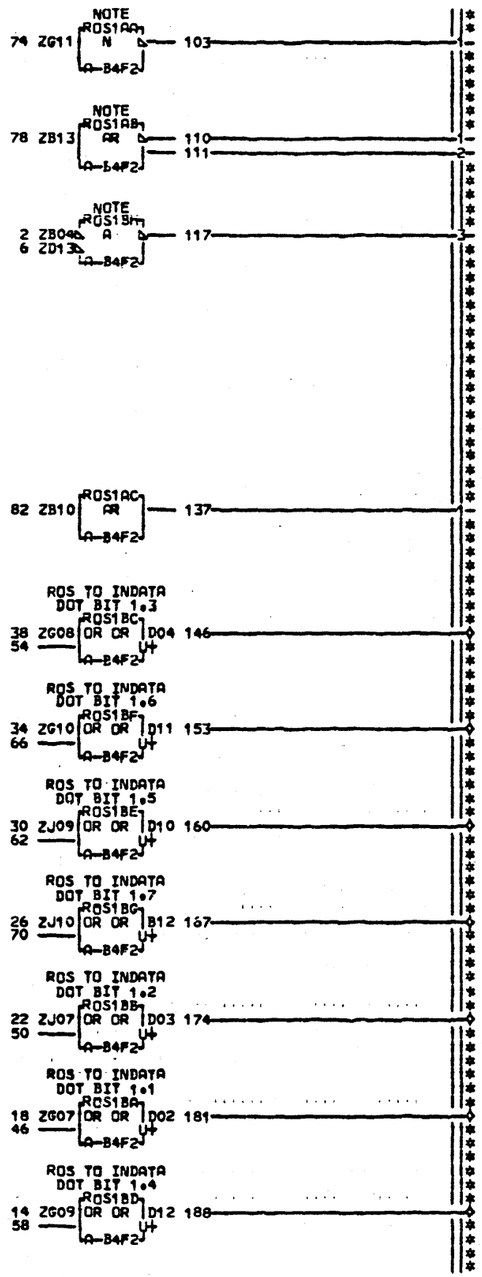
ALTERNATE ROS FEATURE

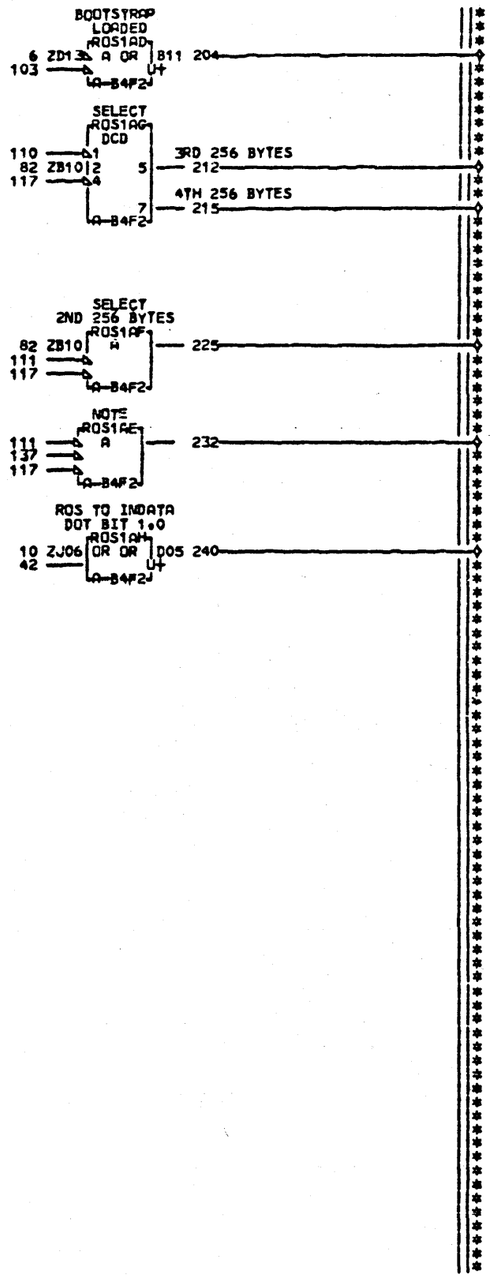
E.C.-HISTORY-D	MACH.27RNB
312922	
314419	FRAME 01
	IBM CORP.SDD CW001
DATE LAST EC	P.N. 1750202 030
10-06-76 315053	

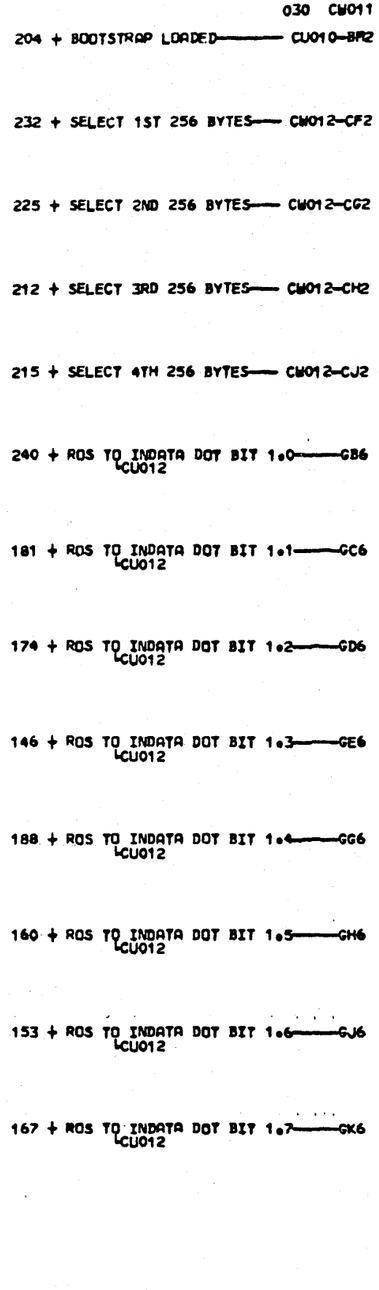
001

30 SIM TO PN 5997659 EC 310268









THIS PAGE IS FOR 3705-II ONLY.
NOTE CARD 2936 IS PSUEDO.

	CONFIGURE	CARD	SIZE	SOCKETS
	CA TYPE 1	7593	1W	F2
	CA TYPE 2	7594	1W	F2
	DUAL CA	7595	2W	F2+F3
	REMOTE	X282	2W	F2+F3

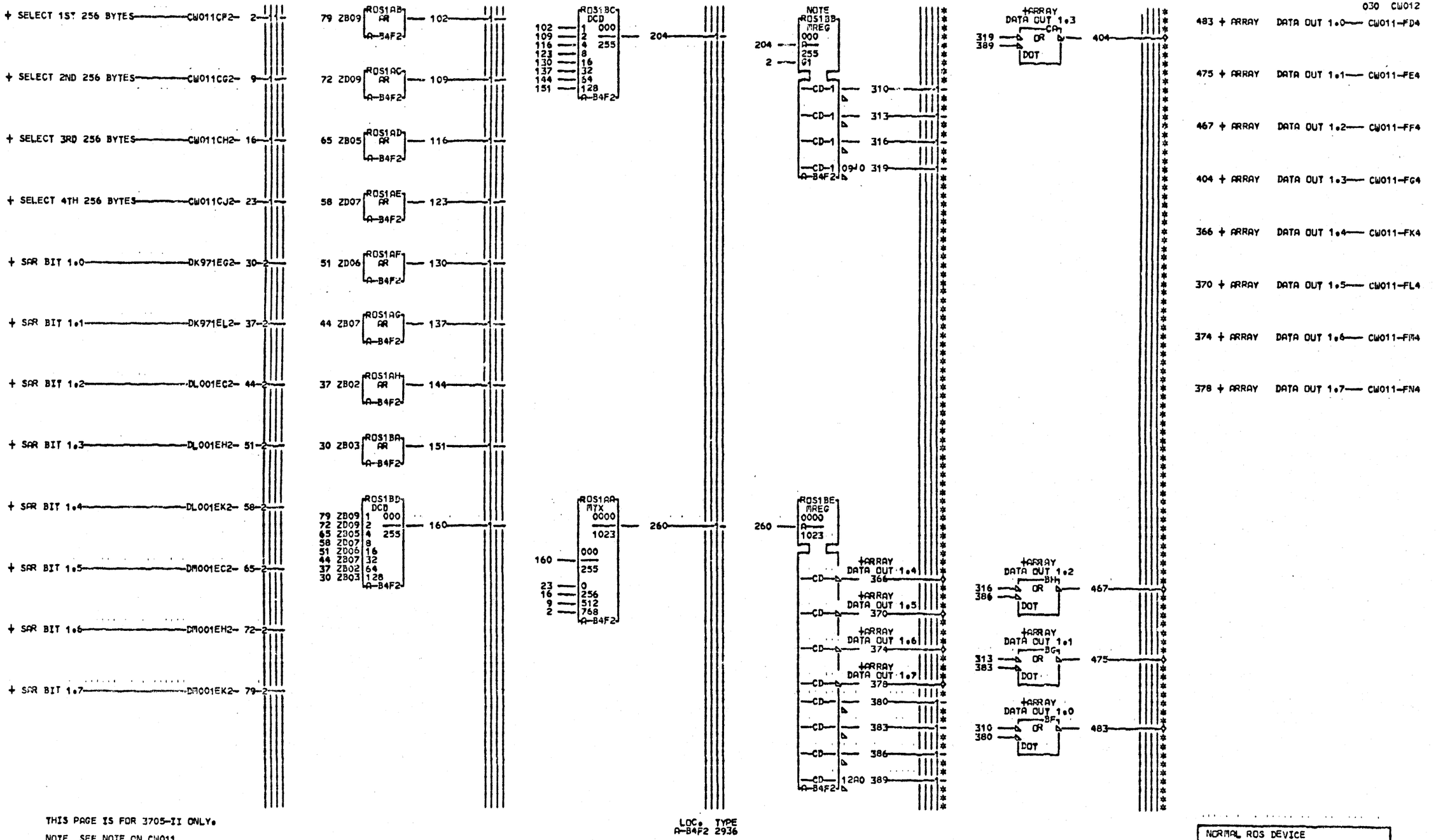
CW011 FOR REMOTE ROS PGM SEE CC000
FOR 1W SOCKET LOGIC SEE CW001
030 SIM TO PN 5997660 EC 310268

EDGE CONN.
10 RESISTOR A-B4F2J06
14 RESISTOR A-B4F2G09
18 RESISTOR A-B4F2G07
22 RESISTOR A-B4F2J07
26 RESISTOR A-B4F2J10
30 RESISTOR A-B4F2J09
34 RESISTOR A-B4F2G10
38 RESISTOR A-B4F2G08

LOC. TYPE
A-B4F2 2936

NORMAL ROS DEVICE

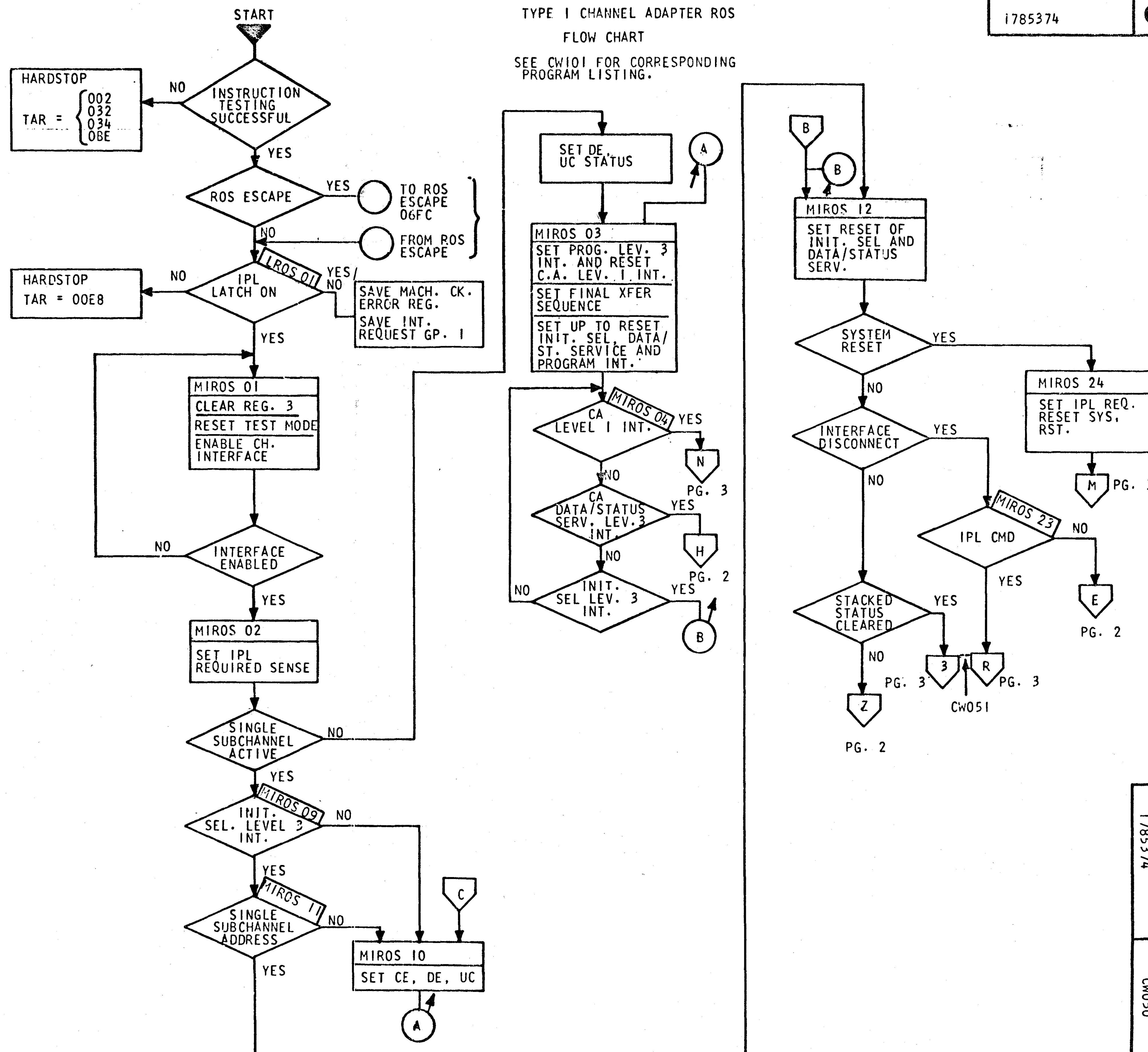
E.C.-HISTORY-D	MACH.27RNB
312922	
314419	FRAME 01
	IBM CORP.SDD CW011
DATE LAST EC	P.N. 1750203 030
10-06-76 315053	


+ SELECT 1ST 256 BYTES
CW011CP2- 2
+ SELECT 2ND 256 BYTES
CW011CG2- 9
+ SELECT 3RD 256 BYTES
CW011CH2- 16
+ SELECT 4TH 256 BYTES
CW011CJ2- 23
+ SAR BIT 1.0
DK971EG2- 30
+ SAR BIT 1.1
DK971EL2- 37
+ SAR BIT 1.2
DL001EC2- 44
+ SAR BIT 1.3
DL001EH2- 51
+ SAR BIT 1.4
DL001EK2- 58
+ SAR BIT 1.5
DM001EC2- 65
+ SAR BIT 1.6
DM001EH2- 72
+ SAR BIT 1.7
DM001EK2- 79
79 ZB09 ROS1AB AR A-B4F2 102
72 ZD09 ROS1AC AR A-B4F2 109
65 ZB05 ROS1AD AR A-B4F2 116
58 ZD07 ROS1AE AR A-B4F2 123
51 ZD06 ROS1AF AR A-B4F2 130
44 ZB07 ROS1AG AR A-B4F2 137
37 ZB02 ROS1AH AR A-B4F2 144
30 ZB03 ROS1BA AR A-B4F2 151
ROS1BD DCD
79 ZB09 1 000
72 ZD09 2
65 ZB05 4 255
58 ZD07 8
51 ZD06 16
44 ZB07 32
37 ZB02 64
30 ZB03 128
A-B4F2 160
ROS1BC DCD
102 1 000
109 2
116 4 255
123 8
130 16
137 32
144 64
151 128
A-B4F2 204
ROS1AA MTX 0000 1023
000 255
0 256 512 768
A-B4F2 260
NOTE
ROS1BB MREG
204 000
2 255
G1
CD-1 310
CD-1 313
CD-1 316
CD-1 319
A-B4F2
ROS1BE MREG 0000 1023
260
ARRAY DATA OUT 1.4 366
ARRAY DATA OUT 1.5 370
ARRAY DATA OUT 1.6 374
ARRAY DATA OUT 1.7 378
380
383
386
389
A-B4F2
ARRAY DATA OUT 1.3
319
389
OR
DOT
404
ARRAY DATA OUT 1.2
316
386
467
ARRAY DATA OUT 1.1
313
383
475
ARRAY DATA OUT 1.0
310
380
483
030 CW012
483 + ARRAY DATA OUT 1.0 CW011-FD4
475 + ARRAY DATA OUT 1.1 CW011-FE4
467 + ARRAY DATA OUT 1.2 CW011-FF4
404 + ARRAY DATA OUT 1.3 CW011-FG4
366 + ARRAY DATA OUT 1.4 CW011-FK4
370 + ARRAY DATA OUT 1.5 CW011-FL4
374 + ARRAY DATA OUT 1.6 CW011-FM4
378 + ARRAY DATA OUT 1.7 CW011-FN4
LOC. TYPE
A-B4F2 2936
THIS PAGE IS FOR 3705-II ONLY.
NOTE SEE NOTE ON CW011
CW012
030 SIM TO PN 5997661 EC 310268
NORMAL ROS DEVICE
E.C. HISTORY
312922
314419
DATE LAST EC
10-06-76 315053
MACH.27RNB
FRAME 01
IBM CORP. SDD
P.N. 1750204
CW012
030

1785374 C

TYPE I CHANNEL ADAPTER ROS
FLOW CHART

SEE CW101 FOR CORRESPONDING PROGRAM LISTING.



START
INSTRUCTION TESTING SUCCESSFUL
NO
HARDSTOP
TAR = 002 032 034 0BE
YES
ROS ESCAPE
YES
TO ROS ESCAPE 06FC
FROM ROS ESCAPE
NO
IPL LATCH ON
LROS 01
YES/NO
SAVE MACH. CK. ERROR REG.
SAVE INT. REQUEST GP. 1
HARDSTOP
TAR = 00E8
MIROS 01
CLEAR REG. 3
RESET TEST MODE
ENABLE CH. INTERFACE
INTERFACE ENABLED
MIROS 02
SET IPL REQUIRED SENSE
SINGLE SUBCHANNEL ACTIVE
MIROS 09
INIT. SEL. LEVEL 3 INT.
MIROS 11
SINGLE SUBCHANNEL ADDRESS
MIROS 10
SET CE, DE, UC
SET DE, UC STATUS
MIROS 03
SET PROG. LEV. 3 INT. AND RESET C.A. LEV. 1 INT.
SET FINAL XFER SEQUENCE
SET UP TO RESET INIT. SEL. DATA/ ST. SERVICE AND PROGRAM INT.
MIROS 04
CA LEVEL 1 INT.
PG. 3
CA DATA/STATUS SERV. LEV. 3 INT.
PG. 2
INIT. SEL LEV. 3 INT.
MIROS 12
SET RESET OF INIT. SEL AND DATA/STATUS SERV.
SYSTEM RESET
MIROS 24
SET IPL REQ. RESET SYS. RST.
INTERFACE DISCONNECT
MIROS 23
IPL CMD
STACKED STATUS CLEARED
CW051

NAME	CHANNEL ADAPTER TYPE I	DATE	CHANGE NO
DESIGN	ROS FLOW CHARTS - PAGE 1	MAR72	309538
DETAIL	VR MAR72	FEB73	309949
CHECK			
APPRO			
SHT 1 OF 2			

MUST CONFORM TO ENG SPEC

DEVELOPMENT NO

LOGIC PG NO CW050

PART NO 1785374

LOGIC PG NO CW050

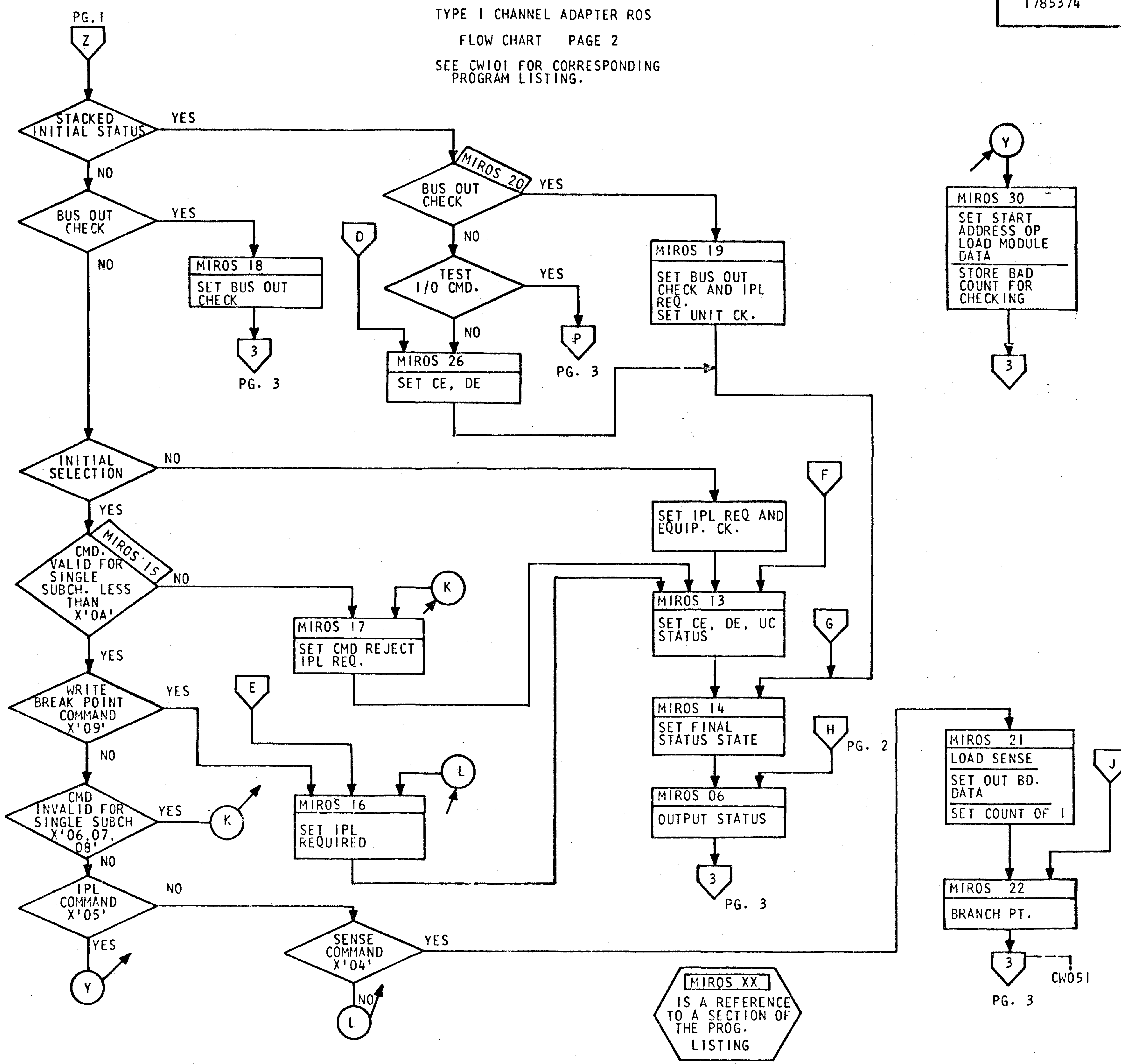
1785374 C

1785374 | C

TYPE I CHANNEL ADAPTER ROS

FLOW CHART PAGE 2

SEE CW101 FOR CORRESPONDING PROGRAM LISTING.



NAME	CHANNEL ADAPTER TYPE I
	ROS FLOW CHARTS - PAGE 2
DESIGN	SHT 2 OF 2
DETAIL	VR MAR72
CHECK	CLASSIFICATION
APPRO	

DATE	CHANGE NO
MAR72	309538
FEB73	309949

MUST CONFORM TO ENG SPEC

DEVELOPMENT NO

LOGIC PG NO CW050

C 1785374

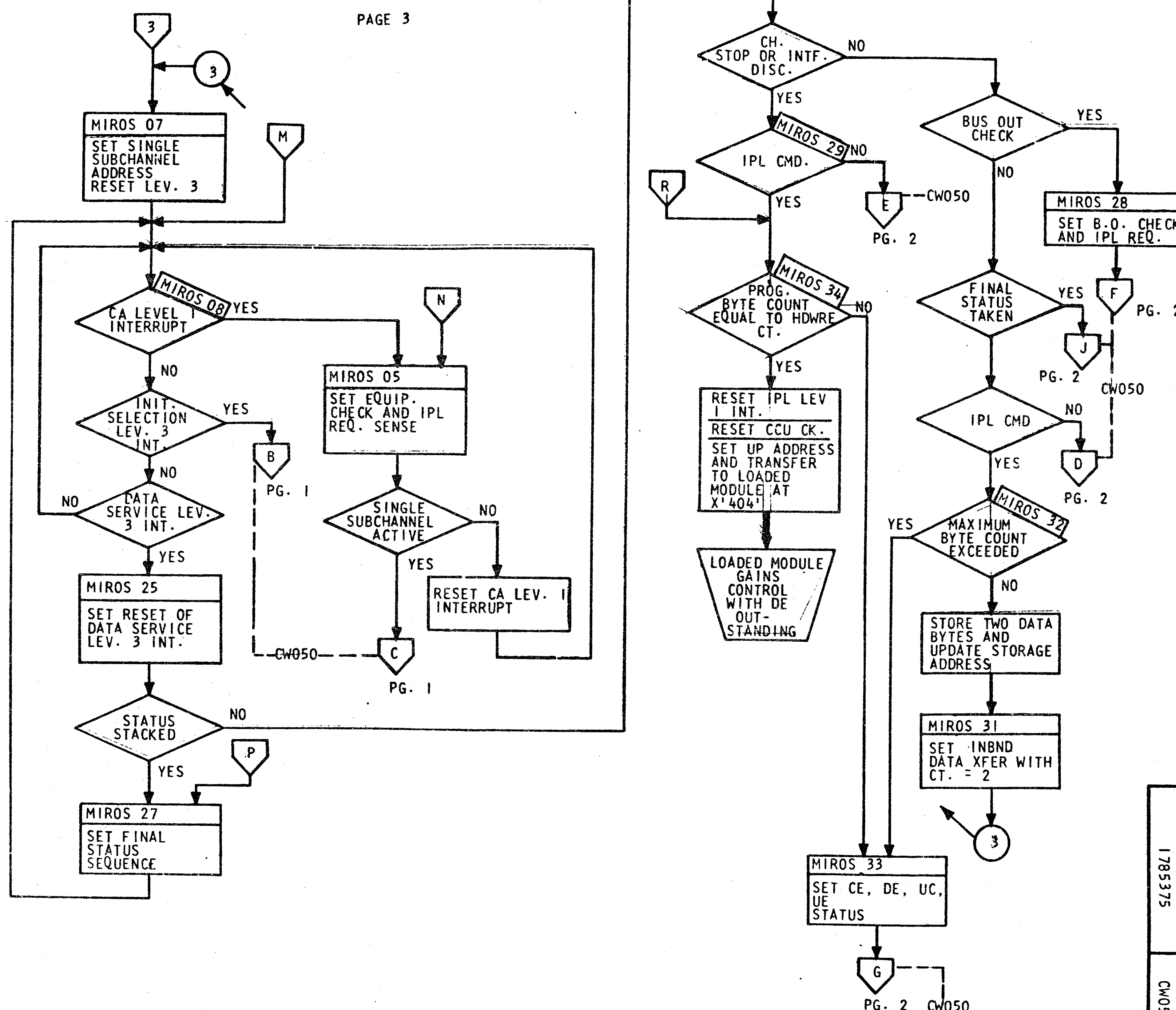
PART NO 1785374

LOGIC PG NO CW050

1785375 C

TYPE I CHANNEL ADAPTER ROS FLOW CHART

PAGE 3



NAME	CHANNEL ADAPTER TYPE I	DATE	MAR72
	ROS FLOW CHARTS PAGE 3	CHANGE NO	309538
DESIGN		SHT OF	
DETAIL	VR	MAR72	
CHECK		CLASSIFICATION	
APPRO			

MUST CONFORM TO ENG SPEC

DEVELOPMENT NO

LOGIC PG NO CW051

1785375 C

PART NO 1785375

LOGIC PG NO CW051

```
LOC    OBJ CODE          R1S1M R2S2 ADDR  STMT  SOURCE STATEMENT                                              DOS CL3-6 02/24/72
                                            2 *******************************************************************  AROS0002
                                            3 *                                                                 *  AROS0003
                                            4 *        M I N I   C H A N N E L   R O S   C O D E                *  AROS0004
                                            5 *                                                                 *  AROS0005
                                            6 *        THIS ROUTINE WILL HANDLE THE IPL FUNCTION FOR THE       *  AROS0006
                                            7 *        MINI CHANNEL ADAPTER.                                    *  AROS0007
                                            8 *                                                                 *  AROS0008
                                            9 *******************************************************************  AROS0009

000000                                     12 SROS     START X'00000'                                             AROS0012
000000                                     13 RELOCF   EQU   X'00000'                                             AROS0013
000000 7004700470047004                    14          DC    128X'7004'           OUTPUT STOP FILLERS             AROS0014
000100 7004700470047004                    15          DC    128X'7004'           OUTPUT STOP FILLERS             AROS0015
000200 7004700470047004                    16          DC    128X'7004'           OUTPUT STOP FILLERS             AROS0016
000300 7004700470047004                    17          DC    128X'7004'           OUTPUT STOP FILLERS             AROS0017
000000                                     18          ORG   SROS+RELOCF                                          AROS0018
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                                    23 *  INSTRUCTION EXECUTION STARTS AT ADDRESS X'0010'                  AROS0023




                                    28 *      THIS IS PART OF BRANCH ON BIT TEST                           AROS0028

000000                              30 SMINST   EQU   *                                                    AROS0030
000000 7004       0    70           31          OUT   0,STOP          BRANCH TO ZERO OCCURED               AROS0031

000002                              33 TEST01   EQU   *                                                    AROS0033
000002 F6FF       7(0)              34          TRM   R7(0),X'FF'     HAVE WE FINISHED BRANCH ON BIT TEST  AROS0034
000004 98B8                 000BE   35          BCL   SMIN01         YES, BRANCH OUT OF TEST              AROS0035

000006 80CE       1(0)              37          LRI   R1(0),X'CE'     SET UP BRANCH ON BIT INSTRUCTION     AROS0037
000008 810B       1(1)              38          LRI   R1(1),X'0B'     SET UP BRANCH ON BIT INSTRUCTION     AROS0038
00000A 86FF       7(0)              39          LRI   R7(0),X'FF'     SET ALL BITS ON IN REG 7             AROS0039
00000C 87FF       7(1)              40          LRI   R7(1),X'FF'     SET ALL BITS ON IN REG 7             AROS0040
00000E A8A2                 000B2   41          B     TEST06                                               AROS0041
```

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                                    45 *  START OF ROS CONTAINED CODE FOR MINI CHANNEL ADAPTER (TYPE 1)      AROS0045

                                    47 *  THE FOLLOWING INSTRUCTIONS CORRECT PARITY AND SAVE THE GROUP      AROS0047
                                    48 *  ZERO REGISTERS                                                    AROS0048

000010                              51 STARTMI  EQU   *                                                     AROS0051
000010 0082       0     0           52         ST    R0,0(R0)       SAVE LEV 1 IAR                       AROS0052
000012 0014       0     01          53         OUT   R0,X'01'       SET GOOD PARITY IN R1                AROS0053
000014 0186       1     0           54         ST    R1,4(R0)       SAVE R1                              AROS0054

000016 0024       0     02          56         OUT   R0,X'02'       SET GOOD PARITY IN R2                AROS0056
000018 028A       2     0           57         ST    R2,8(R0)       SAVE R2                              AROS0057

00001A 0034       0     03          59         OUT   R0,X'03'       SET GOOD PARITY IN R3                AROS0059
00001C 038E       3     0           60         ST    R3,12(R0)      SAVE R3                              AROS0060

00001E 0044       0     04          62         OUT   R0,X'04'       SET GOOD PARITY IN R4                AROS0062
000020 0492       4     0           63         ST    R4,16(R0)      SAVE R4                              AROS0063

000022 0054       0     05          65         OUT   R0,X'05'       SET GOOD PARITY IN R5                AROS0065
000024 0596       5     0           66         ST    R5,20(R0)      SAVE R5                              AROS0066

000026 0064       0     06          68         OUT   R0,X'06'       SET GOOD PARITY IN R6                AROS0068
000028 069A       6     0           69         ST    R6,24(R0)      SAVE R6                              AROS0069

00002A 0074       0     07          71         OUT   R0,X'07'       SET GOOD PARITY IN R7                AROS0071
00002C 079E       7     0           72         ST    R7,28(R0)      SAVE R7                              AROS0072
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LOC    OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT

                                    75 *      THE FOLLOWING INSTRUCTIONS TEST THE BRANCH, BRANCH ON Z, BRANCH * AROS0075
                                    76 *      ON C, LOAD IMMEDIATE, OR IMMEDIATE, ADD IMMEDIATE, AND TEST     * AROS0076
                                    77 *      IMMEDIATE INSTRUCTIONS AND DATA FLOW                            * AROS0077

00002E A804                  00034  79             B    TEST02        BRANCH AROUND ERROR OUTPUT         AROS0079
000030 7004      0     70           80 ERROR01     OUT  0,STOP        AN INSTRUCTION OR DATA FLOW HAS    AROS0080
                                    81 *                              FAILED.                            AROS0081
000032 0000                         82             DC   X'0000'                                          AROS0082

000034 8000      1(0)               84 TEST02      LRI  R1(0),X'00'   LOAD ZERO'S INTO REG 1 BYTE 0      AROS0084
000036 9809                  00030  85             BCL  ERROR01       LRI, BCL OR DATA FLOW FAILURE      AROS0085
000038 8100      1(1)               86             LRI  R1(1),X'00'   LOAD ZERO'S INTO REG 1 BYTE 1      AROS0086
00003A 980D                  00030  87             BCL  ERROR01       LRI, BCL OR DATA FLOW FAILURE      AROS0087

00003C D100      1(1)               89             ORI  R1(1),X'00'   OR ZERO'S INTO REG 1 BYTE 1        AROS0089
00003E 9100      1(1)               90             ARI  R1(1),X'00'   ADD ZERO'S WITH REG 1 BYTE 1       AROS0090
000040 F1FF      1(1)               91             TRM  R1(1),X'FF'   ARE ANY BITS ON?                   AROS0091
000042 9815                  00030  92             BCL  ERROR01       ORI, ARI, TRM OR DATA FLOW FAILURE AROS0092

000044 D1FF      1(1)               94             ORI  R1(1),X'FF'   OR ALL BITS ON INTO REG 1 BYTE 1   AROS0094
000046 91FF      1(1)               95             ARI  R1(1),X'FF'   ADD ALL BITS ON WITH REG 1 BYTE 1  AROS0095
000048 F101      1(1)               96             TRM  R1(1),X'01'   ALL BITS BUT THE LOW ORDER BIT     AROS0096
                                    97 *                              SHOULD BE ON                       AROS0097
00004A 981D                  00030  98             BCL  ERROR01       ORI, ARI, TRM OR DATA FLOW FAILURE AROS0098

00004C F001      1(0)              100             TRM  R1(0),X'01'   DID ADD PROPAGATE?                 AROS0100
00004E 8821                  00030 101             BZL  ERROR01       ORI, ARI, TRM OR DATA FLOW FAILURE AROS0101

000050 D0FF      1(0)              103             ORI  R1(0),X'FF'   OR ALL BITS ON INTO REG 1 BYTE 0   AROS0103
000052 90FF      1(0)              104             ARI  R1(0),X'FF'   ADD ALL BITS ON WITH REG 1 BYTE 0  AROS0104
000054 9802                  00058 105             BCL  TEST04        BRANCH DUE TO ADD CAUSING A PROPAGA- AROS0105
                                   106 *                              TION.                              AROS0106

000056                             108 TEST03      EQU  *                                                AROS0108
000056 FFFF                        109             DC   X'FFFF'       BRANCH BACK PAST ZERO. THIS IS A   AROS0109
                                   110 *                              CONSTANT FOR TESTING.              AROS0110

000058                             112 TEST04      EQU  *                                                AROS0112
000058 8000      1(0)              113             LRI  R1(0),X'00'   LOAD ZERO'S INTO REG 1 BYTE 0      AROS0113
00005A D000      1(0)              114             ORI  R1(0),X'00'   OR ZERO'S INTO REG 1 BYTE 0        AROS0114
00005C 9000      1(0)              115             ARI  R1(0),X'00'   ADD ZERO'S WITH REG 1 BYTE 0       AROS0115
00005E F0FF      1(0)              116             TRM  R1(0),X'FF'   ARE ANY BITS ON?                   AROS0116
000060 9833                  00030 117             BCL  ERROR01       ORI, ARI, TRM OR DATA FLOW FAILURE AROS0117
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  LOC  OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT                                    DOS CL3-6 02/24/72

                                    120 *     THE FOLLOWING INSTRUCTIONS TEST GROUP 1 REGISTERS USED BY ROS   * AROS0120
                                    121 *     AND EXCLUSIVE OR, INPUT AND OUTPUT INSTRUCTIONS.                * AROS0121

000062 77C8       7     7          123         XR    R7,R7          CLEAR REG 7                               AROS0123

000000                             125         USING SMINST,R7                                                 AROS0125

000064 7157       1     7   00056  127         LH    R1,TEST03      LOAD ALL BITS ON INTO REG 1               AROS0127

                                   129         DROP  R7                                                        AROS0129

000066 051C       5     01         131         IN    R5,X'01'       LOAD REG 1 INTO REG 5                     AROS0131
000068 0134       1     03         132         OUT   R1,X'03'       LOAD REG 1 INTO REG 3                     AROS0132
00006A 53C8       3     5          133         XR    R3,R5          ARE REG 3 AND REG 5 EQUAL                 AROS0133
00006C 983F                  00030 134         BCL   ERROR01        BRANCH TO HARDSTOP IF NOT                 AROS0134

00006E 73C8       3     7          136         XR    R3,R7          ARE REG 3 AND REG 7 EQUAL                 AROS0136
000070 9843                  00030 137         BCL   ERROR01        BRANCH TO HARDSTOP IF NOT                 AROS0137

000072 17C8       7     1          139         XR    R7,R1          LOAD ALL BITS ON TO REG 7                 AROS0139

000074 0354       3     05         141         OUT   R3,X'05'       OUTPUT ZEROS TO REG 5                     AROS0141

000076 013C       1     03         143         IN    R1,X'03'       LOAD ALL BITS OFF TO REG 1                AROS0143

000078 15C8       5     1          145         XR    R5,R1          ARE REG 1 AND REG 5 EQUAL                 AROS0145
00007A 984D                  00030 146         BCL   ERROR01        BRANCH TO HARDSTOP IF NOT                 AROS0146
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 LOC    OBJ CODE   R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT                                                    DOS CL3-6 02/24/72

                                     149 *    THE FOLLOWING INSTRUCTIONS TEST THE STORE HALFWORD, LOAD HALF-    * AROS0149
                                     150 *    WORD, EXCLUSIVE-OR, AND STORE INSTRUCTIONS                        * AROS0150

00007C 8007        1(0)              152         LRI    R1(0),X'07'          SET UP ADDRESS FOR TESTING            AROS0152
00007E 1785        7      1          153         STH    R7,4(R1)             STORE HALFWORD WITH ALL BITS ON       AROS0153
000080 1305        3      1          154         LH     R3,4(R1)             LOAD HALFWORD PREVIOUSLY STORED       AROS0154
000082 73C8        3      7          155         XR     R3,R7                ARE THEY EQUAL?                       AROS0155
000084 9857                   00030  156         BCL    ERROR01              BRANCH TO INDICATE STH, LH, OR XR     AROS0156
                                     157 *                                   FAILURE                               AROS0157

000086 1585        5      1          159         STH    R5,4(R1)             STORE HALFWORD WITH ALL BITS OFF      AROS0159
000088 1305        3      1          160         LH     R3,4(R1)             LOAD HALFWORD PREVIOUSLY STORED       AROS0160
00008A 53C8        3      5          161         XR     R3,R5                ARE THEY EQUAL?                       AROS0161
00008C 985F                   00030  162         BCL    ERROR01              BRANCH TO INDICATE STH, LH, OR XR     AROS0162
                                     163 *                                   FAILURE                               AROS0163

00008E 1786        7      1          165         ST     R7,4(R1)             STORE ALL BITS ON FOR HALFWORD ON A   AROS0165
                                     166 *                                   FULLWORD BOUNDARY                     AROS0166
000090 1305        3      1          167         LH     R3,4(R1)             LOAD FIRST HALFWORD OF THE FULL WORD  AROS0167
                                     168 *                                   PREVIOUSLY STORED.                    AROS0168
000092 53C8        3      5          169         XR     R3,R5                WAS THIS HALFWORD MODIFIED?           AROS0169
000094 9867                   00030  170         BCL    ERROR01              ST FAILURE                            AROS0170

000096 1507        5      1          172         LH     R5,6(R1)             LOAD SECOND HALFWORD OF THE FULLWORD  AROS0172
                                     173 *                                   PREVIOUSLY STORED                     AROS0173
000098 75C8        5      7          174         XR     R5,R7                ARE REG 5 AND REG 7 EQUAL?            AROS0174
00009A 986D                   00030  175         BCL    ERROR01              STORE INSTRUCTION FAILURE             AROS0175

00009C 1586        5      1          177         ST     R5,4(R1)             STORE ALL BITS OFF IN THE SECOND      AROS0177
                                     178 *                                   HALFWORD                              AROS0178
00009E 0707        7      0          179         LH     R7,6(R0)             LOAD SECOND HALFWORD OF THE FULLWORD  AROS0179
                                     180 *                                   PREVIOUSLY STORED                     AROS0180
0000A0 75C8        5      7          181         XR     R5,R7                ARE REG 5 AND REG 7 EQUAL ?           AROS0181
0000A2 9875                   00030  182         BCL    ERROR01              STORE INSTRUCTION FAILURE             AROS0182
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                                 185 *     THE FOLLOWING INSTRUCTIONS TEST THE BRANCH ON BIT INSTRUCTION.  * AROS0185

                                 187 *          THIS IS DONE BY CHANGING THE BRANCH ON BIT INSTRUCTION     * AROS0187
                                 188 *          EACH TIME THROUGH. BRANCH ON BIT IS TESTED NOT TO          * AROS0188
                                 189 *          BRANCH WHEN BIT IS OFF AND THEN TO BRANCH WHEN THE BIT     * AROS0189
                                 190 *          IS ON.                                                     * AROS0190

0000A4 80CE      1(0)            192              LRI   R1(0),X'CE'       ***** ADDRESS SENSITIVE *****      AROS0192
                                 193 *                                    SET UP BRANCH ON BIT INSTRUCTION   AROS0193
0000A6 8106      1(1)            194              LRI   R1(1),X'06'       ***** ADDRESS SENSITIVE *****      AROS0194
0000A8 83B4      3(1)            195              LRI   R3(1),X'B4'       ***** ADDRESS SENSITIVE *****      AROS0195
                                 196 *                                    SET UP ADDRESS FOR BRANCH ON BIT   AROS0196
                                 197 *                                    INSTRUCTION                        AROS0197
                                 198 *                                    ***** ADDRESS SENSITIVE *****      AROS0198
0000AA A806                000B2 199              B     TEST06            BRANCH TO BEGIN TEST               AROS0199

0000AC 9180      1(1)            201 TEST05       ARI   R1(1),X'80'       UPDATE INSTRUCTION TO BE TESTED    AROS0201
0000AE 98AF                00002 202              BCL   TEST01            BRANCH INSTRUCTION HAS GONE THROUGH AROS0202
                                 203 *                                    SIXTEEN ITERATIONS                 AROS0203

0000B0 D00E      1(0)            205              ORI   R1(0),X'0E'       CORRECT INSTRUCTION WHEN PROPAGATION AROS0205
                                 206 *                                    OCCURS OVER THE THREE BITS         AROS0206
                                 207 *                                    REPRESENTING REG 7                 AROS0207

0000B2 3181      1     3         209 TEST06       STH   R1,0(R3)          STORE BRANCH ON BIT INSTRUCTION    AROS0209
0000B4 CE06      7(0,0)    000BC 210              BB    R7(0,0),ERROR02   *** THIS INSTRUCTION CHANGES ***   AROS0210
                                 211 *                                    BRANCH IS ERROR WHEN REG 7 IS ZERO AROS0211
0000B6 F6FF      7(0)            212              TRM   R7(0),X'FF'       IF BRANCH DID NOT OCCUR SHOULD IT  AROS0212
                                 213 *                                    HAVE?                              AROS0213
0000B8 9802                000BC 214              BCL   ERROR02           YES IT SHOULD HAVE BUT DID NOT     AROS0214

0000BA 8811                000AC 216              BZL   TEST05            BRANCH TO SET NEXT INSTRUCTION     AROS0216

0000BC 7004      0    70         218 ERROR02      OUT   0,STOP            BRANCH ON BIT INSTRUCTION FAILED   AROS0218
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 LOC  OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT

                                   221 *     THE FOLLOWING INSTRUCTIONS CAUSE THE GROUP 1, 2, AND 3 REGISTERS* AROS0221
                                   222 *     TO BE OUTPUT IN ORDER TO CORRECT PARITY IN THE REGISTERS        * AROS0222

                                                                                                               AROS0224
0000BE                             224 SMIN01   EQU   *                                                       AROS0225
0000BE 8174      1(1)              225          LRI   R1(1),X'74'      LOAD OUTPUT INSTRUCTION                AROS0226
                                   226 *                               ***** ADDRESS SENSITIVE *****          AROS0227
0000C0 83C8      3(1)              227          LRI   R3(1),X'C8'      LOAD ADDRESS OF OUTPUT INSTRUCTION     AROS0228
                                   228 *                               ***** ADDRESS SENSITIVE *****          AROS0229
0000C2                             229 SMIN02   EQU   *                                                       AROS0230
0000C2 9110      1(1)              230          ARI   R1(1),X'10'      UPDATE INSTRUCTION                     AROS0231
0000C4 F886      1(0,7)   000CC    231          BB    R1(0,7),SMIN04   BRANCH WHEN GROUP 1 IS CORRECTED       AROS0233
                                                                                                               AROS0234
0000C6                             233 SMIN03   EQU   *                                                       AROS0235
0000C6 3181      1     3           234          STH   R1,0(R3)         STORE OUTPUT INSTRUCTION               AROS0236
0000C8 0084      0     08          235          OUT   R0,X'08'         ***** THIS INSTRUCTION IS CHANGED **   AROS0237
0000CA A80B              000C2     236          B     SMIN02           BRANCH TO CONTINUE UPDATING OF
                                   237 *                               OUTPUT INSTRUCTION
                                                                                                               AROS0239
0000CC                             239 SMIN04   EQU   *                                                       AROS0240
0000CC D884      1(0,3)   000D2    240          BB    R1(0,3),ESCCHK1  BRANCH WHEN GROUP 2 AND 3 ARE          AROS0241
                                   241 *                               CORRECTED
                                                                                                               AROS0243
0000CE 8010      1(0)              243          LRI   R1(0),X'10'      SET UP TO CORRECT GROUP 2 AND 3 REG     AROS0244
0000D0 A80D              000C6     244          B     SMIN03           BRANCH TO CORRECT PARITY OF GROUP 2     AROS0245
                                   245 *                               AND GROUP 3 REGISTERS

                                   247 ********************************************************************** AROS0247
                                                                                                               AROS0248
0000D2                             248 ESCCHK1  EQU   *                                                       AROS0249
0000D2 719C      1    79           249          IN    R1,X'79'         INPUT UTILITY REG FOR NO-ESCAPE BIT     AROS0250
0000D4 F982      1(1,7)   000D8    250          BB    R1(1,7),LROS01   BRANCH IF BIT IS ON FOR NO ESCAPE      AROS0251
0000D6 AE24              006FC     251          B     ESCAPE1          BRANCH TO ESCAPE TO CORRECTED CODE      AROS0252
0006FC                             252 ESCAPE1  EQU   SROS+X'6FC'                                             AROS0253
                                   253 * THIS IS FOR ROS ESCAPE                                               AROS0254
                                   254 **********************************************************************
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                                    258 *     THE FOLLOWING INSTRUCTIONS SAVE THE INTERRUPT REQUEST GROUP 1,  * AROS0258
                                    259 *     MACHINE CHECK ERROR REGISTER, AND THE INTERRUPT REQUEST GROUP 1 * AROS0259
                                    260 *     FOR ADAPTERS AND INSURE THAT IPL LEVEL 1 REQUEST WAS THE CAUSE  * AROS0260
                                    261 *     OF THE INTERRUPT                                                * AROS0261

0000D8                              263 LROS01   EQU   *                                                        AROS0263
0000D8 71DC      1     7D           264          IN    R1,MACHK      GET MACHINE CHECK ERROR REGISTER         AROS0264
0000DA 0185      1     0            265          STH   R1,4(R0)      SAVE MACHINE CHECK ERROR REGISTER        AROS0265

0000DC 716C      1     76           267          IN    R1,X'76'      GET INTERRUPT REQUEST GROUP 1 FOR        AROS0267
                                    268 *                             ADAPTERS                                 AROS0268
0000DE 0183      1     0            269          STH   R1,2(R0)      SAVE INTERRUPT REQUEST GROUP 1 FOR       AROS0269
                                    270 *                             ADAPTERS                                 AROS0270

0000E0 71EC      1     7E           272          IN    R1,INTGP1     GET INTERRUPT REGUEST GROUP 1            AROS0272
0000E2 0187      1     0            273          STH   R1,6(R0)      SAVE INTERRUPT REQUEST GROUP 1           AROS0273

0000E4 F902      1(1,6)    000E8    275          BB    R1(1,6),MIROS01  IS THIS AN IPL LEVEL 1 REQUEST ?       AROS0275
0000E6 7004      0     70           276          OUT   0,STOP                                                   AROS0276
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 LOC   OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT                                  DOS CL3-6 02/24/72

                                    279 *     THIS IS THE BEGINNING OF THE CHANNEL HANDLING ROS                * AROS0279

                                    282 *     THE FOLLOWING INSTRUCTIONS CLEAR REGISTERS TO BE USED, RESET     * AROS0282
                                    283 *     THE TEST MODE, ENABLE THE CHANNEL ADAPTER AND DETERMINE IF THE   * AROS0283
                                    284 *     SINGLE SUBCHANNEL ADDRESS IS ACTIVE.                             * AROS0284

 0000E8                             286 MIROS01  EQU   *                                                        AROS0286
 0000E8 33C8      3     3           287          XR    R3,R3             CLEAR REG 3                          AROS0287
 0000EA 8110      1(1)              288          LRI   R1(1),X'10'       RESET TEST MODE                      AROS0288
 0000EC 7194      1    79           289          OUT   R1,X'79'          OUTPUT TO RESET TEST MODE            AROS0289

 0000EE 8108      1(1)              291          LRI   R1(1),X'08'       SET CHANNEL INTERFACE ENABLE         AROS0291
 0000F0 6174      1    67           292          OUT   R1,ADERCON        OUTPUT TO SET CHANNEL INTERFACE      AROS0292
                                    293 *                                ENABLE                               AROS0293

 0000F2 617C      1    67           295          IN    R1,ADERCON        INPUT TO CHECK THAT THE CHANNEL      AROS0295
                                    296 *                                INTERFACE IS ENABLED                 AROS0296
 0000F4 E902      1(1,4)    000F8   297          BB    R1(1,4),MIROS02   BRANCH IF CHANNEL INTERFACE IS      AROS0297
                                    298 *                                ENABLED                              AROS0298

 0000F6 A811               000E8   300          B     MIROS01           BRANCH TO RETRY ENABLE               AROS0300

 0000F8                             303 MIROS02  EQU   *                                                        AROS0303
 0000F8 8602      7(0)              304          LRI   R7(0),X'02'       SET IPL REQUIRED SENSE               AROS0304
 0000FA E9B4      1(1,5)    00130   305          BB    R1(1,5),MIROS09   BRANCH IF SINGLE SUBCHANNEL ADDRESS  AROS0305
                                    306 *                                IS ACTIVE                            AROS0306
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                                  309 *     THE FOLLOWING INSTRUCTIONS SET DEVICE END AND UNIT CHECK STATUS * AROS0309
                                  310 *     AND PREPARE FOR ITS OUTPUT.                                     * AROS0310

0000FC 8706       7(1)            312           LRI   R7(1),X'06'      SET DEVICE END AND UNIT CHECK STATUS AROS0312
0000FE                            313 MIROS03   EQU   *                                                      AROS0313
0000FE 8160       1(1)            314           LRI   R1(1),X'60'      SET PROGRAM LEVEL 3 INTERRUPT AND   AROS0314
                                  315 *                                RESET CHANNEL ADAPTER LEVEL 1       AROS0315
                                  316 *                                INTERRUPT                           AROS0316
000100 6174       1    67        317           OUT   R1,ADERCON       SET LEVEL 3 INTERRUPT               AROS0317

000102 820F       3(0)            319           LRI   R3(0),X'0F'      SET RN FINAL TRANSFER SEQ, INITIAL  AROS0319
                                  320 *                                SELECTION RESET, DATA/STATUS SERVICE AROS0320
                                  321 *                                RESET AND PROGRAM INTERRUPT RESET   AROS0321


                                  324 *     THE FOLLOWING INSTRUCTIONS LOOP WAITING FOR A LEVEL 1 INTERRUPT * AROS0324
                                  325 *     INDICATING AN ERROR OR A LEVEL 3 INTERRUPT INDICATING THAT      * AROS0325
                                  326 *     STATUS MAY BE PRESENTED.                                        * AROS0326

