

LAP 6 MANUSCRIPT LISTINGS

MAY 1, 1967

**Computer Systems Laboratory
Washington University
St. Louis, Missouri**

LAP6 MANUSCRIPT LISTINGS

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May 1, 1967

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This document contains program listings for LAP6, the LINC Assembly Program described in the LAP6 Handbook (Computer Systems Laboratory, Technical Report No. 2), and assembled as the Standard configuration of LAP6 on the LAP6 Master Tape, available from the Computer Systems Laboratory. LAP6 was prepared on, and operates on, a LINC (Laboratory Instrument Computer).

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LAP6 MANUSCRIPT LISTINGS

Contents

Assembling LAP6	i
Configuring LAP6	ii
Modifying LAP6	iii
Example: Handbook Supplement	iv
Example: Listings Supplement	v
MSDISPLY (Manuscript Input and Display)	1
ADDMS LO (Add Manuscript and Load Binary).....	25
FILECOMS (SM, SB, CM, CB, LI, PM)	32
COPYFILE	46
COPY	60
CONVERT	71
CV DIS (Convert Displays, DS).....	90
DISX PX (Display Index and Print Index)	100
PRINT MS	111
LIST	116
TELETYPE (for PX, PM, and LI)	132

Assembling LAP6

The Standard configuration of LAP6 may be assembled from the LAP6 manuscripts in this document following the procedure below. Using LAP6, clear the working area by pushing START 20 at the beginning of each numbered step. Then add the appropriate manuscript(s) (in the order given), convert, and copy the relevant binary quarters as described. Ignore any ERRORS following conversion.

Block numbers are for Standard configurations; any configuration, of course, may be used to assemble any other configuration.

ADD MANUSCRIPT(S) and CONVERT	COPY		
	#blks	from block, (LAP6 Unit)	to block, (Unit n)
1. MSDISPLY	10	340	300
2. MSDISPLY ADDMS LO	1	343	324
3. FILECOMS	4	340	320
4. COPYFILE	3	340	314
5. COPY	2	340	336
6. CONVERT	3	340	330
7. CV DIS	2	340	310
8. DISX PX TELETYPE	2	340	325
9. PRINT MS TELETYPE	1	342	322
10. LIST TELETYPE	1	341	333
	1	342	327
	1	343	335
	2	346	312
	1	346	317

LAP6A

Changes to LAP6 Manuscript Listings:

As of June 1, 1968 the LAP6 Master Tape issued by the Computer Systems Laboratory differs from the LAP6 Manuscript Listings as follows. The tape now issued is the LAP6A Master Tape. The LAP6 Handbook is not affected.

<u>MSDISPLY:</u>	<u>LAP6</u>				<u>LAP6A</u>			
	p	CONT			p	CONT		
(p. 5)	250	2176	6Z-1		250	2175	6Z-2	[META TABLE
	⋮	⋮	⋮		⋮	⋮	⋮	
	252	7737	6Z-6Y-3		252	7757	-20	[LENGTH
	⋮	⋮	⋮		⋮	⋮	⋮	
	257	1461	#1N SAE i 1		257	0221	#1N XSK i 1	
	260	6253	JMP p-5		260	1461	SAE i 1	
	261	1021	LDA i 1		261	6253	JMP p-6	
	262	4263	STC p+1		262	1021	LDA i 1	
	263	0000	TO META		263	7777	JMP 1777	
	⋮	⋮	⋮		⋮	⋮	⋮	
(p. 18)	1555	7511	JMP 2T-2		1555	7541	JMP 4Z	[CHECK FOR
	⋮	⋮	⋮		⋮	⋮	⋮	CURRENT MS
(p. 19)	1641	7541	JMP 4Z		1641	7511	JMP 2T-2	[WORKING AREA
	⋮	⋮	⋮		⋮	⋮	⋮	MS
	1654	7511	JMP 4Z		1654	7511	JMP 2T-2	
	⋮	⋮	⋮		⋮	⋮	⋮	
(p. 21)	1777	UNUSED			1777	4000	STC 0	[DISPATCH META
<u>ADDMS LO:</u>								
(p. 30)	1760	0000	#8T 7E		1760	0000	#8T 7E	[LAP6 UNIT

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724 SOUTH EUCLID AVENUE

June 12, 1968

TELEPHONE: AREA CODE 314
FO 1 - 7356

To: LAP6 Users

From: M. A. Clark *MAC*

The following troubles have been found in LAP6:

The command $\rightarrow LO_{EOL}$ leaves the Z Register incorrectly set if the LAP6 tape unit is not zero. (The command $\rightarrow LO NAME, UNIT_{EOL}$ works correctly, regardless of unit.)

The commands $\rightarrow PM (LN, LN)_{EOL}$ and $\rightarrow LI (LN, LN)_{EOL}$ when there is no current manuscript, and the commands $\rightarrow "0$, $\rightarrow "$ (space), $\rightarrow :W$, and $\rightarrow :_$ can damage LAP6. ($\rightarrow PM (LN, LN,) NAME, UNIT_{EOL}$ and $\rightarrow LI (LN, LN,) NAME, UNIT_{EOL}$ work correctly regardless of the state of the current manuscript.) Since these are meaningless commands, most users have hopefully not been bothered. These commands can be deleted successfully with "del", as always, if noticed before the terminating EOL is struck.

LAP6 can be corrected by changing 11 or 12 words. Since it is the responsibility of this laboratory to maintain the reliability of this operating system, we cannot, unfortunately, view this as an optional modification. Copies of the "LAP6 Master Tape" released by the laboratory after this date will be corrected copies, and a correction sheet will be appended to the LAP6 Manuscript Listings. To minimize confusion of names for those already using modified versions, the corrected version is known as LAP6A; existing modification identification codes need not then be changed (e.g., LAP6-3L becomes LAP6A-3L, etc.).

The LAP6A corrections are compatible with all modified versions of LAP6 described in "LAP6 Modifications" (Tech. Memo no. 62, CSL, Wash. Univ., St. Louis, June 1, 1968).

I am afraid I must recommend, with many apologies, that you correct your copies. A correction procedure and Listings supplement are enclosed. There is no Handbook supplement. I will be glad to exchange LAP6A Master Tapes for LAP6 Master Tapes mailed here, if that is easier.

Mr. Conrad Bjerke and the Laboratory Computer Facility of the University of Wisconsin are to be credited for recognizing two of the troubles.

LAP6A

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	<u>LAP6</u>			<u>LAP6A</u>			
<u>MSDISPLY:</u>	p	CONT		p	CONT		
(p. 5)	250	2176	6Z-1	250	2175	6Z-2	[META TABLE
	⋮	⋮	⋮	⋮	⋮	⋮	
	252	7737	6Z-6Y-3	252	7757	-20	[LENGTH
	⋮	⋮	⋮	⋮	⋮	⋮	
	257	1461	#1N SAE i 1	257	0221	#1N XSK i 1	
	260	6253	JMP p-5	260	1461	SAE i 1	
	261	1021	LDA i 1	261	6253	JMP p-6	
	262	4263	STC p+1	262	1021	LDA i 1	
	263	0000	TO META	263	7777	JMP 1777	
	⋮	⋮	⋮	⋮	⋮	⋮	
(p. 18)	1555	7511	JMP 2T-2	1555	7541	JMP 4Z	[CHECK FOR
	⋮	⋮	⋮	⋮	⋮	⋮	CURRENT MS
(p. 19)	1641	7541	JMP 4Z	1641	7511	JMP 2T-2	[WORKING AREA
	⋮	⋮	⋮	⋮	⋮	⋮	MS
	1654	7541	JMP 4Z	1654	7511	JMP 2T-2	
	⋮	⋮	⋮	⋮	⋮	⋮	
(p. 21)	1777	UNUSED		1777	4000	STC 0	[DISPATCH META
<u>ADDMS LO:</u>							
(p. 30)	1760	0000	#8T 7E	1760	0000	#8T 7E	[LAP6 UNIT

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Correction Procedure for LAP6A

Making the following corrections to LAP6 produces LAP6A. Different configurations of LAP6 must be modified separately.

1. To fix →PM, →LI, →"0, →"(space), →:W, and →:_ :

a. RDC block 300 (or the first block of configuration n) into quarter 0.

Change the contents of seven registers:

<u>LAP6</u>	<u>LAP6A</u>
.	.
.	.
P .	.
247 0061	0061
<u>250 2176</u> change to <u>2175</u>	
251 0067	0067
<u>252 7737</u> change to <u>7757</u>	
253 0227	0227
254 6257	6257
255 6654	6654
256 6174	6174
<u>257 1461</u> change to <u>0221</u>	
<u>260 6253</u> change to <u>1461</u>	
<u>261 1021</u> change to <u>6253</u>	
<u>262 4263</u> change to <u>1021</u>	
<u>263 0000</u> *change to <u>7777</u>	
264 1040	1040
.	.
.	.
.	.

WRC quarter 0 in block 300 (or the first block of configuration n).

b. RDC block 303 (or the fourth block of configuration n) into quarter 0.

Change the contents of four registers:

<u>LAP6</u>	<u>LAP6A</u>
.	.
P .	.
.	.
154 6011	6011
<u>155 7511</u> change to <u>7541</u>	
156 0231	0231
.	.
.	.
240 7647	7647
<u>241 7541</u> change to <u>7511</u>	
242 0721	0721
.	.
.	.

*If the copy being corrected has been used, location 263 may not contain zero.

.	.	.
.	.	.
253	7660	7660
<u>254</u>	<u>7541</u>	change to <u>7511</u>
255	0720	0720
.	.	.
.	.	.
376	0000	0000
<u>377</u>	<u>0000</u>	change to <u>4000</u>

WRC quarter 0 in block 303 (or the fourth block of configuration n).

2. To fix →LO. Correct only configurations which run on tape units other than Unit 0.
 - a. RDC block 324 of, say, configuration 1 (or the 25th block of non-Unit 0 configuration n) into quarter 0.

Change the contents of one register, depending on the original contents:

	<u>LAP6</u>	<u>LAP6A</u>
P	.	.
	.	.
357	1020	1020
If <u>360</u> contains	<u>0001</u>	change to <u>1000</u>
<u>361</u>	0354	0354
	.	.
	.	.

If 360 contains 0004 change to 4000

If 360 contains 0005 change to 5000

WRC quarter 0 in block 324 if configuration 1 (or the 25th block of non-Unit 0 configuration n).

June 1, 1968

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Configuring LAP6

The following equality statements are used in the manuscripts in this document to describe the Standard configuration of LAP6 (Chart I, LAP6 Handbook):

7F = 270	Upper boundary of Lower File
7D = 300	First block of LAP6
7E = 0	LAP6 Unit
7A = 350	First block of manuscript Working Area
7B = 0	Working Area Unit
7G = 426	First block of Index
7C = 430	First block of Upper File

To assemble LAP6 for a different configuration make up a LAP6 manuscript which redefines the appropriate equality statements. Add this "configuration manuscript" just before converting in each numbered step of the assembly procedure.

In redefining the equality statements note that 7E and 7B are for Unit numbers. They must be equal to 0, 10, 40, or 50. 7E need not, however, be equal to 7B (i.e., LAP6 and the Working Area can be on different units).

The remaining equality statements are for tape block numbers (octal). The block number definitions must fit the formula:

$$0 \leq 7F \leq 7D < 7D + 50_8 \leq 7A < 7G < 7C - 1 \leq 776$$

In addition, the last digit of 7D must be zero, and the last digit of 7G must be 6.

A configuration definition which does not change need not be redefined.

Modifying LAP6

If you are in a position to modify LAP6 for users other than yourself, it is recommended for clarity that the following modification procedure be followed:

1. Number the modification and pick an identifying letter for your area or institution, e.g., "2W" might be the second modification from Wisconsin. Title the modified version of LAP6 accordingly, e.g., "LAP6-2W".
2. Document the modification by supplying to the users both a LAP6 Handbook supplement and a Manuscript Listings supplement. Each supplement should state clearly; 1) the title of the modified version, 2) the title of the version being modified (i.e., LAP6-2W might be a modified LAP6, LAP6-1W, or LAP6-something else), and 3) the name and address of the person responsible for the modification.
 - a. The Handbook supplement should describe behavioral differences between the modified version and the version described in the LAP6 Handbook or in relevant supplements.
 - b. The Listings supplement should provide actual listings of the new sequence, or the instruction context containing the new sequence, of instructions; it should be clear to the reader which instructions in the Manuscript Listings, or relevant listing supplements, are affected.

An example of documentation for a modification (1L, from St. Louis) is included. We will be glad to act as a clearing house if you need to know whether an identifying letter has been used.

LAP6-1L

Modification to: LAP6

LAP6 Handbook Supplement:

The teletype commands PX, LI, and PM operate via DEC buffered teletype attached to the LINC on channel 14. The Relay Register is not affected; bit 0 of the Relay Register may be used for anything without interference from LAP6-1L.

The mnemonic EXC is recognized by LAP6-1L during conversion as the mnemonic for the code 740; the mnemonic PDP represents the code 513. The mnemonic MTT is not recognized by LAP6-1L. (See Chart III.)

July 1, 1967

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LAP6-1L

Modification to: LAP6

LAP6 Manuscript Listings Supplement:

	<u>LAP6</u>					<u>LAP6-1L</u>			
<u>MSDISPLY:</u>	p	CONT			p	CONT			
(p. 2)	74	1620	BSE i		74	6076	JMP p+2	[DO NOT SET RELAY REGISTER	
<u>COPY:</u>									
(p. 67)	660	4740	"TM,"		660	2630	"CE,"	[EXC=740	
	:	:	:		:	:	:		
(p. 68)	704	4733	"TH,"		704	4343	"PP,"	[PDP	
	:	:	:		:	:	:		
(p. 69)	743	0000	HLT		743	0513	OPR 13	[OPR 13=PDP	
<u>TELETYPE:</u>									
(p. 135)	1570	5577	STC p+7		1570	0301	ROR 1	[JUSTIFY TELETYPE CODE	
	1571	0015	RTA		1571	0514	OPR 14	[DELIVER CODE	
	1572	0071	SET i 11		1572	6017	JMP 17	[RETURN	

July 10, 1967

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VALUE	LINE	VALUE	LINE
1A 0030	17	3T 0426	441
1B 0067	57	3V 0620	644
1C 0077	71	3W 0710	741
1D 0155	153	3X 0737	772
1E 0124	120	4A 0273	301
1F 1737	2051	4B 1301	1354
1G 0151	146	4C 1320	1375
1H 1767	2104	4D 1311	1365
1K 0176	175	4E 1331	1406
1L 0212	212	4F 0341	352
1M 0232	234	4G 1375	1454
1N 0257	261	4H 0353	365
1P 0213	213	4J 0364	376
1R 0113	106	4L 1355	1434
1T 0222	223	4M 0320	326
1W 0133	130	4P 0334	344
1Y 1717	2030	4Q 1274	1346
1Z 1752	2065	4S 1345	1423
2A 1637	1741	4T 0705	734
2B 1625	1723	4U 0665	714
2C 1610	1704	4Z 1541	1630
2D 1407	1470	5A 1022	1061
2E 1572	1664	5B 1024	1063
2F 1432	1514	5C 1235	1304
2G 1663	1767	5D 1051	1110
2H 1762	2076	5E 1060	1120
2I 1652	1755	5F 1070	1131
2J 1703	2012	5H 1076	1140
2K 1014	1051	5J 1115	1157
2L 1627	1726	5K 1251	1321
2M 1000	1034	5L 0264	270
2N 1452	1535	5M 1167	1234
2P 1604	1677	5N 1120	1163
2Q 1667	1774	5P 1137	1202
2R 1673	2001	5V 1261	1332
2S 1615	1712	5W 1202	1247
2T 1513	1600	5X 1222	1270
2U 1476	1562	5Y 1153	1217
2V 1713	2023	5Z 1165	1232
2W 1547	1637	6A 2001	2111
2X 0755	1013	6B 2053	2163
2Y 1530	1616	6C 2013	2123
2Z 1560	1651	6D 2237	2351
3A 0523	543	6E 2371	2354
3B 0726	760	6F 2143	2253
3C 0745	1001	6G 2065	2175
3D 0751	1006	6L 2077	2207
3E 0510	527	6O 2111	2221
3F 0536	557	6V 2123	2233
3G 0432	447	6Y 2234	2345
3H 0452	470	6Z 2177	2310
3J 0551	573	7A 0350	2363
3K 0557	602	7B 0000	2364
3L 0567	613	7C 0430	2365
3M 0624	651	7D 0300	2366
3N 0650	676	7E 0000	2367
3P 0374	407	7G 0426	2370
3R 0405	420		
3S 0416	431		

P CONT

[LAP6 MANUSCRIPT INPUT AND DISPLAY
 [INITIAL SETTINGS

```

      #15
15 0701      RCG 7E
16 7300      717D [INITIAL START
17 6020      JMP 20
20 6030      JMP 1A [START 20
21 6030      JMP 1A
22 4020      STC 20
23 0077      SET 1 17
24 6073      JMP 1C-4
25 0704      WRC 7E
26 0300      7D
27 6073      JMP 1C-4
30 0062 #1A SET 1 2
31 6777      6777
32 1020      LDA 1
33 2065      2065
34 1062      STA 1 2
35 0017      COM
36 1062      STA 1 2
37 0063      SET 1 3
40 7001      7001
41 0065      SET 1 5
42 2237      6D
43 1020      LDA 1
44 5347      517A-1
45 1040      STA
46 0735      3B+7 [BN FOR BQ
47 4721      STC 3W+11
50 2044      ADD P-4 [FOR CHECKING WA TOO FULL
51 2144      ADD 1W+11 [1000
52 4151      STC 1G
53 2224      ADD 1T+2 [FOR CONTROL BLOCK NOT FULL
54 4576      STC 3L+7
55 4762      STC 2X+5
56 2213      ADD 1P
57 1040      STA
60 0524      3A+1
61 4526      STC 3A+3
62 2276      ADD 4A+3
63 1040      STA
64 1025      5B+1 [LNSIFRAME
65 0244      ROL 4 [140-VERT
66 5066      STC 5E+6

      [KNOB SET
67 7261 #1B JMP 5V [READ KNOB
70 5072      STC 5F+2
71 0017      COM
72 4227      STC 1T+5 [TAPE OK

      [SET TELETYPEWRITER
73 0015      RTA
74 1620      BSE 1
75 0001      1
76 0014      ATR

      [FIRST CHARACTER

```

```

P   CONT
77 0066 #1C SET 1 6
100 7000 -777
101 7022 JMP 5A
102 0515 KBD
103 0077 SET 1 17
104 5766 1H-4000 [CHARS
105 1437 SHD 1 17
106 7717 JMP 1Y [1ST CASE
107 1437 SHD 1 17
110 6101 JMP 1C+2 [EOL
111 1437 SHD 1 17
112 6155 JMP 1D [DELETE
      [REGULAR CHARACTER
113 1362 #1R STH 1 2
114 6432 JMP 3G
115 6452 JMP 3H
116 6212 JMP 1L
117 6374 JMP 3P
120 0226 XSK 1 6
121 7737 JMP 1F
122 1020 LDA 1
123 0012 12 [LINE TOO LONG
      [EOL
124 1362 #1E STH 1 2
125 0046 SET 6
126 0003 3
127 1326 LDH 1 6
130 1420 SHD 1
131 5600 5600
132 6232 JMP 1M
      [REGULAR EOL
133 6557 #1W JMP 3K
134 0017 COM [CONSTANT
135 2526 ADD 3A+3
136 4526 STC 3A+3 [MAX LN
137 6222 JMP 1T
140 6432 JMP 3G
141 6452 JMP 3H
142 6212 JMP 1L
143 6374 JMP 3P
144 1000 LDA [CONSTANT
145 0526 3A+3
146 0470 AZE 1
147 6155 JMP 1D
150 1020 LDA 1 [WA FULL
151 6350 #1G 617A
152 1460 SAE 1
153 6425 617G-1 [INDEX-1
154 6077 JMP 1C
      [DELETE WHOLE LINE
155 1020 #1D LDA 1
156 0001 1
157 1440 SAE
160 0526 3A+3
161 6163 JMP P+2
162 6030 JMP 1A

```



```

P   CONT
163 1440      SAE
164 0524      3A+1
165 6167      JMP P+2
166 6077      JMP 1C
167 0017      COM
170 6561      JMP 3K+2
171 2526      ADD 3A+3
172 4526      STC 3A+3
173 6222      JMP 1T
174 6176      JMP 1K
175 6077      JMP 1C
      [DELETE UNFINISHED LINE OR META
176 0050 #1K SET 10
177 0000      0
200 6624      JMP 3M
201 1020      LDA i
202 7776      -1      [CONSTANT
203 6214      JMP 1L+2
204 4215      STC 1L+3
205 6654      JMP 3N+4
206 6200      JMP 1K+2
207 0043      SET 3
210 0002      2
211 6010      JMP 10
      [COUNT PLAYGROUND
212 1020 #1L LDA i
213 0001 #1P 1      [CONSTANT
214 1160      ADM i
215 1740      PLAYGROUND SCORE
216 0450      AZE
217 0220      XSK i 0
220 2144      ADD 1W+11 [1000
221 6000      JMP 0
      [TAPE NOT OK
222 0011 #1T CLR
223 4762      STC 2X+5 [CLEAR META EXIT
224 4227      STC P+3
225 6000      JMP 0
226 1520      SRC i
227 7777      7777 [OK IF ONE
230 0220      XSK i 0 [OK
231 6000      JMP 0 [NOT OK
      [META CHECK
232 1326 #1M LDH i 6
233 1120      ADA i
234 7770      -7      [CONSTANT
235 0451      APO
236 6273      JMP 4A
237 1306      LDH 6
240 1420      SHD i
241 3100      3100 [FREE META
242 7703      JMP 2J
243 0246      ROL 6
244 4000      STC 0
245 1326      LDH i 6
246 2000      ADD 0

```

```

P  CONT
247 0061      SET 1 1
250 2176      6Z-1 [META TABLE
251 0067      SET 1 7
252 7737      6Z-6Y-3 [LENGTH
253 0227      XSK 1 7
254 6257      JMP P+3
255 6654      JMP 3N+4
256 6174      JMP 1K-2
257 1461 #1N  SAE 1 1
260 6253      JMP P-5
261 1021      LDA 1 1
262 4263      STC P+1
263 0000      TO META
      [KNOB SET
      [NEW LINESIFRAME
264 1040 #5L  STA
265 1072      5F+2
266 1040      STA
267 1025      5B+1 [LINESIFRAME
270 0244      ROL 4
271 5066      STC 5E+6 [VERTICAL
272 7024      JMP 5B
      [LOCATES
      [LOCATE #
273 1020 #4A  LDA 1
274 3777      -4000
275 1140      ADM
276 0006      6      [CONTANT
277 6665      JMP 4U
300 2213      ADD 1P
301 1040      STA
302 0705      4T
303 4320      STC 4M
304 6654      JMP 3N+4
305 6176      JMP 1K
306 0011      CLR
307 2524      ADD 3A+1
310 0017      COM
311 1200      LAM
312 0705      4T
313 6226      JMP 1T+4
314 7345      JMP 4S
315 0472      LZE 1
316 7355      JMP 4L
317 1020      LDA 1
320 0000 #4M  REQ LN
321 0017      COM
322 4326      STC P+4
323 0011      CLR
324 2526      ADD 3A+3
325 1220      LAM 1
326 0017      CHECK MAX
327 1000      LDA
330 0526      3A+3
331 0472      LZE 1
332 4320      STC 4M

```

```

P   CONT
333 7355      JMP 4L
      [LOCATE FORWARD
      [FORWARD PAGE
334 1000 #4P LDA
335 1025      5B+1
336 2202      ADD 1K+4
337 0450      AZE
340 6343      JMP 4F+2
      [FORWARD LINE
341 0011 #4F CLR
342 2213      ADD 1P
343 4705      STC 4T
344 0050      SET 10
345 0227      1T+5 [TAPE STATUS
346 6353      JMP #4H
347 1000      LDA
350 0010      10
351 4227      STC 1T+5
352 6077      JMP 1C
      [SLIDE FORWARD
353 0053 #4H SET 13
354 0000      0
355 6523      JMP 3A
356 6013      JMP 13
357 6551      JMP 3J
360 6364      JMP 4J
361 6557      JMP 3K
362 1140      ADM
363 0705      4T
364 6510 #4J JMP 3E
365 6432      JMP 3G
366 6452      JMP 3H [WQ FULL
367 1000      LDA
370 0705      4T
371 0450      AZE
372 6355      JMP 4H+2
373 6013      JMP 13
      [PLAYGROUND FULL
374 0057 #3P SET 17
375 0000      0
376 6523      JMP 3A
377 6017      JMP 17
400 1000      LDA
401 0735      3B+7
402 4536      STC 3F
403 0054      SET 14
404 0002      2
405 1324 #3R LDH i 4
406 1420      SHD i
407 7700      7700
410 6416      JMP 3S
411 1362      STH i 2
412 6510      JMP 3E
413 6432      JMP 3G
414 0016      NOP
415 6405      JMP 3R

```

```

P   CONT
416 1362 #3S  STH 1 2
417 6710      JMP 3W
420 6726      JMP 3B
421 0042      SET 2
422 0014      14
423 2531      ADD 3A+6
424 4151      STC 1G [WA FULL
425 6533      JMP 3F-3
426 1020 #3T  LDA 1
427 0700      RDC 7B
430 6712      JMP 3W+2
431 6017      JMP 17

[MSINPUT SUBROUTINES
[CHECK WQ FULL
432 0055 #3G  SET 15
433 0000      0
434 0220      XSK 1 0
435 1020      LDA 1
436 7377      7377
437 1440      SAE
440 0002      2
441 6000      JMP 0
442 6710      JMP 3W
443 6726      JMP 3B
444 6222      JMP 1T [TAPE NOT OK
445 0062      SET 1 2
446 6777      6777
447 6523      JMP 3A [WA FULL
450 4151      STC 1G
451 6015      JMP 15

[WQ FULL-FIX BPL AND BQ
452 0055 #3H  SET 15
453 0000      0
454 1020      LDA 1
455 7377      -400
456 2003      ADD 3
457 4003      STC 3
460 2524      ADD 3A+1
461 1045      STA 5
462 0225      XSK 1 5
463 0076      SET 1 16 [WQ TO BQ [CONSTANT
464 2777      2777
465 0074      SET 1 14
466 2377      2377
467 0072      SET 1 12
470 7377      -400
471 1036      LDA 1 16
472 1074      STA 1 14
473 0232      XSK 1 12
474 6471      JMP P-3
475 1000      LDA
476 0005      5
477 1460      SAE 1
500 2371      6E
501 6015      JMP 15
502 1020      LDA 1 [CONTROL TABLE FULL

```

```

P  CONT
503 6222      JMP 1T [MAKE TAPE ALWAYS NOT OK
504 4576      STC 3L+7
505 0065      SET 1 5
506 2237      6D
507 6015      JMP 15
          [CHECK CQ EMPTY
510 0055 #3E SET 15
511 0000      0
512 1000      LDA
513 0004      4
514 0450      AZE
515 6000      JMP 0
516 6737      JMP 3X
517 6745      JMP 3C
520 0064      SET 1 4
521 7377      7377 [FIX PFA
522 6015      JMP 15
          [CHECK CONTINUATION
523 1020 #3A LDA 1
524 0011      CURRENT LN
525 1460      SAE 1
526 0000      MAXIMUM LN
527 0220      XSK 1 0
530 1020      LDA 1
531 0000      BIGGEST BLOCK USED IN WA
532 6000      JMP 0
          [FIX BNS
533 0055      SET 15
534 0000      0
535 1020      LDA 1
536 0000 #3F BQBN SAVED
537 1440      SAE
540 0735      3B+7
541 6543      JMP 2+2
542 6614      JMP 3V-4
543 1040      STA
544 0735      3B+7
545 4721      STC 3W+11
546 6734      JMP 3B+6 [RDC BQ
547 2735      ADD 3B+7
550 6607      JMP 3V-11 [RDC CQ
          [CQ TO WQ
551 1324 #3J LDH 1 4
552 1362      STH 1 2
553 1420      SHD 1
554 1200      1200
555 0220      XSK 1 0
556 6000      JMP 0
          [EOL FIXES
557 1020 #3K LDA 1
560 0001      1
561 2524      ADD 3A+1
562 4524      STC 3A+1
563 0043      SET 3
564 0002      2
565 2202      ADD 1K+4

