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LOCTR OBJECT TEXT      STMT SOURCE STATEMENT      COPYRIGHT IBM COPP 1976
3          COPY LOG7811      ** MAP EC HISTORY **
4          *****
5          **
6          ***      PREREQUISITES      ***
7          **
8          NONE
9          *****
10         **
11         ***      MODIFICATIONS      ***
12         **
13         CHANGES MADE TO MEET PROGRAM REQUIREMENTS
14         *****
15         **
16         ***      REA'S INCORPORATED      ***
17         **
18         NONE
19         *****
20         **
21         ***      SPECIAL INSTRUCTIONS      ***
22         **
23         NONE
24         *****
25         **
26         ***      E. C. HISTOPY      ***
27         **
28         DATE 17DEC76  DATE 18JAN77  DATE 04MAR77  DATE 10JUN77
29         E.C. 578486  E.C. 578573  E.C. 578638  E.C. 578625
30         *****
31         DATE 01MAR78  DATE          DATE          DATE
32         E.C. 755285  E.C.          E.C.          E.C.
33         *****
34         I7811      START X'2500'      START ADDRESS OF ALL 'I' TYPE PPOG
35         @QUES      EQU X'0100'      EQUATED VALUE FOR MDI STATEMENT
36         @FXIT      EQU X'0101'      EQUATED VALUE FOR MDI STATEMENT
37         @STOP      EQU X'0102'      EQUATED VALUE FOR MDI STATEMENT
38         @GOTO      EQU X'0200'      EQUATED VALUE FOR MDI STATEMENT
39         @CALL      EQU X'0201'      EQUATED VALUE FOR MDI STATEMENT
40         @INPT      EQU X'0300'      EQUATED VALUE FOR MDI STATEMENT
41         @OUXX      EQU X'0400'      EQUATED VALUE FOR MDI STATEMENT
42         @TUXX      EQU X'0500'      EQUATED VALUE FOR MDI STATEMENT
43         @NVLD      EQU X'0600'      EQUATED VALUE FOR MDI STATEMENT
44         EC          EQU X'0000'      EQUATE FOR EQUAL
45         NE          EQU X'0004'      EQUATE FOR NOT EQUAL
46         HI          EQU X'0008'      EQUATE FOR HIGH
47         NH          EQU X'000C'      EQUATE FOR NOT HIGH
48         LO          EQU X'0010'      EQUATE FOR LOW
49         NL          EQU X'0014'      EQUATE FOR NOT LOW
50         LT          EQU X'0010'      EQUATE FOR LESS THAN
51         LE          EQU X'000C'      EQUATE FOR LESS THAN OR EQUAL TO
52         GT          EQU X'0008'      EQUATE FOR GREATER THAN
53         GE          EQU X'0014'      EQUATE FOR GREATER THAN OR EQUAL TO
54         ON          EQU X'0200'      EQUATE FOR ON
55         OF          EQU X'0202'      EQUATE FOR OFF
56         MX          EQU X'0204'      EQUATE FOR MIXED
57         EBC         EQU X'0000'      EQUATE FOR EBCDIC DATA TRANSFER
58         HEX         EQU X'0001'      EQUATE FOR HEX DATA TRANSFER
59         XTENL       EQU X'0001'      EQUATE FOR EXTERNAL REFERENCE
60         INTENL      EQU X'0000'      EQUATE FOR INTERNAL REFERENCE
61         PARM        EQU X'0000'      EQUATE INDICATING PARAMETER
62         DA          EQU X'0001'      EQUATE FOR DEVICE ADDRESS
63         UA          EQU X'0002'      EQUATE FOR UNIT ADDRESS
64         DUMMY       EQU X'0000'      DUMMY EQUATE
65         PID         EQU *-X'0D00'      ADDRESS OF MDI HEADER
66         PTYPE       EQU *-X'22CE'      ADDRESS OF PROCESSOR TYPE FIELD
67         STEPNUM     EQU PDD+X'000C'      ADDRESS OF DECIMAL STEP NUMBER
68         OPWD1       EQU PDD+X'000E'      ADDRESS OF OPTION WORD ONE
69         OPWD2       EQU PDD+X'0010'      ADDRESS OF OPTION WORD TWO
70         TUSTATUS    EQU PDD+X'0018'      ADDRESS OF TU STATUS WORD
71         TUNWORK     EQU PDD+X'001A'      ADDRESS OF TU WORK AREA
72         TUPARM1     EQU PDD+X'009A'      ADDRESS OF PARM 1 POINTER
73         TUPARM2     EQU PDD+X'009C'      ADDRESS OF PARM 2 POINTER
74         TUPARM3     EQU PDD+X'009E'      ADDRESS OF PARM 3 POINTER
75         TUPARM4     EQU PDD+X'00A0'      ADDRESS OF PARM 4 POINTER
76         TUPARM5     EQU PDD+X'00A2'      ADDRESS OF PARM 5 POINTER
77         TUPARM6     EQU PDD+X'00A4'      ADDRESS OF PARM 6 POINTER
78         TUPARM7     EQU PDD+X'00A6'      ADDRESS OF PARM 7 POINTER
79         TUPARM8     EQU PDD+X'00A8'      ADDRESS OF PARM 8 POINTER
80         TUPARM9     EQU PDD+X'00AA'      ADDRESS OF PARM 9 POINTER
81         TUPARM10    EQU PDD+X'00AC'      ADDRESS OF PARM 10 POINTER
82         TUPARM11    EQU PDD+X'00AE'      ADDRESS OF PARM 11 POINTER
83         TUPARM12    EQU PDD+X'00B0'      ADDRESS OF PARM 12 POINTER
84         TUPARM13    EQU PDD+X'00B2'      ADDRESS OF PARM 13 POINTER
85         TUPARM14    EQU PDD+X'00B4'      ADDRESS OF PARM 14 POINTER
86         TUPARM15    EQU PDD+X'00B6'      ADDRESS OF PARM 15 POINTER
87         TUPARM16    EQU PDD+X'00B8'      ADDRESS OF PARM 16 POINTER
88         TUNSGWTF    EQU PDD+X'00BA'      ADDRESS OF -> TO COMMON MSG WRITER
89         TUDA        EQU PDD+X'00BE'      ADDRESS OF UNIT ADDRESS IN EBC
90         TUBUFF      EQU PDD+X'00C0'      ADDRESS OF DEVICE ADDRESS IN EBC
91         TULAST       EQU PDD+X'00C2'      ADDRESS OF LAST USED WORD IN MAP
92         TURESULN    EQU PDD+X'00C4'      ADDRESS OF LAST ADDRESSABLE WORD
93         TURESUL     EQU PDD+X'00C6'      ADDRESS OF LENGTH OF TU RESULTS
94         TURESUL     EQU PDD+X'00C8'      ADDRESS OF TU RESULTS FIELD
95         MAPNAME     EQU PDD+X'00FC'      ADDRESS OF MAP NAME FIELD IN HPX
96         TUNPT       EQU PDD+X'0148'      ADDRESS OF SINPT DATA
97         PARMARA     EQU PDD+X'016E'      ADDRESS OF SINPT INPUT AREA
98         @CADD1      EQU PDD+X'01B4'      MDI POINTER
99         @CADD2      EQU PDD+X'01B8'      MDI POINTER
100        @CADD3      EQU PDD+X'01C4'      MDI POINTER
101        @CADD4      EQU PDD+X'01D0'      MDI POINTER
102        @CADD5      EQU PDD+X'01D4'      MDI POINTER
103        @CADD6      EQU PDD+X'01E4'      MDI POINTER
104        @CADD7      EQU PDD+X'01F8'      MDI POINTER
105        @CADD8      EQU PDD+X'0202'      MDI POINTER
106        @CADD9      EQU PDD+X'020C'      MDI POINTER
107        @CADD10     EQU PDD+X'0216'      MDI POINTER
108        @CADD11     EQU PDD+X'021A'      MDI POINTER
109        @CADD12     EQU PDD+X'021E'      MDI POINTER
110        @CADD13     EQU PDD+X'0222'      MDI POINTER
111        @CADD14     EQU PDD+X'0226'      MDI POINTER
112        @CADD15     EQU PDD+X'022A'      MDI POINTER
113        @CADD16     EQU PDD+X'022E'      MDI POINTER
114        @CADD17     EQU PDD+X'0232'      MDI POINTER
115        @CADD18     EQU PDD+X'0236'      MDI POINTER
116        @CADD19     EQU PDD+X'023A'      MDI POINTER
117        @CADD20     EQU PDD+X'023E'      MDI POINTER
118        @CADD21     EQU PDD+X'0242'      MDI POINTER
119        @CADD22     EQU PDD+X'0246'      MDI POINTER
120        @CADD23     EQU PDD+X'024A'      MDI POINTER
121        @CADD24     EQU PDD+X'024E'      MDI POINTER
122        @CADD25     EQU PDD+X'0252'      MDI POINTER
123        @CADD26     EQU PDD+X'0256'      MDI POINTER
124        @CADD27     EQU PDD+X'025A'      MDI POINTER
125        @CADD28     EQU PDD+X'025E'      MDI POINTER
126        @CADD29     EQU PDD+X'0262'      MDI POINTER
127        @CADD30     EQU PDD+X'0266'      MDI POINTER
128        @CADD31     EQU PDD+X'026A'      MDI POINTER
129        @CADD32     EQU PDD+X'026E'      MDI POINTER
130        @CADD33     EQU PDD+X'0272'      MDI POINTER
131        @CADD34     EQU PDD+X'0276'      MDI POINTER
132        @CADD35     EQU PDD+X'027A'      MDI POINTER
133        @CADD36     EQU PDD+X'027E'      MDI POINTER
134        @CADD37     EQU PDD+X'0282'      MDI POINTER
135        @CADD38     EQU PDD+X'0286'      MDI POINTER
136        @CADD39     EQU PDD+X'028A'      MDI POINTER
137        @CADD40     EQU PDD+X'028E'      MDI POINTER
138        @CADD41     EQU PDD+X'0292'      MDI POINTER
139        @CADD42     EQU PDD+X'0296'      MDI POINTER
140        @CADD43     EQU PDD+X'029A'      MDI POINTER
141        @CADD44     EQU PDD+X'029E'      MDI POINTER
142        @CADD45     EQU PDD+X'02A2'      MDI POINTER
143        @CADD46     EQU PDD+X'02A6'      MDI POINTER
144        @CADD47     EQU PDD+X'02AA'      MDI POINTER
145        @CADD48     EQU PDD+X'02AE'      MDI POINTER
146        @CADD49     EQU PDD+X'02B2'      MDI POINTER
147        @CADD50     EQU PDD+X'02B6'      MDI POINTER
148        @CADD51     EQU PDD+X'02BA'      MDI POINTER
149        @CADD52     EQU PDD+X'02BE'      MDI POINTER
150        @CADD53     EQU PDD+X'02C2'      MDI POINTER
151        @CADD54     EQU PDD+X'02C6'      MDI POINTER
152        @CADD55     EQU PDD+X'02CA'      MDI POINTER
153        @CADD56     EQU PDD+X'02CE'      MDI POINTER
154        @CADD57     EQU PDD+X'02D2'      MDI POINTER
155        @CADD58     EQU PDD+X'02D6'      MDI POINTER
156        @CADD59     EQU PDD+X'02DA'      MDI POINTER
157        @CADD60     EQU PDD+X'02DE'      MDI POINTER
158        @CADD61     EQU PDD+X'02E2'      MDI POINTER
159        @CADD62     EQU PDD+X'02E6'      MDI POINTER
160        @CADD63     EQU PDD+X'02EA'      MDI POINTER
161        @CADD64     EQU PDD+X'02EE'      MDI POINTER
162        @CADD65     EQU PDD+X'02F2'      MDI POINTER
163        @CADD66     EQU PDD+X'02F6'      MDI POINTER
164        @CADD67     EQU PDD+X'02FA'      MDI POINTER
165        @CADD68     EQU PDD+X'02FE'      MDI POINTER
166        @CADD69     EQU PDD+X'0302'      MDI POINTER
167        @CADD70     EQU PDD+X'0306'      MDI POINTER
168        @CADD71     EQU PDD+X'030A'      MDI POINTER
169        @CADD72     EQU PDD+X'030E'      MDI POINTER
170        @CADD73     EQU PDD+X'0312'      MDI POINTER
171        @CADD74     EQU PDD+X'0316'      MDI POINTER
172        @CADD75     EQU PDD+X'031A'      MDI POINTER
173        @CADD76     EQU PDD+X'031E'      MDI POINTER
174        @CADD77     EQU PDD+X'0322'      MDI POINTER
175        @CADD78     EQU PDD+X'0326'      MDI POINTER
176        @CADD79     EQU PDD+X'032A'      MDI POINTER
177        @CADD80     EQU PDD+X'032E'      MDI POINTER
178        @CADD81     EQU PDD+X'0332'      MDI POINTER
179        @CADD82     EQU PDD+X'0336'      MDI POINTER
180        @CADD83     EQU PDD+X'033A'      MDI POINTER
181        @CADD84     EQU PDD+X'033E'      MDI POINTER
182        @CADD85     EQU PDD+X'0342'      MDI POINTER
183        @CADD86     EQU PDD+X'0346'      MDI POINTER
184        @CADD87     EQU PDD+X'034A'      MDI POINTER
185        @CADD88     EQU PDD+X'034E'      MDI POINTER
186        @CADD89     EQU PDD+X'0352'      MDI POINTER
187        @CADD90     EQU PDD+X'0356'      MDI POINTER
188        @CADD91     EQU PDD+X'035A'      MDI POINTER
189        @CADD92     EQU PDD+X'035E'      MDI POINTER
190        @CADD93     EQU PDD+X'0362'      MDI POINTER
191        @CADD94     EQU PDD+X'0366'      MDI POINTER
192        @CADD95     EQU PDD+X'036A'      MDI POINTER
193        @CADD96     EQU PDD+X'036E'      MDI POINTER
194        @CADD97     EQU PDD+X'0372'      MDI POINTER
195        @CADD98     EQU PDD+X'0376'      MDI POINTER
196        @CADD99     EQU PDD+X'037A'      MDI POINTER
197        @CADD100    EQU PDD+X'037E'      MDI POINTER
198        @CADD101    EQU PDD+X'0382'      MDI POINTER
199        @CADD102    EQU PDD+X'0386'      MDI POINTER
200        @CADD103    EQU PDD+X'038A'      MDI POINTER
201        @CADD104    EQU PDD+X'038E'      MDI POINTER
202        @CADD105    EQU PDD+X'0392'      MDI POINTER
203        @CADD106    EQU PDD+X'0396'      MDI POINTER
204        @CADD107    EQU PDD+X'039A'      MDI POINTER
205        @CADD108    EQU PDD+X'039E'      MDI POINTER
206        @CADD109    EQU PDD+X'03A2'      MDI POINTER
207        @CADD110    EQU PDD+X'03A6'      MDI POINTER
208        @CADD111    EQU PDD+X'03AA'      MDI POINTER
209        @CADD112    EQU PDD+X'03AE'      MDI POINTER
210        @CADD113    EQU PDD+X'03B2'      MDI POINTER
211        @CADD114    EQU PDD+X'03B6'      MDI POINTER
212        @CADD115    EQU PDD+X'03BA'      MDI POINTER
213        @CADD116    EQU PDD+X'03BE'      MDI POINTER
214        @CADD117    EQU PDD+X'03C2'      MDI POINTER
215        @CADD118    EQU PDD+X'03C6'      MDI POINTER
216        @CADD119    EQU PDD+X'03CA'      MDI POINTER
217        @CADD120    EQU PDD+X'03CE'      MDI POINTER
218        @CADD121    EQU PDD+X'03D2'      MDI POINTER
219        @CADD122    EQU PDD+X'03D6'      MDI POINTER
220        @CADD123    EQU PDD+X'03DA'      MDI POINTER
221        @CADD124    EQU PDD+X'03DE'      MDI POINTER
222        @CADD125    EQU PDD+X'03E2'      MDI POINTER
223        @CADD126    EQU PDD+X'03E6'      MDI POINTER
224        @CADD127    EQU PDD+X'03EA'      MDI POINTER
225        @CADD128    EQU PDD+X'03EE'      MDI POINTER
226        @CADD129    EQU PDD+X'03F2'      MDI POINTER
227        @CADD130    EQU PDD+X'03F6'      MDI POINTER
228        @CADD131    EQU PDD+X'03FA'      MDI POINTER
229        @CADD132    EQU PDD+X'03FE'      MDI POINTER
230        @CADD133    EQU PDD+X'0402'      MDI POINTER
231        @CADD134    EQU PDD+X'0406'      MDI POINTER
232        @CADD135    EQU PDD+X'040A'      MDI POINTER
233        @CADD136    EQU PDD+X'040E'      MDI POINTER
234        @CADD137    EQU PDD+X'0412'      MDI POINTER
235        @CADD138    EQU PDD+X'0416'      MDI POINTER
236        @CADD139    EQU PDD+X'041A'      MDI POINTER
237        @CADD140    EQU PDD+X'041E'      MDI POINTER
238        @CADD141    EQU PDD+X'0422'      MDI POINTER
239        @CADD142    EQU PDD+X'0426'      MDI POINTER
240        @CADD143    EQU PDD+X'042A'      MDI POINTER
241        @CADD144    EQU PDD+X'042E'      MDI POINTER
242        @CADD145    EQU PDD+X'0432'      MDI POINTER
243        @CADD146    EQU PDD+X'0436'      MDI POINTER
244        @CADD147    EQU PDD+X'043A'      MDI POINTER
245        @CADD148    EQU PDD+X'043E'      MDI POINTER
246        @CADD149    EQU PDD+X'0442'      MDI POINTER
247        @CADD150    EQU PDD+X'0446'      MDI POINTER
248        @CADD151    EQU PDD+X'044A'      MDI POINTER
249        @CADD152    EQU PDD+X'044E'      MDI POINTER
250        @CADD153    EQU PDD+X'0452'      MDI POINTER
251        @CADD154    EQU PDD+X'0456'      MDI POINTER
252        @CADD155    EQU PDD+X'045A'      MDI POINTER
253        @CADD156    EQU PDD+X'045E'      MDI POINTER
254        @CADD157    EQU PDD+X'0462'      MDI POINTER
255        @CADD158    EQU PDD+X'0466'      MDI POINTER
256        @CADD159    EQU PDD+X'046A'      MDI POINTER
257        @CADD160    EQU PDD+X'046E'      MDI POINTER
258        @CADD161    EQU PDD+X'0472'      MDI POINTER
259        @CADD162    EQU PDD+X'0476'      MDI POINTER
260        @CADD163    EQU PDD+X'047A'      MDI POINTER
261        @CADD164    EQU PDD+X'047E'      MDI POINTER
262        @CADD165    EQU PDD+X'0482'      MDI POINTER
263        @CADD166    EQU PDD+X'0486'      MDI POINTER
264        @CADD167    EQU PDD+X'048A'      MDI POINTER
265        @CADD168    EQU PDD+X'048E'      MDI POINTER
266        @CADD169    EQU PDD+X'0492'      MDI POINTER
267        @CADD170    EQU PDD+X'0496'      MDI POINTER
268        @CADD171    EQU PDD+X'049A'      MDI POINTER
269        @CADD172    EQU PDD+X'049E'      MDI POINTER
270        @CADD173    EQU PDD+X'04A2'      MDI POINTER
271        @CADD174    EQU PDD+X'04A6'      MDI POINTER
272        @CADD175    EQU PDD+X'04AA'      MDI POINTER
273        @CADD176    EQU PDD+X'04AE'      MDI POINTER
274        @CADD177    EQU PDD+X'04B2'      MDI POINTER
275        @CADD178    EQU PDD+X'04B6'      MDI POINTER
276        @CADD179    EQU PDD+X'04BA'      MDI POINTER
277        @CADD180    EQU PDD+X'04BE'      MDI POINTER
278        @CADD181    EQU PDD+X'04C2'      MDI POINTER
279        @CADD182    EQU PDD+X'04C6'      MDI POINTER
280        @CADD183    EQU PDD+X'04CA'      MDI POINTER
281        @CADD184    EQU PDD+X'04CE'      MDI POINTER
282        @CADD185    EQU PDD+X'04D2'      MDI POINTER
283        @CADD186    EQU PDD+X'04D6'      MDI POINTER
284        @CADD187    EQU PDD+X'04DA'      MDI POINTER
285        @CADD188    EQU PDD+X'04DE'      MDI POINTER
286        @CADD189    EQU PDD+X'04E2'      MDI POINTER
287        @CADD190    EQU PDD+X'04E6'      MDI POINTER
288        @CADD191    EQU PDD+X'04EA'      MDI POINTER
289        @CADD192    EQU PDD+X'04EE'      MDI POINTER
290        @CADD193    EQU PDD+X'04F2'      MDI POINTER
291        @CADD194    EQU PDD+X'04F6'      MDI POINTER
292        @CADD195    EQU PDD+X'04FA'      MDI POINTER
293        @CADD196    EQU PDD+X'04FE'      MDI POINTER
294        @CADD197    EQU PDD+X'0502'      MDI POINTER
295        @CADD198    EQU PDD+X'0506'      MDI POINTER
296        @CADD199    EQU PDD+X'050A'      MDI POINTER
297        @CADD200    EQU PDD+X'050E'      MDI POINTER
298        @CADD201    EQU PDD+X'0512'      MDI POINTER
299        @CADD202    EQU PDD+X'0516'      MDI POINTER
300        @CADD203    EQU PDD+X'051A'      MDI POINTER
301        @CADD204    EQU PDD+X'051E'      MDI POINTER
302        @CADD205    EQU PDD+X'0522'      MDI POINTER
303        @CADD206    EQU PDD+X'0526'      MDI POINTER
304        @CADD207    EQU PDD+X'052A'      MDI POINTER
305        @CADD208    EQU PDD+X'052E'      MDI POINTER
306        @CADD209    EQU PDD+X'0532'      MDI POINTER
307        @CADD210    EQU PDD+X'0536'      MDI POINTER
308        @CADD211    EQU PDD+X'053A'      MDI POINTER
309        @CADD212    EQU PDD+X'053E'      MDI POINTER
310        @CADD213    EQU PDD+X'0542'      MDI POINTER
311        @CADD214    EQU PDD+X'0546'      MDI POINTER
312        @CADD215    EQU PDD+X'054A'      MDI POINTER
313        @CADD216    EQU PDD+X'054E'      MDI POINTER
314        @CADD217    EQU PDD+X'0552'      MDI POINTER
315        @CADD218    EQU PDD+X'0556'      MDI POINTER
316        @CADD219    EQU PDD+X'055A'      MDI POINTER
317        @CADD220    EQU PDD+X'055E'      MDI POINTER
318        @CADD221    EQU PDD+X'0562'      MDI POINTER
319        @CADD222    EQU PDD+X'0566'      MDI POINTER
320        @CADD223    EQU PDD+X'056A'      MDI POINTER
321        @CADD224    EQU PDD+X'056E'      MDI POINTER
322        @CADD225    EQU PDD+X'0572'      MDI POINTER
323        @CADD226    EQU PDD+X'0576'      MDI POINTER
324        @CADD227    EQU PDD+X'057A'      MDI POINTER
325        @CADD228    EQU PDD+X'057E'      MDI POINTER
326        @CADD229    EQU PDD+X'0582'      MDI POINTER
327        @CADD230    EQU PDD+X'0586'      MDI POINTER
328        @CADD231    EQU PDD+X'058A'      MDI POINTER
329        @CADD232    EQU PDD+X'058E'      MDI POINTER
330        @CADD233    EQU PDD+X'0592'      MDI POINTER
331        @CADD234    EQU PDD+X'0596'      MDI POINTER
332        @CADD235    EQU PDD+X'059A'      MDI POINTER
333        @CADD236    EQU PDD+X'059E'      MDI POINTER
334        @CADD237    EQU PDD+X'05A2'      MDI POINTER
335        @CADD238    EQU PDD+X'05A6'      MDI POINTER
336        @CADD239    EQU PDD+X'05AA'      MDI POINTER
337        @CADD240    EQU PDD+X'05AE'      MDI POINTER
338        @CADD241    EQU PDD+X'05B2'      MDI POINTER
339        @CADD242    EQU PDD+X'05B6'      MDI POINTER
340        @CADD243    EQU PDD+X'05BA'      MDI POINTER
341        @CADD244    EQU PDD+X'05BE'      MDI POINTER
342        @CADD245    EQU PDD+X'05C2'      MDI POINTER
343        @CADD246    EQU PDD+X'05C6'      MDI POINTER
344        @CADD247    EQU PDD+X'05CA'      MDI POINTER
345        @CADD248    EQU PDD+X'05CE'      MDI POINTER
346        @CADD249    EQU PDD+X'05D2'      MDI POINTER
347        @CADD250    EQU PDD+X'05D6'      MDI POINTER
348        @CADD251    EQU PDD+X'05DA'      MDI POINTER
349        @CADD252    EQU PDD+X'05DE'      MDI POINTER
350        @CADD253    EQU PDD+X'05E2'      MDI POINTER
351        @CADD254    EQU PDD+X'05E6'      MDI POINTER
352        @CADD255    EQU PDD+X'05EA'      MDI POINTER
353        @CADD256    EQU PDD+X'05EE'      MDI POINTER
354        @CADD257    EQU PDD+X'05F2'      MDI POINTER
355        @CADD258    EQU PDD+X'05F6'      MDI POINTER
356        @CADD259    EQU PDD+X'05FA'      MDI POINTER
357        @CADD260    EQU PDD+X'05FE'      MDI POINTER
358        @CADD261    EQU PDD+X'0602'      MDI POINTER
359        @CADD262    EQU PDD+X'0606'      MDI POINTER
360        @CADD263    EQU PDD+X'060A'      MDI POINTER
361        @CADD264    EQU PDD+X'060E'      MDI POINTER
362        @CADD265    EQU PDD+X'0612'      MDI POINTER
363        @CADD266    EQU PDD+X'0616'      MDI POINTER
364        @CADD267    EQU PDD+X'061A'      MDI POINTER
365        @CADD268    EQU PDD+X'061E'      MDI POINTER
366        @CADD269    EQU PDD+X'0622'      MDI POINTER
367        @CADD270    EQU PDD+X'0626'      MDI POINTER
368        @CADD271    EQU PDD+X'062A'      MDI POINTER
369        @CADD272    EQU PDD+X'062E'      MDI POINTER
370        @CADD273    EQU PDD+X'0632'      MDI POINTER
371        @CADD274    EQU PDD+X'0636'      MDI POINTER
372        @CADD275    EQU PDD+X'063A'      MDI POINTER
373        @CADD276    EQU PDD+X'063E'      MDI POINTER
374        @CADD277    EQU PDD+X'0642'      MDI POINTER
375        @CADD278    EQU PDD+X'0646'      MDI POINTER
376        @CADD279    EQU PDD+X'064A'      MDI POINTER
377        @CADD280    EQU PDD+X'064E'      MDI POINTER
378        @CADD281    EQU PDD+X'0652'      MDI POINTER
379        @CADD282    EQU PDD+X'0656'      MDI POINTER
380        @CADD283    EQU PDD+X'065A'      MDI POINTER
381        @CADD284    EQU PDD+X'065E'      MDI POINTER
382        @CADD285    EQU PDD+X'0662'      MDI POINTER
383        @CADD286    EQU PDD+X'0666'      MDI POINTER
384        @CADD287    EQU PDD+X'066A'      MDI POINTER
385        @CADD288    EQU PDD+X'066E'      MDI POINTER
386        @CADD289    EQU PDD+X'0672'      MDI POINTER
387        @CADD290    EQU PDD+X'0676'      MDI POINTER
388        @CADD291    EQU PDD+X'067A'      MDI POINTER
389        @CADD292    EQU PDD+X'067E'      MDI POINTER
390        @CADD293    EQU PDD+X'0682'      MDI POINTER
391        @CADD294    EQU PDD+X'0686'      MDI POINTER
392        @CADD295    EQU PDD+X'068A'      MDI POINTER
393        @CADD296    EQU PDD+X'068E'      MDI POINTER
394        @CADD297    EQU PDD+X'0692'      MDI POINTER
395        @CADD298    EQU PDD+X'0696'      MDI POINTER
396        @CADD299    EQU PDD+X'069A'      MDI POINTER
397        @CADD300    EQU PDD+X'069E'      MDI POINTER
398        @CADD301    EQU PDD+X'06A2'      MDI POINTER
399        @CADD302    EQU PDD+X'06A6'      MDI POINTER
400        @CADD303    EQU PDD+X'06AA'      MDI POINTER
401        @CADD304    EQU PDD+X'06AE'      MDI POINTER
402        @CADD305    EQU PDD+X'06B2'      MDI POINTER
403        @CADD306    EQU PDD+X'06B6'      MDI POINTER
404        @CADD307    EQU PDD+X'06BA'      MDI POINTER
405        @CADD308    EQU PDD+X'06BE'      MDI POINTER
406        @CADD309    EQU PDD+X'06C2'      MDI POINTER
407        @CADD310    EQU PDD+X'06C6'      MDI POINTER
408        @CADD311    EQU PDD+X'06CA'      MDI POINTER
409        @CADD312    EQU PDD+X'06CE'      MDI POINTER
410        @CADD313    EQU PDD+X'06D2'      MDI POINTER
411        @CADD314    EQU PDD+X'06D6'      MDI POINTER
412        @CADD315    EQU PDD+X'06DA'      MDI POINTER
413        @CADD316    EQU PDD+X'06DE'      MDI POINTER
414        @CADD317    EQU PDD+X'06E2'      MDI POINTER
415        @CADD318    EQU PDD+X'06E6'      MDI POINTER
416        @CADD319    EQU PDD+X'06EA'      MDI POINTER
417        @CADD320    EQU PDD+X'06EE'      MDI POINTER
418        @CADD321    EQU PDD+X'06F2'      MDI POINTER
419        @CADD322    EQU PDD+X'06F6'      MDI POINTER
420        @CADD323    EQU PDD+X'06FA'      MDI POINTER
421        @CADD324    EQU PDD+X'06FE'      MDI POINTER
422        @CADD325    EQU PDD+X'0702'      MDI POINTER
423        @CADD326    EQU PDD+X'0706'      MDI POINTER
424        @CADD327    EQU PDD+X'070A'      MDI POINTER
425        @CADD328    EQU PDD+X'070E'      MDI POINTER
426        @CADD329    EQU PDD+X'0712'      MDI POINTER
427        @CADD330    EQU PDD+X'0716'      MDI POINTER
428        @CADD331    EQU PDD+X'071A'      MDI POINTER
429        @CADD332    EQU PDD+X'071E'      MDI POINTER
430        @CADD333    EQU PDD+X'0722'      MDI POINTER
431        @CADD334    EQU PDD+X'0726'      MDI POINTER
432        @CADD335    EQU PDD+X'072A'      MDI POINTER
433        @CADD336    EQU PDD+X'072E'      MDI POINTER
434        @CADD337    EQU PDD+X'0732'      MDI POINTER
435        @CADD338    EQU PDD+X'0736'      MDI POINTER
436        @CADD339    EQU PDD+X'073A'      MDI POINTER
437        @CADD340    EQU PDD+X'073E'      MDI POINTER
438        @CADD341    EQU PDD+X'0742'      MDI POINTER
439        @CADD342    EQU PDD+X'0746'      MDI POINTER
440        @CADD343    EQU PDD+X'074A'      MDI POINTER
441        @CADD344    EQU PDD+X'074E'      MDI POINTER
442        @CADD345    EQU PDD+X'0752'      MDI POINTER
443        @CADD346    EQU PDD+X'0756'      MDI POINTER
444        @CADD347    EQU PDD+X'075A'      MDI POINTER
445        @CADD348    EQU PDD+X'075E'      MDI POINTER
446        @CADD349    EQU PDD+X'0762'      MDI POINTER
447        @CADD350    EQU PDD+X'0766'      MDI POINTER
448        @CADD351    EQU PDD+X'076A'      MDI POINTER
449        @CADD352    EQU PDD+X'076E'      MDI POINTER
450        @CADD353    EQU PDD+X'0772'      MDI POINTER
451        @CADD354    EQU PDD+X'0776'      MDI POINTER
452        @CADD355    EQU PDD+X'077A'      MDI POINTER
453        @CADD356    EQU PDD+X'077E'      MDI POINTER
454        @CADD357    EQU PDD+X'0782'      MDI POINTER
455        @CADD358    EQU PDD+X'0786'      MDI POINTER
456        @CADD359    EQU PDD+X'078A'      MDI POINTER
457        @CADD360    EQU PDD+X'078E'      MDI POINTER
458        @CADD361    EQU PDD+X'0792'      MDI POINTER
459        @CADD362    EQU PDD+X'0796'      MDI POINTER
460        @CADD363    EQU PDD+X'079A'      MDI POINTER
461        @CADD364    EQU PDD+X'079E'      MDI POINTER
462        @CADD365    EQU PDD+X'07A2'      MDI POINTER
463        @CADD366    EQU PDD+X'07A6'      MDI POINTER
464        @CADD367    EQU PDD+X'07AA'      MDI POINTER
465        @CADD368    EQU PDD+X'07AE'      MDI POINTER
466        @CADD369    EQU PDD+X'07B2'      MDI POINTER
467        @CADD370    EQU PDD+X'07B6'      MDI POINTER
468        @CADD371    EQU PDD+X'07BA'      MDI POINTER
469        @CADD372    EQU PDD+X'07BE'      MDI POINTER
470        @CADD373    EQU PDD+X'07C2'      MDI POINTER
471        @CADD374    EQU PDD+X'07C6'      MDI POINTER
472        @CADD375    EQU PDD+X'07CA'      MDI POINTER
473        @CADD376    EQU PDD+X'07CE'      MDI POINTER
474        @CADD377    EQU PDD+X'07D2'      MDI POINTER
475        @CADD378    EQU PDD+X'07D6'      MDI POINTER
476        @CADD379    EQU PDD+X'07DA'      MDI POINTER
477        @CADD380    EQU PDD+X'07DE'      MDI POINTER
478        @CADD381    EQU PDD+X'07E2'      MDI POINTER
479        @CADD382    EQU PDD+X'07E6'      MDI POINTER
480        @CADD383    EQU PDD+X'07EA'      MDI POINTER
481        @CADD384    EQU PDD+X'07EE'      MDI POINTER
482        @CADD385    EQU PDD+X'07F2'      MDI POINTER
483        @CADD386    EQU PDD+X'07F6'      MDI POINTER
484        @CADD387    EQU PDD+X'07FA'      MDI POINTER
485        @CADD388    EQU PDD+X'07FE'      MDI POINTER

