

PAGE	1	MODIFI SRC	MODIFI	ROUTINE TO ADD, DELETE COMPONENTS, CONN
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1				.TITLE MODIFI ROUTINE TO ADD, DELETE COMPONENTS, CONNECTIONS
2	/			-----
3	/			
4	/			REDAC SOFTWARE LIMITED
5	/			
6	/1			SUITE : P.C.B. LAYOUT
7	/2			PROGRAM TITLE: REDAL 3 MARK 5
8	/3			ROUTINE TITLE: MODIFI
9	/			
10	/			THIS PROGRAM SOURCE FILE IS SUPPLIED IN CONFIDENCE TO THE
11	/			CUSTOMER; THE CONTENTS OR DETAILS OF ITS OPERATION MAY
12	/			ONLY BE DISCLOSED TO PERSONS EMPLOYED BY THE CUSTOMER WHO
13	/			REQUIRE A KNOWLEDGE OF THE SOFTWARE CODING TO CARRY OUT
14	/			THEIR JOB. DISCLOSURE TO ANY OTHER PERSON MUST HAVE PRIOR
15	/			AUTHORISATION FROM THE DIRECTORS OF REDAC SOFTWARE LIMITED.
16	/			
17	/4			AUTHOR : ANON.
18	/5			DATE : ORIGINAL DEVELOPMENT
19	/			
20	/6			PURPOSE : TO PROVIDE A MEANS OF ADDING AND DELETING
21	/			COMPONENTS AND CONNECTIONS WHILE WORKING ONLINE.
22	/			
23				.EJECT

PAGE	2	MODIFI SRC	MODIFI	ROUTINE TO ADD, DELETE COMPONENTS, CONNECTI
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24 /
25 /7 CALLING SEQUENCE AND DESCRIPTION OF ARGUMENTS:
26 /
27 JMS* MODIFI
28 JMP .+1+11
29 .DSA ARG1 /START ADDRESS OF COMPONENTS ARRAY
30 .DSA ARG2 /USED LENGTH OF COMPONENTS ARRAY
31 .DSA ARG3 /START ADDRESS OF CONNECTIONS ARRAY
32 .DSA ARG4 /USED LENGTH OF CONNECTIONS ARRAY
33 .DSA ARG5 /START ADDRESS OF ROUTES ARRAY
34 .DSA ARG6 /USED LENGTH OF ROUTES ARRAY
35 .DSA ARG7 /START ADDRESS OF LIBRARY ARRAY
36 .DSA ARG8 /USED LENGTH OF LIBRARY ARRAY
37 .DSA ARG9 /MODE OF USE (1 DELETE, 2 ADD)
38 /
39 /8 I/O DEVICES AND FUNCTIONS:
40 /
41 VTA. .DAT+10 DRAW AND READ POSITION OF TRACKING CROSS
42 LPA. .DAT+4 DETAILS OF MODIFICATIONS MADE TO DATA
43 TTA. .DAT+4 CONDITIONAL ASSEMBLY WITH LPA.
44 TTA. .DAT-3 COMMUNICATION WITH USER, ERRORS.
45 /
46 /9 REGISTERS USED:
47 /
48 ACCUMULATOR
49 LINK
50 MULTIPLIER/QUOTIENT (EAE)
51 AUTOINCREMENTS 10, 11 AND 12
52 /
53 /10 EXTERNAL COMMON AREAS:
54 /
55 00000 R 000000 A PUSBUT .CBD PUSBUT 1
56 00001 R 000000 A SIZE .CBD SIZE 1
57 00002 R 000000 A NAMES .CBD NAMES 1
58 00003 R 000000 A EONAME .CBD EONAME 1
59 /
60 /12 EXTERNAL GLOBALS:
61 /
62 DRAWCP TRACK NAME1 NUMBER IWIDTH BUTTON
63 ASS4 MESS1 SUBCON SUBCOM ADDCON SUBNOD
64 SCALUP .DA MF.101 DFLPK
65 /
66 /13 INTERNAL GLOBALS:
67 /
68 MODIFI SUBROUTINE NAME
69 /
70 /14 CONDITIONAL ASSEMBLY PARAMETERS:
71 /
72 SLOT=4 LPA. ASSIGNED TO .DAT+4 ELSE TTA.
73 /
74 .EJECT

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75 /
76 /15 METHOD :
77 /
78 /16 AMMENDMENTS :
79 / 1) A CALL TO ASS4 WAS INCLUDED TO REMOVE THIS REASSIGNMENT
80 / TASK FROM THE HIGHER LEVEL OVERLAY. A MODE PARAMETER
81 / WAS ADDED (1 FOR DELETE, 2 FOR ADD) AND THE ASSOCIATED
82 / KEY SELECTION WAS DELETED IN ORDER THAT THIS CHOICE
83 / COULD BE MADE IN THE HIGHER OVERLAY.
84 / (MARK 5 TO 7 D. J. ELLIS 2/74)
85 /
86 /-----
87 .EJECT

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PAGE	4	MODIFI SRC	MODIFI	ROUTINE TO ADD, DELETE COMPONENTS, CONNECTI
88				.GLOBL DRAWCP, TRACK, NAME1, NUMBER, IWIDTH, BUTTON, ASS4
89				.GLOBL MODIFI, MESS1, SUBCON, SUBCOM, ADDCON, SUBNOD, SCALUP, .DA, MF, 101, DFLPK
90	00004	R 740040	A	MODIFI XX
91	00005	R 122601	E	JMS* .DA
92	00006	R 600020	R	JMP START
93	00007	R 000000	A	COMPAD 0
94	00010	R 000000	A	EOCOMP
95	00011	R 000000	A	CONNAD 0
96	00012	R 000000	A	EOCONN
97	00013	R 000000	A	ROUTAD 0
98	00014	R 000000	A	EOROUT
99	00015	R 000000	A	LIBAD 0
100	00016	R 000000	A	EOLIB
101	00017	R 000000	A	MODE 0 /AMMENDMENT 1
102	00020	R 220013	R	START LAC* ROUTAD
103	00021	R 040013	R	DAC ROUTAD
104	00022	R 122563	E	JMS* ASS4
105				.INIT 4, 1, MODIFI+1
	00023	R 001004	A *G	CAL+1*1000 4&777
	00024	R 000001	A *G	1
	00025	R 000005	R *G	MODIFI+1+0
	00026	R 000000	A *G	0
106	00027	R 220000	R	LAC* PUSBUT
107	00030	R 042530	R	DAC MESS#
108	00031	R 202567	E	LAC IWIDTH
109	00032	R 041411	R	DAC NAME+10
110	00033	R 200007	R	LAC COMPAD
111	00034	R 041542	R	DAC ARG4
112	00035	R 041403	R	DAC NAME+2
113	00036	R 041646	R	DAC ARG1
114	00037	R 040232	R	DAC ARG2
115	00040	R 040331	R	DAC ARG3
116	00041	R 200010	R	LAC EOCOMP
117	00042	R 041543	R	DAC ARG4+1
118	00043	R 041404	R	DAC NAME+3
119	00044	R 040233	R	DAC ARG2+1
120	00045	R 040332	R	DAC ARG3+1
121	00046	R 200011	R	LAC CONNAD
122	00047	R 041405	R	DAC NAME+4
123	00050	R 040234	R	DAC ARG2+2
124	00051	R 040333	R	DAC ARG3+2
125	00052	R 200012	R	LAC EOCONN
126	00053	R 041406	R	DAC NAME+5
127	00054	R 040235	R	DAC ARG2+3
128	00055	R 040334	R	DAC ARG3+3
129	00056	R 200015	R	LAC LIBAD
130	00057	R 041647	R	DAC ARG1+1
131	00060	R 041407	R	DAC NAME+6
132	00061	R 200016	R	LAC EOLIB
133	00062	R 041410	R	DAC NAME+7
134	00063	R 200014	R	LAC EOROUT
135	00064	R 040336	R	DAC ARG3+5

PAGE 5 MODIFI SRC MODIFI ROUTINE_TO ADD, DELETE COMPONENTS, CONNECT

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136 00065 R 141473 R DZM LAG1 /AMMENDMENT 1
137 00066 R 220017 R LAC* MODE
138 00067 R 542602 R SAD (1
139 00070 R 600074 R JMP DELETE
140 00071 R 542603 R SAD (2
141 00072 R 601272 R JMP ADD
142 00073 R 620004 R MAINLP JMP* MODIFI
143 /
144 /
145 /
146 /
147 00074 R 750001 A DELETE CLC
148 00075 R 042522 R DAC FLAG#
149 00076 R 202530 R LAC MESS
150 00077 R 652000 A LMQ
151 00100 R 202604 R LAC (Y2
152 00101 R 162530 R DZM* MESS
153 00102 R 122570 E JMS* MESS1 /1 COMPONENT 2 CONNEXION
154 00103 R 122564 E WAIT2 JMS* BUTTON
155 00104 R 542602 R SAD (1
156 00105 R 600113 R JMP DELCOM
157 00106 R 542603 R SAD (2
158 00107 R 600123 R JMP DELCON
159 00110 R 542605 R SAD (6
160 00111 R 600073 R JMP MAINLP
161 00112 R 600103 R JMP WAIT2
162 /
163 /
164 /
165 /
166 00113 R 202602 R DELCOM LAC (1
167 00114 R 042523 R DAC IND#
168 00115 R 202530 R LAC MESS
169 00116 R 652000 A LMQ
170 00117 R 202606 R LAC (Y4
171 00120 R 162530 R DZM* MESS
172 00121 R 122570 E JMS* MESS1 /SELECT COMPONENT
173 00122 R 600132 R JMP COMMON
174 00123 R 202603 R DELCON LAC (2
175 00124 R 042523 R DAC IND
176 00125 R 202530 R LAC MESS
177 00126 R 652000 A LMQ
178 00127 R 202607 R LAC (Y5
179 00130 R 162530 R DZM* MESS
180 00131 R 122570 E JMS* MESS1 /SELECT CONNEXION
181 /
182 /
183 /
184 00132 R 122565 E COMMON JMS* DFLPK
185 00133 R 741000 A SKP
186 00134 R 002523 R .DSA IND
187 00135 R 741100 A SPA