```

```

P   CONT
566 6000      JMP 0
      [MAKE TAPE OK
567 0055 #3L SET 15
570 0000      0
571 0044      SET 4
572 0002      2
573 1020      LDA 1
574 7777      7777
575 1364      STH 1 4
576 4227      STC 1T+5
577 2524      ADD 3A+1
600 1045      STA 5
601 1020      LDA 1
602 0724      WRC 1 7B
603 6712      JMP 3W+2
604 2735      ADD 3B+7
605 1060      STA 1
606 0000      BOBN SAVED
607 1620      BSE 1
610 2000      2000
611 4746      STC 3C+1
612 6737      JMP 3X
613 6745      JMP 3C
614 1020      LDA 1
615 0400      400
616 2002      ADD 2
617 4004      STC 4
620 1020 #3V LDA 1
621 6777      6777
622 4215      STC 1L+3
623 6447      JMP 3G+15
      [CHECK WQ EMPTY
624 0055 #3M SET 15
625 0000      0
626 1020      LDA 1
627 6777      6777
630 1440      SAE
631 0002      2
632 6000      JMP 0
633 0243      ROL 3
634 6730      JMP 3B+2
635 6734      JMP 3B+6 [RDC BQ
636 2745      ADD 3C
637 6712      JMP#3W+2
640 0062      SET 1 2
641 7377      7377
642 2005      ADD 5
643 1460      SAE 1 [CONTROL TABLE NOT EMPTY
644 2237      6D
645 2202      ADD 1K+4 [-1
646 4005      STC 5
647 6447      JMP 3G+15
      [LOWER PSA, PFA
650 1020 #3N LDA 1
651 3777      -4000
652 2004      ADD 4

```

```

P  CONT
653 4004      STC 4
654 1020      LDA i
655 3777      -4000
656 2002      ADD 2
657 4002      STC 2
660 1302      LDH 2
661 1420      SHD i
662 1200      1200
663 0220      XSK i 0
664 6000      JMP 0
      [DECODE META
665 0056 #4U SET 16 [CONSTANT
666 0000      0
667 0011      CLR
670 4705      STC 4T
671 1326      LDH i 6
672 1420      SHD i
673 1400      1400
674 6671      JMP P-3
675 2234      ADD 1M+2
676 0471      APO i
677 6704      JMP 4T-1
700 1306      LDH 6
701 2705      ADD 4T
702 0243      ROL 3
703 6670      JMP 4U+3
704 1020      LDA i
705 0000 #4T NUM TO MOVE
706 0303      ROR 3
707 6016      JMP 16
      [TAPE SRS FOR STRING SLIDE
      [WQ WRC OR RDC, FWD OR BWD
710 1020 #3W LDA i
711 0704      WRC 7B
712 4720      STC P+6
713 1020      LDA i
714 1001      1001
715 1140      ADM
716 0721      P+3
717 4531      STC 3A+6 [WA BN
720 0340      TAPE INSTR
721 0006      BN-Q6
722 1000      LDA
723 0735      3B+7
724 4721      STC P-3
725 6000      JMP 0
      [BQ RDC, FWD OR BWD
726 1020 #3B LDA i
727 0001      1
730 1140      ADM
731 0735      P+4
732 4721      STC 3W+11
733 6000      JMP 0
734 0720      RDC i 7B
735 0005      BN-Q5
736 6000      JMP 0

```

```

P   CONT
    [CQ FIX
737 1020 #3X LDA i
740 0001      1
741 1140     ADM
742 0746     3C+1
743 4751     STC 3D
744 6000     JMP 0
    [CQ RDC FWD
745 0700 #3C RDC 7B
746 0007     BN-Q7
747 6000     JMP 0
    [CQ WRC BWD
750 0704     WRC 7B
751 0007 #3D BN-Q7
752 6000     JMP 0
    [META EXIT
753 0077     SET i 17
754 6073     JMP IC-4 [FOR EXIT
755 0041 #2X SET 1
756 0000     0
757 6654     JMP 3N+4
760 6176     JMP 1K
761 1520     SRO i
762 0000     0
763 6001     JMP 1
764 1020     LDA i
765 7777     -0
766 4762     STC P-4
767 0076     SET i 16
770 7300     717D
771 0725     WCG i 7E
772 7300     717D
773 6001     JMP 1
    B1000
    [ADD MANUSCRIPT
1000 7407 #2M JMP 2D
1001 7003     JMP P+2
1002 7006     JMP P+4 [NAME,UNIT
1003 1000     LDA
1004 2372     6E+1
1005 7501     JMP 2U+3
1006 0720     RDC i 7E
1007 3324     317D+24
1010 7403     JMP 1403
1011 0700     RDC 7E
1012 3303     317D+3
1013 6077     JMP 1C
    [LOAD BINARY
1014 7407 #2K JMP 2D
1015 0016     NOP
1016 7572     JMP 2E
1017 0720     RDC i 7E
1020 3324     317D+24
1021 7400     JMP 1400
    [DISPLAY
    [ONCE PER ENTRY

```



```

P   CONT
1022 0057 #5A SET 17
1023 0000      0
1024 1020 #5B LDA i
1025 0000      LINES-FRAME
1026 0017      COM
1027 4014      STC 14
1030 2524      ADD 3A+1
1031 5240      STC 5C+3
1032 0050      SET 10
1033 0002      2
1034 2002      ADD 2
1035 1120      ADA i
1036 3542      -235-4000
1037 5051      STC 5D
1040 1310      LDH 10
1041 1420      SHD i
1042 1200      1200
1043 7235      JMP 5C
1044 1020      LDA i
1045 3777      -4000
1046 1140      ADM
1047 0010      10
1050 1460      SAE i
1051 0000 #5D NO MATTER
1052 7040      JMP 5D-11
1053 1020      LDA i
1054 7776      -1
1055 3240      ADD 5C+3
1056 0241      ROL 1
1057 5063      STC 5E+3
      [PRESET-ONCE PER FRAME
1060 0054 #5E SET 14
1061 0010      10
1062 1020      LDA i
1063 0137      LN-1 FOR DIS
1064 5252      STC 5K+1
1065 1020      LDA i
1066 0000      VERT COOR
1067 5172      STC 5M+3
      [ONCE PER LINE
1070 7261 #5F JMP 5V [READ KNOB
1071 1460      SAE i
1072 0007      KNOB 7 [LINESIFRAME
1073 6264      JMP 5L
1074 0435      KST 1
1075 6017      JMP 17
      [DISPLAY LN
1076 0061 #5H SET i 1
1077 1013      1013
1100 1020      LDA i
1101 0002      2
1102 3252      ADD 5K+1
1103 5252      STC 5K+1
1104 7251      JMP 5K
1105 0450      AZE
1106 7115      JMP 5J

```

P CONT

```

1107 1120      ADA i
1110 0024      24
1111 2001      ADD 1
1112 4001      STC 1
1113 7246      JMP SK-3
1114 7105      JMP P-7
1115 7166 #5J  JMP SZ+1
1116 7246      JMP SK-3
1117 7115      JMP SJ
      [FIRST CHARACTER
1120 0061 #5N  SET i 1
1121 1157      1157
1122 7222      JMP 5X
1123 1334      LDH i 14
1124 1420      SHD i
1125 2200      2200
1126 7137      JMP 5P
1127 1420      SHD i
1130 6600      6600
1131 7137      JMP 5P
1132 1420      SHD i
1133 5600      5600
1134 7153      JMP 5Y
1135 0061      SET i 1
1136 1277      1277
1137 7165 #5P  JMP SZ
1140 7222      JMP 5X
1141 1334      LDH i 14
1142 1460      SAE i
1143 0012      12
1144 7137      JMP 5P
1145 1020      LDA i
1146 1063      1063
1147 1440      SAE
1150 0001      1
1151 7202      JMP 5W
1152 7070      JMP 5F
      [DISPLAY META
1153 1020 #5Y  LDA i
1154 7440      -337
1155 5172      STC 5M+3 [VERT
1156 2665      ADD 4U [56
1157 7207      JMP 5W+5 [HORIZ
1160 7165      JMP SZ
1161 0061      SET i 1
1162 1103      1103
1163 7173      JMP SZ+6
1164 7140      JMP 5P+1
      [DISPLAY
1165 0241 #SZ  ROL 1
1166 1120      ADA i
1167 2000 #5M  6A-1
1170 4012      STC 12
1171 1120      ADA i
1172 0000      VERT COOR
1173 1772      DSC i 12

```

```

P   CONT
1174 1772      DSC i 12
1175 0221      XSK i 1
1176 0221      XSK i 1
1177 0221      XSK i 1
1200 0221      XSK i 1
1201 6000      JMP 0
1202 0011 #5W CLR
1203 1020      LDA i
1204 7740      -37
1205 1200      LAM
1206 1172      5M+3
1207 1560      BCL i
1210 7020      7020
1211 0061      SET i 1
1212 1063      1063
1213 0435      KST i
1214 6017      JMP 17
1215 1460      SAE i
1216 0340      340
1217 6000      JMP 0
1220 5066      STC 5E+6 [MOVE DISPLAY TO TOP OF SCOPE
1221 6000      JMP 0
      [CHK END OF FRAME
1222 1000 #5X LDA
1223 0002      2
1224 1440      SAE
1225 0014      14
1226 6000      JMP 0
1227 0061      SET i 1
1230 1753      1753
1231 1020      LDA i
1232 0156      156 [MARKER
1233 7166      JMP 5Z+1
1234 7060      JMP 5E
      [EOL-LOWER LN
1235 1020 #5C LDA i
1236 7776      -1
1237 1160      ADM i
1240 0000      LN FOR DIS
1241 0470      AZE i
1242 7056      JMP 5E-2
1243 0234      XSK i 14
1244 6000      JMP 0
1245 7056      JMP 5E-2
      [COUNT DIGITS
1246 1520      SRO i
1247 4210      4210
1250 7120      JMP 5J+3
1251 1020 #5K LDA i
1252 0000      LN FOR DIS
1253 0243      ROL 3
1254 1040      STA
1255 1252      5K+1
1256 1560      BCL i
1257 7761      7761
1260 6000      JMP 0

```

P CONT

```

[KNOB SUBROUTINE
1261 0107 #5V SAM 7
1262 0344 SCR 4 [+,-7 OR +,-17
1263 2234 ADD 1M+2 [-7, GIVES -0 TO -16 OR -26 TO +10
1264 0471 APO 1
1265 0011 CLR [TOO BIG
1266 2134 ADD 1W+1 [17, GIVES 1 TO 17 OR -7 TO 17
1267 0471 APO 1
1270 6000 JMP 0 [1 TO 17
1271 1020 LDA 1
1272 0001 1 [TOO SMALL
1273 6000 JMP 0

[BACKWARD PAGE
1274 1000 #4Q LDA
1275 1025 5B+1
1276 2202 ADD 1K+4
1277 0450 AZE
1300 7303 JMP 4B+2

[BACKWARD LINE
1301 0011 #4B CLR
1302 2213 ADD 1P
1303 4705 STC 4T
1304 6226 JMP 1T+4
1305 7307 JMP P+2
1306 7311 JMP 4D
1307 6523 JMP 3A
1310 6567 JMP 3L

[BACKWARD SLIDE
1311 1020 #4D LDA 1
1312 0001 1
1313 1440 SAE
1314 0524 3A+1
1315 7317 JMP P+2
1316 6077 JMP 1C
1317 6624 JMP 3M

[CHECK CQ FULL
1320 1020 #4C LDA 1
1321 7377 7377
1322 1440 SAE
1323 0004 4
1324 7331 JMP 4E
1325 6750 JMP 3D-1 [WRC CQ
1326 4004 STC 4
1327 3336 ADD 4E+5
1330 6741 JMP 3X+2
1331 1302 #4E LDH 2
1332 1344 STH 4
1333 6650 JMP 3N
1334 7317 JMP 4C-1
1335 1020 LDA 1
1336 7776 -1 [CONSTANT
1337 6561 JMP 3K+2
1340 1140 ADM
1341 0705 4T
1342 0450 AZE
1343 7311 JMP 4C-7

```

```

P  CONT
1344 6077      JMP 1C
           [LOCATE-TAPE NOT OK
1345 0452 #4S LZE
1346 6342      JMP 4F+1
1347 0017      COM
1350 4705      STC 4T
1351 6523      JMP 3A
1352 7354      JMP P+2
1353 7311      JMP 4D
1354 6567      JMP 3L
           [FIND REQUEST IN CONTROL BLOCK
1355 0011 #4L CLR
1356 0065      SET i 5
1357 2235      6D-2
1360 2213      ADD 1P
1361 4705      STC 4T
1362 1005      LDA 5
1363 4524      STC 3A+1
1364 1025      LDA i 5
1365 0017      COM
1366 5372      STC P+4
1367 0011      CLR
1370 2320      ADD 4M
1371 1220      LAM i
1372 0000      NO MATTER
1373 0452      LZE
1374 7360      JMP 4L+3
1375 1020 #4G LDA i
1376 3110      5000+7A-6D-1
1377 2005      ADD 5
1400 4536      STC 3F
1401 6533      JMP 3F-3
1402 0062      SET i 2
1403 6777      6777
1404 0064      SET i 4
1405 7377      7377
1406 6344      JMP 4F+3
           [META PARAMETER DECODE
           [LN-NAME-UNIT
1407 0011 #2D CLR
1410 0072      SET i 12
1411 2371      6E
1412 1052      STA 12
1413 1072      STA i 12
1414 0017      COM
1415 1072      STA i 12
1416 1072      STA i 12
1417 1072      STA i 12
1420 1072      STA i 12
1421 1072      STA i 12
1422 0041      SET i
1423 0000      0
           [LINE NUMBER
1424 0072      SET i 12
1425 2370      6E-1
1426 0077      SET i 17

```

```

P   CONT
1427 7775      -2
1430 0054      SET 14
1431 0006      6
1432 6665 #2F  JMP 4U
1433 1072      STA i 12
1434 1306      LDH 6
1435 1420      SHD i
1436 1200      1200
1437 6001      JMP 1
1440 1460      SAE i
1441 0063      63 [COMMA
1442 7446      JMP P+4
1443 0237      XSK i 17
1444 7430      JMP 2F-2
1445 7452      JMP P+5
1446 0011      CLR
1447 1052      STA 12
1450 0046      SET 6
1451 0014      14

      [NAME
1452 0072 #2N  SET i 12
1453 6372      6E+4001
1454 0076      SET i 16
1455 7766      -11
1456 0221      XSK i 1
1457 1326      LDH i 6
1460 1420      SHD i
1461 1400      1400
1462 7457      JMP P-3
1463 1420      SHD i
1464 1200      1200
1465 6255      JMP 1N-2
1466 1420      SHD i
1467 6300      6300
1470 7476      JMP 2U
1471 1372      STH i 12
1472 1326      LDH i 6
1473 0236      XSK i 16
1474 7463      JMP P-11
1475 6255      JMP 1N-2 [ERROR

      [UNIT
1476 6665 #2U  JMP 4U
1477 0040      SET 0
1500 0001      1
1501 0243      ROL 3
1502 1040      STA
1503 2377      6E+6
1504 1560      BCL i
1505 0050      50
1506 0470      AZE i
1507 6000      JMP 0
1510 6255      JMP 1N-2 [ERROR

      [TAPE FIX
1511 0077      SET i 17
1512 6073      JMP 1C-4
1513 0041 #2T  SET 1

```

```

P  CONT
1514 0000      0
1515 6654      JMP 3N+4
1516 6176      JMP 1K
1517 6226      JMP 1T+4
1520 7522      JMP P+2
1521 6761      JMP 2X+4
1522 1020      LDA 1
1523 7776      7776
1524 4705      STC 4T
1525 6353      JMP 4H
1526 6567      JMP 3L
1527 6764      JMP 2X+7
      [SM, CM, CB SR
1530 1000      #2Y LDA
1531 0000      0
1532 5540      STC P+6
1533 7407      JMP 2D
1534 6255      JMP 1N-2 [ERROR
1535 6753      JMP 2X-2
1536 0721      RCG 1 7E
1537 1320      117D+20
1540 0000      RETURN
      [CV, SM SR
1541 1020      #4Z LDA 1
1542 0001      1
1543 1440      SAE
1544 0526      3A+3
1545 6000      JMP 0
1546 6255      JMP 1N-2 [ERROR
      [LIST, PRINT MANUSCRIPT SR
1547 0051      #2W SET 11
1550 0000      0
1551 7407      JMP 2D
1552 7555      JMP P+3
1553 6753      JMP 2X-2
1554 6011      JMP 11
1555 7511      JMP 2T-2 [WA MS
1556 0231      XSK 1 11
1557 6011      JMP 11
      [DISPLAY INDEX, COPY FILE, PRINT INDEX SR
1560 0051      #2Z SET 11
1561 0000      0
1562 7407      JMP 2D
1563 7565      JMP P+2
1564 6255      JMP 1N-2 [ERROR
1565 1000      LDA
1566 2371      6E
1567 7501      JMP 2U+3
1570 6753      JMP 2X-2
1571 6011      JMP 11
      [EXIT, LOAD BINARY SR
1572 0051      #2E SET 11
1573 0000      0
1574 1020      LDA 1
1575 1020      LDA 1
1576 4020      STC 20

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```

P CONT
1577 4762      STC 2X+5
1600 0077      SET 1 17
1601 6020      JMP 20
1602 7513      JMP 2T
1603 6011      JMP 11

[ COPY
1604 7511 #2P JMP 2T-2
1605 0720      RDC 1 7E
1606 0336      7D+36
1607 6017      JMP 17

[ CONVERT
1610 7541 #2C JMP 4Z
1611 7511      JMP 2T-2
1612 0721      RCG 1 7E
1613 2330      217D+30
1614 7002      JMP 1002

[ SAVE MANUSCRIPT
1615 7541 #2S JMP 4Z
1616 7407      JMP 2D
1617 6255      JMP 1N-2 [ERROR
1620 7511      JMP 2T-2
1621 0720      RDC 1 7E
1622 0320      7D+20
1623 2606      ADD 3V-12 [LAST BN
1624 6023      JMP 23

[ SAVE BINARY
1625 7530 #2B JMP 2Y
1626 6022      JMP 22

[ COPY MANUSCRIPT
1627 7530 #2L JMP 2Y
1630 6020      JMP 20

[ COPY BINARY
1631 7530      JMP 2Y
1632 6021      JMP 21

[ COPY FILE
1633 7560      JMP 2Z
1634 0720      RDC 1 7E
1635 0314      7D+14
1636 6017      JMP 17

[ LIST
1637 7547 #2A JMP 2W
1640 7647      JMP 2I-3
1641 7541      JMP 4Z
1642 0721      RCG 1 7E
1643 2330      217D+30
1644 0720      RDC 1 7E
1645 1333      117D+33
1646 7000      JMP 1000
1647 0721      RCG 1 7E [FILE MS
1650 1320      117D+20
1651 6024      JMP 24

[ PRINT MANUSCRIPT
1652 7547 #2I JMP 2W
1653 7660      JMP P+5
1654 7541      JMP 4Z
1655 0720      RDC 1 7E

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P CONT
1656 2322      217D+22
1657 7000      JMP 1000
1660 0721      RCG 1 7E
1661 2320      217D+20 [FILE MS
1662 6025      JMP 25
      [DISPLAY INDEX
1663 7560 #2G JMP 2Z
1664 0720      RDC 1 7E
1665 0325      7D+25
1666 6017      JMP 17
      [PRINT INDEX
1667 7560 #2Q JMP 2Z
1670 0720      RDC 1 7E
1671 0325      7D+25
1672 6020      JMP 20
      [EXIT
1673 7572 #2R JMP 2E
1674 0703      MTB 7E
1675 0000      0
1676 0000      HLT
1677 0723      MTB 1 7E
1700 0000      0
1701 0000      HLT
1702 6020      JMP 20
      [FREE
1703 1326 #2J LDH 1 6 [2ND CHAR
1704 5711      STC P+5
1705 7511      JMP 2T-2
1706 0700      RDC 7E
1707 0317      7D+17
1710 1020      LDA 1
1711 2552      2ND CHARACTER
1712 6020      JMP 20
      [DISPLAY SYMBOL TABLE
1713 6753 #2V JMP 2X-2
1714 0721      RCG 1 7E
1715 1310      117D+10
1716 6014      JMP 14
      [1ST CASE
1717 7022 #1Y JMP 5A
1720 0515      KBD
1721 0077      SET 1 17
1722 5767      1H+4000
1723 1437      SHD 1 17
1724 6077      JMP 1C [DELETE
1725 1437      SHD 1 17
1726 7301      JMP 4B [W
1727 1437      SHD 1 17
1730 6341      JMP 4F [1
1731 1437      SHD 1 17
1732 7274      JMP 4Q [Q
1733 0470      AZE 1
1734 6334      JMP 4P [O
1735 7761      JMP 2H-1
1736 6077      JMP 1C [ILLEGAL
      [LATER CHARACTERS

```

```

P   CONT
1737 7022 #1F JMP 5A
1740 0515     KBD
1741 0077     SET i 17
1742 5766     1H-4000
1743 1437     SHD i 17
1744 7752     JMP 1Z [CASE
1745 1437     SHD i 17
1746 6124     JMP 1E [EOL
1747 1437     SHD i 17
1750 6174     JMP 1K-2 [DELETE
1751 6113     JMP 1R
          [LATER CASE
1752 7022 #1Z JMP 5A
1753 0515     KBD
1754 1420     SHD i
1755 1300     1300
1756 6174     JMP 1K-2
1757 7761     JMP 2H-1
1760 7737     JMP 1F [ILLEGAL
          [CHECK CASE
1761 1120     ADA i
1762 7745 #2H -32
1763 0471     APO i
1764 6000     JMP 0 [ILLEGAL
1765 2463     ADD 3H+11 [76
1766 6113     JMP 1R
          [CHARACTER TABLE
1767 2312 #1H 2312
1770 1352     1352
1771 0144     144
          [GRID PATTERNS
          @2001
2001 4136 #6A 4136
2002 3641     3641
2003 2101     2101
2004 0177     0177
2005 4523     4523
2006 2151     2151
2007 4122     4122
2010 2651     2651
2011 2414     2414
2012 0477     0477
2013 5172 #6C 5172
2014 0651     0651
2015 1506     1506
2016 4225     4225
2017 4443     4443
2020 6050     6050
2021 5126     5126
2022 2651     2651
2023 5122     5122 [9
2024 3651     3651
2025 4020     4020
2026 2055     2055
2027 4020     4020 [DEL
2030 2055     2055

```

P	CONT	
2031	0000	0000
2032	0000	0000
2033	0101	0101
2034	0126	0126
2035	3700	3700
2036	3424	3424
2037	0404	0404
2040	0404	0404
2041	0404	0404
2042	0437	0437
2043	0000	0000
2044	0077	0077
2045	3614	3614
2046	1436	1436
2047	4020	4020 ICASE
2050	2055	2055
2051	4477	4477
2052	7744	7744
2053	5177 #6B	5177
2054	2651	2651
2055	4136	4136
2056	2241	2241
2057	4177	4177
2060	3641	3641
2061	4577	4577
2062	4145	4145
2063	4477	4477
2064	4044	4044
2065	4136 #6G	4136
2066	2645	2645
2067	1077	1077
2070	7710	7710
2071	7741	7741
2072	0041	0041
2073	4142	4142
2074	4076	4076
2075	1077	1077
2076	4324	4324
2077	0177 #6L	0177
2100	0301	0301
2101	3077	3077
2102	7730	7730
2103	3077	3077
2104	7706	7706
2105	4177	4177
2106	7741	7741
2107	4477	4477
2110	3044	3044
2111	4276 #6Q	4276
2112	0376	0376
2113	4477	4477
2114	3146	3146
2115	5121	5121
2116	4651	4651
2117	4040	4040
2120	4077	4077

P	CONT		
2121	0177	0177	
2122	7701	7701	
2123	0176	#6V 0176	
2124	7402	7402	
2125	0677	0677	
2126	7701	7701	
2127	1463	1463	
2130	6314	6314	
2131	0770	0770	
2132	7007	7007	
2133	4543	4543	[Z
2134	6151	6151	
2135	0404	0404	[META
2136	0404	0404	
2137	2504	2504	
2140	0416	0416	
2141	4020	4020	[?
2142	2055	2055	[CASE, SPACE
2143	1212	#6F 1212	
2144	1212	1212	
2145	0107	0107	
2146	0107	0107	
2147	0500	0500	
2150	0006	0006	
2151	0001	0001	
2152	0000	0000	
2153	4577	4577	
2154	7745	7745	
2155	4177	4177	
2156	0000	0000	
2157	0101	0101	[^
2160	0101	0101	[CASE, CASE
2161	0070	0070	[!
2162	0070	0070	[CASE, A
2163	0700	0700	[!
2164	0700	0700	[CASE, B
2165	2410	2410	[<
2166	0042	0042	[CASE, C
2167	4200	4200	[>
2170	1024	1024	[CASE, D
2171	0000	0000	[]
2172	7741	7741	[CASE, E
2173	2050	2050	[*
2174	0050	0050	[CASE, F
2175	2200	2200	[:
2176	0000	0000	[CASE, G
[META COMMANDS			
2177	2440	#6Z 2440	[AM
2200	7000	JMP 2M	
2201	4640	4640	[SM
2202	7615	JMP 2S	
2203	2651	2651	[CV
2204	7610	JMP 2C	
2205	2643	2643	[CP
2206	7604	JMP 2P	
2207	3053	3053	[EX

```

P   CONT
2210 7673      JMP 2R
2211 3734      3734 [LI
2212 7637      JMP 2A
2213 4625      4625 [SB
2214 7625      JMP 2B
2215 2753      2753 [DX
2216 7663      JMP 2G
2217 2746      2746 [DS
2220 7713      JMP 2V
2221 2640      2640 [CM
2222 7627      JMP 2L
2223 2625      2625 [CB
2224 7631      JMP 2L+2
2225 2631      2631 [CF
2226 7633      JMP 2L+4
2227 3742      3742 [LO
2230 7014      JMP 2K
2231 4340      4340 [PM
2232 7652      JMP 2I
2233 4353      4353 [PX
2234 7667      #6Y JMP 2Q
          [CONTROL TABLE
2235 0000      0 [MUST HAVE 2 ZEROS HERE
2236 0000      0
2237 0000      #6D
          [META PARAMETERS
          @2371
2371 0000      #6E 0
2372 0000      0
2373 0000      0
2374 0000      0
2375 0000      0
2376 0000      0
2377 0000      0
          7A=350 [WA
          7B=0 [WA UNIT
          7C=430 [FILE
          7D=300 [LAP6
          7E=0 [LAP6 UNIT
          7G=426 [INDEX
[LAP6 MANUSCRIPT INPUT AND DISPLAY
[ADD ADDMS LO HERE
```

VALUE	LINE	VALUE	LINE	VALUE	LINE
1A	0030	17	3T	0426	441
1B	0067	57	3V	0620	644
1C	0077	71	3W	0710	741
1D	0155	153	3X	0737	772
1E	0124	120	4A	0273	301
1F	1737	2051	4B	1301	1354
1G	0151	146	4C	1320	1375
1H	1767	2104	4D	1311	1365
1K	0176	175	4E	1331	1406
1L	0212	212	4F	0341	352
1M	0232	234	4G	1375	1454
1N	0257	261	4H	0353	365
1P	0213	213	4J	0364	376
1R	0113	106	4L	1355	1434
1T	0222	223	4M	0320	326
1W	0133	130	4P	0334	344
1Y	1717	2030	4Q	1274	1346
1Z	1752	2065	4S	1345	1423
2A	1637	1741	4T	0705	734
2B	1625	1723	4U	0665	714
2C	1610	1704	4Z	1541	1630
2D	1407	1470	5A	1022	1061
2E	1572	1664	5B	1024	1063
2F	1432	1514	5C	1235	1304
2G	1663	1767	5D	1051	1110
2H	1762	2076	5E	1060	1120
2I	1652	1755	5F	1070	1131
2J	1703	2012	5H	1076	1140
2K	1014	1051	5J	1115	1157
2L	1627	1726	5K	1251	1321
2M	1000	1034	5L	0264	270
2N	1452	1535	5M	1167	1234
2P	1604	1677	5N	1120	1163
2Q	1667	1774	5P	1137	1202
2R	1673	2001	5V	1261	1332
2S	1615	1712	5W	1202	1247
2T	1513	1600	5X	1222	1270
2U	1476	1562	5Y	1153	1217
2V	1713	2023	5Z	1165	1232
2W	1547	1637	6A	2001	2111
2X	0755	1013	6B	2053	2163
2Y	1530	1616	6C	2013	2123
2Z	1560	1651	6D	2237	2351
3A	0523	543	6E	2371	2354
3B	0726	760	6F	2143	2253
3C	0745	1001	6G	2065	2175
3D	0751	1006	6L	2077	2207
3E	0510	527	6Q	2111	2221
3F	0536	557	6V	2123	2233
3G	0432	447	6Y	2234	2345
3H	0452	470	6Z	2177	2310
3J	0551	573	7A	0350	2363
3K	0557	602	7B	0000	2364
3L	0567	613	7C	0430	2365
3M	0624	651	7D	0300	2366
3N	0650	676	7E	0000	2367
3P	0374	407	7G	0426	2370
3R	0405	420	8A	1524	2535
3S	0416	431	8B	1536	2550
			8C	1407	2412
			8D	1621	2636
			8E	1417	2423
			8F	1444	2450
			8G	1454	2461
			8H	1460	2466
			8J	1511	2520
			8K	1637	2654
			8L	1564	2577
			8M	1660	2677
			8N	1744	2766
			8P	1711	2731
			8Q	1727	2751
			8R	1645	2663
			8S	1672	2711
			8T	1760	3005
			8U	1424	2430
			8V	1757	3004
			8Z	1773	3021

