Printer Ruby

Spruce version 12.0 -- spooler version 12.0

File: altoiicode3.ls

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19 total sheets = 18 pages, 1 copy.

MU of March 6, 1979 on 27-Sep-80 14:19:31

AltoIICode3.mu

entering AltoConsts23.mu
leaving AltoConsts23.mu
reentering AltoIICode3.mu
entering AltoIIMRT.mu
leaving AltoIIMRT.mu
reentering AltoIICode3.mu

Constant memory by address:

	0	1	2	3	4	5	6	7
00x:	XX	000001	000002	177776	177777	177777	000017	177777
01x:	000003	000004	000005	000006	000007	000010	177770	177770
02x:	000020	000037	000040	000077	000100	000177	000200	000007
03x:	000377	177400	002000	000400	000420	000521	000424	000017
04x:	000426	000430	007772	170000	040000	177774	177766	177753
05x:	044000	066000	004000	010000	177000	077777	077740	077400
06x:	177675	007400	007417	170360	060110	030000	070531	020411
07x:	065074	041023	122645	177034	037400	177700	000452	000500
10x:	100000	177740	000277	177771	177760	177775	004560	056440
11x:	034104	064024	176000	177040	177042	000203	000360	177600
12x:	174000	160000	140000	000777	001777	003777	007777	017777
13x:	037777	001000	020000	177761	000526	000527	000470	006000
14x:	000460	014023	000600	000601	000602	000603	000604	000605
15x:	000606	000607	000610	000612	000422	000423	000402	177760
16x:	000523	000524	177757	177744	177773	000012	177701	000037
17x:	007000	000176	177576	000030	000015	001770	101771	177740
20x:	175777	000011	000013	000014	000016	000060	000776	177577
21x:	100777	177677	177714	002527	000101	000630	000631	000642
22x:	177162	177130	000022	000024	000335	001377	000401	000001
23x:	002001	000021	000023	000025	000026	000027	000031	000003
24x:	001675	000736	177120	000300	006001	061000	061400	000010
25x:	062000	062400	067000	063400	064400	066400	063000	000014
26x:	065400	065401	065402	065403	065404	065405	065406	000020
27x:	065407	065410	065411	065412	065413	065414	065415	000040
30x:	065416	065417	177763	177024	177025	177026	007774	000100
31x:	002377	002777	003377	000477	000576	177175	XX	000200
32x:	XX	XX	XX	XX	XX	XX	XX	000300
33x:	XX	XX	XX	XX	XX	XX	XX	000377
34x:	XX	XX	XX	XX	XX	XX	XX	XX
35x:	XX	XX	XX	XX	XX	XX	XX	XX
36x:	XX	XX	XX	XX	XX	XX	XX	XX
37x:	XX	XX	XX	XX	XX	XX	XX	XX

Constant memory by value:

```
001: 000001   025: 000177   216: 000631   246: 061400   054: 177000
227: 000001   026: 000200   217: 000642   250: 062000   303: 177024
002: 000002   317: 000200   241: 000736   251: 062400   304: 177025
010: 000003   115: 000203   206: 000776   256: 063000   305: 177026
237: 000003   102: 000277   123: 000777   253: 063400   073: 177034
011: 000004   243: 000300   131: 001000   111: 064024   113: 177040
012: 000005   327: 000300   225: 001377   254: 064400   114: 177042
013: 000006   224: 000335   240: 001675   070: 065074   242: 177120
014: 000007   116: 000360   175: 001770   260: 065400   221: 177130
027: 000007   030: 000377   124: 001777   261: 065401   220: 177162
015: 000010   337: 000377   032: 002000   262: 065402   315: 177175
247: 000010   033: 000400   230: 002001   263: 065403   031: 177400
201: 000011   226: 000401   310: 002377   264: 065404   172: 177576
165: 000012   156: 000402   213: 002527   265: 065405   207: 177577
202: 000013   034: 000420   311: 002777   266: 065406   117: 177600
203: 000014   154: 000422   312: 003377   270: 065407   060: 177675
257: 000014   155: 000423   125: 003777   271: 065410   211: 177677
174: 000015   036: 000424   052: 004000   272: 065411   075: 177700
204: 000016   040: 000426   106: 004560   273: 065412   166: 177701
006: 000017   041: 000430   137: 006000   274: 065413   212: 177714
037: 000017   076: 000452   244: 006001   275: 065414   101: 177740
020: 000020   140: 000460   170: 007000   276: 065415   177: 177740
267: 000020   136: 000470   061: 007400   300: 065416   163: 177744
231: 000021   313: 000477   062: 007417   301: 065417   047: 177753
222: 000022   077: 000500   042: 007772   051: 066000   162: 177757
232: 000023   035: 000521   306: 007774   255: 066400   104: 177760
223: 000024   160: 000523   126: 007777   252: 067000   157: 177760
233: 000025   161: 000524   053: 010000   066: 070531   133: 177761
234: 000026   134: 000526   141: 014023   057: 077400   302: 177763
235: 000027   135: 000527   127: 017777   056: 077740   046: 177766
173: 000030   314: 000576   132: 020000   055: 077777   016: 177770
236: 000031   142: 000600   067: 020411   100: 100000   017: 177770
021: 000037   143: 000601   065: 030000   210: 100777   103: 177771
167: 000037   144: 000602   110: 034104   176: 101771   164: 177773
022: 000040   145: 000603   074: 037400   072: 122645   045: 177774
277: 000040   146: 000604   130: 037777   122: 140000   105: 177775
205: 000060   147: 000605   044: 040000   121: 160000   003: 177776
023: 000077   150: 000606   071: 041023   043: 170000   004: 177777
024: 000100   151: 000607   050: 044000   063: 170360   005: 177777
307: 000100   152: 000610   107: 056440   120: 174000   007: 177777
214: 000101   153: 000612   064: 060110   200: 175777
171: 000176   215: 000630   245: 061000   112: 176000
```

```
R Memory:
00 MASK1 AC3
01 AC2
02 RETN YMUL AC1
03 SKEW AC0
04 NWW
05 TEMP CYRET SAD
06 PC
07 PLIER WIDTH CYCOUT XREG
10 WORD2 DESTY XH
11 CLOCKTEMP
12 ECNTR
13 EPNTR
14
15
16
17
20 CURX
21 CURDATA
22 CBA
23 AECL
24 SLC
25 MTEMP
26 HTAB
27 YPOS
30 DWA
31 KWDCTW KWDCT
32 CKSUMRW CKSUMR
33 KNMARW KNMAR
34 DCBR
35 STARTBITSM1 DWAX
36 DESTX SWA MASK
37 R37
40 LREG M
41 NLINES
42 RAST1
43 SKMSK SRCX
44 RAST2 SRCY
45 TWICE CONST
46 VINC HCNT
47 HINC
50 NWORDS
51 MASK2
52
53
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```

Loc	R	A	B	F1	F2	L	T	Next	F3	Source	
0014:	03	05	4	01	07	1	0	0001	0	DVT:	MAR← L← DASTART+1;
0001:	22	00	1	00	00	1	0	0005	0		CBA← L, L← 0;
0005:	21	00	1	00	00	0	0	0006	0		CURDATA← L;
0006:	24	00	1	00	00	0	0	0017	0		SLC← L;
0017:	00	00	5	00	00	0	1	0023	0		T← MD;
0023:	04	02	0	00	00	1	0	0036	0		L← NWW OR T;
0036:	04	00	0	01	07	0	0	0046	0		MAR← CURLOC;
0046:	04	06	1	00	00	0	1	0047	0		NWW← L, T← 0-1;
0047:	00	04	5	00	00	1	0	0050	0		L← MD XOR T;
0050:	00	00	5	00	10	0	1	0051	0		T← MD, EVENFIELD;
0051:	20	00	1	00	00	0	0	0002	0		CURX← L, :DVT1;
0002:	07	11	5	02	07	1	0	0052	0	DVT1:	L← BIAS-T-1, TASK, :DVT2;
0003:	07	10	5	02	07	1	0	0052	0	DVT11:	L← BIAS-T, TASK;
0052:	27	00	1	00	00	0	0	0014	0	DVT2:	YPOS← L, :DVT;
0013:	22	06	0	01	00	0	0	0053	0	DHT:	MAR← CBA-1;
0053:	24	06	0	00	01	1	0	0054	0		L← SLC -1, BUS=0;
0054:	24	00	1	00	00	0	0	0032	0		SLC← L, :DHT0;
0032:	07	00	4	07	00	0	1	0055	0	DHT0:	T← 37400;
0055:	00	00	5	00	00	0	0	0056	0		SINK← MD;
0056:	00	03	5	00	11	1	1	0057	0		L← T← MD AND T, SETMODE;
0057:	26	00	1	06	00	0	0	0034	0		HTAB← L LCY 8, :NORMODE;
0034:	03	14	0	07	00	1	1	0070	0	NORMODE:	L← T← 377 . T;
0070:	23	00	1	00	00	0	0	0072	0		AECL← L, :REST;
0035:	03	14	0	07	00	1	1	0071	0	HALFMODE:	L← T← 377 . T;
0071:	23	00	1	00	00	0	1	0072	0		AECL← L, :REST, T← 0;
0072:	30	07	0	02	00	1	0	0073	0	REST:	L← DWA + T, TASK;
0073:	30	00	1	00	00	0	0	0013	0	NDNX:	DWA← L, :DHT;
0033:	00	05	5	00	01	1	1	0074	0	DHT1:	L← T← MD+1, BUS=0;
0074:	22	01	1	01	00	0	0	0024	0		CBA← L, MAR← T, :MOREB;
0025:	00	00	0	03	00	0	0	0134	0	NOMORE:	BLOCK, :DNX;
0024:	07	00	4	07	00	0	1	0075	0	MOREB:	T← 37400;
0075:	00	03	5	00	11	1	1	0127	0		L← T← MD AND T, SETMODE;
0127:	22	05	0	01	10	0	0	0026	0		MAR← CBA+1, :NORMX, EVENFIELD;
0026:	26	00	1	06	00	0	0	0030	0	NORMX:	HTAB← L LCY 8, :NODD;
0027:	26	00	1	06	00	0	0	0031	0	HALFX:	HTAB← L LCY 8, :NEVEN;
0030:	03	14	0	07	00	1	1	0130	0	NODD:	L←T← 377 . T;
0130:	23	00	1	00	00	0	0	0132	0		AECL← L, :XREST;
0031:	03	03	0	07	00	1	0	0131	0	NEVEN:	L← 377 AND T;
0131:	23	00	1	00	00	0	1	0132	0		AECL←L, T←0;
0132:	00	07	5	00	00	1	0	0133	0	XREST:	L← MD+T;
0133:	00	06	5	00	00	0	1	0134	0		T←MD-1;
0134:	30	01	1	02	00	1	0	0135	0	DNX:	DWA←L, L←T, TASK;
0135:	24	00	1	00	00	0	0	0013	0		SLC←L, :DHT;
0011:	30	00	0	00	00	0	1	0136	0	DWT:	T← DWA;
0136:	10	12	5	07	00	0	1	0137	0		T←-3+T+1;
0137:	23	07	0	02	01	1	0	0140	0		L← AECL+T, BUS=0, TASK;
0140:	23	00	1	00	00	0	0	0040	0		AECL←L, :DWTZ;
0041:	00	00	0	03	00	0	0	0141	0	DWTY:	BLOCK;
0141:	00	00	0	02	00	0	0	0150	0		TASK, :DWTF;
0040:	26	06	0	02	01	1	0	0142	0	DWTZ:	L←HTAB-1, BUS=0, TASK;
0142:	26	00	1	00	00	0	0	0042	0		HTAB←L, :DOTAB;
0042:	00	00	0	07	10	0	0	0040	0	DOTAB:	DDR←0, :DWTZ;
0043:	30	00	0	01	00	0	1	0143	0	NOTAB:	MAR←T←DWA;
0143:	23	11	0	00	00	1	0	0144	0		L←AECL-T-1;
0144:	00	07	2	07	05	1	0	0145	0		ALUCY, L←2+T;
0145:	30	00	1	00	00	0	0	0044	0		DWA←L, :XNOMORE;
0045:	00	00	5	02	10	0	0	0146	0	DOMORE:	DDR←MD, TASK;
0146:	00	00	5	00	10	0	0	0043	0		DDR←MD, :NOTAB;
0044:	00	00	5	03	10	0	0	0147	0	XNOMORE:	DDR← MD, BLOCK;
0147:	00	00	5	02	10	0	0	0150	0		DDR← MD, TASK;
0150:	00	00	0	00	00	0	0	0011	0	DWTF:	:DWT;
0007:	00	00	0	07	12	1	0	0152	0	EREST:	L← 0, ERBFCT;
0152:	13	00	1	00	00	0	0	0203	0		EPNTR← L, :ENOCMD;
0203:	31	00	2	07	00	1	0	0237	0	ENOCMD:	L← ESNEVR, :EPOST;
0217:	31	00	1	07	00	1	0	0237	0	ERBRES:	L← ESABRT, :EPOST;
0237:	14	00	4	01	07	0	0	0220	0	EPOST:	MAR← EELOC;
0220:	13	00	1	02	00	0	0	0222	0		EPNTR← L, TASK;
0222:	12	00	0	00	06	0	0	0224	0		MD← ECNTR;
0224:	14	00	2	01	07	0	0	0230	0		MAR← EPLOC;
0230:	04	00	0	00	00	0	1	0240	0		T← NWW;
0240:	13	00	0	14	06	0	0	0260	0		MD← EPNTR, EPFCT;
0260:	00	02	5	02	00	1	0	0261	0		L← MD OR T, TASK;
0261:	04	00	1	00	00	0	0	0007	0		NWW← L, :EREST;

