

```

000.001      2  DEBUG  EQU    1          DEBUG MODE
              3
              4  ***    FLAGS - SET AND CLEAR PROGRAM FLAGS.
              5  *
              6  *    J.G. LETWIN, 2/2/78
              7  *
              8  *    COPYRIGHT 1978, BY THE HEATH COMPANY.
              9
000.000      10
              11  XTEXT  ASCII
    
```

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              13X **  ASCII CHARACTER EQUIVALENCES.
              14X
000.015      15X CR    EQU    13          CARRIAGE RETURN
000.012      16X LF    EQU    10          LINE FEED
000.200      17X NULL  EQU   2000        PAD CHARACTER
000.000      18X NUL2  EQU     0
000.007      19X BELL  EQU     7          BELL CHARACTER
000.177      20X RUBOUT EQU   1770
000.010      21X BKSP  EQU    100        CTL-H
000.026      22X C.SYN EQU    260        SYNC
000.002      23X C.STX EQU     2          SYX
000.047      24X QUOTE EQU    470
000.011      25X TAB   EQU    110
000.033      26X ESC   EQU    330
000.012      27X NL    EQU    120        NEW LINE (HDOS SYSTEMS)
000.212      28X ENL   EQU  NL+2000      NL + END-OF-LINE-FLAG
000.014      29X FF    EQU    140        FORM FEED
000.001      30X CTLA  EQU    010        CTL-A
000.002      31X CTLB  EQU    020        CTL-B
000.003      32X CTLC  EQU    030        CTL-C
000.004      33X CTLD  EQU    040        CTL-D
000.017      34X CTLO  EQU    170        CTL-O
000.020      35X CTFP  EQU    200        CTL-F
000.021      36X CTLQ  EQU    210        CTL-Q
000.023      37X CTLS  EQU    230        CTL-S
000.032      38X CTLZ  EQU    320        CTL-Z
000.000      39      XTEXT  DEVDEF
    
```

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              41X **  DEVICE TABLE ENTRIES.
              42X
000.000      43X      ORG    0
              44X
000.000      45X DEV.NAM DS     2          DEVICE NAME
000.000      46X DV.EL  EQU   0000000B    END OF DEVICE LIST FLAG
000.001      47X DV.NU  EQU   0000001B    DEVICE ENTRY NOT IN USE
              48X
000.002      49X DEV.RES DS     1          DRIVER RESIDENSE CODE
000.001      50X DR.IM  EQU   0000001B    DRIVER IN MEMORY
000.002      51X DR.PR  EQU   0000010B    DRIVER PERMINANTLY RESIDENT
              52X
000.003      53X DEV.JMP DS     1          JMP TO PROCESSOR
    
```

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000.004	54X	DEV.DDA	DS	2	DRIVER ADDRESS
000.006	55X	DEV.FLG	DS	1	FLAG BYTE
000.001	56X	DT.DD	EQU	00000001B	DIRECTORY DEVICE
000.002	57X	DT.CR	EQU	00000010B	CAPABLE OF READ OPERATION
000.004	58X	DT.CW	EQU	00000100B	CAPABLE OF WRITE OPERATION
	59X				
000.007	60X	DEV.SPG	DS	1	SECTORS PER GROUP THIS DEVICE
000.010	61X	DEV.MUM	DS	1	MOUNTED UNIT MASK
000.011	62X	DEV.MNU	DS	1	MAXIMUM NUMBER OF UNITS
000.012	63X	DEV.UNT	DS	2	ADDRESS OF UNIT SPECIFIC DATA TABLE
	64X				
000.014	65X	DEV.DVL	DS	2	DRIVER BYTE LENGTH
000.016	66X	DEV.DVG	DS	1	DRIVER ROUTINE GROUP ADDRESS
	67X				
000.017	68X	DEVELEN	EQU	*	DEVICE TABLE ENTRY LENGTH

70X ** UNIT SPECIFIC DEVICE DATA TABLE ENTRIES

	71X				
000.000	72X	ORG		0	
	73X				
000.000	74X	UNT.FLG	DS	1	UNIT SPECIFIC *DEV.FLG*
000.001	75X	UNT.GRT	DS	2	ADDRESS OF GROUP RESERVATION TABLE (IF DT.DD)
000.003	76X	UNT.GTS	DS	2	GRT SECTOR NUMBER
000.005	77X	UNT.FIS	DS	2	DIRECTORY FIRST SECTOR NUMBER
	78X				
000.007	79X	UNT.SIZ	EQU	*	SIZE OF UNIT SPECIFIC DATA TABLE PER UNIT
000.007	80	XTEXT		DIFDEF	

82X ** DIRECTORY FILE FLAGS.