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188 00136 R 600073 R JMP MAINLP /NON D.S. ITEM SEEN
189 00137 R 042516 R DAC DISPAD
190 00140 R 202523 R LAC IND
191 00141 R 652000 A LMQ
192 00142 R 222516 R LAC* DISPAD
193 00143 R 042520 R DAC DSLINK# /LINK TO D.S.
194 00144 R 202516 R LAC DISPAD
195 00145 R 740031 A TCA
196 00146 R 122566 E JMS* DRAWCP /DELETE ITEM FROM DFILE
197 /
198 /
199 /
200 00147 R 202530 R LAC MESS
201 00150 R 652000 A LMQ
202 00151 R 202610 R LAC (Y3
203 00152 R 162530 R DZM* MESS
204 00153 R 122570 E JMS* MESS1 /HIT BUTTON 6 TO REPLACE
205 00154 R 122564 E WAIT3 JMS* BUTTON
206 00155 R 542605 R SAD (6
207 00156 R 600677 R JMP REPLAC
208 /
209 / DELETE ITEM FROM D.S
210 /
211 00157 R 202523 R LAC IND
212 00160 R 542602 R SAD (1
213 00161 R 600237 R JMP COMDEL
214 00162 R 202520 R LAC DSLINK
215 00163 R 723776 A AAC -2
216 00164 R 042547 R DAC SCAN#
217 00165 R 222547 R LAC* SCAN
218 00166 R 744000 A CLL
219 00167 R 640511 A LRS 11
220 00170 R 042545 R DAC PTR2#
221 00171 R 744010 A RCL
222 00172 R 342545 R TAD PTR2
223 00173 R 744010 A RCL
224 00174 R 340007 R TAD COMPAD
225 00175 R 042515 R DAC CSCAN# /FIRST WORD COMP.
226 00176 R 222515 R LAC* CSCAN
227 00177 R 340011 R TAD CONNAD
228 00200 R 723777 A AAC -1
229 00201 R 723003 A CONLUP AAC 3
230 00202 R 042550 R DAC TEMP#
231 00203 R 222550 R LAC* TEMP
232 00204 R 741200 A SNA
233 00205 R 600210 R JMP .+3
234 00206 R 202550 R LAC TEMP
235 00207 R 600201 R JMP CONLUP
236 00210 R 202550 R LAC TEMP
237 00211 R 723776 A AAC -2
238 00212 R 042550 R DAC TEMP
239 00213 R 222550 R LAC* TEMP

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240      00214 R 744000 A      CLL
241      00215 R 640511 A      LRS 11
242      00216 R 042544 R      DAC PTR1#
243      00217 R 222547 R      LAC* SCAN
244      00220 R 502611 R      AND (77
245      00221 R 042535 R      DAC NOD1#
246      00222 R 442547 R      ISZ SCAN
247      00223 R 222547 R      LAC* SCAN
248      00224 R 502611 R      AND (77
249      00225 R 042536 R      DAC NOD2#
250      00226 R 100767 R      JMS PRINT
251      00227 R 122576 E      JMS* SUBCON
252      00230 R 600073 R      JMP MAINLP
253      00231 R 002612 R      .DSA (0 /D.F.ADDR
254      00232 R 000000 A      ARG2 0 /COMPAD
255      00233 R 000000 A      0 /EOCOMP
256      00234 R 000000 A      0 /CONNAD
257      00235 R 000000 A      0 / EOCONN
258      00236 R 002602 R      .DSA (1 /MODE TO UPDATE D.F.ADDRESSES
259      /
260      /
261      /
262      00237 R 442520 R      COMDEL ISZ DSLINK
263      00240 R 222520 R      LAC* DSLINK
264      00241 R 342613 R      TAD (2000
265      00242 R 062520 R      DAC* DSLINK /D.F ADDR=1
266      00243 R 202520 R      LAC DSLINK
267      00244 R 723774 A      AAC -4
268      00245 R 042520 R      DAC DSLINK
269      00246 R 222520 R      LAC* DSLINK
270      00247 R 040675 R      DAC BUFF3 /1ST NAME WORD
271      00250 R 442520 R      ISZ DSLINK
272      00251 R 222520 R      LAC* DSLINK
273      00252 R 502614 R      AND (777400
274      00253 R 723032 A      AAC 32 /C.R
275      00254 R 040676 R      DAC BUFF3+1
276      00255 R      LAB3 .WRITE 4,2,MESSE,34
277      00255 R 002004 A *G      CAL+2*1000 4&777
278      00256 R 000011 A *G      11
279      00257 R 000663 R *G      MESSE
280      *G      .DEC
281      00260 R 777736 A *G      -34
282      .WAIT 4
283      00261 R 000004 A *G      CAL 4&777
284      00262 R 000012 A *G      12
285      00263 R 202615 R      LAC (-1
286      00264 R 042511 R      DAC ADFLG
287      00265 R 202520 R      NLAB LAC DSLINK
288      00266 R 723776 A      AAC -2
289      00267 R 042520 R      DAC DSLINK /FIRST WORD OF COMPONENT
290      00270 R 222520 R      LAC* DSLINK
291      00271 R 741200 A      SNA

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PAGE	8	MODIFI SRC	MODIFI	ROUTINE TO ADD, DELETE COMPONENTS, CONNECTI
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285	00272	R 600326	R	JMP REMOVE /NO CONNS
286	00273	R 340011	R	TAD CONNAD
287	00274	R 723777	A	AAC -1
288	00275	R 042547	R	DAC SCAN
289	00276	R 222547	R	LAC* SCAN
290	00277	R 652000	A	LMQ
291	00300	R 502616	R	AND (777
292	00301	R 740031	A	TCA
293	00302	R 042537	R	DAC NOFCNS#
294	00303	R 750000	A	CLA
295	00304	R 640611	A	LLS 11
296	00305	R 042544	R	DAC PTR1
297	00306	R 442547	R	CONLP ISZ SCAN
298	00307	R 222547	R	LAC* SCAN
299	00310	R 652000	A	LMQ
300	00311	R 502611	R	AND (77
301	00312	R 042535	R	DAC NOD1
302	00313	R 750000	A	CLA
303	00314	R 640611	A	LLS 11
304	00315	R 042545	R	DAC PTR2
305	00316	R 442547	R	ISZ SCAN
306	00317	R 222547	R	LAC* SCAN
307	00320	R 502611	R	AND (77
308	00321	R 042536	R	DAC NOD2
309	00322	R 442547	R	ISZ SCAN
310	00323	R 100767	R	JMS PRINT /PRINT OUT CONNEXION
311	00324	R 442537	R	ISZ NOFCNS
312	00325	R 600306	R	JMP CONLP
313	00326	R 122575	E	REMOVE JMS* SUBCOM
314	00327	R 600340	R	JMP COPY
315	00330	R 002602	R	.DSA (1 /D.F ADDR
316	00331	R 000000	A	ARG3 0 /COMPAD
317	00332	R 000000	A	0 /EOCOMP
318	00333	R 000000	A	0 /CONNAD
319	00334	R 000000	A	0 /EOCONN
320	00335	R 000013	R	.DSA ROUTAD /ROTAD
321	00336	R 000000	A	0 /EOROUT
322	00337	R 000517	R	.DSA BUFF2
323				/
324				/ COPY LAST COMPONENT IN DATA STRUCTURE INTO GAP.
325				/
326	00340	R 202520	R	COPY LAC DSLINK / 1ST WORD OF GAP
327	00341	R 723777	A	AAC -1
328	00342	R 062617	R	DAC* (11
329	00343	R 723002	A	AAC 2
330	00344	R 740031	A	TCA
331	00345	R 340007	R	TAD COMPAD
332	00346	R 740031	A	TCA
333	00347	R 652000	A	LMQ
334	00350	R 754000	A	CLL!CLA
335	00351	R 640323	A	DIV
336	00352	R 000006	A	6

PAGE	9	MODIFI SRC	MODIFI	ROUTINE TO ADD, DELETE COMPONENTS, CONNEC
337	00353	R 641002 A	LAC	
338	00354	R 042544 R	DAC PTR1 /	SET UP REL PTR BACK TO COMP IN NEW POSITION
339	00355	R 360002 R	TAD*	NAMES
340	00356	R 042554 R	DAC TWO*	
341	00357	R 220003 R	LAC*	EONAME
342	00360	R 723777 A	AAC -1	
343	00361	R 060003 R	DAC*	EONAME
344	00362	R 360002 R	TAD*	NAMES
345	00363	R 042553 R	DAC TWIT*	
346	00364	R 222553 R	LAC*	TWIT
347	00365	R 062554 R	DAC*	TWOO
348	00366	R 220010 R	LAC*	EOCOMP
349	00367	R 723772 A	AAC -6	
350	00370	R 060010 R	DAC*	EOCOMP / RESET END OF COMPS PTR.
351	00371	R 723776 A	AAC -2	
352	00372	R 340007 R	TAD COMPAD /	1ST WORD OF FINAL COMP.
353	00373	R 062620 R	DAC*	(12
354	00374	R 740031 A	TCA	
355	00375	R 362617 R	TAD*	(11
356	00376	R 741200 A	SNA	
357	00377	R 600073 R	JMP MAINLP /	FINAL COMP DELETED
358	00400	R 777772 A	LAW -6	
359	00401	R 042540 R	DAC PCNT	
360	00402	R 220012 A	LAC*	12
361	00403	R 060011 A	DAC*	11 / COPY UP COMPONENT
362	00404	R 442540 R	ISZ PCNT	
363	00405	R 600402 R	JMP .-3	
364	00406	R 202520 R	LAC DSLINK	
365	00407	R 723004 A	AAC 4	
366	00410	R 042550 R	DAC TEMP	
367	00411	R 723001 A	AAC 1	
368	00412	R 042551 R	DAC TEMP1*	
369	00413	R 222550 R	LAC*	TEMP
370	00414	R 502621 R	AND (776000	
371	00415	R 042550 R	DAC TEMP	
372	00416	R 222551 R	LAC*	TEMP1
373	00417	R 744000 A	CLL	
374	00420	R 640510 A	LRS 10	
375	00421	R 242550 R	XOR TEMP	
376	00422	R 640502 A	LRS 2 /	D.F. ADDRESS
377	00423	R 042550 R	DAC TEMP	
378	00424	R 723776 A	AAC -2	
379	00425	R 741100 A	SPA	
380	00426	R 600432 R	JMP .+4 /	ZERO D.F. ADDRESS
381	00427	R 202520 R	LAC DSLINK	
382	00430	R 723004 A	AAC 4	
383	00431	R 062550 R	DAC*	TEMP / UPDATE COMP NAME WORD IN D.F.
384	00432	R 222520 R	LAC*	DSLINK
385	00433	R 741200 A	SNA	
386	00434	R 600073 R	JMP MAINLP /	NO CONNS
387	00435	R 340011 R	TAD CONNAD	
388	00436	R 723777 A	AAC -1	

