

```

0000 0010 *****
0000 0020 *          EXATRON STRINGY FLOPPY MONITOR          *
0000 0030 * P A R T  2  -  T A P E  C O M M A N D S  *
0000 0040 * VERSION 2.2      (RAM VERSION)      10-15-78 *
0000 0050 *****
0000 0060 *
0000 0070 * WRITTEN BY:  CHARLIE PACK
0000 0080 *                25470 ELENA ROAD
0000 0090 *                LOS ALTOS HILLS, CA.  94022
0000 0100 *                (415) 941-0495  EVENINGS
0000 0110 *
0000 0120 * CHANGES FROM VERSION 2.1 ARE:
0000 0130 *  1. EQUATES TO EXTERNAL REFERENCE TABLE
0000 0140 *      (IN PART 1) HAVE BEEN ADDED FOR CALLS
0000 0150 *      TO ESF UTILITY.
0000 0160 *  2. LOADER CONTROL BYTES CHANGED TO BE
0000 0170 *      COMPATIBLE WITH NEW LINKING LOADER.
0000 0180 *
0000 0190 PART2 EQU  $
0000 0200 PART1 EQU  PART2-400H ;ESF MONITOR PART 1
0000 0210 MONTR EQU  PART1+023H ;MONITOR RE-START
0000 0220 ADRNG EQU  PART1+250H
0000 0230 ADRIN EQU  PART1+267H
0000 0240 INPHX EQU  PART1+274H
0000 0250 OUTHX EQU  PART1+2E6H
0000 0260 WAIT  EQU  PART1+301H
0000 0270 OUTBL EQU  PART1+315H
0000 0280 OUTSP EQU  PART1+324H
0000 0290 OUTNL EQU  PART1+331H
0000 0300 INASC EQU  PART1+33EH
0000 0310 PANIC EQU  PART1+359H
0000 0320 OUTCH EQU  PART1+3BAH
0000 0330 *
0000 0340 * POINTERS TO EXTERNAL REFERENCE TABLE IN PART 1
0000 0350 *
0000 0360 ECAT  EQU  PART1+3E7H
0000 0370 EGET  EQU  PART1+3ECH
0000 0380 ESAV  EQU  PART1+3F1H
0000 0390 ECER  EQU  PART1+3F6H
0000 0400 EWTP  EQU  PART1+3FBH
0000 0410 *
0000 0420 RC2   EQU  2 ;"FILE NOT FOUND" RETURN CODE
0000 0430 RC5   EQU  5 ;"WRITE PROTECTED" RETURN CODE
0000 0440 *
0000 0450 START DI          ;PROGRAM IDENTIFIER
0001 FE 43 0460 CPI      'C'      ;C=CATALOG OR CERTIFY?
0003 CA 1F 00 0470 JZ      CACE      ;YES
0006 FE 47 0480 CPI      'G'      ;G=GET?
0008 CA 84 00 0490 JZ      GET       ;YES
000B FE 53 0500 CPI      'S'      ;S=SAVE?
000D CA 6E 01 0510 JZ      SAVE      ;YES
0010 FE 57 0520 CPI      'W'      ;W=WIND TAPE?
0012 CA 5F 02 0530 JZ      WTP       ;YES
0015 3A 00 04 0540 LDA      START+400H ;CHECK FOR THIRD
0018 FE F3 0550 CPI      0F3H  ;PART OF ESF MONITOR
001A C0 0560 RNZ          ;RETURN IF NOT PRESENT
001B 78 0570 MOV      A,B    ;RESTORE COMMAND CHAR.
001C C3 00 04 0580 JMP      START+400H ;GO TO THIRD PART
001F