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LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
311 *****
312 *****
313 **
314 ** STEP AND RULE ADDRESS TABLE **
315 **
316 *****
317 *****
002502 2558 DC AL2(N00001)
002504 0001 DC XL2'0001'
002506 2570 EQN00001 EQU 0001
002508 0002 DC AL2(N00002)
002510 2584 EQN00002 EQU XL2'0002'
002512 0003 DC AL2(N00003)
002514 2588 EQN00003 EQU XL2'0003'
002516 0004 DC AL2(N00004)
002518 259C EQN00004 EQU XL2'0004'
002520 0005 DC AL2(N00005)
002522 25A8 EQN00005 EQU XL2'0005'
002524 0006 DC AL2(N00006)
002526 25B6 EQN00006 EQU XL2'0006'
002528 0007 DC AL2(N00007)
002530 25C4 EQN00007 EQU XL2'0007'
002532 0008 DC AL2(N00008)
002534 25C8 EQN00008 EQU XL2'0008'
002536 0009 DC AL2(N00009)
002538 25CC EQN00009 EQU XL2'0009'
002540 0010 DC AL2(N00010)
002542 25D0 EQN00010 EQU XL2'0010'
002544 0011 DC AL2(N00011)
002546 25D2 EQN00011 EQU XL2'0011'
002548 25D2 EQN00012 EQU XL2'0012'
002550 25EA EQN00012 EQU XL2'0012'
002552 0013 DC AL2(N00013)
002554 25EF EQN00013 EQU XL2'0013'
002556 0014 DC AL2(N00014)
002558 25FC EQN00014 EQU XL2'0014'
002560 0015 DC AL2(N00015)
002562 2608 EQN00015 EQU XL2'0015'
002564 0016 DC AL2(N00016)
002566 2614 EQN00016 EQU XL2'0016'
002568 0017 DC AL2(N00017)
002570 2626 EQN00017 EQU XL2'0017'
002572 0018 DC AL2(N00018)
002574 2632 EQN00018 EQU XL2'0018'
002576 0019 DC AL2(N00019)
002578 264A EQN00019 EQU XL2'0019'
002580 0020 DC AL2(N00020)
002582 2656 EQN00020 EQU XL2'0020'
002584 0021 DC AL2(N00021)
002586 0000 EQN00021 EQU XL2'0021'
3181 *****
3182 *****
3183 **
3184 ** RULE INFORMATION TABLE **
3185 **
3186 **
3187 *****
3188 *****
3189 N00001 STUXX T7850,03,000000,EQ,PLNG=05,PARH=00/01,QT=(Q00009), X
3190 N00001 DC A(@STUXX)
3191 DC AL2(N00017)
3192 DC A(T7850)
3193 DC AL2(EQ)
3194 DC AL2(O3)
3195 DC X'000000'
3196 DC ALIGN WORD
3197 DC AL2(O5)
3198 DC C'00/01'
3199 DC ALIGN WORD
3200 DC AL2(PARMARA)
3201 N00002 STUXX T3C02,03,400000,OF,QT=(Q00096),YES=N00004,CT=(C00008), X
3202 N00002 DC A(@STUXX)
3203 DC AL2(N00004)
3204 DC A(T3C02)
3205 DC AL2(OF)
3206 DC AL2(O3)
3207 DC X'400000'
3208 DC ALIGN WORD
3209 DC AL2(O)
3210 DC C'AA'
3211 DC ALIGN WORD
3212 DC AL2(PARMARA)
3213 N00003 SFIXT FT=(P00099)
3214 N00003 DC A(@SFIXT)
3215 DC A(P00099)
3216 N00004 STUXX T3C02,03,0005C0,OF,QT=(Q00107),YES=N00006,CT=(C00008), X
3217 N00004 DC A(@STUXX)
3218 DC AL2(N00006)
3219 DC A(T3C02)
3220 DC AL2(OF)
3221 DC AL2(O3)
3222 DC X'0005C0'
3223 DC ALIGN WORD
3224 DC AL2(O)

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LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
425+ DC C'AAA'
426+ DC ALIGN WORD
427+ DC AL2(PARMARA)
428 N00005 SGOTO TYPE=XTRNL,HAP=7840,EP=A,FT=(P00112),GTO=((7840,A))
429 N00005 DC A(@SGOTO)
430 DC A(F00112)
431+ DC CL4'7840'
432+ DC CL2'A'
433+ DC AL2(XTRNL)
434 N00006 SQUXX T7838,PLNG=02,PARH=00,QT=(Q00141),YES=N00010, X
435 N00006 DC A(@SQUXX)
436+ DC AL2(N00010)
437+ DC A(T7838)
438+ DC AL2(DUMMY)
439+ DC AL2(O2)
440+ DC C'00'
441+ DC ALIGN WORD
442+ DC AL2(PARMARA)
443 N00007 SQUXX T7838,PLNG=02,PARH=00,QT=(Q00147),YES=N00009, X
444 N00007 DC A(@SQUXX)
445+ DC AL2(N00009)
446+ DC A(T7838)
447+ DC AL2(DUMMY)
448+ DC AL2(O2)
449+ DC C'00'
450+ DC ALIGN WORD
451+ DC AL2(PARMARA)
452 N00008 SFIXT FT=(P00150),CT=(C00017)
453 N00008 DC A(@SFIXT)
454+ DC A(F00150)
455 N00009 SFIXT FT=(F00153),CT=(C00017)
456 N00009 DC A(@SFIXT)
457+ DC A(F00153)
458 N00010 SQUES QT=(Q00158),YES=N00012,CT=(C00156)
459 N00010 DC A(@SQUES)
460+ DC AL2(N00012)
461 N00011 SNVLD FT=(P00053)
462 N00011 DC A(@SNVLD)
463 N00012 STUXX T7850,03,001000,ON,PLNG=05,PARH=00/01,QT=(Q0115), X
464 N00012 DC A(@STUXX)
465+ DC AL2(N00014)
466+ DC A(T7850)
467+ DC AL2(ON)
468+ DC AL2(O3)
469+ DC X'001000'
470+ DC ALIGN WORD
471+ DC AL2(O5)
472+ DC C'00/01'
473+ DC ALIGN WORD
474+ DC AL2(PARMARA)
475 N00013 SFIXT FT=(P00119),GTO=((7869,A)),ST=(S00127)
476 N00013 DC A(@SFIXT)
477+ DC A(F00119)
478 N00014 SQUXX T7872,FEPT=T72A,QT=(Q00182),YES=N00016,CT=(C0162), X
479 N00014 DC A(@SQUXX)
480+ DC AL2(N00016)
481+ DC A(T7872)
482+ DC AL2(T72A)
483+ DC AL2(O)
484+ DC C'AA'
485+ DC ALIGN WORD
486+ DC AL2(PARMARA)
487 N00015 SGOTO TYPE=XTRNL,HAP=7841,EP=A,FT=(P00185),GTO=((7841,A))
488 N00015 DC A(@SGOTO)
489+ DC A(F00185)
490+ DC CL4'7841'
491+ DC CL2'A'
492+ DC AL2(XTRNL)
493 N00016 SGOTO TYPE=INTRNL,EP=A,FT=(P00188),GTO=(N00001)
494 N00016 DC A(@SGOTO)
495+ DC A(F00188)
496+ DC CL4'3C00'
497+ DC CL2'A'
498+ DC AL2(XTRNL)
499 N00017 STUXX T7812,02,0800,ON,QT=(Q00190),YES=N00019
500 N00017 DC A(@STUXX)
501+ DC AL2(N00019)
502+ DC A(T7812)
503+ DC AL2(ON)
504+ DC AL2(O2)
505+ DC X'0800'
506+ DC ALIGN WORD
507+ DC AL2(O)
508+ DC C'AA'
509+ DC ALIGN WORD
510+ DC AL2(PARMARA)
511 N00018 SGOTO TYPE=XTRNL,HAP=7812,EP=A,FT=(P00192),GTO=((7712,A))
512 N00018 DC A(@SGOTO)
513+ DC A(F00192)
514+ DC CL4'7812'
515+ DC CL2'A'
516+ DC AL2(XTRNL)
517 N00019 STUXX T7850,03,000000,EQ,PLNG=05,PARH=00/02,QT=(Q00009), X
518 N00019 DC A(@STUXX)
519+ DC AL2(N00021)
520+ DC A(T7850)
521+ DC AL2(EQ)
522+ DC AL2(O3)
523+ DC X'000000'
524+ DC ALIGN WORD
525+ DC AL2(O5)
526+ DC C'00/02'
527+ DC ALIGN WORD
528+ DC AL2(PARMARA)
529 N00020 SGOTO TYPE=XTRNL,HAP=7843,EP=B,FT=(P00199),GTO=((7843,B))
530 N00020 DC A(@SGOTO)
531+ DC A(F00199)
532+ DC CL4'7843'
533+ DC CL2'A'
534+ DC AL2(XTRNL)
535 N00021 SGOTO TYPE=XTRNL,HAP=7812,EP=A,FT=(P00202),GTO=((7812,A))
536 N00021 DC A(@SGOTO)
537+ DC A(F00202)
538+ DC CL4'7812'

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00265E C140 539+ DC CL2'A'
002660 0001 540+ DC AL2(XTRNL)
002662 0000 541 DC AL2(DUMMY)
002664 542 ENTPT EQU *

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
000016 654+B54 EQU 22 6 2 *
000017 655+B55 EQU 23 7 1 *
000018 656+B56 EQU 24 8 8 *
000019 657+B57 EQU 25 9 4 *
00001A 658+B58 EQU 26 10 2 *
00001B 659+B59 EQU 27 11 1 *
00001C 660+B60 EQU 28 12 8 *
00001D 661+B61 EQU 29 13 4 *
00001E 662+B62 EQU 30 14 2 *
00001F 663+B63 EQU 31 15 1 *

