

LENGTH OF COMMON 01055
LENGTH OF PRG 10000

```

1          IDENT      CNTLMODE
2
3          MACRO      ,P
4          NAME      ECHI
5          VFD       06/14,03/$P(2),C15/$P(1)-Z
6          END
7
8          MACRO      ,P
9          NAME      OUT
10         ECHI      $P(1),X1
11         IF N#P EQ 2, GOTO .L1
12         ENI
13         UJP       MESSAGE
14         EXIT
15         .L1      ENI      $P(2),X2      RETURN ADDRESS
16         UJP       MESSAGE
17         END
18
19         MACRO      ,P
20         NAME      ERM
21         ECHI      $P,X1
22         UJP       ERRORMES
23         END
24
25         MACRO      ,P
26         NAME      COMMAND
27         RESET     A=1
28         RESET     R=1
29         RESET     N=1
30         RESET     RO=1
31         IF H#$P(3)# EQ H#A#, RESET A=0
32         IF H#$P(4)# EQ H#R#, RESET R=0
33         IF H#$P(5)# EQ H#N#, RESET N=0
34         IF H#$P(6)# EQ H#RO#, RESET RO=0
35         VFD       H48/$P(1)
36         VFD       A1/$A,A1/$R,A1/$N,A1/$RO,A5/0,A15/$P(2)
37         END
38
39         MACRO      ,P
40         NAME      ERROR
41         RESET     FBLK=0
42         RESET     UREC=0
43         IF H#$P(2)# EQ H#B#, RESET FBLK=1
44         IF H#$P(3)# EQ H#R#, RESET UREC=1
45         VFD       A1/$FBLK,A1/$UREC,07/0,C15/$P(1)-Z
46         END
47
48         MACRO      ,P
49         NAME      OCTOUT
50         ENI      $P,X2
51         ENI      *+2,X1
52         UJP       OCTOUT
53         END
54
55         MACRO      ,P
56         NAME      OCTPRINT
57         ENI      $P,X2
58         ENI      *+2,X1
59         UJP       OCTPRINT
60         END
61
62         MACRO      ,P
63         NAME      LISTACC
64         LOCAL    EXIT
65         TMA      $P(1)
66         AZJ, EQ  EXIT      EXIT IF ZERO
67         OUT      $P(2)      PRINT TITLE
68         TMA      $P(1)
69         ENI      EXIT,X1
70         UJP       DECLF
71         EQU      *
72         END
73
74         MACRO      ,P
75         NAME      EBOX, LIST MACROS
76         *****
77         END

```

00000 P

72

ENTRY

ENTER

```

75
76
77
78
*****
*
* THE FOLLOWING ARE THE EXECUTIVE REQUESTS
* WHICH ARE LEGAL UNDER OS3
*
*****

00000 80 XREQ EQU 0 INDICATES ALL XREQ INSTRUCTIONS
81
82
00000 83 DELETE EQU 008
84 * ERROR 1 -- UNIT NOT EQUIPPED
85 * ERROR 2 -- FILE IS PROTECTED
86 * ERROR 3 -- FILE IS NOT SAVED
87 * ERROR 4 -- NAME IN AQ DOES NOT AGREE WITH LUN
88 * ERROR 5 -- NOT ENOUGH SCRATCH FILE SPACE
89
00001 90 SAVE EQU 018
91 * ERROR 1 -- UNIT IS NOT EQUIPPED
92 * ERROR 2 -- NAME ALREADY EXISTS
93 * ERROR 3 -- UNIT IS ALREADY A SAVED FILE
94 * ERROR 4 -- UNIT IS NOT A FILE OR RAF
95 * ERROR 5 -- NOT ENOUGH SAVED FILE SPACE
96 * ERROR 6 -- NAME IS ILLEGAL (FILE, PUN, ETC.)
97
00002 98 UNEQUIP EQU 028
99 * ERROR 1 -- UNIT IS NOT EQUIPPED
100 * ERROR 2 -- UNIT IS A PROTECTED, UNSAVED FILE OR RAF
101
00003 102 EQUIP EQU 038
103 * ERROR 1 -- UNIT IS ALREADY EQUIPPED
104 * ERROR 2 -- NAME IN AQ DOES NOT EXIST
105 * ERROR 3 -- UNIT IN Q IS NOT EQUIPPED
106 * ERROR 4 -- SAVED FILE WITH NAME IN AQ IS BUSY
107 * ERROR 5 -- NOT ENOUGH HARDWARE
108 * ERROR 6 -- ILLEGAL UNIT NUMBER OR DENSITY CODE
109
00004 110 RFP EQU 048
111 * ERROR 1 -- UNIT IS NOT EQUIPPED
112 * ERROR 2 -- FILE IS BUSY
113 * ERROR 3 -- NAME AND LUN DO NOT AGREE
114 * ERROR 4 -- FILE IS PUBLIC
115
00005 116 FP EQU 058
117 * ERROR 1 -- UNIT IS NOT EQUIPPED
118 * ERROR 2 -- UNIT IS NOT A FILE OR RAF
119
00006 120 FREEPAGE EQU 068
121
00007 122 ZEROPAGE EQU 078
123
00010 124 LIBCALL EQU 108
125
00011 126 TIMESET EQU 118
127
00012 128 TIMEREQ EQU 128
129
00013 130 MFBLKSET EQU 138
131
00014 132 MFBLKREQ EQU 148
133
00015 134 SFBLKREQ EQU 158
135
00016 136 PURGE EQU 168 REMOVE THE PARAMETER STRING
137
00017 138 RMP EQU 178 XREQ 0 -- REMOVE MEMORY PROTECT
139 * XREQ 1 -- SET MEMORY PROTECT
140
00020 141 LOGIN EQU 208
142
00021 143 REMOVE EQU 218
144
00022 145 JOBNREQ EQU 228 GET USERS JOB/USER NUMBER
146
00023 147 ASSIGN EQU 238 SEND OUTPUT TO REMOTE DEVICE IN A
147+001 * ERROR 1 -- LUN UNDEFINED
147+002 * ERROR 2 -- LUN NOT LP, PTP, PUN, PLOT, OR TASK
147+003 * ERROR 3 -- DESTINATION UNKNOWN
148
00024 149 LINEPP EQU 248 DEFAULT NUMBER OF LINES/PAGE

```

00025	150	SIZE	EQU	25B	TO GET SIZE OF A LUN
	151				
00026	152	WAIT	EQU	26B	WAIT REQUEST
	153				
00027	154	MAXFBREQ	EQU	27B	
	155				
00030	155+001				
	155+002	TAPEMAX	EQU	30B	SET MAXIMUM TAPES NEEDED
	155+003	*	ERROR 1	-- MORE TAPES ARE ALREADY EQUIPED	
	155+004	*	ERROR 2	-- ATTEMPT TO INCREASE MAXIMUM TAPES	
00031	155+005	DESTINAT	EQU	31B	DESTINATION OF LUN
	155+006	*	ERROR 1	-- UNIT NOT EQUIPPED	
	155+007	*	ERROR 2	-- UNIT NOT A UNIT RECORD DEVICE	

158
159
160
161

```
*****
*
* THE FOLLOWING ARE CONTROL FUNCTIONS
* WHICH ARE LEGAL UNDER OS3
*
*****
```

00000	164	CNTL	EQU	0	INDICATES ALL CNTL INSTRUCTIONS
	165				
00000	166	STATUS	EQU	0	GET UNIT STATUS
00001	167	CLEAR	EQU	1	CLEAR FILE MARK STATUS
00002	168	WFM	EQU	2	WRITE FILE MARK
00003	169	RELEASE	EQU	3	RELEASE ALL INFORMATION
00004	170	REWIND	EQU	4	REWIND THE DEVICE
00005	171	SEFF	EQU	5	SEARCH PAST FILE MARK, FORWARD
00006	172	SEFB	EQU	6	SEARCH PAST FILE MARK, BACKWARD
00007	173	BKSP	EQU	7	BACKSPACE ONE RECORD
00010	174	FWSP	EQU	8	FORWARD SPACE ONE RECORD
00011	175	SDR	EQU	9	REWIND, SET DESTRUCTIVE READ

178
179
180

```

*****
*                                     *
*          STATUS BITS RETURNED IN A AFTER ALL I/O INSTRUCTIONS          *
*                                     *
*****
    
```

00027	183	FPBIT	EQU	23	FILE PROTECTED STATUS BIT
00026	184	LPBIT	EQU	22	LOAD POINT BIT
00025	185	EODBIT	EQU	21	END OF DATA BIT
00024	186	FMBIT	EQU	20	FILE MARK STATUS
00023	186+001	SDRBIT	EQU	19	DESTRUCTIVE READ STATUS
00022	187	BINBIT	EQU	18	BINARY RECORD STATUS BIT
00021	188	AUBIT	EQU	17	ABNORMAL STATUS BIT
00020	189	AERBIT	EQU	16	ADDRESS ERROR
00017	190	SFBIT	EQU	15	SAVED FILE BIT
	191				
00001	192	FILE	EQU	1	FILE
00002	193	LP	EQU	2	LINE PRINTER
00003	194	PUN	EQU	3	CARD PUNCH
00004	195	RDR	EQU	4	CARD READER-BATCH INPUT
00005	196	MT	EQU	5	MAGNETIC TAPE
00006	197	TTY	EQU	6	TELETYPE CHARACTER I/O DEVICE
00007	198	PLOT	EQU	7	INCREMENTAL PLOTTER
00010	199	NULL	EQU	8	ELECTRONIC TRASH CAN OUTPUT DEVICE
00011	200	TV	EQU	9	CRT DISPLAY I/O DEVICE
00012	201	RAF	EQU	10	RANDOM ACCESS FILE
00013	202	TASK	EQU	11	REMOTE BATCH INPUT
00243	204	TTYCHAR	EQU	K#Y#	TTY CONTROL MODE CHAR. (POUNDS)
00014	205	TVCHAR	EQU	H#T#	
00017	206	CMCHAR	EQU	H#T#	CONTROL MODE CHARACTER, TASK
	207				
00144	211	TVUNIT	EQU	100	LOGICAL UNIT OF TV FOR TVSYS
00144	212	TASKUNIT	EQU	100	INPUT UNIT FOR TASKS
00144	213	MAXLUN	EQU	100	MAXIMUM USER UNIT
	214				
00024	215	LPBUFL	EQU	20	LINE PRINTER BUFFER LENGTH
00372	216	TVBUFL	EQU	250	TV BUFFER LENGTH
00024	217	TASKBUFL	EQU	20	TASK INPUT BUFFER LENGTH
	218				
00000	219	HALTJUMP	EQU	0	1 IF HALTS ARE TO CHANGE PC
	220				
30000	221	CMLOW	EQU	30000B	LOWMEM FOR CONTROL MODE
44000	222	CMHIGH	EQU	44000B	HIGHMEM FOR CONTROL MODE
	223				
77634	224	ACR	EQU	77634B	INDICATES ALL ACR INSTRUCTIONS
77664	225	AIS	EQU	77664B	
	226	*			THE ACR WILL CAUSE REGISTER FILE
	227	*			TO BE USED AS THE USERS PROGRAM
	228	*			COUNTER AND CONTROL TO BE
	229	*			PASSED TO THE USERS PROGRAM.

```

232
233
234
*****
*
* REGISTER FILE DEFINITIONS
*
*****
00026 236 RF26 EQU 268 JOB NUMBER, BIT23=NOT LOGGED-IN
00041 237 PC EQU 418 BIT15-00, USERS PROGRAM COUNTER
00040 238 LJA EQU 408 BIT23-18, SYSTEM CODE, 15-00 LJA
00042 239 IS EQU 428 BIT22-21 IM, 11-8 FAULTS, 2 RCS
00043 240 A EQU 438 USERS A REGISTER
00045 241 REQUEST EQU 458 ERROR CODE, NEG. IF RE-ENTER
00046 242 B3 EQU 468 USERS INDEX 3
00047 243 B2 EQU 478 USERS INDEX 2
00050 244 B1 EQU 508 USERS INDEX 1
00051 245 Q EQU 518 USERS Q REGISTER
00044 246 IO EQU 448 BIT22-00 SAVE AND RESTORED
00000 247 * TTYSYS EQU 000008 BITS 0-2, SYSTEM DEVICE TYPE
00001 248 TVSYS EQU 000018 ITTY CODE
00002 249 TASKSYS EQU 000028 TV CODE
00003 250 SYSMASK EQU 000038 TASK CODE
00010 251 AUXEBIT EQU 000108 SYSTEM DEVICE TYPE
00020 252 AUXBIT EQU 000208 AUX. INPUT DEVICE EQUIPPED
00040 253 IBOFBIT EQU 000408 AUX. INPUT BEING USED
00100 254 OBOFBIT EQU 001008 INPUT BUFFER ACTIVE BIT
00200 255 BIGNBIT EQU 002008 OUTPUT BUFFER ACTIVE BIT
00400 256 FLASHBIT EQU 004008 IGNORE BATCH GARBAGE RECORDS
01000 257 STATBIT EQU 010008 SEZ INFO ON THE TV SCREEN
02000 258 SYSEBIT EQU 020008 IF SET, CALL STATUS ROUTINE
04000 259 +001 RUNOBT EQU 040008 INDICATES SYSTEM UNIT EQUIPPED
INDICATES RUN ONLY MODE
00052 260 T1 EQU 528
00053 261 T2 EQU 538
00054 262 T3 EQU 548
00055 263 T4 EQU 558
00056 264 UDFLAGS EQU 568 CONTAINS THE USERS UDFLAGS
20000 265 WHLOBIT EQU 200008 DIRECTORY WITHHELD
00057 266 RF57 EQU 578 MFBLKS DURING LOGOFF
00060 267 RF60 EQU 608 CPU TIME, MS.
00061 268 RF61 EQU 618 ELAPSED TIME, SEC.
00062 269 RF62 EQU 628 LP RECORDS
00063 270 RF63 EQU 638 PUN RECORDS
00064 271 RF64 EQU 648 PLOT RECORDS
00065 272 RF65 EQU 658 CARDS READ
00066 273 RF66 EQU 668 TAPE CHANNEL TIME, MS.
00067 274 RF67 EQU 678 SPECIAL INPUT
00070 275 RF70 EQU 708 PTP RECORDS
00071 276 RF71 EQU 718 REMOTE LP RECORDS
00072 277 RF72 EQU 728 USER DISK PACK TIME
00073 278 RF73 EQU 738
00076 279 RF76 EQU 768
00077 280 RF77 EQU 778
*
00026 281 RSTRCTBT EQU 22 USER TO SYSTEM FLAGS
BIT 23 ABORT BIT
RESTRICTED BIT

```

296
297
298

*
* SCRATCH PAGE ALLOCATION *
*

		300				
		301	COMMON	COMMON	*	
	00000 C	302	EQU			
00000		303	ASAVE	BSS	2	
	00001 C	304	QSAVE	EQU	ASAVE+1	
		305				
00002		306	X1SAVE	BSS	1	TEMPS NOT USED BY TTY SYSTEM
00003		307	B1SAVE	BSS	1	USED BY PARAMOUT
00004		308	T1SAVE	BSS	1	
		309				
00005		310	IBUFCC	BSS	2	CHARACTER COUNT FOR TASK INPUT
	00006 C	311	IBUFP	EQU	IBUFCC+1	POINTER TO NEXT CHARACTER IN IBUF
00007		312	IBUFWC	BSS	1	WORD COUNT FOR TASK RECORDS
		313				
00010		314	ILINEP	BSS	1	START OF LAST TV LINE IN IBUF
		315				
00011		316	ILINEPN	BSS	1	START OF CURRENT TV LINE IN IBUF
		317				
00012		318	OBUFP	BSS	1	POINTER TO NEXT CHARACTER IN OBUF
		319				
00013		320	IBUFM1	BSS	TVBUFL+2	CONTAINS BLANKS FOR TASK
	00014 C	321	IBUF	EQU	IBUFM1+1	INPUT BUFFER
		322				
00407		323	OBUF	BSS	TVBUFL	OUTPUT BUFFER
		324				
01001		325	OVLBUF	BSS	4	ROOM FOR OVERLAY HEADER RECORD
		326	*			WORD 0--FIRST WORD ADDRESS
		327	*			WORD 1--LENGTH
		328	*			WORD 2--TRANSFER SYMBOL ADDRESS,
		329	*			WORD 3--TRANSFER SYMBOL ADDRESS,
		330				
01005		331	SCRATCH	BSS	80/4	ROOM FOR EQUIP MT COMMENTS
	00000 P	332		PRG		
		333				
	00001	334	X1	EQU	1	
	00002	335	X2	EQU	2	
	00003	336	X3	EQU	3	
		337				
		338		EXT	CMPAGE1	CM COMMAND PAGE
		339		EXT	CMPAGE2	CM LOGIN/LOGOFF
		340		EXT	CMPAGE3	CM SCRATCH PAGE
		340+001		EXT	LPUNIT	LINEPRINTER FOR TASKS
		340+002		EXT	LOGWAIT	NUM. SEC. TO WAIT FOR LOGIN
		340+003		EXT	AUXUNIT	
		340+004		EXT	SYSLUN	

00000 P

343
344

Z EQU *

346
347
348
349
350
351
352

```

*****
*
*   ENTER HERE AFTER ERRORS AND NORMAL CONTROL MODE ENTRY.
*
*   REQUEST CONTAINS THE ERROR CODE FROM THE SYSTEM.
*   IF REQUEST IS NEGATIVE, IT INDICATES AN ERROR THAT
*   OCCURED WITHIN THE CONTROL MODE PROGRAM
*
*****
    
```

00000	55000000		355	ENTER	RIS		ENTER HERE
00001	53020040		356		TMA	LJA	GET TYPE OF CONTROL MODE
00002	12000003		357		SHA	23-20	BIT 20 SEZ THE PHANTOM
00003	03305544	P	358		AZJ,LT	PHANTOM	JUMP IF THE PHANTOM
00004	53020026		359		TMA	RF26	GET JOB NUMBER
00005	03305213	P	360		AZJ,LT	LOG01	JUMP IF NOT LOGGED-IN
00006	53020045		361		TMA	REQUEST	TEST FOR ERROR IN CONTROL MODE
00007	03300037	P	362		AZJ,LT	ENTER02	JUMP IF A RE-ENTER
00010	53410051		363		TQM	Q	SAVE Q
00011	53730046		364		TIM	B3,X3	
00012	53630047		365		TIM	B2,X2	
00013	53530050		366		TIM	B1,X1	
00014	53020044		367		TMA	IO	GET IO STATUS WORD
00015	17476237		368		ANA,S	-IBUFBIT-OBUFBIT-STATBIT-FLASHBIT	
00016	53230045		369		TMI	REQUEST,X2	GET THE REQUEST CODE
00017	05200003		370		ISG	3,X2	SKIP TO PRINT THE USERS STATUS
00020	01000022	P	371		UJP	*+2	
00021	16601000		372		XOA	STATBIT	CALL THE STATUS ROUTINE
00022	53420044		373		TAM	IO	
00023	04200005		374		ISE	RILLINS-DECODE,X2	
00024	01000026	P	375		UJP	*+2	
00025	01000031	P	376		UJP	ENTER04	
00026	14100031	P	377		ENI	ENTER04,X1	RETURN ADDRESS
00027	04200002		378		ISE	RCSA-DECODE,X2	SKIP IF CONTROL-A
00030	01001141	P	379		UJP	OUTLINE	OTHERWISE, CR-LF
00031	53230045		380	ENTER04	TMI	REQUEST,X2	GET ERROR CODE
00032	53020045		381		TMA	REQUEST	ERROR CODE TO A
00033	53330053		382		TMI	T2,X3	GET LUN
00034	05200025		383		ISG	ERMAX,X2	CHECK FOR ILLEGAL CODE
00035	01200047	P	384		UJP	DECODE,X2	DECODE LEGAL CODES
00036	01000036	P	385		UJP	*	THIS SHOULD NOT HAPPEN
00037	53730053		387	ENTER02	TIM	T2,X3	SAVE LUN
00040	14100031	P	388		ENI	ENTER04,X1	
00041	04600002		389		ASE	RCSA-DECODE	SKIP IF CONTROL-A
00042	01001141	P	390		UJP	OUTLINE	
00043	01000031	P	391		UJP	ENTER04	SUPRESS CR-LF AFTER CONTROL-A
00044	35002665	P	393	REENTER	SSA	BIT23	
00045	53420045		394		TAM	REQUEST	
00046	01000000	P	395		UJP	ENTER	

00047	010000047	P	397	DECODE	EQU	*	00B--LOGIN REQUEST
00050	010000050	P	398		UJP	*	01B--NOT USED
00051	010000167	P	399		UJP	*	02B--ENTRY BY CONTROL-A OR TV #
00052	010000221	P	400	RCSA	UJP	CSA	03B--TIME CUT
00053	010000164	P	401	RTIMECUT	UJP	TIMECUT	04B--ENTRY BY READING A CONTROL C
00054	010000225	P	402		UJP	CCREAD	05B--ILLEGAL INSTRUCTION
00055	010000211	P	403	RILLINS	UJP	ILLINS	06B--INSUFFICIENT FILE SPACE
00056	010000217	P	404		UJP	INSFIL	07B--FILE PROTECT VIOLATION
00057	010002155	P	405		UJP	FPV	10B--LUN UNDEFINED
00060	010000373	P	406		UJP	LUNUD	11B--READ AT END OF DATA
00061	010000377	P	407		UJP	REOD	12B--WORD COUNT IS ZERO
00062	010000403	P	408		UJP	WCZ	13B--WORD COUNT TOO LARGE
00063	010000205	P	409		UJP	WCTL	14B--DRIVE FAILURE
00064	010000223	P	410		UJP	DFAIL	15B--ABNORMAL I/O CONDITION
00065	010004657	P	411		UJP	ABNIO	16B--WARNING OF SYSTEM ENDING
00066	010000213	P	412	RWARN	UJP	WARNR	17B--MEMORY PROTECT VIOLATION
00067	010000200	P	413		UJP	MPV	20B--MEMORY PARITY ERROR
00070	010000407	P	414		UJP	MPE	21B--OPERATOR ABORT
00071	010004573	P	415	RABORT	UJP	OPABORT	22B--LOGOFF REQUEST
00072	010004563	P	416	RLOGOFF	UJP	LOGOFFR	23B--OPERATOR TERMINATION
00073	010004621	P	417	ROPTERM	UJP	OPTERM	24B--VANISH, LOGOFF FIRST
	00025		418	RVANISH	UJP	LOGVANSH	
			419	ERMAX	EQU	*-DECODE	
00074	53020044		421	SBJP	TMA	IO	
00075	17476777		422		ANA,S	-STATBIT	CLEAR STATUS BIT
00076	53420044		423		TAM	IO	
00077	17300001		424		ANI	1,X3	GET LAST BIT OF THE
00100	04300001		425		ISE	1,X3	SBJP INSTRUCTION.
00101	01000106	P	426		UJP	SBJP02	JUMP IF A SBJP XXX0
00102	14200017		427		ENI	17B,X2	
00103	14100007		428		ENI	ZERCPAGE,X1	
00104	71200000		429		XREQ	0,X2	ZERO THE LOWER CORE
00105	02600103	P	430		IJD	*-2,X2	
	00106	P	431	SBJP02	EQU	*	
00106	53020044		432		TMA	IO	
00107	17477757		433		ANA,S	-AUXBIT	STOP PROCESSING THE DO UNIT
00110	53010077		434		TMQ	RF77	IF THE ABORT BIT IS SET
00111	05500000		435		QSG,S	0	
00112	53420044		436		TAM	IO	
00113	53020077		437		TMA	RF77	
00114	12000024		438		SHA	23-3	CHECK THE LOAD OVERLAY BIT
00115	03200147	P	439		AZJ,GE	SBJP04	REMOVE THE LOAD-OVERLAY BIT
00116	53020077		440		TMA	RF77	
00117	17477767		441		ANA,S	77767B	
00120	53420077		442		TAM	RF77	
00121	03300147	P	443		AZJ,LT	SBJP04	DO NOT LOAD OVERLAY IF ABORTED
00122	53020075		444		TMA	RF75	GET THE FILE NAME
00123	53420052		445		TAM	T1	
00124	12000008		446		SHA	6	GET THE FIRST CHARACTER
00125	17600077		447		ANA	77B	
00126	53600000		448		TAI	X2	CHECK IT FOR A LEGAL FILENAME
00127	05600012		449		ASG	10	SKIP IF NOT A DIGIT
00130	01000147	P	450		UJP	SBJP04	
00131	20002700	P	451		LDA	ALPHA1	
00132	05200060		452		ISG	60B,X2	
00133	05200030		453		ISG	30B,X2	
00134	20002701	P	454		LDA	ALPHA2	
00135	12200000		455		SHA	0,X2	
00136	03200147	P	456		AZJ,GE	SBJP04	JUMP IF NOT A LEGAL FILENAME
00137	53010076		457		TMQ	RF76	GET THE REST OF THE
00140	53410053		458		TQM	T2	FILENAME
00141	14300143	P	459		ENI	*+2,X3	RETURN ADDRESS
00142	01003004	P	460		UJP	EQSYS	TRY AND EQUIP THE OVERLAY
00143	53020047		461		TMA	B2	PUT USERS B2 INTO T3 BECAUSE
00144	53420054		462		TAM	T3	LATER ON T3 WILL BE PUT IN B2
00145	05100001		463		ISG	1,X1	SKIP IF ERRORS
00146	01000574	P	464		UJP	MC14	LOAD THE OVERLAY
00147	14100016		465	SBJP04	ENI	PURGE,X1	PURGE ANY PARAMETER STRING
00150	71000000		466		XREQ	XREQ	UPON FINDING A SBJP INSTRUCTION
00151	14100153	P	467		ENI	*+2,X1	
00152	01001141	P	468		UJP	OUTLINE	
00153	53230047		469		TMI	B2,X2	GET USERS X2
00154	02600424	P	470		IJD	MC,X2	JUMP IF ERRORS
00155	53020044		471	AUXCLEAR	TMA	IO	
00156	17600123		472		ANA	SYSMASK+AUXBIT+OBUFBIT	
00157	04600001		473		ASE	TVSYS	SKIP IF TV

00160	01000424	P	474		UJP	MC		
00161	14600014		475		ENA	TVCHAR		
00162	14300424	P	476		ENI	MC,X3	RETURN	
00163	01001031	P	477		UJP	OUTCHAR	BLANK OUT SCREEN	
00164	14113140		479	CCREAD	OUT	M102,LINEEND	ILLEGAL READ--CONTROL CARD	
00167	53020045		481	CSA	TMA	REQUEST		
00170	53010044		482		TMQ	IO		
00171	17700003		483		ANQ	SYSMASK	GET TYPE OF SYSTEM	
00172	04500000		484		QSE,S	TTYSYS	SKIP IF A TELETYPE	
00173	03301272	P	485		AZJ,LT	ERMSX	LIST THE SCREEN IF A RE-ENTER	
00174	53020044		486		TMA	IO		
00175	17477717		487		ANA,S	-AUXBIT-IBUFBIT	CLEAR DO BIT AND INPUT BUFFER BIT	
00176	53420044		488		TAM	IO		
00177	01000431	P	489		UJP	MC01		
00200	53020044		491	MPE	TMA	IO	MEMORY PARITY ERROR ***	
00201	17477637		492		ANA,S	-IBUFBIT-OBUFBIT	CLEAR BUFFER PRESENT BITS	
00202	53420044		493		TAM	IO		
00203	14112420		494		ERM	M71	MEMORY PARITY ERROR	
00205	00205	P	496	DFAIL	EQU	*	TAPE DRIVE FAILURE	
00206	03300207	P	497		AZJ,LT	*+2	JUMP IF RE-ENTER (LUN IN X3)	
00207	53330052		498		TMI	T1,X3	PUT LUN IN X3	
00210	14112444		499		ECHI	M72,X1	DRIVE FAILURE	
00210	01002167	P	500		UJP	E03A	PRINT LUN	
00211	00211	P	502	INSFIL	EQU	*	INSUFFICIENT FILE SPACE	
00212	14112467		503		ECHI	M73,X1	INSUFFICIENT FILE SPACE	
00212	01002167	P	504		UJP	E03A	PRINT LUN	
00213	14100017		506	MPV	ENI	RMP,X1	MEMORY PROTECT VIOLATION	
00214	71000000		507		XREQ	D+XREQ	REMOVE MEMORY PROTECTION	
00215	14112524		508		ERM	M74	MEMORY PROTECT VIOLATION	
00217	00217	P	510	FPV	EQU	*	FILE PROTECT VIOLATION	
00220	14112555		511	FPV1	ECHI	M75,X1	FILE PROTECT VIOLATION	
00220	01002167	P	512		UJP	E03A	PRINT THE LUN	
00221	14112611		514	TIMEOUT	ERM	M77	TIME CUT	
00223	00223	P	516	ABNIO	EQU	*	ABNORMAL I/O CONDITION	
00224	14112622		517	E72	ECHI	M78,X1	ABNORMAL I/O CONDITION	
00224	01002167	P	518		UJP	E03A		

00225	03302166	P	520	ILLINS	AZJ,LT	F03	JUMP IF RE-ENTRY
00226	14801272	P	521		ENA	ERM SX	ENTER RETURN ADDRESS
00227	53420054		522	ILLINSX	TAM	T3	SAVE RETURN ADDRESS IN T3
00230	53020053		523		TMA	T2	
00231	12077763		524		SHA	-12	
00232	14577762		525		ENQ,S	77762B	SBJP INSTRUCTION
00233	03400074	P	526		AQJ,EQ	SBJP	TREATE SBJP AS LEGAL
00234	14100236	PP	527		ENI	*+2,X1	
00235	01001141	P	528		UJP	OUTLINE	
00236	14112656		529		OUT	M79	ILLEGAL INSTRUCTION
00241	53020053		530		TMA	T2	GET THE INSTRUCTION
00242	13077755		531		SHAQ	-18	GET THE OPCODE
00243	17600077		532		ANA	778	
00244	03000361	P	533		AZJ,EQ	ILLHALT	JUMP IF A 00B
00245	53500000		534		TAI	X1	OPCODE TO X1
00246	05100071		535		ISG	718,X1	SKIP IF A SYSTEM INSTRUCTION
00247	01000366	P	536		UJP	ILLUD	BDP ILLEGAL INSTRUCTION
00250	01100160	PP	537		UJP	*+1-71B,X1	DECODE THE INSTRUCTION
00251	01000274	PP	538		UJP	ILLXREQ	71B--XREQ
00252	01000315	PP	539		UJP	ILLCNTL	72B--CNTL
00253	01000352	PP	540		UJP	ILLSEEK	73B--SEEK
00254	01000355	PP	541		UJP	ILLREAD	74B--READ
00255	01000366	PP	542		UJP	ILLUD	75B--UNDEFINED
00256	01000357	P	543		UJP	ILLWRITE	76B--WRITE
00257	12477755		544		SHQ	-18	77B--SPECIAL INSTRUCTIONS
00260	05500000		545		QSG,S	0	CHECK SUB-OPCODE
00261	05577775		546		QSG,S	77775B	
00262	01000366	P	547		UJP	ILLUD	JUMP IF NOT 77.75 - 77.77
00263	05577776		548		QSG,S	77776B	SKIP IF 77.76 OR 77.77
00264	01000272	P	549		UJP	ILLCTI	JUMP IF 77.75 (CTI)
00265	14113030		550		ECHI	M96,X1	UCS
00266	05577777		551		QSG,S	77777B	SKIP IF 77.77 (UCS)
00267	14113034		552		ECHI	M97,X1	CTO
00270	14200304	P	553	ILL77	ENI	ADDOUT,X2	RETURN ADDRESS
00271	01001266	P	554		UJP	MESSAGE	PRINT TYPE OF INSTRUCTION
			555				
00272	14113040		556				
00273	01000270	P	557	ILLCTI	ECHI	M98,X1	CTI
					UJP	ILL77	
00274	14112703		559	ILLXREQ	OUT	M80	XREQ
00277	53010050		560		TMQ	B1	GET USERS X1 (SUB-OPCODE)
			561				
00300	12400011		562	ARGOUT	SHQ	9	LEFT JUSTIFY
00301	14200005		563		OCTPRINT	5	PRINT 5 OCTAL DIGITS
00304	14112711		564	ADDOUT	OUT	M81	AT
00307	53020041		565		TMA	PC	GET THE PROGRAM COUNTER
00310	37002653	P	566		LPA	PCMASK	REMOVE EXTRA BITS
00311	13077755		567		SHAQ	-18	MOVE INTO Q
00312	14200006		568		ENI	6,X2	INDICATE 6 DIGITS
00313	53130054		569		TMI	T3,X1	RETURN ADDRESS
00314	01001135	P	570		UJP	OCTOUT	PRINT THE OCTAL PC
00315	53130051		572	ILLCNTL	TMI	Q,X1	GET USERS Q
00316	05100010		573		ISG	FUNLIM,X1	SKIP IF TOO LARGE
00317	02500325	P	574		IJD	ILLFUNX,X1	JUMP IF A FUNCTION
00320	14112717		575		OUT	M82	CNTL
00323	53010051		576		TMQ	Q	GET Q (SUB-OPCODE)
00324	01000300	P	577		UJP	ARGOUT	PRINT THE SUB-OPCODE
00325	20100331	P	579	ILLFUNX	LDA	FUNNAME,X1	GET THE MESSAGE ADDRESS
00326	53500000		580		TAI	X1	
00327	14200341	P	581		ENI	IOLUN,X2	RETURN
00330	01001266	P	582		UJP	MESSAGE	PRINT THE FUNCTION NAME
00331	00012725	P	584	FUNNAME	EQU	*	DECODE TYPE OF LEGAL CNTL
00332	00012733		585		ERROR	M84	CLEAR
00333	00012737		586		ERROR	M85	WFM
00334	00012747		587		ERROR	M86	RELEASE
00335	00012756		588		ERROR	M87	REWIND
00336	00012763		589		ERROR	M88	SEFF
			590		ERROR	M89	SEFB

00337	00012770	591		ERROR	M90	BKSP
00340	00012775	592		ERROR	M91	FWSP
	00010	593	FUNLIM	EQU	*-FUNNAME	
00341	14111066	595	IOLUN	OUT	M02A	PRINT LUN
00344	53020053	596		TMA	T2	
00345	17677777	597		ANA	77777B	
00346	14100350	598		ENI	*+2,X1	
00347	01001360	599		UJP	DT01	
00350	53630054	600		TIM	T3,X2	RESTORE T3
00351	01000304	601		UJP	ADDOUT	
00352	14113002	603	ILLSEEK	ECHI	M92,X1	SEEK
00353	14200341	604	ILLIO	ENI	IOLUN,X2	RETURN
00354	01001266	605		UJP	MESSAGE	PRINT INSTRUCTION TYPE
00355	14113007	607	ILLREAD	ECHI	M93,X1	READ
00356	01000353	608		UJP	ILLIO	
00357	14113014	610	ILLWRITE	ECHI	M94,X1	
00360	01000353	611		UJP	ILLIO	
00361	14113022	613	ILLHALT	OUT	M95	HALT
		615	*	ENA	ILLHJMP	RETURN HERE
		616	*	TAM	T3	SAVE ADDRESS
00364	53010053	618		TMQ	T2	GET THE INSTRUCTION
00365	01000300	619		UJP	ARGOUT	OUTPUT ADDRESS
		621	*			
		622	*	ILLHJMP	T2	GET INSTRUCTION
		623	*	SHQ	9	
		624	*	TMA	PC	GET BANK NUMBER
		625	*	SHA	-15	SIMULATE A JUMP
		626	*	SHAQ	15	
		627	*	TAM	PC	SAVE NEW ADDRESS
		628	*	UJP	ERMSX	
00366	53010053	631	ILLUD	TMQ	T2	INSTRUCTION TO Q
00367	14200010	632		OCTPRINT	8	OUTPUT OCTAL INSTRUCTION
00372	01000304	633		UJP	ADDOUT	OUTPUT THE ADDRESS
00373	14600375	635	REOD	ENA	*+2	RETURN ADDRESS
00374	01000227	636		UJP	ILLINSX	TREAT AS AN ILLEGAL INSTRUCTION
00375	14113044	637		ERM	M99	FILE AT END OF DATA
00377	14600401	639	WCZ	ENA	*+2	RETURN ADDRESS
00400	01000227	640		UJP	ILLINSX	TREAT AS AN ILLEGAL INSTRUCTION
00401	14113070	641		ERM	M100	WORD COUNT IS ZERO
00403	14600405	643	WCTL	ENA	*+2	RETURN ADDRESS
00404	01000227	644		UJP	ILLINSX	TREAT AS AN ILLEGAL INSTRUCTION
00405	14113113	645		ERM	M101	WORD COUNT TOO LARGE

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*****
*
*      MAIN CONTROL.  THIS SECTION DECODES THE CONTROL
*      STATEMENTS AND THEN JUMPS TO THE
*      ROUTINE THAT WILL PROCESS THE
*      STATEMENT.
*
*****
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00407	53020044	P	656	OPABORT	EQU	*		
00410	17477637		657		TMA	IO	GET IO FLAGS	
00411	53420044		658		ANA,S	-IBUFBIT-OBUFBIT	REMOVE INPUT AND OUTPUT BUFFERS	
00412	14127721		659		TAM	IO	AND PUT THEM BACK	
			660		ERM	M221	OPERATOR ABORT MESSAGE	
			661					
			662					
00414	53020026		663	ABORT	TMA	RF26	GET JOB NUMBER	
00415	03304625	P	664		AZJ,LT	VANISH	REMOVE PSA IF NOT LOGGED-IN	
00416	53020077		665		TMA	RF77		
00417	35002665	P	666		SSA	BIT23	SET THE ABORT BIT	
00420	53420077		667		TAM	RF77		
00421	53020044		668	MC20	TMA	IO	GET THE I/O BITS	
00422	17476717		669		ANA,S	-AUXBIT-IBUFBIT-STATBIT		
00423	53420044		670		TAM	IO		
			671					
00424	53020044		672	MC	TMA	IO		
00425	17600023		673		ANA	SYSMASK+AUXBIT	CHECK FOR TTY SYSTEM	
00426	03100431	P	674		AZJ,NE	*+3	JUMP IF NOT A TTY	
00427	14600243		675		ENA	TTYCHAR		
00430	77760000		676		CTO		PRINT A POUND SIGN	
	00431	P	677	MC01	EQU	*		
00431	53020044		678		TMA	IO		
00432	17602000		679		ANA	SYSEBIT		
00433	14300435	P	680		ENI	*+2,X3		
00434	03103027	P	681		AZJ,NE	UNEQSYS		
00435	14200060		682		ENI	60B,X2	CLEAR END-OF-LINE CODE	
00436	14100440	P	683		ENI	*+2,X1		
00437	01001413	P	684		UJP	PACKER	*** CALL THE PACKER	
00440	01000424	P	685		UJP	MC	END-OF-LINE	
00441	01000576	P	686		UJP	MC32	DECIMAL NUMBER	
00442	36002677	P	687		SCA	BCDJOB	BCD SYMBOL	
00443	03004605	P	688		AZJ,EQ	JOBR	PROCESS JOB	
00444	14100223		689		ENI	CMODTBLN,X1	LENGTH OF COMMAND TABLE	
00445	53020052		690	MC02	TMA	T1	GET UPPER HALF OF SYMBOL	
00446	14577777		691		ENQ,S	77777B		
00447	06300606	P	692		MEQ	CMODTBL,3	SEARCH THE COMMAND TABLE	
00450	01000520	P	693		UJP	MC08	NOT FOUND	
00451	53020053		694		TMA	T2	GET SECOND HALF OF SYMBOL	
00452	36100607	P	695		SCA	CMODTBL+1,X1		
00453	03100445	P	696		AZJ,NE	MC02	SEARCH MORE IF NOT CORRECT	
00454	53020044		697		TMA	IO		
00455	17600003		698		ANA	SYSMASK		
00456	04600002		699		ASE	TASKSYS	SKIP IF THE TASK SYSTEM	
00457	01000463	P	700		UJP	MC04	NOT TASK	
00460	53020077		701		TMA	RF77	TASK, GET THE ABORT BIT	
00461	37100610	P	702		LPA	CMODTBL+2,X1	NOT ABORT OR LEGAL IN ABORT	
00462	03300421	P	703		AZJ,LT	MC20	JUMP IF NOT LEGAL	
00463	14300465	P	704	MC04	ENI	*+2,X3		
00464	01001243	P	705		UJP	FILEECHO	TASK, PRINT THE LINE	
00465	53020026		706		TMA	RF26	GET JOB NUMBER	
00466	12077775		707		SHA	-2	GET THE SIGN BIT	
00467	37002661	P	708		LPA	BIT21	SELECT ONE BIT	
00470	37100610	P	709		LPA	CMODTBL+2,X1	AND CHECK FOR MATCH WITH CMODTBL	
00471	03105517	P	710		AZJ,NE	LOGREQ	THEN ASK THE GUY TO LOG IN	
00472	53020077		711		TMA	RF77	GET RESTRICTED BIT	
00473	53010056		712		TMQ	UDFLAGS	GET THE UDFLAGS BITS	
00474	37100610	P	713		LPA	CMODTBL+2,X1	NOT RESTRICTED OR LEGAL ANYWAY	
00475	13000001		714		SHAQ	23-RSTRCTBT		
00476	05500000		715		QSG,S	0		
00477	03303766	P	716		AZJ,LT	E01	JUMP IF NOT LEGAL	
00500	53020044		716+001		TMA	IO		
00501	17604000		716+002		ANA	RUNCBIT	GET RUN ONLY STATUS	
00502	03000514	P	716+003		AZJ,EQ	MC05	JUMP IF NOT RUN ONLY MODE	
00503	20100610	P	716+004		LDA	CMODTBL+2,X1	SEE IF THE COMMAND IS ALLOWED	
00504	12000003		716+005		SHA	3	IN RUN ONLY MODE.	
00505	03200514	P	716+006		AZJ,GE	MC05	JUMP IF IT IS OK.	
00506	53530054		716+007		TIM	T3,X1	IT ISN'T SO WE WILL	
00507	53630055		716+008		TIM	T4,X2	SAVE	
00510	14200512	P	716+009		ENI	*+2,X2	PROTECT THE RUN ONLY PROGRAM.	