PAGE	10	MODIFI	SRC	MODIFI	ROUTINE TO ADD, DELETE COMPONENTS, CONNECTI
389		00437	R	042547	R DAC SCAN
390		00440	R	222547	R LAC* SCAN
391		00441	R	744000	A CLL
392		00442	R	640511	A LRS 11
393		00443	R	502616	R AND (777
394		00444	R	042546	R DAC PTR3# / PTR TO ORIGINAL COMP POSITION IN ARRAY
395		00445	R	202544	R LAC PTR1 / PTR TO NEW COMP POSITION IN ARRAY
396		00446	R	640611	A LLS 11
397		00447	R	062547	R DAC* SCAN / UPDATE PTR BACK TO COMP
398		00450	R	502616	R AND (777
399		00451	R	740031	A TCA
400		00452	R	042537	R DAC NOFCNS / -NO OF CONNS TO THIS COMP.
401		00453	R	442547	R DLOOP ISZ SCAN
402		00454	R	222547	R LAC* SCAN
403		00455	R	744000	A CLL
404		00456	R	640511	A LRS 11
405		00457	R	042545	R DAC PTR2
406		00460	R	744010	A RCL
407		00461	R	342545	R TAD PTR2
408		00462	R	744010	A RCL
409		00463	R	340007	R TAD COMPAD
410		00464	R	042515	R DAC CSCAN / PTR TO OTHER COMP
411		00465	R	222515	R LAC* CSCAN
412		00466	R	340011	R TAD CONNAD
413		00467	R	723777	A AAC -1
414		00470	R	042515	R DAC CSCAN / PTR TO CONNECTIONS OF OTHER COMP.
415		00471	R	222515	R LAC* CSCAN
416		00472	R	502616	R AND (777
417		00473	R	740031	A TCA
418		00474	R	042533	R DAC NOCNS#
419		00475	R	442515	R DLP ISZ CSCAN
420		00476	R	222515	R LAC* CSCAN
421		00477	R	652000	A LMQ
422		00500	R	750000	A CLA
423		00501	R	640611	A LLS 11
424		00502	R	542546	R SAD PTR3
425		00503	R	202544	R LAC PTR1
426		00504	R	640611	A LLS 11
427		00505	R	062515	R DAC* CSCAN / REPLACE PTR TO OTHER COMP.
428		00506	R	442515	R ISZ CSCAN
429		00507	R	442515	R ISZ CSCAN
430		00510	R	442533	R ISZ NOCNS
431		00511	R	600475	R JMP DLP
432		00512	R	442547	R ISZ SCAN
433		00513	R	442547	R ISZ SCAN
434		00514	R	442537	R ISZ NOFCNS
435		00515	R	600453	R JMP DLOOP
436		00516	R	600073	R JMP MAINLP
437					/
438					/
439					/
440		00517	R	A	BUFF2 .BLOCK 144