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
000016 771 REOSD EQU 22 REQUEST USE OF DCP DISK SVC
000017 772 REISD EQU 23 RELEASE USE OF DCP DISK SVC
000018 773 HALT EQU 24 HALT SVC
000019 774 ETOH EQU 25 EBCDIC TO HEX SVC (STRING)
00001A 775 HTOH EQU 26 HEX TO EBCDIC SVC (STRING)
00001B 776 ATOH EQU 27 ASCII TO HEX SVC (STRING)
00001C 777 HTOA EQU 28 HEX TO ASCII SVC (STRING)
00001D 778 ETOA EQU 29 EBCDIC TO ASCII SVC (STRING)
00001E 779 ATOA EQU 30 ASCII TO EBCDIC SVC (STRING)
00001F 780 READI EQU 31 READ DATA SETS FOR MDI UTIL
000020 781 WRITI EQU 32 WRITE DATA SETS FOR UTIL
783 *****
784 *
785 * EQUATES USED BY TU'S AS CONSTANTS *
786 *
787 *****
788 PLUS EQU C'+1 PLUS CHAR
789 MINUS EQU C'-1 MINUS CHAR
791 ZERO EQU 0
792 ONE EQU 1
793 TWO EQU 2
794 THREE EQU 3
795 FOUR EQU 4
796 FIVE EQU 5
797 SIX EQU 6
798 SEVEN EQU 7
799 EIGHT EQU 8
800 NINE EQU 9
801 TEN EQU 10
802 ELEVEN EQU 11
803 TWELVE EQU 12
804 THIRTEEN EQU 13
805 FIFTEEN EQU 15
806 SIXTEEN EQU 16
807 THIRTY TWO EQU 32
808 SIXTY FOUR EQU 64
809 ONE HUNDRED TWENTY EIGHT EQU 128
810 TWO HUNDRED FIFTY SIX EQU 256
811 ONE THOUSAND ONE HUNDRED TWENTY FOUR EQU 1024
812 TWO THOUSAND FORTY EIGHT EQU 2048
813 THREE THOUSAND SEVENTY SIX EQU 3072
814 FOUR THOUSAND ONE HUNDRED FIFTY TWO EQU 4096
816 M1 EQU -1
817 M2 EQU -2
818 M3 EQU -3
819 M4 EQU -4
821 *****
822 *
823 * THE FOLLOWING ARE EQUATES FOR BIT DISPLACEMENTS FROM THE *
824 * BEGINNING OF THE BYTE TO EACH BIT IN THE WORD OF SWITCHES. *
825 *
826 *****
827 BS0 EQU 0
828 BS1 EQU 1
829 BS2 EQU 2
830 BS3 EQU 3
831 BS4 EQU 4
832 BS5 EQU 5
833 BS6 EQU 6
834 BS7 EQU 7
835 BS8 EQU 8
836 BS9 EQU 9
837 BS10 EQU 10
838 BS11 EQU 11
839 BS12 EQU 12
840 BS13 EQU 13
841 BS14 EQU 14
842 BS15 EQU 15
844 COPY T7812 01DEC76
845 T7812 TUIT \$ERRS
846 *****
847 *
848 * TEST UNIT *
849 *
850 * FILE ATTACHMENT DEVICE ID'S 12/01/76 *
851 *
852 * PURPOSE *
853 *
854 *
855 * CALLING SEQUENCE *
856 *
857 * THE TU WILL DETERMINE THE MODEL AND FEATURES THAT ARE INSTALLED *
858 * ON THE FILE BEING TESTED. *
859 *
860 * PROGRAM PASSES STATUS OF ALL LINES IN FOLLOWING FORMAT: *
861 * TURESUL BIT 0-----9-3 M BYTE (VTL) WITH FIXED HEADS *
862 * TURESUL BIT 1-----9-3 M BYTE (DUT) WITH FIXED HEADS *
863 * TURESUL BIT 2-----9-3 M BYTE (VTL) *
864 * TURESUL BIT 3-----9-3 M BYTE (DUTCHESS) *
865 * TURESUL BIT 4-----LARGE FILE *
866 * TURESUL BIT 5-----NOT USED *
867 * TURESUL BIT 6-----NOT USED *
868 * TURESUL BIT 7-----NOT USED *
869 * TURESUL BIT 8-----NOT USED *
870 * TURESUL BIT 9-----NOT USED *
871 * TURESUL BIT 10-----NOT USED *
872 * TURESUL BIT 11-----NOT USED *
873 * TURESUL BIT 12-----NOT USED *
874 * TURESUL BIT 13-----NOT USED *
875 * TURESUL BIT 14-----NOT USED *
876 * TURESUL BIT 15-----NOT USED *
877 *
878 *
879 * RETURN CONTROL *
880 *
881 * B TURTN* RETURN TO MDI SUPERVISOR *
882 *
883 *****
884 *T7812 MVW R7 TURTN SAVE RETURN ADDRESS
885 * MVWI X'7812',STUID SAVE TU ID FOR DISPLAY
886 * MVA OPTN1,R4 SET UP POINTER ADRS IN R4
887 * BAL \$CONC,R6 CLEAR DEV DEP STG AND CONNECT I/O BL
888 * DC A(\$ERR\$) ERROR ADRS FOR INVALID PREP
889 *

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002964 CA25 18C8 890 MVWZ TURESUL,R2 CLEAR RESULTS WORD
002968 4224 18C8 891 MVA TURESUL,R2 ADDRESS OF RESULTS
00296C 4724 32CC 892 MVA IOBLK,R7 RESET DEVICE
* SVCS RSET *
4894 4724 32CC 893 MVA IOBLK,R7 READ DEVICE ID
895 SVCS R7D *
002978 402F 32D6 00B2 896 CWI X'00B2',IOMOD+4 VTL WITH FIXED HEADS?
00297E 1012 897 JE T12A YES
002980 402F 32D6 00BA 898 CWI X'00BA',IOMOD+4 DUTCHESS WITH FIXED HEADS?
002986 1011 899 JE T12B YES
002988 402F 32D6 00A2 900 CWI X'00A2',IOMOD+4 VTL,NO FIXED HEADS?
00298E 100F 901 JE T12C YES
002990 402F 32D6 00AA 902 CWI X'00AA',IOMOD+4 DUTCHESS, NO FIXED HEADS?
002996 100D 903 JE T12D YES
002998 402F 32D6 00CA 904 CWI X'00CA',IOMOD+4 LARGE FILE?
0029A0 100B 905 JE T12F YES
0029A2 6802 3314 906 B \$ERR\$ INVALID ID, TU RESULTS NG
0029A4 4A40 907 T12A TBTS (R2,0) VTL WITH FIXED HEADS
* YES *
0029A6 6802 3364 909+T12E B \$CONC RETURN TO MDI CONTROLLER
910 *****
911 *
912 T12B TBTS (R2,1) DUTCHESS WITH FIXED HEADS
913 J T12E EXIT
914 T12C TBTS (R2,2) VTL NO FIXED HEADS
915 J T12E EXIT
916 T12D TBTS (R2,3) DUTCHESS NO FIXED HEADS
917 J T12E EXIT
918 T12F TBTS (R2,4) LARGE FILE
919 J T12E EXIT
920 *
922 * COPY T7838 29DEC76 *
923 T7838 TUIT S16E
924 *****
925 *
926 * TEST UNIT *
927 *
928 * T78S16 READ ID TEST LOOP 12/01/76 *
929 *
930 * PURPOSE *
931 *
932 * FUNCTION: *
933 *
934 * . SELECT HEAD FROM MDI *
935 * . READ ID SECTOR #30 *
936 * . LOOP UNTIL CE INPUTS ANSWER TO MAP QUESTION. *
937 *
938 *
939 * CALLING SEQUENCE *
940 *
941 * PROGRAM PASSES STATUS OF ALL LINES IN FOLLOWING FORMAT: *
942 * . NO STATUS PASSED BACK TO MDI *
943 *
944 * EXITS NORMAL *
945 * . HDI TERMINATES LOOP *
946 *
947 * EXITS ERROR *
948 * . NONE *
949 *
950 * RETURN CONTROL *
951 *
952 * B TURTN* RETURN TO MDI SUPERVISOR *
953 *
954 *****
955 *T7838 MVW R7 TURTN SAVE RETURN ADDRESS
956 * MVWI X'7838',STUID SAVE TU ID FOR DISPLAY
957 * MVA OPTN1,R4 SET UP POINTER ADRS IN R4
958 * BAL \$CONC,R6 CLEAR DEV DEP STG AND CONNECT I/O BL
959 * DC A(S16E) ERROR ADRS FOR INVALID PREP
960 *
961 * MVWI 0,SKDCB+2 SETUP SEEK NO-OP (HEAD SELECT)
962 * MVW TUPARM1*,SKDCB+8 SELECT HEAD FROM MDI
963 * BAL \$SEEK,R6 SEEK
964 * DC A(S16E) ERROR-EXIT
965 * TS16L MVWI X'200A',RSDCB READ SECTOR ID CONTROL WORD
966 * MVWI 0,RSDCB+4 LOAD DCB WITH PHY SEC #0 (LG 30)
967 * BAL \$RDID,R6 READ SECTOR ID
968 * DC A(S16E) ERROR-EXIT
969 * TUIT \$ERR\$ EXIT
970 * T12E B \$CONC RETURN TO MDI CONTROLLER
971 *****
972 *
973 *
974 *
975 * COPY T7850 01DEC76 *
976 * T7850 TUIT \$ERR\$ *
977 *****
978 *
979 * TEST UNIT *
980 *
981 * TU50 READ ID TEST 1/07/77 *
982 *
983 * PURPOSE *
984 *
985 *
986 * FUNCTION: *
987 *
988 * . PROGRAM INITIALIZES ATTACHMENT. *
989 * . RECALIBRATE *
990 * . READ ID'S ON CYL 2 AND CYL 3 PER PARM 162 (PARM1 MUST BE ZERO) *
991 * . COMPARE ID'S READ WITH EXPECTED ID'S *
992 * . STORE ID COMPARE RESULTS FOR PASS 1 *
993 * . REWIND ALL ID'S ON TRACK 2 AND TRACK 3 *
994 * . COMPARE ID'S READ WITH EXPECTED ID-COMPARE ERROR CTN RESULTS *
995 * . FROM PASS 1 FOR CONSISTENCY *
996 * . STORE THREE INFO BYTES FOR MDI *
997 *
998 *
999 * CALLING SEQUENCE *
1000 *
1001 * PROGRAM PASSES STATUS OF ALL LINES IN FOLLOWING FORMAT: *
1002 * . TURESUL BIT 0----NOT USED *
1003 * . TURESUL BIT 1----UNSAFE *
1004 * . TURESUL BIT 2----NOT USED *
1005 * . TURESUL BIT 3----NOT USED *

| LOCTR | OBJECT TEXT | STMT | SOURCE STATEMENT | COPYRIGHT IBM CORP 1976 |
|--------|----------------|------|--|-------------------------|
| 1006+* | | | TURESUL BIT 4----NOT USED | |
| 1007+* | | | TURESUL BIT 5----NOT USED | |
| 1008+* | | | TURESUL BIT 6----NO RECORD FOUND | |
| 1009+* | | | TURESUL BIT 7----SYNC CHECK OR FILE DATA CHECK | |
| 1010+* | | | TURESUL BIT 8----ATTACHMENT BUFFER PARITY CHECK | |
| 1011+* | | | TURESUL BIT 9----NOT USED | |
| 1012+* | | | TURESUL BIT 10----ERROR OTHER THAN SYNC OR FILE DATA CHECK | |
| 1013+* | | | TURESUL BIT 11----FAILURES NOT CONSISTENT | |
| 1014+* | | | TURESUL BIT 12---ERRORS ON READ ID - HEAD 0 | |
| 1015+* | | | TURESUL BIT 13---SOLID FAILURE HEAD 0 - READ ID | |
| 1016+* | | | TURESUL BIT 14---ERRORS ON READ ID - HEAD 1 | |
| 1017+* | | | TURESUL BIT 15---SOLID FAILURE HEAD 1 - READ ID | |
| 1018+* | | | TURESUL BIT 16---SOLID FAILURE HEAD 0 (ID MISCOMPARE) | |
| 1019+* | | | TURESUL BIT 17---SOLID FAILURE HEAD 1 (ID MISCOMPARE) | |
| 1020+* | | | TURESUL BIT 18---MISCOMPARES ON HEAD 0 | |
| 1021+* | | | TURESUL BIT 19---MISCOMPARES ON HEAD 1 | |
| 1022+* | | | TURESUL BIT 20---INTERRUPT | |
| 1023+* | | | TURESUL BIT 21---PECAL | |
| 1024+* | | | TURESUL BIT 22---SEEK | |
| 1025+* | | | TURESUL BIT 23---NOT USED | |
| 1026+* | | | TURESUL BITS 24-31 NOT USED | |
| 1027+* | | | TURESUL BITS 32-47 CS STATS FOR FAILING OP | |
| 1028+* | | | EXITS NORMAL | |
| 1029+* | | | RETURNS TO MDI SUPERVISOR WHEN DONE. | |
| 1030+* | | | EXITS ERROR | |
| 1031+* | | | RETURNS TO MDI SUPERVISOR. | |
| 1032+* | | | RETURN CONTROL | |
| 1033+* | | | B TURTN* RETURN TO MDI SUPERVISOR | |
| 1034+* | | | B TURTN* RETURN TO MDI SUPERVISOR | |
| 1035+* | | | B TURTN* RETURN TO MDI SUPERVISOR | |
| 1036+* | | | B TURTN* RETURN TO MDI SUPERVISOR | |
| 1037+* | | | B TURTN* RETURN TO MDI SUPERVISOR | |
| 1038+* | | | B TURTN* RETURN TO MDI SUPERVISOR | |
| 1039+* | | | B TURTN* RETURN TO MDI SUPERVISOR | |
| 1040+* | | | B TURTN* RETURN TO MDI SUPERVISOR | |
| 1041+* | | | B TURTN* RETURN TO MDI SUPERVISOR | |
| 1042+* | | | B TURTN* RETURN TO MDI SUPERVISOR | |
| 1043+* | | | B TURTN* RETURN TO MDI SUPERVISOR | |
| 1044+* | | | B TURTN* RETURN TO MDI SUPERVISOR | |
| 1045+* | | | B TURTN* RETURN TO MDI SUPERVISOR | |
| 0029F6 | 6F0D 2940 | | MVW R7,TURTN SAVE RETURN ADDRESS | |
| 0029FA | 4020 2908 | 7850 | MVWI X'7850',STUID SAVE TU ID FOR DISPLAY | |
| 002A00 | 4424 2902 | | MVA OPTR1,R4 SET UP POINTER ADRS IN R4 | |
| 002A04 | 6E03 32E0 | | BAL \$CONC,R6 CLEAR DEV DEP STG AND CONNECT I/O BL | |
| 002A08 | 3314 | | DC A(\$ERR\$) EFPOR ADPS FOR INVALID PREP | |
| 002A0A | C020 0232 | | MVB CPUID,R0 DETERMINE TYPE OF PROCESSOR | |
| 002A0E | F025 | | CBI 37,R0 * | |
| 002A10 | 1807 | | JNE T50T JUMP IF NOT 4955 | |
| 002A12 | 4020 2A88 254C | | MVWI X'254C',T50T1+2 LOAD TIME CONSTANT FOR 2 SEC | |
| 002A18 | 4020 2B60 254C | | MVWI X'254C',T50T3+2 LOAD TIME CONSTANT FOR 2 SEC | |
| 002A1E | 5006 | | J T50T2 | |
| 002A20 | 4020 2A88 0C0E | | MVWI X'0C0E',T50T1+2 (4953) LOAD TIME CONS FOR 2 SEC | |
| 002A26 | 4020 2B60 0C0E | | MVWI X'0C0E',T50T3+2 LOAD TIME CONSTANT FOR 2 SEC | |
| 002A2C | 4020 2FE6 0000 | | MVWI 0,PASS1 INIT PASS COUNTER | |
| 002A32 | 4C9C | | TBTR (R4,R6) INIT CYL 2 FLAG | |
| 002A34 | 4020 2FF4 0000 | | MVWI 0,HDOSV INIT HEAD 0 SAVE COMP ERR CTR | |
| 002A38 | 4020 2FF6 0000 | | MVWI 0,HDSV INIT HEAD 1 SAVE COMP ERR CTR | |
| 002A40 | 4020 2FF8 0000 | | MVWI 0,EPOSV INIT HEAD 0 SAVE ERR COUNTER | |
| 002A46 | 4020 2FFA 0000 | | MVWI 0,ERISV INIT HEAD 1 SAVE ERR COUNTER | |
| 002A4C | CA25 18C8 | | MVWZ TURESUL,R2 CLEAR RESULTS WORD | |
| 002A50 | CA25 18CA | | MVWZ TURESUL+2,R2 CLEAR RESULTS WORD | |
| 002A54 | CA25 18CC | | MVWZ TURESUL+4,R2 CLEAR RESULTS WORD 2 | |
| 002A58 | 4224 18C8 | | MVA TURESUL,R2 ADDRESS OF RESULTS | |
| 002A5C | 4020 2FE8 0000 | | MVWI 0,HEAD0 INIT HEAD ZERO MISCOMPARE COUNTER | |
| 002A62 | 4020 2FEA 0000 | | MVWI 0,HEAD1 INIT HEAD ONE MISCOMPARE COUNTER | |
| 002A68 | 4020 2FEC 0078 | | MVWI 120,GDSE0 INIT GOOD SECTOR EQUAL 120 | |
| 002A6E | 4020 2FEE 0078 | | MVWI 120,GDSE1 INIT GOOD SECTOR EQUAL 120 | |
| 002A74 | 4020 2FF0 0000 | | MVWI 0,EFP1 INIT HEAD 0 EFPOR COUNTER | |
| 002A7A | 4020 2FF2 0000 | | MVWI 0,EFP1 INIT HEAD 1 EFPOR COUNTER | |
| 002A80 | 4724 32CC | | MVA IOBLK,R7 SETUP IOBLK | |
| 002A84 | 6008 | | SVC RESET ISSUE IO RESET | |
| 002A86 | 4024 0000 | | MVWI X'0000',R0 TIME OUT 2 SEC | |
| 002A8A | 6002 | | SVC IDLE * | |
| 002A8C | B8FE | | JCT T750,R0 RECALIBRATE | |
| 002A8E | 6E03 3106 | | BAL \$RECL,R6 EFPOR | |
| 002A92 | 3314 | | DC A(\$ERR\$) INTERRUPT ERROR? | |
| 002A94 | 4CA1 | | TBTR (R4,ER) YES | |
| 002A96 | 6A00 2CB6 | | BON T50AA SEEK CONTROL WORD | |
| 002A9A | 4020 2F02 0005 | | MVWI 5,SKDCB SEEK TO CYL 2 | |
| 002AA0 | 4020 2F04 0002 | | MVWI 7,SKDCB+2 SELECT HEAD (PARM1) | |
| 002AA6 | 8038 189A 2F0A | | MVB TUPARM1*,SKDCB+8 * | |
| 002AAC | 6E03 30FE | | BAL \$SEK,R6 * | |
| 002AB0 | 3314 | | DC A(\$ERR\$) INTERRUPT EFPOR? | |
| 002AB2 | 4CA1 | | TBTR (R4,ER) YES | |
| 002AB4 | 6A00 2CC2 | | BON T50BB RD SECT ID CONTROL WORD | |
| 002AB8 | 4020 2EE2 200A | | MVWI X'200A',RSDCB SET UP LOG SECT# TO ZERO | |
| 002ABE | 4020 2F90 0000 | | MVWI 0,LGSEC CONVERT SECT # FROM LOGICAL TO PHYS | |
| 002AC4 | 6E03 30AC | | BAL CONVTR,P6 LOAD DCB | |
| 002AC8 | 8028 2F93 2EE6 | | MVB PHYSC+1,RSDCB+4 READ ID SUBROUTINE | |
| 002ACE | 6E03 2C3C | | BAL RDID,R6 DID WE READ AN ID INTO STORAGE? | |
| 002AD2 | 402F 2910 FFFF | | CWI X'FFFF',SCTID NC-FORCE MISCOMPARE COUNT | |
| 002AD8 | 1012 | | JE T50J FLAG ZERO ? | |
| 002ADA | 8028 2F72 2911 | | CB ZER00,SCTID+1 FLAG NOT ZERO | |
| 002AE0 | 6801 2C9A | | BNE T50A COMPARE SECT # TO EXPECTED # | |
| 002AE4 | 802B 2F91 2915 | | CB LGSEC+1,SCTID+5 NO - MISCOMPARE | |
| 002AEA | 1809 | | JNE T50J CYL# COMPAPE | |
| 002AEC | 882B 2F04 2912 | | CW SKDCB+2,SCTID+2 NO | |
| 002AF2 | 1805 | | JNE T50J HEAD# COMPAPE | |
| 002AF4 | 802B 2F0A 2914 | | CB SKDCB+8,SCTID+4 HEAD# COMPAPE | |
| 002AFA | 1801 | | JNE T50J | |
| 002AFC | 500B | | J T50B | |
| 002AFE | 802B 2F72 2F0A | | CB ZER00,SKDCB+8 HEAD 0 ? | |
| 002B04 | 1004 | | CB T50C YES | |
| 002B06 | 4020 2FEA 0001 | | MVWI 1,HEAD1 TNC HEAD 1 COUNTER | |
| 002B08 | 5003 | | J T50B | |
| 002B0E | 4029 2FE8 0001 | | MVWI 1,HEAD0 INC HEAD 0 COUNTER | |
| 002B14 | 402F 2F90 003B | | CWI 59,LGSEC 60 SECTORS READ ? | |
| 002B1A | 6800 2B26 | | BE T50D YES | |
| 002B1E | 4029 2F90 0001 | | MVWI 1,LGSEC INC SECT # | |
| 002B24 | 50CF | | J T50E | |
| 002B26 | 802B 2F72 2F0A | | CB ZER00,SKDCB+8 HEAD 0 | |
| 002B2C | 1813 | | JNE T50F NO | |
| 002B2E | 8028 2F05 2F0B | | MVB SKDCB+3,SKDCB+9 SAVE DIFFERENCE | |