000104                            328 MIROS04   EQU   *                                                      AROS0328
000104 716C       1    76         329           IN    R1,X'76'         GET LEVEL 1 INTERRUPT REQUESTS      AROS0329
000106 E888       1(0,5)   00110  330           BB    R1(0,5),MIROS05  BRANCH IF CA LEVEL 1 INTERRUPT      AROS0330

000108 717C       1    77         332           IN    R1,X'77'         GET LEVEL 3 INTERRUPT REQUESTS      AROS0332
00010A D990       1(1,3)   0011C  333           BB    R1(1,3),MIROS06  BRANCH IF DATA/STATUS SERVICE LEVEL AROS0333
                                  334 *                                3 INTERRUPT                         AROS0334
00010C E936       1(1,4)   00144  335           BB    R1(1,4),MIROS12  LEV 3 INIT SEL INT                  AROS0335

00010E A80D              00104    337           B     MIROS04                                              AROS0337
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  LOC  OBJ CODE  R1S1M R2S2 ADDR    STMT    SOURCE STATEMENT

                                     340 *      THE FOLLOWING INSTRUCTIONS SET SENSE FOR A CHANNEL ADAPTER LEVEL* AROS0340
                                     341 *      1 INTERRUPT, RESET THE LEVEL 1 INTERRUPT, AND IF THE CHANNEL IS * AROS0341
                                     342 *      ACTIVE SET UP THE STATUS THAT IS TO BE PRESENTED.               * AROS0342

                                                                                                                  AROS0344
000110                               344 MIROS05  EQU   *
000110 8612       7(0)               345          LRI   R7(0),X'12'          SET EQUIPMENT CHECK AND IPL REQUIRED AROS0345
                                     346 *                                   SENSE                                AROS0346

                                                                                                                  AROS0348
000112 617C       1    67            348          IN    R1,ADERCON
000114 E99E       1(1,5)      00134  349          BB    R1(1,5),MIROS10      BRANCH IF SINGLE SUBCHANNEL ADDRESS  AROS0349
                                     350 *                                   IS ACTIVE                            AROS0350

000116 8120       1(1)               352          LRI   R1(1),X'20'          SET BIT FOR RESET OF L 1 INTERRUPT   AROS0352
000118 6174       1    67            353          OUT   R1,ADERCON           RESET LEVEL 1 INTERRUPT              AROS0353

                                                                                                                  AROS0355
00011A A808                   00124  355          B     MIROS08

                                     357 *      THE FOLLOWING INSTRUCTIONS OUTPUT THE STATUS AND RESET THE      * AROS0357
                                     358 *      PROGRAM LEVEL 3 INTERRUPT                                       * AROS0358

                                                                                                                  AROS0360
00011C                               360 MIROS06  EQU   *
00011C 6764       7    66            361          OUT   R7,RNSTAT            OUTPUT STATUS                        AROS0361

                                                                                                                  AROS0363
00011E                               363 MIROS07  EQU   *
00011E 617C       1    67            364          IN    R1,ADERCON           INPUT TO GET SINGLE SUBCHANNEL       AROS0364
                                     365 *                                   ADDRESS                              AROS0365
000120 6134       1    63            366          OUT   R1,STSVAD            OUTPUT TO SET SINGLE SUBCHANNEL      AROS0366
                                     367 *                                   ADDRESS INTO SERVICE ADDRESS REG     AROS0367
000122 6324       3    62            368          OUT   R3,SERCON            OUTPUT TO RESET LEVEL 3              AROS0368

                                     370 *      THE FOLLOWING INSTRUCTIONS WAIT FOR A CHANNEL ADAPTER LEVEL 1   * AROS0370
                                     371 *      INTERRUPT,   INTIAL SELECTION LEVEL 3 INTERRUPT, OR A DATA      * AROS0371
                                     372 *      SERVICE LEVEL 3 INTERRUPT.                                      * AROS0372

                                                                                                                  AROS0374
000124                               374 MIROS08  EQU   *
000124 716C       1    76            375          IN    R1,X'76'             GET LEVEL 1 INTERRUPT REQUESTS       AROS0375
000126 E899       1(0,5)      00110  376          BB    R1(0,5),MIROS05      BRANCH IF LEVEL 1 INTERRUPT          AROS0376

000128 717C       1    77            378          IN    R1,X'77'             GET LEVEL 3 INTERRUPT REQUESTS       AROS0378
00012A E918       1(1,4)      00144  379          BB    R1(1,4),MIROS12      LEVEL 3 INITIAL SELECTION INTERRUPT  AROS0379

00012C D9FC       1(1,3)      001AA  381          BB    R1(1,3),MIROS25      LEVEL 3 DATA SERVICE INTERRUPT       AROS0381

                                                                                                                  AROS0383
00012E A80D                   00124  383          B     MIROS08
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LOC    OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT

                                    386 *     THE FOLLOWING INSTRUCTIONS DETERMINE THE ACTION REQUIRED FOR    * AROS0386
                                    387 *     ENTERING ROS WITH AN ACTIVE SINGLE SUBCHANNEL.                  * AROS0387

                                    389 MIROS09 EQU   *                                                         AROS0389
000130                              390         IN    R1,X'77'                                                  AROS0390
000130 717C       1    77
000132 E904       1(1,4)    00138   392         BB    R1(1,4),MIROS11   BRANCH IF INITIAL SELECTION LEVEL 3     AROS0392
                                    393 *                               INTERRUPT                             AROS0393

                                    395 MIROS10 EQU   *                                                         AROS0395
000134                              396         LRI   R7(1),X'0E'       SET CHANNEL END, DEVICE END, AND        AROS0396
000134 870E       7(1)              397 *                               UNIT CHECK STATUS                     AROS0397

000136 A83B                 000FE   399         B     MIROS03           BRANCH TO DO OUTPUT OF STATUS           AROS0399

                                    402 MIROS11 EQU   *                                                         AROS0402
000138                              403         IN    R1,INSEADCM       GET ADDRESS OF SUBCHANNEL REQUESTING    AROS0403
000138 611C       1    61          404 *                               SERVICE                               AROS0404

00013A 657C       5    67         406         IN    R5,ADERCON        GET ADDRESS OF SINGLE SUBCHANNEL        AROS0406

00013C 8100       1(1)             408         LRI   R1(1),X'00'       CLEAR BYTE 1 OF REG 1                   AROS0408
00013E 8500       5(1)             409         LRI   R5(1),X'00'       CLEAR BYTE 1 OF REG 5                   AROS0409

000140 15C8       5    1           411         XR    R5,R1             ARE ADDRESSES EQUAL                     AROS0411
000142 9811                 00134  412         BCL   MIROS10           BRANCH IF NOT EQUAL                     AROS0412
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 LOC    OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT                                    DOS CL3-6 02/24/72

                                     415 *     THE FOLLOWING INSTRUCTIONS DETERMINE THE REASON FOR THE INITIAL * AROS0415
                                     416 *     SELECTION LEVEL 3 INTERRUPT AND BRANCH TO THE CORRECT HANDLING  * AROS0416
                                     417 *     ROUTINE FOR EACH CAUSE OF THE LEVEL 3 INTERRUPT.                * AROS0417

 000144                              419 MIROS12  EQU   *                                                        AROS0419
 000144 8206       3(0)              420          LRI   R3(0),X'06'      SET INITIAL SELECTION RESET AND         AROS0420
                                     421 *                                DATA/STATUS SERVICE RESET               AROS0421

 000146 610C       1    60           423          IN    R1,INSECO        INPUT TO FIND REASON FOR INITIAL        AROS0423
                                     424 *                                SELECTION LEVEL 3 INTERRUPT             AROS0424

 000148 F8D8       1(0,7)    001A2   426          BB    R1(0,7),MIROS24  BRANCH IF SYSTEM RESET                 AROS0426

 00014A C8CC       1(0,1)    00198   428          BB    R1(0,1),MIROS23  BRANCH IF INTERFACE DISCONNECT          AROS0428

 00014C F831       1(0,6)    0011E   430          BB    R1(0,6),MIROS07  BRANCH IF STACKED STATUS HAS BEEN      AROS0430
                                     431 *                                CLEARED                                 AROS0431

 00014E E8B6       1(0,5)    00186   433          BB    R1(0,5),MIROS20  BRANCH IF STACKED INITIAL STATUS       AROS0433

 000150 D8AA       1(0,3)    0017C   435          BB    R1(0,3),MIROS18  BRANCH IF BUS OUT CHECK                AROS0435

 000152 C808       1(0,0)    0015C   437          BB    R1(0,0),MIROS15  BRANCH IF INITIAL SELECTION            AROS0437


 000154 8612       7(0)              440          LRI   R7(0),X'12'      SET IPL REQUIRED AND EQUIPMENT CHECK    AROS0440

 000156                              442 MIROS13  EQU   *                                                        AROS0442
 000156 370E       7(1)              443          LRI   R7(1),X'0E'      SET CHANNEL END, DEVICE END, AND        AROS0443
                                     444 *                                UNIT CHECK STATUS                       AROS0444

 000158                              446 MIROS14  EQU   *                                                        AROS0446
 000158 D208       3(0)              447          ORI   R3(0),X'08'      SET FINAL STATUS TRANSFER STATE         AROS0447

 00015A A841               0011C     449          B     MIROS06          BRANCH TO OUTPUT STATUS                 AROS0449
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                                  452 *     THE FOLLOWING INSTRUCTIONS DETERMINE THE COMMAND THAT IS ACTIVE * AROS0452
                                  453 *     FOR THE INITIAL SELECTION                                       * AROS0453

00015C                            455 MIROS15  EQU   *                                                        AROS0455
00015C 611C      1    61          456          IN    R1,INSEADCM        INPUT COMMAND THAT IS ACTIVE FOR      AROS0456
                                  457 *                                 INITIAL SELECTION                     AROS0457

00015E 80FF      1(0)             459          LRI   R1(0),X'FF'        CONDITION BYTE ZERO FOR OVERFLOW      AROS0459

000160 91F6      1(1)             461          ARI   R1(1),X'F6'        ADDITION OF F6 SO THAT ANY COMMAND    AROS0461
                                  462 *                                 OF 0A OR GREATER WILL CAUSE A CARRY   AROS0462

000162 9814                00178  464          BCL   MIROS17            BRANCH IF COMMAND NOT VALID FOR       AROS0464
                                  465 *                                 SINGLE SUBCHANNEL ADDRESS             AROS0465

000164 9101      1(1)             467          ARI   R1(1),X'01'        ADD ONE TO CHECK FOR COMMAND X'09'    AROS0467
000166 980C                00174  468          BCL   MIROS16            BRANCH IF WRITE BREAK POINT COMMAND   AROS0468

000168 9103      1(1)             470          ARI   R1(1),X'03'        ADD THREE TO CHECK FOR X'06', X'07',  AROS0470
                                  471 *                                 OR X'08' COMMAND                      AROS0471
00016A 980C                00178  472          BCL   MIROS17            BRANCH IF COMMAND IS NOT VALID FOR    AROS0472
                                  473 *                                 SINGLE SUBCHANNEL ADDRESS             AROS0473

00016C 9101      1(1)             475          ARI   R1(1),X'01'        ADDITION OF 01 SO THAT IPL COMMAND    AROS0475
                                  476 *                                 WILL CAUSE A CARRY                    AROS0476
00016E 9858                001C8  477          BCL   MIROS30            BRANCH IF IPL COMMAND                 AROS0477

000170 9101      1(1)             479          ARI   R1(1),X'01'        ADDITION OF 01 SO THAT SENSE COMMAND  AROS0479
                                  480 *                                 WILL CAUSE A CARRY                    AROS0480
000172 981C                00190  481          BCL   MIROS21            BRANCH IF SENSE COMMAND               AROS0481
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                                  484 *     THE FOLLOWING INSTRUCTIONS SET SENSE DATA IN REGISTER 7          * AROS0484

                                  486 MIROS16  EQU   *                                                      AROS0486
000174                            487          LRI   R7(0),X'02'    SET IPL REQUIRED SENSE                 AROS0487
000174 8602       7(0)            488          B     MIROS13        BRANCH TO SET AND OUTPUT STATUS        AROS0488
000176 A823             00156
                                  490 MIROS17  EQU   *                                                      AROS0490
000178                            491          LRI   R7(0),X'82'    SET COMMAND REJECT AND IPL REQUIRED     AROS0491
000178 8682       7(0)            492 *                            SENSE                                  AROS0492
00017A A827             00156     493          B     MIROS13        BRANCH TO SET AND OUTPUT STATUS        AROS0493

                                  495 MIROS18  EQU   *                                                      AROS0495
00017C                            496          LRI   R7(0),X'22'    SET BUS-OUT CHECK AND IPL REQUIRED     AROS0496
00017C 8622       7(0)            497 *                            SENSE                                  AROS0497
00017E A863             0011E     498          B     MIROS07        BRANCH TO SET AND OUTPUT STATUS        AROS0498

                                  500 MIROS19  EQU   *                                                      AROS0500
000180                            501          LRI   R7(0),X'22'    SET BUS-OUT CHECK AND IPL REQUIRED     AROS0501
000180 8622       7(0)            502 *                            SENSE                                  AROS0502
000182 8702       7(1)            503          LRI   R7(1),X'02'    SET UNIT CHECK STATUS                  AROS0503
000184 A82F             00158     504          B     MIROS14        BRANCH TO PRESENT STATUS               AROS0504


                                  507 *     THE FOLLOWING INSTRUCTIONS DETERMINE THE PROPER STATUS TO BE     * AROS0507
                                  508 *     SET FOR STACKED INITIAL STATUS.                                  * AROS0508

                                  510 MIROS20  EQU   *                                                      AROS0510
000186                            511          BB    R1(0,3),MIROS19  BRANCH IF BUS OUT CHECK               AROS0511
000186 D889       1(0,3)  00180

                                  513          IN    R1,INSEADCM      INPUT COMMAND                         AROS0513
000188 611C       1    61         514          TRM   R1(1),X'FF'      TEST FOR COMMAND                      AROS0514
00018A F1FF       1(1)            515          BZL   MIROS27          BRANCH DUE TO TEST I/O COMMAND        AROS0515
00018C 882E             001BC
                                  517          B     MIROS26          BRANCH DUE TO NO-OP COMMAND           AROS0517
00018E A828             001B8
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  LOC  OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT                                        DOS CL3-6 02/24/72

                                    520 *     OUTPUT SENSE INFORMATION                                      * AROS0520

000190                              522 MIROS21  EQU   *                                                      AROS0522
000190 6744      7    64            523          OUT   R7,DATA12          LOAD SENSE DATA                   AROS0523
000192 D280      3(0)               524          ORI   R3(0),X'80'       SET OUTBOUND DATA                 AROS0524
000194 8301      3(1)               525          LRI   R3(1),X'01'       SET CODE COUNT AT BINARY 1        AROS0525
000196                              526 MIROS22  EQU   *                                                      AROS0526
000196 A87B              0011E      527          B     MIROS07           BRANCH TO DO OUTPUT               AROS0527

                                    531 *     THE FOLLOWING INSTRUCTIONS TAKE CARE OF SYSTEM RESET, SELECTIVE * AROS0531
                                    532 *     RESET, AND STATUS CLEARED.                                    * AROS0532

000198                              534 MIROS23  EQU   *                                                      AROS0534
000198 611C      1    61            535          IN    R1,INSEADCM       INPUT FOR COMMAND COMPARE         AROS0535
00019A 91FB      1(1)               536          ARI   R1(1),X'FB'       ADD CONSTANT SO IPL COMMAND CAUSES AROS0536
                                    537 *                                 A ZERO RESULT                     AROS0537
00019C F1FF      1(1)               538          TRM   R1(1),X'FF'       IS RESULT ZERO                    AROS0538
00019E 8844              001E4      539          BZL   MIROS34           BRANCH TO CHECK IPL TRANSFER      AROS0539

0001A0 A82F              00174      541          B     MIROS16           BRANCH TO SET SENSE AND STATUS    AROS0541

0001A2                              543 MIROS24  EQU   *                                                      AROS0543
0001A2 8602      7(0)               544          LRI   R7(0),X'02'       SET IPL REQUIRED SENSE            AROS0544
0001A4 8110      1(1)               545          LRI   R1(1),X'10'       SET RESET SYSTEM RESET            AROS0545
0001A6 6174      1    67            546          OUT   R1,ADERCON        OUTPUT TO RESET SYSTEM RESET      AROS0546

0001A8 A887              00124      548          B     MIROS08                                             AROS0548
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  LOC   OBJ CODE  R1S1M R2S2 ADDR  STMT   SOURCE STATEMENT                                             DOS CL3-6 02/24/72

                                    551 *      THE FOLLOWING INSTRUCTIONS DETERMINE THE REASON FOR THE DATA     * AROS0551
                                    552 *      SERVICE LEVEL 3 INTERRUPT AND BRANCH TO THE CORRECT HANDLING     * AROS0552
                                    553 *      ROUTINE FOR EACH CAUSE OF THE LEVEL 3 INTERRUPT.                 * AROS0553

0001AA                              555 MIROS25  EQU  *                                                           AROS0555
0001AA 8202       3(0)              556          LRI  R3(0),X'02'        SET DATA/STATUS SERVICE RESET             AROS0556
0001AC 612C       1    62           557          IN   R1,SERCON          INPUT TO FIND REASON FOR DATA             AROS0557
                                    558 *                                SERVICE LEVEL 3 INTERRUPT                 AROS0558
0001AE D98C       1(1,3)    001BC   559          BB   R1(1,3),MIROS27    BRANCH IF STACKED STATUS                  AROS0559

0001B0 E892       1(0,5)    001C4   561          BB   R1(0,5),MIROS29    BRANCH IF CHANNEL STOP OR INTERFACE       AROS0561
                                    562 *                                DISCONNECT                                AROS0562

0001B2 C90C       1(1,0)    001C0   564          BB   R1(1,0),MIROS28    BRANCH IF BUS-OUT CHECK                   AROS0564

0001B4 E821       1(0,4)    00196   566          BB   R1(0,4),MIROS22    BRANCH DUE TO FINAL STATUS TAKEN          AROS0566

0001B6 C89C       1(0,1)    001D4   568          BB   R1(0,1),MIROS32    BRANCH IF IPL COMMAND                     AROS0568

0001B8                              570 MIROS26  EQU  *                                                           AROS0570
0001B8 870C       7(1)              571          LRI  R7(1),X'0C'        SET CHANNEL END AND DEVICE END            AROS0571
                                    572 *                                STATUS                                    AROS0572
0001BA A865                 00158   573          B    MIROS14            BRANCH TO OUTPUT STATUS                   AROS0573

0001BC                              575 MIROS27  EQU  *                                                           AROS0575
0001BC D208       3(0)              576          ORI  R3(0),X'08'        SET FINAL STATUS SEQ                      AROS0576
0001BE A8A3                 0011E   577          B    MIROS07            BRANCH TO RESET LEVEL 3 INTERRUPT         AROS0577


                                    580 *      THE FOLLOWING INSTRUCTIONS SET SENSE INFORMATION INTO REGISTER 7* AROS0580

0001C0                              582 MIROS28  EQU  *                                                           AROS0582
0001C0 8622       7(0)              583          LRI  R7(0),X'22'        SET BUS OUT CHECK AND IPL REQUIRED        AROS0583
                                    584 *                                SENSE                                     AROS0584
0001C2 A86F                 00156   585          B    MIROS13                                                      AROS0585

0001C4                              587 MIROS29  EQU  *                                                           AROS0587
0001C4 C89E       1(0,1)    001E4   588          BB   R1(0,1),MIROS34    BRANCH IF IPL COMMAND                     AROS0588

0001C6 A855                 00174   590          B    MIROS16            BRANCH TO SET SENSE AND STATUS            AROS0590
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LOC OBJ CODE R1S1M R2S2 ADDR STMT SOURCE STATEMENT

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                                    594 *     THE FOLLOWING INSTRUCTIONS SET STARTING ADDRESS AND DATA          AROS0594
                                    595 *     SERVICE MODE ALSO  RESETTING INIT SEL LEVEL 3 INT                 AROS0595

0001C8                              597 MIROS30  EQU   *                                                       AROS0597
0001C8 8404      5(0)               598          LRI   R5(0),X'04'      SET START ADDRESS IN REG 5             AROS0598
0001CA 8500      5(1)               599          LRI   R5(1),X'00'                                             AROS0599

0001CC 5583      5     5            601          STH   R5,2(R5)         STORE BAD COUNT AT LOCATION X'402'     AROS0601

0001CE                              603 MIROS31  EQU   *                                                       AROS0603
0001CE D240      3(0)               604          ORI   R3(0),X'40'      SET INBOUND DATA TRANSFER              AROS0604
0001D0 8302      3(1)               605          LRI   R3(1),X'02'      CT=2                                   AROS0605
0001D2 A8B7                 0011E   606          B     MIROS07          BRANCH FOR INTERRUPT HANDLING          AROS0606
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                                    610 *     THE FOLLOWING INSTRUCTIONS TRANSFER TWO BYTES, CHECK FOR        * AROS0610
                                    611 *     MAXIMUM COUNT ERROR, STORE TWO BYTES, AND BUMP STORAGE ADDRESS  * AROS0611
                                    612 *     BY TWO.                                                         * AROS0612

0001D4                              614 MIROS32  EQU   *                                                       AROS0614
0001D4 EC08      5(0,4)     001DE   615          BB    R5(0,4),MIROS33  MAXIMUM COUNT EXCEEDED                AROS0615

0001D6 614C      1    64            617          IN    R1,X'64'         PUT INBOUND DATA IN REG 1              AROS0617
0001D8 5181      1     5            618          STH   R1,0(R5)         STORE FIRST TWO DATA BYTES             AROS0618

0001DA 9502      5(1)               620          ARI   R5(1),X'02'      BUMP STORAGE ADDRESS BY TWO            AROS0620

0001DC A811                 001CE   622          B     MIROS31                                                  AROS0622
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LOC    OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT

                                   625 *      THE FOLLOWING INSTRUCTIONS WILL DO A COUNT COMPARE, RESET      AROS0625
                                   626 *      IPL LEVEL 1 AND BRANCH TO START OF LOADED MODULE               AROS0626

0001DE                             628 MIROS33  EQU   *                                                      AROS0628
0001DE 8602      7(0)              629          LRI   R7(0),X'02'        SET IPL REQUIRED SENSE              AROS0629
0001E0 870F      7(1)              630          LRI   R7(1),X'0F'        SET CHANNEL END, DEVICE END, UNIT   AROS0630
                                   631 *                                 CHECK, AND UNIT EXCEPTION STATUS    AROS0631
0001E2 A88D                 00158  632          B     MIROS14                                                AROS0632

0001E4                             636 MIROS34  EQU   *                                                      AROS0636
0001E4 8004      1(0)              637          LRI   R1(0),X'04'        LOAD HI ORDER BYTE WITH ADDRESS     AROS0637
                                   638 *                                 OF BYTE CT                          AROS0638
0001E6 8102      1(1)              639          LRI   R1(1),X'02'        LOAD  LOW ORDER BYTE                AROS0639
0001E8 1101      1      1          640          LH    R1,0(R1)           PUT BYTE CT IN REG 1                AROS0640

0001EA 9004      1(0)              642          ARI   R1(0),X'04'        ADD X '400' TO BYTE COUNT           AROS0642

0001EC 51C8      1      5          644          XR    R1,R5              COMPARE KNOWN AND REAL BYTE CTS     AROS0644
0001EE 9813                 001DE  645          BCL   MIROS33            BRANCH TO SET UNIT CE DE UC IPL REQ AROS0645

0001F0 80C0      1(0)              647          LRI   R1(0),X'C0'        SET BIT TO RESET IPL LEV 1 & CCU CK AROS0647
0001F2 7174      1     77          648          OUT   R1,X'77'           RESET  IPL  LEV 1 IN REG 77         AROS0648

0001F4 8012      1(0)              650          LRI   R1(0),X'12'        SET BIT FOR CE STATUS TRANSFER      AROS0650
0001F6 6124      1     62          651          OUT   R1,X'62'           CHANNEL END STATUS SEQUENCE REQ     AROS0651

0001F8 8001      1(0)              653          LRI   R1(0),X'01'        SET UP FOR XFER TO LOADED MODULE    AROS0653
0001FA 81FE      1(1)              654          LRI   R1(1),X'FE'                                            AROS0654
0001FC 1001      0      1          655          LH    R0,0(R1)           FORCE BRANCH TO LOADED MODULE       AROS0655
0001FE 0404                        656          DC    X'0404'                                                AROS0656
000200                             657 SMINEND  EQU   *                                                      AROS0657

                                   659 *  END OF ROS CONTAINED CODE FOR MINI CHANNEL ADAPTER (TYPE 1)        AROS0659
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 LOC  OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT

00007E                           662 INTGP1    EQU   X'7E'      LEVEL 1 AND 2 INTERRUPT GROUP        AROS0662
00007D                           663 MACHK     EQU   X'7D'      MACHINE CHECKS                       AROS0663
000070                           664 STOP      EQU   X'70'      HARDSTOP                             AROS0664
000000                           665 R0        EQU   0                                               AROS0665
000001                           666 R1        EQU   1                                               AROS0666
000002                           667 R2        EQU   2                                               AROS0667
000003                           668 R3        EQU   3                                               AROS0668
000004                           669 R4        EQU   4                                               AROS0669
000005                           670 R5        EQU   5                                               AROS0670
000006                           671 R6        EQU   6                                               AROS0671
000007                           672 R7        EQU   7                                               AROS0672
000060                           673 INSECO    EQU   X'60'                                           AROS0673
000061                           674 INSEADCM  EQU   X'61'                                           AROS0674
000062                           675 SERCON    EQU   X'62'                                           AROS0675
000063                           676 STSVAD    EQU   X'63'                                           AROS0676
000064                           677 DATA12    EQU   X'64'                                           AROS0677
000066                           678 RNSTAT    EQU   X'66'                                           AROS0678
000067                           679 ADERCON   EQU   X'67'                                           AROS0679
                                 680           END                                                   AROS0680
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CROSS-REFERENCE P/N 1785342 LOGIC: CWI23

SYMBOL	LEN	VALUE	DEFN															
ADERCON	00001	000067	00679	0292	0295	0317	0348	0353	0364	0406	0546							
DATA12	00001	000064	00677	0523														
ERROR01	00002	000030	00080	0085	0087	0092	0098	0101	0117	0134	0137	0146	0156	0162	0170	0175	0182	
ERROR02	00002	0000BC	00218	0210	0214													
ESCAPE1	00001	0006FC	00252	0251														
ESCCHK1	00001	0000D2	00248	0240														
INSEADCM	00001	000061	00674	0403	0456	0513	0535											
INSECO	00001	000060	00673	0423														
INTGP1	00001	00007E	00662	0272														
LROS01	00001	0000D8	00263	0250														
MACHK	00001	00007D	00663	0264														
MIROS01	00001	0000E8	00286	0275	0300													
MIROS02	00001	0000F8	00303	0297														
MIROS03	00001	0000FE	00313	0399														
MIROS04	00001	000104	00328	0337														
MIROS05	00001	000110	00344	0330	0376													
MIROS06	00001	00011C	00360	0333	0449													
MIROS07	00001	00011E	00363	0430	0498	0527	0577	0606										
MIROS08	00001	000124	00374	0355	0383	0548												
MIROS09	00001	000130	00389	0305														
MIROS10	00001	000134	00395	0349	0412													
MIROS11	00001	000138	00402	0392														
MIROS12	00001	000144	00419	0335	0379													
MIROS13	00001	000156	00442	0488	0493	0585												
MIROS14	00001	000158	00446	0504	0573	0632												
MIROS15	00001	00015C	00455	0437														
MIROS16	00001	000174	00486	0468	0541	0590												
MIROS17	00001	000178	00490	0464	0472													
MIROS18	00001	00017C	00495	0435														
MIROS19	00001	000180	00500	0511														
MIROS20	00001	000186	00510	0433														
MIROS21	00001	000190	00522	0481														
MIROS22	00001	000196	00526	0566														
MIROS23	00001	000198	00534	0428														
MIROS24	00001	0001A2	00543	0426														
MIROS25	00001	0001AA	00555	0381														
MIROS26	00001	0001B8	00570	0517														
MIROS27	00001	0001BC	00575	0515	0559													
MIROS28	00001	0001C0	00582	0564														
MIROS29	00001	0001C4	00587	0561														
MIROS30	00001	0001C8	00597	0477														
MIROS31	00001	0001CE	00603	0532														
MIROS32	00001	0001D4	00614	0568														
MIROS33	00001	0001DE	00628	0615	0645													
MIROS34	00001	0001E4	00636	0539	0588													
RELOCF	00001	000000	00013	0018														
RNSTAT	00001	000066	00678	0361														
R0	00001	000000	00665	0052	0052	0053	0054	0056	0057	0059	0060	0062	0063	0065	0066	0068	0069	0071
				0072	0179	0235	0265	0269	0273	0655								
R1	00001	000001	00666	0037	0038	0054	0084	0086	0089	0090	0091	0094	0095	0096	0100	0103	0104	0113
				0114	0115	0116	0127	0132	0139	0143	0145	0152	0153	0154	0159	0160	0165	0167

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SYMBOL	LEN	VALUE	DEFN	
				0172 0177 0192 0194 0201 0205 0209 0225 0230 0231 0234 0240 0243 0249 0250
				0264 0265 0267 0269 0272 0273 0275 0288 0289 0291 0292 0295 0297 0305 0314
				0317 0329 0330 0332 0333 0335 0348 0349 0352 0353 0364 0366 0375 0376 0378
				0379 0381 0390 0392 0403 0408 0411 0423 0426 0428 0430 0433 0435 0437 0456
				0459 0461 0467 0470 0475 0479 0511 0513 0514 0535 0536 0538 0545 0546 0557
				0559 0561 0564 0566 0568 0588 0617 0618 0637 0639 0640 0640 0642 0644 0647
				0648 0650 0651 0653 0654 0655
R2	00001	000002	00667	0057
R3	00001	000003	00668	0060 0133 0136 0141 0154 0155 0160 0161 0167 0169 0195 0209 0227 0234 0287
				0287 0319 0368 0420 0447 0524 0525 0556 0576 0604 0605
R4	00001	000004	00669	0063
R5	00001	000005	00670	0066 0131 0133 0145 0159 0161 0169 0172 0174 0177 0181 0406 0409 0411 0598
				0599 0601 0601 0615 0618 0620 0644
R6	00001	000006	00671	0069
R7	00001	000007	00672	0034 0039 0040 0072 0123 0123 0125 0129 0136 0139 0153 0155 0165 0174 0179
				0181 0210 0212 0304 0312 0345 0361 0396 0440 0443 0487 0491 0496 0501 0503
				0523 0544 0571 0583 0629 0630
SERCON	00001	000062	00675	0368 0557
SMINEND	00001	000200	00657	
SMINST	00001	000000	00030	0125
SMIN01	00001	0000BE	00224	0035
SMIN02	00001	0000C2	00229	0236
SMIN03	00001	0000C6	00233	0244
SMIN04	00001	0000CC	00239	0231
SROS	00001	000000	00012	0018 0252
STARTMI	00001	000010	00051	
STOP	00001	000070	00664	0031 0080 0218 0276
STSVAD	00001	000063	00676	0366
TEST01	00001	000002	00033	0202
TEST02	00002	000034	00084	0079
TEST03	00001	000056	00108	0127
TEST04	00001	000058	00112	0105
TEST05	00002	0000AC	00201	0216
TEST06	00002	0000B2	00209	0041 0199

NO STATEMENTS FLAGGED IN THIS IFTAMBLY

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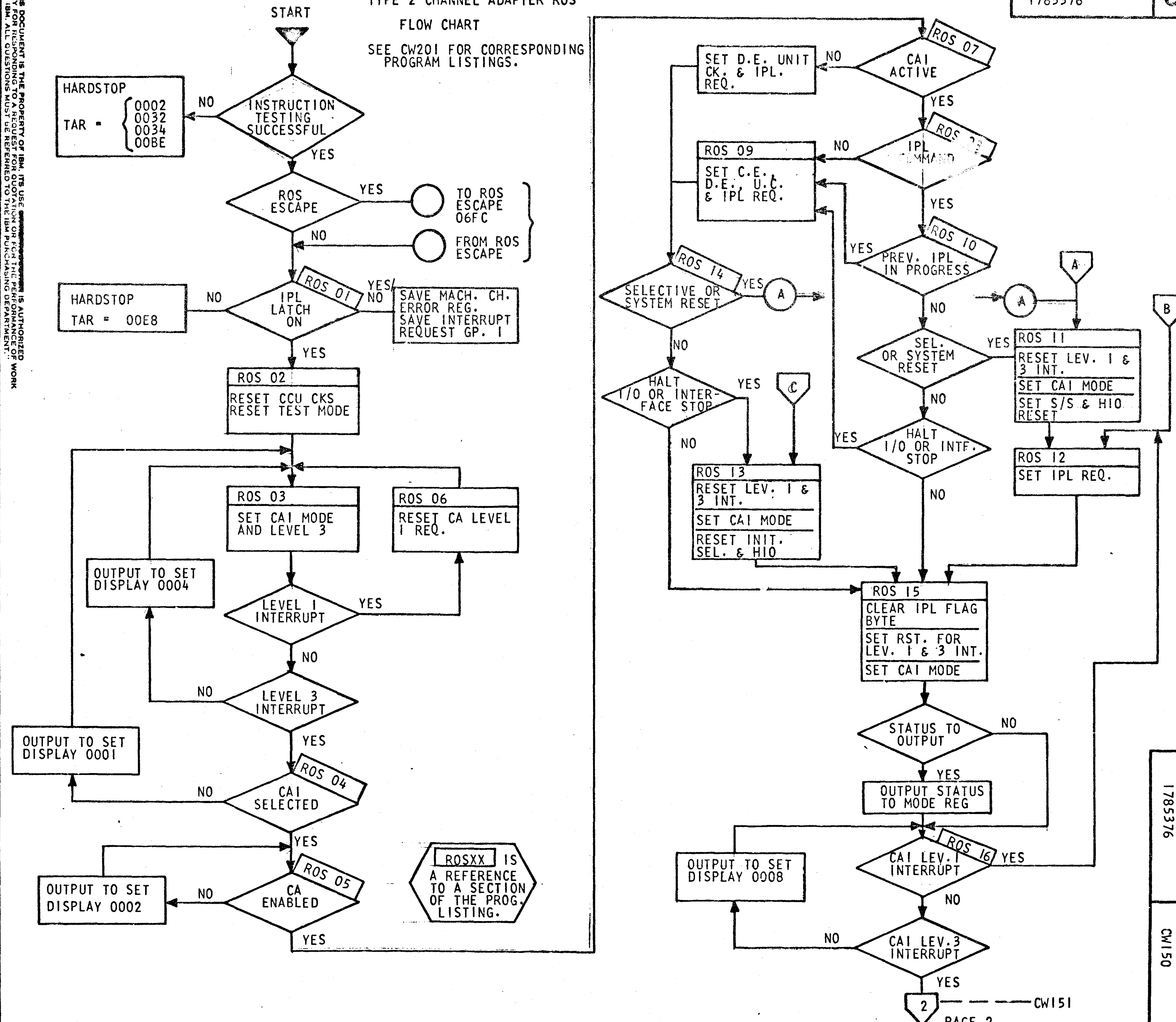
1785376 C

TYPE 2 CHANNEL ADAPTER ROS FLOW CHART

SEE CW201 FOR CORRESPONDING PROGRAM LISTINGS.