00511	01007547	P	716+010	UJP	SMASH	
00512	53130054		716+011	TMI	T3,X1	
00513	53230055		716+012	TMI	T4,X2	
	00514	P	716+013	EQU	*	RESTORE X2
00514	21100610	P	717	LDQ	CMODTBL+2,X1	GET FUNCTION CODE
00515	05700024		718	QSG	20	SKIP IF NOT LEGAL FUNCTION
00516	01002742	P	719	UJP	FUN	GO TO PROCESS THE FUNCTION
00517	01500610	P	720	UJP,I	CMODTBL+2,X1	JUMP TO THE PROPER ROUTINE

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723 *****
724 *
725 *      COMMAND NOT FOUND IN COMMAND TABLE
726 *      CHECK FOR USER OVERLAY
*****

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Address	Label	OpCode	OpCode	Comment
00520	00520 P	53020026	MC03 EQU	* GET JOB NUMBER
00521	03305517 P	730 TMA	RF26	ASK HIM TO LOG IN
00522	53020044	731 AZJ,LT	LOGREQ	GET IO CONDITIONS
00523	17600003	732 TMA	IO	
00524	04600002	733 ANA	SYSMASK	
00525	01000530 P	734 ASE	TASKSYS	SKIP IF A TASK
00526	53020077	735 UJP	MC10	
00527	03300421 P	736 TMA	RF77	GET ABORT BIT
00530	14300532 P	737 AZJ,LT	MC20	TASK, ABORT, IGNORE THE LINE
00531	01001243 P	738 MC10 ENI	*+2,X3	
00532	53020077	739 UJP	FILEECHO	LIST THE LINE IF TASK
00533	53010056	740 TMA	RF77	GET THE RESTRICTED BIT
00534	13000001	741 TMQ	UDFLAGS	
00535	05500000	742 SHAQ	23-RSTRCTBT	
00536	03300555 P	743 QSG,S	0	
00537	14100541 P	744 AZJ,LT	MC13	JUMP IF RESTRICTED
00540	01001234 P	745 MC12 ENI	*+2,X1	
00541	14100543 P	746 UJP	OUTBUF	OUTPUT CURRENT BUFFER
00542	01003535 P	747 ENI	*+2,X1	
	00543 P	748 UJP	PARAMOUT	OUTPUT THE PARAMETER STRING
00543	53020052	748+001 MC12X EQU	*	
00544	53010053	749 TMA	T1	PUT NAME INTO AQ
00545	53230044	750 TMQ	T2	
00546	17204000	750+001 TMI	IO,X2	
00547	02600600 P	750+002 ANI	RUNOBT,X2	
00550	53230054	750+003 IJD	MC44,X2	JUMP IF WE ARE RUN ONLY
00551	14377776	750+004 TMI	T3,X2	GET DELIMITER
00552	14100010	751 ENI	-1,X3	
00553	71000000	752 ENI	LIBCALL,X1	
00554	01000570 P	753 XREQ	D+XREQ	ATTEMPT THE XREQ
00555	53020052	754 UJP	MC13X	
00556	12000006	755 MC13 TMA	T1	GET THE FILENAME
00557	17600077	756 SHA	6	CHECK THE FIRST CHARACTER
00560	14700054	757 ANA	77B	
00561	03403766 P	758 ENQ	H#*#	PUBLIC FILES ARE ILLEGAL
00562	14700053	759 AQJ,EQ	E01	PRINT #ILLEGAL CONTROL ...#
00563	03403766 P	759+001 ENQ	H#\$#	
00564	14100566 P	759+002 AQJ,EQ	E01	
00565	01001234 P	760 ENI	*+2,X1	
00566	14100570 P	761 UJP	OUTBUF	OUTPUT CURRENT BUFFER
00567	01003535 P	762 ENI	*+2,X1	
00570	14300572 P	763 UJP	PARAMOUT	OUTPUT THE PARAMETER STRING
00571	01003004 P	764 MC13X ENI	*+2,X3	
00572	02503766 P	765 UJP	EQSYS	EQUIP THE OVERLAY
00573	14240000	766 IJD	E01,X1	EQUIP ERROR
00574	14377777 X	767 ENI	40000B,X2	INDICATE CALL FROM MC
00575	01003620 P	768 MC14 ENI	SYSLUN,X3	INDICATE TO USE SYSLUN
		769 UJP	OVL02	TRY TO LOAD AN OVERLAY
		771 *		ILLEGAL CONTROL STATEMENT
00576	00576 P	772 MC32 EQU	*	
00577	14303766 P	773 ENI	E01,X3	RETURN ADDRESS
	01001243 P	774 UJP	FILEECHO	LIST THE LINE IF TASK
		774+002 MC44 EQU	*	
00600	00600 P	774+003 ENI	LIBCALL,X1	
00601	14100010	774+004 XREQ	1,XREQ	ASK IF THIS IS A LIBCALL
00602	04100001	774+005 ISE	1,X1	SKIP IF IT WAS A LIBCALL
00603	01000570 P	774+006 UJP	MC13X	JUMP IF IT WASN'T A LIBCALL
00604	14200543 P	774+007 ENI	MC12X,X2	GET OUT OF RUN ONLY MODE
00605	01007547 P	774+008 UJP	SMASH	


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777 *
778 *
779 *
779+001 *
781 *
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783 *
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785 *
786 *
787 *
787+001 *
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COMMAND TABLE. EACH ENTRY HAS THE FOLLOWING FORMAT.

COMMAND P1,P2,P3,P4,P5,P6

P1 -- BCD NAME OF THE COMMAND.
P2 -- ADDRESS OF THE ROUTINE THAT PROCESSES THE COMMAND
OR THE CONTROL FUNCTION CODE.
P3 -- A IF LEGAL IN ABORT MODE, OTHERWISE OMITTED.
P4 -- R IF LEGAL IN RESTRICTED MODE, OTHERWISE OMITTED.
P5 -- N IF LEGAL WITHOUT LOGGING IN
P6 -- RO IF LEGAL IN RUN ONLY MODE, OTHERWISE OMITTED

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00606 21432746 P
00611 22426247
00614 22512521
00617 23236060
00622 23432521
00625 23462246
00630 23464447
00633 24252342
00636 24252342
00641 24254325
00644 24256263
00647 24315125
00652 24466060
00655 24644447
00660 25506431
00663 26476060
00666 26465144
00671 26666247
00674 27466060
00677 30254347

00702 43462746
00705 43644543
00710 44255127
00713 44262243
00716 44316060
00721 46654346
00724 51254325
00727 51254521
00732 51256225
00735 51256631
00740 51264760
00743 62216525
00746 62245160
00751 62252622
00754 62252626
00757 62254524
00762 62262243
00765 62642244
00770 62465163
00773 62632151
00776 62632163
01001 63214725
01004 63314425
01007 63512126
01012 64452122
01015 64452550
01020 66254626
01023 66264460
J1026 67212246
      00223

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790
791 CMOOTBL EQU *
792 COMMAND ALGOL,OVCALL
793 COMMAND BKSP,BKSP
794 COMMAND BREAK,BREAKR
794+001 COMMAND CC,CCR,,R,,RO
794+002 COMMAND CLEAR,CLEAR
796 COMMAND COBOL,OVCALL
797 COMMAND COMPASS,OVCALL
798 COMMAND DECKEDIT,OVCALL
799 COMMAND DECKLIST,OVCALL
799+001 COMMAND DELETE,DELETER,,,RO
799+002 COMMAND DESTROY,DESTROYR,,,RO
799+003 COMMAND DIRECTOR,DIRECTOR
799+004 COMMAND DO,DOR
804 COMMAND DUMP,MC12,A
805 COMMAND EQUIP,EQUIPR
806 COMMAND FP,FPR
807 COMMAND FORMS,FORMSR
808 COMMAND FWSP,FWSP
808+001 COMMAND GO,GOR,,R,,RO
808+002 COMMAND HELP,OVCALL
810 *
810+001 COMMAND LABEL,LABELR
812 COMMAND LOGOFF,LOGOFFR,A,R,,RO
813 COMMAND LUNLIST,LUNLISTR,A
813+001 COMMAND MERGE,OVCALL
813+002 COMMAND MFBLKS,MFBLKSR,A,R,,RO
816 COMMAND MI,MIR,,R,,RO
817 COMMAND OVLOAD,OVLOADR
818 COMMAND RELEASE,RELEASE
819 COMMAND RENAME,RENAMER
820 COMMAND RESET,RESETR
821 COMMAND REWIND,REWIND
822 COMMAND RFP,RFPR
822+001 COMMAND SAVE,SAVER
823 COMMAND SDR,SDR
824 COMMAND SEFB,SEFB
825 COMMAND SEFF,SEFF
825 COMMAND SEND,SENR
825+001 COMMAND SFBLKS,SFBLKSR,A,R,,RO
825+002 COMMAND SUBMIT,CMOVER,A
828 COMMAND SORT,OVCALL
829 COMMAND START,STARTR
830 COMMAND STATUS,STATUSR,A
830+001 COMMAND TAPEMAX,TMAXR,A,R,,RO
830+002 COMMAND TIME,TIMER,A,R,,RO
830+003 COMMAND TRAFFIC,TRAFFICR,A,R,N,RO
830+004 COMMAND UNABORT,ABORTCR,A,,,RO
834 COMMAND UNEQUIP,UNEQUIPR
835 COMMAND WEOF,WFM
836 COMMAND WFM,WFM
836+001 COMMAND XABORT,XABORTR,A,,,RO
838 CMOOTBLN EQU *-CMOOTBL

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*****
*
*      ROUTINE TO OUTPUT A BCD CHARACTER -- OUTCHAR
*
*      A - CONTAINS BCD CHARACTER TO OUTPUT
*      X3- RETURN ADDRESS
*      T1- CHANGED
*      Q - RESTORED
*      X1- RESTORED
*      X2- RESTORED
*      T2- RESTORED
*
*****
    
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01031 53630052
01032 53230044
01033 17200003
01034 01201035 P
01035 01001040 P
01036 01001066 P
01037 01001066 P

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```

OUTCHAR   TIM      T1,X2      SAVE X2
           TMI      IO,X2      GET TYPE OF OUTPUT UNIT
           ANI      SYSMASK,X2
           UJP      *+1,X2     DECODE OUTPUT TYPE
           UJP      OCTTY      ITTY
           UJP      OCTV      TV
           UJP      OCLP      LP OR FILE
    
```

01040 53600000
01041 04600075
01042 01001047 P
01043 53020026
01044 03201064 P
01045 14600012
01046 01001063 P
01047 13000030
01050 23413510 P 02722 0
01051 13000030
01052 15600040
01053 53600000
01054 12000021
01055 03201057 P
01056 16200200
01057 12000001
01060 17477776
01061 03101055 P
01062 53200000
01063 77760000
01064 53230052
01065 01300000

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```

OCTTY     TAI      X2          IS IT A BACKSLASH
           ASE      H#P#      THEN IGNORE
           UJP      *+5      GET JOBNUMBER
           TMA      RF26      IF POSITIVE THEN FLAKE OUT
           AZJ,GE   OCEXIT     LINE FEED CODE
           ENA      012B      THEN PRINT IT EXIT
           UJP      OCEXIT-1  SAVE Q IN A
           SHAQ     24         GET ASCII CODE
           LQCH     BCDASCII,X2 CHARACTER TO A
           SHAQ     24         PLUS A SPACE
           INA      040B      SAVE CHAR
           TAI      X2          GET MOST SIGNIFICANT DATA BIT
           SHA      24-7
           AZJ,GE   *+2      FLOP THE PARITY BIT
           XOI      200B,X2   NEXT BIT POSITION
           SHA      1         MASK LEASTE SIG BIT OFF
           ANA,S    77776B    JUMP BACK IF MORE TO DO
           AZJ,NE   *-4      GET THE CHAR ( NOW WITH PARITY )
           TIA      X2
           CTO
OCEXIT    TMI      T1,X2      RESTORE X2
           UJP      0,X3      RETURN
OCTV      EQU      *
OCLP      STAQ     ASAVE      SAVE A AND Q
           TMA      IO        CHECK FOR NO
           ANA      OBUFBIT   OUTPUT BUFFER
           AZJ,NE   OCB4      JUMP IF BUFFER IS SETUP
           ISE      TVSYS,X2  SKIP IF THE TV SYSTEM
           ENA      4         START AT THE 4TH CHARACTER IF TAs
           STA      OBUFP     INITIALIZE POINTER TO NEXT CHARAC
           ENA      TVBUFL-2  LENGTH OF TV BUFFER
           ISE      TVSYS,X2  SKIP IF TV
           ENA      LPBUFL-2  LENGTH OF LP BUFFER
           TAI      X2        BUFFER LENGTH - 2 TO X2
           LDAQ     BLANKS    BLANK FILL THE BUFFER
           STAQ     OBUF,X2
           ISD      0,X2
           IJD      *-2,X2
           TMA      IO
           XOA      OBUFBIT   INDICATE OUTPUT BUFFER EXISTS
           TAM      IO
           LOI      OBUFP,X2  GET THE CHARACTER COUNT
           LDAQ     ASAVE      RESTORE A AND Q
           ASE      H#P#      IS IT A BACKSLASH
           SACH     OBUF,X2
           ASE      H#P#      IS IT A BACKSLASH
           INI      1,X2      ADD ONE TO
           STI      OBUFP,X2  THE CHARACTER POSITION
           UJP      OCEXIT
    
```

01066 01066 P
01067 45000000 C
01070 53020044
01071 17600100
01072 03101110 P
01073 04200001
01074 14600004
01075 40000012 C
01076 14600370
01077 04200001
01078 14600022
01100 53600000
01101 25001515 P
01102 45200407 C
01103 10600000
01104 02601102 P
01105 53020044
01106 16600100
01107 53420044
01110 54200012 C
01111 25000000 C
01112 04600075
01113 42402034 C 00407 0
01114 04600075
01115 15200001
01116 47200012 C
01117 01001064 P

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```

OCTV      EQU      *
OCLP      STAQ     ASAVE      SAVE A AND Q
           TMA      IO        CHECK FOR NO
           ANA      OBUFBIT   OUTPUT BUFFER
           AZJ,NE   OCB4      JUMP IF BUFFER IS SETUP
           ISE      TVSYS,X2  SKIP IF THE TV SYSTEM
           ENA      4         START AT THE 4TH CHARACTER IF TAs
           STA      OBUFP     INITIALIZE POINTER TO NEXT CHARAC
           ENA      TVBUFL-2  LENGTH OF TV BUFFER
           ISE      TVSYS,X2  SKIP IF TV
           ENA      LPBUFL-2  LENGTH OF LP BUFFER
           TAI      X2        BUFFER LENGTH - 2 TO X2
           LDAQ     BLANKS    BLANK FILL THE BUFFER
           STAQ     OBUF,X2
           ISD      0,X2
           IJD      *-2,X2
           TMA      IO
           XOA      OBUFBIT   INDICATE OUTPUT BUFFER EXISTS
           TAM      IO
           LOI      OBUFP,X2  GET THE CHARACTER COUNT
           LDAQ     ASAVE      RESTORE A AND Q
           ASE      H#P#      IS IT A BACKSLASH
           SACH     OBUF,X2
           ASE      H#P#      IS IT A BACKSLASH
           INI      1,X2      ADD ONE TO
           STI      OBUFP,X2  THE CHARACTER POSITION
           UJP      OCEXIT
    
```

```

914 *****
915 *
916 *
          ROUTINE TO CHANGE THE FILE NAME AND LOAD AN OVERLAY
          *****
    
```

```

01120 53010052          919      OVCALL   TMQ      T1      FILE NAME TO Q,A
01121 53020053          920      TMA      T2
01122 17470000          921      ANA,S   70000B  REMOVE LAST TWO CHARACTERS
01123 16609455          922      XOA     H#*↑#  ADD STAR (PUBLIC)
01124 13000014          923      SHAQ   12     SHIFT STAR TO TOP END
01125 53420052          924      TAM     T1
01126 53410053          925      TQM     T2     NEW FILENAME TO T1,T2
01127 01000537 P      926      UJP     MC12  TRY AND LOAD THE OVERLAY
    
```

```

929 *****
930 *
931 *
          ROUTINE TO PRINT OUT OCTAL NUMBERS -- OCTOUT
          *****
932 *
          I2- RESTORED
          *****
933 *
          *CALL WITH...
934 *
          OCTOUT      N      N IS NUMBER OF DIGITS
          *****
935 *
936 *
    
```

```

01130 14600000          939      OCTPRINT ENA      0
01131 13000003          940      SHAQ   3
01132 14301130 P      941      ENI     OCTPRINT,X3
01133 02601031 P      942      IJD    OUTCHAR,X2
01134 01100000          943      UJP     0,X1      RETURN
    
```

```

01135 14600000          945      OCTOUT   ENA      0
01136 13000003          946      SHAQ   3
01137 14301135 P      947      ENI     OCTOUT,X3
01140 02601031 P      948      IJD    OUTCHAR,X2
          *****UJP*****OUTLINE*****
    
```

952
953
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961
962

```

*****
*
*           ROUTINE TO OUTPUT ONE LINE           -- OUTLINE
*
*           X1- RETURN ADDRESS
*           A - CHANGED
*           Q - CHANGED
*           X2- CHANGED
*           X3- RESTORED
*           T1- RESTORED
*           T2- RESTORED
*
*****
    
```

01141 53230044
01142 17200003
01143 01201144 P
01144 01001147 P
01145 01001203 P
01146 01001156 P

965
966
967
968
969
970

```

OUTLINE TMI IO,X2
ANI      SYSMASK,X2
UJP      *+1,X2
UJP      OLTTY
UJP      OLTV
UJP      OLLP
    
```

GET TYPE OF OUTPUT DEVICE
TTY
TV
LP

01147 14600215
01150 77760000
01151 14600012
01152 77760000
01153 14600000
01154 77760000
01155 01100000

972
973
974
975
976
977
978

```

OLTTY ENA 215B
CTO
ENA 012B
CTO
ENA 000B
CTO
UJP 0,X1
    
```

RETURN
LINE FEED
NULL, TO ALLOW THINGS TO SETTLE
LINE FEED
RETURN

01156 53020044
01157 17600100
01160 03001375 P
01161 14700000
01162 72077777 X
01163 05600003
01164 05600001
01165 01001176 P
01166 37002671 P
01167 03101176 P
01170 20000012 C
01171 15600003
01172 13077745
01173 14600407 C
01174 04700000
01175 76001162 X
01176 53020044
01177 17477277
01200 16600400
01201 53420044
01202 01100000

980
981
982
983
983+001
985
986
987
988
989
990
991
992
993
994
995
996
997
998
999
1000

```

OLLP TMA IO
ANA OBUFBIT
AZJ,EQ UJPX1
ENQ STATUS
CNTL LPUNIT,CNTL
ASG LP+1
ASG FILE
UJP OLLP02
LPA IOBITS
AZJ,NE OLLP02
LDA OBUFP
INA 3
SHAQ -2-24
ENA OBUF
QSE 0
WRITE LPUNIT
OLLP02 TMA IO
ANA,S -OBUFBIT-FLASHBIT
XOA FLASHBIT
TAM IO
UJP 0,X1
    
```

CHECK FOR THE OUTPUT BUFFER
JUMP IF NOT PRESENT
CHECK THE STATUS OF
THE INPUT UNIT
SKIP IF FILE OR LP
SKIP THE OUTPUT
CHECK FOR ILLEGAL WRITE
GET LENGTH IN CHARACTERS
ROUND UP
CONVERT TO WORDS
ENTER ADDRESS OF BUFFER
SKIP IF NO OUTPUT
CLEAR THE BUFFER BIT
AND SET THE SCREEN FULL BIT
RETURN

01203 53020044
01204 17600100
01205 03001375 P
01206 20000012 C
01207 13077747
01210 51002651 P
01211 15600001
01212 50002651 P
01213 40000012 C
01214 05601666
01215 01100000
01216 25002674 P
01217 45000765 C
01220 14700372
01221 41000012 C
01222 53020044
01223 17600400
01224 03001230 P

1002
1003
1004
1005
1006
1007
1008
1009
1010
1011
1012
1013
1014
1015
1016
1017
1018
1019

```

OLTV TMA IO
ANA OBUFBIT
AZJ,EQ UJPX1
LDA OBUFP
SHAQ -24
DVA 050
INA 1
MUA 050
STA OBUFP
ASG TVBUFL*4-50
UJP 0,X1
LDAQ BCDMORE
STA OBUF+TVBUFL-12
ENQ TVBUFL
OLTVO2 STQ OBUF
OLTVO3 TMA IO
ANA FLASHBIT
AZJ,EQ OLTVO4
    
```

CHECK FOR THE OUTPUT BUFFER
JUMP IF NOT PRESENT
GET THE LENGTH
COMPUTE THE NUMBER OF LINES
ADD ONE LINE
SAVE NEW POINTER
SKIP IF FULL SCREEN
RETURN
--MORE--
STORE INTO LAST LINE
STORE THE AMOUNT TO WRITE
IN OBUF FOR USE LATER ON.
CHECK TO SEE IF THERE IS
INFO ON THE TV SCREEN
JUMP IF SCREEN EMPTY

01225 14700000
01226 14600014 C
01227 74000144
01230 14600407 C
01231 21000012 C
01232 76000144
01233 01001176 P

1020
1021
1022
1023
1024
1025
1026

OLTV04

ENQ
ENA
READ
ENA
LDQ
WRITE
UJP
0
IBUF
TVUNIT
OBUF
OBUFP
TVUNIT
OLLP02

ALLOW THE USER TO READ HIS
TV SCREEN.
GET LENGTH OF THE TV SCREEN
FIX THE STATUS UP

1029
1030
1031
1032
1033
1034
1035
1036

```

*****
*
*          ROUTINE TO OUTPUT THE TV SCREEN -- OUTBUF
*
*      X1- RETURN ADDRESS      X2- RESTORED
*      A - CHANGED            T1- RESTORED
*      Q - CHANGED            T2- RESTORED
*      X3- CHANGED            T3- RESTORED
*
*****
    
```

01234 53330044
01235 17300103
01236 04300101
01237 01100000
01240 20000012 C
01241 03001375 P
01242 01001220 P

1038
1039
1040
1041
1042
1043
1044
1045

```

*****
*
*      OUTBUF  TMI      IO,X3
*              ANI      SYSMASK+OBUFBIT,X3  GET TYPE OF IO DEVICE
*              ISE      TVSYS+OBUFBIT,X3    SKIP IF THE TV SYSTEM
*              UJP      0,X1                RETURN
*              LDA      OBUF                GET NUMBER OF CHARACTERS
*              AZJ,EQ   UJPX1              EXIT IF NO INPUT
*              UJP      OLTV02            WRITE THE TV SCREEN
*
*****
    
```

1048
1049
1050
1051
1052
1053
1054
1055
1056

```

*****
*
*          ROUTINE TO LIST TASK CONTROL STATEMENTS ON THE LINE PRINTER
*
*      X3- RETURN ADDRESS      Q - RESTORED
*      A - CHANGED            X1- RESTORED
*                              X2- RESTORED
*                              T1- RESTORED
*                              T2- RESTORED
*
*****
    
```

01243 53020044
01244 17600043
01245 04600042
01246 01300000
01247 41000001 C
01250 14700000
01251 72001175 X
01252 05600003
01253 05600001
01254 01001262 P
01255 37002671 P
01256 03101262 P
01257 21000007 C
01260 14600014 C
01261 76001251 X
01262 21000001 C
01263 01300000

1058
1059
1060
1061
1062
1063
1064
1064+001
1066
1067
1068
1069
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1071
1072
1073
1074
1075

```

*****
*
*      FILEECHO  TMA      IO
*                ANA      IBUFBIT+SYSMASK
*                ASE      IBUFBIT+TASKSYS   SKIP IF LP AND INPUT
*                UJP      0,X3              RETURN
*                STQ      QSAVE             SAVE Q
*                ENQ      STATUS
*                CNTL     LPUNIT,CNTL       GET THE STATUS OF THE
*                ASG      LP+1              OUTPUT UNIT
*                ASG      FILE              SKIP IF FILE OR LP
*                UJP      FE02              SKIP THE WRITE
*                LPA      IOBITS            CHECK FOR ILLEGAL WRITE
*                AZJ,NE   FE02
*                LDQ      IBUF              GET THE RECORD LENGTH
*                ENA      IBUF
*                WRITE    LPUNIT           WRITE OUT THE LINE
*                LDQ      QSAVE            RESTORE Q
*                UJP      0,X3              RETURN
*
*****
    
```

1078
1079
1080
1081
1082
1083
1084
1085
1086
1087
1088
1089

```

*****
*
*      ROUTINE TO OUTPUT A MESSAGE -- MESSAGE
*      ENTER AT ERRORMES TO PRINT AN ERROR AND ABORT
*
*      X1- CHARACTER ADDRESS OF MESSAGE
*      X2- RETURN ADDRESS
*      A - CHANGED
*      X3- CHANGED
*      T1- CHANGED
*      Q - RESTORED
*      T2- RESTORED
*
*****
    
```

01264 53500000
01265 14201272 P
01266 22400000 P
01267 03001544 P
01270 14301266 P
01271 02101031 P

00000 0

1091
1092
1093
1094
1095
1096
1097

```

ERRORINA TAI X1
ERRORMES ENI ERMSX,X2 RETURN ADDRESS
MESSAGE LACH Z,X1 GET NEXT CHARACTER
AZJ,EQ UJPX2 EXIT IF END OF MESSAGE (0)
MESSAGE2 ENI MESSAGE,X3 RETURN ADDRESS
IJI OUTCHAR,X1 OUTPUT CHARACTER
    
```

1100
1101
1102
1103

```

*****
*
*      ROUTINE TO OUTPUT ERROR MESSAGE AND DISPLAY UNPROCESSED
*      INPUT ON THE TV SCREEN. THIS ROUTINE EXITS TO ABORT.
*
*****
    
```

01272 14101274 P
01273 01001141 P

1106
1107

```

ERMSX ENI EROUTBUF,X1 EXIT ADDRESS
UJP OUTLINE ADVANCE TO NEXT LINE
    
```

01274 53020044
01275 17601003
01276 14701001
01277 03604173 P
01300 14100414 P
01301 53230044
01302 17200143
01303 04200141
01304 01001234 P
01305 53020044
01306 17477637
01307 53420044
01310 54100010 C
01311 15100001
01312 54200012 C
01313 21000012 C
01314 22400057 C
01315 04600036
01316 02101320 P
01317 02101314 P
01320 42402034 C
01321 04600037
01322 02201335 P
01323 16577777
01324 15701750
01325 13000030
01326 53240000
01327 13077745
01330 05700372
01331 01001333 P
01332 14700372
01333 14100414 P
01334 01001221 P

00013 3

00407 0

1109
1110
1111
1112
1113
1114
1115
1116
1117
1118
1119
1120
1121
1122
1123
1124
1125
1126
1127
1128
1129
1130
1131
1132
1133
1134
1135
1136
1137
1138
1139
1140
1141

```

EROUTBUF TMA IO
ANA STATBIT+SYSMASK CHECK TO PRINT OUT THE STATUS
ENQ STATBIT+TVSYS
AQJ,GE REGOUT TV OR TASK AND STATUS REQUEST
ENI ABORT,X1
TMI IO,X2 CHECK FOR TV AND BOTH BUFFERS
ANI IBUFBIT+OBUFBIT+SYSMASK,X2
ISE TVSYS+IBUFBIT+OBUFBIT,X2
UJP OUTBUF JUMP IF NOT TV OR NO INPUT BUFFER
TMA IO
ANA,S -IBUFBIT-OBUFBIT
TAM IO FROM CLEARING THE SCREEN
LDI ILINEP,X1 START OF LAST INPUT LINE
INI I,X1 PROTECT AGAINST ZERO
LDI OBUF,X2 START OF NEXT OUTPUT
LDQ OBUFP NUMBER OF OUTPUT CHARACTERS
LACH OBUF-1,X1 GET THE NEXT INPUT CHARACTER
ASE 36B SKIP IF RETURN
IJI *+2,X1
IJI ERB02,X1 SKIP IF NULL LINES
SACH OBUF,X2
ASE 37B SKIP IF END OF SCREEN
IJI ERB21,X2
XOQ,S -0 COMPUTE AMOUNT OF SCREEN LEFT
INQ TVBUFL*4 TOTAL AMT-AMT USED
SHAQ 24
AIA X2 ADD IN AMT USED
SHAQ -2-24 LENGTH OF THE WRITE IN WORDS
QSG TVBUFL SKIP IF TOO LARGE
UJP *+2
ENQ TVBUFL ENTER MAXIMUM LENGTH
ENI ABORT,X1 RETURN ADDRESS
UJP OLTV03 WRITE OUT THE SCREEN
    
```

01335 04600036
01336 01001352 P
01337 05701666
01340 01001344 P
01341 14600037

1143
1144
1145
1146
1147

```

ERB21 ASE 36B SKIP IF END OF LINE
UJP ERB24
QSG TVBUFL*4-50
UJP ERB22
ENA 37B
    
```

01342 42402033 C 00406 3 1148
01343 02801323 P 1149

SACH OBUF-1,X2
LJD ERB04,X2

01344 14600000 1151
01345 51002651 P 1152
01346 15800001 1153
01347 50002651 P 1154
01350 13000039 1155
01351 01001314 P 1156

ERB22 ENA
DVA
INA
MUA
SHAQ
UJP

0
050
1
050
24
ERB02

COMPUTE THE NUMBER OF LINES
ADVANCE TO NEXT LINE
COMPUTE NUMBER OF CHARACTERS

01352 22400057 C 00013 3 1158
01353 15700001 1159
01354 05701750 1160
01355 02101320 P 1161
01356 01001323 P 1162

ERB24 LACH
INQ
QSG
IJI
UJP

IBUF-1,X1
1
TVBUFL*4
ERB03,X1
ERB04

ONE MORE CHARACTER
CHECK FOR TOO MANY CHARACTERS
END OF SCREEN, EXIT

1165
1166
1167
1168
1169
1170
1171
1172
1173
1174
1175

```

*****
*
*      ROUTINE TO PRINT OUT DECIMAL NUMBERS -- DECOUT
*
*      X1- RETURN ADDRESS
*      A - DECIMAL NUMBER
*      Q - CHANGED
*      X2- CHANGED
*      X3- CHANGED (OUTCHAR)
*      T1- CHANGED (OUTCHAR)
*      T2- RESTORED
*
*****
    
```

01357 53630054
01360 03201362 P
01361 14600000
01362 13077747
01363 14200006
01364 51202642 P
01365 03101371 P
01366 02601364 P
01367 14600000 P
01370 51202642 P
01371 14301373 P
01372 01001031 P
01373 02601367 P
01374 53230054
01375 01100000

1177
1178
1179
1180
1181
1182
1183
1184
1185
1186
1187
1188
1189
1190
1191
1192

```

DECOUT   TIM      T3,X2      SAVE X2
DT01     AZJ,GE   *+2        JUMP IF POSITIVE
          ENA      0          IF NEGATIVE, SET TO ZERO
          SHAQ     -24
          ENI      6,X2      MAXIMUM NUMBER OF CHARACTERS IS 7
DT02     DVA      DTABLE,X2
          AZJ,NE   DT06      JUMP IF FIRST DIGIT
          IJD      DT02,X2   LOOP BACK IF LEADING ZEROS
DT04     ENA      0          REMOVE GARBAGE
          DVA      DTABLE,X2 GET NEXT DIGIT
DT06     ENI      *+2,X3    RETURN ADDRESS
          UJP      OUTCHAR  OUTPUT DIGIT
          IJD      DT04,X2  LOOP BACK IF MORE
UJXP1    TMI      T3,X2    RESTORE X2
          UJP      0,X1     RETURN
    
```

1195
1196
1197
1198
1199
1200
1201
1202
1203
1204
1205
1206

```

*****
*
*      ROUTINE TO PRINT OUT BCD SYMBOLS -- SYMOUT
*
*      X1- RETURN ADDRESS
*      T1- UPPER PART OF BCD SYMBOL
*      T2- LOWER PART OF BCD SYMBOL
*      A - CHANGED
*      Q - CHANGED
*      X2- RESTORED
*      X3- CHANGED (OUTCHAR)
*      T4 - USED AS TEMP ( CHANGED )
*
*****
    
```

01376 53010052
01377 53020053
01400 13000006
01401 53420055
01402 17600077
01403 14301375 P
01404 04600060
01405 14301407 P
01406 01001031 P
01407 53020055
01410 17477700
01411 16400060
01412 01001400 P

1209
1210
1211
1212
1213
1214
1215
1216
1217
1218
1219
1220
1221

```

SYMOUT   TMQ      T1        UPPER PART TO Q
          TMA      T2        LOWER PART TO A
SYMOUT02 SHAQ     6          GET NEXT CHARACTER
          TAM      T4        SAVE LOWER PART
          ANA      77B      GET ONLY ONE CHARACTER
          ENI      UJXP1,X3  RETURN IF SPACE
          ASE      60B      SKIP IF SPACE
          ENI      *+2,X3    NORMAL RETURN
          UJP      OUTCHAR  OUTPUT ONE CHARACTER
          TMA      T4        GET LOWER PART
          ANA,S    77700B   REMOVE LAST CHARACTER
          XOA,S    00060B   REPLACE IT WITH A SPACE
          UJP      SYMOUT02 GET NEXT CHARACTER
    
```

1224
1225
1226
1227
1228
1229
1230
1231
1232
1233
1234
1235
1236
1237
1238
1239

```

*****
*
*          ROUTINE TO GET THE NEXT ITEM -- PACKER
*
*          PACKER WILL RETURN TO X1 ON END-OF-LINE, X1+1 ON
*          A DECIMAL NUMBER, OR X1+2 ON A BCD SYMBOL.
*          THE DECIMAL NUMBER WILL BE IN A.
*          THE SYMBOL WILL BE IN AQ AND IN T1, T2.
*
*          A - CHANGED
*          Q - CHANGED
*          X1- RETURN ADDRESS
*          X2- TERMINATING CHARACTER
*          X3- RESTORED
*          T1- CHANGED
*          T2- CHANGED (ONLY IF A BCD SYMBOL IS FOUND)
*
*****
    
```

01413	53200000		1242	PACKER	TIA	X2	GET THE DELIMETER
01414	14700000		1243		ENQ	0	
01415	53600000		1244	PACK20	TAI	X2	
01416	05600012		1245		ASG	10	SKIP IF NOT A DIGIT
01417	01001501	P	1246		UJP	PACK40	PROCESS DECIMAL NUMBER
01420	20002700	P	1247		LDA	ALPHA1	GET ALPHA BITS FOR 30-57B
01421	05200060		1248		ISG	60B,X2	
01422	05200030		1249		ISG	30B,X2	
01423	20002701	P	1250		LDA	ALPHA2	GET ALPHA BITS FOR 00-27B, 60-77B
01424	12200000		1251		SHA	0,X2	
01425	03301433	P	1252		AZJ,LT	PACK22	JUMP IF ALPHA
01426	53200000		1253		TIA	X2	GET LAST CHARACTER
01427	14201415	P	1254		ENI	PACK20,X2	GETCHAR RETURN ADDRESS
01430	04600037		1255		ASE	37B	SKIP IF END OF LINE
01431	01001517	P	1256		UJP	GETCHAR	GET ANOTHER CHARACTER
01432	01100000		1257		UJP	0,X1	RETURN
01433	25001514	P	1259	PACK22	LDQA	PACK90	GET INITIAL BLANKS
01434	53240000		1260		AIA	X2	ADD IN THE FIRST CHARACTER
01435	53420053		1261	PACK24	TAM	T2	
01436	14201440	P	1262	PACK26	ENI	*+2,X2	GETCHAR RETURN ADDRESS
01437	01001517	P	1263		UJP	GETCHAR	GET NEXT CHARACTER
01440	53600000		1264		TAI	X2	
01441	05600012		1265		ASG	10	SKIP IF NOT A DIGIT
01442	01001451	P	1266		UJP	PACK28	
01443	20002700	P	1267		LDA	ALPHA1	CHECK FOR AN ALPHA CHARACTER
01444	05200060		1268		ISG	60B,X2	
01445	05200030		1269		ISG	30B,X2	
01446	20002701	P	1270		LDA	ALPHA2	
01447	12200000		1271		SHA	0,X2	
01450	03201464	P	1272		AZJ,GE	PACK32	JUMP IF A DELIMETER
01451	14600000		1273	PACK28	ENA	0	
01452	13000006		1274		SHAQ	6	
01453	04600060		1275		ASE	60B	CHECK FOR MORE THAN 8 CHARACTERS
01454	01001462	P	1276		UJP	PACK30	JUMP IF TOO MANY
01455	53200000		1277		TIA	X2	ADD THIS CHARACTER TO THE SYMBOL
01456	13077771		1278		SHAQ	-6	
01457	53020053		1279		TMA	T2	GET ALL 48 BITS
01460	13000006		1280		SHAQ	6	SHIFT LEFT ONE CHARACTER
01461	01001435	P	1281		UJP	PACK24	GO LOOK FOR MORE CHARACTERS
01462	13077771		1283	PACK30	SHAQ	-6	SHIFT Q BACK INTO PLACE
01463	01001436	P	1284		UJP	PACK26	SEARCH FOR A DELIMETER
01464	14600000		1286	PACK32	ENA	0	
01465	13000006		1287		SHAQ	6	EXAMINE LEFT MOST CHARACTERS
01466	04600060		1288		ASE	60B	SKIP IF NOT LEFT JUSTIFIED
01467	01001475	P	1289		UJP	PACK34	
01470	13077771		1290		SHAQ	-6	RESTORE Q
01471	53020053		1291		TMA	T2	
01472	13000006		1292		SHAQ	6	SHIFT LEFT ONE CHARACTER
01473	53420053		1293		TAM	T2	
01474	01001464	P	1294		UJP	PACK32	

01475	13000022	1296	PACK34	SHAQ	24-6	RESTORE UPPER HALF INTO A
01476	53010053	1297		TMQ	T2	PUT LOWER HALF INTO Q
01477	53420052	1298		TAM	T1	PUT UPPER HALF INTO T1
01500	01100002	1299		UJP	2,X1	RETURN BCD SYMBOL
01501	13000030	1301	PACK40	SHAQ	24	PUT PREVIOUS AMOUNT INTO A
01502	50002643 P	1302		MUA	010	
01503	53240000	1303		AIA	X2	C(A)*10+C(X2)
01504	13000030	1304		SHAQ	24	PUT NUMBER BACK INTO Q
01505	14201507 P	1305		ENI	*+2,X2	RETURN ADDRESS
01506	01001517 P	1306		UJP	GETCHAR	GET ANOTHER CHARACTER
01507	53600000	1307		TAI	X2	SAVE THE CHARACTER
01510	05600012	1308		ASG	10	SKIP IF DONE
01511	01001501 P	1309		UJP	PACK40	FOUND ANOTHER DIGIT
01512	13000030	1310		SHAQ	24	PUT NUMBER INTO A
01513	01100001	1311		UJP	1,X1	RETURN DECIMAL NUMBER
01514	60606000	1313	PACK90	BCD	3, 0	
	01515 P	1314	BLANKS	EQU	PACK90+1	

1317
1318
1319
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1321
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1327

```
*****
*
*          GETCHAR - GETS A BCD CHARACTER FROM THE INPUT UNIT.
*
*          A - THE CHARACTER
*          Q - RESTORED
*          X1- RESTORED
*          X2- RETURN ADDRESS
*          X3- RESTORED
*          T1- CHANGED
*          T2- RESTORED
*
*****
```

01517 53410052
01520 53020044
01521 17600023
01522 05600001
01523 01001527 P
01524 05600002
01525 01001557 P
01526 01001763 P

1329
1330
1331
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1334
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1336
1337

```
GETCHAR  TQM      T1      SAVE Q
          TMA      IO       GET I/O TYPE
          ANA      AUXBIT+SYSMASK
          ASG      TVSYS    DECODE I/O TYPE
          UJP      GETTTY   JUMP IF TTY
          ASG      TASKSYS
          UJP      GETTV    JUMP IF TV
          UJP      GETFILE  JUMP IF TASK OR AUX. UNIT
```

01527 53530052
01530 77750000
01531 17600177
01532 05600173
01533 05600141
01534 01001536 P
01535 16600040
01536 05600140
01537 05600040
01540 01001545 P
01541 53500000
 01542 P
01542 22413350 P 02672 0
01543 53130052
01544 01200000

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1340
1341
1342
1343
1344
1345
1346
1347
1348
1349
1349+001
1350
1351
1352

```
GETTTY   TIM      T1,X1    SAVE X1
GET02    CTI
          ANA      1778    REMOVE PARITY BIT
          ASG      1738
          ASG      1418    SKIP IF LOWER CASE
          UJP      *+2
          XOA      0408    CONVERT TO UPPER CASE
          ASG      1408
          ASG      0408
          UJP      GET06   SPECIAL CODE
          TAI      X1
          EQU      *
          LACH     ASCIIBCD-0408,X1  CONVERT TO BCD
          TMI      T1,X1  RESTORE X1
          UJPX2   UJP      0,X2    RETURN
```

01545 15477765
01546 04600003
01547 03101552 P
01550 14600037
01551 01001543 P

1354
1355
1355+001
1357
1358

```
GET08    INA,S    -128
          ASE      158-128
          AZJ,NE  GET07
          ENA      378
          UJP      GET04   INDICATE END OF LINE
                               EXIT
```

01552 15400112 P
01553 53500000
01554 53020026
01555 03201530 P
01556 01001542 P

1358+002
1358+003
1358+004
1358+005
1358+006
1358+007