	83X				
000.200	84X	DIF.SYS	EQU	10000000B	SYSTEM FILE
000.100	85X	DIF.LOC	EQU	01000000B	LOCKED FOR CHANGE
000.040	86X	DIF.WP	EQU	00100000B	WRITE PROTECTED
000.020	87X	DIF.CNT	EQU	00010000B	CONTIGUOUS FILE
	88X				
000.007	89	XTEXT		DIRDEF	

91X ** DIRECTORY ENTRY FORMAT.

	92X				
000.000	93X	ORG		0	
	94X				
	95X				
000.377	96X	DF.EMP	EQU	3770	FLAGS ENTRY EMPTY
000.376	97X	DF.CLR	EQU	3760	FLAGS ENTRY EMPTY, REST OF DIR ALSO CLEAR
	98X				
000.000	99X	DIR.NAM	DS	8	NAME
000.010	100X	DIR.EXT	DS	3	EXTENSION
000.013	101X	DIR.PRO	DS	1	PROJECT

000.014	102X DIR.VER DS	1	VERSION
000.015	103X DIRIDL ERU *		FILE IDENTIFICATION LENGTH
	104X		
000.015	105X DIR.CLU DS	1	CLUSTER FACTOR
000.016	106X DIR.FLG DS	1	FLAGS
000.017	107X DS	1	RESERVED
000.020	108X DIR.FGN DS	1	FIRST GROUP NUMBER
000.021	109X DIR.LGN DS	1	LAST GROUP NUMBER
000.022	110X DIR.LSI DS	1	LAST SECTOR INDEX (IN LAST GROUP)
000.023	111X DIR.CRD DS	2	CREATION DATE
000.025	112X DIR.ALD DS	2	LAST ALTERATION DATE
	113X		
000.027	114X DIRELEN EQU *		DIRECTORY ENTRY LENGTH
000.027	115 XTEXT IOCDEF		
	117X ** I/O CHANNEL DEFINITIONS.		
	118X		
000.000	119X ORG 0		
	120X		
000.000	121X IOC.LNK DS	2	ADDRESS OF NEXT CHANNEL, =0 IF LAST
000.002	122X IOC.DDA DS	2	THREAD JUMP TO DEVICE DRIVER (VIA DEV TABLE)
	123X		
000.004	124X IOC.FLG DS	1	FILE TYPE FLAGS
000.001	125X FT.DR EQU 00000001B		=1 IF DIRECTORY DEVICE
000.002	126X FT.OR EQU 00000010B		=1 IF OPEN FOR READ
000.004	127X FT.OW EQU 00000100B		=1 IF OPEN FOR WRITE
000.010	128X FT.OU EQU 00001000B		=1 IF OPEN FOR UPDATE
000.003	129X IOC.SQL EQU *-IOC.DDA		LENGTH OF INFO FOR SEQUENTIAL FILE (FROM IOC)
	130X		
000.005	131X IOC.GRT DS	2	ADDRESS OF GROUP RESERVATION TABLE
000.007	132X IOC.SPG DS	1	SECTORS PER GROUP, THIS DEVICE
000.010	133X IOC.CGN DS	1	CURRENT GROUP NUMBER
000.011	134X IOC.CSI DS	1	CURRENT SECTOR INDEX (IN CURRENT GROUP)
000.012	135X IOC.LGN DS	1	LAST GROUP NUMBER
000.013	136X IOC.LSI DS	1	LAST SECTOR INDEX (IN LAST GROUP)
000.010	137X IOC.DRL EQU *-IOC.FLG		LENGTH OF INFO NORMALLY COPIED BACK TO THE CHANNEL TABLE
	138X *		
000.014	139X IOC.DTA DS	2	DEVICE TABLE ADDRESS FOR THIS DEVICE
000.016	140X IOC.DES DS	2	SECTOR NUMBER OF DIRECTORY ENTRY
000.020	141X IOC.DEV DS	2	DEVICE CODE
000.022	142X IOC.UNI DS	1	UNIT NUMBER (0-9)
000.021	143X IOC.DIL EQU *-IOC.DDA		LENGTH OF INFO FOR DIRECTORY FILE (FROM IOC)
	144X		
000.023	145X IOC.DIR DS DIRELEN		DIRECTORY ENTRY
	146X		
000.052	147X IOCELEN ERU *		IOC ENTRY LENGTH
	148X		
000.001	149X IOCCTD EQU 1		INDEX OF USER CHANNEL #0 IN CHAN1AB (FIRST = 0)
000.052	150 XTEXT HOSDEF		