```

001F	CD	3E	FF	0590	*		
0022	FE	21		0600	CACE	CALL	INASC ;GET 2ND LETTER OF COMM.
0024	DA	1F	00	0610		CPI	21H ;CONTROL CHARACTER?
0027	CD	BA	FF	0620		JC	CACE ;YES, IGNORE IT.
002A	78			0630		CALL	OUTCH ;ECHO IT
002B	FE	41		0640		MOV	A,B ;RESTORE IT
002D	CA	36	00	0650		CPI	'A' ;CA=CATALOG DISPLAY?
0030	FE	45		0660		JZ	CAT ;YES
0032	CA	FF	01	0670		CPI	'E' ;CE=CERTIFY?
0035	C9			0680		JZ	CER ;YES
0036				0690		RET	;IGNORE INVALID COMMAND
0036				0700	*		
0036				0710	*		DISPLAY CATALOG OF ALL FILES ON TAPE
0036				0720	*		
0036	CD	01	FF	0730	CAT	CALL	WAIT ;ABORT OR CONTINUE
0039	CD	31	FF	0740		CALL	OUTNL
003C	21	E6	02	0750		LXI	H,FCBHD
003F	CD	15	FF	0760		CALL	OUTBL ;DISPLAY THE HEADING
0042	AF			0770		XRA	A
0043	32	F5	FB	0780		STA	FCBFP ;SET ZERO FILEPOSITION
0046				0790	*		
0046	AF			0800	CAT2	XRA	A
0047	32	F3	FB	0810		STA	FCBRC ;SET ZERO RETURN CODE
004A	3D			0820		DCR	A
004B	67			0830		MOV	H,A ;INITIALIZE FCB WITH
004C	6F			0840		MOV	L,A ;ALL DUMMY VALUES.
004D	22	F6	FB	0850		SHLD	FCBID
0050	22	F8	FB	0860		SHLD	FCBBG
0053	22	FC	FB	0870		SHLD	FCBAS
0056	22	FE	FB	0880		SHLD	FCBER
0059	23			0890		INX	H ;HL=0
005A	22	FA	FB	0900		SHLD	FCBEN
005D				0910	*		
005D	CD	31	FF	0920		CALL	OUTNL
0060	21	F3	FB	0930		LXI	H,FCB ;HL=&FCB
0063	00			0940		NOP	;LOADER CONTROL BYTE
0064	CD	E7	FF	0950		CALL	ECAT ;GET CATALOG FOR NEXT FILE
0067	CA	73	00	0960		JZ	CAT3 ;JUMP IF END OF TAPE
006A	CD	78	02	0970		CALL	DFCB ;DISPLAY CONTENTS OF FCB
006D	CD	59	FF	0980		CALL	PANIC ;"PANIC CHECK"
0070	C3	46	00	0990		JMP	CAT2
0073				1000	*		
0073	3A	F5	FB	1010	CAT3	LDA	FCBFP
0076	21	9E	03	1020		LXI	H,SYSDM
0079	FE	02		1030		CPI	2 ;WERE ANY FILES FOUND?
007B	D2	72	02	1040		JNC	MSOU2 ;YES, DISPLAY "DONE"
007E	21	26	03	1050		LXI	H,UTIM2 ;NO, DISPLAY ERROR MSG.
0081	C3	72	02	1060		JMP	MSOU2
0084							

0084		1070	*
0084		1080	* GET OR VERIFY A TAPE FILE
0084		1090	*
0084	CD 3E FF	1100	GET CALL INASC ;GET OPTION
0087	FE 45	1110	CPI 'E' ;CHECK FOR VALID OPTION
0089	CA 96 00	1120	JZ GET02 ;BRANCH IF O.K.
008C	FE 56	1130	CPI 'V'
008E	CA 96 00	1140	JZ GET02
0091	FE 58	1150	CPI 'X'
0093	C2 84 00	1160	JNZ GET ;IGNORE INVALID OPTION
0096	32 F4 FB	1170	GET02 STA FCBOP ;OPTION TO FCB
0099	CD BA FF	1180	CALL OUTCH ;ECHO IT
009C		1190	*
009C	48	1200	MOV C,B ;C=OPTION
009D	CD 3E FF	1210	GETTY CALL INASC ;GET FILE TYPE
00A0	3E 58	1220	MVI A,'X'
00A2	B9	1230	CMP C ;AUTO-EXECUTE OPTION?
00A3	C2 B7 00	1240	JNZ GET04 ;NO
00A6	3E 20	1250	MVI A,20H
00A8	B8	1260	CMP B ;VALID FILE TYPE?
00A9	CA B2 00	1270	JZ GET03 ;YES
00AC	3E 41	1280	MVI A,'A'
00AE	B8	1290	CMP B
00AF	C2 9D 00	1300	JNZ GETTY ;NO, IGNORE IT
00B2	26 41	1310	GET03 MVI H,'A' ;H=FILE TYPE
00B4	C3 C3 00	1320	JMP GET05
00B7	78	1330	GET04 MOV A,B
00B8	FE 41	1340	CPI 'A' ;VALID FILE TYPE?
00BA	DA 9D 00	1350	JC GETTY ;NO, IGNORE IT
00BD	FE 5B	1360	CPI 'Z'+1
00BF	D2 9D 00	1370	JNC GETTY
00C2	67	1380	MOV H,A ;YES, H=FILE TYPE
00C3	CD BA FF	1390	GET05 CALL OUTCH ;ECHO FILE TYPE
00C6		1400	*
00C6	CD 74 FE	1410	GETID CALL INPHX ;GET FILE ID
00C9	CA C6 00	1420	JZ GETID ;MUST ENTER
00CC	6F	1430	MOV L,A ;L=FILE ID
00CD	22 F6 FB	1440	SHLD FCBID ;FILE ID/TYPE TO FCB
00D0	21 C8 03	1450	LXI H,SYSMI
00D3	B7	1460	ORA A ;FILE ID=0?
00D4	CA 6F 02	1470	JZ MSOUT ;YES, INVALID
00D7		1480	*
00D7	AF	1490	XRA A
00D8	67	1500	MOV H,A
00D9	6F	1510	MOV L,A
00DA	32 F3 FB	1520	STA FCBRC ;SET ZERO RETURN CODE
00DD	22 FA FB	1530	SHLD FCBEN ;INITIALIZE FCB
00E0	2B	1540	DCX H ;HL=DUMMY ADDRESS
00E1	22 FC FB	1550	SHLD FCBAS
00E4	22 FE FB	1560	SHLD FCBER
00E7	3E 58	1570	MVI A,'X'
00E9	B9	1580	CMP C ;AUTO-EXECUTE OPTION?
00EA	CA F3 00	1590	JZ GET06 ;YES
00ED	CD 67 FE	1600	CALL ADRIN ;GET OPTIONAL BEGIN. ADDR
00F0	CA F6 00	1610	JZ GET07 ;JUMP IF NOT ENTERED
00F3		1620	*
00F3	CD 01 FF		;HL=BEGIN. ADDRESS
00F6	22 F8 FB	1630	GET06 CALL WAIT ;ABORT OR CONTINUE
00F9		1640	GET07 SHLD FCBBG ;BEGIN. ADDR TO FCB