PART NO 1785376

LOGIC PG NO CW150

NAME	CHANNEL ADAPTER TYPE 2
	ROS FLOW CHARTS - PAGE 1
DESIGN	SHT OF
DETAIL	VR MAR72
CHECK	CLASSIFICATION
APPRO	

DATE	CHANGE NO
MAR72	309538

MUST CONFORM TO ENG SPEC

DEVELOPMENT NO

LOGIC PG NO CW150

1785376 C

IBM

NAME	DATE
CHANNEL ADAPTER TYPE 2	
ROS FLOW CHARTS - PAGE 2	
DESIGN	
DETAIL VR MAR72	MAR72
CHECK	FEB73
APPRO	

CLASSIFICATION: MUST CONFORM TO ENG SPEC

CHANGE NO	DATE
309538	
309949	

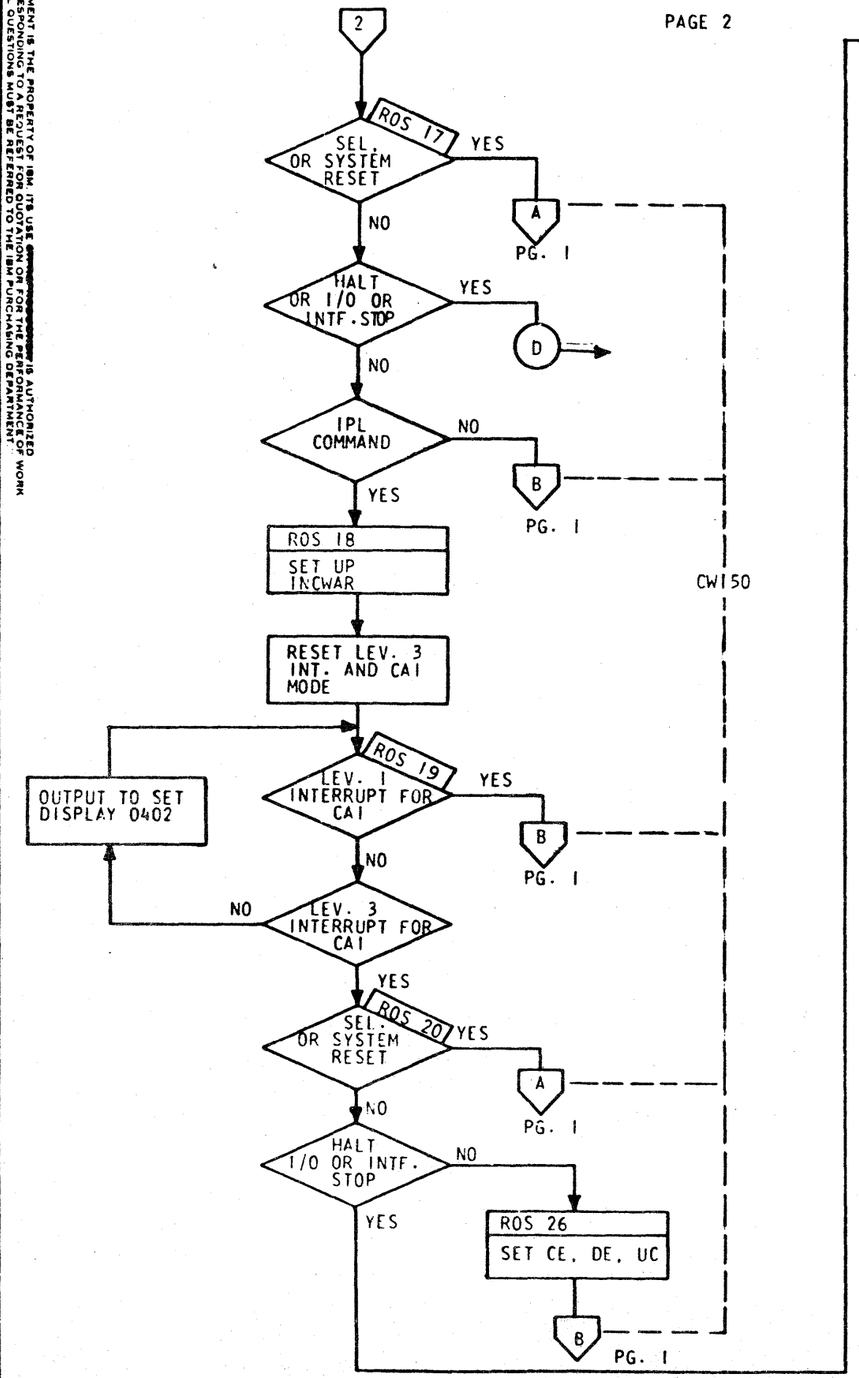
DEVELOPMENT NO

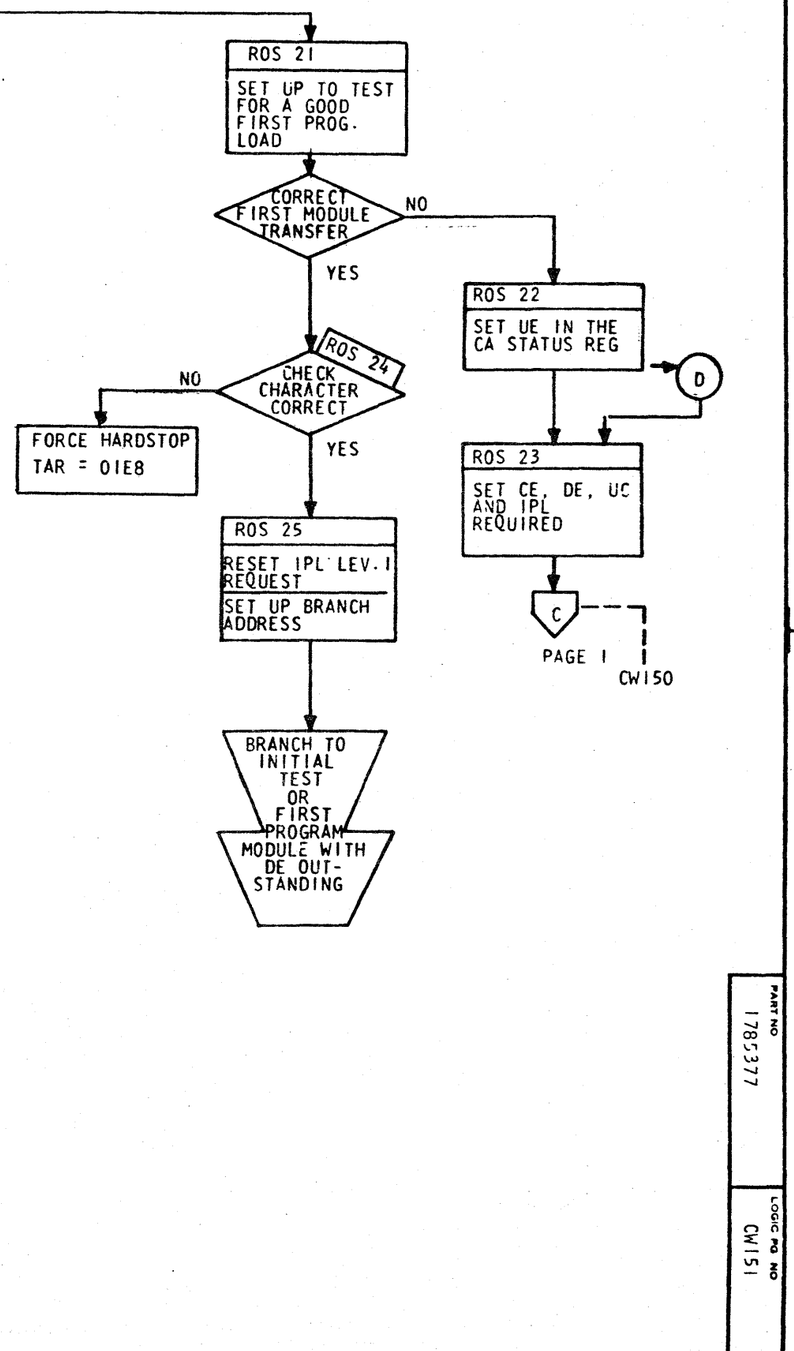
LOGIC PG NO: CW151

1785377 C

1785377 C

TYPE 2 CHANNEL ADAPTER ROS
FLOW CHART
PAGE 2





PART NO 1785377

LOGIC PG NO CW151

```
  LOC   OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT                                          DOS CL3-6 02/24/72

                                       4 ************************************************************************ AROS0004
                                       5 *                                                                      * AROS0005
                                       6 *         M A X I   C H A N N E L   R O S   C O D E                    * AROS0006
                                       7 *                                                                      * AROS0007
                                       8 *         THE FOLLOWING CODE WILL PERFORM THE MAXI CHANNEL IPL         * AROS0008
                                       9 *         FUNCTION.                                                    * AROS0009
                                      10 *                                                                      * AROS0010
                                      11 ************************************************************************ AROS0011
000000                                13 SROS     START X'00000'                                                  AROS0013
000000                                14 RELOCF   EQU   X'00000'                                                  AROS0014
000000 7004700470047004               15          DC    128X'7004'          OUTPUT STOP FILLERS                   AROS0015
000100 7004700470047004               16          DC    128X'7004'          OUTPUT STOP FILLERS                   AROS0016
000200 7004700470047004               17          DC    128X'7004'          OUTPUT STOP FILLERS                   AROS0017
000300 7004700470047004               18          DC    128X'7004'          OUTPUT STOP FILLERS                   AROS0018
000000                                19          ORG   SROS+RELOCF                                               AROS0019
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LOC    OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT

                                    23 *  START OF ROS CONTAINED CODE FOR MAXI CHANNEL ADAPTER (TYPE 2)       AROS0023

                                    25 *  INSTRUCTION EXECUTION STARTS AT ADDRESS X'0010'                     AROS0025

                                    28 *     THIS IS PART OF THE BRANCH ON BIT TEST                           AROS0028

                                                                                                               AROS0030
000000                              30 SMAXST   EQU    *                                                     AROS0031
000000 7004      0     70           31          OUT    0,STOP            HARDSTOP - SHOULD NOT BE AT ZERO
                                                                                                               AROS0033
000002                              33 MAXIT01  EQU    *                                                     AROS0034
000002 F6FF      7(0)               34          TRM    R7(0),X'FF'       HAVE WE FINISHED BRANCH ON BIT TEST  AROS0035
000004 98B8                 000BE   35          BCL    MAXIT07           YES, BRANCH OUT OF BRANCH ON BIT     AROS0036
                                    36 *                                 TEST LOOP

                                    38          LRI    R1(0),X'CE'       SET UP BRANCH ON BIT INSTRUCTION     AROS0038
000006 80CE      1(0)               39          LRI    R1(1),X'0B'       SET UP BRANCH ON BIT INSTRUCTION     AROS0039
000008 810B      1(1)               40          LRI    R7(0),X'FF'       SET ALL BITS ON IN REG 7             AROS0040
00000A 86FF      7(0)               41          LRI    R7(1),X'FF'       SET ALL BITS ON IN REG 7             AROS0041
00000C 87FF      7(1)       000B2   42          B      MAXIT06           BRANCH TO CONTINUE TESTING           AROS0042
00000E A8A2
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 LOC   OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT                                    DOS CL3-6 02/24/72

                                    45 *     THE FOLLOWING INSTRUCTIONS CORRECT PARITY AND SAVE THE GROUP    * AROS0045
                                    46 *     ZERO REGISTERS.                                                 * AROS0046

000010                              48 STARTMA  EQU   *                                                        AROS0048
000010 0082       0     0           49          ST    R0,0(R0)          SAVE LEVEL 1 AND 2 IAR                AROS0049
000012 0014       0     01          50          OUT   R0,X'01'          SET GOOD PARITY IN R1                 AROS0050
000014 0186       1     0           51          ST    R1,4(R0)          SAVE R1                               AROS0051

000016 0024       0     02          53          OUT   R0,X'02'          SET GOOD PARITY IN R2                 AROS0053
000018 028A       2     0           54          ST    R2,8(R0)          SAVE R2                               AROS0054

00001A 0034       0     03          56          OUT   R0,X'03'          SET GOOD PARITY IN R3                 AROS0056
00001C 038E       3     0           57          ST    R3,12(R0)         SAVE R3                               AROS0057

00001E 0044       0     04          59          OUT   R0,X'04'          SET GOOD PARITY IN R4                 AROS0059
000020 0492       4     0           60          ST    R4,16(R0)         SAVE R4                               AROS0060

000022 0054       0     05          62          OUT   R0,X'05'          SET GOOD PARITY IN R5                 AROS0062
000024 0596       5     0           63          ST    R5,20(R0)         SAVE R5                               AROS0063

000026 0064       0     06          65          OUT   R0,X'06'          SET GOOD PARITY IN R6                 AROS0065
000028 069A       6     0           66          ST    R6,24(R0)         SAVE R6                               AROS0066

00002A 0074       0     07          68          OUT   R0,X'07'          SET GOOD PARITY IN R7                 AROS0068
00002C 079E       7     0           69          ST    R7,28(R0)         SAVE R7                               AROS0069
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                                      72 *     THE FOLLOWING INSTRUCTIONS TEST THE BRANCH, BRANCH ON Z LATCH,   * AROS0072
                                      73 *     BRANCH ON C LATCH, LOAD REGISTER IMMEDIATE, OR REGISTER          * AROS0073
                                      74 *     IMMEDIATE, ADD REGISTER IMMEDIATE, AND TEST REGISTER IMMEDIATE   * AROS0074
                                      75 *     INSTRUCTIONS AND DATA FLOW.                                        AROS0075

00002E A804               00034       77         B      MAXIT02             BRANCH AROUND ERROR OUTPUT           AROS0077
000030                                78 MAXIE01 EQU    *                                                        AROS0078
000030 7004     0    70               79         OUT    0,STOP              AN INSTRUCTION OR DATA FLOW HAS      AROS0079
                                      80 *                                  FAILED                               AROS0080
000032 0000                           81         DC     X'0000'                                                  AROS0081

000034                                83 MAXIT02 EQU    *                                                        AROS0083
000034 8000     1(0)                  84         LRI    R1(0),X'00'         LOAD ZERO'S INTO REG 1 BYTE 0        AROS0084
000036 9809               00030       85         BCL    MAXIE01             LRI, BCL OR DATA FLOW FAILURE        AROS0085
000038 8100     1(1)                  86         LRI    R1(1),X'00'         LOAD ZERO'S INTO REG 1 BYTE 1        AROS0086
00003A 980D               00030       87         BCL    MAXIE01             LRI, BCL OR DATA FLOW FAILURE        AROS0087

00003C D100     1(1)                  89         ORI    R1(1),X'00'         OR ZERO'S WITH REG 1 BYTE 1          AROS0089
00003E 9100     1(1)                  90         ARI    R1(1),X'00'         ADD ZERO'S WITH REG 1 BYTE 1         AROS0090
000040 F1FF     1(1)                  91         TRM    R1(1),X'FF'         ARE ANY BITS ON?                     AROS0091
000042 9815               00030       92         BCL    MAXIE01             ORI, ARI, TRM, OR DATA FLOW FAILURE  AROS0092

000044 D1FF     1(1)                  94         ORI    R1(1),X'FF'         OR ALL BITS ON WITH REG 1 BYTE 1     AROS0094
000046 91FF     1(1)                  95         ARI    R1(1),X'FF'         ADD ALL BITS ON WITH REG 1 BYTE 1    AROS0095
000048 F101     1(1)                  96         TRM    R1(1),X'01'         ALL BITS BUT THE LOW ORDER BIT       AROS0096
                                      97 *                                  SHOULD BE ON                         AROS0097
00004A 981D               00030       98         BCL    MAXIE01             ORI, ARI, TRM, OR DATA FLOW FAILURE  AROS0098

00004C F001     1(0)                 100         TRM    R1(0),X'01'         DID ADD PROPAGATE?                   AROS0100
00004E 8821               00030      101         BZL    MAXIE01             ORI, ARI, TRM, BZL OR DATA FLOW      AROS0101
                                     102 *                                  FAILURE                              AROS0102

000050 D0FF     1(0)                 104         ORI    R1(0),X'FF'         OR ALL BITS ON WITH REG 1 BYTE 0     AROS0104
000052 90FF     1(0)                 105         ARI    R1(0),X'FF'         ADD ALL BITS ON WITH REG 1 BYTE 0    AROS0105
000054 9802               00058      106         BCL    MAXIT04             BRANCH DUE TO ADD CAUSING A          AROS0106
                                     107 *                                  PROPAGATION                          AROS0107

000056                               109 MAXIT03 EQU    *                                                        AROS0109
000056 FFFF                          110         DC     X'FFFF'             THIS IS A CONTSANT FOR TESTING, AS A AROS0110
                                     111 *                                  INSTRUCTION IT IS A BRANCH BACK PAST AROS0111
                                     112 *                                  ZERO.                                AROS0112

000058                               114 MAXIT04 EQU    *                                                        AROS0114
000058 8000     1(0)                 115         LRI    R1(0),X'00'         LOAD ZERO'S INTO REG 1 BYTE 0        AROS0115
00005A D000     1(0)                 116         ORI    R1(0),X'00'         OR ZERO'S WITH REG 1 BYTE 0          AROS0116
00005C 9000     1(0)                 117         ARI    R1(0),X'00'         ADD ZERO'S WITH REG 1 BYTE 0         AROS0117
00005E F0FF     1(0)                 118         TRM    R1(0),X'FF'         ARE ANY BITS ON?                     AROS0118
000060 9833               00030      119         BCL    MAXIE01             ORI, ARI, TRM OR DATA FLOW FAILURE   AROS0119
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  LOC  OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT                                             DOS CL3-6 02/24/72

                                    122 *      THE FOLLOWING INSTRUCTIONS TEST GROUP 0 REGISTERS USED BY ROS        * AROS0122
                                    123 *      AND THE EXCLUSIVE OR REGISTER, INPUT, AND OUTPUT INSTRUCTIONS       * AROS0123

000062 77C8        7    7           125           XR     R7,R7                  CLEAR REG 7                       AROS0125

000000                              127           USING  SMAXST,R7                                                 AROS0127

000064 7157        1    7   00056   129           LH     R1,MAXIT03             LOAD ALL BITS ON INTO REG 1       AROS0129

                                    131           DROP   R7                                                        AROS0131

000066 051C        5   01           133           IN     R5,X'01'               INPUT REG 1 TO REG 5              AROS0133
000068 0134        1   03           134           OUT    R1,X'03'               OUTPUT REG 1 TO REG 3             AROS0134
00006A 53C8        3    5           135           XR     R3,R5                  ARE REG 3 AND REG 5 EQUAL?        AROS0135
00006C 983F                 00030   136           BCL    MAXIE01                EXCLUSIVE OR REGISTER, LOAD HALFWORD AROS0136
                                    137 *                                       INPUT, OR OUTPUT INSTRUCTION FAILURE AROS0137

00006E 73C8        3    7           139           XR     R3,R7                  ARE REG 3 AND REG 7 EQUAL?        AROS0139
000070 9843                 00030   140           BCL    MAXIE01                EXCLUSIVE OR REGISTER, LOAD HALFWORD AROS0140
                                    141 *                                       INPUT, OR OUTPUT INSTRUCTION FAILURE AROS0141

000072 17C8        7    1           143           XR     R7,R1                  EXCLUSIVE OR ALL BITS ON INTO REG 7 AROS0143
000074 0354        3   05           144           OUT    R3,X'05'               OUTPUT ZERO'S TO REG 5            AROS0144
000076 013C        1   03           145           IN     R1,X'03'               INPUT ZERO'S TO REG 1             AROS0145
000078 15C8        5    1           146           XR     R5,R1                  ARE REG 5 AND REG 1 EQUAL?        AROS0146
00007A 984D                 00030   147           BCL    MAXIE01                EXCLUSIVE OR REGISTER, INPUT, OR  AROS0147
                                    148 *                                       OUTPUT INSTRUCTION FAILURE        AROS0148
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LOC     OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT

                                     151 *    THE FOLLOWING INSTRUCTIONS TEST THE STORE HALFWORD, LOAD HALF-   * AROS0151
                                     152 *    WORD, EXCLUSIVE OR REGISTER, AND STORE INSTRUCTIONS               * AROS0152

00007C 8007       1(0)               154        LRI   R1(0),X'07'       SET UP ADDRESS FOR TESTING               AROS0154
00007E 1785       7     1            155        STH   R7,4(R1)         STORE HALFWORD WITH ALL BITS ON          AROS0155
000080 1305       3     1            156        LH    R3,4(R1)         LOAD HALFWORD PREVIOUSLY STORED          AROS0156
000082 73C8       3     7            157        XR    R3,R7            ARE REG 3 AND REG 7 EQUAL?               AROS0157
000084 9857                 00030    158        BCL   MAXIE01          STORE HALFWORD OR LOAD HALFWORD          AROS0158
                                     159 *                             FAILURE                                  AROS0159

000086 1585       5     1            161        STH   R5,4(R1)         STORE HALFWORD WITH ALL BITS OFF         AROS0161
000088 1305       3     1            162        LH    R3,4(R1)         LOAD HALFWORD PREVIOUSLY STORED          AROS0162
00008A 53C8       3     5            163        XR    R3,R5            ARE REG 3 AND REG 5 EQUAL?               AROS0163
00008C 985F                 00030    164        BCL   MAXIE01          STORE HALFWORD OR LOAD HALFWORD          AROS0164
                                     165 *                             INSTRUCTION FAILURE                      AROS0165

00008E 1786       7     1            167        ST    R7,4(R1)         STORE ALL BITS ON FOR THE SECOND         AROS0167
                                     168 *                             HALFWORD                                 AROS0168
000090 1305       3     1            169        LH    R3,4(R1)         LOAD FIRST HALFWORD OF THE FULLWORD      AROS0169
                                     170 *                             PREVIOUSLY STORED                        AROS0170
000092 53C8       3     5            171        XR    R3,R5            ARE THEY EQUAL?                          AROS0171
000094 9867                 00030    172        BCL   MAXIE01          STORE INSTRUCTION FAILURE                AROS0172

000096 1507       5     1            174        LH    R5,6(R1)         LOAD SECOND HALFWORD OF THE FULLWORD     AROS0174
                                     175 *                             PREVIOUSLY STORED                        AROS0175
000098 75C8       5     7            176        XR    R5,R7            ARE REG5 AND REG 7 EQUAL?                AROS0176
00009A 986D                 00030    177        BCL   MAXIE01          STORE INSTRUCTION FAILURE                AROS0177

00009C 1586       5     1            179        ST    R5,4(R1)         STORE ALL BITS OFF IN THE SECOND         AROS0179
                                     180 *                             HALFWORD                                 AROS0180
00009E 0707       7     0            181        LH    R7,6(R0)         LOAD SECOND HALFWORD OF THE FULLWORD     AROS0181
                                     182 *                             PREVIOUSLY STORED                        AROS0182
0000A0 75C8       5     7            183        XR    R5,R7            ARE REG 5 AND REG 7 EQUAL?               AROS0183
0000A2 9875                 00030    184        BCL   MAXIE01          STORE INSTRUCTION FAILURE                AROS0184
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                                    187 *     THE FOLLOWING INSTRUCTIONS TEST THE BRANCH ON BIT INSTRUCTION   * AROS0187
                                    188 *     THIS IS DONE BY CHANGING THE BRANCH ON BIT INSTRUCTION EACH     * AROS0188
                                    189 *     TIME THROUGH. BRANCH ON BIT IS TESTED NOT TO BRANCH WHEN THE    * AROS0189
                                    190 *     BIT IS OFF AND THEN TO BRANCH WHEN THE BIT IS ON.               * AROS0190

0000A4 80CE       1(0)              192           LRI   R1(0),X'CE'      SET UP BRANCH ON BIT INSTRUCTION      AROS0192
0000A6 8106       1(1)              193           LRI   R1(1),X'06'      SET UP BRANCH ON BIT INSTRUCTION      AROS0193
0000A8 83B4       3(1)              194           LRI   R3(1),X'B4'      SET UP ADDRESS FOR BRANCH ON BIT      AROS0194
                                    195 *                                INSTRUCTION                           AROS0195
0000AA A806                 000B2   196           B     MAXIT06          BRANCH TO BEGIN TEST                  AROS0196

0000AC                              198 MAXIT05   EQU   *                                                      AROS0198
0000AC 9180       1(1)              199           ARI   R1(1),X'80'      UPDATE INSTRUCTION TO BE TESTED       AROS0199
0000AE 98AF                 00002   200           BCL   MAXIT01          BRANCH INSTRUCTION HAS GONE THROUGH   AROS0200
                                    201 *                                SIXTEEN ITERATIONS                    AROS0201
0000B0 D00E       1(0)              202           ORI   R1(0),X'0E'      CORRECT INSTRUCTION WHEN PROPAGATION  AROS0202
                                    203 *                                OCCURS OVER THREE BITS REPRESENTING   AROS0203
                                    204 *                                REG 7                                 AROS0204

0000B2                              206 MAXIT06   EQU   *                                                      AROS0206
0000B2 3181       1     3           207           STH   R1,0(R3)         STORE BRANCH ON BIT INSTRUCTION       AROS0207
0000B4 CE06       7(0,0)      000BC   208           BB    R7(0,0),MAXIE02  ** THIS INSTRUCTION CHANGES     ***  AROS0208
0000B6 F6FF       7(0)              209           TRM   R7(0),X'FF'      IF BRANCH DID NOT OCCUR SHOULD IT     AROS0209
                                    210 *                                HAVE?                                 AROS0210
0000B8 9802                 000BC   211           BCL   MAXIE02          YES, IT SHOULD HAVE OCCURED BUT DID   AROS0211
                                    212 *                                NOT                                   AROS0212

0000BA 8811                 000AC   214           BZL   MAXIT05          BRANCH TO SET UP NEXT BRANCH ON BIT   AROS0214
                                    215 *                                INSTRUCTION                           AROS0215

0000BC 7004       0     70          217 MAXIE02   OUT   0,STOP                                                 AROS0217
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  LOC  OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT                                  DOS CL3-6 02/24/72

                                    220 *     THE FOLLOWING INSTRUCTIONS OUTPUT THE GROUP 1, 2, AND 3          * AROS0220
                                    221 *     REGISTERS IN ORDER TO CORRECT PARITY.                            * AROS0221

0000BE                              223 MAXIT07  EQU   *                                                        AROS0223
0000BE 8174       1(1)              224          LRI   R1(1),X'74'      LOAD OUTPUT INSTRUCTION               AROS0224
0000C0 83C8       3(1)              225          LRI   R3(1),X'C8'      LOAD ADDRESS OF OUTPUT INSTRUCTION     AROS0225
0000C2                              226 MAXIT08  EQU   *                                                        AROS0226
0000C2 9110       1(1)              227          ARI   R1(1),X'10'      UPDATE INSTRUCTION                    AROS0227
0000C4 F886       1(0,7)    000CC   228          BB    R1(0,7),MAXIT10  BRANCH WHEN GROUP 1 IS CORRECTED      AROS0228

0000C6                              230 MAXIT09  EQU   *                                                        AROS0230
0000C6 3181       1     3           231          STH   R1,0(R3)         STORE OUTPUT INSTRUCTION              AROS0231
0000C8 0084       0     08          232          OUT   R0,X'08'         *** THIS INSTRUCTION CHANGES    **** AROS0232
0000CA A80B               000C2   233          B     MAXIT08          BRANCH TO CONTINUE UPDATING OF THE    AROS0233
                                    234 *                              OUTPUT INSTRUCTION                    AROS0234

0000CC                              236 MAXIT10  EQU   *                                                        AROS0236
0000CC D884       1(0,3)    000D2   237          BB    R1(0,3),ESCCHK   BRANCH TO IPL HANDLER WHEN GROUP 2    AROS0237
                                    238 *                              AND 3 ARE PARITY CORRECTED            AROS0238

0000CE 8010       1(0)              240          LRI   R1(0),X'10'       SET UP TO CORRECT PARITY OF GROUP 2   AROS0240
                                    241 *                              AND GROUP 3 REGISTERS                 AROS0241
0000D0 A80D               000C6   242          B     MAXIT09          BRANCH TO START PARITY CORRECTION      AROS0242

                                    244 ************************************************************************ AROS0244
0000D2                              245 ESCCHK   EQU   *                                                        AROS0245
0000D2 719C       1    79           246          IN    R1,X'79'         INPUT UTILITY REG FOR ESCAPE BIT      AROS0246
0000D4 F982       1(1,7)    000D8   247          BB    R1(1,7),ROS01    BRANCH BIT IS ON FOR NO ESCAPE        AROS0247
0000D6 AE24               006FC   248          B     ESCAPE           BRANCH TO ESCAPE TO CORRECTED CODE    AROS0248
0006FC                              249 ESCAPE   EQU   SROS+X'6FC'                                            AROS0249
                                    250 * THIS IS FOR ROS ESCAPE                                             AROS0250
                                    251 ************************************************************************ AROS0251
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 LOC  OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT                                    DOS CL3-6 02/24/72


                                    254 *     THE FOLLOWING INSTRUCTIONS SAVE THE INTERRUPT REQUEST GROUP 1,  * AROS0254
                                    255 *     MACHINE CHECK ERROR REGISTER, AND INTERRUPT REQUEST GROUP 1 FOR * AROS0255
                                    256 *     ADAPTERS AND INSURE THAT IPL LEVEL 1 REQUEST WAS THE CAUSE OF   * AROS0256
                                    257 *     THIS INTERRUPT.                                                 * AROS0257

0000D8                              259 ROS01    EQU   *                                                      AROS0259
0000D8 71DC      1    7D            260          IN    R1,MACHK          GET MACHINE CHECK ERROR REGISTER     AROS0260
0000DA 0185      1     0            261          STH   R1,4(R0)          SAVE MACHINE CHECK ERROR REGISTER    AROS0261

0000DC 716C      1    76            263          IN    R1,X'76'          GET INTERRUPT REQUEST GROUP 1 FOR    AROS0263
                                    264 *                                ADAPTERS                             AROS0264
0000DE 0183      1     0            265          STH   R1,2(R0)          SAVE INTERRUPT REQUEST GROUP 1 FOR   AROS0265
                                    266 *                                ADAPTERS                             AROS0266

0000E0 71EC      1    7E            268          IN    R1,INTGP1         GET INTERRUPT REQUEST GROUP 1        AROS0268
0000E2 0187      1     0            269          STH   R1,6(R0)          SAVE INTERRUPT REQUEST GROUP 1       AROS0269

0000E4 F902      1(1,6)    000E8    271          BB    R1(1,6),ROS02     IS THIS A IPL LEVEL 1 REQUEST?       AROS0271
0000E6 7004      0    70           272          OUT   0,STOP             HARDSTOP DUE TO ANY OTHER LEVEL 1    AROS0272

                                    274 *     THE FOLLOWING INSTRUCTIONS SET CHANNEL ADAPTER 1 MODE AND THEN  * AROS0274
                                    275 *     CHECK TO SEE THAT THE CHANNEL ADAPTER IS SELECTED AND CHECKS    * AROS0275
                                    276 *     TO INSURE THAT THE CHANNEL ADAPTER IS ENABLED. A PROBLEM NUMBER * AROS0276
                                    277 *     IS DISPLAYED IF THE ABOVE CONDITIONS DO NOT OCCUR.              * AROS0277

0000E8                              279 ROS02    EQU   *                                                      AROS0279
0000E8 11C8      1     1           280          XR    R1,R1                                                  AROS0280
0000EA 8040      1(0)              281          LRI   R1(0),X'40'       SET RESET FOR CCU CHECKS             AROS0281
0000EC 7174      1    77           282          OUT   R1,MISCON         CLEAR CCU CHECKS                     AROS0282

0000EE 75C8      5     7           284          XR    R5,R7             *** GENERATED CHECK CHARACTER ***    AROS0284
                                    285 *                                *** R5=FFFF,R7=FFFF AFTER EXECUTION  AROS0285
0000F0 35C8      5     3           286          XR    R5,R3             *** R5=FF37,R3=00C8 AFTER EXECUTION  AROS0286

0000F2 33C8      3     3           288          XR    R3,R3             CLEAR REG 3                          AROS0288
0000F4 7314      3    71           289          OUT   R3,DSPLY1         CLEAR DISPLAY 1                      AROS0289
0000F6 7324      3    72           290          OUT   R3,DSPLY2         CLEAR DISPLAY 2                      AROS0290

0000F8 8310      3(1)              292          LRI   R3(1),X'10'       RESET TEST MODE                      AROS0292
0000FA 7394      3    79           293          OUT   R3,X'79'          OUTPUT TO RESET TEST MODE            AROS0293

0000FC                              295 ROS03    EQU   *                                                      AROS0295
0000FC 77C8      7     7           296          XR    R7,R7             CLEAR REG 7                          AROS0296

0000FE 8788      7(1)              298          LRI   R7(1),X'88'       SET CA 1 MODE                        AROS0298
000100 5774      7    57           299          OUT   R7,CAMR           OUTPUT TO SET MODE                   AROS0299

000102 77C8      7     7           301          XR    R7,R7             CLEAR REG 7                          AROS0301
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  LOC  OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT                                                 DOS CL3-6 02/24/72

000104 716C       1    76          303          IN    R1,X'76'         INPUT LEVEL 1 INTERRUPTS             AROS0303
000106 E8A0       1(0,5)     00128 304          BB    R1(0,5),ROS06    BRANCH IF CA 1 LEVEL 1 INTERRUPT     AROS0304

000108 717C       1    77          306          IN    R1,X'77'         INPUT LEVEL 3 INTERRUPTS             AROS0306
00010A E906       1(1,4)     00112 307          BB    R1(1,4),ROS04    BRANCH IF CA 1 LEVEL 3 INTERRUPT     AROS0307

00010C 8304       3(1)             309          LRI   R3(1),X'04'      SET NO LEVEL 3 REQUEST INDICATION    AROS0309
00010E 7324       3    72          310          OUT   R3,DSPLY2        OUTPUT TO DISPLAY 2                  AROS0310
000110 A817                  000FC 311          B     ROS03            BRANCH TRYING TO SET LEVEL 3         AROS0311
                                   312 *                               INTERRUPT                            AROS0312

000112                             314 ROS04    EQU   *                                                     AROS0314
000112 515C       1    55          315          IN    R1,CACR          INPUT CA CONTROL REGISTER            AROS0315
000114 F986       1(1,7)     0011C 316          BB    R1(1,7),ROS05    BRANCH IF CA SELECTED                AROS0316

000116 8301       3(1)             318          LRI   R3(1),X'01'      CA NOT SELECTED INDICATION           AROS0318
000118 7324       3    72          319          OUT   R3,DSPLY2        OUTPUT TO DISPLAY                    AROS0319

00011A A821                  000FC 321          B     ROS03            BRANCH TRYING TO SET CA SELECTED     AROS0321
00011C                             322 ROS05    EQU   *                                                     AROS0322
00011C 518C       1    58          323          IN    R1,X'58'         INPUT REG 58                         AROS0323
00011E E90E       1(1,4)     0012E 324          BB    R1(1,4),ROS07    BRANCH IF CA ENABLED                 AROS0324
000120 E98C       1(1,5)     0012E 325          BB    R1(1,5),ROS07    BRANCH IF CA ENABLED                 AROS0325

000122 8302       3(1)             327          LRI   R3(1),X'02'      CA NOT ENABLED INDICATION            AROS0327
000124 7324       3    72          328          OUT   R3,DSPLY2        OUTPUT TO DISPLAY                    AROS0328
000126 A80D                  0011C 329          B     ROS05            BRANCH TO WAIT FOR CA ENABLED        AROS0329

000128                             331 ROS06    EQU   *                                                     AROS0331
000128 8728       7(1)             332          LRI   R7(1),X'28'      SET RESET TYPE 2 CA L1 REQ AND       AROS0332
                                   333 *                               SELECT TYPE 2 CA 1                   AROS0333
00012A 5774       7    57          334          OUT   R7,CAMR                                               AROS0334
00012C A833                  000FC 335          B     ROS03                                                 AROS0335
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  LOC  OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT                                    DOS CL3-6 02/24/72

                                    338 *     THE FOLLOWING INSTRUCTIONS SET A LEVEL 3 REQUEST AND THEN FIND  * AROS0338
                                    339 *     OUT WHICH STATE THE CHANNEL ADAPTER IS IN, CA NOT ACTIVE, CA    * AROS0339
                                    340 *     ACTIVE WITHOUT IPL CMD, OR CA ACTIVE WITH IPL CMD. THEN INSURE  * AROS0340
                                    341 *     THAT A LEVEL 3 INTERRUPT IS PENDING                             * AROS0341

00012E                              343 ROS07   EQU   *                                                        AROS0343
00012E 515C      1    55            344         IN    R1,CACR          INPUT CA CONTROL REGISTER           AROS0344
000130 F884      1(0,7)   00136     345         BB    R1(0,7),ROS08    BRANCH IF CA 1 IS ACTIVE            AROS0345

000132 8619      7(0)               347         LRI   R7(0),X'19'      SET DEVICE END, UNIT CHECK, AND     AROS0347
                                    348 *                              IPL REQUIRED                        AROS0348
000134 A81E              00154      349         B     ROS14                                                AROS0349

000136                              351 ROS08   EQU   *                                                        AROS0351
000136 51CC      1    5C            352         IN    R1,CMDR          INPUT CA COMMAND REGISTER           AROS0352
000138 F984      1(1,7)   0013E     353         BB    R1(1,7),ROS10    BRANCH IF IPL COMMAND               AROS0353

00013A                              355 ROS09   EQU   *                                                        AROS0355
00013A 8659      7(0)               356         LRI   R7(0),X'59'      SET CHANNEL END ,DEVICE END, UNIT   AROS0356
                                    357 *                              CHECK, AND IPL REQUIRED             AROS0357
00013C A816              00154      358         B     ROS14                                                AROS0358

00013E                              360 ROS10   EQU   *                                                        AROS0360
00013E 0101      1     0            361         LH    R1,0(R0)         GET FLAG WORD                       AROS0361
000140 F889      1(0,7)   0013A     362         BB    R1(0,7),ROS09    BRANCH IF IPL IN PROGRESS           AROS0362

000142 515C      1    55            364         IN    R1,CACR                                              AROS0364
000144 D984      1(1,3)   0014A     365         BB    R1(1,3),ROS11    BRANCH IF SELECTIVE / SYSTEM RESET  AROS0365

000146 D90F      1(1,2)   0013A     367         BB    R1(1,2),ROS09    BRANCH IF HALT I/O OR INTERFACE STOP AROS0367

000148 A810              0015A     369         B     ROS15                                                AROS0369
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  LOC  OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT                                        DOS CL3-6 02/24/72

                                          372 *     THE FOLLOWING INSTRUCTIONS OUTPUT STATUS TO THE CHANNEL ADAPTER * AROS0372

000014A                                   374 ROS11    EQU   *                                                      AROS0374
000014A D73E       7(1)                   375          ORI   R7(1),X'3E'      RESET LEVEL 1 AND 3 INTERRUPTS, SET   AROS0375
                                          376 *                               CA 1 MODE AND SET S/S AND HIO RESET  AROS0376
000014C                                   377 ROS12    EQU   *                                                      AROS0377
000014C D601       7(0)                   378          ORI   R7(0),X'01'      SET IPL REQUIRED                      AROS0378
000014E A80A                 0015A        379          B     ROS15            BRANCH TO DO OUTPUT                   AROS0379

000150                                    381 ROS13    EQU   *                                                      AROS0381
000150 D73A        7(1)                   382          ORI   R7(1),X'3A'      RESET LEVEL 1 AND 3 INTERRUPTS ,SET   AROS0382
                                          383 *                               CA 1 MODE AND RESET IS/HIO           AROS0383
000152 A806                  0015A        384          B     ROS15                                                  AROS0384

000154                                    386 ROS14    EQU   *                                                      AROS0386
000154 515C        1    55                387          IN    R1,CACR          INPUT CA CONTROL REGISTER             AROS0387
000156 D98F        1(1,3)    0014A        388          BB    R1(1,3),ROS11    BRANCH ON SELECTIVE / SYSTEM RESET    AROS0388
000158 D90B        1(1,2)    00150        389          BB    R1(1,2),ROS13    BRANCH ON HALT I/O OR INTERFACE STOP  AROS0389

00015A                                    391 ROS15    EQU   *                                                      AROS0391
00015A 11C8        1     1               392          XR    R1,R1                                                  AROS0392
00015C 0181        1     0               393          STH   R1,0(R0)         CLEAR IPL FLAG BYTE 0 BIT 0           AROS0393

00015E D738        7(1)                   395          ORI   R7(1),X'38'      SET RESET LEVEL 1 AND 3 INTERRUPTS    AROS0395
                                          396 *                               AND SET CA 1 MODE                    AROS0396
000160 F6FF        7(0)                   397          TRM   R7(0),X'FF'      TEST REG 7 FOR OUTPUT INFORMATION     AROS0397
000162 8804                  00168        398          BZL   ROS16            BRANCH IF NO OUTPUT                   AROS0398

000164 5774        7    57                400          OUT   R7,CAMR         OUTPUT REG 7 TO CA MODE REGISTER      AROS0400

000166 77C8        7     7                402          XR    R7,R7            CLEAR REG 7                           AROS0402
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 LOC    OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT

                                     405 *     THE FOLLOWING INSTRUCTIONS WAIT FOR A LEVEL 3 INTERRUPT OR A    * AROS0405
                                     406 *     LEVEL 2 INTERRUPT AND IF A LEVEL 3 IS RECIEVED SET UP THE INCWAR* AROS0406
                                     407 *     AND RESET LEVEL 3 REQUEST                                        * AROS0407

                                                                                                                  AROS0409
000168                               409 ROS16  EQU   *                                                          AROS0410
000168 8308       3(1)               410        LRI   R3(1),X'08'     SET WAIT FOR IPL INDICATION                AROS0411
00016A 7324       3    72            411        OUT   R3,DSPLY2       OUTPUT TO DISPLAY 2

                                                                       INPUT LEVEL 1 INTERRUPTS                   AROS0413
00016C 716C       1    76            413        IN    R1,X'76'                                                   AROS0414
00016E E8A5       1(0,5)    0018C    414        BB    R1(0,5),ROS12   BRANCH IF CA 1 LEVEL 1 INTERRUPT

                                                                       INPUT LEVEL 3 INTERRUPTS                   AROS0416
000170 717C       1    77            416        IN    R1,X'77'                                                   AROS0417
000172 E902       1(1,4)    00176    417        BB    R1(1,4),ROS17   BRANCH IF CA 1 LEVEL 3 INTERRUPT

                                                                       WAIT FOR LEVEL 3                           AROS0419
000174 A80F                00168    419        B     ROS16

                                                                                                                  AROS0421
000176                               421 ROS17  EQU   *                                                          AROS0422
000176 515C       1    55            422        IN    R1,CACR         INPUT CA CONTROL REGISTER                  AROS0423
000178 D9B1       1(1,3)    0014A    423        BB    R1(1,3),ROS11   BRANCH ON SELECTIVE / SYSTEM RESET

00017A D94C       1(1,2)    001C8    425        BB    R1(1,2),ROS23   BRANCH ON HALT I/O OR INTERFACE STOP        AROS0425

                                                                       INPUT CA COMMAND REGISTER                  AROS0427
00017C 51CC       1    5C            427        IN    R1,CMDR                                                    AROS0428
00017E F982       1(1,7)    00182    428        BB    R1(1,7),ROS18   BRANCH IF IPL CMD

000180 A837                0014C    430        B     ROS12           BRANCH TO SET IPL REQUIRED                 AROS0430

                                                                                                                  AROS0432
000182                               432 ROS18  EQU   *                                                          AROS0433
000182 8001       1(0)               433        LRI   R1(0),X'01'     SET UP ADDRESS OF INCWAR                   AROS0434
000184 81FA       1(1)               434        LRI   R1(1),X'FA'     SET UP ADDRESS OF INCWAR                   AROS0435
000186 0181       1    0             435        STH   R1,0(R0)        SET IPL FLAG BYTE 0 BIT 0                  AROS0436
000188 5104       1    50            436        OUT   R1,INCWAR       PUT ADDRESS IN INCWAR REG

                                                                       SET UP ADDRESS OF CONNT                    AROS0438
00018A 8204       3(0)               438        LRI   R3(0),X'04'     SET UP ADDRESS OF COUNT                    AROS0439
00018C 8302       3(1)               439        LRI   R3(1),X'02'

                                                                       STORE DUMMY COUNT                          AROS0441
00018E 3381       3    3             441        STH   R3,0(R3)

                                                                       SET RESET LEVEL 3 AND CA 1 MODE            AROS0443
000190 8718       7(1)               443        LRI   R7(1),X'18'     OUTPUT TO RESET LEVEL 3 INTERRUPT          AROS0444
000192 5774       7    57            444        OUT   R7,CAMR
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  LOC  OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT                                    DOS CL3-6 02/24/72

                                    447 *     THE FOLLOWING INSTRUCTIONS LOOK FOR A LEVEL 1 OR LEVEL 3 INTER- * AROS0447
                                    448 *     RUPT FROM THE CHANNEL ADAPTER.                                  * AROS0448

000194                              450 ROS19    EQU   *                                                        AROS0450
000194 7324      3    72            451          OUT   R3,DSPLY2          OUTPUT TO DISPLAY2                    AROS0451

000196 716C      1    76            453          IN    R1,X'76'           INPUT LEVEL 1 INTERRUPTS              AROS0453

000198 E8CF      1(0,5)    0014C    455          BB    R1(0,5),ROS12      BRANCH IF LEVEL 1 INTERRUPT FOR CA 1  AROS0455

00019A 717C      1    77            457          IN    R1,X'77'           INPUT LEVEL 3 INTERRUPTS              AROS0457

00019C E902      1(1,4)    001A0    459          BB    R1(1,4),ROS20      BRANCH IF LEVEL 3 INTERRUPT FOR CA 1  AROS0459

00019E A80D               00194    461          B     ROS19              WAIT FOR INTERRUPT                    AROS0461

0001A0                              463 ROS20    EQU   *                                                        AROS0463
0001A0 515C      1    55            464          IN    R1,CACR            INPUT CA CONTROL REGISTER             AROS0464

0001A2 D9DB      1(1,3)    0014A    466          BB    R1(1,3),ROS11      BRANCH ON SELECTIVE / SYSTEM RESET    AROS0466

0001A4 D902      1(1,2)    001A8    468          BB    R1(1,2),ROS21      BRANCH IF HALT I/O OR INTERFACE STOP  AROS0468

0001A6 A848               001F0    470          B     ROS26                                                    AROS0470
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 LOC  OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT

                                  473 *     THE FOLLOWING INSTRUCTIONS TEST FOR A SUCCESFULL LOAD UNDER THE * AROS0473
                                  474 *     IPL COMMAND                                                      * AROS0474

                                  476 ROS21 EQU   *                                                          AROS0476
0001A8                            477       XR    R1,R1          CLEAR REG 1                               AROS0477
0001A8 11C8       1     1         478       OUT   R1,DSPLY2      CLEAR DISPLAY                             AROS0478
0001AA 7124       1     72
                                  480       IN    R1,WDCNT       GET CA CONTROL WORD BYTE COUNT            AROS0480
0001AC 512C       1     52
                                  482       LRI   R3(0),X'FF'    LOAD ALL BITS ON REG 3                    AROS0482
0001AE 82FF       3(0)            483       LRI   R3(1),X'FF'    LOAD ALL BITS ON REG 3                    AROS0483
0001B0 83FF       3(1)
                                  485       ARI   R1(0),X'FC'    FILL CA CONTROL WORD BYTE COUNT           AROS0485
0001B2 90FC       1(0)
                                  487       XR    R1,R3          COMPLEMENT OF FFFE-COUNT                  AROS0487
0001B4 31C8       1     3
                                  489       LRI   R3(0),X'04'    LOAD ADDRESS OF BYTE COUNT                AROS0489
0001B6 8204       3(0)            490       LRI   R3(1),X'02'    LOAD ADDRESS OF BYTE COUNT                AROS0490
0001B8 8302       3(1)
                                  492       LH    R3,0(R3)       LOAD EXPECTED COUNT INTO REG 3            AROS0492
0001BA 3301       3     3         493       ARI   R3(1),X'01'    ADD 1 TO COUNT                            AROS0493
0001BC 9301       3(1)
                                  495       XR    R1,R3          ARE COUNTS EQUAL                          AROS0495
0001BE 31C8       1     3         496       BZL   ROS24          BRANCH IF EQUAL                           AROS0496
0001C0 880A             001CC
                                  498 ROS22 EQU   *                                                          AROS0498
0001C2                            499       XR    R1,R1          CLEAR REG 1                               AROS0499
0001C2 11C8       1     1
                                  501       LRI   R1(0),X'01'    LOAD UNIT EXCEPTION                       AROS0501
0001C4 8001       1(0)            502       OUT   R1,CASTR       OUTPUT TO CA STATUS REGISTER              AROS0502