HOSDEF

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152X **      HOSDEF - DEFINE HOS PARAMETER.
153X *
154X
155X
000.026     156X .VERS EQU 1*1676      VERSION 1.6
157X
000.377     158X .SYSCALL EQU 3770      SYSCALL INSTRUCTION
159X
000.000     160X
161X          ORG 0
162X
163X *      RESIDENT FUNCTIONS
164X
000.000     165X .EXIT DS 1      EXIT (MUST BE FIRST)
000.001     166X .SCIN DS 1      SCIN
000.002     167X .SCOUT DS 1      SCOUT
000.003     168X .PRINT DS 1      PRINT
000.004     169X .READ DS 1      READ
000.005     170X .WRITE DS 1      WRITE
000.006     171X .CONSL DS 1      SET/CLEAR CONSOLE OPTIONS
000.007     172X .CLRCD DS 1      CLEAR CONSOLE BUFFER
000.010     173X .LOADO DS 1      LOAD AN OVERLAY
000.011     174X .VERS DS 1      RETURN HOS VERSION NUMBER
000.012     175X .SYSRES DS 1      PRECEDING FUNCTIONS ARE RESIDENT
176X
177X
178X *      *HDOSOVLO.SYS* FUNCTIONS
179X
000.040     180X          ORG 40A
181X
000.040     182X .LINK DS 1      LINK (MUST BE FIRST)
000.041     183X .CTLCD DS 1      CTL-C
000.042     184X .OPENR DS 1      OPENR
000.043     185X .OPENW DS 1      OPENW
000.044     186X .OPENU DS 1      OPENU
000.045     187X .OPENC DS 1      OPENC
000.046     188X .CLOSE DS 1      CLOSE
000.047     189X .POSIT DS 1      POSITION
000.050     190X .DELET DS 1      DELETE
000.051     191X .RENAM DS 1      RENAME
000.052     192X .SETTF DS 1      SETTOP
000.053     193X .DECODE DS 1      NAME DECODE
000.054     194X .NAME DS 1      GET FILE NAME FROM CHANNEL
000.055     195X .CLEAR DS 1      CLEAR CHAN
000.056     196X .CLEARA DS 1      CLEAR ALL CHANS
000.057     197X .ERROR DS 1      LOOKUP ERROR
000.060     198X .CHFLG DS 1      CHANGE FLAGS
000.061     199X .DISMT DS 1      FLAG SYSTEM DISK DISMOUNTED
000.062     200X .LOADD DS 1      LOAD DEVICE DRIVER
201X
202X
203X *      *HDOSOVL1.SYS* FUNCTIONS
204X
000.200     205X          ORG 2000
206X
000.200     207X .MOUNT DS 1      MOUNT (MUST BE FIRST)

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000.201	208X	.DMOUN	DS	1	DISMOUNT
000.202	209X	.MONMS	DS	1	MOUNT/NO MESSAGE
000.203	210X	.DMNMS	DS	1	DISMOUNT/NO MESSAGE
000.204	211X	.RESET	DS	1	RESET = DISMOUNT/MOUNT OF UNIT
000.205	212		XTEXT	HOSEQU	

214X ** HDOS SYSTEM EQUIVALENCES.