00F9	21	F3	FB	1650	*		
00FC	CD	31	FF	1660		LXI	H,FCB ;HL=&FCB
00FF	00			1670		CALL	OUTNL
0100	CD	EC	FF	1680		NOP	;LOADER CONTROL BYTE
0103				1690		CALL	EGET ;CALL ESF "GET" UTILITY
0103	3A	F4	FB	1700	*		
0106	FE	58		1710		LDA	FCBOP
0108	C2	25	01	1720		CPI	'X' ;AUTO-EXECUTE OPTION?
010B	3A	F3	FB	1730		JNZ	GET08 ;NO
010E	B7			1740		LDA	FCBRC
010F	C2	25	01	1750		ORA	A ;WERE THERE ANY ERRORS?
0112	CD	59	01	1760		JNZ	GET08 ;YES, NO AUTO-EXECUTE
0115	CA	1C	01	1770		CALL	CHKAS ;CHECK AUTOSTART
0118	CD	31	FF	1780		JZ	NOAST ;JUMP IF CAN'T AUTOSTART
011B	E9			1790		CALL	OUTNL
011C				1800		PCHL	;YES. JUMP TO PROGRAM
011C	21	74	03	1810	*		
011F	CD	15	FF	1820	NOAST	LXI	H,SYSMA
0122	CD	31	FF	1830		CALL	OUTBL ;DISPLAY ERROR MSG.
0125				1840		CALL	OUTNL
0125	AF			1850	*		
0126	32	F5	FB	1860	GET08	XRA	A
0129	21	E6	02	1870		STA	FCBFP ;FILE POSITION=0
012C	CD	15	FF	1880		LXI	H,FCBHD
012F	CD	31	FF	1890		CALL	OUTBL ;DISPLAY THE HEADING
0132	CD	78	02	1900		CALL	OUTNL
0135	CD	31	FF	1910		CALL	DFCB ;DISPLAY CONTENTS OF FCB
0138				1920		CALL	OUTNL
0138	3A	F3	FB	1930	*		
013B	B7			1940		LDA	FCBRC
013C	CA	45	01	1950		ORA	A ;WERE THERE ANY ERRORS?
013F	CD	D1	02	1960		JZ	GET09 ;NO
0142	C3	23	FC	1970		CALL	ERMSG ;DISPLAY THE ERROR MSG.
0145				1980		JMP	MONTR
0145	CD	59	01	1990	*		
0148	3A	F4	FB	2000	GET09	CALL	CHKAS ;SAVE AUTOSTART (IF ANY)
014B	21	9E	03	2010		LDA	FCBOP
014E	FE	56		2020		LXI	H,SYSMD
0150	C2	72	02	2030		CPI	'V' ;VERIFY OPTION?
0153	21	D8	03	2040		JNZ	MSOU2 ;NO, DISPLAY "DONE"
0156	C3	72	02	2050		LXI	H,SYSMO
0159				2060		JMP	MSOU2 ;YES, DISPLAY "FILE O.K."
0159	2A	FC	FB	2070	*		
015C	23			2080	CHKAS	LHLD	FCBAS
015D	7C			2090		INX	H
015E	B5			2100		MOV	A,H
015F	2B			2110		ORA	L ;IS AUTOSTART = 0FFFFH?
0160	C8			2120		DCX	H
0161	7E			2130		RZ	;Z ON = CAN'T AUTOSTART
0162	FE	F3		2140		MOV	A,M ;GET MEMORY BYTE
0164	CA	69	01	2150		CPI	0F3H ;PROGRAM ID BYTE?
0167	AF			2160		JZ	CHKA2 ;YES
0168	C9			2170		XRA	A ;Z ON = CAN'T AUTOSTART
0169	22	F1	FB	2180		RET	
016C	B7			2190	CHKA2	SHLD	CURAD ;SAVE AUTOSTART ADDR
016D	C9			2200		ORA	A ;Z OFF = AUTOSTART O.K.
016E				2210		RET	

