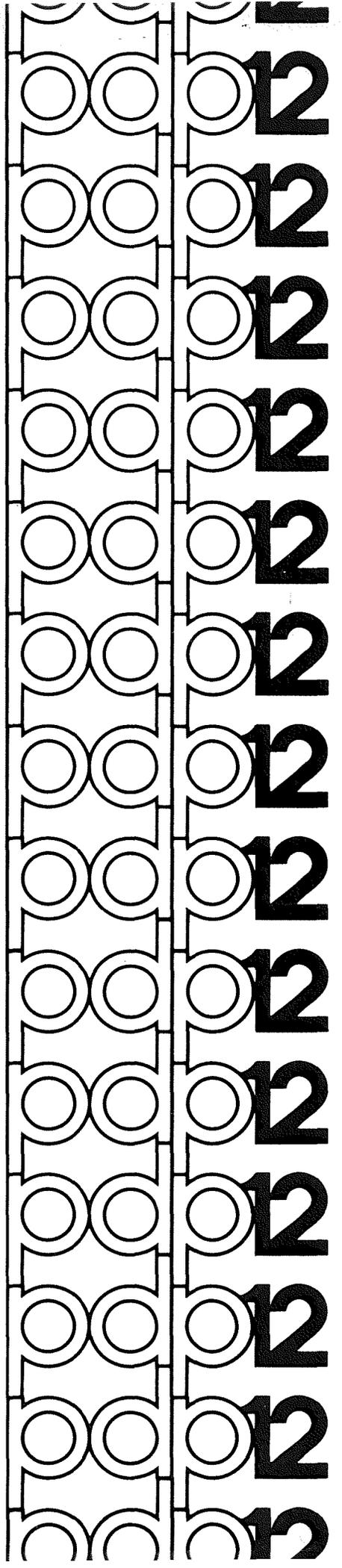


digital

patch



DEC-12-YU2A-D

March, 1970

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The equipment described herein is covered by patents and patents pending.

1.0 INTRODUCTION

The PATCH program will modify any location in any TBLK on tape unit 1. Its primary function is to provide a method for making small patches to LINCTape binaries. For example, PATCH can be used to modify load and go arguments in a LAP6-DIAL¹ binary header TBLK. Because PATCH converses with the user via QANDA, an understanding of QANDA conventions is necessary before using PATCH. Refer to DEC-12-FISA-D for that information.

2.0 HARDWARE REQUIREMENTS

The minimum configuration is a PDP-12B.

3.0 CORE USAGE

PATCH uses MBLKs 0, 2, and 3 of segment 2 and MBLK 4 of segment 3. The starting address is 4020.

4.0 LOADING PROCEDURE

PATCH is loaded by the command

```
→LO PATCH, UNIT 1
```

The tape to be modified must be on transport unit 1; it can be placed on unit 1 either before or after loading PATCH. PATCH is a load and go program.

¹ LAP6-DIAL is hereafter referred to as DIAL.

5.0 SENSE SWITCH OPTIONS

Raising Sense Switch \emptyset causes PATCH to return to DIAL.
Therefore, MAKE SURE SENSE SWITCH \emptyset IS DOWN BEFORE LOADING PATCH.

6.0 QANDA DIALOGUE

PATCH will query the user by presenting him with 4 successive scope messages. All input is from the Teletype¹ and output is to both the scope and the Teletype. Pressing LINE FEED causes the program to advance to the next message in sequence. There is no option to repeat the displayed messages.

All input must be octal and must be three or four digits, as appropriate. Leading zeros, if any, are required. RUBOUT will delete the previous characters typed, one at a time.

6.1 MESSAGE 1

When PATCH is started, it displays the following message:

TBLK _ _ _

At this point the user types in the number of the tape block to be modified.

¹Teletype is the registered trademark of the Teletype Corporation.

When the LINE FEED key is pressed, PATCH will read in the requested TBLK. If the input is not octal, the message is redisplayed.

6.2 MESSAGE 2

The next message is

LOC _ _ _

Now the user must type in a value between 000 and 377 to specify which word within the TBLK is to be modified. If the value is not between 0-377, the message will be redisplayed. Location 000 is defined as the first word in the TBLK; location 377 is defined as the last word in the TBLK. When the LINE FEED key is pressed, PATCH retrieves the contents of the requested location and displays them in the next message. If non-octal characters are typed, "LOC" is redisplayed.