| LOCTR | OBJECT TEXT | STMT | SOURCE STATEMENT | COPYRIGHT IBM CORP 1976 |
|--------|----------------|------|---|-------------------------|
| 002B34 | 4020 2F04 0000 | 1120 | MVWI 0,SKDCB+2 NO-OP | |
| 002B3A | 8038 189C 2F0A | 1121 | MVB TUPARM2*,SKDCB+8 SELECT HEAD (PARM2) | |
| 002B40 | 6E03 30FE | 1122 | BAL \$SEK,R6 SELECT HEAD | |
| 002B44 | 3314 | 1123 | DC A(\$ERR\$) | |
| 002B46 | 4CA1 | 1124 | TBTR (R4,ER) INTERRUPT EFPOR? | |
| 002B48 | 6A00 2CC2 | 1125 | BON T50BB ERROR | |
| 002B4C | 8028 2F0B 2F05 | 1126 | MVB SKDCB+9,SKDCB+3 RESTORE DIFFERENCE IN SEEK DCB | |
| 002B54 | 4C9C | 1127 | T50F TBTR (R4,R6) READ ID WITH HEAD ONE | |
| 002B56 | 1218 | 1129 | JON T50H CYL 2 & 3 READ? | |
| 002B58 | 4724 32CC | 1130 | MVA IOBLK,R7 YES | |
| 002B5C | 6008 | 1131 | SVC RESET DEVICE PESET | |
| 002B5E | 4024 0000 | 1132 | T50T3 MVWI X'0000',P0 * | |
| 002B62 | 6002 | 1133 | TTT5 SVC IDLE | |
| 002B64 | B8FE | 1134 | JCT TTT5,R0 * | |
| 002B66 | 4C5C | 1135 | TBTS (R4,R6) SET CYL 3 FLAG ON | |
| 002B68 | 4020 2F04 0001 | 1136 | MVWI 1,SKDCB+2 FWD SEEK TO TRACK 3 | |
| 002B6E | 8038 189A 2F0A | 1137 | MVB TUPARM1*,SKDCB+8 SELECT HEAD 0 (PARM1) | |
| 002B74 | 6E03 30FE | 1138 | BAL \$SEK,R6 SEEK TO CYL 3 | |
| 002B78 | 3314 | 1139 | DC A(\$ERR\$) | |
| 002B7A | 4CA1 | 1140 | TBTR (R4,ER) ANY ERRORS | |
| 002B7C | 6A00 2CC2 | 1141 | BON T50BB ERROR | |
| 002B80 | 4020 2F04 0003 | 1142 | MVWI 3,SKDCB+2 SET UP FOR CYL 3 | |
| 002B86 | 509B | 1143 | J T50G LOOP | |
| 002B88 | 402F 2FE6 0001 | 1144 | T50H CWI 1,PASS1 PASS - TWO ? | |
| 002B8E | 1045 | 1145 | JE T50I YES | |
| 002B90 | 402F 2FF0 0000 | 1146 | CWI 0,ER00 HEAD 0 READ EFPOR CTR ? | |
| 002B96 | 1006 | 1147 | JE T50L | |
| 002B98 | 4A4C | 1148 | TBTS (R2,12) SET ERRORS ON RD ID HEAD 0 | |
| 002B9A | 882B 2FEC 2FF0 | 1149 | CW GDSE0,ER00 HEAD 0 RD EFPORS = GOOD SECT CTR ? | |
| 002BA0 | 1801 | 1150 | JNE T50L NO | |
| 002BA2 | 4A4D | 1151 | TBTS (R2,13) SOLID FAILURE HEAD 0 | |
| 002BA4 | 402F 2FE8 0000 | 1152 | T50L CWI 0,HEAD0 HEAD 0 MISCOMPARE CTR = 0 | |
| 002BA8 | 1006 | 1153 | JE T50M | |
| 002BAC | 4A52 | 1154 | TBTS (R2,18) MISCOMPARES ON HEAD 0 | |
| 002BAE | 882B 2FEC 2FE8 | 1155 | CW GDSE0,HEAD0 MISCOMPARES ON HD 0 = GOOD SECT CTR | |
| 002BB4 | 1801 | 1156 | JNE T50M | |
| 002BB6 | 4A50 | 1157 | TBTS (R2,16) SOLID FAILURES ON HEAD 0 | |
| 002BB8 | 882B 2FE8 2FF4 | 1158 | T50M MVW HEAD0,HDOSV SAVE MISCOMPARE | |
| 002BBE | 882B 2FF0 2FF8 | 1159 | MVW ER00,EROSV SAVE RD ERRORS | |
| 002BC4 | 402F 2FF2 0000 | 1160 | CWI 0,ER01 HEAD 1 RD ERRORS = 0 | |
| 002BCA | 1006 | 1161 | JE T50N | |
| 002BCC | 4A52 | 1162 | TBTS (R2,14) ERRORS ON RD ID HEAD 1 | |
| 002BC8 | 882B 2FEE 2FF2 | 1163 | CW GDSE1,ER01 HD 1 RD ERRORS = GOOD SECT CTR | |
| 002BD4 | 1801 | 1164 | JNE T50N NO | |
| 002BD6 | 4A4F | 1165 | TBTS (R2,15) SOLID FAILURES HEAD 1 | |
| 002BD8 | 402F 2FEA 0000 | 1166 | T50N CWI 0,HEAD1 HEAD 1 MISCOMPARE CTR = 0 | |
| 002BDE | 1006 | 1167 | JE T50F | |
| 002BE0 | 4A53 | 1168 | TBTS (R2,19) MISCOMPARE ON HEAD 1 | |
| 002BE2 | 882B 2FEE 2FEA | 1169 | CW GDSE1,HEAD1 MISCOMPARES ON HD1 = GOOD SECT CTR | |
| 002BE8 | 1801 | 1170 | JNE T50F | |
| 002BEA | 4A51 | 1171 | TBTS (R2,17) SOLID FAILURES HD1 (ID MISCOMPARES) | |
| 002BEC | 882B 2FEA 2FF6 | 1172 | T50F MVW HEAD1,HD1SV SAVE MISCOMPARE CTR | |
| 002BF2 | 882B 2FF2 2FFA | 1173 | MVW ER01,ER1SV | |
| 002BF8 | 402F 2FE8 0000 | 1174 | CWI 0,HEAD0 MISCOMPARE CTR FOR HD0 = 0 | |
| 002BF4 | 1006 | 1175 | JE T50G | |
| 002C06 | 4028 2FEA 0000 | 1176 | CW 0,HEAD1 MISCOMPARE CTR FOR HD1 = 0 | |
| 002C08 | 1804 2F72 18C9 | 1177 | JNE T50S | |
| 002C0C | 802B 2F72 18C9 | 1178 | CB ZER00,TURESUL+1 MDI BYTE 2 = 0 | |
| 002C10 | 105B | 1179 | JE T50T | |
| 002C16 | 4029 2FE6 0001 | 1180 | T50S AWI 1,PASS1 FIXIT | |
| 002C1A | 882B 2FF8 2FF0 | 1181 | B AWI 1,PASS1 INC PASS CTR | |
| 002C20 | 1001 | 1182 | * B T50U GO EXECUTE PASS 2 | |
| 002C24 | 4A4B | 1183 | * T50T CW ER0SV,ER00 HD 0 CTR PASS1 = HD0 CTR PASS2 ? | |
| 002C28 | 882B 2FF4 2FE8 | 1184 | T50H TBTS (R2,11) YES | |
| 002C2C | 1007 | 1185 | JE T50V FAILURES NOT CONSISTENT | |
| 002C30 | 4A4B | 1186 | TBTS (R2,11) HD0 CTR PASS1 = HD0 CTR PASS2 ? | |
| 002C34 | 882B 2FFA 2FF2 | 1187 | T50X CW ER1SV,ER01 YES | |
| 002C38 | 1001 | 1188 | JE T50Y FAILURES NOT CONSISTENT | |
| 002C3C | 4A43 | 1189 | TBTS (R2,11) HD1 CTRS PASS1 = HD0 CTRS PASS2 ? | |
| 002C40 | 6802 2CC6 | 1190 | T50Y B T50T FAILURES NOT CONSISTENT | |
| 002C44 | 6E0D 2C92 | 1191 | * RDID MVB R6,T500+2 SETUP RETURN ADDRESS | |
| 002C48 | 6E03 310E | 1192 | BAL \$RDID,R6 READ ID | |
| 002C4C | 3314 | 1193 | DC A(\$ERR\$) EFPOR | |
| 002C50 | 4CA1 | 1194 | TBTR (R4,ER) YES | |
| 002C54 | 1023 | 1195 | JOFF T50Z | |
| 002C58 | 4C49 | 1196 | TBTR (R4,CSA) CYCLE STEAL STATS ? | |
| 002C5C | 6800 3314 | 1200 | MVW \$ERR\$ EFPOR | |
| 002C60 | 8828 292A 3000 | 1202 | MVW CSBUF+2,STATS GET CS STATS | |
| 002C64 | 4524 3000 | 1203 | MVA STATS,R5 | |
| 002C68 | 4D83 | 1204 | TBTR (R5,3) NO RECORD FOUND | |
| 002C6C | 1218 | 1205 | JON T501 YES | |
| 002C70 | 4D87 | 1206 | TBTP (R5,7) UNSAFE | |
| 002C74 | 1219 | 1207 | JON T502 YES | |
| 002C78 | 4D81 | 1208 | TBTR (R5,1) SYNC CHECK | |
| 002C7C | 1207 | 1209 | JON T503 YES | |
| 002C80 | 4D88 | 1210 | TBTP (R5,8) FILE DATA OK ? | |
| 002C84 | 1205 | 1211 | JON T504 YES | |
| 002C88 | 4D8E | 1212 | TBTP (R5,14) BUFFER PARITY OK | |
| 002C8C | 1001 | 1213 | JOFF T504 NO | |
| 002C90 | 4A48 | 1214 | TBTS (R2,8) ATTACH BUFFER PARITY | |
| 002C94 | 4A4A | 1215 | T504 TBTS (R2,10) EFPOR OTHER THAN SYNC ON FILE D CK | |
| 002C98 | 5001 | 1216 | J T505 | |
| 002CA0 | 4A47 | 1217 | T503 TBTS (R2,7) SYNC OR FILE DATA CHECK | |
| 002CA4 | 402F 2F0A 0000 | 1218 | T505 CWI 0,SKDCB+8 HEAD 0 | |
| 002CA8 | 1004 | 1219 | JE T506 YES | |
| 002CAC | 4029 2FF2 0001 | 1220 | AWI 1,ER01 INC HD1 READ ERROR CTR | |
| 002CAE | 5005 | 1221 | J T507 RETURN | |
| 002C96 | 4029 2FF0 0001 | 1222 | AWI 1,ER00 INC HD0 READ ERROR CTR | |
| 002C9C | 5001 | 1223 | J T508 | |
| 002C9E | 4A46 | 1224 | T501 TBTS (R2,6) NO RECORD FOUND | |
| 002CA2 | 6802 0000 | 1225 | T500 B *-* | |
| 002CA6 | 4A41 | 1226 | * T502 TBTS (R2,1) UNSAFE | |
| 002CA8 | 6802 2CC6 | 1227 | B T504 EXIT | |
| 002CAE | 402F 2F0A 0000 | 1229 | T50A CWI 0,SKDCB+8 USING HEAD 0 | |
| 002CA0 | 1805 | 1231 | JNE T507 NO | |
| 002CA2 | 402E 2FEC 0001 | 1232 | SWI 1,GDSE0 DEC GOOD SECT CTR (HEAD0 | |

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LOCTR OBJECT TEXT      STMT SOURCE STATEMENT      COPYRIGHT IBM COPP 1976
002CAC 402E 2FEE 0001    1234 T507 SWI 1,GDSE1      DEC GOOD SECT CTR (HEAD1)
002CB2 6802 2B14          1235 B T50B                    RECAL
002CB6 4A55              1236 T50AA TBTS (R2,21)    RECAL
002CB8 4A54              1237 T50CC TBTS (R2,20)    INTEPRUPT
002CBA 8828 292A 18CC     1238 J CSBUF+2,TUPESUL+4
002CC0 5002              1239 J T50T                    SEEK
002CC2 4A56              1240 T50BB TBTS (R2,22)    EXIT
002CC4 50F9              1241 J T50CC                    RETURN TO MDI CONTROLLER
002CC6 6802 3364        1242 T50T TXIT
1243+T50T B $CONX
1244+*****
1245 *
1247 COPY T7851          01DEC76
1248 T7851 TUIT $ERR$
1249+*****12/01/76
1250+*****06FEB76**
1251** TEST UNIT
1252**
1253** T5U1 RRAD ID TEST (FIXED HEADS)
1254**
1255** PURPOSE
1256**
1257** FUNCTION:
1258**
1259** PROGRAM INITIALIZES ATTACHMENT.
1260** RECALIBRATE
1261** READ ID'S ON FIXED HEAD TRACKS, HEAD SPEC. BY 'PARM' IN MDI
1262** COMPARE ID'S READ WITH EXPECTED ID'S
1263** STORE ID COMPARE RESULTS FOR PASS 1
1264** REPEAT ALL ID'S (PASS2)
1265** COMPARE ID'S READ WITH EXPECTED ID-COMPARE ERROR CTN RESULTS
1266** FROM PASS 1 FOR CONSISTENCY
1267** STORE THREE INFO BYTES FOR MDI
1268**
1269**
1270** CALLING SEQUENCE
1271**
1272** PPOGFM PASSES STATUS OF ALL LINES IN FOLLOWING FORMAT:
1273** . TURESUL BIT 0----NOT USED
1274** . TURESUL BIT 1----UNSAFE
1275** . TURESUL BIT 2----NOT USED
1276** . TURESUL BIT 3----NOT USED
1277**
1278** . TURESUL BIT 4----NOT USED
1279** . TURESUL BIT 5----NOT USED
1280** . TURESUL BIT 6----NO RECORD FOUND
1281** . TURESUL BIT 7----SYNC CHECK OR FILE DATA CHECK
1282**
1283** . TURESUL BIT 8----ATTACHMENT BUFFER PARITY CHECK
1284** . TURESUL BIT 9----NOT USED
1285** . TURESUL BIT 10---ERROR OTHER THAN SYNC OR FILE DATA CHECK
1286** . TURESUL BIT 11---FAILURES NOT CONSISTENT
1287**
1288** . TURESUL BIT 12---READ ERRORS (CHECKS DETECTED)
1289** . TURESUL BIT 13---SOLID READ CHECKS
1290** . TURESUL BIT 14---NOT USED
1291** . TURESUL BIT 15---NOT USED
1292**
1293** . TURESUL BIT 16---SOLID FAILURE (ID MISCOMPARE)
1294** . TURESUL BIT 17---NOT USED
1295** . TURESUL BIT 18---MISCOMPARES DETECTED
1296** . TURESUL BIT 19---INTERRUPT
1297**
1298** . TURESUL BIT 20---RECAL
1299** . TURESUL BIT 21---SEEK
1300** . TURESUL BIT 22---NOT USED
1301** . TURESUL BIT 23---NOT USED
1302**
1303** . TURESUL BITS 24-31 NOT USED
1304** . TURESUL BITS 32-47 CS STATS FOR FAILING OP
1305**
1306** EXITS NORMAL
1307** . RETURNS TO MDI SUPERVISOR WHEN DONE.
1308**
1309** EXITS ERROR
1310** . RETURNS TO MDI SUPERVISOR.
1311**
1312** RETURN CONTROL
1313**
1314** B TUPTN*          RETURN TO MDI SUPERVISOR
1315**
1316+*****
1317+T7851 MVW R7,TURTN    SAVE RETURN ADDRESS
1318+ MVWI X'7851',STUID    SAVE TU ID FOR DISPLAY
1319+ MVA OPTN1,R4          SET UP POINTER ADRS IN R4
1320+ BAL $CONC,R6          CLEAR DEV DEP STG AND CONNECT I/O BL
1321+ DC A($ERR$)          ERROR ADRS FOR INVALID PREP
1322+**
1323+ MVW CPUID,R0          DETERMINE TYPE OF PROCESSOR
1324+ CBI 37,PO            *
1325+ JNE T51TC            JUMP IF NOT 4955
1326+ MVWI X'254C',T51T1+2 LOAD TIME CONSTANT FOR 2 SEC
1327+ J T51T2
1328+ T51TC MVWI X'0C0E',T51T1+2 (4953) LOAD TIME CONS FOR 2 SEC
1329+ T51T2 MVWZ TURESUL,R2    CLEAR RESULTS WORD
1330+ MVWZ TURESUL+2,R2    CLEAR RESULTS WORD
1331+ MVWZ TURESUL+4,R2    CLEAR PFSULTS WORD
1332+ MVA TURESUL,R2        ADDRESS OF RESULTS
1333+ MVA IOBLK,R7          READ DEVICE ID
1334+ SVC RTD              TEST FOR FIXED HEADS
1335+ SWI X'0008',IOMOD+4  *
1336+ JON T51YY            FIXED HEADS INSTALLED
1337+ B T51T                NO FIXED HEADS INSTALLED -EXIT
1338+ T51YY MVWI 0,PASS1    INIT PASS COUNTER
1339+ MVWI 0,HDSV           INIT HEAD 0 SAVE COMP ERR CTR
1340+ MVWI 0,EROSV          INIT HEAD 0 SAVE EPR COUNTER
1341+ T51U MVWI 0,HEAD0    INIT HEAD ZERO MISCOMPARE COUNTER
1342+ MVWI 60,GDSE0         INIT GOOD SECTOR EQUAL 60
1343+ MVWI 0,EPO0           INIT HEAD 0 ERROR COUNTER
1344+ MVA IOBLK,R7          SETUP IOBLK
1345+ SVC RST              ISSUE IO RESET
1346+ T51T1 MVWI X'0000',R0    TIME OUT 2 SEC
1347+ T511 SVC IDLE        *
1348+ JCT T751,R0          *

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LOCTR OBJECT TEXT      STMT SOURCE STATEMENT      COPYRIGHT IBM COPP 1976
002D48 6E03 3106          1349 BAL $RRECL,R6          RECALIFATE
002D4C 3314              1350 DC A($ERR$)            EPROR
002D4E 4CA1              1351 TBTR (R4,ER)          INTERRUPT EPROR?
002D50 6A00 2E84          1352 BON T51AA              YES
002D54 4020 2F02 0005    1353 MVWI 5,SKDCB           SEEK CONTROL WORD
002D5A 8038 189A 2FOA    1354 MVW TUPAFM1*,SKDCB+8  SELECT HEAD FROM MDI PARM
002D60 4020 2F04 012E    1355 MVWI 302,SKDCB+2      SEEK TO CE TRACK
002D66 6E03 30FE          1356 BAL $SEEK,R6           *
002D6A 3314              1357 DC A($ERR$)
002D6C 4CA1              1358 TBTR (R4,ER)          INTEPRUPT EPROR?
002D6E 6A00 2E90          1359 BON T51BB              YES
002D72 4020 2EE2 200A    1360 MVWI X'200A',RSDCB     RD SECT ID CONTROL WORD
002D78 4020 2F90 0000    1361 T51G MVWI 0,LGSEC       SET UP LOG SECT# TO ZERO
002D7E 6E03 30AC          1362 T51E BAL CONVNT,R6        CONVERT SECT # FROM LOGICAL TO PHYS
002D82 8028 2F93 2EE6    1363 MVW PHYSC+1,RSDCB+4   LOAD DCB
002D88 6E03 2E2C          1364 BAL RDID1,R6          READ ID SUBROUTINE
002D8C 802B 2F72 2911    1365 CE ZERO0,SCTID+1     FLAG ZERO ?
002D92 6801 2E7A          1366 BNE T51A              FLAG NOT ZERO
002D96 802E 2F91 2915    1367 CB LGSEC+1,SCTID+5    COMPARE SECT # TO EXPECTED #
002D9C 1805              1368 JNE T51J              NO - MISCOMPARE
002D9E 802E 2FOA 2914    1369 CB SKDCB+8,SCTID+4   HEAD# COMPARE
002DA4 1801              1370 JNE T51J
002DA6 5003              1371 J T51B
002DA8 4029 2FE8 0001    1372 T51J AWI 1,HEAD0     INC HEAD 0 COUNTER
002DAE 402F 2F90 003B    1373 T51B CWI 59,LGSEC      60 SECTORS READ ?
002DB4 1004              1374 JE T51H                YES
002DB6 4029 2F90 0001    1375 AWI 1,LGSEC          INC SECT #
002DBC 50E0              1376 J T51E
002DBE 402F 2FE6 0001    1377 T51H CWI 1,PASS1     PASS - TWO ?
002DC4 1027              1378 JE T51J                YES
002DC6 402F 2FF0 0000    1379 CWI 0,ERO0           HEAD 0 READ ERROR CTR 0 ?
002DC8 1006              1380 TBTS (R2,12)          SET ERRORS ON RD ID HEAD 0
002DCE 4A4C              1381 JNE T51L              HEAD 0 RD ERRORS = GOOD SECT CTR ?
002DD0 882B 2FEC 2FF0    1382 CW GDSE0,ER00        NO
002DD6 1801              1383 JNE T51L
002DD8 4A4D              1384 TBTS (R2,13)          SOLID FAILURE HEAD 0
002DDA 402F 2FE8 0000    1385 T51L CWI 0,HEAD0     HEAD 0 MISCOMPARE CTR = 0
002DE0 1006              1386 JE T51M
002DE2 4A52              1387 TBTS (R2,18)          MISCOMPARES ON HEAD 0
002DE4 882B 2FEC 2FE8    1388 CW GDSE0,HEAD0       MISCOMPARES ON HD 0 = GOOD SECT CTR
002DEA 1801              1389 JNE T51M
002DEC 4A50              1390 TBTS (R2,16)          SOLID FAILURES ON HEAD 0
002DEE 8828 2FE8 2FF4    1391 T51M MVW HEAD0,HDSV    SAVE MISCOMPARE
002DF0 8828 2FF0 2FF8    1392 MVW ERO0,EROSV       SAVE RD ERRORS
002DFA 402F 2FE8 0000    1393 T51R CWI 0,HEAD0     MISCCMPARE CTR FOR HDO = 0
002E00 1804              1394 JNE T51E              NO
002E02 802B 2F72 18C9    1395 CB ZERO0,TURESUL+1   MDI BYTE 2 = 0
002E08 1045              1396 JE T51T                EXIT
002E0A 4029 2FE6 0001    1397 T51S AWI 1,PASS1    INC PASS CTR
002E10 6802 2D28          1398 B T51U                GO EXECUTE PASS 2
1399 *
1400 *
002E14 882B 2FF8 2FF0    1401 T51I CW EROSV,ER00   HD 0 CTR PASS1 = HDO CTR PASS2 ?
002E1A 1001              1402 JE T51W                YES
002E1C 4A4B              1403 TBTS (R2,11)          FAILURES NOT CONSISTENT
002E1E 882B 2FF4 2FE8    1404 T51W CW HDQSV,HEAD0   HDO CTR PASS1 = HDO CTR PASS2 ?
002E24 1002              1405 JE T51Y                YES
002E26 4A4B              1406 TBTS (R2,11)          FAILURES NOT CONSISTENT
002E28 6802 2E94          1407 T51Y B T51E          EXIT
1408 *
002E2C 6E0D 2E72          1409 RDID1 MVW R6,T510+2   SETUP RETURN ADDRESS
002E30 6E03 310E          1410 BAL $RDID,R6          READ ID
002E34 3314              1411 DC A($ERR$)            ERROR
002E36 4CA1              1412 TBTR (R4,ER)
002E38 101B              1413 JOFF T510              CYCLE STEAL STATS ?
002E3A 4CA9              1414 TBTR (R4,CSA)         RETURN
002E3C 6800              1415 BOPF $ERR$           GET CS STATS
002E3E 8828 292A 3000    1416 MVW CSBUF+2,STATS    NO RECORD FOUND
002E40 8828 292A 3000    1417 HVA STRTS,R5         YES
002E42 4524 3000          1418 TBTR (R5,3)          UNSAFE
002E44 4D83              1419 JON T511              YES
002E46 1210              1420 TBTR (R5,7)          SYNC CHECK
002E48 4D87              1421 JON T512              YES
002E50 1211              1422 TBTR (R5,1)          SYNC CHECK
002E52 4D81              1423 JON T513              YES
002E54 1207              1424 TBTR (R5,8)          FILE DATA OK ?
002E56 4D88              1425 JON T513              YES
002E58 1205              1426 TBTR (R5,14)         BUFFER PARITY OK
002E5A 4D8E              1427 JOFF T514            NO
002E5C 0027              1428 TBTS (R2,8)          ATTACH BUFFER PARITY
002E5E 4A48              1429 T514 TBTS (R2,10)   EPROR OTHER THAN SYNC ON FILE D CK
002E60 4A4A              1430 J T516
002E62 5001              1431 T513 TBTS (R2,7)   SYNC OR FILE DATA CHECK
002E64 4A47              1432 T516 AWI 1,ER00     INC HDO READ ERROR CTR
002E66 4029 2FF0 0001    1433 J T510
002E68 5001              1434 T511 TBTS (R2,6)   NO RECORD FOUND
002E6E 4A46              1435 T510 B *-*          RETURN TO CALLER
002E70 6802 0000          1436 *
1437 *
002E74 4A41              1438 T512 TBTS (R2,1)    UNSAFE
002E76 6802 2E94          1439 B T514                EXIT
002E78 402E 2FEC 0001    1440 T51A SWI 1,GDSE0    DEC GOOD SECT CTR (HEAD0)
002E80 6802 2DAE          1441 B T51B
002E82 4C54              1442 T51AA TBTS (R4,20)  RECAL
002E84 4C53              1443 T51CC TBTS (R4,19)  INTERRUPT
002E86 8828 292A 18CC    1444 MVW CSBUF+2,TURESUL+4
002E88 5002              1445 J T51T                EXIT
002E90 4C55              1446 T51BB TBTS (R4,21) SEEK
002E92 50F9              1447 J T51CC
1448 T51T TXIT          EXIT
1449 T51T B $CONX        RETURN TO MDI CONTROLLER
1450+*****
1451 *
1453 COPY T7872          29DEC76
1454 *****
1455 *T7872
1456 * THIS TU INHIBITS INTERRUPT 12/01/76*
1457 * CALLING ROUTINE LOOPS ON T72A *
1458 *****
1459 T7872 MVW R7,TURTN    SAVE RETURN ADDRESS
1460 MVWI X'0020',IODCB    PREP TO LEVEL 2 WITH THE 'I' BIT OFF
1461 MVA IOBLK,R7
1462 SVC *
1463 J T72B