	215X	*			
	216X	*			
024.000	217X	S.GRT0	EQU	24000A	SYSTEM AREA FOR GRT0
025.000	218X	S.GRT1	EQU	25000A	SYSTEM AREA FOR GRT1
026.000	219X	S.GRT2	EQU	26000A	SYSTEM AREA FOR GRT2
	220X				
030.000	221X	ROMBOOT	EQU	30000A	ROM BOOT ENTRY
	222X				
040.100	223X		ORG	40100A	FREE SPACE FROM PAM-8
	224X				
040.100	225X		DS	8	JUMP TO SYSTEM EXIT
040.110	226X	D.CON	DS	16	DISK CONSTANTS
040.130	227X	SYDD	EQU	*	SYSTEM DISK ENTRY POINT
040.130	228X	D.VEC	DS	24*3	SYSTEM ROM ENTRY VECTORS
040.240	229X	D.RAM	DS	31	SYSTEM ROM WORK AREA
040.277	230X	S.VAL	DS	36	SYSTEM VALUES
040.343	231X	S.INT	DS	115	SYSTEM INTERNAL WORK AREAS
041.126	232X		DS	16	
041.146	233X	S.SOVR	DS	2	STACK OVERFLOW WARNING
041.150	234X		DS	42200A-*	SYSTEM STACK
001.032	235X	STACKL	EQU	*-S.SOVR	STACK SIZE
	236X				
042.200	237X	STACK	EQU	*	LWA+1 SYSTEM STACK
042.200	238X	USERFWA	EQU	*	USER FWA
042.200	239		XTEXT	ESVAL	

241X ** S.VAL - SYSTEM VALUE DEFINITIONS.

	242X	*			
	243X	*			THESE VALUES ARE SET AND MAINTAINED BY THE SYSTEM.
	244X	*			
	245X	*			THE DECK HOSEQU MUST BE MODIFIED WHEN THIS IS MODIFIED.
	246X				
	247X				
040.277	248X		ORG	S.VAL	
	249X				
040.277	250X	S.DATE	DS	9	SYSTEM DATE (IN ASCII)
040.310	251X	S.DATC	DS	2	CODED DATE
040.312	252X	S.TIME	DS	4	TIME FROM MIDNIGHT (IN TICS)
040.316	253X	S.HIMEM	DS	2	HARDWARE HIGH MEMORY ADDRESS+1
	254X				
040.320	255X	S.SYSM	DS	2	FWA RESIDENT SYSTEM
	256X				
040.322	257X	S.USERM	DS	2	LWA USER MEMORY