6.3 MESSAGE 3

OLD VAL $X_1X_2X_3X_4$

NEW VAL _ _ _

$X_1X_2X_3X_4$ is the current contents of the requested location. The user may now type in the change. If, upon examination, no change is to be made, retype the old value as the new

value input, followed by LINE FEED. When LINE FEED is pressed, NEW VAL will replace OLD VAL in core. If an error was made in TBLK, simply type LINE FEED or some non-octal characters followed by LINE FEED. The first display (TBLK _ _ _) will reappear. (Note that any previous changes made in core up to this point will not be written onto the tape.)

6.4 MESSAGE 4

```
DO _  
1 WRITE  
2 MORE CHANGES
```

If the user types LINE FEED or any key other than 1 followed by LINE FEED, PATCH returns to message 2 to accept more changes within the same TBLK. If option 1 is requested, all the changes up to that point are written out on the requested TBLK and PATCH goes back to message 1. The program can be aborted at any point and reinitialized by stopping and restarting at 4020. A return to DIAL can be effected while any display is active simply by raising Sense Switch 0.

```

0000
0001
0002
0003
0004
0005
0006
0007
0010
0011
0012
0013
0014
0015
0016
0017
0020
0021
0022
0023
0024
0025
0026
0027
0030
0031
0032
0033
0034
0035
0036
0037
0040
0041
0042
0043
0044
0045
0046
0047
0050
0051
0052
0053
0054
0055
0056
0057
0060
0061
0062
0063
0064
0065
0066
0067
0070
0071
0072
0073
0074

*20
/LINC TAPE PATCHER (PATCH)
/ALLOWS USER TO MODIFY
/ANY WORD ON ANY TBLK OF UNIT 1
/ADD QANDA BEFORE ASSEMBLY
/5 MAR 70

LDA I
20
ESF
LDF 3
START,
JMP MESS1
JMP MESS2
JMP MESS3
JMP MESS4
JMP START
JMP START

LDA I
20
ESF
LDF 3
MESS1,
LDA
0
STC XITMS1
JMP QAINIT
TXT1
ANS1
JMP CHKSNS

LDA I
ANS1
JMP DECODE
JMP START
LDA
ANSD
BSE I
4000
STA
TPWD1
STC TPWD2
RDC U
TPWD1,
XITMS1,

MESS2,
LDA
0
STC XITMS2
JMP QAINIT
TXT2
ANS2
JMP CHKSNS
LDA I
ANS2
JMP DECODE
JMP START+1
LDA
ANSD
ADA I
-377
APO I
JMP START+1
ADA I

/DO I/O
/PRESET
/RTN
/JMP
/CHK SSW 0 UPON
/RTN FROM QANDA
/HERE WHEN DONE
/PTR TO
/TBLK
/ CVRT TO OCTAL
/NOT OCTAL
/HOLDS
/TBLK
/MBLK 4
/READ
/WRITE
/DISPLAY
/LOC ---
/PTR TO
/LOC
/NOT OCTAL
/HOLDS LOC
/REL TO
/2000