P CONT

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      [LAP6 ADD MANUSCRIPT AND LOAD BINARY
      [BLOCK 324
      [QUARTER 3
      [CONVERT WITH MSDISPLY
          @1400
1400 7645      JMP 8R [LOAD BINARY
1401 5637      STC 8K
1402 7621      JMP 8D [NO. FOR CF
      [ADD MANUSCRIPT
1403 6654      JMP 3N+4
1404 6176      JMP 1K
1405 7564      JMP 8L
1406 7417      JMP 8E [MS BY BN
      [NAME MATCH
1407 1030 #5C LDA i 10
1410 1620      BSE i
1411 2000      2000
1412 5525      STC 8A+1
1413 1030      LDA i 10
1414 0451      APO
1415 7621      JMP 8D [NO MS
1416 7424      JMP 8E+5
      [BLOCK NUMBER REQUEST
1417 1000 #8E LDA
1420 2371      6E
1421 1620      BSE i
1422 2000      2000
1423 5525      STC 8A+1
1424 1000 #8U LDA
1425 1524      8A
1426 1460      SAE i
1427 0700      RDC 7E
1430 7437      JMP 8F-5
1431 3741      ADD 8N-3 [SAME UNIT, FIX i BIT
1432 5524      STC 8A
1433 2414      ADD 3S-2 [NOP
1434 5527      STC 8A+3
1435 3671      ADD 8S-1 [JMP 8K+3
1436 5443      STC 8F-1
1437 7522      JMP 8A-2
1440 1030      LDA i 10
1441 1130      ADA i 10
1442 0450      AZE
1443 7621      JMP 8D
1444 1330 #8F LDH i 10
1445 1420      SHD i
1446 7700      7700
1447 7511      JMP 8J
1450 1362      STH i 2
1451 1460      SAE i
1452 0012      12
1453 7460      JMP 8H
      [EOL
1454 6557 #8G JMP 3K
1455 0017      COM

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P CONT
1456 2526 ADD 3A+3
1457 4526 STC 3A+3
      [CHECK 02 EMPTY
1460 7515 #8H JMP 8A-7
1461 6432 JMP 3G
1462 6452 JMP 3H
1463 6212 JMP 1L
1464 6374 JMP 3P
1465 1000 LDA
1466 0003 3
1467 1440 SAE
1470 0002 2
1471 7444 JMP 8F
1472 1000 LDA
1473 0526 3A+3
1474 0470 AZE i
1475 7503 JMP P+6 [TOO MANY LINES
1476 1000 LDA
1477 0151 1G [MAX BLOCK USED
1500 1460 SAE i
1501 6425 617G-1 [LAST BLOCK?
1502 7444 JMP 8F [ALL OK
1503 1020 LDA i
1504 7776 -1
1505 6561 JMP 3K+2
1506 2526 ADD 3A+3
1507 4526 STC 3A+3
1510 6176 JMP 1K
      [FINISHED ADD MS
1511 6222 #8J JMP 1T [TAPE NOT OK
1512 6523 JMP 3A
1513 6567 JMP 3L
1514 7637 JMP 8K
      [COMMON SUBROUTINES
      [READ INDEX
1515 1000 LDA
1516 0010 10
1517 1460 SAE i
1520 5377 5377
1521 6000 JMP 0
1522 0041 SET 1
1523 0000 0
1524 0700 #8A RDC
1525 2426 217G [INDEX
1526 0453 IBZ
1527 7526 JMP P-1
1530 0070 SET i 10
1531 4777 4777
1532 2213 ADD 1P
1533 3525 ADD 8A+1
1534 5525 STC 8A+1
1535 6001 JMP 1
      [NAME MATCH
1536 0041 #8B SET 1
1537 0000 0
1540 0072 SET i 12

```



```

P   CONT
1541 7773      -4
1542 0073      SET 1 13
1543 2372      6E+1
1544 1000      LDA
1545 0010      10
1546 1620      BSE 1
1547 0007      7
1550 1460      SAE 1
1551 5377      5377
1552 7555      JMP P+3
1553 0221      XSK i 1
1554 6001      JMP 1
1555 4010      STC 10
1556 1030      LDA i 10
1557 1473      SAE i 13
1560 7540      JMP 8B+2
1561 0232      XSK i 12
1562 7556      JMP P-4
1563 6001      JMP 1 INAME MATCH
      [SUBROUTINE CONTROL
1564 0057 #8L SET 17
1565 0000      0
1566 1000      LDA
1567 2377      6E+6 [u
1570 3524      ADD 8A [RDC
1571 5524      STC 8A
1572 1300      LDH
1573 2373      6E+2
1574 1420      SHD i
1575 7700      7700
1576 6000      JMP 0 INAME NOT REQUESTED
1577 0237      XSK i 17
1600 1000      LDA
1601 2377      6E+6
1602 0246      ROL 6 [UNIT TO Z
1603 5760      STC 8T
1604 3524      ADD 8A [RDC u
1605 3741      ADD 8N-3 [20
1606 5744      STC 8N [RDC i u
1607 7522      JMP 8A-2 [READ INDEX
1610 1030      LDA i 10
1611 1460      SAE i
1612 5757      5757
1613 7621      JMP 8D
1614 7536      JMP 8B
1615 6017      JMP 17 INAME FOUND
1616 7522      JMP 8A-2
1617 7536      JMP 8B
1620 6017      JMP 17
      [NO MS OR BINARY
      [NO NAME MATCH
1621 0011 #8D CLR
1622 0061      SET i 1
1623 0340      340
1624 0072      SET i 12
1625 2103      6A+102 [N

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P   CONT
1626 1752      DSC 12
1627 1772      DSC i 12
1630 0061      SET i 1
1631 0364      364
1632 1772      DSC i 12
1633 1772      DSC i 12
1634 0415      KST
1635 7622      JMP 8D+1
1636 0515      KBD
1637 0720 #8K RDC i 7E [RETURN
1640 2302      217D+2
1641 7011      JMP 2M+11
1642 0703      MTB 7E
1643 0000      0 [STOP TAPE
1644 7621      JMP 8D
      [LOAD BINARY
1645 7564 #8R JMP 8L
1646 7660      JMP 8M [BIN IN WORKING AREA
1647 1030      LDA i 10 [NAME MATCH
1650 1030      LDA i 10
1651 1030      LDA i 10 [QN|BN
1652 5745      STC 8N+1
1653 1030      LDA i 10 [N BLKS
1654 0451      APO
1655 7621      JMP 8D
1656 0017      COM
1657 7672      JMP 8S
      [BIN IN WORKING AREA
1660 0720 #8M RDC i 7E
1661 2330      217D+30
1662 3010      ADD 1010 [1ST BN
1663 3012      ADD 1012 [QN
1664 1120      ADA i
1665 0340      7D+40
1666 5745      STC 8N+1
1667 3011      ADD 1011 [-N BLKS
1670 0470      AZE i
1671 7642      JMP 8K+3 [NO BINARY
1672 4010 #8S STC 10
1673 3744      ADD 8N
1674 3777      ADD 1777
1675 5777      STC 1777 [MTB
1676 3745      ADD 8N+1 [QN|BN
1677 3747      ADD 8N+3 [1001
1700 0230      XSK i 10
1701 7677      JMP P-2
1702 5755      STC 8N+11 [LAST QN|BN
1703 3745      ADD 8N+1
1704 1560      BCL i
1705 7000      7000
1706 3760      ADD 8T
1707 0243      ROL 3
1710 5760      STC 8T [BN TO Z
      [CLEAR MEMORY
1711 0061 #8P SET i 1
1712 3777      3777

```

```

P  CONT
1713 0011 CLR
1714 1061 STA i 1
1715 0201 XSK 1
1716 7714 JMP P-2
1717 0061 SET i 1
1720 0001 1
1721 1061 STA i 1 [LAST REGISTER CLEARED
1722 1440 SAE
1723 1721 P-2
1724 7721 JMP P-3
1725 4001 STC 1 [CLEAR 1
[READ BINARY
1726 3745 ADD 8N+1
[CHECK BIN QN
1727 1560 #8Q BCL i
1730 0777 777
1731 1460 SAE i
1732 3000 3000
1733 7744 JMP 8N
1734 1000 LDA
1735 1745 8N+1
1736 5774 STC 8Z+1
1737 3744 ADD 8N
1740 1560 BCL i
1741 0020 20 [CONSTANT
1742 5777 STC 1777 [RDC u
1743 7746 JMP 8N+2
1744 0720 #8N RDC i 7E
1745 0000 FIRST QN1BN
1746 1020 LDA i
1747 1001 1001
1750 1200 LAM
1751 1745 P-4
1752 0452 LZE
1753 7757 JMP P+4 [Q7 READ
1754 1460 SAE i
1755 0001 LAST QN1BN+1
1756 7727 JMP 8Q
1757 7757 JMP 8V
      =1757
[CLEAR Q3
1757 1020 #8V LDA i
1760 0000 #8T 7E1 [BN TIMES 8
1761 0354 SCR 14 [TO Z
1762 4000 STC 0
1763 2001 ADD 1 [SAVE 1
1764 5776 STC 8Z+3
1765 0061 SET i 1
1766 1721 8Q-6
1767 1061 STA i 1 [LAST REGISTER CLEARED
1770 1440 SAE
1771 1767 P-2
1772 7767 JMP P-3
[FINISHED LOAD BIN
1773 0060 #8Z SET i
1774 0000 0 [BN

```

ADDMS LO,6 LN=3023

LAP6

P CONT
1775 0061
1776 0000
1777 7762

SET 1 1
0 [RESET 1
-15 [MTB OR RDC

[LAP6 ADD MANUSCRIPT AND LOAD BINARY

VALUE	LINE	VALUE	LINE		
1A	0171	174	7D	0300	1312
1B	0617	645	7E	0000	1315
1C	0640	667	7F	0270	1321
1D	0662	712	7G	0426	1320
1E	0654	703	9J	0771	1323
1F	0104	102			
1G	0570	615			
1H	0367	403			
1J	0716	751			
1K	0377	414			
1L	0455	476			
1M	0103	101			
1N	0151	152			
1P	0143	143			
1Q	1412	1022			
1R	0036	30			
1S	0725	761			
1T	0700	731			
1U	0551	575			
1V	0524	547			
1W	0361	374			
1X	0431	451			
1Y	0417	436			
1Z	0407	425			
2A	0062	55			
2B	0054	47			
2C	0065	61			
2D	1447	1057			
2E	1465	1075			
2F	1474	1104			
2G	1504	1115			
2H	1524	1136			
2J	1551	1164			
2K	0502	523			
2L	0207	213			
2M	0026	20			
2N	0044	36			
2P	1400	1010			
2Q	0450	470			
2R	0073	70			
2S	0117	116			
2T	1666	1303			
2V	1652	1267			
2W	1616	1232			
2X	0134	134			
2Y	1603	1217			
2Z	1631	1246			
3A	0256	265			
3B	0322	333			
3C	0233	240			
3D	0312	322			
3E	0230	234			
3F	0340	351			
3H	0517	541			
6A	2001	1322			
6E	2371	1317			
7A	0350	1313			
7B	0000	1314			
7C	0430	1316			

P CONT

[LAP6 FILE COMMANDS
 [SM,SB,CM,CB,LI,PM
 [BLOCKS 320-321, 323
 [QUARTERS 0,1,3

B15

15 0701 RCG 7E
 16 7300 717D
 17 6151 JMP 1N
 20 6256 JMP 3A [CM
 21 6255 JMP 3A-1 [CB
 22 6233 JMP 3C [SD
 23 6171 JMP 1A [SM
 24 6322 JMP 3B [LI
 25 6312 JMP 3D [PM

[TAPE CONTROL

26 0042 #2M SET 2
 27 0104 1F
 30 0045 SET 5
 31 0002 2
 32 0066 SET i 6
 33 0036 1R [BN
 34 6065 JMP 2C
 35 0015 15 [RDC i u
 36 0350 #1R 7A
 37 6073 JMP 2R [UP BN
 40 6043 JMP P+3 [ALL DONE
 41 0450 AZE [7 DONE?
 42 6035 JMP 1R-1 [NO
 43 1020 LDA i [ALL OR 7 DONE
 44 0703 #2N MTB [MTB u
 45 6134 JMP 2X [MOTION CHECK

[WRITE

46 0042 SET 2
 47 0005 5
 50 0066 SET i 6
 51 0054 2B
 52 6065 JMP 2C
 53 0000 TAPE WR
 54 0000 #2B BN
 55 6073 JMP 2R [UP BN
 56 6103 JMP 1M [ALL DONE
 57 0450 AZE
 60 6053 JMP 2B-1
 61 1020 LDA i [ALL OR 7 DONE
 62 0706 #2A WRITE UNIT
 63 6134 JMP 2X
 64 6030 JMP 2M+2

[SET QUARTER

65 0011 #2C CLR
 66 1106 ADA 6
 67 1620 BSE i
 70 1000 1000
 71 1046 STA 6
 72 6000 JMP 0

[UP BLOCK NUMBER

73 1020 #2R LDA i

```

P  CONT
74 1001      1001
75 1206      LAM 6
76 1560      BCL i
77 0777      777
100 0222     XSK i 2
101 0220     XSK i 0
102 6000     JMP 0
      [CHECK N BLOCKS
103 0062 #1M SET i 2
104 0000 #1F -N BLOCKS
105 0450     CHECK TAPE
106 0000     FILE BN
107 0450     AZE
110 6117     JMP 2S
111 2106     ADD P-3
112 2143     ADD 1P
113 4106     STC P-5
114 0222     XSK i 2
115 6105     JMP 1F+1
116 6015     JMP 15
      [CHECK FAIL
117 1000 #2S LDA
120 0106     1M+3
121 4054     STC 2B
122 2002     ADD 2
123 1040     STA
124 0104     1F
125 2036     ADD 1R
126 0470     AZE i
127 0017     COM
130 1560     BCL i
131 7000     7000
132 4036     STC 1R
133 6030     JMP 2M+2
      [MOTION CHECK
134 0041 #2X SET 1
135 0000     0
136 1400     SHD
137 4142     41P+3
140 6000     JMP 0
141 4142     STC P+1
142 1500     STOP TAPE
143 0001 #1P 1 [CONSTANT
144 0453     IBZ
145 6144     JMP P-1
146 6001     JMP 1
      [NO
147 0703     MTB 7E
150 0000     0
151 0011 #1N CLR
152 0061     SET i 1
153 0340     340
154 1760     DSC i
155 3077     3077
156 1760     DSC i
157 7706     7706

```

```

P  CONT
160 0061      SET i 1
161 0364      364
162 1760      DSC i
163 4177      4177
164 1760      DSC i
165 7741      7741
166 0415      KST
167 6152      JMP 1N+1
170 6015      JMP 15
      [SAVE MANUSCRIPT
      [LAST BN IN ACC
171 1120 #1A ADA i
172 2431      -7A-5000+2
173 0017      COM [CONSTANT
174 4104      STC 1F
175 0720      RDC i 7E
176 1321      117D+21
177 0720      RDC i 7E
200 3323      317D+23
201 2143      ADD 1P
202 4450      STC 2Q
      [CHECK PARTIAL SAVE
203 1100      ADA
204 2371      6E
205 0450      AZE
206 7400      JMP 2P
207 1020 #2L LDA i
210 0000      7B
211 6720      JMP 1J+2 [FIX RDC UNIT
212 6725      JMP 1S
213 6407      JMP 1Z
214 6417      JMP 1Y
215 6431      JMP 1X
216 6222      JMP P+4
217 6361      JMP 1W
220 6455      JMP 1L [REPLACE
221 6224      JMP P+3
222 6524      JMP 1V
223 6151      JMP 1N
224 0044      SET 4
225 0002      2 [CONSTANT
226 6551      JMP 1U
227 1620      BSE i
230 0000 #3E 0
231 6700      JMP 1T
232 6026      JMP 2M
      [SAVE BINARY
233 0720 #3C RDC i 7E
234 3330      317D+30 [CV Q0
235 3410      ADD 1410
236 1120      ADA i
237 0340      7D+40
240 4036      STC 1R
241 3412      ADD 1412
242 4230      STC 3E
243 3411      ADD 1411

```



```

P  CONT
244 0470  AZE i
245 6147  JMP 1N-2
246 4104  STC 1F
247 1120  ADA i
250 0003  3
251 4450  STC 2Q
252 1120  ADA i
253 0000  7E
254 6211  JMP 2L+2
      [COPY BINARY
255 2225  ADD 3E-3 [2
      [COPY MANUSCRIPT
256 2143 #3A ADD 1P  [1
257 4450  STC 2Q
260 6725  JMP 1S
261 6407  JMP 1Z
262 6151  JMP 1N
263 6431  JMP 1X
264 6151  JMP 1N
265 6361  JMP 1W
266 6270  JMP P+2
267 6151  JMP 1N
270 0017  COM
271 4104  STC 1F
272 1002  LDA 2
273 1560  BCL i
274 7000  7000
275 4036  STC 1R
276 1002  LDA 2
277 1560  BCL i
300 0777  777
301 4230  STC 3E
302 6716  JMP 1J
303 1000  LDA
304 2377  6E+6
305 1660  BCO i
306 0010  10
307 1040  STA
310 2377  6E+6
311 6212  JMP 2L+3
      [PRINT MANUSCRIPT
312 0720 #3D RDC i 7E
313 3335  317D+35
314 1020  LDA i
315 6340  JMP 3F
316 4334  STC 3F-4
317 1020  LDA i
320 7002  JMP 1002
321 4346  STC 3F+6
      [LIST-QO
322 2143 #3B ADD 1P  [1
323 4450  STC 2Q
324 6725  JMP 1S [FIX RCG
325 6407  JMP 1Z [RCG INDEX
326 6151  JMP 1N [NO INDEX
327 6431  JMP 1X [NAME

```

```

P   CONT
330 6151     JMP 1N INO NAME
331 6361     JMP 1W ENTRY
332 6334     JMP P+2
333 6151     JMP 1N INO ENTRY
334 0720     RDC i 7E
335 2332     217D+32
336 0700     RDC 7E
337 1333     117D+33
340 1002 #3F LDA 2 IBN
341 5377     STC 1377
342 2062     ADD 2A
343 1120     ADA i
344 7774     -3 [UNIT
345 5376     STC 1376
346 0061     SET i 1
347 2370     6E-1
350 0062     SET i 2
351 0770     9J-1
352 0063     SET i 3
353 7771     -6
354 1021     LDA i 1
355 1062     STA i 2
356 0223     XSK i 3
357 6354     JMP P-3
360 7001     JMP 1001

[FILE SUBROUTINES
[CHECK MS OR BINARY PRESENT
361 0045 #1W SET 5
362 0002     2
363 1025     LDA i 5
364 0451     APO
365 0220     XSK i 0
366 6000     JMP 0

[CHECK BOUNDS
367 1000 #1H LDA
370 0006     6
371 2104     ADD 1F
372 0470     AZE i
373 0017     COM
374 0451     APO
375 0220     XSK i 0
376 6000     JMP 0

[FIX ADDRESS
377 1000 #1K LDA
400 0002     2
401 1620     BSE i
402 7007     7007
403 4002     STC 2
404 0202     XSK 2
405 6000     JMP 0
406 6001     JMP 1

[RCG AND CHECK INDEX
407 0000 #1Z TAPE
410 1426     117G
411 1000     LDA
412 3000     3000

```

```

P   CONT
413 1420      SHD i
414 5700      5700
415 0220      XSK i 0
416 6000      JMP 0
      [MAKE INDEX
417 0041 #1Y SET 1
420 0000      0
421 0062      SET i 2
422 2777      2777
423 1020      LDA i
424 5757      5757
425 1062      STA i 2
426 0202      XSK 2
427 6425      JMP P-2
430 6001      JMP 1
      [NAME SEARCH
431 0041 #1X SET 1
432 0000      0
433 0062      SET i 2
434 3000      3000
435 0063      SET i 3
436 7773      -4
437 0064      SET i 4
440 2372      6E+1
441 6377      JMP 1K
442 1022      LDA i 2
443 1464      SAE i 4
444 6435      JMP 1X+4
445 0223      XSK i 3
446 6442      JMP P-4
447 1020      LDA i
450 0004 #2Q 1 OR 3
451 1140      ADM
452 0002      2
453 0221      XSK i 1
454 6001      JMP 1
      [REPLACE
455 0043 #1L SET 3
456 0000      0
457 0061      SET i 1
460 0234      234
461 0064      SET i 4
462 4516      3H-4000
463 1324      LDH i 4
464 1420      SHD i
465 1200      1200
466 6502      JMP 2K
467 0241      ROL 1
470 1120      ADA i
471 2001      6A
472 4005      STC 5
473 1745      DSC 5
474 1765      DSC i 5
475 1020      LDA i
476 0004      4
477 2001      ADD 1

```

P	CONT	
500	4001	STC 1
501	6463	JMP 1L+6
502	0415 #2K	KST
503	6457	JMP 1L+2
504	0515	KBD
505	1460	SAE i
506	0045	45 IR
507	6015	JMP 15
510	0045	SET 5
511	0002	2
512	1020	LDA i
513	5757	5757
514	1045	STA 5
515	1065	STA i 5
516	6003	JMP 3
[REPLACE TABLE		
517	4530 #3H	4530
520	4337	4337
521	2426	2426
522	3013	3013
523	1200	1200
[SLOT SEARCH		
524	0064 #1V	SET i 4
525	2372	6E+1
526	0041	SET 1
527	0000	0
530	0062	SET i 2
531	3000	3000
532	6377	JMP 1K
533	0045	SET 5
534	0002	2
535	1022	LDA i 2
536	1460	SAE i
537	5757	5757
540	6532	JMP 1V+6
541	1024	LDA i 4
542	1065	STA i 5
543	1520	SRO i
544	3567	3567
545	6541	JMP P-4
546	0042	SET 2
547	0005	5
550	6447	JMP 2Q-1
[GAP SEARCH CONTROL		
551	0050 #1U	SET 10
552	0000	0
553	0066	SET i 6
554	7347	-7C
555	1020	LDA i
556	7777	7777
557	4654	STC 1E
560	6617	JMP 1B
561	0047	SET 7
562	0006	6
563	0011	CLR
564	4654	STC 1E

```

P  CNT
565 0066     SET i 6
566 0270     7F
567 6617     JMP 1B
      [FIND NEAREST OF TWO
570 1000 #1G LDA
571 0007     7
572 0017     COM
573 2006     ADD 6
574 1120     ADA i
575 6723     -7G-7G
576 0451     APO
577 6602     JMP P+3
600 6367     JMP 1H
601 6010     JMP 10
602 1000     LDA
603 0007     7
604 1120     ADA i
605 1000     1000
606 6371     JMP 1H+2
607 6613     JMP P+4
610 6367     JMP 1H
611 6010     JMP 10
612 6151     JMP 1N
613 1000     LDA
614 0007     7
615 0017     COM
616 6010     JMP 10
      [GAP SEARCH
617 0041 #1B SET 1
620 0000     0
621 0062     SET i 2
622 7000     7000
623 6377     JMP 1K
624 1322     LDH i 2
625 1420     SHD i
626 5700     5700
627 6623     JMP P-4
630 0222     XSK i 2
631 0222     XSK i 2
632 0222     XSK i 2
633 6640     JMP 1C
634 6662     JMP 1D
635 6640     JMP 1C
636 6662     JMP 1D
637 6623     JMP 1B+4
      [GET BN
640 1022 #1C LDA i 2
641 1560     BCL i
642 7000     7000
643 1040     STA
644 0011     11
645 1122     ADA i 2
646 0451     APO
647 0220     XSK i 0
650 0017     COM
651 1040     STA

```

```

P  CONT
652 0012      12
653 1520      SRO i
654 0000 #1E  FWD OR BWD
655 6000      JMP 0
656 0052      SET 12
657 0011      11
660 4011      STC 11
661 6000      JMP 0
      [BN COMPARE
662 1000 #1D  LDA
663 0011      11
664 2006      ADD 6
665 0470      AZE i
666 0017      COM
667 0451      APO
670 6000      JMP 0
671 2104      ADD 1F
672 0451      APO
673 0470      AZE i
674 6000      JMP 0
675 0046      SET 6
676 0012      12
677 6621      JMP 1B+2
      [WRITE INDEX
700 1044 #1T  STA 4
701 1560      BCL i
702 7000      7000
703 1040      STA
704 0054      2B
705 4106      STC 1M+3
706 2104      ADD 1F
707 0017      COM
710 1064      STA i 4
711 0435      KST i
712 6015      JMP 15
713 0000      TAPE INS
714 1426      117G
715 6000      JMP 0
      [FIX TAPE INSTRUCTIONS
      [RDC UNIT
716 1000 #1J  LDA
717 2377      6E+6
720 1140      ADM
721 0044      2N [MTB u
722 1140      ADM
723 0035      1R-1 [RDC i u
724 6000      JMP 0
      [WRITE UNIT
725 1000 #1S  LDA
726 2377      6E+6
727 1620      BSE i
730 0701      RCG
731 1040      STA
732 0407      1Z
733 2225      ADD 3E-3 [2
734 1040      STA

```

```

P  CONT
735 0062 2A [MTB u
736 1040 STA
737 0142 2X+6 [MOTION CHK
740 2225 ADD 3E-3 [2
741 1040 STA
742 0713 1T+13
743 1120 ADA i
744 0021 21
745 1040 STA
746 0053 2B-1
747 2143 ADD 1P [1
750 4105 STC 1M+2
751 6000 JMP 0

```

[PARTIAL SAVE

=1400

```

1400 0061 #2P SET i 1
1401 2370 6E-1
1402 0062 SET i 2
1403 7770 -7
1404 0063 SET i 3
1405 1665 2T-1
1406 1021 LDA i 1
1407 1063 STA i 3
1410 0222 XSK i 2
1411 7406 JMP P-3
1412 1020 #1Q LDA i
1413 0350 7A
1414 1040 STA
1415 1616 2W
1416 5554 STC 2J+3
1417 1020 LDA i
1420 4350 417A
1421 5652 STC 2V
1422 3666 ADD 2T
1423 5474 STC 2F
1424 4001 STC 1
1425 0062 SET i 2
1426 7777 7777
1427 1020 LDA i
1430 0000 7B
1431 1660 BCO i
1432 0010 10
1433 1060 STA i
1434 0000 OTHER UNIT
1435 1620 BSE i
1436 0703 MTB
1437 1040 STA
1440 1661 2V+7
1441 1120 ADA i
1442 0023 23
1443 1040 STA
1444 1651 2V-1
1445 2143 ADD 1P [1
1446 5553 STC 2J+2
1447 3667 #2D ADD 2T+1
1450 0470 AZE i

```

```

P   CONT
1451 3517      ADD 2H-5
1452 2143      ADD 1P  [1
1453 5465      STC 2E
1454 7603      JMP 2Y
1455 1321      LDH i 1
1456 1420      SHD i
1457 7700      7700
1460 6151      JMP 1N
1461 1460      SAE i
1462 0012      12
1463 7454      JMP P-7
1464 1020      LDA i
1465 4000 #2E SECOND LINE NUMBER
1466 3517      ADD 2H-5
1467 0470      AZE i
1470 6151      JMP 1N
1471 5465      STC 2E
1472 3517      ADD 2H-5
1473 1160      ADM i
1474 0400 #2F FIRST LINE NUMBER
1475 0450      AZE
1476 7454      JMP 2D+5
      [TRANSFER READY-FIRST LINE FOUND
1477 1020      LDA i
1500 2065      2065
1501 1062      STA i 2
1502 0017      COM
1503 1062      STA i 2
1504 7631 #2G JMP 2Z
1505 7603      JMP 2Y
1506 1321      LDH i 1
1507 1362      STH i 2
1510 1420      SHD i
1511 7700      7700
1512 7530      JMP 2H+4
1513 1460      SAE i
1514 0012      12
1515 7504      JMP 2G
1516 1020      LDA i
1517 7776      -1      [CONSTANT
1520 1140      ADM
1521 1465      2E
1522 0450      AZE
1523 7504      JMP 2G
      [FINISHED MAKING NEW MS
1524 7631 #2H JMP 2Z
1525 1020      LDA i
1526 7777      7777
1527 1362      STH i 2
1530 1000      LDA
1531 0002      2
1532 1560      BCL i
1533 6377      6377
1534 0244      ROL 4
1535 2143      ADD 1P  [1
1536 0017      COM

```


P	CONT	
1537	4004	STC 4
1540	3630	ADD 2W+12
1541	5661	STC 2V+7
1542	7640	JMP 2Z+7
1543	1560	BCL i
1544	7000	7000
1545	0017	COM
1546	1120	ADA i
1547	0350	7A
1550	4104	STC 1F
		[CHECK TAPE
1551	0041	#2J SET 1
1552	0104	1F
1553	0000	CHECK
1554	0350	7A
1555	0450	AZE
1556	7412	JMP 1Q
1557	2143	ADD 1P [1
1560	3554	ADD 2J+3
1561	5554	STC 2J+3
1562	0221	XSK i i
1563	7553	JMP 2J+2
1564	0720	RDC i 7E
1565	4304	417D+4
1566	0061	SET i 1
1567	2370	6E-1
1570	0062	SET i 2
1571	7770	-7
1572	0063	SET i 3
1573	1665	2T-1
1574	1023	LDA i 3
1575	1061	STA i 1
1576	0222	XSK i 2
1577	7574	JMP P-3
1600	1000	LDA
1601	1434	2D-13
1602	6211	JMP 2L+2
		[READ OLD MS
1603	0043	#2Y SET 3
1604	0000	0
1605	0011	CLR
1606	2001	ADD 1
1607	0450	AZE
1610	6000	JMP 0
1611	3616	ADD 2W
1612	1620	BSE i
1613	6000	6000
1614	5616	STC 2W
1615	0720	RDC i 7B
1616	0350	#2W 7A
1617	3654	ADD 2V+2
1620	1200	LAM
1621	1616	2W
1622	0451	APO
1623	7615	JMP 2W-1
1624	0703	MTB 7B