016E		2220	*	
016E		2230	*	SAVE A BLOCK OF DATA ON TAPE
016E	AF	2240	*	
016F	32 F3 FB	2250	SAVE	XRA A
0172	3C	2260		STA FCBC ;SET ZERO RETURN CODE
0173	32 F5 FB	2270		INR A ;ACC.=1
0176	CD 3E FF	2280		STA FCBCFP ;DEFAULT FILE POS. TO FCB
0179	FE 20	2290	SAVE2	CALL INASC ;GET FILE POSITION
017B	CA 8D 01	2300		CPI 20H ;USE DEFAULT?
017E	FE 31	2310		JZ SAVE3 ;YES
0180	DA 76 01	2320		CPI '1' ;VALID FILE POSITION 1-9?
0183	FE 3A	2330		JC SAVE2 ;NO, IGNORE IT
0185	D2 76 01	2340		CPI '9'+1
0188	E6 0F	2350		JNC SAVE2
018A	32 F5 FB	2360		ANI 0FH ;CONVERT TO BINARY
018D	CD BA FF	2370		STA FCBCFP ;FILE POSITION TO FCB
0190		2380	SAVE3	CALL OUTCH ;ECHO IT
0190	CD 3E FF	2390	*	
0193	FE 41	2400	SAVE4	CALL INASC ;GET FILE TYPE
0195	DA 90 01	2410		CPI 'A' ;VALID FILE TYPE?
0198	FE 5B	2420		JC SAVE4 ;NO, IGNORE IT
019A	D2 90 01	2430		CPI 'Z'+1
019D	32 F7 FB	2440		JNC SAVE4
01A0	CD BA FF	2450		STA FCBTY ;FILE TYPE TO FCB
01A3		2460		CALL OUTCH ;ECHO IT
01A3	CD 74 FE	2470	*	
01A6	CA A3 01	2480	SAVE5	CALL INPHX ;GET FILE ID
01A9	21 C8 03	2490		JZ SAVE5 ;MUST ENTER
01AC	B7	2500		LXI H,SYSMI ;&ERROR MSG.
01AD	CA 6F 02	2510		ORA A ;IS IT ZERO?
01B0	FE FF	2520		JZ MSOUT ;YES, NOT VALID
01B2	CA 6F 02	2530		CPI 0FFH ;IS IT 255?
01B5	32 F6 FB	2540		JZ MSOUT ;YES, NOT VALID
01B8		2550		STA FCBID ;FILE ID TO FCB
01B8	CD 50 FE	2560	*	
01BB		2570		CALL ADRNG ;GET BEGIN. & ENDING
01BB	EB	2580	*	;ADDR OF BLOCK IN DE, HL
01BC	22 F8 FB	2590		XCHG
01BF	EB	2600		SHLD FCBBG ;BEGIN. ADDR TO FCB
01C0	22 FA FB	2610		XCHG
01C3		2620		SHLD FCBEN ;ENDING ADDR TO FCB
01C3	26 FF	2630	*	
01C5	2E FF	2640		MVI H,0FFH ;THIS VALUE IS A
01C7	78	2650		MVI L,0FFH ;DUMMY AUTOSTART.
01C8	FE 41	2660		MOV A,B
01CA	C2 D9 01	2670		CPI 'A' ;ABSOLUTE LOAD MODULE?
01CD	CD 67 FE	2680		JNZ SAVE6 ;NO -- USE DUMMY AUTOSTART
01D0	CA DC 01	2690		CALL ADRIN ;GET AUTOSTART ADDR
01D3		2700		JZ SAVE7 ;JUMP IF NOT ENTERED
01D3	7E	2710	*	;HL=AUTOSTART ADDR
01D4	FE F3	2720		MOV A,M
01D6	C2 F9 01	2730		CPI 0F3H ;VALID AUTOSTART ADDR?
01D9	CD 01 FF	2740		JNZ INVAS ;NO
01DC	22 FC FB	2750	SAVE6	CALL WAIT ;ABORT OR CONTINUE
01DF		2760	SAVE7	SHLD FCBAS ;AUTOSTART TO FCB

