

LENGTH OF PRG 01145

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IDENT IFSTART

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*****
*
* THIS ROUTINE DOES ALL THE SET UP FOR THE TRANSFER OF
* INFORMATION BETWEEN THE PDP8 AND THE 3300. IN THE
* PROCESS OF DOING THIS IT BUILD THREE MAIN QUEUES CALLED
* PDPIQ (INPUT FROM PDP8), PDPCQ (OUTPUT TO PDP8), AND
* PDPCQ (CONTROL INFORMATION FROM PDP8). TO ADD A NEW
* TYPE OF DATA OR TO CHANGE EXISTING ONES AROUND THE
* ENTRIES IN THESE TABLES MUST BE CHANGED.
* THIS ROUTINE ALSO SETS VARIOUS BITS IN PSABLK TO SAY
* THAT VARIOUS TERMINALS ARE NOT TTYS BUT 200 UT#S
* OR TEKTRONIX GRAPHIC TERMINALS. ALL INFORMATION USED
* IN THE BUILDING AND MODIFYING OF THE VARIOUS TABLES IS
* OBTAINED FROM THE SYMBOL BLOCK VIA INITIAL.
*
* ENTRIES IN THE SYMBOL BLOCK LOOK AS FOLLOWS:
*
* VFD      H48/DEVICE
* VFD,B    A3/NUMBER OF TIMES TO MULTI PROGRAM IF READER
* VFD,B    A5/OUTPUT LABEL
* VFD,B    A5/INPUT LABEL
* VFD,B    A5/CONTROL BYTE
* VFD,B    A6/PDP-8 MUX CHANNEL NUMBER
*
*****

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INCLUDE  ↑SYSMAC
COSY/    03      V4.1      08/17/74  0453

```

UTLPDEF

```

*****
*
* URBLOCK BLOCK DEFINITIONS
*
* FB      EQU      0      POINTER TO NEXT FILE BLOCK
* BLF     EQU      FB+1   COUNT OF BLOCKS IN THIS FILE
* BFBGN   EQU      BLF+1  QUARTER PAGE NUMBER OF CURRENT
*          512 WORD BLOCK
* BFCPP   EQU      BFBGN+1 POINTER TO NEXT WORD TO BE
*          LOADED FROM THIS BLOCK. THIS
*          POINTER IS RELATIVE TO THE
*          BEGINNING OF THE CURRENT BLOCK
*          GO TO THIS ADDRESS WHEN BUFFER
*          IS DONE AFTER AN INTERRUPT
* CALBAK  EQU      BFCPP+1 BIT23 SEZZ CALBAK
*          LOCATION WHERE RECORD IS TO BE
*          PLACED OR MOVED FROM.
* IMAD    EQU      CALBAK+1 MAXIMUM ALLOWABLE RECORD SIZE
*          STI *,0
* LNIM    EQU      IMAD+1  ENI BLOCK,X1
* KILLFLAG EQU      LNIM+1 UJP IMPURE
* ENAD    EQU      KILLFLAG+1 TEMP FOR INDEX 3
* NJM     EQU      ENAD+1 IF BIT23 DEVICE MUST BE STARTED
*          BY OPERATOR
* ENIT    EQU      NJM+1  IF BIT22 DO NOT PROCESS FORMS ON
*          THIS DEVICE
*          IF BIT21 THEN STOP MACRO
*          IF BIT20 THEN BUFFER IS UNSAFE
*          BIT 19 IS A QUEUEING FLAG
*          PTR TO 4 WORD BLOCK
*          COUNT OF WORDS IN RECORD
*          RELATIVE LOCATION IN BUFFER
*          CONTENTS OF PF1
*          BIT19 SEZ WAITING FOR
*          OPERATOR TO READY DEVICE
*          BIT20 SEZ WANTS FORMS
*          BIT21 SEZ HAS FORMS
*          BIT22 SEZ TAKE FORMS OUT
*          BIT23 SEZ SAME AS BIT22 BUT
*          DRIVER IS WAITING TO OUTPUT NEXT
*          FILE
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*****

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00017	49	IDENT EQU	PWORD+1	BCD IDENT OF THE DEVICE	*
00020	50	URBEXITA EQU	IDENT+1	ENI BLK,X1	*
00021	51	URBEXIT EQU	URBEXITA+1	UJP IMPURE	*
00022	52	QINGLOC EQU	URBEXIT+1	ADDRESS TO GO TO WHEN FILES	*
	53	.*		ARE UNEQUIPPED	*
00023	54	QPNT EQU	QINGLOC+1	POINTER TO NXPTR AND LXPTR	*
00024	55	QEMPTY EQU	QPNT+1	ADDRESS TO TELL DRIVER THAT IT	*
	56	.*		HAS TO MORE FILES TO OUTPUT	*
00025	57	STRTLOC EQU	QEMPTY+1	ADDRESS TO TELL DRIVER TO START	*
	58	.*		FILE	*
	59	.*			*
	60	*****		*****	*
00026	187	URWORD EQU	STRTLOC+1	ADDRSS OF WHERE TO JUMP ON THE	*
	188	.*		NEXT INTERRUPT	*
00027	189	QADD EQU	URWORD+1	POINTER TO THE PDP8 TRANSFER Q	*
00030	190	NXPTR EQU	QADD+1	POINTER TO NEXT FILE TO PROCESS	*
00031	191	LXPTR EQU	NXPTR+1	POINTER TO LAST FILE TO PROCESS	*
00032	192	CONTROL EQU	LXPTR+1	HAS PDP8 CONTROL BYTE THAT	*
	193	.*		SEZ WE HAVE LP INFORMATION	*
00033	194	INTLOC EQU	CONTROL+1	ENI BLK,X1+CBI ENTER HERE WHEN	*
	195	.*		UJP INTERRUPT PDP8 WANTS DATA	*
00035	196	RETADD EQU	INTLOC+2	RETURN ADDRESS	*
	197	.*		IF BIT23 ALLOW INTERRUPT REQUEST	*
00036	198	CTR EQU	RETADD+1	COUNTER OF INTERRUPT R EQUESTS	*

```

35          UWBDEF
102        .*
103        .* *****
104        .*
105        .*          UWBLOCK BLOCK DEFINITIONS
106        .*
107        .*
00000      108      CONBLOCK EQU      0          POINTER TO 8 WORD CONTROL BLOCK
00001      109      BFPTR   EQU      CONBLOCK+1  POINTER TO CURRENT CORE BUFFER
110        .*          -0 IF NO BUFFER PRESENT
00002      111      BLKPOS  EQU      BFPTR+1     CURRENT BLOCK POSITION
00003      112      IMADR   EQU      BLKPOS+1     ADDRESS OF WORD COUNT AND IMAGE
00004      113      CALLBAD EQU      IMADR+1     CALL BACK ADDRESS
114        .*          RTJ MACHERR
00006      115      RDIST   EQU      CALLBAD+2    ENI BLOCK,CBI
116        .*          UJP IMPURE
00010      117      WCNT    EQU      RDIST+2     TEMPORARY WORD COUNT
00011      118      CBLOCK  EQU      WCNT+1     ADDRESS OF CURRENT BLOCK
00012      119      TIMAD   EQU      CBLOCK+1    TEMPORARY FOR CURRENT POSITION
00013      120      PSALOC  EQU      TIMAD+1     ADDRESS OF ASSOCIATED PSA
00013      121      DISKBUSY EQU      PSALOC     BUFFER UNSAFE FLAG
122        .*          ENI BLOCK,CBI
00015      123      EXITADD EQU      PSALOC+2    UJP IMPURE RETURN ADDRESS
00016      124      PFSAVE  EQU      EXITADD+1   TEMP TO SAVE THE CONTENTS OF PF1
00017      125      UWBWC   EQU      PFSAVE+1   TEMP TO SAVE WC AND CALL BACK
00020      126      UWBRET  EQU      UWBWC+1    ADDRESS IF CALL TO UWBLOCKB
00021      127      UWBX3   EQU      UWBWC+2    TEMP TO SAVE RETURN ADDRESS IF
128        .*          CALL TO UWBLOCKB
129        .*          BIT23 IF LAST RECORD WAS ILOGOFF
00022      130      BATCHPNT EQU      UWBX3+1    POINTER TO THE PROPER BATCH Q
00023      131      DESTLP  EQU      BATCHPNT+1  DESTINATION LINE PRINTER CODE
00024      132      UWMAX   EQU      DESTLP+1    NUMBER OF WORDS IN BLOCK
133        .*
134        .*
135        .*          THE FOLLOWING ARE USED ONLY FOR
00024      136      EXPDATA EQU      UWMAX        DEVICES THAT COME FROM THE PDP8
137        .*          BIT23 SEZZ EXPECTING DATA
138        .*          BITS 14--0 HAVE 64 WORD BLOCK
139        .*          ADDRESS
00025      140      COMWORD EQU      EXPDATA+1  12 BIT BYTES WITH THE CONTROL
141        .*          BLOCK INFORMATION
00026      142      DEVTYPE EQU      COMWORD+1  BITS 14--0 HAVE UWBLOCK ROUTINE
143        .*          POINTER
00027      144      UWMAXA  EQU      DEVTYPE+1    NUMBER OF WORDS IN LONGER BLOCKS
145        .*
146        .* *****

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00001 37 X1 EQU 1
00002 38 X2 EQU 2
00003 39 X3 EQU 3
00000 40 CBI EQU 0
00000 41
00000 42 IMPURE EQU 0
00000 42+001 SELECT EQU 0
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44 FCBDEF
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71 ACCWORD EQU 0 ACCOUNTING WORD (MUST BE 0)
72 LP EQU 1 LOAD POINT BLOCK
73 COREP EQU 2 CORE POINTER IF NON-ZERO
74 IF BIT23 = 1, CORE BLOCK HAS
75 BEEN WRITTEN INTO
76 CBP EQU COREP+1 BLOCK NUMBER OF THE CURRENT BLOC
77 CPP EQU 4 CURRENT POSITION POINTER
78 (REL. POSIT. WITHIN BLOCK CBP)
79 BIT23 SEZ READ-ONLY
80 BIT22 SEZ AT LOAD POINT
81 BIT21 SEZ END OF DATA
82 BIT20 SEZ FILE MARK JUST READ
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85 *****
86 * THIS SECTION STORES TE PDP8 CONNECT CODE INTO THE DRIVER *
87 * *****

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00000 010000000
00001 440777777 X
00002 44000134 P
00003 12000014
00004 53700000
00005 17300007
00006 12000006
00007 17600070
00010 53740000
00011 146777777 X
00012 443777777 X
00013 146777777 X
00014 154777776
00015 12000017
00016 40000205 P
00017 01000000 P