```

0076	0102	1040	STA	/SAVE
0077	0103	0233	LOC	/HERE
0100	0104	4016	STC 16	
0101	0105	0077	SET I 17	/PTR TO OLD
0102	0106	0256	TXT3+4	/VAL WD
0103	0107	1016	LDA 16	/OLD VAL TO AC
0104	0110	0076	SET I 16	/CVRT TO DIAL
0105	0111	7773	-4	/CODES FOR
0106	0112	4232	STC TEMP	/QANDA
0107	0113	1000	LDA	
0110	0114	0232	TEMP	
0111	0115	0243	ROL 3	/1 DIGIT AT
0112	0116	4232	STC TEMP	/A TIME
0113	0117	2232	ADD TEMP	
0114	0120	1560	BCL I	
0115	0121	7770	7770	
0116	0122	1120	ADA I	
0117	0123	0060	60	
0120	0124	1577	STH I 17	/PUT IN QANDA
0121				/TEXT STRING
0122	0125	0236	XSK I 16	/DONE ?
0123	0126	6113	JMP LOOP	/NO
0124	0127	0000	XITMS2,	/YES RTN
0125	0130	0440	CHKSNS,	/BACK TO DIAL ?
0126	0131	7053	JMP QARFSH	/NO REFRESH
0127				/MESSAGE
0130	0132	0076	SET I 16	
0131	0133	0721	RCC I	/GO EDITOR
0132	0134	0077	SET I 17	/DISPLAY
0133	0135	7300	7300	/OLD VAL XXXX
0134	0136	6016	JMP 16	/NEW VAL ----
0135				
0136				
0137				
0140	0137	1000	MESS3,	/RTN
0141	0140	0000	LDA	/JMP
0142	0141	4157	0	
0143	0142	7000	STC XITMS3	
0144	0143	0252	JMP GAINIT	
0145	0144	0315	TXT3	
0146	0145	6130	ANS3	
0147	0146	1020	JMP CHKSNS	
0150	0147	0315	LDA I	/PTR TO
0151	0150	6200	ANS3	/NEW VAL
0152	0151	6024	JMP DECODE	/CVRT TO OCTAL
0153	0152	1000	JMP START	/NOT OCTAL
0154	0153	0241	LDA	/HOLDS NEW VAL
0155	0154	0056	ANSWD	/PTR TO
0156	0155	0233	SET 16	/LOC
0157	0156	1056	LOC	/CHANGE IS IN
0160	0157	0000	STA 16	
0161			XITMS3,	/DISPLAY
0162			0	/OO -
0163				/1 WRITE
0164				/2 MORE CHANGES
0165	0160	1000	MESS4,	
0166	0161	0000	LDA	
0167	0162	4177	0	
0170	0163	7000	STC XITMS4	
0171	0164	0267	JMP GAINIT	
0172	0165	0320	TXT4	
0173	0166	6130	ANS4	
0174	0167	0077	JMP CHKSNS	
	0168		SET I 17	


```

0260 0257 4040 0260 0261 4243 0261 0261 4616 0261 0261 4527 0261 0261 4626 0261 0261 4114 0261 0261 7464 0261 0261 3400 0261 0261 3604 0262 0262 1774 0262 0263 6143 0263 0263 0661 0263 0263 4027 0263 0263 2211 0263 0263 2405 0264 0264 4306 0264 0264 0240 0264 0264 1517 0264 0264 2205 0264 0264 4003 0264 0264 1001 0264 0264 1607 0264 0264 0523 0264 0264 3400 0264 0265 0000 0265 0266 0000 0266 0267 0000 0267 0270 0000 0270 0271 0000 0271 0272 0000 0272 0273 0000 0273 0274 0000 0274 0275 0000 0275 0276 0000 0276 0277 0000 0277 0301 0301 0302 0302 0303 0303 0304 0304 0305 0305 0306 0306 0307 0307 0310 0310 0311 0311 0312 0312 0313 0313 0314 0314 0315 0315 0316 0316 0317 0317 0320 0320 0321 0321 0322 0322 0323 0323 0324 0324
TXT3, TEXT ZFOLD VAL
FNEW VAL<4\Z
TXT4, TEXT ZF00K1
F1 WRITE
F2 MORE CHANGES\Z
ANS1, 0
ANS2, 0
ANS3, 0
ANS4, 0
AAAEND, 0
/ADD QANDA
/ASSEMBLE
/DO SB PATCH,UNIT,L(CR)
/5 MAR 70
/QANDA SUBROUTINE FOR THE
/PDP-12
/REMOVE *1000 BELOW IF
/INSERTING SOURCE DIRECTLY
/INTO YOUR PROGRAM SOURCE
*1000 /REMOVE,IF DESIRED
/
/TO HERE TO INITIALIZE THE ROUTINE
/
GAINIT, LDA I /SAVE JMP RETURN
0316 1720
0317 0002
0320 2000
0321 1260
0322 0000
0323 3200
0324 4001
GAB, 0 /JMP +3
ADD QAL+3
STG 1
PTR TO FIRST PARAM
GET FIRST PARAM