```
GET07    EQU      *
          INA,S    128+1008  MAKE A CONTROL CHAR A PRINTING CH
          TAI      X1       SAVE IN CASE WE ACCEPT IT
          TMA      RF26    GET LOGIN/LOGOFF FLAG
          AZJ,GE  GET02    IGNORE CHAR IF LOGGED IN
          UJP      GET03   ACCEPT CHAR IF NOT
```

01557	53020044		1360	GETTV	TMA	IO	
01558	17600040		1361		ANA	IBUFBIT	CHECK FOR AN INPUT BUFFER
01559	03101645	P	1362		AZJ,NE	GET26	JUMP IF ONE EXISTS
01560	53020044		1363	GET13	TMA	IO	
01561	17600100		1364		ANA	OBUFBIT	CHECK FOR OUTPUT BEFOR DOING
01562	03001576	P	1365		AZJ,EQ	GET15	THE READ.
01563	53020044		1366		TMA	IO	
01564	17600400		1367		ANA	FLASHBIT	CHECK FOR INFO ON THE TV SCREEN
01565	03001573	P	1368		AZJ,EQ	GET13X	BEFORE DOING THE OUTPUT
01566	14700000		1369		ENQ	0	
01567	14600014	C	1370		ENA	IBUF	ALLOW THE USER TO EXAMINE
01568	74000144		1371		READ	TVUNIT	HIS TV SCREEN
01569	14600407	C	1372	GET13X	ENA	OBUF	OUTPUT CONTENTS OF OBUF
01570	14700372		1373		ENQ	TVBUFL	
01571	76000144		1374		WRITE	TVUNIT	
01572	53100000		1375	GET15	TIA	X1	SAVE X1 IN A
01573	14100006		1376		ENI	FREPAGE,X1	
01574	71077777	X	1377		XREQ	CMPAGE3,XREQ	FREE THE SCRATCH PAGE
01575	53500000		1378		TAI	X1	RESTORE X1
01576	53020044		1379		TMA	IO	GET IO FLAGS
01577	17477237		1380		ANA,S	-FLASHBIT-IBUFBIT-OBUFBIT	
01578	53420044		1381		TAM	IO	RESTORE
01579	14600014	C	1382	GET12	ENA	IBUF	
01580	14700372		1383		ENQ	TVBUFL	
01581	74000144		1384		READ	TVUNIT	READ IN A SCREEN
01582	12000003		1385		SHA	23-FMBIT	CHECK FOR FILEMARK
01583	03301605	P	1386		AZJ,LT	GET12	
01584	53020044		1387		TMA	IO	
01585	16600140		1388		XOA	IBUFBIT+OBUFBIT	SET INPUT BUFFER BIT+OBUF
01586	53420044		1389		TAM	IO	
01587	47100002	C	1390		STI	X1SAVE,X1	
01588	25001515	P	1391		LDAQ	BLANKS	
01589	14100370		1392		ENI	TVBUFL-2,X1	
01590	45100407	C	1393		STAQ	OBUF,X1	BLANK FILL THE BUFFER
01591	10500000		1394		ISO	0,X1	
01592	02501620	P	1395		IJD	*-2,X1	
01593	14600014		1396		ENA	TVCHAR	
01594	42002034	C	1397		SACH	OBUF	
01595	14600000		1398		ENA	0	
01596	40000012	C	1399		STA	OBUFP	
01597	40000006	C	1400		STA	IBUFP	
01598	40000010	C	1401		STA	ILINEP	
01599	40000011	C	1402		STA	ILINEPN	INITIALIZE POINTERS
01600	14600037		1403		ENA	37B	PUT A END OF SCREEN CHARACTER
01601	42002030	C	1404		SACH	IBUF+TVBUFL*4	...AT THE END OF SCREEN
01602	14177777		1405		ENI	-0,X1	
01603	14700000		1406	GET14	ENQ	0	
01604	22400060	C	1407	GET16	LACH	IBUF,X1	
01605	04600037		1408		ASE	37B	
01606	02101673	P	1409		IJI	GET20,X1	
01607	14700037		1410	GET18	ENQ	37B	
01608	43400060	C	1411		SQCH	IBUF,X1	
01609	14600000		1412		ENA	0	
01610	01001654	P	1413		UJP	GET28	
01645	47100002	C	1415	GET26	STI	X1SAVE,X1	
01646	54100006	C	1416		LDI	IBUFP,X1	
01647	22400057	C	1417		LACH	IBUF-1,X1	GET LAST CHARACTER
01648	54100002	C	1418		LDI	X1SAVE,X1	RESTORE X1 FOR JUMP TO GET13
01649	14700037		1419		ENQ	37B	
01650	03401562	P	1420		AQJ,EQ	GET13	JUMP IF END OF SCREEN
01651	20000011	C	1421		LDA	ILINEPN	
01652	40000010	C	1422	GET28	STA	ILINEP	
01653	54100006	C	1423		LDI	IBUFP,X1	
01654	22400060	C	1424		LACH	IBUF,X1	
01655	04600037		1425		ASE	37B	
01656	01001662	P	1426		UJP	GET30	
01657	01001666	P	1427		UJP	GET34	RETURN 37B
01658			1428				
01659	04600036		1429	GET30	ASE	36B	SKIP IF END OF LINE
01660	01001666	P	1430		UJP	GET34	
01661	47100011	C	1431		STI	ILINEPN,X1	START OF NEXT LINE ADDRESS
01662	14600037		1432	GET32	ENA	37B	ENTER END OF LINE
01663	15100001		1433	GET34	INI	1,X1	
01664	47100006	C	1434		STI	IBUFP,X1	
01665	54100002	C	1435		LDI	X1SAVE,X1	RESTORE X1
01666	53010052		1436		TMQ	T1	AND Q
01667	01200000		1437		UJP	0,X2	RETURN

01673	04600036		1439	GET20	ASE	36B	SKIP IF END OF LINE
01674	01001703	P	1440		UJP	GET24	
01675	20000010	C	1441	GET22	LDA	ILINEP	ADD ONE TO NUMBER OF LINES
01676	15800001		1442		INA	1	
01677	40000010	C	1443		STA	ILINEP	
01700	05600024		1444		ASG	20	
01701	01001635	P	1445		UJP	GET14	
01702	02501641	P	1446		IJD	GET18,X1	JUMP IF FULL SCREEN
			1447				
	01703	P	1448	GET24	EQU	*	
01703	15700001		1449		INQ	1	ADD 1 TO CHARS ON LINE
01704	04700062		1450		QSE	50	
01705	01001636	P	1451		UJP	GET16	
01706	01001675	P	1452		UJP	GET22	JUMP IF FULL LINE

01707	14101711	P		1454	E05	ENI	*+2,X1	
01710	01001751	P		1455		UJP	RECK	CHECK FOR ABORT, ETC.
01711	14112342			1456		OUT	M67	EXTRA END OF FILE
01714	14100424	P		1457		ENI	MC,X1	
01715	01001141	P		1458		UJP	OUTLINE	INFORM THE USER
				1459				
01716	14101720	P		1460	E06	ENI	*+2,X1	
01717	01001751	P		1461		UJP	RECK	CHECK FOR ABORT, ETC.
01720	14112364			1462	E06A	OUT	M68	BINARY RECORD
01723	14103766	P		1463		ENI	E01,X1	ILLEGAL CONTROL STATEMENT
01724	01001141	P		1464		UJP	OUTLINE	
				1465				
01725	14101727	P		1466	E07	ENI	*+2,X1	
01726	01001751	P		1467		UJP	RECK	CHECK FOR ABORT, ETC.
01727	22000060	C	00014 0	1468		LACH	IBUF	GET THE FIRST CHARACTER ON THE CA
01730	14700052			1469		ENQ	H≠V≠	CHECK FOR FLIPPED CM COMMAND
01731	03400424	P		1470		AQJ,EQ	MC	IGNORE CARD IF FLIPPED
01732	14700000			1471		ENQ	STATUS	
01733	72001261	X		1471+001		CNTL	LPUNIT,CNTL	GET THE STATUS OF THE LP
01734	05600003			1473		ASG	LP+1	SKIP NOT LP OR FILE
01735	05600001			1474		ASG	FILE	SKIP IF EQUIPPED
01736	01003766	P		1475		UJP	E01	ILLEGAL CONTROL STATEMENT
01737	37002671	P		1476		LPA	IOBITS	CHECK FOR PROTECTED
01740	03103766	P		1477		AZJ,NE	E01	ILLEGAL CONTROL STATEMENT
01741	20001515	P		1478		LDA	BLANKS	
01742	40000013	C		1479		STA	IBUFM1	BLANK OUT FIRST WORD
01743	21000007	C		1480		LDQ	IBUFWC	GET THE RECORD LENGTH
01744	15700001			1481		INQ	1	ADD ONE FOR THE WORD OF BLANKS
01745	14600013	C		1482		ENA	IBUFM1	
01746	76001733	X		1483		WRITE	LPUNIT	WRITE OUT THE OFFENDING LINE
01747	14112317			1484		ERM	M66	ILLEGAL BCD RECORD
				1485				
01751	53020026			1486	RECK	TMA	RF26	GET JOB NUMBER
01752	03305230	P		1487		AZJ,LT	TASKLOG	NO ERRORS IF NOT LOGGED-IN
01753	53020077			1488		TMA	RF77	GET ABORT BIT
01754	03300424	P		1489		AZJ,LT	MC	NO ERRORS IF ABORTED
01755	53010044			1490		TMO	IO	
01756	27002667	P		1491		LDL	BBIGNBIT	CHECK THE #IGNORE CRUD≠ BIT
01757	03100424	P		1492		AZJ,NE	MC	NO ERRORS IF IGNORE BIT SET
01760	16500200			1493		XOQ,S	BIGNBIT	SET THE IGNORE BIT
01761	53410044			1494		TQM	IO	
01762	01100000			1495		UJP	0,X1	RETURN

01763	53020044		1497	GETFILE	TMA	IO	
01764	17800040		1498		ANA	IBUFBIT	
01765	03102072	P	1499		AZJ,NE	GET42	
01766	53020044		1501	GET40	TMA	IO	GET I/O BITS
01767	17600020		1502		ANA	AUXBIT	CHECK FOR A DO-UNIT
01770	03102101	P	1503		AZJ,NE	GETAUX	READ FROM THE DO-UNIT
01771	14700000		1504		ENQ	STATUS	
01772	72000144		1505		CNTL	TASKUNIT	THIS SHOULD CHECK FOR
01773	12000006		1506		SHA	23-AUBIT	THE INPUT UNIT GOING ABNORMAL
01774	03304621	P	1507		AZJ,LT	LOGVANSH	INPUT UNIT ABNORMAL
01775	14600014	C	1508		ENA	IBUF	
01776	14700024		1509		ENQ	TASKBUFL	
01777	74000144		1510		READ	TASKUNIT	
02000	12000006		1511		SHA	23-AUBIT	CHECK FOR ABNORMAL INPUT
02001	03304621	P	1512		AZJ,LT	LOGVANSH	
02002	12000025		1513		SHA	24+AUBIT-FMBIT	
02003	03301707	P	1514		AZJ,LT	E05	ERROR, UNCHECKED END OF FILE
02004	12000032		1515		SHA	24+FMBIT-BINBIT	
02005	03301716	P	1516		AZJ,LT	E06	ERROR, BINARY RECORD
02006	05500000		1517		QSG,S	0	FILEBUFL-WC
02007	14700000		1518		ENQ	0	
02010	16577777		1519		XOQ,S	-0	WC-FILEBUFL
02011	15700024		1520		INQ	TASKBUFL	WC
02012	05700001		1521		QSG	1	
02013	01001766	P	1522		UJP	GET40	
02014	41000007	C	1523		STQ	IBUFWC	SAVE WORD COUNT
02015	22000060	C	1524	00014 0	LACH	IBUF	GET FIRST CHARACTER
02016	04600017		1525		ASE	CMCHAR	SKIP IF C. M. STATEMENT
02017	01001725	P	1526		UJP	E07	ERROR, NOT CONTROL STATEMENT
02020	14600001		1527		ENA	1	START OF LINE IS AT COL. 2
02021	47100002	C	1528		STI	X1SAVE,X1	SAVE X1
02022	40000010	C	1529	GET44	STA	ILINEP	START OF LINE FOR TV ERRORS
02023	40000006	C	1530		STA	IBUFRP	START OF LINE FOR GETCHAR
02024	14600000		1531		ENA	0	
02025	13000032		1532		SHAQ	24+2	CHARACTER COUNT TO A
02026	53500000		1533		TAI	X1	
02027	14700037		1534		ENQ	37B	
02030	43400060	C	1535		SQCH	IBUF,X1	TERMINATE THE RECORD
02031	14700060		1536	GET45	ENQ	60B	
02032	22400057	C	1537		LACH	IBUF-1,X1	GET TRAILING CHARACTER
02033	03502035	P	1538		AQJ,NE	*+2	JUMP IF NOT A BLANK
02034	02502032	P	1539		IJD	*-2,X1	SEARCH FOR NON-BLANK CHARACTER
02035	53020044		1540		TMA	IO	
02036	17600020		1541		ANA	AUXBIT	ARE WE READING FROM A DO FILE
02037	03102050	P	1542		AZJ,NE	GET48	JUMP IF A DO FILE
02040	05100111		1543		ISG	73,X1	SKIP IF A LONG TASK RECORD
02041	01002063	P	1544		UJP	GET46	
02042	25000036	C	1545		LDAQ	IBUF+18	MOVE THE LAST TWO WORDS
02043	45000037	C	1546		STAQ	IBUF+19	RIGHT 4 CHARACTERS
02044	20001515	P	1547		LDA	BLANKS	
02045	40000036	C	1548		STA	IBUF+18	AND THEN BLANK FILL
02046	14100110		1549		ENI	72,X1	INDICATE 72 COLUMNS OF DATA
02047	01002060	P	1550		UJP	GET49	
02050	05100115		1551				
02051	01002063	P	1552	GET48	ISG	77,X1	SKIP IF LONG RECORD FROM DO FILE
02052	25000040	C	1553		UJP	GET46	JUMP IF SHORT RECORD
02053	45000041	C	1554		LDAQ	IBUF+20	GET COLUMNS 76-80 AND SEND MARK
02054	20001515	P	1555		STAQ	IBUF+21	MOVE RIGHT FOUR CHARACTERS
02055	21000037	C	1556		LDA	BLANKS	GET FOUR BLANKS AND
02056	45000037	C	1557		LDQ	IBUF+19	GET COLUMNS 72-75
02057	14100114		1558		STAQ	IBUF+19	SHIFT THEM RIGHT 4 CHARACTERS
02060	14600001		1559		ENI	76,X1	TRUNCATE RECORD TO 72 CHARACTERS
02061	34000007	C	1560	GET49	ENA	1	
02062	01002031	P	1561		RAD	IBUFWC	ADD ONE TO THE RECORD LENGTH
			1562		UJP	GET45	LOOP BACK AND FIND END OF TEST
02063	53100000		1563				
02064	40000005	C	1564	GET46	TIA	X1	SAVE CHARACTER COUNT
02065	54100002	C	1565		STA	IBUFCC	RESTORE X1
02066	53020044		1566		LDI	X1SAVE,X1	
02067	17477537		1567		TMA	IO	
02070	16600040		1568		ANA,S	-IBUFBIT-BIGNBIT	CLEAR IGNORE GARBAGE BIT
02071	53420044		1569		XOA	IBUFBIT	SET BUFFER ACTIVE
			1570		TAM	IO	
02072	25000005	C	1572	GET42	LDAQ	IBUFCC	GET MAX LENGTH AND CURRENT POSITI
02073	03701766	P	1573		AQJ,LT	GET40	JUMP IF NO MORE CHARACTERS

02074	47100002	C		1574	STI	X1SAVE,X1	
02075	54100006	C		1575	LDI	IBUFP,X1	GET CURRENT POSITION
02076	03401665	P		1576	AQJ,EQ	GET32	JUMP IF LAST CHARACTER (37B)
				1577			
02077	22400060	C	00014 0	1578	LACH	IBUF,X1	GET THE CHARACTER
02100	01001666	P		1579	UJP	GET34	EXIT
	02101	P		1581	GETAUX	EQU	*
02101	77664000			1582	VFD	A15/AIS,09/000	GET ERROR CODE
02102	03100044	P		1583	AZJ,NE	REENTER	RE-ENTER IF ERROR PENDING
02103	14700000			1584	ENQ	STATUS	
02104	72077777	X		1585	CNTL	AUXUNIT	GET THE STATUS
02105	04600001			1586	ASE	FILE	SKIP IF FILE
02106	01002144	P		1587	UJP	AUXERR	ERROR IF NOT A FILE
02107	37002670	P		1588	LPA	IERBITS	GET A/U, EOD, AND ADDRESS ERROR B
02110	03102144	P		1589	AZJ,NE	AUXERR	JUMP IF ERRORS
02111	14600015	C		1590	ENA	IBUF+1	
02112	14700024			1591	ENQ	TASKBUFL	
02113	74002104	X		1592	READ	AUXUNIT	
02114	12000006			1593	SHA	23-AUBIT	
02115	03302144	P		1594	AZJ,LT	AUXERR	JUMP IF A/U
02116	12000025			1595	SHA	24+AUBIT-FMBIT	
02117	03300155	P		1596	AZJ,LT	AUXCLEAR	FM, EXIT FROM DO
02120	12000032			1597	SHA	24+FMBIT-BINBIT	
02121	03301720	P		1598	AZJ,LT	E06A	PRINT #BINARY RECORD#
02122	20001515	P		1599	LDA	BLANKS	
02123	40000014	C		1600	STA	IBUF	BLANK FILL FIRST WORD
02124	05500000			1601	QSG,S	0	
02125	14700000			1602	ENQ	0	
02126	16577777			1603	XOQ,S	-0	
02127	15700025			1604	INQ	TASKBUFL+1	
02130	41000007	C		1605	STQ	IBUFWC	
02131	05700002			1606	QSG	2	
02132	01002135	P		1607	UJP	AUXEXIT	END OF DATA IF HERE
02133	14600004			1608	ENA	4	START OF LINE FOR DO FILES
02134	01002021	P		1609	UJP	GET44	
02135	14300155	P		1611	AUXEXIT	AUXCLEAR,X3	EXIT ADDRESS
02136	53020044			1612	AUXEXIT2	IO	
02137	17477747			1613	ANA,S	-AUXBIT-AUXEBIT	LEAVE DO, INDICATE NO DO UNIT
02140	53420044			1614	TAM	IO	
02141	14100002			1615	ENI	UNEQUIP,X1	
02142	71002113	X		1615+001	XREQ	AUXUNIT,XREQ	ATTEMP TO UNEQUIP AUXUNIT
02143	01300000			1617	UJP	0,X3	RETURN
02144	14302146	P		1619	AUXERR	*+2,X3	AUXUNIT ERROR
02145	01002136	P		1620	UJP	AUXEXIT2	EXIT FORM DO
02146	14111201			1621	ERM	M07	DO UNIT ERROR

1624
1625
1626

*
* ERROR PRINT ROUTINES *
*

02150	02507320	P	1628+001	SENDERS	IJD	SENDER2,X1	
02151	02503421	P	1630	FP06	IJD	FP08,X1	
02152	02503467	P	1631	SAVERRS	IJD	SAVERX,X1	
02153	02503527	P	1632	DLERRS	IJD	DLERX,X1	
02154	02503445	P	1633	UNEQERS	IJD	UNERX,X1	
02155	53730053		1634	E02	TIM	T2,X3	LUN ** UNDEFINED
02156	14111067		1635	E02A	OUT	M02	#LUN #
	02155	P	1636	LUNUD	EQU	E02	LUN XX UNDEFINED
02161	53020053		1637		TMA	T2	GET LUN
02162	14102164	P	1638		ENI	*+2,X1	
02163	01001357	P	1639		UJP	DECOUT	PRINT LUN
02164	14111074		1640		ERM	M03	# UNDEFINED
			1641				
02166	14111107		1642	E03	ECHI	M04,X1	ILLEGAL FUNCTION-LUN XX
02167	53730053		1643	E03A	TIM	T2,X3	SAVE LUN
02170	14202172	P	1644		ENI	*+2,X2	
02171	0100126E	P	1645		UJP	MESSAGE	
02172	53020053		1646		TMA	T2	GET LUN
02173	14101272	P	1647		ENI	ERMSX,X1	
02174	01001357	P	1648		UJP	DECOUT	PRINT VALUE OF LUN
			1649				
02175	14111300		1650	E04	ERM	M11	ILLEGAL LUN
			1651				
02177	14111257		1652	E15	ERM	M10	PARAMETER ERROR
			1653				
02201	14111653		1654	E68	ERM	M24	FORMAT ERROR
			1655				
02203	14111377		1656	E71	ERM	M16	IS PUBLIC OR BUSY
			1657				
02205	14111677		1658	E99	ERM	M26	LINE TOO LONG

1661
1662
1663

* BCD MESSAGES AND CHARACTER STRINGS *

1665

02207 31434325
02215 63006000
02215 63006043
02217 60644524
02221 25240031
02227 00436445
02234 24004521
02240 00244660
02243 46510026
02246 00314562
02253 51250075
02260 31434325
02263 43644560
02267 25002631
02273 00263143
02277 25240031
02304 00452144
02311 63006445
02316 00314562
02325 25003143
02330 44250064
02335 00452144
02342 45630031
02352 23250046
02357 46510043
02363 00633144
02364 25600060
02367 44262243
02371 60604426
02374 60602326
02376 60006226
02400 60006060
02402 63600075
02406 47606060
02407 60004341
02411 21606000
02412 50606000
02413 22016060
02414 60600022
02416 60002203
02420 00256460
02421 00254360
02422 00325146
02423 62570032
02425 00322431
02426 65570032
02430 00322223
02431 24570031
02432 44130032
02435 00322567
02437 24570064
02442 00263143
02443 25004347
02444 60600047
02446 23516060
02447 00446360
02450 60006363
02451 70600047
02453 45644343
02454 00636560
02455 60005121
02456 26600063
02460 47634760
02461 00446226
02462 60006630
02463 21630031
02470 24002567
02475 22314521
02500 24002631
02504 44254446
02511 24513165
02515 45600031

1666 M01 BCD,C
1667 M02A BCD,C
1668 M02 BCD,C
1669 M03 BCD,C
1670 M04 BCD,C
1671 M05 BCD,C
1672 M06 BCD,C
1673 M07 BCD,C
1674 M08 BCD,C
1675 M09 BCD,C
1676 M10 BCD,C
1678 M11 BCD,C
1679 M13 BCD,C
1680 M14 BCD,C
1681 M15 BCD,C
1682 M16 BCD,C
1683 M17 BCD,C
1684 M18 BCD,C
1685 M19 BCD,C
1686 M20 BCD,C
1687 M21 BCD,C
1688 M22 BCD,C
1689 M23 BCD,C
1690 M24 BCD,C
1691 M26 BCD,C
1692 M27 BCD,C
1693 M28 BCD,C
1694 M29 BCD,C
1695 M29X BCD,C
1696 M30 BCD,C
1697 M31 BCD,C
1698 M32 BCD,C
1699 M33 BCD,C
1700 M34 BCD,C
1701 M35 BCD,C
1702 M36 BCD,C
1703 M37 BCD,C
1704 M38 BCD,C
1705 M39 BCD,C
1706 M40 BCD,C
1707 M41 BCD,C
1708 M42 BCD,C
1709 M43 BCD,C
1710 M44 BCD,C
1711 M45 BCD,C
1712 M46 BCD,C
1713 M47 BCD,C
1714 M48 BCD,C
1715 M49 BCD,C
1716 M50 BCD,C
1717 M51 BCD,C
1718 M52 BCD,C
1719 M53 BCD,C
1720 M54 BCD,C
1721 M55 BCD,C
1722 M56 BCD,C
1723 M57 BCD,C
1724 M58 BCD,C
1725 M59 BCD,C
1726 M60 BCD,C
1727 M61 BCD,C
1728 M62 BCD,C
1729 M63 BCD,C
1730 M64 BCD,C
1731 M65 BCD,C
1732 M66 BCD,C
1733 M67 BCD,C
1734 M68 BCD,C
1735 M70 BCD,C
1736 M71 BCD,C
1737 M72 BCD,C
1738 M73 BCD,C

26,ILLEGAL CONTROL STATEMENT0
1,
5,LUN 0
11,UNDEFINED0
22,ILLEGAL FUNCTION LUN 0
21,LUN ALREADY EQUIPPED0
15,NAME NOT FOUND0
14,DO UNIT ERROR0
10,FILE BUSY0
22,INSUFFICIENT HARDWARE0
17,PARAMETER ERROR0
12,ILLEGAL LUN0
18,LUN IS NOT A FILED
15,FILE IS PUBLIC0
18,FILE IS PROTECTED0
18,IS PUBLIC OR BUSY0
21,NAME ALREADY PRESENT0
19,UNIT ALREADY SAVED0
29,INSUFFICIENT SAVE FILE SPACE0
13,ILLEGAL NAME0
18,UNIT IS NOT SAVED0
22,NAME-LUN INCONSISTENT0
32,INSUFFICIENT SCRATCH FILE SPACE0
20,OVLOAD FORMAT ERROR0
14,LINE TOO LONG0
6,TIME 0
9,SECONDS0
8,MFBLKS 0
12, MFBLKLIM 0
10, CFBLKS 0
8,SFBLKS 0
9, LIMIT 0
13,TRAFFIC IS 0
6,P 0
6,LJA 0
4,A 0
4,Q 0
7,B1 0
7,B2 0
7,B3 0
4,EU 0
4,EL 0
6,<ROS>0
6,<AOV>0
6,<DIV>0
6,<EXP>0
6,<BCD>0
4,IM=0
10,<AOV/DIV>0
10,<EXP/BCD>0
10,UNDEFINED0
5,FILE0
5,LP 0
5,PUN 0
5,CR 0
5,MT 0
5,TTY 0
5,PLOT0
5,NULL0
5,TV 0
5,RAF 0
5,TASK0
5,PTP 0
5,MSF 0
5,WHAT0
19,ILLEGAL BCD RECORD0
18,EXTRA END OF FILED
14,BINARY RECORD0
14,FILE IS SAVED0
20,MEMORY PARITY ERROR0
19,DRIVE FAILURE-LUN 0
29,INSUFFICIENT FILE SPACE-LUN 0

02525	44254446	1739	M74	BCD,C
02533	00263143	1740	M75	BCD,C
02542	00633144	1741	M77	BCD,C
02544	63002122	1742	M78	BCD,C
02553	60003143	1743	M79	BCD,C
02560	45600067	1744	M80	BCD,C
02562	00606021	1745	M81	BCD,C
02563	63600023	1746	M82	BCD,C
02565	00234325	1747	M84	BCD,C
02566	21510066	1748	M85	BCD,C
02567	26440051	1749	M86	BCD,C
02571	62250051	1750	M87	BCD,C
02573	24006225	1751	M88	BCD,C
02574	26260062	1752	M89	BCD,C
02576	22426247	1753	M90	BCD,C
02577	00266662	1754	M91	BCD,C
02600	47006225	1755	M92	BCD,C
02601	25420051	1756	M93	BCD,C
02603	66513163	1757	M94	BCD,C
02604	25003021	1758	M95	BCD,C
02606	64236200	1759	M96	BCD,C
02607	23634600	1760	M97	BCD,C
02610	23633100	1761	M98	BCD,C
02611	26314325	1762	M99	BCD,C
02616	66465124	1763	M100	BCD,C
02622	51460066	1764	M101	BCD,C
02630	31434325	1765	M102	BCD,C
		1766		
		1767		
		1768		
		1769		
		1770		
02636	51240062	1770+001	STATAB	BCD,C

25, MEMORY PROTECT VIOLATION 0
23, FILE PROTECT VIOLATION-LUN 0
9, TIME CUTO
28, ABNORMAL I/O CONDITION-LUN 0
21, ILLEGAL INSTRUCTION 0
6, XREQ 0
6, AT 0
6, CNTL 0
6, CLEAR 0
4, WFMD
8, RELEASE 0
7, REWIND 0
5, SEFF 0
5, SEFBO
5, BKSP 0
5, FWSP 0
5, SEEK 0
5, READ 0
6, WRIT 0
6, HALT 0
4, UCS 0
4, CTIO
4, CTIO
20, FILE AT END OF DATA 0
19, WORD COUNT IS ZERO 0
21, WORD COUNT TOO LARGE 0
27, ILLEGAL READ--CONTROL CARD 0
10, SEABDFI[+]

1774
1775
1776

```
*****
*
*           TABLES AND CONSTANTS
*
*****
```

02642	00000001		1778				
	02643	P	1779	DTABLE	DEC	1,10,100,1000,10000,100000,1000000	
	02644	P	1780	D10	EQU	DTABLE+1	
	02645	P	1781	D100	EQU	DTABLE+2	
			1782	D1000	EQU	DTABLE+3	
02651	00000002		1783				
			1784	D50	DEC	50	
02652	00100000		1785				
02653	00177777		1786	BIT15	OCT	00100000	
02654	00400000		1787	PCMASK	OCT	00177777	
02655	01000000		1788	BIT17	OCT	00400000	
02656	02000000		1789	BIT18	OCT	01000000	
02657	04000000		1790	BIT19	OCT	02000000	
02660	07400000		1791	BIT20	OCT	04000000	
02661	10000000		1792	FAULTS	OCT	07400000	
02662	20000000		1793	BIT21	OCT	10000000	
02663	30000000		1794	BIT22	OCT	20000000	
	02663	P	1795	B22OR21	OCT	30000000	
02664	37777777		1796	IMBITS	EQU	B22OR21	LOAD POINT AND EOD BITS
02665	40000000		1797	NBIT23	OCT	37777777	
02666	77577777		1798	BIT23	OCT	40000000	
			1799	NBIT16	OCT	77577777	
02667	00000200		1800				
02670	10600000		1801	BBIGNBIT	OCT	BIGNBIT	
02671	42400000		1802	IERBITS	OCT	2^AUBIT+2^EODBIT+2^AERBIT	
02672	00130000		1803	IOBITS	OCT	2^FPBIT+2^AUBIT+2^SDRBIT	
02673	00144000		1803+001	CMLOWMEM	OCT	CMLOW+100000	LOWEST MEMORY ADDRESS FOR C.M.
	64001		1806	CMHIMEM	OCT	CMHIGH+100000	HIGHEST MEMORY ADDRESS FOR C.M.
	64000		1807	BREAKLOC	EQU	00164001B	BREAK PC
	00013		1808	BREAKADD	EQU	00064000B	
	00012		1809	MILOC	EQU	00000013B	
			1810	MIADD	EQU	00000012B	
02674	40404446		1811				
02676	21636060		1812	BCDMORE	BCD	2,--MORE--	
02677	41462260		1813	BCDAT	BCD	1,AT	
			1814	BCDJOB	BCD	1,JOB	
			1815				
02700	60077734		1815+001	ALPHA1	OCT	60077734	
02701	17740177		1817	ALPHA2	OCT	17740177	

		1819		
		1820	*	CONVERSION OF ASCII TO BCD
		1821		
02702	60523635	1822	ASCIIBCD	OCT 60523635,53161514
02704	74345420	1823		OCT 74345420,73403361
02706	00010203	1824		OCT 00010203,04050607
02710	10111237	1825		OCT 10111237,32135777
02712	56212223	1826		OCT 56212223,24252627
02714	30314142	1827		OCT 30314142,43444546
02716	47505162	1828		OCT 47505162,63646566
02720	67707117	1829		OCT 67707117,75725576

		1830		
		1831		
		1832	*	CONVERSION OF BCD TO ASCII
		1833		
02722	20212223	1834	BCDASCII	OCT 20212223,24252627
02724	30313235	1835		OCT 30313235,07060573
02726	13414243	1836		OCT 13414243,44454647
02730	50513416	1837		OCT 50513416,11030233
02732	15525354	1838		OCT 15525354,55565760
02734	61620104	1839		OCT 61620104,12764036
02736	00176364	1840		OCT 00176364,65666770
02740	71727514	1841		OCT 71727514,10747737
		1842		

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1847

```
*****
*
*          ROUTINE TO DO CONTROL FUNCTIONS FOR THE USER
*
*****
```

02742	53410053		1850	FUN	TQM	T2	SAVE FUNCTION CODE
02743	77664000		1851		VFD	A15/AIS,09/000	CLEAR ANY PENDING REQUESTS
02744	14102746	P	1852	FUN02	ENI	*+2,X1	
02745	01001413	P	1853		UJP	PACKER	GET UNIT NUMBER
02746	01000424	P	1854		UJP	MC	END-OF-LINE, RETURN
02747	01002751	P	1855		UJP	*+2	LUN
02750	01002177	P	1856		UJP	E15	BCD ITEM, PARAMETER ERROR
02751	05400144		1857		ASG,S	MAXLUN	
02752	05400000		1858		ASG,S	U	
02753	01002175	P	1859		UJP	E04	ILLEGAL LUN
02754	53700000		1860		TAI	X3	SAVE LUN
02755	14700000		1861		ENQ	STATUS	CHECK FOR UNEQUIPPED UNIT
02756	72300000		1862		CNTL	0+CNTL,X3	
02757	03002155	P	1863		AZJ,EQ	E02	JUMP IF LUN NOT EQUIPPED
02760	14100000		1864		ENI	0,X1	INITIAL NUMBER OF REPITITIONS
02761	04200074		1865		ISE	H≠(≠,X2	CHECK FOR PAREN
02762	01002772	P	1866		UJP	FUN04	JUMP IF NO PAREN
02763	14102765	P	1867		ENI	*+2,X1	RETURN ADDRESS
02764	01001413	P	1868		UJP	PACKER	GET NUMBER OF REPITIONS
02765	01002177	P	1869		UJP	E15	END-OF-LINE NOT LEGAL HERE
02766	04200034		1870		ISE	H≠)≠,X2	CHECK FOR CLOSING PAREN
02767	01002177	P	1871		UJP	E15	BCD SYMBOL, PARAMETER ERROR
02770	53500000		1872		TAI	X1	
02771	02502772	P	1873		IJD	*+1,X1	TREAT ZERO AS ONE
02772	53010053		1874	FUN04	TMQ	T2	GET FUNCTION CODE
02773	72300000		1875	FUN06	CNTL	0+CNTL,X3	PERFORM THE FUNCTION
02774	02502776	P	1876		IJD	FUN08,X1	JUMP IF MORE REPEATITIONS
02775	01002744	P	1877		UJP	FUN02	LOOP BACK FOR MORE PARAMETERS
			1878				
02776	37002663	P	1879	FUN08	LPA	B220R21	CHECK FOR LOAD POINT OR EOD
02777	04700002		1880		QSE	WFM	WFM LEGAL AT END OF DATA
03000	03102744	P	1881		AZJ,NE	FUN02	DONE IF AT LP OR EOD
03001	77664000		1882		VFD	A15/AIS,09/000	GET ERROR CODE
03002	03100044	P	1883		AZJ,NE	REENTER	REENTER IS ERROR PENDING
03003	01002773	P	1884		UJP	FUN06	TRY THE FUNCTION AGAIN...

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```

*****
*
*           EQSYS -- THIS ROUTINE WILL EQUIP THE FILE WITH
*           THE NAME IN T1 AND T2 TO THE SYSTEM
*           UNIT.
*
*           A - CHANGED
*           Q - CHANGED
*           X1- CHANGED (ERROR CODE)
*           X2- RESTORED
*           X3- RETURN ADDRESS
*           T1- BCD FILE NAME
*           T2- BCD FILE NAME
*
*****
    
```

03004 53020052
03005 53010053
03006 14100003
03007 71000574 X
03010 02503017 P
03011 53010044
03012 17575777
03013 16702000
03014 53410044
03015 53010053
03016 01300000
03017 02103016 P
03020 14100002
03021 71003007 X
03022 05100002
03023 01003006 P
03024 14100004
03025 71003021 X
03026 01003020 P

1902
1903
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1918
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1920

```

EQSYS      TMA      T1
            TMQ      T2
EQSYS01    ENI      EQUIP,X1
            XREQ     SYSLUN,XREQ
            IJQ      EQSYS02,X1
            TMQ      IO
            ANQ,S    -SYSEBIT
            XQQ      SYSEBIT
            TOM      IO
            TMQ      T2
EQSYS02    UJP      0,X3
EQSYS03    IJI      *-1,X1
            ENI      UNEQUIP,X1
            XREQ     SYSLUN,XREQ
            ISG      2,X1
            UJP      EQSYS01
            ENI      RFP,X1
            XREQ     SYSLUN,XREQ
            UJP      EQSYS03
    
```

```

GET THE FILE NAME
INTO A AND Q
REQUEST AN EQUIP
JUMP IF EQUIP ERRORS
MARK SYSLUN EQUIPED
AND RESTORE
RESTORE Q
RETURN
JUMP UNLESS LUN ALREADY EQUIPED
REQUEST UNEQUIP SYSLUN
SKIP IF FP AND NOT SAVED
GO TRY EQUIP AGAIN
REQUEST REMOVE FILE PROTECT
GO TRY UNEQUIP AGAIN
    
```

03027 14100002
03030 71003025 X
03031 53020044
03032 17475777
03033 53420044
03034 05100002
03035 01300000
03036 14100004
03037 71003030 X
03040 01003027 P

1922
1922+001
1924
1925
1926
1927
1928
1929
1929+001
1931

```

UNEQSYS    ENI      UNEQUIP,X1
            XREQ     SYSLUN,XREQ
            TMA      IO
            ANA,S    -SYSEBIT
            TAM      IO
            ISG      2,X1
            UJP      0,X3
            ENI      RFP,X1
            XREQ     SYSLUN,XREQ
            UJP      UNEQSYS
    
```

```

UNEQUIP THE SYSTEM UNIT
INDICATE SYSLUN
IS NOT EQUIPPED
SKIP IF EQUIPPED
RETURN
REMOVE FILE PROTECT
UNEQUIP IT
    
```


1934
1935
1936
1937
1938
1939
1940

```
*****
*
*           DOR -- ROUTINE TO PROCESS THE #DO# COMMAND
*
* DO
* DO, LUN
* DO, FILENAME
*
*****
```

03041	53020044		1943	DOR	TMA	IO	GET I/O BITS
03042	17600020		1944		ANA	AUXBIT	
03043	03103766	P	1945		AZJ,NE	E01	NOT LEGAL IF FROM THE DO UNIT
03044	14103046	P	1946		ENI	*+2,X1	RETURN ADDRESS
03045	01001413	P	1947		UJP	PACKER	GET THE NEXT ITEM
03046	01003111	P	1948		UJP	DOR12	END OF LINE
03047	13077747		1949		SHA0	-24	LUN TO Q
03050	53420052		1950		TAM	T1	SAVE NAME
03051	12077755		1950+001		SHA	6-24	1ST CHAR TO A LOWER
03052	04677753		1950+002		ASE	77753B	SKIP IF BAD FILE
03053	01003055	P	1950+003		UJP	*+2	
03054	01002177	P	1950+004		UJP	E15	PARAMETER ERROR
03055	14100003		1951	DOR02	ENI	EQUIP,X1	
03056	53020052		1952		TMA	T1	RESTORE NAME
03057	71002142	X	1952+001		XREQ	AUXUNIT,XREQ	ATTEMPT TO EQUIP IT
03060	02503102	P	1954		IJD	DOR06,X1	JUMP IF ERRORS
03061	04600001		1955		ASE	FILE	SKIP IF FILE
03062	01002144	P	1956		UJP	AUXERR	MUST BE A FILE
03063	12000006		1957		SHA	23-AUBIT	CHECK FOR A/U
03064	03302144	P	1958		AZJ,LT	AUXERR	
03065	12000026		1958+001		SHA	24+AUBIT-SDRBIT	
03066	03303071	P	1958+002		AZJ,LT	DOR08	DON'T REWIND IF DESTRUCTIVE READ
03067	14700004		1959		ENQ	REWIND	ALWAYS REWIND UNITS AND NAMES
03070	72003057	X	1959+001		CNTL	AUXUNIT,CNTL	REWIND
03071	53020044		1961	DOR08	TMA	IO	GET I/O BITS
03072	17477707		1962		ANA,S	-IBUFBIT-AUXBIT-AUXEBIT	
03073	16600030		1963		X0A	AUXBIT+AUXEBIT	DO-UNIT EQUIPPED AND ACTIVE
03074	53420044		1964		TAM	IO	
03075	53020077		1965		TMA	RF77	CLEAR THE ABORT BIT
03076	37002664	P	1966		LPA	NBIT23	SO THAT WE KNOW IF
03077	53420077		1967		TAM	RF77	IT HAS BEEN SET
03100	77664000		1968		VFD	A15/AIS,09/000	CLEAR ANY PENDING REQUESTS
03101	01000424	P	1969		UJP	MC	PROCESS CONTROL STATEMENTS
03102	04100000		1971	DOR06	ISE	1-1,X1	SKIP IF UNIT IS EQUIPPED
03103	01003173	P	1972		UJP	EQERR	PRINT EQUIP ERROR MESSAGE
03104	14100004		1973		ENI	RFP,X1	
03105	71003070	X	1973+001		XREQ	AUXUNIT,XREQ	REMOVE FILE PROTECT
03106	14100002		1975		ENI	UNEQUIP,X1	
03107	71003105	X	1975+001		XREQ	AUXUNIT,XREQ	UNEQUIP THE UNIT
03110	01003055	P	1977		UJP	DOR02	RE-TRY THE EQUIP
03111	53020044		1979	DOR12	TMA	IO	GET I/O BITS
03112	17600010		1980		ANA	AUXEBIT	CHECK FOR UNIT EQUIPPED
03113	03002177	P	1981		AZJ,EQ	E15	PARAMETER ERROR
03114	01003071	P	1982		UJP	DOR08	READ FROM DO-UNIT