```

P  CONT
1625 0000      0
1626 0061      SET i 1
1627 6777      6777
1630 6003      JMP 3
                [WRITE NEW MS
1631 0064 #2Z SET i 4
1632 7775      -2
1633 0011      CLR
1634 2002      ADD 2
1635 1460      SAE i
1636 6777      6777
1637 6000      JMP 0
1640 0043      SET 3
1641 0000      0
1642 1000      LDA
1643 1652      2V
1644 1560      BCL i
1645 3000      3000
1646 5652      STC 2V
1647 0435      KST i
1650 6015      JMP 15
1651 1356      WRITE TAPE
1652 4350 #2V 417A
1653 1020      LDA i
1654 1001      1001 [CONSTANT
1655 1140      ADM
1656 1652      2V
1657 0224      XSK i 4
1660 7647      JMP 2V-3
1661 1500      STOP TAPE
1662 0000      0
1663 0062      SET i 2
1664 7777      7777
1665 6003      JMP 3
1666 0000 #2T 0 [LN
1667 0000      0 [LN
1670 7777      -0 [NAME
1671 7777      -0
1672 7777      -0
1673 7777      -0
1674 7777      -0 [UNIT
                7D=300
                7A=350
                7B=0
                7E=0
                7C=430
                6E=2371
                7G=426
                7F=270 [FILE UPPER BOUND
                6A=2001
                9J=771
[LAP6 FILE COMMANDS

```

VALUE	LINE	VALUE	LINE		
1A	0255	255	6Z	0376	413
1B	0203	203	7C	0430	1247
1C	1062	1131	7D	0300	1246
1D	1103	1152	7E	0000	1250
1E	1122	1172	7F	0270	1252
1F	1136	1210	7G	0426	1253
1G	1151	1224			
1H	0020	11			
1J	1043	1107			
1M	0123	120			
1R	0064	57			
1S	0172	171			
1T	0136	133			
1U	0147	145			
1V	0162	160			
1W	0105	101			
1X	0113	107			
2A	0071	65			
2B	0077	73			
2M	0030	21			
2N	0033	24			
2S	0056	51			
2X	0047	41			
3A	1030	1072			
3B	1040	1103			
3C	1054	1122			
4A	0561	606			
4B	0603	630			
4C	0706	737			
4D	0730	762			
4E	0747	1002			
4F	0740	772			
4G	0653	702			
4H	0775	1032			
4J	1023	1063			
4K	1026	1067			
4L	1016	1055			
5A	0323	330			
5B	1046	1113			
5C	0325	333			
5D	0354	366			
5E	0334	342			
5F	1172	1245			
6A	0305	310			
6E	2371	1251			
6J	0341	350			
6K	0367	402			
6L	0550	573			
6M	0522	543			
6N	0540	562			
6P	0662	712			
6R	0722	753			
6S	0500	520			
6T	0406	423			
6U	0444	462			
6V	0420	435			
6W	0470	507			
6X	0437	455			
6Y	0424	442			

```

P   CONT
      [LAP6 COPY FILE
      [BLOCKS 314-316
      [QUARTERS 0-3
          #15
15 0701      RCG 7E
16 7300      717D
17 6203      JMP 1B
      [TAPE TRANSFERS
20 1037 #1H LDA i 17
21 0451      APO
22 6123      JMP 1M
23 4077      STC 2B
24 1037      LDA i 17
25 4064      STC 1R
26 1037      LDA i 17
27 4002      STC 2
30 0043 #2M SET 3
31 0002      2          [CONSTANT
32 6056      JMP 2S
33 1500 #2N STOP TAPE-READ DONE OR FULL
34 0000      0
35 0453      IBZ
36 6035      JMP P-1
37 0042      SET 2
40 0003      3          [CONSTANT
41 6071      JMP 2A [WRI
42 6045      JMP P+3 [WRI DONE
43 6047      JMP 2X [MOTION STOP
44 6030      JMP 2M
45 6047      JMP 2X
46 6020      JMP 1H
      [MTB NEW
47 0041 #2X SET 1
50 0000      0
51 0000      MOVE TAPE
52 0001      1          [CONSTANT
53 0453      IBZ
54 6053      JMP P-1
55 6001      JMP 1
      [RDC, N BLOCKS
56 0041 #2S SET 1
57 0000      0
60 0064      SET i 4
61 0064      1R
62 6105      JMP 1W
63 0015      READ TAPE
64 0000 #1R BN
65 6113      JMP 1X
66 0450      AZE
67 6063      JMP 1R-1
70 6001      JMP 1
      [WRITE N BLOCKS
71 0041 #2A SET 1
72 0000      0
73 0064      SET i 4
74 0077      2B

```

```

P  CONT
75 6105      JMP 1W
76 1356      WRITE TAPE
77 0000 #2B  BN
100 6113     JMP 1X
101 0450     AZE
102 6076     JMP 2B-1
103 0221     XSK i 1
104 6001     JMP 1
105 0011 #1W  CLR
106 1104     ADA 4
107 1120     ADA i
110 3000     1000 OR 2000
111 1044     STA 4
112 6000     JMP 0
113 1020 #1X  LDA i
114 1001     1001 [CONSTANT
115 1204     LAM 4
116 1560     BCL i
117 0777     777
120 0222     XSK i 2
121 6000     JMP 0
122 6001     JMP 1
      [CHECK ALL TRANSFERS
123 0077 #1M  SET i 17
124 0202     1B-1
125 1037     LDA i 17
126 0451     APO
127 6172     JMP 1S
130 4136     STC 1T
131 1037     LDA i 17
132 4005     STC 5
133 1037     LDA i 17
134 4002     STC 2
135 0450     CHECK TAPE
136 0000 #1T  BN
137 0450     AZE
140 6147     JMP 1U [ERROR
141 2136     ADD 1T
142 2052     ADD 2X+3 [1
143 4136     STC 1T
144 0222     XSK i 2
145 6135     JMP 1T-1
146 6125     JMP 1M+2
      [ERROR
147 1000 #1U  LDA
150 0136     1T
151 4077     STC 2B
152 0043     SET 3
153 0002     2
154 1017     LDA 17 [-N BLKS
155 0017     COM [ +N BLKS
156 2002     ADD 2 [-N LEFT
157 2005     ADD 5
160 4064     STC 1R
161 0062     SET i 2
162 7776 #1V -1 [CONSTANT

```

```

P  CJNT
163 6056      JMP 2S
164 0062      SET 1 2
165 7776      -1
166 6071      JMP 2A
167 0042      SET 2
170 0003      3
171 6135      JMP 1T-1
      [FINISHED
172 1520 #1S SRO i
173 7777      -0 [NOT OK IF 0
174 6015      JMP 15 [OK IF ONES
175 0720      RDC i 7E
176 4304      4I7D+4 [GRIDS
177 0700      RDC 7E
200 3324      3I7D+24 [NO: FOR AM
201 2174      ADDP-5 [CHANGE AM
202 7401      JMP 1401
      [FILE ORGANIZE
203 0041 #1B SET 1
204 2377      6E+6 [UNIT
205 0720      RDC i 7E
206 1315      1I7D+15
207 0720      RDC i 7E
210 2316      2I7D+16
211 0011      CLR
212 2001      ADD 1
213 1620      BSE i
214 0700      RDC
215 1040      STA
216 1035      3A+5 [RDC OLD-INDEX
217 2040      ADD 2N+5 [3
220 1040      STA
221 0033      2N [MTB OLD
222 1120      ADA i
223 0015      15
224 1040      STA
225 1030      3A
226 1040      STA
227 0063      1R-1 [RDC i OLD
230 1660      BCO i
231 0010      10
232 1120      ADA i
233 7760      -17
234 1040      STA
235 1040      3B [RCG NEW
236 2031      ADD 2M+1 [2
237 1040      STA
240 0051      2X+2 [MTB NEW
241 2031      ADD 2M+1 [2
242 1040      STA
243 1056      3C+2 [WCG NEW
244 1120      ADA i
245 0021      21
246 1040      STA
247 0076      2B-1 [WRI i NEW
250 2052      ADD 2X+3 [1

```

```

P   CONT
251 4135      STC 1T-1 [CHK i
252 2001      ADD 1
253 1460      SAE i
254 0000      7E
255 7043 #1A  JMP 1J
256 7030      JMP 3A
257 7040      JMP 3B
      [CHECK OLD INDEX
260 0061      SET i 1
261 3777      3777
262 1021      LDA i 1
263 1460      SAE i
264 5757      5757
265 6015      JMP 15 [NO OLD INDEX
266 0062      SET i 2
267 2777      2777
270 1022      LDA i 2
271 1420      SHD i
272 5700      5700
273 6303      JMP 6A-2
      [MAKE NEW INDEX
274 0063      SET i 3
275 2777      2777
276 1020      LDA i
277 5757      5757
300 1063      STA i 3
301 0203      XSK 3
302 6300      JMP P-2
303 0077      SET i 17
304 1171      5F-1
      [INDEX COMPARE AND TRANSFER TABLE MAKE-UP
305 1020 #6A  LDA i
306 0451      APO      [CONSTANT
307 4437      STC 6X
310 2355      ADD 5D+1 [APO i
311 4445      STC 6U+1
312 0074      SET i 14
313 1045      5B-1      [TABLE
314 6373      JMP 6Z-3
315 6341      JMP 6J [NO OLD FWD LEFT
      [FIND NEAREST OLD BACKWARD
316 6354      JMP 5D
317 6376      JMP 6Z
320 6367      JMP 6K [NO OLD BWD LEFT
      [FIND NEAREST FWD GAP
321 6500      JMP 6S
322 6550      JMP 6L [NO FWD GAP
323 6522 #5A  JMP 6M [FIND BWD GAP
324 6334      JMP 5E [NO BWD GAP--TRANSFER FORWARD
      [TRANSFER NEAREST
325 1000 #5C  LDA
326 1052      5B+4 [FWD GAP
327 3053      ADD 5B+5 [BWD GAP
330 1120      ADA i
331 6723      -7G-7G [MIDPOINT
332 0471      APO i

```

```

P   CONT
333 6552     JMP 6L+2 [ASSIGN BACKWARD
334 1000 #5E LDA [ASSIGN FWD
335 1052     5B+4
336 0017     COM
337 5053     STC 5B+5
340 6561     JMP 4A
      [NO OLD FWD LEFT
341 6354 #6J JMP 5D
342 6376     JMP 6Z
343 7054     JMP 3C [NO OLD BWD LEFT. WRITE NEW INDEX AND CONT
      INUE
      [FIND FARTHEST BWD ENTRY
344 0074     SET i 14
345 1045     5B-1
346 1020     LDA i
347 0471     APO i
350 4445     STC 6U+1
351 6373     JMP 6Z-3
352 0000     GOON
      [FIND NEAREST FWD GAP
353 6321'   JMP 5A-2
      [FIX NEAREST BWD ENTRY
354 1020 #5D LDA i
355 0471     APO i [CONSTANT
356 4437     STC 6X
357 2306     ADD 6A+1 [APO
360 4445     STC 6U+1
361 1020     LDA i
362 1000     1000
363 4444     STC 6U
364 0074     SET i 14
365 1047     5B+1
366 6000     JMP 0
      [NO BWD ENTRY--FIND FARTHEST FWD
367 1020 #6K LDA i
370 0451     APO
371 4437     STC 6X
372 6317     JMP 5A-4
      [TABLE MAKE-UP SUBROUTINES
      [FIND NEAREST, FARTHEST BWD OR FWD ENTRY
373 1020     LDA i
374 6777     -1000
375 4444     STC 6U
376 0050 #6Z SET 10
377 0000     0
400 0066     SET i 6
401 2000     2000
402 0065     SET i 5
403 7677     -100
404 0011     CLR
405 4421     STC 6V+1
406 6470 #6T JMP 6W [FIX ADDRESS
407 6420     JMP 6V [DONE
410 1020     LDA i
411 0004     4
412 2006     ADD 6

```



```

P  CONT
413 4004      STC 4
414 6424      JMP 6Y [MS CHECK
415 6424      JMP 6Y [BIN CHK
416 1026      LDA i 6
417 6406      JMP 6T
420 1520 #6V  SRO i
421 0000      TEST
422 0230      XSK i 10 [FOUND P+2
423 6010      JMP 10 [NO ENTRIES LEFT-P+1
          [ENTRY CHECK
424 1024 #6Y  LDA i 4 [BN
425 1560      BCL i
426 7000      7000
427 4434      STC P+5
430 1024      LDA i 4
431 0451      APO
432 6000      JMP 0 [NO ENTRY
433 1020      LDA i
434 0000      NEW BN
435 1120      ADA i
436 7351      -7G [MIDPOINT
437 0471 #6X  APO OR APO i
440 6000      JMP 0 [ENTRY WRONG DIRECTION
441 1060      STA i
442 0000      -DIFFERENCE
443 1120      ADA i
444 7777 #6U  -1000 OR +1000 [POSITIVE DIFFERENCE
445 0471      APO OR APO i
446 6000      JMP 0 [NEW NOT CLOSER
447 1000      LDA [NEW CLOSER
450 0442      6U-2
451 0017      COM
452 4444      STC 6U
453 0017      COM
454 4421      STC 6V+1
455 1000      LDA
456 0006      6
457 1074      STA i 14 [NAME POINTER
460 1000      LDA
461 0004      4
462 1074      STA i 14 [#BLKS POINTER
463 1020      LDA i
464 7775      -2
465 1140      ADM
466 0014      14
467 6000      JMP 0
          [ADDRESS FIX
470 1000 #6W  LDA
471 0006      6
472 1620      BSE i
473 0007      7
474 4006      STC 6
475 0225      XSK i 5
476 0220      XSK i 0 [NOT DONE, P+2
477 6000      JMP 0 [DONE, P+1
          [FWD GAP SEARCH CONTROL

```

```

P CONT
500 0067 #6S SET i 7
501 7347 -7C
502 0050 SET 10
503 0000 0
504 0044 SET 4
505 1047 5B+1 [# BLKS POINTER
506 1020 LDA i
507 7777 7777 [IF 1, FWD
510 6662 JMP 6P
511 1000 LDA
512 0007 7
513 0017 COM
514 5052 STC 5B+4 [FWD GAP BN
515 2007 ADD 7 [-FWD
516 3164 ADD 5F-6 [1000
517 6542 JMP 6N+2 [CHECK BOUNDS
520 0230 XSK i 10 [OK, P+2
521 6010 JMP 10 [NOT OK
      [BWD GAP SEARCH CONTROL
522 0044 #6M SET 4
523 1051 5B+3
524 0067 SET i 7
525 0270 7F [UPPER BOUND
526 0050 SET 10
527 0000 0
530 0011 CLR
531 6662 JMP 6P
532 6540 JMP 6N
533 6535 JMP P+2
534 6010 JMP 10
535 5053 STC 5B+5
536 0230 XSK i 10
537 6010 JMP 10
      [BOUNDS CHECK
540 1000 #6N LDA
541 0007 7
542 2740 ADD 4F [-N BLKS TO MOVE
543 0470 AZE i
544 0017 COM
545 0451 APO
546 0220 XSK i 0 [NOT OK
547 6000 JMP 0 [OK
      [NO FWD GAP
550 6522 #6L JMP 6M [FIND BWD GAP
551 6775 JMP 4H [NO FIT--FREE GAP SEARCH
      [TRANSFER BWD
552 1000 LDA
553 1050 5B+2
554 5046 STC 5B
555 3051 ADD 5B+3
556 5047 STC 5B+1
557 3053 ADD 5B+5
560 5052 STC 5B+4
      [NAME MATCH
561 1000 #4A LDA
562 1047 5B+1

```

```

P   CONT
553 1560      BCL i
564 7774      7774 [1 OR 3
565 4611      STC 4B+6
566 0066      SET i 6 [NEW NAME
567 3000      3000
570 0065      SET i 5
571 7677      -100
572 2162      ADD 1V [-1
573 1140      ADM
574 1047      5B+1
575 0062      SET i 2
576 7773      -4
577 0044      SET 4 [OLD NAME
600 1046      5B
601 6470      JMP 6W [ADDRESS FIX
602 6747      JMP 4E [DONE, NO MATCH
603 1026 #4B LDA i 6
604 1464      SAE i 4
605 6575      JMP 4B-6
606 0222      XSK i 2
607 6603      JMP 4B
610 1020      LDA i [MATCH
611 0004      1 OR 3, BIN OR MS
612 1140      ADM
613 0006      6
614 0045      SET 5 [SAVE BN POINTER, NEW
615 0006      6
616 1025      LDA i 5
617 0471      APO i
620 6653      JMP 4G [ENTRY ALREADY , ERASE
621 0044      SET 4
622 1047      5B+1
623 1004      LDA 4
624 1560      BCL i
625 0777      777 [QN
626 1600      BSE
627 1052      5B+4 [NEW BN TO INDEX
630 1046      STA 6
631 1560      BCL i
632 7000      7000
633 1077      STA i 17
634 1004      LDA 4
635 1560      BCL i
636 7000      7000 [OLD BN TO INDEX
637 1077      STA i 17
640 1024      LDA i 4 [# BLKS
641 1066      STA i 6
642 0017      COM
643 1077      STA i 17
[RESET BOUNDS
644 1000      LDA
645 1053      5B+5
646 0451      APO
647 6652      JMP P+3
650 4525      STC 6M+3
651 6653      JMP 4G

```

```

P CONT
652 4501      STC 6S+1
             [ERASE OLD
653 0044 #4G SET 4
654 1047      SB+1
655 1020      LDA i
656 5757      5757
657 1044      STA 4
660 1064      STA i 4
661 6305      JMP 6A
             [GAP SEARCH
662 4722 #6P STC 6R [SRO FWD OR BWD
663 0041      SET 1
664 0000      0
665 1004      LDA 4
666 0017      COM
667 4740      STC 4F [-N TO SAVE
670 0066      SET i 6
671 3007      3007
672 0206      XSK 6
673 6675      JMP P+2
674 6001      JMP 1 [DONE
675 1020      LDA i
676 0004      4
677 1140      ADM
700 0006      6
701 6706      JMP 4C
702 6730      JMP 4D
703 6706      JMP 4C
704 6730      JMP 4D
705 6672      JMP 6P+10
             [GET BN
706 1026 #4C LDA i 6
707 1560      BCL i
710 7000      7000
711 1040      STA
712 0011      11
713 1126      ADA i 6
714 0451      APO
715 0220      XSK i 0 [NO ENTRY
716 0017      COM
717 1040      STA
720 0012      12
721 1520      SRO i
722 0000 #6R FWD OR BWD
723 6000      JMP 0 [FWD
724 0052      SET 12
725 0011      11
726 4011      STC 11
727 6000      JMP 0
             [BN COMPARE
730 1000 #4D LDA
731 0011      11 [IF BWD THEN COMP OF BN+#BLKS
732 2007      ADD 7
733 0470      AZE i
734 0017      COM
735 0451      APO

```

```

P   CONT
736 6000      JMP 0 [WRONG DIRECTION
737 1120      ADA i
740 0000 #4F -N TO MOVE
741 0451      APO
742 0470      AZE i
743 6000      JMP 0
744 0047      SET 7
745 0012      12
746 6670      JMP 6P+6
      [FIND SLOT, INSERT NAME
747 0066 #4E SET i 6
750 3000      3000
751 0065      SET i 5
752 7677      -100
753 6470      JMP 6W
754 7026      JMP 4K [DONE, NO SLOT, ERASE
755 0044      SET 4 [SAVE SLOT
756 0006      6
757 1026      LDA i 6
760 1460      SAE i
761 5757      5757
762 6753      JMP 4E+4
763 0046      SET 6 [SLOT
764 0004      4
765 0044      SET 4
766 1046      5B
767 1024      LDA i 4
770 1066      STA i 6
771 1520      SRO i
772 3567      3567
773 6767      JMP P-4 [NOT DONE
774 6610      JMP 4B+5
      [FREE GAP SEARCH
      [ANYTHING FWD
775 0067 #4H SET i 7
776 7347      -7C
777 6502      JMP 6S+2
1000 7002      JMP P+2 [NO FWD GAP
1001 6334      JMP 5E [TRANSFER FWD
      [TRY BWD GAP FOR FWD ENTRY
1002 0067      SET i 7
1003 0270      7F
1004 0044      SET 4
1005 1047      5B+1
1006 6524      JMP 6M+2
1007 7016      JMP 4L [NO FIT ANYWHERE
1010 1000      LDA
1011 1053      5B+5
1012 5052      STC 5B+4
1013 2525      ADD 6M+3 [KEEP OLD BOUND ON BWD
1014 5053      STC 5B+5
1015 6561      JMP 4A
      [ERASE ENTRY
1016 7023 #4L JMP 4J
1017 2162      ADD 1V [-1
1020 3047      ADD 5B+1

```

```

P   CONT
1021 4004     STC 4
1022 6655     JMP 4G+2
          [NO INDICATOR
1023 0011 #4J CLR
1024 4173     STC 1S+1
1025 6000     JMP 0
          [NO SLOT
1026 7023 #4K JMP 4J
1027 6653     JMP 4G
          [RDC OLD UNIT
1030 0015 #3A READ TAPE
1031 4426     417G [INDEX
1032 3031     ADD P-1
1033 2114     ADD 1X+1 [1001
1034 5036     STC P+2
1035 0015     READ TAPE
1036 0000     BN
1037 6000     JMP 0
          [RCG NEW INDEX
1040 0015 #3B READ TAPE
1041 1426     117G [INDEX
1042 6000     JMP 0
          [INVERT INDEX READ
1043 7040 #1J JMP 3B
1044 7030     JMP 3A
1045 6260     JMP 1A+3
          [GAP SEARCH STORE TABLE
1046 0453 #5B NAME POINTER-1 FOR NEAREST FWD ENTRY OR FARTHEST
          BWD ENTRY
1047 1500     BLKS POINTER
1050 0453     NAME POINTER-1 FOR NEAREST BWD ENTRY OR FARTHEST
          FWD ENTRY
1051 1500     BLKS POINTER
1052 0000     FWD GAP
1053 0000     BWD GAP
          [WCG NEW INDEX
1054 0435 #3C KST i
1055 6015     JMP 15 [FORGET IT
1056 1356     WRITE TAPE
1057 1426     117G
1060 2277     ADD 6A-6 [TABLE TERMINATOR
1061 1077     STA i 17
          [TABLE REORGANIZE
1062 0077 #1C SET i 17
1063 0202     1B-1 [NEW TABLE
1064 0074     SET i 14
1065 1167     5F-3 [OLD TABLE
1066 1020     LDA i
1067 0002     2
1070 1140     ADM
1071 0014     14
1072 1034     LDA i 14
1073 1460     SAE i
1074 5757     5757
1075 7077     JMP P+2
1076 7122     JMP 1E [TABLE END

```

```

P   CONT
1077 0451      APO
1100 7066      JMP 1C+4 [NO ENTRY
1101 1120      ADA i
1102 7351      -7G [MIDPOINT
1103 0451 #1D  APO
1104 7066      JMP 1C+4 [WRONG DIRECTION
1105 1060      STA i
1106 0000      NEW DIFF+OLD DIFF
1107 1120      ADA i
1110 6777      -1000 [OLD DIFF
1111 0471      APO i
1112 7066      JMP 1C+4 [KEEP OLD DIFF
1113 1000      LDA [KEEP NEW
1114 1106      P-6
1115 0017      COM
1116 5110      STC P-6
1117 0053      SET 13
1120 0014      14
1121 7066      JMP 1C+4
      [TABLE END
1122 1020 #1E  LDA i
1123 6777      -1000
1124 1440      SAE
1125 1110      1D+5
1126 7136      JMP 1F [TRANSFER ENTRY
      [NONE FOUND TO MOVE
1127 1520      SRO i
1130 5252      S252
1131 7151      JMP 1G [FINISHED
1132 1020      LDA i [DO BWD
1133 0471      APO i
1134 5103      STC 1D
1135 7064      JMP 1C+2
      [TRANSFER ENTRY
1136 5110 #1F  STC 1D+5
1137 1013      LDA 13 [NEW BN
1140 1077      STA i 17
1141 0011      CLR
1142 0017      COM
1143 1053      STA 13 [ERASE OLD
1144 1033      LDA i 13 [OLD BN
1145 1077      STA i 17
1146 1033      LDA i 13 [-N BLKS
1147 1077      STA i 17
1150 7064      JMP 1C+2
      [FINISHED
1151 0017 #1G  COM [1000
1152 4110      STC 1W+3 [BSE FOR TAPES
1153 1014      LDA 14 [5757
1154 1077      STA i 17 [SAVE TERMINATOR
1155 1000      LDA
1156 0017      17
1157 1120      ADA i
1160 7400      -377
1161 0451      APO
1162 7167      JMP P+5 [OO

```

```

P CONT
1163 1020 LDA i
1164 1000 1000 [Q1 [CONSTANT
1165 1140 ADM
1166 0110 1W+3
1167 0077 SET i 17
1170 0202 1B-1 [TAPE TRANSFER
1171 6020 JMP 1H
1172 0040 #5F FIRST TABLE
      7D=300
      7C=430
      7E=0
      6E=2371
      7F=270
      7G=426
[LAP6 COPY FILE

```

```

001 0000
002 0000
003 0000
004 0000
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200 0000

```


VALUE	LINE
1E 0073	71
1F 0060	55
1R 0030	23
1W 0110	107
1X 0116	116
2A 0042	36
2B 0046	42
2M 0020	12
2N 0036	31
2P 0054	50
2X 0126	127
3A 0502	517
3C 0507	524
3D 0155	161
3F 0166	172
3H 0244	253
3K 0213	221
3L 0237	245
3M 0344	356
3N 0253	263
3P 0266	276
3Q 0362	374
3R 0303	314
3T 0326	337
3V 0370	403
3W 0430	444
4A 0143	145
6A 2001	677
6B 0441	456
6C 0455	472
6E 0471	506
6F 0201	206
6G 0740	640
7D 0300	700
7E 0000	701
8Z 0776	676

```

P   CONT
    [LAP6 COPY
    [BLOCKS 336-337
    [QO-1
        015
15 0701    RCG 7E
16 7300    717D
17 6141    JMP 4A-2
    [TAPE TRANSFERS
    [READ, WRITE, CHECK
20 0042    #2M SET 2
21 0060    1F [-#BLOCKS
    [RDC
22 0043    SET 3
23 0002    2 [-# LEFT
24 0064    SET i 4
25 0030    1R
26 6110    JMP 1W [FIX QN
27 0720    RDC i
30 0000    #1R BN
31 6116    JMP 1X [UP BN, AND CHECK 2
32 6035    JMP P+3 [RDC ALL DONE
33 0450    AZE
34 6027    JMP 1R-1
35 1020    LDA i [RDC DONE 7 BLOCKS
36 7762    #2N -15 [MTB u
37 6126    JMP 2X [MOTION STOP
    [WRITE
40 0042    SET 2
41 0003    3 [-# LEFT
42 0064    #2A SET i 4
43 0046    2B
44 6110    JMP 1W
45 0726    WRI i
46 0000    #2B BN
47 6116    JMP 1X
50 6057    JMP 1F-1 [WRI ALL DONE
51 0450    AZE
52 6045    JMP 2B-1
53 1020    LDA i [WRI DONE 7 BLOCKS
54 7753    #2P -24 [MTB u
55 6126    JMP 2X [MOTION CHECK
56 6022    JMP 2M+2
    [CHECK
57 0062    SET i 2
60 0000    #1F -N BLOCKS
61 0450    CHECK TAPE
62 0000    BN
63 0450    AZE
64 6073    JMP 1E [ERROR
65 2062    ADD P-3
66 2135    ADD 2X+7 [1
67 4062    STC P-5
70 0222    XSK i 2
71 6061    JMP 1F+1
72 6015    JMP 15
    [CHECK FAILURE

```