```

```

0326 1210 3264 /PTR TO HALFWORD-1
0327 1211 2057 ADD QAO+1
0330 1021 1021 STC QAG-3
0331 1010 2052 LDA I 1
0332 1014 4006 STC QARFSH-1
0333 1015 0243 SET 3 /XR3 TO
0334 1016 1052 QARFSH-1
0335 1017 0044 SET 4
0336 1021 1057 QAG-3
0337
0340 1021 2041 SET 1
0341 1022 0004 4
0342 1023 7270 JMP QAT
0343 1024 0016 NOP
0344 1025 1324 LDH I 4
0345 1026 7231 JMP QAO
0346 1027 7035 JMP .+6
0347 1030 7050 /34
0350 1031 1460 SAE I
0351 1032 0043 43
0352 1033 7026 JMP QAD
0353 1034 7021 JMP QACA+4 /EXAMINE NEXT CHAR
0354
0355 1035 1343 STH 3
0356 1036 1324 LDH I 4
0357 1037 1120 ADA I
0360 1040 7717 -60
0362 1041 0217 COM
0363 1042 4006 STC 6
0364 1043 1363 STH I 3
0365 1044 9226 XSK I 6
0366 1045 7043 JMP .-2
0367 1046 1323 LDH I 3
0370 1047 7026 JMP QAD
0371 1050 1343 STH 3
0372 1051 0064 SET I 4
0373 1052 0000 0
0374
0375 1053 1020 QARFSH, LDA I
0376 1054 0277 277
0377 1055 5113 STC QAH-1
0400 1056 0063 SET I 3
0401 1057 0000 0
0402 1060 0045 SET 5
0403 1061 1052 QARFSH-1
0404 1062 0041 SET 1
0405 1063 0003 3
0406 1064 7270 JMP QAT
0407 1065 7074 JMP .+7
0410 1066 1323 LDH I 3
0411 1067 1020 LDA I
0412 1070 1560 BCL I
0413 1071 5123 STC QAM+2
0414 1072 3512 ADD QAM
0415 1073 7101 JMP GAM
0416 1074 1323 LDH I 3
0417 1075 1020 LDA I
0420 1076 1620 BSE I
0421 1077 5103 STC QAM+2
0422 1100 3513 ADD QAM+1
0423 1101 5245 STC QAD+3

```

```

/PTR TO HALFWORD-1
ADD QAO+1
STC QAG-3
LDA I 1
STC QARFSH-1
SET 3 /XR3 TO
QARFSH-1
SET 4
QAG-3
SET 1
4
JMP QAT
NOP
LDH I 4
JMP QAO
JMP .+6
/34
SAE I
43
JMP QAD
JMP QACA+4 /EXAMINE NEXT CHAR
/INITIALIZE ANSWER BUFR
/74 TO ANSWERS
/NEXT HALFWORD
/0 IN AC
/BUMP PTR TO ANSWERS
/ANSWER BUFR IS INITIATED
/XR4 TO PTR TO LAST TYPED CHAR IN ANSWER BUFR
/-----ENTER HERE TO REFRESH-----
/INITIAL Y POSITION
/XR3 TO PTR TO HALFWORD QUESTIONS-1
/XR5 TO PTR TO LAST DISPLAYED CHAR IN ANSWER BUFR
/F
/H, BUMP PTR
/NEITHER, ASSUME HALF SIZE
/SET INSTR TO CLEAR FF FOR HALF SIZE
/NOP IN AC
/BUMP PTR
/SET INSTR TO SET FF FOR FULL SIZE
/ADD 9U IN AC