0001C6 5144       1     54
                                  504 ROS23 EQU   *                                                          AROS0504
0001C8                            505       LRI   R7(0),X'59'    SET CHANNEL END , DEVICE END, UNIT        AROS0505
0001C8 8659       7(0)            506 *                          CHECK AND IPL REQUIRED                    AROS0506

0001CA A87D             00150     508       B     ROS13          BRANCH TO DO OUTPUT                       AROS0508
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LOC    OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT

                                   511 *      THE FOLLOWING INSTRUCTIONS RESET THE IPL LEVEL 1 REQUEST BIT AND* AROS0511
                                   512 *      TRANSFER CONTROL TO THE LOADED MODULE.                         * AROS0512

                                   514 ROS24    EQU    *                                                AROS0514
0001CC
0001CC 519C      1     59          515          IN     R1,X'59'        INPUT CYCLE STEAL ADDRESS REG    AROS0515
0001CE 9101      1(1)              516          ARI    R1(1),X'01'                                      AROS0516
0001D0 9204      3(0)              517          ARI    R3(0),X'04'                                      AROS0517
0001D2 31C8      1     3           518          XR     R1,R3           COMPARE COUNTS                   AROS0518
0001D4 9815                 001C2  519          BCL    ROS22           OUTPUT UE STATUS IF COUNTS NOT EQUAL AROS0519
0001D6 0181      1     0           520          STH    R1,0(R0)        CLEAR IPL FLAG                   AROS0520

0001D8 75C8      5     7           522          XR     R5,R7           GENERATED CHECK CHARACTER        AROS0522
                                   523 *                               R5=FF2F, R7=0018 AFTER EXECUTION AROS0523
0001DA 15C8      5     1           524          XR     R5,R1           R5=FF2F, R1=0000 AFTER EXECUTION AROS0524

0001DC 8001      1(0)              526          LRI    R1(0),X'01'     LOAD ADDRESS OF CHECK CHARACTER  AROS0526
0001DE 81F8      1(1)              527          LRI    R1(1),X'F8'     LOAD ADDRESS OF CHECK CHARACTER  AROS0527
0001E0 1301      3     1           528          LH     R3,0(R1)        LOAD CHECK CHARACTER INTO REG 3  AROS0528

0001E2 35C8      5     3           530          XR     R5,R3           ARE CHECK CHARACTERS EQUAL ?     AROS0530

0001E4 8804                 001EA  532          BZL    ROS25           BRANCH TO GO TO INITIAL TEST     AROS0532
0001E6 7004      0     70          533          OUT    0,STOP          HARDSTOP                         AROS0533
0001E8 0000                        534          DC     X'0000'         IF OUTPUT DOESN'T WORK           AROS0534

                                   536 ROS25    EQU    *                                                AROS0536
0001EA
0001EA 8480      5(0)              537          LRI    R5(0),X'80'     SET RESET IPL LEVEL 1 REQUEST BIT AROS0537
0001EC 7574      5     77          538          OUT    R5,MISCON       RESET IPL LEVEL 1 REQUEST        AROS0538

0001EE 1007      0     1           540          LH     R0,6(R1)        LOAD MODULE START ADDRESS AND BRANCH AROS0540
                                   541 *                               TO THAT ADDRESS                  AROS0541

                                   543 ROS26    EQU    *                                                AROS0543
0001F0
0001F0 D658      7(0)              544          ORI    R7(0),X'58'     SET CHANNEL END, DEVICE END, AND AROS0544
                                   545 *                               UNIT CHECK                       AROS0545
0001F2 A8A9                 0014C  546          B      ROS12                                            AROS0546
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  LOC  OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT

0001F4 A800                 001F6   549              NOP                                                        AROS0549
0001F6 A800                 001F8   550              NOP                                                        AROS0550
0001F8 FF2F                         551              DC    X'FF2F'    EXPECTED FINAL CHECK CHARACTER            AROS0551
0001FA 8FF8                         552              DC    X'8FF8'    SET UP INCWAR                             AROS0552
0001FC 0400                         553              DC    X'0400'    SET UP INCWAR                             AROS0553
0001FE 0404                         554              DC    X'0404'    START ADDRESS FOR LOADED MODULE           AROS0554
000200                              555 SMAXEND      EQU   *                                                    AROS0555

                                    558 *  END OF ROS CONTAINED CODE FOR MAXI CHANNEL ADAPTER (TYPE 2)  *       AROS0558
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 LOC  OBJ CODE  R1S1M R2S2 ADDR   STMT   SOURCE STATEMENT

00007E                           560 INTGP1   EQU   X'7E'    LEVEL 1 AND 2 INTERRUPT GROUP        AROS0560
000077                           561 MISCON   EQU   X'77'    RESET INTERRUPT LEVEL GROUP          AROS0561
00007D                           562 MACHK    EQU   X'7D'    MACHINE CHECKS                       AROS0562
000071                           563 DSPLY1   EQU   X'71'    PANEL DISPLAY1                       AROS0563
000072                           564 DSPLY2   EQU   X'72'    PANEL DISPLAY2                       AROS0564
000070                           565 STOP     EQU   X'70'    HARDSTOP                             AROS0565
000050                           566 INCWAR   EQU   X'50'                                         AROS0566
000057                           567 CAMR     EQU   X'57'                                         AROS0567
000055                           568 CACR     EQU   X'55'                                         AROS0568
00005C                           569 CMDR     EQU   X'5C'                                         AROS0569
000054                           570 CASTR    EQU   X'54'                                         AROS0570
000052                           571 WDCNT    EQU   X'52'                                         AROS0571
000000                           572 R0       EQU   0                                             AROS0572
000001                           573 R1       EQU   1                                             AROS0573
000002                           574 R2       EQU   2                                             AROS0574
000003                           575 R3       EQU   3                                             AROS0575
000004                           576 R4       EQU   4                                             AROS0576
000005                           577 R5       EQU   5                                             AROS0577
000006                           578 R6       EQU   6                                             AROS0578
000007                           579 R7       EQU   7                                             AROS0579
                                 580          END                                                 AROS0580
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CROSS-REFERENCE P/N 1785362 LOGIC: CW219

SYMBOL	LEN	VALUE	DEFN														
CACR	00001	000055	00568	0315	0344	0364	0387	0422	0464								
CAMR	00001	000057	00567	0299	0334	0400	0444										
CASTR	00001	000054	00570	0502													
CMDR	00001	00005C	00569	0352	0427												
DSPLY1	00001	000071	00563	0289													
DSPLY2	00001	000072	00564	0290	0310	0319	0328	0411	0451	0478							
ESCAPE	00001	0006FC	00249	0248													
ESCCHK	00001	0000D2	00245	0237													
INCWAR	00001	000050	00566	0436													
INTGP1	00001	00007E	00560	0268													
MACHK	00001	00007D	00562	0260													
MAXIE01	00001	000030	00078	0085	0087	0092	0098	0101	0119	0136	0140	0147	0158	0164	0172	0177	0184
MAXIE02	00002	0000BC	00217	0208	0211												
MAXIT01	00001	000002	00033	0200													
MAXIT02	00001	000034	00083	0077													
MAXIT03	00001	000056	00109	0129													
MAXIT04	00001	000058	00114	0106													
MAXIT05	00001	0000AC	00198	0214													
MAXIT06	00001	0000B2	00206	0042	0196												
MAXIT07	00001	0000BE	00223	0035													
MAXIT08	00001	0000C2	00226	0233													
MAXIT09	00001	0000C6	00230	0242													
MAXIT10	00001	0000CC	00236	0228													
MISCON	00001	000077	00561	0282	0538												
RELOCF	00001	000000	00014	0019													
ROS01	00001	0000D8	00259	0247													
ROS02	00001	0000E8	00279	0271													
ROS03	00001	0000FC	00295	0311	0321	0335											
ROS04	00001	000112	00314	0307													
ROS05	00001	00011C	00322	0316	0329												
ROS06	00001	000128	00331	0304													
ROS07	00001	00012E	00343	0324	0325												
ROS08	00001	000136	00351	0345													
ROS09	00001	00013A	00355	0362	0367												
ROS10	00001	00013E	00360	0353													
ROS11	00001	00014A	00374	0365	0388	0423	0466										
ROS12	00001	00014C	00377	0414	0430	0455	0546										
ROS13	00001	000150	00381	0389	0508												
ROS14	00001	000154	00386	0349	0358												
ROS15	00001	00015A	00391	0369	0379	0384											
ROS16	00001	000168	00409	0398	0419												
ROS17	00001	000176	00421	0417													
ROS18	00001	000182	00432	0428													
ROS19	00001	000194	00450	0461													
ROS20	00001	0001A0	00463	0459													
ROS21	00001	0001A8	00476	0468													
ROS22	00001	0001C2	00498	0519													
ROS23	00001	0001C8	00504	0425													
ROS24	00001	0001CC	00514	0496													
ROS25	00001	0001EA	00536	0532													
ROS26	00001	0001F0	00543	0470													

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CROSS-REFERENCE P/N 1785363 LOGIC: CW220

SYMBOL	LEN	VALUE	DEFN														
R0	00001	000000	00572	0049	0049	0050	0051	0053	0054	0056	0057	0059	0060	0062	0063	0065	0066	0068
				0069	0181	0232	0261	0265	0269	0361	0393	0435	0520	0540				
R1	00001	000001	00573	0038	0039	0051	0084	0086	0089	0090	0091	0094	0095	0096	0100	0104	0105	0115
				0116	0117	0118	0129	0134	0143	0145	0146	0154	0155	0156	0161	0162	0167	0169
				0174	0179	0192	0193	0199	0202	0207	0224	0227	0228	0231	0237	0240	0246	0247
				0260	0261	0263	0265	0268	0269	0271	0280	0280	0281	0282	0303	0304	0306	0307
				0315	0316	0323	0324	0325	0344	0345	0352	0353	0361	0362	0364	0365	0367	0387
				0388	0389	0392	0392	0393	0413	0414	0416	0417	0422	0423	0425	0427	0428	0433
				0434	0435	0436	0453	0455	0457	0459	0464	0466	0468	0477	0477	0478	0480	0485
				0487	0495	0499	0499	0501	0502	0515	0516	0518	0520	0524	0526	0527	0528	0540
R2	00001	000002	00574	0054														
R3	00001	000003	00575	0057	0135	0139	0144	0156	0157	0162	0163	0169	0171	0194	0207	0225	0231	0286
				0288	0288	0289	0290	0292	0293	0309	0310	0318	0319	0327	0328	0410	0411	0438
				0439	0441	0441	0451	0482	0483	0487	0489	0490	0492	0492	0493	0495	0517	0518
				0528	0530													
R4	00001	000004	00576	0060														
R5	00001	000005	00577	0063	0133	0135	0146	0161	0163	0171	0174	0176	0179	0183	0284	0286	0522	0524
				0530	0537	0538												
R6	00001	000006	00578	0066														
R7	00001	000007	00579	0034	0040	0041	0069	0125	0125	0127	0131	0139	0143	0155	0157	0167	0176	0181
				0183	0208	0209	0284	0296	0296	0298	0299	0301	0301	0332	0334	0347	0356	0375
				0378	0382	0395	0397	0400	0402	0402	0443	0444	0505	0522	0544			
SMAXEND	00001	000200	00555															
SMAXST	00001	000000	00030	0127														
SROS	00001	000000	00013	0019	0249													
STARTMA	00001	000010	00048															
STOP	00001	000079	00565	0031	0079	0217	0272	0533										
WDCNT	00001	000052	00571	0480														

NO STATEMENTS FLAGGED IN THIS IFTAMBLY

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**************************************************************************** 0001
                                                                             0002
SIMULATION RUN LISTING FOR CA TYPE 1 AND 2 ROS INSTRUCTION TEST              0003
                                                                             0004
   FOR THE EXTENDED ADDRESSING FEATURE NOTE THE FOLLOWING:                   0005
                                                                             0006
      AN X ENTRY IN A REGISTER FIELD IS EQUAL TO 1,                          0007
      A  Y ENTRY IN A REGISTER FIELD IS EQUAL TO 2                           0008
                                                                             0009
   FOR NO EXTENDED ADDRESSING X AND Y ARE ZERO                               0010
                                                                             0011
**************************************************************************** 0012
                                                                             0013
                                                                             0014
                                                                             0015
                                                                             0016
                                                                             0017
                                                                              018
                                                                              019
                                                                              020

INST  MACH  INST  CZ P REG0     REG1     REG3     REG5     REG7
ADDR  CODE  MNEM  LL L (IAR)
-------------------------------------------------------------                021
0010  0082  ST    00 1 000012                                                022
0012  0014  OUT   00 1 000014                                                023
0014  0186  ST    00 1 000016                                                024
0016  0024  OUT   00 1 000018                                                025
0018  028A  ST    00 1 00001A                                                026
001A  0034  OUT   00 1 00001C                                                027
001C  038E  ST    00 1 00001E                                                028
001E  0044  OUT   00 1 000020                                                029
0020  0492  ST    00 1 000022                                                030
0022  0054  OUT   00 1 000024                                                031
0024  0596  ST    00 1 000026                                                032
0026  0064  OUT   00 1 000028                                                033
0028  069A  ST    00 1 00002A                                                034
002A  0074  OUT   00 1 00002C                                                035
002C  079E  ST    00 1 00002E                                                036
002E  A804  B     00 1 000034                                                037
0034  8000  LRI   01 1 000036  0000                                          038
0036  9809  BCL   01 1 000038  0000                                          039
0038  8100  LRI   01 1 00003A  000000                                        040
003A  980D  BCL   01 1 00003C  000000                                        041
003C  D100  ORI   01 1 00003E  000000                                        042
003E  9100  ARI   01 1 000040  000000                                        043
0040  F1FF  TRM   01 1 000042  000000                                        044
0042  9815  BCL   01 1 000044  000000                                        045
0044  D1FF  ORI   10 1 000046  0000FF                                        046
0046  91FF  ARI   00 1 000048  0001FE                                        047
0048  F101  TRM   01 1 00004A  0001FE                                        048
004A  981D  BCL   01 1 00004C  0001FE                                        049
004C  F001  TRM   10 1 00004E  0001FE                                        050
004E  8821  BZL   10 1 000050  0001FE                                        051
0050  D3FF  ORI   10 1 000052  00FFFE                                        052
0052  90FF  ARI   10 1 000054  0XFEFE                                        053
0054  9802  BCL   10 1 000058  0XFEFE

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INST ADDR	MACH CODE	INST MNEM	CZ LL	P L	REG0 (IAR)	REG1	REG3	REG5	REG7	
0058	8000	LRI	01	1	00005A	0X00FE				054
005A	D000	ORI	01	1	00005C	0X00FE				055
005C	9000	ARI	01	1	00005E	0X00FE				056
005E	F0FF	TRM	01	1	000060	0X00FE				057
0060	9833	BCL	01	1	000062	0X00FE				058
0062	77C8	XR	01	1	000064	0X00FE			000000	059
0064	7157	LH	10	1	000066	00FFFF			000000	060
0066	051C	IN	10	1	000068	00FFFF		00FFFF	000000	061
0068	0134	OUT	10	1	00006A	00FFFF	00FFFF	00FFFF	000000	062
006A	53C8	XR	01	1	00006C	00FFFF	000000	00FFFF	000000	063
006C	983F	BCL	01	1	00006E	00FFFF	000000	00FFFF	000000	064
006E	73C8	XR	01	1	000070	00FFFF	000000	00FFFF	000000	065
0070	9843	BCL	01	1	000072	00FFFF	000000	00FFFF	000000	066
0072	17C8	XR	10	1	000074	00FFFF	000000	00FFFF	00FFFF	067
0074	0354	OUT	10	1	000076	00FFFF	000000	000000	00FFFF	068
0076	013C	IN	10	1	000078	000000	000000	000000	00FFFF	069
0078	15C8	XR	01	1	00007A	000000	000000	000000	00FFFF	070
007A	984D	BCL	01	1	00007C	000000	000000	000000	00FFFF	071
007C	8007	LRI	10	1	00007E	000700	000000	000000	00FFFF	072
007E	1785	STH	10	1	000080	000700	000000	000000	00FFFF	073
0080	1305	LH	10	1	000082	000700	00FFFF	000000	00FFFF	074
0082	73C8	XR	01	1	000084	000700	000000	000000	00FFFF	075
0084	9857	BCL	01	1	000086	000700	000000	000000	00FFFF	077
0086	1585	STH	01	1	000088	000700	000000	000000	00FFFF	078
0088	1305	LH	01	1	00008A	000700	000000	000000	00FFFF	079
008A	53C8	XR	01	1	00008C	000700	000000	000000	00FFFF	080
008C	985F	BCL	01	1	00008E	000700	000000	000000	00FFFF	081
008E	1786	ST	01	1	000090	000700	000000	000000	00FFFF	082
0090	1305	LH	01	1	000092	000700	000000	000000	00FFFF	083
0092	53C8	XR	01	1	000094	000700	000000	000000	00FFFF	084
0094	9867	BCL	01	1	000096	000700	000000	000000	00FFFF	085
0096	1507	LH	10	1	000098	000700	000000	00FFFF	00FFFF	086
0098	75C8	XR	01	1	00009A	000700	000000	000000	00FFFF	087
009A	986D	BCL	01	1	00009C	000700	000000	000000	00FFFF	088
009C	1586	ST	01	1	00009E	000700	000000	000000	00FFFF	089
009E	0707	LH	01	1	0000A0	000700	000000	000000	000000	090
00A0	75C8	XR	01	1	0000A2	000700	000000	000000	000000	091
00A2	9875	BCL	01	1	0000A4	000700	000000	000000	000000	092
00A4	80CE	LRI	10	1	0000A6	00CE00	000000	000000	000000	093
00A6	8106	LRI	10	1	0000A8	00CE06	000000	000000	000000	094
00A8	83B4	LRI	10	1	0000AA	00CE06	0000B4	000000	000000	095
00AA	A806	B	10	1	0000B2	00CE06	0000B4	000000	000000	096
00B2	3181	STH	10	1	0000B4	00CE06	0000B4	000000	000000	097
00B4	CE06	BB	10	1	0000B6	00CE06	0000B4	000000	000000	098
00B6	F6FF	TRM	01	1	0000B8	00CE06	0000B4	000000	000000	099
00B8	9802	BCL	01	1	0000BA	00CE06	0000B4	000000	000000	100
00BA	8811	BZL	01	1	0000AC	00CE06	0000B4	000000	000000	101
00AC	9180	ARI	00	1	0000AE	00CE86	0000B4	000000	000000	102
00AE	98AF	BCL	00	1	0000B0	00CE86	0000B4	000000	000000	103
00B0	D00E	ORI	10	1	0000B2	00CE86	0000B4	000000	000000	104
00B2	3181	STH	10	1	0000B4	00CE86	0000B4	000000	000000	105
00B4	CE86	BB	10	1	0000B6	00CE86	0000B4	000000	000000	106
00B6	F6FF	TRM	01	1	0000B8	00CE86	0000B4	000000	000000	107

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P/N 1785366 LOGIC: CW303

INST ADDR	MACH CODE	INST MNEM	CZ LL	P L	REG0 (IAR)	REG1	REG3	REG5	REG7	
00B8	9802	BCL	01	1	0000BA	00CE86	0000B4	000000	000000	108
00BA	8811	BZL	01	1	0000AC	00CE86	0000B4	000000	000000	109
00AC	9180	ARI	00	1	0000AE	00CF06	0000B4	000000	000000	110
00AE	98AF	BCL	00	1	0000B0	00CF06	0000B4	000000	000000	111
00B0	D00E	ORI	10	1	0000B2	00CF06	0000B4	000000	000000	112
00B2	3181	STH	10	1	0000B4	00CF06	0000B4	000000	000000	113
00B4	CF06	BB	10	1	0000B6	00CF06	0000B4	000000	000000	114
00B6	F6FF	TRM	01	1	0000B8	00CF06	0000B4	000000	000000	115
00B8	9802	BCL	01	1	0000BA	00CF06	0000B4	000000	000000	116
00BA	8811	BZL	01	1	0000AC	00CF06	0000B4	000000	000000	117
00AC	9180	ARI	00	1	0000AE	00CF86	0000B4	000000	000000	118
00AE	98AF	BCL	00	1	0000B0	00CF86	0000B4	000000	000000	119
00B0	D00E	ORI	10	1	0000B2	00CF86	0000B4	000000	000000	120
00B2	3181	STH	10	1	0000B4	00CF86	0000B4	000000	000000	121
00B4	CF86	BB	10	1	0000B6	00CF86	0000B4	000000	000000	122
00B6	F6FF	TRM	01	1	0000B8	00CF86	0000B4	000000	000000	123
00B8	9802	BCL	01	1	0000BA	00CF86	0000B4	000000	000000	124
00BA	8811	BZL	01	1	0000AC	00CF86	0000B4	000000	000000	125
00AC	9180	ARI	00	1	0000AE	00D006	0000B4	000000	000000	126
00AE	98AF	BCL	00	1	0000B0	00D006	0000B4	000000	000000	127
00B0	D00E	ORI	10	1	0000B2	00DE06	0000B4	000000	000000	128
00B2	3181	STH	10	1	0000B4	00DE06	0000B4	000000	000000	129
00B4	DE06	BB	10	1	0000B6	00DE06	0000B4	000000	000000	130
00B6	F6FF	TRM	01	1	0000B8	00DE06	0000B4	000000	000000	131
00B8	9802	BCL	01	1	0000BA	00DE06	0000B4	000000	000000	132
00BA	8811	BZL	01	1	0000AC	00DE06	0000B4	000000	000000	133
00AC	9180	ARI	00	1	0000AE	00DE86	0000B4	000000	000000	134
00AE	98AF	BCL	00	1	0000B0	00DE86	0000B4	000000	000000	135
00B0	D00E	ORI	10	1	0000B2	00DE86	0000B4	000000	000000	136
00B2	3181	STH	10	1	0000B4	00DE86	0000B4	000000	000000	137
00B4	DE86	BB	10	1	0000B6	00DE86	0000B4	000000	000000	138
00B6	F6FF	TRM	01	1	0000B8	00DE86	0000B4	000000	000000	139
00B8	9802	BCL	01	1	0000BA	00DE86	0000B4	000000	000000	140
00BA	8811	BZL	01	1	0000AC	00DE86	0000B4	000000	000000	141
00AC	9180	ARI	00	1	0000AE	00DF06	0000B4	000000	000000	142
00AE	98AF	BCL	00	1	0000B0	00DF06	0000B4	000000	000000	143
00B0	D00E	ORI	10	1	0000B2	00DF06	0000B4	000000	000000	144
00B2	3181	STH	10	1	0000B4	00DF06	0000B4	000000	000000	145
00B4	DF06	BB	10	1	0000B6	00DF06	0000B4	000000	000000	146
00B6	F6FF	TRM	01	1	0000B8	00DF06	0000B4	000000	000000	147
00B8	9802	BCL	01	1	0000BA	00DF06	0000B4	000000	000000	148
00BA	8811	BZL	01	1	0000AC	00DF06	0000B4	000000	000000	149
00AC	9180	ARI	00	1	0000AE	00DF86	0000B4	000000	000000	150
00AE	98AF	BCL	00	1	0000B0	00DF86	0000B4	000000	000000	151
00B0	D00E	ORI	10	1	0000B2	00DF86	0000B4	000000	000000	152
00B2	3181	STH	10	1	0000B4	00DF86	0000B4	000000	000000	153
00B4	DF86	BB	10	1	0000B6	00DF86	0000B4	000000	000000	154
00B6	F6FF	TRM	01	1	0000B8	00DF86	0000B4	000000	000000	155
00B8	9802	BCL	01	1	0000BA	00DF86	0000B4	000000	000000	156
00BA	8811	BZL	01	1	0000AC	00DF86	0000B4	000000	000000	157
00AC	9180	ARI	00	1	0000AE	00E006	0000B4	000000	000000	158
00AE	98AF	BCL	00	1	0000B0	00E006	0000B4	000000	000000	159
00B0	D00E	ORI	10	1	0000B2	00EE06	000034	000000	000000	160

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INST ADDR	MACH CODE	INST MNEM	CZ LL	P L	REG0 (IAR)	REG1	REG3	REG5	REG7	
00B2	3181	STH	10	1	0000B4	00EE06	0000B4	000000	000000	161
00B4	EE06	BB	10	1	0000B6	00EE06	0000B4	000000	000000	162
00B6	F6FF	TRM	01	1	0000B8	00EE06	0000B4	000000	000000	163
00B8	9802	BCL	01	1	0000BA	00EE06	0000B4	000000	000000	164
00BA	8811	BZL	01	1	0000AC	00EE06	0000B4	000000	000000	165
00AC	9180	ARI	00	1	0000AE	00EE86	0000B4	000000	000000	166
00AE	98AF	BCL	00	1	0000B0	00EE86	0000B4	000000	000000	167
00B0	D00E	ORI	10	1	0000B2	00EE86	0000B4	000000	000000	168
00B2	3181	STH	10	1	0000B4	00EE86	0000B4	000000	000000	169
00B4	EE86	BB	10	1	0000B6	00EE86	0000B4	000000	000000	170
00B6	F6FF	TRM	01	1	0000B8	00EE86	0000B4	000000	000000	171
00B8	9802	BCL	01	1	0000BA	00EE86	0000B4	000000	000000	172
00BA	8811	BZL	01	1	0000AC	00EE86	0000B4	000000	000000	173
00AC	9180	ARI	00	1	0000AE	00EF06	0000B4	000000	000000	174
00AE	98AF	BCL	00	1	0000B0	00EF06	0000B4	000000	000000	175
00B0	D00E	ORI	10	1	0000B2	00EF06	0000B4	000000	000000	176
00B2	3181	STH	10	1	0000B4	00EF06	0000B4	000000	000000	177
00B4	EF06	BB	10	1	0000B6	00EF06	0000B4	000000	000000	178
00B6	F6FF	TRM	01	1	0000B8	00EF06	0000B4	000000	000000	179
00B8	9802	BCL	01	1	0000BA	00EF06	0000B4	000000	000000	180
00BA	8811	BZL	01	1	0000AC	00EF06	0000B4	000000	000000	181
00AC	9180	ARI	00	1	0000AE	00EF86	0000B4	000000	000000	182
00AE	98AF	BCL	00	1	0000B0	00EF86	0000B4	000000	000000	183
00B0	D00E	ORI	10	1	0000B2	00EF86	0000B4	000000	000000	184
00B2	3181	STH	10	1	0000B4	00EF86	0000B4	000000	000000	185
00B4	EF86	BB	10	1	0000B6	00EF86	0000B4	000000	000000	186
00B6	F6FF	TRM	01	1	0000B8	00EF86	0000B4	000000	000000	188
00B8	9802	BCL	01	1	0000BA	00EF86	0000B4	000000	000000	189
00BA	8811	BZL	01	1	0000AC	00EF86	0000B4	000000	000000	190
00AC	9180	ARI	00	1	0000AE	00F006	0000B4	000000	000000	191
00AE	98AF	BCL	00	1	0000B0	00F006	0000B4	000000	000000	192
00B0	D00E	ORI	10	1	0000B2	00FE06	0000B4	000000	000000	193
00B2	3181	STH	10	1	0000B4	00FE06	0000B4	000000	000000	194
00B4	FE06	BB	10	1	0000B6	00FE06	0000B4	000000	000000	195
00B6	F6FF	TRM	01	1	0000B8	00FE06	0000B4	000000	000000	196
00B8	9802	BCL	01	1	0000BA	00FE06	0000B4	000000	000000	197
00BA	8811	BZL	01	1	0000AC	00FE06	0000B4	000000	000000	198
00AC	9180	ARI	00	1	0000AE	00FE86	0000B4	000000	000000	199
00AE	98AF	BCL	00	1	0000B0	00FE86	0000B4	000000	000000	200
00B0	D00E	ORI	10	1	0000B2	00FE86	0000B4	000000	000000	201
00B2	3181	STH	10	1	0000B4	00FE86	0000B4	000000	000000	202
00B4	FE86	BB	10	1	0000B6	00FE86	0000B4	000000	000000	203
00B6	F6FF	TRM	01	1	0000B8	00FE86	0000B4	000000	000000	204
00B8	9802	BCL	01	1	0000BA	00FE86	0000B4	000000	000000	205
00BA	8811	BZL	01	1	0000AC	00FE86	0000B4	000000	000000	206
00AC	9180	ARI	00	1	0000AE	00FF06	0000B4	000000	000000	207
00AE	98AF	BCL	00	1	0000B0	00FF06	0000B4	000000	000000	208
00B0	D00E	ORI	10	1	0000B2	00FF06	0000B4	000000	000000	209
00B2	3181	STH	10	1	0000B4	00FF06	0000B4	000000	000000	210
00B4	FF06	BB	10	1	0000B6	00FF06	0000B4	000000	000000	211
00B6	F6FF	TRM	01	1	0000B8	00FF06	0000B4	000000	000000	212
00B8	9802	BCL	01	1	0000BA	00FF06	0000B4	000000	000000	213
00BA	8811	BZL	01	1	0000AC	00FF06	0000B4	000000	000000	214

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INST ADDR	MACH CODE	INST MNEM	CZ LL	P L	REG0 (IAR)	REG1	REG3	REG5	REG7	
00AC	9180	ARI	00	1	0000AE	00FF86	0000B4	000000	000000	215
00AE	98AF	BCL	00	1	0000B0	00FF86	0000B4	000000	000000	216
00B0	D00E	ORI	10	1	0000B2	00FF86	0000B4	000000	000000	217
00B2	3181	STH	10	1	0000B4	00FF86	0000B4	000000	000000	218
00B4	FF86	BB	10	1	0000B6	00FF86	0000B4	000000	000000	219
00B6	F6FF	TRM	01	1	0000B8	00FF86	0000B4	000000	000000	220
00B8	9802	BCL	01	1	0000BA	00FF86	0000B4	000000	000000	221
00BA	8811	BZL	01	1	0000AC	00FF86	0000B4	000000	000000	222
00AC	9180	ARI	10	1	0000AE	0X0006	0000B4	000000	000000	223
00AE	98AF	BCL	10	1	000002	0X0006	0000B4	000000	000000	224
0002	F6FF	TRM	01	1	000004	0X0006	0000B4	000000	000000	225
0004	98B8	BCL	01	1	000006	0X0006	0000B4	000000	000000	226
0006	80CE	LRI	10	1	000008	0XCE06	0000B4	000000	000000	227
0008	810B	LRI	10	1	00000A	0XCE0B	0000B4	000000	000000	228
000A	86FF	LRI	10	1	00000C	0XCE0B	0000B4	000000	00FF00	229
000C	87FF	LRI	10	1	00000E	0XCE0B	0000B4	000000	00FFFF	230
000E	A8A2	B	10	1	0000B2	0XCE0B	0000B4	000000	00FFFF	231
00B2	3181	STH	10	1	0000B4	0XCE0B	0000B4	000000	00FFFF	232
00B4	CE0B	BB	10	1	0000AC	0XCE0B	0000B4	000000	00FFFF	233
00AC	9180	ARI	00	1	0000AE	0XCE8B	0000B4	000000	00FFFF	234
00AE	98AF	BCL	00	1	0000B0	0XCE8B	0000B4	000000	00FFFF	235
00B0	D00E	ORI	10	1	0000B2	0XCE8B	0000B4	000000	00FFFF	236
00B2	3181	STH	10	1	0000B4	0XCE8B	0000B4	000000	00FFFF	237
00B4	CE8B	BB	10	1	0000AC	0XCE8B	0000B4	000000	00FFFF	238
00AC	9180	ARI	00	1	0000AE	0XCF0B	0000B4	000000	00FFFF	239
00AE	98AF	BCL	00	1	0000B0	0XCF0B	0000B4	000000	00FFFF	240
00B0	D00E	ORI	10	1	0000B2	0XCF0B	0000B4	000000	00FFFF	241
00B2	3181	STH	10	1	0000B4	0XCF0B	0000B4	000000	00FFFF	242
00B4	CF0B	BB	10	1	0000AC	0XCF0B	0000B4	000000	00FFFF	244
00AC	9180	ARI	00	1	0000AE	0XCF8B	0000B4	000000	00FFFF	245
00AE	98AF	BCL	00	1	0000B0	0XCF8B	0000B4	000000	00FFFF	246
00B0	D00E	ORI	10	1	0000B2	0XCF8B	0000B4	000000	00FFFF	247
00B2	3181	STH	10	1	0000B4	0XCF8B	0000B4	000000	00FFFF	248
00B4	CF8B	BB	10	1	0000AC	0XCF8B	0000B4	000000	00FFFF	249
00AC	9180	ARI	00	1	0000AE	0XD00B	0000B4	000000	00FFFF	250
00AE	98AF	BCL	00	1	0000B0	0XD00B	0000B4	000000	00FFFF	251
00B0	D00E	ORI	10	1	0000B2	0XDE0B	0000B4	000000	00FFFF	252
00B2	3181	STH	10	1	0000B4	0XDE0B	0000B4	000000	00FFFF	253
00B4	DE0B	BB	10	1	0000AC	0XDE0B	0000B4	000000	00FFFF	254
00AC	9180	ARI	00	1	0000AE	0XDE8B	0000B4	000000	00FFFF	255
00AE	98AF	BCL	00	1	0000B0	0XDE8B	0000B4	000000	00FFFF	256
00B0	D00E	ORI	10	1	0000B2	0XDE8B	0000B4	000000	00FFFF	257
00B2	3181	STH	10	1	0000B4	0XDE8B	0000B4	000000	00FFFF	258
00B4	DE8B	BB	10	1	0000AC	0XDE8B	0000B4	000000	00FFFF	259
00AC	9180	ARI	00	1	0000AE	0XDF0B	0000B4	000000	00FFFF	260
00AE	98AF	BCL	00	1	0000B0	0XDF0B	0000B4	000000	00FFFF	261
00B0	D00E	ORI	10	1	0000B2	0XDF0B	0000B4	000000	00FFFF	262
00B2	3181	STH	10	1	0000B4	0XDF0B	0000B4	000000	00FFFF	263
00B4	DF0B	BB	10	1	0000AC	0XDF0B	0000B4	000000	00FFFF	264
00AC	9180	ARI	00	1	0000AE	0XDF8B	0000B4	000000	00FFFF	265
00AE	98AF	BCL	00	1	0000B0	0XDF8B	0000B4	000000	00FFFF	266
00B0	D00E	ORI	10	1	0000B2	0XDF8B	0000B4	000000	00FFFF	268
00B2	3181	STH	10	1	0000B4	0XDF8B	0000B4	000000	00FFFF	269

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P/N 1785369 LOGIC: CW306

INST ADDR	MACH CODE	INST MNEM	CZ LL	P L	REG0 (IAR)	REG1	REG3	REG5	REG7	
00B4	DF8B	BB	10	1	0000AC	0XDF8B	0000B4	000000	00FFFF	270
00AC	9180	ARI	00	1	0000AE	0XE00B	0000B4	000000	00FFFF	271
00AE	98AF	BCL	00	1	0000B0	0XE00B	0000B4	000000	00FFFF	272
00B0	D00E	ORI	10	1	0000B2	0XEE0B	0000B4	000000	00FFFF	273
00B2	3181	STH	10	1	0000B4	0XEE0B	0000B4	000000	00FFFF	274
00B4	EE0B	BB	10	1	0000AC	0XEE0B	0000B4	000000	00FFFF	275
00AC	9180	ARI	00	1	0000AE	0XEE8B	0000B4	000000	00FFFF	276
00AE	98AF	BCL	00	1	0000B0	0XEE8B	0000B4	000000	00FFFF	277
00B0	D00E	ORI	10	1	0000B2	0XEE8B	0000B4	000000	00FFFF	278
00B2	3181	STH	10	1	0000B4	0XEE8B	0000B4	000000	00FFFF	279
00B4	EE8B	BB	10	1	0000AC	0XEE8B	0000B4	000000	00FFFF	280
00AC	9180	ARI	00	1	0000AE	0XEF0B	0000B4	000000	00FFFF	281
00AE	98AF	BCL	00	1	0000B0	0XEF0B	0000B4	000000	00FFFF	282
00B0	D00E	ORI	10	1	0000B2	0XEF0B	0000B4	000000	00FFFF	283
00B2	3181	STH	10	1	0000B4	0XEF0B	0000B4	000000	00FFFF	284
00B4	EF0B	BB	10	1	0000AC	0XEF0B	0000B4	000000	00FFFF	285
00AC	9180	ARI	00	1	0000AE	0XEF8B	0000B4	000000	00FFFF	286
00AE	98AF	BCL	00	1	0000B0	0XEF8B	0000B4	000000	00FFFF	287
00B0	D00E	ORI	10	1	0000B2	0XEF8B	0000B4	000000	00FFFF	288
00B2	3181	STH	10	1	0000B4	0XEF8B	0000B4	000000	00FFFF	289
00B4	EF8B	BB	10	1	0000AC	0XEF8B	0000B4	000000	00FFFF	290
00AC	9180	ARI	00	1	0000AE	0XF00B	0000B4	000000	00FFFF	291
00AE	98AF	BCL	00	1	0000B0	0XF00B	0000B4	000000	00FFFF	292
00B0	D00E	ORI	10	1	0000B2	0XFE0B	0000B4	000000	00FFFF	293
00B2	3181	STH	10	1	0000B4	0XFE0B	0000B4	000000	00FFFF	294
00B4	FE0B	BB	10	1	0000AC	0XFE0B	0000B4	000000	00FFFF	295
00AC	9180	ARI	00	1	0000AE	0XFE8B	0000B4	000000	00FFFF	296
00AE	98AF	BCL	00	1	0000B0	0XFE8B	0000B4	000000	00FFFF	297
00B0	D00E	ORI	10	1	0000B2	0XFE8B	0000B4	000000	00FFFF	298
00B2	3181	STH	10	1	0000B4	0XFE8B	0000B4	000000	00FFFF	299
00B4	FE8B	BB	10	1	0000AC	0XFE8B	0000B4	000000	00FFFF	301
00AC	9180	ARI	00	1	0000AE	0XFF0B	0000B4	000000	00FFFF	302
00AE	98AF	BCL	00	1	0000B0	0XFF0B	0000B4	000000	00FFFF	303
00B0	D00E	ORI	10	1	0000B2	0XFF0B	0000B4	000000	00FFFF	304
00B2	3181	STH	10	1	0000B4	0XFF0B	0000B4	000000	00FFFF	305
00B4	FF0B	BB	10	1	0000AC	0XFF0B	0000B4	000000	00FFFF	306
00AC	9180	ARI	00	1	0000AE	0XFF8B	0000B4	000000	00FFFF	307
00AE	98AF	BCL	00	1	0000B0	0XFF8B	0000B4	000000	00FFFF	308
00B0	D00E	ORI	10	1	0000B2	0XFF8B	0000B4	000000	00FFFF	309
00B2	3181	STH	10	1	0000B4	0XFF8B	0000B4	000000	00FFFF	310
00B4	FF8B	BB	10	1	0000AC	0XFF8B	0000B4	000000	00FFFF	311
00AC	9180	ARI	10	1	0000AE	0Y000B	0000B4	000000	00FFFF	312
00AE	98AF	BCL	10	1	000002	0Y000B	0000B4	000000	00FFFF	313
0002	F6FF	TRM	10	1	000004	0Y000B	0000B4	000000	00FFFF	314
0004	98B8	BCL	10	1	0000BE	0Y000B	0000B4	000000	00FFFF	315
00BE	8174	LRI	10	1	0000C0	0Y0074	0000B4	000000	00FFFF	316
00C0	83C8	LRI	10	1	0000C2	0Y0074	0000C8	000000	00FFFF	317
00C2	9110	ARI	00	1	0000C4	0Y0084	0000C8	000000	00FFFF	318
00C4	F886	BB	00	1	0000C6	0Y0084	0000C8	000000	00FFFF	319
00C6	3181	STH	00	1	0000C8	0Y0084	0000C8	000000	00FFFF	320
00C8	0084	OUT	00	1	0000CA	0Y0084	0000C8	000000	00FFFF	321
00CA	A80B	B	00	1	0000C2	0Y0084	0000C8	000000	00FFFF	322
00C2	9110	ARI	00	1	0000C4	0Y0094	0000C8	000000	00FFFF	323

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P/N 1785370 LOGIC: CW307

INST ADDR	MACH CODE	INST MNEM	CZ LL	P L	REG0 (IAR)	REG1	REG3	REG5	REG7	
00C4	F886	BB	00	1	0000C6	0Y0094	0000C8	000000	00FFFF	324
00C6	3181	STH	00	1	0000C8	0Y0094	0000C8	000000	00FFFF	325
00C8	0094	OUT	00	1	0000CA	0Y0094	0000C8	000000	00FFFF	326
00CA	A80B	B	00	1	0000C2	0Y0094	0000C8	000000	00FFFF	327
00C2	9110	ARI	00	1	0000C4	0Y00A4	0000C8	000000	00FFFF	328
00C4	F886	BB	00	1	0000C6	0Y00A4	0000C8	000000	00FFFF	329
00C6	3181	STH	00	1	0000C8	0Y00A4	0000C8	000000	00FFFF	330
00C8	00A4	OUT	00	1	0000CA	0Y00A4	0000C8	000000	00FFFF	331
00CA	A80B	B	00	1	0000C2	0Y00A4	0000C8	000000	00FFFF	332
00C2	9110	ARI	00	1	0000C4	0Y00B4	0000C8	000000	00FFFF	333
00C4	F886	BB	00	1	0000C6	0Y00B4	0000C8	000000	00FFFF	334
00C6	3181	STH	00	1	0000C8	0Y00B4	0000C8	000000	00FFFF	335
00C8	00B4	OUT	00	1	0000CA	0Y00B4	0000C8	000000	00FFFF	336
00CA	A80B	B	00	1	0000C2	0Y00B4	0000C8	000000	00FFFF	337
00C2	9110	ARI	00	1	0000C4	0Y00C4	0000C8	000000	00FFFF	338
00C4	F886	BB	00	1	0000C6	0Y00C4	0000C8	000000	00FFFF	339
00C6	3181	STH	00	1	0000C8	0Y00C4	0000C8	000000	00FFFF	340
00C8	00C4	OUT	00	1	0000CA	0Y00C4	0000C8	000000	00FFFF	341
00CA	A80B	B	00	1	0000C2	0Y00C4	0000C8	000000	00FFFF	342
00C2	9110	ARI	00	1	0000C4	0Y00D4	0000C8	000000	00FFFF	343
00C4	F886	BB	00	1	0000C6	0Y00D4	0000C8	000000	00FFFF	344
00C6	3181	STH	00	1	0000C8	0Y00D4	0000C8	000000	00FFFF	345
00C8	00D4	OUT	00	1	0000CA	0Y00D4	0000C8	000000	00FFFF	346
00CA	A80B	B	00	1	0000C2	0Y00D4	0000C8	000000	00FFFF	347
00C2	9110	ARI	00	1	0000C4	0Y00E4	0000C8	000000	00FFFF	348
00C4	F886	BB	00	1	0000C6	0Y00E4	0000C8	000000	00FFFF	349
00C6	3181	STH	00	1	0000C8	0Y00E4	0000C8	000000	00FFFF	350
00C8	00E4	OUT	00	1	0000CA	0Y00E4	0000C8	000000	00FFFF	351
00CA	A80B	B	00	1	0000C2	0Y00E4	0000C8	000000	00FFFF	352
00C2	9110	ARI	00	1	0000C4	0Y00F4	0000C8	000000	00FFFF	353
00C4	F886	BB	00	1	0000C6	0Y00F4	0000C8	000000	00FFFF	354
00C6	3181	STH	00	1	0000C8	0Y00F4	0000C8	000000	00FFFF	355
00C8	00F4	OUT	00	1	0000CA	0Y00F4	0000C8	000000	00FFFF	357
00CA	A80B	B	00	1	0000C2	0Y00F4	0000C8	000000	00FFFF	358
00C2	9110	ARI	00	1	0000C4	0Y0104	0000C8	000000	00FFFF	359
00C4	F886	BB	00	1	0000CC	0Y0104	0000C8	000000	00FFFF	360
00CC	D884	BB	00	1	0000CE	0Y0104	0000C8	000000	00FFFF	361
00CE	8010	LRI	10	1	0000D0	0Y1004	0000C8	000000	00FFFF	362
00D0	A80D	B	10	1	0000C6	0Y1004	0000C8	000000	00FFFF	363
00C6	3181	STH	10	1	0000C8	0Y1004	0000C8	000000	00FFFF	364
00C8	1004	OUT	10	1	0000CA	0Y1004	0000C8	000000	00FFFF	365
00CA	A80B	B	10	1	0000C2	0Y1004	0000C8	000000	00FFFF	366
00C2	9110	ARI	00	1	0000C4	0Y1014	0000C8	000000	00FFFF	367
00C4	F886	BB	00	1	0000C6	0Y1014	0000C8	000000	00FFFF	368
00C6	3181	STH	00	1	0000C8	0Y1014	0000C8	000000	00FFFF	369
00C8	1014	OUT	00	1	0000CA	0Y1014	0000C8	000000	00FFFF	370
00CA	A80B	B	00	1	0000C2	0Y1014	0000C8	000000	00FFFF	371
00C2	9110	ARI	00	1	0000C4	0Y1024	0000C8	000000	00FFFF	372
00C4	F886	BB	00	1	0000C6	0Y1024	0000C8	000000	00FFFF	373
00C6	3181	STH	00	1	0000C8	0Y1024	0000C8	000000	00FFFF	374
00C8	1024	OUT	00	1	0000CA	0Y1024	0000C8	000000	00FFFF	375
00CA	A80B	B	00	1	0000C2	0Y1024	0000C8	000000	00FFFF	376
00C2	9110	ARI	00	1	0000C4	0Y1034	0000C8	000000	00FFFF	377

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INST ADDR	MACH CODE	INST MNEM	CZ LL	P L	REG0 (IAR)	REG1	REG3	REG5	REG7	
00C4	F886	BB	00	1	0000C6	0Y1034	0000C8	000000	00FFFF	378
00C6	3181	STH	00	1	0000C8	0Y1034	0000C8	000000	00FFFF	379
00C8	1034	OUT	00	1	0000CA	0Y1034	0000C8	000000	00FFFF	380
00CA	A80B	B	00	1	0000C2	0Y1034	0000C8	000000	00FFFF	381
00C2	9110	ARI	00	1	0000C4	0Y1044	0000C8	000000	00FFFF	382
00C4	F886	BB	00	1	0000C6	0Y1044	0000C8	000000	00FFFF	383
00C6	3181	STH	00	1	0000C8	0Y1044	0000C8	000000	00FFFF	384
00C8	1044	OUT	00	1	0000CA	0Y1044	0000C8	000000	00FFFF	385
00CA	A80B	B	00	1	0000C2	0Y1044	0000C8	000000	00FFFF	386
00C2	9110	ARI	00	1	0000C4	0Y1054	0000C8	000000	00FFFF	387
00C4	F886	BB	00	1	0000C6	0Y1054	0000C8	000000	00FFFF	388
00C6	3181	STH	00	1	0000C8	0Y1054	0000C8	000000	00FFFF	
00C8	1054	OUT	00	1	0000CA	0Y1054	0000C8	000000	00FFFF	389
00CA	A80B	B	00	1	0000C2	0Y1054	0000C8	000000	00FFFF	390
00C2	9110	ARI	00	1	0000C4	0Y1064	0000C8	000000	00FFFF	400
00C4	F886	BB	00	1	0000C6	0Y1064	0000C8	000000	00FFFF	401
00C6	3181	STH	00	1	0000C8	0Y1064	0000C8	000000	00FFFF	402
00C8	1064	OUT	00	1	0000CA	0Y1064	0000C8	000000	00FFFF	403
00CA	A80B	B	00	1	0000C2	0Y1064	0000C8	000000	00FFFF	404
00C2	9110	ARI	00	1	0000C4	0Y1074	0000C8	000000	00FFFF	405
00C4	F886	BB	00	1	0000C6	0Y1074	0000C8	000000	00FFFF	406
00C6	3181	STH	00	1	0000C8	0Y1074	0000C8	000000	00FFFF	407
00C8	1074	OUT	00	1	0000CA	0Y1074	0000C8	000000	00FFFF	408
00CA	A80B	B	00	1	0000C2	0Y1074	0000C8	000000	00FFFF	409
00C2	9110	ARI	00	1	0000C4	0Y1084	0000C8	000000	00FFFF	410
00C4	F886	BB	00	1	0000C6	0Y1084	0000C8	000000	00FFFF	411
00C6	3181	STH	00	1	0000C8	0Y1084	0000C8	000000	00FFFF	412
00C8	1084	OUT	00	1	0000CA	0Y1084	0000C8	000000	00FFFF	413
00CA	A80B	B	00	1	0000C2	0Y1084	0000C8	000000	00FFFF	414
00C2	9110	ARI	00	1	0000C4	0Y1094	0000C8	000000	00FFFF	415
00C4	F886	BB	00	1	0000C6	0Y1094	0000C8	000000	00FFFF	416
00C6	3181	STH	00	1	0000C8	0Y1094	0000C8	000000	00FFFF	417
00C8	1094	OUT	00	1	0000CA	0Y1094	0000C8	000000	00FFFF	418
00CA	A80B	B	00	1	0000C2	0Y1094	0000C8	000000	00FFFF	419
00C2	9110	ARI	00	1	0000C4	0Y10A4	0000C8	000000	00FFFF	421
00C4	F886	BB	00	1	0000C6	0Y10A4	0000C8	000000	00FFFF	422
00C6	3181	STH	00	1	0000C8	0Y10A4	0000C8	000000	00FFFF	423
00C8	10A4	OUT	00	1	0000CA	0Y10A4	0000C8	000000	00FFFF	424
00CA	A80B	B	00	1	0000C2	0Y10A4	0000C8	000000	00FFFF	425
00C2	9110	ARI	00	1	0000C4	0Y10B4	0000C8	000000	00FFFF	426
00C4	F886	BB	00	1	0000C6	0Y10B4	0000C8	000000	00FFFF	427
00C6	3181	STH	00	1	0000C8	0Y10B4	0000C8	000000	00FFFF	428
00C8	10B4	OUT	00	1	0000CA	0Y10B4	0000C8	000000	00FFFF	429
00CA	A80B	B	00	1	0000C2	0Y10B4	0000C8	000000	00FFFF	430
00C2	9110	ARI	00	1	0000C4	0Y10C4	0000C8	000000	00FFFF	431
00C4	F886	BB	00	1	0000C6	0Y10C4	0000C8	000000	00FFFF	432
00C6	3181	STH	00	1	0000C8	0Y10C4	0000C8	000000	00FFFF	433
00C8	10C4	OUT	00	1	0000CA	0Y10C4	0000C8	000000	00FFFF	434
00CA	A80B	B	00	1	0000C2	0Y10C4	0000C8	000000	00FFFF	435
00C2	9110	ARI	00	1	0000C4	0Y10D4	0000C8	000000	00FFFF	436
00C4	F886	BB	00	1	0000C6	0Y10D4	0000C8	000000	00FFFF	437
00C6	3181	STH	00	1	0000C8	0Y10D4	0000C8	000000	00FFFF	438
00C8	10D4	OUT	00	1	0000CA	0Y10D4	0000C8	000000	00FFFF	439

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INST ADDR	MACH CODE	INST MNEM	CZ LL	P L	REG0 (IAR)	REG1	REG3	REG5	REG7	
00CA	A80B	B	00	1	0000C2	0Y10D4	0000C8	000000	00FFFF	440
00C2	9110	ARI	00	1	0000C4	0Y10E4	0000C8	000000	00FFFF	441
00C4	F886	BB	00	1	0000C6	0Y10E4	0000C8	000000	00FFFF	442
00C6	3181	STH	00	1	0000C8	0Y10E4	0000C8	000000	00FFFF	443
00C8	10E4	OUT	00	1	0000CA	0Y10E4	0000C8	000000	00FFFF	444
00CA	A80B	B	00	1	0000C2	0Y10E4	0000C8	000000	00FFFF	445
00C2	9110	ARI	00	1	0000C4	0Y10F4	0000C8	000000	00FFFF	446
00C4	F886	BB	00	1	0000C6	0Y10F4	0000C8	000000	00FFFF	447
00C6	3181	STH	00	1	0000C8	0Y10F4	0000C8	000000	00FFFF	448
00C8	10F4	OUT	00	1	0000CA	0Y10F4	0000C8	000000	00FFFF	449
00CA	A80B	B	00	1	0000C2	0Y10F4	0000C8	000000	00FFFF	450
00C2	9110	ARI	00	1	0000C4	0Y1104	0000C8	000000	00FFFF	451
00C4	F886	BB	00	1	0000CC	0Y1104	0000C8	000000	00FFFF	452
00CC	D884	BB	00	1	0000D2	0Y1104	0000C8	000000	00FFFF	453
00D2	719C	IN	00	1	0000D4	000000	0000C8	000000	00FFFF	454
00D4	F982	BB	00	1	0000D6	000000	0000C8	000000	00FFFF	455
										456
										457

END OF INSTRUCTION TEST PORTION OF ROS-RETURN TO ROS PROGRAM LISTING 458
FOR THE CHANNEL ADAPTER DATA TRANSFER PORTION. 459

DATE MAR72
E.C. 309538

ENG. CHANGE NO: 315611 316673 316710 318017
DATE OF CHANGE: JUL76 OCT76 JUL77 OCT77

WRITTEN BY: R. J. COOPER CHECKED BY: APPROVED BY: H.E. BROWN

TITLE: INSTALLATION OF TYPE 4 CHANNEL ROS (F/C 9566)
STATUS:

BEFORE INSTALLATION (STEPS 1-8)

1.0 MACHINES AFFECTED:

3705-II MODELS E1 THRU H8 WHICH HAS ONLY TYPE 4 CHANNEL ADAPTERS INSTALLED. THIS FEATURE PROVIDES THE CAPABILITY OF INITIAL PROGRAM LOAD OVER ANY INSTALLED TYPE 4 CHANNEL ADAPTER.

2.0 PREREQUISITES/CONCURRENT/COMPANION:

2.1 PREREQUISITES:

2.1.1 3705-II MUST HAVE ONLY TYPE 4 CHANNEL ADAPTERS (FC 1544) INSTALLED.

3.0 B/M(S) TO BE INSTALLED:

B/M 1648305 (TYPE 4 CHANNEL ROS)

4.0 PREPARATION:

4.1 FAMILIARIZE YOURSELF WITH THE PURPOSE AND DETAILS OF THIS INSTALLATION INSTRUCTION.

4.2 CHECK ALL ITEMS AND COUNT PARTS LISTED ON THE B/M(S) TO BE INSTALLED TO DETERMINE THAT ALL PARTS HAVE BEEN RECEIVED.

5.0 PROGRAMMING:

IFT'S MUST BE AT PID RELEASE 9.2 OR LATER IF REMOTE (RPL) IS NOT INSTALLED AND AT RELEASE 9.3 OR LATER IF RPL IS INSTALLED.

6.0 PURPOSE AND DESCRIPTION:

6.1 PURPOSE:

THIS INSTRUCTION INSTALLS THE TYPE 4 CHANNEL ROS CARD. ALSO, THE IPL SOURCE SWITCH IS REMOVED IF IT IS ON THE MACHINE.

6.2 DESCRIPTION:

THIS FEATURE PROVIDES THE CAPABILITY OF INITIAL PROGRAM LOAD OVER ANY INSTALLED TYPE 4 CHANNEL ADAPTER.

7.0 INSTALLATION TIME:

	MAN HOURS	MACHINE HOURS	SYSTEM HOURS	NO. OF CE'S
B/M 1648305	0.5	0.5	0.0	1

8.0 SPECIAL TOOLS AND/OR MATERIAL REQUIRED:

NONE

INSTALLATION (STEPS 9-11)

9.0 SAFETY:

REMOVE ALL ELECTRICAL POWER FROM THE MACHINE AND ASSOCIATED MACHINES BEFORE INSTALLATION BEGINS.

10.0 DETAILS OF INSTALLATION:

10.1 REMOVE THE PRESENT ROS CARD FROM 01A-B4F2. INSTALL THE NEW ROS CARD IN 01A-B4F2.

10.2 PERFORM SELECTED SIGNAL PROPOGATION AND IPL SELECT JUMPERING.

REFER TO LOGIC PAGE PA053, PAGE 1 OF 6.

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10.3 THE FOLLOWING BOARD REWORK IS REQUIRED ON ALL OF THE CHANNEL ADAPTER TYPE 4 BOARDS. CHECK TO SEE IF THE REWORK IS ALREADY INSTALLED, AND IF THE REWORK IS NOT INSTALLED, PERFORM THE FOLLOWING REWORK. CHANNEL ADAPTER TYPE 4 MAY BE INSTALLED IN THE 01A-B1, 01A-A4, 02A-B4 AND 02A-A4 BOARD POSITIONS DEPENDING ON THE 3705 CONFIGURATION.

NET NAME	DELETE	PIN	IMAGE	NET NUMBER	ADD	TYPE	FROM	TO
-NOT INITIALIZED DLYD	1	E2M04	W	PQ104GK6				
	1	F2D07	W					
-POR OR RESET SW				PQ104DA2	ADD	YEL	F2J12	F2D07

10.4 IPL SOURCE SWITCH REMOVAL

REFER TO THE FIGURE BELOW. IF AN IPL SOURCE SWITCH IS INSTALLED IN POSITION 13 OR 14 IT MUST BE REMOVED ALONG WITH THE IPL SOURCE SWITCH CABLE. THE CABLE HAS ORANGE, BLACK AND YELLOW LEADS AND GOES TO THE 01A-A4 OR 01A-B1 BOARD PINS D6E02, E6B02 AND E6D02.

10.4.1 REMOVAL OF IPL SOURCE SWITCH FROM POSITION 14

THE SWITCH PLATE MUST BE REMOVED FROM THE PANEL BY REMOVING THE FOUR MOUNTING NUTS AND WASHERS. REMOVE THE LENS HOLDER IN POSITION 15. REMOVE THE SWITCH IN POSITION 14. REPLACE THE LENS HOLDER IN POSITION 15.

10.4.2 REMOVAL OF IPL SOURCE SWITCH FROM POSITION 13

IF THE IPL SOURCE SWITCH IS IN POSITION 13 AND A BLANK IS IN POSITION 14, THE SWITCH PANEL DOES NOT HAVE TO BE REMOVED. REMOVE THE BLANK FROM POSITION 14 AND THEN REMOVE THE SWITCH FROM POSITION 13. REPLACE THE BLANK IN POSITION 14.

10.4.3 THIS B/M SUPPLIES THE BLANK (P/N 5993281) AND THE 2 SCREWS (P/N 81693) TO PLACE INTO POSITION 13 OR 14.

11.0 TEST PROCEDURES:

TESTING WILL BE ACCOMPLISHED BY CONCURRENT FEATURE UPGRADING.

AFTER INSTALLATION (STEPS 12-15)

12.0 FIELD UPDATING:

ENG. CHANGE NO: 315611 316673 316710 318017
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NONE

13.0 FIELD SUPPORT PUBLICATIONS:

NOTE: IF YOU REPLACE ANY DOCUMENT CONTAINING REA'S WHICH WERE NOT INCORPORATED BY THIS EC. FOLD THE OLD REA PAGE IN HALF AND INSERT AHEAD OF THE NEW LOGIC PAGE AND RETAIN UNTIL YOU PICK UP ALL REA'S INCLUDED ON THE REA PAGE. IF THE DOCUMENT IS ON MICROFICHE YOU MUST RETAIN THE OLD CARD UNTIL AN UPDATE IS RECEIVED WHICH HAS PICKED UP ALL REA'S.

REPLACE THE AFFECTED ALD'S WITH THOSE SUPPLIED IN THE APPROPRIATE FB/M(S).

14.0 PARTS DISPOSITION:

14.1 RETURN ALL PROTECTED ITEMS IDENTIFIED IN THE B/M'S AND COPIES OF ALL B/M'S TO THE BRANCH OFFICE FOR DISPOSITION.

14.2 RETURN THE REMOVED ROS CARD.

15.0 MACHINE RECORDS:

15.1 UPDATE MACHINE HISTORY. TO REFLECT 1648305 AS INSTALLED ACCORDING TO EXISTING PROCEDURES.

15.2 UPDATE MACHINE HISTORY TO SHOW ONE OF THE FOLLOWING B/M'S AS REMOVED:

ROS-1 5997484
ROS-2 5997485
DUAL ROS 5997486.
IPL SOURCE SWITCH 1750524 (ENGLISH). 1648366 (FRENCH) OR 1648367 (GERMAN)

15.3 REPORT INSTALLATION OF THIS CHANGE ACCORDING ACCORDING TO EXISTING PROCEDURES.

620-0133-1 MRO# 780522203 VERTICAL ELECTRICAL FORMAT

IBM

NAME	3705-II N CHANNEL		
	ADAPTER ROS FLOW CHART		
DESIGN	RJC	JUL76	SHT 1 OF 5
DETAIL	T8	JUL76	
CHECK			CLASSIFICATION
APPRO		RJC	JUL76

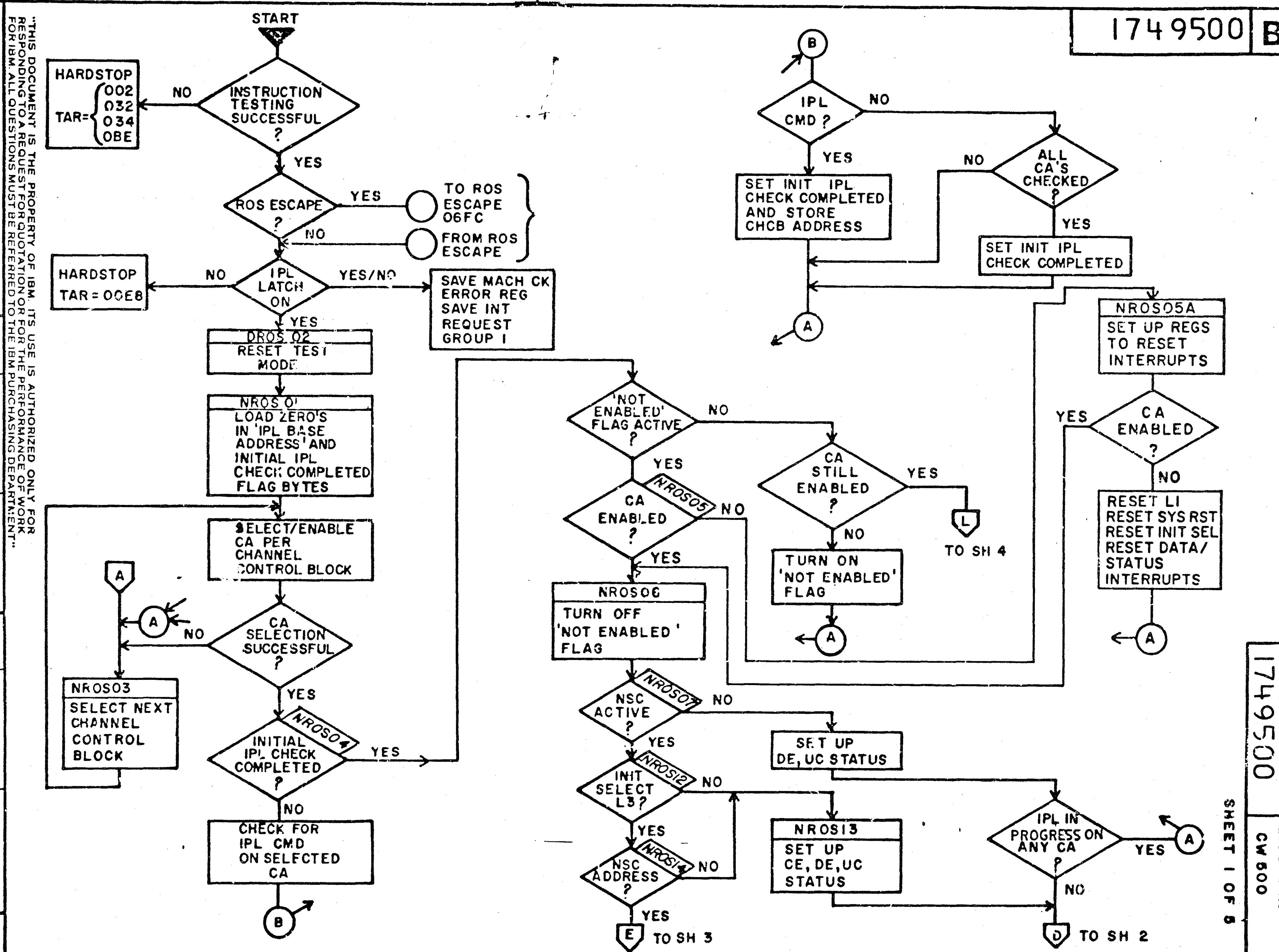
DATE	CHANGE NO
JUL76	316611
DEC76	316673

MUST CONFORM TO ENG SPEC

DEVELOPMENT NO

LOGIC PG NO CW500

1749500 B

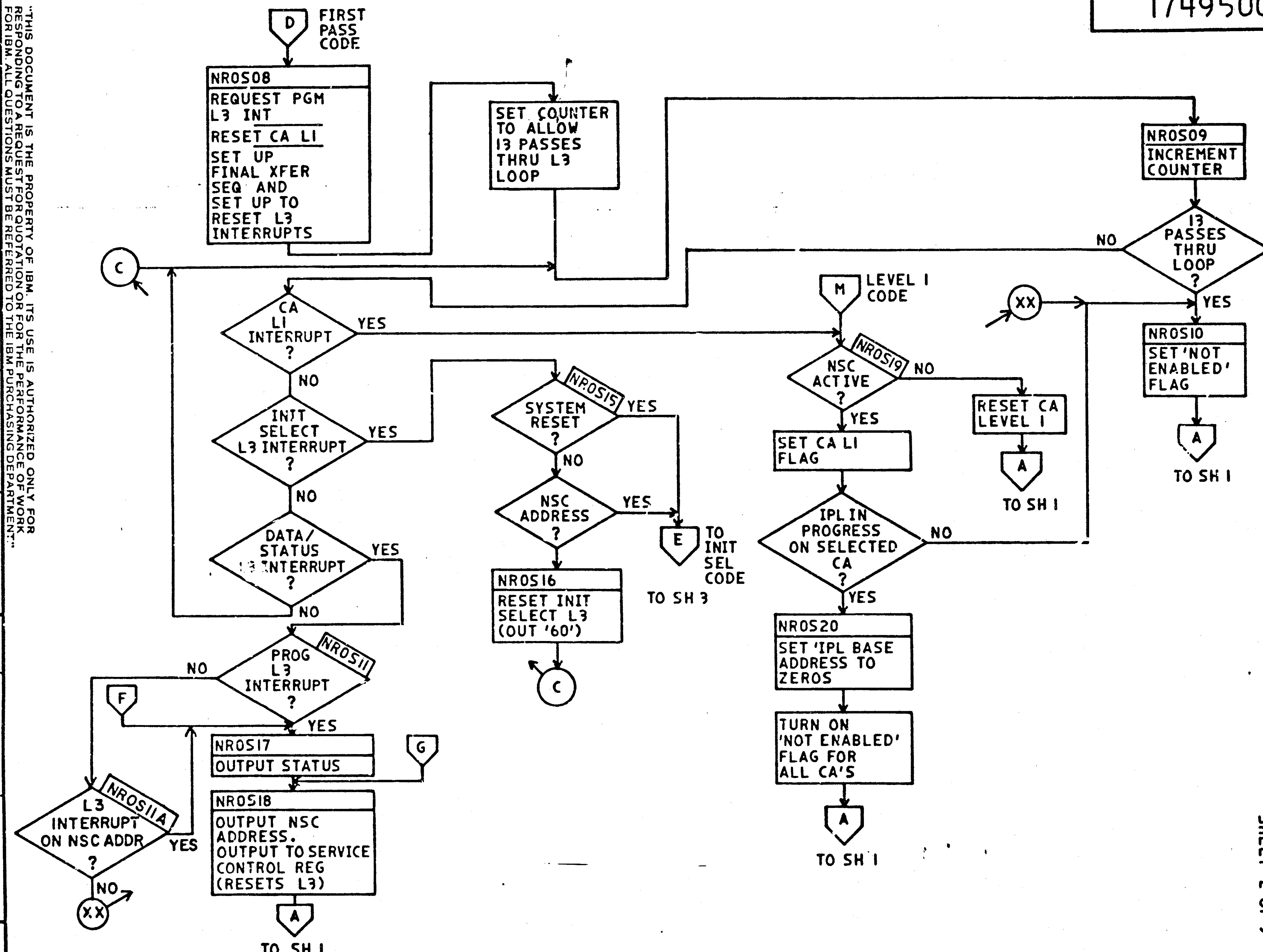


PART NO 1749500

LOGIC PG NO CW 500

SHEET 1 OF 5

1749500 B



NAME	3705-II N CHANNEL ADAPTER			
ROS FLOW CHART				
DESIGN	RJC	JUL76	SHT 2 OF 5	
DETAIL	TS	JUL76		
CHECK			CLASSIFICATION	
APPRO			RJC	JUL76

DATE	CHANGE NO	DATE	CHANGE NO
JUL76	315611		
DEC76	316673		

MUST CONFORM TO ENG SPEC

DEVELOPMENT NO

LOGIC PG NO- CW500

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VERTICAL ELECTRICAL FORMAT

SHEET 2 OF 5

PART NO 1749500

LOGIC PG NO CW500

1749500 B

620-0132-1 MRO# 780522203 VERTICAL ELECTRICAL FORMAT

1749500 B

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IBM

	NAME	DATE
APPRO		
CHECK		
DETAIL	TS	JUL76
DESIGN	RJC	JUL76

3705-II N CHANNEL ADAPTER

ROS FLOW CHART

SHT 3 OF 5

CLASSIFICATION

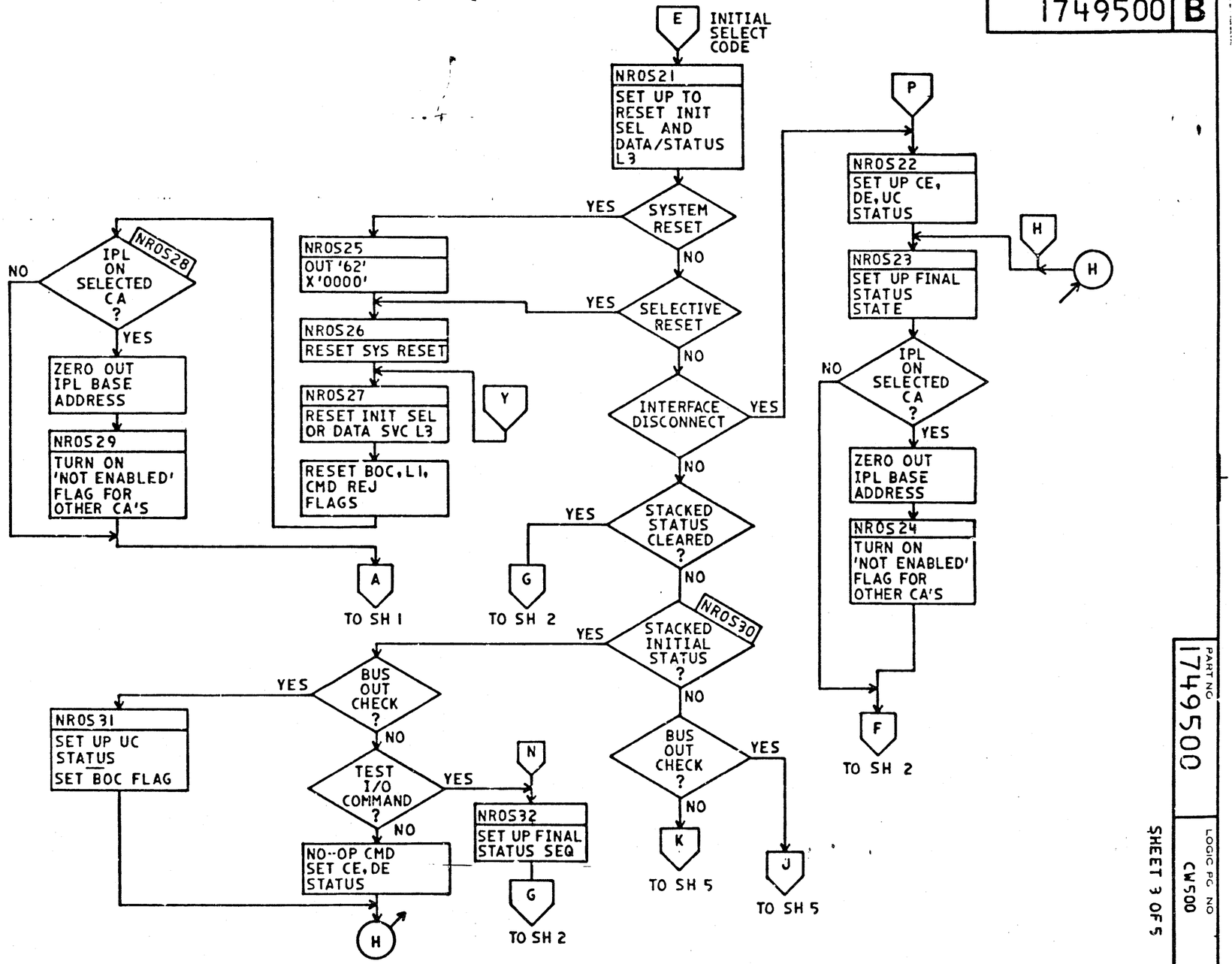
	DATE	CHANGE NO
MUST CONFORM TO ENG SPEC	JUL76	315611
	DEC76	316673

DEVELOPMENT NO

	DATE	CHANGE NO
LOGIC PG NO		

CM500

1749500 B



PART NO 1749500

LOGIC PG NO CM500

SHEET 3 OF 5

620 0133-1 MRO# 780522203 VERTICAL ELECTRICAL FORMAT

1749500

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IBM

	NAME	DATE
DESIGN	RJC	JUL76
DETAIL	TS	JUL76
CHECK		
APPRO		

ADAPTER ROS FLOW CHART

3705-II N CHANNEL

SHT 4 OF 5

CLASSIFICATION: RJC JUL76

MUST CONFORM TO ENG SPEC

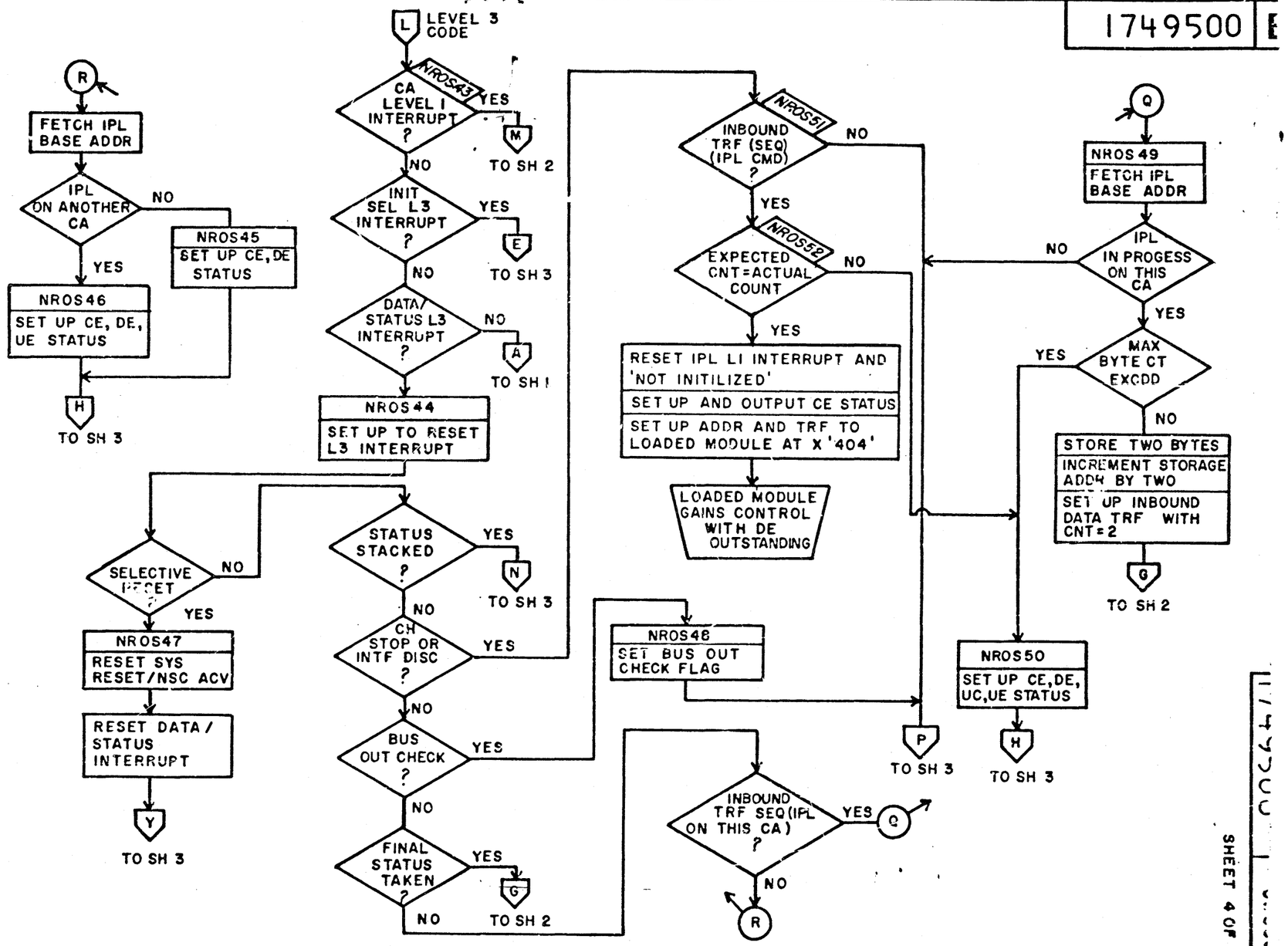
CHANGE NO	DATE
315611	JUL76
315673	DEC76

DEVELOPMENT NO

LOGIC PG NO

CM 500

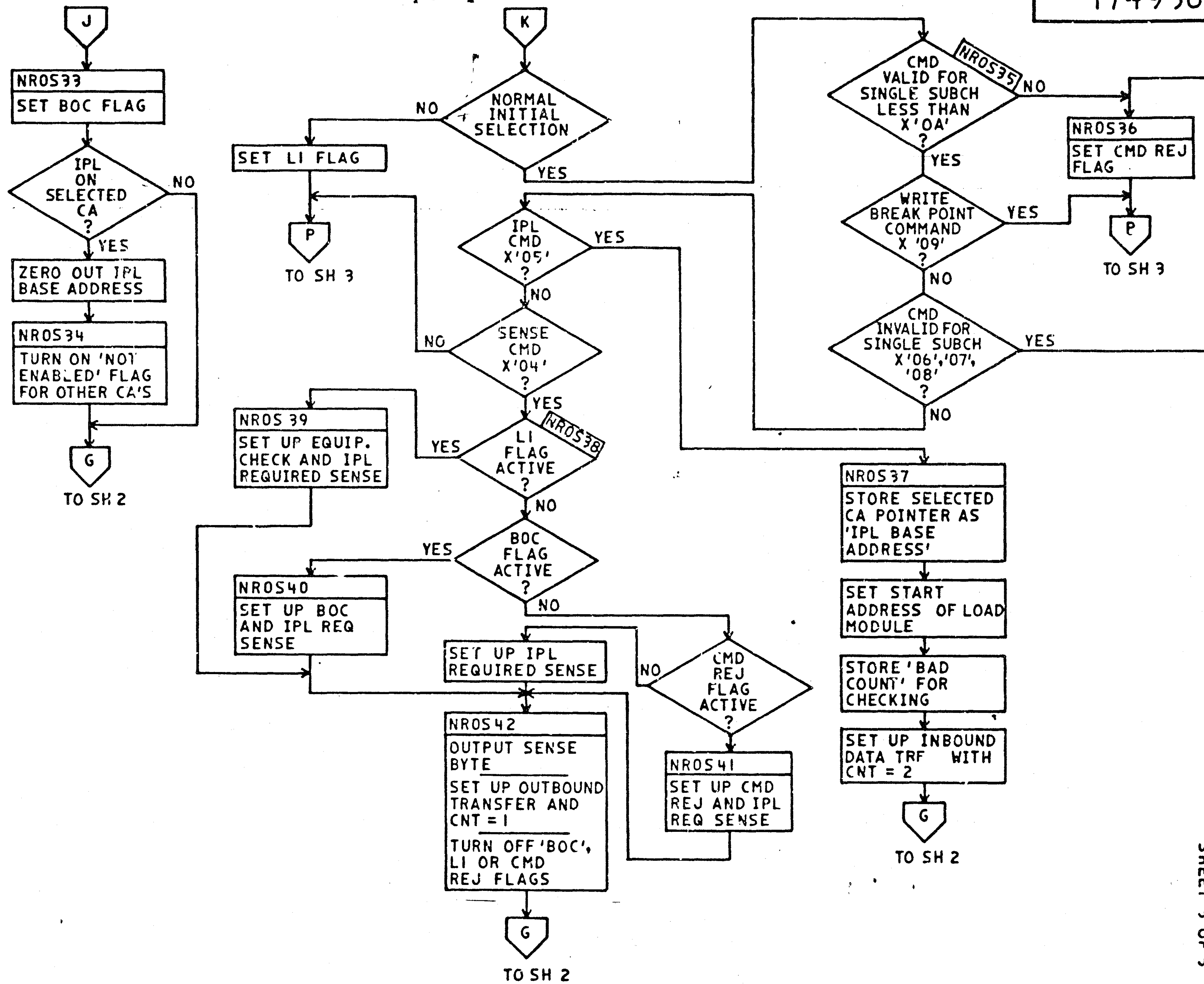
B 1749500



SHEET 4 OF 5

1749500

1749500 B


J
NROS33
SET BOC FLAG
IPL ON SELECTED CA ?
NO
YES
ZERO OUT IPL BASE ADDRESS
NROS34
TURN ON 'NOT ENABLED' FLAG FOR OTHER CA'S
G
TO SH 2
K
NORMAL INITIAL SELECTION
NO
YES
SET LI FLAG
P
TO SH 3
IPL CMD X'05' ?
YES
NO
SENSE CMD X'04' ?
NO
YES
NROS38
LI FLAG ACTIVE ?
YES
NO
NROS39
SET UP EQUIP. CHECK AND IPL REQUIRED SENSE
BOC FLAG ACTIVE ?
YES
NO
NROS40
SET UP BOC AND IPL REQ SENSE
SET UP IPL REQUIRED SENSE
CMD REJ FLAG ACTIVE ?
NO
NROS41
SET UP CMD REJ AND IPL REQ SENSE
NROS42
OUTPUT SENSE BYTE
SET UP OUTBOUND TRANSFER AND CNT = 1
TURN OFF 'BOC', LI OR CMD REJ FLAGS
G
TO SH 2
NROS35
CMD VALID FOR SINGLE SUBCH LESS THAN X'0A' ?
NO
YES
NROS36
SET CMD REJ FLAG
WRITE BREAK POINT COMMAND X '09' ?
YES
NO
P
TO SH 3
CMD INVALID FOR SINGLE SUBCH X'06','07', '08' ?
YES
NO
NROS37
STORE SELECTED CA POINTER AS 'IPL BASE ADDRESS'
SET START ADDRESS OF LOAD MODULE
STORE 'BAD COUNT' FOR CHECKING
SET UP INBOUND DATA TRF WITH CNT = 2
G
TO SH 2

SHEET 5 OF 5

PART NO 1749500

LOGIC PG NO CW500

620 0133 1 MRO# 780522203 VERTICAL ELECTRICAL FORMAT

IBM

NAME 3705-II CHANNEL ADAPTER
ROS FLOW CHART
DESIGN RJC JUL76 SHT 5 OF 5
DETAIL TS JUL76
CHECK CLASSIFICATION
APPRO RJC JUL76

DATE	CHANGE NO
JUL76	315611
DEC76	316673

MUST CONFORM TO ENG SPEC

DEVELOPMENT NO

LOGIC PG NO - CW500

1749500 B

NROS   3705 TYPE 4 CHANNEL,N CHANNEL ROS CODE