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441      00663 R 006002 A      MES 6002: 0; ASCII /COMP(S) DELETED /
      00664 R 000000 A
      00665 R 416371 A
      00666 R 550120 A
      00667 R 515224 A
      00670 R 042212 A
      00671 R 462132 A
      00672 R 442610 A
      00673 R 201000 A
      00674 R 000000 A
442      00675 R 000000 A      BUFF3 0: 0
      00676 R 000000 A
443
444
445
446
447
448
449
450
451
452
453      00677 R 202523 R      REPLAC LAC IND
454      00700 R 542603 R      SAD (2
455      00701 R 600726 R      JMP REPCON /REPLACE CONNEXION
456      00702 R 202516 R      LAC DISFAD
457      00703 R 723777 A      AAC -1
458      00704 R 042516 R      DAC DISFAD
459      00705 R 202622 R      LAC (235176
460      00706 R 062516 R      DAC* DISFAD
461      00707 R 442516 R      ISZ DISFAD
462      00710 R 202520 R      LAC DSLINK
463      00711 R 062516 R      DAC* DISFAD
464      00712 R 202516 R      LAC DISFAD
465      00713 R 742010 A      RTL
466      00714 R 502621 R      AND (776000
467      00715 R 362520 R      TAD* DSLINK
468      00716 R 062520 R      DAC* DSLINK
469      00717 R 442520 R      ISZ DSLINK
470      00720 R 202516 R      LAC DISFAD
471      00721 R 640612 A      LLS 12
472      00722 R 502621 R      AND (776000
473      00723 R 362520 R      TAD* DSLINK
474      00724 R 062520 R      DAC* DSLINK
475      00725 R 600073 R      JMP MAINLP /D.F. POINTER REPLACED
476
477
478
479      00726 R 202516 R      REPCON LAC DISFAD
480      00727 R 723777 A      AAC -1
481      00730 R 042516 R      DAC DISFAD
482      00731 R 202623 R      LAC (235177
```

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483      00732 R 062516 R      DAC* DISPAD
484      00733 R 442516 R      ISZ DISPAD
485      00734 R 202520 R      LAC DSLINK
486      00735 R 062516 R      DAC* DISPAD
487      00736 R 723776 A      AAC -2
488      00737 R 042547 R      DAC SCAN
489      00740 R 222547 R      LAC* SCAN
490      00741 R 744000 A      CLL
491      00742 R 640511 A      LRS 11
492      00743 R 042544 R      DAC PTR1
493      00744 R 744010 A      RCL
494      00745 R 342544 R      TAD PTR1
495      00746 R 744010 A      RCL
496      00747 R 340007 R      TAD COMPAD
497      00750 R 042515 R      DAC CSCAN
498      00751 R 222515 R      LAC* CSCAN /POINTER TO CONNS.
499      00752 R 340011 R      TAD CONNAD
500      00753 R 723777 A      AAC -1
501      00754 R 723003 A      AAC 3
502      00755 R 042550 R      DAC TEMP
503      00756 R 222550 R      LAC* TEMP
504      00757 R 741200 A      SNA
505      00760 R 600763 R      JMP .+3
506      00761 R 202550 R      LAC TEMP
507      00762 R 600754 R      JMP .-6
508      00763 R 202516 R      LAC DISPAD
509      00764 R 062520 R      DAC* DSLINK
510      00765 R 062550 R      DAC* TEMP
511      00766 R 600073 R      JMP MAINLP
512      /
513      /
514      /
515      /
516      /
517      00767 R 740040 A      PRINT XX
518      00770 R 202522 R      LAC FLAG
519      00771 R 741300 A      SPA!SNA
520      00772 R 601023 R      JMP MINUS /NOT GREATER THAN ZERO
521      00773 R 142522 R      DZM FLAG
522      00774 R 202511 R      LAC ADFLG
523      00775 R 723776 A      AAC -2
524      00776 R 741200 A      SNA
525      00777 R 601050 R      JMP MESOUT
526      .INIT -3,1,PRINT
          CAL+1*1000 -3&777
          1
          PRINT+0
          0
527      .WRITE -3,2,MESSB,34
          CAL+2*1000 -3&777
          11
          MESSB
01000 R 001775 A *G
01001 R 000001 A *G
01002 R 000767 R *G
01003 R 000000 A *G
01004 R 002775 A *G
01005 R 000011 A *G
01006 R 001244 R *G

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528      01007 R 777736 A *G      .DEC
      01010 R 000775 A *G      -34
      01011 R 000012 A *G      .WAIT -3
      01011 R 000012 A *G      CAL -3&777
      01011 R 000012 A *G      12
529      .IFZER SLOT-4 / LP ON .DAT 4?
530      .WRITE 4,2,MESSB,34 / CONN ADDED
531      .WAIT 4
532      .ENDC
533      .WRITE 4,2,AMES,34 / COMP1,PAD,COMP2,PAD
      01012 R 002004 A *G      CAL+2*1000 4&777
      01013 R 000011 A *G      11
      01014 R 001254 R *G      AMES
      01014 R 001254 R *G      .DEC
      01015 R 777736 A *G      -34
534      .WAIT 4
      01016 R 000004 A *G      CAL 4&777
      01017 R 000012 A *G      12
535      01020 R 202603 R      LAC (2
536      01021 R 042511 R      DAC ADFLG
537      01022 R 601050 R      JMP MESOUT
538      01023 R 751200 A      MINUS SNA!CLA
539      01024 R 601050 R      JMP MESOUT / MESSAGE ALREADY OUTPUT
540      01025 R 042522 R      DAC FLAG
541      01026 R 202511 R      LAC ADFLG
542      01027 R 723002 A      AAC 2
543      01030 R 741200 A      SNA
544      01031 R 601050 R      JMP MESOUT
545      .WRITE 4,2,MESSA,34 / CONN DELETED
      01032 R 002004 A *G      CAL+2*1000 4&777
      01033 R 000011 A *G      11
      01034 R 001232 R *G      MESSA
      01034 R 001232 R *G      .DEC
      01035 R 777736 A *G      -34
546      .WAIT 4
      01036 R 000004 A *G      CAL 4&777
      01037 R 000012 A *G      12
547      .WRITE 4,2,AMES,34 / COMP1 PAD COMP2 PAD
      01040 R 002004 A *G      CAL+2*1000 4&777
      01041 R 000011 A *G      11
      01042 R 001254 R *G      AMES
      01042 R 001254 R *G      .DEC
      01043 R 777736 A *G      -34
548      .WAIT 4
      01044 R 000004 A *G      CAL 4&777
      01045 R 000012 A *G      12
549      01046 R 202624 R      LAC (-2
550      01047 R 042511 R      DAC ADFLG
551      01050 R 201473 R      MESOUT LAC FLAG1
552      01051 R 740200 A      SZA
553      01052 R 601101 R      JMP POS1
554      01053 R 202625 R      LAC (BUFF+1

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555 01054 R 062617 R DAC* (11
556 01055 R 202544 R LAC PTR1
557 01056 R 101110 R JMS PACK1
558 01057 R 202535 R LAC NOD1
559 01060 R 101130 R JMS PACK2
560 01061 R 220011 A LAC* 11
561 01062 R 220011 A LAC* 11 /BUMP POINTER
562 01063 R 202545 R LAC PTR2
563 01064 R 101110 R JMS PACK1
564 01065 R 202536 R LAC NOD2
565 01066 R 101130 R JMS PACK2
566 01067 R 202522 R LAC FLAG
567 01070 R 741200 A SNA
568 01071 R 601101 R JMP POS1
569 .WRITE -3,2,BUFF,34
01072 R 002775 A *G CAL+2*1000 -3&777
01073 R 000011 A *G 11
01074 R 001214 R *G BUFF
*G .DEC
01075 R 777736 A *G -34
570 .WAIT -3
01076 R 000775 A *G CAL -3&777
01077 R 000012 A *G 12
571 01100 R 620767 R JMP* PRINT
572 01101 R POS1 .WRITE 4,2,BUFF,34
01101 R 002004 A *G CAL+2*1000 4&777
01102 R 000011 A *G 11
01103 R 001214 R *G BUFF
*G .DEC
01104 R 777736 A *G -34
573 .WAIT 4
01105 R 000004 A *G CAL 4&777
01106 R 000012 A *G 12
574 01107 R 620767 R JMP* PRINT
575 /
576 / PACK1
577 /
578 01110 R 740040 A PACK1 XX
579 01111 R 042543 R DAC PTR
580 01112 R 744010 A RCL
581 01113 R 342543 R TAD PTR
582 01114 R 744010 A RCL
583 01115 R 340007 R TAD COMPAD
584 01116 R 740030 A IAC
585 01117 R 042543 R DAC PTR /FIRST NAME WORD
586 01120 R 222543 R LAC* PTR
587 01121 R 060011 A DAC* 11
588 01122 R 442543 R ISZ PTR
589 01123 R 222543 R LAC* PTR
590 01124 R 502614 R AND (??7400
591 01125 R 723100 A AAC 100 /SPACE
592 01126 R 060011 A DAC* 11

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593 01127 R 621110 R JMP PACK1
594 /
595 /
596 /
597 01130 R 740040 A PACK2 XX
598 01131 R 042512 R DAC NO
599 01132 R 777773 A LAW -5
600 01133 R 042540 R DAC PCNT#
601 01134 R 202512 R LP LAC NO
602 01135 R 652000 A LMQ
603 01136 R 754000 A CLL!CLA
604 01137 R 640323 A DIV
605 01140 R 000012 A 12
606 01141 R 723060 A MODIV AAC 60
607 01142 R 042555 R DAC UNITS#
608 01143 R 641002 A LACQ
609 01144 R 042512 R DAC NO
610 01145 R 650000 A CLQ
611 01146 R 202540 R LAC PCNT
612 01147 R 740031 A TCA
613 01150 R 342626 R TAD (JMP DISP
614 01151 R 041153 R DAC .+2
615 01152 R 202555 R LAC UNITS
616 01153 R 740040 A DISP XX
617 01154 R 601201 R JMP FIFH
618 01155 R 601175 R JMP FRTH
619 01156 R 601166 R JMP THRD
620 01157 R 601163 R JMP SCND
621 01160 R 744010 A RCL
622 01161 R 042556 R FRSTHF DAC UNIT1#
623 01162 R 601203 R JMP CLOSE
624 01163 R 640610 A SCND LLS 10
625 01164 R 342556 R TAD UNIT1
626 01165 R 601161 R JMP FRSTHF
627 01166 R 652000 A THRD LMQ
628 01167 R 754000 A CLL!CLA
629 01170 R 640617 A LLS 17
630 01171 R 042557 R DAC UNIT2
631 01172 R 641002 A LACQ
632 01173 R 342556 R TAD UNIT1
633 01174 R 601161 R JMP FRSTHF
634 01175 R 640604 A FRTH LLS 4
635 01176 R 342557 R SECHF2 TAD UNIT2
636 01177 R 042557 R SECHF DAC UNIT2#
637 01200 R 601203 R JMP CLOSE
638 01201 R 640613 A FIFH LLS 13
639 01202 R 601176 R JMP SECHF2
640 01203 R 442540 R CLOSE ISZ PCNT
641 01204 R 601134 R JMP LP
642 01205 R 202557 R LAC UNIT2
643 01206 R 542627 R SAD (301406
644 01207 R 202630 R LAC (201004 / REPLACE ZEROES WITH SPACES

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645      01210 R 060011 A      DAC* 11
646      01211 R 202556 R      LAC UNIT1
647      01212 R 060011 A      DAC* 11
648      01213 R 621130 R      JMP* PACK2
649
650      /
651      /
652      /
653      01214 R 007002 A      BUFF 7002
654      01215 R 000000 A      0
655      01216 R 000000 A      0
656      01217 R 000000 A      0 /SPACE FOR NAME
657      01220 R 201004 A      201004
658      01221 R 000000 A      0 /PAD NUMBER
659      01222 R 201004 A      201004
660      01223 R 020100 A      20100 /5 SPACES
661      01224 R 000000 A      0
662      01225 R 000000 A      0 /SPACE FOR NAME2
663      01226 R 201004 A      201004
664      01227 R 000000 A      0 /PAD 2
665      01230 R 064000 A      64000 /CARRIAGE RETURN
666      01231 R 000000 A      0
667      01232 R 006002 A      MESSA 6002: 0
        01233 R 000000 A
668      01234 R 416371 A      .ASCII /CONN(S) DELETED/<15>
        01235 R 647120 A
        01236 R 515224 A
        01237 R 042212 A
        01240 R 462132 A
        01241 R 442610 A
        01242 R 064000 A
        01243 R 000000 A
669      01244 R 002002 A      MESSB 2002: 0
        01245 R 000000 A
670      01246 R 416371 A      .ASCII /CONN ADDED/<15>
        01247 R 647100 A
        01250 R 406110 A
        01251 R 442610 A
        01252 R 064000 A
        01253 R 000000 A
671      01254 R 005002 A      AMES 5002: 0
        01255 R 000000 A
672      01256 R 202071 A      .ASCII / COMP1  PAD      COMP2  PAD /<15>
        01257 R 746640 A
        01260 R 305004 A
        01261 R 050202 A
        01262 R 421004 A
        01263 R 020100 A
        01264 R 202071 A
        01265 R 746640 A
        01266 R 311004 A
        01267 R 050202 A

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01270 R 421001 A
01271 R 500000 A
673 01272 R 202530 R ADD LAC MESS
674 01273 R 652000 A LMQ
675 01274 R 202631 R LAC (Y8
676 01275 R 162530 R DZM* MESS
677 01276 R 122570 E JMS* MESS1
678 01277 R 122564 E WAITN JMS* BUTTON
679 01300 R 042513 R DAC BUT#