```

```

QACA,
QAD,
QAE,
QARFSH, LDA I
QAG,
QAM,

```

```

3125 1193 1524 HSE I /THIS INSTR CHANGES, EITHER BSE & OR BCL &
3126 1104 0200 220 /AC TO CONTROL REGISTER
3127 1105 2004 YSC 4 /XR1 TO INITIAL X POSITION
3128 1106 0001 SET I 1
3129 1107 0100 LDA I /Y COORDINATE MULTIPLE
3130 1111 1021 LDA I /Y COORDINATE
3131 1111 7737 -40 /Y COORDINATE
3132 1112 1160 ADM I
3133 1113 0170 LDA I 3
3134 1114 1523 JMP GAO+1
3135 1114 7232 JMP GAZ
3136 1116 7311 JMP GAJ
3137 1117 7130 SHD I
3138 1120 1420 4300 /NEITHER
3139 1121 4300 /CR, MOVE X AND Y COORDINATE
3140 1122 7062 JMP QAG /ISPLAY CHAR
3141 1123 7242 JMP QAP /PICK UP NEXT CHAR
3142 1124 7114 JMP GAH /TO HERE IF DISPLAYING ANSWER BUFR
3143 1125 7242 JMP GAP /TO HERE IF DISPLAYED BUFFER
3144 1126 1520 SRO I /SWITCH TO DISPLAY CURSOR, EITHER 0000 OR 7777
3145 1127 3000 0 /IFXR4=XR5, THEN SWITCH=7777
3146 1130 7516 JMP GAF /QUESTION MODE
3147 1131 1325 LDH I 5
3148 1132 7232 JMP GAO+1
3149 1133 7114 JMP GAH /74
3150 1134 7114 JMP GAH /34
3151 1135 7125 JMP GAI-4 /NEITHER, DISPLAY IT
3152 1136 7521 JMP GETKBD /TO HERE IF DISPLAYED BUFFER
3153 1137 0470 AZE I
3154 1140 7004 JMP QAB /NOTHING TYPED, EXIT
3155 1141 0062 SET I 2
3156 1142 1412 QAY
3157 1143 1402 SHD 2
3158 1144 7311 JMP QAK+4 /LF?
3159 1145 1422 SHD I 2 /YES, EXIT
3160 1146 7223 JMP QAN /CR?
3161 1147 0206 XSK 6 /IS THERE AN ANSWER FIELD?
3162 1150 7053 JMP GARFESH /<?
3163 1151 1422 SHD I 2 />?
3164 1152 7175 JMP GAL
3165 1153 1422 SHD I 2
3166 1154 7305 JMP QAK /ALT?
3167 1155 1422 SHD I 2 /REINITIALIZE
3168 1156 7015 JMP QACA /BACK SLASH?
3169 1157 1422 SHD I 2 /IGNORE
3170 1160 7053 JMP GARFESH /RUBOUT?
3171 1161 1422 SHD I 2 /IGNORE
3172 1162 7175 JMP GAL /TAB?
3173 1163 1422 SHD I 2 /IGNORE
3174 1164 7053 JMP GARFESH /ACCEPTABLE CHAR
3175 1165 0172 STC +5 /TEST NEXT CHAR
3176 1166 7231 JMP GAO /74 BACK PTR UP BY 1
3177 1167 7263 JMP GAG /34 +
3178 1170 7263 JMP QAO /OK, STORE IT
3179 1171 1020 LDA I 0
3180 1172 0000 STH 4
3181 1173 1344 JMP GARFESH /REDISPLAY
3182 1174 7053 LDH 4 /TO HERE IF RUBI OR <
3183 75 1304 JMP GAO+1
3184 1176 7232 JMP GARFESH /74 IGNORE
3185 1177 7053

```

```

0524 1201 1502 /TEST THE CHAR
0525 1202 1460 /RUBOUT?
0526 1203 3037 /NO, BACK PTR UP BY 1
0527 1204 7263
0530 1205 1149
0531 1206 1104
0532 1207 1043
0533 1210 3004
0534 1211 7213
0535 1212 1325
0536 1213 1323
0537 1214 7232
0540 1215 0016
0541 1216 0011
0542 1217 1345
0543 1220 0450
0544 1221 7212
0545 1222 7263
0546
0547
0550 1223 0206 QAN,
0551 1224 7311
0552 1225 7231
0553 1226 7053
0554 1227 7051
0555 1230 7225
0556 1231 1524
0557 1232 1420
0560 1233 7400
0561 1234 6000
0562 1235 1460
0563 1236 0034
0564 1237 0220
0565 1240 0220
0566 1241 6000
0567
0570 1242 0241
0571 1243 3430
0572 1244 4002
0573 1245 3506
0574 1246 3506
0575 1247 2001
0576 1250 4001
0577 1251 2005
0600 1252 0017
0601 1253 2004
0602 1254 0450
0603 1255 0011
0604 1256 5127
0605 1257 3113
0606 1260 1742
0607 1261 1762
0610 1262 6000
0611 1263 1020
0612 1264 3777
0613 1265 1140
0614 1266 0004
0615 1267 7053
0616
0617 1270 1321
0620 1271 1420
0621 1272 0600

LDH I 2
SAE I
37
JMP QAO
SET 5
4
SET 3
4
JMP ,+2
LDH I 5
LDH I 3
JMP QAO+1
NOP
CLR
STH 5
AZE
JMP ,+7
JMP QAO
XSK 6
JMP QAK+4
JMP QAO
JMP GARFISH
JMP QAE+1
JMP QAN+2
LDH I 4
SHD I
7400
JMP 0
SAE I
34
XSK I 0
XSK I 0
JMP 0
ROL 1
ADD QAX+4
STC 2
ADD QAU
ADD QAU
ADD I
STC 1
ADD 5
COM
ADD 4
AZE
STC QAI-2
ADD QAH-1
DSC 2
DSC I 2
JMP 0
LDA I
-4000
ADM
4
JMP GARFISH
LDH I 1
SHD I
0600

/TEST THE CHAR
/RUBOUT?
/NO, BACK PTR UP BY 1
/BUMP PTR
/GET NEXT CHAR
/IF 74 OR 34, REPLACE CURRENT CHAR WITH 0
/WAS IT 74 OR 34?
/NO, CONTINUE
/BACK PTR UP BY 1
/TO HERE IF CR
/EXIT ROUTINE IF NO ANSWER FIELD
/74 MOVE PTR TO NEXT QUESTION FIELD
/34 END OF BUFR, MOVE PTR TO FIRST QUESTION FIELD
/SAR
/
/
/
+1 74 BEGIN FIELD
+2 34 END BUFR
+3 NEITHER 74 NOR 34
/SAR TO DISP LINC CHAR IN AC
/MULT BY 2 FOR INDEX TO ADDRESS OF TABLE
/ADDRESS OF CHAR TO DISP IN XR2
/THIS INSTR CHANGES, EITHER OP OR ADD 9U
/ADD 4 TO XR1 TO SPACE CHAR
/GET ADDRESS OF ANSWER BUFR
/SWITCH=0 OR 7777
/Y COORDINATE IN AC
/DISPLAY CHAR
/BACK UP PTR BY 1
/REDISPLAY
/SAR
/
/
+1 F
+2 H