```
L•c    R  A  B  F1 F2 L  T  NEXT P2

0262:  00 00 0 00 00 0 0 0263 0     ESETUP: NOP;
0263:  00 00 5 00 01 1 0 0264 0             L← MD,BUS=0;
0264:  00 06 5 00 00 0 1 0252 0             T← MD-1,:ECNTOK;
0253:  31 00 0 07 00 1 0 0237 0     ECNTZR: L← ESCZER,:EPOST;
0252:  12 01 1 02 15 1 0 0265 0     ECNTOK: ECNTR← L,L← T,ECBFCT,TASK;
0265:  13 00 1 00 00 0 0 0232 0             EPNTR← L,:EODATA;
0213:  00 00 0 00 00 0 0 0254 0     EIREST: :EIFIGN;
0153:  15 00 2 01 07 0 0 0266 0     EIFRST: MAR← EHLOC;
0266:  03 00 0 07 14 0 1 0267 0             T← 377,EBFCT;
0267:  00 03 5 00 01 1 0 0221 0             L← MD AND T,BUS=0,:EIFOK;
0221:  25 00 1 06 00 0 0 0246 0     EIFOK:  MTEMP← LLCY8,:EIFCHK;
0225:  00 00 0 02 12 0 0 0151 0     EIFBAD: ERBFCT,TASK,:EIFB1;
0151:  00 00 0 00 00 0 0 0200 0     EIFB1:  :EIFB00;
0200:  00 00 0 00 00 0 0 0254 0     EIFB00: :EIFIGN;
0204:  31 00 1 07 00 1 0 0237 0     EIFB01: L← ESABRT,:EPOST;
0210:  31 00 1 07 00 1 0 0237 0     EIFB10: L← ESABRT,:EPOST;
0214:  31 00 1 07 00 1 0 0237 0     EIFB11: L← ESABRT,:EPOST;
0247:  00 00 0 02 00 0 0 0257 0     EIFPRM: TASK,:EIFBC;
0246:  03 00 1 13 07 1 1 0270 0     EIFCHK: L← T← 177400,EILFCT;
0270:  25 10 0 00 03 1 0 0271 0             L← MTEMP-T,SH=0;
0271:  00 00 0 02 03 0 0 0256 0             SH=0,TASK,:EIFNBC;
0256:  00 00 0 00 00 0 0 0254 0     EIFNBC: :EIFIGN;
0257:  00 00 0 00 00 0 0 0255 0     EIFBC:  :EISET;
0254:  13 00 0 14 01 0 0 0272 0     EIFIGN: SINK← EPNTR,BUS=0,EPFCT;
0272:  00 00 0 02 16 0 0 0226 0             EISFCT,TASK,:EOCDWX;
0226:  00 00 0 15 00 0 0 0250 0     EOCDWX: EWFCT,:EOCDWT;
0255:  14 00 6 01 07 0 0 0262 0     EISET:  MAR← EICLOC,:ESETUP;
0236:  12 06 0 00 01 0 1 0273 0     EIDATA: T← ECNTR-1, BUS=0;
0273:  13 05 0 01 14 1 0 0244 0             MAR← L← EPNTR+1, EBFCT;
0244:  13 01 1 00 15 1 0 0241 0     EIDMOR: EPNTR← L, L← T, ECBFCT;
0241:  00 00 4 02 06 0 0 0234 0     EIDOK:  MD← EIDFCT, TASK;
0234:  12 00 1 00 00 0 0 0236 0     EIDZ4:  ECNTR← L, :EIDATA;
0245:  03 00 0 07 00 1 0 0233 0     EIDPST: L← ESIDON, :EIDFUL;
0233:  22 00 5 07 00 1 0 0237 0     EIDFUL: L← ESIFUL, :EPOST;
0207:  14 00 5 01 07 0 0 0274 0     EOREST: MAR← ELLOC;
0274:  37 00 0 00 00 1 0 0275 0             L← R37;
0275:  13 00 1 05 00 0 0 0276 0             EPNTR← LRSH1;
0276:  00 00 5 00 11 1 0 0277 0             L← MD,EOSFCT;
0277:  12 00 1 00 02 0 0 0300 0             SH<0,ECNTR← L;
0300:  25 00 1 04 00 0 0 0242 0             MTEMP← LLSH1,:EOLDOK;
0243:  12 00 4 07 00 1 0 0237 0     EOLDBD: L← ESLOAD,:EPOST;
0242:  25 05 0 00 01 0 0 0301 0     EOLDOK: L← MTEMP+1;
0301:  14 00 5 01 07 0 0 0302 0             MAR← ELLOC;
0302:  25 00 1 02 00 0 0 0303 0             MTEMP← L,TASK;
0303:  25 00 0 00 06 0 0 0304 0             MD← MTEMP,:EORST1;
0304:  13 00 0 00 00 1 0 0305 0     EORST1: L← EPNTR;
0305:  13 00 1 05 00 0 0 0306 0             EPNTR← LRSH1;
0306:  03 00 0 07 00 0 1 0307 0             T← 377;
0307:  13 03 0 02 00 1 0 0310 0             L← EPNTR AND T,TASK;
0310:  13 00 1 00 00 0 0 0311 0             EPNTR← L,:EORST2;
0311:  14 00 6 01 07 0 0 0312 0     EORST2: MAR← EICLOC;
0312:  12 00 0 00 00 0 1 0313 0             T← ECNTR;
0313:  13 03 0 00 00 1 0 0314 0             L← EPNTR AND T;
0314:  00 00 5 00 01 0 0 0315 0             SINK← MD,BUS=0;
0315:  12 00 1 14 03 0 0 0154 0             ECNTR← L,SH=0,EPFCT,:EOINPR;
0154:  00 00 0 00 16 0 0 0250 0     EOINPR: EISFCT,:EOCDWT;
0155:  00 00 0 00 00 0 0 0250 0     EOINPN: :EOCDWT;
0250:  03 00 1 07 14 1 0 0316 0     EOCDWT: L← 177400,EBFCT;
0316:  13 00 1 00 15 0 0 0231 0             EPNTR← L,ECBFCT,:EOCDW0;
0231:  12 06 0 02 01 1 0 0223 0     EOCDW0: L← ECNTR-1,BUS=0,TASK,:EOCDW1;
0223:  12 00 1 15 00 0 0 0250 0     EOCDW1: ECNTR← L,EWFCT,:EOCDWT;
0235:  31 00 1 07 00 1 0 0237 0     EOCDRS: L← ESABRT,:EPOST;
0227:  00 00 0 00 00 0 0 0153 0     EIGO:   :EIFRST;
0251:  15 00 0 01 07 0 0 0317 0     EOCDGO: MAR← EOCLOC;
0317:  00 00 0 14 00 0 0 0320 0             EPFCT;
0320:  00 00 0 00 11 0 0 0262 0             EOSFCT,:ESETUP;
0232:  13 05 0 01 14 1 0 0321 0     EODATA: L← MAR← EPNTR+1,EBFCT;
0321:  12 06 0 00 01 0 1 0201 0             T← ECNTR-1,BUS=0,:EODOK;
0201:  13 01 1 00 00 1 0 0156 0     EODOK:  EPNTR← L,L← T,:EODMOR;
0156:  12 00 1 02 00 0 0 0322 0     EODMOR: ECNTR← L,TASK;
0322:  00 00 5 00 10 0 0 0232 0             EODFCT← MD,:EODATA;
0205:  31 00 1 07 00 1 0 0237 0     EODPST: L← ESABRT,:EPOST;
0211:  00 00 0 14 00 0 0 0207 0     EODCOL: EPFCT,:EOREST;
0215:  31 00 1 07 00 1 0 0237 0     EODUGH: L← ESABRT,:EPOST;
0157:  00 00 0 00 13 0 0 0323 0     EODEND: EEFCT;
0323:  00 00 0 02 00 0 0 0324 0             TASK;
```

Loc   R A B F₁ F₂ L T WReT P₃