```

P   CONT
73 1000 #1E LDA
74 0062     1F+2
75 4046     STC 2B
76 2002     ADD 2
77 1040     STA
100 0060     1F
101 2030     ADD 1R
102 0470     AZE i
103 0017     COM [BN IS ZERO
104 1560     BCL i
105 7000     7000
106 4030     STC 1R
107 6022     JMP 2M+2

      [FIX QN
110 0011 #1W CLR
111 1104     ADA 4
112 1620     BSE i
113 1000     1000
114 1044     STA 4
115 6000     JMP 0

      [FIX BN AND CHK 2
116 1020 #1X LDA i
117 1001     1001
120 1204     LAM 4
121 1560     BCL i
122 0777     777
123 0222     XSK i 2
124 0220     XSK i 0 [NOT DONE
125 6000     JMP 0 [DONE, P+1

      [MOTION CHECK
126 0041 #2X SET 1
127 0000     0
130 1400     SHD
131 4134     4|P+3
132 6000     JMP 0 [SAME UNIT
133 4134     STC P+1
134 0000     MOVE TOWARD BLK
135 0001     1 [CONSTANT
136 0453     IBZ
137 6136     JMP P-1
140 6001     JMP 1

      [DISPLAY QUESTIONS
141 0700     RDC 7E
142 1337     1|7D+37
143 0073 #4A SET i 13
144 0513     3C+4 [SAVE PARAMETERS
145 0066     SET i 6
146 0501     3A-1 [PARAMETER LENGTH
147 0062     SET i 2
150 0506     3C-1 [DIS CODES

      [KBD PRESET
151 1026     LDA i 6
152 4003     STC 3 [COUNTER
153 1022     LDA i 2
154 4005     STC 5 [SAVE CODES

      [DISPLAY PRESET

```

```

P   CONT
155 0064 #3D SET i 4
156 7771      -6  [# OF LINES
157 1020      LDA i
160 0101      101  [Y COOR
161 4202      STC 6F+1
162 0072      SET i 12
163 4436      6B-3+4000
164 0061      SET i 1
165 0100      100  [X COOR.
166 1332 #3F LDH i 12
167 1420      SHD i
170 7700      7700
171 6166      JMP 3F
172 1420      SHD i
173 1200      1200
174 6244      JMP 3H
      [DISPLAY
175 0241      ROL 1
176 1120      ADA i
177 2001      6A  [2001  [CONSTANT
200 4011      STC 11
201 1020 #6F LDA i
202 0000      Y COOR
203 1751      DSC 11
204 1771      DSC i 11
205 1020      LDA i
206 0004      4
207 2001      ADD 1
210 4001      STC 1
      [KEYBOARD
211 0415      KST
212 6166      JMP 3F
213 0535 #3K KBD i
214 1420      SHD i
215 1200      1200
216 6344      JMP 3M [EOL
217 1420      SHD i
220 1300      1300
221 6303      JMP 3R [DELETE
222 1420      SHD i
223 2300      2300
224 6015      JMP 15 [CASE
225 0470      AZE i
226 6235      JMP 3L-2
227 1120      ADA i
230 7770      -7
231 0471      APO i
232 6166      JMP 3F [NOT OCTAL DIGIT
233 1120      ADA i
234 0007      7
235 0223      XSK i 3
236 6242      JMP 3L+3
237 0063 #3L SET i 3
240 7776      -1  [TOO MANY  [CONSTANT
241 6166      JMP 3F
242 1365      STH i 5 [SAVE

```

```

P  CONT
243 6166      JMP 3F
           [EOL-LOWER Y
244 1020 #3H LDA i
245 7737      -40
246 1140      ADM
247 0202      6F+1
250 0224      XSK i 4
251 6164      JMP 3F-2
252 6155      JMP 3D
           [CHECK BN FOR 1ST ENTRY
253 1002 #3N LDA 2
254 4005      STC 5 [RESET 5
255 4266      STC 3P
256 1325      LDH i 5
257 1420      SHD i
260 7700      7700
261 6265      JMP 3P-1
262 2266      ADD 3P
263 0243      ROL 3
264 6255      JMP 3N+2
265 1020      LDA i
266 0000 #3P BN
267 0303      ROR 3
270 1040      STA
271 0266      3P
272 0451      APO
273 6303      JMP 3R [ILLEGAL
274 1120      ADA i
275 6777      -1000 [CONSTANT
276 0471      APO i
277 6303      JMP 3R [ILLEGAL
300 1000      LDA
301 0266      3P
302 6362      JMP 3Q [ENTRY OK
           [DELETE-ILLEGAL
303 1000 #3R LDA
304 0005      5
305 1440      SAE
306 0507      3C
307 6311      JMP 3R+6
310 6166      JMP 3F [NOTHING TO DELETE
311 1442      SAE 2
312 6325      JMP 3T-1
313 1000      LDA
314 0006      6
315 2240      ADD 3L+1 [-1
316 4006      STC 6
317 2002      ADD 2
320 2240      ADD 3L+1 [-1
321 4002      STC 2
322 2013      ADD 13
323 2240      ADD 3L+1 [-1
324 4013      STC 13
325 1002      LDA 2
326 4005 #3T STC 5
327 1020      LDA i

```

```

P   CONT
330 0013      13
331 1365     STH i 5
332 1020     LDA i
333 0077      77
334 1365     STH i 5
335 1365     STH i 5
336 1365     STH i 5
337 1006     LDA 6
340 4003     STC 3 [RESET COUNTER
341 1002     LDA 2
342 4005     STC 5 [RESET ADDRESS
343 6166     JMP 3F
          [KEYBOARD EOL
344 1006 #3M LDA 6
345 1400     SHD
346 4003     4003
347 6166     JMP 3F [NOTHING TYPED YET.
350 1460     SAE i
351 7775     -2
352 6253     JMP 3N [CHECK BN
353 1305     LDH 5 [CHK UNIT
354 1560     BCL i
355 0005     5 [UNITS 0-1-4-5
356 0450     AZE
357 6303     JMP 3R [ILLEGAL
360 1305     LDH 5
361 0243     ROL 3
362 1073 #3Q STA i 13 [ENTRY OK
363 1000     LDA
364 0006     6
365 1460     SAE i
366 0506     3A+4
367 6151     JMP 3D-4 [DO NEXT SET
          [TAPE PRESET
370 0073 #3V SET i 13
371 0513     3C+4
372 1033     LDA i 13 [# BLKS
373 0470     AZE i
374 6015     JMP 15 [0 BLKS
375 0017     COM
376 4060     STC 1F
377 1013     LDA 13
400 4431     STC 3W+1
401 6430     JMP 3W
402 1013     LDA 13 [RDC BN
403 4030     STC 1R
404 1033     LDA i 13 [RDC UNIT
405 1140     ADM
406 0027     1R-1 [RDC i u
407 2036     ADD 2N [-15
410 4036     STC 2N [MTB u
411 6430     JMP 3W
412 1013     LDA 13 [WRI BN
413 1040     STA
414 0046     2B
415 4062     STC 1F+2 [CHK BN

```

```

P  CONT
416 1033    LDA i 13 [WRI UNIT
417 1140    ADM
420 0045    2B-1 [WRI i u
421 2135    ADD 2X+7 [1
422 1040    STA
423 0061    1F+1 [CHK i u
424 1140    ADM
425 0054    2P [MTB u
426 4134    STC 2X+6 [MOTION
427 6020    JMP 2M [TRANSFER

[CHECK BOUNDS
430 1020 #3W LDA i
431 0000    NUM BLKS
432 1133    ADA i 13 [BN
433 2275    ADD 3P+7 [-1000
434 0451    APO
435 6000    JMP 0 [OK
436 6015    JMP 15 [OUT OF BOUNDS

[DISPLAY TABLE
437 2642    2642 [COPY
440 4354    4354
441 1213 #6B 1213
442 7777    7777
443 7777    7777
444 1425    1425 [BLOCKS
445 3742    3742
446 2636    2636
447 4612    4612
450 3145    3145 [FROM
451 4240    4240
452 1425    1425 [BLOCK
453 3742    3742
454 2636    2636
455 1413 #6C 1413
456 7777    7777
457 7712    7712
460 5041    5041 [UNIT
461 3447    3447
462 1413    1413
463 7777    7777
464 7763    7763 [,
465 1247    1247 [TO
466 4214    4214
467 2537    2537 [BLOCK
470 4226    4226
471 3614 #6E 3614
472 1377    1377
473 7777    7777
474 1250    1250 [UNIT
475 4134    4134
476 4714    4714
477 1377    1377
500 7777    7777
501 1200    1200
502 7772 #3A -5
503 7773    -4

```

P CONT
 504 7775 -2
 505 7773 -4
 506 7775 -2
 507 0441 #3C 6B
 510 0455 6C
 511 0462 6C+5
 512 4471 4I6E
 513 4476 4I6E+5
 514 1640 NUMBER BLOCKS
 515 1240 FROM BLOCK
 516 0000 UNIT
 517 0000 TO BLOCK
 520 0000 UNIT
 =642

MEMNEMONICS

642 4746
 †TS‡
 643 4046
 †MS‡
 644 4627
 †SD‡
 645 3653
 †KX‡
 646 3745
 †LR‡
 647 4545
 †RR‡
 650 4546
 †RS‡
 651 3746
 †LS‡
 652 4346
 †PS‡
 653 4542
 †RO‡
 654 0000 0 UNDEFINED
 655 2537
 †BL‡ [LOWER MEMORY BANK
 656 2550
 †BU‡ [UPPER MEMORY BANK
 657 4340
 †PM‡
 660 4740
 †TM‡ [MAG TAPE TWO=740
 661 2437
 †AL‡
 662 2446
 †AS‡
 663 2424
 †AA‡
 664 4024
 †MA‡
 665 4037
 †ML‡
 666 3740
 †LM‡

P CONT
667 3337

670 3346

671 2746

672 3046

673 4246

674 3725

675 3025

676 4225

677 0000

700 2627

701 2724

702 2646

703 4335

†HL‡

†HS‡

†DS‡

†ES‡

†OS‡

†LB‡

†EB‡

†OB‡

0

†GD‡

†DA‡

†CS‡

†PJ‡

[SUBSTITUTE MNEMONICS

704 4733

705 2455

706 3430

707 4526

710 4524

711 2445

712 4341

713 4026

714 4736

715 4646

716 4143

717 3024

720 4224

721 3037

722 5534

†TH‡

†AZ‡

†IE‡

†RC‡

†RA‡

†AR‡

†PN‡

†MC‡

†TK‡

†SS‡

†NP‡

†EA‡

†OA‡

†EL‡

†ZI‡

P	CONT	
723	3142	
		↑FO↓
724	5555	
		↑ZZ↓
725	2645	
		↑CR↓
726	3245	
		↑GR↓
727	3045	
		↑ER↓
730	2540	
		↑BM↓
731	2652	
		↑CW↓
732	3252	
		↑GW↓
733	3452	
		↑IW↓
734	3626	
		↑KC↓
735	2736	
		↑DK↓
736	5245	
		↑WR↓
737	5237	

↑WL↓

[CODES

740	2000	#6G ADD
741	4000	STC
742	6000	JMP
743	0000	HLT
744	0005	ZTA
745	0010	ENI
746	0011	CLR
747	0014	ATR
750	0015	RTA
751	0016	NOP
752	0017	COM
753	0415	KST
754	0440	SNS
755	0446	PIN
756	0450	AZE
757	0451	APO
760	0452	LZE
761	0453	IBZ
762	0454	OVF
763	0455	ZZZ
764	0700	RDC
765	0701	RCG
766	0702	RDE
767	0703	MTB
770	0704	WRC
771	0705	WCG
772	0706	WRI
773	0707	CHK
774	0515	KBD

P CONT

775 0516 RSW

776 0517 #8Z LSW

6A=2001 [GRID PATTERNS

7D=300

7E=0

[MNEMONICS STAY WITH COPY

[LAP6 COPY

VALUE	LINE	VALUE	LINE
1A	1045	1112	4D 0653 720
1B	1071	1137	4E 0230 246
1C	1077	1146	4F 0212 223
1D	1122	1172	4G 0215 227
1E	1125	1176	4H 0217 232
1F	1236	1314	4J 0222 236
1G	1262	1344	4K 0225 242
1H	1105	1154	4L 0247 270
1J	1220	1274	4N 0644 710
1K	1251	1331	4P 0243 263
1L	0317	344	4Q 0567 632
1M	1244	1323	4R 0611 655
1N	1257	1340	6A 2642 1461
1P	0457	512	6B 2000 1624
1Q	1154	1226	6C 2700 1517
1R	1167	1242	6D 2400 1625
1S	1322	1405	6E 2432 1626
1T	0544	603	6F 2352 1627
1U	1304	1367	6G 2740 1561
1X	1234	1311	6H 2371 1630
1Y	1002	1046	7A 0350 1620
1Z	1067	1134	7B 0000 1621
2A	0033	25	7D 0300 1622
2B	0046	41	7E 0000 1623
2C	0065	61	8Z 2776 1617
2D	0117	115	9A 1344 1432
2E	0126	126	9B 1335 1422
2F	0251	273	9J 0771 1631
2G	0743	1013	9M 0557 617
2H	0164	172	9N 0563 624
2J	0123	122	
2K	0152	156	
2M	0134	135	
2N	0713	762	
2P	0724	773	
2Q	0272	314	
2R	0303	325	
2S	0307	332	
2T	0663	731	
2U	0115	112	
2V	0137	141	
2W	0232	251	
2X	0511	547	
2Y	0200	206	
2Z	0022	13	
3A	0314	341	
3B	0351	377	
3C	0372	421	
3D	0403	433	
3E	0416	447	
3F	0454	507	
3G	0464	520	
3H	0475	532	
3J	0512	550	
3K	0540	576	
3L	0346	373	
4A	0203	212	
4B	0207	217	
4C	0674	742	

P CONT

[LAP6 CONVERT
[BLOCKS 330-332
[QUARTERS 0-2
[PASS II

 @15
15 0701 RCG 7E
16 1310 117D+10 [DISPLAY
17 0016 NOP
20 0720 RDC i 7E
21 2347 217D+47 [BIN TO 02
22 6314 #2Z JMP 3A
23 0435 KST i
24 6653 JMP 4D [RETURN
25 0044 SET 4
26 0003 3
27 6033 JMP 2A
30 6022 JMP 2Z
31 6663 JMP 2T
32 6022 JMP 2Z

[LINE DECODE

33 0057 #2A SET 17
34 0000 0
35 0011 CLR
36 4511 STC 2X
37 4200 STC 2Y
40 0066 SET i 6
41 0247 4L
42 0072 SET i 12
43 7774 -3 [CONSTANT
44 0073 SET i 13
45 6135 JMP 2M+1

[CHARACTER CHECK

46 1323 #2B LDH i 3
47 0070 SET i 10
50 4243 4P+4000
51 1430 SHD i 10
52 6126 JMP 2E [COMMENT
53 1430 SHD i 10
54 6203 JMP 4A [a
55 1430 SHD i 10
56 6132 JMP 2E+4 [=
57 1430 SHD i 10
60 6137 JMP 2V [+
61 1430 SHD i 10
62 6207 JMP 4B [77
63 1430 SHD i 10
64 6123 JMP 2J [u

[CHECK NUMBER

65 6404 #2C JMP 3D+1
66 6251 JMP 2F
67 6416 JMP 3E
70 6164 JMP 2H
71 1620 BSE i
72 0300 ROR
73 4075 STC P+2
74 1011 LDA 11

```

P   CONT
75 0450      ROTATE N
76 0451      APO
77 6115      JMP 2U
          [UNDEFINED
100 1000     LDA
101 0200     2Y
102 0303     ROR 3
103 1361     STH i 1
104 1303     LDH 3
105 1361     STH i 1
106 1000     LDA
107 0317     1L
110 1061     STA i 1
111 1020     LDA i
112 7777     -0
113 1061     STA i 1
114 6475     JMP 3H
115 1010 #2U LDA 10
116 6013     JMP 13
          [SPECIAL CHARACTER
117 1120 #2D ADA i
120 6243     2W+6000+11
121 4122     STC P+1
122 0140     JUMP TO DISPATCHER
          [u
123 1020 #2J LDA i
124 0010     10
125 6013     JMP 13
          [COMMENT, EQUALITY
126 1324 #2E LDH i 4
127 1460     SAE i
130 0066     66
131 0237     XSK i 17
132 6464     JMP 3G
133 6017     JMP 17
          [BETA 13 RETURN
134 0017 #2M COM
135 2511     ADD 2X
136 6036     JMP 2A+3
          [TEXT
137 6557 #2V JMP 9M
140 7000     JMP 1000 [LIST
141 6512     JMP 3J [TEXT COUNT
142 6147     JMP P+5 [i
143 6152     JMP 2K [EOL
144 6160     JMP 2K+6 [77
145 6663     JMP 2T [2 CHARS
146 6141     JMP 2V+2
          [i=71, END TEXT
147 0233     XSK i 13
150 6132     JMP 2E+4 [NO ASSIGNMENT
151 6131     JMP 2E+3
          [EOL IN TEXT
152 0072 #2K SET i 12
153 6142     JMP 2V+3
154 6314     JMP 3A [CHECK MS

```

```

P CONT
155 0233 XSK i 13
156 6523 JMP 3J+11
157 6145 JMP 2V+6 [ASSIGN
[77 IN TEXT
160 0233 XSK i 13
161 6207 JMP 4B [NO ASSIGN
162 6663 JMP 2T
163 6207 JMP 4B
[NUMBER, NOT TAG
164 1303 #2H LDH 3
165 1420 SHD i
166 1400 1400
167 6372 JMP 3C
170 6404 JMP 3D+1
171 6173 JMP P+2
172 6167 JMP P-3
173 1020 LDA i
174 3777 -4000 [CONSTANT
175 1140 ADM
176 0003 3
177 1020 LDA i
200 0000 #2Y NUMBER
201 0303 ROR 3
202 6013 JMP 13
[ $\square$ 
203 6351 #4A JMP 3B
204 6557 JMP 9M
205 6017 JMP 17 [LIST
206 6567 JMP 4Q [CONVERT
[77-PREPARE SAVE BIN
207 6557 #4B JMP 9M
210 7400 JMP 1400 [LIST
211 6611 JMP 4R [CONVERT
[i
212 1020 #4F LDA i
213 0020 20 [CONSTANT
214 6013 JMP 13
[P
215 2457 #4G ADD 1P
216 6013 JMP 13
[-
217 0073 #4H SET i 13
220 6134 JMP 2M
221 6046 JMP 2B
[I
222 2511 #4J ADD 2X
223 0303 ROR 3
224 6036 JMP 2A+3
[TAG
225 6372 #4K JMP 3C
226 1323 LDH i 3
227 6046 JMP 2B
[EOL
230 0237 #4E XSK i 17
231 6017 JMP 17
[DISPATCHER

```

```

P  CONT
232 6230 #2W JMP 4E
233 6046     JMP 2B [DEL
234 6046     JMP 2B
235 6212     JMP 4F
236 6215     JMP 4G
237 6217     JMP 4H
240 6044     JMP 2B-2
241 6222     JMP 4J
242 6225     JMP 4K
      [CHARACTER TABLE
243 0022 #4P 0022
244 6665     6665
245 6170     6170
246 7762     7762
      [SAVE LETTERS
247 0000 #4L 0
250 0000     0
      [CHECK LETTER
251 1120 #2F ADA i
252 7765     -12
253 0451     APO
254 6117     JMP 2D
255 1303     LDH 3
256 1366     STH i 6
257 0232     XSK i 12
260 6046     JMP 2B
261 0246     ROL 6
262 2247     ADD 4L
263 0066     SET i 6
264 7700     6A-6G-1
265 0072     SET i 12
266 2641     6A-1
267 0226     XSK i 6
270 6272     JMP 2Q
271 6040     JMP 2B-6
272 1472 #2Q SAE i 12
273 6267     JMP 2Q-3
274 1020     LDA i
275 0077     6G-6A+1
276 2006     ADD 6
277 1120     ADA i
300 7740     6A-6C-1
301 0471     APO i
302 6307     JMP 2S
303 1120 #2R ADA i
304 0037     6C-6A+1
305 0245     ROL 5
306 6013     JMP 13
      [SUBSTITUTE
307 1120 #2S ADA i
310 2737     6G-1
311 4006     STC 6
312 1006     LDA 6
313 6013     JMP 13
      [CONVERT SUBROUTINES
      [MS ADDRESS CHECK

```



```

P  CONT
314 1020 #3A LDA i
315 0001      1      [CONSTANT
316 1160      ADM i
317 0000 #1L 0
320 1000      LDA
321 0003      3
322 1560      BCL i
323 4000      4000
324 1120      ADA i
325 4400      -3377
326 0451      APO
327 6000      JMP 0
330 0720      RDC i 7B
331 6350      617A
332 2331      ADD P-1
333 1120      ADA i
334 1001      1001
335 0451      APO
336 4340      STC P+2
337 0700      RDC 7B
340 7777      71777
341 2331      ADD P-10
342 2315      ADD 3A+1
343 4331      STC P-12
344 2003      ADD 3
345 1120      ADA i
346 7377 #3L -400
347 4003      STC 3
350 6000      JMP 0

[ a
351 0050 #3B SET 10
352 0000      0
353 6372      JMP 3C
354 6401      JMP 3D-2
355 6362      JMP P+5
356 6372      JMP 3C
357 6404      JMP 3D+1
360 6362      JMP P+2
361 6356      JMP P-3
362 1000      LDA
363 0200      2Y
364 0303      ROR 3
365 1560      BCL i
366 4000      4000
367 4457      STC 1P
370 6464      JMP 3G
371 6010      JMP 10

[SPACE AVOID
372 0051 #3C SET 11
373 0000      0
374 1323      LDH i 3
375 1420      SHD i
376 1400      1400
377 6374      JMP 3C+2
400 6011      JMP 11

[NUMBER CHECK

```

```

P CONT
401 0011 CLR
402 4200 STC 2Y
403 1303 #3D LDH 3
404 1120 ADA i
405 7766 -11
406 0471 APO i
407 6000 JMP 0
410 1303 LDH 3
411 2200 ADD 2Y
412 0243 ROL 3
413 4200 STC 2Y
414 0220 XSK i 0
415 6000 JMP 0
      [SYMBOL CHECK
416 1323 #3E LDH i 3
417 1120 ADA i
420 7754 -23
421 0451 APO
422 6000 JMP 0
423 1120 ADA i
424 7745 -32
425 0471 APO i
426 6000 JMP 0
427 1000 LDA
430 0200 2Y
431 0470 AZE i
432 6000 JMP 0
433 0303 ROR 3
434 1260 MUL i
435 0032 32
436 1120 ADA i
437 1722 6B-32-24
440 4010 STC 10
441 1303 LDH 3
442 2010 ADD 10
443 4010 STC 10
      [FIND MARK REGISTER
444 1303 LDH 3
445 1120 ADA i
446 2354 6D-24
447 4011 STC 11
450 2200 ADD 2Y
451 0303 ROR 3
452 0220 XSK i 0
453 6000 JMP 0
      [UP P
454 1020 #3F LDA i
455 0001 1
456 1160 ADM i
457 0020 #1P 20
460 1560 BCL i
461 4000 4000
462 4457 STC 1P
463 6000 JMP 0
      [FIND EOL
464 0051 #3G SET 11

```

```

P   CONT
465 0000      0
466 1020     LDA i
467 0012      12
470 1403     SHD 3
471 6011     JMP 11
472 1423     SHD i 3
473 6011     JMP 11
474 6472     JMP P-2
      [ERROR TABLE ADDRESS CHECK
475 1020 #3H LDA i
476 0004      4
477 2001     ADD 1
500 4502     STC P+2
501 1440     SAE
502 0452     NEXT SLOT STILL ZERO?
503 0451     APO
504 6000     JMP 0
505 2001     ADD 1
506 2043     ADD 2B-3 [-3
507 4001     STC 1
510 6000     JMP 0
      [TEXT COUNT
511 0000 #2X 0 [FOR ASSIGN
512 0052 #3J SET 12
513 0000      0
514 0073     SET i 13
515 7775     -2          [CONSTANT
516 0074     SET i 14
517 4510     2X-1+4000
520 1020     LDA i
521 1414     1414
522 4511     STC 2X
523 1323     LDH i 3
524 1420     SHD i
525 7100     7100 [
526 6543     JMP 3K+3
527 1420     SHD i
530 7700     7700
531 6541     JMP 3K+1
532 1374     STH i 14
533 1420     SHD i
534 1200     1200
535 6542     JMP 3K+2
536 0233     XSK i 13
537 6523     JMP 3J+11
540 0232 #3K XSK i 12
541 0232     XSK i 12
542 0232     XSK i 12
543 6012     JMP 12
      [PASS PRESET
544 1020 #1T LDA i
545 6350     617A
546 4331     STC 1L+12
547 4317     STC 1L
550 2213     ADD 4F+1
551 4457     STC 1P

```

```

P  CONT
552 0063      SET i 3
553 7401      7401
554 0062      SET i 2
555 1017      1017
556 6000      JMP 0
          ICHECK LIST
557 1520 #9M SRO i
560 7777      7777
561 0220      XSK i 0 I CONVERT
562 6000      JMP 0 I LIST
          I LIST-PASS II
563 6544 #9N JMP 1T I PASS PRESET
564 0720      RDC i 7E
565 2327      217D+27
566 7001      JMP 1001
          I DO NOT CHANGE ANYTHING BEFORE THIS POINT WITHOUT ALSO
          CHANGING LIST
          I ORIGIN-CONVERT
567 1000 #4Q LDA
570 0457      1P
571 1560      BCL i
572 7000      7000
573 2707      ADD 4C+13 I 777
574 4002      STC 2
575 2457      ADD 1P
576 0350      SCR 10
577 1560      BCL i
600 0001      1
601 2721      ADD 2P-3
602 1400      SHD
603 4746      2G+3+4000
604 6610      JMP P+4
605 4724      STC 2P
606 6743      JMP 2G
607 6713      JMP 2N
610 6017      JMP 17
          I 77-CONVERT. PREPARE FOR SB
611 1000 #4R LDA
612 0674      4C
613 0470      AZE i
614 6653      JMP 4D
615 0071      SET i 11
616 7764      -13
617 0241      ROL 1
620 0451      APO
621 6624      JMP P+3
622 0231      XSK i 11
623 6617      JMP P-4
624 0070      SET i 10
625 0000      0
626 1500      SRO
627 0674      4C
630 6634      JMP P+4
631 0231      XSK i 11
632 0230      XSK i 10
633 6626      JMP P-5

```

```

P  CONT
634 1000   LDA
635 0010   10
636 0303   ROR 3
637 4012   STC 12
640 6743   JMP 2G [WRITE BINARY
641 0724   WRC i 7E
642 0330   7D+30
643 1020   LDA i
644 0000 #4N LAST MEM
645 5000   STC 1000
646 2001   ADD 1
647 5001   STC 1001
650 0720   RDC i 7E
651 3334   317D+34 [READ LNS
652 6015   JMP 15
      [NO BINARY
653 0011 #4D CLR
654 4011   STC 11
655 4010   STC 10
656 0724   WRC i 7E
657 0330   7D+30
660 0076   SET i 16
661 7300   717D
662 6015   JMP 15
      [ASSIGNMENT SR
663 1000 #2T LDA
664 0457   1P
665 0350   SCR 10
666 1620   BSE i
667 0240   ROL
670 4672   STC P+2
671 2315   ADD 3A+1
672 0450   ROTATE N
673 1620   BSE i
674 0000 #4C 0
675 4674   STC P-1
676 1000   LDA
677 0511   2X [ASSIGN
700 0053   SET 13
701 0000   0
702 1062   STA i 2
703 6454   JMP 3F
704 0202   XSK 2
705 6013   JMP 13
706 0062   SET i 2
707 0777   777 [CONSTANT
710 6743   JMP 2G
711 6713   JMP 2N
712 6013   JMP 13
      [RDC BINARY
713 0047 #2N SET 7
714 0000   0
715 2457   ADD 1P
716 0450   AZE
717 6723   JMP P+4
720 1020   LDA i

```

P	CONT	
721	2340	217D+40
722	4724	STC 2P
723	0720	RDC i 7E
724	2342	#2P 217D+42
725	2724	ADD P-1
726	2750	ADD 2G+5
727	4731	STC P+2
730	0720	RDC i 7E
731	0000	FOURTH BIN BLK
732	2724	ADD 2P
733	1040	STA
734	0746	2G+3
735	1040	STA
736	0756	2G+13
737	1120	ADA i
740	0002	2
741	4724	STC 2P
742	6007	JMP 7
		[BINARY FULL
743	0047	#2G SET 7
744	0000	0
745	0726	WRI i 7E
746	2340	217D+40
747	1020	LDA i
750	1001	1001 [CONSTANT
751	2746	ADD P-3
752	4754	STC P+2
753	0726	WRI i 7E
754	0713	2ND BIN BLK
755	0727	CHK i 7E
756	2340	217D+40
757	0450	AZE
760	6745	JMP 2G+2
761	2315	ADD 3A+1
762	2756	ADD P-4
763	4765	STC P+2
764	0727	CHK i 7E
765	0713	2ND BIN BLK
766	0450	AZE
767	6745	JMP 2G+2
770	6007	JMP 7
		[PASS I
		B1000
1000	7335	JMP 9B [LIST WA
1001	7344	JMP 9A [LIST FILE
		[CLEAR TABLES
1002	0061	#1Y SET i 1
1003	2776	8Z [LAST MNEMONIC
1004	0062	SET i 2
1005	0134	8Z-6A [LENGTH OF MNEMONIC TABLE
1006	0720	RDC i 7E
1007	5337	517D+37
1010	0011	CLR
1011	1061	STA i 1
1012	0222	XSK i 2
1013	7011	JMP P-2

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```

P   CONT
1014 0061   SET i 1
1015 1377   1377
1016 1061   STA i 1
1017 0201   XSK 1
1020 7016   JMP P-2
1021 0017   COM
1022 0061   SET i 1
1023 2351   6F-1
1024 0062   SET i 2
1025 7751   -26
1026 1061   STA i 1
1027 0222   XSK i 2
1030 7026   JMP P-2
1031 0065   SET i 5
1032 2352   6F
1033 6544   JMP 1T
1034 4674   STC 4C
1035 0061   SET i 1
1036 6431   6E-4000
1037 1000   LDA
1040 0457   1P
1041 1045   STA 5
      [CHARACTER CHECK
1042 6314   JMP 3A
1043 0044   SET 4
1044 0003   3
1045 1323 #1A LDH i 3
1046 0070   SET i 10
1047 0243   4P [CHAR TABLE
1050 1430   SHD i 10
1051 7122   JMP 1D [#
1052 1430   SHD i 10
1053 7071   JMP 1B [COMMENT
1054 1430   SHD i 10
1055 7077   JMP 1C [=
1056 1430   SHD i 10
1057 7125   JMP 1E [=
1060 1430   SHD i 10
1061 7236   JMP 1F [+
1062 1430   SHD i 10
1063 7262   JMP 1G [77
1064 1460   SAE i
1065 0012   12
1066 7045   JMP 1A
1067 6454 #1Z JMP 3F
1070 7042   JMP 1A-3
      [COMMENT
1071 6464 #1B JMP 3G
1072 1324   LDH i 4
1073 1460   SAE i
1074 0066   66
1075 7067   JMP 1Z
1076 7042   JMP 1A-3
      [B
1077 1000 #1C LDA
1100 0457   1P