680 01301 R 542602 R SAD (1
681 01302 R 601706 R JMP COMADD / ADD COMPONENT
682 01303 R 202616 R LAC (777
683 01304 R 042522 R DAC FLAG / SOME POS VALUE
684 01305 R 202513 R LAC BUT
685 01306 R 542603 R SAD (2
686 01307 R 601315 R JMP ADDONE / ADD CONNEXION ( LIGHT PEN)
687 01310 R 542632 R SAD (3
688 01311 R 601422 R JMP TYPIT /TYPE IN CONNECTION
689 01312 R 542605 R SAD (6
690 01313 R 600073 R JMP MAINLP
691 01314 R 601277 R JMP WAITN
692 01315 R 202530 R ADDONE LAC MESS
693 01316 R 652000 A LMQ
694 01317 R 202633 R LAC (YONE
695 01320 R 162530 R DZM* MESS
696 01321 R 122570 E JMS* MESS1
697 01322 R 202616 R LAC (777
698 01323 R 042522 R DAC FLAG / SET POSITIVE
699 01324 R 041566 R DAC XCROSS
700 01325 R 041567 R DAC YCROSS
701 01326 R 142514 R DZM CRSFLG#
702 01327 R 101544 R JMS CROSS
703 01330 R 122564 E JMS* BUTTON
704 01331 R 542605 R SAD (6
705 01332 R 601570 R JMP EXIT /BUTTON 6
706 01333 R 101544 R JMS CROSS
707 01334 R 122565 E JMS* DFLPK
708 01335 R 601337 R JMP .+2
709 01336 R 002602 R .DSA (1
710 01337 R 741100 A SPA
711 01340 R 601570 R JMP EXIT /NON D.S. ITEM SEEN
712 01341 R 101575 R JMS FNDPIN
713 01342 R 202541 R LAC PIN
714 01343 R 042542 R DAC PIN1#
715 01344 R 042535 R DAC NOD1
716 01345 R 201401 R LAC NAME
717 01346 R 041377 R DAC NAME11
718 01347 R 202543 R LAC PTR
719 01350 R 042544 R DAC PTR1
720 /
721 / REPEAT FOR OTHER END
722 /

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723	01351	R	202530	R	LAC MESS#
724	01352	R	652000	A	LMQ
725	01353	R	202634	R	LAC (YTWO
726	01354	R	162530	R	DZM* MESS
727	01355	R	122570	E	JMS* MESS1
728	01356	R	101544	R	JMS CROSS
729	01357	R	122564	E	JMS* BUTTON
730	01360	R	542605	R	SAD (6
731	01361	R	601570	R	JMP EXIT
732	01362	R	101544	R	JMS CROSS
733	01363	R	122565	E	JMS* DFLPK
734	01364	R	741000	A	SKP
735	01365	R	002602	R	.DSA (1
736	01366	R	741100	A	SPA
737	01367	R	601570	R	JMP EXIT
738	01370	R	101575	R	JMS FNDPIN
739	01371	R	202543	R	LAC PTR
740	01372	R	042545	R	DAC PTR2
741	01373	R	202541	R	LAC PIN
742	01374	R	042536	R	DAC NOD2
743	01375	R	122562	E	JMS* ADDCON
744	01376	R	601413	R	JMP .+15
745	01377	R	000000	A	NAME11 0
746	01400	R	002542	R	.DSA PIN1
747	01401	R	000000	A	NAME 0
748	01402	R	002541	R	.DSA PIN
749	01403	R	000000	A	0 /COMPON(1)
750	01404	R	000000	A	0 /EOCOMP
751	01405	R	000000	A	0 /CONNEX(1)
752	01406	R	000000	A	0 /EOCONN
753	01407	R	000000	A	0
754	01410	R	000000	A	0 /EOLIB
755	01411	R	002603	R	.DSA (2 /WIDTH
756	01412	R	002612	R	.DSA (0 /MODE
757	01413	R	741200	A	SNA
758	01414	R	601570	R	JMP EXIT /NON VALID CONNEXION
759	01415	R	100767	R	JMS PRINT
760	01416	R	201377	R	LAC NAME11
761	01417	R	723777	A	AAC -1
762	01420	R	122566	E	JMS* DRAWCP
763	01421	R	601570	R	JMP EXIT
764					/
765					/
766					/
767					/
768					/
769					/
770	01422	R	202530	R	TYPIT LAC MESS
771	01423	R	652000	A	LMQ
772	01424	R	202635	R	LAC (Y9
773	01425	R	162530	R	DZM* MESS
774	01426	R	122570	E	JMS* MESS1 /TYPE IN CONNEXION

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775      01427 R 202511 R      LAC DFLG
776      01430 R 723776 A      AAC -2
777      01431 R 741200 A      SNA
778      01432 R 601445 R      JMP TYP
779      .INIT -3,1,TYPIT
          01433 R 001775 A *G      CAL+1*1000 -3&777
          01434 R 000001 A *G      1
          01435 R 001422 R *G      TYPIT+0
          01436 R 000000 A *G      0
780      .WRITE -3,2,MESSB,34
          01437 R 002775 A *G      CAL+2*1000 -3&777
          01440 R 000011 A *G      11
          01441 R 001244 R *G      MESSB
          *G      .DEC
          01442 R 777736 A *G      -34
781      .WAIT -3
          01443 R 000775 A *G      CAL -3&777
          01444 R 000012 A *G      12
782      01445 R 101537 R      TYP JMS READNM
783      01446 R 740200 A      SZA
784      01447 R 601474 R      JMP OK10
785      TAB10 .INIT -3,1,TAB10
          01450 R 001775 A *G      CAL+1*1000 -3&777
          01451 R 000001 A *G      1
          01452 R 001450 R *G      TAB10+0
          01453 R 000000 A *G      0
786      .WRITE -3,2,ABSENT,34
          01454 R 002775 A *G      CAL+2*1000 -3&777
          01455 R 000011 A *G      11
          01456 R 001463 R *G      ABSENT
          *G      .DEC
          01457 R 777736 A *G      -34
787      .WAIT -3
          01460 R 000775 A *G      CAL -3&777
          01461 R 000012 A *G      12
788      01462 R 601570 R      JMP EXIT
789      ABSENT 2002; 0; .ASCII /COMP.. ABSENT/<15>
          01463 R 002002 A
          01464 R 000000 A
          01465 R 416371 A
          01466 R 550134 A
          01467 R 202030 A
          01470 R 251612 A
          01471 R 472501 A
          01472 R 500000 A
790      01473 R 000000 A      FLAG1 0
791      /
792      /
793      /
794      01474 R 723776 A      OK10 AAC -2
795      01475 R 041377 R      DAC NAME11 /1ST NAME
796      01476 R 723001 A      AAC 1
797      01477 R 042531 R      DAC NAME22#

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PAGE	20	MODIFI	SRC	MODIFI	ROUTINE TO ADD, DELETE COMPONENTS, CONNECTI
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798	01500	R	202625	R	LAC (BUFF+1
799	01501	R	062617	R	DAC* (11
800	01502	R	221377	R	LAC* NAME11
801	01503	R	060011	A	DAC* 11
802	01504	R	222531	R	LAC* NAME22
803	01505	R	502614	R	AND (777400
804	01506	R	723100	A	AAC 100
805	01507	R	060011	A	DAC* 11
806	01510	R	122573	E	JMS* NUMBER
807	01511	R	042542	R	DAC PIN1
808	01512	R	101130	R	JMS PACK2
809	01513	R	101537	R	JMS READNM
810	01514	R	741200	A	SNA
811	01515	R	601450	R	JMP TAB10 /COMP. ABSENT
812	01516	R	723776	A	AAC -2
813	01517	R	041401	R	DAC NAME /SECOND NAME
814	01520	R	723001	A	AAC 1
815	01521	R	042531	R	DAC NAME22
816	01522	R	220011	A	LAC* 11
817	01523	R	220011	A	LAC* 11 / BUMP POINTER
818	01524	R	221401	R	LAC* NAME
819	01525	R	060011	A	DAC* 11
820	01526	R	222531	R	LAC* NAME22
821	01527	R	502614	R	AND (777400 / REPLACE CR
822	01530	R	723100	A	AAC 100 / BY SPACE
823	01531	R	060011	A	DAC* 11
824	01532	R	122573	E	JMS* NUMBER
825	01533	R	042541	R	DAC PIN
826	01534	R	101130	R	JMS PACK2
827	01535	R	441473	R	ISZ FLAG1
828	01536	R	601374	R	JMP NAME11-3
829					/
830					/
831					/
832					/
833					/
834	01537	R	740040	A	READNM XX
835	01540	R	122572	E	JMS* NAME1
836	01541	R	621537	R	JMP* READNM
837	01542	R	000000	A	ARG4 0
838	01543	R	000000	A	0
839					/
840					/
841					/
842					/
843					/
844	01544	R	740040	A	CROSS XX
845	01545	R	202514	R	LAC CRSFLG
846	01546	R	740200	A	SZA
847	01547	R	601561	R	JMP READ
848	01550	R	442514	R	ISZ CRSFLG
849	01551	R	222571	E	LAC* MF.101

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850      01552 R 041555 R      DAO+.+3
851      01553 R 003010 A *G      .WRITE 10,3,0,0
      01554 R 000011 A *G      CAL+3*1000 10&777
      01555 R 000000 A *G      11
      *G      0
      *G      .DEC
      01556 R 000000 A *G      -0
852      01557 R 201566 R      LAC XCROSS
853      01560 R 201567 R      LAC YCROSS
854      01561 R      READ .READ 10,6,XCROSS,0
      01561 R 006010 A *G      CAL+6*1000 10&777
      01562 R 000010 A *G      10
      01563 R 001566 R *G      XCROSS
      *G      .DEC
      01564 R 000000 A *G      -0
855      01565 R 621544 R      JMP* CROSS
856      01566 R 000777 A      XCROSS 777
857      01567 R 000777 A      YCROSS 777
858      /
859      01570 R      EXIT .WRITE 10,5,0,0 /REMOVE TRACKING FIG.
      01570 R 005010 A *G      CAL+5*1000 10&777
      01571 R 000011 A *G      11
      01572 R 000000 A *G      0
      *G      .DEC
      01573 R 000000 A *G      -0
860      01574 R 600073 R      JMP MAINLP
861      /
862      /
863      /
864      01575 R 740040 A      FNDPIN XX
865      01576 R 042516 R      DAC DISFAD#
866      01577 R 202636 R      LAC (377777
867      01600 R 042526 R      DAC LONG1 /LARGE POSITIVE NUMBER
868      01601 R 222516 R      LAC* DISFAD
869      01602 R 723777 A      AAC -1
870      01603 R 042524 R      DAC LIBPTR# /POINTER TO LIB WORD
871      01604 R 723776 A      AAC -2
872      01605 R 041401 R      DAC NAME /POINTER TO NAME
873      01606 R 723777 A      AAC -1
874      01607 R 042517 R      DAC DISNO# /POINTER TO FIRST WORD COMPONENT
875      01610 R 200007 R      LAC COMPAD
876      01611 R 740031 A      TCA
877      01612 R 342517 R      TAD DISNO
878      01613 R 652000 A      LMQ
879      01614 R 754000 A      CLA!CLL
880      01615 R 640323 A      DIV
881      01616 R 000006 A      6
882      01617 R 641002 A      LACQ
883      01620 R 042543 R      DAC PTR#
884      01621 R 222524 R      LAC* LIBPTR
885      01622 R 502616 R      AND (777
886      01623 R 340015 R      TAD LIBAD

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PAGE 22 MODIFI SRC MODIFI ROUTINE TO ADD, DELETE COMPONENTS, CONNECTI

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887      01624 R 723777 A      AAC -1
888      01625 R 042524 R      DAC LIBPTR
889      01626 R 222524 R      LAC* LIBPTR
890      01627 R 723775 A      AAC -3
891      01630 R 042524 R      DAC LIBPTR
892      01631 R 744010 A      RCL
893      01632 R 342524 R      TAD LIBPTR
894      01633 R 744020 A      RCR; RCR
          01634 R 744020 A
895      01635 R 741200 A      SNA
896      01636 R 601570 R      JMP EXIT /NO PINS ON THIS COMP
897      01637 R 741200 A      PADLUP SNA
898      01640 R 621575 R      JMP* FNDPIN
899      01641 R 042534 R      DAC NOD
900      01642 R 122577 E      JMS* SUBNOD
901      01643 R 601652 R      JMP .+7
902      01644 R 002560 R      .DSA XPIN#
903      01645 R 002561 R      .DSA YPIN#
904      01646 R 000000 A      ARG1 0 /COMPON (1)
905      01647 R 000000 A      0 /LIB(1)
906      01650 R 002543 R      .DSA PTR
907      01651 R 002534 R      .DSA NOD#
908      01652 R 202561 R      LAC YPIN
909      01653 R 652000 A      LMQ
910      01654 R 202560 R      LAC XPIN
911      01655 R 122574 E      JMS* SCALUP /INTO SCREEN UNITS
912      01656 R 740031 A      TCA
913      01657 R 341566 R      TAD XCROSS
914      01660 R 741100 A      SPA
915      01661 R 740031 A      TCA
916      01662 R 042527 R      DAC LONG2#
917      01663 R 641002 A      LACQ
918      01664 R 740031 A      TCA
919      01665 R 341567 R      TAD YCROSS
920      01666 R 741100 A      SPA
921      01667 R 740031 A      TCA
922      01670 R 342527 R      TAD LONG2
923      01671 R 042527 R      DAC LONG2
924      01672 R 740031 A      TCA
925      01673 R 342526 R      TAD LONG1#
926      01674 R 745300 A      SPA!SNA!CLL
927      01675 R 601701 R      JMP .+4
928      01676 R 202527 R      LAC LONG2
929      01677 R 042526 R      DAC LONG1
930      01700 R 744002 A      CCL
931      01701 R 202534 R      LAC NOD
932      01702 R 741400 A      SZL
933      01703 R 042541 R      DAC PIN#
934      01704 R 723777 A      AAC -1
935      01705 R 601637 R      JMP PADLUP
936      /
937      /