```
0324:  00 00 0 00 00 0 0 0325 0                        :EOEOT;
0325:  00 00 0 00 14 0 0 0326 0          EOEOT:  EBFCT;
0326:  00 00 0 00 00 0 0 0202 0                        :EOEOK;
0202:  31 00 2 07 00 1 0 0237 0          EOEOK:  L← ESNEVR,:EPOST;
0206:  12 00 3 07 00 1 0 0237 0          EOEPST: L← ESODON,:EPOST;
0212:  00 00 0 14 00 0 0 0207 0          EOECOL: EPFCT,:EOREST;
0216:  31 00 1 07 00 1 0 0237 0          EOEUGH: L← ESABRT,:EPOST;
0010:  37 00 0 01 00 0 0 0351 0          MRT:    MAR← R37;
0351:  00 00 6 00 04 0 0 0360 0                  SINK← MOUSE, BUS;
0360:  00 00 3 07 00 1 1 0340 0          MRTA:   L← T← -2, :TX0;
0340:  37 15 0 00 00 1 1 0361 0          TX0:    L← R37 AND NOT T, T← R37;
0361:  01 12 0 07 03 0 1 0362 0                  T← 3+T+1, SH=0;
0362:  12 03 6 07 00 1 0 0330 0                  L← REFIIMSK AND T, :DOTIMER;
0331:  37 00 1 00 00 0 0 0332 0          NOTIMER: R37← L;
0332:  00 00 2 07 00 0 1 0363 0          NOTIMERINT: T← 2;
0363:  37 04 0 01 00 0 1 0364 0                  MAR← R37 XOR T,T← R37;
0364:  30 03 6 07 00 1 0 0365 0                  L← REFZERO AND T;
0365:  00 00 0 02 03 0 0 0366 0                  SH=0, TASK;
0366:  00 00 0 00 00 0 0 0354 0                  :NOCLK;
0354:  02 00 6 07 00 1 0 0367 0          NOCLK:  T ← 200;
0367:  37 04 0 01 00 0 0 0370 0                  MAR← R37 XOR T;
0370:  20 00 0 03 00 1 0 0371 0                  L← CURX, BLOCK;
0371:  00 02 2 07 03 0 1 0372 0                  T← 2 OR T, SH=0;
0372:  37 04 0 01 00 0 0 0334 0                  MAR← R37 XOR T, :DOCUR;
0335:  21 00 1 02 00 0 0 0327 0          NOCUR:  CURDATA← L, TASK;
0327:  21 00 1 00 00 0 0 0010 0          MRTLAST:CURDATA← L, :MRT;
0330:  37 00 1 00 00 0 0 0373 0          DOTIMER:R37← L;
0373:  16 00 6 01 07 0 0 0374 0                  MAR← EIALOC;
0374:  00 03 2 07 00 1 0 0375 0                  L← 2 AND T;
0375:  30 14 6 07 03 1 1 0376 0                  SH=0, L← T← REFZERO.T;
0376:  21 00 1 00 00 0 0 0352 0                  CURDATA←L, :SPCHK;
0352:  00 00 5 02 01 0 0 0377 0          SPCHK:  SINK← MD, BUS=0, TASK;
0377:  11 00 1 00 00 0 0 0332 0          SPIA:   :NOTIMERINT, CLOCKTEMP← L;
0353:  00 00 5 00 00 1 0 0400 0          NOSPCHK:L←MD;
0400:  13 06 4 01 07 0 0 0401 0                  MAR←TRAPDISP-1;
0401:  25 00 1 00 00 0 0 0402 0                  MTEMP←L;
0402:  00 10 5 00 00 1 0 0403 0                  L← MD-T;
0403:  25 00 0 02 03 1 0 0377 0                  SH=0, TASK, L←MTEMP, :SPIA;
0333:  15 00 4 01 07 0 0 0404 0          TIMERINT:MAR← ITQUAN;
0404:  21 00 0 00 00 1 0 0405 0                  L← CURDATA;
0405:  37 00 1 00 00 0 0 0406 0                  R37← L;
0406:  04 00 0 00 00 0 1 0407 0                  T←NWW;
0407:  11 00 0 00 06 0 0 0410 0                  MD←CLOCKTEMP;
0410:  00 02 5 02 00 1 0 0411 0                  L←MD OR T, TASK;
0411:  04 00 1 00 00 0 0 0332 0                  NWW←L,:NOTIMERINT;
0355:  04 00 1 01 07 0 0 0412 0          CLOCK:  MAR← CLOCKLOC;
0412:  00 00 0 00 00 0 0 0413 0                  NOP;
0413:  00 05 5 00 00 1 0 0414 0                  L← MD+1;
0414:  04 00 1 01 07 0 0 0415 0                  MAR← CLOCKLOC;
0415:  25 00 1 02 00 0 0 0416 0                  MTEMP← L, TASK;
0416:  25 00 0 00 06 0 0 0354 0                  MD← MTEMP, :NOCLK;
0334:  27 00 0 00 00 1 1 0417 0          DOCUR:  L← T← YPOS;
0417:  02 11 0 07 02 1 0 0420 0                  SH<0, L← 20-T-1;
0420:  00 07 2 07 02 1 0 0336 0                  SH<0, L← 2+T, :SHOWC;
0337:  27 00 1 02 00 1 0 0327 0          WAITC:  YPOS← L, L← 0, TASK, :MRTLAST;
0336:  04 12 1 01 07 0 0 0356 0          SHOWC:  MAR← CLOCKLOC+T+1, :CNOTLAST;
0356:  20 00 0 00 00 0 1 0421 0          CNOTLAST: T← CURX, :CURF;
0357:  00 00 0 07 00 0 1 0421 0          CLAST:  T← 0;
0421:  27 01 1 00 00 1 0 0422 0          CURF:   YPOS← L, L← T;
0422:  20 00 1 00 00 0 0 0423 0                  CURX← L;
0423:  00 00 5 02 00 1 0 0424 0                  L← MD, TASK;
0424:  21 00 1 00 00 0 0 0010 0                  CURDATA← L, :MRT;
0346:  00 07 1 07 00 1 1 0425 0          TX1:    L← T← ONE +T, :M00;
0343:  00 00 4 07 00 1 1 0425 0          TX2:    L← T← ALLONES, :M00;
0342:  00 00 0 07 00 1 1 0425 0          TX3:    L← T← 0, :M00;
0350:  00 03 1 07 00 1 1 0425 0          TX4:    L← T← ONE AND T, :M00;
0345:  00 04 4 07 00 1 1 0425 0          TX5:    L← T← ALLONES XOR T, :M00;
0341:  00 00 0 07 00 0 1 0425 0          TX6:    T← 0, :M00;
0347:  00 00 1 07 00 0 1 0425 0          TX7:    T← ONE, :M00;
0344:  00 00 4 07 00 0 1 0425 0          TX8:    T← ALLONES, :M00;
0425:  03 00 6 01 07 0 0 0426 0          M00:    MAR← MOUSELOC;
0426:  25 00 1 00 00 0 0 0427 0                  MTEMP← L;
0427:  00 07 5 00 00 1 0 0430 0                  L← MD+ T;
0430:  00 00 5 00 00 1 1 0431 0                  T← MD;
0431:  25 12 0 00 00 0 1 0432 0                  T← MTEMP+ T+1;
0432:  25 01 1 00 00 1 0 0433 0                  MTEMP← L, L← T;
```

Loc										Source
0433:	03	00	6	01	07	0	0	0434	0	MAR← MOUSELOC;
0434:	11	00	1	00	00	0	0	0435	0	CLOCKTEMP← L;
0435:	25	00	0	02	06	0	0	0436	0	MD← MTEMP, TASK;
0436:	11	00	0	00	06	0	0	0360	0	MD← CLOCKTEMP, :MRTA;
→0012:	20	00	0	02	10	0	0	0437	0	CURT: XPREG← CURX, TASK;
0437:	21	00	0	00	11	0	0	0012	0	CSR← CURDATA, :CURT;
∅ →0060:	05	00	1	01	14	1	0	0522	0	NOVEM: IR←L←MAR←0, :INXB,SAD← L;
0460:	00	00	1	07	00	1	0	0516	0	Q0: L← ONE, :INXA;
0461:	05	00	0	07	00	1	0	0516	0	Q1: L← TOTUWC, :INXA;
0462:	15	00	6	07	00	1	0	0516	0	Q2: L←402, :INXA;
0463:	15	00	6	07	00	1	0	0516	0	Q3: L← 402, :INXA;
0464:	00	00	1	07	00	1	0	0516	0	Q4: L← ONE, :INXA;
0465:	03	05	0	07	00	1	0	0517	0	Q5: L←377+1, :INXE;
0466:	00	00	1	07	00	1	0	0517	0	Q6: L←ONE, :INXE;
0467:	03	00	4	01	07	0	0	0441	0	Q7: MAR← DASTART;
0441:	00	00	1	07	00	1	0	0451	0	L← 0;
0451:	37	00	1	00	00	0	0	0472	0	R37← L;
0472:	00	00	0	07	06	0	0	0473	0	MD← 0;
0473:	07	00	3	01	07	0	0	0474	0	MAR← 177034;
0474:	10	00	0	07	00	1	0	0475	0	L← 100000;
0475:	04	06	1	00	00	0	1	0476	0	NWW← L, T← 0-1;
0476:	00	04	5	00	10	1	0	0477	0	L← MD XOR T, BUSODD;
0477:	16	00	5	01	07	0	0	0470	0	MAR← BDAD, :EtherBoot;
0471:	05	05	1	00	00	1	0	0500	0	DiskBoot: SAD← L, L← 0+1;
0500:	05	00	0	00	06	0	0	0501	0	MD← SAD;
0501:	03	00	5	01	07	0	0	0452	0	MAR← KBLKADR, :FINSTO;
0470:	01	00	0	07	00	1	0	0454	0	EtherBoot: L←EthNovaGo, :EReRead;
0454:	15	00	2	01	07	0	0	0502	0	EReRead:MAR← EHLOC;
0502:	00	00	0	02	00	0	0	0503	0	TASK;
0503:	03	00	0	07	06	0	0	0504	0	MD← 377;
0504:	14	00	2	01	07	0	0	0505	0	MAR← EPLOC;
0505:	00	00	2	17	07	0	0	0506	0	SINK← 2, STARTF;
0506:	00	00	0	07	06	0	0	0457	0	MD ← 0;
0457:	14	00	2	01	07	0	0	0507	0	EContRead: MAR← EPLOC;
0507:	03	00	0	07	00	1	0	0510	0	T← 377;
0510:	00	04	5	02	01	1	0	0511	0	L← MD XOR T, TASK, BUS=0;
0511:	05	00	1	00	00	0	0	0456	0	SAD← L, :EReadDone;
0456:	00	00	2	01	07	0	0	0512	0	EReadDone: MAR← 2;
0512:	31	00	5	07	00	0	1	0513	0	T← NegBreathM1;
0513:	00	12	5	00	00	0	1	0514	0	T←MD+T+1;
0514:	05	02	0	00	00	1	0	0515	0	L←SAD OR T;
0515:	00	00	0	00	03	0	0	0470	0	SH=0, :EtherBoot;
0516:	00	00	1	07	00	1	0	0520	0	INXA: T←ONE, :INXCom;
0517:	31	00	4	07	00	0	1	0520	0	INXE: T←EIOffset, :INXCom;
0520:	05	07	0	01	14	0	1	0521	0	INXCom: MAR←T←IR← SAD+T;
0521:	06	12	1	00	00	1	0	0522	0	PC← L, L← 0+T+1;
→0522:	06	00	0	00	06	0	0	0523	0	INXB: MD← PC;
0523:	00	00	7	02	04	0	0	0524	0	SINK← DISP, BUS,TASK;
0524:	05	00	1	00	00	0	0	0460	0	SAD← L, :Q0;
0020:	06	13	0	01	00	0	1	0525	0	START: T← MAR←PC+SKIP;
0525:	04	00	0	00	01	1	0	0576	0	START1: L← NWW, BUS=0;
0576:	00	12	0	07	02	1	0	0526	0	:MAYBE, SH<0, L← 0+T+1;
0526:	06	01	1	00	00	1	0	0534	0	MAYBE: PC← L, L← T, :DOINT;
0527:	06	00	1	00	00	1	0	0535	0	NOINT: PC← L, :DISO;
0534:	07	00	6	01	07	0	0	0567	0	DOINT: MAR← WWLOC, :INTCODE;
0535:	00	00	5	00	14	1	1	0612	0	DISO: L← T← IR← MD;
0612:	00	00	0	00	16	0	1	0540	0	DIS1: T← ACSOURCE, :GETAD;
0540:	00	00	0	07	00	0	1	0060	0	GETAD: T← 0, :DOINS;
0541:	06	06	0	00	00	0	1	0060	0	G1: T← PC -1, :DOINS;
0542:	01	00	0	00	00	0	1	0060	0	G2: T← AC2, :DOINS;
0543:	00	00	0	00	00	0	1	0060	0	G3: T← AC3, :DOINS;
0544:	00	00	0	07	00	0	1	0060	0	G4: T← 0, :DOINS;
0545:	06	06	0	00	00	0	1	0060	0	G5: T← PC -1, :DOINS;
0546:	01	00	0	00	00	0	1	0060	0	G6: T← AC2, :DOINS;
0547:	00	00	0	00	00	0	1	0060	0	G7: T← AC3, :DOINS;
0550:	00	11	0	02	07	1	0	0530	0	G10: L← 0-T-1, TASK, :SHIFT;
0551:	00	10	0	02	07	1	0	0530	0	G11: L← 0-T, TASK, :SHIFT;
0552:	00	07	0	02	07	1	0	0530	0	G12: L← 0+T, TASK, :SHIFT;
0553:	00	12	0	02	07	1	0	0530	0	G13: L← 0+T+1, TASK, :SHIFT;
0554:	00	11	0	02	13	1	0	0530	0	G14: L← ACDEST-T-1, TASK, :SHIFT;
0555:	00	10	0	02	13	1	0	0530	0	G15: L← ACDEST-T, TASK, :SHIFT;
0556:	00	07	0	02	13	1	0	0530	0	G16: L← ACDEST+T, TASK, :SHIFT;
0557:	00	03	0	02	13	1	0	0530	0	G17: L← ACDEST AND T, TASK, :SHIFT;
0530:	00	00	1	06	12	0	0	0020	0	SHIFT: DNS← L LCY 8, :START;
0531:	00	00	1	05	12	0	0	0020	0	SH1: DNS← L RSH 1, :START;
0532:	00	00	1	04	12	0	0	0020	0	SH2: DNS← L LSH 1, :START;

Handwritten annotations:
- (near 0476) IF BUSODD NEXT = NEXT OR ∅
- (near 0510–0511) IF (BUS = ∅) THEN EContRead ELSE EReadDone

LOC   R A B FI FA L T NEXTF3

LOC	R	A	B	FI	FA	L	T	NEXT	F3		
0533:	00	00	1	00	12	0	0	0020	0	SH3:	DNS← L, :START;
0060:	00	07	7	02	15	1	0	0626	0	DOINS:	L← DISP + T, TASK, :SAVAD, IDISP;
0061:	00	07	7	01	00	1	0	0613	0	DOIND:	L← MAR← DISP+T;
0613:	07	00	1	00	00	0	0	0614	0		XREG← L;
0614:	00	00	5	02	15	1	0	0626	0		L← MD, TASK, IDISP, :SAVAD;
0102:	07	00	7	01	07	1	0	0615	0	BRI:	L← MAR← PCLOC ;
0615:	05	00	5	07	00	0	1	0616	0	BRIO:	T← 77777;
0616:	04	03	0	00	02	1	0	0617	0		L← NWW AND T, SH < 0;
0617:	04	00	1	00	00	0	0	0572	0		NWW← L, :EIRO;
0572:	00	00	5	00	00	1	0	0534	0	EIRO:	L← MD, :DOINT;
0573:	06	00	0	00	00	1	0	0534	0	EIR1:	L← PC, :DOINT;
0113:	10	00	0	07	00	0	1	0620	0	DIRS:	T←100000;
0620:	04	03	0	00	00	1	0	0621	0		L←NWW AND T;
0621:	06	05	0	00	03	1	0	0100	0		L←PC+1, SH=0;
−0100:	10	00	0	07	00	0	1	0574	0	DIR:	T← 100000, :INTSOFF;
−0574:	04	02	0	02	00	1	0	1116	0	INTSOFF:	L← NWW OR T, TASK, :INTZ;
0575:	06	00	1	00	00	0	0	0574	0	INTSON:	PC←L, :INTSOFF;
0101:	10	00	0	07	00	1	0	0615	0	EIR:	L← 100000, :BRIO;