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LOCTR OBJECT TEXT STMT SOURCE STATEMENT
002EAA 6F0D 2940 1464 T72A MVW P7,TUPTN SAVE RETURN ADDRESS
002EAE 6802 3364 1465 T72B B \$CONX EXIT
1466 *
1468 ** COPY T78DCB 01DEC76
1469 ** (T78DCB)
1470 *****12/1/76*****
1471 *
1472 * DCB TABLES AND DC'S
1473 *
1474 *****
1475 *
1476 ***** DIAGNOSTIC DCB *****
1477 *
1478 DGDCB DC X'2008' DIAGNOSTIC DCB
1479 DC X'0000' NOT USED
1480 DC A(*-*) 0-7 = PHYSICAL SECTOR # MINUS ONE
1481 DC X'0000' NOT USED
1482 DC X'0000' NOT USED
1483 DC A(*-*) CHAINING ADDRESS
1484 DC X'0100' BYTE COUNT
1485 DC A(*-*) DATA ADDRESS
1486 *
1487 *
1488 ***** RECALIPRATE DCB *****
1489 *
1490 CLDCB DC X'0007' RECALIPRATE DCB
1491 DC 7A(*-*)
1492 *
1493 ***** WRITE SECTOR ID **
1494 *
1495 WSDCB DC X'0002' WRITE SECTOR ID CONTROL WORD
1496 DC X'0000' NOT USED
1497 DC A(*-*) 0-7 = PHYSICAL SECTOR # MINUS ONE
1498 DC A(*-*) NOT USED
1499 DC A(*-*) NOT USED
1500 DC A(*-*) CHAIN ADDRESS
1501 DC X'0006' BYTE COUNT
1502 DC A(WRSID) ADDR OF SECTOR ID DATA
1503 ***** READ SECTOR ID DCB *****
1504 *
1505 RSDCB DC X'200A' READ SECTOR ID
1506 DC X'0000' NOT USED
1507 DC X'0000' 0-7 = PHYSICAL SECTOR # MINUS ONE
1508 DC X'0000' NOT USED
1509 DC X'0000' NOT USED
1510 DC X'0000' CHAIN ADDRESS
1511 DC X'0000' BYTE COUNT FOR READ SECTOR ID
1512 DC A(SCTID) SECTOR ID DATA ADDRESS
1513 *
1514 *
1515 ***** READ SECTOR ID IMMEDIATE DCB *****
1516 *
1517 RIDCB DC X'200F' READ SECTOR ID
1518 DC X'0000' NOT USED
1519 DC X'0000' NOT USED
1520 DC X'0000' NOT USED
1521 DC X'0000' NOT USED
1522 DC A(*-*) CHAIN ADDRESS
1523 DC X'0006' BYTE COUNT FOR READ SECTOR ID
1524 DC A(SCTID) SECTOR ID DATA ADDRESS
1525 *
1526 *
1527 ***** SEEK DCB *****
1528 *
1529 SKDCB DC X'0005' SEEK DCB
1530 DC X'0000' BIT 0-3=0;BIT4=DIRECTION;5-15=DIFPER
1531 DC F'0'
1532 DC F'0'
1533 DC X'0000' 0-7 = HEAD:8-15 NOT USED
1534 DC A(*-*) CHAIN ADDRESS
1535 DC F'0' NOT USED
1536 DC F'0' NOT USED
1537 *
1538 ***** CYCLE STEAL STATUS DCB *****
1539 *
1540 CSDCB DC X'2000' CONTROL WORD
1541 DC F'0' NOT USED
1542 DC F'0' NOT USED
1543 DC F'0' NOT USED
1544 DC F'0' NOT USED
1545 DC F'0' NOT USED
1546 DC X'0008' 4 WORDS OF STATS
1547 DC A(CSBUF) ADDRESS OF CYCLE STEAL STATUS DATA
1548 *
1549 ***** WRITE DCB *****
1550 *
1551 WRDCB DC X'0001' WRITE CONTROL WORD
1552 DC F'0' NOT USED
1553 DC X'0000' 0-7=0;8-15 = FLAG BYTE
1554 DC X'0000' SEARCH ARGUMENT CYLINDER
1555 DC X'0000' SEARCH ARGUMENT HEAD-SECTOR
1556 DC A(*-*) CHAIN ADDRESS
1557 DC F'0' BYTE COUNT
1558 DC A(*-*) WRITE DATA ADDRESS
1559 *
1560 ***** VERIFY DCB *****
1561 *
1562 VRDCB DC X'200C' CONTROL WORD
1563 DC F'0' NOT USED
1564 DC X'0000' 0-7=0;8-15 = FLAG BYTE
1565 DC X'0000' CYLINDER
1566 DC X'0000' HEAD - SECTOR
1567 DC A(*-*) CHAIN ADDRESS
1568 DC F'0' BYTE COUNT
1569 DC A(*-*) VERIFY DATA ADDRESS
1570 *
1571 ***** READ DCB *****
1572 *
1573 RDDCB DC X'2009' READ DCB CONTROL WORD
1574 DC F'0' NOT USED
1575 DC X'0000' 0-7=0;8-15 = FLAG BYTE
1576 DC X'0000' SEARCH ARGUMENT CYLINDER
1577 DC X'0101' SEARCH ARGUMENT H-R
1578 DC A(*-*) CHAIN ADDRESS

LOCTR OBJECT TEXT STMT SOURCE STATEMENT
002FAE 0000 1579 DC F'0' BYTE COUNT
002F50 0000 1580 DC A(*-*) READ DATA ADDRESS
1581 *
1582 ***** WRITE SECTOR ID SKEWED *****
1583 *
1584 WKDCB DC X'0003' CONTROL WORD
1585 DC X'0000' NOT USED
1586 DC A(*-*) 0-7 = PHYSICAL SECTOR # MINUS ONE
1587 DC A(*-*) NOT USED
1588 DC A(*-*) NOT USED
1589 DC A(*-*) CHAIN ADDRESS
1590 DC X'0006' BYTE COUNT
1591 DC A(WPSID) ADDR OF SECTOR ID DATA
1592 *
1593 ***** READ SECTOR ID SKEWED *****
1594 *
1595 RKDCB DC X'200B' CONTROL WORD
1596 DC X'0000' NOT USED
1597 DC X'0000' 0-7 = PHYSICAL SECTOR # MINUS ONE
1598 DC X'0000' NOT USED
1599 DC X'0000' NOT USED
1600 DC A(*-*) CHAIN ADDRESS
1601 DC X'0006' BYTE COUNT FOR READ SECTOR ID
1602 DC A(SCTID) SECTOR ID DATA ADDRESS
1603 *
1604 * CONSTANTS AND DEFINED STORAGE LOCATIONS
1605 ZERO DC X'0000' CONSTANT ZERO
1606 ONE DC X'0001' CONSTANT ONE
1607 TIMEOUT DC 2A(*-*) TIMEOUT COUNT
1608 TONE DC X'0000' CONSTANT FOR ADD DOUBLE
1609 DC X'0001' *
1610 COUNT DC F'1280' BYTE COUNT (1280)
1611 DIFF DC A(*-*) SEEK DIFFERENCE
1612 KXX DC A(*-*) WORK WORD INT TO ZERO
1613 BCT DC X'0000' BYTE COUNT
1614 JOB DC A(*-*) WRITE PARAMETER POINTER
1615 JOE DC A(*-*) SAVE LOC FOR PARM LIST ADDRESS
1616 WDATA DC X'DEB6' WRITE DATA
1617 DC X'6BED' *
1618 TABLE DC A(*-*) ADDR OF WRT PAR LIST FOR FORMAT RTNS
1619 LGSEC DC X'0000' LOGICAL SECTOR #
1620 PHYSC DC X'0000' CONVERTED PHYSICAL SEC #
1621 CB29 DC X'1D00' CONSTANT BYTE 29
1622 FIVE9 DC X'3B00' CONSTANT BYTE 59
1623 WRSID DC X'0000' FLAG,CYLINDER (WRT SECTOR ID DATA)
1624 DC X'0000' CYLINDER,HEAD
1625 DC X'0000' LOG SECTOR,NOT USED
1626 CDAT DC X'00FF' INVALID DATA CONSTANT
1627 WSIDT DC X'FF34' WRITE SECTOR ID TEST DATA
1628 DC X'5678' *
1629 DC X'9A00' *
1630 SCST DC X'0000' READ SECTOR ID TEST DATA BUFFER
1631 DC X'0000' *
1632 DC X'0000' *
1633 CTR01 DC X'0000' COUNTER
1634 CTR02 DC X'0000' COUNTER
1635 CTR03 DC X'0000' COUNTER
1636 CTR04 DC X'0000' COUNTER
1637 CTR05 DC X'0000' COUNTER
1638 CTR06 DC X'0000' COUNTER
1639 SAVR3 DC X'0000' SAVE AREA
1640 SAVR5 DC X'0000' SAVE AREA
1641 WR2 DC X'0000' *
1642 SVSEK DC X'0000' *
1643 ICT DC X'0000' *
1644 T56AA DC X'0000' *
1645 T56BB DC X'0000' *
1646 T56CC DC X'0000' *
1647 T56DD DC X'0000' *
1648 T56EE DC X'0000' *
1649 T56FF DC X'0000' *
1650 T56GG DC X'0000' *
1651 T86AA DC X'0000' *
1652 T86BB DC X'0000' *
1653 T86CC DC X'0000' *
1654 T86DD DC X'0000' *
1655 T86EE DC X'0000' *
1656 T86FF DC X'0000' *
1657 T86GG DC X'0000' *
1658 T41D DC X'0000' *
1659 T41P DC X'0000' *
1660 WR1CT DC X'0000' *
1661 CYLOC DC X'0000' *
1662 PASS1 DC A(*-*)
1663 HEAD0 DC A(*-*)
1664 HEAD1 DC A(*-*)
1665 GDSE0 DC A(*-*)
1666 GDSE1 DC A(*-*)
1667 ER00 DC A(*-*)
1668 ER01 DC A(*-*)
1669 HDOSV DC A(*-*)
1670 HD1SV DC A(*-*)
1671 ERQSV DC A(*-*)
1672 ER1SV DC A(*-*)
1673 PATTR DC A(*-*)
1674 CECYL DC A(*-*)
1675 STATS DC A(*-*)
1676 *
1677 * COPY T78DPCIO 01DEC76
1678 * ** (T78DPCIO)
1679 *
1680 * EXECUTE DPC INPUT/OUTPUT COMMANDS
1681 * THIS ROUTINE HAS THE FOLLOWING ENTRIES:
1682 *
1683 *
1684 * 1 BAL CEOP1,R6 CE DIAGNOSTIC 0-1(TURN ON DIAG MODE)
1685 *
1686 * 2 BAL CEOP2,R6 WRITE DIAG CLOCK STEP DATA
1687 *
1688 * 3 BAL SENS0,R6 CE READ SENSE WORD ZERO
1689 *
1690 * 4 BAL SENS1,R6 CE READ SENSE WORD ONE
1691 *
1692 * 5 BAL WRAP,R6 READ DIAGNOSTIC WRAP
1693 *

2/07/77

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
1694 * BXS (R6,2) RETURN
1695 *
1696 * *****
1697 *
1698 * CE DIAGNOSTIC OP2 DATA WORD (CLOCK STEP)
1699 *
1700 * BIT 00 - SET READY
1701 * BIT 01 - RESET READY
1702 * BIT 02 - SET WRITE CLOCK
1703 * BIT 03 - SET FEAD CLOCK
1704 * BIT 04 - INDEX PULSE
1705 * BIT 05 - SECTOR PULSE
1706 * BIT 06 - STANDARD FEAD DATA
1707 * BIT 07 - SPEED PULSE
1708 * BIT 08 - BEHIND HOME
1709 * BIT 09 - SET SEEK COMPLETE
1710 * BIT 10 - RESET SEEK COMPLETE
1711 * BIT 11 - PLO OUT OF SYNC
1712 * BIT 12 - RST RD/WRT CLOCK
1713 * BIT 13 -
1714 * BIT 14 -
1715 * BIT 15 - RESET DIAGNOSTIC MODE
1716 *
1717 * *****
1718 *
1719 *
1720 WRAP MVB R6,LSTIO SAVE ADDRESS OF LAST IO
1721 MVB DEVADD,IDCBRAP+1 LOAD DEVICE ADDRESS IN IDCB
1722 IO IDCBC1 READ SENSE WORD 1
1723 BNCC 7,CCERR CHECK COND CODE
1724 BXS (R6,2) RETURN TO CALLER
1725 *
1726 CEOP1 MVB R6,LSTIO SAVE ADDRESS OF LAST IO
1727 MVB DEVADD,IDCBCE1+1 LOAD DEVICE ADDRESS IN IDCB
1728 IO IDCBC1 SET DIAGNOSTIC MODE
1729 BNCC 7,CCERR CHECK COND CODE
1730 BXS (R6,2) RETURN TO CALLER
1731 *
1732 CEOP2 MVB R6,LSTIO SAVE ADDRESS OF LAST IO
1733 MVB DEVADD,IDCBCE2+1 LOAD DEVICE ADDRESS IN IDCB
1734 IO IDCBC2 WRITE DIAG CLOCK STEP
1735 BNCC 7,CCERR CHECK COND CODE
1736 BXS (R6,2) RETURN TO CALLER
1737 *
1738 *
1739 SENS1 MVB R6,LSTIO SAVE ADDRESS OF LAST IO
1740 MVB DEVADD,IDCB1+1 LOAD DEVICE ADDRESS IN IDCB
1741 IO IDCBC1 READ SENSE WORD 2
1742 BNCC 7,CCERR CHECK COND CODE
1743 BXS (R6,2) RETURN TO CALLER
1744 *
1745 SENS0 MVB R6,LSTIO SAVE ADDRESS OF LAST IO
1746 MVB DEVADD,IDCB0+1 LOAD DEVICE ADDRESS IN IDCB
1747 IO IDCBC0 READ SENSE WORD 1
1748 BNCC 7,CCERR CHECK COND CODE
1749 BXS (R6,2) RETURN TO CALLER
1750 *
1751 CCEFF DC X'706E' COPY STATUS ANY LEVEL INTO R3
1752 SRL 13,R3 POSITION CC CODE TO BITS 13-15
1753 MVB R3,\$IOIN * PUT IN LOG AREA
1754 B (R6)* RETURN TO USER
1755 *
1756 TORST DC X'16F05' RESET IO
1757 IDCBC0 DC X'2205' SENSE WORD ZERO
1758 RDATA0 DC A(*-*) DATA WORD
1759 IDCBC1 DC X'2105' SENSE WORD ONE
1760 RDATA DC A(*-*)
1761 IDCBC2 DC X'4005' CE DIAG OP1
1762 CEDAT DC A(*-*) SENSE DATA
1763 IDCBC2 DC X'4105' CE DIAG OP2
1764 CEDAT2 DC A(*-*) SENSE DATA
1765 IDCBRAP DC X'2F05' READ DIAG WRAP
1766 RFPDAT DC A(*-*) SENSE DATA
1767 CPUID EQU X'0232' CPU ID
1768 *
1769 * COPY T7810 01DEC76
1770 *
1771 ** (T7810) *****12/01/76*****
1772 *
1773 * SUBROUTINE
1774 *
1775 * PURPOSE
1776 * COMPARE FEAD SECTOR ID DATA TO WRITE SECTOR ID DATA
1777 * NORMAL AND TEST DATA.
1778 *
1779 * CALLING SEQUENCE
1780 *
1781 * BAL CMPRW,R6 (NORMAL)
1782 * BAL CMPRT,R6 (TEST)
1783 *
1784 * RETURN
1785 *
1786 *
1787 * BXS (R6,2) - NORMAL
1788 *
1789 *
1790 * *****
1791 *
1792 *
1793 *
1794 *
1795 *
1796 *
1797 *
1798 *
1799 *
1800 *
1801 *
1802 *
1803 *
1804 *
1805 *
1806 * SUBROUTINE
1807 *
1808 * PURPOSE

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1809 * CONVERT LOGICAL SECTOR NUMBER TO A PHYSICAL SECTOR MINUS
1810 * ONE.
1811 * SETUP LOGICAL SECTOR # IN LOCATION 'LGSEC'
1812 * PHYSICAL SECTOR # WILL BE LOADED IN LOCATION 'PHYS'
1813 *
1814 * LOGICAL SECTOR# TO PHYSICAL SECTOR# CONVERSION
1815 * LOGICAL- X 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B, 0C, 0D,
1816 * PHYSICAL X 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B, 0C, 0D,
1817 *
1818 * LOGICAL- 07, 25, 08, 26, 09, 27, 0A, 28, 0B, 29, 0C, 2A, 0D, 2B,
1819 * PHYSICAL 0E, 0F, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 1A, 1B,
1820 *
1821 * LOGICAL- 0E, 2C, 0F, 2D, 10, 2E, 11, 2F, 12, 30, 13, 31, 14, 32,
1822 * PHYSICAL 1C, 1D, 1E, 1F, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29,
1823 *
1824 * LOGICAL- 15, 33, 16, 34, 17, 35, 18, 36, 19, 37, 1A, 38, 1B, 39,
1825 * PHYSICAL 2A, 2B, 2C, 2D, 2E, 2F, 30, 31, 32, 33, 34, 35, 36, 37,
1826 *
1827 * LOGICAL- 1C, 3A, 1D, 3B, X
1828 * PHYSICAL 38, 39, 3A, 3B, X
1829 *
1830 *
1831 * CALLING SEQUENCE
1832 *
1833 * BAL CONVTR,R6
1834 *
1835 * RETURN
1836 *
1837 * B (TT304+2)
1838 *
1839 * *****
1840 *
1841 CONVTR MVB R6,TT304+2 SETUP RETURN ADDR
1842 CB ZER00,LGSEC+1 CK FOR LOG # ZERO
1843 JE TT303 BCH IF LOG # IS ZERO
1844 CB LGSEC+1,CB29 COMP LOG TO 29
1845 JGE RTT01 BCH IF LGSEC EQ OF LESS THAN CB29
1846 MVI 2,R0 SETUP MULTIPLIER
1847 MB LGSEC+1,R0 LOG SECTOR # TIMES 2
1848 SWI 60,R0 LOG SEC TIMES 2 MINUS 60
1849 MVB 1,R0 PHYSICAL SECTOR NUMBER
1850 TT304 RETURN TO CALLER
1851 TT303 MVB FIVE9,PHYS+1 PHYSICAL SECTOR # 59
1852 J TT304 RETURN TO CALLER
1853 RTT01 MVI 2,R0 LOAD MULTIPLIER
1854 MB LGSEC+1,F0 LOG SECTOR # TIMES 2
1855 SWI 1,R0 SUBTRACT ONE
1856 MVB R0,PHYS+1 LOAD PHYSICAL SECTOR #
1857 TT304 B *-* RETURN TO CALLER
1858 *
1859 * *****
1860 *
1861 * SUBROUTINE
1862 *
1863 * PURPOSE
1864 * LOAD WRITE SECTOR ID DATA BUFFEP FROM RD SEC ID BUFFER
1865 *
1866 * CALLING SEQUENCE
1867 * BAL LWSID,R6
1868 *
1869 * RETURN
1870 *
1871 * BXS (R6)
1872 *
1873 * *****
1874 *
1875 *
1876 *
1877 *
1878 *
1879 *
1880 *
1881 *
1882 *
1883 *
1884 *
1885 *
1886 *
1887 * EXECUTE INPUT & OUTPUT COMMANDS
1888 * TO EXECUTE ALL I/O COMMANDS FROM A COMMON PLACE.
1889 * EACH OF THESE ENTRIES SET R7 WITH THE ADRS OF ITS PPARAMETER
1890 * LIST AND ANY SPECIAL SWITCHES BEFORE BRANCHING TO THE
1891 * SUPVR CALL.
1892 *
1893 * THIS SUBROUTINE WILL CHECK FOR THE FOLLOWING:
1894 * 1. LOST INTERRUPTS BY TIMING OUT A COUNTING LOOP
1895 * 2. ERROR INTERRUPTS RECEIVED FROM SUPVR
1896 *
1897 * THIS ROUTINE HAS THE FOLLOWING ENTRIES:
1898 *
1899 * 1 BAL \$RKEW,R6 READ SECTOR ID SKEWED
1900 *
1901 * 2 BAL \$WKST,R6 WRITE SECTOR ID SKEWED (TEST)
1902 *
1903 * 3 BAL \$RWST,P6 READ SECTOR ID SKEWED (TEST)
1904 *
1905 * 4 BAL \$RIDS,P6 READ SECTOR ID (TEST)
1906 *
1907 * 5 BAL \$WKEW,R6 WRITE SECTOR ID SKEWED
1908 *
1909 * 6 BAL \$WSEC,P6 WRITE SECTOR ID
1910 *
1911 * 7 BAL \$WSTS,P6 WRITE SECTOR ID (TEST)
1912 *
1913 * 8 BAL \$DIAG,R6 DIAGNOSTIC
1914 *
1915 * 9 BAL \$XIOCS,R6 CYCLE STEAL STATUS
1916 *
1917 * 10 BAL \$SEEK,R6 SEEK
1918 *
1919 * 11 BAL \$RECL,P6 RECALIBPATE
1920 *
1921 * 12 BAL \$FDID,P6 READ SECTOR ID
1922 *
1923 * 13 BAL \$RD,R6 READ