```
  LOC  OBJ CODE   R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

000000                                 2 X3705ADA START X'00000'
000000                                 3 ZERO     EQU   *                                                     1  00030
0000C0                                 4 SROS     EQU   *                                                     1  00040
000000                                 5 RELOCF   EQU   X'00000'                                              1  00050
000000 7004700470047004                6          DC    128X'7004'          OUTPUT STOP FILLERS               1  00060
000100 7004700470047004                7          DC    128X'7004'          OUTPUT STOP FILLERS               1  00070
000200 7004700470047004                8          DC    128X'7004'          OUTPUT STOP FILLERS               1  00080
000300 7004700470047004                9          DC    128X'7004'          OUTPUT STOP FILLERS               1  00090
000000                                10          ORG   SROS+RELOCF                                           1  00100
                                      11 ********************************************************************** 1  00110
                                      12 *                                                                  * 1  00120
                                      13 *               N CHANNEL ROS CODE                                 * 1  00130
                                      14 *                                                                  * 1  00140
                                      15 *           THE FOLLOWING CODE WILL HANDLE THE IPL FUNCTION FOR UP * 1  00150
                                      16 *           TO FOUR TYPE 4 CHANNEL ADAPTERS.                       * 1  00160
                                      17 *                                                                  * 1  00170
                                      18 *           THE CHANNEL HANDLING SECTION LOADS THE INITIAL PROGRAM * 1  00180
                                      19 *           STARTING AT LOCATION X'400'.                           * 1  00190
                                      20 *                                                                  * 1  00200
                                      21 *           STORAGE LOCATIONS USED BY ROS:                         * 1  00210
                                      22 *                                                                  * 1  00220
                                      23 *           X'000' - X'3FF' = ROS PROGRAM                          * 1  00230
                                      24 *                                                                  * 1  00240
                                      25 *           X'700' = IPL IN PROGRESS FLAG                          * 1  00250
                                      26 *                    EQUALS X'0000' IF IPL IS NOT IN PROGRESS.     * 1  00260
                                      27 *                    EQUALS THE CHANNEL CONTROL BLOCK POINTER      * 1  00270
                                      28 *                    ADDRESS CF CHANNEL WHICH HAS IPL IN PROGRESS. * 1  00280
                                      29 *                           X'03E8'= CA 1 IPL IN PROGRESS          * 1  00290
                                      30 *                           X'03EE'= CA 2 IPL IN PROGRESS          * 1  00300
                                      31 *                           X'03F4'= CA 3 IPL IN PROGRESS          * 1  00310
                                      32 *                           X'03FA'= CA 4 IPL IN PROGRESS          * 1  00320
                                      33 *                                                                  * 1  00330
                                      34 *           X'702'= REGISTER X'76' ENTERING ROS (HALF WORD STORAGE) * 1  00340
                                      35 *           X'704'= REGISTER X'7D' ENTERING ROS (HALF WORD STORAGE) * 1  00350
                                      36 *           X'706'= REGISTER X'7E' ENTERING ROS (HALF WORD STORAGE) * 1  00360
                                      37 *                                                                  * 1  00370
                                      38 *           X'708'= INITIAL IPL CHECK COMPLETED FLAG               * 1  00380
                                      39 *                    EQUALS X'0000' IF INITIAL CHECK FOR IPL COMMAND * 1  00390
                                      40 *                    HAS NOT BEEN COMPLETED FOR ALL CHANNEL ADAPTERS. * 1  00400
                                      41 *                                                                  * 1  00410
                                      42 *           X'70C'= ADDRESS COUNTER FOR INITIAL PROGRAM LOAD.      * 1  00420
                                      43 *                                                                  * 1  C0430
                                      44 *           X'780'= REGISTER 0 ENTERING ROS (FULL WORD STORAGE).   * 1  00440
                                      45 *           X'784'= REGISTER 1 ENTERING ROS (FULL WORD STORAGE).   * 1  00450
                                      46 *           X'788'= REGISTER 2 ENTERING ROS (FULL WORD STORAGE).   * 1  00460
                                      47 *           X'78C'= REGISTER 3 ENTERING ROS (FULL WORD STORAGE).   * 1  00470
                                      48 *           X'790'= REGISTER 4 ENTERING ROS (FULL WORD STORAGE).   * 1  00480
                                      49 *           X'794'= REGISTER 5 ENTERING ROS (FULL WORD STORAGE).   * 1  00490
                                      50 *           X'798'= REGISTER 6 ENTERING ROS (FULL WORD STORAGE).   * 1  00500
                                      51 *           X'79C'= REGISTER 7 ENTERING ROS (FULL WORD STORAGE).   * 1  00510
                                      52 *                                                                  * 1  00520
                                      53 ********************************************************************** 1  00530
```

```
LOC  OBJ CODE  R1N1H R2N2 ADDR   STMT   SOURCE STATEMENT

                                    56 ************************************************************************* 1  00560
                                    57 *                                                                       * 1  00570
                                    58 *                    CHANNEL CONTROL BLOCKS                             * 1  00580
                                    59 *                                                                       * 1  00590
                                    60 ************************************************************************* 1  00600
                                    61 *                                                                       * 1  00610
                                    62 *          CA 1 CONTROL BLOCK                                           * 1  00620
                                    63 *                                                                       * 1  00630
                                    64 *                    LOCATION X'3E8'                                    * 1  00640
                                    65 *                          BYTE 0  BIT 5= CA 1 CMD REJ FLAG             * 1  00650
                                    66 *                                  BIT 6= CA 1 BUS OUT CHECK FLAG       * 1  00660
                                    67 *                                  BIT 7= CA 1 EQUIPMENT CHECK FLAG     * 1  00670
                                    68 *                          BYTE 1  EQUALS X'00' FOR CA 1 SELECTED       * 1  00680
                                    69 *                                  MASK USED BY ROS PROGRAM.            * 1  00690
                                    70 *                                                                       * 1  00700
                                    71 *                    LOCATION X'3EA'                                    * 1  00710
                                    72 *                          BYTE 0  EQUALS X'04' FOR CA 1 SELECTION      * 1  00720
                                    73 *                                  CONTROL USED BY ROS PROGRAM.         * 1  00730
                                    74 *                          BYTE 1  BIT 4= CA 1 NOT ENABLED FLAG         * 1  00740
                                    75 *                                                                       * 1  00750
                                    76 *                    LOCATION X'3EC' EQUALS X'3EE' WHICH IS THE         * 1  00760
                                    77 *                                    POINTER TO CA 2 CONTROL BLOCK.     * 1  00770
                                    78 *                                                                       * 1  00780
                                    79 ************************************************************************* 1  00790
                                    80 *                                                                       * 1  00800
                                    81 *          CA 2 CONTROL BLOCK                                           * 1  00810
                                    82 *                                                                       * 1  00820
                                    83 *                    LOCATION X'3EE'                                    * 1  00830
                                    84 *                          BYTE 0  BIT 5= CA 2 CMD REJ FLAG             * 1  00840
                                    85 *                                  BIT 6= CA 2 BUS OUT CHECK FLAG       * 1  00850
                                    86 *                                  BIT 7= CA 2 EQUIPMENT CHECK FLAG     * 1  00860
                                    87 *                          BYTE 1  EQUALS X'02' FOR CA 2 SELECTED       * 1  00870
                                    88 *                                  MASK USED BY ROS PROGRAM             * 1  00880
                                    89 *                                                                       * 1  00890
                                    90 *                    LOCATION X'3F0'                                    * 1  00900
                                    91 *                          BYTE 0 EQUALS X'05' FOR CA 2 SELECTION       * 1  00910
                                    92 *                                  CONTROL USED BY ROS PROGRAM.         * 1  00920
                                    93 *                          BYTE 1  BIT 4=  CA 2 NOT ENABLED FLAG        * 1  00930
                                    94 *                                                                       * 1  00940
                                    95 *                    LOCATION X'3F2'  EQUALS X'3F4' WHICH IS THE        * 1  00950
                                    96 *                                     POINTER TO CA 3 CONTROL BLOCK.    * 1  00960
                                    97 *                                                                       * 1  00970
                                    98 ************************************************************************* 1  00980
```

```
LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT
                                  101 ********************************************************************** 1  01010
                                  102 *                                                                    * 1  01020
                                  103 *          CA 3 CONTROL BLOCK                                        * 1  01030
                                  104 *                                                                    * 1  01040
                                  105 *                    LOCATION X'3F4'                                 * 1  01050
                                  106 *                          BYTE 0  BIT 5= CA 3 CMD REJ FLAG          * 1  01060
                                  107 *                                  BIT 6= CA 3 BUS OUT CHECK FLAG    * 1  01070
                                  108 *                                  BIT 7= CA 3 EQUIPMENT CHECK FLAG  * 1  01080
                                  109 *                          BYTE 1  EQUALS X'04' FOR CA 3 SELECTED    * 1  01090
                                  110 *                                  MASK USED BY ROS PROGRAM          * 1  01100
                                  111 *                                                                    * 1  01110
                                  112 *                    LOCATION X'3F6'                                 * 1  01120
                                  113 *                          BYTE 0  EQUALS X'06' FOR CA 3 SELECTION   * 1  01130
                                  114 *                                  CONTROL USED BY ROS PROGRAM       * 1  01140
                                  115 *                          BYTE 1  BIT 4= CA 3 NOT ENABLED FLAG      * 1  01150
                                  116 *                                                                    * 1  01160
                                  117 *                    LOCATION X'3F8'  EQUALS X'3FA' WHICH IS THE     * 1  01170
                                  118 *                                     POINTER TO CA 4 CONTROL BLOCK  * 1  01180
                                  119 *                                                                    * 1  01190
                                  120 ********************************************************************** 1  01200
                                  121 *                                                                    * 1  01210
                                  122 *          CA 4 CONTROL BLOCK                                        * 1  01220
                                  123 *                                                                    * 1  01230
                                  124 *                    LOCATION X'3FA'                                 * 1  01240
                                  125 *                          BYTE 0  BIT 5= CA 4 CMD REJ FLAG          * 1  01250
                                  126 *                                  BIT 6= CA 4 BUS OUT CHECK FLAG    * 1  01260
                                  127 *                                  BIT 7= CA 4 EQUIPMENT CHECK FLAG  * 1  01270
                                  128 *                          BYTE 1  EQUALS X'06' FOR CA 4 SELECTED    * 1  01280
                                  129 *                                  MASK USED BY ROS PROGRAM          * 1  01290
                                  130 *                                                                    * 1  01300
                                  131 *                    LOCATION X'3FC'                                 * 1  01310
                                  132 *                          BYTE 0  EQUALS X'07' FOR CA 4 SELECTION   * 1  01320
                                  133 *                                  CONTROL USED BY ROS PROGRAM       * 1  01330
                                  134 *                          BYTE 1  BIT 4= CA 4 NOT ENABLED FLAG      * 1  01340
                                  135 *                                                                    * 1  01350
                                  136 *                    LOCATION X'3FE'  EQUALS X'3E8' WHICH IS THE     * 1  01360
                                  137 *                                     POINTER TO CA 1 CONTROL BLOCK  * 1  01370
                                  138 *                                                                    * 1  01380
                                  139 ********************************************************************** 1  01390
```

NROS 3705 TYPE 4 CHANNEL,N CHANNEL ROS CODE

```
  LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT
                                    141 ************************************************************************ 1  01410
                                    142 *                                                                      * 1  01420
                                    143 *       B R A N C H   O N   B I T   T E S T   ( P A R T   2 )          * 1  01430
                                    144 *                                                                      * 1  01440
                                    145 *       NOTE:  INSTRUCTION EXECUTION STARTS AT ADDRESS X'0010'         * 1  01450
                                    146 ************************************************************************ 1  01460
000000                              147 SMAXST  EQU   *                                                        1  01470
000000 7004       0     70          148         OUT   0,STOP              HARDSTOP - SHOULD NOT BE AT ZERO     1  01480

000002                              150 MAXIT01 EQU   *                                                        1  01500
000002 F6FF       7(0)              151         TRM   R7(0),X'FF'         HAVE WE FINISHED BRANCH ON BIT TEST  1  01510
000004 98B8                 000BE   152         BCL   MAXIT07             BRANCH OUT OF TEST IF COMPLETE       1  01520

000006 80CE       1(0)              154         LRI   R1(0),X'CE'         SET UP BRANCH ON BIT INSTRUCTION     1  01540
000008 810B       1(1)              155         LRI   R1(1),X'0B'         SET UP BRANCH ON BIT INSTRUCTION     1  01550

00000A 86FF       7(0)              157         LRI   R7(0),X'FF'         SET ALL BITS ON IN REG 7             1  01570
00000C 87FF       7(1)              158         LRI   R7(1),X'FF'         SET ALL BITS ON IN REG 7             1  01580

00000E A8A2                 000B2   160         B     MAXIT06             BRANCH TO CONTINUE TESTING           1  01600


                                    162 ************************************************************************ 1  01620
                                    163 *                                                                      * 1  01630
                                    164 *       I N I T I A L I Z A T I O N                                    * 1  01640
                                    165 *                                                                      * 1  01650
                                    166 *       START OF ROS CODE EXECUTION AT LOCATION X'0010'.               * 1  01660
                                    167 *       PARITY IS CORRECTED IN GROUP ZERO REGISTERS AND THESE          * 1  01670
                                    168 *       REGISTERS ARE STORED IN LOCATIONS X'0780-079F'.                * 1  01680
                                    169 *                                                                      * 1  01690
                                    170 ************************************************************************ 1  01700

000010 0082       0     0           172         ST    R0,0(R0)            SAVE LEVEL 1 AND 2 IAR               1  01720
000012 0014       0     01          173         OUT   R0,X'01'            SET GOOD PARITY IN R1                1  01730
000014 0186       1     0           174         ST    R1,4(R0)            SAVE R1                              1  01740

000016 0024       0     02          176         OUT   R0,X'02'            SET GOOD PARITY IN R2                1  01760
000018 028A       2     0           177         ST    R2,8(R0)            SAVE R2                              1  01770

00001A 0034       0     03          179         OUT   R0,X'03'            SET GOOD PARITY IN R3                1  01790
00001C 038E       3     0           180         ST    R3,12(R0)           SAVE R3                              1  01800

00001E 0044       0     04          182         OUT   R0,X'04'            SET GOOD PARITY IN R4                1  01820
000020 0492       4     0           183         ST    R4,16(R0)           SAVE R4                              1  01830

000022 0054       0     05          185         OUT   R0,X'05'            SET GOOD PARITY IN R5                1  01850
000024 0596       5     0           186         ST    R5,20(R0)           SAVE R5                              1  01860

000026 0064       0     06          188         OUT   R0,X'06'            SET GOOD PARITY IN R6                1  01880
000028 069A       6     0           189         ST    R6,24(R0)           SAVE R6                              1  01890

00002A 0074       0     07          191         OUT   R0,X'07'            SET GOOD PARITY IN R7                1  01910
00002C 079E       7     0           192         ST    R7,28(R0)           SAVE R7                              1  01920
```

```
  LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

                                    195 ********************************************************************** 1  01950
                                    196 *                                                                    * 1  01960
                                    197 *  B R A N C H   A N D   I M M E D I A T E   I N S T R    T E S T   * 1  01970
                                    198 *                                                                    * 1  01980
                                    199 *        BRANCH, BRANCH ON Z, BRANCH ON C, LOAD IMMEDIATE,          * 1  01990
                                    200 *        OR IMMEDIATE, ADD IMMEDIATE, AND TEST IMMEDIATE            * 1  02000
                                    201 *        INSTRUCTIONS ARE TESTED.                                   * 1  02010
                                    202 *                                                                    * 1  02020
                                    203 ********************************************************************** 1  02030
00002E A804                 00034   204          B      MAXIT02            BRANCH AROUND ERROR OUTPUT        1  02040

C00030                              206 MAXIE01  EQU    *                                                    1  02060
000030 7004       0    70           207          OUT    0,STOP             AN INSTRUCTION OR DATA FLOW HAS   1  02070
C00032 0000                         208          DC     X'0000'            FAILED                            1  02080

000034                              210 MAXIT02  EQU    *                                                    1  02100
000034 8000       1(0)              211          LRI    R1(0),X'00'        LOAD ZERO'S INTO REG 1 BYTE 0     1  02110
000036 9809                 00030   212          BCL    MAXIE01            LRI, BCL OR DATA FLOW FAILURE     1  02120
C00038 8100       1(1)              213          LRI    R1(1),X'00'        LOAD ZERO'S INTO REG 1 BYTE 1     1  02130
00003A 980D                 00030   214          BCL    MAXIE01            LRI, BCL OR DATA FLOW FAILURE     1  02140

00003C D100       1(1)              216          ORI    R1(1),X'00'        OR ZERO'S WITH REG 1 BYTE 1       1  02160
C0003E 9100       1(1)              217          ARI    R1(1),X'00'        ADD ZERO'S WITH REG 1 BYTE 1      1  02170
000040 F1FF       1(1)              218          TRM    R1(1),X'FF'        ARE ANY BITS ON?                  1  02180
000042 9815                 00030   219          BCL    MAXIE01            ORI, ARI, TRM, OR DATA FLOW FAILURE 1  02190

000044 D1FF       1(1)              221          ORI    R1(1),X'FF'        OR ALL BITS ON WITH REG 1 BYTE 1  1  02210
000046 91FF       1(1)              222          ARI    R1(1),X'FF'        ADD ALL BITS ON WITH REG 1 BYTE 1 1  02220
000048 F101       1(1)              223          TRM    R1(1),X'01'        TEST FOR LOW ORDER BIT OFF        1  02230
00004A 981D                 00030   224          BCL    MAXIE01            ORI, ARI, TRM, OR DATA FLOW FAILURE 1  02240

00004C F001       1(0)              226          TRM    R1(0),X'01'        DID ADD PROPAGATE?                1  02260
00004E 8821                 00030   227          BZL    MAXIE01            ORI, ARI, TRM, BZL OR DATA FLOW   1  02270
                                    228 *                                  FAILURE                           1  02280

000050 D0FF       1(0)              230          ORI    R1(0),X'FF'        OR ALL BITS ON WITH REG 1 BYTE 0  1  02300
000052 90FF       1(0)              231          ARI    R1(0),X'FF'        ADD ALL BITS ON WITH REG 1 BYTE 0 1  02310
000054 9802                 00058   232          BCL    MAXIT04            BRANCH IF ADD PROPAGATED          1  02320

000056                              234 MAXIT03  EQU    *                                                    1  02340
000056 FFFF                         235          DC     X'FFFF'            THIS IS A CONSTANT FOR TESTING, AS A 1  02350
                                    236 *                                  INSTRUCTION IT IS A BRANCH BACK PAST 1  02360
                                    237 *                                  ZERO.                             1  02370

000058                              239 MAXIT04  EQU    *                                                    1  02390
000058 8000       1(0)              240          LRI    R1(0),X'00'        LOAD ZERO'S INTO REG 1 BYTE 0     1  02400
00005A D000       1(0)              241          ORI    R1(0),X'00'        OR ZERO'S WITH REG 1 BYTE 0       1  02410
00005C 9000       1(0)              242          ARI    R1(0),X'00'        ADD ZERO'S WITH REG 1 BYTE 0      1  02420
00005E F0FF       1(0)              243          TRM    R1(0),X'FF'        ARE ANY BITS ON?                  1  02430
000060 9833                 00030   244          BCL    MAXIE01            ORI, ARI, TRM OR DATA FLOW FAILURE 1  02440
```

```
  LOC  OBJ CODE  R1N1M R2N2 ADDR    STMT    SOURCE STATEMENT

                                     247 ******************************************************************** 1  02470
                                     248 *                                                                  * 1  02480
                                     249 *   T E S T I N G   O F   G R O U P   0   R E G I S T E R S   A N D  * 1  02490
                                     250 *                                                                  * 1  02500
                                     251 *   E X C L U S I V E   O R , I N P U T  &  O U T P U T   I N S T R  * 1  02510
                                     252 *                                                                  * 1  02520
                                     253 ******************************************************************** 1  02530

000062 77C8        7     7           255          XR    R7,R7               CLEAR REG 7                         1  02550

000000                               257          USING SMAXST,R7                                               1  02570
C00064 7157        1     7   00056   258          LH    R1,MAXIT03          LOAD ALL BITS ON INTO REG 1         1  02580
                                     259          DROP  R7                                                      1  02590

000066 051C        5    01           261          IN    R5,X'01'            INPUT REG 1 TO REG 5                1  02610
000068 0134        1    03           262          OUT   R1,X'03'            OUTPUT REG 1 TO REG 3               1  02620

C0006A 53C8        3     5           264          XR    R3,R5               ARE REG 3 AND REG 5 EQUAL?          1  02640
00006C 983F                  00030   265          BCL   MAXIE01             EXCLUSIVE OR REGISTER, LOAD HALFWORD 1  02650
                                     266 *                                  INPUT, OR OUTPUT INSTRUCTION FAILURE 1  02660

00006E 73C8        3     7           268          XR    R3,R7               ARE REG 3 AND REG 7 EQUAL?          1  02680
000070 9843                  00030   269          BCL   MAXIE01             EXCLUSIVE OR REGISTER, LOAD HALFWORD 1  02690
                                     270 *                                  INPUT, OR OUTPUT INSTRUCTION FAILURE 1  02700

000072 17C8        7     1           272          XR    R7,R1               EXCLUSIVE OR ALL BITS ON INTO REG 7  1  02720

000074 0354        3    05           274          OUT   R3,X'05'            OUTPUT ZERO'S TO REG 5              1  02740
000076 013C        1    03           275          IN    R1,X'03'            INPUT ZERO'S TO REG 1               1  02750

0C0078 15C8        5     1           277          XR    R5,R1               ARE REG 5 AND REG 1 EQUAL?          1  02770
00007A 984D                  00030   278          BCL   MAXIE01             EXCLUSIVE OR REGISTER, INPUT, OR    1  02780
                                     279 *                                  OUTPUT INSTRUCTION FAILURE          1  02790
```

```
  LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

                                   282 ********************************************************************* 1  02820
                                   283 *                                                                   * 1  02830
                                   284 *   T E S T I N G   O F   S T O R E   H A L F W O R D ,             * 1  02840
                                   285 *                                                                   * 1  02850
                                   286 *   L O A D   H A L F W O R D ,   E X C L U S I V E   O R ,         * 1  02860
                                   287 *                                                                   * 1  02870
                                   288 *   A N D   S T O R E   I N S T R U C T I O N S .                   * 1  02880
                                   289 *                                                                   * 1  02890
                                   290 ********************************************************************* 1  02900

00007C 8007       1(0)             292          LRI    R1(0),X'07'        SET UP ADDRESS FOR TESTING            1  02920
00007E 1785       7     1          293          STH    R7,4(R1)           STORE HALFWORD WITH ALL BITS ON       1  02930
000080 1305       3     1          294          LH     R3,4(R1)           LOAD HALFWORD PREVIOUSLY STORED       1  02940
000082 73C8       3     7          295          XR     R3,R7              ARE REG 3 AND REG 7 EQUAL?            1  02950
000084 9857                 00030  296          BCL    MAXIE01            STORE HALFWORD OR LOAD HALFWORD       1  02960
                                   297 *                                  FAILURE                               1  02970

000086 1585       5     1          299          STH    R5,4(R1)           STORE HALFWORD WITH ALL BITS OFF      1  02990
000088 1305       3     1          300          LH     R3,4(R1)           LOAD HALFWORD PREVIOUSLY STORED       1  03000
00008A 53C8       3     5          301          XR     R3,R5              ARE REG 3 AND REG 5 EQUAL?            1  03010
00008C 985F                 00030  302          BCL    MAXIE01            STORE HALFWORD OR LOAD HALFWORD       1  03020
                                   303 *                                  INSTRUCTION FAILURE                   1  03030

00008E 1786       7     1          305          ST     R7,4(R1)           STORE ALL BITS ON FOR THE SECOND      1  03050
                                   306 *                                  HALFWORD                              1  03060
000090 1305       3     1          307          LH     R3,4(R1)           LOAD FIRST HALFWORD OF THE FULLWORD   1  03070
                                   308 *                                  PREVIOUSLY STORED                     1  03080
000092 53C8       3     5          309          XR     R3,R5              ARE THEY EQUAL?                       1  03090
000094 9867                 00030  310          BCL    MAXIE01            STORE INSTRUCTION FAILURE             1  03100

000096 1507       5     1          312          LH     R5,6(R1)           LOAD SECOND HALFWORD OF THE FULLWORD  1  03120
                                   313 *                                  PREVIOUSLY STORED                     1  03130
000098 75C8       5     7          314          XR     R5,R7              ARE REG5 AND REG 7 EQUAL?             1  03140
00009A 986D                 00030  315          BCL    MAXIE01            STORE INSTRUCTION FAILURE             1  03150

00009C 1586       5     1          317          ST     R5,4(R1)           STORE ALL BITS OFF IN THE SECOND      1  03170
                                   318 *                                  HALFWORD                              1  03180
00009E 0707       7     0          319          LH     R7,6(R0)           LOAD SECOND HALFWORD OF THE FULLWORD  1  03190
                                   320 *                                  PREVIOUSLY STORED                     1  03200
0000A0 75C8       5     7          321          XR     R5,R7              ARE REG 5 AND REG 7 EQUAL?            1  03210
0000A2 9875                 00030  322          BCL    MAXIE01            STORE INSTRUCTION FAILURE             1  03220
```

```
 LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

                                   325 *********************************************************************** 1  03250
                                   326 *                                                                     * 1  03260
                                   327 *   B R A N C H   O N   B I T   T E S T   ( P A R T   1 )             * 1  03270
                                   328 *                                                                     * 1  03280
                                   329 *         THIS TEST IS ACCOMPLISHED BY CHANGING THE BRANCH ON BIT     * 1  03290
                                   330 *         INSTRUCTION EACH TIME THROUGH.  BRANCH ON BIT IS TESTED     * 1  03300
                                   331 *         NOT TO BRANCH WHEN BIT IS OFF AND THEN TO BRANCH WHEN       * 1  03310
                                   332 *         THE BIT IS ON.                                              * 1  03320
                                   333 *                                                                     * 1  03330
                                   334 *********************************************************************** 1  03340

0000A4 80CE        1(0)            336          LRI   R1(0),X'CE'        SET UP BRANCH ON BIT INSTRUCTION     1  03360
0000A6 8106        1(1)            337          LRI   R1(1),X'06'        SET UP BRANCH ON BIT INSTRUCTION     1  03370

                                   339 *********************************************************************** 1  03390
                                   340 *****         NOTE:  NEXT INSTRUCTION IS ADDRESS SENSITIVE        ***** 1  03400
                                   341 *********************************************************************** 1  03410
0000A8 83B4        3(1)            342          LRI   R3(1),X'B4'        SET UP ADDRESS FOR BRANCH ON BIT     1  03420
                                   343 *                                 INSTRUCTION                          1  03430
0000AA A806                 000B2  344          B     MAXIT06            BRANCH TO BEGIN TEST                 1  03440

0000AC                             346 MAXIT05  EQU   *                                                       1  03460
0000AC 9180        1(1)            347          ARI   R1(1),X'80'        UPDATE INSTRUCTION TO BE TESTED      1  03470
0000AE 98AF                 00002  348          BCL   MAXIT01            BRANCH INSTRUCTION HAS GONE THROUGH  1  03480
                                   349 *                                 SIXTEEN ITERATIONS                   1  03490
0000B0 D00E        1(0)            350          ORI   R1(0),X'0E'        CORRECT INSTRUCTION WHEN PROPAGATION 1  03500
                                   351 *                                 OCCURS OVER THREE BITS REPRESENTING  1  03510
                                   352 *                                 REG 7                                1  03520

0000B2                             354 MAXIT06  EQU   *                                                       1  03540
0000B2 3181        1      3        355          STH   R1,0(R3)           STORE BRANCH ON BIT INSTRUCTION      1  03550
0000B4 CE06        7(0,0)   000BC  356          BB    R7(0,0),MAXIEC2    ** THIS INSTRUCTION CHANGES    ***   1  03560
0000B6 F6FF        7(0)            357          TRM   R7(0),X'FF'        IF BRANCH DID NOT OCCUR SHOULD IT    1  03570
                                   358 *                                 HAVE?                                1  03580
0000B8 9802                 000BC  359          BCL   MAXIE02            YES, IT SHOULD HAVE OCCURED BUT DID  1  03590
                                   360 *                                 NOT                                  1  03600

0000BA 8811                 000AC  362          BZL   MAXIT05            BRANCH TO SET UP NEXT BRANCH ON BIT  1  03620
                                   363 *                                 INSTRUCTION                          1  03630

0000BC 7004        0      70       365 MAXIE02  OUT   0,STOP                                                  1  03650
```

```
  LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT
                                     368 ************************************************************************** 1  03680
                                     369 *                                                                        * 1  03690
                                     370 *  G E N E R A L   R E G I S T E R   P A R I T Y   C O R R E C T E D     * 1  03700
                                     371 *                                                                        * 1  03710
                                     372 *       AN OUTPUT TO EACH OF THE GROUPS 1, 2, & 3 REGISTERS            * 1  03720
                                     373 *       CORRECTS ANY BAD PARITY THAT MAY HAVE RESULTED FROM            * 1  03730
                                     374 *       POWERING ON.                                                   * 1  03740
                                     375 *                                                                        * 1  03750
                                     376 ************************************************************************** 1  03760

C000BE                               378 MAXIT07  EQU   *                                                          1  03780
0000BE 8174      1(1)                379          LRI   R1(1),X'74'       LOAD OUTPUT INSTRUCTION               1  03790

                                     381 ************************************************************************** 1  03810
                                     382 *****    NOTE:  NEXT INSTRUCTION IS ADDRESS SENSITIVE              ***** 1  03820
                                     383 ************************************************************************** 1  03830
0000C0 83C8      3(1)                384          LRI   R3(1),X'C8'       LOAD ADDRESS OF OUTPUT INSTRUCTION    1  03840

0000C2                               386 MAXIT08  EQU   *                                                          1  03860
0000C2 9110      1(1)                387          ARI   R1(1),X'10'       UPDATE INSTRUCTION                    1  03870
0000C4 F886      1(0,7)    000CC     388          BB    R1(0,7),MAXIT10   BRANCH WHEN GROUP 1 IS CORRECTED      1  03880

0000C6                               390 MAXIT09  EQU   *                                                          1  03900
0000C6 3181      1     3             391          STH   R1,0(R3)          STORE OUTPUT INSTRUCTION              1  03910
0000C8 0084      0     08            392          OUT   R0,X'08'          *** THIS INSTRUCTION CHANGES    **** 1  03920
0000CA A808            000C2       393          B     MAXIT08           BRANCH TO CONTINUE UPDATING OF THE    1  03930
                                     394 *                                OUTPUT INSTRUCTION                    1  03940

0000CC                               396 MAXIT10  EQU   *                                                          1  03960
0000CC D884      1(0,3)    000D2     397          BB    R1(0,3),ESCCHK    BRANCH TO IPL HANDLER WHEN GROUP 2    1  03970
                                     398 *                                AND 3 ARE PARITY CORRECTED            1  03980

0000CE 8010      1(0)                400          LRI   R1(0),X'10'       SET UP TO CORRECT PARITY OF GROUP 2   1  04000
                                     401 *                                AND GROUP 3 REGISTERS                 1  04010
0000D0 A80D            000C6       402          B     MAXIT09           BRANCH TO START PARITY CORRECTION     1  04020

                                     405 ************************************************************************** 1  04050
                                     406 *                                                                        * 1  04060
                                     407 *  R O S   E S C A P E   H A N D L I N G                                 * 1  04070
                                     408 *                                                                        * 1  04080
                                     409 ************************************************************************** 1  04090

0000D2                               411 ESCCHK   EQU   *                                                          1  04110
0000D2 719C      1     79            412          IN    R1,X'79'          INPUT UTILITY REG FOR ESCAPE BIT      1  04120
0000D4 F982      1(1,7)    000D8     413          BB    R1(1,7),ROS01     BRANCH BIT IS ON FOR NO ESCAPE        1  04130

C000D6 AE24            006FC       415          B     ESCAPE            BRANCH TO ESCAPE TO CORRECTED CODE    1  04150
0006FC                               416 ESCAPE   EQU   SROS+X'6FC'                                             1  04160
```

```
LOC    OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

                                   419 ************************************************************************ 1  04190
                                   420 *                                                                      * 1  04200
                                   421 *   S T O R E   O F   I N T E R R U P T   R E Q U E S T                * 1  04210
                                   422 *                                                                      * 1  04220
                                   423 *   G R O U P   1   R E G I S T E R S   A N D   I P L   C H E C K      * 1  04230
                                   424 *                                                                      * 1  04240
                                   425 *        THE INTERRUPT REQUEST GROUP 1 REGISTERS (X'76,7D,7E')         * 1  04250
                                   426 *        ARE STORED AT LOCATION X'702-707'.  THE CAUSE OF THE          * 1  04260
                                   427 *        LEVEL 1 REQUEST IS CHECKED FOR BEING AN IPL LEVEL 1 REQUEST.  * 1  04270
                                   428 *                                                                      * 1  04280
                                   429 ************************************************************************ 1  04290

0000D8                             431 ROS01    EQU   *                                                         1  04310
0000D8 71DC      1      7D         432          IN    R1,MACHK          GET MACHINE CHECK ERROR REGISTER        1  04320
0000DA 0185      1      0          433          STH   R1,4(R0)          SAVE MACHINE CHECK ERROR REGISTER       1  04330

0000DC 716C      1      76         435          IN    R1,X'76'          GET INTERRUPT REQUEST GROUP 1 FOR       1  04350
                                   436 *                                ADAPTERS                                1  04360
0000DE 0183      1      0          437          STH   R1,2(R0)          SAVE INTERRUPT REQUEST GROUP 1 FOR      1  04370
                                   438 *                                ADAPTERS                                1  04380

0000E0 71EC      1      7E         440          IN    R1,INTGP1         GET INTERRUPT REQUEST GROUP 1           1  04400
0000E2 0187      1      0          441          STH   R1,6(R0)          SAVE INTERRUPT REQUEST GROUP 1          1  04410

0000E4 F902      1(1,6)     000E8  443          BB    R1(1,6),DROS02    IS THIS A IPL LEVEL 1 REQUEST?          1  04430
                                   444 *                                                                        1  04440
0000E6 7004      0      70         445          OUT   0,STOP            HARDSTOP DUE TO ANY OTHER LEVEL 1       1  04450


                                   448 ************************************************************************ 1  04480
                                   449 *                                                                      * 1  04490
                                   450 *   R E S E T   O F   C C U   C H E C K S   A N D   T E S T   M O D E  * 1  04500
                                   451 *                                                                      * 1  04510
                                   452 ************************************************************************ 1  04520
0000E8                             453 DROS02   EQU   *                                                         1  04530
0000E8 11C8      1      1          454          XR    R1,R1             CLEAR REG 1                             1  04540
0000EA 0181      1      0          455          STH   R1,0(R0)          CLEAR THE FLAG AREA X'700'              1  04550

0000EC 8040      1(0)              457          LRI   R1(0),X'40'       SET RESET FOR CCU CHECKS                1  04570
0000EE 7174      1      77         458          OUT   R1,X'77'          CLEAR CCU CHECKS                        1  04580
                                   459 *                                                                        1  04590
0000F0 11C8      1      1          460          XR    R1,R1             CLEAR REG 1                             1  04600
0000F2 8110      1(1)              461          LRI   R1(1),X'10'       SET UP                                  1  04610
0000F4 7194      1      79         462          OUT   R1,X'79'          TO RESET TEST MODE                      1  04620
```

```
 LOC   OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT
                                    465 ********************************************************************************* 1  04650
                                    466 *                                                                               * 1  04660
                                    467 *      TESTING OF REG 4 AND REG 6                                               * 1  04670
                                    468 *                                                                               * 1  04680
                                    469 ********************************************************************************* 1  04690

0000F6 77C8       7     7           471         XR    R7,R7             CLEAR REG 7                                    1  04710
000000                              472         USING SMAXST,R7                                                          1  04720
0000F8 7457       4     7   00056   473         LH    R4,MAXIT03        LOAD ALL BITS ON INTO REG 4                    1  04730
0000FA 7657       6     7   00056   474         LH    R6,MAXIT03        LOAD ALL BITS ON INTO REG 6                    1  04740
                                    475         DROP  R7                                                               1  04750
0000FC 64C8       4     6           476         XR    R4,R6             ARE REG 4 AND REG 6 EQUAL                      1  04760
0000FE 98D1               00030     477         BCL   MAXIE01           REG 4 OR REG 6 FAILED TO SET                   1  04770
000100 66C8       6     6           478         XR    R6,R6             CLEAR REG 6                                    1  04780
000102 64C8       4     6           479         XR    R4,R6             ARE REG 4 AND REG 6 EQUAL                      1  04790
000104 98D7               00030     480         BCL   MAXIE01           REG 4 OR REG 6 FAILED TO CLEAR                 1  04800

                                    482 ********************************************************************************* 1  04820
                                    483 *                                                                               * 1  04830
                                    484 *   THIS IS THE START OF THE CHANNEL CODE.  THIS SECTION ZEROS OUT               * 1  04840
                                    485 *   THE 'IPL BASE ADDRESS' LOCATED AT X'700' AND THE 'INITIAL IPL               * 1  04850
                                    486 *   CHECK COMPLETED' FLAG BYTE LOCATED AT X'708'.                               * 1  04860
                                    487 *   ALSO, THE CHANNEL CONTROL BLOCK FOR THE FIRST CA IS FETCHED                 * 1  04870
                                    488 *   FROM X'03E8'.                                                               * 1  04880
                                    489 *                                                                               * 1  04890
                                    490 ********************************************************************************* 1  04900

000106                              492 NROS01  EQU   *                                                                  1  04920
000106 0081       0     0           493         STH   R0,0(R0)          ZERO OUT IPL BASE ADDR X'700'                  1  04930
000108 0089       0     0           494         STH   R0,8(R0)          ZERO OUT IPL CHECK BYTE X'708'                 1  04940
00010A 8203       3(0)              495         LRI   R3(0),X'03'       GET CHANNEL CONTROL BLOCK                      1  04950
00010C 03E8       3(1)              496         LRI   R3(1),X'E8'       ADDRESS FOR CA1                                1  04960
00010E 34C8       4     3           497         XR    R4,R3             MOVE CHCB1 ADDRESS TO REG 4                    1  04970
000110 A814               00126     498         B     NROS03                                                           1  04980
```

```
 LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

                                    501 ************************************************************************ 1  05010
                                    502 *                                                                      * 1  05020
                                    503 *          THIS SECTION IS ENTERED BY BRANCHING FROM                   * 1  05030
                                    504 *          NROS11.  THE DATA STATUS INTERRUPT ADDRESS                  * 1  05040
                                    505 *          IS COMPARED WITH THE NSC ADDRESS.                           * 1  05050
                                    506 *                                                                      * 1  05060
                                    507 ************************************************************************ 1  05070

000112                              509 NROS11A  EQU   *                                                        1  05090
000112 613C      1    63            510          IN    R1,X'63'          FETCH ADDRESS BYTE                   1  05100
000114 657C      5    67            511          IN    R5,X'67'          FETCH NSC ADDRESS                    1  05110
000116 8100      1(1)               512          LRI   R1(1),X'00'                                            1  05120
000118 8500      5(1)               513          LRI   R5(1),X'00'                                            1  05130
00011A 15C8      5     1            514          XR    R5,R1             COMPARE ADDRESSES                  1  05140
00011C 987A                 00198  515          BCL   NROS10            BRANCH IF NOT EQUAL                1  05150
00011E A8B2                 001D2  516          B     NROS17            BRANCH TO OUTPUT STATUS            1  05160
000120 7004      0    70            517          OUT   0,STOP           HARDSTOP- SHOULD NOT BE HERE       1  05170
000122 7004      0    70            518          OUT   0,STOP           HARDSTOP- SHOULD NOT BE HERE       1  05180
000124 7004      0    70            519          OUT   0,STOP           HARDSTOP- SHOULD NOT BE HERE       1  05190

                                    521 ************************************************************************ 1  05210
                                    522 *                                                                      * 1  05220
                                    523 *   THIS SECTION CONTROLS THE SCANNING OF THE 4 CHANNEL ADAPTERS .     * 1  05230
                                    524 *   EACH ADAPTER IS SCANNED (SELECTED) TO DETERMINE IF THE ADAPTER     * 1  05240
                                    525 *   IS INSTALLED. IF THE SCANNED ADAPTER IS NOT INSTALLED, THE         * 1  05250
                                    526 *   NEXT ADAPTER IN THE SEQUENCE IS SCANNED.  INITIALLY, EACH         * 1  05260
                                    527 *   ADAPTER IS CHECKED FOR AN IPL CMD.  IF AN ADAPTER HAS RECEIVED     * 1  05270
                                    528 *   AN IPL CMD, THE IPL BEGINS ON THAT ADAPTER.                        * 1  05280
                                    529 *                                                                      * 1  05290
                                    530 ************************************************************************ 1  05300

000126                              532 NROS03   EQU   *                                                        1  05320
000126 4405      4     4            533          LH    R4,4(R4)          LOAD LINK TO NEXT CA CHCB            1  05330
000128 4303      3     4            534          LH    R3,2(R4)          GET SELECTION/ENABLE CONTROLS        1  05340
00012A 6374      3    67            535          OUT   R3,X'67'          SELECT CA                            1  05350
00012C 717C      1    77            536          IN    R1,X'77'          GET SELECTION BITS                   1  05360
00012E 4501      5     4            537          LH    R5,0(R4)          GET FLAGS AND SELECT MASK            1  05370
000130 51C8      1     5            538          XR    R1,R5             COMPARE                              1  05380
000132 F106      1(1)               539          TRM   R1(1),X'06'       CORRECT CA SELECTED ?                1  05390
000134 9811                 00126  540          BCL   NROS03            BRANCH TO SCAN NEXT CA               1  05400
000136 677C      7    67            541          IN    R7,X'67'                                               1  05410
000138 0609      6     0            542          LH    R6,8(R0)          GET INIT IPL CHECK FLAG BYTE         1  05420
00013A 880C                 00148  543          BZL   NROS04            BRANCH TO CHECK FOR IPL CMD          1  05430
00013C EB2C      3(1,4)     0016A  544          BB    R3(1,4),NROS05    BRANCH TO CHECK ENABLE               1  05440
00013E EF06      7(1,4)     00146  545          BB    R7(1,4),BRPOINT   BRANCH TO BRANCH POINT               1  05450
000140 8308      3(1)               546          LRI   R3(1),X'08'       TURN ON CA NOT ENABLED BIT           1  05460
000142 4383      3     4            547          STH   R3,2(R4)          STORE SELECTION/ENABLE CONTROLS      1  05470
000144 A821                 00126  548          B     NROS03            BRANCH TO SCAN NEXT CA               1  05480
000146 A9B2                 002FA  549 BRPOINT   B     NROS43            BRANCH TO CHECK FOR L3 INTERRUPT     1  05490
```

```
 LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT
                                    552 ********************************************************************************* 1  05520
                                    553 *                                                                               * 1  05530
                                    554 *                INITIAL IPL CHECK                                              * 1  05540
                                    555 *                                                                               * 1  05550
                                    556 *   THIS SECTION CHECKS EACH INSTALLED ADAPTER FOR AN IPL COMMAND                * 1  05560
                                    557 *   ONLY ON THE FIRST PASS THRU THE CODE.                                       * 1  05570
                                    558 *                                                                               * 1  05580
                                    559 ********************************************************************************* 1  05590

000148                              561 NROS04   EQU   *                                                                 1  05610
C00148 F506      5(1)               562          TRM   R5(1),X'06'                                                      1  05620
00014A 9802              0014E      563          BCL   CHKIPL01          CA1 IS NOT SELECTED                            1  05630
00014C 0489      4     0            564          STH   R4,8(R0)          SET INIT IPL CHECK BYTE TO NON ZERO            1  05640
C0014E EF02      7(1,4)   00152     565 CHKIPL01 BB    R7(1,4),CHKIPL02  BRANCH IF CA IS ENABLED                        1  05650
000150 A82D              00126      566          B     NROS03            BRANCH TO SCAN NEXT CA                         1  05660
000152 E902      1(1,4)   00156     567 CHKIPL02 BB    R1(1,4),CHKIPL03  LEVEL 3 INTERRUPT                              1  05670
000154 A831              00126      568          B     NROS03            BRANCH TO SCAN NEXT CA                         1  05680
000156 610C      1    60            569 CHKIPL03 IN    R1,X'60'                                                         1  05690
000158 C802      1(0,0)   0015C     570          BB    R1(0,0),CHKIPL04  INITIAL SELECT INTERRUPT                       1  05700
00015A A837              00126      571          B     NROS03            BRANCH TO SCAN NEXT CA                         1  05710
00015C 611C      1    61            572 CHKIPL04 IN    R1,X'61'                                                         1  05720
00015E 8705      7(1)               573          LRI   R7(1),X'05'                                                      1  05730
000160 17C8      7     1            574          XR    R7,R1                                                            1  05740
000162 983F              00126      575          BCL   NROS03            NOT IPL CMD OR NOT NSC ADDRESS                 1  05750
000164 0489      4     0            576          STH   R4,8(R0)          SET INIT IPL CHECK BYTE TO NON ZERO            1  05760
000166 0481      4     0            577          STH   R4,0(R0)          STORE CHCB OF CA WITH IPL CMD                  1  05770
000168 A845              00126      578          B     NROS03            BRANCH TO SCAN NEXT CA                         1  05780
```

```
 LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

                                    581 ********************************************************************************* 1  05810
                                    582 *                                                                               * 1  05820
                                    583 *                INITIAL ENABLE CHECK                                           * 1  05830
                                    584 *                                                                               * 1  05840
                                    585 *   THIS SECTION CHECKS TO DETERMINE IF THE SELECTED ADAPTER IS                  * 1  05850
                                    586 *   ENABLED.  THIS SECTION IS ENTERED ONLY WHEN THE 'NOT ENABLED'                * 1  05860
                                    587 *   FLAG IS ACTIVE.  IF THE SELECTED ADAPTER IS NOT ENABLED, THE                 * 1  05870
                                    588 *   NEXT ADAPTER IN THE SEQUENCE IS SCANNED.  IF THE SELECTED                    * 1  05880
                                    589 *   ADAPTER IS ENABLED, THE SELECTED ADAPTER'S 'NOT ENABLED'                     * 1  05890
                                    590 *   FLAG IS TURNED OFF.                                                          * 1  05900
                                    591 *                                                                               * 1  05910
                                    592 ********************************************************************************* 1  05920

00016A                              594 NROS05   EQU   *                                                                 1  05940
00016A EF02      7(1,4)    0016E    595          BB    R7(1,4),NROS06      INITIAL ENABLE CHECK                       1  05950
00016C AA12                 00380   596          B     NROS05A             NOT ENABLED, BRANCH TO NROS05A             1  05960

00016E                              598 NROS06   EQU   *                                                                 1  05980
00016E 8300      3(1)               599          LRI   R3(1),X'00'         SET UP TO TURN OFF NOT ENABLED FLAG        1  05990
00170 4383       3     4            600          STH   R3,2(R4)           TURN OFF THE NOT ENABLED FLAG              1  06000

000172                              602 NROS07   EQU   *                                                                 1  06020
000172 657C      5    67            603          IN    R5,X'67'                                                         1  06030
000174 ED80      5(1,5)    001A6     604          BB    R5(1,5),NROS12      BRANCH IF NSC ACTIVE                       1  06040
000176 8706      7(1)               605          LRI   R7(1),X'06'         SET UP DEVICE END AND UC STATUS            1  06050
000178 0301      3     0            606          LH    R3,0(R0)            IPL IN PROGRESS CHECK                      1  06060
00017A 9857                 00126   607          BCL   NROS03              BRANCH TO SCAN NEXT CA                     1  06070