1985
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1987
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1995
1996

```

*****
*
*           EQUIPR -- ROUTINE TO PROCESS THE EQUIP STATEMENT
*
*
*
* EQUIPR [ ,LUN={ ( LUN          )]
*          [ ( FILENAME        )]
*          [ ( HARDWARE TYPE )] ...
*
*           [,LUN=MT, N(1) AT N(2) COMMENTS]
*
*****
    
```

03115	14103117	P	1999	EQUIPR	ENI	*+2,X1	
03116	01001413	P	2000		UJP	PACKER	GET NEXT ITEM
03117	01000424	P	2001		UJP	MC	END OF LINE
03120	01003122	P	2002		UJP	*+2	LUN
03121	01002177	P	2003		UJP	E15	BCD SYMBOL, PARAMETER ERROR
03122	05400144		2004		ASG,S	MAXLUN	
03123	05400000		2005		ASG,S	0	
03124	01002175	P	2006		UJP	E04	ILLEGAL LUN
03125	53700000		2007		TAI	X3	
03126	14103130	P	2008		ENI	*+2,X1	
03127	01001413	P	2009		UJP	PACKER	GET NEXT ITEM
03130	01002177	P	2010		UJP	E15	END OF LINE IS NOT LEGAL HERE
03131	13077747		2011		SHAQ	-24	LUN, PUT LUN IN Q, A=0
03132	53420052		2012		TAM	T1	BCD, SAVE UPPER HALF
03133	36003202	P	2013		SCA	BCDMT	CHECK FOR MT
03134	03004477	P	2014		AZJ,EQ	MTEQUIP	MY GOODNESS, MAG TAPE EQUIP
03135	16614600		2015		XOA	H#MSF ≠ XOR H#MT #	
03136	03004476	P	2016		AZJ,EQ	MSFEQUIP	JUMP IF A MSF
03137	53020052		2017		TMA	T1	RESTORE FILE NAME
03140	12077755		2017+001		SHA	6-24	PUT FIRST CHAR IN A LOWER
03141	04677753		2017+002		ASE	77753B	SKIP IF RUN ONLY FILE
03142	01003144	P	2017+003		UJP	EQ06	NOT.
03143	01002177	P	2017+004		UJP	E15	*PARAMETER ERROR*
03144	53020052	P	2017+005	EQ06	TMA	T1	RESTORE FILENAME AGAIN.
03145	14100003		2018		ENI	EQUIP,X1	
03146	71300000		2019		XREQ	0+XREQ,X3	ATTEMPT TO EQUIP IT
03147	02503173	P	2020		IJD	EQERR,X1	JUMP IF ERRORS
03150	53020052		2020+001		TMA	T1	GET FIRST WORD OF NAME
03151	03003115	P	2020+002		AZJ,EQ	EQUIPR	JUMP IF LUN SPECIFIED
03152	04200074		2020+003		ISE	H#(≠,X2	SKIP IF POSSIBLY DESTINATION
03153	01003115	P	2021		UJP	EQUIPR	LOOP
03154	53730054		2021+001		TIM	T3,X3	SAVE LUN NUMBER
03155	14103157	P	2021+002		ENI	*+2,X1	
03156	01001413	P	2021+003		UJP	PACKER	PACK DESTINATION NAME
03157	01002177	P	2021+004		UJP	E15	
03160	01002177	P	2021+005		UJP	E15	MUST BE SYMBOL
03161	04200034		2021+006		ISE	H#)≠,X2	MUST BE TERMED BY A)
03162	01002177	P	2021+007		UJP	E15	
03163	20001515	P	2021+008		LDA	BLANKS	
03164	03502177	P	2021+009		AQJ,NE	E15	SECOND HALF MUST BE BLANKS
03165	53020052		2021+010		TMA	T1	
03166	14100023		2021+011		ENI	ASSIGN,X1	
03167	53330054		2021+012		TMI	T3,X3	RETORE LUN TO X3
03170	71300000		2021+013		XREQ	XREQ,X3	SEND THE DEVICE
03171	02502150	P	2021+014		IJD	SENDERS,X1	JUMP IF ANY ERRORS
03172	01003115	P	2021+015		UJP	EQUIPR	DO NEXT PARAM
03173	20103200	P	2023	EQERR	LDA	EQTAB,X1	GET ERROR MESSAGE ADDRESS
03174	04100002	P	2024		ISE	3-1,X1	SKIP IF LUN IN Q UNDEFINED
03175	01001264	P	2025		UJP	ERRORINA	PRINT THE ERROR
03176	53410053		2026		TQM	T2	SAVE THE LUN IN T2
03177	01002156	P	2027		UJP	E02A	PRINT #LUN XX UNDEFINED#
03200	00011135		2029	EQTAB	ERROR	M05	1--LUN ALREADY EQUIPPED
03201	00011162		2030		ERROR	M06	2--NAME NOT FOUND
03202	44636060		2031	BCDMT	BCD	1,MT	3--LUN IN Q UD, SPECIAL CASE
03203	00011217		2032		ERROR	M08	4--FILE BUSY
03204	00011231		2033		ERROR	M09	5--INSUFFICIENT HARDWARE

03205 00011257

2034

ERROR M10

6--PARAMETER ERROR

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2048

```
*****
*
*          BREAKR  -- ROUTINE TO PROCESS THE BREAK COMMAND.
*          GOR     -- ROUTINE TO PROCESS THE GO COMMAND.
*          MIR     -- ROUTINE TO PROCESS THE MI COMMAND.
*          STARTR  -- ROUTINE TO PROCESS THE START COMMAND.
*
* BREAK [ , PARAMETER STRING ]
* GO   [ , PARAMETER STRING ]
* MI   [ , PARAMETER STRING ]
* START [ , OCTAL ADDRESS [ , PARAMETER STRING ] ]
*
*****
```

03206 14164000
03207 01003212 P

03210 14100012
03211 55400000
03212 53020042
03213 16600004
03214 12000005
03215 53010041
03216 12400010
03217 17600200
03220 13000020
03221 40100000
03222 55000000
03223 11164001 35000 1
03224 04164000
03225 14600013
03226 53420041
03227 53020042
03230 17477773
03231 01003250 P

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2071

```
BREAKR  ENI  BREAKADD,X1  BREAK STATUS ADDRESS
         UJP  MI02
MIR     ENI  MIADD,X1     MI ADDRESS
         ROS  INDICATE LOWER CORE
         TMA  GET ROS BIT
         XOA  SET TO 1 IF RIS
         SHA  5
         TMQ  PC
         SHQ  8
         ANA  200B
         SHAQ 24-8
         STA  0,X1
         RIS
         ECHA BREAKLOC
         ISE  BREAKADD,X1
         ENA  MILOC
         TAM  PC
         TMA  IS
         ANA,S -4
         UJP  STRT03
```

```
BREAK STATUS ADDRESS
MI ADDRESS
INDICATE LOWER CORE
GET ROS BIT
SET TO 1 IF RIS
GET USERS PC
REMOVE ALL BUT RIS BIT
MOVE RIS AND PC INTO A
STORE INTO USERS CORE
SKIP IF BREAK
MI LOCATION
UPDATE USERS PC
GET IM AND FAULTS
CLEAR THE ROS BIT
```

03232 14700000
03233 14377776
03234 53200000
03235 53600000
03236 05600010
03237 01003274 P
03240 04600037
03241 02703277 P
03242 05500000
03243 01002177 P
03244 11177777 37777 3
03245 03702177 P
03246 53410041
03247 14600000
03250 53420042
03251 14103253 P
03252 01001234 P
03253 14103257 P
03254 04200073
03255 01003257 P
03256 01003535 P
03257 53020044
03260 17602000
03261 14303263 P
03262 03103027 P
03263 53020044
03264 17477637
03265 53420044
03266 53130050
03267 53230047
03270 53330046
03271 53020043
03272 53010051
03273 77634000

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2100
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2107
2108
2109
2110
2111
2112

```
STARTR  ENQ  0
         ENI  -1,X3
         TIA  X2
         TAI  X2
         ASG  8
         UJP  STRT06
         ASE  37B
         IJD  STRT08,X3
         QSG,S 0
         UJP  E15
         ECHA 177777B
         AQJ,LT E15
         TQM  PC
         ENA  0
         TAM  IS
         ENI  *+2,X1
         UJP  OUTBUF
         ENI  EXIT,X1
         ISE  H?,X2
         UJP  EXIT
         UJP  PARAMOUT
         TMA  IO
         ANA  SYSEBIT
         ENI  *+2,X3
         AZJ,NE UNEQSYS
         TMA  IO
         ANA,S -IBUFBIT-OBUFBIT
         TAM  IO
         TMI  B1,X1
         TMI  B2,X2
         TMI  B3,X3
         TMA  A
         TMQ  Q
         VFD  A15/ACR,09/000
```

```
INITIAL NUMBER IS ZERO
INDICATE NO DIGITS FOUND
GET LAST CHARACTER
SKIP IF NOT OCTAL
EXIT IF NUMBER FOUND
OR ON END OF LINE
LOOK FOR A DIGIT IF NO NUMBER
SKIP IF POSITIVE
PARAMETER ERROR IF NEGATIVE
JUMP IF TOO LARGE
PUT INTO USERS PROGRAM COUNTER
CLEAR FAULTS AND MASK
LOAD USERS FAULTS, MASK AND ROS
RETURN
RETURN ADDRESS
SKIP IF PARAMETER STRING
JUMP IF NO PARAMETER STRING
OUTPUT PARAMETER STRING
CHECK FOR SYSTEM UNIT EQUIPPED
UNEQUIP IT IF EQUIPPED
GET TYPE OF CONTROL MODE
REMOVE BUFFER BITS
RESTORE X1
RESTORE X2
RESTORE X3
RESTORE A
RESTORE Q
EXIT BACK TO USER, RESTORE RF40-5
```

03274 14300000
03275 12000025
03276 13000003
03277 14203235 P

```
STRT06  ENI  0,X3
         SHA 24-3
         SHAQ 3
STRT08  ENI  STRT02,X2
```

```
INDICATE A DIGIT FOUND
SHIFT IN NEXT DIGIT
ENTER RETURN ADDRESS
```

03300 01001517 P

2113

UJP

GETCHAR

GET THE NEXT CHARACTER

2116
2117
2118

```
*****
*
*           XABORTR -- ROUTINE TO COMPLEMENT THE ABORT BIT
*
*****
```

03301 53020077
03302 36002665 P
 03303 P
03303 53420077
03304 01004157 P

2121
2122
2123
2124
2125
2126
2127
2128
2129
2130

```
XABORTR TMA RF77
          SCA BIT23
XAB01 EQU *
          TAM RF77
          UJP CCR
ABORTCR EQU *
          TMA RF77
          LPA NBIT23
          UJP XAB01
```

 03305 P
03305 53020077
03306 37002664 P
03307 01003303 P

REMOVE REST OF COMMAND

CLEAR ABORT BIT

2133
2134
2135
2136
2137
2138

```
*****
*
*       DESTROY -- ROUTINE TO PROCESS THE DESTROY COMMAND
*
*
* DESTROY [, FILENAME ]...
*
*****
```

03310	14100002		2141	DST04	ENI	UNEQUIP,X1	
03311	71003037	X	2141+001		XREQ	SYSLUN,XREQ	UNEQUIP THE FILE
03312	14103314	P	2144	DESTROYR	ENI	*+2,X1	
03313	01001413	P	2145		UJP	PACKER	GET NEXT ITEM
03314	01000424	P	2146		UJP	MC	END OF LINE, DONE
03315	01002177	P	2147		UJP	E15	NUMBER, PARAMETER ERROR
03316	14303320	P	2148		ENI	*+2,X1	
03317	01003004	P	2149		UJP	EQSYS	EQUIP THE SYSTEM UNIT
03320	02503341	P	2150		IJD	DST06,X1	EQUIP ERROR
03321	03203330	P	2151		AZJ,GE	DST02	JUMP IF NOT PROTECTED
03322	14100310		2151+001		ENI	200,X1	MAX NUMBER OF ERRORS
03323	53530054		2151+002	DST01	TIM	T3,X1	SAVE ERROR COUNT
03324	14100004		2152		ENI	RFP,X1	
03325	53020052		2153		TMA	T1	GET FILENAME
03326	71003311	X	2153+001		XREQ	SYSLUN,XREQ	REMOVE FILE PROTECT
03327	02503347	P	2153+002		IJD	DST07,X1	JUMP IF ERRORS
03330	53020052		2156	DST02	TMA	T1	GET FILENAME
03331	53010053		2157		TMQ	T2	
03332	14100000		2158		ENI	DELETE,X1	
03333	71003326	X	2158+001		XREQ	SYSLUN,XREQ	TRY TO DELETE THE NAME
03334	14700003		2160		ENQ	RELEASE	
03335	72003333	X	2160+001		CNTL	SYSLUN,CNTL	RELEASE THE FILE
03336	04100005		2162		ISE	5,X1	SKIP IF DELETE ERRORS
03337	01003310	P	2163		UJP	DST04	
03340	01003330	P	2164		UJP	DST02	TRY THE DELETE AGAIN
03341	04100001		2166	DST06	ISE	2-1,X1	SKIP IF NAME NOT FOUND
03342	01003173	P	2167		UJP	EQERR	FILE BUSY IS BAD
03343	01003312	P	2168		UJP	DESTROYR	BUT NAME NOT FOUND IS OK
03344	53420052		2170	RENERR2	TAM	T1	RENAME RFP ERROR
03345	53410053		2171		TQM	T2	SAVE NAME
03346	01003357	P	2171+001		UJP	DST08	
03347	04100001		2171+003	DST07	ISE	2-1,X1	SKIP IF FILE BUSY
03350	01003357	P	2171+004		UJP	DST08	
03351	53130044		2171+005		TMI	IO,X1	
03352	17100003		2171+006		ANI	SYSMASK,X1	GET SYSTEM CODE
03353	04100002		2171+007		ISE	TASKSYS,X1	SKIP IF BATCH
03354	01003357	P	2171+008		UJP	DST08	
03355	53130054		2171+009		TMI	T3,X1	GET ERROR COUNT
03356	02503323	P	2171+010		IJD	DST01,X1	TRY AGAIN
03357	14102203	P	2173	DST08	ENI	E71,X1	#IS PUBLIC OR BUSY#
03360	01001376	P	2174		UJP	SYMOUT	PRINT BCD FILENAME

```

2177 *
2178 *
2179 *          RFPR -- ROUTINE TO PROCESS REMOVE FILE PROTECT.
2180 *          FPR  -- ROUTINE TO PROCESS FILE PROTECT COMMAND.
2181 *
2182 * ( FP ) ( LUN )
2183 * ( RFP ) ( FILENAME )...
2184 *
*****

```

```

03361 16240000 2187 RFPR XOI 40000B,X2 INDICATE RFP
03362 14300004 2188 FPL ENI RFP,X3
03363 05240000 2189 ISG 40000B,X2 SKIP IF REMOVE FILE-PROTECT
03364 14300005 2190 FPR ENI FP,X3 INDICATE FILE-PROTECT
03365 17200077 2191 ANI 77B,X2 REMOVE FLAG BIT
03366 14103370 2192 ENI *+2,X1
03367 01001413 2193 UJP PACKER GET NEXT ITEM
03370 01000424 2194 UJP MC FOUND END OF LINE
03371 01003412 2195 UJP FP04 FOUND NUMBER
03372 04300005 2196 ISE FP,X3 FOUND BCD ITEM
03373 16240000 2197 XOI 40000B,X2 SET FLAG IF RFP
03374 14303376 2198 ENI *+2,X3
03375 01003004 2199 UJP EQSYS EQUIP THE FILE
03376 02503173 2200 IJD EQERR,X1 JUMP IF EQUIP ERRORS
03377 53020052 2201 TMA T1 RESTORE THE FILE NAME
03400 14303335 2202 ENI SYSLUN,X3 USE SYSLUN IF NAMED FILE
03401 14100004 2203 FP02 ENI RFP,X1
03402 05240000 2204 ISG 40000B,X2 SKIP IF RFP FLAG IS SET
03403 14100005 2205 ENI FP,X1 INDICATE FP
03404 71300000 2206 XREQ 0+XREQ,X3
03405 02502151 2207 IJD FP06,X1 JUMP IF ERRORS
03406 04303400 2208 ISE SYSLUN,X3 SKIP IF THE SYSTEM UNIT
03407 01003362 2209 UJP FPL
03410 14303362 2210 ENI FPL,X3 ENTER RETURN ADDRESS
03411 01003027 2211 UJP UNEQSYS UNEQUIP THE SYSTEM UNIT

```

```

03412 04300005 2213 FP04 ISE FP,X3 FOUND LUN
03413 16240000 2214 XOI 40000B,X2 SET RFP FLAG
03414 05400144 2215 ASG,S MAXLUN
03415 05400000 2216 ASG,S 0
03416 01002175 2217 UJP E04 #ILLEGAL LUN#
03417 53700000 2218 TAI X3 REMEMBER THE LUN
03420 01003401 2219 UJP FP02

```

```

03421 05240000 2221 FP08 ISG 40000B,X2 ERRORS, SKIP IF RFP
03422 15100003 2222 INI FPERPERS-RFPERS,X1 POINT TO FP
03423 20103425 2223 LDA RFPERS,X1 GET ERROR LOCATION
03424 01001264 2224 UJP ERRORINA ERROR CODE IN A

```

```

03425 03425 P 2226 RFPERS EQU * 1-LUN XX UNDEFINED
03425 00011217 2227 ERROR M08 2-FILE IS BUSY
03426 00012402 2228 ERROR M70 3-NAME AND LUN DO NOT AGREE
03427 00011336 2229 ERROR M14 4-FILE IS PUBLIC
03430 03430 P 2230 FPERS EQU * 1-LUN XX UNDEFINED
03430 00011314 2231 ERROR M13 2-UNIT IS NOT A FILE, RAF, OR TAP

```

```

2234 *
2235 *          UNEQUIP -- ROUTINE TO PROCESS THE UNEQUIP STATEMENT
2236 *
2237 *
2238 * UNEQUIP [, LUN ] ...
2239 *
2240 *
*****

```

03431	01000424	P	2243	UNEQ07	UJP	MC	END-OF-LINE
03432	01003434	P	2244		UJP	*+2	FOUND DECIMAL NUMBER
03433	01002177	P	2245		UJP	E15	FOUND BCD SYMBOL
03434	05400144		2246		ASG,S	MAXLUN	
03435	05400000		2247		ASG,S	0	CHECK FOR LEGAL LUN
03436	01002175	P	2248		UJP	E04	ILLEGAL LUN
03437	53700000		2249		TAI	X3	
03440	14100002		2250		ENI	UNEQUIP,X1	
03441	71300000		2251		XREQ	XREG,X3	UNEQUIP THE LUN
03442	J2502154	P	2252		IJD	UNEQERS,X1	JUMP IF ERRORS
03443	14103431	P	2253	UNEQUIPR	ENI	UNEQ07,X1	
03444	01001413	P	2254		UJP	PACKER	GET THE NEXT ITEM
03445	03445 P		2256	UNERX	EQU	*	1--LUN XX UNDEFINED
	14111355		2257		ERM	M15	2--FILE IS PROTECTED


```

2260 *****
2261 *                               *
2262 *   SAVER -- ROUTINE TO PROCESS THE SAVE STATEMENT   *
2263 *   SAVE [, LUN = FILENAME ]...                       *
2264 *                               *
*****
    
```

03447	01000424	P	2267	SAVER02	UJP	MC	FOUND END OF LINE
03450	01003452	P	2268		UJP	*+2	FOUND UNIT NUMBER
03451	01002177	P	2269		UJP	E15	FOUND BCD SYMBOL
03452	05400144		2270		ASG,S	MAXLUN	
03453	05400000		2271		ASG,S	0	
03454	01002175	P	2272		UJP	E04	JUMP IF ILLEGAL LUN NUMBER
03455	53700000		2273		TAI	X3	SAVE LUN
03456	14103460	P	2274		ENI	*+2,X1	RETURN ADDRESS
03457	01001413	P	2275		UJP	PACKER	GET THE NEXT ITEM
03458	01002177	P	2276		UJP	E15	FOUND END OF LINE
03459	01002177	P	2277		UJP	E15	FOUND NUMBER, ILLEGAL NAME
03462	14100001		2278		ENI	SAVE,X1	
03463	71300000		2279		XREQ	XREQ,X3	ATTEMPT TO SAVE THE FILE
03464	02502152	P	2280		IJD	SAVERRS,X1	JUMP IF ERRORS
03465	14103447	P	2281	SAVER	ENI	SAVER02,X1	GET THE NEXT ITEM
03466	01001413	P	2282		UJP	PACKER	
03467	20103471	P	2284	SAVERX	LDA	SAVERCD,X1	GET THE ERROR CODE
03470	01001264	P	2285		UJP	ERRORINA	PRINT A MESSAGE
03471	03471	P	2287	SAVERCD	EQU	*	1--LUN XX UNDEFINED
03472	00011421		2288		ERROR	M17	2--NAME ALREADY PRESENT
03473	00011446		2289		ERROR	M18	3--UNIT ALREADY SAVED
03474	00011314		2290		ERROR	M13	4--UNIT IS NOT FILE (OR RAF)
03475	00011471		2291		ERROR	M19	5--NOT ENOUGH SAVE FILE SPACE
03476	00011526		2292		ERROR	M20	6--ILLEGAL NAME

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```
*****
*
*       DELETER -- ROUTINE TO PROCESS THE DELETE STATEMENT
*
*       [   FILENAME   ]
* DELETE [   ] ...
*       [ LUN = FILENAME ]
*
*****
```

03476 14103500 P
03477 01001413 P
03500 01000424 P
03501 01003516 P
03502 14303504 P
03503 01003004 P
03504 02503173 P
03505 53020052
03506 14303406 X
03507 14100000
03510 71300000
03511 02502153 P
03512 04303506 X
03513 01003476 P
03514 14303476 P
03515 01003027 P

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```
DELETER ENI *+2,X1
        UJP PACKER
        UJP MC
        UJP DL06
        ENI *+2,X3
        UJP EQSYS
        IJD EQERR,X1
        TMA T1
        ENI SYSLUN,X3
DL02   ENI DELETE,X1
        XREQ XREQ,X3
        IJD DLERRS,X1
        ISE SYSLUN,X3
        UJP DELETER
        ENI DELETER,X3
        UJP UNEQSYS
```

```
GET NEXT ITEM
FOUND END OF LINE
FOUND LUN
EQUIP THE SYSTEM UNIT
EQUIP ERRORS
RESTORE THE FILENAME
INDICATE WHICH UNIT TO USE
ATTEMPT THE DELETE
JUMP IF ERRORS
SKIP IF SYSTEM UNIT INVOLVED
LOOP BACK FOR MORE
RETURN ADDRESS
UNEQUIP THE SYSTEM UNIT
```

03516 05400144
03517 05400000
03520 01002175 P
03521 53700000
03522 14103524 P
03523 01001413 P
03524 01002177 P
03525 01002177 P
03526 01003507 P

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```
DL06   ASG,S MAXLUN
        ASG,S 0
        UJP E04
        TAI X3
        ENI *+2,X1
        UJP PACKER
        UJP E15
        UJP E15
        UJP DL02
```

```
ILLEGAL LUN
SAVE LUN IN X3
RETURN
PACK THE FILE NAME
END OF LINE NOT LEGAL HERE
LUN NOT LEGAL ALSO
ATTEMPT THE DELETE
```

03527 20103531 P
03530 01001264 P

2331
2332

```
DLERX  LDA DLERRCD,X1
        UJP ERRORINA
```

```
GET THE ERROR CODE
PRINT THE ERROR
```

03531 00011355 P
03532 00011543
03533 00011565
03534 00011613

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```
DLERRCD EQU *
        ERROR M15
        ERROR M21
        ERROR M22
        ERROR M23
```

```
1--LUN XX UNDEFINED
2--FILE IS PROTECTED
3--LUN IS NOT SAVED
4--NAME IN AQ DOES NOT AGREE WITH
5--NOT ENOUGH SCRATCH FILE SPACE
```

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```

*****
*
*          PARAMOUT -- ROUTINE TO OUTPUT THE PARAMETER STRING
*
*          A - CHANGED
*          Q - CHANGED
*          X1- RETURN ADDRESS
*          X2- DELEMITING CHARACTER
*          X3- RESTORED
*          T1- RESTORED
*          T2- RESTORED
*          T3- DELEMITING CHARACTER
*
*****
    
```

03535	23413510	P	02722 0	2355	PARAMOUT	LQCH	BCDASCII,X2	CONVERT DELIMETER TO ASCII
03536	13000030			2356		SHAQ	24	
03537	04200037			2357		ISE	37B,X2	SPECIAL TEST FOR END OF LINE
03540	15600056			2358		INA	240B-215B+33B	ADD 240B IF NOT END-OF-LINE
03541	15600162			2359		INA	215B-33B	CONVERT END-OF-LINE TO 215B
03542	53420054			2360		TAM	T3	SAVE DELIMETER IN T3
03543	53020044			2361		TMA	T0	
03544	17600023			2362		ANA	SYSMASK+AUXBIT	GET TYPE OF I/O DEVICE
03545	03003577	P		2363		AZJ, EQ	PM08	EXIT IF TTY
03546	47100003	C		2364		STI	B1SAVE,X1	SAVE X1...
03547	53020052			2365		TMA	T1	AND SAVE T1
03550	40000004	C		2366		STA	T1SAVE	
03551	14100016			2367		ENI	PURGE,X1	
03552	71000000			2368		XREQ		REMOVE EXISTING PARAMETER STRING
03553	14100116			2369		ENI	78,X1	LIMIT TO PARAMETER STRING LENGTH
03554	04200037			2370		ISE	37B,X2	SKIP IF DELIMETER WAS END-OF-LINE
03555	01003566	P		2371		UJP	PM06	OUTPUT PARAMETER STRING
03556	01003574	P		2372		UJP	PM07	NO PARAMETER STRING
				2373				
				2374				
03557	02503561	P		2375	PM04	IJD	*+2,X1	JUMP IF MORE CHARACTERS LEGAL
03560	01002205	P		2376		UJP	E99	LINE TOO LONG
03561	53600000			2377		TAI	X2	BCD CHARACTER TO X2
03562	23413510	P	02722 0	2378		LQCH	BCDASCII,X2	GET ASCII CODE
03563	13000030			2379		SHAQ	24	
03564	15600240			2380		INA	240B	CONVERT TO ASCII CHARACTER
03565	77540000			2381		ACI		PUT INTO THE PARAMETER STRING
03566	14203570	P		2382	PM06	ENI	*+2,X2	RETURN ADDRESS
03567	01001517	P		2383		UJP	GETCHAR	GET THE NEXT CHARACTER
03570	04600037			2384		ASE	37B	SKIP IF END-OF-LINE
03571	01003557	P		2385		UJP	PM04	CONVERT IT TO ASCII
03572	14600215			2386		ENA	215B	ENTER ASCII END-OF-LINE CODE
03573	77540000			2387		ACI		
03574	20000004	C		2388	PM07	LOA	T1SAVE	RESTORE T1
03575	53420052			2389		TAM	T1	
03576	54100003	C		2390		LDI	B1SAVE,X1	RESTORE X1
03577	53230054			2391	PM08	TMI	T3,X2	DELEMITING CHARACTER TO X2 ALSO
03600	01100000			2392		UJP	0,X1	RETURN

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```

*****
*
*          OVLOADR -- ROUTINE TO PROCESS THE OVLOAD STATEMENT
*
*          ( LUN      )
* OVLOAD  ( ,        ) [ PARAMETER STRING ]
*          ( FILENAME )
*
*****
    
```

03601	14103603	P	2404	OVLOADR	ENI	*+2,X1	
03602	01001413	P	2405		UJP	PACKER	
03603	01002177	P	2406		UJP	E15	END-OF-LINE NOT LEGAL
03604	01003611	P	2407		UJP	QVL10	FOUND LUN
03605	14303607	P	2408		ENI	*+2,X3	FOUND BCD FILENAME
03606	01003004	P	2409		UJP	EQSYS	TRY TO EQUIP THE FILE
03607	02503173	P	2410		IJD	EQERR,X1	EQUIP ERROR
03610	14603512	X	2411		ENA	SYSLUN	INDICATE THE SYSTEM UNIT
03611	53700000		2412	OV10	TAI	X3	LUN TO X3
03612	14703610	X	2413		ENQ	SYSLUN	
03613	05400144		2414		ASG,S	MAXLUN	
03614	05400000		2415		ASG,S	0	
03615	03502175	P	2416		AQJ,NE	E04	ILLEGAL LUN
03616	14103620	P	2417		ENI	*+2,X1	RETURN ADDRESS
03617	01003535	P	2418		UJP	PARAMOUT	OUTPUT THE PARAMETER STRING
03620	14700000		2419	OV102	ENQ	STATUS	
03621	77664000		2420		VFD	A15/AIS,09/000	CLEAR ANY CNTLMODE REQUESTS
03622	72300000		2421		CNTL	0,X3	INSURE THE FILE IS EQUIPPED
03623	03002155	P	2422		AZJ,EQ	E02	LUN UNDEFINED
03624	04600001		2423		ASE	FILE	CHECK FOR HARDWARE TYPE OF FILE
03625	01003764	P	2424		UJP	OV1ERR	ILLEGAL HARDWARE TYPE
03626	12000006		2425		SHA	23-AUBIT	
03627	03300223	P	2426		AZJ,LT	E72	ABNORMAL I/O CONDITION
03630	14700004		2427		ENQ	REWIND	
03631	72300000		2428		CNTL	0,X3	REWIND THE FILE
03632	12000002		2429		SHA	23-EQDBIT	CHECK FOR END OF DATA
03633	03303764	P	2430		AZJ,LT	OV1ERR	ERROR IF AT END OF DATA
03634	14100000		2431	OV107	ENI	0,X1	FLAG TO INDICATE CORE NOT ZEROED
03635	14601001	C	2432		ENA	OV1BUF	ADDRESS OF HEADER RECORD
03636	14700004		2433		ENQ	4	LENGTH OF HEADER
03637	74300000		2434		READ	0,X3	READ THE HEADER
03640	12000006		2435		SHA	23-AUBIT	
03641	03300223	P	2436		AZJ,LT	E72	ABNORMAL I/O CONDITION
03642	12000027		2437		SHA	24+AUBIT-BINBIT	
03643	03203764	P	2438		AZJ,GE	OV1ERR	MUST BE BINARY
03644	04700000		2439		QSE	0	
03645	01003764	P	2440		UJP	OV1ERR	MUST BE CORRECT LENGTH
03646	25001001	C	2441		LDAQ	OV1BUF	GET STARTING ADDRESS
03647	37002653	P	2442		LPA	PCMASK	
03650	13000030		2443		SHAQ	24	AND LENGTH
03651	37002653	P	2444		LPA	PCMASK	
03652	53040000		2445		AQA		ENDING ADDRESS IN A
03653	52002673	P	2446		CPR	CMHMEM	CHECK FOR LOADING ON TOP
03654	52002672	P	2447		CPR	CMLOWMEM	OF CONTROL MODE
03655	03503660	P	2448		AQJ,NE	*+3	LENGTH MUST NOT BE ZERO
03656	01003764	P	2449		UJP	OV1ERR	
03657	01003764	P	2450		UJP	OV1ERR	
03660	12077757		2451		SHA	-16	CHECK FOR ENDING ADDRESS ...
03661	03103764	P	2452		AZJ,NE	OV1ERR	... TOO LARGE
03662	25001003	C	2453		LDAQ	OV1BUF+2	GET TRANSFER SYMBOLS
03663	03303764	P	2454		AZJ,LT	OV1ERR	NO PRIMARY TRANSFER SYMBOL
03664	53020044		2454+001		TMA	IO	
03665	17604000		2454+002		ANA	RUNCBIT	
03666	03003676	P	2454+003		AZJ,EQ	OV109	JUMP IF NOT RUN ONLY MODE
03667	47300000	C	2454+004		STI	ASAVE,X3	
03670	47200001	C	2454+005		STI	QSAVE,X2	
03671	14203673	P	2454+006		ENI	*+2,X2	
03672	01007547	P	2454+007		UJP	SMASH	CLEAR RUN ONLY STATUS
03673	14177776		2454+008		ENI	-1,X1	SAY LOWER CORE WAS ZEROED
03674	54200001	C	2454+009		LDI	QSAVE,X2	
03675	54300000	C	2454+010		LDI	ASAVE,X3	
03676	25001003	C	2454+011	OV109	LDAQ	OV1BUF+2	
03677	53420041		2455		TAM	PC	TRANSFER ADDRESS TO PC
03700	53410051		2456		TQM	Q	SECONDARY TRANSFER ADDRESS TO Q
03701	13077717		2457		SHAQ	-48	ENAG,S 0
03702	53420043		2458		TAM	A	ZERO USER#S A REGISTER
03703	55700000		2459		AGE		ZERO THE USERS E REGISTER

03704	53420042		2460	TAM	IS	CLEAR FAULTS, MASK AND RQS
03705	20001001	C	2461	LDA	OVBUF	GET THE FIRST WORD ADDRESS
03706	12000010		2462	SHA	23-15	GET UPPER CORE BIT
03707	03303722	P	2463	AZJ,LT	OV14	DO NOT ZERO CORE IF UPPER CORE
03710	17600176		2464	ANA	176B	GET OVERLAY NUMBER WITHOUT CONTIN
03711	03103722	P	2465	AZJ,NE	OV14	SKIP ZERO CORE IF NOT MAIN OVERLAY
03712	02503722	P	2466	IJD	OV14,X1	JUMP IF LOWER BANK ZEROED
03713	53630053		2467	TIM	T2,X2	SAVE X2
03714	14200017		2468	ENI	17B,X2	ZERO PAGES 17B TO 00B
03715	14100007		2469	ENI	ZEROPAGE,X1	
03716	71200000		2470	XREQ	XREQ,X2	ZERO A PAGE
03717	02603715	P	2471	IJD	*-2,X2	LOOP BACK TO GET THE WHOLE BANK
03720	14177776		2472	ENI	-1,X1	INDICATE LOWER BANK IS ZEROED
03721	53230053		2473	TMI	T2,X2	RESTORE X2
03722	20001002	C	2474	LDA	OVBUF+1	GET LENGTH
03723	37002653	P	2475	LPA	PCMASK	
03724	13000030		2476	SHAQ	24	LENGTH TO Q
03725	20001001	C	2477	LDA	OVBUF	GET FWA AND LENGTH
03726	37002653	P	2478	LPA	PCMASK	
03727	36002652	P	2479	SCA	BIT15	COMPLEMENT BANK BIT
03730	74300000		2480	READ	0,X3	READ IN THE OVERLAY
03731	12000005		2481	SHA	23-BINBIT	
03732	03203764	P	2482	AZJ,GE	OVERR	JUMP IF NOT BINARY RECORD
03733	12000031		2483	SHA	24+BINBIT-AUBIT	
03734	03300223	P	2484	AZJ,LT	E72	ABNORMAL I/O CONDITION
03735	04700000		2485	QSE	0	SKIP IF RECORD CORRECT LENGTH
03736	01003764	P	2486	UJP	OVERR	
03737	11200000		2487	ECHA	200000B	CHECK FOR CONTINUATION
03740	37001001	C	2488	LPA	OVBUF	
03741	03103635	P	2489	AZJ,NE	OV107	JUMP IF CONTINUATION
03742	14677777		2490	ENA	77777B	JUNK FOR
03743	53420046		2491	TAM	B3	USER'S INDEX 3
03744	53020052		2491+001	TMA	T1	GET FIRST PART OF FILENAME
03745	12000006		2491+002	SHA	6	
03746	17600077		2491+003	ANA	77B	
03747	04600053		2491+004	ASE	H#B#	SKIP IF RUN ONLY FILE
03750	01003754	P	2491+005	UJP	OV120	
03751	53020044		2491+006	TMA	I0	TURN ON RUN ONLY MODE
03752	16604000		2491+007	XOA	RUNOBIT	
03753	53420044		2491+008	TAM	I0	
	03754	P	2491+009	EQU	*	
03754	14103757	P	2492	ENI	*+3,X1	
03755	05240000		2493	ISG	40000B,X2	
03756	01001234	P	2494	UJP	OUTBUF	
03757	53020054		2495	TMA	T3	GET NEW X2
03760	53420047		2496	TAM	B2	DELIMITING CHAR TO USERS X2
03761	77664000		2497	VFD	A15/AIS,09/000	
03762	03100044	P	2498	AZJ,NE	REENTER	
03763	01003257	P	2499	UJP	EXIT	EXIT TO THE USER
03764	05240000		2501	ISG	40000B,X2	SKIP IF ENTERED FROM MC
03765	01002201	P	2502	UJP	E68	OVLOAD FORMAT ERROR
03766	14111034		2503	ERM	M01	ILLEGAL CONTROL STATEMENT

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```
*****
*
*       TIMER  -- ROUTINE TO PROCESS THE TIME COMMAND.
*       MFBLKSR -- ROUTINE TO PROCESS THE MFBLKS COMMAND.
*
*       TIME [= NUMBER ]
*       MFBLKS [= NUMBER ]
*
*****
```

03770 53200000
03771 14203773 P
03772 14700060
03773 03401517 P
03774 53600000
03775 53430054
03776 04600020
03777 01004006 P
04000 14100012
04001 71000000
04002 15601130
04003 13077747
04004 51002645 P
04005 53420054
04006 14104010 P
04007 01001413 P
04010 01004050 P
04011 04200037
04012 01002177 P
04013 53010054
04014 53040000
04015 14720304
04016 03602177 P
04017 14100011
04020 71000000
04021 77664000
04022 01000424 P

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```
TIMER  TIA      X2
        ENI     *+2,X2
        ENQ     H#Z
        AQJ,EQ  GETCHAR
        TAI     X2
        TIM     T3,0
        ASE     H#Z
        UJP     TIME01
        ENI     TIMEREQ,X1
        XREQ    XREQ
        INA     600
        SHAQ    -24
        DVA     D1000
        TAM     T3
TIME01  ENI     *+2,X1
        UJP     PACKER
        UJP     TIME02
        ISE     378,X2
        UJP     E15
        TMQ     T3
        AQA
        ENQ
        AQJ,GE  8388
        ENI     E15
        XREQ    TIMESET,X1
XRET    XREQ
        VFD     A15/AIS,09/000
        UJP     MC
```

```
GET THE DELIMETER
RETURN ADDRESS
SCAN PAST BLANKS
RESTORE THE DELIMETER
ZERO CURRENT TIME
SKIP IF INCREMENTING TIME
GET CURRENT TIME USED
ROUND
COMPUTE SECONDS
EXAMINE NEXT ITEM
END OF LINE, PRINT OUT TIME
SKIP IF LUN, END OF LINE
BCD SYMBOL, PARAMETER ERROR
CURRENT NUMBER OF SECOND
MAX TIME
JUMP IF TOO LARGE
SET THE TIME LIMIT
CLEAR PENDING REQUESTS
```

04023 53200000
04024 14204026 P
04025 14700060
04026 03401517 P
04027 53600000
04030 53430054
04031 04600020
04032 01004037 P
04033 14100014
04034 71000000
04035 15700001
04036 53410054
04037 14104041 P
04040 01001413 P
04041 01004074 P
04042 04200037
04043 01002177 P
04044 53010054
04045 53040000
04046 14100013
04047 01004020 P

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```
MFBLKSR TIA      X2
         ENI     *+2,X2
         ENQ     H#Z
         AQJ,EQ  GETCHAR
         TAI     X2
         TIM     T3,0
         ASE     H#Z
         UJP     MFBLK01
         ENI     MFBLKREQ,X1
         XREQ    XREQ
         INQ
         TMQ     T3
MFBLK01 ENI     *+2,X1
         UJP     PACKER
         UJP     MFBLK02
         ISE     378,X2
         UJP     E15
         TMQ     T3
         AQA
         ENI     MFBLKSET,X1
         UJP     XRET
```

```
GET DELIMETER
RETURN ADDRESS
SCAN PAST BLANKS
RESTORE THE DELIMETER
ZERO T3
SKIP IF INCREMENTING MFBLKS
GET CURRENT FILEBLOCKS
SAVE CFBLKS
EXAMINE NEXT ITEM
END OF LINE, PRINT OUT MFBLKS
SKIP IF LUN, END OF LINE
BCD SYMBOL, PARAMETER ERROR
GET CFBLKS
USE THE SUM
SET THE MFBLKS LIMIT
```

04050 14111715
04053 14100012
04054 71000000
04055 15600062
04056 13077747
04057 51002645 P
04060 53410053
04061 14104063 P
04062 01001357 P
04063 14600033
04064 14304066 P
04065 01001031 P
04066 53020053
04067 13077747
04070 51002644 P
04071 14111722

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```
TIME02 OUT     M27
        ENI     TIMEREQ,X1
        XREQ    XREQ
        INA     50
        SHAQ    -24
        DVA     D1000
        TQM     T2
        ENI     *+2,X1
        UJP     DECOUT
        ENA     H#Z
        ENI     *+2,X3
        UJP     OUTCHAR
        TMA     T2
        SHAQ    -24
        DVA     D100
        ECHI    M28-1,X1
```

```
TIME
GET THE TIME USED
ROUND TO TENTH OF A SECOND
COMPUTE SECONDS
SAVE MS
RETURN
PRINT SECONDS VALUE
PRINT A PERIOD
GET MILLISECONDS
IN AQ
GET TENTHS
# SECONDS #
```

