

1 / SUBROUTINE TREE (COMPON(1), CONNEX(1), PP(1), ANTINODE, NO, TRAKS(1))
 2 / ON ENTRY PP(1) CONTAINS THE NODE FOR WHICH THE TREE IS REQ.
 3 / ANTINODE IS A NODE THAT IS NOT WANTED ON THE TREE
 4 / AND NO CONTAINS - THE SIZE OF THE PP ARRAY. ON EXIT
 5 / NO RETURNS THE NO OF PTS ON TREE. NODES ARE PACKED IN PP
 6 / IN PACKED FORM : REL PTR TO COMP/6, 3BITS NOT USED, PAD NO.

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PAGE	2	TREE	SRC	TREE
7				.TITLE TREE
8				.GLOBL TREE,.DA
9	00000	R	740040 A	TREE XX
10	00001	R	120203 E	JMS* .DA
11	00002	R	600011 R	JMP .+1+6
12	00003	R	000000 A	COMPAD 0
13	00004	R	000000 A	CONNAD 0
14	00005	R	000000 A	SCAN1 0
15	00006	R	000000 A	NOTTT 0
16	00007	R	000000 A	NTREE 0
17	00010	R	000000 A	TRAKAD 0
18	00011	R	220005 R	LAC* SCAN1
19	00012	R	640506 A	LRS 6
20	00013	R	500204 R	AND (7
21	00014	R	741200 A	SNA
22	00015	R	600021 R	JMP .+4 /WIDTH CODE 0 TO GET ALL BRANCHES ON TREE
23	00016	R	340010 R	TAD TRAKAD
24	00017	R	040202 R	DAC WIDTH
25	00020	R	220202 R	LAC* WIDTH
26	00021	R	040202 R	DAC WIDTH# / SPECIFIED MIN BRANCH WIDTH IN THOU
27	00022	R	220005 R	LAC* SCAN1
28	00023	R	500205 R	AND (777077
29	00024	R	060005 R	DAC* SCAN1 / CLEAR WIDTH OPTION FOR OUTPUT ARRAY
30	00025	R	200005 R	LAC SCAN1
31	00026	R	340206 R	TAD (1
32	00027	R	040200 R	DAC SCAN2#
33	00030	R	340207 R	TAD (-2
34	00031	R	040172 R	DAC BASE# / ADDR OF PP(0)
35	00032	R	220007 R	LAC* NTREE
36	00033	R	040174 R	DAC MAXX# / MAX PERMISSABLE TREE SIZE
37	00034	R	200206 R	LAC (1
38	00035	R	060007 R	DAC* NTREE / NO OF WORDS IN TREE
39	00036	R	220005 R	TREER LAC* SCAN1
40	00037	R	500210 R	AND (77
41	00040	R	040176 R	DAC PIN# / PAD NUMBER
42	00041	R	220005 R	LAC* SCAN1
43	00042	R	744000 A	CLL
44	00043	R	640510 A	LRS 10 / SHIFT 9 THEN*2
45	00044	R	040177 R	DAC PNTR#
46	00045	R	744010 A	RCL
47	00046	R	340177 R	TAD PNTR /*6
48	00047	R	340003 R	TAD COMPAD
49	00050	R	040177 R	DAC PNTR
50	00051	R	220177 R	LAC* PNTR
51	00052	R	741200 A	SNA
52	00053	R	620000 R	JMP* TREE / NO CONNS
53	00054	R	340004 R	TAD CONNAD
54	00055	R	340211 R	TAD (-1
55	00056	R	040177 R	DAC PNTR / POINTER TO CONNEXIONS (ABS)
56	00057	R	220177 R	LAC* PNTR
57	00060	R	500212 R	AND (777
58	00061	R	740001 A	CMA

PAGE	3	TREE	SRC	TREE
59		00062 R	340206 R	TAD (-1
60		00063 R	040175 R	DAC NOFCNS# / -NO OF CONNS
61		00064 R	440177 R	LUPCC ISZ PNTR
62				/
63				/ CHECK WIDTH OF CONNEXION
64				/
65		00065 R	220177 R	LAC* PNTR
66		00066 R	640506 A	LRS 6
67		00067 R	500204 R	AND (7
68		00070 R	340010 R	TAD TRAKAD
69		00071 R	040201 R	DAC TKAD#
70		00072 R	220201 R	LAC* TKAD /WIDTH IN THOU
71		00073 R	740001 A	CMA
72		00074 R	340202 R	TAD WIDTH
73		00075 R	740100 A	SMA
74		00076 R	600126 R	JMP YES-2 / BRANCH IS TOO THIN
75		00077 R	220177 R	LAC* PNTR
76		00100 R	500210 R	AND (??
77		00101 R	540176 R	SAD PIN
78		00102 R	600130 R	JMP YES / CONN TO CORRECT PIN
79				/
80				/ CHECK FOR SELF CONNEXION
81				/
82		00103 R	220177 R	LAC* PNTR
83		00104 R	260005 R	XOR* SCAN1
84		00105 R	500213 R	AND (777000
85		00106 R	740200 A	SZA
86		00107 R	600126 R	JMP YES-2 / NOT SELF CONNEXION
87		00110 R	440177 R	ISZ PNTR
88		00111 R	220177 R	LAC* PNTR
89		00112 R	500210 R	AND (??
90		00113 R	540176 R	SAD PIN
91		00114 R	741000 A	SKP
92		00115 R	600162 R	JMP ENDL / NOT TO CORRECT PIN
93				/
94				/ SELF CONN AND ON TREE
95				/
96		00116 R	200177 R	LAC PNTR
97		00117 R	340211 R	TAD (-1
98		00120 R	040177 R	DAC PNTR
99		00121 R	220177 R	LAC* PNTR
100		00122 R	500205 R	AND (777077 / GET PACKED POINTER AND PAD
101		00123 R	060200 R	DAC* SCAN2
102		00124 R	440177 R	ISZ PNTR
103		00125 R	600140 R	JMP YES2
104		00126 R	440177 R	ISZ PNTR
105		00127 R	600162 R	JMP ENDL / NOT TO CORRECT PIN
106		00130 R	220177 R	YES LAC* PNTR
107		00131 R	500213 R	AND (777000 / REL PTR TO OTHER COMP
108		00132 R	652000 A	LMQ / IN MQ
109		00133 R	440177 R	ISZ PNTR
110		00134 R	220177 R	LAC* PNTR