```

89 PDP8.SUP UJP IMPURE
90 SWA IFCON SAVE THE CONNECT CODE IN THE DRIV
91 SWA IFCCNX INTO STARTUP ROUTINE
91+001
92 SHA 12
93 TAI X3
94 ANI 00007B,X3
95 SHA 6 FORM ADDRESS INTO INST
96 ANA 00070B FOR INTERRUPT DECODING
97 IAI X3
98 ENA IFINT
99 SWA INSTL,X3
99+001 ENA TNUM GET THE HIGH TTY NUMBER
99+002 INA,S -1 BACK UP BY ONE FOR OFFSET
99+003 SHA 15 UP TO THE TOP 9 BITS
99+004 STA TERM SET INTO PSEUDO PSA ENTRY
UJP PDP8.SUP EXIT

```

00020 010000000
00021 14100001
00022 201777777 X
00023 350777777 X
00024 40100022 X
00025 15100001
00026 20100024 X
00027 35000023 X
00030 40100026 X
00031 53020037
00032 17600037
00033 13077747
00034 510777777 X
00035 32000152 P
00036 42000707 P 00161 3
00037 43000710 P 00162 0
00040 53020022
00041 13077747
00042 51000154 P
00043 13000030
00044 46000052 P
00045 14600000
00046 51000034 X
00047 32000152 P
00050 42000712 P 00162 2
00051 43000713 P 00162 3
00052 11000000 00000 0
00053 13077747
00054 510777777 X
00055 13077747
00056 51000046 X
00057 32000152 P
00060 42000715 P 00163 1
00061 43000716 P 00163 2
00062 53020037
00063 13077742
00064 17700037
00065 51000056 X
00066 32000152 P
00067 42000721 P 00164 1
00070 43000722 P 00164 2
00071 53020037
00072 12077765
00073 17600017
00074 53500000
00075 20100170 P
00076 40000165 P
00077 53020037
00100 13077731
00101 17700177
00102 51000065 X
00103 32000152 P
00104 42000730 P 00166 0
00105 43000731 P 00166 1
00106 14377777 X

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100 PDP8.SUP UJP IMPURE
101 ENI 1,X1
102 LDA PSABLK,X1 DEVICE 1 IS NOT A TTY
103 SSA BIT19
104 STA PSABLK,X1
105 INI 1,X1
106 LDA PSABLK,X1
107 SSA BIT19
108 STA PSABLK,X1
109 TMA 37B
110 ANA 37B
111+001 SHAQ -24
111+002 DVA D10
111+003 ADAQ ASCII MAKE IT DIGITS
111+004 SACH MM INTO HOUR DIGIT 1
111+005 SQCH MM+1 INTO HOUR DIGIT 2
111+006 TMA 22B
111+007 SHAQ -24 TIME WORD
111+008 DVA D10 DOWN TO Q
111+009 SHAQ -24 MAKE IT MINUTES
111+010 ADAQ ASCII DOWN TO Q/Q TO AC
111+011 SACH MM SAVE SECONDS
111+012 SQCH MM+1 FOR DIVIDE
111+013 TMA 37B MAKE DIGITS
111+014 SHAQ -24 MAKE ASCII DIGITS
111+015 ADAQ ASCII MINUTES DIGIT 1
111+016 SACH MM MINUTES DIGIT 2
111+017 SQCH MM+1 RESTORE SECONDS
111+018 TMA 37B
111+019 SHAQ -24 DOWN TO Q
111+020 DVA D1000 MAKE SECONDS
111+021 SHAQ -24 BACK DOWN TO Q
111+022 ADAQ ASCII MAKE IT DIGITS
111+023 SACH SS MAKE ASCII DIGITS
111+024 SQCH SS+1 SECONDS DIGIT 1
111+025 TMA 37B SECONDS DIGIT 2
111+026 SHAQ -24-5 GET DATE AGAIN
111+027 ANQ 37B DAY OF MONTH
111+028 DVA D10 MASK TO 5 BITS
111+029 ADAQ ASCII MAKE IT DIGITS
111+030 SACH 00 MAKE ASCII DIGITS
111+031 SQCH DD+1 DAY DIGIT 1
111+032 TMA 37B DAY DIGIT 2
111+033 SHA -5-5 DATE AGAIN
111+034 ANA 17B GET MONTH POSITION
111+035 TAI X1 MASK TO 4 BITS
111+036 LDA MONTHS,X1 FOR INDEXING TABLE OF MONTHS
111+037 STA MO GET PROPER IDENT FOR MONTH
111+038 TMA 37B SAVE INTO MESSAGE
111+039 ANQ 177B LAST TIME
111+040 DVA D10 DOWN TO Q
111+041 ADAQ ASCII MASK TO 7 BITS
111+042 SACH YY MAKE DIGITS
111+043 SQCH YY+1 MAKE ASCII DIGITS
111+044 ENI TERMINAL,X3 YEAR DIGIT 1
YEAR DIGIT 2
OFFSET FOR PSA POINTER

00107	16377777		111+047	XOI	777770,X3	FLIP IT
00110	15300205	P	111+048	INI	TERM,X3	MAKE IT RELATIVE TO PSA FAKERY
00111	14600215		111+049	ENA	215B	CARRIAGE RETURN
00112	00700143	P	111+050	RTJ	CTO	OUTPUT THE CHARACTER
00113	14600212		111+051	ENA	212B	
00114	00700143	P	111+052	RTJ	CTO	OUTPUT THE CHARACTER
00115	14177720		111+053	ENI	-NCHARS,X1	NUMBER OF CHARACTER IN MESSAGE
00116	22400743	P	111+054	LACH	UPMES+NCHARS,X1	GET A CHARACTER
00117	15600240		111+055	INA	240B	MAKE ASCII
00120	00700143	P	111+056	RTJ	CTO	OUTPUT IT
00121	02100116	P	111+057	IJI	*-3,X1	LOOP TIL OUTPUT
00122	14600215		111+058	ENA	215B	CARRIAGE RETURN
00123	00700143	P	111+059	RTJ	CTO	OUTPUT THE RETURN
00124	14600212		111+060	ENA	212B	LINE FEED
00125	00700143	P	111+061	RTJ	CTO	NEW LINE NOW
00126	14677777	X	111+062	ENA	DUMPLABL	LABEL FOR DUMP INFO
00127	12000014		111+063	SHA	12	UP TO TOP 12 BITS
00130	15600174		111+064	INA	2*62	PLUS WORD COUNT
00131	40077777	X	111+065	STA	DUMPLAB	SAVE IN PDP8 DRIVER
00132	22000561	P	111+066	LACH	IFCONX+1	GET CHANNEL NUMBER
00133	77540000		111+067	ACI		INTO CHANNEL INDEX REGISTER
00134	77000000		111+068	IFCONX	IMPURE,0	CONNECT TO PDP8
00135	14000000		111+069	CON	0	IGNORE REJECTS
00136	77101600		111+070	SEL	1600B,SELECT	SELECT INTERRUPT ENABLES
00137	14000000		111+071	NOP	0	IGNORE REJECTS
00140	01000020	P	112	UJP	PDP8.STR	
			113			
00141	14100000		113+001	CTOX1	IMPURE,X1	RESTORE IT
00142	14300000		113+002	CTOX3	IMPURE,X3	AND X3 TOO
00143	01000000		113+003	CTO	IMPURE	CHARACTER OUTPUT ROUTINE
00144	44077777	X	113+004	SWA	CHAR	SAVE THE CHARACTER INTO IFHNDLR
00145	47100141	P	113+005	STI	CTOX1,X1	SAVE POINTER
00146	47300142	P	113+006	STI	CTOX3,X3	SAVE X3
00147	14577777		113+007	ENQ,S	-0	TO SAY MONITOR INITIATED
00150	14200141	P	113+008	ENI	CTOX1,X2	RETURN ADDRESS
00151	01077777	X	113+009	UJP	CHAROUT	AND OUTPUT THE CHARACTER
			113+010			
00152	00000020		113+011	ASCII	VFD	024/20,024/20
00154	00165140		113+012	060000	DEC	60000
			113+013			FOR TIME UNPACK
00155	12121212		113+014	UPMES	ASCII,4	12,***** OS-3 UP AT HH:MM:SS DD-MMM-YY *****
	00057		113+015	NCHARS	EQU,C	*-UPMES-1
	00707	P	113+016	HH	EQU,C	UPMES+19
	00712	P	113+017	MM	EQU,C	UPMES+22
	00715	P	113+018	SS	EQU,C	UPMES+25
	00165	P	113+019	DD	EQU,C	UPMES+8
	00721	P	113+020	YY	EQU,C	UPMES+29
	00730	P	113+021		EQU,C	UPMES+36
			113+022			
	00170	P	113+023	MONTHS	EQU	*-1
00171	52415615		113+024		ASCII,4	6,JAN-FEB-MAR-APR-MAY-JUN-
00177	52655415		113+025		ASCII,4	6,JUL-AUG-SEP-OCT-NOV-DEC-
			113+026			
00205	00000000		113+027	TERM	VFD	A24/IMPURE

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```
*****
*
*           THIS SECTION BUILDS PDPIQ, PDPCQ, AND PDPOQ
*
*****
```