```

```

0620 1274 1700
0624 1275 0010
0625 1276 XSK I 0
0626 1277 0220
0627 1300 6022
0630
0631 1301 0020
0632 1302 1020
0633 1303 0040
0634 1304 7125
0635
0636 1305 1324
0637 1306 0470
0640 1307 7263
0641 1310 7424
0642
0643 1311 1020
0644 1312 0001
0645 1313 1142
0646 1314 1024
0647 1315 7024
0650
0651 1316 0101
0652 1317 0101
0653 1320 4477
0654 1321 7744
0655 1322 5177
0656 1323 2651
0657 1324 4136
0660 1325 2241
0661 1326 4177
0662 1327 3641
0663 1330 4577
0664 1331 4145
0665 1332 4477
0666 1333 4044
0667 1334 4136
0670 1335 2645
0671 1336 1077
0672 1337 7710
0673 1340 7741
0674 1341 0041
0675 1342 4142
0676 1343 4076
0677 1344 1077
0700 1345 4324
0701 1346 0177
0702 1347 3301
0703 1350 3077
0704 1351 7730
0705 1352 3077
0706 1353 7706
0707 1354 4177
0710 1355 7741
0711 1350 4477
0712 1357 3044
0713 1360 4276
0714 1361 0376
0715 1362 4477
0716 1363 3146
0717 1364 5121
0720 1365 4651
0721 1366 4044