04072	14204103	P	2531	ENI	MFB03,X2	RETURN ADDRESS
04073	01001270	P	2532	UJP	MESSAGE2	PRINT TENTH, # SECONDS #
04074	14111734		2583	OUT	M29	MFBLS
04077	14100014		2584	ENI	MFBKREQ,X1	GET NUMBER OF FILE BLOCKS USED
04100	71000000		2585	XREQ	XREQ	
04101	14104103	P	2586	ENI	*+2,X1	RETURN
04102	01001357	P	2587	UJP	DECOUT	PRINT MFBLS VALUE
04103	14111760		2588	OUT	M30	#MFBLS#
04106	14100027		2589	ENI	MAXFBREQ,X1	MAX FB REQUEST CODE
04107	71000000		2590	XREQ	XREQ	DO THE REQUEST
04110	13000030		2591	SHAQ	24	SAVE A
04111	53410053		2592	TQM	T2	SAVE THE MAX FB LIMIT
04112	14104114	P	2593	ENI	*+2,X1	RETURN ADDRESS
04113	01001357	P	2594	UJP	DECOUT	OUTPUT THE NUMBER
04114	14111744		2595	OUT	M29X	#MFBKCLIM#
04117	53020053		2596	TMA	T2	GET CFBLKS
04120	14104164	P	2597	ENI	LINEEND,X1	RETURN ADDRESS
04121	01001357	P	2598	UJP	DECOUT	PRINT CFBLKS VALUE

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```
*****
*
*           SFBLKSR -- ROUTINE TO PROCESS THE SFBLKS COMMAND.
*
* SFBLKS
*
*****
```

04122 04200037
04123 01002177 P
04124 14111772
04127 14100015
04130 71000000
04131 53410053
04132 14104134 P
04133 01001357 P
04134 14112002
04137 53020053
04140 01004117 P

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```
SFBLKSR ISE 37B,X2 SKIP IF END OF LINE
        UJP E15 PARAMETER ERROR
        OUT M31 SFBLKS
        ENI SFBLKREQ,X1
        XREQ XREQ GET CURRENT SFBLKS LIMIT
        TQM T2 SAVE THE LIMIT
        ENI *+2,X1
        UJP DECOU PRINT VALUE OF SFBLKS
        OUT M32 LIMIT
        TMA T2 GET THE LIMIT
        UJP MFB04 PRINT VALUE OF LIMIT
```

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```
*****
*
*           TRAFFICR -- ROUTINE TO PROCESS THE TRAFFIC COMMAND.
*
* TRAFFIC
*
*****
```

04141 04200037
04142 01002177 P
04143 14112013
04146 53020035
04147 14104151 P
04150 01001357 P
04151 14104153 P
04152 01001141 P
04153 04153 P
04153 53020026 P
04154 03200424 P
04155 14104625 P
04156 01001234 P

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2641

```
TRAFFICR ISE 37B,X2 SKIP IF END OF LINE
          UJP E15 PARAMETER ERROR
          OUT M33 TRAFFIC IS
          TMA 35B GET VALUE OF TRAFFIC
          ENI *+2,X1 RETURN ADDRESS
          UJP DECOU OUTPUT NUMBER
          ENI LOGCHEK,X1
          UJP OUTLINE
LOGCHEK EQU *
          TMA RF26 GET JOB NUMBER
          AZJ,GE MC END OF LINE - GO HOME
          ENI VANISH,X1 RETURN ADDRESS
          UJP OUTBUF OUTPUT THE RESET IF ON TV
```

2643
2644
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2646
2647

```
*****
*
*           CCR -- ROUTINE TO PROCESS THE CC COMMAND.
*
* CC [ COMMENTS ]
*
*****
```

04157 53200000
04160 14700037
04161 03400424 P
04162 14204160 P
04163 01001517 P

04164 14100424 P
04165 01001141 P

2649
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```
CCR TIA X2 GET LAST CHARACTER
    ENQ 37B
    ADJ,EQ MC JUMP IF END OF LINE
    ENI *-2,X2 RETRUN ADDRESS
    UJP GETCHAR SLURP UP ONE LINE

LINEEND ENI MC,X1
        UJP OUTLINE
```


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2666

```

*****
*
*          STATUSR -- ROUTINE TO PROCESS THE STATUS STATEMENT.
*
* STATUS  [ LUN      ]
*          [ ,        ]
*          [ FILENAME ] ...
*
*****
    
```

04166	14104170	P	2669	STATUSR	ENI	*+2,X1	
04167	01001413	PP	2670		UJP	PACKER	GET NEXT ITEM
04170	01004173	PP	2671		UJP	REGOUT	END OF LINE, PRINT REGISTERS
04171	01004425	PP	2672		UJP	SL02	LUN, PRINT STATUS
04172	01004405	P	2673		UJP	SF02	
	04173	P	2674				
04173	53130044		2674+001	REGOUT	EQU	*	
04174	17104000		2674+002		TMI	IO,X1	CHECK SO AS NO TO PRINT
04175	02504371	P	2674+003		ANI	RUNOBIT,X1	REGISTER IF RUN ONLY MODE.
04176	14112030		2674+004		IJD	ST24,X1	JUMP IF RUN ONLY MODE
04201	53020041		2674+005		OUT	M34	#P #
04202	37002653	P	2676		TMA	PC	GET PC
04203	13000036		2677		LPA	PCMASK	REMOVE ALL BUT THE PC
04204	14200006		2678		SHAQ	24+6	
			2679		OCTOUT	6	PRINT 6 OCTAL DIGITS
			2680				
04207	14112036		2681		OUT	M35	#LJA #
04212	53020040		2682		TMA	LJA	GET THE LJA
04213	37002653	P	2683		LPA	PCMASK	REMOVE EXTRA BITS
04214	13000036		2684		SHAQ	24+6	
04215	14200006		2685		OCTOUT	6	PRINT 6 OCTAL DIGITS
			2686				
04220	14112044		2687		OUT	M36	#A #
04223	53010043		2688		TMQ	A	
04224	14200010		2689		OCTOUT	8	PRINT 8 OCTAL DIGITS
			2690				
04227	14112050		2691		OUT	M37	#Q #
04232	53010051		2692		TMQ	Q	
04233	14200010		2693		OCTOUT	8	PRINT 8 OCTAL DIGITS
			2694				
04236	14112054		2695		OUT	M38	#B1 #
04241	53010050		2696		TMQ	B1	
04242	12400011		2697		SHQ	9	
04243	14200005		2698		OCTOUT	5	PRINT 5 OCTAL DIGITS
			2699				
04246	14112063		2700		OUT	M39	#B2 #
04251	53010047		2701		TMQ	B2	
04252	12400011		2702		SHQ	9	
04253	14200005		2703		OCTOUT	5	PRINT 5 OCTAL DIGITS
			2704				
04256	14112072		2705		OUT	M40	#B3 #
04261	53010046		2706		TMQ	B3	
04262	12400011		2707		SHQ	9	
04263	14200005		2708		OCTOUT	5	PRINT 5 DIGITS
			2709				
04266	14112101		2710		OUT	M41	#EU #
04271	55200000		2711		EUA		
04272	13000030		2712		SHAQ	24	
04273	14200010		2713		OCTOUT	8	PRINT 8 OCTAL DIGITS
			2714				
04276	14112105		2715		OUT	M42	#EL #
04301	55100000		2716		ELQ		
04302	14200010		2717		OCTOUT	8	PRINT 8 OCTAL DIGITS
			2718				
04305	53020042		2719		TMA	IS	
04306	17600004		2720		ANA	4B	GET ROS BIT
04307	03004315	P	2721		AZJ,EQ	ST08	JUMP IF NOT ROS
04310	14112111		2722		OUT	M43	
04313	14104315	P	2723		ENI	ST08,X1	
04314	01001141	P	2724		UJP	OUTLINE	
			2725				
04315	53010042		2726	ST08	TMQ	IS	
04316	12400011		2727		SHQ	9	
04317	27002660	P	2728		LDL	FAULTS	CHECK FOR ANY FAULTS ON
04320	03004347	PP	2729		AZJ,EQ	ST20	JUMP IF NO FAULTS
04321	27002655	PP	2730		LDL	BIT18	CHECK AOV
04322	03004326	P	2731		AZJ,EQ	ST10	JUMP IF NO AOV
04323	14112117		2732		OUT	M44	# <AOV>#

04326	27002656	P	2733	ST10	LDL	BIT19	CHECK DIV
04327	03004333	P	2734		AZJ,EQ	ST12	JUMP IF NO DIV
04330	14112125		2735		OUT	M45	≠<DIV>≠
04333	27002654	P	2736	ST12	LDL	BIT17	CHECK EXP
04334	03004340	P	2737		AZJ,EQ	ST14	JUMP IF NO EXP
04335	14112133		2738		OUT	M46	≠ <EXP>≠
04340	27002657	P	2739	ST14	LDL	BIT20	CHECK BCD
04341	03004345	P	2740		AZJ,EQ	ST16	JUMP IF NO BCD
04342	14112141		2741		OUT	M47	≠ <BCD>≠
04345	14104347	P	2742	ST16	ENI	ST20,X1	
04346	01001141	P	2743		UJP	OUTLINE	
04347	53010042		2744	ST20	TNQ	IS	
04350	27002663	P	2745		LDL	IMBITS	CHECK INTERRUPT MASK
04351	03004371	P	2746		AZJ,EQ	ST24	
04352	14112147		2747		OUT	M48	≠IM≠
04355	27002662	P	2748		LDL	BIT22	CHECK AOV/DIV
04356	03004362	P	2749		AZJ,EQ	ST22	
04357	14112153		2750		OUT	M49	≠<AOV/DIV>
04362	27002661	P	2751	ST22	LDL	BIT21	CHECK EXP/BCD
04363	03004367	P	2752		AZJ,EQ	ST23	
04364	14112165		2753		OUT	M50	≠<EXP/BCD>≠
04367	14104371	P	2754	ST23	ENI	ST24,X1	
04370	01001141	P	2755		UJP	OUTLINE	
04371	53020044		2756	ST24	TMA	IO	
04372	17601000		2757		ANA	STATBIT	IF A STATUS REQUEST, ABORT
04373	03100414	P	2758		AZJ,NE	ABORT	
04374	01000424	P	2759		UJP	MC	
04375	53230054		2760	SL01	TMI	T3,X2	RESTORE X2
04376	53020044		2761		TMA	IO	GET I/O BITS
04377	17600023		2762		ANA	SYSMASK+AUXBIT	CHECK FOR ≠(NOT TTY)≠ OR ≠DO≠
04400	03000424	P	2763		AZJ,EQ	MC	EXIT IT A TTY
04401	14104403	P	2764		ENI	*+2,X1	
04402	01001413	P	2765		UJP	PACKER	GET NEXT ITEM
04403	01000424	P	2766		UJP	MC	EOL
04404	01004426	P	2767		UJP	SL02	LUN
04405	04405	P	2768	SF02	EQU	*	
04406	53020052		2769		TMA	T1	GET FIRST HALF OF NAME
04407	53420054		2770		TAM	T3	AND SAVE SINCE SYMOUT CLOBBERS T1
04410	14104411	P	2771		ENI	*+2,X1	RETURN ADDRESS
04411	01001376	P	2772		UJP	SYMOUT	OUTPUT SYMBOL
04412	53020054		2773		TMA	T3	RESTORE T1
04413	53420052		2774		TAM	T1	SO WE CAN EQUIP
04414	14304415	P	2775		ENI	*+2,X3	RETURN ADDRESSES FOR EQSYS
04415	01003004	P	2776		UJP	EQSYS	EQUIP THE FILE IF POSSIBLE
04416	53630054		2777		TIM	T3,X2	SAVE DELIMITING CHARACTER
04417	02504421	P	2778		IJD	*+3,X1	JUMP IF ERRORS
04420	14303612	X	2779		ENI	SYSLUN,X3	SO WE CAN GET SIZE ETC.
04421	01004444	P	2780		UJP	SL04	GO PRINT STATUS
04422	20104470	P	2781		LDA	HWDTYPE+HWDTYPEL-1,X1	GET MESSAGE POINTER
04423	53500000		2782		TAI	X1	POINT AT IT
04424	14600060		2783		ENA	608	INITIAL BLANK
04425	14204451	P	2784		ENI	SL05,X2	RETURNADDRESS
04426	01001270	P	2785		UJP	MESSAGE2	AND PRINT MESSAGE
04427	05400157		2786	SL02	ASG,S	110+1	
04430	05400000		2787		ASG,S	0	ILLEGAL LUN
04431	01002175	P	2788		UJP	E04	SAVE THE LUN
04432	53420053		2789		TAM	T2	SAVE THE DELIMITER
04433	53630054		2790		TIM	T3,X2	LUN
04434	14111067		2791		OUT	M02	GET THE LUN
04436	53020053		2792		TMA	T2	
04437	14104441	P	2793		ENI	*+2,X1	
04440	01001360	P	2794		UJP	DT01	PRINT VALUE OF LUN
04441	53330053		2795		TMI	T2,X3	LUN TO X3
04442	14700000		2796		ENQ	STATUS	
04443	72300000		2797		CNTL	0,X3	GET STATUS
04444	53420053		2798	SL04	TAM	T2	SAVE THE STATUS
04445	53230054		2799		TMI	T3,X2	GET DELIMITING CHARACTER

04446	14604450	P	2809	ENA	*+2	RETURN ADDRESS
04447	01007023	P	2810	UJP	STATSIZE	PRINT STATUS AND SIZE
04450	53630054		2811	TIM	T3,X2	RESAVE DELIMITING CHARACTER
	04451	P	2812	EQU	*	
04451	14104375	P	2813	ENI	SL01,X1	RETURN
04452	01001141	P	2814	UJP	OUTLINE	PRINT THE LINE
			2815			
			2816			
04453	00012176		2817	HWDTYPE	ERROR	M51-1
04454	40012210		2818		ERROR	M52-1,B
04455	60012215		2819		ERROR	M53-1,B,R
04456	60012222		2820		ERROR	M54-1,B,R
04457	40012227		2821		ERROR	M55-1,B
04458	00012234		2822		ERROR	M56-1
04461	00012241		2823		ERROR	M57-1
04462	60012246		2824		ERROR	M58-1,B,R
04463	00012253		2825		ERROR	M59-1
04464	00012260		2826		ERROR	M60-1
04465	40012265		2827		ERROR	M61-1,B
04466	60012272		2828		ERROR	M62-1,B,R
04467	00012304		2829		ERROR	M64-1
04470	60012277		2830		ERROR	M63-1,B,R
	00010		2831	HWDTYPEL	EQU	*-HWDTYPE
04471	00011161		2832		ERROR	M06-1
04472	00012311		2833	HWDUNK	ERROR	M65-1
04473	00011216		2834		ERROR	M08-1
04474	00011230		2835		ERROR	M09-1
04475	00011256		2836		ERROR	M10-1

0--UNDEFINED
 1--FILE (BLOCK ORIENTED)
 2--LP (BLOCK AND RECORD ORIENT
 3--PUN (DITTO)
 4--CR (BLOCK ORIENTED)
 5--MT
 6--TTY
 7--PLOT (BLOCK AND RECORD ORIEN
 8--NULL
 9--TV
 10--RAF (BLOCK ORIENTED)
 11--TASK (BLOCK AND RECORD ORIENT
 12--MSF
 13--PTP (DITTO)
 EQUIP ERROR 1-NAME NOT FOUND
 14+-UNK
 EQUIP ERROR 3
 EQUIP ERROR 4
 EQUIP ERROR 5-PARAMETER ERROR

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2841

```

*****
*
*           ROUTINE TO PROCESS THE MAGNETIC TAPE EQUIP
*
*****
    
```

```

04476 53430053
04477 14104501 P
04500 01001413 P
04501 01002177 P
04502 01004504 P
04503 01002177 P
04504 53420054
04505 53020053
04506 03004527 P
04507 14104511 P
04510 01001413 P
04511 01002177 P
04512 01002177 P
04513 36002676 P
04514 03102177 P
04515 14104517 P
04516 01001413 P
04517 01002177 P
04520 01004522 P
04521 01002177 P
04522 14100003
04523 14577777
04524 06106132 P
04525 01002177 P
04526 47100003 C
04527 53020044
04530 17600003
04531 03004534 P
04532 14100016
04533 71000000
04534 14100000
04535 53200000
04536 14700037
04537 03404550 P
04540 13000030
04541 43404024 C 01005 0
04542 14204536 P
04543 10100116
04544 01001517 P
04545 01002205 P
04546 22404024 C 01005 0
04547 77540000
04550 02504546 P
04551 53010054
04552 20003202 P
04553 53230053
04554 05200001
04555 16614600
04556 54200003 C
04557 14100003
04560 71300000
04561 02503173 P
04562 01000424 P
    
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```

MSFEQUIP TIM T2,0
MTEQUIP ENI *+2,X1
UJP PACKER
UJP E15
UJP *+2
UJP E15
TAM T3
TMA T2
AZJ, EQ MTEQ01
ENI *+2,X1
UJP PACKER
UJP E15
UJP E15
SCA BCDAT
AZJ, NE E15
ENI *+2,X1
UJP PACKER
UJP E15
UJP *+2
UJP E15
ENI 3,X1
ENQ,S 77777B
MEQ DENSITYT,1
UJP E15
STI B1SAVE,X1
MTEQ01 TMA IO
ANA SYSMASK
AZJ, EQ *+3
ENI PURGE,X1
XREQ XREQ
ENI 0,X1
TIA X2
MTEQ02 ENQ 37B
AQJ, EQ MTEQ06
SHAG 24
SQCH SCRATCH,X1
ENI MTEQ02,X2
ISI 78,X1
UJP GETCHAR
UJP E99
MTEQ04 LACH SCRATCH,X1
MTEQ06 IJD MTEQ04,X1
TMO T3
LOA BCDMT
TMI T2,X2
ISG 1,X2
XOA H#MT # XOR H#MSF #
LOI B1SAVE,X2
ENI EQUIP,X1
XREQ XREQ,X3
IJD EQERR,X1
UJP MC
    
```

```

SET A FLAG TO SAY #MSF#
GET THE TAPE NUMBER
GET NEXT ITEM
FOUND END OF LINE
FOUND TAPE NUMBER
FOUND BCD TAPE NUMBER
SAVE TAPE NUMBER IN T3
CHECK FOR MT OR MSF
JUMP IF MSF (NO DENSITY)

GET NEXT ITEM
FOUND END OF LINE
FOUND NUMBER
CHECK FOR #AT #
JUMP IF MISSING #AT#

GET NEXT ITEM
FOUND END OF LINE
FOUND DENSITY
FOUND BCD DENSITY
CHECK DENSITY FOR 200, 556, 800

CONVERT TO 0, 1, 2
ILLEGAL DENSITY
SAVE DENSITY

GET THE SYSTEM CODE
JUMP IF ITY

REMOVE THE PARAMETER STRING

GET LAST CHARACTER

JUMP IF END OF MESSAGE

SAVE CHARACTER FOR LATER
RETURN ADDRESS
SKIP IF TOO LONG
OTHERWISE GET ANOTHER CHARACTER
PRINT #LINE TOO LONG#
PICK UP NEXT CHARACTER
PUT IT INTO THE MESSAGE
JUMP IF MORE MESSAGE
GET TAPE NUMBER
GET #MT #
GET #MT#/#MSF# FLAG
SKIP IF MT
CONVERT IT TO MSF
GET DENSITY

ATTEMPT TO EQUIP THE TAPE
JUMP IF ERRORS
DONE IF NO ERRORS
    
```

2838
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2900

```
*****
*
*          LOGOFFR -- ROUTINE TO PROCESS THE LOGOFF COMMAND
*
*****
```

04563	53020044	2903	OPTERM	TMA	IO	
04564	17600003	2904		ANA	SYSMASK	LEAVE ONLY TYPE OF SYSTEM
04565	53420044	2905		TAM	IO	
04566	14127740	2906		OUT	M222	OPERATOR TERMINATION
04571	14104573	2907		ENI	LOGOFFR,X1	RETURN ADDRESS
04572	01001141	2908		UJP	OUTLINE	PRINT CR-LF
04573	53020044	2910	LOGOFFR	TMA	IO	
04574	17600020	2911		ANA	AUXBIT	CHECK FOR READING FROM A DO UNIT
04575	03103766	2912		AZJ,NE	EU1	LOGOFF NOT LEGAL FROM #DO# UNIT
04576	14604600	2913		ENA	*+2	RETURN ADDRESS
04577	01004672	2914		UJP	ULOG	LOGOFF THE USER
04600	53020044	2915		TMA	IO	GET TYPE OF SYSTEM
04601	17600003	2916		ANA	SYSMASK	
04602	04600002	2917		ASE	TASKSYS	SKIP IF TASK
04603	01004625	2918		UJP	VANISH	REMOVE PSA IF NOT BATCH
04604	01005230	2919		UJP	TASKLOG	SCAN FOR JOB CARD
04605	53020044	2921	JOBR	TMA	IO	FOUND JOB COMMAND
04606	17600023	2922		ANA	SYSMASK+AUXBIT	CHECK FOR NO #DO#
04607	04600002	2923		ASE	TASKSYS	SKIP IF BATCH
04610	01003766	2924		UJP	EU1	ILLEGAL CONTROL STMT IF TTY OR TV
04611	14600001	2925		ENA	1	
04612	40000006	2926		STA	IBUFF	RE-PROCESS THE JOB CARD
04613	53020044	2927		TMA	IO	
04614	17477737	2928		ANA,S	-IBUFBIT	
04615	16600040	2929		XOA	IBUFBIT	SET THE INPUT BUFFER FULL
04616	53420044	2930		TAM	IO	
04617	14605233	2931		ENA	TASKLOG1	
04620	01004672	2932		UJP	ULOG	LOGOFF
04621	53020026	2934	LOGVANS	TMA	RF26	
04622	03304625	2935		AZJ,LT	VANISH	SKIP LOGOFF IF NOT LOGED IN
04623	14604625	2936		ENA	VANISH	RETURN ADDRESS
04624	01004672	2937		UJP	ULOG	LOGOFF FIRST
04625	14100004	2939	VANISH	ENI	RFP,X1	DESTROY THE PSA HERE
04626	71001746	2939+001		XREQ	LPUNIT,XREQ	FIRST MAKE SURE THAT...
04627	14100002	2941		ENI	UNEQUIP,X1	...61 IS UNEQUIPPED
04630	71004626	2941+001		XREQ	LPUNIT,XREQ	
04631	14100004	2943		ENI	RFP,X1	
04632	71004417	2943+001		XREQ	SYSLUN,XREQ	UNEQUIP SYSTEM UNIT
04633	14100002	2945		ENI	UNEQUIP,X1	CAUSE IT MAY BE EQUIPPED ON
04634	71004632	2945+001		XREQ	SYSLUN,XREQ	OPERATOR TERMINATION
04635	14100004	2947		ENI	RFP,X1	
04636	71003107	2947+001		XREQ	AUXUNIT,XREQ	UNEQUIP THE DO UNIT
04637	14100002	2949		ENI	UNEQUIP,X1	SHOULD IT HAPPEN TO BE
04640	71004636	2949+001		XREQ	AUXUNIT,XREQ	EQUIPPED.
04641	14100007	2951		ENI	ZEROPAGE,X1	ZERO THE SCRATCH PAGE
04642	71001600	2952		XREQ	CMPAGE3,XREQ	
04643	53020040	2953		TMA	LJA	
04644	12077755	2954		SHA	-18	GET TYPE OF SYSTEM
04645	04600002	2955		ASE	TASKSYS	SKIP IF A TASK
04646	01004851	2956		UJP	*+3	
04647	14100002	2957		ENI	UNEQUIP,X1	UNEQUIP LUN 100
04650	71000144	2958		XREQ	TASKUNIT+XREQ	ONLY IF A TASK
04651	14600000	2958+001		ENA	0	
04652	14100030	2958+002		ENI	TAPEMAX,X1	REQUEST NO TAPES
04653	71000000	2958+003		XREQ	XREQ	IN ORDER TO FREE TAPE DRIVES
04654	14100021	2959		ENI	REMOVE,X1	REQUEST ONE LESS USER
04655	71000000	2960		XREQ	XREQ	
04656	01004656	2961		UJP	*	
04657	04657	2962	WARNR	EQU	*	
04657	53020045	2963		TMA	REQUEST	GET REQUEST CODE
04660	03204663	2964		AZJ,GE	WARN01	SKIP IF NOT RE-ENTER
04661	14130110	2965		ERM	M241	MESSAGE TO HIM
	04663	2966		EQU	*	
		2967	WARND1	EQU	*	

04663 14130110
04666 14104670 P
04667 01001141 P
04670 14103257 P
04671 01001234 P

2968
2969
2970
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2972

OUT
ENI
UJP
ENI
UJP

M241
*+2,X1
OUTLINE
EXIT,X1
OUTBUF

#WARNING - OS3 WILL END IN 2 MINU
RETURN ADDRESS
OUTPUT LINE
RETURN TO USER PROGRAM
OUTPUT IF TV USER

2975
2976
2977
2978

```

*****
*
*   THIS ROUTINE DOES THE ACTUAL LOGOFF.
*   IT ALSO PRODUCES THE COST MESSAGE.
*
*****
    
```

04672	04672	P	2981	ULOG	EQU	*	ROUTINE TO LOGOFF A USER
04673	53420055		2982		TAM	T4	SAVE RETURN ADDRESS
04674	14300042	X	2983		ENI	42B,X3	THE PAGE BELOW CM
04675	04377777	PP	2984	ULOGY	ISE	CMPAGE1,X3	SKIP IF A CM PAGE
04676	01004677	PP	2985		UJP	*+2	
04677	01004705	PP	2986		UJP	ULOGZ	CM PAGE, DO NOT ZERO
04700	04377777	X	2987		ISE	CMPAGE2,X3	SKIP IF A CM PAGE
04701	01004702	PP	2988		UJP	*+2	
04702	01004705	PP	2989		UJP	ULOGZ	CM PAGE, DO NOT ZERO
04703	14100007		2990		ENI	ZERPAGE,X1	
04704	04304642	X	2991		ISE	CMPAGE3,X3	SKIP IF CM SCRATCH PAGE
04705	71300000	P	2992		XREQ	XREQ,X3	ZERO ALL NON-CM CORE
	02704674	P	2993	ULOGZ	IJD	ULOGY,X3	
			2994				
04706	14300143		2997		ENI	99,X3	LARGEST USER LUN
	04707	P	2998	ULOG02	EQU	*	
04707	14100002		2999		ENI	UNEQUIP,X1	
04710	71300000		3000		XREQ	XREQ,X3	UNEQUIP USER'S LUNS
04711	04100001		3001		ISE	1,X1	SKIP IF UNIT NOT EQUIPPED
04712	02505144	PP	3002		IJD	ULOG05,X1	JUMP IF UNEQUIP ERRORS
	04713	PP	3003	ULOG06	EQU	*	
04713	02704707	P	3004		IJD	ULOG02,X3	LOOP
			3005				
04714	14100014		3006		ENI	MFBLKREQ,X1	GET MFBLKS NOW BECAUSE
04715	71000000		3007		XREQ	XREQ	THEY WILL BE GONE AFTER
04716	53420057		3008		TAM	RF57	THE LOGOFF REQUEST
04717	14100015		3009		ENI	SFBLKREQ,X1	
04720	71000000		3010		XREQ	XREQ	
04721	53420075		3011		TAM	RF75	SAVE THE SFBLKS
04722	53230044		3012		TMI	IO,X2	
04723	17200003		3013		ANI	SYSMASK,X2	SAVE SYS TYPE
04724	04200002		3014		ISE	TASKSYS,X2	SKIP IF BATCH
04725	01004732	P	3015		UJP	ULOG01	IF NOT BATCH, LOGOFF
04726	14700000		3016		ENQ	STATUS	
04727	72004630	X	3017		CNTL	LPUNIT,CNTL	GET STATUS ON UNIT
04730	14304727	X	3018		ENI	LPUNIT,X3	PUT UNIT NUMBER IN X3
04731	04600002		3019		ASE	LP	SKIP IF A REAL LINE PRINTER
04732	14300000		3020	ULOG01	ENI	0,X3	LUN=0 IF NOT LP
04733	14100020		3021		ENI	LOGIN,X1	
04734	14600000		3022		ENA	0	INDICATE LOGOFF
04735	71300000		3023		XREQ	XREQ,X3	LOGOFF HERE
04736	53420053		3024		TAM	T2	SAVE COST
04737	14127570		3025		OUT	M210	#COST \$#
04742	53020053		3026		TMA	T2	GET COST
04743	13077747		3027		SHAQ	-24	
04744	51002644	P	3028		DVA	D100	COMPUTE DOLLARS AND CENTS
04745	53410053		3029		T2	T2	SAVE CENTS
04746	14104750	PP	3030		ENI	*+2,X1	
04747	01001357	PP	3031		UJP	DECOUT	PRINT THE NUMBER OF DOLLARS
04750	14600033		3032		ENA	H#. #	DECIMAL POINT
04751	53010053		3033		TMO	T2	GET CENTS
04752	14200002		3034		ENI	2,X2	
04753	14104755	PP	3035		ENI	*+2,X1	
04754	01001371	PP	3036		UJP	DT06	PRINT THE NUMBER OF CENTS
04755	14104757	PP	3037		ENI	*+2,X1	
04756	01001141	P	3038		UJP	OUTLINE	PRINT THE LINE
			3039				
04757	14127354		3040		OUT	M200	CPU TIME SEC.
04762	53010060		3041		TMQ	RF60	CPU TIME
04763	14604765	P	3042		ENA	*+2	
04764	01005154	PP	3043		UJP	TIMEOUT	
04765	53020057		3044		TMA	RF57	GET MFBLKS
04766	03004775	P	3045		AZJ, EQ	ULOG02A	
04767	14127577		3046		OUT	M211	MFBLKS
04772	53020057		3047		TMA	RF57	GET THE MFBLKS
04773	14104775	PP	3048		ENI	*+2,X1	
04774	01005147	PP	3049		UJP	DECLF	PRINT MFBLKS
04775	53020075	PP	3050	ULOG02A	TMA	RF75	GET SFBLKS
04776	03005005	P	3051		AZJ, EQ	ULOG02B	
04777	14127615		3052		OUT	M212	SFBLKS
05002	53020075		3053		TMA	RF75	

05003	14105005	P	3057	ENI	*+2,X1	PRINT NUMBER OF SFBLKS
05004	01005147	P	3058	UJP	DECLF	
	05005	P	3059	ULOG028	*	
05005	53020061		3060	TMA	RF61	GET WC TIME
05006	03005020	P	3061	AZJ, EQ	ULOG03	JUMP IF ZERO TIME
			3062			
05007	14127372		3063	OUT	M201	WC TIME MIN.
05012	14605020	P	3064	ENA	ULOG03	RETURN ADDRESS
05013	53420054		3065	TAM	T3	
05014	53020061		3066	TMA	RF61	GET WC TIME
05015	13077747		3067	SHAQ	-24	
05016	51006130	P	3068	DVA	D6	COMPUTE TENTHS OF MINUTES
05017	01005160	P	3069	UJP	TIMEOUT2	
			3070			
05020	53020062		3071	ULOG03	LISTACC	LP RECORDS
05030	53020063		3072	LISTACC	RF63, M203	PUN RECORDS
05040	53020064		3073	LISTACC	RF64, M204	PLOT RECORDS
05050	53020065		3074	LISTACC	RF65, M205	CARDS READ
05060	53020067		3075	LISTACC	RF67, M207	OTHER INPUT
05070	53020070		3076	LISTACC	RF70, M208	PIP RECORDS
05100	53020071		3077	LISTACC	RF71, M209	OTHER OUTPUT
05110	53020072		3078	LISTACC	RF72, M235	USER DISK PACK SECONDS
			3079			
05120	53020066		3080	TMA	RF66	TAPE ACTIVITY
05121	03005130	P	3081	AZJ, EQ	LOGTA	
05122	14127500		3082	OUT	M206	TAPE ACTIVITY
05125	53010066		3083	TMQ	RF66	
05126	14605130	P	3084	ENA	*+2	
05127	01005154	P	3085	UJP	TIMEOUT	
	05130	P	3086	LOGTA	UJP	
			3087	EQU	*	
			3088			
05130	14105132	P	3088	ENI	*+2, X1	
05131	01001234	P	3089	UJP	OUTBUF	WRITE THE TV SCREEN
05132	53020044		3090	TMA	IO	
05133	17600003		3091	ANA	SYSMASK	
05134	04600002		3092	ASE	TASKSYS	
05135	01005142	P	3093	UJP	ULOG04	
05136	14100004		3094	ENI	RFP, X1	
05137	71004730	X	3094+001	XREQ	LPUNIT, XREQ	
05140	14100002		3096	ENI	UNEQUIP, X1	
05141	71005137	X	3096+001	XREQ	LPUNIT, XREQ	
05142	53130055		3098	ULOG04	T4, X1	GET RETURN ADDRESS
05143	01100000		3099	UJP	0, X1	RETURN
05144	14100004		3101	ULOG05	ENI	
05145	71300000		3102	XREQ	RFP, X1	REMOVE FILE PROTECT
05146	01004707	P	3103	UJP	XREQ, X3	TRY THE UNEQUIP AGAIN
					ULOG02	
05147	53530053		3105	DECLF	T2, X1	SAVE RETURN
05150	14105152	P	3106	ENI	*+2, X1	
05151	01005177	P	3107	UJP	FDECOUT	
05152	53130053		3108	TMI	T2, X1	GET RETURN ADDRESS
05153	01001141	P	3109	UJP	OUTLINE	
05154	53420054		3111	TIMEOUT	TAM	SAVE RETURN ADDRESS
05155	14600000		3112	ENA	0	
05156	15700062		3113	INQ	50	ROUND
05157	51002644	P	3114	DVA	D100	
05160	13077747		3115	TIMEOUT2	SHAQ	
05161	51002643	P	3116	DVA	-24	
05162	53410053		3117	TQM	D10	
05163	14200004		3118	ENI	T2	SAVE MILLISECONDS
05164	14105166	P	3119	ENI	4, X2	FOUR DIGITS
05165	01005200	P	3120	UJP	*+2, X1	
05166	53630054		3121	TIM	FDEC02	PRINT UNITS
05167	14600033		3122	ENA	T3, X2	SAVE RETURN ADDRESS (AGAIN)
05170	14305172	P	3123	ENI	H#, #	
05171	01001031	P	3124	UJP	*+2, X3	
05172	53020053		3125	TMA	OUTCHAR	OUTPUT A PERIOD
05173	14305175	P	3126	ENI	T2	GET MILLISECONDS
05174	01001031	P	3127	UJP	*+2, X3	
05175	53130054		3128	TMI	OUTCHAR	OUTPUT TENTHS
05176	01001141	P	3129	UJP	T3, X1	RETURN ADDRESS TO X1
					OUTLINE	PRINT THE LINE


```

3132 *****
3133 *
3134 *          FDECOUT -- FORMATED DECIMAL OUT
3135 *
3136 *          PRINTS NUMBERS IN I6 FORMAT
*****
3138
3139 FDECOUT ENI 6,X2 NUMBER OF CHARACTERS
3140 FDEC02 AZJ,GE *+2 ALT. ENTRY, SPECIFY X2
3141 ENA 0 ZERO IF NEGATIVE
3142 SHAQ -24 PUT NUMBER IN Q
3143 FDT02 ENA 0
3144 DVA DTABLE,X2
3145 AZJ,NE DT06 JUMP IF NOT ZERO
3146 IJD FDT03,X2 JUMP IF LEADING BLANK
3147 UJP DT04 PRINT ONE ZERO
3148
3149 FDT03 ENA 60B PRINT LEADING BLANK
3150 ENI FDT02,X3 RETURN ADDRESS
3151 UJP OUTCHAR

```

```

05177 14200006
05200 03205202 P
05201 14600000
05202 13077747
05203 14600000
05204 51202642 P
05205 03101371 PP
05206 02605210 PP
05207 01001367 P

05210 14600060
05211 14305203 P
05212 01001031 P

```

3154
3155
3156
3157

```

*****
*
*   THIS ROUTINE DOES THE LOGIN FOR ALL DEVICES
*   FIRST THE INPUT DEVICE TYPE IS EXAMINED.
*
*****
    
```

05213 53020045
05214 17677777
05215 15477753
05216 03004625 P
05217 53020040
05220 12077755
05221 53500000
05222 53530044
05223 05100003
05224 01105226 P
05225 01005225 P
05226 01005422 P
05227 01005426 P

3160
3161
3162
3163
3164
3165
3166
3167
3168
3169
3170
3171
3172
3173

```

LOG01  TMA      REQUEST      GET RE-ENTER BIT
        ANA      77777B      MASK DOWN TO THE REQUEST
        INA,S    DECODE-RVANISH CHECK FOR VANISH REQUEST
        AZJ,EQ   VANISH      DESTROY PSA IF VANISH REQUEST
        TMA      LJA          GET TYPE OF CONTROL MODE
        SHA      -18
        TAI      X1
        TIM      10,X1        SAVE INPUT UNIT NUMBER
        ISG      3,X1        SKIP IF TOO LARGE
        UJP      *+2,X1
        UJP      *
        UJP      TTYLOG      TRAP
        UJP      TVLOG
        UJP      TASKLOG*****
    
```

3176
3177
3178

```

*****
*
*   ROUTINE TO LOGIN A BATCH TERMINAL
*
*****
    
```

05230 53020044
05231 17477737
05232 53420044
05233 14200060
05234 14105236 P
05235 01001413 P
05236 01005230 P
05237 01005230 P
05240 36002677 P
05241 03105230 P
05242 14105244 P
05243 01001413 P
05244 01005373 P
05245 01005253 P

05246 14105250 P
05247 01001413 P
05250 01005373 P
05251 01005253 P
05252 01005373 P
05253 53420060
05254 20000006 C
05255 40001001 C
05256 14105260 P
05257 01001413 P
05260 14600000
05261 13077747
05262 03005266 P
05263 13000030
05264 36001515 P
05265 03105373 P
05266 53020060
05267 03005373 P
05270 14100020
05271 71000000
05272 02505374 P
05273 14100002
05274 71005141 X
05275 54300006 C
05276 24001001 C
05277 53740000
05300 54100006 C
05301 14700060
05302 02505304 P
05303 43400060 C
05304 10500000
05305 02705303 P

3180
3181
3182
3183
3184
3185
3186
3187
3188
3189
3190
3190+001
3190+002
3190+003
3190+004
3190+005
3191
3192
3192+001
3194
3194+001
3194+002
3196
3197
3198
3199
3200
3201
3202
3203
3204
3205
3205+001
3207
3207+001
3209
3210
3211
3212
3212+001
3214
3215
3216
3217
3218
3219
3220
3221
3222
3223

```

TASKLOG  TMA      IO
          ANA,S    -IBUFBIT      REMOVE INPUT BUFFER
          TAM      IO          FORCE READING ANOTHER CARD
TASKLOG1 ENI      H# #,X2      INITIAL CHARACTER
          ENI      *+2,X1
          UJP      PACKER      LOOK FOR #JOB #
          UJP      TASKLOG     NO JOB CARD
          UJP      TASKLOG     NO JOB CARD
          SCA      BCDJOB      CHECK FOR JOB
          AZJ,NE   TASKLOG     NOT #JOB #, TRY AGAIN
          ENI      *+2,X1
          UJP      PACKER
          UJP      TASKILJX     EOL
          UJP      TASKLOGQ    NUMBER
          *          QUQUE NAME
          ENI      *+2,X1
          UJP      PACKER      LOOK FOR THE JOB NUMBER
          UJP      TASKILJX     END OFLINE, ILLEGAL JOB CARD
          UJP      *+2
          UJP      TASKILJX     FOUND NUMBER
          UJP      *          BCD ITEM, ILLEGAL JOB NUMBER
TASKLOGQ EQU      RF60
          TAM      RF60        SAVE THE JOB NUMBER
          LDA      IBUFP      GET ADDRESS OF VALID FIELD
          STA      OVLBUF     SAVE IN A TEMP
          ENI      *+2,X1
          UJP      PACKER      LOOK FOR A VALIDITY CODE
          ENA      0          END OF LINE, USE ZERO
          SHAQ     -24        MOVE VALID TO Q
          AZJ,EQ   TASKLOG2    JUMP IF NUMERIC
          SHAQ     24         GET LAST 4 CHARACTERS
          SCA      BLANKS     CHECK FOR 4 BLANKS
          AZJ,NE   TASKILJX    ILLEGAL VALIDITY
          TMA      RF60        GET JOB NUMBER
          AZJ,EQ   TASKILJX    ZERO JOB IS BAD
          ENI      LOGIN,X1   ATTEMPT TO LOGON
          XREQ     XREQ        JUMP IF NOT LEGAL
          IJD      TASKILJN,X1
          ENI      UNEQUIP,X1
          XREQ     LPUNIT,XREQ UNEQUIP PREVIOUS LPUNIT
          LOI      IBUFP,X3   GET CURRENT BUFFER POINTER
          LCA      OVLBUF     GET - ( OLD BUFFER POINTER )
          IAI      X3         GET LENGTH OF VALID FIELD
          LOI      IBUFP,X1   GET CURRENT BUFFER POINTER
          ENQ     H# #        GET SET TO BLANK OUT
          IJU      *+2,X1     THE VALIDITY FIELD
          SQCH     IBUF,X1    STORE ONE BLANK
          ISD     0,X1        DECREMENT X1
          IJD      *-2,X3     LOOP UNTIL DONE
    
```