```

```

P   CONT
1101 1445      SAE 5
1102 7105      JMP 1H
1103 6351      JMP 3B
1104 7037      JMP 1A-6
1105 2174 #1H  ADD 2Y-4
1106 1560      BCL i
1107 4000      4000 [CONSTANT
1110 1065      STA i 5
1111 0225      XSK i 5
1112 1000      LDA
1113 0005      5
1114 1460      SAE i
1115 2400      6D
1116 6000      JMP 0
1117 2515      ADD 3J+3
1120 4005      STC 5
1121 6000      JMP 0

[ TAG
1122 7154 #1D  JMP 1Q
1123 7167      JMP 1R
1124 7045      JMP 1A

[ =
1125 0042 #1E  SET 2
1126 0003      3
1127 0043      SET 3
1130 0004      4
1131 7154      JMP 1Q
1132 0043      SET 3
1133 0002      2
1134 0044      SET 4
1135 0002      2
1136 2011      ADD 11
1137 5145      STC P+6
1140 2010      ADD 10
1141 5147      STC P+6
1142 6033      JMP 2A
1143 7042      JMP 1A-3
1144 0071      SET i 11
1145 0000      RESET
1146 0070      SET i 10
1147 0000      RESET
1150 1000      LDA
1151 0511      2X
1152 7171      JMP 1R+2
1153 7042      JMP 1A-3

[ GET #, LETTER SYMBOL
1154 0047 #1Q  SET 7
1155 0000      0
1156 6372      JMP 3C
1157 6401      JMP 3D-2
1160 7234      JMP 1X
1161 6416      JMP 3E
1162 7234      JMP 1X
1163 5175      STC 1R+6
1164 1303      LDH 3
1165 5224      STC 1J+4

```



```

P CONT
1166 6007      JMP 7
                [ASSIGN TO TABLE
1167 1000 #1R LDA
1170 0457      1P
1171 0047      SET 7
1172 0000      0
1173 1050      STA 10
1174 1020      LDA i
1175 0450      NUM ROTATE
1176 1620      BSE i
1177 0240      ROL
1200 5202      STC P+2
1201 3107      ADD 1H+2
1202 0450      ROTATE
1203 1611      BSE 11
1204 1051      STA 11
1205 1020      LDA i
1206 7377      -400
1207 1140      ADM
1210 0010      10
1211 1010      LDA 10
1212 0450      AZE
1213 7220      JMP 1J
1214 2317      ADD 1L
1215 1050      STA 10
1216 6475      JMP 3H
1217 6007      JMP 7
                [MULTIPLE DEFINITION
1220 1000 #1J LDA
1221 1175      1R+6
1222 1361      STH i 1
1223 1020      LDA i
1224 0000      LETTER
1225 1361      STH i 1
1226 1010      LDA 10
1227 1061      STA i 1
1230 1000      LDA
1231 0317      1L
1232 1061      STA i 1
1233 7215      JMP 1J-3
                [IGNORE ILLEGAL =
1234 6464 #1X JMP 3G
1235 7042      JMP 1A-3
                [TEXT
1236 6512 #1F JMP 3J [TEXT COUNT
1237 7244      JMP 1M [i
1240 7251      JMP 1K [EOL
1241 7257      JMP 1N [77
1242 6454      JMP 3F [ASSIGN
1243 7236      JMP 1F
                [i
1244 0233 #1M XSK i 13
1245 7247      JMP P+2 [NO ASSIGN
1246 6454      JMP 3F [ASSIGN
1247 6464      JMP 3G [FIND EOL
1250 7042      JMP 1A-3

```

```

P   CONT
    [TEXT EOL
1251 0072 #1K SET i 12
1252 7237     JMP 1F+1
1253 6314     JMP 3A [CHECK MS
1254 0233     XSK i 13
1255 6523     JMP 3J+11
1256 7242     JMP 1F+4 [ASSIGN

    [TEXT 77
1257 0233 #1N XSK i 13
1260 7262     JMP 1G
1261 6454     JMP 3F [ASSIGN

    [77
1262 6557 #1G JMP 9M
1263 6563     JMP 9N
1264 1000     LDA
1265 0457     1P
1266 1445     SAE 5
1267 7105     JMP 1H
1270 1020     LDA i
1271 7776     -1
1272 2005     ADD 5
1273 4644     STC 4N
1274 0724     WRC i 7E
1275 3334     317D+34

    [CLEAR AND WRITE BINARY
1276 0065     SET i 5
1277 1377     1377
1300 0011     CLR
1301 1065     STA i 5
1302 0205     XSK 5
1303 7301     JMP P-2
1304 1020 #1U LDA i
1305 3340     317D+40
1306 1040     STA
1307 1322     1S
1310 5312     STC P+2
1311 0726     WRI i 7E
1312 0000     ZERO TO BINARY
1313 1020     LDA i
1314 0001     1
1315 3312     ADD P-3
1316 1460     SAE i
1317 3350     317D+50
1320 7310     JMP 1U+4
1321 0727     CHK i 7E
1322 0000 #1S BINARY
1323 0450     AZE
1324 7304     JMP 1U
1325 3314     ADD 1S-6
1326 1140     ADM
1327 1322     1S
1330 1460     SAE i
1331 3350     317D+50
1332 7321     JMP 1S-1
1333 6544     JMP 1T
1334 6020     JMP 20

```

P CONT

[LIST PRESET
[WORKING AREA

```

1335 1000 #9B LDA
1336 2371      6H
1337 4771      STC 9J
1340 1000      LDA
1341 2372      6H+1
1342 4772      STC 9J+1
1343 7347      JMP 9A+3

[FILE
1344 0720 #9A RDC i 7E
1345 0330      7D+30
1346 0011      CLR
1347 4560      STC 9M+1
1350 3377      ADD 1377
1351 1620      BSE i
1352 6000      6000
1353 4545      STC 1T+1
1354 3376      ADD 1376
1355 1040      STA
1356 0337      3L-7
1357 1620      BSE i
1360 0020      i [RDC i u
1361 4330      STC 1L+11
1362 1020      LDA i
1363 0016      NOP
1364 5034      STC 1A-11
1365 7002      JMP 1Y [PASS I
                B1376
1376 0700      RDC 7B
1377 0350      7A
                B2642
    
```

[MNEMONICS

```

2642 4746      #6A ↑TS↓
2643 4046      ↑MS↓
2644 4627      ↑SD↓
2645 3653      ↑KX↓
2646 3745      ↑LR↓
2647 4545      ↑RR↓
2650 4546      ↑RS↓
2651 3746      ↑LS↓
2652 4346      ↑PS↓
2653 4542      ↑RO↓
2654 0000      0 [UNDEFINED
2655 0000      0
2656 0000      0
    
```

P	CONT	
2657	4340	
2660	4740	↑PM↓
2661	2437	↑TM↓ IMAG TAPE TWO=740
2662	2446	↑AL↓
2663	2424	↑AS↓
2664	4024	↑AA↓
2665	4037	↑MA↓
2666	3740	↑ML↓
2667	3337	↑LM↓
2670	3346	↑HL↓
2671	2746	↑HS↓
2672	3046	↑DS↓
2673	4246	↑ES↓
2674	3725	↑OS↓
2675	3025	↑LB↓
2676	4225	↑EB↓
2677	0000	↑OB↓
2700	2627	0
2701	2724	#6C ↑CD↓
2702	2646	↑DA↓
2703	4335	↑CS↓
2704	4733	↑PJ↓
		[SUBSTITUTE MNEMONICS
2705	2455	↑TH↓
2706	3430	↑AZ↓
2707	4526	↑IE↓
2710	4524	↑RC↓
2711	2445	↑RA↓
2712	4341	↑AR↓
		↑PN↓

P	CONT	
2713	4026	
		↑MC↓
2714	4736	
		↑TK↓
2715	4646	
		↑SS↓
2716	4143	
		↑NP↓
2717	3024	
		↑EA↓
2720	4224	
		↑OA↓
2721	3037	
		↑EL↓
2722	5534	
		↑ZI↓
2723	3142	
		↑FO↓
2724	5555	
		↑ZZ↓
2725	2645	
		↑CR↓
2726	3245	
		↑GR↓
2727	3045	
		↑ER↓
2730	2540	
		↑BM↓
2731	2652	
		↑CW↓
2732	3252	
		↑GW↓
2733	3452	
		↑IW↓
2734	3626	
		↑KC↓
2735	2736	
		↑DK↓
2736	5245	
		↑WR↓
2737	5237	
		↑WL↓

[CODES

2740	2000	#6G	ADD
2741	4000		STC
2742	6000		JMP
2743	0000		HLT
2744	0005		ZTA
2745	0010		ENI
2746	0011		CLR
2747	0014		ATR
2750	0015		RTA
2751	0016		NOP
2752	0017		COM
2753	0415		KST
2754	0440		SNS

P CONT
 2755 0446 PIN
 2756 0450 AZE
 2757 0451 APO
 2760 0452 LZE
 2761 0453 IBZ
 2762 0454 OVF
 2763 0455 ZZZ
 2764 0700 RDC
 2765 0701 RCG
 2766 0702 RDE
 2767 0703 MTB
 2770 0704 WRC
 2771 0705 WCG
 2772 0706 WRI
 2773 0707 CHK
 2774 0515 KBD
 2775 0516 RSW
 2776 0517 #8Z LSW

7A=350

7B=0

7D=300

7E=0

6B=2000 [SYMBOL ASSIGNMENTS

6D=2400 [MARK REGISTERS

6E=2432 [ERRORS

6F=2352 [MEMORY ALLOCATION

6H=2371 [PARTIAL NUMBERS

9J=771

[LAP6 CONVERT

	VALUE	LINE
4A	0525	520
5A	0021	13
5B	0140	135
5C	0223	225
5D	0152	150
5E	0160	157
5F	0217	220
5G	0214	215
5H	0210	210
5J	0200	177
5K	0042	35
5L	0302	307
5M	0237	242
5P	0265	271
5Q	0074	70
5R	0055	50
5S	0325	332
5T	0257	262
5U	0104	100
5V	0117	113
5W	0327	336
5X	0513	514
5Y	0502	512
5Z	0476	510
6B	2000	664
6E	2432	665
6F	2352	666
6J	0337	346
6K	0365	374
6L	0377	407
6M	0411	421
6N	0431	441
6P	0452	463
6R	0461	472
7D	0300	670
7E	0000	667

P CONT

[LAP6 CONVERT DISPLAYS
 [BLOCKS 310-311
 [QUARTERS 0-1
 #14

14 6452 JMP 6P [DS META
 15 0701 RCG 7E
 16 1310 117D+10
 17 0076 SET i 16
 20 7300 717D

[DISPLAY ERRORS

21 1000 #5A LDA
 22 2432 6E
 23 0471 APO i
 24 0450 AZE
 25 6074 JMP 5Q [ERRORS

[MEMORY ALLOCATION

26 1000 LDA
 27 2352 6F
 30 0451 APO
 31 6327 JMP 5W [NO MEM ALLOCATE
 32 0052 SET 12
 33 1000 1000 [LAST ALLOCATE ADDRESS
 34 0073 SET i 13
 35 2351 6F-1
 36 0074 SET i 14
 37 0024 24
 40 0063 SET i 3
 41 2351 6F-1
 42 0064 #5K SET i 4
 43 4501 5Y-4000
 44 0061 SET i 1
 45 0114 114
 46 6140 JMP 5B [DISPLAY LABEL
 47 0044 SET 4
 50 0003 3
 51 0071 SET i 11
 52 7765 -12
 53 0070 SET i 10
 54 0200 200
 55 0061 #5R SET i 1
 56 0234 234
 57 1024 LDA i 4
 60 0451 APO
 61 6042 JMP 5K
 62 6161 JMP 5E+1
 63 1020 LDA i
 64 0036 36 [-
 65 6224 JMP 5C+1
 66 6160 JMP 5E
 67 6302 JMP 5L [LINE LOWER
 70 6327 JMP 5W [EOL
 71 0231 XSK i 11
 72 6055 JMP 5R
 73 6042 JMP 5K

[ERRORS

74 0052 #5Q SET 12


```

P  CONT
75 1001      1001
76 0073      SET i 13
77 2431      6E-1 [BEGIN ERRORS
100 0074     SET i 14
101 0036     36
102 0063     SET i 3
103 6431     6E-4000
104 0064 #5U SET i 4
105 4475     5Z-4000
106 0061     SET i 1
107 0260     260
110 6140     JMP 5B [DISPLAY LABEL
111 0044     SET 4
112 0003     3
113 0071     SET i 11
114 7765     -12
115 0070     SET i 10
116 0200     200
117 0061 #5V SET i 1
120 0164     164
121 1324     LDH i 4
122 0470     AZE i
123 6104     JMP 5U
124 6152     JMP 5D [DISPLAY SYMBOL
125 6210     JMP 5H [SPACE
126 6160     JMP 5E
127 6210     JMP 5H
130 1024     LDA i 4
131 0450     AZE
132 6161     JMP 5E+1 [2ND LINE
133 6302     JMP 5L
134 6026     JMP 5A+5 [EOL
135 0231     XSK i 11
136 6117     JMP 5V
137 6104     JMP 5U
      [DISPLAY LABEL
140 0070 #5B SET i 10
141 0300     300
142 0045     SET 5
143 0000     0
144 1324     LDH i 4
145 1420     SHD i
146 1200     1200
147 6005     JMP 5
150 6223     JMP 5C
151 6144     JMP 5B+4
      [DISPLAY SYMBOL
152 0045 #5D SET 5
153 0000     0
154 6223     JMP 5C
155 1324     LDH i 4
156 6223     JMP 5C
157 6005     JMP 5
      [DISPLAY LINE NUMBER
160 1024 #5E LDA i 4
161 0045     SET 5

```

```

P   CONT
162 0000      0
163 0241     ROL 1
164 4217     STC 5F
165 6214     JMP 5G
166 0450     AZE
167 6200     JMP 5J
170 6210     JMP 5H
171 0450     AZE
172 6202     JMP 5J+2
173 6210     JMP 5H
174 0450     AZE
175 6204     JMP 5J+4
176 6210     JMP 5H
177 6206     JMP 5J+6
200 6224 #5J JMP 5C+1
201 6214     JMP 5G
202 6224     JMP 5C+1
203 6214     JMP 5G
204 6224     JMP 5C+1
205 6214     JMP 5G
206 6224     JMP 5C+1
207 6005     JMP 5
      [LEADING ZEROS
210 1020 #5H LDA i
211 0024      24
212 2001     ADD 1
213 4001     STC 1
      [GET DIGIT
214 2217 #5G ADD 5F
215 0243     ROL 3
216 1060     STA i
217 0000 #5F NUMBER
220 1560     BCL i
221 7761     7761
222 6000     JMP 0
      [DISPLAY
223 0241 #5C ROL 1
224 1120     ADA i
225 0525     4A [GRID PATTERNS
226 4006     STC 6
227 2010     ADD 10
230 1746     DSC 6
231 1766     DSC i 6
232 1020     LDA i
233 0004      4
234 2001     ADD 1
235 4001     STC 1
236 6000     JMP 0
      [FORWARD 1 FRAME
237 1000 #5M LDA
240 0014      14
241 2003     ADD 3
242 1060     STA i
243 0000     NEW FRAME
244 1560     BCL i
245 4000     4000

```

```

P CONT
246 0017 COM
247 4254 STC P+5
250 2012 ADD 12
251 1560 BCL 1
252 4000 4000
253 1120 ADA 1
254 0000 WHO KNOWS
255 0451 APO
256 6263 JMP 5T+4
257 0043 #5T SET 3
260 0243 5M+4
261 0071 SET 1 11
262 7776 -1
263 0011 CLR
264 6325 JMP 5S
      [BACK 1 FRAME
265 1000 #5P LDA
266 0014 14
267 0017 COM
270 2003 ADD 3
271 1040 STA
272 0243 5M+4
273 1560 BCL 1
274 4000 4000
275 0017 COM
276 2013 ADD 13
277 0471 APO 1
300 6263 JMP 5T+4
301 6257 JMP 5T
      [LINE LOWER
302 0045 #5L SET 5
303 0000 0
304 1020 LDA 1
305 7740 -37
306 2010 ADD 10
307 4010 STC 10
310 0415 KST
311 6325 JMP 5S
312 0515 KBD
313 1420 SHD 1
314 4500 4500 [R
315 6015 JMP 15
316 0470 AZE 1 [FORWARD
317 6237 JMP 5M
320 1420 SHD 1
321 4400 4400 [Q-BACKWARD
322 6265 JMP 5P
323 1460 SAE 1
324 0012 12
325 0225 #5S XSK 1 5
326 6005 JMP 5
      [SYMBOL TABLE
      [MAKE NEW TABLE
327 0061 #5W SET 1 1
330 6377 2400-4000
331 0062 SET 1 2

```

```

P   CONT
332 1377      1377 [LN TABLE
333 0063      SET i 3
334 0001      1
335 0066      SET i 6
336 7766      -11
337 0064 #6J SET i 4
340 0024      24      [A
341 0065      SET i 5
342 7745      -32
343 1022      LDA i 2
344 0470      AZE i
345 6365      JMP 6K
346 1000      LDA
347 0003      3      [NUMBER
350 1361      STH i 1
351 1000      LDA
352 0094      4      [LETTER
353 1361      STH i 1
354 1020      LDA i
355 0400      400
356 2002      ADD 2
357 4361      STC P+2
360 1000      LDA
361 0000      MEM ASSIGN
362 1061      STA i 1
363 1002      LDA 2 [LN
364 1061      STA i 1
365 0224 #6K XSK i 4 [UP LETTER
366 0225      XSK i 5
367 6343      JMP 6J+4
370 0223      XSK i 3 [UP NUMBER
371 0226      XSK i 6
372 6337      JMP 6J
373 0052      SET 12
374 0001      1
375 0011      CLR
376 1061      STA i 1 [LAST ENTRY
      [DISPLAY SYMBOLS
377 0073 #6L SET i 13
400 2377      2400-1 [1ST ENTRY
401 0074      SET i 14
402 0036      36
403 1000      LDA
404 2400      2400
405 0470      AZE i
406 6015      JMP 15 [NO SYMBOLS
407 0063      SET i 3
410 6377      2400-4000
411 0064 #6M SET i 4
412 4512      5X-4000
413 0061      SET i 1
414 0260      260
415 6140      JMP 5B [1ST LABEL
416 0061      SET i 1
417 0210      210
420 0070      SET i 10

```

```

P   CONT
421 0240      240
422 6142      JMP 5B+2 [2ND LABEL
423 0044      SET 4
424 0003      3
425 0071      SET i 11
426 7765      -12
427 0070      SET i 10
430 0200      200
431 0061 #6N SET i 1
432 0114      114
433 1324      LDH i 4
434 0470      AZE i
435 6411      JMP 6M
436 6152      JMP 5D [DISPLAY SYMBOL
437 6210      JMP 5H [SPACE
440 6160      JMP 5E [VALUE
441 6210      JMP 5H [SPACE
442 6210      JMP 5H
443 6210      JMP 5H
444 6160      JMP 5E [LINE #
445 6302      JMP 5L [LOWER LINE
446 6461      JMP 6R [EOL-SAVE TABLE
447 0231      XSK i 11
450 6431      JMP 6N
451 6411      JMP 6M

      [DISPLAY SYMBOL TABLE META
452 0076 #6P SET i 16
453 7300      717D
454 0720      RDC i 7E
455 3312      317D+12
456 0700      RDC 7E
457 4313      417D+13
460 6327      JMP 5W
461 0726 #6R WRI i 7E
462 3312      317D+12
463 0726      WRI i 7E
464 4313      417D+13
465 0727      CHK i 7E
466 0312      7D+12
467 0450      AZE
470 6461      JMP 6R
471 0727      CHK i 7E
472 0313      7D+13
473 0450      AZE
474 6461      JMP 6R
475 6015      JMP 15

      [LABELS
476 3045
477 4542
500 4546
501 1214 #5Z 1 ERRORS

502 4030
503 4042
504 4554
505 1424

```

```

P CONT
506 3737
507 4226
510 2447
511 3442
512 4112 #SY ↑MEMORY ALLOCATION
      ↓
513 4654
514 4025
515 4237
516 4612 #SX ↑SYMBOLS
517 5124
520 3750
521 3014
522 1437
523 3441
524 3012      VALUE LINE
      ↓
      [GRID PATTERNS
525 4136 #4A 4136 [O
526 3641      3641
527 2101      2101
530 0177      0177
531 4523      4523
532 2151      2151
533 4122      4122
534 2651      2651
535 2414      2414 [4
536 0477      0477
537 5172      5172
540 0651      0651
541 1506      1506
542 4225      4225
543 4443      4443 [7
544 6050      6050
545 5126      5126
546 2651      2651
547 5120      5120
550 3651      3651
551 0000      0000 [EOL
552 0000      0000
553 4020      4020 [DEL
554 2055      2055
555 0000      0000 [SPACE
556 0000      0000
557 0101      0101 [i
560 0126      0126
561 3700      3700 [P
562 3424      3424
563 0404      0404 [-
564 0404      0404
565 0404      0404 [+
566 0437      0437
567 0000      0000 [I
570 0077      0077
571 3614      3614 [#
572 1436      1436

```

P	CONT		
573	0000	0000	[CASE
574	0000	0000	
575	4477	4477	[A
576	7744	7744	
577	5177	5177	
600	2651	2651	
601	4136	4136	
602	2241	2241	
603	4177	4177	[D
604	3641	3641	
605	4577	4577	
606	4145	4145	
607	4477	4477	
610	4044	4044	
611	4136	4136	[G
612	2645	2645	
613	1077	1077	
614	7710	7710	
615	7741	7741	
616	0041	0041	
617	4142	4142	[J
620	4076	4076	
621	1077	1077	
622	4324	4324	
623	0177	0177	
624	0301	0301	
625	3077	3077	[M
626	7730	7730	
627	3077	3077	
630	7706	7706	
631	4177	4177	
632	7741	7741	
633	4477	4477	[P
634	3044	3044	
635	4276	4276	
636	0376	0376	
637	4477	4477	
640	3146	3146	
641	5121	5121	[S
642	4651	4651	
643	4040	4040	
644	4077	4077	
645	0177	0177	
646	7701	7701	
647	0176	0176	[V
650	7402	7402	
651	0677	0677	
652	7701	7701	
653	1463	1463	
654	6314	6314	
655	0770	0770	[Y
656	7007	7007	
657	4543	4543	
660	6151	6151	
661	0404	0404	[META
662	0404	0404	

P CONT
663 2504 2504 [ARROW
664 0416 0416
665 4141 4141 [BACKWARD
666 0077 0077 [COMMENT
667 1212 1212 [=

670 1212 1212
6B=2000
6E=2432
6F=2352
7E=0
7D=300
[LAP6 CONVERT DISPLAYS

VALUE	LINE	VALUE	LINE
1A 0601	634	8S 1666	1334
1B 0204	210	8T 1520	1157
1C 0446	472	8U 1676	1345
1D 0225	232	8V 1574	1237
1E 0332	346	8W 1562	1225
1G 0316	331	8X 1501	1137
1J 0646	710	8Y 1613	1257
1K 0703	750	8Z 1422	1057
1M 0425	447	9J 0771	1025
1N 0735	1005		
1P 0640	701		
1Q 0621	657		
1R 0530	561		
1S 0617	654		
1T 0654	717		
1U 0455	502		
1V 0515	545		
1W 0422	444		
1X 0403	424		
1Y 0712	760		
1Z 0726	775		
2A 0226	234		
2B 0627	666		
2C 0636	676		
2D 0540	572		
2E 0373	412		
2G 0630	667		
2H 0254	263		
2J 0363	401		
2L 0272	302		
2M 0505	533		
2N 0563	615		
5D 0152	155		
5E 0174	177		
5F 0044	42		
5G 0111	110		
5H 0065	63		
5J 0130	131		
5K 0020	15		
5M 0117	117		
5T 0076	75		
6A 2001	1023		
6E 2371	1022		
7A 0350	1444		
7B 0000	1445		
7D 0300	1446		
7E 0000	1447		
7G 0426	1024		
8A 1411	1045		
8B 1417	1053		
8C 1472	1127		
8J 1650	1315		
8K 1637	1304		
8L 1453	1110		
8M 1544	1206		
8N 1552	1214		
8P 1531	1172		
8Q 0136	140		
8R 1523	1163		

P CONT

```

[LAP6 DISPLAY INDEX
[BLOCKS 325-326
[QUARTERS 0-1
[LAP6 PRINT INDEX
[BLOCKS 325-326
[QUARTERS 0-1
[CONVERT WITH TELETYPE
    B15
15 0701    RCG 7E
16 7300    717D
17 6225    JMP 1D [DX
          [PRINT INDEX
20 0720 #5K RDC i 7E
21 1326    117D+26 [2ND Q
22 0720    RDC i 7E
23 3335    317D+35 [TTSRs
24 6204    JMP 1B [READ INDEX
25 7501    JMP 8X
26 6117    JMP 5M
          [PRINT LABEL
27 0062    SET i 2
30 4151    5D-4000
31 7613    JMP 8Y
32 7501    JMP 8X
33 7613    JMP 8Y
34 0062    SET i 2
35 4173    5E-4000
36 7613    JMP 8Y
37 0062    SET i 2
40 7007    7007
41 7501    JMP 8X
42 0073    SET i 13
43 7767    -10
44 1322 #5F LDH i 2
45 1420    SHD i
46 5700    5700
47 6065    JMP 5H [NO ENTRY
50 1420    SHD i
51 7700    7700
52 2127    ADD 5J-1 [63
53 7562    JMP 8W
54 0233    XSK i 13
55 6044    JMP 5F
56 6076    JMP 5T
57 6130    JMP 5J [NO MS
60 7560    JMP 8W-2
61 7560    JMP 8W-2
62 6076    JMP 5T
63 0016    NOP [NO BINARY
64 7501    JMP 8X
65 1000 #5H LDA
66 0002    2
67 1620    BSE i
70 7007    7007
71 4002    STC 2
72 0202    XSK 2