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00206 01000000
00207 14300023
00210 20301051 P
00211 03100213 P
00212 02700210 P
00213 47300231 P
00214 20301051 P
00215 53600000
00216 53100000
00217 40100000
00220 15177776
00221 04200000
00222 44200027
00223 02700214 P
00224 15100001
00225 25000317 P
00226 00777777 X
00227 25000321 P
00230 47100234 P
00231 14100000
00232 15100001
00233 00700226 X
00234 14100000
00235 14300023
00236 20301075 P
00237 03100242 P
00240 02700236 P
00241 14377776
00242 47300262 P
00243 15300001
00244 01000253 P
00245 20301075 P
00246 35000334 P
00247 05600001
00250 35077777 X
00251 15177776
00252 40100000
00253 02700245 P
00254 15100003
00255 47100265 P
00256 15177774
00257 25000323 P
00260 00700233 X
00261 25000325 P
00262 14100000
00263 15100003
00264 00700260 X
00265 14100000
00266 14300023
00267 20301121 P
00270 03100273 P
00271 02700267 P
00272 14377776
00273 15300001
00274 47300313 P
00275 01000306 P
00276 20301121 P
00277 53600000
00300 15600033
00301 35000334 P
00302 05200001
00303 20000333 P
00304 15177776
00305 40100000
00306 02700276 P
00307 25000327 P
00310 00700264 X
00311 25000331 P
00312 47100315 P
```

```
PDP8QS UJP IMPURE BUILD THE IO QUEUES
ENI DUMQL-1,X3
LDA DUMCQ,X3
AZJ,NE *+2
IJD *-2,X3
STI QQ04,X3
LDA DUMCQ,X3
TAI X2
TIA X1
STA 0,X1
INI -1,X1
ISE 0,X2
SWA QADD,X2
IJD QQ02,X3
INI 1,X1
LDAQ BCDPDP80
RTJ LINKIT
LDAQ BCD8CQL
STI *+4,X1
QQ04 ENI IMPURE,X1
INI 1,X1
RTJ LINKIT
ENI IMPURE,X1
ENI DUMQL-1,X3
LDA DUMIQ,X3
AZJ,NE *+3
IJD *-2,X3
ENI -1,X3
STI QQ08,X3
INI 1,X3
UJP QQ07
LDA DUMIQ,X3
SSA UJP00
ASG 1
SSA BIT23
INI -1,X1
STA 0,X1
IJD QQ06,X3
INI 3,X1
STI QQ09,X1
INI -3,X1
LDAQ BCDPDP8I
RTJ LINKIT
LDAQ BCD8IQL
QQ08 ENI IMPURE,X1
INI 3,X1
RTJ LINKIT
QQ09 ENI IMPURE,X1
172
ENI DUMQL-1,X3
LDA DUMCQ,X3
AZJ,NE *+3
IJD *-2,X3
ENI -1,X3
INI 1,X3
STI QQ12,X3
UJP QQ11
LDA DUMCQ,X3
TAI X2
INA INTLOC
SSA UJP00
ISSG 1,X2
LDA UJPOX2
INI -1,X1
STA 0,X1
QQ11 IJD QQ10,X3
LDAQ BCDPDP8C
RTJ LINKIT
LDAQ BCD8CQL
STI *+3,X1
```

```
IS ANY THING THERE
SAVE THE QUEUE LENGTH
LOAD THE QUEUE POINTER
POINTER TO X2
BUILD REAL OUTPUT QUEUE
FORM FWA
#PDP8OQ#
#PDP8OQL#
ENTER LENGTH OF OUTPUT QUEUE
RESTORE LOW MEMORY ADDRESS
LOOK FOR INPUT QUEUE ENTRIES
SAVE THE QUEUE LENGTH
LOAD THE ENTRY
SET IN A UJP INSTRUCTION
SKIP IF REALLY AN ADDRESS
SET NOT PRESENT BIT
FIRST 3 ENTRIES ARE IN IFHNDLR
#PDP8IQ#
#PDP8IQL#
CHECK THE CONTROL QUEUE
FIND LENGTH OF THE QUEUE
SAVE THE QUEUE LENGTH
LOAD THE CONTROL BLOCK
JUMP IF REALLY AN ADDRESS
OTHERWISE IGNORE THE CONROL BYTE
```


00313	14100000		194	QQ12	ENI	IMPURE,X1	
00314	00700310	X	195		RTJ	LINKIT	
00315	14100000		196		ENI	IMPURE,X1	
00316	02500206	P	197		IJD	PDP8QS,X1	EXIT
			198				
			199				
00317	47244710		200	BCDPDP80	BCD	2,PDP80Q	
00321	47244710		201	BCD80QL	BCD	2,PDP80QL	
00323	47244710		202	BCDPDP8I	BCD	2,PCP8IQ	
00325	47244710		203	BCD8IQL	BCD	2,PDP8IQL	
00327	47244710		204	BCDPDP8C	BCD	2,POP8CQ	
00331	47244710		205	BCD8CQL	BCD	2,POP8CQL	
			206				
00333	01200000		207	UJP0X2	UJP	0,X2	
00334	01000000		208	UJP00	UJP	00000	

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232+001
232+002
232+003
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```
*****
*
*           THIS SECTION PROCESSES THE PAPER TAPE PUNCH
*
*****
```

00335 54100352 P
00336 01000000
00337 40000702 P
00340 47100352 P
00341 14177777 X
00342 14600015
00343 14700017
00344 13000017
00345 06277777 X
00346 01000335 P
00347 20100345 X
00350 17477776
00351 40100347 X
00352 14100000
00353 24077777 X
00354 37000715 P
00355 40000715 P
00356 20000370 P
00357 00700643 P
00360 15100001
00361 14600076
00362 40100006
00363 25000371 P
00364 00700314 X
00365 20000250 X
00366 34100012
00367 02500336 P