```

```

/
/TO HERE IF >
/IS CURRENT CHAR BLANK?
/YES, IGNORE
/MOVE DOT FORWARD
/TO HERE TO EXIT WITH SKIP

```

```

/CHARACTER PATTERNS
/KBD 0, ILLEGAL, USED AS MARKER

```

```

/1:A

```

```

/2:B

```

```

/3:C

```

```

/4:D

```

```

/5:E

```

```

/6:F

```

```

/7:G

```

```

/10:H

```

```

/11:I

```

```

/12:J

```

```

/13:K

```

```

/14:L

```

```

/15:M

```

```

/16:N

```

```

/17:O

```

```

/20:P

```

```

/21:Q

```

```

/22:R

```

```

/23:S

```

```

/24:T

```



```

1021 1504
1022 1463
1023 1464
1024 1465
1025 1466
1026 1467
1027 1470
1028 1471
1031 1472
1032 1473
1033 1474
1034 1475
1035 1476
1036 1477
1037 1502
1040 1501
1041 1502
1042 1523
1043 1524
1044 1525
1045
1046 1526
1047 1527
1050 1512
1051 1511
1052
1053 1512
1054 1513
1055 1514
1056 1515
1057
1060 1516
1061 1517
1062 1522
1063
1064
1065
1066
1067
1070
1071
1072
1073
1074
1075
1076
1077
1100
1101
1102
1103
1104
1105
1106
1107
1110
1111
1112
1113
1114
1115
1116
1117

2151
4122
2651
2414
0477
5172
2651
1506
4225
4443
6050
5126
2651
5122
3651
2200
0000
4601
0000

/70:8

/71:9
/72::
/73::

/CONSTANT
/NOT USED
/75:=
/77:?

/END Q+A

/KEYBOARD INPUT ROUTINE
/KEYBOARD=6036
/KEYBOARD=6041
/KEYBOARD=6046

/SAVE RETURN
/SAVE XRS 1 AND 2

STC GAEXIT+6
ADD 1
STC GAEXIT+3
ADD 2
STC GAEXIT+5
STC GAEXIT+1
KST
JMP 0
IOB
QAKRB
STA I
QATY,
ADA I
-237
APO

/NO: EXIT
/WAS SOMETHING TYPED?
/GET TTY CHAR, CLEAR FLAG
/SAVE IT

/NOT DISPLAYED
/NOT DISPLAYED

/BETWEEN 200 AND 237?

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1120 1342 7624 / JMP GACNTR /CONTROL CHAR, CHECK FOR CR,LF,TAB
1121 343 /NO
1122 343 /NO
1123 1544 1654 QACHAR-1
1124 1545 8062 SET I 2
1125 1546 7773 -7
1126 1547 1000 LDA
1127 1550 1536 GATY
1128 1551 1461 SAE I 1
1129 1552 7554 JMP ,+2
1130 1553 7635 JMP GAEXIT /ILLEGAL CHAR, DONT ECHO
1131 1554 8222 XSK I 2 /CHECKED THEM ALL?
1132 1555 7551 JMP ,+4
1133
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1136 1556 1120 ADA I
1137 1557 7442 -337
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1140 1567 2451 APO
1141 1561 7575 JMP GALEGL
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1144 1562 1461 SAE I 1
1145 1563 7572 JMP ,+7
1146 1564 1220 LDA I
1147 1565 7334 334
1148 1566 7644 JMP GATPE /ECHO BACKSLASH
1149 1567 1220 LDA I