00014 0

05306	53430060	3224		IIM	RF60,0	
05307	53430061	3225		IIM	RF61,0	WIPE OUT RF 60 AND 61
05310	04200037	3226		ISE	37B,X2	SKIP IF AT END OF INPUT
05311	01005313	3227		UJP	*+2	
05312	01005321	3228		UJP	TASKLOGX	SKIP FURTHER READS IF AT EOL
05313	14105315	3229		ENI	*+2,X1	
05314	01001413	3230		UJP	PACKER	GET NEXT ITEM
05315	01005321	3231		UJP	TASKLOGX	END OF LINE, USE 61=LP
05316	01005336	3232		UJP	TASKLOG3	CHECK FOR #61#
05317	53420060	3233	TASKLOGY	TAM	RF60	PUT BCD COMMENTS INTO RF60
05320	53410061	3234		TQM	RF61	AND RF61
05321	25006115	3235	TASKLOGX	LDAQ	BCDLP	GIVE THE USER A LP
05322	14100003	3236		ENI	EQUIP,X1	
05323	71005274	3236+001		XREQ	LPUNIT,XREQ	EQUIP LPUNIT
05324	02505363	3238		IJD	TASKLOG9,X1	VANISH IF EQUIP ERRORS
05325	14700000	3239	TASKLOG5	ENQ	STATUS	61 IS EQUIPPED HERE
05326	72005323	3239+001		CNTL	LPUNIT,CNTL	
05327	05600003	3241		ASG	LP+1	SKIP IF NOT A FILE OR LP
05330	05600001	3242		ASG	FILE	SKIP IF A FILE OR LP
05331	01005363	3243		UJP	TASKLOG9	LUN 61 IS NOT USEABLE
05332	37002671	3244		LPA	IOBITS	CHECK FOR READ-ONLY OR A/U
05333	03105363	3245		AZJ,NE	TASKLOG9	LUN 61 IS NOT USEABLE
05334	14305523	3245+001		ENI	LOG022,X3	RETURN ADDRESS
05335	01001243	3247		UJP	FILEECHO	LIST THE JOB CARD
05336	13077747	3249	TASKLOG3	SHAQ	-24	NUMBER TO Q
05337	04700075	3249+001		QSE	61	SKIP IF #61#
05340	01005317	3251		UJP	TASKLOGY	JUMP IF NOT #61#
05341	14105343	3252		ENI	*+2,X1	FOUND #61#
05342	01001413	3253		UJP	PACKER	LOOK FOR FILE NAME
05343	01005321	3254		UJP	TASKLOGX	END OF LINE
05344	01005321	3255		UJP	TASKLOGX	ANOTHER NUMBER
05345	14100003	3256		ENI	EQUIP,X1	FOUND FILE NAME (MAYBE)
05346	71005326	3256+001		XREQ	LPUNIT,XREQ	ATTEMPT AN EQUIP
05347	04100002	3258		ISE	Z,X1	SKIP IF NAME NOT FOUND
05350	01005361	3259		UJP	TASKLOG4	GO EQUIP LP IF ERRORS
05351	25006112	3260		LDAQ	BCDFILE	
05352	14100003	3261		ENI	EQUIP,X1	
05353	71005346	3261+001		XREQ	LPUNIT,XREQ	EQUIP A FILE
05354	53020052	3263		TMA	T1	GET THE FILE NAME
05355	53010053	3264		TMQ	T2	
05356	14100001	3265		ENI	SAVE,X1	
05357	71005353	3265+001		XREQ	LPUNIT,XREQ	ATTEMPT A SAVE
05360	02505363	3267		IJD	TASKLOG9,X1	FORGET THIS USER IF ERRORS
05361	02505321	3268	TASKLOG4	IJD	TASKLOGX,X1	TRY TO EQUIP A LP IF ERRORS
05362	01005325	3269		UJP	TASKLOG5	FILE IS EQUIPPED
05363	14600000	3271	TASKLOG9	ENA	0	FORM ILLEGAL JOB/USER NUMBER
05364	14100020	3272		ENI	LOGIN,X1	
05365	71000000	3273		XREQ	XREQ	LOG THE #FINK# OFF
05366	14100004	3274		ENI	RFP,X1	
05367	71005357	3274+001		XREQ	LPUNIT,XREQ	GET RID OF LPUNIT
05370	14100002	3276		ENI	UNEQUIP,X1	
05371	71005367	3276+001		XREQ	LPUNIT,XREQ	UNEQUIP LPUNIT
05372	01005230	3278		UJP	TASKLOG	PROCESS MORE CARDS
05373	05373	3279+001	TASKILJX	EQU	*	
	14100001	3279+002		ENI	1,X1	SAY ILLEGAL JOB/USER NUM
	05374	3280	TASKILJN	EQU	*	
05374	53530055	3281		TIM	T4,X1	SAVE ERROR CODE FROM LOGIN
05375	25006115	3282		LDAQ	BCDLP	EQUIP,61=LP
05376	14100003	3283		ENI	EQUIP,X1	
05377	71005371	3283+001		XREQ	LPUNIT,XREQ	
05400	14305402	3285		ENI	*+2,X3	
05401	01001243	3286		UJP	FILEECHO	LIST THE BAD JOB CARD
05402	53020055	3287		TMA	T4	GET ERROR CODE
05403	53500000	3288		TAI	X1	TO INDEX
05404	53540000	3289		IAI	X1	TIMES 2
05405	53540000	3290		IAI	X1	TIMES 3
05406	01105407	3291		UJP	*+1,X1	JUMP TO APPROPRIATE PRINT MESSAGE
05407	14130154	3292		OUT	M224,TASKLOGE	INSUFFICIENT TIME
05412	14127671	3293		OUT	M220,TASKLOGE	ILLEGAL JOB/USER NUMBER
05415	14127650	3294		OUT	M225,TASKLOGE	EXPERIMENTAL OS3
	05420	3295	TASKLOGE	EQU	*	ALL RETURN TO HERE

05420 14105230 P
05421 01001141 P

3296
3297

END
UJP

TASKLOG,X1
OUTLINE

RETURN ADDRESS
PRINT ERROR

3300
3301
3302

```
*****
*
*      ROUTINE TO LOGIN A TTY OR TV USER
*
*****
```

05422	14677777	X	3305	TTYLOG	ENA	LOGWAIT	WAIT FOR THE USER TO HIT CR
05423	14100026		3306		ENI	WAIT,X1	BUT LIMIT IT TO NUM SEC
05424	71000000		3307		XREQ	XREQ	STOP THIS */-=\$
05425	J3005517	P	3308		AZJ,EQ	LOGREQ	IF HE IS SLOW TELL HIM TO LOG IN
	05426	P	3309	TVLOG	EQU	*	
05426	14200060		3310		ENI	H# #,X2	LAST CHAR IN EQUALS BLANK
05427	14105433	P	3311		ENI	TTYLOG0,X1	
05430	53330045		3312		TMI	REQUEST,X3	GET THE REQUEST CODE
05431	05300022		3313		ISG	RLOGOFF-DECODE,X3	VANISH IF A LOGOFF CODE
05432	01001413	P	3314		UJP	PACKER	GET NEXT ITEM
05433	01005517	P	3315	TTYLOG0	UJP	LOGREQ	ASK HIM TO LOG IN
05434	01005436	P	3316		UJP	*+2	NUMBER
05435	01000444	P	3317		UJP	MC02-1	THEN LOOK UP THE BCD ITEM IN TABL
05436	53420060		3318		TAM	RF60	SAVE JOB NUMBER
05437	14105441	P	3319		ENI	*+2,X1	
05440	01001413	P	3320		UJP	PACKER	TRY FOR A VALIDITY CODE
05441	14600000		3321		ENA	0	END OF LINE, USE ZERO
05442	13077747		3322		SHAQ	-24	NUMBER TO Q
05443	03005447	P	3323		AZJ,EQ	TTYLOG1	JUMP IF A NUMBER
05444	13000030		3324		SHAQ	24	CHECK FOR 4 TRAILING BLANKS
05445	36001515	P	3325		SCA	BLANKS	
05446	03105507	P	3326		AZJ,NE	ILLJOB	ILLEGAL VALIDITY CODE
05447	53020044		3327	TTYLOG1	TMA	IO	
05450	17600003		3328		ANA	SYSMASK	GET SYSTEM CODE
05451	03105467	P	3329		AZJ,NE	TTYLOG2	JUMP IF A TV
05452	14100003		3330		ENI	3,X1	BLOT OUT JOB/USER NUMBER HERE
05453	22430544	P	3331	TBL0T02	LACH	BLOT0,X1	GET BLOT CHARACTER
05454	15600240		3332		INA	240B	MAKE INTO ASCII
05455	14300013		3333		ENI	11,X3	PRINT 12 OF THEM
05456	77760000		3334		CTO		
05457	02705456	P	3335		IJD	*-1,X3	LOOP 12 TIMES
05460	14600215		3336		ENA	215B	
05461	77760000		3337		CTO		CARRIAGE RETURN
05462	14600377		3338		ENA	377B	
05463	77760000		3339		CTO		RUBOUT
05464	02505453	P	3340		IJD	TBL0T02,X1	LOOP 4 TIMES
05465	14600012		3341		ENA	012B	LINEFEED
05466	77760000		3342		CTO		LINE FEED
05467	53020060		3343	TTYLOG2	TMA	RF60	GET THE JOB NUMBER
05470	03005507	P	3344		AZJ,EQ	ILLJOB	BAD JOB NUMBER
05471	14100020		3345		ENI	LOGIN,X1	
05472	71000000		3346		XREQ	XREQ	ATTEMPT TO LOGIN
05473	02505501	P	3347		IJD	TTYILJN,X1	JUMP IF ILLEGAL JOB/USER NUMBER
05474	14700144		3348		ENQ	TVUNIT	
	05475	P	3348+001	LOG021	EQU	*	
05475	14100003		3349		ENI	EQUIP,X1	
05476	14600000		3350		ENA	0	
05477	71000075		3351		XREQ	61+XREQ	EQUIP,61=100
05500	01005525	P	3352		UJP	LOG02	
	05501	P	3354	TTYILJN	EQU	*	
05501	02505506	P	3355		IJD	BADNUM,X1	WAS IT A BAD NUMBER ^^
05502	14105504	P	3356		ENI	*+2,X1	RETURN ADDRESS
05503	01001141	P	3357		UJP	OUTLINE	OUTPUT REST OF LINE
05504	14130154		3358		ERM	M224	INSUFFICIENT TIME - LOGIN ABORTED
	05506	P	3359				
05506	02505513	P	3360	BADNUM	EQU	*	
	05507	P	3361		IJD	EXPROS3,X1	THIRD ERROR RETURN
05507	14105511	P	3362	ILLJOB	EQU	*	
05510	01001141	P	3363		ENI	*+2,X1	RETURN ADDRESS
05511	14127671		3364		UJP	OUTLINE	
	05513	P	3365		ERM	M220	ILLEGAL JOB/USER NUMBER
	05514	P	3366				
05513	14105515	P	3367	EXPROS3	EQU	*	
05514	01001141	P	3368		ENI	*+2,X1	RETURN ADDRESS
05515	14127650		3369		UJP	OUTLINE	OUTLINE FOR BUFFER
	05517	P	3370		ERM	M225	EXPERIMENTAL OS3 MESSAGE
05517	14105521	P	3371				
05520	01001141	P	3372	LOGREQ	EQU	*	
			3373		ENI	*+2,X1	
			3374		UJP	OUTLINE	

J5521 14127765

3375

ERM

M223

LOGIN PLEASE

3378
3379
3380
3381

```

*****
*
*           A USER IS LOGGED IN IF HERE.
*           SET TIME, MFBLKS, AND EQUIP STANDARD UNITS.
*
*****
    
```

05523	14705377	X	3383+001	LOG022	ENQ	LPUNIT	
05524	01005475	P	3383+002		UJP	LOG021	
05525	14700144		3384	LOG02	ENQ	TASKUNIT	
05526	14100003		3385		ENI	EQUIP,X1	
05527	14600000		3386		ENA	0	
05530	71000074		3387		XREQ	60+XREQ	EQUIP,60=100
			3388				
05531	14600074		3389		ENA	60	
05532	14100011		3390		ENI	TIMESET,X1	
05533	71000000		3391		XREQ	XREQ	TIME=60
			3392				
05534	14600144		3393		ENA	100	
05535	14100013		3394		ENI	MFBLKSET,X1	
05536	71000000		3395		XREQ	XREQ	MFBLKS=100
			3396				
05537	25006110	P	3397		LDAQ	BCDDATE	
05540	14100010		3398		ENI	LIBCALL,X1	
05541	14200215		3399		ENI	2158,X2	INDICATE NO PARAMETER STRING
05542	71000000		3400		XREQ	XREQ	#DATE
05543	01000421	P	3401		UJP	MC20	JUMP IF NO DATE (STRANGE)

```

3404
3405
3406
*****
*
*           PHANTOM CONTROL MODE SYSTEM
*
*****
3408
3409 PHANTOM TMI REQUEST,X3 GET THE REQUEST CODE
3410 ISG RILLINS-1-DECODE,X3
3411 UJP PHANLOG LOGIN THE PHANTOM
3412 ISE RILLINS-DECODE,X3 SKIP IF ILLEGAL INSTRUCTION
3413 UJP *+2
3414 UJP PHANILL ILLEGAL INSTRUCTION
3415 ISE RABORT-DECODE,X3 IS HE TRYING TO TELL ME SOMETHING
3416 UJP *+2
3417 UJP PHANLOG
3418 ISE ROPTERM-DECODE,X3 SKIP IF OPERATOR TERMINATION
3419 UJP * LOOP ON OTHER ERRORS
3420
3421 PHANTERM ENI 99,X3 UNEQUIP ALL LOGICAL UNITS
3422 ENI UNEQUIP,X1
3423 XREQ 0,X3
3424 IJD *-2,X3
3425
3426 PHAN02 ENI 20B,X3 ZERO STATE 7
3427 ENI ZEROPAGE,X1
3428 ISG CMPAGE3,X3
3429 ISG CMPAGE1,X3 SKIP IF CONTROL MODE
3430 XREQ 0,X3
3431 ISI 37B,X3
3432 UJP PHAN02
3433
3434 ENI REMOVE,X1
3435 XREQ 0 CALL DESTRUCT
3436 UJP *
3437
3438 PHANLOG ENI 99,X3 UNEQUIP ALL LUNS FOR GOOD LUCK
3439 ENI UNEQUIP,X1 PERHAPS A RESTART
3440 XREQ 0,X3
3441 IJD *-2,X3
3442
3443 PHAN04 ENI 20B,X3 ZEROCORE STATE 7
3444 ENI ZEROPAGE,X1
3445 ISG CMPAGE3,X3
3446 ISG CMPAGE1,X3
3447 XREQ 0,X3
3448 ISI 37B,X3
3449 UJP PHAN04
3450
3450+001 TMA RF70
3450+002 TMO RF71 GET NAME OF CORREC TPHANTOM
3450+003 EQU *
3451 ENI EQUIP,X1 EQUIP THE OVERLAY
3452 XREQ 59
3453 ISE 0,X1 SKIP IF NO ERRORS
3454 UJP PHANNT ASSUME OTHER NAME
3454+001 ENA OVLBUF
3455 ENQ 4
3456 READ 59 READ IN THE HEADER RECORD
3457 QSE,S 0
3458 UJP PHANNT
3459+001 LDI OVLBUF+2,X2 LOAD THE STARTING ADDRESS
3460 LDAQ OVLBUF LOAD THE OVERLAY FWA AND LENGTH
3461 ANA 77777B
3462 ANQ 77777B
3463 ANQ 77777B
3464 ANQ 77777B
3465 ANQ 77777B
3466 SHA -11 COMPUTE PAGE NUMBER
3467 INA 20B ADD IN ONE BANK
3468 ASG CMPAGE1 SKIP IF TOO LARGE
3469 UJP *+2
3469+001 UJP PHANNT
3470 LDA OVLBUF
3471 ANA 77777B STARTING ADDRESS OF OVERLAY
3472 READ 59 READ IN THE OVERLAY
3473 QSE,S 0
3474 UJP PHANNT
3474+001 ENI ZEROPAGE,X1 ZAP THE HEADER INFORMATION
3475 XREQ CMPAGE3
3476 ENI UNEQUIP,X1
3477 XREQ 59 FREE THE 8 WORD BLOCK
3478
3479

```

```

05544 533300045
05545 053000004
05546 01005575 P
05547 043000005
05550 01005552 P
05551 01005551 P
05552 043000021
05553 01005555 P
05554 01005575 P
05555 043000023
05556 01005556 P
05557 14300143
05560 141000002
05561 713000000
05562 02705560 P
05563 143000020
05564 141000007
05565 05304703 X
05566 05304674 X
05567 713000000
05570 103000037
05571 01005564 P
05572 141000021
05573 710000000
05574 01005574 P
05575 14300143
05576 141000002
05577 713000000
05600 02705576 P
05601 143000020
05602 141000007
05603 05305565 X
05604 05305566 X
05605 713000000
05606 103000037
05607 01005602 P
05610 530200070
05611 530100071 P
05612 141000003
05613 710000073
05614 041000000
05615 01005665 P
05616 146010001 C
05617 147000004
05620 740000073
05621 045000000
05622 01005665 P
05623 542010003 C
05624 250010001 C
05625 176777777
05626 177777777
05627 530400000
05630 120777764
05631 156000020
05632 05605604 X
05633 01005635 P
05634 01005665 P
05635 200010001 C
05636 176777777
05637 740000073
05640 045000000
05641 01005665 P
05642 141000007
05643 71005603 X
05644 141000002
05645 710000073

```


05646	04100000		3480	ISE	0,X1	
05647	01005647	P	3481	UJP		
05650	01200000		3482	UJP	0,X2	GO RUN THE OVERLAY
			3483			
05651	53020053		3484	PHANILL TMA	T2	GET THE ILLEGAL INSTRUCTION
05652	12000014		3485	SHA	12	
05653	17607777		3486	ANA	77778	
05654	14707762		3486+001	ENQ	7762B	SBJP
05655	03405575	P	3486+002	AQJ, EQ	PHANLOG	JUMP IF PHANTOM WANTS A RELOAD
05656	04407777		3486+003	ASE, S	77778	SKIP IF UCS
05657	01005657	P	3486+004	UJP	*	HE DOESN'T DO THIS SORT OF THING
05660	53020034		3486+005	TMA	34B	
05661	17600777		3486+006	ANA	7778	GET TERMINAL NUMBER
05662	04400000		3486+007	ASE, S	0	
05663	01005557	P	3486+008	UJP	PHANTERM	ALLOW GHOSTS TO VANISH
05664	01005664	P	3486+009	UJP	*	BUT NOT PHANTOM
	05665	P	3486+010			
05665	14100002		3486+011	PHANNT EQU	*	
05666	71000073		3486+012	ENI	JNEQUIP, X1	
05667	25005671	P	3486+013	XREQ	59	GET RID OF OVERLAY NUN
05670	01005612	P	3486+014	LDAQ	BCDPHAN	ASSUME A NAME
			3486+015	UJP	PHAN06	TRY TO LOAD THIS ONE
05671	47302145		3493	BCDPHAN BCD	2, PHANTOM	

3496
3497
3498

```
*****
*
*           MORE BCD STRINGS AND CONSTANTS
*
*****
```

05673 23476460
05676 33006623
05702 43476051
05705 60004764
05711 47434663
05714 60002321
05720 44636064
05723 60006247
05727 47634760
05732 60005125
05736 23466263
05737 60530044
05743 00622622
05746 60600060
05750 60006051
05752 25674725
05756 00314343
05764 00464725
05770 46472551
05775 00434627
06000 25002431
06005 00646225
06010 25230024
06022 66215145
06033 31456264
06037 25005125
06044 45600051
06050 25004364
06062 00242562
06067 00444651
06076 62250031

3500
3501
3502
3503
3504
3505
3506
3507
3508
3509
3510
3511
3512
3513
3514
3514+001
3516
3517
3518
3519
3520
3521
3522
3527
3528
3529
3530
3531
3532
3532+001
3532+002
3532+003
3532+004
3533
3534
3535
3536
3536+001
3537
3538
3539
3541
3542
3543

M200 BCD,C
M201 BCD,C
M202 BCD,C
M203 BCD,C
M204 BCD,C
M205 BCD,C
M206 BCD,C
M207 BCD,C
M208 BCD,C
M209 BCD,C
M210 BCD,C
M211 BCD,C
M212 BCD,C
M236 BCD,C
M237 BCD,C
M225 BCD,C
M220 BCD,C
M221 BCD,C
M222 BCD,C
M223 BCD,C
M230 BCD,C
M235 BCD,C
M240 BCD,C
M241 BCD,C
M224 BCD,C
M250 BCD,C
M251 BCD,C
M252 TEXT,C
M253 TEXT,C
M254 TEXT,C
M255 TEXT,C

BCDDATE BCD
BCDFILE BCD
BCDSITE BCD
BCDLP BCD
THEFILE BCD
NONE BCD
BCDTO BCD
TITLE BCD
DE DEC

14,CPU TIME SEC.0
14,WC TIME MIN.0
14,LP RECORDS 0
14,PUN RECORDS 0
14,PLOT RECORDS 0
14,CARDS READ 0
14,MT UNITS 0
14,SPECIAL INPUT 0
14,PTP RECORDS 0
14,REMOTE LP RECD
7,COST \$0
14,MFBLKS 0
14,SFBLKS 0
7, BLKS 0
6, RECS0
17,EXPERIMENTAL OS30
24,ILLEGAL JOB/USER NUMBER0
15,OPERATOR ABORT0
21,OPERATOR TERMINATION0
13,LOGIN PLEASE0
19,DIRECTORY WITHHELD0
14,USER DISK SECD
37,DIRECTORY IS TEMPORARILY UNAVAILABLE0
36,WARNING - OS3 WILL END IN 2 MINUTES0
18,INSUFFICIENT TIME0
21,RENAME FAILURE--LUN 0
15,RENAME FAILURE0
/LUN IS NOT LP, PLOT, PUN, OR TASK0/
/DESTINATION UNKNOWN0/
/MORE TAPES ARE ALREADY IN USE0/
/ILLEGAL ATTEMPT TO INCREASE TAPEMAX0/

2,DATE
2,FILE
1,SITE
2,LP
2,\$DIR
2,<NONE>
1,TO
4, DIRECTORY AS OF
6

06131 06054003
06132 00000310
06133 00001054
06134 00001440
06135 14130043

3545
3546
3547
3548
3549
3550
3551

BLOTG OCT
*
DENSITYT DEC
DEC
DEC
E08 ERM

06054003
200
556
800
M240

BLOT CHARACTERS FOR TTY JOB>
TAPE DENSITY TABLE
0 - 200 BPI
1 - 556 BPI
2 - 800 BPI

3554
3555
3556

```
*****
*
* SECTION TO PRINT THE USERS DIRECTORY
*
*****
```

06137 06137 P
06140 77664000
06141 53020056
06142 17620000 P
06143 03006145
06143 14130002

06145 14600000
06146 04200037
06147 14477777
06150 40001034 C
06151 14106154 P
06152 04200037
06153 01001413 P
06154 14600144
06155 13077747
06156 04200037
06157 01002177 P
06160 45001022 C
06161 14100022
06162 71000000
06163 45001026 C

3559
3560
3561
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3564
3565
3566
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3568
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3571
3572
3573
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3576
3577
3578
3579
3580
3587

```
DIRECTOR EQU *
VFD A15/AIS,09/000 CLEAR PENDING CM REQUESTS
TMA UDFLAGS
ANA WHLOBIT CHECK FOR BEING WITHHELD
AZJ,EQ DOK
DWITHLD ERM M230 DIRECTORY WITHHELD
DOK ENA 0
ISE 37B,X2
ENA,S 77777B
STA LONGFLAG
ENI *+3,X1
ISE 37B,X2 SKIP IF END OF LINE
UJP PACKER GET NEXT ITEM
ENA TVUNIT USE LUN 100 FOR DEFAULT
SHAQ -24
ISE 37B,X2
UJP E15 PARAMETER ERROR
STAQ JOFNAM SAVE OUTPUT UNIT/NAME
ENI JOBNREQ,X1 REQUEST THE JOB NUMBER
XREQ XREQ
STAQ JOBUSER SAVE THE USERS JOB NUMBER
```

3589
3590
3591
3592
3593
3594
3595
3596
3597
3598
3599
3600
3601
3602
3603

```
*****
*
* THE SCRATCH PAGE IS INITIALIZED HERE
* THE FOLLOWING IS STORED INTO THE SCRATCH PAGE:
*GETENT UJP IMPURE
* UJP GETENTL
*STAQ UJP IMPURE
* UJP STAQL
*DOUT UJP IMPURE
* UJP DOUTL
*DATE UJP IMPURE
* UJP DATEL
*SQCH UJP IMPURE
*SQCH1 SQCH IMPURE,X1
* IJI SQCH,X1
*****
```

06164 20002655 P
06165 21002655 P
06166 15706545 P
06167 45001005 C
06170 15500020
06171 45001007 C
06172 15500005
06173 45001011 C
06174 15500006
06175 45001013 C
06176 40001015 C
06177 25006563 P
06200 45001016 C
06201 25006614 P
06202 45001020 C
06203 14601055 C
06204 40001043 C
06205 14600003
06206 40001050 C
06207 14600000
06210 40001042 C
06211 40001030 C
06212 40001031 C

3605
3606
3607
3608
3609
3610
3611
3612
3613
3614
3615
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3630
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3632
3633
3634
3635
3636

```
DIR02 LDA BIT18 UJP INSTRUCTION
LDQ BIT18
ING GETENTL
STAQ GETENT
ING,S STAQL-GETENTL
STAQ STAQ
ING,S DOUTL-STAQL
STAQ DOUT
ING,S DATEL-DOUTL
STAQ DATE
STA SQCH
LDAQ PSQCH
STAQ SQCH1
LDAQ PDATEWRD
STAQ DATEWORD
ENA BUFFER
STA CA
ENA 3
STA LENG
ENA 0
STA WC
STA NCPL
STA NWPB

*
* SECTION TO GET AND DECODE DIRECTORY
*
LDAQ THEFILE
TAM T1 PUT FILENAME INTO T1,T2
TQM T2
ENI *+2,X3
```

06217 01003004 P
 06220 02506135 P
 06221 04600012
 06222 01006135 P
 06223 37002670 P
 06224 03106135 P
 06225 14601051 C
 06226 14700005
 06227 74004634 X
 06230 12000006
 06231 03306135 P
 06232 04700000
 06233 01006135 P
 06234 14601055 C
 06235 21001055 C
 06236 05501750
 06237 05500001
 06240 01006135 P
 06241 54201055 C

 06242 74006227 X
 06243 04700000
 06244 01006135 P
 06245 12000006
 06246 03306135 P
 06247 14577777
 06250 20001026 C
 06251 07301055 C
 06252 01006662 P
 06253 25001026 C
 06254 33201055 C
 06255 13400000
 06256 03306247 P
 06257 20201057 C
 06260 13077747
 06261 73006242 X
 06262 12000007
 06263 03306135 P

3637
 3637+001
 3639
 3640
 3641
 3642
 3643
 3644
 3645
 3646
 3646+001
 3648
 3649
 3650
 3651
 3652
 3653
 3654
 3655
 3656 *
 3657
 3658
 3659
 3660
 3661
 3662 D2
 3663
 3664
 3665
 3666
 3667
 3668
 3669
 3670
 3671
 3672
 3673
 3674

UJP EQSYS
 IJD E08,X1
 ASE RAF
 UJP ED8
 LPA IERBITS
 AZJ,ME E08
 ENA RHEAD
 ENQ S
 READ SYSLUN
 SHA 23-AUBIT
 AZJ,LT E08
 QSE 0
 UJP E08
 ENA DIR
 LDQ DIR
 QSG,S 1000
 QSG,S 1
 UJP E08
 LDI DIR,X2

 READ SYSLUN
 QSE 0
 UJP E08
 SHA 23-AUBIT
 AZJ,LT E08
 ENQ,S 77777B
 LDA JOBUSER
 MTH DIR,3
 UJP D4
 LDAQ JOBUSER
 SBAQ DIR,X2
 SCAQ 0,0
 AZJ,LT D2
 LDA DIR+2,X2
 SHA -24
 SEEK SYSLUN
 SHA 23-AERBIT
 AZJ,LT E08

EQUIP THE SYSTEM UNIT
 JUMP IF ERRORS
 SKIP IF A RAF
 JUMP IF NOT A RAF
 CHECK FOR ABNORMAL/EOD
 JUMP IF ERROR EXISTS

 GET DATE AND LENGTH
 READ FIRST WORD

 JUMP IF NOT ENOUGH WORDS READ
 LENGTH OF DIRECTROY#S DIRECTROY

 GET DIRECTORY LENGTH
 READ
 NOT ENOUGH WORDS
 ABNORMAL THEN

 SEARCH FOR JOB NUMBER
 NEGATIVE JOB NUMBER
 GET OUR JOB NUMBER
 SUBTRACT JOBUSER IN THE INDEX
 AQZJ
 CONTINUE SEARCH

 CHECK FOR ADDRESS ERROR
 BAD NEWS

 * SECTION TO LOCATE THE JOB-USER ENTRY AND READ *
 * ALL THE ENTRIES INTO CORE. *

06264 21001050 C
 06265 14200000
 06266 14106270 P
 06267 01006716 P
 06270 20001050 C
 06271 53740000
 06272 20377774
 06273 40001050 C
 06274 25001026 C
 06275 33377775
 06276 13400000
 06277 03306662 P
 06300 03106264 P
 06301 21001050 C
 06302 15577774
 06303 41001050 C
 06304 14106330 P
 06305 14200001
 06306 05502711
 06307 01006716 P
 06310 54101042 C
 06311 11100000
 06312 40001025 C
 06313 47301025 C
 06314 14300000
 06315 01006320 P
 06316 20401025 C
 06317 40100000
 06320 02506316 P
 06321 20001050 C
 06322 31001042 C

3677
 3678
 3679
 3680

 3682
 3683
 3684
 3685
 3686
 3687
 3688
 3689
 3690
 3691
 3692
 3693
 3694
 3695
 3696
 3697
 3698
 3699
 3700
 3701
 3702
 3703
 3704
 3705
 3706
 3707
 3708
 3709
 3710
 3711
 3712
 3713

D5
 LDQ LENG
 ENI 0,X2
 ENI *+2,X1
 UJP READ
 LDA LENG
 IAI X3
 LDA -3,X3
 STA LENG
 LDAQ JOBUSER
 SBAQ -2,X3
 SCAQ 0,0
 AZJ,LT D4
 AZJ,NE D5
 LDQ LENG
 INQ,S -3
 STQ LENG
 ENI D6DR,X1
 ENI 1,X2
 QSG,S MAXRECSZ
 UJP READ
 LDI WC,X1
 ECHA 100000B
 STA DIRT1
 STI DIRT1,X3
 ENI 0,X3
 UJP T2DR
 LDA,I DIRT1
 STA 0,X1
 IJD *-2,X1
 LDA LENG
 SBA WC

LENGTH OF DATA+NEXT HEADER

 X3 POINTS TO EOD OF RECORD
 START OF NEXT HEADER...
 ...IS LENGTH OF NEXT RECORD

 USERS JOBNO-JOBNO FOUND

 DONE, NO FILES
 NOT DONE
 FOUND, READ IN FILENAMES
 LENGTH OF FILENAMES

 INDICATE EXACT READ
 SKIP IF DIRECTORY TO LONG

 MOVE RECORDS IN BUFFER...
 ...TO LOWCORE

 BUILD A HLT C(X3),X1

 COMPUTE AMOUNT LEFT TO READ
 LESS AMOUNT ALREADY IN

20000 0

T2DR

06323 13000030
06324 20001042 C
06325 74006261 X
06326 04500000
06327 01006135 P
 06330 P
06330 47301047 C
06331 14306333 P
06332 01003027 P

3714
3715
3716
3717
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D6DR

SHAQ
LDA
READ
QSE,S
UJP
EQU
STI
ENI
UJP

24
WC
SYSLUN
0
E08
*
X3SAVE,X3
*+2,X3
UNEQSYS

LOW CORE ADDRESS OF NEXT WORD
Q CAN NOT BE ZERO
IF Q IS NOT ZERO, SOMETHING IS BA
EXIT IN A HURRY
SAVE X3 FOR LATER

```

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3800
3801
3802
01030 3
00407 0

```

```

*****
*
*      EQUIP OUTPUT UNIT AND STATUS IT
*
*****

```

```

ENA      SYSLUN
STA      LUN
LDAQ     OFILENAM      CHECK FOR FILENAME
AZJ, EQ  E3            JUMP IF LUN
TAM      T1
TQM      T2
ENI      *+2, X3
UJP      EQSYS
IJD      E4, X1
EQU      *
ASG      12           SKIP IF HARDWARE TYPE ERROR
UJP      *+2
UJP      E15         HARDWARE TYPE ERROR
YAI      X1          HARDWARE TYPE TO X1
LDI      LUN, X3     THE LUN FOR THE ERROR MESSAGE
AZJ, LT  FVP1        JUMP IF FILE PROTECTED
SSH      LONGFLAG   SKIP IF LONG OUTPUT
INI      11, X1
LUA      LNQH, X1
AZJ, EQ  E15         GET LINE LENGTH
SWA      NWPB        SCREWY HARDWARE TYPE
SHA      -15         NUMBER OF WORDS PER BLOCK
SACH     NCPL+3     NUMBER OF CHARACTERS PER LINE
SHA      -10
STA      FVFLAG      FIXED OF VARIABLE LENGTH RECORDS
ENI      *+2, X1     WRITE OUT CONTENTS OF OBUF SO
UJP      OUTBUF      THAT IT MAY BE USED FOR A BUFFER
LDI      X3SAVE, X3  RESTORE X3
LDI      NWPB, X1    NUMBER OF WORDS PER BLOCK
LDA      BLANKS
UJP      *+2
STA      OBUF, X1    BLANK FILL THE OUTPUT BUFFER
IJD      *-1, X1
LDI      LENG, X1
ISG      1, X1       SKIP IF ENTRIES
UJP      DWTILD      LENGTH OF TITLE
ENI      3, X1
LDA      TITLE, X1  MOVE TITLE OR WITHHELD
STA      OBUF, X1
IJD      *-2, X1
ENI      3, X1
LDA      RHEAD, X1  MOVE THE HEADER TO
STA      OBUF+4, X1 THE FIRST LINE OF OUTPUT
IJD      *-2, X1
ENA      32
STA      CNCPB      CURRENT NUMBER OF CHARACTERS IN B
LDI      NWPB, X1
ISE      TVBUFL, X1 SKIP IF TV
UJP      J12        WRITE OUT BLOCK
ENA      50         LENGTH OF TV LINE
STA      CNCPB      CURRENT NUMBER OF CHARACTERS IN B
RTJ      GETENT     GET 4 WORD ENTRY
ECHA     OBUF
ADA      CNCPB
SCHA     SQCH1
ENI      1, X1
LDAQ     ENTRY+FILENAME GET FILENAME
RTJ      STAQ       OUTPUT FILE NAME
SSH      LONGFLAG   SKIP IF LONG
UJP      J9         JUMP IF SHORT
ENI      10, X1
ENQ      20B        PLUS
LDA      ENTRY+PROTECT SIGN BIT SAYS PROTECTED
AZJ, GE  *+2        SKIP IF NOT PROTECTED
RTJ      SQCH       STORE PLUS AWAY
ENI      11, X1
ENQ      51B        R IS FOR RAF
LDA      ENTRY+RAFBIT
SHA      1          GET BIT THAT SAYS RAF
AZJ, GE  *+2        SKIP IF NOT RAF
RTJ      SQCH
LDAQ     ENTRY+LENGTH EXTRACT THE LENGTH
SHA      -16

```

06443	176000077		3803	ANA	778	
06444	130000010		3804	SHAQ	8	LENGTH IN A
06445	141000021		3805	ENI	17,X1	LAST COLUMN
06446	007010111	C	3806	RTJ	DOUT	OUTPUT DECIMAL
06447	111777777	37777 3	3807	ECHA	177777B	MASK
06450	37001037	C	3808	LPA	ENTRY+CREATE	CREATE DATE
06451	130000030		3809	SHAQ	24	DATE TO Q
06452	141000023		3810	ENI	19,X1	
06453	00701013	C	3811	RTJ	DATE	
06454	111777777	37777 3	3812	ECHA	177777B	MASK
06455	37001040	C	3813	LPA	ENTRY+LCHANGE	LAST CHANGE DATE
06456	130000030		3814	SHAQ	24	DATE TO Q
06457	141000034		3815	ENI	28,X1	
06460	00701013	C	3816	RTJ	DATE	
06461	20001030	C	3817	LDA	J9	NUMBER OF CHARACTERS PER LINE
06462	30001033	C	3818	ADA	CNCPB	CURRENT NUMBER OF CHARACTERS
06463	40001033	C	3819	STA	CNCPB	CURRENT NUMBER OF CHAR#S ON LINE
06464	156000003	C	3820	INA	3	ROUND UP
06465	120777775		3821	SHA	-2	NUMBER OF WORDS
06466	21001031	C	3822	LQJ	NWPB	NUMBER OF WORDS PER BLOCK
06467	03706415	C	3823	AQJ,LT	J8	MORE ROOM, MAKE MORE OUTPUT
	06470	P	3824	EQU	*	
06470	535000000		3825	TAI	X1	LENGTH IN WORDS TO X1
06471	20001515	P	3826	LDA	BLANKS	
06472	010006475	P	3827	UJP	J13	
06473	211000407	P	3828	LQJ	OBUF,X1	
06474	03506476	P	3829	AQJ,NE	*+2	CHECK FOR TRAILING BLANKS
06475	02506473	P	3830	IJD	*-2,X1	
06476	531000000		3831	TIA	X1	
06477	156000001		3832	INA	1	MAKE LENGTH
06500	10001032	C	3833	SSH	FVFLAG	SKIP IF VARIABLE LENGTH
06501	20001031	C	3834	LDA	NWPB	LENGTH OF BLOCK
06502	130000030	C	3835	SHAQ	24	
06503	47301047	C	3836	STI	X3SAVE,X3	SAVE X3
06504	047000372	P	3837	QSE	TVBUFL	SKIP IF A TV
06505	010006515	P	3838	UJP	J15	JUMP IF NOT A TV
06506	530200044		3839	TMA	IO	INDICATE THAT THE OUTPUT
06507	174776777		3840	ANA,S	-OBUFBIT	BUFFER IS FULL
06510	166000100		3841	XOA	OBUFBIT	
06511	534200044		3842	TAM	IO	
06512	400000012	C	3843	STA	OBUFP	SET OBUFP TO NON-ZERO
06513	141006520	C	3844	ENI	J16,X1	RETURN ADDRESS
06514	01001234	C	3845	UJP	OUTBUF	
06515	146000407	C	3846	ENA	OBUF	
06516	54301024	C	3847	LDI	LUN,X3	LUN TO X3 (A MUST)
06517	763000000		3848	WRITE	0,X3	
06520	54301024	C	3849	LDI	LUN,X3	THE LUN MUST BE IN X3
06521	776640000		3850	VFD	A15/AIS,09/000	GET ANY PENDING INTERRUPT CODE
06522	046000003		3851	ASE	RTIMECUT-DECODE	SKIP IF IT IS A TIME CUT
06523	031000044	P	3852	AZJ,NE	REENTER	JUMP IF AN INTERRUPT REQUEST
06524	54301047	P	3853	LDI	X3SAVE,X3	RESTORE X3
06525	54101031	P	3854	LDI	NWPB,X1	LENGTH OF OUTPUT BLOCK
06526	20001515	P	3855	LDA	BLANKS	
06527	010006531	P	3856	UJP	*+2	
06530	401000407	P	3857	STA	OBUF,X1	BLANK FILL
06531	025006530	P	3858	IJD	*-1,X1	
06532	146000000		3859	ENA	0	INDICATE NO INFO IN BUFFER
06533	54101050	C	3860	LDI	LENG,X1	
06534	025006463	P	3861	IJD	J11,X1	JUMP BACK IF MORE ENTRIES
06535	053000000	P	3862	ISG	Z,X3	WHICH BUFFER AM I USING
06536	010006540	P	3863	UJP	*+2	
06537	01000424	P	3864	UJP	MC	EXIT IF ALL DONE
06540	141000007		3865	ENI	ZEROPAGE,X1	
06541	710000020		3866	XREQ	16	BY-BY 100000-103777
06542	141000007		3867	ENI	ZEROPAGE,X1	
06543	710000021		3868	XREQ	17	BY-BY 104000-107777
06544	01000424	P	3869	UJP	MC	AND RETURN TO CONTROL

			3871			ROUTINE TO GET 4 WORD ENTRY
	06545	P	3872	*GETENTL	EQU	*
06545	20001033	C	3873	LDA	CNCPB	
06546	120777775		3874	SHA	-2	
06547	156000003		3875	INA	3	ROUND UPWARD
06550	54101050	C	3876	LDI	LENG,X1	
06551	051000001		3877	ISG	1,X1	SKIP IF MORE INFO
06552	010006470	P	3878	UJP	J14	WRITE PARTIAL RECORD