0107:	03	00	0	00	00	0	1	0622	0	SIT:	T← AC0;
0622:	37	02	0	02	00	1	0	0623	0		L← R37 OR T, TASK;
0623:	37	00	1	00	00	0	0	0020	0		R37← L, :START;
0624:	06	00	0	00	00	1	0	0625	0	FINJSR:	L← PC;
0625:	00	01	1	02	00	1	0	0455	0		AC3← L, L← T, TASK;
0455:	06	00	1	00	00	0	0	0020	0	FINJMP:	PC← L, :START;
0626:	05	00	1	00	00	0	0	0560	0	SAVAD:	SAD← L, :XCTAB;
0064:	00	07	7	01	00	0	0	0627	0	JSRII:	MAR← DISP+T;
0627:	05	00	2	07	14	0	0	0630	0		IR← JSRCX;
0630:	00	00	5	00	00	0	1	0061	0		T← MD, :DOIND;
0077:	07	00	1	06	00	0	0	0037	0	TRAP:	XREG← L LCY 8;
0037:	13	00	5	01	07	0	0	0631	0	TRAP1:	MAR← TRAPPC;
0631:	02	00	1	07	14	0	1	0632	0		IR← T← 37;
0632:	06	00	0	00	06	0	0	0633	0		MD← PC;
0633:	07	14	0	00	00	0	1	0634	0		T← XREG.T;
0634:	13	12	6	07	00	0	1	0061	0		T← TRAPCON+T+1, :DOIND;
0076:	00	00	0	10	00	0	0	0077	0	RAMTRAP:	SWMODE, :TRAP;
0063:	07	00	1	06	00	0	0	0635	0	NOPAR:	XREG←L LCY 8;
0635:	23	00	5	07	00	0	1	0640	0		T←27;
0640:	00	10	7	00	00	1	0	0641	0		L←DISP-T;
0641:	00	00	0	00	05	0	0	0642	0		ALUCY;
0642:	16	00	7	02	04	0	0	0636	0		SINK←DISP, SINK←X37, BUS, TASK, :NPNOTRAP;
0636:	00	00	0	00	00	0	0	0100	0	NPNOTRAP:	:DIR;
0637:	00	00	0	00	00	0	0	0037	0	NPTRAP:	:TRAP1;
0065:	00	00	0	00	00	0	0	0076	0	U5:	:RAMTRAP;
0066:	00	00	0	00	00	0	0	0076	0	U6:	:RAMTRAP;
0067:	00	00	0	00	00	0	0	0076	0	U7:	:RAMTRAP;
0560:	05	00	0	02	00	1	0	0455	0	XCTAB:	L← SAD, TASK, :FINJMP;
0561:	05	00	0	00	00	0	1	0624	0	XJSR:	T← SAD, :FINJSR;
0562:	05	00	0	01	00	0	0	0645	0	XISZ:	MAR← SAD, :ISZ1;
0563:	05	00	0	01	00	0	0	0644	0	XDSZ:	MAR← SAD, :DSZ1;
0564:	05	00	0	01	00	0	0	0647	0	XLDA:	MAR← SAD, :FINLOAD;
0665:	05	00	0	01	00	0	0	0643	0	XSTA:	MAR← SAD;
0643:	00	00	0	00	13	1	0	0452	0	XSTA1:	L← ACDEST, :FINSTO;
0644:	00	00	4	07	00	0	1	0652	0	DSZ1:	T← ALLONES, :FINISZ;
0645:	00	00	1	00	00	0	1	0652	0	ISZ1:	T← ONE, :FINISZ;
0452:	05	00	1	02	00	0	0	0646	0	FINSTO:	SAD← L,TASK;
0646:	05	00	0	00	06	0	0	0020	0	FINST1:	MD←SAD, :START;
0647:	00	00	0	00	00	0	0	0650	0	FINLOAD:	NOP;
0650:	00	00	5	02	00	1	0	0651	0	LOADX:	L← MD, TASK;
0651:	00	00	1	00	13	0	0	0020	0	LOADD:	ACDEST← L, :START;
0652:	00	07	5	00	00	1	0	0653	0	FINISZ:	L← MD+T;
0653:	05	00	0	01	03	0	0	0654	0		MAR← SAD, SH=0;
0654:	05	00	1	00	00	0	0	0452	0		SAD← L, :FINSTO;
0453:	05	00	0	00	06	0	0	0655	0	INCPC:	MD← SAD;
0655:	06	05	0	02	00	1	0	0656	0		L← PC+1, TASK;
0656:	06	00	1	00	00	0	0	0020	0		PC← L, :START;
0121:	01	00	0	00	00	0	1	0657	0	DIV:	T← AC2;
0657:	03	10	0	00	00	1	0	0672	0	DIVX:	L← AC0 - T;
0672:	05	05	1	02	05	1	0	0673	0		ALUCY, TASK, SAD← L, L← 0+1;
0673:	05	05	1	04	00	0	0	0660	0		:DODIV, SAD← L LSH 1;
0661:	00	00	0	00	00	0	0	0607	0	NODIV:	:FINBLT;
0660:	03	00	0	00	00	1	0	0674	0	DODIV:	L← AC0, :DIV1;
0662:	03	00	0	00	00	1	0	0674	0	DIVL:	L← AC0;
0674:	02	00	0	00	02	0	1	0675	0	DIV1:	SH<0, T← AC1;
0675:	03	07	1	04	11	1	1	0664	0		:NOOVF, AC0← L MLSH 1, L← T← 0+T;
0665:	02	12	1	04	00	1	0	0676	0	OVF:	AC1← L LSH 1, L← 0+INCT, :NOV1;
0664:	02	01	1	04	00	1	0	0676	0	NOOVF:	AC1← L LSH 1 , L← T;

LOC   R A B F1 F2 L T NEXT F3

LOC	R	A	B	F1	F2	L	T	NEXT	F3			
0676:	01	00	0	00	03	0	1	0677	0	NOV1:	T← AC2, SH=0;	
0677:	03	10	0	00	00	1	0	0666	0		L← AC0-T, :DX0;	
0667:	00	00	0	00	05	0	0	0700	0	DX1:	ALUCY;	
0700:	02	00	0	00	00	0	1	0670	0		:NOSUB, T← AC1;	
0666:	02	00	0	00	00	0	1	0671	0	DX0:	:DOSUB, T← AC1;	
0671:	03	12	1	00	00	1	0	0701	0	DOSUB:	AC0← L, L← 0+INCT;	
0701:	02	00	1	00	00	0	0	0670	0		AC1← L;	
0670:	05	00	0	02	01	1	0	0702	0	NOSUB:	L← SAD, BUS=0, TASK;	
0702:	05	00	1	04	00	0	0	0662	0		SAD← L LSH 1, :DIVL;	
0663:	06	05	0	02	00	1	0	0610	0	ENDDIV:	L← PC+1, TASK, :DOIT;	
0120:	01	06	0	00	01	1	0	0703	0	MUL:	L← AC2-1, BUS=0;	
0703:	07	00	1	00	00	1	0	0704	0	MPYX:	XREG←L,L← 0, :DOMUL;	
0704:	01	05	6	02	07	1	0	0720	0	DOMUL:	TASK, L← -10+1;	
0720:	05	00	1	00	00	0	0	0706	0		SAD← L;	
0706:	02	00	0	00	10	1	0	0721	0	MPYL:	L← AC1, BUSODD;	
0721:	03	00	0	00	00	0	1	0710	0		T← AC0, :NOADDIER;	
0710:	02	01	1	05	11	1	1	0712	0	NOADDIER:	AC1← L MRSH 1, L← T, T← 0, :NOSPILL;	
0711:	07	12	0	00	00	1	1	0722	0	ADDIER:	L← T← XREG+INCT;	
0722:	02	00	0	00	05	1	0	0710	0		L← AC1, ALUCY, :NOADDIER;	
0713:	00	00	1	07	00	0	1	0712	0	SPILL:	T← ONE;	
0712:	03	00	1	05	11	0	0	0723	0	NOSPILL:	AC0← L MRSH 1;	
0723:	02	00	0	00	10	1	0	0724	0		L← AC1, BUSODD;	
0724:	03	00	0	00	00	0	1	0714	0		T← AC0, :NOADDX;	
0714:	02	01	1	05	11	1	1	0716	0	NOADDX:	AC1← L MRSH 1, L← T, T← 0, :NOSPILLX;	
0715:	07	12	0	00	00	1	1	0725	0	ADDX:	L← T← XREG+ INCT;	
0725:	02	00	0	00	05	1	0	0714	0		L← AC1,ALUCY, :NOADDX;	
0717:	00	00	1	07	00	0	1	0716	0	SPILLX:	T← ONE;	
0716:	03	00	1	05	11	0	0	0726	0	NOSPILLX:	AC0← L MRSH 1;	
0726:	05	05	0	02	01	1	0	0727	0		L← SAD+1, BUS=0, TASK;	
0727:	05	00	1	00	00	0	0	0706	0		SAD← L, :MPYL;	
0705:	03	00	0	00	00	0	1	0730	0	NOMUL:	T← AC0;	
0730:	03	01	1	02	00	1	0	0731	0		AC0← L, L← T, TASK;	
0731:	02	00	1	00	00	0	0	0707	0		AC1← L;	
0707:	00	00	0	00	00	0	0	0607	0	MPYA:	:FINBLT;	
0062:	03	00	7	00	01	1	0	0734	0	EMCYCLE:	L← DISP, SINK← X17, BUS=0;	
0734:	03	00	0	00	00	0	1	0732	0	CYCP:	T← AC0, :EMCYCX;	
0733:	02	00	0	00	00	0	1	0736	0	ACCYCLE:	T← AC1;	
0736:	00	03	6	07	00	1	0	0734	0		L← 17 AND T, :CYCP;	
0732:	07	00	1	00	00	1	0	0740	0	EMCYCX:	CYCOUT←L, L←0, :RETCYCX;	
0022:	07	05	1	00	00	1	0	0740	0	RAMCYCX:	CYCOUT←L, L←0+1;	
0740:	05	07	1	00	00	1	0	0742	0	RETCYCX:	CYRET←L, L←0+T;	
0742:	07	00	0	00	04	0	0	0744	0		SINK←CYCOUT, BUS;	
0744:	00	00	0	02	00	0	0	0160	0		TASK, :L0;	
0174:	07	00	1	05	11	0	0	0741	0	R4:	CYCOUT← L MRSH 1;	
0741:	07	00	0	02	00	1	1	0175	0	Y3:	L← T← CYCOUT, TASK;	
0175:	07	00	1	05	11	0	0	0737	0	R3X:	CYCOUT← L MRSH 1;	
0737:	07	00	0	02	00	1	1	0176	0	Y2:	L← T← CYCOUT, TASK;	
0176:	07	00	1	05	11	0	0	0735	0	R2X:	CYCOUT← L MRSH 1;	
0735:	07	00	0	02	00	1	1	0177	0	Y1:	L← T← CYCOUT, TASK;	
0177:	07	00	1	05	11	0	0	0746	0	R1X:	CYCOUT← L MRSH 1, :ENDCYCLE;	
0164:	07	00	1	04	11	0	0	0747	0	L4:	CYCOUT← L MLSH 1;	
0747:	07	00	0	02	00	1	1	0163	0	Z3:	L← T← CYCOUT, TASK;	
0163:	07	00	1	04	11	0	0	0745	0	L3:	CYCOUT← L MLSH 1;	
0745:	07	00	0	02	00	1	1	0162	0	Z2:	L← T← CYCOUT, TASK;	
0162:	07	00	1	04	11	0	0	0743	0	L2:	CYCOUT← L MLSH 1;	
0743:	07	00	0	02	00	1	1	0161	0	Z1:	L← T← CYCOUT, TASK;	
0161:	07	00	1	04	11	0	0	0746	0	L1:	CYCOUT← L MLSH 1, :ENDCYCLE;	
0160:	07	00	1	00	00	0	0	0746	0	L0:	CYCOUT← L, :ENDCYCLE;	
0170:	07	00	1	06	00	0	0	0746	0	L8:	CYCOUT← L LCY 8, :ENDCYCLE;	
0167:	07	00	1	06	00	0	0	0735	0	L7:	CYCOUT← L LCY 8, :Y1;	
0166:	07	00	1	06	00	0	0	0737	0	L6:	CYCOUT← L LCY 8, :Y2;	
0165:	07	00	1	06	00	0	0	0741	0	L5:	CYCOUT← L LCY 8, :Y3;	
0171:	07	00	1	06	00	0	0	0743	0	R7:	CYCOUT← L LCY 8, :Z1;	
0172:	07	00	1	06	00	0	0	0745	0	R6:	CYCOUT← L LCY 8, :Z2;	
0173:	07	00	1	06	00	0	0	0747	0	R5:	CYCOUT← L LCY 8, :Z3;	
0746:	05	00	0	02	04	0	0	0750	0	ENDCYCLE:	SINK← CYRET, BUS, TASK;	
0750:	00	00	0	00	00	0	0	0600	0		:EMCYCRET;	
0600:	07	00	0	02	00	1	0	0651	0	EMCYCRET:	L←CYCOUT, TASK, :LOADD;	
0601:	06	00	0	10	04	0	1	1060	0	RAMCYCRET:	T←PC, BUS, SWMODE, :TORAM;	
0566:	07	05	0	01	00	0	0	0751	0	CONVERT:	MAR←XREG+1;	
0751:	00	00	6	07	00	0	1	0760	0		T←17;	
0760:	00	03	5	00	00	1	0	0761	0		L←MD AND T;	
0761:	00	00	0	01	00	0	1	0762	0		T←MAR←AC3;	
0762:	02	00	1	00	00	0	0	0763	0		AC1←L;	
0763:	00	07	5	02	00	1	0	0764	0		L←MD+T, TASK;	
0764:	00	00	1	00	00	0	0	0765	0		AC3←L;	

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LOC     R  A  B  F1 F2 L  T  NEXT
0765:   00 05 0 01 00 0 0 0766 0        MAR←AC3+1;
0766:   03 00 1 07 00 0 1 0767 0        T←177400;
0767:   00 03 5 00 14 1 0 0770 0        IR←L←MD AND T;
0770:   10 00 1 06 00 0 0 0577 0        XH←L LCY 8, :ODDCX;
0577:   03 00 0 00 00 1 0 0772 0  ODDCX:   L←AC0, :HDENTER;
0752:   05 00 0 00 00 0 1 0771 0  HDLOOP:  T←SAD;
0771:   35 07 0 00 00 1 0 0772 0           L←DWAX+T;
0772:   35 00 1 00 00 0 0 0773 0  HDENTER: DWAX←L;
0773:   10 06 0 02 01 1 0 0774 0           L←XH-1, BUS=0, TASK;
0774:   10 00 1 00 00 0 0 0752 0           XH←L, :HDLOOP;
0753:   14 00 0 07 00 0 1 0775 0  HDEXIT:  T←MASKTAB;
0775:   02 07 0 01 00 0 1 1000 0           MAR←T←AC1+T;
1000:   00 00 7 00 00 1 0 1001 0           L←DISP;
1001:   10 00 1 00 00 0 0 1002 0           XH←L;
1002:   00 00 5 00 00 1 0 1003 0           L←MD;
1003:   36 12 1 02 00 1 0 1004 0           MASK←L, L←0+T+1, TASK;
1004:   02 00 1 00 00 0 0 1005 0           AC1←L;
1005:   01 00 2 07 00 1 0 1006 0           L←5;
1006:   05 00 0 02 14 0 0 1007 0           IR←SAD, TASK;
1007:   05 00 1 00 00 0 0 0777 0           CYRET←L, :MOVELOOP;
0777:   10 06 0 00 01 1 1 1010 0  MOVELOOP: L←T←XH-1, BUS=0;
1010:   00 11 0 01 00 0 0 0756 0           MAR←AC3-T-1, :NFIN;
0756:   10 00 1 00 00 0 0 1011 0  NFIN:    XH←L;
1011:   00 00 7 00 00 0 1 1012 0           T←DISP;
1012:   35 07 0 00 00 1 0 1013 0           L←DWAX+T;
1013:   00 00 5 00 00 0 1 1014 0           T←MD;
1014:   02 00 0 00 04 0 0 1015 0           SINK←AC1, BUS;
1015:   35 01 1 02 00 1 0 0160 0           DWAX←L, L←T, TASK, :L0;
0605:   35 00 0 01 00 0 0 1016 0  CONVCYCRET: MAR←DWAX;
1016:   36 00 0 00 01 0 1 1017 0           T←MASK, BUS=0;
1017:   07 14 0 00 00 0 1 0754 0           T←CYCOUT.T, :MERGE;
0754:   07 15 0 00 00 1 0 1020 0  MERGE:   L←XREG AND NOT T;
1020:   00 02 5 00 00 0 1 1021 0           T←MD OR T;
1021:   07 01 1 00 00 1 0 1022 0           XREG←L, L←T;
1022:   25 00 1 00 00 0 0 1023 0           MTEMP←L;
1023:   35 00 0 01 00 0 0 1024 0           MAR←DWAX;
1024:   07 00 0 02 01 0 0 1025 0           SINK←XREG, BUS=0, TASK;
1025:   25 00 0 00 06 0 0 0776 0           MD←MTEMP, :DOBOTH;
0776:   35 05 0 01 00 0 0 1026 0  DOBOTH:  MAR←DWAX+1;
1026:   07 00 0 00 00 0 1 1027 0           T←XREG;
1027:   00 02 5 00 00 1 0 1030 0           L←MD OR T;
1030:   35 05 0 01 00 0 0 1031 0           MAR←DWAX+1;
1031:   07 00 1 02 00 0 0 0755 0           XREG←L, TASK;
0755:   07 00 0 00 06 0 0 0777 0  STORE:   MD←XREG, :MOVELOOP;
0757:   02 06 0 00 00 1 0 1032 0  FIN:     L←AC1-1;
1032:   02 00 1 00 00 0 0 1033 0           AC1←L;
1033:   14 00 1 07 14 0 0 1034 0           IR←SH3CONST;
1034:   00 00 5 02 00 1 0 0531 0           L←MD, TASK, :SH1;
0103:   04 00 1 01 07 0 0 1035 0  RCLK:    MAR← CLOCKLOC;