040.324	258X				
	259X	S.OMAX	DS	2	MAX OVERLAY SIZE FOR SYSTEM
	260X				
	261X				
	262X	**			THE FOLLOWING FIVE CELLS SHOULD BE MODIFIED/READ ONLY VIA THE CONSL SYSCALL
	263X				
000.200	264X	CSL.ECH	EQU	10000000B	SUPPRESS ECHO
000.002	265X	CSL.WRP	EQU	00000010B	WRAP LINES AT WIDTH
000.001	266X	CSL.CHR	EQU	00000001B	OPERATE IN CHARACTER MODE
	267X				
000.000	268X	I.CSLMD	EQU	0	S.CSLMD IS FIRST BYTE
040.326	269X	S.CSLMD	DS	1	CONSOLE MODE
	270X				
000.200	271X	CTP.BKS	EQU	10000000B	TERMINAL PROCESSES BACKSPACES
000.040	272X	CTP.MLI	EQU	00100000B	MAP LOWER CASE TO UPPER ON INPUT
000.020	273X	CTP.MLO	EQU	00010000B	MAP LOWER CASE TO UPPER ON OUTPUT
000.010	274X	CTP.2SB	EQU	00001000B	TERMINAL NEEDS TWO STOP BITS
000.002	275X	CTP.BKM	EQU	00000010B	MAP BKSF (UPON INPUT) TO RUBOUT
000.001	276X	CTP.TAB	EQU	00000001B	TERMINAL SUPPORTS TAB CHARACTERS
	277X				
000.001	278X	I.CONTY	EQU	1	S.CONTY IS 2ND BYTE
000.000	279X	ERRNZ	*-S.CSLMD-I.CONTY		
040.327	280X	S.CONTY	DS	1	CONSOLE TYPE FLAGS
000.002	281X	I.CUSOR	ERU	2	S.CUSOR IS 3RD BYTE
000.000	282X	ERRNZ	*-S.CSLMD-I.CUSOR		
040.330	283X	S.CUSOR	DS	1	CURRENT CURSOR POSITION
000.003	284X	I.CONWI	EQU	3	S.CONWI IS 4TH BYTE
000.000	285X	ERRNZ	*-S.CSLMD-I.CONWI		
040.331	286X	S.CONWI	DS	1	CONSOLE WIDTH
	287X				
000.001	288X	CO.FLG	EQU	00000001B	CTL-D FLAG
000.200	289X	CS.FLG	EQU	10000000B	CTL-S FLAG
	290X				
000.004	291X	I.CONFL	EQU	4	S.CONFL IS 5TH BYTE
000.000	292X	ERRNZ	*-S.CSLMD-I.CONFL		
040.332	293X	S.CONFL	DS	1	CONSOLE FLAGS
	294X				
040.333	295X	S.CADR	DS	2	ADDRESS FOR ABORT PROCESSING (>256 IF VALID)
040.335	296X	S.CCTAB	DS	6	ADDR FOR CTL-A, CTL-B, CTL-C PROCESSING
040.343	297	XTEXT	ESINT		
	299X	**	S.INT		SYSTEM INTERNAL WORKAREA DEFINITIONS.
	300X	*			
	301X	*			THESE CELLS ARE REFERENCED BY OVERLAYS AND MAIN CODE, AND
	302X	*			MUST THEREFORE RESIDE IN FIXED LOW MEMORY.
	303X				
	304X				
040.343	305X	ORG	S.INT		
	306X				
	307X	**	CONSOLE STATUS FLAGS		
	308X				
040.343	309X	S.CDB	DS	1	CONSOLE DESCRIPTOR BYTE
000.000	310X	CDB.H85	EQU	00000000B	