06553	25300000		3879	LOAD	FILENAME,X3	GET FILENAME, LAST CHANGE
06554	45001035	C	3880	STAQ	ENTRY+FILENAME	DATE, LAST REFERENCE DATE
06555	25300002		3881	LDAQ	CREATE,X3	PROTECT BIT, RAF BIT, AND LENGTH.
06556	45001037	C	3882	STAQ	ENTRY+CREATE	
06557	15300004		3883	INI	4,X3	POINT TO NEXT ENTRY
06560	15177773		3884	INI	-4,X1	
06561	47101050	C	3885	STI	LENG,X1	
06562	01001005	C	3886	UJP	GETENT	
			3888			
	06563	P	3889	* PSQCH	EQU	BDP LIKE ROUTINES
06563	43777777		3890		SQCH	X1 IS CHARACTER POSITION
06564	02101015	C	3891		IJI	POINTS TO CURRENT LINE
			3892			EXIT
	06565	P	3893	* STAQL	EQU	X1 IS FIRST CHARACTER POSITION
06565	14200007		3894		ENI	CONTENT OF AQ IS PUT INTO...
06566	13000006		3895		SHAQ	...THE OUTPUT BUFFER
06567	00701015	C	3896		RTJ	
06570	02606566	P	3897		IJD	
06571	01001007	C	3898		UJP	RETURN
			3899			
	06572	P	3900	* DOUTL	EQU	X1 IS LAST CHARACTER POSITION
06572	13077747		3901		SHAQ	DECIMAL CONTENTS OF A IS...
06573	51002643	P	3902		DVA	...PUT INTO THE OUTPUT BUFFER
06574	00701015	C	3903		RTJ	
06575	15177775		3904		INI	
06576	03001011	C	3905		AZJ,EQ	EXIT
06577	01006572	P	3906		UJP	MORE TO PRINT
			3907			
	06600	P	3908	* DATEL	EQU	Q CONTAINS DATE, RT. JUSTIFIED
06600	47101044	C	3909		STI	YEAR-7 BITS, MONTH-4 BITS, DAY-5
06601	14100005		3910		ENI	X1 CONTAINS FIRST CHARACTER POSIT
06602	22433070	P	3911	LD1	LACH	
06603	53600000		3912		TAI	
06604	14600000		3913		ENA	
06605	51106620	P	3914		DVA	DIVTAB,X1
06606	42404100	C	3915		SACH	DATEWORD,X2
06607	02506602	P	3916		IJD	LD1,X1
06610	25001020	C	3917		LDAQ	DATEWORD
06611	54101044	C	3918		LDI	LD2,X1
06612	00701007	C	3919		RTJ	RESTORE X1
06613	01001013	C	3920		UJP	EXIT
			3921			
06614	44446124		3922	* POATEWRD	BCD	2,MM/DD/YY
06616	04030100		3923		CADDT	6,431076
06620	06000001		3924		DIVTAB	1
06621	00000012		3925		DEC	10
06622	00000040		3926		DEC	2+5
06623	00000500		3927		DEC	10*2+5
06624	00001000		3928		DEC	2+9
06625	00012000		3929		DEC	10*2+9
			3930			
			3931			
06626	41001024	C	3932	* E3	STQ	LUN
06627	04505523	X	3933		QSE,S	LPUNIT
06630	05500145		3934		QSG,S	TVUNIT+1
06631	05500000		3935		QSG,S	0
06632	01002177	P	3936		UJP	E15
06633	14700000		3937		ENQ	STATUS
06634	54301024	C	3938		LDI	LUN,X3
06635	72300000		3939		CNTL	0,X3
06636	03106643	P	3940		AZJ,NE	T12
06637	25006112	P	3941		LDAQ	BCDFILE
06640	14100003		3942		ENI	EQUIP,X1
06641	71401024	C	3943		XREQ,I	LUN
06642	02503173	P	3944		IJD	EQERR,X1
	06643	P	3945	T12	EQU	*
06643	04600004		3946		ASE	RDR
06644	01006344	P	3947		UJP	T7
06645	14706627	X	3948		ENQ	LPUNIT
06646	01006626	P	3949		UJP	E3
			3950			
06647	04100001		3951	* E4	ISE	1,X1
06650	01003173	P	3952		UJP	EQERR
06651	25006112	P	3953		LDAQ	BCDFILE
06652	14100003				ENI	EQUIP,X1

06653	71006333	X	3954	XREQ	SYSLUN	TRY TO EQUIP A FILE
06654	25001022	C	3955	LDAQ	OFILNAM	NOW TRY TO SAVE IT
06655	14100001		3956	ENI	SAVE,X1	
06656	71006653	X	3957	XREQ	SYSLUN	
06657	02502152	P	3958	IJD	SAVERRS,X1	PROBABLY NO SAVE SPACE
06660	14600001		3959	ENA	1	FILE TYPE
06661	01006344	P	3960	UJP	T7	
			3961			
06662	14306121	P	3962	ENI	NONE,X3	
06663	14500004		3963	ENA	4	ONE ENTRY
06664	40001050	C	3964	STA	LENG	
06665	40001034	C	3965	STA	LONGFLAG	INDICATE SHORT ENTRIES
06666	01006330	P	3966	UJP	D6DR	

*
04

3969
3970
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3974
3975

```

*****
*                                     *
*      OUTV ENTRIES HAVE FORM P1,P2,P3 *
*      P1 IS 1 FOR VARIABLE LENGTH RECORDS *
*      P2 IS LINE LENGTH IN CHARACTERS *
*      P3 IS BLOCK LENGTH IN WORDS *
*      THE FIRST TABLE IS FOR LONG OUTPUT *
*                                     *
*****
    
```

3977
3978
3979
3980
3981
3982

```

MACRO      ,P
NAME      OUTV
VFD      A1/$P(1),A8/$P(2),A15/$P(3)
END
    
```

3983

LNGH

EQU *

06667 P
06667 00000000
06670 45000012
06671 45400041
06672 45000024
06673 00000000
06674 45000012
06675 45000012
06676 00000000
06677 00000000
06700 06200372
06701 05000012
06702 00000000
06703 41200012
06704 41200036
06705 41200024
06706 00000000
06707 41200012
06710 41200017
06711 00000000
06712 00000000
06713 01200372
06714 01200012
06715 00000000

```

0-UNDEFINED
OCT 0
1-FILE
OUTV 1,40,10
2-LP
OUTV 1,44,33
3-PUN
OUTV 1,40,20
4-CARD READER
OCT 0
5-MAG TAPE
OUTV 1,40,10
6-TELETYPE
OUTV 1,40,10
7-PLOT
OCT 0
8-NULL
OCT 0
9-TV
OUTV 0,50,250
10-RAF
OUTV 0,40,10
11-TASK, 0-UNDEFINED
OCT 0
1-FILE
OUTV 1,10,10
2-LP
OUTV 1,10,30
3-PUN
OUTV 1,10,20
4-CARD READER
OCT 0
5-MT
OUTV 1,10,10
6-TELETYPE
OUTV 1,10,15
7-PLOT
OCT 0
8-NULL
OCT 0
9-TV
OUTV 0,10,250
10-RAF
OUTV 0,10,10
11-TASK
OCT 0
    
```

00072

CLUN

EQU 58

CREATE UNIT FOR \$ FILE

01031 C

COMMON

01005 C

ORGR SCRATCH

01005
01007
01011

*
GETENT
STAQ
DOUT

*
SUBROUTINE LINKAGE
BSS 2
BSS 2
BSS 2

01013		4047	DATE	BSS	2
01015		4048	SQCH	BSS	3
	01016 C	4049	SQCH1	EQU	SQCH+1
		4050			
01020		4051	DATEWORD	BSS	2
01022	00000000	4052	OFILENAM	BCD	2,00000000
01024	00000144	4053	LUN	DEC	100
01025		4054	DIRT1	BSS	1
01026	60606060	4055	JOBUSER	BCD	2,
01030		4056	NOPL	BSS	1
01031		4057	NWPB	BSS	1
01032		4058	FVFLAG	BSS	1
01033	00000000	4059	CNCPB	OCT	0
01034	00000009	4060	LONGFLAG	OCT	0
01035		4061	ENTRY	BSS	4
	00000	4062	FILENAME	EQU	0
	00002	4063	PROTECT	EQU	2
	00002	4064	RAFBIT	EQU	2
	00002	4065	LENGTH	EQU	2
	00002	4066	CREATE	EQU	2
	00003	4067	LCHANGE	EQU	3
01041		4068	N	BSS	1
01042	00000000	4069	WC	OCT	0
01043	00001055	4070	GA	VFD	09/000,A15/BUFFER
01044		4071	LD2	BSS	1
01045		4072	R2	BSS	1
01046		4073	R5	BSS	1
01047		4074	X3SAVE	BSS	1
	00252	4075	BLKSIZ	EQU	170
01050	00000003	4076	LENG	OCT	3
01051		4077	RHEAD	BSS	4
	01055 C	4078	DIR	EQU	*
	01055 C	4079	BUFFER	EQU	*
	02711	4080	MAXRECSZ	EQU	COMMON+37778-BUFFER-9
		4081	*		USE LOWCORE IF MORE...
		4082			...THAN MAXRECSZ CORE NEEDED.
	06716 P	4083		PRG	

DEFAULT UNIT
 HLT IMPURE,1
 NUMBER CHARACTERS PER LINE
 NUMBER OF WORDS PER BLOCK
 FIXED/VARIABLE LENGTH RECORDS
 CURRENT NUMBER OF CHAR'S IN BLOCK
 -0 IF LONG ENTRIES DESIRED
 STORAGE FOR ONE DATA ELEMENT
 FIRST TWO WORDS
 BIT 23
 BIT 22
 BITS 21-15, AND 23-15 OF NEXT WOR
 BITS 14-0
 BITS 14-0

THIRD OF FILE BLOCK
 INITIAL RECORD PLUS NEXT HEADER

4140
4141
4142
4143
4144
4145
4146

```

*****
*
* ROUTINE TO READ AND LOCATE RAF RECORDS
* ENTER WITH RECORD LENGTH IN Q
* RETURNS WITH ADDRESS IN A AND X3
* PUT THE RETURN ADDRESS IN X1 AND LEAVE X2
* NON-ZERO TO INDICATE AN EXACT-LENGTH REQUEST.
*
*****
    
```

4148
4149
4150
4151
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4189
4190

06716 41001041 C
06717 20001042 C
06720 03606756 P
06721 03006734 P
06722 11300000 60000 0
06723 30001043 C
06724 40001045 C
06725 20001042 C
06726 14300000
06727 21401045 C
06730 41301055 C
06731 15300001
06732 15477776
06733 03106727 P

06734 20001041 C
06735 31001042 C
06736 02606741 P
06737 05400252
06740 14600252
06741 21001042 C
06742 34001042 C
06743 40001046 C
06744 13000030
06745 15601055 C
06746 74006656 X
06747 12000006
06750 03300424 P
06751 13000030
06752 31001046 C
06753 03000424 P
06754 14601055 C
06755 40001043 C
06756 24001041 C
06757 34001042 C
06760 20001043 C
06761 30001041 C
06762 40001043 C
06763 31001041 C
06764 53700000
06765 01100000

```

READ STQ N
LDA WC
AQJ,GE R1
AZJ,EQ R3
ECHA 300000B
ADA CA
STA R2
LDA WC
ENI 0,X3
R2DR LDQ,I R2
STQ BUFFER,X3
INI 1,X3
INA,S -1
AZJ,NE R2DR

R3 LDA N
SBA WC
IJD EXACT,X2
ASG,S BLKSIZ
ENA BLKSIZ
EXACT LDQ WC
RAD WC
STA R5
SHAQ 24
INA BUFFER
READ SYSLUN
SHA 23-AUBIT
AZJ,LT MC
SHAQ 24
SBA R5
AZJ,EQ MC
ENA BUFFER
R1 LCA N
RAD WC
LDA CA
ADA N
STA CA
SBA N
TAI X3
UJP 0,X1
    
```

```

JUMP IF RECORDS ALL IN CORE
JUMP IF NO WORDS IN CORE
SOME RECORDS NEED TO BE MOVED
ADDRESS OF SOURCE FIELD
STORE IN TEMP
GET NUMBER OF WORDS TO MOVE

MOVE WC WORDS FROM CA...
...TO BUFFER

NUMBER REQUESTED-NUMBER IN CORE
JUMP IF EXACT READ REQUEST
SKIP IF REQUEST LARGE ENOUGH

OLD NUMBER OF WORDS IN CORE
NEW NUMBER IN WC
REMEMBER LENGTH REQUESTED

ADDRESS OF RECORD

ADDRESS OF FIRST WORD
-NUMBER REQUESTED
REDUCE WORDCOUNT BY NUMBER REGUES

NEW MEMORY ADDRESS OF RECORD

START OF RECORD

RETURN
    
```

```

4193 *****
4194 *
4195 *
4196 *
4197 *
4198 *
4199 *
4200 *
4201 *
4202 *
4203 *
4204 *
4205 *
4206 *
4207 *
4208 *
4209 *
4210 *
4211 *
4212 *
4213 *
4214 *
4215 *
4216 *
4217 *
4218 *
4219 *
4220 *
4221 *
4222 *
4223 *
4224 *
4225 *
4226 *
4227 *
4228 *

```

LUNLISTR GENERATE A LUNLIST FOR THE USER

```

06766 14106770 P
06767 01001413 P
06770 01006773 P
06771 01002177 P
06772 01002177 P
06773 77664000 P
06774 14200000
06775 14700000
06776 53200000
06777 53700000
07000 72200000
07001 03107005 P
07002 10200156 P
07003 01006775 P
07004 01004074 P
07005 53420053
07006 53200000
07007 53630054
07010 14200003
07011 14107013 P
07012 01005200 P
07013 14607015 P
07014 01007024 P
07015 14107017 P
07016 01001141 P
07017 77664000 P
07020 03100044 P
07021 53230054 P
07022 01007002 P

```

```

LUNLISTR ENI *+2,X1
UJP PACKER
UJP *+3
UJP E15
UJP E15
VFD A15/AIS,09/000
ENI 0,X2
LL02 ENQ STATUS
TIA X2
TAI X3
CNTL 0,X2
AZJ,NE LL04
ISI 110,X2
UJP LL02
UJP MFB02
LL04 TAM T2
TIA X2
TIM T3,X2
ENI 3,X2
ENI *+2,X1
UJP FDEC02
ENA LL07
UJP STATSIZE+1
LL07 EQU *
ENI *+2,X1
UJP OUTLINE
VFD A15/AIS,09/000
AZJ,NE REENTER
TMI T3,X2
UJP LL03

```

```

GET NEXT ITEM
END OF LINE
DECIMAL NUMBER IS ILLEGAL
BCD SYMBOL IS NOT OK
CLEAR PENDING CM REQUESTS
INITIAL LUN
PUT THE LUN IN X3
BECAUSE OF DRIVE FAILURE, ETC.
GET THE UNIT STATUS
JUMP IF THE UNIT IS EQUIPPED
SKIP IF DONE
PRINT MFBLKS
SAVE THE STATUS
GET THE LUN
SAVE LUN IN T3
SPECIFY I3 FORMAT
OUTPUT IN FORMATTED DECIMAL
RETURN ADDRESS
AND PRINT STATUS AND SIZE OF U
GET ANY PENDING CM REQUESTS
RE-ENTER CONTROL MODE
PUT LUN INTO X2

```

4231
 4232
 4233
 4234
 4235
 4235+001
 4237

```

*****
*
* PRINTS STATUS AND SIZE OF LUN IN X3
* RETURN ADDRESS IN A
* TERMINATING CHARACTER IN X2 RESTORED AT END
* STATUS IN T2
* LUN SAVED IN T3 RETURN ADDRESS AND LAST CHAR IN T4
*
*****
    
```

07023	53730054	P	07023	4239	STATSIZE	EQU	*	
07024	12000006		07024	4240		TIM	T3,X3	SAVE LUN FOR ERRORS
07025	17200077		07025	4241		ANI	6	
07026	53240000		07026	4242		SHA	77B,X2	MASK CHARACTER
07027	53420055		07027	4243		ANI	X2	AND ADD IN THE CHARXTER
07030	53230053		07030	4244		TAM	T4	SAVE FOR FUTURE GENERATIONS
07031	20204453	P	07031	4245		TMI	T2,X2	GET STATUS
07032	53500000		07032	4246		LOA	HWDTYPE,X2	GET TYPE
07033	14600060		07033	4247		TAI	X1	POINT AT CHAR STRING
07034	14207036	P	07034	4248		ENA	60B	INITIAL BLANK
07035	01001267	P	07035	4249		ENI	*+2,X2	RETURN ADDRESS
07036	53330054		07036	4250		UJP	MESSAGE+1	PRINT MESSAGE IN INITIAL BLANK
07037	14100031		07037	4251+001		TMI	T3,X3	GET THE LUN
07040	71300000		07040	4251+002		ENI	DESTINAT,X1	CODE FOR DESTINATION REQUEST
07041	02507060	P	07041	4251+003		XREQ	XREQ,X3	GET THE INFO
07042	31006114	P	07042	4251+004		IJD	STISIZ07,X1	JUMP IF NO DESTINATION
07043	03007060	P	07043	4251+005		SBA	BCDSITE	CHECK FOR #SITE#
07044	30006114	P	07044	4251+006		AZJ,EQ	STISIZ07	JUMP IF FOR SITE DEVICE
07045	14100004		07045	4251+007		ADA	BCDSITE	RESTORE AC
07046	13000030		07046	4251+008		ENI	4,X1	OUTPUT FOUR CHARS
07047	14600074		07047	4251+009		SHAQ	24	DOWN TO Q
07050	14307052	P	07050	4251+010		ENA	H#(H	A LEFT PAREN
07051	01001031	P	07051	4251+011		ENI	*+2,X3	RETURN ADDRESS
07052	13000006		07052	4251+012		UJP	OUTCHAR	AND OUTPUT IT
07053	17600077		07053	4251+013		SHAQ	6	GET ANOTHER CHARACTER
07054	02501031	P	07054	4251+014		ANA	77B	MASK TO 6 BITS
07055	14600034		07055	4251+015		IJD	OUTCHAR,X1	OUTPUT ANOTHER CHARACTER
07056	14307063	P	07056	4251+016		ENA	H#)H	A LEFT PAREN
07057	01001031	P	07057	4251+017		ENI	STISIZ08,X3	RETURN ADDRESS
	07060	P	07060	4251+018		UJP	OUTCHAR	AND OUTPUT IT TOO
07060	53020054		07060	4251+019		STISIZ07	EQU	
07061	35002665	P	07061	4251+020		TMA	T3	GET LUN TEMP
07062	53420054		07062	4251+021		SSA	BIT23	SET FLAG TO SAY NEED SOME BLANKS
	07063	P	07063	4251+022		TAM	T3	AND SAVE IT AGAIN
07063	53010053		07063	4251+023		STISIZ08	EQU	
07064	14100011		07064	4252		TMQ	T2	GET STATUS
07065	14200000		07065	4253		ENI	9,X1	NUMBER OF BITS TO TRY
07066	14600001		07066	4253+001		ENI	0,X2	START WITH NO CHARACTERS
07067	17600001		07067	4254		ENA	1	INITIAL BLANK
07070	03007075	P	07070	4255		ANA	1	MASK TO 1 BIT
07071	22413173	P	07071	4255+001		AZJ,EQ	STISIZ03	JUMP IF BIT NOT SET
07072	14307074	P	07072	4257	02636 3	LACH	STATAB,X1	GET CODE FOR BIT
07073	01001031	P	07073	4257+001		ENI	STISIZ02,X3	RETURN ADDRESS FROM OUTCHAR
07074	15200001		07074	4259		UJP	OUTCHAR	OUTPUT THE CHARACTER
07075	13000001		07075	4259+001		STISIZ02	1,X2	ADVANCE OUTPUT CHARACTER COUNTER
07076	02507067	P	07076	4261		STISIZ03	SHAQ	NEXT BIT PLEASE
07077	53020044		07077	4262		IJD	STISIZ01,X1	KEEP ON LOOKING
07100	17600003		07100	4263		TMA	IO	GET SYSTEM TYPE
07101	04600000		07101	4264		ANA	SYSMASK	MASK TO 2 BITS
07102	01007110	P	07102	4265		ASE	TIYSYS	ONLY CHECK IF ON TTY
07103	53020055		07103	4266		UJP	STISIZ06	THEN IGNORE IF ANYTHING ELSE
07104	12077771		07104	4267		TMA	T4	GET RETURN ADDRESS
07105	04607015	P	07105	4268		SHA	-6	IGNORE DELIMITER
07106	01007110	P	07106	4269		ASE	LL07	SKIP SIZE GARBAGE IF ON TTY AND L
07107	01007200	P	07107	4270		UJP	STISIZ06	
	07110	P	07110	4271		UJP	STISIZ05	END OF KLUGE
			07110	4272		STISIZ06	EQU	

4274

* NOW TO PRINT THE SIZE OF LUN AND BLOCK COUNT

07110	53200000		4275+001	TIA	X2	GET COUNTED OUTPUT CHARACTERS
07111	53230053		4276	TMI	T2,X2	GET HARDWARE TYPE
07112	53420053		4276+001	TAM	T2	NOW SAVE FOR LATER
07113	53020044		4276+002	TMA	IO	GET STATUS WORD
07114	17600003		4276+003	ANA	SYSMASK	MASK TO TERMINAL TYPE
07115	53010054		4276+004	TMQ	T3	GET FLAG SET PREVIOUSLY
07116	03007120	P	4276+005	AZJ, EQ	*+2	OUTPUT ONLY 1 CHAR IF FROM TTY
07117	14100000		4276+006	ENI	6,X1	OUTPUT UP TO 7 CHARACTERS
07120	14307123	P	4276+007	ENI	*+3,X3	RETURN ADDRESS(ES)
07121	14600060		4276+008	ENA	H# #	A BLANK
07122	01001031	P	4276+009	UJP	OUTCHAR	AND OUTPUT CHARACTER
07123	05500000		4276+010	QSG, S	0	SKIP IF FLAG NOT SET
07124	02507121	P	4276+011	IJD	*-3,X1	LOOP TO OUTPUT ALL 6 CHARACTERS
	07125	P	4276+012	EQU	*	
07125	11700000		4278	ECHA, S	300000B	MASK THE UPPER NINE BITS
07126	37204453	P	4279	LPA	HWDTYPE, X2	FROM THE HARDWARE TYPE TABLE
07127	17700377		4281	ANQ	377B	MASK TO 8 BITS
07130	53040000		4282	AQA		ADD THEM TOGETHER
07131	53420054		4283	TAM	T3	AND SAVE IT FOR LATER USE
07132	03207200	P	4284	AZJ, GE	STSIZ05	IF POSITIVE THEN WE IS DONE
07133	53020044		4284+001	TMA	IO	GET TERMINAL TYPE STATUS
07134	17600003		4284+002	ANA	SYSMASK	MASK TO JUST TERMINAL TYPE BITS
07135	03007144	P	4284+003	AZJ, EQ	STSIZ13	JUMP IF A TTY
07136	53230053		4284+004	TMI	T2, X2	GET COUNTED OUTPUT CHARACTERS
07137	14307142	P	4284+005	ENI	STSIZ04, X3	RETURN ADDRESS
07140	14600060		4284+006	ENA	H# #	A BLANK
07141	01001031	P	4284+007	UJP	OUTCHAR	AND OUTPUT A CHARACTER
	07142	P	4284+008	EQU	*	
07142	10200005		4284+009	ISI	5, X2	SKIP IF OUTPUT TO 5 COLUMNS
07143	01007140	P	4284+010	UJP	*-3	LOOP ONT OUTPUT MORE CHARACTERS
	07144	P	4284+011	EQU	*	
07144	14100025		4294	ENI	SIZE, X1	SIZE XERQ CODE
07145	53330054		4295	TMI	T3, X3	GET LUN TO X3 FOR ERRORS
07146	71300000		4296	XREQ	0+XREQ, X3	GET SIZE FROM SYSTEM
07147	03007200	P	4297	AZJ, EQ	STSIZ05	IF SIZE IS ZERO THEN FLAKE OUT
07150	53410053		4298	TQM	T2	SAVE RECORD COUNT
07151	14200005		4299	ENI	5, X2	IS FORMAT
07152	14107160	P	4299+001	ENI	STSIZ09, X1	RETURN ADDRESS
07153	53010044		4299+002	TMQ	IO	GET STATUS WORD
07154	17700003		4299+003	ANQ	SYSMASK	GET ONLY TERMINAL TYPE
07155	05700001		4299+004	QSG	1	SKIP IF A TV OR CARD READER
07156	01001360	P	4299+005	UJP	DT01	OUTPUT NON-LEADING BLANK NUMS
07157	01005200	P	4301	UJP	FDEC02	PRINT THE DECIMAL NUMBER
	07160	P	4301+001	EQU	*	
07160	14127633		4302	OUT	M236	# BLKS#
07163	53020054		4303	TMA	T3	GET THE FLAGS AGAIN
07164	12000001		4304	SHA	1	#UNIT RECORD# TYPE FLAG
07165	03207200	P	4305	AZJ, GE	STSIZ05	IF NOT RECORD ORIENTED THEN LEAVE
07166	53020053		4306	TMA	T2	GET RECORD COUNT
07167	14107175	P	4306+001	ENI	STSIZ10, X1	RETURN ADDRESS
07170	53010044		4306+002	TMQ	IO	GET STATUS ONE LAST TIME FOR HERE
07171	17700003		4306+003	ANQ	SYSMASK	GET TERMINAL STATUS BITS
07172	05700001		4306+004	QSG	1	SKIP IF NOT A TV OR CARDREADER
07173	01001360	P	4306+005	UJP	DT01	OUTPUT NON-LEADING BLANK NUMS
07174	01005177	P	4308	UJP	FDEC02	OUTPUT IN I6 FORMAT
	07175	P	4308+001	EQU	*	
07175	14127642		4309	OUT	M237	# RECS#
	07200	P	4310	EQU	*	
07200	53020055		4311	TMA	T4	GET RETURN ADDRESS AND TERMINATIN
07201	53600000		4312	TAI	X2	
07202	17200077		4313	ANI	77B, X2	MASK TO 6 BITS
07203	12000022		4314	SHA	24-6	BACK TO POSITION
07204	53700000		4315	TAI	X3	SO I CAN RETURN
07205	01300000		4316	UJP	0, X3	AND RETURN

60000 0

4319
4320
4321

```
*****
*
*      RESETR      RESET ALL LOGICAL UNITS TO THEIR INITIAL ASSIGNMENTS *
*
*****
```

07206	53430055	P	4324	RESETR	EQU	*	SET FLAG TO 0
07207	53200000		4325		TIM	T4,0	GET DELIMITING CHARACTER
07210	14207212	P	4326		TIA	X2	RETURN ADDRESS
07211	14700060		4327		ENI	*+2,X2	CHARACTER TO IGNORE (BLANK)
07212	03401517	P	4328		ENG	H# #	THEN GRAB ANOTHER CHARACTER
07213	53600000		4329		AQJ,EQ	GETCHAR	SAVE CHARACTER FOR PACKER LATER
07214	53430053		4330		TAI	X2	ZERO T2
07215	04200020		4331		TIM	T2,0	WAS TERMINATOR A PLUS ↑
07216	53410055		4332		ISE	H#+#,X2	SET FLAG TO NON-ZERO
07217	14107221	P	4333		TOM	T4	RETURN ADDRESS
07220	01001413	P	4334		ENI	*+2,X1	GO PACK SOMETHING
07221	01007227	P	4335		UJP	PACKER	THEN DEFAULT UNITS REMAIN
07222	05400000		4336		UJP	RESETO1	IS IT LEGAL (LUN RETURN)
07223	01002177	P	4337		ASG,S	0	BCD SYMBOL (BLEW IT, SON)
07224	53420053		4338		UJP	E15	SAVE LOW UNIT VALUE
07225	14107227	P	4339		TAM	T2	RETURN ADDRESS
07226	01001413	P	4340		ENI	*+2,X1	AND PACK SOMETHING ELSE
	07227	P	4341		UJP	PACKER	
07227	14600143		4342	RESETO1	EQU	*	UPPER LIMIT DEFAULT
07230	05400000		4343		ENA	99	IS IT LEGAL
07231	01002177	P	4344		ASG,S	0	ERROR FOR BCD SYMBOLS
07232	53010053		4345		UJP	E15	RESTORE FIRST PARAMETER
07233	05700144		4346		TMQ	T2	IS IT LEGAL
07234	03607236	P	4347		QSG	MAXLUN	
07235	01002177	P	4348		AQJ,GE	*+2	LUNS NOT IN ORDER OR NOT RIGHT RA
07236	14700144		4349		UJP	E15	
07237	03602177	P	4350		ENQ	MAXLUN	
07240	53700000		4351		AQJ,GE	E15	ERROR IF PARAMETER 2 TOO LARGE
07241	14100002		4352		TAI	X3	SAVE LUN
07242	71300000		4353	RESETO2	ENI	UNEQUIP,X1	ATTEMPT THE UNEQUIP
07243	04100001		4354		XREQ	XREQ,X3	SKIP IF NOT EQUIPPED
07244	02507267	P	4355		ISE	1,X1	JUMP IF PROTECTED
	07245	P	4356		IJD	RESETO4,X1	
07245	15377776		4357	RESETO3	EQU	*	DOWN ONE UNIT NUMBER
07246	14600000		4358		INI	-1,X3	CLEAR AC
07247	53340000		4359		ENA	0	SO THE AIA WILL WORK (EXTEND)
07250	53010053		4360		AIA	X3	AND LOWER LUN TO 0
07251	03607241	P	4361		TMQ	T2	DO I CONTINUE
	07252		4362		AQJ,GE	RESETO2	
07252	14700144		4363		ENQ	TASKUNIT	EQUIP,60=100
07253	14100003		4364		ENI	EQUIP,X1	
07254	14600000		4365		ENA	0	
07255	71000074		4366		XREQ	60+XREQ	
	07256		4367		TMI	T0,X2	GET SYSTEM CODE
07256	53230044		4368		ANI	SYSMASK,X2	
07257	17200003		4369		ENQ	LPUNIT	
07260	14706645	X	4370		ISE	TASKSYS,X2	SKIP IF BATCH
07261	04200002		4371		ENQ	TASKUNIT	
07262	14700144		4372		ENI	EQUIP,X1	EQUIP,61=100
07263	14100003		4373		ENA	0	
07264	14600000		4374		XREQ	61+XREQ	
07265	71000075		4375		UJP	MC	
07266	01000424	P	4376				
	07267	P	4377	RESETO4	EQU	*	GET RESET FLAG
07267	53020055		4378		TMA	T4	NON-ZERO IF I AM RESTRICTED
07270	03107245	P	4379		AZJ,NE	RESETO3	REMOVE FILE PROTECT THEN
07271	14100004		4380		ENI	RFP,X1	
07272	71300000		4381		XREQ	XREQ,X3	
07273	01007241	P	4382		UJP	RESETO2	TRY THE UNEQUIP AGAIN
			4383				
			4384				
			4385				
			4386				
			4387				
			4388				


```

4391 *****
4392 *
4393 * SENDR -- ROUTINE TO PROCESS THE SEND COMMAND.
4394 * SEND WILL CHANGE THE DESTINATION ON LINE PRINTERS.
4395 * SEND LUN TO DEVICE-NAME
4396 *
*****
    
```

07274	14107276	P	4399	SENR	ENI	*+2,X1	
07275	01001413	P	4400		UJP	PACKER	
07276	01000424	P	4400+001		UJP	MC	
07277	05400000		4402		ASG,S	0	LUN, SKIP IF POSITIVE
07300	01002177	P	4403		UJP	E15	BCD, PARAMETER ERROR
07301	53700000		4404		TAI	X3	SAVE LUN IN X3
07302	14107305	P	4405	SEND02	ENI	*+3,X1	RETURN ADDRESS
07303	05300144		4406		ISG	MAXLUN,X3	SKIP IF LUN TOO LARGE
07304	01001413	P	4407		UJP	PACKER	
07305	01002177	P	4408		UJP	E15	END OF LINE, PARAMETER ERROR
07306	01002177	P	4409		UJP	E15	NUMBER, PARAMETER ERROR
07307	36006123	P	4410		SCA	BCD TO	CHECK FOR H#TO #
07310	03007302	P	4411		AZJ,EQ	SEND02	JUMP IF H#TO #
07311	20001515	P	4411+001		LDA	BLANKS	
07312	03507323	P	4411+002		AQJ,NE	SENDER3	JUMP IF 5 OR MORE CHAR SYMBOL
07313	53020052		4411+003		TMA	T1	GET SYMBOL AGAIN
07314	14100023		4418		ENI	ASSIGN,X1	
07315	71300000		4419		XREQ	XREQ,X3	ATTEMPT TO RE-ROUT THE OUTPUT
07316	02502150	P	4420		IJD	SENDER3,X1	JUMP IF ANY ERRORS
07317	01007274	P	4420+001		UJP	SENR	GET NEXT PARAMS
07320	02507323	P	4422+001	SENDER2	IJD	SENDER3,X1	
07321	14130242		4422+002		ERM	M252	LUN IS NOT UNIT RECORD
07323	14130311		4422+003	SENDER3	ERM	M253	DESTINATION UNKNOWN

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*****
4428+002 *
4428+003 *          TMAXR -- ROUTINE TO REQUEST FEWER TAPE DRIVES
4428+004 *
4428+005 *          TAPEMAX=NUMBER
4428+006 *
*****

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07325	14107327	P	4428+009	TMAXR	ENI	*+2,X1	
07326	01001413	P	4428+010		UJP	PACKER	
07327	01002177	P	4428+011		UJP	E15	END OF LINE/ERROR
07330	01007332	P	4428+012		UJP	*+2	NUMBER/OK
07331	01002177	P	4428+013		UJP	E15	BCD SYMBOL/ERROR
07332	14100030		4428+014		ENI	TAPEMAX,X1	DO THE REQUEST FOR THE USER
07333	71000000		4428+015		XREQ		
07334	02507336	P	4428+016		IJD	TMAXER,X1	JUMP IF ERRORS
07335	01004157	P	4428+017		UJP	CCR	SLURP UP REST OF LINE
			4428+018				
07336	02507341	P	4428+019	TMAXER	IJD	TMAXER2,X1	
07337	14130335		4428+020		ERM	M254	REQUESTED FEWER TAPES THAN IN USE
07341	14130373		4428+021	TMAXER2	ERM	M255	REQUESTED MORE TAPES THAN JOB CAR

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4430 *
4431 * FORMSR--ROUTINE TO WRITE FORMS RECORDS
4432 ** LABELR--ROUTINE TO WRITE #TRICK# LABEL RECORDS
4433 *
4434 * IF LUN SPECIFIED IS 62 AND 62 IS UNDEFINED IT WILL BE
4435 * EQUIPED AS A CARD PUNCH.
4436 *
4437 ** LABEL )
4438 * FORMS ) , LUN , COMMENTS
4439 *
*****

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07343	47644560		4442	BCDPUN	BCD	2,PUN	
07345	76527557		4443	FORMSWRD	OCT	76527557	
			4444	*LABWRD	OCT	57527675	
			4446	*LABELR	LDA	LABWRD	GET LABEL WORD
			4447	*	UJP	FORMS00	
07346	20007345	P	4449	FORMSR	LDA	FORMSWRD	PUT THE TRICK
07347	40001005	C	4450	FORMS00	STA	SCRATCH	FORMS WORD IN THE BUFFER
07350	17600100		4450+001		ANA	1000	
07351	53420054		4450+002		TAM	T3	ZERO TO T3 IF LABEL
07352	14107354	P	4451		ENI	*+2,X1	
07353	01001413	PP	4452		UJP	PACKER	GET THE LUN
07354	01002177	PP	4453		UJP	E15	END OF LINE--ERROR
07355	01007357	P	4454		UJP	*+2	LUN
07356	01002177	P	4455		UJP	E15	BCD SYMBOL--ERROR
07357	05400144		4456		ASG,S	MAXLUN	
07360	05400000		4457		ASG,S	0	
07361	01002175	P	4458		UJP	E04	ILLEGAL LUN
07362	53700000		4459		TAI	X3	PUT IN A RESTORED REGISTER
07363	04300076		4460		ISE	62,X3	SKIP TO CREATE A PUNCH UNIT
07364	01007370	P	4461		UJP	FORMS05	NO.
07365	25007343	P	4462		LDAQ	BCDPUN	
07366	14100003		4463		ENI	EQUIP,X1	REQUEST AN EQUIP
07367	71300000		4464		XREQ	XREQ,X3	TRY THE EQUIP (IGNORE ERRORS)
07370	14700000		4465	FORMS05	ENQ	STATUS	TRY TO SEE IF UNIT EQUIPED
07371	72300000		4466		CNTL	CNTL,X3	GET IT MAN.
07372	03002155	P	4467		AZJ,EQ	E02	LUN UNDEFINED
07373	53020054		4467+001		TMA	T3	GET LABEL/
07374	53240000		4467+002		AIA	X2	ADD IN DELIMITER
07375	53420054		4467+003		TAM	T3	SAVE FOR LATER
07376	14100004		4468		ENI	4,X1	POINT PAST FORMS WORD
07377	04200037		4469		ISE	378,X2	END OF LINE..
07400	01007402	P	4470		UJP	FORMS07	NO.
07401	01007414	PP	4471		UJP	FORMS10	YES, GO WRITE RECORD.
07402	14207404	P	4472	FORMS07	ENI	*+2,X2	
07403	01001517	P	4473		UJP	GETCHAR	GET NEXT CHARACTER
07404	04600037		4474		ASE	378	END OF LINE..
07405	01007432	P	4475		UJP	FORMS14	NO.
07406	14700060		4476		ENQ	H# #	BLANK FILL THE RECORD
07407	43404024	C	4477		SQCH	SCRATCH,X1	
07410	43404025	C	4478		SQCH	SCRATCH+1,X1	
07411	43404026	C	4479		SQCH	SCRATCH+2,X1	
07412	15100003		4480		INI	3,X1	INCREMENT TO WORD BOUNDRY
07413	53600000		4481	FORMS09	TAI	X2	SAVE DELIMITER
07414	53100000		4482	FORMS10	TIA	X1	GET CHARACTER COUNT
07415	13077745		4483		SHAQ	-24-2	MAKE WORD COUNT IN Q
07416	14601005	C	4484		ENA	SCRATCH	
07417	53130054		4484+001		TMI	T3,X1	GET DELIMITER OF LUN
07420	04100014		4484+002		ISE	1H#,X1	SKIP IF # AND LABEL
07421	01007430	P	4484+003		UJP	FORMS13	NOT.
07422	15600001		4484+004		INA	1	
07423	15577776		4484+005		INQ,S	-1	
07424	04500000		4484+006		QSE,S	0	SKIP IF NO CHARACTERS
07425	01007430	P	4484+007		UJP	FORMS13	
07426	14601515	P	4484+008		ENA	BLANKS	
07427	14700001		4484+009		ENQ	1	
	07430	P	4484+010	FORMS13	EQU	*	
07430	76300000		4485		WRITE	0,X3	WRITE RECORD (IF ERROR A REENTER
			4486	*			WILL SAY #ILLEGAL FUNCTION--LUN N
07431	01004157	P	4487		UJP	CCR	SLURP UP REST OF LINE
			4488				
07432	13077747		4489	FORMS14	SHAQ	-24	PUT CHARACTER IN Q

07433	43404024	C	01005 0	4490	SOCH	SCRATCH,X1	PUT IN BUFFER
07434	10100050			4491	ISI	40,X1	FULL..
07435	01007402	P		4492	UJP	FORMS07	NO.
07436	53040000			4493	AQA		YES, PUT LETTER IN A
07437	14100050			4494	ENI	40,X1	SET TO MAX
07440	01007413	P		4495	UJP	FORMS09	GO WRITE IT

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4498 *
4499 *          RENAMER--RENAME OS3 SAVED FILES
4500 *
4501 *          RENAME,OLDNAME/NEWNAME(ETC.)
4502 *
*****

```

07441	14100015		4505	RENAMER	ENI	SFBLKREQ,X1	ASK FOR CURRENT SFBLKS
07442	71000000		4506		XREQ	XREQ	AND THE SFBLKS LIMIT
07443	03707446	P	4507		AQJ,LT	RENAME01	JUMP IF WE CN DO RENAME
07444	14111471		4508		ERM	M19	#INSUFFICIENT FILE SPACE#
07446	14107450	P	4509	RENAME01	ENI	*+2,X1	
07447	01001413	P	4510		UJP	PACKER	
07450	01000424	P	4511		UJP	MC	END OF LINE
07451	01002177	P	4512		UJP	E15	INTEGER--ERROR
07452	53420054		4513		T3		SAVE OLD NAME
07453	53410055		4514		TAM	T3	
07454	14107456	P	4515		TGM	T4	
07455	01001413	P	4516		ENI	*+2,X1	GET NEW NAME
07456	01002177	P	4517		UJP	PACKER	EOL ILLEGAL HERE
07457	01002177	P	4518		UJP	E15	INTEGER--ERROR
07460	53020054		4519		UJP	E15	GET OLD FILE NAME BACK
07461	53010055		4520		TMA	T3	
07462	14307464	P	4521		TMQ	T4	
07463	01003006	P	4522		ENI	*+2,X3	TRY TO EQUIP IT
07464	02503173	P	4523		UJP	EQSYS01	JUMP IF ERRORS
07465	14300001		4524		IJD	EQERR,X1	SET NOT FILE PROTECT BIT
07466	53010055		4525		ENI	1,X3	GET SECOND HALF OF NAME
07467	03207475	P	4526		TMQ	T4	JUMP IF NOT FILE PROTECTED
07470	14300000		4527		AZJ,GE	RENAME05	SET PROTECTED CODE
07471	14100004		4528		ENI	0,X3	TRY TO RFP IT
07472	53020054		4529		ENI	RFP,X1	GET FIRST HALF OF NAME
07473	71006746	X	4530		TMA	T3	
07474	02503344	P	4531		XREQ	SYSLUN,XREQ	JUMP IF PUBLIC OR BUSY
07475	53020054		4532		IJD	RENERR2,X1	GET FIRST HALF OF NAME
07476	14100000		4533	RENAME05	TMA	T3	REQUEST DELETE FILENAME
07477	71007473	X	4534		ENI	DELETE,X1	
07500	04100000	P	4535		XREQ	SYSLUN,XREQ	SKIP IF NO DELETE ERRORS
07501	01007506	P	4540+001		ISE	0,X1	PROTECT UNIT IF IT WAS BEFORE
07502	04200040		4540+002		UJP	RENAME15	SKIP IF NOT TO PROTECT FILE
07503	01007505	P	4540+003		ISE	H#+#,X2	
07504	01007513	P	4540+004		UJP	*+2	
07505	04200020		4540+005		UJP	RENAME06	
	07506		4540+006		ISE	H#+#,X2	SKIP TO PROTECT FILE
07506	02707513	P	4540+007	RENAME15	EQU	*	CHECK PREVIOUS PROTECT CONDITION
07507	53100000		4541		IJD	RENAMED6,X3	JUMP IF NOT TO BE FILE PROTECTED
07510	14100005		4542		TIA	X1	SAVE ERROR CODE FROM DELETE
07511	71007477	X	4543		ENI	FP,X1	REQUEST TO PROTECT FILE AGAIN
07512	53500000		4544		XREQ	SYSLUN,XREQ	
07513	02502153	P	4545		TAI	X1	RESTORE DELETE ERROR CODE
07514	53020052		4546	RENAME06	IJD	DLERRS,X1	JUMP IF DELETE ERRORS
07515	53010053		4547		TMA	T1	GET NEW FILE NAME
07516	14100001		4548		TMQ	T2	
07517	71007511	X	4549		ENI	SAVE,X1	REQUEST TO SAVE UNDER NEW NAME
07520	05100001		4550		XREQ	SYSLUN,XREQ	
07521	01007446	P	4551		ISG	1,X1	SKIP IF ERRORS
07522	53100000		4552		UJP	RENAME01	TRY SOME MORE NAMES
07523	53700000		4553		TIA	X1	TRANSFER ERROR CODE
07524	53020054		4554		TAI	X3	TO A SAFE PLACE
07525	53010055		4555		TMA	T3	GET OLD FILE NAME AGAIN
07526	14100001		4556		TMQ	T4	
07527	71007517	X	4557		ENI	SAVE,X1	REQUEST TO SAVE UNDER OLD NAME
07530	02507534	P	4558		XREQ	SYSLUN,XREQ	
07531	53300000		4559		IJD	OOPS,X1	JUMP IF CAN'T RESAVE
07532	53500000		4560		TIA	X3	
07533	02502152	P	4561		TAI	X1	
07534	14300143		4562		IJD	SAVERRS,X1	PRINT ERROR
07535	14600000		4563	OOPS	ENI	99,X3	TRY TO EQUIP IT TO SOMETHING
07536	14707527	X	4564		ENA	0	
07537	14100003		4565	OOPS01	ENQ	SYSLUN	
07540	71300000		4566		ENI	EQUIP,X1	TRY TO EQUIP X3 TO SYSLUN
07541	04100000		4567		XREQ	XREQ,X3	
07542	02707537	P	4568		ISE	0,X1	
07543	11030223		4569		IJD	OOPS01,X3	TRY ANOTHER LUN
07544	02501264	P	4570		ECHA	M251-Z	INCASE IT DIN#NT WORK
07545	14130176		4571		IJD	ERRORINA,X1	THE FILE IS GONE
			4572		ECHI	M250,X1	#RENAME FAILURE--LUN #

06044 3

07546 01002167 P

4573

UJP

E03A