01DF 21 F3 FB	2770 *	
01E2 CD 31 FF	2780	LXI H,FCB ;HL=&FCB
01E5 00	2790	CALL OUTNL
01E6 CD F1 FF	2800	NOP ;LOADER CONTROL BYTE
01E9	2810	CALL ESAV ;CALL ESF "SAVE" ROUTINE
01E9 3A F3 FB	2820 *	
01EC 21 9E 03	2830	LDA FCBRC ;RETURN CODE
01EF B7	2840	LXI H,SYSMD ;&MESSAGE
01F0 CA 72 02	2850	ORA A ;WERE THERE ANY ERRORS?
01F3 CD D1 02	2860	JZ MSOU2 ;NO, DISPLAY "DONE"
01F6 C3 23 FC	2870	CALL ERMSG ;DISPLAY AN ERROR MSG.
01F9	2880	JMP MONTR
01F9 21 74 03	2890 *	
01FC C3 6F 02	2900	INVAS LXI H,SYSMA ;&MESSAGE
01FF	2910	JMP MSOUT

01FF				2920	*
01FF				2930	* CERTIFY A TAPE. THIS ROUTINE WRITES A
01FF				2940	* DUMMY FILE AND THEN READS IT BACK, REPOR-
01FF				2950	* TING ERROR CONDITIONS. THE PROCESS CON-
01FF				2960	* TINUES UNTIL INTERRUPTED BY THE "PANIC"
01FF				2970	* CHARACTER FROM THE CONSOLE KEYBOARD.
01FF				2980	*
01FF	CD	01	FF	2990	CER CALL WAIT ;ABORT OR CONTINUE
0202	CD	31	FF	3000	CALL OUTNL
0205	21	E2	03	3010	LXI H,SYSMS
0208	CD	15	FF	3020	CALL OUTBL ;DISPLAY SIZING TAPE MSG.
020B	26	FF		3030	MVI H,0FFH ;SET ESTIMATED
020D	2E	FF		3040	MVI L,0FFH ;CAPACITY TO 65535
020F				3050	*
020F	E5			3060	CER2 PUSH H ;(SP)=CAPACITY
0210	00			3070	NOP ;LOADER CONTROL BYTE
0211	CD	F6	FF	3080	CALL ECER ;CALL ESF "CERTIFY" ROUTINE
0214	DA	28	02	3090	JC CER3 ;JUMP IF ANY ERRORS
0217	C2	3C	02	3100	JNZ CER4 ;JUMP IF NOT EOT
021A				3110	*
021A	E3			3120	XTHL ;(SP)=UPDATED CAPACITY
021B	21	84	03	3130	LXI H,SYSMC
021E	CD	15	FF	3140	CALL OUTBL ;DISPLAY APPROX. CAPACITY
0221	E1			3150	POP H ;HL=UPDATED CAPACITY
0222	CD	C9	02	3160	CALL DWOUT
0225	C3	48	02	3170	JMP CER5
0228				3180	*
0228	FE	05		3190	CER3 CPI RC5 ;WRITE PROTECTED?
022A	CA	59	02	3200	JZ CERWP ;YES
022D	FE	02		3210	CPI RC2 ;WAS DUMMY FILE FOUND?
022F	C2	3C	02	3220	JNZ CER4 ;YES
0232	21	26	03	3230	LXI H,UTIM2
0235	CD	15	FF	3240	CALL OUTBL ;DISPLAY AN ERROR MESSAGE
0238	E1			3250	POP H ;HL=CAPACITY
0239	C3	48	02	3260	JMP CER5
023C				3270	*
023C	E5			3280	CER4 PUSH H ;(SP)=ERROR COUNT
023D	21	A3	03	3290	LXI H,SYSME
0240	CD	15	FF	3300	CALL OUTBL ;DISPLAY THE ERROR COUNT
0243	E1			3310	POP H ;HL=ERROR COUNT
0244	CD	C9	02	3320	CALL DWOUT
0247	E1			3330	POP H ;HL=CAPACITY
0248				3340	*
0248	CD	59	FF	3350	CER5 CALL PANIC ;"PANIC CHECK"
024B	CD	31	FF	3360	CALL OUTNL
024E	E5			3370	PUSH H ;(SP)=CAPACITY
024F	21	F3	03	3380	LXI H,SYSMT
0252	CD	15	FF	3390	CALL OUTBL ;DISPLAY "TESTING"
0255	E1			3400	POP H ;HL=CAPACITY
0256	C3	0F	02	3410	JMP CER2
0259				3420	*
0259	21	4F	03	3430	CERWP LXI H,UTIM5 ;&WRITE PROTECT MSG.
025C	C3	6F	02	3440	JMP MSOUT
025F					