```

```

P   CONT
73 6042      JMP SF-2
74 6117      JMP SM
75 6015      JMP 15
      [GET BN, #BLKS
76 0045      #5T SET 5
77 0000      0
100 1022     LDA i 2
101 1560     BCL i
102 7000     7000
103 4111     STC 5G
104 1022     LDA i 2
105 0451     APO
106 6000     JMP 0 [NO ENTRY
107 7560     JMP 8W-2
110 1020     LDA i
111 2500     #5G BLOCK NUMBER
112 6136     JMP 8Q
113 1002     LDA 2 [#BLKS
114 6136     JMP 8Q
115 0225     XSK i 5
116 6005     JMP 5 [ENTRY, P+2
      [LINE FEED
117 0043     #5M SET 3
120 0000     0
121 0065     SET i 5
122 7766     -11
123 7520     JMP 8T
124 0225     XSK i 5
125 6123     JMP P-2
126 6003     JMP 3
127 7714     -63 [77-63=14
      [NO MS-SPACE OVER
130 0073     #5J SET i 13
131 7766     -11
132 7560     JMP 8W-2
133 0233     XSK i 13
134 6132     JMP P-2
135 6060     JMP 5H-5
      [PRINT NUMBER-LEADING SPACES
136 0044     #8Q SET 4
137 0000     0
140 0450     AZE
141 6144     JMP P+3
142 7562     JMP 8W
143 6004     JMP 4
144 7544     JMP 8M
145 0450     AZE
146 7526     JMP 8R+3
147 7560     JMP 8W-2
150 7552     JMP 8N
151 6144     JMP 8Q+6
      [INDEX LABELS
152 1414     #5D 1414 [MANUSCRIPT
153 1414     1414
154 1414     1414
155 1414     1414

```

```

P   CONT
156 4024      4024
157 4150      4150
160 4626      4626
161 4534      4534
162 4347      4347
163 1414      1414
164 1414      1414
165 2534      2534 [BINARY
166 4124      4124
167 4554      4554
170 1214      1214
171 1441      1441 [NAME
172 2440      2440
173 3014      3014
174 1414 #5E 1414 [BN #BLKS
175 1425      1425
176 4114      4114
177 2225      2225
200 3736      3736
201 4612      4612
202 0720      RDC i 7E
203 1326      117D+26
                [INDEX READ
204 1000 #1B LDA
205 2377      6E+6
206 1140      ADM
207 0212      P+3
210 2374      ADD 2E+1 [4
211 4510      STC 2M+3
212 0701      RCG [UNIT FIXED
213 1426      117G [INDEX BN
214 4506      STC 2M+1
215 2622      ADD 1Q+1
216 4630      STC 2G
217 1000      LDA
220 3000      3000
221 1460      SAE i
222 5757      5757
223 6735      JMP 1N
224 6000      JMP 0
                [DISPLAY INDEX
225 6202 #1D JMP 1B-2
                [COUNT ENTRIES
226 0070 #2A SET i 10
227 3007      3007
230 0072      SET i 12
231 0000      0
232 6373      JMP 2E [UP 10
233 6363      JMP 2J
234 0016      NOP
235 6363      JMP 2J
236 0016      NOP
237 0210      XSK 10
240 6232      JMP 2A+4
241 1000      LDA
242 0012      12

```

```

P  CONT
243 0017    COM
244 1040    STA
245 0011    11
246 2273    ADD 2L+1 [10
247 0451    APO
250 6254    JMP 2H
251 1000    LDA
252 0011    11
253 4630    STC 2G
      [DISPLAY PRESET
254 0052 #2H SET 12
255 0630    2G [-# CURRENT
256 0070    SET 1 10
257 7007    7007
260 0074    SET 1 14
261 6325    JMP 1G+7
262 6373    JMP 2E [UP 10
263 6363    JMP 2J [CHK MS
264 6272    JMP 2L [MS ENTRY
265 6363    JMP 2J [CHK BIN
266 6270    JMP P+2 [BIN ENTRY
267 6262    JMP P-5
270 0074    SET 1 14
271 6316    JMP 1G
      [ONCE PER FRAME
272 0044 #2L SET 4
273 0010    10 [CONSTANT
274 0063    SET 1 3
275 7767    -10
276 1000    LDA
277 0630    2G
300 2273    ADD 2L+1 [10
301 0451    APO
302 6400    JMP 2E+5 [2G MORE THAN 10
303 0017    COM
304 4012    STC 12
      [COMPUTE VERTICAL
305 2401    ADD 2E+6
306 1120    ADA 1
307 0040    40
310 0232    XSK 1 12
311 6306    JMP P-3
312 0043    SET 3
313 0630    2G
314 4425    STC 1M
315 6014    JMP 14
      [ONCE PER LINE
      [BN ENTRY
316 0077 #1G SET 1 17 [BINARY
317 0052    52 [B
320 6403    JMP 1X
321 1020    LDA 1
322 7775    -2
323 1140    ADM
324 0004    4
325 0077    SET 1 17 [MS ENTRY

```

```

P  CONT
326 0100      100      [M
327 6403      JMP 1X
330 6332      JMP 1E
331 6316      JMP 1G
      [CHECK NAME
332 0057 #1E SET 17
333 0000      0
334 1020      LDA i
335 7771      -6
336 1140      ADM
337 0004      4
340 0066      SET i 6
341 7767      -10
342 0061      SET i 1
343 0070      70
344 0045      SET 5
345 0004      4
346 1325      LDH i 5
347 1420      SHD i
350 5700      5700
351 6000      JMP 0
352 6357      JMP P+5
      [DISPLAY NAME
353 1325      LDH i 5
354 1420      SHD i
355 7700      7700
356 6017      JMP 17
357 6712      JMP 1Y
360 0226      XSK i 6
361 6353      JMP P-6
362 6017      JMP 17
      [CHECK ENTRY FOR COUNT
363 0053 #2J SET 13
364 0010      10 [DELETE ADDRESS
365 1030      LDA i 10
366 1030      LDA i 10
367 0471      APO i
370 0232      XSK i 12
371 0220      XSK i 0
372 6000      JMP 0 [P+1 IF ENTRY
      [UP 10
373 1020 #2E LDA i
374 0004      4      [CONSTANT
375 1140      ADM
376 0010      10
377 6000      JMP 0
      [FIX VERTICAL
400 1020      LDA i
401 7500      -277 [CONSTANT
402 6314      JMP 1G-2
      [CHECK ENTRY
403 0046 #1X SET 6
404 0000      0
405 1020      LDA i
406 7776      -1      [CONSTANT
407 1140      ADM

```

```

P   CONT
410 0004      4
411 1004     LDA 4
412 1560     BCL i
413 7000     7000
414 4432     STC 1M+5 [BN
415 1024     LDA i 4
416 0451     APO
417 6000     JMP 0 [NO ENTRY
420 0061     SET i 1
421 0354     354
      [DISPLAY ENTRY
422 1020 #1W LDA i
423 0040     40
424 1160     ADM i
425 0000 #1M VERTICAL
426 1000     LDA
427 0017     17
430 6713     JMP 1Y+1
431 1020     LDA i
432 0000     BN
433 6654     JMP 1T
434 1004     LDA 4 [#BLKS
435 6654     JMP 1T
436 0223     XSK i 3
437 6006     JMP 6
      [LAST NAME
440 1000     LDA
441 0004     4
442 1560     BCL i
443 0002     2
444 4004     STC 4
445 6332     JMP 1E
      [DISPLAY TITLE
446 1020 #1C LDA i
447 0100     100
450 2425     ADD 1M
451 4425     STC 1M
452 6515     JMP 1V
453 0415     KST
454 6272     JMP 2L
      [KEYBOARD
455 0515 #1U KBD
456 1420     SHD i
457 0100     100 [1
460 6617     JMP 1S
461 1420     SHD i
462 5200     5200 [W
463 6636     JMP 2C
464 0470     AZE i [O
465 6621     JMP 1Q
466 1420     SHD i
467 4400     4400 [Q
470 6640     JMP 1P
471 1420     SHD i
472 1300     1300 [DEL
473 6540     JMP 2D

```

```

P  CONT
474 1420      SHD i
475 1200      1200 [EOL
476 6015      JMP 15
477 1420      SHD i
500 4500      4500 [REPEAT
501 6513      JMP 1V-2
502 1460      SAE i
503 0022      22    [#-WCG NEW INDEX
504 6272      JMP 2L
          [#-WRITE INDEX AND RETURN
505 1520      #2M SRO i
506 7777      -0
507 6015      JMP 15 [1
510 0706      WRITE INDEX [0
511 1426      117G
512 6015      JMP 15
          [REPEAT
513 6212      JMP 1B+6
514 6226      JMP 2A
          [DISPLAY TITLE
515 0042      #1V SET 2
516 0000      0
517 0061      SET i 1
520 0140      140
521 0066      SET i 6
522 4725      1Z-4000
523 6530      JMP 1R
524 0061      SET i 1
525 0424      424
526 6530      JMP 1R
527 6002      JMP 2
          [DISPLAY TITLE
530 0057      #1R SET 17
531 0000      0
532 1326      LDH i 6
533 1420      SHD i
534 6700      6700
535 6017      JMP 17
536 6712      JMP 1Y
537 6532      JMP P-5
          [DELETE
540 1020      #2D LDA i
541 5757      5757
542 1073      STA i 13
543 1073      STA i 13
544 1000      LDA
545 0013      13
546 1660      BCO i
547 0002      2
550 4013      STC 13
551 1013      LDA 13
552 0471      APO i
553 6563      JMP 2N
554 1000      LDA
555 0013      13
556 1560      BCL i

```



```

P  CONT
557 0007      7
560 4013      STC 13
561 2541      ADD 2D+1
562 1053      STA 13
563 1020 #2N LDA i
564 0001      i
565 2630      ADD 2G
566 0450      AZE
567 4630      STC 2G
570 0011      CLR
571 4506      STC 2M+1
572 0231      XSK i 11
573 6254      JMP 2H

[ALL DELETED
574 0071      SET i 11
575 2777      2777
576 1071      STA i 11
577 0211      XSK 11
600 6576      JMP P-2
601 6515 #1A JMP 1V [DISPLAY TITLE
602 0415      KST
603 6601      JMP P-2
604 0515      KBD
605 1420      SHD i
606 2200      2200
607 6505      JMP 2M
610 1420      SHD i
611 4500      4500 [REPEAT
612 6513      JMP 1V-2
613 1460      SAE i
614 0012      12
615 6601      JMP 1A
616 6015      JMP 15

[KEYBOARD CHANGES
[FORWARD ENTRY
617 6627 #1S JMP 2B
620 6254      JMP 2H

[FORWARD PAGE
621 0062 #1Q SET i 2
622 7767      -10      [CONSTANT
623 6627      JMP 2B
624 0222      XSK i 2
625 6623      JMP P-2
626 6254      JMP 2H

[FORWARD
627 1020 #2B LDA i
630 7767 #2G -10
631 1440      SAE
632 0011      11
633 2406      ADD 1X+3 [-1
634 4630      STC 2G
635 6000      JMP 0

[BACKWARD ENTRY
636 6646 #2C JMP 1J
637 6254      JMP 2H

[BACKWARD PAGE

```

```

P   CONT
640 0062 #1P SET i 2
641 7767     -10
642 6646     JMP 1J
643 0222     XSK i 2
644 6642     JMP P-2
645 6254     JMP 2H
      [BACKWARD
646 1020 #1J LDA i
647 0001     1
650 2630     ADD 2G
651 0450     AZE
652 4630     STC 2G
653 6000     JMP 0
      [NUMBER DISPLAY
654 0047 #1T SET 7
655 0000     0
656 0241     ROL 1
657 4706     STC 1K+3
660 6703     JMP 1K
661 1500     SR0
662 0676     1K-5
663 6701     JMP 1K-2 [DISPLAY LAST
664 0450     AZE
665 6673     JMP P+6
666 2001     ADD 1 [NO LEADING ZEROS
667 1120     ADA i
670 0024     24
671 4001     STC 1
672 6660     JMP 1T+4
673 6713     JMP 1Y+1
674 6703     JMP 1K
675 1520     SRJ i
676 4210     4210
677 6701     JMP P+2
700 6673     JMP P-5
      [DISPLAY LAST
701 6713     JMP 1Y+1
702 6007     JMP 7
      [FIX DIGIT
703 2706 #1K ADD P+3
704 0243     ROL 3
705 1060     STA i
706 0000     NUM TO DISPLAY
707 1560     BCL i
710 7761     7761
711 6000     JMP 0
      [DISPLAY
712 0241 #1Y ROL 1
713 1120     ADA i
714 2001     6A
715 4012     STC 12
716 2425     ADD 1M
717 1752     DSC 12
720 1772     DSC i 12
721 1020     LDA i
722 0004     4

```

```
P  CONT
723 2001  ADD 1
724 4001  STC 1
725 6000  JMP 0

[TITLE TABLE
726 4124 #1Z 4124 [NA
727 4030 4030 [ME
730 6725 6725 [ B
731 4114 4114 [N
732 2225 2225 [#B
733 3736 3736 [LK
734 4667 4667 [S

[NO
735 0011 #1N CLR
736 4425 STC 1M [V COOR
737 0061 SET i 1
740 0330 330 [H COOR
741 1020 LDA i
742 0102 102 [N
743 6713 JMP 1Y+1
744 1772 DSC i 12 [O
745 1772 DSC i 12
746 0415 KST
747 6737 JMP 1N+2
750 0515 KBD
751 6015 JMP 15
6E=2371
6A=2001 [GRIDS
7G=426 [INDEX
9J=771
```

```
[LAP6 DISPLAY INDEX AND PRINT INDEX
[ADD TELETYPE HERE
```

	VALUE	LINE
5A	1223	240
5B	1237	254
5C	1165	200
5K	1073	101
5L	1113	124
5M	1136	147
5N	1147	160
5P	1214	230
5Q	1220	234
5S	1105	115
6E	2371	300
7A	0350	717
7B	0000	720
7D	0300	721
7E	0000	722
8A	1411	320
8B	1417	326
8C	1472	402
8J	1650	570
8K	1637	557
8L	1453	363
8M	1544	461
8N	1552	467
8P	1531	445
8R	1523	436
8S	1666	607
8T	1520	432
8U	1676	620
8V	1574	512
8W	1562	500
8X	1501	412
8Y	1613	532
8Z	1422	332
9J	0771	301

P CONT

[LAP6 PRINT MANUSCRIPT
[CONVERT WITH TELETYPE
[BLOCK 322
[QUARTER 2

B1000

1000	0700	RDC 7E
1001	3335	317D+35
1002	0011	CLR
1003	3377	ADD 1377 [BN
1004	1620	BSE i
1005	6000	6000
1006	5240	STC 5B+1
1007	3376	ADD 1376 [RDC u
1010	1040	STA
1011	1246	5B+7
1012	1620	BSE i
1013	0020	i [RDC i u
1014	5237	STC 5B
1015	0065	SET i 5
1016	2371	6E
1017	0063	SET i 3
1020	0773	9J+2
1021	1005	LDA 5 [1ST LN
1022	0470	AZE i
1023	7031	JMP P+6
1024	1120	ADA i
1025	7776	-1
1026	0470	AZE i
1027	0017	COM
1030	5067	STC 5K-4 [REQUEST
1031	3224	ADD 5A+1 [1
1032	5453	STC 8L [PAGE #
1033	1025	LDA i 5
1034	0450	AZE
1035	5102	STC 5K+7 [2ND LN
1036	1025	LDA i 5
1037	1460	SAE i
1040	7777	7777
1041	7044	JMP P+3
1042	1020	LDA i
1043	6312	6312
1044	1043	STA 3
1045	1025	LDA i 5
1046	1063	STA i 3
1047	1025	LDA i 5
1050	1063	STA i 3
1051	1025	LDA i 5
1052	1063	STA i 3 [MOVE NAME
1053	1020	LDA i
1054	7777	-0
1055	1063	STA i 3
1056	0075	SET i 15
1057	0701	RCG 7E
1060	0063	SET i 3
1061	7401	7401
1062	0065	SET i 5

```

P   CONT
1063 7776   -1
1064 1000   LDA
1065 1226   5A+3 [PRESENT LN
1066 1460   SAE i
1067 0000   0 [1ST LN
1070 7105   JMP 5S
1071 3224   ADD 5A+1 [1
1072 5472   STC 8C [LINE #
1073 7422 #5K JMP 8Z [PAGE PRESET
1074 7501   JMP 8X [LINE FEED
1075 0073   SET i 13
1076 7677   -100
1077 1000   LDA
1100 1226   5A+3
1101 1460   SAE i
1102 7776   7776
1103 7113   JMP 5L [PRINT LINE
      [DONE
1104 7416   JMP 8B-1 [WAIT FOR KEY
      [PARTIAL PRINT
1105 7223 #5S JMP 5A [UP LINE
1106 1020   LDA i
1107 0012   12
1110 1423   SHD i 3
1111 7064   JMP 5K-7
1112 7110   JMP 8-2
      [PRINT LINE
1113 7223 #5L JMP 5A [UP LINE
1114 0042   SET 2
1115 0003   3
1116 1322   LDH i 2 [1ST CHARACTER
1117 1420   SHD i
1120 7700   7700
1121 7411   JMP 8A [DONE
1122 1420   SHD i
1123 2200   2200
1124 7136   JMP 5M
1125 1420   SHD i
1126 6600   6600 [e
1127 7136   JMP 5M
1130 7560   JMP 8W-2 [SPACE4
1131 7560   JMP 8W-2
1132 7560   JMP 8W-2
1133 7560   JMP 8W-2
1134 0073   SET i 13
1135 7703   -74
1136 1323 #5M LDH i 3
1137 1420   SHD i
1140 1200   1200
1141 7214   JMP 5P [EOL
1142 7562   JMP 8W [PRINT CHAR
1143 1303   LDH 3
1144 1420   SHD i
1145 1400   1400
1146 7165   JMP 5C [COUNT TO NEXT SPACE
1147 0233 #5N XSK i 13

```

```

P CONT
1150 7136 JMP 5M
1151 1323 LDH 1 3
1152 1420 SHD 1
1153 1200 1200
1154 7214 JMP 5P
[TT LINE CONTINUES PAST PAGE BREAK
1155 0225 XSK 1 5
1156 7160 JMP P+2
1157 7422 JMP 8Z [PAGE PRESET
1160 7501 JMP 8X
1161 0073 SET 1 13
1162 7677 -100
1163 1303 LDH 3
1164 7142 JMP 5M+4
[COUNT TO NEXT SPACE OR EOL. DO NOT BREAK WORDS AT END
OF TT LINE.
1165 0064 #5C SET 1 4
1166 0001 1
1167 0042 SET 2
1170 0003 3
1171 1322 LDH 1 2
1172 1420 SHD 1
1173 1200 1200
1174 7201 JMP P+5
1175 0224 XSK 1 4
1176 1460 SAE 1
1177 0014 14
1200 7171 JMP P-7
1201 1000 LDA
1202 0013 13
1203 2004 ADD 4
1204 0451 APO
1205 7147 JMP 5N [WILL FIT
1206 1020 LDA 1
1207 7676 -101
1210 2004 ADD 4
1211 0471 APO 1
1212 7147 JMP 5N [WONT FIT ON ONE LINE ANYWAY
1213 7151 JMP 5N+2 [PUT ON NEXT LINE
[EOL
1214 1000 #5P LDA
1215 1226 5A+3
1216 3224 ADD 5A+1 [1
1217 5472 STC 8C [LINE #
1220 0225 #5Q XSK 1 5
1221 7074 JMP 5K+1
1222 7073 JMP 5K
[MS ADDRESS CHECK AND UP LINE NUMBER
1223 1020 #5A LDA 1
1224 0001 1 [CONSTANT
1225 1160 ADM 1
1226 0000 0 [CURRENT LN
1227 1000 LDA
1230 0003 3
1231 1560 BCL 1
1232 4000 4000

```

```

P   CONT
1233 1120   ADA i
1234 4400   -3377
1235 0451   APO
1236 6000   JMP 0 [STILL IN QUARTER 6
1237 0015 #5B READ TAPE
1240 0710   QUARTER 6
1241 3240   ADD P-1
1242 1120   ADA i
1243 1001   1001
1244 0451   APO
1245 5247   STC P+2
1246 0015   READ TAPE
1247 7777   71777
1250 3240   ADD 5B+1
1251 3224   ADD 5A+1
1252 5240   STC 5B+1
1253 2003   ADD 3
1254 1120   ADA i
1255 7377   -400
1256 4003   STC 3
1257 6000   JMP 0
                #1376
1376 0700   RDC 7B
1377 0350   7A
                6E=2371
                9J=771

```

```

[LAP6 PRINT MANUSCRIPT
[ADD TELETYPE HERE

```


VALUE	LINE	VALUE	LINE		
1L	0317	347	5H	1177	1250
1P	0457	515	5J	1117	1165
1T	0544	606	5K	1231	1303
2A	0033	30	5L	1254	1327
2B	0046	44	5M	1302	1355
2C	0065	64	5N	1314	1367
2D	0117	120	5Q	1015	1061
2E	0126	131	5R	1034	1100
2F	0251	276	5S	1170	1241
2G	0735	1020	5T	1335	1412
2H	0164	175	6A	2642	1423
2J	0123	125	6B	2000	1417
2K	0152	161	6C	2700	1424
2L	0706	766	6D	2400	1420
2M	0134	140	6E	2432	1421
2N	0722	1004	6F	2352	1422
2P	0635	711	6G	2740	1425
2Q	0272	317	7A	0350	2045
2R	0303	330	7B	0000	2046
2S	0307	335	7D	0300	2047
2T	0677	756	7E	0000	2050
2U	0115	115	8A	1411	1446
2V	0137	144	8B	1417	1454
2W	0232	254	8C	1472	1530
2X	0511	552	8J	1650	1716
2Y	0200	211	8K	1637	1705
2Z	0022	16	8L	1453	1511
3A	0314	344	8M	1544	1607
3B	0351	402	8N	1552	1615
3C	0372	424	8P	1531	1573
3D	0403	436	8Q	1321	1375
3E	0416	452	8R	1523	1564
3F	0454	512	8S	1666	1735
3G	0464	523	8T	1520	1560
3H	0475	535	8U	1676	1746
3J	0512	553	8V	1574	1640
3K	0540	601	8W	1562	1626
3L	0346	376	8X	1501	1540
4A	0203	215	8Y	1613	1660
4B	0207	222	8Z	1422	1460
4C	0624	677	9J	0771	1030
4D	0610	662	9M	0557	622
4E	0230	251	9N	0563	627
4F	0212	226			
4G	0215	232			
4H	0217	235			
4J	0222	241			
4K	0225	245			
4L	0247	273			
4M	0641	716			
4N	0604	655			
4P	0243	266			
4Q	0567	636			
4R	0576	646			
5A	1164	1234			
5B	1001	1044			
5C	1046	1112			
5E	1074	1142			
5F	1141	1210			

P CONT

```

[LAP6 LIST
[BLOCK 333 - Q1
[BLOCK 327 - Q2
[BLOCK 335 - Q3
[BLOCK 330 - Q0, SAME AS CONVERT
[DO NOT CHANGE LINES WITHOUT ALSO CHANGING CONVERT
[PASS II
    #15
15 0701    RCG 7E
16 1310    117D+10 [DISPLAY
17 0016    NOP
20 0720    RDC i 7E
21 2347    217D+47 [BIN TO Q2
22 6314 #2Z JMP 3A
23 0435    KST i
24 6610    JMP 4D
25 0044    SET 4
26 0003    3
27 6033    JMP 2A
30 6022    JMP 2Z
31 6677    JMP 2T
32 6022    JMP 2Z
    [LINE DECODE
33 0057 #2A SET 17
34 0000    0
35 0011    CLR
36 4511    STC 2X
37 4200    STC 2Y
40 0066    SET i 6
41 0247    4L
42 0072    SET i 12
43 7774    -3 [CONSTANT
44 0073    SET i 13
45 6135    JMP 2M+1
    [CHARACTER CHECK
46 1323 #2B LDH i 3
47 0070    SET i 10
50 4243    4P+4000
51 1430    SHD i 10
52 6126    JMP 2E [COMMENT
53 1430    SHD i 10
54 6203    JMP 4A [B
55 1430    SHD i 10
56 6132    JMP 2E+4 [=
57 1430    SHD i 10
60 6137    JMP 2V [r
61 1430    SHD i 10
62 6207    JMP 4B [77
63 1430    SHD i 10
64 6123    JMP 2J [u
    [CHECK NUMBER
65 6404 #2C JMP 3D+1
66 6251    JMP 2F
67 6416    JMP 3E
70 6164    JMP 2H
71 1620    BSE i

```

```

P  CONT
72 0300    ROR
73 4075    STC P+2
74 1011    LDA 11
75 0450    ROTATE N
76 0451    APO
77 6115    JMP 2U
      [UNDEFINED
100 1000   LDA
101 0200   2Y
102 0303   ROR 3
103 1361   STH i 1
104 1303   LDH 3
105 1361   STH i 1
106 1000   LDA
107 0317   1L
110 1061   STA i 1
111 1020   LDA i
112 7777   -0
113 1061   STA i 1
114 6475   JMP 3H
115 1010 #2U LDA 10
116 6013   JMP 13
      [SPECIAL CHARACTER
117 1120 #2D ADA i
120 6243   2W+6000+11
121 4122   STC P+1
122 0140   JUMP TO DISPATCHER
      [u
123 1020 #2J LDA i
124 0010   10
125 6013   JMP 13
      [COMMENT, EQUALITY
126 1324 #2E LDH i 4
127 1460   SAE i
130 0066   66
131 0237   XSK i 17
132 6464   JMP 3G
133 6017   JMP 17
      [BETA 13 RETURN
134 0017 #2M COM
135 2511   ADD 2X
136 6036   JMP 2A+3
      [TEXT
137 6557 #2V JMP 9M
140 7000   JMP 1000 [LIST
141 6512   JMP 3J [TEXT COUNT
142 6147   JMP P+5 [I
143 6152   JMP 2K [EOL
144 6160   JMP 2K+6 [77
145 6677   JMP 2T [2 CHARS
146 6141   JMP 2V+2
      [I=71, END TEXT
147 0233   XSK i 13
150 6132   JMP 2E+4 [NO ASSIGNMENT
151 6131   JMP 2E+3
      [EOL IN TEXT

```

```

P CONT
152 0072 #2K SET i 12
153 6142     JMP 2V+3
154 6314     JMP 3A [CHECK MS
155 0233     XSK i 13
156 6523     JMP 3J+11
157 6145     JMP 2V+6 [ASSIGN
          [77 IN TEXT
160 0233     XSK i 13
161 6207     JMP 4B [NO ASSIGN
162 6677     JMP 2T
163 6207     JMP 4B
          [NUMBER, NOT TAG
164 1303 #2H LDH 3
165 1420     SHD i
166 1400     1400
167 6372     JMP 3C
170 6404     JMP 3D+1
171 6173     JMP P+2
172 6167     JMP P-3
173 1020     LDA i
174 3777     -4000 [CONSTANT
175 1140     ADM
176 0003     3
177 1020     LDA i
200 0000 #2Y NUMBER
201 0303     ROR 3
202 6013     JMP 13
          [B
203 6351 #4A JMP 3B
204 6557     JMP 9M
205 6017     JMP 17 [LIST
206 6567     JMP 4Q [CONVERT
          [77-PREPARE SAVE BIN
207 6557 #4B JMP 9M
210 7400     JMP 1400 [LIST
211 6576     JMP 4R [CONVERT
          [i
212 1020 #4F LDA i
213 0020     20 [CONSTANT
214 6013     JMP 13
          [P
215 2457 #4G ADD 1P
216 6013     JMP 13
          [-
217 0073 #4H SET i 13
220 6134     JMP 2M
221 6046     JMP 2B
          [I
222 2511 #4J ADD 2X
223 0303     ROR 3
224 6036     JMP 2A+3
          [TAG
225 6372 #4K JMP 3C
226 1323     LDH i 3
227 6046     JMP 2B
          [EOL

```

```

P  CONT
230 0237 #4E XSK i 17
231 6017      JMP 17
      [DISPATCHER
232 6230 #2W JMP 4E
233 6046      JMP 2B [DEL
234 6046      JMP 2B
235 6212      JMP 4F
236 6215      JMP 4G
237 6217      JMP 4H
240 6044      JMP 2B-2
241 6222      JMP 4J
242 6225      JMP 4K
      [CHARACTER TABLE
243 0022 #4P 0022
244 6665      6665
245 6170      6170
246 7762      7762
      [SAVE LETTERS
247 0000 #4L 0
250 0000      0
      [CHECK LETTER
251 1120 #2F ADA i
252 7765      -12
253 0451      APO
254 6117      JMP 2D
255 1303      LDH 3
256 1366      STH i 6
257 0232      XSK i 12
260 6046      JMP 2B
261 0246      ROL 6
262 2247      ADD 4L
263 0066      SET i 6
264 7700      6A-6G-1
265 0072      SET i 12
266 2641      6A-1
267 0226      XSK i 6
270 6272      JMP 2Q
271 6040      JMP 2B-6
272 1472 #2Q SAE i 12
273 6267      JMP 2Q-3
274 1020      LDA i
275 0077      6G-6A+1
276 2006      ADD 6
277 1120      ADA i
300 7740      6A-6C-1
301 0471      APO i
302 6307      JMP 2S
303 1120 #2R ADA i
304 0037      6C-6A+1
305 0245      ROL 5
306 6013      JMP 13
      [SUBSTITUTE
307 1120 #2S ADA i
310 2737      6G-1
311 4006      STC 6
312 1006      LDA 6
```

```

P   CONT
313 6013      JMP 13
      [CONVERT SUBROUTINES
      [MS ADDRESS CHECK
314 1020 #3A LDA i
315 0001      1      [CONSTANT
316 1160      ADM i
317 0000 #1L 0
320 1000      LDA
321 0003      3
322 1560      BCL i
323 4000      4000
324 1120      ADA i
325 4400      -3377
326 0451      APO
327 6000      JMP 0
330 0720      RDC i 7B
331 6350      617A
332 2331      ADD P-1
333 1120      ADA i
334 1001      1001
335 0451      APO
336 4340      STC P+2
337 0700      RDC 7B
340 7077      7177
341 2331      ADD P-10
342 2315      ADD 3A+1
343 4331      STC P-12
344 2003      ADD 3
345 1120      ADA i
346 7377 #3L -400
347 4003      STC 3
350 6000      JMP 0
      [E
351 0050 #3B SET 10
352 0000      0
353 6372      JMP 3C
354 6401      JMP 3D-2
355 6362      JMP P+5
356 6372      JMP 3C
357 6404      JMP 3D+1
360 6362      JMP P+2
361 6356      JMP P-3
362 1000      LDA
363 0200      2Y
364 0303      ROR 3
365 1560      BCL i
366 4000      4000
367 4457      STC 1P
370 6464      JMP 3G
371 6010      JMP 10
      [SPACE AVOID
372 0051 #3C SET 11
373 0000      0
374 1323      LDH i 3
375 1420      SHD i
376 1400      1400