1035:   37 00 0 00 00 1 0 1036 0           L← R37;
1036:   02 00 1 00 00 0 0 0650 0           AC1← L, :LOADX;
0104:   03 00 0 17 00 1 0 1037 0  SIO:     L← AC0, STARTF;
1037:   05 00 5 07 00 0 1 1040 0           T← 77777;
1040:   00 03 2 16 00 1 0 1041 0           L← RSNF AND T;
1041:   03 00 1 02 00 0 0 1057 0  LTOAC0:  AC0← L, TASK, :TOSTART;
0114:   06 00 5 07 00 0 1 1042 0  VERS:    T← EngNumber;
1042:   01 07 0 07 00 1 0 1041 0           L← 3+T, :LTOAC0;
0125:   02 00 0 01 06 0 0 0647 0  XMLDA:   XMAR← AC1, :FINLOAD;
0126:   02 00 0 01 06 0 0 0643 0  XMSTA:   XMAR← AC1, :XSTA1;
0105:   03 05 0 01 00 1 0 1043 0  BLT:     L← MAR← AC0+1;
1043:   03 00 1 00 00 0 0 1046 0           AC0← L;
1046:   00 00 5 00 00 1 0 1047 0           L← MD, :BLKSA;
0106:   03 00 0 00 00 1 0 1047 0  BLKS:    L← AC0;
1047:   00 05 0 00 01 0 1 1050 0  BLKSA:   T← AC3+1, BUS=0;
1050:   02 07 0 01 00 0 0 0606 0           MAR← AC1+T, :MOREBLT;
0606:   07 01 1 00 00 1 0 1051 0  MOREBLT: XREG← L, L← T;
1051:   00 00 1 02 00 0 0 1052 0           AC3← L, TASK;
1052:   07 00 0 00 06 0 0 1053 0           MD← XREG;
1053:   04 00 0 00 01 1 0 1054 0           L← NWW, BUS=0;
1054:   06 06 0 00 02 1 0 1044 0           SH<0, :PERHAPS, L← PC-1;
1045:   02 00 7 00 04 0 0 0611 0  NO:      SINK← DISP, SINK← M7, BUS, :DISABLED;
1044:   02 00 7 00 04 0 0 0610 0  PERHAPS: SINK← DISP, SINK← M7, BUS, :DOIT;
0610:   06 00 1 00 00 0 0 0607 0  DOIT:    PC←L, :FINBLT;
0611:   00 00 0 00 00 0 0 0100 0  DISABLED: :DIR;
0607:   12 00 3 07 00 0 1 1055 0  FINBLT:  T←777;
1055:   06 12 0 00 00 1 0 1056 0           L←PC+T+1;
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LOC	R	A	B	F1	F2	L	T	NEXT	F3		
1056:	06	03	0	02	05	1	0	1057	0		L←PC AND T, TASK, ALUCY;
1057:	07	00	1	00	00	0	0	0020	0	TOSTART:	XREG←L, :START;
0021:	07	00	0	10	04	0	1	1060	0	RAMRET:	T←XREG, BUS, SWMODE;
1060:	00	00	0	00	00	0	0	0000	0	TORAM:	:NOVEM;
0110:	02	00	0	10	04	0	1	1060	0	JMPR:	T←AC1, BUS, SWMODE, :TORAM;
0111:	02	00	0	12	00	0	1	1061	0	RDRM:	T← AC1, RDRAM;
1061:	00	00	4	02	07	1	0	0651	0		L← ALLONES, TASK, :LOADD;
0112:	02	00	0	00	00	0	1	1062	0	WTRM:	T← AC1;
1062:	03	00	0	11	00	1	0	1063	0		L← AC0, WRTRAM;
1063:	00	00	0	00	00	1	0	0607	0		L← AC3, :FINBLT;
0115:	00	00	0	01	00	0	0	1064	0	DREAD:	MAR← AC3;
1064:	00	00	0	00	00	0	0	1065	0		NOP;
1065:	00	00	5	00	00	1	0	1066	0	DREAD1:	L← MD;
1066:	00	00	5	00	00	0	1	1067	0		T←MD;
1067:	03	01	1	02	00	1	0	1070	0		AC0← L, L←T, TASK;
1070:	02	00	1	00	00	0	0	0020	0		AC1← L, :START;
0116:	00	00	0	01	00	0	0	1071	0	DWRITE:	MAR← AC3;
1071:	00	00	0	00	00	0	0	1072	0		NOP;
1072:	03	00	0	02	06	0	0	1073	0		MD← AC0, TASK;
1073:	02	00	0	00	06	0	0	0020	0		MD← AC1, :START;
0117:	00	00	0	01	00	0	0	1074	0	DEXCH:	MAR← AC3;
1074:	00	00	0	00	00	0	0	1075	0		NOP;
1075:	03	00	0	00	06	0	0	1076	0		MD← AC0;
1076:	02	00	0	00	06	0	0	1065	0		MD← AC1,:DREAD1;
0122:	30	00	5	01	07	0	0	1077	0	DIOG1:	MAR← ERRCTRL;
1077:	00	00	0	00	00	0	0	1100	0		NOP;
1100:	01	00	0	00	06	0	0	0116	0		MD← AC2,:DWRITE;
0123:	00	00	0	01	00	0	0	1101	0	DIOG2:	MAR← AC3;
1101:	03	00	0	00	00	0	1	1102	0		T← AC0;
1102:	02	04	0	00	00	1	0	1103	0		L← AC1 XORT;
1103:	03	00	0	00	06	0	0	1104	0		MD← AC0;
1104:	00	00	0	01	00	0	0	1105	0		MAR← AC3;
1105:	03	00	1	02	00	0	0	1106	0		AC0← L, TASK;
1106:	03	00	0	00	06	0	0	0020	0		MD← AC0, :START;
0567:	06	00	1	00	14	0	0	1107	0	INTCODE:	PC← L, IR← 0;
1107:	04	00	0	00	00	0	1	1110	0		T← NWW;
1110:	00	02	5	00	00	0	1	1111	0		T← MD OR T;
1111:	00	03	5	00	00	1	0	1112	0		L← MD AND T;
1112:	05	01	1	00	03	1	0	1113	0		SAD← L, L← T, SH=0;
1113:	04	05	1	00	00	1	0	0536	0		NWW← L, L←0+1, :SOMEACTIVE;
0537:	07	00	6	01	07	0	0	1114	0	NOACTIVE:	MAR← WWLOC;
1114:	05	00	0	00	00	1	0	1115	0		L← SAD;
1115:	04	00	0	02	06	0	0	1116	0		MD← NWW, TASK;
1116:	04	00	1	00	00	0	0	0020	0	INTZ:	NWW← L, :START;
0536:	07	00	7	01	07	0	0	1117	0	SOMEACTIVE:	MAR← PCLOC;
1117:	07	00	1	00	00	1	0	1120	0		XREG← L, L← 0;
1120:	06	00	0	02	06	0	0	1121	0		MD← PC, TASK;
1121:	06	00	1	00	00	0	0	1122	0	ILPA:	PC← L;
1122:	05	00	0	00	00	0	1	1123	0	ILP:	T← SAD;
1123:	07	03	0	00	00	1	1	1124	0		L← T← XREG AND T;
1124:	06	01	0	00	03	1	1	1125	0		SH=0, L← T, T← PC;
1125:	07	00	1	04	00	0	0	0570	0		:IEXIT, XREG← L LSH 1;
0571:	00	12	0	02	07	1	0	1121	0	NIEXIT:	L← 0+T+1, TASK, :ILPA;
0570:	07	12	7	01	07	0	0	1126	0	IEXIT:	MAR← PCLOC+T+1;
1126:	07	00	1	00	00	0	0	1127	0		XREG← L;
1127:	07	00	0	00	00	0	1	1130	0		T← XREG;
1130:	04	04	0	00	00	1	0	1131	0		L← NWW XOR T;
1131:	00	00	5	00	00	0	1	1132	0		T← MD;
1132:	04	01	1	00	00	1	0	1133	0		NWW← L, L← T;
1133:	06	05	1	00	00	1	1	1134	0		PC← L, L← T← 0+1, TASK;
1134:	05	00	1	05	11	0	0	0537	0		SAD← L MRSH 1, :NOACTIVE;
0124:	00	00	0	07	00	1	0	1135	0	BITBLT:	L← 0;
1135:	00	00	3	00	10	0	0	1142	0		SINK←LREG, BUSODD;
1142:	01	00	3	07	00	1	1	1140	0		L← T← DWOFF, :FDBL;
1141:	00	00	0	02	00	0	0	0637	0	BBNORAM:	TASK, :NPTRAP;
1166:	00	00	5	00	00	0	1	1143	0	FDW:	T← MD;
1143:	07	01	1	02	00	1	0	1144	0		WIDTH← L, L← T, TASK, :NZWID;
1144:	01	00	4	00	00	0	0	1145	0	NZWID:	NLINES← L;
1145:	02	00	0	00	00	0	1	1146	0		T← AC1;
1146:	01	10	3	00	00	1	0	1147	0		L← NLINES-T;
1147:	01	00	4	02	02	0	0	1150	0		NLINES← L, SH<0, TASK;
1150:	00	00	0	00	00	0	0	1136	0		:FDDX;
1136:	01	00	1	07	00	1	1	1140	0	FDDX:	L← T← DXOFF, :FDBL;
1164:	00	00	5	00	00	0	1	1151	0	FDX:	T← MD;
1151:	36	01	1	02	00	1	0	1152	0		DESTX← L, L← T, TASK;
1152:	10	00	1	00	00	0	0	1153	0		DESTY← L;

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LOC     R  A  B  F1 F2  L  T  NEXT  F3

1153:   16 00 5 07 00 1 1 1140 0              L← T← SXOFF, :FDBL;
1172:   00 00 5 00 00 0 1 1154 0      FSX:    T← MD;
1154:   03 01 4 02 00 1 0 1155 0              SRCX← L, L← T, TASK;
1155:   04 00 4 00 00 0 0 1157 0              SRCY← L, :CSHI;
1140:   01 07 0 01 00 0 0 1156 0      FDBL:   MAR← AC2+T;
1156:   00 00 3 00 04 0 0 1160 0              SINK← LREG, BUS;
1160:   00 00 5 00 00 1 0 1160 0      FDBX:   L← MD, :FDBX;
1157:   36 00 0 00 00 0 1 1161 0      CSHI:   T← DESTX;
1161:   03 11 3 00 00 1 0 1165 0              L← SRCX-T-1;
1165:   00 05 3 00 02 0 1 1167 0              T← LREG+1, SH<0;
1167:   00 14 6 07 00 1 0 1162 0              L← 17.T, :LTOR;
1163:   03 06 1 02 00 1 0 1170 0      RTOL:   SKEW← L, L← 0-1, :AH, TASK;
1162:   03 05 1 02 00 1 0 1170 0      LTOR:   SKEW← L, L← 0+1, :AH, TASK;
1170:   07 00 4 00 00 0 0 1171 0      AH:     HINC← L;
1171:   36 00 0 00 00 0 1 1173 0      CMASKS: T← DESTX;
1173:   00 14 6 07 00 1 0 1200 0              T← 17.T;
1200:   07 11 7 01 07 0 0 1201 0              MAR← LASTMASKP1-T-1;
1201:   00 10 6 07 00 1 0 1202 0              L← 17-T;
1202:   35 00 1 00 00 0 0 1203 0              STARTBITSM1← L;
1203:   00 00 5 02 00 1 0 1204 0              L← MD, TASK;
1204:   00 00 1 00 00 0 0 1205 0              MASK1← L;
1205:   07 06 0 00 02 1 0 1206 0              L← WIDTH-1;
1206:   00 06 3 00 02 0 1 1207 0              T← LREG-1, SH<0;
1207:   36 12 0 00 00 0 1 1176 0              T← DESTX+T+1, :POSWID;
1176:   00 14 6 07 00 0 1 1210 0      POSWID: T← 17.T;
1210:   31 11 3 01 07 0 0 1211 0              MAR← LASTMASK-T-1;
1211:   00 00 4 07 00 0 1 1212 0              T← ALLONES;
1212:   07 06 3 00 00 1 0 1213 0              L← HINC-1;
1213:   00 04 5 02 03 1 0 1214 0              L← MD XOR T, SH=0, TASK;
1214:   11 00 4 00 00 0 0 1174 0              MASK2← L, :IFRTOL;
1174:   07 06 0 00 00 0 1 1215 0      IFRTOL: T← WIDTH-1;
1215:   03 07 3 00 00 1 0 1216 0              L← SRCX+T;
1216:   03 00 4 00 00 0 0 1217 0              SRCX← L;
1217:   36 07 0 00 00 1 0 1220 0              L← DESTX+T;
1220:   36 00 1 00 00 0 0 1221 0              DESTX← L;
1221:   36 00 0 00 00 0 1 1222 0              T← DESTX;
1222:   00 14 6 02 07 1 0 1223 0              L← 17.T, TASK;
1223:   35 00 1 00 00 0 0 1224 0              STARTBITSM1← L;
1224:   00 00 0 00 00 0 1 1225 0              T← MASK1;
1225:   11 00 3 00 00 1 0 1226 0              L← MASK2;
1226:   00 01 1 02 00 1 0 1227 0              MASK1← L, L← T,TASK;
1227:   11 00 4 00 00 0 0 1175 0              MASK2←L;
1175:   35 05 0 00 00 0 1 1232 0      LNWORDS:T← STARTBITSM1+1;
1232:   07 11 0 00 00 1 0 1233 0              L← WIDTH-T-1;
1233:   10 00 4 07 02 0 1 1234 0              T← 177760, SH<0;
1234:   00 14 3 00 00 0 1 1230 0              T← LREG.T, :LNW1;
1230:   01 00 1 07 00 1 0 1235 0      LNW1:   L← CALL4;
1235:   05 01 1 02 00 1 0 0174 0              CYRET← L, L← T, :R4, TASK;
0604:   07 00 0 00 00 0 0 1240 0      CYX4:   L← CYCOUT, :LNW2;
1231:   00 00 0 00 00 0 1 1236 0      THIN:   T← MASK1;
1236:   11 14 3 00 00 1 0 1237 0              L←MASK2.T;
1237:   00 06 1 00 00 1 0 1240 0              MASK1← L, L← 0-1;
1240:   10 00 4 00 00 0 0 1241 0      LNW2:   NWORDS← L;
1241:   04 00 3 00 00 0 1 1244 0              T← SRCY;
1244:   10 10 0 00 00 1 0 1245 0              L← DESTY-T;
1245:   01 06 3 00 02 0 1 1246 0              T← NLINES-1, SH<0;
1246:   00 00 0 07 00 1 0 1242 0              L← 0, :BTOT;
1242:   00 00 4 07 00 1 0 1247 0      BTOT:   L← ALLONES;
1247:   06 00 4 00 00 0 0 1250 0      BTOT1:  VINC← L;
1250:   04 07 3 00 00 1 0 1251 0              L← SRCY+T;
1251:   04 00 4 00 00 0 0 1252 0              SRCY← L;
1252:   10 07 0 00 00 1 0 1253 0              L← DESTY+T;
1253:   10 05 1 02 00 1 0 1254 0              DESTY← L, L← 0+1, TASK;
1254:   05 00 4 00 00 0 0 1255 0              TWICE←L, :CWA;
1243:   02 00 0 00 00 0 1 1247 0      TTOB:   T← AC1, :BTOT1;
1255:   04 00 3 00 00 1 0 1256 0      CWA:    L← SRCY;
1256:   02 00 1 00 00 0 0 1257 0              YMUL← L;
1257:   01 00 5 07 00 0 1 1260 0              T← SWAOFF;
1260:   03 00 3 00 00 1 0 1261 0              L← SRCX;
1261:   01 07 0 01 00 0 0 1262 0      DOSWA:  MAR← AC2+T;
1262:   07 00 1 00 00 0 0 1263 0              XREG← L;
1263:   01 00 0 07 00 1 0 1264 0              L←CALL3;
1264:   05 00 1 00 00 0 0 1265 0              CYRET← L;
1265:   00 00 5 00 00 1 0 1266 0              L← MD;
1266:   00 00 5 00 00 0 1 1267 0              T← MD;
1267:   35 01 1 02 00 1 0 1270 0              DWAX← L, L←T, TASK;
```