```

4573+003 *
4573+004 * SMASH ROUTINE TO REMOVE RUN ONLY MODE *
4573+005 * *
4573+006 * A CHANGED *
4573+007 * Q CHANGED *
4573+008 * X1 CHANGED *
4573+009 * X2 RETURN ADDRESS *
4573+010 * X3 CHANGED *
4573+011 *
*****

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07547 14300017 4573+013
07550 14100007 4573+014
07551 71300000 4573+015 SMASH ENI 178,X3
07552 02707550 P 4573+016 SM01 ENI ZEROPAGE,X1
07553 14300073 4573+017 XREQ XREQ,X3 ZERO LOWER CORE.
07554 14100002 4573+018 IJD SM01,X3
07555 04300070 4573+019 ENI 59,X3
07556 71300000 4573+020 SM02 ENI UNEQUIP,X1
07557 10700062 4573+021 ISE 56,X3 DON'T UNEQUIP 56
07560 01007554 P 4573+022 XREQ XREQ,X3 UNEQUIP LUNS IN 50'S
07561 53430043 4573+023 ISD 50,X3 SKIP WHEN DONE
07562 53430051 4573+024 UJP SM02 CLOBBER THE GUY'S STATUS
07563 53430050 4573+025 TIM A,0
07564 53430047 4573+026 TIM Q,0
07565 53430046 4573+027 TIM B1,0
07566 53020040 4573+028 TIM B2,0
07567 37007601 P 4573+029 TIM B3,0
07570 53420040 4573+030 TMA LJA GET LAST JUMP ADDRESS
07571 53430041 4573+031 LPA SM90 MASK IT OUT
07572 53430042 4573+032 TAM LJA
07573 53020044 4573+033 TIM PC,0
07574 17473777 4573+034 TIM IS,0
07575 53420044 4573+035 TMA IO
07576 13077717 4573+036 ANA,S -RUNOBT AND OFF RUN ONLY BIT
07577 55700000 4573+037 TAM IO
07600 01200000 4573+038 SHAQ -48 ZERO AQ
4573+039 AQE CLOBBER THE GUY'S E REGISTER
4573+040 UJP 0,X2 RETURN
07601 77600000 4573+042 SM90 OCT 77600000

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4573+045 *
4573+046 *          CMOVER -- CONTROL MODE OVERLAY FETCH ROUTINE.
4573+047 *
4573+048 *          THIS ROUTINE WILL READ IN AN OVERLAY WITH THE NAME AS IS
4573+049 *          SPECIFIED BY THE CALLING COMMAND BUT WITH THE TWO CHARACTERS
4573+050 *          #*# INCLUDED AT THE FRONT OF THE BCD STRING.  HOPEFULLY
4573+051 *          THE ROUTINE WILL LOAD INTO CONTROL MODE#S IMPURE PAGE, SO
4573+052 *          AS TO NOT DESTROY THE USERS STATUS.  CALL IS MADE BY A
4573+053 *          PSEUDO #RTJ# AND RETURN IS MADE TO P+1 IF ERROR, OR P+2
4573+054 *          IF NO ERRORS.  THE ERROR RETURN DECODES THE VALUE IN A AS
4573+055 *          A RE-ENTRY REQUEST CODE.
4573+056 *
*****

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07602	53020044	P	4573+059	CMOVER	EQU	*	GET IO STATUS
07603	17600020		4573+060		TMA	IO	CHECK FOR #00#
07604	03103766	P	4573+061		ANA	AUXBIT	JUMP IF PROCESSING A DO
07605	53020052		4573+062		AZJ,NE	E01	GET FIRST HALF OF NAME
07606	53010053		4573+063		TMA	T1	GET SECOND HALF
07607	17570000		4573+064		TMQ	T2	AND OUT LAST TWO CHARACTERS
07610	16705354		4573+065		ANQ,S	70000B	CHANGE TO A \$* FILE
07611	13000044		4573+066		XOQ	H#*#	AROUND TO THE FRONT
07612	14307614	P	4573+067		SHAQ	48-12	RETURN ADDRESS
07613	01003006	P	4573+068		ENI	*+2,X3	GO EQUIP IT
07614	02503766	P	4573+069		UJP	EQSYS01	JUMP IF ERRORS
07615	14700004		4573+070		IJD	E01,X1	REWIND FUNCTION
07616	72007536	X	4573+071		ENQ	REWIND	ON TO THE FRONT OF THE FILE
07617	12000002		4573+072		CNTL	SYSLUN	CHECK FOR END OF DATA
07620	03303766	P	4573+073		SHA	23-E0DBIT	ERROR IF SO
07621	14107623	P	4573+074		AZJ,LT	E01	RETURN ADDRESS
07622	01003535	P	4573+075		ENI	*+2,X1	OUTPUT PARAMETER STRING
07623	53020044		4573+076		UJP	PARAMOUT	GET IO STATUS
07624	17477637		4573+077		TMA	IO	CLEAR INPUT/OUTPUT BUFFER BITS
07625	53420044		4573+078		ANA,S	-IBUFBIT-0BUFBIT	NOW REPLACE THEM
07626	14601001	C	4573+079		TAM	IO	BUFFER TO READ INTO
07627	14700004		4573+080		ENA	OVLBUF	TRY TO READ 4 WORDS
07630	74007616	X	4573+081		ENQ	4	AND READ THE HEADER
07631	04700000		4573+082		READ	SYSLUN	MUST BE EXACT READ
07632	01003766	P	4573+083		QSE	0	ERROR IF NOT
07633	12000005		4573+084		UJP	E01	MUST BE BINARY
07634	03203766	P	4573+085		SHA	23-BINBIT	BAD IF NOT SO
07635	12000031		4573+086		AZJ,GE	E01	CHECK FOR ABNORMAL UNAVAILABLE
07636	03303766	P	4573+087		SHA	24+BINBIT-AUBIT	SEND FLOWERS TO THE WIDOW
07637	25001001	C	4573+088		AZJ,LT	E01	GET ADDRESS/WORD COUNT
07640	74007630	X	4573+089		LDQ	OVLBUF	AND READ IT IN
07641	04700000		4573+090		READ	SYSLUN	SKIP IF EXACT READ
07642	01003766	P	4573+091		QSE	0	ETC...
07643	12000005		4573+092		UJP	E01	CHECK FOR BINARY
07644	03203766	P	4573+093		SHA	23-BINBIT	ILLEGAL CONTROL STATEMENT
07645	12000031		4573+094		AZJ,GE	E01	CHECK FOR ABNORMAL/UNAVAILABLE
07646	03303766	P	4573+095		SHA	24+BINBIT-AUBIT	ANOTHER DISK FAILURE ;;;
07647	54301003	C	4573+096		AZJ,LT	E01	GET STARTING ADDRESS
07650	14607655	P	4573+097		LDI	OVLBUF+2,X3	RETURN ADDRESS
07651	44300000		4573+098		ENA	CMRETURN	INTO ROUTINE
07652	14607260	X	4573+099		SWA	0,X3	UNIT FOR OUTPUT
07653	14707640	X	4573+100		ENA	LPUNIT	AND UNIT FOR TEMP PURPOSES
07654	01300001		4573+101		ENQ	SYSLUN	AND START SUBROUTINE
	07655	P	4573+102		UJP	1,X3	
07655	01000044	P	4573+103	CMRETURN	EQU	*	ERROR RETURN -- REENTER CM
07656	01000424	P	4573+104		UJP	REENTER	NO ERROR -- RETURN TO MAIN CONTRO
			4573+105		UJP	MC	

07657 4574 BSS 10000B+ENTER-*
 4575 END ENTER

NO LINES WITH ERRORS

LPUNIT X 340+1

983+1 011622P
2939+1 046266P
3212+1 052744P
3274+1 053677P
4375+3 072800P
3731 063344P
3942 066411P
33+1 007077P
406 000577P
55 037666P
55 021566P
55 003441P
55 021644P
55 021666P
43 032000P
43 032011P
55 021466P
43 032033P
43 032044P
55 021777P
55 004011P
55 004055P
55 001644P
55 021755P
55 021755P
43 034300P
43 034277P
55 034455P
55 022033P
43 034711P
43 034722P
43 034744P
43 034755P
55 047577P
55 050077P
55 050222P
55 050322P
55 050422P
55 050522P
55 051222P
55 050622P
55 051022P
55 051122P
43 035322P
55 047377P
55 047677P
55 047777P
43 035333P
55 054122P
55 004122P
55 046666P
55 055211P
55 054077P
55 054155P
43 035344P
55 061433P
55 051122P
35 14+1 071600P
55 071755P
55 022011P
55 061355P
55 046611P
55 075455P
457 075433P
55 073211P
55 073233P
55 073377P
55 073411P
55 022055P
55 040500P
55 040711P
55 040744P
55 041144P
55 041033P
55 041244P
55 041344P
55 041433P
55 041766P
55 042077P
55 042200P

995 011755P
2941+1 046300P
3236+1 053233P
3276+1 053711P
4573+100 076522P
3744 063500P
1064+1 012511P
3019+1 047277P
3239+1 053266P
3283+1 053777P
3847 065166P
3849 065200P

1073 012611P
3021 047300P
3256+1 053466P
3383+1 055233P
3849 065200P

1471+1 017333P
3094+1 051377P
3261+1 053533P
3932+1 066277P
3932 066266P

1483 017466P
3096+1 051411P
3265+1 053577P
3947 066455P
3937 066344P

LUN 010240 4053

LUNLISTR 067666P 4198
LUNUD 021555P 1636
M01 022077P 1667
M02 022155P 1669
M02A 022155P 1668
M03 022217P 1670
M04 022221P 1671
M05 022227P 1672
M06 022344P 1673
M07 022400P 1674
M08 022443P 1675
M09 022446P 1676
M10 022533P 1676+1
M100 022616P 1763
M101 022622P 1764
M102 022630P 1765
M11 022660P 1678
M13 022663P 1679
M14 022677P 1680
M15 022733P 1681
M16 022777P 1682
M17 023044P 1683
M18 023111P 1684
M19 023116P 1685
M20 023255P 1686
M200 056733P 3502
M201 056766P 3503
M202 057022P 3504
M203 057055P 3505
M204 057111P 3506
M205 057144P 3507
M206 057200P 3508
M207 057233P 3509
M208 057277P 3510
M209 057322P 3511
M21 023300P 1687
M210 057366P 3512
M211 057377P 3513
M212 057433P 3514
M22 023355P 1688
M220 057566P 3516
M221 057644P 4519
M222 057700P 3520
M223 057755P 3521
M224 060333P 3526
M225 057522P 3517
M23 023422P 1689
M230 060000P 3522
M235 060055P 3527
M236 057466P 3514+1
M237 057500P 3518
M24 023522P 1690
M240 060100P 3528
M241 060222P 3529
M250 060377P 3531
M251 060444P 3532
M252 060500P 3532+1
M253 060622P 3532+2
M254 060677P 3532+3
M255 060766P 3532+4
M26 023577P 1691
M27 023633P 1692
M28 023644P 1693
M29 023677P 1694
M29X 023711P 1695
M30 023744P 1696
M31 023766P 1697
M32 024000P 1698
M33 024022P 1699
M34 024066P 1700
M35 024077P 1701
M36 024111P 1702

5 04433P

43 04471P

43 03425P 43 04473P

43 04474P

43 03205P 43 04475P

5 07444P

5 05511P

5 05504P

5 05515P

5 04663P

M37	02412P	1703	5	04227P
M38	02413P	1704	5	04236P
M39	02414P	1705	5	04245P
M40	02415P	1706	5	04254P
M41	02420P	1707	5	04263P
M42	02421F	1708	5	04276P
M43	02422P	1709	5	04310P
M44	02423P	1710	5	04323P
M45	02425P	1711	5	04330P
M46	02426P	1712	5	04335P
M47	02430P	1713	5	04342P
M48	02431P	1714	5	04352P
M49	02432P	1715	5	04357P
M50	02435P	1716	5	04364P
M51	02437P	1717	43	04453P
M52	02442P	1718	43	04454P
M53	02443P	1719	43	04455P
M54	02444P	1720	43	04456P
M55	02446P	1721	43	04457P
M56	02447P	1722	43	04460P
M57	02450P	1723	43	04461P
M58	02451P	1724	43	04462P
M59	02453P	1725	43	04463P
M60	02454P	1726	43	04464P
M61	02455P	1727	43	04465P
M62	02456P	1728	43	04466P
M63	02460P	1729	43	04470P
M64	02461P	1730	43	04467P
M65	02462P	1731	43	04472P
M66	02463P	1732	5	01747P
M67	02470P	1733	5	01711P
M68	02475F	1734	5	01720P
M70	02500P	1735	4	03426P
M71	02504P	1736	5	00203P
M72	02511P	1737	5	00207P
M73	02515P	1738	5	00211P
M74	02525P	1739	5	00215P
M75	02533P	1740	5	00217P
M77	02542P	1741	5	00221P
M78	02544P	1742	5	00223P
M79	02553P	1743	5	00236P
M80	02560P	1744	5	00274P
M81	02562P	1745	5	00304P
M82	02563P	1746	5	00320P
M84	02565P	1747	43	00331P
M85	02566P	1748	43	00332P
M86	02567P	1749	43	00333P
M87	02571P	1750	43	00334P
M88	02573P	1751	43	00335P
M89	02574P	1752	43	00336P
M90	02576P	1753	43	00337P
M91	02577P	1754	43	00340P
M92	02600P	1755	5	00352P
M93	02601P	1756	5	00355P
M94	02603P	1757	5	00357P
M95	02604P	1758	5	00361P
M96	02606P	1759	5	00265P
M97	02607P	1760	5	00267P
M98	02610P	1761	5	00272P
M99	02611P	1762	5	00375P
MAXFBREQ	00027	155	2589	04108P
MAXLUN	00144	213	1857	02751P
			2414	03613P
MAXRECSZ	02711	4080	3701	06306P
MC	00424P	672	470	00154P
			1489	01754P
			2194	03370P
			2652	04161P
			3864	06537P
			4511	07450P
			489	00177P
			489	00453P
			700	00457P
			716+3	00502P
			693	00450P
			735	00525P
			33+1	00657P
			774+7	00604P
			744	00536P
MC01	00431P	681		
MC02	00445P	690		
MC04	00463P	704		
MC05	00514P	716+13		
MC08	00520P	729		
MC10	00530P	738		
MC12	00537P	745		
MC12X	00543P	748+1		
MC13	00555P	755		

	2004	03122P	2215	03414P	2246	03434P	2270	03452P	2321	03516P
	4347	07233P	4350	07236P	4406	07303P	4456	07357P		
	474	00160P	476	00162P	685	00440P	1457	01714P	1470	01731P
	1492	01757P	1854	02746P	1969	03101P	2001	03117P	2146	03314P
	2243	03431P	2267	03447P	2306	03500P	2541	04022P	2638	04154P
	2656	04164P	2766	04374P	2771	04400P	2774	04403P	2895	04562P
	3869	06544P	4177	06750P	4180	06753P	4381	07266P	4400+1	07276P
	4573+105	07656P								

Table with columns for labels (e.g., MC13X, MESSAGE, MFB02), address ranges, and hexadecimal values. Includes asterisks for certain entries like * MFB06, * MTEQ01, etc.

OUTLINE	01141P	965	4251+18 2576 04065P 379 00030P 1464 01724P 2814 04452P 3297 05421P 33+1 00610P 33+1 00712P 769 00575P 2489 03741P 2454+11 03666P 2407 03604P 2463 03707P 2491+5 03750P 2432 03635P 2477 03725P 3462 05624P 2424 03625P 2452 03661P 33+1 00723P 1254 01427P 1252 01425P 1281 01461P 1284 01463P 1266 01442P 1276 01454P 1272 01450P 1289 01467P 1246 01417P 1314 01517P 684 00437P 2021+3 03156P 2305 03477P 2773 04402P 3192 05247P 3572 06153P 4428+10 07326P 748 00542P 565 00307P 4573+33 07571P 566 00310P 2683 04213P 3619 06201P 3432 05571P 3449 05607P 3486+15 05670P 3414 05551P 3411 05546P 3454+1 05616P 3406+8 05663P 358 00003P 198 2375 03557P 2382 03566P 2388 03574P 2391 03577P 4063 3889 06563P 194 136 254 363 00010P 363 00010P 4573+26 07562P 1063 01247P 4152 06720P 4156 06724P 4163 06733P 4153 06721P 4172 06743P 3415 05552P 3639 06221P 3797 06435P 378 00027P 3945 06643P 3702 06307P 1455 01710P 1583 02102P 1112 01277P 33+1 00726P 2959 04654P	3124 05171P 4259 07073P 390 00042P 2635 04152P 2908 04572P 3357 05503P 33+1 00627P 33+1 00772P 05174P 07122P 00152P 04165P 04667P 05510P 00632P 03711P 03712P 03646P 03740P 05635P 03633P 03663P 00723P 01427P 01425P 01461P 01463P 01442P 01454P 01450P 01467P 01417P 01511P 01433P 02745P 03313P 03523P 04500P 05257P 06767P 07353P 00567P 03215P 03647P 03651P 06201P 05571P 05607P 05670P 05551P 05546P 05616P 05663P 00003P 03571P 03555P 03556P 03545P 06430P 06177P 00147P 00010P 00315P 07562P 01247P 06720P 06724P 06733P 06721P 06743P 05552P 06221P 06435P 00041P 06643P 06307P 01717P 03002P 04170P 03334P 05572P	4276+9 3127 05174P 468 00152P 2657 04165P 2970 04667P 3364 05510P 33+1 00632P 2466 03712P 2453 03662P 3198 05255P 4573+80 07626P 2438 03643P 2482 03732P 1868 02764P 2193 03367P 2405 03602P 2853 04510P 3230 05314P 4335 07220P 4510 07447P 2093 03256P 2068 03226P 2444 03651P 2475 03723P 1947 03045P 2254 03444P 2530 04007P 2859 04516P 3253 05342P 4341 07226P 4516 07455P 2418 03617P 2085 03246P 2478 03726P 2456 03700P 2692 04232P 2454+5 03670P 2454+9 03674P	4284+7 3151 05212P 528 00235P 2724 04314P 3041 04756P 3369 05514P 33+1 00635P 2454+11 03676P 3215 05276P 4573+89 07637P 2440 03645P 2486 03736P 2000 03116P 2275 03457P 2556 04040P 3186 05235P 3314 05432P 4400 07275P 4573+76 07622P 2455 03677P 2478 03726P	4251+12 07051P 1107 01273P 2747 04346P 3109 05153P 3374 05520P 33+1 00640P 2461 03705P 3456 05616P 4573+97 07647P 2449 03656P	4251+15 07054P 1458 01715P 2761 04370P 3129 05176P 4224 07016P 33+1 00701P 2474 03722P 3461 05623P 2450 03657P 2009 03127P 2282 03466P 2670 04167P 3190+2 05243P 3320 05440P 4407 07304P 2676 04201P 2677 04202P
OVCALL	01120P	919	33+1 00610P 33+1 00712P 769 00575P 2489 03741P 2454+11 03666P 2407 03604P 2463 03707P 2491+5 03750P 2432 03635P 2477 03725P 3462 05624P 2424 03625P 2452 03661P 33+1 00723P 1254 01427P 1252 01425P 1281 01461P 1284 01463P 1266 01442P 1276 01454P 1272 01450P 1289 01467P 1246 01417P 1314 01517P 684 00437P 2021+3 03156P 2305 03477P 2773 04402P 3192 05247P 3572 06153P 4428+10 07326P 748 00542P 565 00307P 4573+33 07571P 566 00310P 2683 04213P 3619 06201P 3432 05571P 3449 05607P 3486+15 05670P 3414 05551P 3411 05546P 3454+1 05616P 3406+8 05663P 358 00003P 198 2375 03557P 2382 03566P 2388 03574P 2391 03577P 4063 3889 06563P 194 136 254 363 00010P 363 00010P 4573+26 07562P 1063 01247P 4152 06720P 4156 06724P 4163 06733P 4153 06721P 4172 06743P 3415 05552P 3639 06221P 3797 06435P 378 00027P 3945 06643P 3702 06307P 1455 01710P 1583 02102P 1112 01277P 33+1 00726P 2959 04654P	3124 05171P 4259 07073P 390 00042P 2635 04152P 2908 04572P 3357 05503P 33+1 00627P 33+1 00772P 05174P 07122P 00152P 04165P 04667P 05510P 00632P 03711P 03712P 03646P 03740P 05635P 03633P 03663P 00723P 01427P 01425P 01461P 01463P 01442P 01454P 01450P 01467P 01417P 01511P 01433P 02745P 03313P 03523P 04500P 05257P 06767P 07353P 00567P 03215P 03647P 03651P 06201P 05571P 05607P 05670P 05551P 05546P 05616P 05663P 00003P 03571P 03555P 03556P 03545P 06430P 06177P 00147P 00010P 00315P 07562P 01247P 06720P 06724P 06733P 06721P 06743P 05552P 06221P 06435P 00041P 06643P 06307P 01717P 03002P 04170P 03334P 05572P	4276+9 3127 05174P 468 00152P 2657 04165P 2970 04667P 3364 05510P 33+1 00632P 2466 03712P 2453 03662P 3198 05255P 4573+80 07626P 2438 03643P 2482 03732P 1868 02764P 2193 03367P 2405 03602P 2853 04510P 3230 05314P 4335 07220P 4510 07447P 2093 03256P 2068 03226P 2444 03651P 2475 03723P 1947 03045P 2254 03444P 2530 04007P 2859 04516P 3253 05342P 4341 07226P 4516 07455P 2418 03617P 2085 03246P 2478 03726P 2456 03700P 2692 04232P 2454+5 03670P 2454+9 03674P	4284+7 3151 05212P 528 00235P 2724 04314P 3041 04756P 3369 05514P 33+1 00635P 2454+11 03676P 3215 05276P 4573+89 07637P 2440 03645P 2486 03736P 2000 03116P 2275 03457P 2556 04040P 3186 05235P 3314 05432P 4400 07275P 4573+76 07622P 2455 03677P 2478 03726P	4251+12 07051P 1107 01273P 2747 04346P 3109 05153P 3374 05520P 33+1 00640P 2461 03705P 3456 05616P 4573+97 07647P 2449 03656P	4251+15 07054P 1458 01715P 2761 04370P 3129 05176P 4224 07016P 33+1 00701P 2474 03722P 3461 05623P 2450 03657P 2009 03127P 2282 03466P 2670 04167P 3190+2 05243P 3320 05440P 4407 07304P 2676 04201P 2677 04202P
OVLOADR	03601P	2404	33+1 00723P 1254 01427P 1252 01425P 1281 01461P 1284 01463P 1266 01442P 1276 01454P 1272 01450P 1289 01467P 1246 01417P 1314 01517P 684 00437P 2021+3 03156P 2305 03477P 2773 04402P 3192 05247P 3572 06153P 4428+10 07326P 748 00542P 565 00307P 4573+33 07571P 566 00310P 2683 04213P 3619 06201P 3432 05571P 3449 05607P 3486+15 05670P 3414 05551P 3411 05546P 3454+1 05616P 3406+8 05663P 358 00003P 198 2375 03557P 2382 03566P 2388 03574P 2391 03577P 4063 3889 06563P 194 136 254 363 00010P 363 00010P 4573+26 07562P 1063 01247P 4152 06720P 4156 06724P 4163 06733P 4153 06721P 4172 06743P 3415 05552P 3639 06221P 3797 06435P 378 00027P 3945 06643P 3702 06307P 1455 01710P 1583 02102P 1112 01277P 33+1 00726P 2959 04654P	3124 05171P 4259 07073P 390 00042P 2635 04152P 2908 04572P 3357 05503P 33+1 00627P 33+1 00772P 05174P 07122P 00152P 04165P 04667P 05510P 00632P 03711P 03712P 03646P 03740P 05635P 03633P 03663P 00723P 01427P 01425P 01461P 01463P 01442P 01454P 01450P 01467P 01417P 01511P 01433P 02745P 03313P 03523P 04500P 05257P 06767P 07353P 00567P 03215P 03647P 03651P 06201P 05571P 05607P 05670P 05551P 05546P 05616P 05663P 00003P 03571P 03555P 03556P 03545P 06430P 06177P 00147P 00010P 00315P 07562P 01247P 06720P 06724P 06733P 06721P 06743P 05552P 06221P 06435P 00041P 06643P 06307P 01717P 03002P 04170P 03334P 05572P	4276+9 3127 05174P 468 00152P 2657 04165P 2970 04667P 3364 05510P 33+1 00632P 2466 03712P 2453 03662P 3198 05255P 4573+80 07626P 2438 03643P 2482 03732P 1868 02764P 2193 03367P 2405 03602P 2853 04510P 3230 05314P 4335 07220P 4510 07447P 2093 03256P 2068 03226P 2444 03651P 2475 03723P 1947 03045P 2254 03444P 2530 04007P 2859 04516P 3253 05342P 4341 07226P 4516 07455P 2418 03617P 2085 03246P 2478 03726P 2456 03700P 2692 04232P 2454+5 03670P 2454+9 03674P	4284+7 3151 05212P 528 00235P 2724 04314P 3041 04756P 3369 05514P 33+1 00635P 2454+11 03676P 3215 05276P 4573+89 07637P 2440 03645P 2486 03736P 2000 03116P 2275 03457P 2556 04040P 3186 05235P 3314 05432P 4400 07275P 4573+76 07622P 2455 03677P 2478 03726P	4251+12 07051P 1107 01273P 2747 04346P 3109 05153P 3374 05520P 33+1 00640P 2461 03705P 3456 05616P 4573+97 07647P 2449 03656P	4251+15 07054P 1458 01715P 2761 04370P 3129 05176P 4224 07016P 33+1 00701P 2474 03722P 3461 05623P 2450 03657P 2009 03127P 2282 03466P 2670 04167P 3190+2 05243P 3320 05440P 4407 07304P 2676 04201P 2677 04202P
OVL02	03620P	2419	33+1 00723P 1254 01427P 1252 01425P 1281 01461P 1284 01463P 1266 01442P 1276 01454P 1272 01450P 1289 01467P 1246 01417P 1314 01517P 684 00437P 2021+3 03156P 2305 03477P 2773 04402P 3192 05247P 3572 06153P 4428+10 07326P 748 00542P 565 00307P 4573+33 07571P 566 00310P 2683 04213P 3619 06201P 3432 05571P 3449 05607P 3486+15 05670P 3414 05551P 3411 05546P 3454+1 05616P 3406+8 05663P 358 00003P 198 2375 03557P 2382 03566P 2388 03574P 2391 03577P 4063 3889 06563P 194 136 254 363 00010P 363 00010P 4573+26 07562P 1063 01247P 4152 06720P 4156 06724P 4163 06733P 4153 06721P 4172 06743P 3415 05552P 3639 06221P 3797 06435P 378 00027P 3945 06643P 3702 06307P 1455 01710P 1583 02102P 1112 01277P 33+1 00726P 2959 04654P	3124 05171P 4259 07073P 390 00042P 2635 04152P 2908 04572P 3357 05503P 33+1 00627P 33+1 00772P 05174P 07122P 00152P 04165P 04667P 05510P 00632P 03711P 03712P 03646P 03740P 05635P 03633P 03663P 00723P 01427P 01425P 01461P 01463P 01442P 01454P 01450P 01467P 01417P 01511P 01433P 02745P 03313P 03523P 04500P 05257P 06767P 07353P 00567P 03215P 03647P 03651P 06201P 05571P 05607P 05670P 05551P 05546P 05616P 05663P 00003P 03571P 03555P 03556P 03545P 06430P 06177P 00147P 00010P 00315P 07562P 01247P 06720P 06724P 06733P 06721P 06743P 05552P 06221P 06435P 00041P 06643P 06307P 01717P 03002P 04170P 03334P 05572P	4276+9 3127 05174P 468 00152P 2657 04165P 2970 04667P 3364 05510P 33+1 00632P 2466 03712P 2453 03662P 3198 05255P 4573+80 07626P 2438 03643P 2482 03732P 1868 02764P 2193 03367P 2405 03602P 2853 04510P 3230 05314P 4335 07220P 4510 07447P 2093 03256P 2068 03226P 2444 03651P 2475 03723P 1947 03045P 2254 03444P 2530 04007P 2859 04516P 3253 05342P 4341 07226P 4516 07455P 2418 03617P 2085 03246P 2478 03726P 2456 03700P 2692 04232P 2454+5 03670P 2454+9 03674P	4284+7 3151 05212P 528 00235P 2724 04314P 3041 04756P 3369 05514P 33+1 00635P 2454+11 03676P 3215 05276P 4573+89 07637P 2440 03645P 2486 03736P 2000 03116P 2275 03457P 2556 04040P 3186 05235P 3314 05432P 4400 07275P 4573+76 07622P 2455 03677P 2478 03726P	4251+12 07051P 1107 01273P 2747 04346P 3109 05153P 3374 05520P 33+1 00640P 2461 03705P 3456 05616P 4573+97 07647P 2449 03656P	4251+15 07054P 1458 01715P 2761 04370P 3129 05176P 4224 07016P 33+1 00701P 2474 03722P 3461 05623P 2450 03657P 2009 03127P 2282 03466P 2670 04167P 3190+2 05243P 3320 05440P 4407 07304P 2676 04201P 2677 04202P
OVLD07	03635P	2432	33+1 00723P 1254 01427P 1252 01425P 1281 01461P 1284 01463P 1266 01442P 1276 01454P 1272 01450P 1289 01467P 1246 01417P 1314 01517P 684 00437P 2021+3 03156P 2305 03477P 2773 04402P 3192 05247P 3572 06153P 4428+10 07326P 748 00542P 565 00307P 4573+33 07571P 566 00310P 2683 04213P 3619 06201P 3432 05571P 3449 05607P 3486+15 05670P 3414 05551P 3411 05546P 3454+1 05616P 3406+8 05663P 358 00003P 198 2375 03557P 2382 03566P 2388 03574P 2391 03577P 4063 3889 06563P 194 136 254 363 00010P 363 00010P 4573+26 07562P 1063 01247P 4152 06720P 4156 06724P 4163 06733P 4153 06721P 4172 06743P 3415 05552P 3639 06221P 3797 06435P 378 00027P 3945 06643P 3702 06307P 1455 01710P 1583 02102P 1112 01277P 33+1 00726P 2959 04654P	3124 05171P 4259 07073P 390 00042P 2635 04152P 2908 04572P 3357 05503P 33+1 00627P 33+1 00772P 05174P 07122P 00152P 04165P 04667P 05510P 00632P 03711P 03712P 03646P 03740P 05635P 03633P 03663P 00723P 01427P 01425P 01461P 01463P 01442P 01454P 01450P 01467P 01417P 01511P 01433P 02745P 03313P 03523P 04500P 05257P 06767P 07353P 00567P 03215P 03647P 03651P 06201P 05571P 0560				

Table with 4 columns of data, each column starting with a base address (e.g., 3014, 3024, 3051, 3033, 3038, 3040) and containing a list of addresses and their corresponding hexadecimal values.

X1SAVE 00002C 306
X2 00002 335

12	04664P	3016+1	04722P	3016+2	04723P	3017	04724P	12	04740P	3037	04753P
12	04770P	12	04770P	12	05000P	12	05010P	12	05023P	12	05033P
12	05043P	12	05053P	12	05063P	12	05073P	12	05103P	12	05113P
12	05123P	3118	05163P	3121	05166P	3139	05177P	3144	05204P	3146	05206P
3184	05233P	3226	05310P	15	05410P	15	05413P	15	05416P	3310	05426P
3399	05541P	3461	05623P	3482	05650P	3567	06146P	3571	06152P	3575	06156P
3655	06241P	3667	06254P	3670	06257P	3684	06265P	3700	06305P	3894	06565P
3897	06570P	3912	06603P	3915	06606P	4167	06736P	4204	06774P	4206	06776P
4208	07000P	4209+1	07002P	4215	07006P	4216	07007P	4217	07010P	4227	07021P
4243	07025P	4244	07026P	4246	07030P	4247	07031P	4250	07034P	4253+1	07065P
4259+1	07074P	4275+1	07110P	4276	07111P	4279	07126P	4284+4	07136P	4284+9	07142P
4299	07151P	12	07161P	12	07176P	4312	07201P	4313	07202P	4326	07207P
4327	07210P	4330	07213P	4332	07215P	4375+1	07256P	4375+2	07257P	4375+4	07261P
4467+2	07374P	4469	07377P	4472	07402P	4481	07413P	4540+3	07502P	4540+6	07505P
4573+40	07600P	382	00033P	387	00037P	424	00077P	425	00100P	459	00141P
364	00011P	498	00206P	681+3	00433P	704	00463P	738	00530P	751	00551P
476	00162P	768	00574P	773	00576P	883	01065P	941	01132P	947	01137P
764	00570P	1040	01235P	1041	01236P	1062	01246P	1075	01263P	1096	01270P
1039	01234P	1214	01403P	1216	01405P	1611	02135P	1617	02143P	1619	02144P
1188	01371P	1643	02167P	1860	02754P	1862	02756P	1875	02773P	1912	03016P
1634	02155P	2007	03125P	2019	03146P	2021+1	03154P	2021+12	03167P	2021+13	03170P
1928	03035P	2080	03241P	2096	03261P	2103	03270P	2109	03274P	2148	03316P
2074	03233P	2190	03364P	2196	03372P	2198	03374P	2202	03400P	2206	03404P
2188	03362P	2210	03410P	2213	03412P	2218	03417P	2249	03437P	2251	03441P
2208	03406P	2279	03463P	2308	03502P	2312	03506P	2314	03510P	2316	03512P
2273	03455P	2324	03521P	2408	03605P	2412	03611P	2421	03622P	2428	03631P
2318	03514P	2454+4	03667P	2454+10	03675P	2480	03730P	2575	04064P	2783	04413P
2434	03637P	2804	04441P	2806	04443P	2893	04560P	2983	04673P	2984	04674P
2787	04417P	2991	04703P	2992	04704P	2993	04705P	2997	04706P	3005	04710P
2987	04677P	3021	04730P	3023	04732P	3026	04735P	3102	05145P	3123	05170P
3009	04713P	3150	05211P	3214	05275P	3216	05277P	3222	05305P	3245+1	05334P
3126	05173P	3312	05430P	3313	05431P	3333	05455P	3335	05457P	3409	05544P
3285	05400P	3412	05547P	3415	05552P	3418	05555P	3421	05557P	3423	05561P
3410	05545P	3426	05563P	3428	05565P	3429	05566P	3430	05567P	3431	05570P
3424	05562P	3440	05577P	3441	05580P	3443	05601P	3445	05603P	3446	05604P
3438	05575P	3448	05606P	3636	06216P	3688	06271P	3689	06272P	3692	06275P
3447	05605P	3707	06314P	3720	06330P	3721	06331P	3736	06341P	3744	06350P
3706	06313P	3836	06503P	3847	06516P	3848	06517P	3849	06520P	3853	06524P
3757	06365P	3879	06553P	3881	06555P	3883	06557P	3937	06634P	3938	06635P
3862	06535P	4158	06726P	4160	06730P	4161	06731P	4189	06764P	4207	06772P
3962	06662P	4251+1	07036P	4251+3	07040P	4251+11	07050P	4251+17	07056P	4257+1	07072P
4241	07023P	4284+7	07137P	4295	07145P	4296	07146P	4315	07204P	4316	07205P
4276+7	07120P	4361	07242P	4365	07245P	4367	07247P	4387	07272P	4404	07301P
4352	07240P	4419	07315P	4459	07362P	4460	07363P	4464	07367P	4466	07371P
4406	07303P	4521	07462P	4524	07465P	4527	07470P	4541	07506P	4554	07523P
4485	07430P	4563	07534P	4567	07540P	4569	07542P	4573+15	07547P	4573+17	07551P
4560	07531P	4573+19	07553P	4573+21	07555P	4573+22	07556P	4573+23	07557P	4573+68	07612P
4573+18	07552P	4573+99	07651P	4573+102	07654P						
4573+97	07647P	3757	06365P	3836	06503P	3853	06524P				
3720	06330P	507	00214P	753	00553P	774+4	00601P	1377	01600P	1615+1	02142P
2130	03307P	1915	03021P	1919	03025P	1922+1	03030P	1929+1	03037P	1952+1	03057P
33+1	01030P	1975+1	03107P	2019	03146P	2021+13	03170P	2141+1	03311P	2153+1	03326P
466	00150P	2206	03404P	2251	03441P	2279	03463P	2314	03510P	2368	03552P
1905	03007P	2524	04001P	2539	04020P	2552	04034P	2567	04054P	2585	04100P
1973+1	03105P	2612	04130P	2872	04533P	2893	04560P	2939+1	04626P	2941+1	04630P
2158+1	03333P	2945+1	04634P	2947+1	04636P	2949+1	04640P	2952	04642P	2958	04650P
2470	03716P	2960	04655P	2992	04704P	3005	04710P	3012	04715P	3015	04720P
2590	04107P	3094+1	05137P	3096+1	05141P	3102	05145P	3210	05271P	3212+1	05274P
2943+1	04632P	3256+1	05346P	3261+1	05353P	3265+1	05357P	3273	05365P	3274+1	05367P
2958+3	04653P	3283+1	05377P	3307	05424P	3346	05472P	3351	05477P	3387	05530P
3026	04735P	3395	05536P	3400	05542P	3579	06162P	4251+3	07040P	4296	07146P
3236+1	05323P	4374	07255P	4380	07265P	4387	07272P	4419	07315P	4428+15	07333P
3276+1	05371P	4506	07442P	4530	07473P	4540	07477P	4544	07511P	4550	07517P
3391	05533P	4567	07540P	4573+17	07551P	4573+22	07556P				
4361	07242P										
4464	07367P										
4558	07527P										
2563	04047P										
5	00164P	5	00203P	5	00207P	5	00211P	5	00215P	5	00217P
5	00221P	5	00223P	5	00236P	5	00265P	5	00267P	5	00272P
5	00274P	5	00304P	5	00320P	43	00331P	43	00332P	43	00333P
43	00334P	43	00335P	43	00336P	43	00337P	43	00340P	43	00341P
5	00352P	5	00355P	5	00357P	5	00361P	5	00375P	5	00401P
5	00405P	5	00412P	5	00412P	5	01711P	5	01720P	5	01747P
5	02146P	5	02156P	1094	01266P	5	02164P	5	02175P	5	02177P
5	02201P	5	02203P	5	02205P	5	02206P	43	03200P	43	03203P
43	03204P	43	03205P	43	03425P	43	03426P	43	03427P	43	03430P
5	03445P	43	03471P	43	03472P	43	03473P	43	03474P	43	03475P
43	03531P	43	03532P	43	03533P	43	03534P	5	03766P	5	04050P

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5	04071P	5	04074P	5	04103P	5	04114P	5	04124P	5	04134P
5	04143P	5	04178P	5	04207P	5	04220P	5	04227P	5	04236P
5	04246P	5	04256P	5	04266P	5	04276P	5	04310P	5	04323P
5	04330P	5	04335P	5	04342P	5	04352P	5	04357P	5	04364P
5	04433P	43	04453P	43	04454P	43	04455P	43	04456P	43	04457P
43	04460P	43	04461P	43	04462P	43	04463P	43	04464P	43	04465P
43	04466P	43	04467P	43	04470P	43	04471P	43	04472P	43	04473P
43	04474P	43	04475P	5	04566P	5	04661P	5	04663P	5	04737P
5	04757P	5	04767P	5	04777P	5	05007P	5	05022P	5	05032P
5	05042P	5	05052P	5	05062P	5	05072P	5	05102P	5	05112P
5	05122P	5	05407P	5	05412P	5	05415P	5	05504P	5	05511P
5	05515P	5	05521P	5	06135P	5	06143P	3862	06535P	5	07160P
5	07175P	5	07321P	5	07323P	5	07337P	5	07341P	5	07444P
4570	07543P	5	07545P	2951	04641P	2990	04702P	3427	05564P	3444	05602P
428	00103P	2469	03715P	3867	06542P	4573+16	07550P				
3476	05642P	3865	06540P								

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