025F		3450 *
025F		3460 * WIND TAPE -- MOVES REFLECTIVE SPOT TO
025F		3470 * EXPOSED POSITION.
025F CD 01 FF		3480 *
0262 CD 31 FF	3490 WTP	CALL WAIT ;ABORT OR CONTINUE
0265 00	3500	CALL OUTNL
0266 CD FB FF	3510	NOP ;LOADER CONTROL BYTE
0269 21 9E 03	3520	CALL EWTP ;CALL ESF "WIND TAPE" RTNE
026C C3 72 02	3530	LXI H,SYSD
026F	3540	JMP MSOU2 ;DISPLAY "DONE"
026F	3550 *	
026F	3560 *	DISPLAY A MESSAGE & RETURN TO COMMAND MODE.
026F	3570 *	
026F CD 31 FF	3580 MSOUT	CALL OUTNL
0272 CD 15 FF	3590 MSOU2	CALL OUTBL ;DISPLAY AN ERROR MSG.
0275 C3 23 FC	3600	JMP MONTR
0278		

0278				3610	*
0278				3620	* DISPLAY ENTIRE CONTENTS OF FILE CONTROL BLK
0278				3630	* EXIT: B, HL DESTROYED
0278				3640	*
0278	3A	F3	FB	3650	DFCB LDA FCBRC ;RETURN CODE
027B	CD	E6	FE	3660	CALL OUTHX
027E	3E	02		3670	MVI A,2
0280	CD	24	FF	3680	CALL OUTSP
0283	3A	F5	FB	3690	LDA FCBFP ;FILE POSITION
0286	CD	E6	FE	3700	CALL OUTHX
0289	3E	03		3710	MVI A,3
028B	CD	24	FF	3720	CALL OUTSP
028E	3A	F7	FB	3730	LDA FCBTY ;FILE TYPE
0291	47			3740	MOV B,A
0292	CD	BA	FF	3750	CALL OUTCH
0295	3E	02		3760	MVI A,2
0297	CD	24	FF	3770	CALL OUTSP
029A	3A	F6	FB	3780	LDA FCBID ;FILE ID
029D	CD	E6	FE	3790	CALL OUTHX
02A0	3E	03		3800	MVI A,3
02A2	CD	24	FF	3810	CALL OUTSP
02A5	2A	F8	FB	3820	LHLD FCBBG ;BEGIN. ADDR
02A8	CD	C9	02	3830	CALL DWOUT
02AB	3E	03		3840	MVI A,3
02AD	CD	24	FF	3850	CALL OUTSP
02B0	2A	FA	FB	3860	LHLD FCBBEN ;ENDING ADDR
02B3	CD	C9	02	3870	CALL DWOUT
02B6	3E	03		3880	MVI A,3
02B8	CD	24	FF	3890	CALL OUTSP
02BB	2A	FC	FB	3900	LHLD FCBAS ;AUTOSTART ADDR
02BE	CD	C9	02	3910	CALL DWOUT
02C1	3E	04		3920	MVI A,4
02C3	CD	24	FF	3930	CALL OUTSP
02C6	2A	FE	FB	3940	LHLD FCBER ;ERROR DATA ADDR
02C9	7C			3950	DWOUT MOV A,H
02CA	CD	E6	FE	3960	CALL OUTHX
02CD	7D			3970	MOV A,L
02CE	C3	E6	FE	3980	JMP OUTHX
02D1				3990	*
02D1				4000	* DISPLAY ERROR MESSAGE DEPENDING ON BINARY
02D1				4010	* CODE IN ACC. IF ACC. = 1, DISPLAY UTIM1;
02D1				4020	* IF ACC. = 2, DISPLAY UTIM2; AND SO ON.
02D1				4030	* IF ACC. = 0 OR NO CORRESPONDING MESSAGE
02D1				4040	* THEN DO NOTHING AND RETURN.
02D1				4050	* EXIT: BC, HL DESTROYED; DE NOT USED.
02D1				4060	*
02D1	B7			4070	ERMSG ORA A ;ACC.=0?
02D2	C8			4080	RZ ;YES, RETURN
02D3	21	13	03	4090	LXI H,UTIM1 ;&FIRST MSG.
02D6	06	00		4100	MVI B,0
02D8	4E			4110	ERMS2 MOV C,M ;BC=LENGTH OF MSG.
02D9	0C			4120	INR C ;PLUS 1 FOR LENGTH BYTE
02DA	C8			4130	RZ ;RETURN IF NO MORE MESSAGES
02DB	3D			4140	DCR A ;DECR. ACC.; WHEN ZERO
02DC	CA	15	FF	4150	JZ OUTBL ;DISPLAY MSG. AND RETURN
02DF	09			4160	DAD B ;POINT TO NEXT MSG.
02E0	C3	D8	02	4170	JMP ERMS2 ;AND TRY AGAIN
02E3					