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LOC   R  A  B F1 F2 L T NEXT [3]

1270: 04 00 4 00 00 0 0 1271 0              RAST2← L;
1271: 10 00 4 07 00 0 1 1272 0              T← 177760;
1272: 07 14 0 02 00 1 1 0174 0              L← T← XREG.T, :R4, TASK;
0603: 07 00 0 00 00 0 1 1273 0      CYX3:   T← CYCOUT;
1273: 35 07 0 00 00 1 0 1274 0              L← DWAX+T;
1274: 35 00 1 00 00 0 0 1275 0              DWAX← L;
1275: 04 00 3 00 00 1 0 1302 0              L← RAST2;
1302: 02 00 0 02 01 0 0 1303 0              SINK← YMUL, BUS=0, TASK;
1303: 07 00 1 00 00 0 0 1300 0              PLIER← L, :MULLP;
1300: 07 00 0 00 10 1 0 1304 0      MULLP:  L← PLIER, BUSODD;
1304: 07 00 1 05 00 0 0 1276 0              PLIER← L RSH 1, :NOADD;
1276: 02 00 0 02 03 1 0 1305 0      NOADD:  L← YMUL, SH=0, TASK;
1305: 02 00 1 04 00 0 0 1300 0      SHIFTB: YMUL← L LSH 1, :MULLP;
1277: 02 00 0 00 00 0 1 1306 0      DOADD:  T← YMUL;
1306: 35 07 0 00 00 1 0 1307 0              L← DWAX+T;
1307: 35 01 1 02 00 1 0 1305 0              DWAX← L, L←T, :SHIFTB, TASK;
1301: 07 06 3 00 00 1 1 1314 0      CDELT:  L← T← HINC-1;
1314: 10 10 3 00 03 1 1 1315 0              L← T← NWORDS-T, SH=0;
1315: 06 00 3 00 10 0 0 1310 0      CD1:    SINK← VINC, BUSODD, :HNEG;
1310: 04 00 3 00 00 0 1 1312 0      HNEG:   T← RAST2, :VPOS;
1311: 00 00 3 07 00 1 0 1315 0      HPOS:   L← -2-T, :CD1;
1312: 00 07 3 02 00 1 0 1316 0      VPOS:   L← LREG+T, :GDELT, TASK;
1313: 00 10 3 02 00 1 0 1316 0      VNEG:   L← LREG-T, :GDELT, TASK;
1316: 04 00 4 00 00 0 0 1317 0      GDELT:  RAST2← L;
1317: 05 06 3 00 00 1 0 1322 0              L← TWICE-1;
1322: 05 00 4 00 02 0 0 1323 0              TWICE← L, SH<0;
1323: 04 00 3 00 00 1 0 1320 0              L← RAST2, :ONEMORE;
1320: 02 00 4 00 00 0 0 1324 0      ONEMORE:    RAST1← L;
1324: 10 00 0 02 00 1 0 1325 0              L← DESTY, TASK;
1325: 02 00 1 00 00 0 0 1326 0              YMUL← L;
1326: 35 00 0 00 00 1 0 1327 0              L← DWAX;
1327: 36 00 0 00 00 0 1 1330 0              T← DESTX;
1330: 36 01 1 00 00 1 0 1331 0              SWA← L, L← T;
1331: 00 00 2 07 00 1 1 1261 0              T← DWAOFF, :DOSWA;
1321: 03 00 0 02 01 1 0 1340 0      CTOPL:  L← SKEW, BUS=0, TASK;
1340: 00 00 0 07 14 0 0 1332 0      CTX:    IR← 0, :CTOP1;
1332: 03 00 3 00 00 0 1 1341 0      CTOP1:  T← SRCX;
1341: 07 06 3 00 00 1 0 1342 0              L← HINC-1;
1342: 00 14 6 07 03 0 1 1343 0              T← 17.T, SH=0;
1343: 03 11 0 00 00 1 0 1334 0              L← SKEW-T-1, :HM1;
1335: 07 00 3 00 02 0 1 1344 0      H1:     T← HINC, SH<0;
1344: 36 07 0 00 00 1 0 1336 0              L← SWA+T, :NOTOPL;
1334: 00 00 3 00 00 0 1 1345 0      HM1:    T← LREG;
1345: 00 11 0 07 00 1 0 1335 0              L← 0-T-1, :H1;
1336: 07 00 3 02 10 0 0 1340 0      NOTOPL: SINK← HINC, BUSODD, TASK, :CTX;
1337: 36 00 1 02 00 0 0 1346 0      TOPL:   SWA← L, TASK;
1346: 02 00 4 07 14 0 0 1333 0              IR← 100, :CSKEW;
1333: 03 00 0 00 01 0 1 1347 0      CSKEW:  T← SKEW, BUS=0;
1347: 07 11 7 01 07 0 0 1350 0              MAR← LASTMASKP1-T-1, :THINC;
1350: 07 06 3 00 00 1 0 1354 0      THINC:  L←HINC-1;
1354: 00 00 0 00 03 0 0 1351 0              SH=0;
1351: 00 00 4 07 00 0 1 1352 0      BCOM1:  T← ALLONES, :COMSK;
1352: 00 04 5 00 00 1 0 1355 0      COMSK:  L← MD XOR T, :GFN;
1353: 00 00 5 00 00 1 0 1355 0      NOCOM:  L← MD, :GFN;
1355: 01 00 0 01 00 0 0 1356 0      GFN:    MAR← AC2;
1356: 03 00 4 00 00 0 0 1357 0              SKMSK← L;
1357: 00 00 5 00 00 0 1 1360 0              T← MD;
1360: 00 07 7 02 00 1 0 1361 0              L← DISP+T, TASK;
1361: 00 00 3 00 14 0 0 1371 0              IR← LREG, :BENTR;
1363: 36 00 0 00 00 0 1 1364 0      VLOOP:  T← SWA;
1364: 02 07 3 00 00 1 0 1365 0              L← RAST1+T;
1365: 36 00 1 00 00 0 0 1366 0              SWA← L;
1366: 35 00 0 00 00 0 1 1367 0              T← DWAX;
1367: 04 07 3 02 00 1 0 1370 0              L← RAST2+T, TASK;
1370: 35 00 1 00 00 0 0 1371 0              DWAX← L;
1371: 01 06 3 00 00 1 1 1402 0      BENTR:  L← T← NLINES-1;
1402: 01 00 4 00 02 0 0 1403 0              NLINES← L, SH<0;
1403: 04 00 0 00 01 0 0 1372 0              L← NWW, BUS=0, :MOREV;
1372: 01 14 0 07 02 1 0 1374 0      MOREV:  L← 3.T, :BMAYBE, SH<0;
1375: 24 00 7 02 01 0 0 1377 0      BNOINT: SINK← DISP, SINK← lgm10, BUS=0, :BDIS0, TASK;
1374: 24 00 7 02 01 0 0 1376 0      BMAYBE: SINK← DISP, SINK← lgm10, BUS=0, :BDOINT, TASK;
1377: 05 00 4 00 00 0 0 1400 0      BDIS0:  CONST← L, :DOGRAY;
1376: 00 00 0 00 00 0 0 1405 0      BDOINT: :DOI1;
1405: 01 00 0 00 00 0 1 1404 0      DOI1:   T← AC2;
1404: 01 07 4 01 07 0 0 1406 0              MAR← DHOFF+T;
1406: 01 00 3 00 00 0 1 1407 0              T← NLINES;
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1407:  06 06 0 00 00 1 0 1410 0              L← PC-1;
1410:  06 00 1 00 00 0 0 1411 0              PC← L;
1411:  00 11 5 02 00 1 0 1137 0              L← MD-T-1, :BLITX, TASK;
1400:  05 06 3 00 00 0 1 1414 0      DOGRAY: T← CONST-1;
1414:  20 12 3 07 00 0 1 1415 0              T← GRAYOFF+T+1;
1415:  01 07 0 01 00 0 0 1416 0              MAR← AC2+T;
1416:  00 00 0 00 00 0 0 1417 0              NOP;
1417:  00 00 5 00 00 1 0 1401 0              L← MD;
1401:  30 00 7 02 01 0 0 1420 0      NOGRAY: SINK← DISP, SINK← lgm100, BUS=0, TASK;
1420:  05 00 4 00 00 0 0 1412 0              CONST← L, :PRELD;
1177:  00 00 0 02 07 1 0 1137 0      NEGWID: L← 0, :BLITX, TASK;
1373:  00 00 0 02 07 1 0 1137 0      DONEV:  L← 0, :BLITX, TASK;
1137:  02 00 1 00 00 0 0 0607 0      BLITX:  AC1← L, :FINBLT;
1412:  27 00 7 00 01 0 0 1421 0      PRELD:  SINK← DISP, SINK← lgm40, BUS=0;
1421:  07 00 3 00 00 0 1 1422 0              T← HINC, :AB1;
1423:  36 10 0 01 00 0 0 1424 0      NB1:    MAR← SWA-T, :XB1;
1422:  36 10 0 01 06 0 0 1424 0      AB1:    XMAR← SWA-T, :XB1;
1424:  00 00 0 00 00 0 0 1425 0      XB1:    NOP;
1425:  00 00 5 02 00 1 0 1426 0              L← MD, TASK;
1426:  10 00 1 00 00 0 0 1413 0              WORD2← L, :NOPLD;
1413:  01 00 0 07 00 0 0 1433 0      NOPLD:  L← 3, :FDISP;
1437:  10 00 3 00 00 1 0 1427 0      DON3:   L← NWORDS;
1427:  06 00 4 00 02 0 0 1434 0              HCNT← L, SH<0;
1434:  06 06 3 00 00 1 0 1362 0      DON0:   L← HCNT-1, :DO0;
1362:  06 00 4 00 02 0 0 1432 0      DO0:    HCNT← L, SH<0;
1432:  25 00 7 02 04 1 0 1430 0              L← DISP, SINK← lgm14, BUS, TASK, :FDISPA;
1431:  00 00 0 00 00 0 0 1435 0      LASTH:  :LH1;
1435:  00 00 2 07 00 1 0 1433 0      LH1:    L← 2, :FDISP;
1436:  00 00 0 00 00 0 0 1363 0      DON2:   :VLOOP;
1433:  25 00 7 02 04 0 0 1430 0      FDISP:  SINK← DISP, SINK←lgm14, BUS, TASK;
1430:  02 00 1 00 00 0 0 1443 0      FDISPA: RETN← L, :F0;
1443:  27 00 7 00 01 0 0 1530 0      F0:     SINK← DISP, SINK← lgm40, BUS=0, :WIND;
1447:  27 00 7 00 01 0 0 1530 0      F1:     SINK← DISP, SINK← lgm40, BUS=0, :WIND;
1467:  07 00 0 00 00 0 1 1442 0      F1A:    T← CYCOUT;
1442:  00 04 4 02 07 1 0 1455 0              L← ALLONES XOR T, TASK, :F3A;
1453:  27 00 7 00 01 0 0 1530 0      F2:     SINK← DISP, SINK← lgm40, BUS=0, :WIND;
1473:  07 00 0 00 00 0 1 1444 0      F2A:    T← CYCOUT;
1444:  00 04 4 07 00 1 0 1445 0              L← ALLONES XOR T;
1445:  26 00 7 00 01 0 0 1446 0              SINK← DISP, SINK← lgm20, BUS=0;
1446:  05 00 1 00 00 0 0 1440 0              TEMP← L, :AB2;
1441:  35 00 0 01 00 0 0 1450 0      NB2:    MAR← DWAX, :XB2;
1440:  35 00 0 01 06 0 0 1450 0      AB2:    XMAR← DWAX, :XB2;
1450:  05 03 3 00 00 1 0 1451 0      XB2:    L← CONST AND T;
1451:  05 00 0 00 00 0 1 1452 0              T← TEMP;
1452:  00 14 5 00 00 0 1 1454 0              T← MD .T;
1454:  00 02 3 02 00 1 0 1455 0              L← LREG OR T, TASK, :F3A;
1457:  05 00 3 02 00 1 0 1455 0      F3:     L← CONST, TASK, :F3A;
1455:  07 00 1 00 00 0 0 1463 0      F3A:    CYCOUT← L;
1463:  26 00 7 00 01 0 0 1456 0      F0A:    SINK← DISP, SINK← lgm20, BUS=0;
1456:  23 00 7 00 04 0 0 1460 0              SINK← DISP, SINK← lgm3, BUS, :AB3;
1461:  35 00 0 01 00 0 1 1474 0      NB3:    T← MAR← DWAX, :OP0;
1460:  35 00 0 01 06 0 1 1474 0      AB3:    T← XMAR← DWAX, :OP0;
1474:  02 00 0 00 04 0 0 1462 0      OP0:    SINK← RETN, BUS;
1462:  07 07 3 00 00 1 0 1515 0      OP0A:   L← HINC+T, :STFULL;
1475:  07 00 0 00 00 0 1 1464 0      OP1:    T← CYCOUT;
1464:  00 02 5 00 00 1 0 1472 0              L← MD OR T, :OPN;
1476:  07 00 0 00 00 0 1 1465 0      OP2:    T← CYCOUT;
1465:  00 04 5 00 00 1 0 1472 0              L← MD XOR T, :OPN;
1477:  07 00 0 00 00 0 1 1466 0      OP3:    T← CYCOUT;
1466:  00 11 0 07 00 1 0 1470 0              L← 0-T-1;
1470:  00 00 3 00 00 0 1 1471 0              T← LREG;
1471:  00 03 5 00 00 1 0 1472 0              L← MD AND T, :OPN;
1472:  26 00 7 02 01 0 0 1500 0      OPN:    SINK← DISP, SINK← lgm20, BUS=0, TASK;
1500:  07 00 1 00 00 0 0 1460 0              CYCOUT← L, :AB3;
1517:  00 00 5 00 00 1 0 1501 0      STMSK:  L← MD;
1501:  02 00 0 02 10 0 0 1506 0              SINK← RETN, BUSODD, TASK;
1506:  05 00 1 00 00 0 0 1502 0              TEMP← L, :STM2;
1503:  00 00 0 00 00 0 1 1507 0      STM1:   T←MASK1, :STM3;
1502:  11 00 3 00 00 0 1 1507 0      STM2:   T←MASK2, :STM3;
1507:  07 03 0 00 00 1 0 1510 0      STM3:   L← CYCOUT AND T;
1510:  07 11 1 00 00 1 0 1511 0              CYCOUT← L, L← 0-T-1;
1511:  00 00 3 00 00 0 1 1512 0              T← LREG;
1512:  05 14 0 00 00 0 1 1513 0              T← TEMP .T;
1513:  07 02 0 00 00 1 0 1514 0              L← CYCOUT OR T;
1514:  26 00 7 02 01 0 0 1516 0              SINK← DISP, SINK← lgm20, BUS=0, TASK;
1516:  07 00 1 00 00 0 0 1504 0              CYCOUT← L, :AB4;
```

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1505:  35 00 0 01 00 0 1 1462 0      NB4:      T← MAR← DWAX, :OPOA;
1504:  35 00 0 01 06 0 1 1462 0      AB4:      T← XMAR← DWAX, :OPOA;
1515:  07 00 0 00 06 0 0 1520 0      STFULL:   MD← CYCOUT;
1520:  02 00 0 02 04 0 0 1521 0      STFUL1:   SINK← RETN, BUS, TASK;
1521:  35 00 1 00 00 0 0 1434 0                DWAX← L, :DONO;
1530:  03 00 3 00 00 1 1 1526 0      WIND:     L← T← SKMSK, :AB5;
1527:  36 00 0 01 00 0 0 1531 0      NB5:      MAR← SWA, :XB5;
1526:  36 00 0 01 06 0 0 1531 0      AB5:      XMAR← SWA, :XB5;
1531:  10 14 0 00 03 1 0 1532 0      XB5:      L← WORD2.T, SH=0;
1532:  07 11 1 00 00 1 0 1524 0                CYCOUT← L, L← 0-T-1, :NZSK;
1525:  00 00 5 02 00 1 0 1533 0      ZESK:     L← MD, TASK;
1533:  07 00 1 00 00 0 0 1523 0                CYCOUT← L, :NOCY;
1524:  00 00 5 00 00 0 1 1534 0      NZSK:     T← MD;
1534:  00 14 3 00 00 1 0 1535 0                L← LREG.T;
1535:  05 01 1 02 00 1 0 1536 0                TEMP← L, L←T, TASK;
1536:  10 00 1 00 00 0 0 1540 0                WORD2← L;
1540:  05 00 0 00 00 0 1 1541 0                T← TEMP;
1541:  07 02 0 00 00 1 1 1542 0                L← T← CYCOUT OR T;
1542:  07 05 1 00 03 1 0 1543 0                CYCOUT← L, L← 0+1, SH=0;
1543:  03 00 0 00 04 0 0 1522 0                SINK← SKEW, BUS, :DOCY;
1522:  05 01 1 04 00 1 0 0160 0      DOCY:     CYRET← L LSH 1, L← T, :LO;
1523:  36 00 0 00 00 0 1 1537 0      NOCY:     T← SWA, :WIA;
0602:  36 00 0 00 00 0 1 1537 0      CYX2:     T← SWA;
1537:  07 07 3 00 00 1 0 1544 0      WIA:      L← HINC+T;
1544:  25 00 7 02 04 0 0 1545 0                SINK← DISP, SINK← lgm14, BUS, TASK;
1545:  36 00 1 00 00 0 0 1463 0                SWA← L, :FOA;
0004:  16 00 0 01 07 0 0 1574 0      KSEC:     MAR← KBLKADR2;
1574:  00 00 0 14 00 0 0 1575 0      KPOQ:     CLRSTAT;
1575:  00 05 4 07 06 1 0 1601 0                MD←L←ALLONES+1, :GCOM2;
1576:  03 00 5 01 07 0 0 1577 0      GETCOM:   MAR←KBLKADR;
1577:  00 00 0 00 00 0 0 1600 0      GCOM1:    NOP;
1600:  00 00 5 00 00 1 0 1601 0                L←MD;
1601:  34 00 1 02 00 0 0 1602 0      GCOM2:    DCBR←L,TASK;
1602:  05 00 1 15 07 0 0 1603 0                KCOMM←TOWTT;
1603:  16 00 1 01 07 0 0 1604 0                MAR←KBLKADR3;
1604:  04 00 0 00 00 0 1 1605 0                T←NWW;
1605:  00 02 5 00 00 1 0 1606 0                L←MD OR T;
1606:  03 05 5 01 07 0 0 1607 0                MAR←KBLKADR+1;
1607:  04 00 1 02 00 0 0 1610 0                NWW←L, TASK;
1610:  00 00 3 00 06 0 0 1611 0                MD←KSTAT;
1611:  03 00 5 01 07 0 0 1612 0                MAR←KBLKADR;
1612:  01 00 2 12 07 0 0 1613 0                KSTAT←5;
1613:  34 00 0 02 01 1 0 1614 0                L←DCBR,TASK,BUS=0;
1614:  34 00 0 00 06 0 0 1546 0                MD←DCBR, :COMM;
1546:  00 00 2 07 00 0 1 1615 0      COMM:     T←2;
1615:  34 07 0 01 00 0 0 1616 0                MAR←DCBR+T;
1616:  05 00 0 07 00 0 1 1617 0                T←TOTUWC;
1617:  00 04 5 02 16 1 0 1620 0                L←MD XOR T, TASK, STROBON;
1620:  31 00 1 00 00 0 0 1550 0                KWDCT←L, :COMM2;
1550:  01 00 5 07 00 0 1 1621 0      COMM2:    T←10;
1621:  34 12 0 01 00 0 0 1622 0                MAR←DCBR+T+1;
1622:  31 00 0 00 00 0 1 1623 0                T←KWDCT;
1623:  00 03 1 07 00 1 0 1624 0                L←ONE AND T;
1624:  03 03 1 07 03 1 0 1625 0                L←-400 AND T, SH=0;
1625:  00 00 5 00 03 0 1 1572 0                T←MD, SH=0, :INVERT;
1572:  00 04 2 02 07 1 0 1552 0      INVERT:   L←2 XOR T, TASK, :BADCOMM;
1573:  00 01 0 02 00 1 0 1552 0      NOINVERT: L←T, TASK, :BADCOMM;
1553:  33 00 1 00 00 0 0 1626 0      COMM3:    KNMAR←L;
1626:  16 00 0 01 07 0 0 1627 0                MAR←KBLKADR2;
1627:  04 00 4 07 00 0 0 1630 0                T←SECT2CM;
1630:  33 07 0 17 00 1 1 1631 0                L←T←KDATA←KNMAR+T;
1631:  31 00 0 16 05 0 0 1632 0                KADR←KWDCT,ALUCY;
1632:  00 04 5 02 00 1 0 1554 0                L←MD XOR T,TASK, :COMM4;
1554:  32 00 1 00 00 0 0 1633 0      COMM4:    CKSUMR←L;
1633:  16 00 0 01 07 0 0 1634 0                MAR←KBLKADR2;
1634:  04 00 2 07 14 0 1 1635 0                T←CADM,SWRNRDY;
1635:  32 03 0 00 00 1 0 1556 0                L←CKSUMR AND T, :COMM5;
1556:  33 00 0 00 06 0 0 1636 0      COMM5:    MD←KNMAR;
1636:  00 00 0 02 03 0 0 1637 0                SH=0,TASK;
1637:  00 00 0 00 00 0 0 1560 0                :STROB;
1561:  33 00 0 00 15 0 1 1640 0      CKSECT:   T←KNMAR,NFER;
1640:  00 04 3 00 00 1 0 1562 0                L←KSTAT XOR T, :STALL;
1563:  32 00 1 00 13 0 0 1641 0      CKSECT1:  CKSUMR←L,XFRDAT;
1641:  32 00 0 00 00 0 1 1564 0                T←CKSUMR, :KSFINI;
1565:  04 03 3 07 00 1 0 1642 0      CKSECT2:  L←SECTMSK AND T;
1642:  00 00 0 03 03 0 0 1571 0      KSLAST:   BLOCK,SH=0;
```