000.001	311X	CDR.H84	EQU	00000001B	=0 IF H8-5, =1 IF H8-4
040.344	312X	S.BAUD	DS	2	[0-14] H8-4 BAUD RATE, =0 IF H8-5
	313X	*			[15] =1 IF BAUD RATE => 2 STOP BITS
	314X				
	315X	**	TABLE ADDRESS WORDS		
	316X				
040.346	317X	S.DLINK	DS	2	ADDRESS OF DATA IN HDOS CODE
040.350	318X	S.DFWA	DS	2	FWA OVERLAY TABLE
040.352	319X	S.CFWA	DS	2	FWA CHANNEL TABLE
040.354	320X	S.DFWA	DS	2	FWA DEVICE TABLE
040.356	321X	S.RFWA	DS	2	FWA RESIDENT HDOS CODE
	322X				
	323X	**	DEVICE DRIVER DELAYED LOAD FLAGS		
	324X				
040.360	325X	S.DDLDA	DS	2	DRIVER LOAD ADDRESS (HIGH BYTE=0 IF NO LOAD PENDING)
040.362	326X	S.DDLEN	DS	2	CODE LENGTH IN BYTES
040.364	327X	S.DDGRF	DS	1	GROUP NUMBER FOR DRIVER
040.365	328X	DS	1		HOLD PLACE
	329X	*S.DDSEC	DS	2	SECTOR NUMBER FOR DRIVER (* OBSOLETE ! *)
040.366	330X	S.DDDTA	DS	2	DEVICE'S ADDRESS IN DEVLST +DEV.RES
040.370	331X	S.DDOPC	DS	1	OPEN OF CODE PENDING
	332X				
	333X	**	OVERLAY MANAGEMENT FLAGS		
	334X				
000.001	335X	OVL.IN	EQU	00000001B	IN MEMORY
000.002	336X	OVL.RES	EQU	00000010B	PERMINANTLY RESIDENT
000.014	337X	OVL.NUM	EQU	00001100B	OVERLAY NUMBER MASK
000.200	338X	OVL.UCS	EQU	10000000B	USER CODE SWAPPED FOR OVERLAY
	339X				
040.371	340X	S.OVLFL	DS	1	OVERLAY FLAG
040.372	341X	S.UCSF	DS	2	FWA SWAPPED USER CODE
040.374	342X	S.UCSL	DS	2	LENGTH SWAPPED USER CODE
040.376	343X	S.OVLS	DS	2	SIZE OF OVERLAY CODE
041.000	344X	S.OVLE	DS	2	ENTRY POINT OF OVERLAY CODE
	345X				
041.002	346X	S.SSN	DS	2	SWAP AREA SECTOR NUMBER
041.004	347X	S.OSN	DS	2	OVERLAY SECTOR NUMBER
	348X				
	349X	*	SYSCALL PROCESSING WORK AREAS		
	350X				
041.006	351X	S.CACC	DS	1	(ACC) UPON SYSCALL
041.007	352X	S.CODE	DS	1	SYSCALL INDEX IN PROGRESS
	353X				
	354X	*	JUMPS TO ROUTINES IN RESIDENT HDOS CODE		
	355X				
041.010	356X	S.JUMPS	DS	0	START OF BUMP VECTORS
041.010	357X	S.SDD	DS	3	JUMP TO STAND-IN DEVICE DRIVER
041.013	358X	S.FASER	DS	3	JUMP TO FATERR (FATAL SYSTEM ERROR)
041.016	359X	S.DIREA	DS	3	JUMP TO DIREAD (DISK FILE READ)
041.021	360X	S.FCI	DS	3	JUMP TO FCI (FETCH CHANNEL INFO)
041.024	361X	S.SCI	DS	3	JUMP TO SCI (STORE CHANNEL INFO)
041.027	362X	S.GUP	DS	3	JUMP TO GUP (GET UNIT POINTER)
	363X				
041.032	364X	S.MOUNT	DS	1	<>0 IF THE SYSTEM DISK IS MOUNTED
041.033	365X	S.DCS	DS	1	DEFAULT CLUSTER SIZE-1
	366X				

ESINT

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041.034	367X	S.BOOTF	DS	1	BOOT FLAGS
000.001	368X	BOOT.P	EQU	00000001B	EXECUTE PROLOGUE UPON BOOTUP
	369X				
	370X	*			STACK VALUE SAVED FOR OVERLAY SYSCALLS
	371X				
041.035	372X	S.OVSTK	DS	2	VALUE OF SP UPON SYSCALLS USING OVERLAY
	373X				
041.037	374X		DS	1	RESERVED

376X ** ACTIVE I/O AREA.
 377X *
 378X * THE AIO.XXX AREA CONTAINS INFORMATION ABOUT THE I/O OPERATION
 379X * CURRENTLY BEING PERFORMED. THE INFORMATION IS OBTAINED FROM
 380X * THE CHANNEL TABLE, AND WILL BE RESTORED THERE WHEN DONE.
 381X *
 382X * NORMALLY, THE AIO.XXX INFORMATION WOULD BE OBTAINED DIRECTLY
 383X * FROM VARIOUS SYSTEM TABLES VIA POINTER REGISTERS. SINCE THE
 384X * BOBO HAS NO GOOD INDEXED ADDRESSING, THE DATA IS MANUALLY
 385X * COPIED INTO THE AIO.XXX CELLS BEFORE PROCESSING, AND
 386X * BACKDATED AFTER PROCESSING.
 387X *