00370 47634760
00371 47634722

00373 01000000
00374 01000373 P

```
PTPEXIT  LOI          PTPX1,X1
PTP.SUP  UJP          IMPURE
          STA          TEMP
          STI          PTPX1,X1
          ENI          HDLENGTH,X1
          ENA          HIPTP
          ENQ          HIMASK
          SHAQ         15
          MEQ          HARDWARE,2
          UJP          PTPEXIT
          LDA          HARDWARE,X1
          ANA,S       77776B
          STA          HARDWARE,X1
PTPX1    ENI          IMPURE,X1
          LCA          BIT22
          LPA          UTLPMAC+ENIT
          STA          UTLPMAC+ENIT
          LDA          BCDPTP
          RTJ          MAKEUTLP
          INI          1,X1+CBI
          ENA          62
          STA          LNIM,X1+CBI
          LDAQ         BCDPTPB
          RTJ          LINKIT
          LDA          BIT23
          RAD          ENIT,X1+CBI
          IJD          PTP.SUP,X1+CBI
          BCDPTP      BCD          1,PTP
          BCDPTPB     BCD          2,PTPBLOC
          PTP.STR     UJP          IMPURE
          UJP          PTP.STR
```

```
RESTORE X1
SAVE FOR LATER
SAVE X1
ENTER LENGTH OF THE TABLE
LOOK FOR THIS DEVICE
ALLOW USERS TO EQUIP THE DEVICE
CLEAR THE NOT PRESENT BIT
RESTORE X1
SAY FORMS FOR THIS DEVICE
MAX RECORD SIZE FOR THE PUNCH IS
62 WORDS
#PTPBLOC#
SAY THIS DEVICE NEEDS TO BE
CONTROLLED BY THE OPERATOR
```

```

251 *****
252 *
253 * THE FOLLOWING START UP ROUTINE SETS UP THE LUNLIST,
254 * CONTROL BLOCK, AND CR MACRO FOR EACH HSI DEVICE
255 * SPECIFIED. ALL NECESSARY POINTERS ARE PLUGGED.
*****

257 HSI.SUP UJP IMPURE
258 STA TEMP SAVE CONTROL INFORMATION
259 RTJ CRBUILD BUILD A CR MACRO
260 INI 1,X1 ADVANCE FOR BUILDCRQ
261 ENQ 0 SAY NOT REAL CARD READER
262 RTJ UWBLOCK BUILD INPUT QUEUE
263 ENA UWBLOCK PROPER BLOCKING ROUTINE
264 SWA UEVTYPE,X1 SET PROPER BLOCKING ROUTINE
265 ENI FCBL-1,X2 MOVE A CONTROL BLOCK
266 LDA FCB,X2 GET A WORD
267 STA -1,X1 PUT INTO FREE STORAGE
268 INI -1,X1 DOWN A WORD
269 IJD *-3,X2 LOOP TIL DONE
270 ENA MAXDEST MAX DESTINATION NON MACRO PNTR
271 SWA EPP,X1 INTO CONTROL BLOCK
272 TIA X1 POINTER
273 STA CONBLOCK+FCBL,X1 PUT IT AWAY
274 LDA TEMP GET CONTROL INFO
275 LPA TERMASK EXTRACT TERMINAL NUMBER
276 SHAQ 24 SAVE IN Q
277 TIA X1 ADDRESS OF CONTROL BLOCK
278 AQA ADD TOGETHER TO FORM LUNLIST WORD
279 INI -2,X1 GRAB TWO WORDS FOR LUNLIST ELEMEN
280 STA 1,X1 AND SET INTO SECOND WORD
281 ENA 2 2 WORDS PER HSI ENTRY
282 RAD HSICOUNT AND COUNT IT
283 LDI HSIPTX,X3 POINTER TO LAST HSI ENTRY
284 UJP HSILOOK GO LOOK FOR IT IN LIST
285 LDA 2,X3 GET ADDRESS OF NEXT ELEMENT
286 TAI X3 AND RE POINT X3
287 EQU *
288 ISG 1,X3 SKIP IF A POINTER EXISTS
289 UJP HSIINOT THEN NOT THERE
290 LDA TERMASK GET TERMINAL NUMBER MASK
291 LPA 1,X3 EXTRACT TERMINAL NUMBER
292 AQJ, EQ HSIFOUND JUMP IF MATCH
293 UJP HSILOOP LOOP TIL FOUND OR END
294 EQU *
295 ENA 101 DEFAULT LOWER LUN
296 SHA 24-9 TO PROPER POSITION
297 INA ITYUNIT POINT TO ITY LUNLIST
298 STA 0,X1 AND SAVE INTO LUNLIST ELEMENT
299 LPA HSIPTX GET POINTER TO THIS
300 SWA 2,X1 POINT THIS ONE TO LAST ONE
301 STI HSIPTX,X1 AND SAVE POINTER TO THIS ONE
302 LDA TEMP GET CONTROL INFO
303 AZJ, LT HSIALLOC JUMP IF LAST ENTRY
304 EQU *
305 IJD HSI.SUP,X1 AND RETURN
306 LDQ 0,X3 GET THIS ENTRY
307 TIA X3 AND THE ADDRESS
308 SHAQ 9 PUT TOGETHER
309 INA 1 NEXT LUN
310 SHA 24-9 AND SET PROPER ORDER
311 UJP HSIPTX AND PUT AWAY

```

```

00375 01000000
00376 40000702 P
00377 00700742 P
00400 15100001
00401 14700000
00402 00777777 X
00403 14677777 X
00404 44100026
00405 14200007
00406 20201036 P
00407 40177776
00410 15177776
00411 02600406 P
00412 14677777 X
00413 44100006
00414 53100000
00415 40100010
00416 20000702 P
00417 37000531 P
00420 13000030
00421 53100000
00422 53040000
00423 15177775
00424 40100001
00425 14600002
00426 34000462 P
00427 54300461 P
00430 01000433 P
00431 20300002 P
00432 53700000 P
00433 00433 P
00434 05300001 P
00435 01000441 P
00436 20000531 P
00437 37300001 P
00440 03400453 P
00441 01000431 P
00442 00441 P
00443 14600145 X
00444 12000017
00445 15677777 X
00446 40100000 P
00447 20000461 P
00448 44100002 P
00449 47100461 P
00450 20000702 P
00451 03300461 P
00452 00452 P
00453 02500375 P
00454 21300000
00455 53300000
00456 13000011
00457 15600001
00458 12000017 P
00460 01000444 P

```

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313 *
314 * THE FOLLOWING ROUTINE WILL SET UP #HSITAB#, THE
315 * TABLE USED FOR FINDING WHEN A TERMINAL IS A HSI
316 * USER AND HOW TO CHARGE, WHEN TO RESET ACCOUNTING
317 * INFO, ETC.
318 *
319 * IT IS BUILT UP FROM #ENDPOINT# IN CONTIGUOUS
320 * GROUPS OF TWO WORDS ( TWO FOR EACH HSI DEVICE ).
321 *
*****
323
324 HSIALLOC EQU *
325 HSIPTTR ENI IMPURE,X2 POINTER TO LAST HSI BLOCK
326 HSIICOUNT ENA IMPURE GET COUNT OF HSI DEVICES
327 XOA,S -0 NEGATE IT
328 IAI X1 SUBTRACT FROM INDEX
329 STI HSITABP,X1 SAVE FOR LINKING
330 HSISLOOP EQU *
331 LBG TERMASK GET MASK
332 LDL 1,X2 GET THIS TERMINAL NUMBER
333 SHA -1 MAKE TERMINAL IN UPPER 9 BITS
334 STA 0,X1 AND PUT INTO THIS ENTRY
335 TIA X2 ADDRESS TO LUNLIST ELEMENT
336 SWA 0,X1 PUT INTO TABLE ENTRY
337 INA 2+FCBL+PSALOC ADVANCE TO PSA LOCATION POINTER
338 STA 1,X1 SET PSA POINTER TO TABLE
339 ENQ 0 TO RESET POINTER
340 LCA TERMASK MASK
341 LPA 1,X2 THROW AWAY TERMINAL NUMBER
342 SSA CRTYPE AND MAKE IT A CARD READER
343 STA 1,X2 PUT BACK INTO CORE
344 LDA 2,X2 GET POINTER TO NEXT BLOCK
345 STQ 2,X2 RESET THIS BLOCK
346 TAI X2 AND CHAIN TO IT
347 INI 2,X1 NEXT ENTRY
348 ISE 0,X2 SKIP IF END OF LOOP
349 UJP HSISLOOP LOOP TIL DONE
350 LOI HSICOUNT,X1 FOR LINKING SIZE OF TABLE
351 LDAQ BHSITABL LENGTH OF TABLE SYMBOL
352 RTJ LINKIT LINK UP THE SYMBOL
353 HSITABP ENI IMPURE,X1 GET LINKING POINTER
354 LDAQ BHSITAB NAME OF TABLE
355 RTJ LINKIT AND LINK IT UP TOO
356 INI 1,X1 PSA LOC POINTER SYMBOL
357 LDAQ BHSILOC NAME OF ENTRY
358 RTJ LINKIT AND LINK IT TOO
359 IJD HSIEXIT,X1 RETURN AND DECREMENT TWICE
360
361 BHSITAB BCD 2,HSITAB NAME OF TABLE
362 BHSILOC BCD 2,HSILOC PSA POINTER
363 BHSITABL BCD 2,HSITABL LENGTH OF TABLE
364
365 TERMASK VFD 01/0,07/177,016/0
366 CRTYPE VFD A9/HTCR,015/00000 A CARD READER ENTRY
367
368
369 HSI.STR UJP IMPURE
370 UJP HSI.STR RETURN WITHOUT DOING A THING

```