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1571:   00 00 0 02 00 0 0 1566 0      GASP:    TASK, :IDLE2;
1567:   05 00 0 15 07 0 0 1643 0      TRANSFER: KCOMM←TOTUWC;
1643:   10 00 2 07 00 0 1 1650 0      DMPSTAT: T←COMERR1;
1650:   00 03 3 00 00 1 0 1651 0               L←KSTAT AND T;
1651:   34 05 0 01 00 0 0 1652 0               MAR←DCBR+1;
1652:   31 00 1 02 03 0 0 1653 0               KWDCT←L,TASK,SH=0;
1653:   00 00 3 00 06 0 0 1644 0               MD←KSTAT,:ERRFND;
1645:   01 00 3 07 00 0 1 1654 0      NOERRFND: T←6;
1654:   34 07 0 01 00 0 0 1655 0      INTCOM: MAR←DCBR+T;
1655:   04 00 0 00 00 0 1 1656 0               T←NWW;
1656:   00 02 5 00 00 1 0 1657 0               L←MD OR T;
1657:   31 00 0 02 01 0 0 1660 0               SINK←KWDCT,BUS=0,TASK;
1660:   04 00 1 00 00 0 0 1646 0               NWW←L,:EF1;
1647:   34 00 0 01 00 0 0 1577 0      NEF1:    MAR←DCBR,:GCOM1;
1644:   01 00 4 07 00 0 0 1654 0      ERRFND:  T←7,:INTCOM;
1646:   00 00 0 00 00 0 0 0004 0      EF1:     :KSEC;
1547:   00 00 4 14 07 1 0 1642 0      NOCOMM:  L←ALLONES,CLRSTAT,:KSLAST;
1551:   00 00 4 07 00 1 0 1642 0      IDLE1:   L←ALLONES,:KSLAST;
1566:   04 00 5 12 07 0 0 1576 0      IDLE2:   KSTAT←LOW14, :GETCOM;
1552:   01 00 4 12 07 0 0 1661 0      BADCOMM: KSTAT←7;
1661:   00 00 0 03 00 0 0 1662 0               BLOCK;
1662:   00 00 0 02 00 0 0 1646 0               TASK,:EF1;
1557:   00 00 0 00 15 0 0 1562 0      WHYNRDY: NFER;
1562:   00 00 0 03 00 0 0 1570 0      STALL:   BLOCK, :STALL2;
1570:   00 00 0 02 00 0 0 1663 0      STALL2:  TASK;
1663:   00 00 0 00 00 0 0 1643 0               :DMPSTAT;
1555:   01 00 4 12 07 0 0 1562 0      ILLSEC:  KSTAT←7, :STALL;
1560:   00 00 0 14 00 0 0 1664 0      STROB:   CLRSTAT;
1664:   00 00 4 11 07 1 0 1563 0               L←ALLONES,STROBE,:CKSECT1;
1564:   01 00 1 12 07 0 0 1562 0      KSFINI:  KSTAT←4, :STALL;
1737:   00 00 0 03 00 0 0 1735 0      KWD:     BLOCK,:REC0;
1735:   00 00 2 02 07 1 0 1665 0      REC0:    L←2, TASK;
1665:   33 00 1 00 00 0 0 1702 0               KNMARW←L;
1702:   33 00 0 03 11 0 1 1710 0               T←KNMARW, BLOCK, RWC;
1710:   34 12 0 01 00 0 0 1722 0               MAR←DCBR+T+1, :RECORC;
1722:   16 00 2 03 07 0 1 1734 0      RECORC:  T←MFRRDL,BLOCK, :REC12A;
1723:   16 00 3 03 07 0 1 1734 0      RECOW:   T←MFROBL,BLOCK, :REC12A;
1714:   01 00 5 13 07 1 0 1715 0      REC1:    L←10, INCRECNO;
1715:   01 00 1 07 00 0 1 1730 0               T←4, :REC12;
1716:   03 00 3 13 07 1 0 1725 0      REC2:    L←PAGE1, INCRECNO;
1725:   01 00 2 07 00 0 1 1730 0               T←5, :REC12;
1730:   34 07 0 01 11 0 0 1732 0      REC12:   MAR←DCBR+T, RWC;
1732:   33 00 1 00 00 0 0 1712 0               KNMARW←L, :RDCK0;
1712:   04 00 5 07 00 0 1 1734 0      RDCK0:   T←MIRRDL, :REC12A;
1713:   10 00 5 07 00 0 1 1734 0      WRT0:    T←MIROBL, :REC12A;
1734:   00 00 5 00 00 1 0 1736 0      REC12A:  L←MD;
1736:   31 01 1 00 00 1 0 1740 0               KWDCTW←L, L←T;
1740:   05 00 2 15 07 0 0 1741 0      COM1:    KCOMM← STUWC, :INPREF0;
1701:   32 05 0 03 10 1 0 1741 0      INPREF:  L←CKSUMRW+1, INIT, BLOCK;
1741:   32 00 1 02 02 0 0 1705 0      INPREF0: CKSUMRW←L, SH<0, TASK, :INPREF1;
1705:   00 00 0 17 07 0 0 1700 0      INPREF1: KDATA←0, :PREFDONE;
1700:   33 00 0 00 00 0 1 0016 0      PREFDONE: T←KNMARW;
0016:   31 07 0 00 11 1 0 1742 0      KWDX:    L←KWDCTW+T, RWC;
1742:   33 00 1 00 00 0 0 1704 0               KNMARW←L,BLOCK,:RP0;
1704:   05 00 3 15 07 0 0 1744 0      RP0:     KCOMM←STRCWFS,:WP1;
1706:   31 06 0 00 00 1 0 1743 0      CKP0:    L←KWDCTW-1;
1743:   31 00 1 00 00 0 0 1704 0               KWDCTW←L,:RP0;
1707:   00 00 1 17 07 0 0 1744 0      WP0:     KDATA←ONE;
1744:   03 00 5 02 07 1 0 1666 0      WP1:     L←KBLKADR,TASK,:RW1;
1745:   33 06 0 00 00 1 1 1746 0      XFLP:    T←L←KNMARW-1;
1746:   33 00 1 00 00 0 0 1747 0               KNMARW←L;
1747:   33 00 0 01 11 0 0 1750 0               MAR←KNMARW,RWC;
1750:   31 10 0 00 00 1 0 1724 0               L←KWDCTW-T,:R0;
1724:   32 00 0 03 03 0 1 1751 0      R0:      T←CKSUMRW,SH=0,BLOCK;
1751:   00 04 4 02 06 1 0 1666 0               MD←L←KDATA XOR T,TASK,:RW1;
1666:   32 00 1 00 00 0 0 1745 0      RW1:     CKSUMRW←L,:XFLP;
1727:   32 00 0 03 00 0 1 1752 0      W0:      T←CKSUMRW,BLOCK;
1752:   00 04 5 17 03 1 0 1753 0               KDATA←L←MD XOR T,SH=0;
1753:   00 00 0 02 00 0 0 1666 0               TASK,:RW1;
1726:   00 00 4 03 03 0 1 1764 0      CK0:     T←KDATA,BLOCK,SH=0;
1754:   00 04 5 00 01 1 0 1670 0               L←MD XOR T,BUS=0,:CK1;
1670:   32 04 0 00 03 1 0 1672 0      CK1:     L←CKSUMRW XOR T,SH=0,:CK3;
1672:   00 00 0 02 00 0 0 1674 0      CK3:     TASK,:CKERR;
1675:   32 00 1 00 00 0 0 1745 0      CK5:     CKSUMRW←L,:XFLP;
1673:   33 00 0 01 00 0 0 1703 0      CK4:     MAR←KNMARW, :CK6;
1703:   32 07 1 00 00 1 0 1755 0      CK6:     CKSUMRW←L,L←0+T;
```