02E3		4180	*
02E3		4190	*****
02E3		4200	* SYSTEM MESSAGES AND HEADINGS *
02E3		4210	*****
02E3		4220	*
02E3	49	4230	DB 49H ;LOADER CONTROL BYTE
02E4	1A 01	4240	DW MSEND-FCBHD ;DATA BYTE COUNT
02E6	2C	4250	FCBHD DB UTIM1-FCBHD-1
02E7	52 43 20 20	4260	ASC 'RC FP TY ID '
	46 50 20 20		
	54 59 20 20		
	49 44 20 20		
02F7	42 45 47 49	4270	ASC 'BEGINS ENDS AUTOST ERRADR'
	4E 53 20 20		
	45 4E 44 53		
	20 20 41 55		
	54 4F 53 54		
	20 20 45 52		
	52 41 44 52		
0313	12	4280	UTIM1 DB UTIM2-UTIM1-1
0314	4D 41 4E 59	4290	ASC 'MANY PARITY ERRORS'
	20 50 41 52		
	49 54 59 20		
	45 52 52 4F		
	52 53		
0326	0E	4300	UTIM2 DB UTIM3-UTIM2-1
0327	46 49 4C 45	4310	ASC 'FILE NOT FOUND'
	20 4E 4F 54		
	20 46 4F 55		
	4E 44		
0335	0C	4320	UTIM3 DB UTIM4-UTIM3-1
0336	56 45 52 49	4330	ASC 'VERIFY ERROR'
	46 59 20 45		
	52 52 4F 52		
0342	0C	4340	UTIM4 DB UTIM5-UTIM4-1
0343	54 41 50 45	4350	ASC 'TAPE IS FULL'
	20 49 53 20		
	46 55 4C 4C		
034F	0F	4360	UTIM5 DB UTIM6-UTIM5-1
0350	57 52 49 54	4370	ASC 'WRITE PROTECTED'
	45 20 50 52		
	4F 54 45 43		
	54 45 44		
035F	13	4380	UTIM6 DB UTIM7-UTIM6-1
0360	46 49 4C 45	4390	ASC 'FILE POSITION ERROR'
	20 50 4F 53		
	49 54 49 4F		
	4E 20 45 52		
	52 4F 52		
0373	FF	4400	UTIM7 DB 0FFH
0374			

0374	0F				4410	*		
0375	43	41	4E		4420	SYSMA	DB	SYSMC-SYSMA-1
0378	27				4430		ASC	'CAN'
0379	54	20	41	55	4440		DB	27H
	54	4F	53	54	4450		ASC	'T AUTOSTART'
	41	52	54					
0384	19				4460	SYSMC	DB	SYSMD-SYSMC-1
0385	41	50	50	52	4470		ASC	'APPROX. CAPACITY (HEX) - '
	4F	58	2E	20				
	43	41	50	41				
	43	49	54	59				
	20	28	48	45				
	58	29	20	2D				
	20							
039E	04				4480	SYSMD	DB	SYSME-SYSMD-1
039F	44	4F	4E	45	4490		ASC	'DONE'
03A3	14				4500	SYSME	DB	SYSMF-SYSME-1
03A4	45	52	52	4F	4510		ASC	'ERROR COUNT (HEX) - '
	52	20	43	4F				
	55	4E	54	20				
	28	48	45	58				
	29	20	2D	20				
03B8	0F				4520	SYSMF	DB	SYSMI-SYSMF-1
03B9	46	49	4C	45	4530		ASC	'FILE TYPE ERROR'
	20	54	59	50				
	45	20	45	52				
	52	4F	52					
03C8	0F				4540	SYSMI	DB	SYSMO-SYSMI-1
03C9	49	4E	56	41	4550		ASC	'INVALID FILE ID'
	4C	49	44	20				
	46	49	4C	45				
	20	49	44					
03D8	09				4560	SYSMO	DB	SYSMS-SYSMO-1
03D9	46	49	4C	45	4570		ASC	'FILE O.K.'
	20	4F	2E	4B				
	2E							
03E2	10				4580	SYSMS	DB	SYSMT-SYSMS-1
03E3	53	49	5A	49	4590		ASC	'SIZING TAPE.....'
	4E	47	20	54				
	41	50	45	2E				
	2E	2E	2E	2E				
03F3	0C				4600	SYSMT	DB	MSEND-SYSMT-1
03F4	54	45	53	54	4610		ASC	'TESTING.....'
	49	4E	47	2E				
	2E	2E	2E	2E				
0400					4620	MSEND	EQU	\$
0400								