041.040	388X	AIO.VEC	DS	3	JUMP INSTRUCTION
041.041	389X	AIO.DDA	EQU	*-2	DEVICE DRIVER ADDRESS
041.043	390X	AIO.FLG	DS	1	FLAG BYTE
041.044	391X	AIO.GRT	DS	2	ADDRESS OF GROUP RESERV TABLE
041.046	392X	AIO.SPG	DS	1	SECTORS PER GROUP
041.047	393X	AIO.CGN	DS	1	CURRENT GROUP NUMBER
041.050	394X	AIO.CSI	DS	1	CURRENT SECTOR INDEX
041.051	395X	AIO.LGN	DS	1	LAST GROUP NUMBER
041.052	396X	AIO.LSI	DS	1	LAST SECTOR INDEX
041.053	397X	AIO.DTA	DS	2	DEVICE TABLE ADDRESS
041.055	398X	AIO.DES	DS	2	DIRECTORY SECTOR
041.057	399X	AIO.DEV	DS	2	DEVICE CODE
041.061	400X	AIO.UNI	DS	1	UNIT NUMBER (0-9)
	401X				
041.062	402X	AIO.DIR	DS	DIRELEN	DIRECTORY ENTRY
	403X				
041.111	404X	AIO.CNT	DS	1	SECTOR COUNT
041.112	405X	AIO.EDM	DS	1	END OF MEDIA FLAG
041.113	406X	AIO.EOF	DS	1	END OF FILE FLAG
041.114	407X	AIO.TFF	DS	2	TEMP FILE POINTERS
041.116	408X	AIO.CHA	DS	2	ADDRESS OF CHANNEL BLOCK (IOC.DDA)

041.120	410X	S.SCR	DS	2	SYSTEM SCRATCH AREA ADDRESS
041.122	411	XTEXT	ECDEF		

413X ** ERROR CODE DEFINITIONS.

000.000	414X				
000.000	415X	ORG	0		
000.001	416X	DS	1		NO ERROR #0
000.002	417X	EC.EOF	DS	1	END OF FILE
000.003	418X	EC.EOM	DS	1	END OF MEDIA
000.004	419X	EC.ILC	DS	1	ILLEGAL SYSCALL CODE
000.005	420X	EC.CNA	DS	1	CHANNEL NOT AVAILABLE
000.006	421X	EC.DNS	DS	1	DEVICE NOT SUITABLE
000.007	422X	EC.IDN	DS	1	ILLEGAL DEVICE NAME
000.010	423X	EC.IFN	DS	1	ILLEGAL FILE NAME
000.011	424X	EC.NRD	DS	1	NO ROOM FOR DEVICE DRIVER
000.012	425X	EC.FNO	DS	1	CHANNEL NOT OPEN
000.013	426X	EC.ILR	DS	1	ILLEGAL REQUEST
000.014	427X	EC.FUC	DS	1	FILE USAGE CONFLICT
000.015	428X	EC.FNF	DS	1	FILE NAME NOT FOUND
000.016	429X	EC.UND	DS	1	UNKNOWN DEVICE
000.017	430X	EC.ICN	DS	1	ILLEGAL CHANNEL NUMBER
000.020	431X	EC.DIF	DS	1	DIRECTORY FULL
000.021	432X	EC.IFC	DS	1	ILLEGAL FILE CONTENTS
000.022	433X	EC.NEM	DS	1	NOT ENOUGH MEMORY
000.023	434X	EC.RF	DS	1	READ FAILURE
000.024	435X	EC.WF	DS	1	WRITE FAILURE
000.025	436X	EC.WPV	DS	1	WRITE PROTECTION VIOLATION
000.026	437X	EC.WF	DS	1	DISK WRITE PROTECTED
000.027	438X	EC.FAP	DS	1	FILE ALREADY PRESENT
000.030	439X	EC.DDA	DS	1	DEVICE DRIVER ABORT
000.031	440X	EC.FL	DS	1	FILE LOCKED
000.032	441X	EC.FAO	DS	1	FILE ALREADY OPEN
000.033	442X	EC.IS	DS	1	ILLEGAL SWITCH
000.034	443X	EC.UUN	DS	1	UNKNOWN UNIT NUMBER
000.035	444X	EC.FNR	DS	1	FILE NAME REQUIRED
000.036	445X	EC.DIW	DS	1	DEVICE IS NOT WRITABLE (OR WRITE LOCKED)
000.037	446X	EC.UNA	DS	1	UNIT NOT AVAILABLE
000.040	447X	EC.ILV	DS	1	ILLEGAL VALUE
000.041	448X	EC.ILO	DS	1	ILLEGAL OPTION
000.042	449X	EC.VPM	DS	1	VOLUME PRESENTLY MOUNTED ON DEVICE
000.043	450X	EC.NVM	DS	1	NO VOLUME PRESENTLY MOUNTED
000.044	451X	EC.FOD	DS	1	FILE OPEN ON DEVICE
000.045	452X	EC.NPM	DS	1	NO PROVISIONS MADE FOR REMOUNTING MORE DISKS
000.046	453X	EC.DNI	DS	1	DISK NOT INITIALIZED
000.047	454X	EC.DNR	DS	1	DISK IS NOT READABLE
000.050	455X	EC.DSC	DS	1	DISK STRUCTURE IS CORRUPT
000.051	456X	EC.NCV	DS	1	NOT CORRECT VERSION OF HDOS
000.052	457X	EC.NOS	DS	1	NO OPERATING SYSTEM MOUNTED
000.053	458X	EC.OI	DS	1	ILLEGAL OVERLAY INDEX
000.054	459X	EC.OTL	DS	1	OVERLAY TOO LARGE
	460	XTEXT	FILDEF		