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|--------|----------------|------|--------------------------|---|
| 1924 | * | BAL | \$RDVY,R6 | READ VERIFY |
| 1925 | * 14 | BAL | \$WRT,R6 | WRITE |
| 1926 | * | | | |
| 1927 | * 15 | BAL | \$WRT,R6 | WRITE |
| 1928 | * | | | |
| 1929 | * | | | |
| 0030FE | 4020 32D0 2F02 | 1930 | \$SEEK MVA SKDCB,IODCB | SET UP CONTROL BLOCK FOR SVC CALL |
| 003104 | 5064 | 1931 | J | XIO |
| 003106 | 4020 32D0 2EC2 | 1932 | * \$RECL MVA CLDCB,IODCB | SET UP BLOCK FOR SVC CALL |
| 00310C | 5060 | 1933 | J | XIO |
| 00310E | 4020 32D0 2EE2 | 1934 | * \$RDID MVA RSDCB,IODCB | SET UP BLOCK FOR SVC CALL |
| 003114 | 0BFF | 1935 | MVBI X'FF',R3 | SET BUFFER TO F'S |
| 003116 | 4524 2910 | 1936 | MVA SCTID,R5 | SETUP READ SECTOR ID BUFFER ADRS |
| 00311A | 4724 0006 | 1937 | MVWI 6,R7 | SETUP BUFFER LENGTH |
| 00311E | 2BAC | 1938 | FFN R3,(R5) | INIT READ SECTOR ID BUFFER |
| 003120 | 4020 2EFO 2910 | 1939 | MVA SCTID,RSDCB+14 | DATA ADDR |
| 003126 | 5053 | 1940 | J | XIO |
| 003128 | 0BFF | 1941 | * \$RD MVA RSDCB,IODCB | SETUP BLOCK FOR SVC CALL |
| 00312A | 6D08 2F50 | 1942 | MVBI X'FF',R3 | SET BUFFER TO ALL F'S |
| 00312E | 4724 0100 | 1943 | MVWI X'0100',R7 | SET UP READ BUFFER ADRS |
| 003132 | 2BAC | 1944 | FFN R3,(R5) | SETUP BUFFER LENGTH |
| 003134 | 4020 32D0 2F42 | 1945 | MVA RSDCB,IODCB | CLEAR READ BUFFER |
| 00313A | 5049 | 1946 | J | SET UP BLOCK FOR SVC CALL |
| 00313C | 4020 32D0 2F32 | 1947 | * \$RDVY MVA VRDCB,IODCB | SET UP CONTROL BLOCK FOR SVC CALL |
| 003142 | 5045 | 1948 | J | XIO |
| 003144 | 4020 32D0 2F22 | 1949 | * \$WPT MVA WRDCB,IODCB | SET UP CONTROL BLOCK FOR SVC CALL |
| 00314A | 5041 | 1950 | J | XIO |
| 00314C | 4020 32D0 2F62 | 1951 | * \$RKEW MVA RKDCB,IODCB | SET UP CONTROL BLOCK FOR SVC CALL |
| 003152 | 0BFF | 1952 | MVBI X'FF',R3 | SET BUFFER TO F'S |
| 003154 | 4524 2910 | 1953 | MVA SCTID,R5 | SETUP READ SECTOR ID BUFFER ADRS |
| 003158 | 4724 0006 | 1954 | MVWI 6,R7 | SETUP BUFFER LENGTH |
| 00315C | 2BAC | 1955 | FFN R3,(R5) | INIT READ SECTOR ID BUFFER |
| 00315E | 4020 2F70 2910 | 1956 | MVA SCTID,RKDCB+14 | DATA ADDR |
| 003164 | 5034 | 1957 | J | XIO |
| 003166 | 4020 32D0 2F52 | 1958 | * \$WKST MVA WKDCB,IODCB | SET UP CONTROL BLOCK FOR SVC CALL |
| 00316C | 4020 2F60 2FA0 | 1959 | MVA WSIDT,WKDCB+14 | DATA ADDR |
| 003172 | 502D | 1960 | J | XIO |
| 003174 | 4020 32D0 2F62 | 1961 | * \$RWST MVA RKDCB,IODCB | SET UP CONTROL BLOCK FOR SVC CALL |
| 00317A | 4020 2F70 2FA6 | 1962 | MVA SCTST,RKDCB+14 | DATA ADDR |
| 003180 | 5026 | 1963 | J | XIO |
| 003182 | 4020 32D0 2EE2 | 1964 | * \$RIDS MVA RSDCB,IODCB | SET UP CONTROL BLOCK FOR SVC CALL |
| 003188 | 0BFF | 1965 | MVBI X'FF',R3 | SET BUFFER TO F'S |
| 00318A | 4524 2FA6 | 1966 | MVA SCTST,R5 | SETUP READ SECTOR ID BUFFER ADRS |
| 00318E | 4724 0006 | 1967 | MVWI 6,R7 | SETUP BUFFER LENGTH |
| 003192 | 2BAC | 1968 | FFN R3,(R5) | INIT READ SECTOR ID BUFFER |
| 003194 | 4020 2EFO 2FA6 | 1969 | MVA SCTST,RSDCB+14 | DATA ADDR |
| 00319A | 5019 | 1970 | J | XIO |
| 00319C | 4020 32D0 2F52 | 1971 | * \$WKEW MVA WKDCB,IODCB | SET UP CONTROL BLOCK FOR SVC CALL |
| 0031A2 | 4020 2F60 2F98 | 1972 | MVA WSID,WKDCB+14 | DATA ADDR |
| 0031A8 | 5012 | 1973 | J | XIO |
| 0031AA | 4020 32D0 2ED2 | 1974 | * \$WSEC MVA WSDCB,IODCB | SET UP CONTROL BLOCK FOR SVC CALL |
| 0031B0 | 4020 2EEO 2F98 | 1975 | MVA WSID,WSDCB+14 | DATA ADDR |
| 0031B6 | 500B | 1976 | J | XIO |
| 0031B8 | 4020 32D0 2ED2 | 1977 | * \$WSTS MVA WSDCB,IODCB | SET UP CONTROL BLOCK FOR SVC CALL |
| 0031BE | 4020 2EEO 2FA0 | 1978 | MVA WSIDT,WSDCB+14 | DATA ADDR |
| 0031C4 | 5004 | 1979 | J | XIO |
| 0031C6 | 4020 32D0 2EB2 | 1980 | * \$DIAG MVA DGDCB,IODCB | SET UP CONTROL BLOCK FOR SVC CALL |
| 0031CC | 5000 | 1981 | J | XIO |
| 1982 | | 1982 | XEOIT | |
| 1983 | | 1983 | J | XIO |
| 1984 | | 1984 | * | *****29JUL76** |
| 1985 | | 1985 | * | SUB-ROUTINE |
| 1986 | | 1986 | | EXECUTE INPUT AND OUTPUT COMMANDS |
| 1987 | | 1987 | | PURPOSE |
| 1988 | | 1988 | | TO EXECUTE ALL I/O COMMANDS FROM A COMMON PLACE. |
| 1989 | | 1989 | | THIS SUBROUTINE WILL DO THE FOLLOWING FUNCTIONS: |
| 1990 | | 1990 | | 1. SAVE THE ADDRESS THAT POINTS TO THE INSTRUCTION THAT STARTED |
| 1991 | | 1991 | | THE I/O COMMAND. |
| 1992 | | 1992 | | 2. SAVES THE DCB BLOCK USED UNLESS IT IS A START CYCLE STATUS |
| 1993 | | 1993 | | ISSUED BY THIS SUBROUTINE. |
| 1994 | | 1994 | | 3. CLEAR OUT THE CYCLE STEAL STATUS STOPAGE UNLESS THE |
| 1995 | | 1995 | | START CYCLE STATUS WAS ISSUED BY THIS SUBROUTINE. |
| 1996 | | 1996 | | 4. RESETS THE INTERRUPT INDICATOR AND CHECKS FOR ANY INTERRUPT |
| 1997 | | 1997 | | SINCE THE LAST EXPECTED INTERRUPT. IF AN INTERRUPT IS FOUND, |
| 1998 | | 1998 | | MYSTERY INTERRUPT (MI) CONTROL BIT IS SET. |
| 1999 | | 1999 | | 5. MOVES THE ADDRESS OF THE I/O CONTROL BLOCK IN R7. SET THE |
| 2000 | | 2000 | | EXPECTED INTERRUPT CONTROL BIT AND ISSUE THE 'SVC STAPT.' |
| 2001 | | 2001 | | 6. WHEN THE SUPVR RETURNS AFTER ISSUING THE I/O COMMAND, TIMING |
| 2002 | | 2002 | | STARTS TO DETERMINE A LOST INTERRUPT. |
| 2003 | | 2003 | | 7. EXCEPT THE INTERRUPT AND GATHER INFORMATION TO DETERMINE IF IT |
| 2004 | | 2004 | | WAS AN ERROR OR OKAY AND EXIT OFF THE INTERRUPT LEVEL. |
| 2005 | | 2005 | | 8. CHECK IF THERE WAS A WRONG INTERRUPT LEVEL. |
| 2006 | | 2006 | | 9. CHECK IF AN ERROR WAS EXPECTED AND IF THERE WAS RETURN. |
| 2007 | | 2007 | | 10. CHECK IF THERE WAS AN ERROR CONDITION, IF NOT RETURN. |
| 2008 | | 2008 | | 11. CHECK TO SEE IF THE EXERCISER IS TO BE TERMINATED. |
| 2009 | | 2009 | | 12. CHECK IF A CYCLE STEAL OPERATION WAS IN PROGRESS THAT WAS |
| 2010 | | 2010 | | ISSUED BY THIS SUBROUTINE. |
| 2011 | | 2011 | | 13. CHECK THE ISB BITS THAT ARE ON. IF BIT 0 IS ON, ISSUE A |
| 2012 | | 2012 | | CYCLE STEAL STATUS COMMAND. CHECK FOR ANY OTHER BIT BEING ON, |
| 2013 | | 2013 | | COUNT IT AND SET UP THE PROPER ERROR MESSAGE TO BE PRINTED. |
| 2014 | | 2014 | | CALLING SEQUENCE |
| 2015 | | 2015 | | THIS ROUTINE HAS THE FOLLOWING ENTRIES: |
| 2016 | | 2016 | | 2035** --> BAL XIO OF XPC ANY CYCLE STEAL COMMAND, MOD=0 |
| 2017 | | 2017 | | 2036** --> BAL XIO1 MOD PARM PRELOADED IN 'IOMOD' |
| 2018 | | 2018 | | 2037** --> BAL XIOCS,R6 OR XEQ STAPT CYCLE STEAL STATUS, MOD=F |

| LOCTR | OBJECT TEXT | STMT | SOURCE STATEMENT | COPYRIGHT IBM COPP 1976 |
|-------|-------------|------------------------------------|---|-------------------------------------|
| 2038 | ** --> BAL | XIOCS-4,R6 | AUTO CS STATUS (FOLLOWING OTHER XIO | AND DOES NOT POST INTERRUPT STATUS) |
| 2039 | ** | | | |
| 2040 | ** | | | |
| 2041 | ** | RETURN CONTROL | | |
| 2042 | ** | | | |
| 2043 | ** | BXS (R6,2) | RETURN TO USER NO ERROR | |
| 2044 | ** | OR B (P6)* | RETURN AND RETRY ON ERROR | |
| 2045 | ** | ***** | ***** | ***** |
| 2047 | ** | XIO MWZ IOMOD,R3 | SET MOD OF 0 FOR CYCLE STEAL OP | |
| 2048 | ** | J XIO1 | CS I/O'S ARE NOT RETRIED | |
| 2049 | ** | | | |
| 2050 | ** | TBTR (R4,CE) | RESET CS STATUS INTER ERROR INDICAT. | |
| 2051 | ** | TBTS (R4,CS) | SET 'CYCLE STEAL STATUS' IN PROGRESS | |
| 2052 | ** | XIOCS MVA CSDCB,IODCB | SET UP CONTROL BLOCK FOR SVC CALL | |
| 2053 | ** | MVWI X'000F',IOMOD | SET CYCLE STEAL MODIFIER | |
| 2054 | ** | TBT (R4,CS) | IS CS IN PROGRESS, ERROR CONDITION | |
| 2055 | ** | JON XIO2 | * YES, BYPASS SAVING I/O ADRS | |
| 2056 | ** | XIO1 MVW R6,ISTIO | SAVE IAF FOR RETRY IF REQUESTED | |
| 2057 | ** | MVA DCBUF,R3 | SET UP TO ADRS TO MOVE DCB TABLE | |
| 2058 | ** | MVW IODCB,R5 | * AND THE FROM ADRS, ALONG WITH | |
| 2059 | ** | MVBI 16,R7 | * THE NUMBER OF MOVES | |
| 2060 | ** | MVFN (R5),(R3) | MOVE 1 STATUS WORD AND ADJUST | |
| 2061 | ** | MVBI 25,R3 | CLEAR CYCLE STATUS BUFER | |
| 2062 | ** | MVA CSBUF,R5 | * TO ALL ONES * | |
| 2063 | ** | MVBI 16,R7 | | |
| 2064 | ** | FFN R3,(R5) | | |
| 2065 | ** | MVWI X'0708',XIOIN | OVERLAY OLD CONDITION CODES | |
| 2066 | ** | MVWZ \$ISB,P3 | ZERO OUT OLD ISB VALUE | |
| 2067 | ** | | | |
| 2068 | ** | TBTR (R4,ER) | RESET ANY ERROR BEFORE I/O COMMAND | |
| 2069 | ** | XIO2 TBTF (R4,IN) | CLEAR INTERRUPT RECEIVED CNTL BIT | |
| 2070 | ** | MVA IOBLK,R7 | SET UP CONTROL BLOCK FOR SUPVR | |
| 2071 | ** | TBTR (R4,\$LE) | RESET LEVEL ERROR INDICATOR | |
| 2072 | ** | TBTS (R4,XI) | SET EXPECTED INTR CONTROL BIT | |
| 2073 | ** | SVC STAPT | CALL SUPVR FOR I/O COMMAND | |
| 2074 | ** | | | |
| 2075 | ** | TBTR (R4,NI) | IS AN INTR EXPECTED | |
| 2076 | ** | BN (R6,2) | * NO, RETURN TO USER | |
| 2077 | ** | | | |
| 2078 | ** | | THE INTR SHOULD OCCUR WHILE SPINNING IN THE NEXT SECTION | |
| 2079 | ** | | | |
| 2080 | ** | MVBI X'00',R5 | SET UP WORK REG FOR 'LOST INTR' | |
| 2081 | ** | XIO8 TBTR (R4,IN) | HAS INTERRUPT BEEN RECEIVED | |
| 2082 | ** | JON XIOCK | * YES, CHECK IF ALL WAS SATISFACTORY | |
| 2083 | ** | SVC IDLE | ALLOW ANOTHER PROGRAM A CHANCE TO RUN | |
| 2084 | ** | | SUPVR WILL RETURN HERE | |
| 2085 | ** | AWI 1,R5 | ADVANCE TIME OUT COUNT | |
| 2086 | ** | XIO8 | CHG IF TIME OUT NOT REACHED | |
| 2087 | ** | TBTS (R4,ER) | SET ON ERROR CONTROL BIT | |
| 2088 | ** | B (R6)* | ERR NO INTERRUPT | |
| 2090 | ** | ***** | *****03FEB76** | |
| 2091 | ** | | | |
| 2092 | ** | SUBROUTINE | | |
| 2093 | ** | | | |
| 2094 | ** | I/O EXECUTE ERROR HANDLING ROUTINE | | |
| 2095 | ** | | | |
| 2096 | ** | PURPOSE | | |
| 2097 | ** | | | |
| 2098 | ** | | THIS ROUTINE WILL COLLECT INFORMATION TO HELP DETERMINE THE | |
| 2099 | ** | | PROBLEM THAT WAS FOUND WHEN THE I/O COMMAND WAS ISSUED BY THE | |
| 2100 | ** | | SUPERVISOR AND IT WAS NOT ACCEPTED. | |
| 2101 | ** | | | |
| 2102 | ** | CALLING SEQUENCE | | |
| 2103 | ** | | | |
| 2104 | ** | | SUPVR WILL ENTER WHEN AN ERROR OCCURS ON AN I/O COMMAND | |
| 2105 | ** | | | |
| 2106 | ** | RETURN CONTROL | | |
| 2107 | ** | | | |
| 2108 | ** | B (P6)* | RETURN TO USERS ERROR HANDLER | |
| 2109 | ** | | | |
| 2110 | ** | ***** | ***** | ***** |
| 2111 | ** | | | |
| 2112 | ** | CC | 0= DEVICE NOT ATTACHED | |
| 2113 | ** | FOR | 1= DEVICE BUSY | |
| 2114 | ** | I/O | 2= DEVICE BUSY AFTER RESET | |
| 2115 | ** | | 3= COMMAND REJECT | |
| 2116 | ** | | 4= INTERVENTION REQUIRED | |
| 2117 | ** | | 5= INTERFACE DATA CHECK | |
| 2118 | ** | | 6= CONTROLLER BUSY | |
| 2119 | ** | | 7= I/O COMMAND EXCEPTED | |
| 2120 | ** | | | |
| 2121 | ** | XIOER DC X'706E' | COPY STATUS ANY LEVEL INTO P3 | |
| 2122 | ** | SFL 13,R3 | POSITION CC CODE TO BITS 13-15 | |
| 2123 | ** | MVB R3,XIOIN | * PUT IN LOG OUT AREA | |
| 2124 | ** | B (R6)* | RETURN TO USER ERROR HANDLER | |
| 2126 | ** | ***** | *****14APR76** | |
| 2127 | ** | | | |
| 2128 | ** | SUB-ROUTINE | | |
| 2129 | ** | | | |
| 2130 | ** | ERROP INTERRUPT | RUNS ON INTERRUPT LEVEL 'SINTL' | |
| 2131 | ** | | | |
| 2132 | ** | PURPOSE | | |
| 2133 | ** | | | |
| 2134 | ** | | THIS ROUTINE WILL BE ENTERED WHEN THE SUPVR DETECTS AN ERROR | |
| 2135 | ** | | OR THE INTERRUPTING CONDITION CODE DOES NOT AGREE WITH THE | |
| 2136 | ** | | EXPECTED CODE. | |
| 2137 | ** | | | |
| 2138 | ** | CALLING SEQUENCE | | |
| 2139 | ** | | | |
| 2140 | ** | | SUPVR WILL ENTER WHEN AN ERROR OCCURS ON AN I/O INTERRUPT | |
| 2141 | ** | | | |
| 2142 | ** | RETURN CONTROL | | |
| 2143 | ** | | | |
| 2144 | ** | SVC EXIT | RETURN TO USER VIA SUPVR | |
| 2145 | ** | | | |
| 2146 | ** | ***** | ***** | ***** |
| 2147 | ** | | | |
| 2148 | ** | CC | 0= CONTROLLER END | ISB 0= ADD STATUS |
| 2149 | ** | FOR | 1= PROGRAM CONTROL INTERRUPT | FOR 1= CMD REJECT |
| 2150 | ** | INTP | 2= EXCEPTION INTERRUPT | FOR 2= INCOR LENGTH |
| 2151 | ** | | 3= DEVICE END INTERRUPT | INTP 3= DCB SPEC CK |
| 2152 | ** | | 4= ATTENTION INTERRUPT | 4= STG DATA CK |
| 2153 | ** | | 5= ATTENTION / PROGRAM CNTL INTR | 5= INV STG ADRS |
| 2154 | ** | | 6= ATTENTION / EXCEPTION INTP | 6= PROTECT CK |

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2155** 7= ATTENTION / DEVICE END INTP 7= I-FACE DATA IL
2156** INTER DC X'706E' COPY STATUS ANY LEVEL INTO R3 IL
2157** SPL 13,R3 POSITION INDICATORS IN R3 IL
2158** MVA OPTN1,P4 SET UP BASE ADPS IL
2159** TBT (R4,CS) IS CS IN PROGRESS IL
2160** JOFF INTES * NO IL
2161** TBT (P4,CE) TURN ON CYCLF STEAL INTER EPROR IL
2162** MVW R7,CSTL8 SAVE CS EPR ISB VALUE, BITS 0-7 IL
2163** MVB R3,CSTL8+1 * AND THE COND CODE IL
2164** J INTR1 IL
2165** TBT (R4,XE) TEST EXPECTED ATTN / ERPOP IND IL
2166** JOFF INTES BCH IF NOT EXPECTED IL
2167** CBI 4,R3 IS THIS AN 'ATTENTION' INTP IL
2168** J INTR1 * YES, BCH TO END INTR SEQUENCE IL
2169** TBT (R4,ER) SET ERROR ON I/O COMMAND CNTL BIT IL
2170** J INTR1 IL
2171** THE ERROR INTERRUPT USES THE SAME IL
2172** ENDING SEQUENCE AS THE NORMAL INTR IL
2173** *****14APR76***** IL
2174** SOUBROUTINE IL
2175** OKAY INTERRUPT RUNS ON INTFRUPT LEVEL 'SINTL' IL
2176** PURPOSE IL
2177** TO CHECK THE INTERRUPT AND CONTINUE THE TEST IL
2178** CALLING SEQUENCE IL
2179** SUPERVISOR WILL ENTER HERE IF INTP CC IS AS REQUESTED IL
2180** THE ERROR INTERRUPT HANDLER WILL BRANCH TO THIS ROUTINE IL
2181** AFTER THE SPECIAL PART HAS BEEN COMPLETED AND THE IL
2182** COMMON SECTION IS HANDLED HERE. IL
2183** RETURN CONTROL IL
2184** SVC EXIT RETURN TO USER VIA SUPVP IL
2185** ***** IL
2186** INTOK DC X'706E' COPY STATUS ANY LEVEL INTO P3 IL
2187** SRL 13,R3 POSITION INDICATORS IN R3 IL
2188** MVA OPTN1,R4 SET UP BASE ADPS IL
2189** TBT (R4,IN) SET INTERRUPT RECEIVED IL
2190** TBT (R4,CS) IS 'CS IN PROGRESS' ON IL
2191** JON INTR2 * YES, BCH AROUND UPDATE IL
2192** MVB R3,\$IOIN+1 SAVE INTERRUPTING CC CODE IL
2193** MVB P7,\$ISB SAVE INTR STATUS AND DEV ADRS IL
2194** EOP IL
2195** CPCL R5 CURRENT LEVEL COPIED BY DCP IL
2196** SLL 4,R5 POSITION INTR LEVEL AND PUT IL
2197** ABI 1,R5 * IN 'I' BIT IL
2198** CW \$INTL,R5 IS THIS THE CORRECT INTR LEVEL IL
2199** JE INTR3 * YES, GO EXIT THIS LEVEL IL
2200** TBT (R4,\$LE) SET INTR LEVEL ERROR CONTROL BIT IL
2201** TBT (R4,ER) SET EPROR ON I/O COMMAND CNTL BIT IL
2202** TRTR (R4,XI) WAS INTERRUPT EXPECTED IL
2203** JON INTRX * YES, EXIT OFF THIS INTR LEVEL IL
2204** TBT (R4,MI) * NO, SET MYSTERY INTR CONTROL BIT IL
2205** CBI 4,R3 ATTENTION INTERRUPT? IL
2206** JE INTRX YES IL
2207** TBT (R4,NG) ERROR,UNEXPECTED INTERRUPT IL
2208** SVC EXIT EXIT THIS LEVEL VIA SUPVP TO PGM IL
2209** *****03FEB76***** IL
2210** THIS IS THE CONTINUATION OF EXECUTE I/O AFTER THE INTERRUPT IL
2211** HAS BEEN SERVICED. THE EXERCISE FINDS AN INTERRUPT HAS BEEN IL
2212** RECEIVED AND BRANCHES HEPE TO CHECK FOR ANY EPROR CONDITIONS. IL
2213** ***** IL
2214** XIOCK TBT (R4,XE) WAS AN ERROR EXPECTED IL
2215** BN (R6,2) * YES, EXIT THIS ROUTINE IL
2216** TBT (R4,CS) WAS AUTO CS IN PROGRESS IL
2217** JOFF XIOCV * NO, CONTINUE CHECKING IL
2218** TBT (R4,CE) IS CS IN AN ERR CONDITION IL
2219** JOFF XIOCO * NO, BCH IL
2220** B (R6)* CS EPROR IL
2221** TBT (R4,CSA) TURN ON CS STATS AVAIL FLAG IL
2222** BXS (R6,2) GO TO USEP IL
2223** TBT (R4,ER) WAS EPROR INTP CONTROL BIT ON IL
2224** JOFF XIOCX * NO, EXIT THIS ROUTINE IL
2225** ***** IL
2226** I/O PARAMETER LIST IL
2227** ***** IL
2228** IOBLK DC A(DEVADD) ADRS OF DEVICE ADRS IL
2229** DC A(XIOER) ERROR ROUTINE ADRS IL
2230** DC A(*) DCB ADRS OR LEVEL & INTR IL
2231** DC A(*) MODIFIER IL
2232** DC A(*) ADRS OF LAST SVC CALL IL
2233** DC A(*) SECOND WORD OF LAST IDCB IL
2234** ***** IL
2235** INTERRUPT CONTROL BLOCK FOR I/O COMMANDS IL
2236** ***** IL
2237** INTBL DC A(DEVADD) ADRS OF DEVICE ADRS IL
2238** DC A(INTOK) INTERRUPT OK RETURN ADRS IL
2239** DC A(INTR) INTERRUPT ERROR ADRS IL
2240** DC X'0003' INTERRUPT CODE EXPECTED IL
2241** *****11MAY76***** IL
2242** SUBROUTINE IL
2243** CONNECT INTERRUPT CONTROL BLOCK & PREPARE DEVICE IL
2244** PURPOSE IL