1150 1570 8837 37
1151 1571 7637 JMP GAEXIT+2 /LEGAL EXIT
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1154 1572 1461 SAE I 1
1155 1573 7635 JMP GAEXIT /ILLEGAL
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1157 1574 7637 JMP GAEXIT+2 /EXIT, DONT ECHO
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1161 1575 1000 GALEGL, LDA
1162 1576 1536 GATY
1163 1577 7644 JMP GATPE /ECHO CHAR
1164 1600 3536 ADD GATY
1165 1601 1560 BCL I
1166 1602 7700 7700
1167 1603 7637 JMP GAEXIT+2
1168
1169 /TO HERE IF CONTROL CHAR
1170 GACNTR, SAE I
1171 1604 1460 JMP GACKLF /CR
1172 1605 7755 LDA I
1173 1606 7621 43
1174 1607 1020 43
1175 1610 2043 43
1176 1611 5636 STC GAEXIT+1
1177 1612 1220 LDA I
1178 1613 8215 215
1179 1614 7644 JMP GATPE
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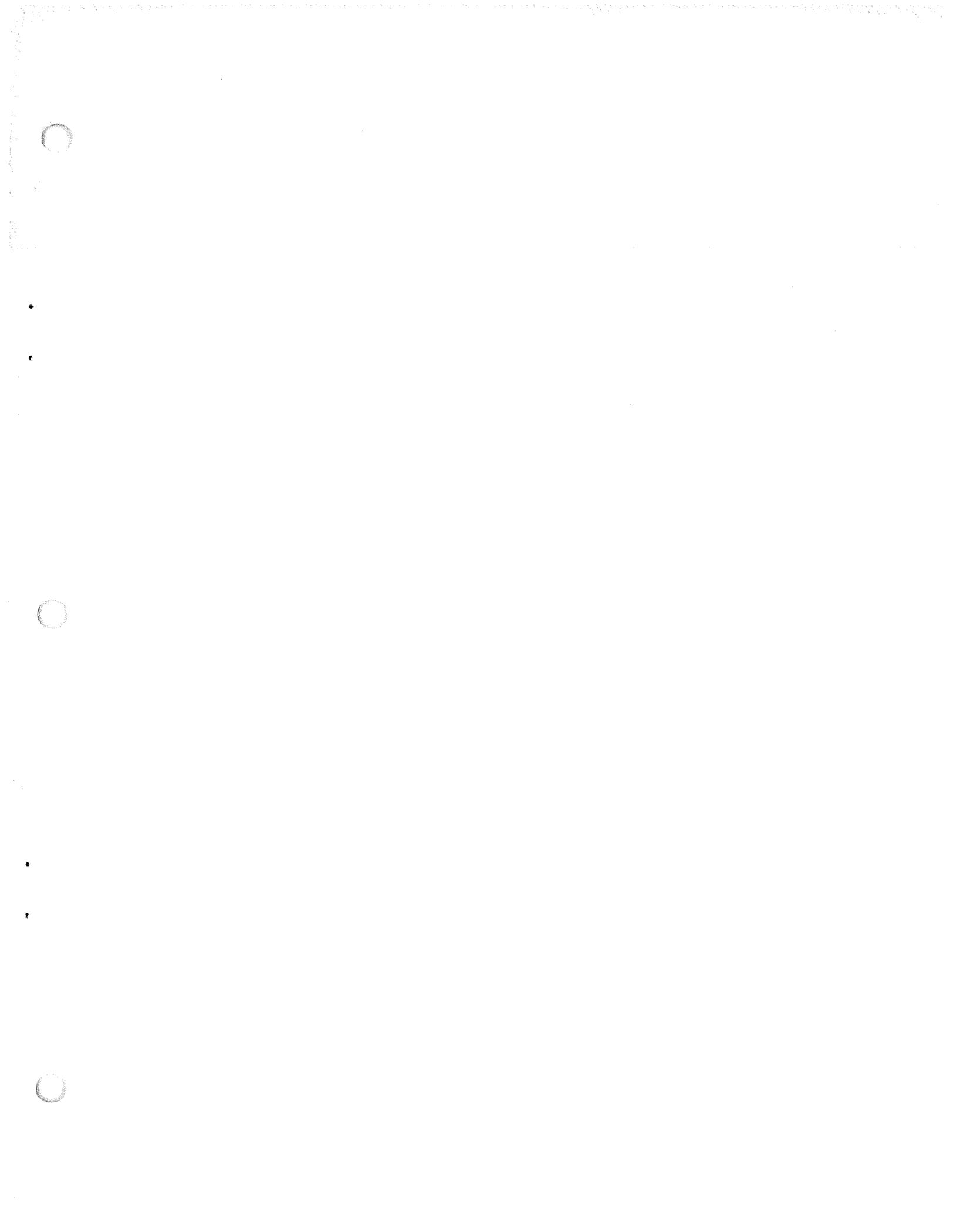
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1221	LDA	I			
1222	47				
1223	JMP	0AEXIT+2	/EXIT, DONT ECHO		
1224	/				
1225	0AEXIT,	LDA	I /GET 6-BIT ASCII		
1226	0				
1227	SET	I 1	/RESTORE XRS		
1228	0				
1229	SET	I 2			
1230	0				
1231	JMP		/EXIR S/R GETKBD		
1232	/S/R	TO PRINT C(AC)			
1233	0ATPE,	IOB			
1234	QATLS	/PDP-8 IOT TLS			
1235	LDA				
1236	0				
1237	STC	,+4 /SAVE RETURN			
1240	IOB				
1241	QATSF	/WAIT FOR FLAG			
1242	JMP	,+2			
1243	JMP		/EXIT		
1244					
1245	/				
1246	QACHAR,	243	/HASH		
1247	244	/DOLLAR SIGN			
1250	245	/PER CENT			
1251	247	/APOSTROPHE			
1252	300	/AT SIGN			
1253	336	/UP ARROW			
1254	337	/BACK ARROW			
1255	40	/RUBOUT			
1256	36	/ALT			
1257	/END	OF S/R GETKBD			

NO ERRORS

AAEND 4322
ANSWD 4241
ANS1 4327
ANS2 4312
ANS3 4315
ANS4 4324
CHKSNS 4132
DECODE 4227
GETKBD 5521
LOC 4233
LOCPIX 4234
LOOP 4113
MESS1 4032
MESS2 4057
MESS3 4137
MESS4 4162
NXTCHR 4225
QAB 5224
QACA 5215
QACHAR 5655
QACKLF 5621
QACNTR 5624
QAD 5026
QAE 5057
QAEEXIT 5655
QAF 5516
QAG 5062

QAH 5101
QAI 5222
GAINIT 5136
QAJ 5305
QAK 6236
QAKRB 5175
QAL 3575
QALEGL 5131
QAM 5223
QAN 5231
QAO 5242
QAP 5263
QAO 5253
QARFSH 5272
QAT 6246
QATLS 5644
QATPE 6241
QATSF 5536
QATY 5506
QAU 5316
QAV 5512
QAW 5424
QAX 5412
QAY 5301
QAZ 4224
START 4232
TEMP 4255
TPWD1 4176
TPWD2 4242
TXI1 4246
TXI2 4252
TXI3 4267
TXI4 4256
XITMS1 4127
XITMS2 4157
XITMS3 4177
XITMS4



100-100000



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