4630 *

0400		4640	* SYSTEM WORK AREAS
0400		4650	*
0400		4660	RAM EQU PART1-1 ;TOP OF RAM MEMORY
0400		4670	CURAD EQU RAM-14 ;CURRENT OPEN ADDR
0400		4680	FCB EQU RAM-12 ;FILE CONTROL BLOCK
0400		4690	FCBRC EQU FCB+00 ;RETURN CODE
0400		4700	FCBOP EQU FCB+01 ;OPTION CODE
0400		4710	FCBFP EQU FCB+02 ;FILE POSITION
0400		4720	FCBID EQU FCB+03 ;FILE ID
0400		4730	FCBTY EQU FCB+04 ;FILE TYPE
0400		4740	FCBBG EQU FCB+05 ;BEGIN. ADDR
0400		4750	FCBEN EQU FCB+07 ;ENDING ADDR
0400		4760	FCBAS EQU FCB+09 ;AUTOSTART
0400		4770	FCBER EQU FCB+11 ;DATA ERROR ADDR
0400		4780	*

ADRIN	FE67	1600	2690						
ADRNG	FE50	2570							
CACE	001F	0470	0620						
CAT	0036	0660							
CAT2	0046	0990							
CAT3	0073	0960							
CER	01FF	0680							
CER2	020F	3410							
CER3	0228	3090							
CER4	023C	3100	3220						
CER5	0248	3170	3260						
CERWP	0259	3200							
CHKA2	0169	2160							
CHKAS	0159	1770	2000						
CURAD	FBF1	2190							
DFCB	0278	0970	1910						
DWOUT	02C9	3160	3320	3830	3870	3910			
ECAT	FFE7	0950							
ECER	FFF6	3080							
EGET	FFEC	1690							
ERMS2	02D8	4170							
ERMSG	02D1	1970	2870						
ESAV	FFF1	2810							
EWTP	FFFB	3520							
FCB	FBF3	0930	1660	2780					
FCBAS	FBFC	0870	1550	2080	2760	3900			
FCBBG	FBF8	0860	1640	2600	3820				
FCBEN	FBFA	0900	1530	2620	3860				
FCBER	FBFE	0880	1560	3940					
FCBFP	FBF5	0780	1010	1870	2280	2370	3690		
FCBHD	02E6	0750	1880	4240	4250				
FCBID	FBF6	0850	1440	2550	3780				
FCBOP	FBF4	1170	1710	2010					
FCBRC	FBF3	0810	1520	1740	1940	2260	2830	3650	
FCBTY	FBF7	2450	3730						
GET	0084	0490	1160						
GET02	0096	1120	1140						
GET03	00B2	1270							
GET04	00B7	1240							
GET05	00C3	1320							

GET06	00F3	1590																			
GET07	00F6	1610																			
GET08	0125	1730	1760																		
GET09	0145	1960																			
GETID	00C6	1420																			
GETTY	009D	1300	1350	1370																	
INASC	FF3E	0600	1100	1210	2290	2400															
INPHX	FE74	1410	2480																		
INVAS	01F9	2740																			
MONTR	FC23	1980	2880	3600																	
MSEND	0400	4240	4600																		
MSOU2	0272	1040	1060	2040	2060	2860	3540														
MSOUT	026F	1470	2520	2540	2910	3440															
NOAST	011C	1780																			
OUTBL	FF15	0760	1830	1890	3020	3140	3240	3300	3390	3590	4150										
OUTCH	FFBA	0630	1180	1390	2380	2460	3750														
OUTHX	FEE6	3660	3700	3790	3960	3980															
OUTNL	FF31	0740	0920	1670	1790	1840	1900	1920	2790	3000	3360	3500									
		3580																			
OUTSP	FF24	3680	3720	3770	3810	3850	3890	3930													
PANIC	FF59	0980	3350																		
PART1	FC00																				
PART2	0000																				
RAM	FBFF																				
RC2	0002	3210																			
RC5	0005	3190																			
SAVE	016E	0510																			
SAVE2	0176	2330	2350																		
SAVE3	018D	2310																			
SAVE4	0190	2420	2440																		
SAVE5	01A3	2490																			
SAVE6	01D9	2680																			
SAVE7	01DC	2700																			
START	0000	0540	0580																		
SYSMA	0374	1820	2900	4420																	
SYSMC	0384	3130	4420	4460																	
SYSMD	039E	1020	2020	2840	3530	4460	4480														
SYSME	03A3	3290	4480	4500																	
SYSMF	03B8	4500	4520																		
SYSMI	03C8	1450	2500	4520	4540																
SYSMO	03D8	2050	4540	4560																	
SYSMS	03E2	3010	4560	4580																	
SYSMT	03F3	3380	4580	4600																	
UTIM1	0313	4090	4250	4280																	
UTIM2	0326	1050	3230	4280	4300																
UTIM3	0335	4300	4320																		
UTIM4	0342	4320	4340																		
UTIM5	034F	3430	4340	4360																	
UTIM6	035F	4360	4380																		
UTIM7	0373	4380																			
WAIT	FF01	0730	1630	2750	2990	3490															
WTP	025F	0530																			

FCHK

A 3000 6B62