                                    609 ********************************************************************************* 1  06090
                                    610 *                                                                               * 1  06100
                                    611 *                    FIRST  PASS  CODE                                          * 1  06110
                                    612 *                                                                               * 1  06120
                                    613 *   THE FOLLOWING INSTRUCTIONS REQUEST A PROGRAM INTERRUPT AND RESET             * 1  06130
                                    614 *   LEVEL 1 INTERRUPTS.  ALSO, REG 3 IS SET UP TO REQUEST A FINAL                * 1  06140
                                    615 *   TRANSFER SEQUENCE AND TO RESET LEVEL 3 INTERRUPTS.                           * 1  06150
                                    616 *                                                                               * 1  06160
                                    617 ********************************************************************************* 1  06170

00017C                              619 NROS08   EQU   *                                                                 1  06190
00017C 8160      1(1)               620          LRI   R1(1),X'60'         SET UP PROG INT AND RESET L1               1  06200
00017E 8C00      1(0)               621          LRI   R1(0),X'00'                                                    1  06210
000180 6174      1    67            622          OUT   R1,X'67'            SET PROG INT                               1  06220
000182 820F      3(0)               623          LRI   R3(0),X'0F'         SET UP FINAL XFER SEQ AND L3 RESETS        1  06230
000184 8300      3(1)               624          LRI   R3(1),X'00'                                                    1  06240
000186 84F2      5(0)               625          LRI   R5(0),X'F2'         SET COUNT FOR 13 PASSES THRU L3 LOOP       1  06250
```

```
 LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT
                                  628 ********************************************************************************* 1  06280
                                  629 *                                                                               * 1  06290
                                  630 *                  FIRST  PASS  CODE                                            * 1  06300
                                  631 *                  INTERRUPT HANDLER                                            * 1  06310
                                  632 *                                                                               * 1  06320
                                  633 *   THE FOLLOWING INSTRUCTIONS CHECK FOR LEVEL 1 INTERRUPTS, INITIAL            * 1  06330
                                  634 *   SELECT  INTERRUPTS OR DATA/STATUS LEVEL 3 INTERRUPTS.  IF AN                * 1  06340
                                  635 *   INTERRUPT DOES NOT OCCUR AFTER 13 PASSES, THE CODE TURNS ON THE             * 1  06350
                                  636 *   SELECTED ADAPTERS 'NOT ENABLED' FLAG AND BRANCHES TO SCAN THE               * 1  06360
                                  637 *   NEXT ADAPTER.                                                               * 1  06370
                                  638 *                                                                               * 1  06380
                                  639 ********************************************************************************* 1  06390

000188                            641 NROS09   EQU   *                                                                 1  06410
000188 9401      5(0)             642          ARI   R5(0),X'01'       INCREMENT COUNTER                             1  06420
00018A 880C              00198    643          BZL   NROS10           PROGRAM INTERRUPT DID NOT OCCUR               1  06430
00018C 716C      1    76          644          IN    R1,X'76'         GET L1 INT REQ                                1  06440
00018E E8CC      1(0,5)  001DC    645          BB    R1(0,5),NROS19   BRANCH TO L1 HANDLER                          1  06450
000190 717C      1    77          646          IN    R1,X'77'         GET L3 INT REQ                                1  06460
000192 E928      1(1,4)  0018C    647          BB    R1(1,4),NROS15   BRANCH TO HANDLE INIT SEL L3                  1  06470
000194 D98A      1(1,3)  001A0    648          BB    R1(1,3),NROS11   DATA STATUS L3                                1  06480
000196 A811              00188    649          B     NROS09                                                         1  06490

000198                            651 NROS10   EQU   *                                                             1  06510
00019A 4503      5    4          652          LH    R5,2(R4)         GET SELECTION/ENABLE CONTROLS                 1  06520
00019A 8508      5(1)            653          LRI   R5(1),X'08'       TURN ON 'NOT ENABLED FLAG'                    1  06530
00019C 4583      5    4          654          STH   R5,2(R4)         STORE SELECTION/ENABLE CONTROLS               1  06540
00019E A87B              00126    655          B     NROS03           BRANCH TO SCAN NEXT CA                        1  06550

                                  657 ********************************************************************************* 1  06570
                                  658 *                                                                               * 1  06580
                                  659 * THE FOLLOWING INSTRUCTIONS CHECK FOR THE EXPECTED PROGRAM INTERRUPT        * 1  06590
                                  660 *                                                                               * 1  06600
                                  661 ********************************************************************************* 1  06610

0001A0                            663 NROS11   EQU   *                                                             1  06630
0001A0 612C      1    62          664          IN    R1,X'62'         GET DATA/STATUS CONTROL                       1  06640
0001A2 F8AE      1(0,7)  001D2    665          BB    R1(0,7),NROS17   PROGRAM INTERRUPT BRANCH                     1  06650
0001A4 A895              00112    666          B     NROS11A                                                        1  06660
```

```
  LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

                                    669 ***********************************************************************  1  06690
                                    670 *                                                                     *  1  06700
                                    671 *    THE FOLLOWING INSTRUCTIONS CHECK FOR AN INITIAL SELECT LEVEL 3   *  1  06710
                                    672 *    INTERRUPT.  IF AN INITIAL SELECT LEVEL 3 IS PRESENT ON THE NSC   *  1  06720
                                    673 *    ADDRESS, THE CODE BRANCHES TO HANDLE THE INITIAL SELECT INTERRUPT.*  1  06730
                                    674 *    IF AN INITIAL SELECT IS NOT PRESENT OR THE INITIAL SELECT IS NOT *  1  06740
                                    675 *    ON THE NSC ADDRESS, CE, DE, UC STATUS IS SET UP IN REG 7 AND THE *  1  06750
                                    676 *    CODE BRANCHES TO THE 'FIRST PASS CODE.'                          *  1  06760
                                    677 *                                                                     *  1  06770
                                    678 ***********************************************************************  1  06780
0001A6                              680 NROS12   EQU   *                                                            1  06800
0001A6 717C      1    77            681          IN    R1,X'77'             GET INTERRUPT REQUEST                    1  06810
0001A8 E904      1(1,4)      001AE  682          BB    R1(1,4),NROS14       INITIAL SELECT L3  BRANCH                1  06820
0001AA                              684 NROS13   EQU   *                                                            1  06840
0001AA 870E      7(1)               685          LRI   R7(1),X'0E'          SET UP CE, DE, UC STATUS                 1  06850
0001AC A833                  0017C  686          B     NROS08               BRANCH TO FIRST PASS CODE                1  06860
0001AE                              688 NROS14   EQU   *                                                            1  06880
0001AE 611C      1    61            689          IN    R1,X'61'             GET ADDRESS OF SUBCHANNEL                1  06890
0001B0 657C      5    67            690          IN    R5,X'67'             GET NSC ADDRESS                          1  06900
0001B2 8100      1(1)               691          LRI   R1(1),X'00'          CLEAR BYTE 1 OF REG 1                    1  06910
0001B4 8500      5(1)               692          LRI   R5(1),X'00'          CLEAR BYTE 1 OF REG 5                    1  06920
0001B6 15C8      5    1             693          XR    R5,R1                ARE ADDRESSES EQUAL                      1  06930
0001B8 9811                  001AA  694          BCL   NROS13               BRANCH IF NOT EQUAL                      1  06940
0001BA A84C                  00208  695          B     NROS21               BRANCH TO HANDLE INIT SELECT L3          1  06950
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```
  LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

                                    698 ********************************************************************** 1  06980
                                    699 *                                                                    * 1  06990
                                    700 *                 INITIAL SELECT INTERRUPT WHILE IN                  * 1  07000
                                    701 *                 'FIRST PASS CODE'                                  * 1  07010
                                    702 *                                                                    * 1  07020
                                    703 *   IF SYSTEM RESET IS PRESENT ON THE SELECTED ADAPTER, THE CODE     * 1  07030
                                    704 *   BRANCHES TO THE INITIAL SELECT CODE.  IF THE INITIAL SELECT IS   * 1  07040
                                    705 *   NOT ON THE NSC ADDRESS , THE INITIAL SELECT INTERRUPT IS         * 1  07050
                                    706 *   RESET AND THE CODE CONTINUES SCANNING FOR THE PROGRAM            * 1  07060
                                    707 *   INTERRUPT.  IF THE INITIAL SELECT IS ON THE NSC ADDRESS, THE     * 1  07070
                                    708 *   CODE BRANCHES TO THE INITIAL SELECT CODE.                        * 1  07080
                                    709 *                                                                    * 1  07090
                                    710 ********************************************************************** 1  07100

0001BC                              712 NROS15   EQU   *                                                       1  07120
0001BC 610C       1    60           713          IN    R1,X'60'            IS SYSTEM RESET?                    1  07130
0001BE F8C8       1(0,7)     00208  714          BB    R1(0,7),NROS21      YES, BRANCH TO INIT SEL HANDLER     1  07140
0001C0 611C       1    61           715          IN    R1,X'61'            GET ADDRESS OF SUBCHANNEL           1  07150
0001C2 657C       5    67           716          IN    R5,X'67'            GET NSC ADDRESS                     1  07160
0001C4 8100       1(1)              717          LRI   R1(1),X'00'         CLEAR BYTE 1 OF REG 1               1  07170
0001C6 8500       5(1)              718          LRI   R5(1),X'00'         CLEAR BYTE 1 OF REG 5               1  07180
0001C8 15C8       5     1           719          XR    R5,R1               ARE ADDRESSES EQUAL                 1  07190
0001CA 9802                  001CE  720          BCL   NROS16              BRANCH IF NOT EQUAL                 1  07200
0001CC A83A                  00208  721          B     NROS21              BRANCH TO INIT SEL L3 HANDLER       1  07210

0001CE                              723 NROS16   EQU   *                                                       1  07230
0001CE 6104       1    60           724          OUT   R1,X'60'            RESET INITIAL SELECT L3             1  07240
0001D0 A84B                  00188  725          B     NROS09                                                  1  07250

                                    727 ********************************************************************** 1  07270
                                    728 *                                                                    * 1  07280
                                    729 *   STATUS IS OUTPUTED TO THE SELECTED ADAPTER.                      * 1  07290
                                    730 *                                                                    * 1  07300
                                    731 ********************************************************************** 1  07310

0001D2                              733 NROS17   EQU   *                                                       1  07330
0001D2 6764       7    66           734          OUT   R7,X'66'            OUTPUT STATUS                       1  07340
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```
  LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

                                    737 ******************************************************************* 1  07370
                                    738 *                                                                  * 1  07380
                                    739 *    OUTPUT NSC ADDRESS AND RESET LEVEL 3 INTERRUPT.  BRANCH TO    * 1  07390
                                    740 *    SCAN NEXT ADAPTER.                                            * 1  07400
                                    741 *                                                                  * 1  07410
                                    742 ******************************************************************* 1  07420
000104                              744 NROS18   EQU   *                                                     1  07440
0001D4 617C        1    67          745          IN    R1,X'67'          INPUT NSC ADDRESS                   1  07450
0001D6 6134        1    63          746          OUT   R1,X'63'          OUTPUT NSC ADDRESS TO REG 63        1  07460
0001D8 6324        3    62          747          OUT   R3,X'62'          OUTPUT TO RESET LEVEL 3             1  07470
0001DA A8B7                  00126  748          B     NROS03            BRANCH TO SCAN NEXT CA              1  07480
                                    750 ******************************************************************* 1  07500
                                    751 *                                                                  * 1  07510
                                    752 *    THE FOLLOWING INSTRUCTIONS HANDLE THE LEVEL 1 INTERRUPTS.     * 1  07520
                                    753 *    IF THE NSC ADDRESS IS NOT ACTIVE WITH A COMMAND, THE LEVEL 1  * 1  07530
                                    754 *    INTERRUPT IS RESET AND THE CODE BRANCHES TO SCAN THE NEXT ADAPTER.* 1  07540
                                    755 *                                                                  * 1  07550
                                    756 ******************************************************************* 1  07560
0001DC                              758 NROS19   EQU   *                                                     1  07580
0001DC 657C        5    67          759          IN    R5,X'67'                                              1  07590
0001DE ED88        5(1,5)    001E8  760          BB    R5(1,5),L101      IS NSC ACTIVE                       1  07600
0001E0 55C8        5    5           761          XR    R5,R5             CLEAR REG 5                         1  07610
0001E2 8520        5(1)             762          LRI   R5(1),X'20'       SET UP TO RESET CA L1               1  07620
0001E4 6574        5    67          763          OUT   R5,X'67'          RESET CA L1                         1  07630
0001E6 A8C3                  00126  764          B     NROS03            BRANCH TO SCAN NEXT CA              1  07640
0001E8 4501        5    4           765 L101     LH    R5,0(R4)          GET SELECTED CA FLAGS               1  07650
0001EA 8401        5(0)             766          LRI   R5(0),X'01'       SET UP SELECTED CA L1 FLAG          1  07660
0001EC 4581        5    4           767          STH   R5,0(R4)          STORE SELECTED CA FLAGS             1  07670
0001EE 0101        1    0           768          LH    R1,0(R0)          GET BASE ADDRESS OF CA WITH IPL CMD 1  07680
0001F0 41C8        1    4           769          XR    R1,R4             IPL ON THIS CA                      1  07690
0001F2 8802                  001F6  770          BZL   NROS20            IPL IS IN PROGRESS ON THIS CA       1  07700
0001F4 A85F                  00198  771          B     NROS10                                                1  07710
0001F6                              773 NROS20   EQU   *                                                     1  07730
0001F6 0181        1    0           774          STH   R1,0(R0)          SET BASE ADDR OF IPL TO ZERO        1  07740
0001F8 80FB        1(0)             775          LRI   R1(0),X'FB'       SET COUNT TO FF MINUS 4             1  07750
0001FA 4405        4    4           776 CONTLOOP LH    R4,4(R4)          FETCH CONTROL BLOCK FOR NEXT CA     1  07760
0001FC 9001        1(0)             777          ARI   R1(0),X'01'       INCREMENT COUNTER                   1  07770
0001FE 88DB                  00126  778          BZL   NROS03            BRANCH TO SCAN NEXT CA              1  07780
000200 4303        3    4           779          LH    R3,2(R4)          FETCH SELECTION/ENABLE CONTROLS     1  07790
000202 8308        3(1)             780          LRI   R3(1),X'08'       TURN ON 'NOT ENABLED FLAG'          1  07800
000204 4383        3    4           781          STH   R3,2(R4)          STORE SELECTION/ENABLE CONTROLS     1  07810
000206 A80F                  001FA  782          B     CONTLOOP          BRANCH TO FETCH NEXT CONTROL BLOCK  1  07820
```

```
 LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

                                   785 ********************************************************************** 1  07850
                                   786 *                                                                    * 1  07860
                                   787 *                    INITIAL SELECT INTERRUPT HANDLER                * 1  07870
                                   788 *                                                                      1  07880
                                   789 *   THE FOLLOWING SECTIONS HANDLE THE INITIAL SELECT LEVEL 3         * 1  07890
                                   790 *   INTERRUPTS.  THE REASON FOR THE INITIAL SELECT INTERRUPT IS      * 1  07900
                                   791 *   DETERMINED AND THE CODE BRANCHES TO HANDLE THE INTERRUPT.        * 1  07910
                                   792 *                                                                    * 1  07920
                                   793 ********************************************************************** 1  07930

000208                             795 NROS21   EQU   *                                               1  07950
000208 33C8      3    3            796          XR    R3,R3              CLEAR REG 3                  1  07960
00020A 8206      3(0)              797          LRI   R3(0),X'06'        SET UP TO RESET INIT SEL AND L3 1 07970
00020C 610C      1    60           798          IN    R1,X'60'           WHY INIT SEL L3              1  07980
00020E F880      1(0,7)     00240  799          BB    R1(0,7),NROS25     SYSTEM RESET                 1  07990
000210 D832      1(0,2)     00244  800          BB    R1(0,2),NROS26     SELECTIVE RESET              1  08000
000212 C88E      1(0,1)     00222  801          BB    R1(0,1),NROS22     INTERFACE DISCONNECT         1  08010
000214 F843      1(0,6)     001D4  802          BB    R1(0,6),NROS18     STACKED STATUS CLEARED       1  08020
000216 E8D6      1(0,5)     0026E  803          BB    R1(0,5),NROS30     STACKED INITIAL STATUS       1  08030
000218 D8EE      1(0,3)     00288  804          BB    R1(0,3),NROS33     BUS OUT CHECK                1  08040
00021A C822      1(0,0)     0023E  805          BB    R1(0,0),NSELBRPT   NORMAL INITIAL SELECTION     1  08050
00021C 4101      1    4            806          LH    R1,0(R4)           GET SELECTED CA FLAGS        1  08060
00021E 8001      1(0)              807          LRI   R1(0),X'01'        SET UP L1 FLAG               1  08070
000220 4181      1    4            808          STH   R1,0(R4)           STORE UPDATED FLAGS          1  08080

                                   810 ********************************************************************** 1  08100
                                   811 *                                                                    * 1  08110
                                   812 *    THE FOLLOWING INSTRUCTIONS SET UP CE, DE, UC STATUS AND         * 1  08120
                                   813 *    SET UP FINAL STATUS STATE.                                      * 1  08130
                                   814 *                                                                    * 1  08140
                                   815 ********************************************************************** 1  08150

000222                             817 NROS22   EQU   *                                               1  08170
000222 870E      7(1)              818          LRI   R7(1),X'0E'        SET UP CE , DE, UC STATUS    1  08180

000224                             820 NROS23   EQU   *                                               1  08200
000224 D208      3(0)              821          ORI   R3(0),X'08'        SET UP FINAL STATUS STATE    1  08210
000226 0101      1    0            822          LH    R1,0(R0)           GET IPL BASE ADDRESS         1  08220
000228 41C8      1    4            823          XR    R1,R4              IS IPL IN PROGRESS ON THIS CA 1 08230
00022A 985B                 001D2  824          BCL   NROS17             IPL IS NOT IN PROGRESS ON THIS CA 1 08240
00022C 0181      1    0            825          STH   R1,0(R0)           ZERO OUT IPL BASE ADDRESS    1  08250
00022E 80FC      1(0)              826          LRI   R1(0),X'FC'        SET COUNT TO FF MINUS 3      1  08260
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```
  LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

000230                              829 NROS24   EQU   *                                                   1  08290
C00230 4405       4     4           830          LH    R4,4(R4)          FETCH CONTROL BLOCK FOR NEXT CA     1  08300
000232 9001       1(0)              831          ARI   R1(0),X'01'       INCREMENT COUNTER                   1  08310
000234 8865                  001D2  832          BZL   NROS17            BRANCH TO OUTPUT STATUS             1  08320
C00236 4503       5     4           833          LH    R5,2(R4)          FETCH SELECTION/ENABLE CONTROLS     1  08330
000238 8508       5(1)              834          LRI   R5(1),X'08'       TURN ON 'NOT ENABLED FLAG'          1  08340
00023A 4583       5     4           835          STH   R5,2(R4)          STORE SELECTION/ENABLE CONTROLS     1  08350
00023C A80F                  00230  836          B     NROS24            BRANCH TO FETCH NEXT CONTROL BLOCK  1  08360
00023E A866                  002A6  837 NSELBRPT B     NROS35            BRANCH                              1  08370

                                    839 ******************************************************************** 1  08390
                                    840 *                                                                  * 1  08400
                                    841 *    THE FOLLOWING INSTRUCTIONS HANDLE THE SYSTEM RESET OR SELECTIVE * 1  08410
                                    842 *    RESET WHICH OCCURS ON AN INITIAL SELECTION.  ALSO, COMMON CODE  * 1  08420
                                    843 *    IS USED TO HANDLE THE SELECTIVE RESET FROM THE LEVEL 3          * 1  08430
                                    844 *    INTERRUPT HANDLER.                                              * 1  08440
                                    845 *                                                                  * 1  08450
                                    846 ******************************************************************** 1  08460

000240                              848 NROS25   EQU   *                                                   1  08480
000240 11C8       1     1           849          XR    R1,R1             CLEAR REG 1                         1  08490
000242 6124       1     62          850          OUT   R1,X'62'                                              1  08500

000244                              852 NROS26   EQU   *                                                   1  08520
000244 11C8       1     1           853          XR    R1,R1             CLEAR REG 1                         1  08530
000246 8110       1(1)              854          LRI   R1(1),X'10'       SET UP TO RESET SYS RESET           1  08540
000248 6174       1     67          855          OUT   R1,X'67'          OUTPUT TO RESET SYS RESET           1  08550
C0024A 11C8       1     1           856          XR    R1,R1             CLEAR REG 1                         1  08560
00024C 8004       1(0)              857          LRI   R1(0),X'04'       SET UP TO RESET INIT SEL L3         1  08570

00024E                              859 NROS27   EQU   *                                                   1  08590
00024E 6124       1     62          860          OUT   R1,X'62'          RESET INIT SEL L3 OR DATA/STATUS L3 1  08600
C00250 4101       1     4           861          LH    R1,0(R4)          GET BOC AND L1 FLAGS                1  08610
000252 8000       1(0)              862          LRI   R1(0),X'00'       RESET BOC AND L1 FLAGS              1  08620
000254 4181       1     4           863          STH   R1,0(R4)          STORE UPDATED BOC AND L1 FLAGS      1  08630

000256                              865 NROS28   EQU   *                                                   1  08650
000256 0101       1     0           866          LH    R1,0(R0)          GET IPL BASE ADDRESS                1  08660
000258 41C8       1     4           867          XR    R1,R4             IS IPL IN PROGRESS ON THIS CA ?     1  08670
00025A 9937                  00126  868          BCL   NROS03            IPL IS NOT IN PROGRESS ON THIS CA   1  08680
00025C 0181       1     0           869          STH   R1,0(R0)          ZERO OUT IPL BASE ADDRESS           1  08690
00025E 80FC       1(0)              870          LRI   R1(0),X'FC'       SET COUNT TO FF MINUS 3             1  08700
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NROS 3705 TYPE 4 CHANNEL,N CHANNEL ROS CODE

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  LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

000260                             873 NROS29   EQU   *                                                         1  08730
000260 4405        4     4         874          LH    R4,4(R4)            FETCH CONTROL BLOCK FOR NEXT CA      1  08740
000262 9001        1(0)            875          ARI   R1(0),X'01'         INCREMENT COUNTER                    1  08750
000264 8941                  00126 876          BZL   NROS03              BRANCH IF ROUTINE COMPLETED          1  08760
000266 4303        3     4         877          LH    R3,2(R4)            FETCH SELECTION/ENABLE CONTROLS      1  08770
000268 8308        3(1)            878          LRI   R3(1),X'08'         TURN ON 'NOT ENABLED FLAG'           1  08780
00026A 4383        3     4         879          STH   R3,2(R4)            STORE SELECTION/ENABLE CONTROLS      1  08790
00026C A80F                  00260 880          B     NROS29              BRANCH TO FETCH NEXT CONTROL BLOCK   1  08800

                                   882 ******************************************************************** 1  08820
                                   883 *                                                                  * 1  08830
                                   884 *    THE FOLLOWING INSTRUCTIONS HANDLE STACKED INITIAL STATUS      * 1  08840
                                   885 *    ON AN INITIAL SELECTION.                                      * 1  08850
                                   886 *                                                                  * 1  08860
                                   887 ******************************************************************** 1  08870

00026E                             889 NROS30   EQU   *                                                         1  08890
00026E D88A        1(0,3)    0027A 890          BB    R1(0,3),NROS31      BUS OUT CHECK                        1  08900
000270 611C        1     61        891          IN    R1,X'61'            INPUT CMD                            1  08910
000272 F1FF        1(1)            892          TRM   R1(1),X'FF'         TEST FOR TEST I/O CMD                1  08920
000274 880E                  00284 893          BZL   NROS32              BRANCH DUE TO TEST I/O CMD           1  08930
000276 870C        7(1)            894          LRI   R7(1),X'0C'         NO-OP CMD, SET CE AND DE STATUS      1  08940
000278 A857                  00224 895          B     NROS23              BRANCH TO SET FINAL STATUS STATE     1  08950

00027A                             897 NROS31   EQU   *                                                         1  08970
00027A 8702        7(1)            898          LRI   R7(1),X'02'         SET UP UNIT CHECK STATUS             1  08980
00027C 4101        1     4         899          LH    R1,0(R4)            GET BOC AND L1 FLAGS                 1  08990
00027E 8002        1(0)            900          LRI   R1(0),X'02'         SET UP BOC FLAG                      1  09000
000280 4181        1     4         901          STH   R1,0(R4)            STORE BOC AND L1 FLAGS               1  09010
000282 A861                  00224 902          B     NROS23              BRANCH TO SET FINAL STATUS STATE     1  09020

000284                             904 NROS32   EQU   *                                                         1  09040
000284 D208        3(0)            905          ORI   R3(0),X'08'         SET FINAL STATUS SEQUENCE            1  09050
000286 A885                  001D4 906          B     NROS18                                                   1  09060
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  LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

                                    909 ********************************************************************** 1  09090
                                    910 *                                                                    * 1  09100
                                    911 *    THE FOLLOWING INSTRUCTIONS HANDLE BUS OUT CHECKS WHICH          * 1  09110
                                    912 *    OCCUR ON INITIAL SELECTION.                                     * 1  09120
                                    913 *                                                                    * 1  09130
                                    914 ********************************************************************** 1  09140

000288                              916 NROS33   EQU    *                                                    1  09160
000288 4101        1    4           917          LH     R1,0(R4)             GET BOC AND L1 FLAGS            1  09170
00028A 8002        1(0)             918          LRI    R1(0),X'02'          SET UP BOC FLAG                 1  09180
00028C 4181        1    4           919          STH    R1,0(R4)             STORE BOC AND L1 FLAGS          1  09190
00028E 0501        5    0           920          LH     R5,0(R0)             GET IPL BASE ADDRESS            1  09200
000290 45C8        5    4           921          XR     R5,R4                IS IPL IN PROGRESS ON THIS CA   1  09210
000292 98C1                  001D4  922          BCL    NROS18               IPL IS NOT IN PROGRESS ON THIS CA  1  09220
000294 0581        5    0           923          STH    R5,0(R0)             ZERO OUT IPL BASE ADDRESS       1  09230
000296 80FC        1(0)             924          LRI    R1(0),X'FC'          SET COUNT TO FF MINUS 3         1  09240

000298                              926 NROS34   EQU    *                                                    1  09260
000298 4405        4    4           927          LH     R4,4(R4)             FETCH CONTROL BLOCK FOR NEXT CA 1  09270
00029A 9001        1(0)             928          ARI    R1(0),X'01'          INCREMENT COUNTER               1  09280
00029C 88CB                  001D4  929          BZL    NROS18                                               1  09290
00029E 4503        5    4           930          LH     R5,2(R4)             FETCH SELECTION/ENABLE CONTROLS 1  09300
0002A0 8508        5(1)             931          LRI    R5(1),X'08'          TURN ON 'NOT ENABLED FLAG'      1  09310
0002A2 4583        5    4           932          STH    R5,2(R4)             STORE SELECTION/ENABLE CONTROLS 1  09320
0002A4 A80F                  00298  933          B      NROS34               BRANCH TO FETCH NEXT CONTROL BLOCK 1  09330

                                    935 ********************************************************************** 1  09350
                                    936 *                                                                    * 1  09360
                                    937 *    THE FOLLOWING INSTRUCTIONS HANDLE NORMAL INITIAL SELECTION.     * 1  09370
                                    938 *    THE COMMAND IS CHECKED TO DETERMINE IF A VALID COMMAND HAS      * 1  09380
                                    939 *    BEEN RECEIVED.  THE CODE BRANCHES TO HANDLE AN IPL COMMAND      * 1  09390
                                    940 *    OR A SENSE COMMAND.                                             * 1  09400
                                    941 *                                                                    * 1  09410
                                    942 ********************************************************************** 1  09420

0002A6                              944 NROS35   EQU    *                                                    1  09440
0002A6 611C        1    61          945          IN     R1,X'61'             FETCH CMD                       1  09450
0002A8 80FF        1(0)             946          LRI    R1(0),X'FF'          CONDITION BYTE 0 FOR OVERFLOW   1  09460
0002AA 91F6        1(1)             947          ARI    R1(1),X'F6'          ADDITION OF F6 SO THAT ANY COMMAND 1  09470
                                    948 *                                  OF 0A OR GREATER WILL CAUSE A CARRY 1  09480
0002AC 9812                  002C0  949          BCL    NROS36               BRANCH IF COMMAND NOT VALID FOR 1  09490
                                    950 *                                  SINGLE SUBCHANNEL ADDRESS       1  09500
0002AE 9101        1(1)             951          ARI    R1(1),X'01'          CHECK FOR COMMAND X'09'         1  09510
0002B0 9891                  00222  952          BCL    NROS22               BRANCH IF WRITE BREAK POINT COMMAND 1  09520
0002B2 9103        1(1)             953          ARI    R1(1),X'03'          CHECK FOR X'06', X'07' OR X'08' 1  09530
0002B4 980A                  002C0  954          BCL    NROS36               COMMAND NOT VALID               1  09540
0002B6 9101        1(1)             955          ARI    R1(1),X'01'          IPL CMD WILL CAUSE A CARRY      1  09550
0002B8 980E                  002C8  956          BCL    NROS37               BRANCH IF IPL COMMAND           1  09560
0002BA 9101        1(1)             957          ARI    R1(1),X'01'          SENSE CMD WILL CAUSE A CARRY    1  09570
0002BC 981A                  002D8  958          BCL    NROS38               BRANCH IF SENSE COMMAND         1  09580
0002BE A89F                  00222  959          B      NROS22                                               1  09590
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 LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

0002C0                             962 NROS36   EQU   *                                                        1  09620
0002C0 4101       1     4          963          LH    R1,0(R4)          GET  CMD REJ, L1 AND BOC FLAGS        1  09630
0002C2 8004       1(0)             964          LRI   R1(0),X'04'       SET UP CMD REJ FLAG                   1  09640
0002C4 4181       1     4          965          STH   R1,0(R4)          STORE FLAGS                           1  09650
0002C6 A8A7                  00222 966          B     NROS22                                                  1  09660

                                   968 ************************************************************************ 1  09680
                                   969 *                                                                      * 1  09690
                                   970 *    THE FOLLOWING INSTRUCTIONS HANDLE THE IPL COMMAND.  AN INBOUND    * 1  09700
                                   971 *    DATA TRANSFER IS SET UP WITH COUNT = 2.                           * 1  09710
                                   972 *                                                                      * 1  09720
                                   973 ************************************************************************ 1  09730

0002C8                             975 NROS37   EQU   *                                                        1  09750
0002C8 0481       4     0          976          STH   R4,0(R0)          STORE SELECTED CA AS IPL BASE ADDR    1  09760
0002CA 8404       5(0)             977          LRI   R5(0),X'04'       SET START ADDRESS                     1  09770
0002CC 8500       5(1)             978          LRI   R5(1),X'00'                                             1  09780
0002CE 5583       5     5          979          STH   R5,2(R5)          STORE BAD COUNT AT LOCATION X'402'    1  09790
0002D0 058D       5     0          980          STH   R5,12(R0)         STORE ADDRESS COUNTER AT X'70C'       1  09800
0002D2 D240       3(0)             981          ORI   R3(0),X'40'       SET UP INBOUND DATA XFER              1  09810
0002D4 8302       3(1)             982          LRI   R3(1),X'02'       COUNT=2                               1  09820
0002D6 A905                  001D4 983          B     NROS18                                                  1  09830

                                   985 ************************************************************************ 1  09850
                                   986 *                                                                      * 1  09860
                                   987 *    THE FOLLOWING INSTRUCTIONS HANDLE THE SENSE COMMAND.              * 1  09870
                                   988 *    THE SENSE BYTE IS SET UP AS DETERMINED BY THE SENSE FLAGS.        * 1  09880
                                   989 *    THE SENSE BYTE IS OUTPUTTED AND OUTBOUND TRANSFER IS SET          * 1  09890
                                   990 *    UP WITH COUNT EQUAL 1.                                            * 1  09900
                                   991 *                                                                      * 1  09910
                                   992 ************************************************************************ 1  09920

0002D8                             994 NROS38   EQU   *                                                        1  09940
0002D8 4101       1     4          995          LH    R1,0(R4)          GET L1 AND BOC FLAGS                  1  09950
0002DA F888       1(0,7)     002E4 996          BB    R1(0,7),NROS39    BRANCH IF L1 FLAG IS ACTIVE           1  09960
0002DC F80A       1(0,6)     002E8 997          BB    R1(0,6),NROS40    BRANCH IF BOC FLAG IS ACTIVE          1  09970
0002DE E88C       1(0,5)     002EC 998          BB    R1(0,5),NROS41    BRANCH IF CMD REJ FLAG IS ACTIVE      1  09980
0002E0 8602       7(0)             999          LRI   R7(0),X'02'       SET UP IPL REQUIRED SENSE             1  09990
0002E2 A80A                  002EE 1000         B     NROS42                                                  1  10000

0002E4                             1002 NROS39  EQU   *                                                        1  10020
0002E4 8612       7(0)             1003         LRI   R7(0),X'12'       SET UP EQUIP CHECK AND IPL REQUIRED   1  10030
0002E6 A806                  002EE 1004         B     NROS42                                                  1  10040

0002E8                             1006 NROS40  EQU   *                                                        1  10060
0002E8 8622       7(0)             1007         LRI   R7(0),X'22'       SET UP BUS OUT CHECK AND IPL REQ      1  10070
0002EA A802                  002EE 1008         B     NROS42                                                  1  10080
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  LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

0002EC                             1011 NROS41   EQU   *                                                 1  10110
0002EC 8682       7(0)             1012          LRI   R7(0),X'82'       SET UP CMD REJ AND IPL REQUIRED  1  10120

0002EE                             1014 NROS42   EQU   *                                                 1  10140
0002EE 6744       7    64          1015          OUT   R7,X'64'          OUTPUT SENSE BYTE                1  10150
0002F0 D280       3(0)             1016          ORI   R3(0),X'80'       SET UP OUTBOUND XFER             1  10160
0002F2 8301       3(1)             1017          LRI   R3(1),X'01'       SET UP COUNT EQUAL 1             1  10170
C002F4 8C00       1(0)             1018          LRI   R1(0),X'C0'       TURN OFF BOC OR L1 FLAG          1  10180
C002F6 4181       1     4          1019          STH   R1,0(R4)          STORF L1 AND BOC FLAGS           1  10190
0002F8 A927                 001D4  1020          B     NROS18                                            1  10200

                                   1022 ************************************************************************ 1  10220
                                   1023 *                                                                      * 1  10230
                                   1024 *                DATA/STATUS LEVEL 3 INTERRUPT HANDLER                 * 1  10240
                                   1025 *                                                                      * 1  10250
                                   1026 *    THE FOLLOWING INSTRUCTIONS CHECK FOR LEVEL 1 INTERRUPTS,          * 1  10260
                                   1027 *    INITIAL SELECT LEVEL 3 INTERRUPTS AND DATA/STATUS LEVEL 3         * 1  10270
                                   1028 *    INTERRUPTS.  THE EXPECTED INTERRUPT IS THE DATA/STATUS LEVEL 3.   * 1  10280
                                   1029 *                                                                      * 1  10290
                                   1030 ************************************************************************ 1  10300

0002FA                             1032 NROS43   EQU   *                                                 1  10320
C002FA 716C       1    76          1033          IN    R1,X'76'          GET L1 INTERRUPT REQUEST         1  10330
C002FC E88A       1(0,5)    00308  1034          BB    R1(0,5),L1BRPT    BRANCH TO L1 HANDLER             1  10340
0002FE 717C       1    77          1035          IN    R1,X'77'          GET L3 INTERRUPT REQUEST         1  10350
C00300 E908       1(1,4)    0030A  1036          BB    R1(1,4),BBRPT     BRANCH TO HANDLE INIT SEL L3     1  10360
000302 D98A       1(1,3)    0030E  1037          BB    R1(1,3),NROS44    BRANCH TO HANDLE DATA/STATUS L3  1  10370
000304 A9E1                 00126  1038          B     NROS03            BPANCH TO SCAN NEXT CA           1  10380
000306 A885                 00284  1039 TESTIO1  B     NROS32                                            1  10390
C00308 A92F                 001DC  1040 L1BRPT   B     NROS19                                            1  10400
00030A A905                 00208  1041 BBRPT    B     NROS21                                            1  10410
00030C A93B                 001D4  1042 F1BRPT   B     NROS18                                            1  10420
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 LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

                                1045 ********************************************************************************* 1  10450
                                1046 *                                                                               * 1  10460
                                1047 *          CONTINUATION OF CATA/STATUS LEVEL 3                                  * 1  10470
                                1048 *          INTERRUPT HANDLER                                                    * 1  10480
                                1049 *                                                                               * 1  10490
                                1050 *    THE FOLLOWING INSTRUCTICNS DETERMINE THE REASON FOR THE                    * 1  10500
                                1051 *    DATA/STATUS LEVEL 3 INTERRUPT.                                             * 1  10510
                                1052 *                                                                               * 1  10520
                                1053 ********************************************************************************* 1  10530

00030E                          1055 NROS44   EQU   *                                                                 1  10550
00030E 8202      3(0)           1056         LRI   R3(0),X'02'       SET UP DATA/STATUS SERVICE RESET                1  10560
C00310 612C      1    62        1057         IN    R1,X'62'                                                          1  10570
C00312 C99A      1(1,1)  0032E  1058         BB    R1(1,1),NROS47    BRANCH IF SELECTIVE RESET                       1  10580
000314 D991      1(1,3)  00306  1059         BB    R1(1,3),TESTIC1   BRANCH IF STATUS STACKED                        1  10590
000316 E8C8      1(0,5)  00360  1060         BB    R1(0,5),NROS51    BRANCH IF CHAN STOP OR INTERFACE DIS            1  10600
000318 C920      1(1,0)  0033A  1061         BB    R1(1,0),NROS48    BRANCH IF BUS OUT CHECK                         1  10610
00031A E811      1(0,4)  0030C  1062         BB    R1(0,4),F18RPT    BRANCH DUE TO FINAL STATUS TAKEN                1  10620
00031C C8A4      1(0,1)  00342  1063         BB    R1(0,1),NROS49    BRANCH IF INBOUND XFER SEQUENCE                 1  10630
00031E 0101      1     0        1064         LH    R1,0(R0)          GET IPL BASE ADDRESS                            1  10640
000320 8804             00326  1065         BZL   NROS45            BRANCH IF IPL IS NOT IN PROGRESS                1  10650
000322 41C8      1     4        1066         XR    R1,R4             COMPARE IPL ADDRESS WITH SELECTED CA            1  10660
000324 9804             0032A  1067         BCL   NROS46            IPL IS IN PROGRESS ON ANOTHER CA                1  10670

                                1069 ********************************************************************************* 1  10690
                                1070 *                                                                               * 1  10700
                                1071 *     THE FOLLOWING INSTRUCTIONS SET UP FINAL STATUS FOR                        * 1  10710
                                1072 *     THE SENSE COMMAND.                                                        * 1  10720
                                1073 *                                                                               * 1  10730
                                1074 ********************************************************************************* 1  10740

000326                          1076 NROS45   EQU   *                                                                 1  10760
C00326 870C      7(1)           1077         LRI   R7(1),X'0C'       SET UP CE, DE STATUS                            1  10770
000328 A907             00224  1078         B     NROS23                                                            1  10780

00032A                          1080 NROS46   EQU   *                                                                 1  10800
00032A 870D      7(1)           1081         LRI   R7(1),X'0D'       SET UP CE, DE, UE STATUS                        1  10810
00032C A90B             00224  1082         B     NROS23                                                            1  10820

                                1084 ********************************************************************************* 1  10840
                                1085 *                                                                               * 1  10850
                                1086 *     THE FOLLOWING INSTRUCTIONS HANDLE SELECTIVE RESET DURING                  * 1  10860
                                1087 *     DATA/STATUS LEVEL 3 INTERRUPT.                                            * 1  10870
                                1088 *                                                                               * 1  10880
                                1089 ********************************************************************************* 1  10890

00032E                          1091 NROS47   EQU   *                                                                 1  10910
00032E 11C8      1     1        1092         XR    R1,R1             CLEAR REG 1                                     1  10920
000330 8110      1(1)           1093         LRI   R1(1),X'10'       SET UP TO RESET SYS RESET/NSC ACTIVE            1  10930
000332 6174      1    67        1094         OUT   R1,X'67'          OUTPUT TO RESET SYS RESET/NSC ACTIVE            1  10940
000334 11C8      1     1        1095         XR    R1,R1             CLEAR REG 1                                     1  10950
000336 8002      1(0)           1096         LRI   R1(0),X'02'       SET UP TO RESET DATA/STATUS L3                  1  10960
C00338 A8ED             0024E  1097         B     NROS27            BRANCH TO RESET DATA/STATUS L3                  1  10970
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 LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

                                  1100 ********************************************************************************  1  11000
                                  1101 *                                                                              *  1  11010
                                  1102 *     THE FOLLOWING INSTRUCTIONS HANDLE BUS OUT CHECKS DURING                  *  1  11020
                                  1103 *     DATA/STATUS LEVEL 3 INTERRUPTS.                                          *  1  11030
                                  1104 *                                                                              *  1  11040
                                  1105 ********************************************************************************  1  11050

00033A                            1107 NROS48   EQU   *                                                                 1  11070
00033A 4101      1     4          1108         LH    R1,0(R4)          GET BOC AND L1 FLAGS                          1  11080
00033C 8002      1(0)             1109         LRI   R1(0),X'02'       SET UP BOC FLAG                               1  11090
00033E 4181      1     4          1110         STH   R1,0(R4)          STORE FLAGS                                   1  11100
000340 A921                 00222 1111         B     NROS22            BRANCH TO PRESENT CE, DE, UC STATUS           1  11110

                                  1113 ********************************************************************************  1  11130
                                  1114 *                                                                              *  1  11140
                                  1115 *     THE FOLLOWING INSTRUCTIONS HANDLE THE INBOUND DATA TRANSFER.             *  1  11150
                                  1116 *     THE BYTE COUNT IS CHECKED.  TWO BYTES OF DATA ARE STORED.                *  1  11160
                                  1117 *     INBOUND DATA TRANSFER IS SET UP WITH COUNT EQUAL 2.                      *  1  11170
                                  1118 *                                                                              *  1  11180
                                  1119 ********************************************************************************  1  11190

000342                            1121 NROS49   EQU   *                                                                 1  11210
000342 0101      1     0          1122         LH    R1,0(R0)          GET IPL BASE ADDRESS                          1  11220
000344 41C8      1     4          1123         XR    R1,R4             COMPARE WITH SELECTED CA                      1  11230
000346 9927                 00222 1124         BCL   NROS22            IPL IS NOT IN PROGRESS ON THIS CA             1  11240
000348 050D      5     0          1125         LH    R5,12(R0)         GET BYTE COUNT                                1  11250
00034A EC0E      5(0,4)    0035A 1126         BB    R5(0,4),NROS50    MAXIMUM COUNT EXCEEDED                        1  11260
00034C 614C      1    64          1127         IN    R1,X'64'          PUT INBOUND DATA IN REG 1                     1  11270
00034E 5181      1     5          1128         STH   R1,0(R5)          STORE TWO BYTES                               1  11280
000350 9502      5(1)             1129         ARI   R5(1),X'02'       INCREMENT STORAGE ADDRESS BY 2                1  11290
000352 058D      5     0          1130         STH   R5,12(R0)         STORE BYTE COUNT                              1  11300
000354 D240      3(0)             1131         ORI   R3(0),X'40'       SET UP INBOUND DATA TRANSFER                  1  11310
000356 8302      3(1)             1132         LRI   R3(1),X'02'       COUNT=2                                       1  11320
000358 A987                 001D4 1133         B     NROS18                                                          1  11330

                                  1135 ********************************************************************************  1  11350
                                  1136 *                                                                              *  1  11360
                                  1137 *     THE FOLLOWING INSTRUCTIONS TERMINATE THE INBOUND DATA TRANSFER  *  1  11370
                                  1138 *     IF A BAD COUNT HAS BEEN RECEIVED.  THAT IS, IF THE EXPECTED     *  1  11380
                                  1139 *     COUNT DID NOT EQUAL THE ACTUAL COUNT OR THE MAXIMUM ALLOWED     *  1  11390
                                  1140 *     COUNT IS EXCEEDED.  A FINAL STATUS OF CE,DE,UC,UE IS SET UP.    *  1  11400
                                  1141 *                                                                              *  1  11410
                                  1142 ********************************************************************************  1  11420

C0035A                            1144 NROS50   EQU   *                                                                 1  11440
C0035A 11C8      1     1          1145         XR    R1,R1             CLEAR REG 1                                   1  11450
00035C 870F      7(1)             1146         LRI   R7(1),X'0F'       SET UP CE, DE UC, UE STATUS                   1  11460
00035E A93D                 00224 1147         B     NROS23            BRANCH TO PRESENT STATUS                      1  11470
```

```
  LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

                                    1150 ********************************************************************************* 1  11500
                                    1151 *                                                                               * 1  11510
                                    1152 *    THE FOLLOWING INSTRUCTICNS HANDLE CHANNEL STOP OR                          * 1  11520
                                    1153 *    INTERFACE DISCONNECT.                                                      * 1  11530
                                    1154 *                                                                               * 1  11540
                                    1155 ********************************************************************************* 1  11550

000360                              1157 NROS51   EQU   *                                                                 1  11570
000360 C882      1(0,1)     00364   1158          BB    R1(0,1),NROS52     BRANCH IF INBOUND XFER SEQUENCE              1  11580
000362 A943                 00222   1159          B     NROS22             BRANCH TO PRESENT CE, DE, UC STATUS          1  11590

                                    1161 ********************************************************************************* 1  11610
                                    1162 *                                                                               * 1  11620
                                    1163 *            PASS CONTROL TO LOADED MODULE                                      * 1  11630
                                    1164 *                                                                               * 1  11640
                                    1165 *   THE FOLLOWING INSTRUCTIONS DO A COUNT COMPARE, RESET IPL LEVEL 1            * 1  11650
                                    1166 *   AND BRANCH TO START OF LCADED MODULE.                                       * 1  11660
                                    1167 *                                                                               * 1  11670
                                    1168 ********************************************************************************* 1  11680

000364                              1170 NROS52   EQU   *                                                                 1  11700
000364 8004      1(0)               1171          LRI   R1(0),X'04'        LOAD ADDRESS OF BYTE COUNT                   1  11710
C00366 8102      1(1)               1172          LRI   R1(1),X'02'                                                     1  11720
000368 1101      1     1            1173          LH    R1,0(R1)           PUT BYTE COUNT IN REG 1                      1  11730
00036A 9004      1(0)               1174          ARI   R1(0),X'04'        ADD X'400' TO BYTE COUNT                     1  11740
00036C 050D      5     0            1175          LH    R5,12(R0)          GET ACTUAL BYTE COUNT                        1  11750
C0036E 51C8      1     5            1176          XR    R1,R5              COMPARE EXPECTED AND ACTUAL BYTE CNT         1  11760
000370 9819                 0035A   1177          BCL   NROS50             BRANCH TO PRESENT CE, DE, UC,UE              1  11770
000372 80C0      1(0)               1178          LRI   R1(0),X'C0'        SET UP RESET OF IPL L1 & CCU CHECK           1  11780
000374 7174      1    77            1179          OUT   R1,X'77'           RESET IPL L1 AND RESET NOT INITIALIZ         1  11790
000376 8012      1(0)               1180          LRI   R1(0),X'12'        SET UP CE STATUS TRANSFER                    1  11800
000378 6124      1    62            1181          OUT   R1,X'62'           CHANNEL END STATUS TRANSFER SEQUENCE         1  11810
00037A 8204      3(0)               1182          LRI   R3(0),X'04'        SET UP BRANCH TO MODULE THAT                 1  11620
00037C 8304      3(1)               1183          LRI   R3(1),X'04'        WAS LOADED                                   1  11830
C0037E 003C      0    03            1184          IN    R0,X'03'           BRANCH TO MODULE                             1  11840

                                    1186 ********************************************************************************* 1  11860
                                    1187 *                                                                               * 1  11870
                                    1188 *          RESET INTERRUPTS CN DISABLED ADAPTERS                                * 1  11880
                                    1189 *                                                                               * 1  11890
                                    1190 ********************************************************************************* 1  11900

000380                              1192 NROS05A  EQU   *                                                                 1  11920
000380 8000      1(0)               1193          LRI   R1(0),X'00'        SET UP OUTPUT 67                             1  11930
000382 8130      1(1)               1194          LRI   R1(1),X'30'        SET UP OUTPUT 67                             1  11940
C00384 8406      5(0)               1195          LRI   R5(0),X'06'        SET UP OUTPUT 62                             1  11950
000386 8500      5(1)               1196          LRI   R5(1),X'00'        SET UP OUTPUT 62                             1  11960
C00388 677C      7    67            1197          IN    R7,X'67'           CHECK FOR ENABLED ADAPTER                    1  11970
00038A EF06      7(1,4)     00392   1198          BB    R7(1,4),BRPT06     SET UP BRANCH TO NROS06 IF ENABLED           1  11980
00038C 6174      1    67            1199          OUT   R1,X'67'           RESET LEVEL 1 OR SYS RST INTERRUPTS          1  11990
00038E 6524      5    62            1200          OUT   R5,X'62'           RESET INIT SEL OR DATA STATUS                1  12000
C00390 AA6D                 00126   1201          B     NROS03             BRANCH TO SCAN NEXT CA                       1  12010
000392 AA27                 0016E   1202 BRPT06   B     NROS06             CA ENABLED, BRANCH TO NROS06                 1  12020
```

```
 LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

                                  1205 ********************************************************************************* 1  12050
                                  1206 *                                                                               * 1  12060
                                  1207 *                CHANNEL CONTROL BLOCKS                                         * 1  12070
                                  1208 *                                                                               * 1  12080
                                  1209 *   THE FOLLOWING INSTRUCTIONS SET UP CHANNEL CONTROL BLOCKS WHICH               * 1  12090
                                  1210 *   ARE USED BY THE ROS PROGRAM.  EACH OF THE ADAPTERS HAS A CHANNEL             * 1  12100
                                  1211 *   CONTROL BLOCK WHICH CONTAINS 3 HALFWORDS.  THE FIRST BYTE CONTAINS           * 1  12110
                                  1212 *   FLAGS FOR EQUIPMENT CHECK (BIT 7), BUS OUT CHECK (BIT 6), COMMAND            * 1  12120
                                  1213 *   REJECT (BIT 5).  THE SECOND BYTE IS A SELECTION MASK USED TO                 * 1  12130
                                  1214 *   CHECK FOR PROPER ADAPTER SELECTION.  BYTES 3 AND 4 ARE THE                   * 1  12140
                                  1215 *   SELECTION/ENABLE CONTROLS.  BYTES 5 AND 6 ARE POINTERS WHICH                 * 1  12150
                                  1216 *   POINT TO THE NEXT SEQUENTIAL CHANNEL CONTROL BLOCK.                          * 1  12160
                                  1217 *                                                                               * 1  12170
                                  1218 ********************************************************************************* 1  12180

0003E8                            1220          ORG   ZERO+X'03E8'       CA 1 CONTROL BLOCK                          1  12200
0003E8 0000                       1221          DC    X'0000'                                                           1  12210
0003EA                            1222          ORG   ZERO+X'03EA'                                                     1  12220
0003EA 0408                       1223          DC    X'0408'                                                           1  12230
0003EC                            1224          ORG   ZERO+X'03EC'                                                     1  12240
0003EC 03EE                       1225          DC    X'03EE'                                                           1  12250
0003EE                            1226          ORG   ZERO+X'03EE'       CA 2 CONTROL BLOCK                          1  12260
0003EE 0002                       1227          DC    X'0002'                                                           1  12270
0003F0                            1228          ORG   ZERO+X'03F0'                                                     1  12280
0003F0 0508                       1229          DC    X'0508'                                                           1  12290
0003F2                            1230          ORG   ZERO+X'03F2'                                                     1  12300
0003F2 03F4                       1231          DC    X'03F4'                                                           1  12310
0003F4                            1232          ORG   ZERO+X'03F4'       CA 3 CONTROL BLOCK                          1  12320
0003F4 0004                       1233          DC    X'0004'                                                           1  12330
0003F6                            1234          ORG   ZERO+X'03F6'                                                     1  12340
0003F6 0608                       1235          DC    X'0608'                                                           1  12350
0003F8                            1236          ORG   ZERO+X'03F8'                                                     1  12360
0003F8 03FA                       1237          DC    X'03FA'                                                           1  12370
0003FA                            1238          ORG   ZERO+X'03FA'       CA 4 CONTROL BLOCK                          1  12380
0003FA 0006                       1239          DC    X'0006'                                                           1  12390
0003FC                            1240          ORG   ZERO+X'03FC'                                                     1  12400
0003FC 0708                       1241          DC    X'0708'                                                           1  12410
0003FE                            1242          ORG   ZERO+X'03FE'                                                     1  12420
0003FE 03E8                       1243          DC    X'03E8'                                                           1  12430
```