```

00461 00461 P
00462 14200000
00463 14600000
00464 16477777
00465 53540000
00466 47100514 P
00467 00466 P
00468 21000531 P
00469 27200001
00470 12077776
00471 40100000
00472 53200000
00473 44100000
00474 15600025
00475 40100001
00476 14700000
00477 24000531 P
00500 37200001
00501 35000532 P
00502 40200001
00503 20200002
00504 41200002
00505 53600000
00506 15100002
00507 04200000
00510 01000466 P
00511 54100462 P
00512 25000527 P
00513 00700364 X
00514 14100000
00515 25000523 P
00516 00700513 X
00517 15100001
00520 25000525 P
00521 00700516 X
00522 02500452 P
00523 30623163
00525 30623143
00527 30623163
00531 37600000
00532 00400000
00533 01000000
00534 01000533 P

```

372

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*****
*
* THIS SECTION SETS THE BIT IN PSABLK THAT SAYS THAT
* A TERMINAL HAS BLOCKED OUTPUT
*
*****

```

```

00535 00535 P
00536 20077777 X
00537 35300030 X
00538 40300036 X
00539 20000353 X
00540 40301052 P
00541 01000000
00542 17600077
00543 53700000
00544 05300013 X
00545 01000535 P
00546 00000547 P
00550 01000000
00551 01000550 P

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TEK02 EQU *
LDA BIT20 SET THE BLOCKED OUTPUT BIT
SSA PSABLK,X3
STA PSABLK,X3
LDA BIT22 REMEMBER TO EXPAND THE OUTPUT Q
STA DUMQ+1,X3
TEK.SUP UJP IMPURE
ANA 77B
TAI X3 MUX CHANNEL TO X3
ISG TTNUM,X3 SKIP IF OUT OF RANGE
UJP TEK02
HLT *

TEK.STR UJP IMPURE
UJP TEK.STR

```

397
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```

*****
*
* THE FOLLOWING SECTION SETS THE HIGH SPEED TTY BIT INTO
* THE CORRESPONDING PSABLK ENTRY.
*
*****

```

```

00552 00552 P
00553 20077777 X
00554 35300537 X
00555 40300553 X
00556 01000000
00557 17600077
00558 53700000
00559 05300545 X
00560 01000552 P
00561 00000562 P

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HSTT01 EQU *
LDA BIT18 SET NO LIMIT BIT ON TTY CHARS INP
SSA PSABLK,X3 OR IT INTO THE ENTRY
STA PSABLK,X3 AND RESTORE IT TO THE PSABLK
HSTT.SUP UJP IMPURE ENTRY POINT
ANA 77B MASK TO TERMINAL NUMBER
TAI X3 PUT INTO INDEX FOR INDEXING PSABL
ISG TTNUM,X3 IS IT OUT OF RANGE
UJP HSTT01 NO SO DO IT
HLT * OUT OF RANGE, STUPID....

```

```

00563 01000000
00564 01000563 P

```

414
415

```

HSTT.STR UJP IMPURE ENTRY POINT
UJP HSTT.STR AND RETURN WITHOUT DOING A THING

```

```

00565 01000000
00566 53700000
00567 17300077
00570 40000702 P
00571 20000027 X
00572 35300554 X
00573 40300572 X
00574 20000540 X
00575 35000715 P
00576 40000715 P
00577 14600001
00600 30000701 P
00601 40000701 P
00602 00700643 P
00603 14200002
00604 53100000
00605 15600001
00606 35000640 P
00607 00777777 X
00610 15200001
00611 47200603 P
00612 20000702 P
00613 12077771
00614 17600037
00615 15604000
00616 44100033
00617 00700742 P
00620 15100001
00621 14600001
00622 34100025
00623 14677777 X
00624 44100026
00625 20000603 P
00626 17600077
00627 15477775
00630 12077776
00631 44100023
00632 21000702 P
00633 12477752
00634 17700007
00635 00700402 X
00636 15177776
00637 01000565 P

00640 00500000

00641 01000000
00642 01000641 P
    
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417 UT.SUP UJP
418 TAI
419 ANI
420 STA
421 LDA
422 SSA
423 STA
423+001 LDA
423+002 SSA
423+003 STA
424 ENA
425 ADA
426 STA
427 RTJ
428 UTNUMB ENI
429 TIA
430 INA
431 SSA
432 RTJ
433 INI
434 STI
435 LDA
436 SHA
437 ANA
438 INA
439 SWA
440 RTJ
441 INI
442 ENA
443 RAD
444 ENA
445 SWA
445+001 LDA
445+002 ANA
445+003 INA,S
445+004 SHA
445+005 SWA
446 LDQ
447 SHQ
448 ANQ
449 RTJ
450 INI
451 UJP
452
453 LPTABXX VFD
454
455
456
457 UT.STR UJP
458 UJP
    
```

```

IMPURE
X3
77B,X3
TEMP
BIT13
PSABLK,X3
PSABLK,X3
BIT22
UTLPMAC+ENIT
UTLPMAC+ENIT
1
BCDUT
BCDUT
MAKEUTLP
2+IMPURE,X2
X1
1
LPTABXX
BLDLP TAB
1,X2
UTNUMB,X2
TEMP
-6
37B
4000B
CONTROL+1,X1+CBI
CRBUILD
1,X1
1
COMWORD,X1+CBI
UWBLOCKB
DEVTYPE,X1
UTNUMB
77B
-2
-1
DESTLP,X1+CBI
TEMP
-21
7
BUILDCRQ
-1,X1
UT.SUP
A9/UTLPREC,015/00000
IMPURE
UT.STR
    
```

```

PDP8 CHANNEL NUMBER TO X3
SAVE FOR LATER
TELL THE WORLD THE DEVICE IS NOT
A TELETYPE

NO FORMS FOR THIS DEVICE
COUNT UP THE UT NUMBER

MAKE THE LINE PRINTER BLOCK
UT LP#S START AT 2
BLOCK ADDRESS TO A

SET IN WHICH ACCOUNTING WORD
BUILD THE LINE PRINT TABLE
INCREMENT THE COUNTER

EXTRACT THE CONTROL BYTE

SAVE FOR INFORMING THE POP8 THAT
WE HAVE DATA FOR IT
BUILD THE CARD READER BLOCK

SET THE PROPER BLOCKING ROUTINE

POINTER TO NEXT ENTRY IN LPTAB
MASK TO 6 BITS
BACK UP TO LAST USED ENTRY
CAUSE IT IS ONE - NOT TWO - WORDS
AND STORE INTO MACRO TABLE
LOAD NUMBER OF TIMES TO MULTI PRO