```
1755:  25 00 1 02 00 0 0 1756 0              MTEMP←L,TASK;
1756:  25 00 0 00 06 0 0 1745 0              MD←MTEMP,:XFLP;
1671:  32 10 0 00 00 1 0 1731 0    CK2:      L←CKSUMRW-T,:R2;
1667:  32 00 1 00 00 0 0 1757 0    RW2:      CKSUMRW←L;
1757:  32 00 0 17 11 0 1 1760 0              T←KDATA←CKSUMRW,RWC;
1760:  00 10 4 03 00 1 0 1731 0              L←KDATA-T,BLOCK,:R2;
1731:  10 00 5 07 03 1 0 1761 0    R2:       L←MRPAL, SH=0;
1761:  05 00 0 15 07 0 0 1720 0              KCOMM←TOTUWC, :CKSMERR;
1733:  16 00 4 02 07 1 0 1762 0    W2:       L←MWPAL, TASK;
1762:  32 00 1 00 00 0 0 1676 0              CKSUMRW←L, :PXFLP;
1720:  00 00 0 12 07 0 0 1721 0    CKSMERR:  KSTAT←0,:PXFLP0;
1676:  32 05 0 03 10 1 0 1721 0    PXFLP:    L←CKSUMRW+1, INIT, BLOCK;
1721:  32 00 1 02 03 0 0 1711 0    PXFLP0:   CKSUMRW←L, TASK, SH=0, :PXFLP1;
1711:  00 00 0 17 07 0 0 1676 0    PXFLP1:   KDATA←0,:PXFLP;
1677:  00 00 0 03 12 0 0 1763 0    PXF2:     RECNO, BLOCK;
1763:  00 00 0 00 00 0 0 1714 0              :REC1;
1717:  01 00 1 12 07 0 0 1676 0    REC3:     KSTAT←4,:PXFLP;
1674:  05 00 0 15 07 0 0 1764 0    CKERR:    KCOMM←TOTUWC;
1764:  01 00 3 12 07 1 0 1711 0              L←KSTAT←6, :PXFLP1;
0015:  01 00 5 07 00 0 1 1765 0    PART:     T← 10;
1765:  00 00 4 07 00 1 0 1766 0              L← ALLONES;
1766:  30 00 5 01 07 0 0 1770 0              MAR← ERRCTRL, :PX1;
0450:  05 00 0 00 00 1 0 1767 0    PR8:      L← SAD, :PX;
0447:  06 00 0 00 00 1 0 1767 0    PR7:      L← PC, :PX;
0446:  22 00 0 00 00 1 0 1767 0    PR6:      L← CBA, :PX;
0445:  30 00 0 00 00 1 0 1767 0    PR5:      L← DWA, :PX;
0444:  33 00 0 00 00 1 0 1767 0    PR4:      L← KNMAR, :PX;
0443:  34 00 0 00 00 1 0 1767 0    PR3:      L← DCBR, :PX;
0442:  04 02 0 02 00 1 0 0440 0    PR2:      L← NWW OR T, TASK;
0440:  04 00 1 00 00 0 0 0015 0    PR0:      NWW← L, :PART;
1767:  15 07 3 01 07 0 0 1770 0    PX:       MAR← 612+T;
1770:  25 01 1 00 00 1 0 1771 0    PX1:      MTEMP← L, L← T;
1771:  25 00 0 00 06 0 0 1772 0              MD← MTEMP;
1772:  21 00 1 00 00 0 0 1773 0              CURDATA← L;
1773:  21 06 0 00 04 0 1 1774 0              T← CURDATA-1, BUS;
1774:  00 00 0 00 00 0 0 0440 0              :PR0;
```

```
1021 Instructions
608 'Sequential' Instructions
419 Predefined labels
85 Normal labels
289 Explicit transfers to a predefined label
31 Explicit transfers to a defined label (backwards loops)
93 Explicit forward references
30 Instructions which only do a jump
102 Instructions which do a jump and include a reference to a constant
N: Number of predefs with N labels
   1:  16
   2: 106
   3:   2
   4:   5
   5:   1
   6:   1
   7:   2
   8:   2
   9:   1
  10:   2
  16:   3
  19:   1
  23:   1

K: Number of special predefs with K labels
   2:   1
   3:   1
```