LOCTR OBJECT TEXT STMT SOURCE STATEMENT COPYRIGHT IBM CORP 1976
2272** TO CONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND IL
2273** PREPARE ON THE DESIRED INTERRUPT LEVEL AND TO ALLOW THE DEVICE IL
2274** TO INTERRUPT. IL
2275** CALLING SEQUENCE IL
2276** ***** IL
2277** THIS SUBROUTINE HAS THE FOLLOWING ENTRIES: IL
2278** ***** IL
2279** --> BAL \$CONC,R6 CLEAR DEV DEP STG AND CONNECT I/O BLK IL
2280** --> BAL \$CONP,R6 PREPARE DEVICE ONLY, ALREADY CONNECT IL
2281** RETURN CONTROL IL
2282** ***** IL
2283** OR BXS (R6,2) RETURN TO USER VIA REG 6 IF OKAY IL
2284** (R6)* IF THE DEVICE COULD NOT BE CONNECTED IL
2285** ***** IL
2286** \$CONC MVBI 6,R7 NUMBER OF BYTE TO CLEAR IL
2287** MVBI 0,R3 * AND THE DATA TO USE IL
2288** MVA DEV1,P5 * ALONG WITH THE ADRS TO USE IL
2289** R3,(R5) * IL
2290** FFW OPTN3,R3 CLEAR OLD CONTROLS FOR NEW ROUTINE IL
2291** MVWZ INTBL,R7 SET R7 TO CONTROL BLOCK AND IL
2292** SVC C1CP * CONNECT IT TO THIS DEVICE IL
2293** BN (R6)* ERROR RETURN TO USER IL
2294** ***** IL
2295** \$CONP MVW \$INTL,IODCB PUT IN LEVEL & INTR PARAMETER IL
2296** MVA IOBLK,R7 SET R7 TO CONTROL BLOCK TO PREPARE IL
2297** MVWI X'0706',SIOIN INITIALIZE CONDITION CODE STORAGE IL
2298** MVWZ \$ISB,R3 * AND CLEAR OLD ISB VALUE IL
2299** MVW R6,\$STIO SET UP ADDRESS THAT STARTED LAST I/O IL
2300** SVC PREP * AND CALL ON SUPVR IL
2301** BXS (R6,2) RETURN TO USER IL
2302** *****06APR76***** IL
2303** SUBROUTINE IL
2304** DISCONNECT THE INTERRUPT CONTROL BLOCK AND LOG ERRORS IL
2305** ***** IL
2306** PURPOSE IL
2307** DISCONNECT THE INTERRUPT CONTROL BLOCK TO THIS DEVICE AND IL
2308** SET THE 'NO GOOD' CONTROL BIT, THEN LOG THE DATA THAT HAS IL
2309** BEEN FOUND TO HELP THE OPERATOR DEFINE THE ERROR CONDITION. IL
2310** CALLING SEQUENCE IL
2311** ***** IL
2312** THIS SUBROUTINE HAS THE FOLLOWING ENTRIES: IL
2313** ***** IL
2314** --> B \$ERR\$ SET 'NG' BIT AND CONVERT DATA TO LOG IL
2315** --> B \$CONX RETURN TO MDI SUPERVISOR TO TEST STS IL
2316** ***** IL
2317** RETURN CONTROL IL
2318** OR B TURTN* RETURN TO MDI IL
2319** (R6)* IF THE DEVICE COULD NOT BE CONNECTED IL
2320** ***** IL
2321** \$ERR\$ MVWI X'8000',TUSTATUS SET ON 'NO GOOD' STATUS BIT IL
2322** MVA HEBLK,R7 GET ADRS OF CONTROL BLOCK IL
2323** SVC HTOE CONVERT HEX TO EBC VIS DCP IL
2324** \$PRNT MVBI 3,R5 IL
2325** MVA TUMSGWR,R3 SET UP BUFFER STORAGE IL
2326** MVW R3,BUFP IL
2327** MVA LINE1,R1 IL
2328** MVBI 4,P7 IL
2329** MVBI 8,P6 IL
2330** MVFN (R3),(R1) IL
2331** MVBI 4,R7 IL
2332** MVBI X'40',R2 IL
2333** MVB R2,(R1)+ IL
2334** JCT MVBUF,R6 IL
2335** MVBI 8,R6 IL
2336** AWD 4,R1 IL
2337** JCT MVBUF,R5 IL
2338** MVWI PIDMSG10,PID+2 IL
2339** MVA PAKETU,@DCADD1 IL
2340** MVA DC2PT,@DCADD2 IL
2341** OWI BIT0080,SUPSTAT IL
2342** MVA \$TUID,R3 SET UP BUFFER STORAGE IL
2343** BAL TUMSGWTR*,R7 GO TO MESSAGE WRITER IL
2344** ***** IL
2345** \$CONX EQU * IL
2346** MVBI DEVADD,R7 GET DEVICE ADDRESS FROM MDI IL
2347** SVC R1CB RELEASE INTERRUPT CONTROL BLOCK IL
2348** B TURTN* RETURN TO MDI SUPERVISOR IL
2349** ***** IL
2350** BEGIN DC A(0007) NUMBER OF LINES TO PRINT IL
2351** DC A(0008) LINE LENGTH = 8 CHAR IL
2352** DC C'***ABORT' IL
2353** DC A(0040) LINE LENGTH = 40 CHAR IL
2354** DC C'TUID IOIN ISB INST DEV1 DEV2 DEV3 DEV4 ' IL
2355** DC A(0040) LINE LENGTH = 40 CHAR IL
2356** DC A(0040) IL
2357** DC A(0040) IL
2358** DC C'CNTRL DCB2 DCB3 DCB4 LINE LENGTH = 40 CHAR IL
2359** DC A(0040) IL
2360** DC A(0040) IL
2361** DC A(0040) IL
2362** DC C'RSID CS-2 CS-3 CS-4 CS-5 CS-6 CS-7 CS-8 ' IL
2363** DC A(0040) LINE LENGTH = 40 CHAR IL
2364** ***** IL
2365** BUFP DC A(*) IL
2366** DC2PT DC A(BEGIN) IL
2367** FIXTU DC X'0101' IL
2368** FAKETU DC X'0101' IL
2369** PIDMSG10 EQU X'F1F0' IL
2370** BIT0080 EQU X'0080' IL
2371** ***** IL
2372** DATA CONTROL BLOCK FOR CONVERTING HEX TO EBCDIC IL
2373** ***** IL
2374** HRBLK DC A(48) NUMBER OF BYTES TO CONVERT IL

| LOCTR | OBJECT TEXT | STMT | SOURCE STATEMENT | COPYRIGHT IBM CORP 1976 | FROM ADRS | AND THE TO ADPS |
|--------|-------------|-------|------------------|-------------------------|-----------|-----------------|
| 003480 | 2908 | 2387+ | DC | A(\$TUID) | | |
| 003482 | 181A | 2388+ | DC | A(TUWORK) | | |
| 000000 | | 2389 | END | | | |

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| DECLARED | NAME | ATTRIBUTES AND REFERENCES |
|----------|---------|--|
| 0 | .F0. | ABSOLUTE. HEX VALUE(00000000) 1052 1053 1078 1080 1132 1134 1323 1324 1346 |
| 0 | .R1. | ABSOLUTE. HEX VALUE(00000001) 1348 1846 1847 1848 1849 1853 1854 1855 1856 |
| 0 | .R2. | ABSOLUTE. HEX VALUE(00000002) 2338 2341 2344 2347 890 891 907 912 914 916 918 1066 1067 1068 1069 1148 1151 1154 1157 1162 1165 1168 1171 1186 1189 1192 1214 1215 1217 1224 1228 1236 1237 1240 1329 1330 1331 1332 1381 1384 1387 1390 1403 1406 1428 1429 1431 1434 1438 2343 2344 |
| 0 | .R3. | ABSOLUTE. HEX VALUE(00000003) 1752 1753 1794 1795 1800 1879 1881 1937 1940 1944 1947 1958 1961 1974 1977 2047 2057 2060 2061 2064 2066 2122 2123 2158 2164 2168 2198 2203 2216 2246 2291 2293 2294 2302 2336 2337 2341 2353 |
| 0 | .R4. | ABSOLUTE. HEX VALUE(00000004) 886 957 1048 1061 1083 1090 1124 1128 1135 1140 1198 1200 1319 1351 1358 1412 1414 1442 1443 1446 2050 2051 2054 2068 2069 2071 2072 2075 2081 2087 2159 2160 2162 2166 2170 2199 2200 2201 2211 2212 2213 2215 2218 2228 2230 2232 2235 2237 |
| 0 | .R5. | ABSOLUTE. HEX VALUE(00000005) 1203 1204 1206 1208 1210 1212 1417 1418 1420 1422 1424 1426 1795 1799 1800 1880 1881 1938 1940 1945 1947 1959 1961 1975 1977 2058 2060 2062 2064 2080 2085 2207 2208 2209 2240 2241 2243 2292 2293 2335 2348 |
| 0 | .R6. | ABSOLUTE. HEX VALUE(00000006) 887 958 963 967 1049 1081 1088 1094 1096 1122 1138 1195 1196 1320 1349 1356 1362 1364 1409 1410 1720 1724 1726 1730 1732 1736 1739 1743 1745 1749 1754 1801 1802 1841 1882 2056 2076 2088 2124 2229 2234 2236 2242 2245 2247 2297 2303 2305 2340 2345 2346 |
| 0 | .R7. | ABSOLUTE. HEX VALUE(00000007) 741 884 892 894 955 1046 1076 1130 1317 1333 1344 1459 1461 1464 1793 1797 1878 1939 1946 1960 1976 2059 2063 2070 2163 2204 2290 2295 2300 2333 2339 2342 2354 2357 |
| 2290 | \$CONC | ADDRESS. HEX LOCATION(000032E0) IN CSECT(I7811) LENGTH(2) |
| 2356 | \$CONX | ADDRESS. HEX LOCATION(00003364) IN CSECT(I7811) LENGTH(1) |
| 2332 | \$ERR\$ | ADDRESS. HEX LOCATION(00003314) IN CSECT(I7811) LENGTH(6) |
| 730 | \$INTL | ADDRESS. HEX LOCATION(0000293E) IN CSECT(I7811) LENGTH(2) |
| 700 | \$IOIN | ADDRESS. HEX LOCATION(0000290A) IN CSECT(I7811) LENGTH(2) |
| 701 | \$ISB | ADDRESS. HEX LOCATION(0000290C) IN CSECT(I7811) LENGTH(2) |
| 685 | \$LE | ABSOLUTE. HEX VALUE(00000026) 2071 2211 |
| 1936 | \$RDID | ADDRESS. HEX LOCATION(0000310E) IN CSECT(I7811) LENGTH(6) |
| 1933 | \$RECL | ADDRESS. HEX LOCATION(00003106) IN CSECT(I7811) LENGTH(6) |
| 1930 | \$SEEK | ADDRESS. HEX LOCATION(000030FE) IN CSECT(I7811) LENGTH(6) |
| 699 | \$TUID | ADDRESS. HEX LOCATION(00002908) IN CSECT(I7811) LENGTH(2) |
| 105 | @DCADD1 | ADDRESS. HEX LOCATION(000019B8) IN CSECT(I7811) LENGTH(1) |
| 106 | @DCADD2 | ADDRESS. HEX LOCATION(000019BA) IN CSECT(I7811) LENGTH(1) |
| 42 | @FIXT | ABSOLUTE. HEX VALUE(00000101) 414 453 456 476 |
| 44 | @GOTO | ABSOLUTE. HEX VALUE(00000200) 429 488 494 512 530 536 |
| 49 | @NVLD | ABSOLUTE. HEX VALUE(00000600) 462 |
| 41 | @QUES | ABSOLUTE. HEX VALUE(00000100) 459 |
| 47 | @QUXX | ABSOLUTE. HEX VALUE(00000400) 435 444 479 |
| 48 | @TUXX | ABSOLUTE. HEX VALUE(00000500) 390 402 417 464 500 518 |
| 2361 | BEGIN | ADDRESS. HEX LOCATION(0000336E) IN CSECT(I7811) LENGTH(2) |
| 2382 | BIT0080 | ABSOLUTE. HEX VALUE(00000080) 2378 |
| 2377 | BUFPT | ADDRESS. HEX LOCATION(00003476) IN CSECT(I7811) LENGTH(2) |
| 660 | B60 | ABSOLUTE. HEX VALUE(0000001C) 1061 1128 1135 |
| 1621 | CR29 | ADDRESS. HEX LOCATION(00002F94) IN CSECT(I7811) LENGTH(2) |
| 1751 | CCERR | ADDRESS. HEX LOCATION(00003066) IN CSECT(I7811) LENGTH(2) |
| 689 | CE | ABSOLUTE. HEX VALUE(0000002A) 1723 1729 1735 1742 1748 |
| 769 | CICB | ABSOLUTE. HEX VALUE(00000014) 2050 2162 2232 |
| 1490 | CLDCB | ADDRESS. HEX LOCATION(00002EC2) IN CSECT(I7811) LENGTH(2) |
| 1841 | CONVT | ADDRESS. HEX LOCATION(000030AC) IN CSECT(I7811) LENGTH(4) |
| 1767 | CPUID | ABSOLUTE. HEX VALUE(00000232) 1052 1323 |
| 687 | CS | ABSOLUTE. HEX VALUE(00000028) 2051 2054 2160 2201 2230 |
| 688 | CSA | ABSOLUTE. HEX VALUE(00000029) 1200 1414 2235 |
| 718 | CSBUF | ADDRESS. HEX LOCATION(00002928) IN CSECT(I7811) LENGTH(1) |
| 1540 | CSDCB | ADDRESS. HEX LOCATION(00002F12) IN CSECT(I7811) LENGTH(2) |

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| DECLARED | NAME | ATTRIBUTES AND REFERENCES |
|----------|---------|---|
| 726 | CSTL8 | 2052 ADDRESS. HEX LOCATION(00002936) IN CSECT(I7811) LENGTH(2) |
| 708 | DCBUF | 2163 2164 ADDRESS. HEX LOCATION(00002918) IN CSECT(I7811) LENGTH(1) |
| 2378 | DC2PT | 2057 ADDRESS. HEX LOCATION(00003478) IN CSECT(I7811) LENGTH(2) |
| 108 | DEVADD | 2351 ADDRESS. HEX LOCATION(000019D0) IN CSECT(I7811) LENGTH(1) |
| 703 | DEV1 | 733 1721 1727 1733 1740 1746 2251 2260 2357 ADDRESS. HEX LOCATION(00002910) IN CSECT(I7811) LENGTH(2) |
| 1478 | DGDCB | 707 2292 ADDRESS. HEX LOCATION(00002EB2) IN CSECT(I7811) LENGTH(2) |
| 70 | DUMMY | 1992 ABSOLUTE. HEX VALUE(00000000) |
| 542 | ENTPT | 381 438 447 541 556 ADDRESS. HEX LOCATION(00002664) IN CSECT(I7811) LENGTH(1) |
| 50 | EQ | 201 ABSOLUTE. HEX VALUE(00000000) |
| 680 | ER | 333 521 ABSOLUTE. HEX VALUE(00000021) |
| 1671 | ER0SV | 1083 1090 1124 1140 1198 1351 1358 1412 2068 ADDRESS. HEX LOCATION(00002FF8) IN CSECT(I7811) LENGTH(2) |
| 1667 | ER00 | 1064 1159 1184 1340 1392 1401 ADDRESS. HEX LOCATION(00002FF0) IN CSECT(I7811) LENGTH(2) |
| 1668 | ER01 | 1074 1146 1149 1159 1184 1222 1343 1379 1382 ADDRESS. HEX LOCATION(00002FF2) IN CSECT(I7811) LENGTH(2) |
| 1672 | ER1SV | 1075 1160 1163 1173 1190 1220 ADDRESS. HEX LOCATION(00002FFA) IN CSECT(I7811) LENGTH(2) |
| 755 | EXIT | 1065 1173 1190 ABSOLUTE. HEX VALUE(00000006) |
| 2380 | FAKETU | 2249 ADDRESS. HEX LOCATION(0000347C) IN CSECT(I7811) LENGTH(2) |
| 1622 | FIVE9 | 2350 ADDRESS. HEX LOCATION(00002F96) IN CSECT(I7811) LENGTH(2) |
| 564 | F00099 | 1851 ADDRESS. HEX LOCATION(0000266E) IN CSECT(I7811) LENGTH(1) |
| 586 | F00112 | 415 ADDRESS. HEX LOCATION(0000274A) IN CSECT(I7811) LENGTH(1) |
| 606 | F00119 | 430 ADDRESS. HEX LOCATION(000027D0) IN CSECT(I7811) LENGTH(1) |
| 590 | F00150 | 477 ADDRESS. HEX LOCATION(00002750) IN CSECT(I7811) LENGTH(1) |
| 596 | F00153 | 454 ADDRESS. HEX LOCATION(0000277E) IN CSECT(I7811) LENGTH(1) |
| 622 | F00185 | 457 ADDRESS. HEX LOCATION(00002888) IN CSECT(I7811) LENGTH(1) |
| 626 | F00188 | 489 ADDRESS. HEX LOCATION(0000288E) IN CSECT(I7811) LENGTH(1) |
| 630 | F00192 | 495 ADDRESS. HEX LOCATION(000028AA) IN CSECT(I7811) LENGTH(1) |
| 634 | F00199 | 513 ADDRESS. HEX LOCATION(000028CC) IN CSECT(I7811) LENGTH(1) |
| 638 | F00202 | 531 ADDRESS. HEX LOCATION(000028D2) IN CSECT(I7811) LENGTH(1) |
| 1665 | GDSE0 | 537 ADDRESS. HEX LOCATION(00002FEC) IN CSECT(I7811) LENGTH(2) |
| 1666 | GDSE1 | 1072 1149 1155 1232 1342 1382 1388 1440 ADDRESS. HEX LOCATION(00002FEE) IN CSECT(I7811) LENGTH(2) |
| 1669 | HD0SV | 1073 1163 1169 1234 ADDRESS. HEX LOCATION(00002FF4) IN CSECT(I7811) LENGTH(2) |
| 1670 | HD1SV | 1062 1158 1187 1339 1391 1404 ADDRESS. HEX LOCATION(00002FF6) IN CSECT(I7811) LENGTH(2) |
| 1663 | HEAD0 | 1063 1172 ADDRESS. HEX LOCATION(00002FE8) IN CSECT(I7811) LENGTH(2) |
| 1664 | HEAD1 | 1070 1112 1152 1158 1174 1187 1341 1372 ADDRESS. HEX LOCATION(00002FEA) IN CSECT(I7811) LENGTH(2) |
| 2386 | HEBLK | 1071 1110 1166 1169 1172 1176 ADDRESS. HEX LOCATION(0000347E) IN CSECT(I7811) LENGTH(2) |
| 775 | HTOE | 2333 ABSOLUTE. HEX VALUE(0000001A) |
| 1761 | IDCBCE1 | 2334 ADDRESS. HEX LOCATION(0000307C) IN CSECT(I7811) LENGTH(2) |
| 1763 | IDCBCE2 | 1727 1728 ADDRESS. HEX LOCATION(00003080) IN CSECT(I7811) LENGTH(2) |
| 1765 | IDCBRAP | 1733 1734 ADDRESS. HEX LOCATION(00003084) IN CSECT(I7811) LENGTH(2) |
| 1757 | IDCB0 | 1721 1722 ADDRESS. HEX LOCATION(00003074) IN CSECT(I7811) LENGTH(2) |
| 1759 | IDCB1 | 1746 1747 ADDRESS. HEX LOCATION(00003078) IN CSECT(I7811) LENGTH(2) |
| 751 | IDLE | 1740 1741 ABSOLUTE. HEX VALUE(00000002) |
| 682 | IN | 1079 1133 1347 2083 ABSOLUTE. HEX VALUE(00000023) |
| 2260 | INTBL | 2069 2081 2200 ADDRESS. HEX LOCATION(000032D8) IN CSECT(I7811) LENGTH(2) |
| 2157 | INTER | 2295 ADDRESS. HEX LOCATION(00003240) IN CSECT(I7811) LENGTH(2) |
| 2166 | INTES | 2282 ADDRESS. HEX LOCATION(00003258) IN CSECT(I7811) LENGTH(2) |
| 2170 | INTET | 2161 ADDRESS. HEX LOCATION(00003260) IN CSECT(I7811) LENGTH(2) |
| 2197 | INTOK | 2167 ADDRESS. HEX LOCATION(00003264) IN CSECT(I7811) LENGTH(2) |
| 66 | INTRNL | 2261 ABSOLUTE. HEX VALUE(00000000) |
| 2219 | INTRX | 498 ADDRESS. HEX LOCATION(00003294) IN CSECT(I7811) LENGTH(2) |
| 2200 | INTR1 | 2214 2217 ADDRESS. HEX LOCATION(0000326C) IN CSECT(I7811) LENGTH(2) |
| 2205 | INTR2 | 2165 2169 2171 ADDRESS. HEX LOCATION(0000327A) IN CSECT(I7811) LENGTH(1) |
| 2213 | INTR3 | 2202 ADDRESS. HEX LOCATION(00003288) IN CSECT(I7811) LENGTH(2) |
| 2251 | IOBLK | 2210 ADDRESS. HEX LOCATION(000032CC) IN CSECT(I7811) LENGTH(2) |
| 2253 | IODCB | 892 894 1076 1130 1333 1344 1461 2070 2300 ADDRESS. HEX LOCATION(000032D0) IN CSECT(I7811) LENGTH(2) |