BUILD THE INPUT Q
    
```

00643	01000000		460	MAKEUTLP	UJP	IMPURE	
00644	40000722	P	461		STA	UTLPMAC+IDENT	
00645	14200036		462		ENI	UTLPMACL-1,X2	MOVE THE MACRO INTO FREE STORAGE
00646	20200703	P	463		LDA	UTLPMAC,X2	
00647	40100000		464		STA	0,X1	
00650	15177776		465		INI	-1,X1	
00651	02600646	P	466		IJD	*-3,X2	
00652	15100001		467		INI	1,X1	
			468				
00653	53100000		469		TIA	X1	PLUG THE ENI INSTRUCTIONS
00654	44100010		470		SWA	ENAD,X1	
00655	44100020		471		SWA	URBEXITA,X1	
00656	44100033		472		SWA	INTLOC,X1	
00657	54300702	P	473		LDI	TEMP,X3	LOAD THE PDP8 MUX NUMBER
00660	17300077		474		ANI	77B,X3	
00661	40301121	P	475		STA	DUMCQ,X3	REMEMBER TO EXPAND THE CONTROL Q
00662	20000702	P	476		LOA	TEMP	GET THE OUTPUT QUEUE LABEL
00663	12077757		477		SHA	-6-5-5	
00664	17600037		478		ANA	37B	
00665	53700000		479		TAI	X3	
00666	53100000		480		TIA	X1	MACRO ADDRESS BACK TO A
00667	35000365	X	481		SSA	BIT23	
00670	40301051	P	482		STA	DUMCQ,X3	REMEMBER WHERE THE MACRO IS
00671	15600007		483		INA	KILLFLAG	
00672	44100007		484		SWA	KILLFLAG,X1	
00673	15400021		485		INA,S	-KILLFLAG+NXPTR	SET UP THE QUEUEING WORDS
00674	44100031		486		SWA	LXPTR,X1	
00675	44100023		487		SWA	QPNT,X1	
00676	00777777	X	488		RTJ	BUILDBLK	BUILD MOVEBUFF Q INFORMATION
00677	15177776		489		INI	-1,X1	
00700	01000643	P	490		UJP	MAKEUTLP	
			491				
00701	64630000		492	BCDUT	BCD	1,UT00	
			493				
00702	00000000		494	TEMP	VFD	A24/IMPURE	

00703	00000000	P	496	UTLPMAC	EQU	*	
	00703	P	497		ORGR	UTLPMAC+FB	
	00000000		498		VFD	A24/IMPURE	
00704	00000000	P	499		ORGR	UTLPMAC+BLF	
	00704	P	500		VFD	A24/IMPURE	
	00000000		501		ORGR	UTLPMAC+BFBN	
00705	00000000	P	502		VFD	A24/IMPURE	
	00705	P	503		ORGR	UTLPMAC+BFCPP	
00706	00000000	P	504		VFD	A24/IMPURE	
	00706	P	505		ORGR	UTLPMAC+CALBAK	
	00077777		506		EXT	UTLPCB	CALL BACK ADDRESS
00707	00077777	P	507		VFD	09/000,A15/UTLPCB	
	00710	P	508		ORGR	UTLPMAC+IMAD	
00710	00000000		509		VFD	09/U,A15/IMPURE	
	00711	P	510		ORGR	UTLPMAC+LNIM	
00711	00000042	P	511		VFD	A24/34	
	00712	P	512		ORGR	UTLPMAC+KILLFLAG	
00712	47000712	P	513		STI	*,0	
	00713	P	514		ORGR	UTLPMAC+ENAD	
00713	14100703	P	515		ENI	UTLPMAC,X1+CBI	
00714	01000000		516		UJP	IMPURE	
	00715	P	517		ORGR	UTLPMAC+ENIT	
00715	00000000		518		VFD	09/000,A15/IMPURE	
	00717	P	519		ORGR	UTLPMAC+COUNT	
00717	00000000		520		VFD	A24/IMPURE	
	00720	P	521		ORGR	UTLPMAC+POSI	
00720	00000000		522		VFD	A24/IMPURE	
	00721	P	523		ORGR	UTLPMAC+PFWORD	
00721	00000000		524		VFD	A6/IMPURE,03/0,A15/IMPURE	
	00722	P	525		ORGR	UTLPMAC+IDENT	
00722	64630000		526		VFD	H18/UTD,A6/IMPURE	
	00723	P	527		ORGR	UTLPMAC+URBEXITA	
00723	14100703	P	528		ENI	UTLPMAC,X1+CBI	
	00724	P	529		ORGR	UTLPMAC+URBEXIT	
00724	01000000		530		UJP	IMPURE	
	00725	P	531		ORGR	UTLPMAC+QINGLOC	
	01077777	X	532		EXT	URBLOKQ	
00725	00726	P	533		UJP	URBLOKQ	
	00000000		534		ORGR	UTLPMAC+QPNT	
00726	00000000		535		UJ	IMPURE	
	00727	P	536		ORGR	UTLPMAC+QEMPTY	
	01077777	X	537		EXT	UTLPCB	
00727	00730	P	538		UJP	UTLPCB	
	01077777	X	539		ORGR	UTLPMAC+STRTLOC	
00730	00731	P	540		EXT	UTLPCB	
	00077777		541		UJP	UTLPCB	
00731	00077777	P	542		ORGR	UTLPMAC+URWORD	
	00732	P	543		VFD	09/000,A15/URBLOKI	
00732	00400000		544		ORGR	UTLPMAC+QADD	
	00733	P	545		VFD	06/U,03/4,A15/IMPURE	
00733	00000000		546		ORGR	UTLPMAC+NXPTR	
	00734	P	547		VFD	A6/IMPURE,03/0,A15/IMPURE	
00734	00000030		548		ORGR	UTLPMAC+LXPTR	
	00735	P	549		VFD	09/000,A15/NXPTR	
00735	00000000		550		ORGR	UTLPMAC+CONTROL	
	00736	P	551		VFD	012/0000,A12/IMPURE	
00736	14100703	P	552		ORGR	UTLPMAC+INTLOC	
	01077777	X	553		ENI	UTLPMAC,X1+CBI	
00737	00740	P	554		EXT	UTLPINT	ADDRESS FOR PROCESSING
	00000000		555		UJP	UTLPINT	LP INTERRUPTS
00740	00000000		556		ORGR	UTLPMAC+RETADD	
	00741	P	557		VFD	A9/IMPURE,A15/IMPURE	
00741	77777776		558		ORGR	UTLPMAC+CTR	
	00037		559		VFD	A24/IMPURE-1	
			560	UTLPMACL	EQU	*-UTLPMAC	
			561				
			562				
			563				
00742	01000000		564	CRBUILD	UJP	IMPURE	
00743	14200026		565		ENI	UWMAXA-1,X2	MOVE THE MACRO INTO FREE STORAGE
00744	20201007	P	566		LDA	CRPROTO,X2	
00745	40100000		567		STA	0,X1	
00746	15177776		568		INI	-1,X1	
00747	02600744	P	569		IJD	*-3,X2	
00750	53100000		570		TIA	X1	BLOCK ADDRESS TO A
00751	15600001		571		INA	1	
00752	44100007		572		SWA	RDIST+1,X1+CBI	PLUG THE ENI BLOCK,CBI
00753	44100015		573		SWA	EXITADD+1-1,X1+CBI	INSTRUCTIONS
00754	13000030		574		SHAQ	24	

00755	20000702	P	575	LOA	TEMP	GET THE INPUT BLOCK LABEL
00756	12077764		576	SHA	-6-5	
00757	17600037		577	ANA	37B	
00758	53700000		578	TAI	X3	
00759	41301075	P	579	STQ	DUMIQ,X3	
00760	20000702	P	580	LOA	TEMP	GET THE CONTROL BYTE INFORMATION
00761	12077771		581	SHA	-6	
00762	17600037		582	ANA	37B	
00763	15604000		583	INA	4000B	
00764	40100026		584	STA	COMWORD+1,X1+CBI	
00765	01000742	P	585	UJP	CRBUILD	
00770	01000000		586			
00771	45001005	P	587	BUILDFCB	UJP	
00772	14200007		588	STAQ	IMPURE	SAVE AQ
00773	20201036	P	589	ENI	TEMPB	ALSO GENERATE A FILE CONTROL
00774	40100000		590	LOA	FCBL-1,X2	BLOCK
00775	15177776		591	STA	FCB,X2	
00776	02500773	P	592	INI	0,X1	
00777	15100001		593	IJD	-1,X1	
01000	53100000		594	INI	+3,X2	
01001	40100010		595	INI	1,X1	
01002	25001005	P	596	TIA	X1	FILE CONTROL BLOCK ADDRESS TO A
01003	00700521	P	597	STA	CONBLOCK+FCBL,X1	SET THE POINTER
01004	01000770	P	598	LDQA	TEMPB	
			599	RTJ	LINKIT	
			600	UJP	BUILDFCB	EXIT
01005	00000000		601			
			602	TEMPB	VFD	A24/IMPURE,A24/IMPURE
			603			
	01007	P	604	CRPROTO	EQU	*
	01007	P	605	ORGR	CRPROTO+CONBLOCK	
01007	00000000		606	VFD	A24/IMPURE	
	01010	P	607	ORGR	CRPROTO+BFPTR	
01010	77777777		608	VFD	A24/-IMPURE	
	01011	P	609	ORGR	CRPROTO+BLKPOS	
01011	00000000		610	VFD	A24/IMPURE	
	01014	P	611	ORGR	CRPROTO+RDIST-1	
01014	00777777		612	RTJ	MACHERR	
01015	14101007	P	613	ENI	CRPROTO,X1+CBI	
01016	01000000		614	UJP	IMPURE	
	01017	P	615	ORGR	CRPROTO+WCNT	