```

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938 /
939 /
940 /
941 /
942 /
943 /
944 /
945 01706 R 202616 R COMADD LAC (777
946 01707 R 041566 R DAC XCROSS
947 01710 R 041567 R DAC YCROSS
948 01711 R 142514 R DZM CRSFLG
949 01712 R 101544 R JMS CROSS / SET UP TRACKING FIGURE
950 01713 R 202530 R LAC MESS
951 01714 R 652000 A LMQ
952 01715 R 202637 R LAC (Y6
953 01716 R 162530 R DZM* MESS
954 01717 R 122570 E JMS* MESS1 / PLACE CROSS HIT BUTTON, 6 EXITS
955 01720 R 122564 E JMS* BUTTON
956 01721 R 542605 R SAD (6
957 01722 R 601570 R JMP EXIT
958 01723 R 122600 E JMS* TRACK
959 01724 R 601730 R JMP .+4
960 01725 R 001566 R .DSA XCROSS
961 01726 R 001567 R .DSA YCROSS
962 01727 R 002602 R .DSA (1
963 01730 R 202530 R RETRY LAC MESS
964 01731 R 652000 A LMQ
965 01732 R 202640 R LAC (Y7
966 01733 R 162530 R DZM* MESS
967 01734 R 122570 E JMS* MESS1 / TYPE IN NAME, LIB REF, SIDE
968 01735 R 202511 R TAB4 LAC ADFLG
969 01736 R 723777 A AAC -1
970 01737 R 741200 A SNA
971 01740 R 601753 R JMP TAB5
972 .INIT -3,1,TAB4
01741 R 001775 A *G CAL+1*1000 -3&777
01742 R 000001 A *G 1
01743 R 001735 R *G TAB4+0
01744 R 000000 A *G 0
973 .WRITE -3,2,MESSH,34
01745 R 002775 A *G CAL+2*1000 -3&777
01746 R 000011 A *G 11
01747 R 002005 R *G MESSH
*G .DEC
01750 R 777736 A *G -34
974 .WAIT -3
01751 R 000775 A *G CAL -3&777
01752 R 000012 A *G 12
975 01753 R 101537 R TAB5 JMS READNM
976 01754 R 741200 A SNA
977 01755 R 602015 R JMP OK1 / COMP NOT ALREADY IN D.S.
978 01756 R TAB1 .INIT -3,1,TAB1