```

```

P   CONT
377 6374      JMP 3C+2
400 6011      JMP 11
      [NUMBER CHECK
401 0011      CLR
402 4200      STC 2Y
403 1303 #3D LDH 3
404 1120      ADA i
405 7766      -11
406 0471      APO i
407 6000      JMP 0
410 1303      LDH 3
411 2200      ADD 2Y
412 0243      ROL 3
413 4200      STC 2Y
414 0220      XSK i 0
415 6000      JMP 0
      [SYMBOL CHECK
416 1323 #3E LDH i 3
417 1120      ADA i
420 7754      -23
421 0451      APO
422 6000      JMP 0
423 1120      ADA i
424 7745      -32
425 0471      APO i
426 6000      JMP 0
427 1000      LDA
430 0200      2Y
431 0470      AZE i
432 6000      JMP 0
433 0303      ROR 3
434 1260      MUL i
435 0032      32
436 1120      ADA i
437 1722      6B-32-24
440 4010      STC 10
441 1303      LDH 3
442 2010      ADD 10
443 4010      STC 10
      [FIND MARK REGISTER
444 1303      LDH 3
445 1120      ADA i
446 2354      6D-24
447 4011      STC 11
450 2200      ADD 2Y
451 0303      ROR 3
452 0220      XSK i 0
453 6000      JMP 0
      [UP P
454 1020 #3F LDA i
455 0001      1
456 1160      ADM i
457 0020 #1P 20
460 1560      BCL i
461 4000      4000
462 4457      STC 1P

```

```

P   CONT
463 6000      JMP 0
          [FIND EOL
464 0051 #3G SET 11
465 0000      0
466 1020     LDA i
467 0012     12
470 1403     SHD 3
471 6011     JMP 11
472 1423     SHD i 3
473 6011     JMP 11
474 6472     JMP P-2
          [ERROR TABLE ADDRESS CHECK
475 1020 #3H LDA i
476 0004      4
477 2001     ADD 1
500 4502     STC P+2
501 1440     SAE
502 0452     NEXT SLOT STILL ZERO?
503 0451     APO
504 6000     JMP 0
505 2001     ADD 1 [SET 1 BACK
506 2043     ADD 2B-3 [-3
507 4001     STC 1
510 6000     JMP 0
          [TEXT COUNT
511 0000 #2X 0 [FOR ASSIGN
512 0052 #3J SET 12
513 0000      0
514 0073     SET i 13
515 7775     -2          [CONSTANT
516 0074     SET i 14
517 4510     2X-1+4000
520 1020     LDA i
521 1414     1414
522 4511     STC 2X
523 1323     LDH i 3
524 1420     SHD i
525 7100     7100 [↑
526 6543     JMP 3K+3
527 1420     SHD i
530 7700     7700
531 6541     JMP 3K+1
532 1374     STH i 14
533 1420     SHD i
534 1200     1200
535 6542     JMP 3K+2
536 0233     XSK i 13
537 6523     JMP 3J+11
540 0232 #3K XSK i 12
541 0232     XSK i 12
542 0232     XSK i 12
543 6012     JMP 12
          [PASS PRESET
544 1020 #1T LDA i
545 6350     617A
546 4331     STC 1L+12

```



```

P  CONT
547 4317   STC 1L
550 2213   ADD 4F+1
551 4457   STC 1P
552 0063   SET i 3
553 7401   7401
554 0062   SET i 2
555 1017   1017
556 6000   JMP 0
          [CHECK LIST
557 1520 #9M SRO i
560 7777   7777
561 0220   XSK i 0 [CONVERT
562 6000   JMP 0 [LIST
          [LIST-PASS II
563 6544 #9N JMP 1T
564 0720   RDC i 7E
565 2327   217D+27
566 7001   JMP 1001
          [DO NOT DISTURB ANY LINES BEFORE THIS POINT
          [LIST TEXT
          [CHECK PARTIAL
567 1000 #4Q LDA
570 0017   17 [SR RETURN
571 1460   SAE i
572 7174   JMP 5S+4
573 6641   JMP 4M [LIST
574 6576   JMP 4R
          [SEARCH-PARTIAL LIST
575 6314   JMP 3A
576 6512 #4R JMP 3J [TEXT COUNT
577 6604   JMP 4N [71 RETURN
600 6610   JMP 4D [EOL RETURN
601 7417   JMP 8B [77 RETURN
602 6454   JMP 3F [2 CHARACTERS-UP P
603 6576   JMP 4R
          [71 RETURN
604 6464 #4N JMP 3G [FIND EOL
605 0233   XSK i 13
606 7223   JMP 5K-6 [NO ASSIGNMENT FOR 71
607 7175   JMP 5S+5 [ASSIGN
          [EOL RETURN
610 0233 #4D XSK i 13
611 6624   JMP 4C [EOL LEFT
612 6454   JMP 3F [EOL RIGHT-UP P
613 1000   LDA
614 0317   1L [PRESENT LN
615 1440   SAE
616 1226   5K-3 [REQUESTED
617 6575   JMP 4R-1 [NOT YET
620 1020   LDA i
621 6641   JMP 4M
622 5243   STC 5L-11
623 7231   JMP 5K [PAGE PRESET
          [EOL LEFT CHARACTER
624 1000 #4C LDA
625 0317   1L

```

```

P   CONT
626 1440   SAE
627 1226   SK-3
630 6635   JMP 2P [NOT YET
631 1020   LDA i
632 6722   JMP 2N
633 5243   STC 5L-11
634 7231   JMP 5K [PAGE PRESET
          [EOL BUT NOT PRINTING
635 6314 #2P JMP 3A [CHK MS
636 0072   SET i 12
637 6577   JMP 4R+1
640 6523   JMP 3J+11 [CONTINUE TEXT COUNT
          [LIST TEXT
641 6512 #4M JMP 3J [TEXT COUNT
642 6677   JMP 2T [71
643 6706   JMP 2L [EOL
644 7400   JMP 1400 [77
645 7317   JMP 8Q-2 [2 CHARACTERS-PRINT P
646 7560   JMP 8W-2 [SPACE
647 6454   JMP 3F [UP P
650 1014   LDA 14 [CONTENTS
651 7523   JMP 8R [PRINT CONTENTS
652 1000   LDA
653 0002   2 [SAVE 2
654 4675   STC 2T-2
655 0225   XSK i 5 [CHK LINES
656 6663   JMP P+5
          [PAGE END
657 7422   JMP 8Z [PAGE PRESET
660 0062   SET i 2
661 5334   ST-4000
662 7613   JMP 8Y [LABEL
663 7501   JMP 8X [RETURN
664 1000   LDA
665 0317   1L [PRESENT LN
666 1440   SAE
667 1307   SM+5
670 6672   JMP P+2
671 7417   JMP 8B [END LIST
672 3456   ADD 8L+3 [1
673 5472   STC 8C [LN FOR PAGE HEADING
674 0062   SET i 2
675 0000   RESET
676 6641   JMP 4M
          [71 RETURN WHILE PRINTING
677 6464 #2T JMP 3G [FIND EOL
700 1020   LDA i
701 6033   JMP 2A [RESTORE
702 5243   STC 5L-11
703 0233   XSK i 13
704 7254   JMP 5L [NO ASSIGNMENT-JUST PRINT LINE
705 7245   JMP 5L-7 [ASSIGNMENT
          [EOL WHILE PRINTING
706 7317 #2L JMP 8Q-2 [PRINT P
707 7560   JMP 8W-2 [SPACE
710 0233   XSK i 13

```

```

P  CONT
711 6716    JMP P+5 [EOL IN LEFT HALF
712 1020    LDA I [EOL RIGHT
713 6641    JMP 4M
714 5243    STC 5L-11
715 7247    JMP 5L-5 [UP P, PRINT 2 CHARS, CHK MS
[EOL LEFT HALF
716 1020    LDA I
717 6722    JMP 2N
720 5243    STC 5L-11
721 7250    JMP 5L-4 [PRINT '1200', DO NOT UP P
[RIGHT CHAR AFTER EOL
722 1323 #2N LDH I 3
723 1420    SHD I
724 7100    7100
725 6735    JMP 2G [END TEXT
726 0072    SET I 12
727 6642    JMP 4M+1
730 0074    SET I 14
731 0511    2X
732 0073    SET I 13
733 7776    -1 [RESET COUNT
734 6524    JMP 3J+12 [CONTINUE TEXT
[71 FOLLOWS LEFT EOL
735 6454 #2G JMP 3F [UP P
736 6464    JMP 3G [FIND EOL
737 1020    LDA I
740 6033    JMP 2A [RESTORE
741 5243    STC 5L-11
742 7254    JMP 5L [NO ASSIGN, PRINT LINE
      B771
[ LABEL TABLE
771 0000 #9J 0
772 0000    0
773 6312    6312
774 7777    -0
775 7777    -0
776 7777    -0
777 7777    -0
[LIST
[BLKS 7D+27, 7D+35
[QUARTERS 2, 3
      B1000
1000 6567    JMP 4Q [TEXT
1001 1000 #5B LDA
1002 0771    9J
1003 0450    AZE
1004 7177    JMP 5H [PARTIAL
[PACK SYMBOLS
1005 0070    SET I 10
1006 2431    6E-1 [2431
1007 0062    SET I 2
1010 1377    1377 [LN TABLE
1011 0064    SET I 4
1012 0024    24 [SET LETTER
1013 0065    SET I 5
1014 7745    -32

```

```

P   CONT
1015 1022 #5Q LDA i 2 [LN
1016 0470     AZE i
1017 7034     JMP 5R
1020 1020     LDA i
1021 0100     100
1022 2004     ADD 4
1023 1070     STA i 10 [#-L
1024 1020     LDA i
1025 0400     400
1026 2002     ADD 2
1027 4016     STC 16
1030 1016     LDA 16 [VALUE
1031 1070     STA i 10
1032 1002     LDA 2 [LINE
1033 1070     STA i 10
1034 0224 #5R XSK i 4 [UP LETTER
1035 0225     XSK i 5
1036 7015     JMP 5Q
1037 1020     LDA i
1040 0100     100
1041 1140     ADM [UP NUMBER
1042 1021     5Q+4
1043 1460     SAE i
1044 1200     1200
1045 7011     JMP 5Q-4
1046 1000 #5C LDA
1047 2432     6E [1ST ENTRY
1050 0470     AZE i
1051 7202     JMP 5H+3 [NO SYMBOL TABLE
      [PRINT SYMBOL TABLE
1052 0011     CLR
1053 1070     STA i 10
1054 0210     XSK 10
1055 7053     JMP P-2
1056 0700     RDC 7E
1057 3335     317D+35
1060 7422     JMP 8Z [PAGE PRESET
1061 0074     SET i 14
1062 1163     5A-1
1063 1034     LDA i 14
1064 4016     STC 16
1065 1036     LDA i 16
1066 0470     AZE i
1067 7074     JMP 5E
1070 7611     JMP 8Y-2
1071 1520     SRO i
1072 3567     3567
1073 7063     JMP P-10
      [HEADING FINISHED
1074 0065 #5E SET i 5
1075 7704     -73 [LINES/PAGE
1076 7501     JMP 8X [KST AND CARRIAGE RETURN
1077 0074     SET i 14
1100 1164     5A
1101 1014     LDA 14
1102 4016     STC 16

```

```

P. CONT
1103 1336 LDH i 16
1104 0470 AZE i
1105 7137 JMP 5F-2
1106 7117 JMP 5J
1107 1034 LDA i 14
1110 4016 STC 16
1111 1336 LDH i 16
1112 0470 AZE i
1113 7134 JMP 5F-5
1114 7560 JMP 8W-2 [3 SPACES
1115 7560 JMP 8W-2
1116 7560 JMP 8W-2
1117 1316 #5J LDH 16
1120 7562 JMP 8W [#
1121 1336 LDH i 16
1122 7562 JMP 8W [LETTER
1123 7560 JMP 8W-2 [SPACE
1124 1036 LDA i 16
1125 7523 JMP 8R [VALUE
1126 7560 JMP 8W-2 [SPACE
1127 1036 LDA i 16
1130 7321 JMP 8Q [LINE
1131 1000 LDA
1132 0016 16
1133 1054 STA 14
1134 1520 SRO i
1135 3567 3567
1136 7107 JMP 5J-10
1137 0225 XSK i 5
1140 7076 JMP 5E+2
[TABLE FINISHED
1141 1020 #5F LDA i
1142 3416 3416 [BELL
1143 7566 JMP 8W+4
1144 0700 RDC 7E
1145 6337 617D+37 [MNEMONICS
1146 3456 ADD 8L+3 [1
1147 5472 STC 8C
1150 0074 SET i 14
1151 3241 6A-1+400
1152 0064 SET i 4
1153 2641 6A-1
1154 1034 LDA i 14
1155 1064 STA i 4
1156 0214 XSK 14
1157 7154 JMP P-3
1160 0065 SET i 5
1161 7776 -1
1162 7424 JMP 8Z+2
1163 7232 JMP 5K+1
[ COLUMN ADDRESSES
1164 6431 #5A 6E-4000
1165 6712 6E-4000+261
1166 7173 6E-4000+542
1167 7454 6E-4000+1023
[PARTIAL LIST

```

```

P  CONT
1170 6314 #5S JMP 3A
1171 0044     SET 4
1172 0003     3
1173 6033     JMP 2A
1174 7223     JMP 5K-6 [NO ASSIGN
1175 6454     JMP 3F
1176 7223     JMP 5K-6 [ASSIGN
1177 1460 #5H SAE i
1200 0001     1
1201 7206     JMP P+5
1202 1020     LDA i
1203 0700     RDC 7E
1204 5217     STC 5K-12
1205 3200     ADD P-5
1206 3216     ADD P+10 [-1
1207 0470     AZE i
1210 0017     COM
1211 5226     STC 5K-3
1212 2772     ADD 9J+1
1213 0450     AZE
1214 5307     STC 5M+5
1215 0065     SET i 5
1216 7776     -1
1217 0720     RDC i 7E
1220 3335     3I7D+35
1221 3456     ADD 8L+3
1222 5453     STC 8L [UP PAGE
1223 1000     LDA
1224 0317     1L
1225 1460     SAE i
1226 0000     0 [REQUESTED LN
1227 7170     JMP 5S
1230 7312     JMP 5N-2
      [PASS II-PRINT LINES
1231 7422 #5K JMP 8Z [PAGE PRESET
1232 0062     SET i 2
1233 5334     5T-4000
1234 7613     JMP 8Y [LABEL
1235 7501     JMP 8X [RETURN
1236 6314     JMP 3A
1237 0044     SET 4
1240 0003     3
1241 0042     SET 2
1242 0003     3
1243 6033     JMP 2A
1244 7254     JMP 5L [NO ASSIGNMENT
1245 7317     JMP 8Q-2 [PRINT P
1246 7560     JMP 8W-2
1247 6454     JMP 3F [UP P
1250 1000     LDA
1251 0511     2X [CONT
1252 7523     JMP 8R
1253 7261     JMP 5L+5
      [NO ASSIGNMENT
1254 0074 #5L SET i 14
1255 7766     -11

```

P	CONT	
1256	7560	JMP 8W-2 [SPACE
1257	0234	XSK i 14
1260	7256	JMP P-2
1261	0073	SET i 13
1262	7711	-66
1263	0044	SET 4
1264	0002	2
1265	1324	LDH i 4
1266	1420	SHD i
1267	6600	6600
1270	7302	JMP 5M
1271	1420	SHD i
1272	2200	2200
1273	7302	JMP 5M
1274	0074	SET i 14
1275	7773	-4
1276	7560	JMP 8W-2
1277	0233	XSK i 13
1300	0234	XSK i 14
1301	7276	JMP P-3
1302	7560	#5M JMP 8W-2 [SPACE
1303	7615	JMP 8Y+2 [PRINT LINE
1304	1000	LDA
1305	0317	1L
1306	1460	SAE i
1307	7776	7776 [LAST LN REQUESTED
1310	7312	JMP P+2
1311	7416	JMP 8B-1 [FINISHED
1312	3456	ADD 8L+3 [1
1313	5472	STC 8C [LN FOR PAGE HEADING
1314	0225	#5N XSK i 5
1315	7235	JMP 5K+4
1316	7231	JMP 5K
		[PRINT NUMBER-LEADING SPACES. # IN ACC. FORSYMBOL TABL
		E OR P.
1317	1000	LDA
1320	0457	IP [P
1321	0044	#8Q SET 4
1322	0000	0
1323	0450	AZE
1324	7327	JMP P+3
1325	7562	JMP 8W
1326	6004	JMP 4
1327	7544	JMP 8M
1330	0450	AZE
1331	7526	JMP 8R+3
1332	7560	JMP 8W-2
1333	7552	JMP 8N
1334	7327	JMP 8Q+6
		[LIST HEADING
1335	1414	#5T 1414 [P CONT
1336	1614	1614
1337	1426	1426
1340	4241	4241
1341	4712	4712
		6B=2000 [SYMBOL ASSIGNMENTS

P CONT

6D=2400 [MARK REGISTERS
6E=2432 [ERRORS
6F=2352 [MEMORY ALLOCATION
6A=2642 [MNEMONICS
6C=2700 [MNEMONICS
6G=2740 [MNEMONICS

[LAP6 LIST
[CONVERT WITH TELETYPE
[SAVE QUARTERS 1-3
[ADD TELETYPE HERE

VALUE	LINE	VALUE	LINE
1L	0317 347	5H	1177 1250
1P	0457 515	5J	1117 1165
1T	0544 606	5K	1231 1303
2A	0033 30	5L	1254 1327
2B	0046 44	5M	1302 1355
2C	0065 64	5N	1314 1367
2D	0117 120	5Q	1015 1061
2E	0126 131	5R	1034 1100
2F	0251 276	5S	1170 1241
2G	0735 1020	5T	1335 1412
2H	0164 175	6A	2642 1423
2J	0123 125	6B	2000 1417
2K	0152 161	6C	2700 1424
2L	0706 766	6D	2400 1420
2M	0134 140	6E	2432 1421
2N	0722 1004	6F	2352 1422
2P	0635 711	6G	2740 1425
2Q	0272 317	7A	0350 2045
2R	0303 330	7B	0000 2046
2S	0307 335	7D	0300 2047
2T	0677 756	7E	0000 2050
2U	0115 115	8A	1411 1446
2V	0137 144	8B	1417 1454
2W	0232 254	8C	1472 1530
2X	0511 552	8J	1650 1716
2Y	0200 211	8K	1637 1705
2Z	0022 16	8L	1453 1511
3A	0314 344	8M	1544 1607
3B	0351 402	8N	1552 1615
3C	0372 424	8P	1531 1573
3D	0403 436	8Q	1321 1375
3E	0416 452	8R	1523 1564
3F	0454 512	8S	1666 1735
3G	0464 523	8T	1520 1560
3H	0475 535	8U	1676 1746
3J	0512 553	8V	1574 1640
3K	0540 601	8W	1562 1626
3L	0346 376	8X	1501 1540
4A	0203 215	8Y	1613 1660
4B	0207 222	8Z	1422 1460
4C	0624 677	9J	0771 1030
4D	0610 662	9M	0557 622
4E	0230 251	9N	0563 627
4F	0212 226		
4G	0215 232		
4H	0217 235		
4J	0222 241		
4K	0225 245		
4L	0247 273		
4M	0641 716		
4N	0604 655		
4P	0243 266		
4Q	0567 636		
4R	0576 646		
5A	1164 1234		
5B	1001 1044		
5C	1046 1112		
5E	1074 1142		
5F	1141 1210		

2 CONT

81400
 [LAP6 TELETYPE
 [77-END PRINT

1400	1020	LDA	i
1401	7773	-4	
1402	1140	ADM	
1403	0005	5	
1404	1460	SAE	i
1405	7703	-4-70	
1406	7410	JMP	P+2
1407	7416	JMP	8B-1
1410	7520	JMP	8T
1411	0225	#8A XSK	i 5
1412	7410	JMP	P-2
1413	1020	LDA	i
1414	0017	17	[-
1415	7562	JMP	8W
1416	0535	KBD	i [WAIT FOR KEY
1417	0076	#8B SET	i 16
1420	7300	717D	
1421	6015	JMP	15
		[PAGE PRESET	
1422	0065	#8Z SET	i 5
1423	7773	-4	
1424	0054	SET	14
1425	0000	0	
1426	7501	JMP	8X
1427	7520	JMP	8T
1430	0225	XSK	i 5
1431	7427	JMP	P-2
1432	1020	LDA	i
1433	0017	17	
1434	7562	JMP	8W [-
1435	7501	JMP	8X
1436	7520	JMP	8T
1437	1300	LDH	
1440	0773	9J+2	
1441	1420	SHD	i
1442	6300	6300	
1443	7452	JMP	P+7
1444	0062	SET	i 2
1445	4772	9J+2-4000	
1446	7613	JMP	8Y [NAME
1447	1020	LDA	i
1450	0063	63	
1451	7562	JMP	8W [,
1452	1020	LDA	i
1453	0000	#8L 0	[PAGE #
1454	7531	JMP	8P
1455	1020	LDA	i
1456	0001	1	[CONSTANT
1457	3453	ADD	P-4
1460	5453	STC	P-5
1461	3472	ADD	8C [LINE #
1462	0470	AZE	i
1463	7474	JMP	8X-5

```

P CONT
1464 7560 JMP 8W-2
1465 7560 JMP 8W-2
1466 0062 SET I 2
1467 5663 8S-2-4000
1470 7613 JMP 8Y [LN=
1471 1020 LDA I
1472 0000 #8C 0 [LN
1473 7531 JMP 8P [PRINT #
1474 7501 JMP 8X
1475 7520 JMP 8T
1476 0065 SET I 5
1477 7707 -70 [LINES/PAGE
1500 6014 JMP 14
      [KST, CARRIAGE RETURN
1501 0047 #8X SET 7
1502 0000 0
1503 0415 KST
1504 7511 JMP P+5
1505 0515 KBD
1506 1420 SHD I
1507 1200 1200
1510 7417 JMP 8B [END PRINT
1511 1020 LDA I
1512 0012 12
1513 7562 JMP 8W [CARRIAGE
1514 1020 LDA I
1515 3424 3424
1516 7566 JMP 8W+4 [LINE FEED
1517 6007 JMP 7
      [LINE FEED ONLY
1520 0047 #8T SET 7
1521 0000 0
1522 7514 JMP 8T-4
      [PRINT #, LEADING ZEROS
1523 0044 #8R SET 4
1524 0000 0
1525 7544 JMP 8M
1526 7562 JMP 8W
1527 7552 JMP 8N
1530 7525 JMP 8R+2
      [PRINT #, NO LEADS
1531 0044 #8P SET 4
1532 0000 0
1533 0450 AZE
1534 7537 JMP P+3
1535 7562 JMP 8W
1536 6004 JMP 4
1537 7544 JMP 8M
1540 0450 AZE
1541 7526 JMP 8R+3
1542 7552 JMP 8N
1543 7537 JMP 8P+6
      [# SRS
1544 0243 #8M ROL 3
1545 1060 STA I
1546 0000 NUMBER

```

```

P  CONT
1547 1560      BCL  i
1550 7770      7770
1551 6000      JMP  0
1552 1000 #8N LDA
1553 1546      8M+2
1554 1520      SRO  i
1555 3567      3567
1556 6000      JMP  0
1557 6004      JMP  4
      [PRINT
1560 1020      LDA  i
1561 0014      14 [SPACE
1562 1120 #8W ADA i
1563 1676      SU
1564 4017      STC  17
1565 1017      LDA  17
1566 0057      SET  17
1567 0000      0
1570 5577      STC  P+7
1571 0015      RTA
1572 0071      SET  i 11
1573 7764      -13
1574 1560 #8V BCL  i
1575 0001      1
1576 1520      SRO  i
1577 0000      TT CODE
1600 3575      ADD  P-3 [1
1601 0014      ATR
1602 0072      SET  i 12
1603 7347      -430
1604 0232      XSK  i 12
1605 7604      JMP  P-1
1606 0231      XSK  i 11
1607 7574      JMP  8V
1610 6017      JMP  17
      [PRINT LINE OR LABEL
1611 0062      SET  i 2
1612 5665      8S-4000
1613 0073 #8Y SET  i 13
1614 0000      0 [CHARSILINE
1615 0047      SET  7
1616 0000      0
1617 1322      LDH  i 2
1620 1420      SHD  i
1621 1200      1200
1622 6007      JMP  7 [END LAP LINE
1623 1420      SHD  i
1624 7700      7700
1625 6007      JMP  7 [END NAME
1626 7562      JMP  8W
1627 0233      XSK  i 13
1630 7617      JMP  8Y+4
1631 1322      LDH  i 2 [END OF TT LINE
1632 1420      SHD  i
1633 1200      1200
1634 6007      JMP  7

```

```

P CONT
1635 0225 XSK 1 5
1636 7650 JMP 8J
      [TT LINE CONTINUES PAST PAGE BREAK
1637 1000 #8K LDA
1640 0002 2
1641 5647 STC P+6
1642 7422 JMP 8Z [PAGE PRESET
1643 0062 SET 1 2
1644 5334 ST-4000
1645 7613 JMP 8Y [LABEL
1646 0062 SET 1 2
1647 0000 RESET
1650 7501 #8J JMP 8X
1651 0067 SET 1 7
1652 7304 JMP 5M+2
1653 0074 SET 1 14
1654 7765 -12
1655 7560 JMP 8W-2
1656 0234 XSK 1 14
1657 7655 JMP P-2
1660 0073 SET 1 13
1661 7711 -66
1662 1302 LDH 2
1663 7620 JMP 8Y+5

```

[LIST HEADINGS

```

1664 3741 3741 [LN#
1665 6112 6112
1666 1414 #8S 1414 [VALUE LINE
1667 5124 5124
1670 3750 3750
1671 3014 3014
1672 3734 3734
1673 4130 4130
1674 1414 1414
1675 1412 1412

```

[TELETYPE CODES

```

1676 3540 #8U 3540
1677 3542 3542
1700 3544 3544
1701 3546 3546
1702 3550 3550
1703 3552 3552
1704 3554 3554
1705 3556 3556
1706 3560 3560
1707 3562 3562
1710 3432 3432 [EOL
1711 3576 3576 — del
1712 3500 3500
1713 3514 3514
1714 3516 3516
1715 3532 3532
1716 3526 3526
1717 3670 3670
1720 3506 3506
1721 3576 3576 — case

```

P	CONT	
1722	3602	3602
1723	3604	3604
1724	3606	3606
1725	3610	3610
1726	3612	3612
1727	3614	3614
1730	3616	3616
1731	3620	3620
1732	3622	3622
1733	3624	3624
1734	3626	3626
1735	3630	3630
1736	3632	3632
1737	3634	3634
1740	3636	3636
1741	3640	3640
1742	3642	3642
1743	3644	3644
1744	3646	3646
1745	3650	3650
1746	3652	3652
1747	3654	3654
1750	3656	3656
1751	3660	3660
1752	3662	3662
1753	3664	3664
1754	3576	3576
1755	3576	3576 [META
1756	3576	3576 [?
1757	3572	3572 [
1760	3512	3512 [
1761	3530	3530 [
1762	3534	3534 [
1763	3510	3510 [
1764	3666	3666 [
1765	3600	3600 [^
1766	3674	3674 [i
1767	3566	3566 [i
1770	3570	3570 [k
1771	3574	3574 [v
1772	3672	3672 [j
1773	3524	3524 [*
1774	3564	3564 [:
	7A=350	
	7B=0	
	7D=300	
	7E=0	

[TELETYPE SUBROUTINES FOR LIST, PRINT MS, AND PRINT IN
 DEX
 [Q3
 [LAP6 TELETYPE