01017	00000000		616	VFD	A24/IMPURE	
	01020	P	617	ORGR	CRPROTO+CBLOCK	
01020	00000000		618	VFD	A9/IMPURE,A15/IMPURE	
	01021	P	619	ORGR	CRPROTO+TIMAD	
01021	00000000		620	VFD	A24/IMPURE	
	01022	P	621	ORGR	CRPROTO+PSALOC	
01022	00000000		622	VFD	A9/IMPURE,A15/IMPURE	
	01023	P	623	ORGR	CRPROTO+EXITADD-1	
01023	14101007		624	ENI	CRPROTO,X1+CBI	
01024	01000000		625	UJP	IMPURE	
	01025	P	626	ORGR	CRPROTO+PFSAVE	
01025	00000000		627	VFD	A24/IMPURE	
	01026	P	628	ORGR	CRPROTO+UWBWC	
01026	00000000		629	VFD	A24/IMPURE,A24/IMPURE	
	01030	P	630	ORGR	CRPROTO+UWBX3	
01030	00000000		631	VFD	A6/IMPURE,03/0,A15/IMPURE	
	01031	P	632	ORGR	CRPROTO+BATCHPNT	
01031	00400000		633	VFD	06/00,A3/4+IMPURE,A15/IMPURE	
	01033	P	634	ORGR	CRPROTO+EXPDATA	
01033	40000000		635	VFD	A9/400B+IMPURE,A15/IMPURE	
	01034	P	636	ORGR	CRPROTO+COMWORD	
01034	00000000		637	VFD	012/0,A12/IMPURE	
	01035	P	638	ORGR	CRPROTO+DEVTYPE	
01035	01000000		639	UJP	IMPURE	
	01032	P	640	ORGR	CRPROTO+DESTLP	DESTINATION LINE PRINTER POINTER
01032	40000000		640+001	VFD	A1/1,A8/0,A15/IMPURE	
	01036	P	640+002	ORGR	CRPROTO+UWMAXA	FILL OUT THE BLOCK
	00027		641	EQU	*-CRPROTO	
			642	CRPROTOL		
			643			
			644			
	01036	P	645	FCB	EQU	*
	01036	P	646	ORGR	FCB+ACCWORD	
01036	00000000		647	VFD	A24/IMPURE	
	01037	P	648	ORGR	FCB+LP	
01037	00000000		649	VFD	A24/IMPURE	
	01040	P	650	ORGR	FCB+COREP	
01040	00000000		651	VFD	A24/IMPURE	

01041	00000000	P	652		ORGR	FCB+CBP
			653		VFD	A24/IMPURE
01042	00000000	P	654		ORGR	FCB+CBP
			655		VFD	A24/IMPURE
01043	77777778	P	656		ORGR	FCB+BLKR
			657		VFD	A24/IMPURE-1
01044	04400001	P	658		ORGR	FCB+EPP
			659		VFD	05/02,A4/HTCR,A15/00001 DESTRUCTIVE READ AND
			660	*		STILL BEING CREATED
01045	00000000	P	661		ORGR	FCB+TFL
	00010		662		VFD	A24/IMPURE
			663	FCBL	EQU	*-FCB
	00024		664			
			665	DUMQL	EQU	20
01046			666			
	01051	P	667	DUMQ3	BSS	DUMQL+3
01075			668	DUMQ	EQU	DUMQ3+3
01121			669	DUMIQ	BSS	DUMQL
			670	DUMQ	BSS	DUMQL
			671		END	

NO LINES WITH ERRORS

ACWORD	00000	71	646	01036P					
ASCII	00152P	113+11	111+5	00035P	111+15	00047P	111+23	00057P	111+30 00066P 111+43 00103P
BATCHPNT	00022	130	131	00000P	633	01031P			
BCD8CQL	00331P	205	192	00311P					
BCD8IQL	00325P	203	167	00261P					
BCD8OQL	00321P	201	140	00227P					
BCDPPDP8C	00327P	204	190	00307P					
BCDPPDP8I	00323P	202	165	00257P					
BCDPPDP8O	00317P	200	138	00225P					
BCDPTP	00370P	244	233	00356P					
BCDPTPB	00371P	245	238	00363P					
BCDUT	00701P	492	425	00600P	426	00601P			
BFBGN	00002	13	15	00000P	501	00705P			
BFCPP	00003	15	19	00000P	503	00706P			
BFPTR	00001	109	111	00000P	608	01010P			
BHSILOC	00525P	362	357	00520P					
BHSITAB	00523P	361	354	00515P					
BHSITABL	00527P	363	351	00512P					
BIT13	X	60	404	00552P					
BIT19	X	61	106	00023P	110	00027P	421	00571P	
BIT20	X	62	381	00535P					
BIT22	X	63	232+1	00353P	384	00540P	423+1	00574P	
BIT23	X	64	158	00250P	240	00365P	481	00667P	
BLQLPTAB	X	67	432	00607P					
BLF	00001	12	13	00000P	499	00704P			
BLKPOS	00002	111	112	00000P	610	01011P			
BLKR	00005	88	656	01043P					
BUILDDBLK	X	65	488	00676P					
BUILDCRG	X	66	263	00402P	449	00635P			
BUILDFCB	00770P	588	600	01004P					
CALBAK	00004	19	22	00000P	505	00707P			
CALLBAD	00004	113	115	00000P					
CBI	00000	40	235	00360P	237	00362P	241	00366P	242 00367P 439 00616P 443 00622P
			445+5	00631P	515	00713P	528	00723P	553 00736P 572 00752P 573 00753P
			584	00766P	614	01015P	625	01023P	
CBLOCK	00011	118	119	00000P	618	01020P			
CBP	00003	76	652	01041P					
CHAR	X	67+1	113+4	00144P					
CHAROUT	X	67+2	113+9	00151P					
COMWORD	00025	140	142	00000P	637	01034P	443	00622P	584 00766P
CONBLOCK	00000	108	109	00000P	606	01007P	272	00415P	597 01001P
CONTROL	00032	192	194	00000P	550	00735P	439	00616P	
COREP	00002	73	76	00000P	650	01040P			
COUNT	00014	37	38	00000P	519	00716P			
CPP	00004	77	654	01042P					
CRBUILD	00742P	564	260	00377P	440	00617P	585	00767P	
CRPROTO	01007P	605	606	01007P	608	01010P	610	01011P	612 01012P 616 01017P 618 01020P
			620	01021P	622	01022P	624	01023P	627 01025P 629 01026P 631 01030P
			633	01031P	635	01032P	637	01034P	639 01035P 640+1 01036P 641 01033P
			642	01036P	566	00744P	614	01015P	625 01023P
* CRPROTOL	00027	642							
CRTYPE	00532P	366	342	00501P					
CTO	00143P	113+3	111+50	00112P	111+52	00114P	111+56	00120P	111+59 00123P 111+61 00125P
CTOX1	00141P	113+1	113+5	00145P	113+8	00150P			
CTOX3	00142P	113+2	113+6	00146P					
CTR	00036	198	558	00741P					
D10	X	67+3	111+4	00034P	111+14	00046P	111+22	00056P	111+29 00065P 111+42 00102P
D1000	X	67+4	111+20	00054P					
D60000	00154P	113+12	111+10	00042P					
DD	00164P	113+20	111+31	00067P	111+32	00070P			
DESTLP	00023	131	132	00000P	640+1	01036P	445+5	00631P	
DEVBLK	00013	36	37	00000P					
DEVTYPE	00026	142	144	00000P	639	01035P	265	00404P	445 00624P
* DISKBUSY	00013	121							
DUMCQ	01121P	670	174	00267P	181	00276P	475	00661P	
DUMIQ	01075P	669	147	00235P	155	00245P	579	00761P	
DUMOQ	01051P	668	125	00210P	129	00214P	385	00541P	482 00670P
DUMOQM3	01046P	667	668	01075P					
DUMPLAB	X	67+5	111+65	00131P					
DUMPLABL	X	67+6	111+62	00126P					
DUMQL	00024	665	667	01046P	669	01075P	670	01121P	124 00207P 146 00235P 173 00266P
ENAD	00010	26	27	00000P	514	00713P	470	00654P	
ENIT	00012	28	36	00000P	517	00715P	232+2	00354P	232+3 00355P 241 00366P 423+2 00575P
			423+3	00576P					
EPP	00006	90	658	01044P	270+2	00413P			
EXITADD	00015	123	124	00000P	624	01023P	573	00753P	
EXPDATA	00024	137	140	00000P	635	01032P			
FB	00000	11	12	00000P	497	00703P			
FCB	01036P	645	646	01036P	648	01037P	650	01040P	652 01041P 654 01042P 656 01043P

FCBL		00010	653	658	01044P	661	01045P	663	01046P	267	00406P	591	00773P
* FORMSWRD		00016	40	236	00405P	272	00415P	337	00474P	590	00772P	597	01001P
HARDWARE	X		68	227	00345P	229	00347P	231	00351P				
HDLENGTH	X		69	223	00341P								