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| DECLARED | NAME | ATTRIBUTES AND REFERENCES |
|----------|----------|--|
| 2254 | IOMOD | 1460 1930 1933 1936 1948 1951 1954 1957 1965 1969 1973 1981 1985 1988 1992 2052 2058 2299 ADDRESS. HEX LOCATION(000032D2) IN CSECT(I7811) LENGTH(2) |
| 40 | I7811 | 896 898 900 902 904 1335 2047 2053 CSECT. START(00002500) LENGTH(3972) ESDID(0) |
| 1619 | LGSEC | 40 ADDRESS. HEX LOCATION(00002F90) IN CSECT(I7811) LENGTH(2) |
| 2367 | LINE1 | 1093 1101 1113 1115 1361 1367 1373 1375 1842 1844 1847 1854 ADDRESS. HEX LOCATION(000033A6) IN CSECT(I7811) LENGTH(40) |
| 702 | LSTIO | 2338 ADDRESS. HEX LOCATION(0000290E) IN CSECT(I7811) LENGTH(2) |
| 679 | MI | 1720 1726 1732 1739 1745 2056 2303 ABSOLUTE. HEX VALUE(00000020) |
| 2341 | MVBUF | 2215 ADDRESS. HEX LOCATION(00003332) IN CSECT(I7811) LENGTH(2) |
| 691 | NG | 2345 2348 ABSOLUTE. HEX VALUE(0000002C) |
| 686 | NI | 2218 ABSOLUTE. HEX VALUE(00000027) |
| 390 | N00001 | 2075 ADDRESS. HEX LOCATION(00002558) IN CSECT(I7811) LENGTH(2) |
| 402 | N00002 | 318 552 ADDRESS. HEX LOCATION(00002570) IN CSECT(I7811) LENGTH(2) |
| 414 | N00003 | 321 ADDRESS. HEX LOCATION(00002584) IN CSECT(I7811) LENGTH(2) |
| 417 | N00004 | 324 ADDRESS. HEX LOCATION(00002588) IN CSECT(I7811) LENGTH(2) |
| 429 | N00005 | 327 403 ADDRESS. HEX LOCATION(0000259C) IN CSECT(I7811) LENGTH(2) |
| 435 | N00006 | 330 ADDRESS. HEX LOCATION(000025A8) IN CSECT(I7811) LENGTH(2) |
| 444 | N00007 | 333 418 555 ADDRESS. HEX LOCATION(000025B6) IN CSECT(I7811) LENGTH(2) |
| 453 | N00008 | 336 ADDRESS. HEX LOCATION(000025C4) IN CSECT(I7811) LENGTH(2) |
| 456 | N00009 | 339 ADDRESS. HEX LOCATION(000025C8) IN CSECT(I7811) LENGTH(2) |
| 459 | N00010 | 342 445 ADDRESS. HEX LOCATION(000025CC) IN CSECT(I7811) LENGTH(2) |
| 462 | N00011 | 345 436 ADDRESS. HEX LOCATION(000025D0) IN CSECT(I7811) LENGTH(2) |
| 464 | N00012 | 348 ADDRESS. HEX LOCATION(000025D2) IN CSECT(I7811) LENGTH(2) |
| 476 | N00013 | 351 460 ADDRESS. HEX LOCATION(000025EA) IN CSECT(I7811) LENGTH(2) |
| 479 | N00014 | 354 ADDRESS. HEX LOCATION(000025EE) IN CSECT(I7811) LENGTH(2) |
| 488 | N00015 | 357 465 ADDRESS. HEX LOCATION(000025FC) IN CSECT(I7811) LENGTH(2) |
| 494 | N00016 | 360 ADDRESS. HEX LOCATION(00002608) IN CSECT(I7811) LENGTH(2) |
| 500 | N00017 | 363 480 ADDRESS. HEX LOCATION(00002614) IN CSECT(I7811) LENGTH(2) |
| 512 | N00018 | 366 391 ADDRESS. HEX LOCATION(00002626) IN CSECT(I7811) LENGTH(2) |
| 518 | N00019 | 369 ADDRESS. HEX LOCATION(00002632) IN CSECT(I7811) LENGTH(2) |
| 530 | N00020 | 372 501 ADDRESS. HEX LOCATION(0000264A) IN CSECT(I7811) LENGTH(2) |
| 536 | N00021 | 375 ADDRESS. HEX LOCATION(00002656) IN CSECT(I7811) LENGTH(2) |
| 61 | OF | 378 519 ABSOLUTE. HEX VALUE(00000202) |
| 60 | ON | 405 420 ABSOLUTE. HEX VALUE(00000200) |
| 644 | OPTN1 | 467 503 ADDRESS. HEX LOCATION(00002902) IN CSECT(I7811) LENGTH(2) |
| 667 | OPTN3 | 886 957 1048 1319 2159 2199 ADDRESS. HEX LOCATION(00002906) IN CSECT(I7811) LENGTH(2) |
| 104 | PARMARA | 2246 2294 ADDRESS. HEX LOCATION(0000196E) IN CSECT(I7811) LENGTH(1) |
| 1662 | PASS1 | 400 412 427 442 451 474 486 510 528 ADDRESS. HEX LOCATION(00002FE6) IN CSECT(I7811) LENGTH(2) |
| 1620 | PHYSC | 1060 1144 1180 1338 1377 1397 ADDRESS. HEX LOCATION(00002F92) IN CSECT(I7811) LENGTH(2) |
| 72 | PID | 1095 1363 1849 1851 1856 ADDRESS. HEX LOCATION(00001800) IN CSECT(I7811) LENGTH(1) |
| 2381 | PIDMSG10 | 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 2349 ABSOLUTE. HEX VALUE(0000F1F0) |
| 761 | PREP | 2349 ABSOLUTE. HEX VALUE(0000000C) |
| 1573 | RDDCB | 1462 2304 ADDRESS. HEX LOCATION(00002F42) IN CSECT(I7811) LENGTH(2) |
| 1195 | RDID | 1945 1948 ADDRESS. HEX LOCATION(00002C3C) IN CSECT(I7811) LENGTH(4) |
| 1409 | RDID1 | 1096 ADDRESS. HEX LOCATION(00002E2C) IN CSECT(I7811) LENGTH(4) |
| 757 | RESET | 1364 ABSOLUTE. HEX VALUE(00000008) |
| 768 | RICB | 893 1077 1131 1345 ABSOLUTE. HEX VALUE(00000013) |
| 758 | RID | 2358 ABSOLUTE. HEX VALUE(00000009) |
| 1595 | RKDCB | 895 1334 ADDRESS. HEX LOCATION(00002F62) IN CSECT(I7811) LENGTH(2) |
| 1505 | RSDCB | 1957 1962 1969 1970 ADDRESS. HEX LOCATION(00002EE2) IN CSECT(I7811) LENGTH(2) |
| 1853 | PTT01 | 965 966 1092 1095 1360 1363 1936 1941 1973 ADDRESS. HEX LOCATION(000030DA) IN CSECT(I7811) LENGTH(4) |
| 707 | SC7ID | 1845 ADDRESS. HEX LOCATION(00002910) IN CSECT(I7811) LENGTH(2) |
| 1630 | SC7ST | 1097 1099 1101 1103 1105 1365 1367 1369 1512 1524 1602 1798 1879 1938 1941 1959 1962 ADDRESS. HEX LOCATION(00002FA6) IN CSECT(I7811) LENGTH(2) |
| | | 1794 1970 1975 1978 |

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| DECLARED | NAME | ATTRIBUTES AND REFERENCES |
|----------|----------|--|
| 1529 | SKDCB | ADDRESS. HEX LOCATION (00002F02) IN CSECT (I7811) LENGTH(2) 961 962 1085 1086 1087 1103 1105 1108 1117 1119 1119 1120 1121 1126 1126 1136 1137 1142 1218 1230 1353 1354 1355 1369 1930 |
| 759 | START | ABSOLUTE. HEX VALUE (0000000A) 2073 |
| 1675 | STATS | ADDRESS. HEX LOCATION (00003000) IN CSECT (I7811) LENGTH(2) 1202 1203 1416 1417 |
| 107 | SUPSTAT | ADDRESS. HEX LOCATION (000019C4) IN CSECT (I7811) LENGTH(1) 2352 |
| 970 | S16E | ADDRESS. HEX LOCATION (000029F2) IN CSECT (I7811) LENGTH(4) 959 964 958 |
| 1133 | TT5 | ADDRESS. HEX LOCATION (00002B62) IN CSECT (I7811) LENGTH(2) 1134 |
| 1851 | TT303 | ADDRESS. HEX LOCATION (000030D2) IN CSECT (I7811) LENGTH(6) 1843 |
| 1857 | TT304 | ADDRESS. HEX LOCATION (000030EA) IN CSECT (I7811) LENGTH(4) 1841 1850 1852 |
| 1800 | TT4Y | ADDRESS. HEX LOCATION (000030A2) IN CSECT (I7811) LENGTH(2) 1796 |
| 95 | TUMSGWTR | ADDRESS. HEX LOCATION (000018BA) IN CSECT (I7811) LENGTH(1) 2354 |
| 79 | TUPARM1 | ADDRESS. HEX LOCATION (0000189A) IN CSECT (I7811) LENGTH(1) 962 1087 1137 1354 |
| 80 | TUPARM2 | ADDRESS. HEX LOCATION (0000189C) IN CSECT (I7811) LENGTH(1) 1121 |
| 101 | TURESUL | ADDRESS. HEX LOCATION (000018C8) IN CSECT (I7811) LENGTH(1) 890 891 1066 1067 1068 1069 1178 1238 1329 1330 1331 1332 1395 1444 |
| 731 | TURTN | ADDRESS. HEX LOCATION (00002940) IN CSECT (I7811) LENGTH(2) 884 955 1046 1317 1459 1464 2359 |
| 77 | TUSTATUS | ADDRESS. HEX LOCATION (00001818) IN CSECT (I7811) LENGTH(1) 2332 |
| 78 | TUWORK | ADDRESS. HEX LOCATION (0000181A) IN CSECT (I7811) LENGTH(1) 2336 2388 |
| 907 | T12A | ADDRESS. HEX LOCATION (000029A4) IN CSECT (I7811) LENGTH(2) 897 |
| 912 | T12B | ADDRESS. HEX LOCATION (000029AA) IN CSECT (I7811) LENGTH(2) 899 |
| 914 | T12C | ADDRESS. HEX LOCATION (000029AE) IN CSECT (I7811) LENGTH(2) 901 |
| 916 | T12D | ADDRESS. HEX LOCATION (000029E2) IN CSECT (I7811) LENGTH(2) 903 |
| 909 | T12E | ADDRESS. HEX LOCATION (000029A6) IN CSECT (I7811) LENGTH(4) 913 915 917 919 |
| 918 | T12F | ADDRESS. HEX LOCATION (000029B6) IN CSECT (I7811) LENGTH(2) 905 |
| 740 | T3C02 | ADDRESS. HEX LOCATION (00002948) IN CSECT (I7811) LENGTH(6) 404 419 |
| 1230 | T50A | ADDRESS. HEX LOCATION (00002C9A) IN CSECT (I7811) LENGTH(6) 1100 |
| 1236 | T50AA | ADDRESS. HEX LOCATION (00002CB6) IN CSECT (I7811) LENGTH(2) 1084 |
| 1113 | T50B | ADDRESS. HEX LOCATION (00002B14) IN CSECT (I7811) LENGTH(6) 1107 1111 1233 1235 |
| 1240 | T50BB | ADDRESS. HEX LOCATION (00002CC2) IN CSECT (I7811) LENGTH(2) 1091 1125 1141 |
| 1112 | T50C | ADDRESS. HEX LOCATION (00002B0E) IN CSECT (I7811) LENGTH(6) 1109 |
| 1237 | T50CC | ADDRESS. HEX LOCATION (00002CB8) IN CSECT (I7811) LENGTH(2) 1241 |
| 1117 | T50D | ADDRESS. HEX LOCATION (00002B26) IN CSECT (I7811) LENGTH(6) 1114 |
| 1094 | T50E | ADDRESS. HEX LOCATION (00002AC4) IN CSECT (I7811) LENGTH(4) 1116 |
| 1128 | T50F | ADDRESS. HEX LOCATION (00002B54) IN CSECT (I7811) LENGTH(2) 1118 |
| 1093 | T50G | ADDRESS. HEX LOCATION (00002ABE) IN CSECT (I7811) LENGTH(6) 1127 1143 |
| 1144 | T50H | ADDRESS. HEX LOCATION (00002B88) IN CSECT (I7811) LENGTH(6) 1129 |
| 1184 | T50I | ADDRESS. HEX LOCATION (00002C1A) IN CSECT (I7811) LENGTH(6) 1145 |
| 1108 | T50J | ADDRESS. HEX LOCATION (00002AFE) IN CSECT (I7811) LENGTH(6) 1098 1102 1104 1106 |
| 1152 | T50L | ADDRESS. HEX LOCATION (00002BA4) IN CSECT (I7811) LENGTH(6) 1147 1150 |
| 1158 | T50M | ADDRESS. HEX LOCATION (00002BB8) IN CSECT (I7811) LENGTH(6) 1153 1156 |
| 1166 | T50N | ADDRESS. HEX LOCATION (00002BD8) IN CSECT (I7811) LENGTH(6) 1161 1164 |
| 1172 | T50R | ADDRESS. HEX LOCATION (00002BEC) IN CSECT (I7811) LENGTH(6) 1167 1170 |
| 1180 | T50S | ADDRESS. HEX LOCATION (00002C10) IN CSECT (I7811) LENGTH(6) 1175 1177 |
| 1243 | T50T | ADDRESS. HEX LOCATION (00002CC6) IN CSECT (I7811) LENGTH(4) 1179 1193 1229 1239 |
| 1058 | T50TC | ADDRESS. HEX LOCATION (00002A20) IN CSECT (I7811) LENGTH(6) 1054 |
| 1078 | T50T1 | ADDRESS. HEX LOCATION (00002A86) IN CSECT (I7811) LENGTH(4) 1055 1058 |
| 1060 | T50T2 | ADDRESS. HEX LOCATION (00002A2C) IN CSECT (I7811) LENGTH(6) 1057 |
| 1132 | T50T3 | ADDRESS. HEX LOCATION (00002B5E) IN CSECT (I7811) LENGTH(4) 1056 1059 |
| 1070 | T50U | ADDRESS. HEX LOCATION (00002A5C) IN CSECT (I7811) LENGTH(6) 1181 |
| 1187 | T50W | ADDRESS. HEX LOCATION (00002C24) IN CSECT (I7811) LENGTH(6) 1185 |
| 1190 | T50X | ADDRESS. HEX LOCATION (00002C2E) IN CSECT (I7811) LENGTH(6) 1188 |
| 1193 | T50Y | ADDRESS. HEX LOCATION (00002C38) IN CSECT (I7811) LENGTH(4) 1191 |
| 1225 | T500 | ADDRESS. HEX LOCATION (00002C90) IN CSECT (I7811) LENGTH(4) 1199 1221 1223 |
| 1224 | T501 | ADDRESS. HEX LOCATION (00002C8E) IN CSECT (I7811) LENGTH(2) 1205 |
| 1228 | T502 | ADDRESS. HEX LOCATION (00002C94) IN CSECT (I7811) LENGTH(2) 1207 |
| 1217 | T503 | ADDRESS. HEX LOCATION (00002C74) IN CSECT (I7811) LENGTH(2) 1209 1211 |

| DECLARED | NAME | ATTRIBUTES AND REFERENCES |
|----------|-------|--|
| 1215 | T504 | ADDRESS. HEX LOCATION (00002C70) IN CSECT (I7811) LENGTH(2) 1213 |
| 1218 | T505 | ADDRESS. HEX LOCATION (00002C76) IN CSECT (I7811) LENGTH(6) 1216 |
| 1222 | T506 | ADDRESS. HEX LOCATION (00002C86) IN CSECT (I7811) LENGTH(6) 1219 |
| 1234 | T507 | ADDRESS. HEX LOCATION (00002CAC) IN CSECT (I7811) LENGTH(6) 1231 |
| 1440 | T51A | ADDRESS. HEX LOCATION (00002E7A) IN CSECT (I7811) LENGTH(6) 1366 |
| 1442 | T51AA | ADDRESS. HEX LOCATION (00002E84) IN CSECT (I7811) LENGTH(2) 1352 |
| 1373 | T51F | ADDRESS. HEX LOCATION (00002DAE) IN CSECT (I7811) LENGTH(6) 1371 1441 |
| 1446 | T51BB | ADDRESS. HEX LOCATION (00002E90) IN CSECT (I7811) LENGTH(2) 1359 |
| 1443 | T51CC | ADDRESS. HEX LOCATION (00002E86) IN CSECT (I7811) LENGTH(2) 1447 |
| 1362 | T51E | ADDRESS. HEX LOCATION (00002D7E) IN CSECT (I7811) LENGTH(4) 1376 |
| 1377 | T51H | ADDRESS. HEX LOCATION (00002DBE) IN CSECT (I7811) LENGTH(6) 1374 |
| 1401 | T51I | ADDRESS. HEX LOCATION (00002F14) IN CSECT (I7811) LENGTH(6) 1378 |
| 1372 | T51J | ADDRESS. HEX LOCATION (00002DA8) IN CSECT (I7811) LENGTH(6) 1368 1370 |
| 1385 | T51L | ADDRESS. HEX LOCATION (00002DDA) IN CSECT (I7811) LENGTH(6) 1380 1383 |
| 1391 | T51M | ADDRESS. HEX LOCATION (00002DEE) IN CSECT (I7811) LENGTH(6) 1386 1389 |
| 1397 | T51S | ADDRESS. HEX LOCATION (00002E0A) IN CSECT (I7811) LENGTH(6) 1394 |
| 1449 | T51T | ADDRESS. HEX LOCATION (00002E94) IN CSECT (I7811) LENGTH(4) 1330 1396 1407 1439 1445 |
| 1328 | T51TC | ADDRESS. HEX LOCATION (00002CEE) IN CSECT (I7811) LENGTH(6) 1325 |
| 1346 | T51T1 | ADDRESS. HEX LOCATION (00002D40) IN CSECT (I7811) LENGTH(4) 1326 1328 |
| 1329 | T51T2 | ADDRESS. HEX LOCATION (00002CF4) IN CSECT (I7811) LENGTH(4) 1327 |
| 1341 | T51U | ADDRESS. HEX LOCATION (00002D28) IN CSECT (I7811) LENGTH(6) 1398 |
| 1404 | T51W | ADDRESS. HEX LOCATION (00002E1E) IN CSECT (I7811) LENGTH(6) 1402 |
| 1407 | T51Y | ADDRESS. HEX LOCATION (00002E28) IN CSECT (I7811) LENGTH(4) 1405 |
| 1338 | T51YY | ADDRESS. HEX LOCATION (00002D16) IN CSECT (I7811) LENGTH(6) 1336 |
| 1435 | T510 | ADDRESS. HEX LOCATION (00002E70) IN CSECT (I7811) LENGTH(4) 1409 1413 1433 |
| 1434 | T511 | ADDRESS. HEX LOCATION (00002E6E) IN CSECT (I7811) LENGTH(2) 1419 |
| 1438 | T512 | ADDRESS. HEX LOCATION (00002E74) IN CSECT (I7811) LENGTH(2) 1421 |
| 1431 | T513 | ADDRESS. HEX LOCATION (00002E64) IN CSECT (I7811) LENGTH(2) 1423 1425 |
| 1429 | T514 | ADDRESS. HEX LOCATION (00002E60) IN CSECT (I7811) LENGTH(2) 1427 |
| 1432 | T516 | ADDRESS. HEX LOCATION (00002E66) IN CSECT (I7811) LENGTH(6) 1430 |
| 1464 | T72A | ADDRESS. HEX LOCATION (00002EAA) IN CSECT (I7811) LENGTH(4) 482 |
| 1465 | T72B | ADDRESS. HEX LOCATION (00002EAE) IN CSECT (I7811) LENGTH(4) 1463 |
| 1079 | T750 | ADDRESS. HEX LOCATION (00002A8A) IN CSECT (I7811) LENGTH(2) 1080 |
| 1347 | T751 | ADDRESS. HEX LOCATION (00002D44) IN CSECT (I7811) LENGTH(2) 1348 |
| 884 | T7812 | ADDRESS. HEX LOCATION (00002950) IN CSECT (I7811) LENGTH(4) 502 |
| 955 | T7838 | ADDRESS. HEX LOCATION (000029BA) IN CSECT (I7811) LENGTH(4) 437 446 |
| 1046 | T7850 | ADDRESS. HEX LOCATION (000029F6) IN CSECT (I7811) LENGTH(4) 392 466 520 |
| 1459 | T7872 | ADDRESS. HEX LOCATION (00002E98) IN CSECT (I7811) LENGTH(4) 481 |
| 1562 | VRDCB | ADDRESS. HEX LOCATION (00002F32) IN CSECT (I7811) LENGTH(2) 1951 |
| 1584 | WKDCB | ADDRESS. HEX LOCATION (00002F52) IN CSECT (I7811) LENGTH(2) 1965 1966 1981 1982 |
| 1551 | WRDCB | ADDRESS. HEX LOCATION (00002F22) IN CSECT (I7811) LENGTH(2) 1954 |
| 1623 | WPSID | ADDRESS. HEX LOCATION (00002F98) IN CSECT (I7811) LENGTH(2) 1502 1591 1799 1880 1982 1986 |
| 1495 | WSDCB | ADDRESS. HEX LOCATION (00002ED2) IN CSECT (I7811) LENGTH(2) 1985 1986 1988 1989 |
| 1627 | WSIDT | ADDRESS. HEX LOCATION (00002FA0) IN CSECT (I7811) LENGTH(2) 1795 1966 1989 |
| 683 | XE | ABSOLUTE. HEX VALUE (00000024) 2166 2228 |
| 681 | XI | ABSOLUTE. HEX VALUE (00000022) 2072 2213 |
| 2047 | XIO | ADDRESS. HEX LOCATION (000031CE) IN CSECT (I7811) LENGTH(4) 1931 1934 1942 1949 1952 1955 1963 1967 1971 |
| 2228 | XIOCK | ADDRESS. HEX LOCATION (00003296) IN CSECT (I7811) LENGTH(2) 2082 |
| 2235 | XIOCO | ADDRESS. HEX LOCATION (000032A8) IN CSECT (I7811) LENGTH(2) 2233 |
| 2052 | XIOCS | ADDRESS. HEX LOCATION (000031D8) IN CSECT (I7811) LENGTH(6) 2244 |
| 2237 | XIOCV | ADDRESS. HEX LOCATION (000032AC) IN CSECT (I7811) LENGTH(2) 2231 |
| 2246 | XIOCX | ADDRESS. HEX LOCATION (000032C6) IN CSECT (I7811) LENGTH(4) 2238 |
| 2121 | XIOER | ADDRESS. HEX LOCATION (00003234) IN CSECT (I7811) LENGTH(2) 2252 |
| 2056 | XIO1 | ADDRESS. HEX LOCATION (000031E8) IN CSECT (I7811) LENGTH(4) 2048 |
| 2069 | XIO2 | ADDRESS. HEX LOCATION (0000320F) IN CSECT (I7811) LENGTH(2) 2055 |

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|----------|-------|--|
| 2081 | XIO8 | ADDRESS. HEX LOCATION(00003222) IN CSECT(I7811) LENGTH(2) 2086 |
| 65 | XTRNL | ABSOLUTE. HEX VALUE(00000001) 433 492 516 534 540 |
| 1605 | ZERO0 | ADDRESS. HEX LOCATION(00002F72) IN CSECT(I7811) LENGTH(2) 1099 1108 1117 1178 1365 1395 1842 |

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