```
 LOC  OBJ CODE  R1N1M R2N2 ADDR   STMT   SOURCE STATEMENT

                                  1246 ********************************************************************************  1  12460
                                  1247 *                                                                              *  1  12470
                                  1248 *   R O S   P R O G R A M   E Q U A T E   L I S T I N G                        *  1  12480
                                  1249 *                                                                              *  1  12490
                                  1250 ********************************************************************************  1  12500
00007E                            1251 INTGP1    EQU   X'7E'              LEVEL 1 AND 2 INTERRUPT GROUP               1  12510
00007D                            1252 MACHK     EQU   X'7D'              MACHINE CHECKS                              1  12520
000070                            1253 STOP      EQU   X'70'              HARDSTOP                                    1  12530
000000                            1254 R0        EQU   0                                                              1  12540
000001                            1255 R1        EQU   1                                                              1  12550
000002                            1256 R2        EQU   2                                                              1  12560
000003                            1257 R3        EQU   3                                                              1  12570
000004                            1258 R4        EQU   4                                                              1  12580
000005                            1259 R5        EQU   5                                                              1  12590
000006                            1260 R6        EQU   6                                                              1  12600
000007                            1261 R7        EQU   7                                                              1  12610
                                  1262           END                                                                  1  12620
```

NROS CROSS-REFERENCE

EC 316673
DATE JANUARY, 1977
P/N 1749530
LOGIC CW530

SYMBOL	LEN	VALUE	DEFN	REFERENCES
BBRPT	00002	00030A	01041	1036
BRPOINT	00002	000146	00549	0545
BRPT06	00002	000392	01202	1198
CHKIPL01	00002	00014E	00565	0563
CHKIPL02	00002	000152	00567	0565
CHKIPL03	00002	000156	00569	0567
CHKIPL04	00002	00015C	00572	0570
CONTLOOP	00002	0001FA	00776	0782
DROS02	00001	0000E8	00453	0443
ESCAPE	00001	0006FC	00416	0415
ESCCHK	00001	0000D2	00411	0397
F1BRPT	00002	00030C	01042	1062
INTGP1	00001	00007E	01251	0440
L1BRPT	00002	000308	01040	1034
L101	00002	0001E8	00765	0760
MACHK	00001	00007D	01252	0432
MAXIE01	00001	000030	00206	0212 0214 0219 0224 0227 0244 0265 0269 0278 0296 0302 0310 0315 0322 0477 0480
MAXIE02	00002	0008C	00365	0356 0359
MAXIT01	00001	000002	00150	0348
MAXIT02	00001	000034	00210	0204
MAXIT03	00001	000056	00234	0258 0473 0474
MAXIT04	00001	000058	00239	0232
MAXIT05	00001	0000AC	00346	0362
MAXIT06	00001	0000B2	00354	0160 0344
MAXIT07	00001	0000BE	00378	0152
MAXIT08	00001	0000C2	00386	0393
MAXIT09	00001	0000C6	00390	0402
MAXIT10	00001	0000CC	00396	0388
NROS01	00001	000106	00492	
NROS03	00001	000126	00532	0498 0540 0548 0566 0568 0571 0575 0578 0607 0655 0748 0764 0778 0868 0876 1038 1201
NROS04	00001	000148	00561	0543
NROS05	00001	00016A	00594	0544
NROS05A	00001	000380	01192	0596
NROS06	00001	00016E	00598	0595 1202
NROS07	00001	000172	00602	
NROS08	00001	00017C	00619	0686
NROS09	00001	000188	00641	0649 0725
NROS10	00001	000198	00651	0515 0643 0771
NROS11	00001	0001A0	00663	0648
NROS11A	00001	000112	00509	0666
NROS12	00001	0001A6	00680	0604
NROS13	00001	0001AA	00684	0694
NROS14	00001	0001AE	00688	0682
NROS15	00001	0001BC	00712	0647
NROS16	00001	0001CE	00723	0720
NROS17	00001	0001D2	00733	0516 0665 0824 0832
NROS18	00001	0001D4	00744	0802 0906 0922 0929 0983 1020 1042 1133
NROS19	00001	0001DC	00758	0645 1040
NROS20	00001	0001F6	00773	0770
NROS21	00001	000208	00795	0695 0714 0721 1041
NROS22	00001	000222	00817	0801 0952 0959 0966 1111 1124 1159
NROS23	00001	000224	00820	0895 0902 1078 1082 1147
NROS24	00001	000230	00829	0836

NROS CROSS-REFERENCE

EC 316673
DATE JANUARY, 1977
P/N 1749531
LOGIC CW531

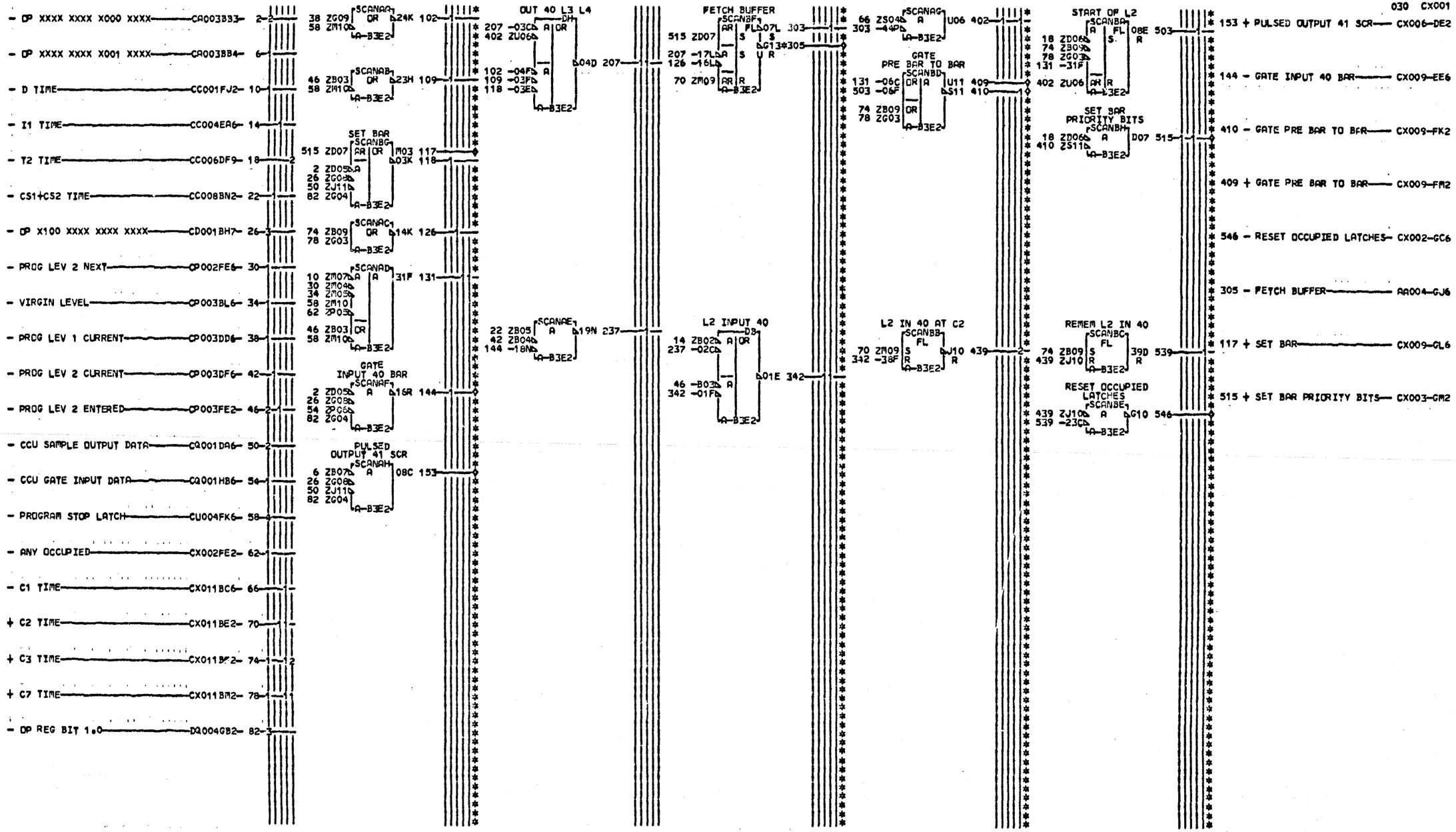
SYMBOL	LEN	VALUE	DEFN	REFERENCES
NROS25	00001	000240	00848	0799
NROS26	00001	000244	00852	0800
NROS27	00001	00024E	00859	1097
NROS28	00001	000256	00865	
NROS29	00001	000260	00873	0880
NROS30	00001	00026E	00889	0803
NROS31	00001	00027A	00897	0890
NROS32	00001	000284	00904	0893 1039
NROS33	00001	000288	00916	0804
NROS34	00001	000298	00926	0933
NROS35	00001	0002A6	00944	0837
NROS36	00001	0002C0	00962	0949 0954
NROS37	00001	0002C8	00975	0956
NROS38	00001	0002D8	00994	0958
NROS39	00001	0002E4	01002	0996
NROS40	00001	0002E8	01006	0997
NROS41	00001	0002EC	01011	0998
NROS42	00001	0002EE	01014	1000 1004 1008
NROS43	00001	0002FA	01032	0549
NROS44	00001	00030E	01055	1037
NROS45	00001	000326	01076	1065
NROS46	00001	00032A	01080	1067
NROS47	00001	00032E	01091	1058
NROS48	00001	00033A	01107	1061
NROS49	00001	000342	01121	1063
NROS50	00001	00035A	01144	1126 1177
NROS51	00001	000360	01157	1060
NROS52	00001	000364	01170	1158
NSELBRPT	00002	00023E	00837	0805
RELOCF	00001	000000	00005	0010
ROS01	00001	0000D8	00431	0413
R0	00001	000000	01254	0172 0172 0173 0174 0176 0177 0179 0180 0182 0183 0185 0186 0188 0189 0191
				0192 0319 0392 0433 0437 0441 0455 0493 0493 0494 0494 0542 0564 0576 0577
				0606 0768 0774 0822 0825 0866 0869 0920 0923 0976 0980 1064 1122 1125 1130
				1175 1184
R1	00001	000001	01255	0154 0155 0174 0211 0213 0216 0217 0218 0221 0222 0223 0226 0230 0231 0240
				0241 0242 0243 0258 0262 0272 0275 0277 0292 0293 0294 0299 0300 0305 0307
				0312 0317 0336 0337 0347 0350 0355 0379 0387 0388 0391 0397 0400 0412 0413
				0432 0433 0435 0437 0440 0441 0443 0454 0454 0455 0457 0458 0460 0460 0461
				0462 0510 0512 0514 0536 0538 0539 0567 0569 0570 0572 0574 0620 0621 0622
				0644 0645 0646 0647 0648 0664 0665 0681 0682 0689 0691 0693 0713 0714 0715
				0717 0719 0724 0745 0746 0768 0769 0774 0775 0777 0798 0799 0800 0801 0802
				0803 0804 0805 0806 0807 0808 0822 0823 0825 0826 0831 0849 0849 0850 0853
				0853 0854 0855 0856 0856 0857 0860 0861 0862 0863 0866 0867 0869 0870 0875
				0890 0891 0892 0899 0900 0901 0917 0918 0919 0924 0928 0945 0946 0947 0951
				0953 0955 0957 0963 0964 0965 0995 0996 0997 0998 1018 1019 1033 1034 1035
				1036 1037 1057 1058 1059 1060 1061 1062 1063 1064 1066 1092 1092 1093 1094
				1095 1095 1096 1108 1109 1110 1122 1123 1127 1128 1145 1145 1158 1171 1172
				1173 1173 1174 1176 1178 1179 1180 1181 1193 1194 1199
R2	00001	000002	01256	0177
R3	00001	000003	01257	0180 0264 0268 0274 0294 0295 0300 0301 0307 0309 0342 0355 0384 0391 0495
				0496 0497 0534 0535 0544 0546 0547 0599 0600 0606 0623 0624 0747 0779 0780
				0781 0796 0796 0797 0821 0877 0878 0879 0905 0981 0982 1016 1017 1056 1131
				1132 1182 1183
R4	00001	000004	01258	0183 0473 0476 0479 0497 0533 0533 0534 0537 0547 0564 0576 0577 0600 0652

NROS

CROSS-REFERENCE

SYMBOL	LEN	VALUE	DEFN	REFERENCES															
				0654	0765	0767	0769	0776	0776	0779	0781	0806	0808	0823	0830	0830	0833	0835	
				0861	0863	0867	0874	0874	0877	0879	0899	0901	0917	0919	0921	0927	0927	0930	
				0932	0963	0965	0976	0995	1019	1066	1108	1110	1123						
R5	00001	000005	01259	0186	0261	0264	0277	0299	0301	0309	0312	0314	0317	0321	0511	0513	0514	0537	
				0538	0562	0603	0604	0625	0642	0652	0653	0654	0690	0692	0693	0716	0718	0719	
				0759	0760	0761	0761	0762	0763	0765	0766	0767	0833	0834	0835	0920	0921	0923	
				0930	0931	0932	0977	0978	0979	0979	0980	1125	1126	1128	1129	1130	1175	1176	
				1195	1196	1200													
R6	00001	000006	01260	0189	0474	0476	0478	0478	0479	0542									
R7	00001	000007	01261	0151	0157	0158	0192	0255	0255	0257	0259	0268	0272	0293	0295	0305	0314	0319	
				0321	0356	0357	0471	0471	0472	0475	0541	0545	0565	0573	0574	0595	0605	0685	
				0734	0818	0894	0898	0999	1003	1007	1012	1015	1077	1081	1146	1197	1198		
SMAXST	00001	000000	00147	0257	0472														
SROS	00001	000000	00004	0010	0416														
STOP	00001	000070	01253	0148	0207	0365	0445	0517	0518	0519									
TEST101	00002	000306	01039	1059															
X3705ADA	00001	000000	00002																
ZERO	00001	000000	00003	1220	1222	1224	1226	1228	1230	1232	1234	1236	1238	1240	1242				

NO STATEMENTS FLAGGED IN THIS ASSEMBLY
STATISTICS SOURCE RECORDS (SYSIN) = 1262
OPTIONS IN EFFECT LIST, NODECK, LOAD, NORENT, XREF, LINECNT = 55
1307 PRINTED LINES



THIS PAGE IS FOR 3705-II ONLY.

EDGE CONN.
305 A-B3A2D06

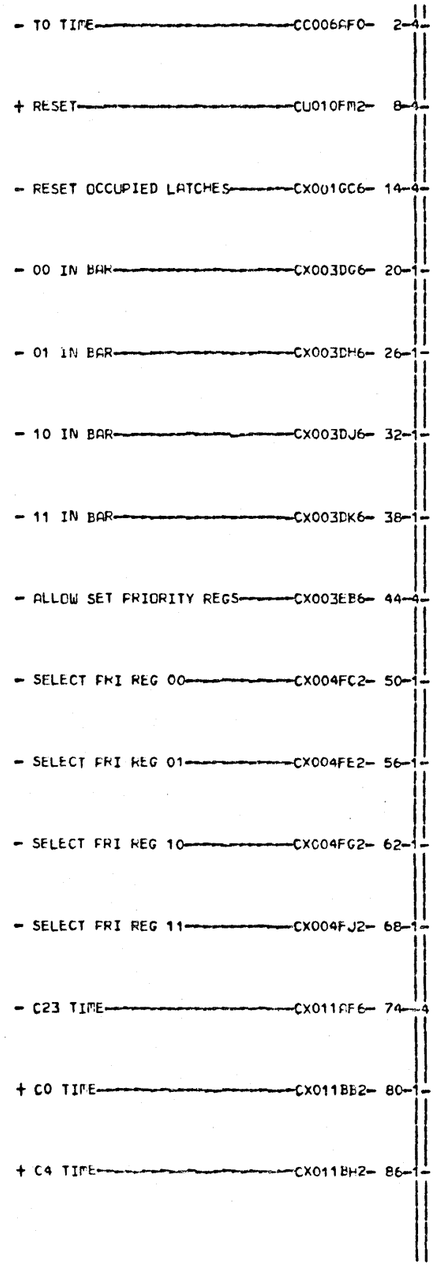
LOC. TYPE
A-B3E2 6809

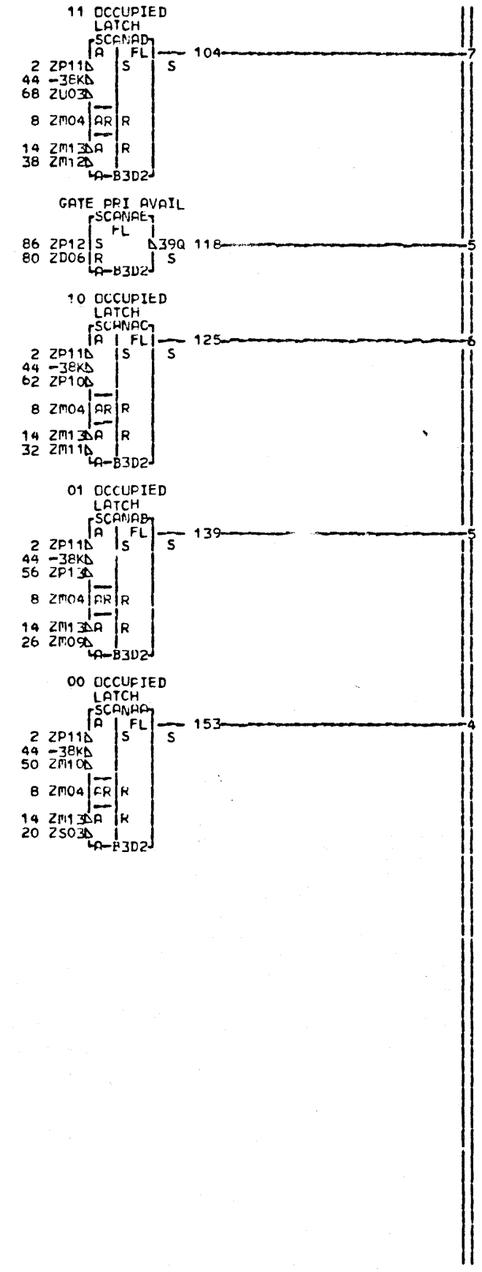
CSB SUPPORT FEATURE
SEQUENCING CONTROL LATCHES
E.C.-HISTORY— D. MACH.27RNB
312922
314419

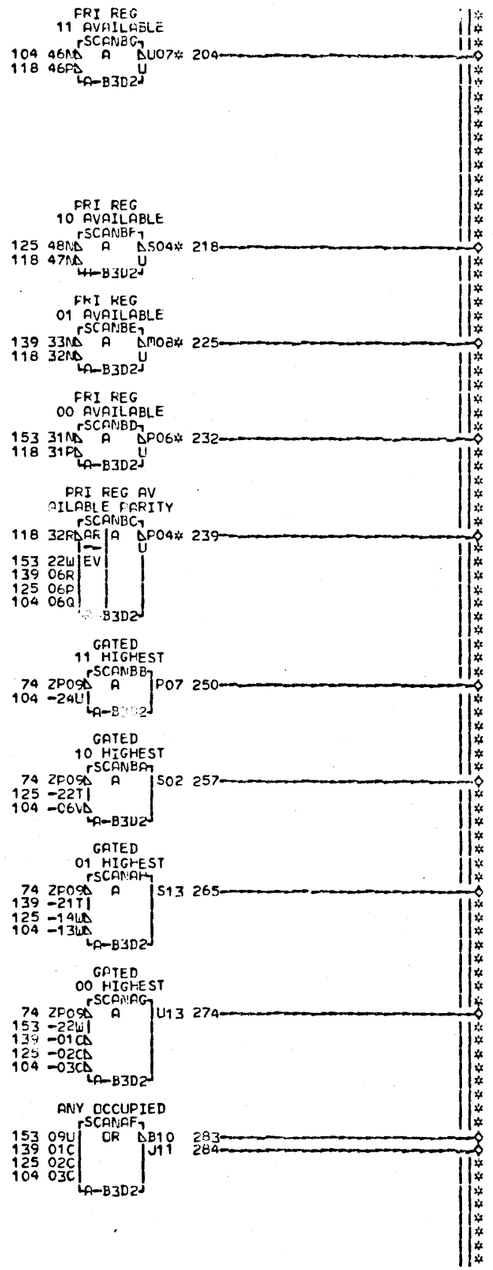
FRAME 01	
IBM CORP.SDD	CX001
P.N. 1750205	030

DATE LAST EC
10-06-76 315053

CX001
030 SIM TO PN 5997662 EC 309545







000 CX002

283 - ANY OCCUPIED — FE2
CX001 CX003

284 + ANY OCCUPIED — CX003 FE6

274 + GATED 00 HIGHEST — FG2
CX003 CX004

265 + GATED 01 HIGHEST — FJ2
CX003 CX004

257 + GATED 10 HIGHEST — FL2
CX003 CX004

250 + GATED 11 HIGHEST — FN2
CX003 CX004

239 - PRI REG AVAILABLE PARITY — GD6
AA004

232 - PRI REG 00 AVAILABLE — AA004-GF6

225 - PRI REG 01 AVAILABLE — AA004-GH6

218 - PRI REG 10 AVAILABLE — AA004-GK6

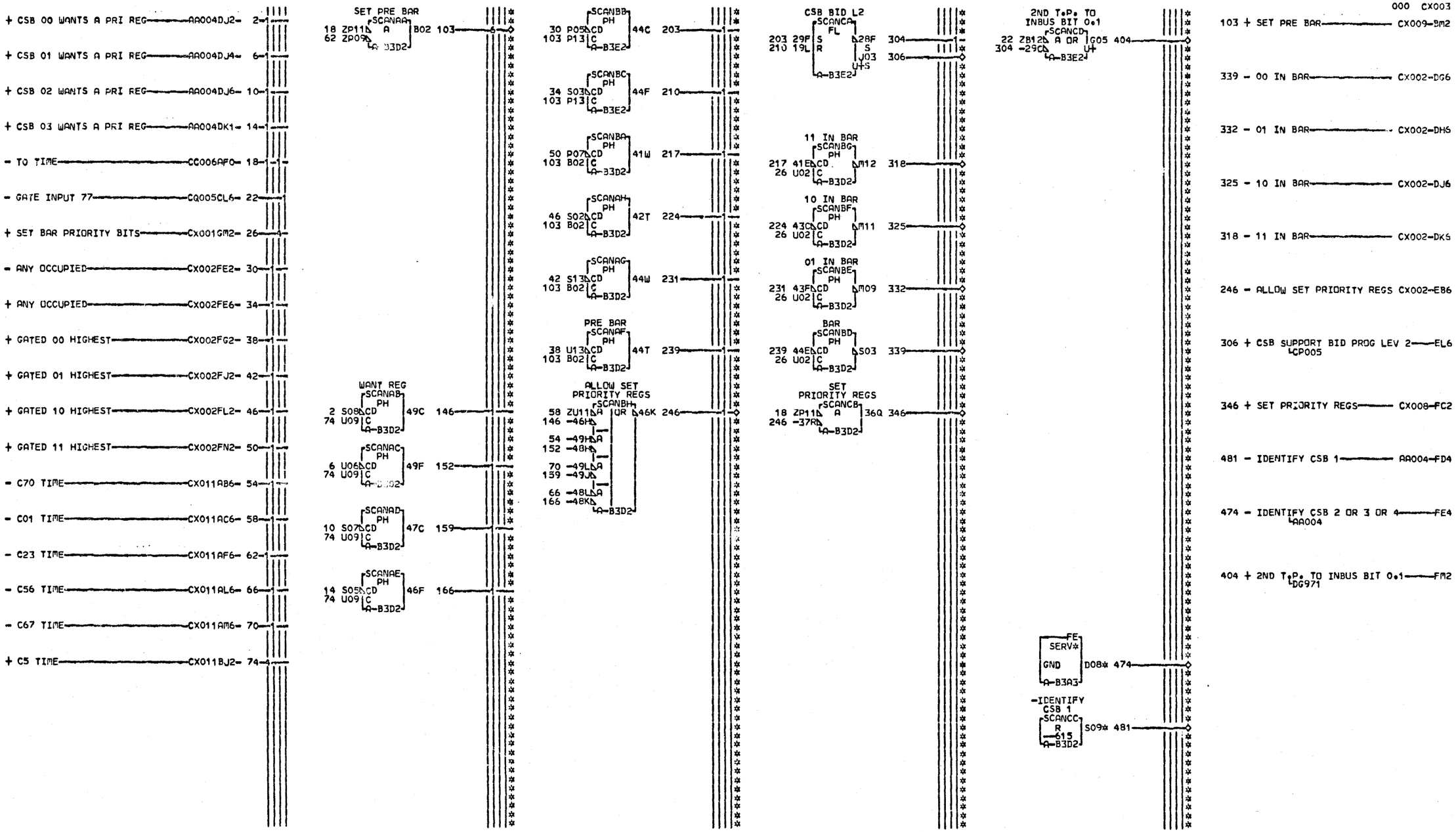
204 - PRI REG 11 AVAILABLE — AA004-GM6

EDGE CONN.
204 A-B3A3D11
218 A-B3A2D13
225 A-B3A2D11
232 A-B3A2D10
239 A-B3A3D13

LOC. TYPE
A-B3D2 6808

CX002
000

CSB SUPPORT FEATURE
PRIORITY REG OCCUPIED LATCHES
E.C.-HISTORY B MACH.27RMB
309521C
309538
FRAME 01
IBM CORP.SDD CX002
DATE LAST EC
04-19-72 309545
P.N. 5997663 000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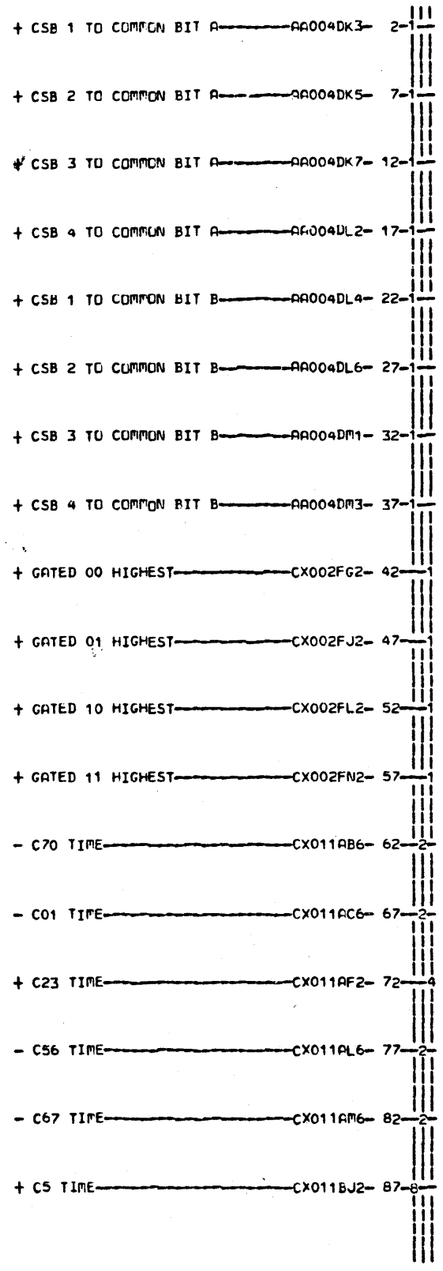
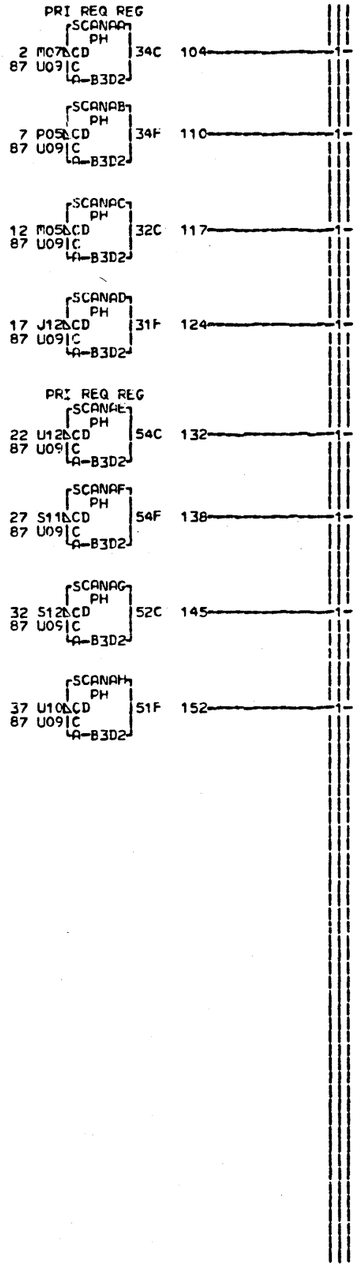
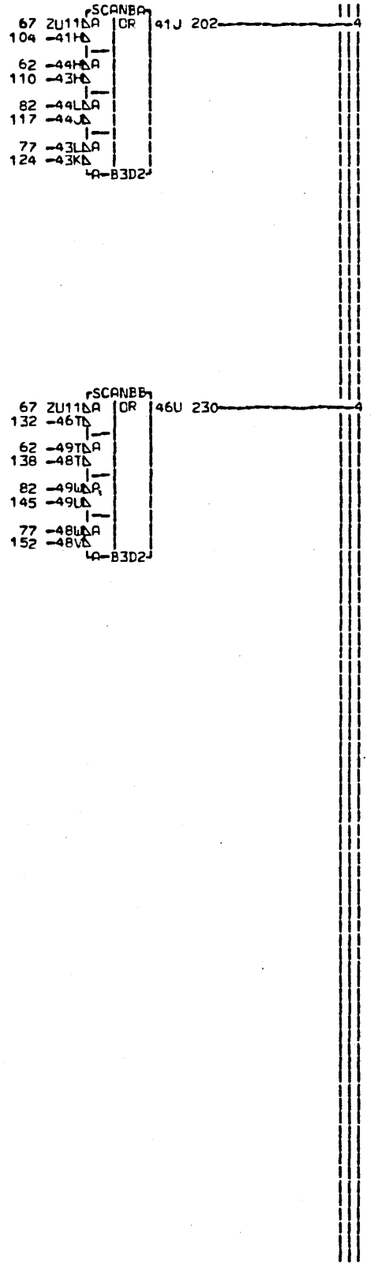
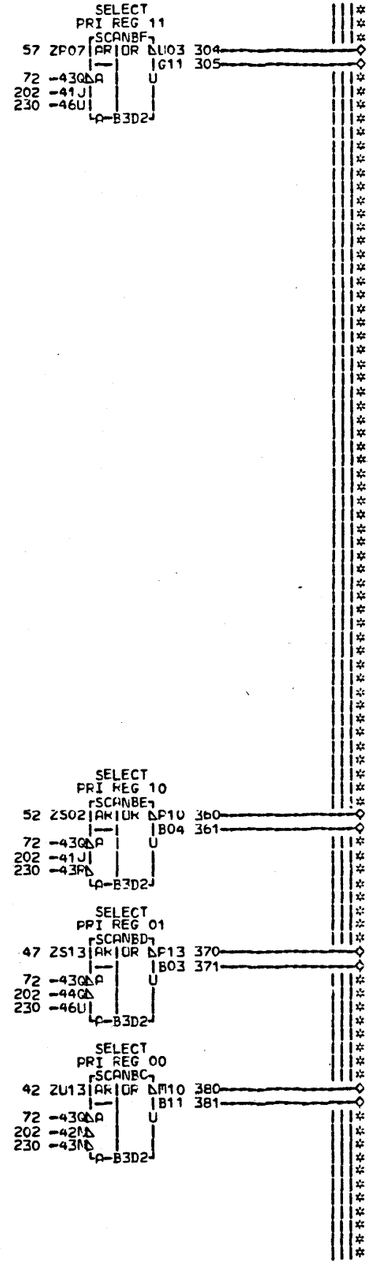
+ CSB 01 WANTS A PRI REG AA004DJ4- 6
+ CSB 02 WANTS A PRI REG AA004DJ6- 10
+ CSB 03 WANTS A PRI REG AA004DK1- 14
- TO TIME CC006AF0- 18
- GATE INPUT 77 CQ005CL6- 22
+ SET BAR PRIORITY BITS CX001GM2- 26
- ANY OCCUPIED CX002FE2- 30
+ ANY OCCUPIED CX002FE6- 34
+ GATED 00 HIGHEST CX002FG2- 38
+ GATED 01 HIGHEST CX002FJ2- 42
+ GATED 10 HIGHEST CX002FL2- 46
+ GATED 11 HIGHEST CX002FN2- 50
- C70 TIME CX011AB6- 54
- C01 TIME CX011AC6- 58
- C23 TIME CX011AF6- 62
- C56 TIME CX011AL6- 66
- C67 TIME CX011AM6- 70
+ C5 TIME CX011BJ2- 74
SET PRE BAR
SCANAA PH
18 ZP11 A
62 ZP09
B02 103
WANT REG
SCANAB PH
2 S08 CD
74 U09 C
49C 146
SCANAC PH
6 U06 CD
74 U09 C
49F 152
SCANAD PH
10 S07 CD
74 U09 C
47C 159
SCANAE PH
14 S05 CD
74 U09 C
46F 166
SCANBB PH
30 P05 CD
103 P13 C
44C 203
SCANBC PH
34 S03 CD
103 P13 C
44F 210
SCANBA PH
50 P07 CD
103 B02 C
41W 217
SCANAH PH
46 S02 CD
103 B02 C
42T 224
SCANAG PH
42 S13 CD
103 B02 C
44W 231
PRE BAR
SCANAF PH
38 U13 CD
103 B02 C
44T 239
ALLOW SET PRIORITY REGS
SCANBH
58 ZU11 A
146 -46H
54 -49H A
152 -48H
70 -49L A
159 -49J
66 -48L A
166 -48K
OR 246K 246
CSB BID L2
SCANCA FL
203 29F S
210 19L R
28F 304
S U03 306
11 IN BAR
SCANBG PH
217 41E CD
26 U02 C
M12 318
10 IN BAR
SCANBF PH
224 43C CD
26 U02 C
M11 325
01 IN BAR
SCANBE PH
231 43F CD
26 U02 C
M09 332
BAR
SCANBD PH
239 44E CD
26 U02 C
S03 339
SET PRIORITY REGS
SCANCB A
18 ZP11
246 -37R
36Q 346
2ND T.P. TO INBUS BIT 0.1
SCANCD
22 ZB12 A OR G05 404
304 -29C
000 CX003
103 + SET PRE BAR CX009-BM2
339 - 00 IN BAR CX002-DG6
332 - 01 IN BAR CX002-DH6
325 - 10 IN BAR CX002-DJ6
318 - 11 IN BAR CX002-DK6
246 - ALLOW SET PRIORITY REGS CX002-EB6
306 + CSB SUPPORT BID PROG LEV 2 EL6
CP005
346 + SET PRIORITY REGS CX008-FC2
481 - IDENTIFY CSB 1 AA004-FD4
474 - IDENTIFY CSB 2 OR 3 OR 4 FE4
AA004
404 + 2ND T.P. TO INBUS BIT 0.1 FM2
DG971
FE
SERV*
GND
D08* 474
-IDENTIFY CSB 1
SCANCC R 615
S09* 481
EDGE CONN.
474 A-B3A3B04
01A-B3A3B05
01A-B3A3B06
481 A-B3A3B02
LOC. TYPE
A-B3D2 6808
A-B3E2 6809
CSB SUPPORT FEATURE
WANT REG AND BAR PRIORITY BITS
E.C. HISTORY
309521C
309545
DATE LAST EC
06-28-72 309533
B MACH.27RNB
FRAME 01
IBM CORP.SDD
P.N. 5997664
CX003
000









000 CX004

380 - SELECT PRI REG 00 — CX002-FC2

381 + SELECT PRI REG 00 — CX008-FC6

370 - SELECT PRI REG 01 — CX002-FE2

371 + SELECT PRI REG 01 — CX008-FE6

360 - SELECT PRI REG 10 — CX002-FG2

361 + SELECT PRI REG 10 — CX008-FG6

304 - SELECT PRI REG 11 — CX002-FJ2

305 + SELECT PRI REG 11 — CX008-FJ6

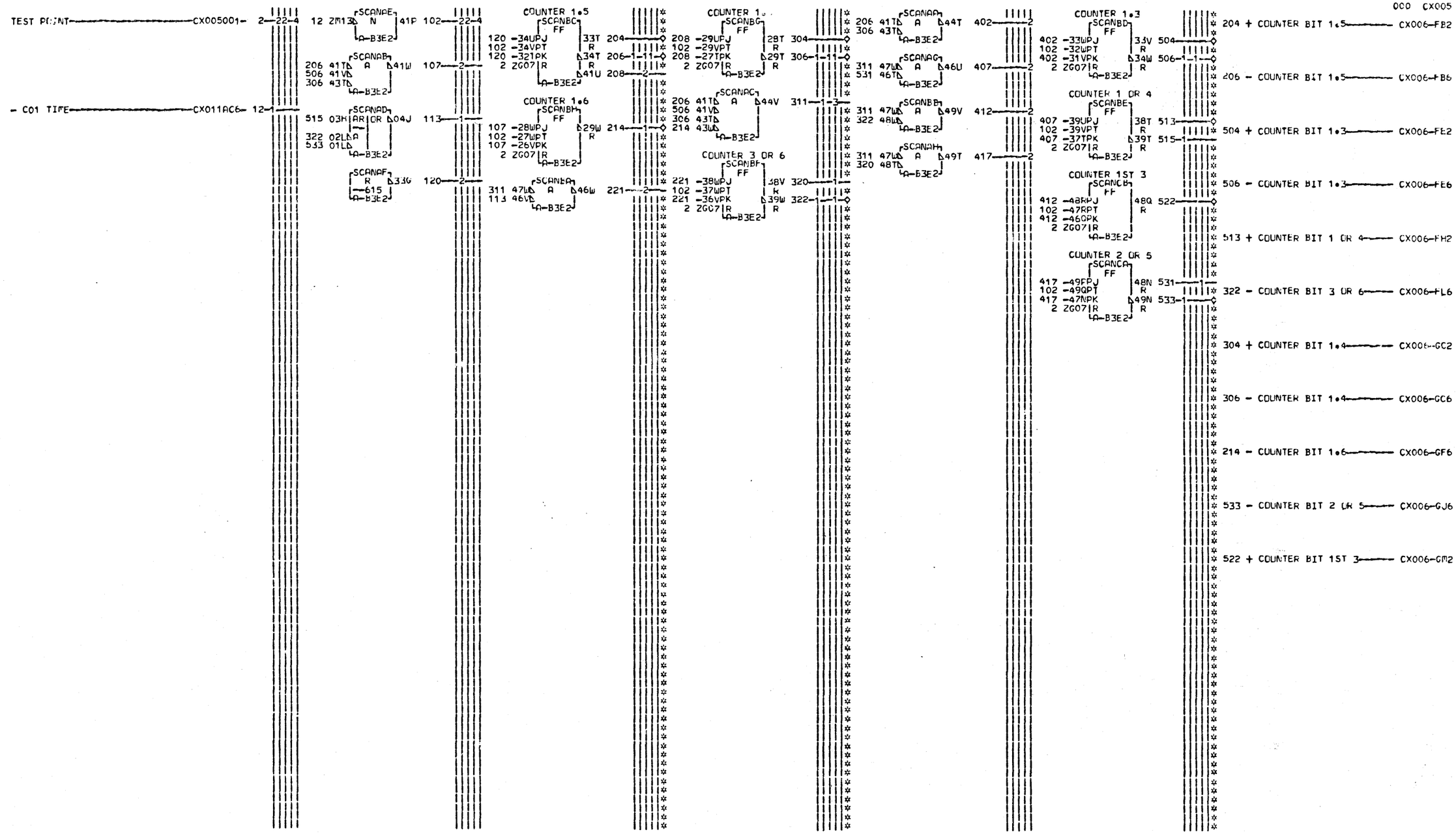
LOC. TYPE
A-B3D2 6808

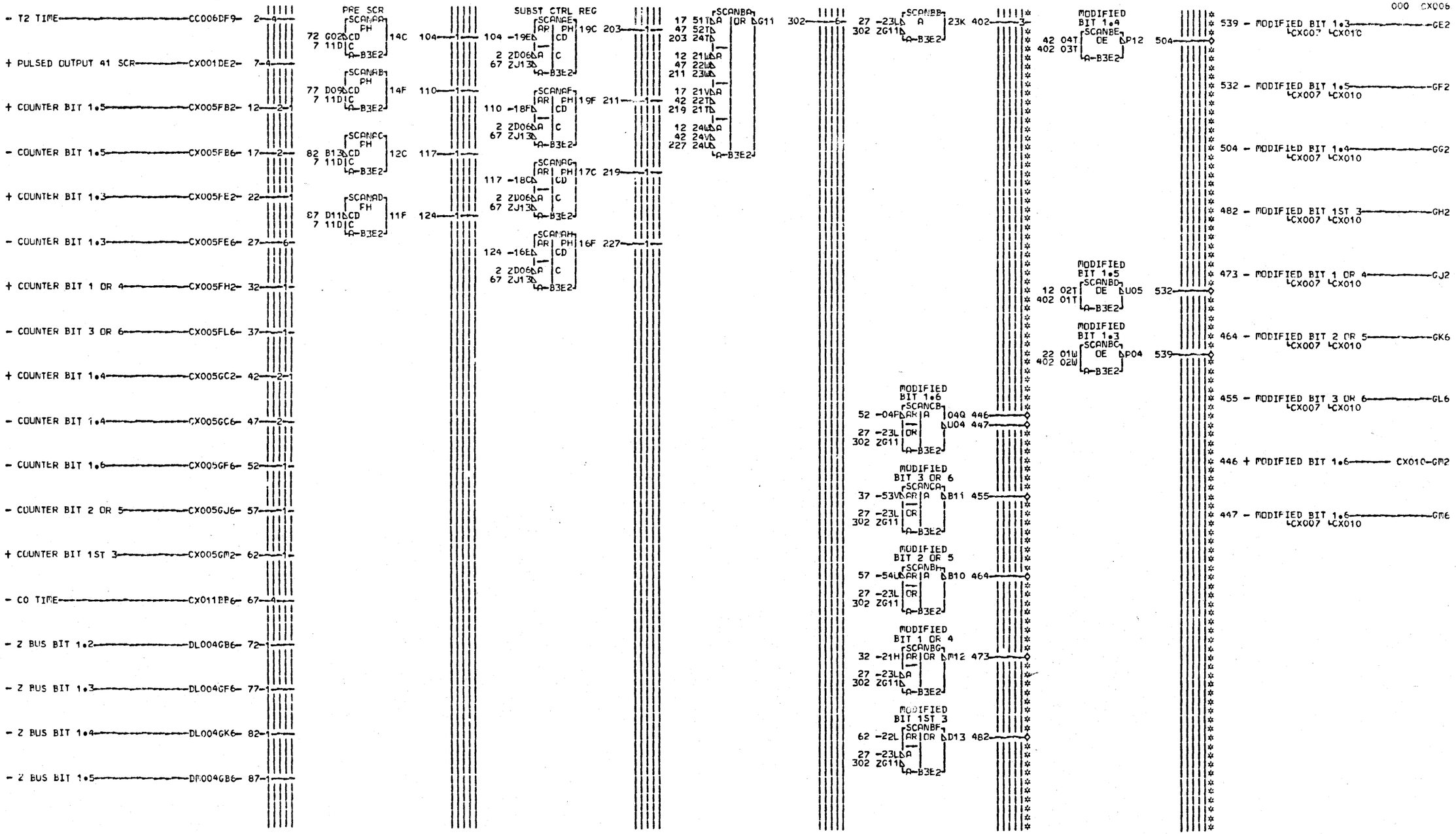
CSB SUPPORT FEATURE
PRI REQ REG AND REG SELECTION
E.C.-HISTORY — MACH.27RNB
309521C

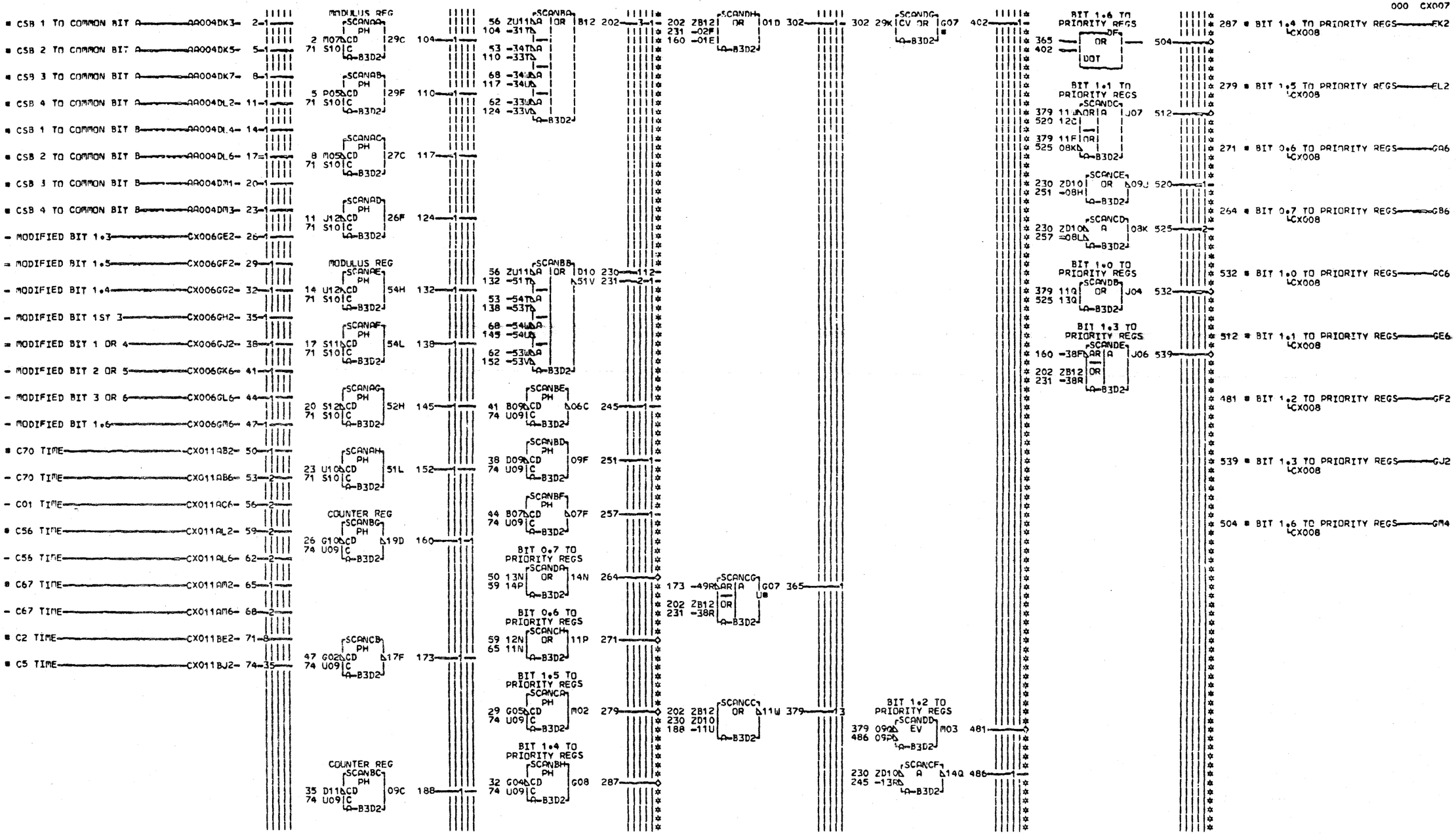
FRAME 01

IBM CORP.SDD | CX004
DATE LAST EC | P.N. 5997665 | 000
04-19-72 309545

CX004
000


000 CX005
TEST POINT CX005001 2 22 4
- C01 TIME CX011AC6 12 1
SCANAE
12 ZM13 N 41P
B3E2
SCANAB
206 41T A 41W
506 41V
306 43T
B3E2
SCANAD
515 03H AR OR 04J
322 02L
533 01L
B3E2
SCANAF
R 33G
615
B3E2
102 22 4
107 2
113 1
120 2
COUNTER 1•5
SCANBC
FF
120 -34UPJ 33T
102 -34VPT R
120 -32TPK 34T
2 ZG07 R 41U
B3E2
COUNTER 1•6
SCANBH
FF
107 -28WPJ 29W
102 -27WPT R
107 -26VPK
2 ZG07 R
B3E2
SCANBA
311 47W A 46W
113 46V
B3E2
204 206 1 11
208 2
214 1
221 2
COUNTER 1•
SCANBG
FF
208 -29UPJ 28T
102 -29VPT R
208 -27TPK 29T
2 ZG07 R
B3E2
SCANAC
206 41T A 44V
506 41V
306 43T
214 43W
B3E2
COUNTER 3 OR 6
SCANBF
FF
221 -38WPJ 38V
102 -37WPT K
221 -36VPK 39W
2 ZG07 R
B3E2
304 306 1 11
311 1 3
320 1
322 1 1
SCANAA
206 41T A 44T
306 43T
B3E2
SCANAG
311 47W A 46U
531 46T
B3E2
SCANBB
311 47W A 49V
322 48W
B3E2
SCANAH
311 47W A 49T
320 48T
B3E2
402 2
407 2
412 2
417 2
COUNTER 1•3
SCANBD
FF
402 -33WPJ 33V
102 -32WPT R
402 -31VPK 34W
2 ZG07 R
B3E2
COUNTER 1 OR 4
SCANBE
FF
407 -39UPJ 38T
102 -39VPT R
407 -37TPK 39T
2 ZG07 R
B3E2
COUNTER 1ST 3
SCANCB
FF
412 -48RPJ 48Q
102 -47RPT R
412 -46QPK
2 ZG07 R
B3E2
COUNTER 2 OR 5
SCANCA
FF
417 -49PPJ 48N
102 -49QPT R
417 -47NPK 49N
2 ZG07 R
B3E2
504 506 1 1
513
515 1
522
531 1
533 1
204 + COUNTER BIT 1•5 CX006-FB2
206 - COUNTER BIT 1•5 CX006-FB6
504 + COUNTER BIT 1•3 CX006-FE2
506 - COUNTER BIT 1•3 CX006-FE6
513 + COUNTER BIT 1 OR 4 CX006-FH2
322 - COUNTER BIT 3 OR 6 CX006-FL6
304 + COUNTER BIT 1•4 CX006-GC2
306 - COUNTER BIT 1•4 CX006-GC6
214 - COUNTER BIT 1•6 CX006-GF6
533 - COUNTER BIT 2 OR 5 CX006-GJ6
522 + COUNTER BIT 1ST 3 CX006-GM2
LOC• TYPE
A-E3E2 6809
CSB SUPPORT FEATURE
LINE ADDRESS COUNTER
E•C•-HISTORY B
309521C
PACH•27RNB
FRAME 01
IBM CORP•SDD
CX005
DATE LAST EC
04-19-72 309545
P•N• 5997666
000
CX005
000


- T2 TIME CC006DF9- 2-4
+ PULSED OUTPUT 41 SCR CX001DE2- 7-4
+ COUNTER BIT 1.5 CX005FB2- 12-2-1
- COUNTER BIT 1.5 CX005FB6- 17-2-1
+ COUNTER BIT 1.3 CX005FE2- 22-1
- COUNTER BIT 1.3 CX005FE6- 27-6-1
+ COUNTER BIT 1 OR 4 CX005FH2- 32-1
- COUNTER BIT 3 OR 6 CX005FL6- 37-1-1
+ COUNTER BIT 1.4 CX005GC2- 42-2-1
- COUNTER BIT 1.4 CX005GC6- 47-2-1
- COUNTER BIT 1.6 CX005GF6- 52-1-1
- COUNTER BIT 2 OR 5 CX005GJ6- 57-1-1
+ COUNTER BIT 1ST 3 CX005GM2- 62-1-1
- CO TIME CX011BP6- 67-4-1
- Z BUS BIT 1.2 DL004GB6- 72-1-1
- Z BUS BIT 1.3 DL004GF6- 77-1-1
- Z BUS BIT 1.4 DL004GK6- 82-1-1
- Z BUS BIT 1.5 DM004GB6- 87-1-1
PRE SCR
SCANAA PH
72 G02 CD
7 11D C
A-B3E2
14C 104-1-1
SCANAB PH
77 D09 CD
7 11D C
A-B3E2
14F 110-1-1
SCANAC PH
82 B13 CD
7 11D C
A-B3E2
12C 117-1-1
SCANAD PH
87 D11 CD
7 11D C
A-B3E2
11F 124-1-1
SUBST CTRL REG
SCANAE AP PH CD
104 -19E C
2 ZD06 A
67 ZJ13
A-B3E2
19C 203-1-1
SCANAF AR PH CD
110 -18F C
2 ZD06 A
67 ZJ13
A-B3E2
19F 211-1-1