HH		00161P	113+16	111+6	00036P	111+7	00037P						
HSI.STR	E	00533P	369	48	00000P	370	00534P						
HSI.SUP	E	00375P	258	48	00000P	304	00452P						
HSIALLOC		00461P	324	302	00451P								
HSICOUNT		00462P	326	281	00426P	350	00511P						
HSIEXIT		00452P	303	359	00522P								
HSIFOUND		00453P	305	291	00437P								
HSILOOK		00433P	286	283	00430P								
HSILOOP		00431P	284	292	00440P								
HSINOT		00441P	293	288	00434P								
HSIPTR		00461P	325	282	00427P	298	00445P	300	00447P				
HSIPUT		00444P	297	310	00460P								
HSISLOOP		00466P	330	349	00510P								
HSITABP		00514P	353	329	00465P								
HSITJ1		00552P	403	411	00561P								
HSTT.STR	E	00563P	414	49	00000P	415	00564P						
HSTT.SUP	E	00555P	407	49	00000P								
HTR		00004	208	366	00532P	659	01044P						
HTRFILE		00001	205										
HTRLP		00002	206										
HTRMASK		00017	219	225	00343P								
HTRMAX		00016	218										
HTRMSF		00014	216										
HTRMT		00005	209										
HTRNULL		00010	212										
HTRPLOT		00007	211										
HTRPTP		00015	217	224	00342P								
HTRPUN		00003	207										
HTRAF		00012	214										
HTRTASK		00013	215										
HTRTTY		00006	210										
HTRTV		00011	213										
IDENT		00017	49	50	00000P	525	00722P	461	00644P				
IFCON	X		70	91	00001P								
IFCONX	X	00134P	111+66	91+1	00002P	111+66	00132P						
IFINT	X		71	98	00011P								
IMAU		00005	22	24	00000P	508	00710P						
INADR		00003	112	113	00000P								
INPURE		00000	42	90	00000P	103	00020P	111+18	00052P	111+68	00134P	113+1	00141P
				113+3	00143P	113+27	00205P	123	00206P	142	00231P	145	00234P
				171	00265P	194	00313P	196	00315P	220	00336P	232	00352P
				258	00375P	325	00461P	326	00462P	353	00514P	369	00533P
				393	00550P	407	00555P	414	00563P	417	00565P	428	00603P
				460	00643P	494	00702P	498	00703P	500	00704P	502	00705P
				509	00710P	516	00714P	518	00715P	520	00717P	522	00720P
				524	00721P	526	00722P	530	00724P	535	00726P	545	00732P
				547	00733P	551	00735P	557	00740P	557	00740P	559	00741P
				588	00770P	602	01005P	602	01006P	607	01007P	609	01010P
				616	01016P	617	01017P	619	01020P	619	01020P	621	01021P
				623	01022P	626	01024P	628	01025P	630	01026P	630	01027P
				632	01030P	634	01031P	634	01031P	636	01033P	636	01033P
				640	01035P	640+2	01032P	647	01036P	649	01037P	651	01040P
				655	01042P	657	01043P	662	01045P				
				99	00012P								
INSTL	X		72	196	00000P	552	00736P	183	00300P	472	00656P		
INTLOC		00033	194	26	00000P	512	00712P	483	00671P	484	00672P	485	00673P
KILLFLAG		00007	25	139	00226P	144	00233P	166	00260P	170	00264P	191	00310P
LINKIT	X		73	239	00364P	352	00513P	355	00516P	358	00521P	599	01003P
				25	00000P	510	00711P	237	00362P				
LNIM		00006	24	648	01037P								
LP		00001	72	229	00000P								
LPREC		00001	226	431	00606P								
LPTABXX		00640P	453	192	00000P	548	00734P	486	00674P				
LXPTR		00031	191	613	01014P								
MACHERR	X		74	234	00357P	427	00602P	490	00700P				
MAKEUTLP		00643P	460	270+1	00412P								
MAXDEST	X		74+1	111+16	00050P	111+17	00051P						
MM		00162P	113+17	111+38	00076P								
MO		00165P	113+19	111+37	00075P								
MONTHS		00170P	113+23										
* MSFTIME		00006	233										
NCHARS		00057	113+15	111+53	00115P	111+54	00116P						
NJM		00011	27	28	00000P								
NXPTR		00030	190	191	00000P	546	00733P	485	00673P	549	00734P		
POP8.STR	E	00020P	103	50	00000P	112	00140P						

UNMAXA	00027	144	641	01033P	565	00743P								
WCNT	00010	117	118	00000P	616	01017P								
X1	00001	37	104	00021P	105	00022P								
			111+36	00074P	111+37	00075P	107	00024P	108	00025P	109	00026P	111	00030P
			113+5	00145P	131	00216P	111+53	00115P	111+54	00116P	111+57	00121P	113+1	00141P
			142	00231P	143	00232P	132	00217P	133	00220P	137	00224P	141	00230P
			163	00255P	164	00256P	145	00234P	159	00251P	160	00252P	162	00254P
			188	00305P	193	00312P	168	00262P	169	00263P	171	00265P	187	00304P
			222	00340P	223	00341P	194	00313P	196	00315P	197	00316P	219	00335P
			237	00362P	241	00366P	229	00347P	231	00351P	232	00352P	235	00360P
			269	00410P	270+2	00413P	242	00367P	261	00400P	265	00404P	268	00407P
			279	00424P	297	00444P	271	00414P	272	00415P	276	00421P	278	00423P
			329	00465P	334	00471P	299	00446P	300	00447P	304	00452P	328	00464P
			353	00514P	356	00517P	336	00473P	338	00475P	347	00506P	350	00511P
			443	00622P	445	00624P	359	00522P	429	00604P	439	00616P	441	00620P
			467	00652P	469	00653P	445+5	00631P	450	00636P	464	00647P	465	00650P
			484	00672P	486	00674P	470	00654P	471	00655P	472	00656P	480	00666P
			553	00736P	567	00745P	487	00675P	489	00677P	515	00713P	528	00723P
			584	00766P	592	00774P	568	00746P	570	00750P	572	00752P	573	00753P
			614	01015P	625	01023P	593	00775P	595	00777P	596	01000P	597	01001P
			113+8	00150P	130	00215P	134	00221P	135	00222P	182	00277P	185	00302P
X2	00002	38	207	00333P	266	00405P	267	00406P	270	00411P	325	00461P	332	00467P
			335	00472P	341	00500P	343	00502P	344	00503P	345	00504P	346	00505P
			348	00507P	428	00603P	433	00610P	434	00611P	462	00645P	463	00646P
			466	00651P	565	00743P	566	00744P	569	00747P	590	00772P	591	00773P
			594	00776P										
X3	00003	39	93	00004P	94	00005P	97	00010P	99	00012P	111+46	00106P	111+47	00107P
			111+48	00110P	113+2	00142P	113+6	00146P	124	00207P	125	00210P	127	00212P
			128	00213P	129	00214P	136	00223P	146	00235P	147	00236P	149	00240P
			150	00241P	151	00242P	152	00243P	155	00245P	161	00253P	173	00266P
			174	00267P	176	00271P	177	00272P	178	00273P	179	00274P	181	00276P
			189	00306P	282	00427P	284	00431P	285	00432P	287	00433P	290	00436P
			305	00453P	306	00454P	382	00536P	383	00537P	385	00541P	388	00544P
			389	00545P	405	00553P	406	00554P	409	00557P	410	00560P	418	00566P
			419	00567P	422	00572P	423	00573P	473	00657P	474	00660P	475	00661P
			479	00665P	482	00670P	578	00760P	579	00761P				
YY	00166P	113+21	111+44	00104P	111+45	00105P								