PAGE	4	TREE	SRC	TREE
111		00135	R 500210	R AND (77
112		00136	R 640002	A OMQ / PACK POINTER AND PAD NO
113		00137	R 060200	R DAC* SCAN2
114		00140	R 560006	R YES2 SAD* NOTTT / CHECK ANTINODE
115		00141	R 600162	R JMP ENDL
116				/
117				/ NEW POINT IS NOW STORED (TEMPORARILY) IN SCAN2* .NOW
118				/ SCAN THE PP ARRAY UP TO SCAN2 AND CHECK FOR EQUALITY
119				/ IF NONE ARE EQUAL UPDATE SCAN2
120				/
121		00142	R 200172	R LAC BASE / ADDR OF PP(0)
122		00143	R 060214	R DAC* (10 / AUTO INDEX REG TO SCAN
123		00144	R 220007	R LAC* NTREE
124		00145	R 740001	A CMA
125		00146	R 340206	R TAD (1
126		00147	R 040173	R DAC CNTR# / -NO OF WORDS IN PP
127		00150	R 220010	A SLOOP LAC* 10
128		00151	R 560200	R SAD* SCAN2
129		00152	R 600162	R JMP ENDL / EQUALITY
130		00153	R 440173	R ISZ CNTR
131		00154	R 600150	R JMP SLOOP
132		00155	R 440200	R ISZ SCAN2 / NOT EQUAL. THEREFORE UPDATE
133		00156	R 460007	R ISZ* NTREE / UPDATE WORD COUNT
134		00157	R 440174	R ISZ MAXX
135		00160	R 741000	A SKP
136		00161	R 620000	R JMP* TREE / MAX NO REACHED SO EXIT
137				/
138		00162	R 440177	R ENDL ISZ PNTR
139		00163	R 440175	R ISZ NOFCNS / SKIP IF ALL CONNS CHECKED
140		00164	R 600064	R JMP LUPCC
141		00165	R 440005	R ISZ SCAN1 / UPDATES POINTER
142		00166	R 200005	R LAC SCAN1
143		00167	R 540200	R SAD SCAN2 / CHECK FOR END
144		00170	R 620000	R JMP* TREE / ALL PTS ON TREE FOUND
145		00171	R 600036	R JMP TREER / CONTINUE
146			000000	A .END
		00203	R 000203	E *E
		00204	R 000007	A *L
		00205	R 777077	A *L
		00206	R 000001	A *L
		00207	R 777776	A *L
		00210	R 000077	A *L
		00211	R 777777	A *L
		00212	R 000777	A *L
		00213	R 777000	A *L
		00214	R 000010	A *L
			SIZE=00215	NO ERROR LINES

PAGE	S	TREE	CROSS	REFERENCE						
BASE	00172	34	121							
CNTR	00173	126	130							
COMPAD	00003	12*	48							
CONNAD	00004	13*	53							
ENDL	00162	92	105	115	129	138*				
LUPCC	00064	61*	140							
MAXX	00174	36	134							
NOFCNS	00175	60	139							
NOTTT	00006	15*	114							
NTRREE	00007	16*	35	38	123	133				
PIN	00176	41	77	90						
PNTR	00177	45	47	49	50	55	56	61	65	
		75	82	87	88	96	98	99	102	
		104	106	109	110	138				
SCAN1	00005	14*	18	27	29	30	39	42	83	
		141	142							
SCAN2	00200	32	101	113	128	132	143			
SLOOP	00150	127*	131							
TKAD	00201	69	70							
TRAKAD	00010	17*	23	68						
TREE	00000	7	8	9*	52	136	144			
TREER	00036	39*	145							
WIDTH	00202	24	25	26	72					
YES	00130	74	78	86	106*					
YES2	00140	103	114*							
.DA	00203	8	10							