SCANAG AR PH CD
117 -18C C
2 ZD06 A
67 ZJ13
A-B3E2
17C 219-1-1
SCANAH AR PH CD
124 -16E C
2 ZD06 A
67 ZJ13
A-B3E2
16F 227-1-1
SCANBA
17 51T A OR G11
47 52T
203 24T
12 21W A
47 22W
211 23W
17 21V A
42 22T
219 21T
12 24W A
42 24V
227 24W
A-B3E2
302-6-1
SCANBB
27 -23L A 23K 402-3-1
302 ZG11
A-B3E2
MODIFIED BIT 1.6
SCANCB
52 -04P AR A 04Q 446
27 -23L OR U04 447
302 ZG11
A-B3E2
MODIFIED BIT 3 OR 6
SCANCA
37 -53V AR A B11 455
27 -23L OR
302 ZG11
A-B3E2
MODIFIED BIT 2 OR 5
SCANBH
57 -54L AR A B10 464
27 -23L OR
302 ZG11
A-B3E2
MODIFIED BIT 1 OR 4
SCANBG
32 -21H AR OR M12 473
27 -23L A
302 ZG11
A-B3E2
MODIFIED BIT 1ST 3
SCANBF
62 -22L AR OR D13 482
27 -23L A
302 ZG11
A-B3E2
MODIFIED BIT 1.4
SCANBE
42 04T OE P12 504
402 03T
A-B3E2
MODIFIED BIT 1.5
SCANBD
12 02T OE U05 532
402 01T
A-B3E2
MODIFIED BIT 1.3
SCANBC
22 01W OE P04 539
402 02W
A-B3E2
000 CX006
539 - MODIFIED BIT 1.3 GE2
CX007 CX010
532 - MODIFIED BIT 1.5 GF2
CX007 CX010
504 - MODIFIED BIT 1.4 GG2
CX007 CX010
482 - MODIFIED BIT 1ST 3 GH2
CX007 CX010
473 - MODIFIED BIT 1 OR 4 GJ2
CX007 CX010
464 - MODIFIED BIT 2 OR 5 GK6
CX007 CX010
455 - MODIFIED BIT 3 OR 6 GL6
CX007 CX010
446 + MODIFIED BIT 1.6 CX010 GM2
447 - MODIFIED BIT 1.6 GM6
CX007 CX010
LOC. TYPE
A-B3E2 6809
CSB SUPPORT FEATURE
MASK REG AND MODIFIED COUNTER
E.C.-HISTORY B MACH.27RNB
309521C
FRAME 01
IBM CORP.SDD CX006
DATE LAST EC
04-19-72 309545
P.N. 5997667 000
CX006
000



LOC. TYPE
A-B3D2 6808

CSB SUPPORT FEATURE
MODULUS REG AND COUNTER REG
E.C. HISTORY — B MACH.27RNB
309521C
309538
309545
DATE LAST EC
05-22-72 309548
FRAME 01
IBM CORP. SDD
P.N. 5997668
CX007
000

+ SET PRIORITY REGS —— CX003FC2 — 2-63

+ SELECT PRI REG 00 —— CX004FC6 — 8-63

+ SELECT PRI REG 01 —— CX004FE6 — 14-63

+ SELECT PRI REG 10 —— CX004FG6 — 20-63

+ SELECT PRI REG 11 —— CX004FJ6 — 26-63

+ BIT 1.4 TO PRIORITY REGS —— CX007EK2 — 32-1

+ BIT 1.5 TO PRIORITY REGS —— CX007EL2 — 38-1

+ BIT 0.6 TO PRIORITY REGS —— CX007GA6 — 44-1

+ BIT 0.7 TO PRIORITY REGS —— CX007GB6 — 50-1

+ BIT 1.0 TO PRIORITY REGS —— CX007GC6 — 56-1

+ BIT 1.1 TO PRIORITY REGS —— CX007GE6 — 62-1

+ BIT 1.2 TO PRIORITY REGS —— CX007GF2 — 68-1

+ BIT 1.3 TO PRIORITY REGS —— CX007GJ2 — 74-1

+ BIT 1.6 TO PRIORITY REGS —— CX007GM4 — 80-1

PRI REG 1.2
SCANBA MREG
8 ZB11 A0
14 ZB03 A1
20 ZB04 A2
26 ZG11 A3
2 -18T C
80 ZG07 —CD— A-B3D2
PRIORITY REGS BIT 1.6
J05 113

PRI REG 0.7
SCANAH MREG
8 ZB11 A0
14 ZB03 A1
20 ZB04 A2
26 ZG11 A3
2 -18T C
74 ZJ06 —CD— A-B3D2
PRIORITY REGS BIT 1.3
19U 128

PRI REG 0.4
SCANAG MREG
8 ZB11 A0
14 ZB03 A1
20 ZB04 A2
26 ZG11 A3
2 -18T C
56 ZJ04 —CD— A-B3D2
PRIORITY REGS BIT 1.0
17T 143

PRI REG 1.1
SCANAF MREG
8 ZB11 A0
14 ZB03 A1
20 ZB04 A2
26 ZG11 A3
2 -28N C
38 ZM02 —CD— A-B3D2
PRIORITY REGS BIT 1.5
28R 158

PRI REG 0.6
SCANAE MREG
8 ZB11 A0
14 ZB03 A1
20 ZB04 A2
26 ZG11 A3
2 -28N C
68 ZM03 —CD— A-B3D2
PRIORITY REGS BIT 1.2
29P 173

PRI REG 0.3
SCANAD MREG
8 ZB11 A0
14 ZB03 A1
20 ZB04 A2
26 ZG11 A3
2 -28N C
50 -26N —CD— A-B3D2
PRIORITY REGS BIT 0.7
27N 188

LOC. TYPE
A-B3D2 6608

PRI REG 1.0
SCANAC MREG
8 ZB11 A0
14 ZB03 A1
20 ZB04 A2
26 ZG11 A3
2 -18N C
32 ZG08 —CD— A-B3D2
PRIORITY REGS BIT 1.4
18P 213

PRI REG 0.5
SCANAB MREG
8 ZB11 A0
14 ZB03 A1
20 ZB04 A2
26 ZG11 A3
2 -18N C
62 ZJ07 —CD— A-B3D2
PRIORITY REGS BIT 1.1
19P 228

PRI REG 0.2
SCANAA MREG
8 ZB11 A0
14 ZB03 A1
20 ZB04 A2
26 ZG11 A3
2 -18N C
44 -16N —CD— A-B3D2
PRIORITY REGS BIT 0.6
17N 243

243 + PRIORITY REGS BIT 0.6 — CX009-BD6

228 + PRIORITY REGS BIT 1.1 — CX009-BG6

213 + PRIORITY REGS BIT 1.4 — CX009-BK6

188 + PRIORITY REGS BIT 0.7 — CX009-DD6

173 + PRIORITY REGS BIT 1.2 — CX009-DG6

158 + PRIORITY REGS BIT 1.5 — CX009-DK6

143 + PRIORITY REGS BIT 1.0 — CX009-FD6

128 + PRIORITY REGS BIT 1.3 — CX009-FG6

113 + PRIORITY REGS BIT 1.6 — CX009-FK6

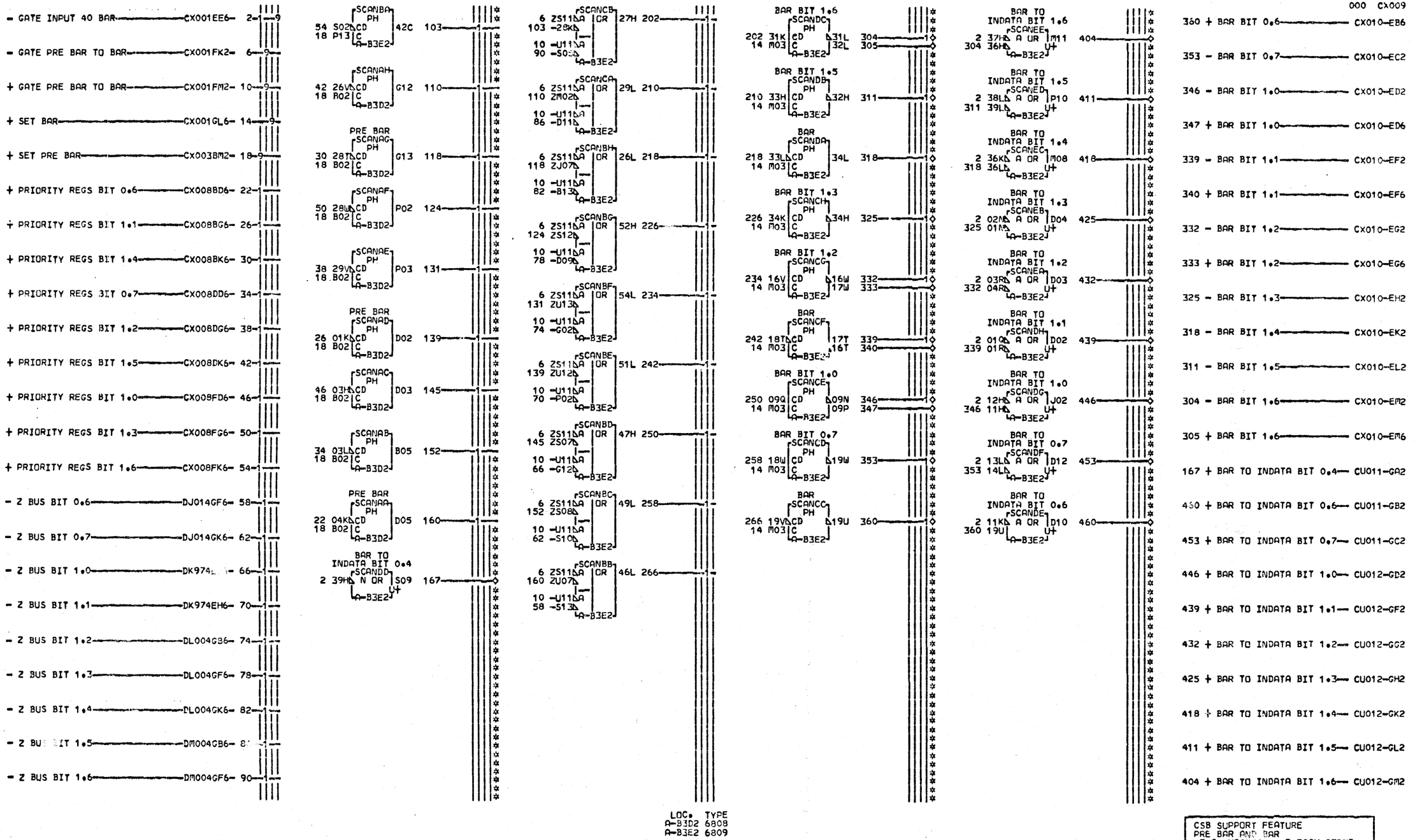
CSE SUPPORT FEATURE
PRIORITY REGISTER LOCAL STORE
—E.C.—HISTORY—B— MACH.27AAB
309521C
309538

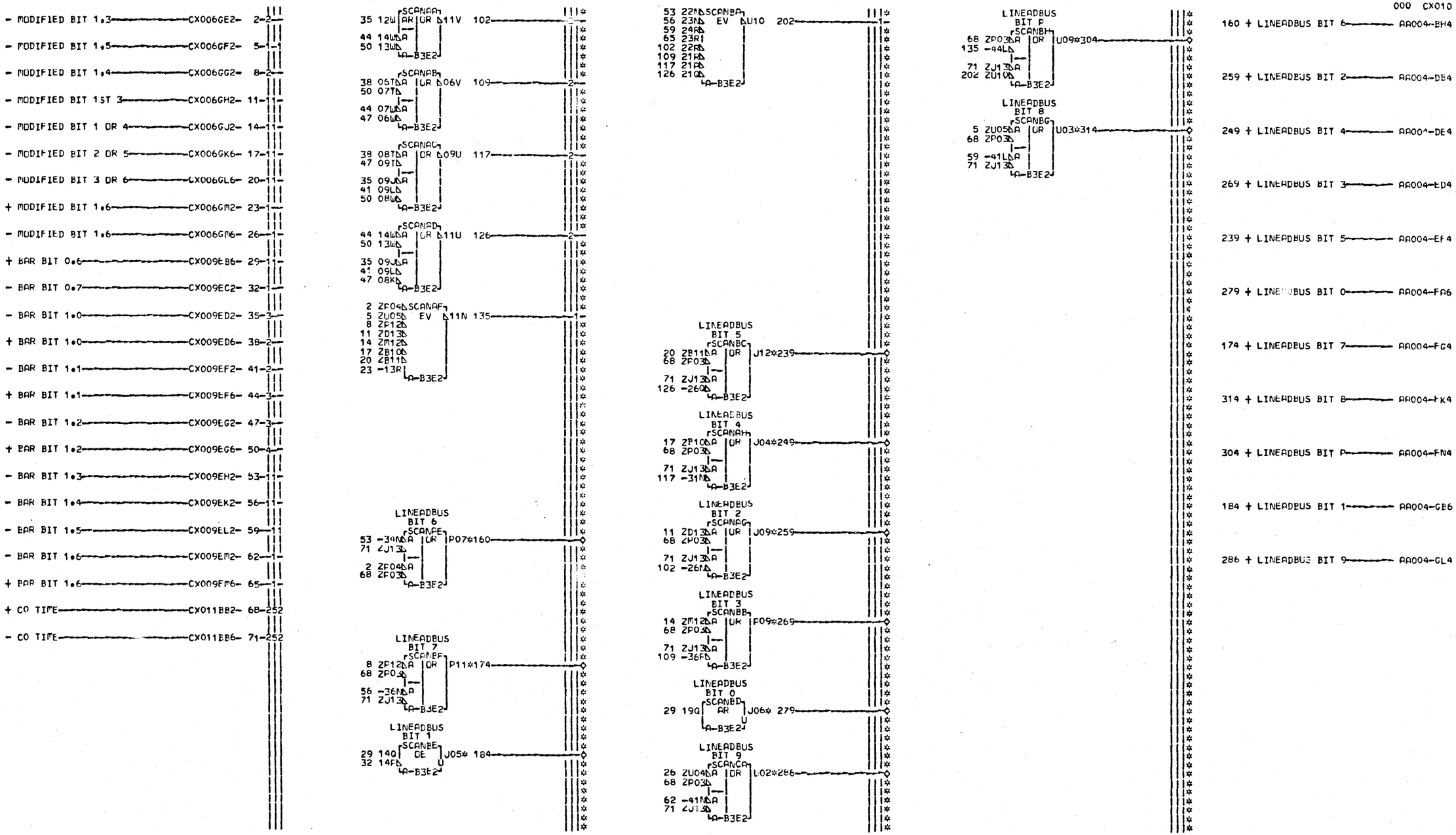
FRAME 01

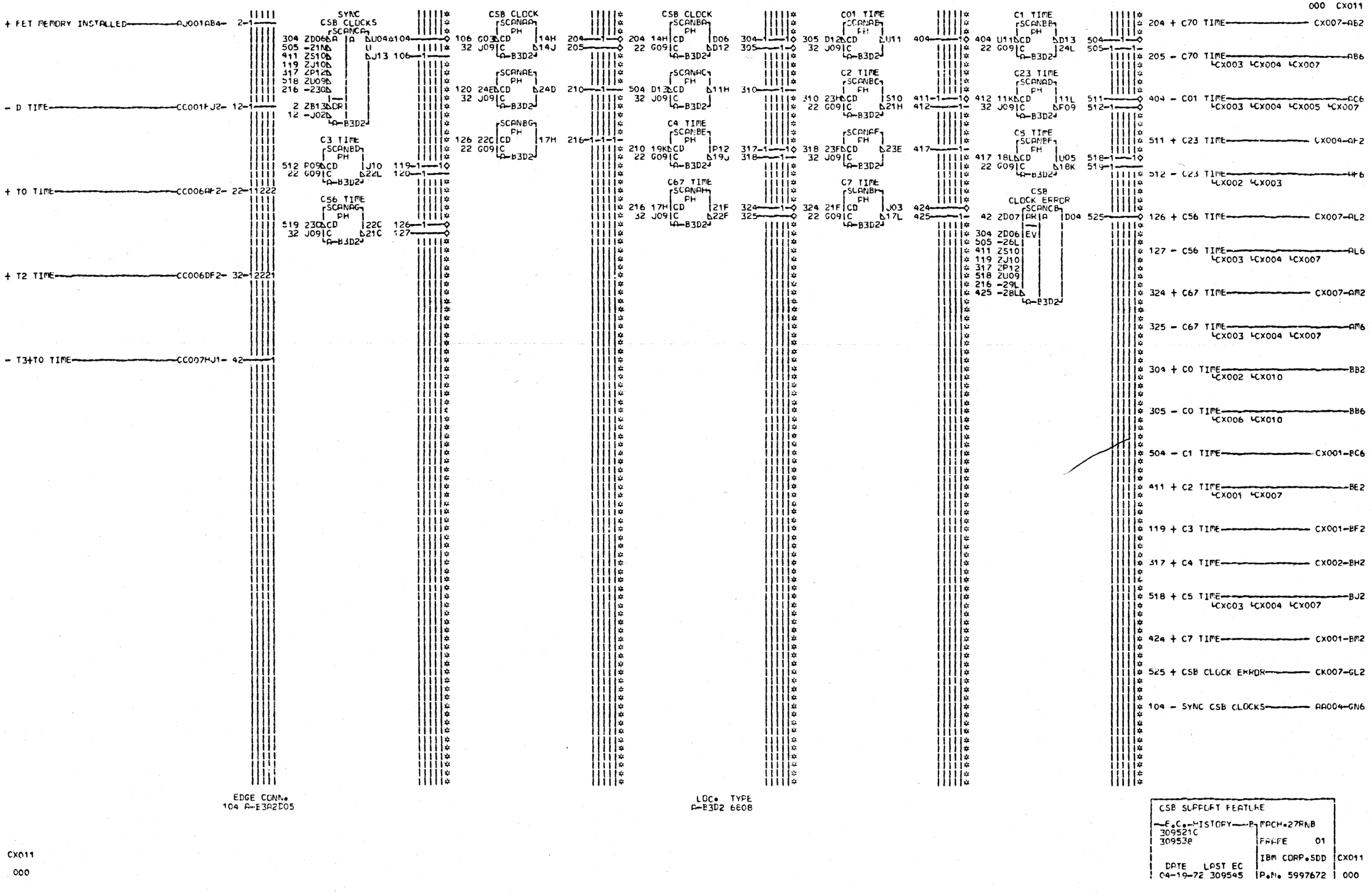
IBM CORP.SDD | CX008

DATE LAST EC
04-19-72 309545

P.N. 5997669 | 000


- GATE INPUT 40 BAR — CX001EE6 — 2
- GATE PRE BAR TO BAR — CX001FK2 — 6
+ GATE PRE BAR TO BAR — CX001FM2 — 10
+ SET BAR — CX001GL6 — 14
+ SET PRE BAR — CX003BM2 — 18
+ PRIORITY REGS BIT 0.6 — CX008BD6 — 22
+ PRIORITY REGS BIT 1.1 — CX008BG6 — 26
+ PRIORITY REGS BIT 1.4 — CX008BK6 — 30
+ PRIORITY REGS BIT 0.7 — CX008DD6 — 34
+ PRIORITY REGS BIT 1.2 — CX008DG6 — 38
+ PRIORITY REGS BIT 1.5 — CX008DK6 — 42
+ PRIORITY REGS BIT 1.0 — CX009FD6 — 46
+ PRIORITY REGS BIT 1.3 — CX008FG6 — 50
+ PRIORITY REGS BIT 1.6 — CX008FK6 — 54
- Z BUS BIT 0.6 — DJ014GF6 — 58
- Z BUS BIT 0.7 — DJ014GK6 — 62
- Z BUS BIT 1.0 — DK974[illegible] — 66
- Z BUS BIT 1.1 — DK974EH6 — 70
- Z BUS BIT 1.2 — DL004GB6 — 74
- Z BUS BIT 1.3 — DL004GF6 — 78
- Z BUS BIT 1.4 — DL004GK6 — 82
- Z BUS BIT 1.5 — DM004GB6 — 8[illegible]
- Z BUS BIT 1.6 — DM004GF6 — 90
SCANBA PH 42C 103
SCANAH PH G12 110
PRE BAR SCANAG PH G13 118
SCANAF PH P02 124
SCANAE PH P03 131
PRE BAR SCANAD PH D02 139
SCANAC PH D03 145
SCANAB PH B05 152
PRE BAR SCANAA PH D05 160
BAR TO INDATA BIT 0.4 SCAND N OR S09 167
SCANCB OR 27H 202
SCANCA OR 29L 210
SCANBH OR 26L 218
SCANBG OR 52H 226
SCANBF OR 54L 234
SCANBE OR 51L 242
SCANBD OR 47H 250
SCANBC OR 49L 258
SCANBB OR 46L 266
BAR BIT 1.6 SCANDC PH 31L 32L 304 305
BAR BIT 1.5 SCANDB PH 32H 311
BAR SCANDA PH 34L 318
BAR BIT 1.3 SCANCH PH 34H 325
BAR BIT 1.2 SCANCG PH 16W 17W 332 333
BAR SCANCF PH 17T 16T 339 340
BAR BIT 1.0 SCANCE PH 09N 09P 346 347
BAR BIT 0.7 SCANCD PH 19W 353
BAR SCANCC PH 19U 360
BAR TO INDATA BIT 1.6 SCANEE A UR M11 404
BAR TO INDATA BIT 1.5 SCANED A OR P10 411
BAR TO INDATA BIT 1.4 SCANEC A OR M08 418
BAR TO INDATA BIT 1.3 SCANEB A OR D04 425
BAR TO INDATA BIT 1.2 SCANEA A OR D03 432
BAR TO INDATA BIT 1.1 SCANDH A OR D02 439
BAR TO INDATA BIT 1.0 SCANDG A OR J02 446
BAR TO INDATA BIT 0.7 SCANDF A OR D12 453
BAR TO INDATA BIT 0.6 SCANDE A OR D10 460
LOC. TYPE
A-B3D2 6808
A-B3E2 6809
000 CX009
360 + BAR BIT 0.6 — CX010-EB6
353 - BAR BIT 0.7 — CX010-EC2
346 - BAR BIT 1.0 — CX010-ED2
347 + BAR BIT 1.0 — CX010-ED6
339 - BAR BIT 1.1 — CX010-EF2
340 + BAR BIT 1.1 — CX010-EF6
332 - BAR BIT 1.2 — CX010-EG2
333 + BAR BIT 1.2 — CX010-EG6
325 - BAR BIT 1.3 — CX010-EH2
318 - BAR BIT 1.4 — CX010-EK2
311 - BAR BIT 1.5 — CX010-EL2
304 - BAR BIT 1.6 — CX010-EM2
305 + BAR BIT 1.6 — CX010-EM6
167 + BAR TO INDATA BIT 0.4 — CU011-GA2
460 + BAR TO INDATA BIT 0.6 — CU011-GB2
453 + BAR TO INDATA BIT 0.7 — CU011-GC2
446 + BAR TO INDATA BIT 1.0 — CU012-GD2
439 + BAR TO INDATA BIT 1.1 — CU012-GF2
432 + BAR TO INDATA BIT 1.2 — CU012-GG2
425 + BAR TO INDATA BIT 1.3 — CU012-GH2
418 + BAR TO INDATA BIT 1.4 — CU012-GK2
411 + BAR TO INDATA BIT 1.5 — CU012-GL2
404 + BAR TO INDATA BIT 1.6 — CU012-GM2
CSB SUPPORT FEATURE
PRE BAR AND BAR
E.C. HISTORY
309521C
309545
DATE LAST EC
06-28-72 309533
B MACH.27RNB
FRAME 01
IBM CORP.SDD
P.N. 5997670
CX009
000
CX009
000


- MODIFIED BIT 1.3 CX006GE2- 2-2
- MODIFIED BIT 1.5 CX006GF2- 5-1-1
- MODIFIED BIT 1.4 CX006GG2- 8-2
- MODIFIED BIT 1ST 3 CX006GH2- 11-1-
- MODIFIED BIT 1 OR 4 CX006GJ2- 14-1-
- MODIFIED BIT 2 OR 5 CX006GK6- 17-1-
- MODIFIED BIT 3 OR 6 CX006GL6- 20-1-
+ MODIFIED BIT 1.6 CX006GM2- 23-1
- MODIFIED BIT 1.6 CX006GM6- 26-1
+ BAR BIT 0.6 CX009EB6- 29-1-
- BAR BIT 0.7 CX009EC2- 32-1
- BAR BIT 1.0 CX009ED2- 35-3
+ BAR BIT 1.0 CX009ED6- 38-2
- BAR BIT 1.1 CX009EF2- 41-2
+ BAR BIT 1.1 CX009EF6- 44-3
- BAR BIT 1.2 CX009EG2- 47-3
+ BAR BIT 1.2 CX009EG6- 50-4
- BAR BIT 1.3 CX009EH2- 53-1-
- BAR BIT 1.4 CX009EK2- 56-1-
- BAR BIT 1.5 CX009EL2- 59-1
- BAR BIT 1.6 CX009EM2- 62-1-
+ BAR BIT 1.6 CX009FM6- 65-1-
+ CO TIME CX011BB2- 68-252
- CO TIME CX011EB6- 71-252
SCANAA
35 12W AR UR 11V 102
44 14W A
50 13W
A-B3E2
SCANAB
38 06T A UR 06V 109
50 07T
44 07W A
47 06W
A-B3E2
SCANAC
38 08T A DR 09U 117
47 09T
35 09J A
41 09L
50 08W
A-B3E2
SCANAD
44 14W A UR 11U 126
50 13W
35 09J A
41 09L
47 08K
A-B3E2
2 ZF04 SCANAF
5 ZU05 EV 11N 135
8 ZP12
11 ZD13
14 ZM12
17 ZB10
20 ZB11
23 -13R
A-B3E2
LINEADBUS BIT 6
SCANAE
53 -34N A UR P07*160
71 ZJ13
2 ZF04 A
68 ZF03
A-B3E2
LINEADBUS BIT 7
SCANBF
8 ZP12 A UR P11*174
68 ZP03
56 -36N A
71 ZJ13
A-B3E2
LINEADBUS BIT 1
SCANBE
29 14Q DE J05* 184
32 14F U
A-B3E2
53 22M SCANBA
56 23N EV U10 202
59 24R
65 23R
102 22R
109 21R
117 21R
126 21Q
A-B3E2
LINEADBUS BIT 5
SCANBC
20 ZB11 A UR J12*239
68 ZP03
71 ZJ13 A
126 -26Q
A-B3E2
LINEADBUS BIT 4
SCANAH
17 ZP10 A UR J04*249
68 ZP03
71 ZJ13 A
117 -31N
A-B3E2
LINEADBUS BIT 2
SCANAG
11 ZD13 A UR J09*259
68 ZP03
71 ZJ13 A
102 -26N
A-B3E2
LINEADBUS BIT 3
SCANBB
14 ZM12 A UR P09*269
68 ZP03
71 ZJ13 A
109 -36F
A-B3E2
LINEADBUS BIT 0
SCANBD
29 19Q AR J06* 279
U
A-B3E2
LINEADBUS BIT 9
SCANCA
26 ZU04 A DR L02*286
68 ZP03
62 -41N A
71 ZJ13
A-B3E2
LINEADBUS BIT P
SCANBH
68 ZP03 A DR U09*304
135 -44L
71 ZJ13 A
202 ZU10
A-B3E2
LINEADBUS BIT 8
SCANBG
5 ZU05 A UR U03*314
68 ZP03
59 -41L A
71 ZJ13
A-B3E2
000 CX010
160 + LINEADBUS BIT 6 AA004-BH4
259 + LINEADBUS BIT 2 AA004-DB4
249 + LINEADBUS BIT 4 AA004-DE4
269 + LINEADBUS BIT 3 AA004-ED4
239 + LINEADBUS BIT 5 AA004-EF4
279 + LINEADBUS BIT 0 AA004-FA6
174 + LINEADBUS BIT 7 AA004-FG4
314 + LINEADBUS BIT 8 AA004-FK4
304 + LINEADBUS BIT P AA004-FN4
184 + LINEADBUS BIT 1 AA004-GB6
286 + LINEADBUS BIT 9 AA004-GL4
EDGE CONN. 304 A-B3A2D03
160 A-B3A2B10 314 A-B3A2B13
174 A-B3A2B12
184 A-B3A2B04
239 A-B3A2B09
249 A-B3A2B08
259 A-B3A2B05
269 A-B3A2B06
279 A-B3A2B02
286 A-B3A2D02
LOC. TYPE
A-B3E2 6809
CX010
000
CSB SUPPORT FEATURE
LINE ADDRESS BUS ASSEMBLER
-E.C.-HISTORY- MACH.27RNB
309521C
309538
FRAME 01
IBM CORP.SDD CX010
DATE LAST EC
04-19-72 309545
P.N. 5997671 000


000 CX011
+ FET MEMORY INSTALLED
- D TIME
+ T0 TIME
+ T2 TIME
- T3+T0 TIME
SYNC CSB CLOCKS
C3 TIME
C56 TIME
CSB CLOCK
CSB CLOCK
C01 TIME
C2 TIME
C4 TIME
C67 TIME
C7 TIME
C1 TIME
C23 TIME
C5 TIME
CSB CLOCK ERROR
204 + C70 TIME
205 - C70 TIME
404 - C01 TIME
511 + C23 TIME
512 - C23 TIME
126 + C56 TIME
127 - C56 TIME
324 + C67 TIME
325 - C67 TIME
304 + C0 TIME
305 - C0 TIME
504 - C1 TIME
411 + C2 TIME
119 + C3 TIME
317 + C4 TIME
518 + C5 TIME
424 + C7 TIME
525 + CSB CLOCK ERROR
104 - SYNC CSB CLOCKS
EDGE CONN.
104 A-E3A2D05
LOC. TYPE
A-B3D2 6608
CSB SUPPORT FEATURE
E.C. HISTORY
309521C
309538
DATE LAST EC
04-19-72 309545
MACH.27RNB
FRAME 01
IBM CORP.SDD
P.N. 5997672
CX011
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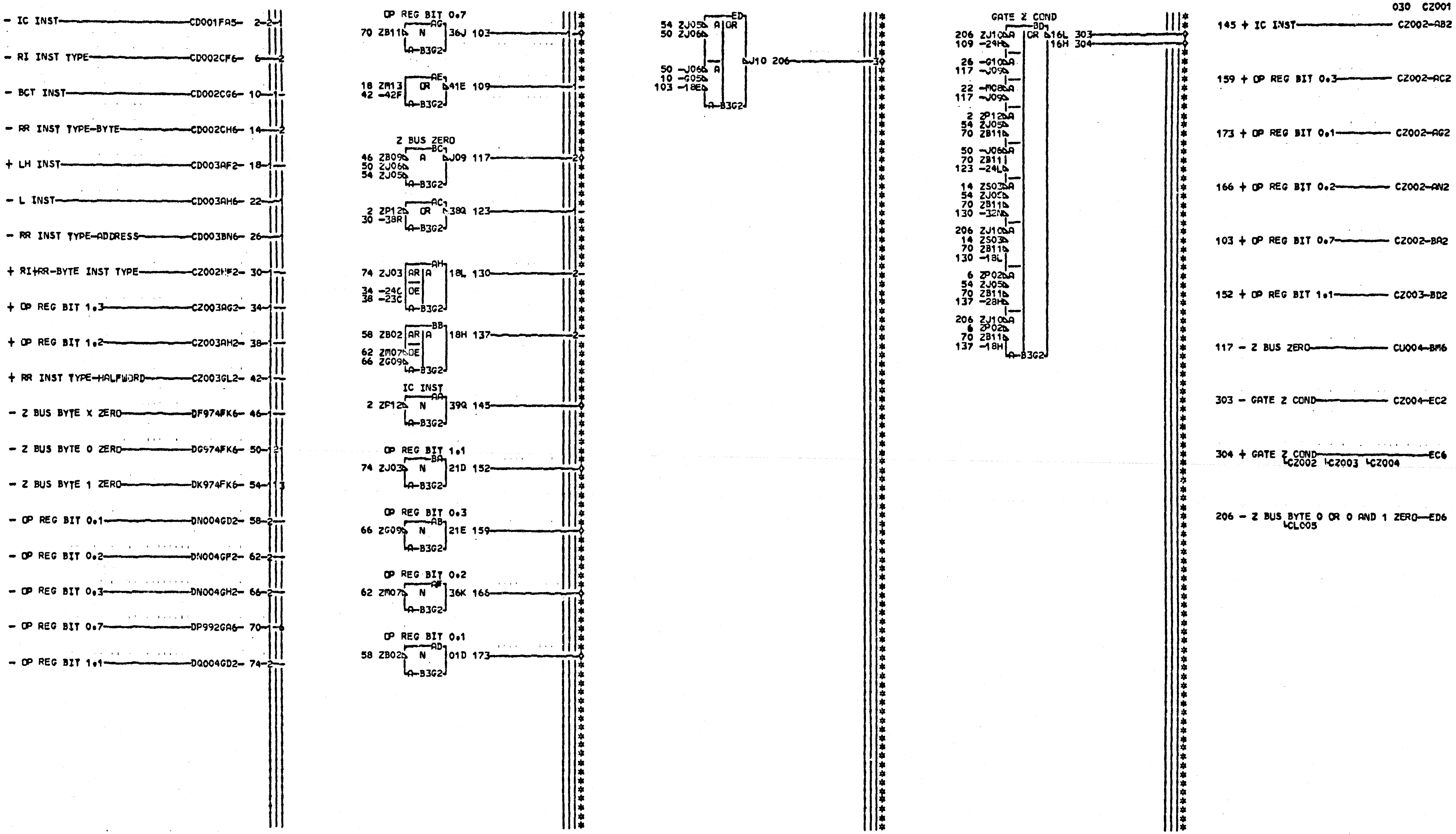


THIS PAGE IS FOR 3705-II ONLY.

LOC. TYPE
A-B3G2 Y702

CZ001
030 SIM TO PN 5997673 EC 310268

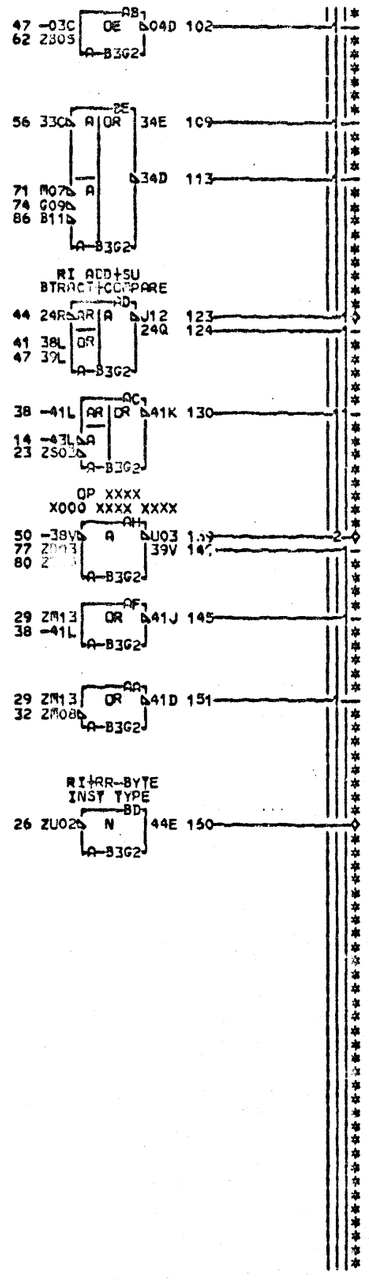
CONDITION CODES GATE Z CONDITION	MACH.27RNB
E.C. HISTORY 312922 314419	FRAME 01
	IBM CORP.SDD
DATE 10-06-76 LAST EC 315053	P.N. 1750206

CZ001
030

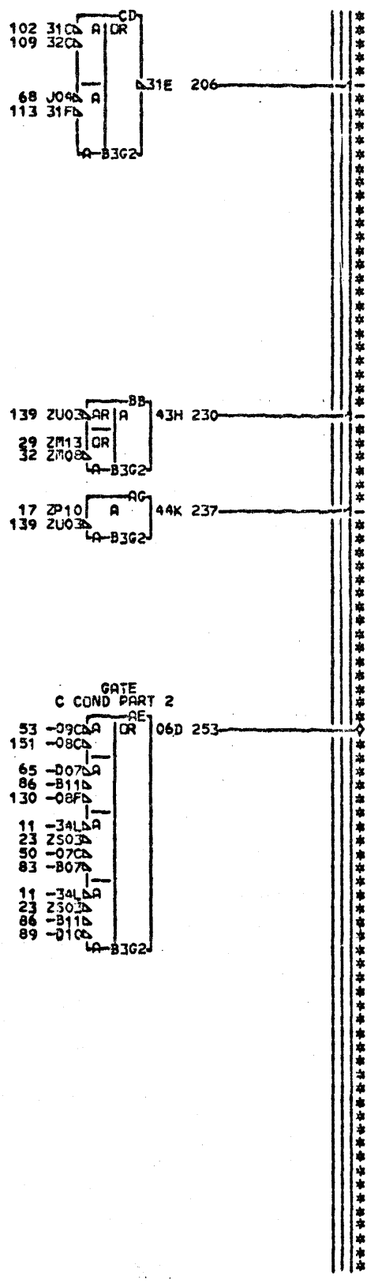
030 C2002

- I1 DA TIME — CC003BK6* 2
- I2 CD TIME — CC003CJ6- 5
- I3 CD TIME — CC003DJ6- 8
- OP XXXX XXXX X111 XXXX — CD001BB0- 11
- OP XXXX XXXX X000 XXXX — CD001BB3- 14
- OP XXXX XXXX X011 XXXX — CD001BB6- 17
- RI INST TYPE — CD002CF6- 20
- RR INST TYPE-BYTE — CD002CH6- 23
- RI+RR-BYTE INST TYPE — CD002DH2- 26
+ LH INST — CD003AF2- 29
- L INST — CD003AH6- 32
- RR INST-HW+ADDR — CD003CN6- 35
+ IC INST — CZ001AB2- 38
+ OP REG BIT 0.3 — CZ001AC2- 41
+ OP REG BIT 0.1 — CZ001AG2- 44
+ OP REG BIT 0.2 — CZ001AN2- 47
+ OP REG BIT 0.7 — CZ001BA2- 50
+ GATE Z COND — CZ001EC6- 53
+ TIE UP — CZ004BN4- 56
- Z BUS BIT 0.P — DG975EA6* 59
+ 0.0 CARRY HOLDOVER — DG977GK6- 62
- Z BUS BIT 1.P — DK976EA6* 65
+ 1.0 CARRY HOLDOVER — DK977GK5- 68
- OP REG BIT 0.2 — DN004GF2- 71
- OP REG BIT 0.3 — DN004GH2- 74
- OP REG BIT 0.5 — DP991GB5- 77
- OP REG BIT 0.6 — DP991GE6- 80
- SDR BIT 0.7 — DP992ED2- 83
- OP REG BIT 0.7 — DP992GA6- 86
- SDR BIT 1.7 — DR992ED2- 89

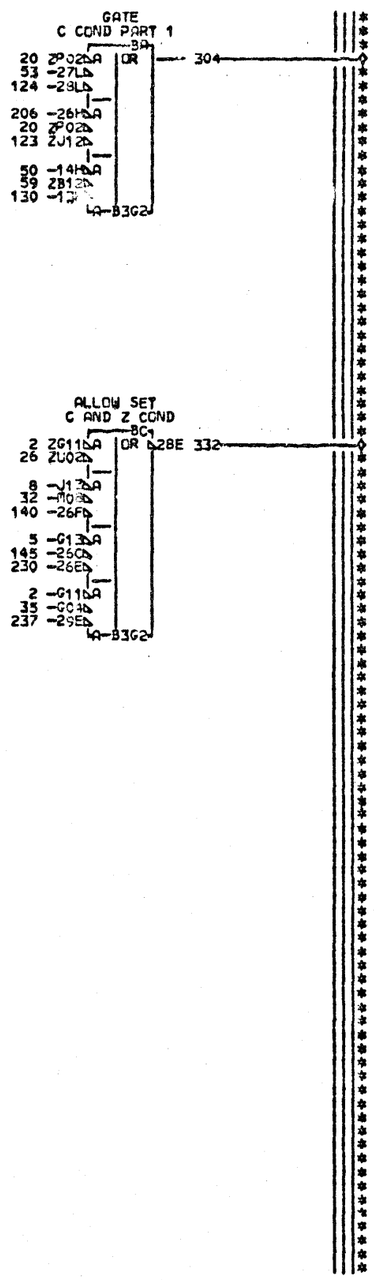
THIS PAGE IS FOR 3705-II ONLY.



EDGE CONN.
2 RESISTOR
A-B3G2G11
59 RESISTOR
A-B3G2B12
65 RESISTOR
A-B3G2D07



LOC. TYPE
A-B3G2 Y702



123 — RI ADD+SUBTRACT+COMPARE CA002-CC6

253 + GATE C COND PART 2 — CZ003-CJ2

139 — OP XXXX X000 XXXX XXXX — DN6
CD001 CD002 CS003

304 + GATE C COND PART 1 — CZ003-ED4

332 — ALLOW SET C AND Z COND — FJ6
CZ004 CZ005

160 + RI+RR-BYTE INST TYPE — CZ001-HF2

CONDITION CODES SET CONDITION GENERATION — E.C.-HISTORY — D MACH.27 RNB		
312022 314419	FRAME 01	
DATE LAST EC 10-06-76 315033	IBM CORP.SDD P.N. 1750207	CZ002 030

C2002
030 SIM TO PN 5997674 EC 310268

- OP XXXX XXXX X111 XXXX — CD001BB0 — 2
+ OP XXXX XXXX X111 XXXX — CD001CF2 — 6
- RR INST TYPE-BYTE — CD002CH6 — 10
- RR INST TYPE-ADDRESS — CD003BN6 — 14
- RR INST TYPE-HALFWORD — CD003CM6 — 18
- RR INST-HW+ADDR — CD003CN6 — 22
+ X.6 CARRY HOLDOVER — CG001CK6 — 26
+ OP REG BIT 1.1 — CZ001BD2 — 30
+ GATE Z COND — CZ001EC6 — 34
+ GATE C COND PART 2 — CZ002CJ2 — 38
+ GATE C COND PART 1 — CZ002ED4 — 42
+ TIE UP — CZ004BN4 — 46
+ 0.0 CARRY HOLDOVER — DG977GK6 — 50
+ 1.0 CARRY HOLDOVER — DK977GK6 — 54
- OP REG BIT 0.7 — DP992GA6 — 58
- OP REG BIT 1.1 — DQ004GD2 — 62
- OP REG BIT 1.2 — DQ004GF2 — 66
- OP REG BIT 1.3 — DQ004GH2 — 70
- SDR BIT 1.7 — DR992ED2 — 74

62 ZJ03 AR A — 102

66 ZB13 OR
70 ZD12 A-B3G2

50 ZB05 AB OE — 101E 109
66 ZB13 A-B3G2

58 ZB11 AE A — 109J 116
66 ZB13 — 108L 117
70 ZD12 A-B3G2

RR ADD+SU BTRACT+COMPARE

30 -14J AR AF A — GG08 125 — 3
14K 126
66 ZB13 OR
70 ZD12 A-B3G2

26 ZD04 — 104E 132
66 ZB13 A-B3G2

OP REG BIT 1.3

70 ZD12 AC N — 11E 138
A-B3G2

OP REG BIT 1.2

66 ZB13 AD N — 13C 145
A-B3G2

RR INST TYPE-HALFWORD

18 ZJ02 BB N — 14E 153
A-B3G2

102 — S AH FL — 16R 203
46 17R R S
A-B3G2

109 16C A BL OR
116 17C

54 J04 A — 16E 213
117 16F
A-B3G2

HALFWORD BYTE 0-1

38 -13N OR BA OR — 11P 304
42 -12N — 11Q 305

18 ZJ02 A
109 -24N
125 ZG08

2 -11K A
22 ZG04
74 ZD10

14 ZG10 A
125 ZG08
132 -21P

10 ZS03 A
34 -32R
203 -33R

213 -31N A
10 ZS03
125 ZG08

6 -13R A
22 ZG04
34 -14R
126 -12R
A-B3G2

030 CZ003

138 + OP REG BIT 1.3 — CZ001-AG2

145 + OP REG BIT 1.2 — CZ001-AH2

125 - RR ADD+SUBTRACT+COMPARE CA002-BB6

304 - GATE C COND — CZ005-FG2

305 + GATE C COND — CZ005-FG6

153 + RR INST TYPE-HALFWORD — CZ001-GL2

THIS PAGE IS FOR 3705-II ONLY.

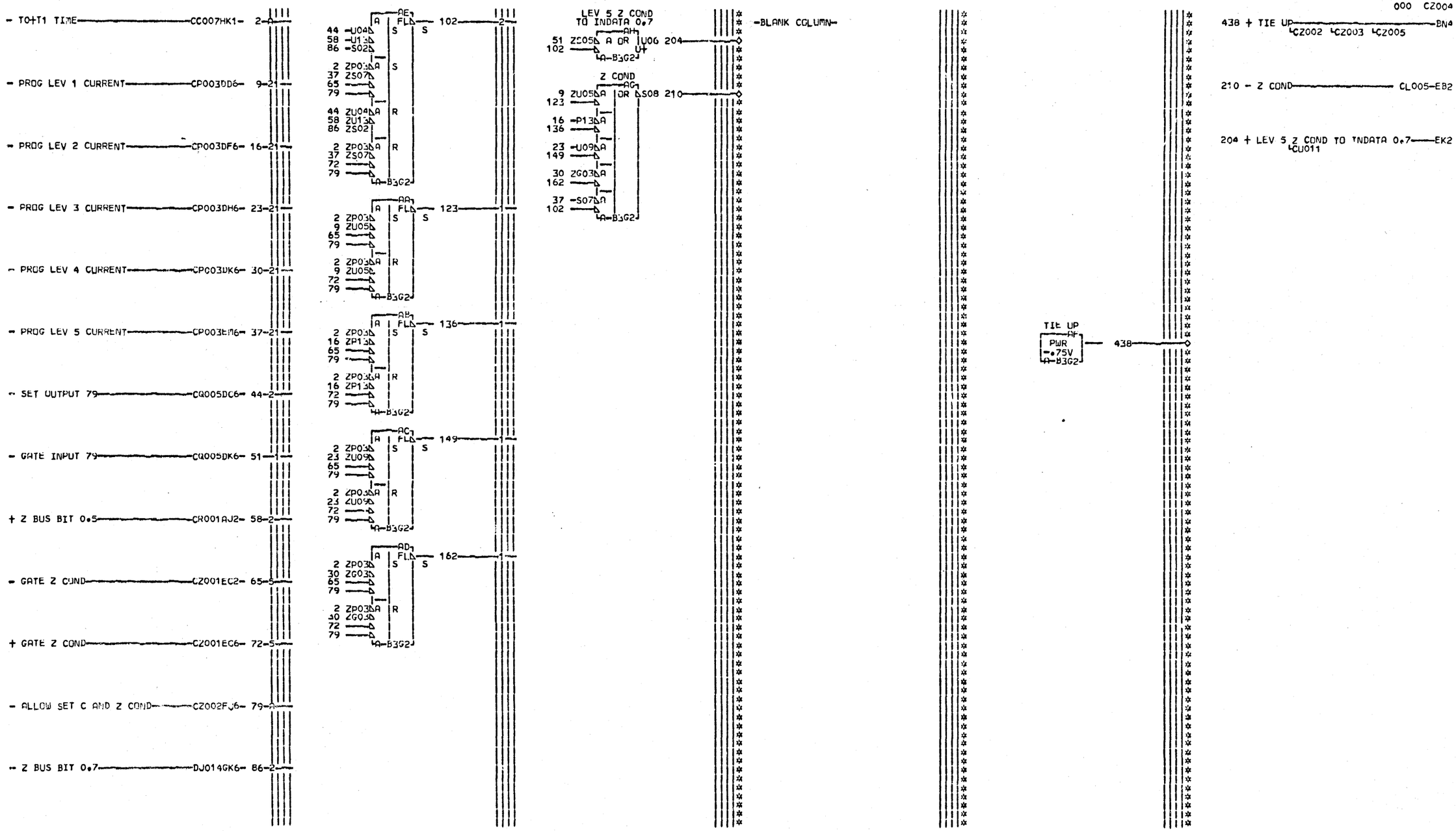
LOC. TYPE
A-B3G2 Y702

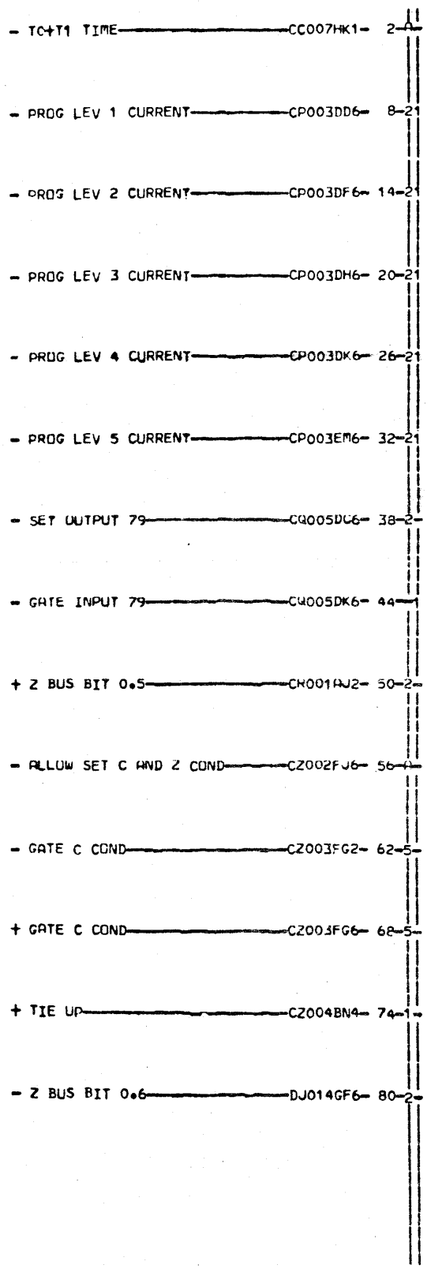
CONDITION CODES
GATE C CONDITION
E.C. HISTORY D
312922
314419

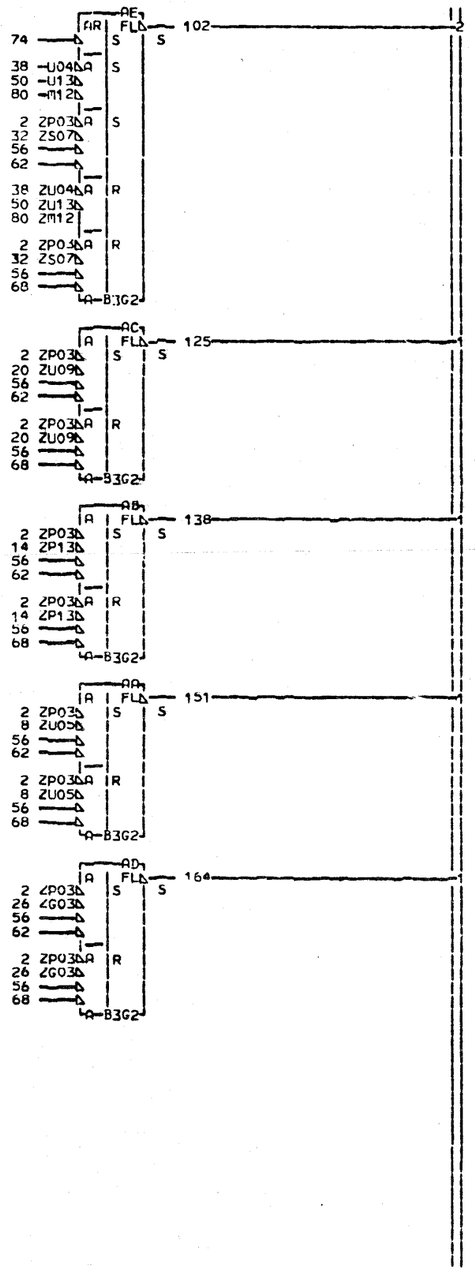
DATE LAST EC
10-06-76 315053

MACH.27RNB
FRAME 01
IBM CORP. SDD | CZ003
P.N. 1750208 | 030

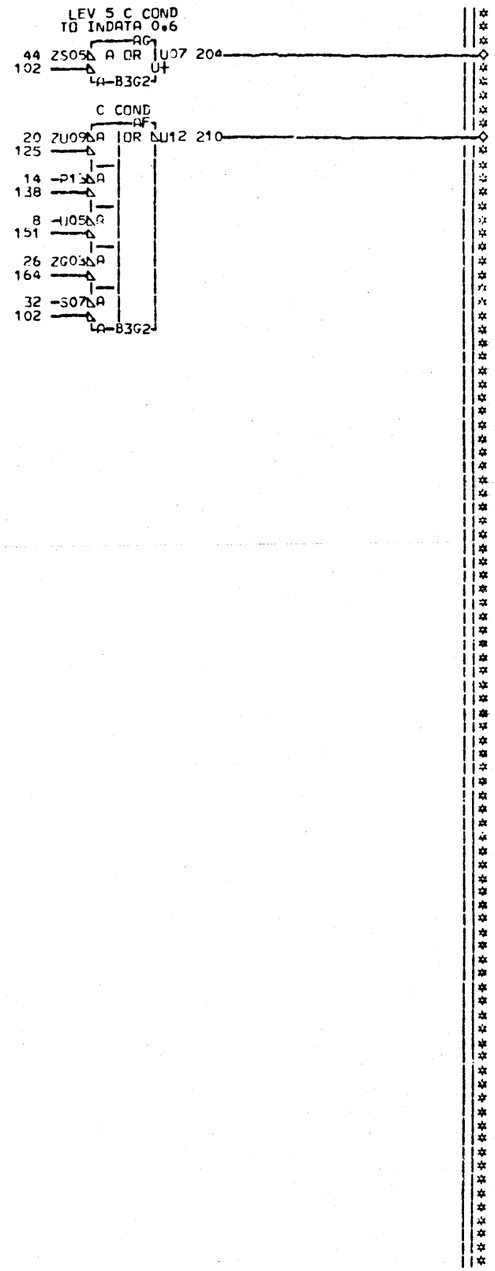
CZ003
030 SIM TO PN 5997675 EC 310268


- TO+T1 TIME CC007HK1- 2-A
- PROG LEV 1 CURRENT CP003DD6- 9-21
- PROG LEV 2 CURRENT CP003DF6- 16-21
- PROG LEV 3 CURRENT CP003DH6- 23-21
- PROG LEV 4 CURRENT CP003DK6- 30-21
- PROG LEV 5 CURRENT CP003EM6- 37-21
- SET OUTPUT 79 CQ005DC6- 44-2
- GATE INPUT 79 CQ005DK6- 51-1
+ Z BUS BIT 0.5 CR001AJ2- 58-2
- GATE Z COND CZ001EC2- 65-5
+ GATE Z COND CZ001EC6- 72-5
- ALLOW SET C AND Z COND CZ002FJ6- 79-A
- Z BUS BIT 0.7 DJ014GK6- 86-2
AE A FLA S S 102
AA A FLA S S 123
AB A FLA S S 136
AC A FLA S S 149
AD A FLA S S 162
LEV 5 Z COND TO INDATA 0.7
AH A OR UO6 204
Z COND
AG A OR SS08 210
-BLANK COLUMN-
LOC. TYPE
A-B3G2 Y702
000 CZ004
438 + TIE UP BN4
CZ002 CZ003 CZ005
210 - Z COND CL005-EB2
204 + LEV 5 Z COND TO INDATA 0.7 EK2
CU011
TIE UP
AF PWR +.75V A-B3G2
438
CONDITION CODES
Z CONDITION LATCHES
E.C.-HISTORY
309521C
309538
309545
DATE LAST EC
02-05-73 310268
B MACH.3705IGAR
FRAME 01
IBM CORP.SDD
P.N. 5997676
CZ004
000
CZ004
000





LOC. TYPE
A-B3G2 Y702



000 CZ005

210 - C COND — CL005-DC2

204 + LEV 5 C COND TO INDATA 0.6 — EK2
CU011

CONDITION CODES		
C CONDITION LATCHES		
E.C. HISTORY	BY	MACH.3705IGAR
309521C	FRAME 01	
309538		
309545	IBM CORP. SVD	CZ005
DATE LAST EC	P.N. 5997677	000
02-05-73 J10268		