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PAGE 24 MODIFI SRC MODIFI ROUTINE TO ADD, DELETE COMPONENTS, CONNECTI

```

01756 R 001775 A *G      CAL+1*1000 -3&777
01757 R 000001 A *G      1
01760 R 001756 R *G      TAB1+0
01761 R 000000 A *G      0
979      .WRITE -3,2,MESSF,34
01762 R 002775 A *G      CAL+2*1000 -3&777
01763 R 000011 A *G      11
01764 R 001771 R *G      MESSF
          *G      .DEC
01765 R 777736 A *G      -34
980      .WAIT -3
01766 R 000775 A *G      CAL -3&777
01767 R 000012 A *G      12
981      01770 R 601570 R      JMP EXIT
982      01771 R 002002 A      MESSF 2002; 0; .ASCII / DUPLICATE COMP. NAME <<15>
01772 R 000000 A
01773 R 202112 A
01774 R 550230 A
01775 R 446070 A
01776 R 152212 A
01777 R 202071 A
02000 R 746640 A
02001 R 271011 A
02002 R 640632 A
02003 R 425001 A
02004 R 500000 A
983      02005 R 002002 A      MESSH 2002; 0; .ASCII /COMP. ADDED<<15>
02006 R 000000 A
02007 R 416371 A
02010 R 550134 A
02011 R 202030 A
02012 R 442212 A
02013 R 420320 A
02014 R 000000 A
984      /
985      /
986      /
987      02015 R 641002 A      OK1 LACQ
988      02016 R 041401 R      DAC NAME / ADDR OF NAME
989      02017 R 220010 R      LAC* EOCOMP
990      02020 R 740031 A      TCA
991      02021 R 735000 A      CLX
992      02022 R 737004 A      AXR 4
993      02023 R 370001 R      TAD* SIZE,X
994      02024 R 740031 A      TCA
995      02025 R 740100 A      SMA
996      02026 R 602100 R      JMP CPFULL / COMP ARRAY FULL
997      02027 R 220002 R      LAC* NAMES
998      02030 R 360003 R      TAD* EONAME
999      02031 R 042532 R      DAC NEWNAM#
1000     02032 R 162532 R      DZM* NEWNAM
1001     02033 R 460003 R      ISZ* EONAME

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1002      02034 R 200007 R      LAC* COMPAD
1003      02035 R 360010 R      TAD* EOCOMP
1004      02036 R 723776 A      AAC -2
1005      02037 R 062641 R      DAC* (10
1006      02040 R 160010 A      DZM* 10 /REL PTR TO CONNS =0
1007      02041 R 202642 R      LAC (BUFFY+1
1008      02042 R 062617 R      DAC* (11
1009      02043 R 221401 R      LAC* NAME
1010      02044 R 060010 A      DAC* 10
1011      02045 R 060011 A      DAC* 11
1012      02046 R 441401 R      ISZ NAME
1013      02047 R 221401 R      LAC* NAME
1014      02050 R 723032 A      AAC 32
1015      02051 R 060010 A      DAC* 10 / NAME PACKED WITH CR
1016      02052 R 723046 A      AAC 46
1017      02053 R 060011 A      DAC* 11 / NAME PACKED WITH SPACE
1018      02054 R 122573 E      JMS* NUMBER
1019      02055 R 042525 R      DAC LIBREF# / LIB REF NUMBER
1020      02056 R 101130 R      JMS PACK2
1021      02057 R 200015 R      LAC LIBAD
1022      02060 R 042547 R      DAC SCAN
1023      02061 R 360016 R      TAD* EOLIB
1024      02062 R 723777 A      AAC -1
1025      02063 R 042521 R      DAC ENDLIB / FIRST FREE WORD
1026      02064 R 202547 R      LUPE LAC SCAN
1027      02065 R 542521 R      SAD ENDLIB#
1028      02066 R 602125 R      JMP ERROR2 / COMP ABSENT
1029      02067 R 740030 A      IAC
1030      02070 R 042550 R      DAC TEMP
1031      02071 R 222550 R      LAC* TEMP
1032      02072 R 542525 R      SAD LIBREF
1033      02073 R 602176 R      JMP OK2 / GOT IT
1034      02074 R 222547 R      LAC* SCAN
1035      02075 R 342547 R      TAD SCAN
1036      02076 R 042547 R      DAC SCAN
1037      02077 R 602064 R      JMP LUPE / TRY NEXT ONE
1038      02100 R      CPFULL .INIT -3,1,CPFULL
          02100 R 001775 A *G      CAL+1*1000 -3&777
          02101 R 000001 A *G      1
          02102 R 002100 R *G      CPFULL+0
          02103 R 000000 A *G      0
1039      .WRITE -3,2,CFMESS,34
          02104 R 002775 A *G      CAL+2*1000 -3&777
          02105 R 000011 A *G      11
          02106 R 002113 R *G      CFMESS
          *G      .DEC
          02107 R 777736 A *G      -34
1040      .WAIT -3
          02110 R 000775 A *G      CAL -3&777
          02111 R 000012 A *G      12
1041      JMP EXIT
1042      02113 R 002002 A      CFMESS 2002; 0; .ASCII /COMP ARRAY FULL/<15>

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02114 R 000000 A
 02115 R 416371 A
 02116 R 550100 A
 02117 R 406452 A
 02120 R 240662 A
 02121 R 202152 A
 02122 R 546230 A
 02123 R 064000 A
 02124 R 000000 A

1043 /
 1044 /
 1045 02125 R ERROR2 .INIT -3,1,ERROR2
 02125 R 001775 A *G CAL+1*1000 -3&777
 02126 R 000001 A *G 1
 02127 R 002125 R *G ERROR2+0
 02130 R 000000 A *G 0
 1046 .WRITE -3,2,MESSG,34
 02131 R 002775 A *G CAL+2*1000 -3&777
 02132 R 000011 A *G 11
 02133 R 002140 R *G MESSG
 *G .DEC
 02134 R 777736 A *G -34
 1047 .WAIT -3
 02135 R 000775 A *G CAL -3&777
 02136 R 000012 A *G 12
 1048 JMP EXIT / DELETE TRACK ETC.
 1049 MESSG 2002; 0; .ASCII / LIB COMP ABSENT <<15>
 02141 R 000000 A
 02142 R 202311 A
 02143 R 141100 A
 02144 R 416371 A
 02145 R 550100 A
 02146 R 406052 A
 02147 R 342634 A
 02150 R 521001 A
 02151 R 500000 A
 1050 02152 R 005002 A BUFFY 5002
 1051 02153 R 000000 A 0
 1052 02154 R 000000 A 0
 1053 02155 R 000000 A 0
 1054 02156 R 201004 A 201004
 1055 02157 R 000000 A 0 / LIB REF NO
 1056 02160 R 201004 A 201004
 1057 02161 R 000000 A 0 / SIDE
 1058 02162 R 064000 A 64000 / CR
 1059 02163 R 000000 A 0
 1060 02164 R 003002 A CADMES 3002
 1061 02165 R 000000 A 0
 1062 02166 R 202071 A .ASCII / COMP LIB SIDE<<15>
 02167 R 746640 A
 02170 R 201004 A
 02171 R 046222 A

02172 R 411004 A
 02173 R 051622 A
 02174 R 422121 A
 02175 R 500000 A

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/

02176 R 200015 R OK2 LAC LIBAD
 02177 R 740031 A TCA
 02200 R 342550 R TAD TEMP
 02201 R 042525 R DAC LIBREF /RELATIVE POINTER TO LIB
 02202 R 122573 E JMS* NUMBER /SIDE
 02203 R 741100 A SPA
 02204 R 602234 R JMP SIDMES / -VE SIDE
 02205 R 723775 A AAC -3
 02206 R 740100 A SMA
 02207 R 602234 R JMP SIDMES / SIDE GT 2
 02210 R 723003 A AAC 3
 02211 R 042552 R DAC TNUM#
 02212 R 101130 R JMS PACK2

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 1080
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.IFZER SLOT-4
 LAC ADFLG
 AAC -1
 SNA
 JMP ALIST
 .WRITE 4,2,MESSH,34
 .WAIT 4
 .WRITE 4,2,CADMES,34
 .WAIT 4
 ALIST .WRITE 4,2,BUFFY,4
 .WAIT 4
 .ENDC

02213 R 202602 R LAC (1
 02214 R 042511 R DAC ADFLG
 02215 R 202552 R LAC TNUM
 02216 R 502632 R AND (3
 02217 R 660711 A ALSS 11
 02220 R 342525 R TAD LIBREF
 02221 R 060010 A DAC* 10
 02222 R 201566 R LAC XCROSS
 02223 R 060010 A DAC* 10
 02224 R 201567 R LAC YCROSS
 02225 R 060010 A DAC* 10
 02226 R 220010 R LAC* EOCOMP
 02227 R 723006 A AAC 6
 02230 R 060010 R DAC* EOCOMP
 02231 R 750000 A CLA
 02232 R 122566 E JMS* DRAWCP
 02233 R 600073 R JMP MAINLP

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 1109

/
 SIDMES .INIT -3,1,SIDMES
 CAL+1*1000 -3&777

02234 R 001775 A *G

PAGE	28	MODIFI	SRC	MODIFI	ROUTINE TO ADD, DELETE COMPONENTS, CONNECTI
		02235	R 000001	A *G	1
		02236	R 002234	R *G	SIDMES+0
		02237	R 000000	A *G	0
1110					.WRITE -3,2,SMESS,34
		02240	R 002775	A *G	CAL+2*1000 -3&777
		02241	R 000011	A *G	11
		02242	R 002247	R *G	SMESS
				*G	.DEC
					-34
1111		02243	R 777736	A *G	.WAIT -3
		02244	R 000775	A *G	CAL -3&777
		02245	R 000012	A *G	12
1112		02246	R 601570	R	JMP EXIT
1113		02247	R 002002	A	SMESS 2002; 0; .ASCII /SIDE?/<15>
		02250	R 000000	A	
		02251	R 516230	A	
		02252	R 442576	A	
		02253	R 064000	A	
		02254	R 000000	A	
1114					/
1115					/
1116		02255	R 001750	A	YONE 1750
1117		02256	R 000000	A	0
1118		02257	R 201012	A	.ASCII / SELECT, FIRST NODE_/
		02260	R 342630	A	
		02261	R 426072	A	
		02262	R 426100	A	
		02263	R 432232	A	
		02264	R 251650	A	
		02265	R 202351	A	
		02266	R 742212	A	
		02267	R 574000	A	
		02270	R 000000	A	
1119		02271	R 001750	A	YTWO 1750
1120		02272	R 000000	A	0
1121		02273	R 201012	A	.ASCII / SELECT, SECOND NODE_/
		02274	R 342630	A	
		02275	R 426072	A	
		02276	R 426246	A	
		02277	R 426071	A	
		02300	R 747210	A	
		02301	R 202351	A	
		02302	R 742212	A	
		02303	R 574000	A	
		02304	R 000000	A	
1122		02305	R 001750	A	Y2 1750
1123		02306	R 000000	A	0
1124		02307	R 202270	A	.ASCII / KEY OP, 1 COMPONENT, 2 CONNEXION, 3, 4, 5, 6 EXIT_/
		02310	R 554500	A	
		02311	R 202372	A	
		02312	R 026100	A	
		02313	R 201424	A	

02314	R	041636	A	
02315	R	466411	A	
02316	R	747212	A	
02317	R	472505	A	
02320	R	420100	A	
02321	R	311010	A	
02322	R	347634	A	
02323	R	472133	A	
02324	R	044636	A	
02325	R	471304	A	
02326	R	020146	A	
02327	R	261004	A	
02330	R	032130	A	
02331	R	201006	A	
02332	R	526100	A	
02333	R	201544	A	
02334	R	042660	A	
02335	R	446513	A	
02336	R	700000	A	
02337	R	001750	A	Y3 1750
02340	R	000000	A	0
02341	R	442232	A	.ASCII
02342	R	420204	A	
02343	R	526512	A	
02344	R	447634	A	
02345	R	261544	A	
02346	R	052236	A	
02347	R	202450	A	
02350	R	550230	A	
02351	R	406070	A	
02352	R	557400	A	
02353	R	001750	A	Y4 1750
02354	R	000000	A	0
02355	R	201004	A	.ASCII // SELECT COMPONENT
02356	R	051612	A	
02357	R	462130	A	
02360	R	352130	A	
02361	R	416371	A	
02362	R	550236	A	
02363	R	472131	A	
02364	R	652276	A	
02365	R	001750	A	Y5 1750
02366	R	000000	A	0
02367	R	201004	A	.ASCII // SELECT CONNEXION
02370	R	051612	A	
02371	R	462130	A	
02372	R	352130	A	
02373	R	416371	A	
02374	R	647212	A	
02375	R	542231	A	
02376	R	747276	A	
02377	R	001750	A	Y6 1750

NO	30	MODIFI	SRC	MODIFI	ROUTINE TO ADD, DELETE COMPONENTS, CONNECTI
		02400	R 000000	A	0
		02401	R 502310	A	.ASCII /PLACE CROSS,HIT BUTTON,6 TO EXIT_/
		02402	R 141612	A	
		02403	R 202072	A	
		02404	R 247646	A	
		02405	R 515311	A	
		02406	R 044650	A	
		02407	R 202052	A	
		02410	R 552250	A	
		02411	R 476345	A	
		02412	R 433100	A	
		02413	R 202511	A	
		02414	R 720212	A	
		02415	R 542232	A	
		02416	R 457400	A	
		02417	R 001750	A	Y7 1750
		02420	R 000000	A	0
		02421	R 522632	A	.ASCII /TYPE IN, NAME, LIB REF, SIDE_/
		02422	R 042500	A	
		02423	R 446345	A	
		02424	R 420100	A	
		02425	R 472031	A	
		02426	R 542530	A	
		02427	R 202311	A	
		02430	R 141100	A	
		02431	R 512130	A	
		02432	R 626100	A	
		02433	R 202471	A	
		02434	R 142212	A	
		02435	R 574000	A	
		02436	R 000000	A	
		02437	R 001750	A	Y8 1750
		02440	R 000000	A	0
		02441	R 202270	A	.ASCII / KEY OP, 1 COMPONENT, 2 CONNEXION, 3 TYPE CONN, 4, 5, 6 /
		02442	R 554500	A	
		02443	R 476405	A	
		02444	R 420100	A	
		02445	R 305010	A	
		02446	R 347632	A	
		02447	R 502371	A	
		02450	R 642634	A	
		02451	R 521304	A	
		02452	R 020144	A	
		02453	R 202071	A	
		02454	R 747234	A	
		02455	R 426611	A	
		02456	R 147634	A	
		02457	R 261004	A	
		02460	R 031500	A	
		02461	R 522632	A	

02462 R 042500 A
02463 R 416371 A

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02464 R 647130 A
02465 R 201006 A
02466 R 426100 A
02467 R 201525 A
02470 R 420100 A
02471 R 331000 A
02472 R 000000 A
1143 02473 R 202133 A      .ASCII / EXIT_/
02474 R 044650 A
02475 R 574000 A
02476 R 000000 A
1144 02477 R 001750 A      Y9 1750
1145 02500 R 000000 A      0
1146 02501 R 201012 A      .ASCII / TYPE IN, CONNEXION_/
02502 R 454640 A
02503 R 425011 A
02504 R 147130 A
02505 R 416371 A
02506 R 647212 A
02507 R 542231 A
02510 R 747276 A

1147 /
1148 /
1149 /
1150 02511 R 000000 A      ADFLG 0 / 1 IF COMP ADDED LAST TIME, -1 FOR COMP DELETED
1151 / 2 IF CONN ADDED LAST TIMEA , -2 FOR CONN DELETED
1152 .DEC
1153 .OCT
1154 .IFZER SLOT-4
1155 NO 0
1156 .ENDC
1157 .IFZER SLOT+3
1158 02512 R 000000 A      NO 0
1159 .ENDC
1160 .IFUND NO
1161 X 0 / GIVES MACRO ERROR IF ASSEMBLY PARAMETER UNDEFINED
1162 .ENDC
1163 .END

02562 R 002562 E *E
02563 R 002563 E *E
02564 R 002564 E *E
02565 R 002565 E *E
02566 R 002566 E *E
02567 R 002567 E *E
02570 R 002570 E *E
02571 R 002571 E *E
02572 R 002572 E *E
02573 R 002573 E *E
02574 R 002574 E *E
02575 R 002575 E *E
02576 R 002576 E *E
02577 R 002577 E *E

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02600 R 002600 E *E
02601 R 002601 E *E
02602 R 000001 A *L
02603 R 000002 A *L
02604 R 002305 R *L
02605 R 000006 A *L
02606 R 002353 R *L
02607 R 002365 R *L
02610 R 002337 R *L
02611 R 000077 A *L
02612 R 000000 A *L
02613 R 002000 A *L
02614 R 777400 A *L
02615 R 777777 A *L
02616 R 000777 A *L
02617 R 000011 A *L
02620 R 000012 A *L
02621 R 776000 A *L
02622 R 235176 A *L
02623 R 235177 A *L
02624 R 777776 A *L
02625 R 001215 R *L
02626 R 601153 R *L
02627 R 301406 A *L
02630 R 201004 A *L
02631 R 002437 R *L
02632 R 000003 A *L
02633 R 002255 R *L
02634 R 002271 R *L
~~02635 R 002477 R *L~~
02636 R 377777 A *L
02637 R 002377 R *L
02640 R 002417 R *L
02641 R 000010 A *L
02642 R 002153 R *L

SIZE=02644

NO ERROR LINES

ABSENT	01463	786	789*						
ADD	01272	141	673*						
ADDCON	02562	89	743						
ADDONE	01315	686	692*						
ADFLG	02511	279	522	536	541	550	775	968	1080
		1092	1150*						
AMES	01254	533	547	671*					
ARG1	01646	113	130	904*					
ARG2	00232	114	119	123	127	254*			
ARG3	00331	115	120	124	128	135	316*		
ARG4	01542	111	117	837*					
ASS4	02563	88	104						
BUFF	01214	554	569	572	653*	798			
BUFFY	02152	1007	1050*	1088					
BUFF2	00517	322	440*						
BUFF3	00675	270	275	442*					
BUT	02513	679	684						
BUTTON	02564	88	154	205	678	703	729	955	
CADMES	02164	1060*	1086						
CFMESS	02113	1039	1042*						
CLOSE	01203	623	637	640*					
COMADD	01706	681	945*						
COMDEL	00237	213	262*						
COMMON	00132	173	184*						
COMPAD	00007	93*	110	224	331	352	409	496	583
		875	1002						
CONLP	00306	297*	312						
CONLUP	00201	229*	235						
CONNAD	00011	95*	121	227	286	387	412	499	
COPY	00340	314	326*						
CPFULL	02100	996	1038*	1038					
CROSS	01544	702	706	728	732	844*	855	949	
CRSFLG	02514	701	845	848	948				
CSCAN	02515	225	226	410	411	414	415	419	420
		427	428	429	497	498			
DELCOM	00113	156	166*						
DELCON	00123	158	174*						
DELETE	00074	139	147*						
DFLPK	02565	89	184	707	733				
DISPAD	02516	189	192	194	456	458	460	461	463
		464	470	479	481	483	484	486	508
		865	868						
DISNO	02517	874	877						
DISP	01153	613	616*						
DLOOP	00453	401*	435						
DLP	00475	419*	431						
DRAWCP	02566	88	196	762	1106				
DSLINK	02520	193	214	262	263	265	266	268	269
		271	272	280	282	283	326	364	381
		384	462	467	468	469	473	474	485
		509							
ENDLIB	02521	1025	1027						
EOCOMP	00010	94*	116	348	350	989	1003	1102	1104

EOCONN	00012	96*	125						
EOLIB	00016	100*	132	1023					
EONAME	00003	58*	58	341	343	998	1001		
EOROUT	00014	98*	134						
ERROR2	02125	1028	1045*	1045					
EXIT	01570	705	711	731	737	758	763	788	859*
		896	957	981	1041	1048	1112		
FIFH	01201	617	638*						
FLAG	02522	148	518	521	540	566	683	698	
FLAG1	01473	136	551	790*	827				
FNDPIN	01575	712	738	864*	898				
FRSTHF	01161	622*	626	633					
FRTH	01175	618	634*						
IND	02523	167	175	186	190	211	453		
IWIDTH	02567	88	108						
LAB3	00255	276*							
LIBAD	00015	99*	129	886	1021	1066			
LIBPTR	02524	870	884	888	889	891	893		
LIBREF	02525	1019	1032	1069	1096				
LONG1	02526	867	925	929					
LONG2	02527	916	922	923	928				
LP	01134	601*	641						
LUPE	02064	1026*	1037						
MAINLP	00073	142*	160	188	252	357	386	436	475
		511	690	860	1107				
MESOUT	01050	525	537	539	544	551*			
MESS	02530	107	149	152	168	171	176	179	200
		203	673	676	692	695	723	726	770
		773	950	953	963	966			
MESSA	01232	545	667*						
MESSB	01244	527	530	669*	780				
MESSE	00663	276	441*						
MESSF	01771	979	982*						
MESSG	02140	1046	1049*						
MESSH	02005	973	983*	1084					
MESS1	02570	89	153	172	180	204	677	696	727
		774	954	967					
MF.101	02571	89	849						
MINUS	01023	520	538*						
MODE	00017	101*	137						
MODIFI	00004	1	89	90*	105	142			
NAME	01401	109	112	118	122	126	131	133	716
		747*	813	818	872	988	1009	1012	1013
NAMES	00002	57*	57	339	344	997			
NAME1	02572	88	835						
NAME11	01377	717	745*	760	795	800	828		
NAME22	02531	797	802	815	820				
NEWMAM	02532	999	1000						
NLAB	00265	280*							
NO	02512	598	601	609	1155*	1158*	1160		
NOCNS	02533	418	430						
NOD	02534	899	907	931					
NODIV	01141	606*							

NOD1	02535	245	301	558	715					
NOD2	02536	249	308	564	742					
NOFCNS	02537	293	311	400	434					
NUMBER	02573	88	806	824	1018	1070				
OK1	02015	977	987*							
OK10	01474	784	794*							
OK2	02176	1033	1066*							
PACK1	01110	557	563	578*	593					
PACK2	01130	559	565	597*	648	808	826	1020	1078	
PADLUP	01637	897*	935							
PCNT	02540	359	362	600	611	640				
PIN	02541	713	741	748	825	933				
PIN1	02542	714	746	807						
POS1	01101	553	568	572*						
PRINT	00767	250	310	517*	526	571	574	759		
PTR	02543	579	581	585	586	588	589	718	739	
		883	906							
PTR1	02544	242	296	338	395	425	492	494	556	
		719								
PTR2	02545	220	222	304	405	407	562	740		
PTR3	02546	394	424							
PUSBUT	00000	55*	55	106						
READ	01561	847	854*							
READNM	01537	782	809	834*	836	975				
REMOVE	00326	285	313*							
REPCON	00726	455	479*							
REPLAC	00677	207	453*							
RETRY	01730	963*								
ROUTAD	00013	97*	102	103	320					
SCALUP	02574	89	911							
SCAN	02547	216	217	243	246	247	288	289	297	
		298	305	306	309	389	390	397	401	
		402	432	433	488	489	1022	1026	1034	
		1035	1036							
SCND	01163	620	624*							
SECHF	01177	636*								
SECHF2	01176	635*	639							
SIDMES	02234	1072	1075	1109*	1109					
SIZE	00001	56*	56	993						
SLOT	777775	529	1079	1154	1157					
SMESS	02247	1110	1113*							
START	00020	92	102*							
SUBCOM	02575	89	313							
SUBCON	02576	89	251							
SUBNOD	02577	89	900							
TAB1	01756	978*	978							
TAB10	01450	785*	785	811						
TAB4	01735	968*	972							
TAB5	01753	971	975*							
TEMP	02550	230	231	234	236	238	239	366	369	
		371	375	377	383	502	503	506	510	
		1030	1031	1068						
TEMP1	02551	368	372							

THRD	01166	619	627*						
TNUM	02552	1077	1093						
TRACK	02600	88	958						
TWIT	02553	345	346						
TWOO	02554	340	347						
TYP	01445	778	782*						
TYPIT	01422	688	770*	779					
UNITS	02555	607	615						
UNIT1	02556	622	625	632	646				
UNIT2	02557	630	635	636	642				
WAITN	01277	678*	691						
WAIT2	00103	154*	161						
WAIT3	00154	205*							
XCROSS	01566	699	852	854	856*	913	946	960	1098
XPIN	02560	902	910						
YCROSS	01567	700	853	857*	919	947	961	1100	
YONE	02255	694	1116*						
YPIN	02561	903	908						
YTWO	02271	725	1119*						
Y2	02305	151	1122*						
Y3	02337	202	1125*						
Y4	02353	170	1128*						
Y5	02365	178	1131*						
Y6	02377	952	1134*						
Y7	02417	965	1137*						
Y8	02437	675	1140*						
Y9	02477	772	1144*						
.DA	02601	89	91						