FILDEF

14:53:45 16-MAY-80

462X ** FILDEF - FILE TYPE DEFINITIONS.

	463X *			
	464X *	DB	3770,FT,XXX	
	465X			
	466X			
000.000	467X FT.ABS	EQU	0	ABSOLUTE BINARY
000.001	468X FT.PIC	EQU	1	POSITION INDEPENDANT CODE
000.002	469X FT.REL	EQU	2	RELOCATABLE CODE
000.003	470X FT.BAC	EQU	3	COMPILED BASIC CODE
000.054	471	XTEXT	ABSDEF	

473X ** ABS FORMAT EQUIVALENCES.

	474X			
000.000	475X	ORG	0	
	476X			
000.000	477X ABS.ID	DS	1	3770 = BINARY FILE FLAG
000.001	478X	DS	1	FILE TYPE (FT.ABS)
000.002	479X ABS.LDA	DS	2	LOAD ADDRESS
000.004	480X ABS.LEN	DS	2	LENGTH OF ENTIRE RECDRD
000.006	481X ABS.ENT	DS	2	ENTRY POINT
	482X			
000.010	483X ABS.COD	DS	0	CODE STARTS HERE

```

042.170          486      ORG      USERFWA-ABS.COD
042.170 377 000    487      DB      3770,FT,ABS
042.172 200 042   488      DW      USERFWA      LOAD ADDRESS
042.174 255 003   489      DW      MEML-USERFWA   LOAD SIZE
042.176 200 042   490      DW      ENTRY        ENTRY POINT
.....
491
492
493 **          FLAGS - MAIN ENTRY POINT.
494
042.200          495      ENTRY   EQU      *
042.200 315 267 043 496      CALL    PRS          PRESET PROGRAM      /79.12.GC/
042.203 315 372 043 497      CALL    QUI          OFFER USER INSTRUCTIONS
.....
498
499 *          RESTART ADDRESS
500
042.206 257      501      RESTART XRA  A
042.207 377 055  502      DB      SYSCALL, .CLEAR  CLEAR CHANNEL 0
.....
503
504
042.211 315 136 031 505      FLAGS1 CALL    $TYPTX
042.214 012 106 151 506      DB      NL, 'File Name?', ' '+2000
042.230 041 155 046 507      LXI    H,LINE
042.233 315 351 045 508      CALL    $RTL,          READ LINE IN UPPER CASE
042.236 332 264 043 509      JC      EXIT          NONE
042.241 021 047 046 510      LXI    D,DEFALT
042.244 001 065 047 511      LXI    B,FLAGA
042.247 377 053   512      DB      SYSCALL, .DECODE  DECODE DEV INFO
042.251 332 220 043 513      JC      ERROR        NO GOOD
042.254 072 065 047 514      LDA    FLAGA+0       (A) = DEVICE TYPE
042.257 346 001   515      ANI    DT,DD
042.261 076 005   516      MVI    A,EC,DNS
042.263 312 220 043 517      JZ      ERROR        NOT DIRECTORY DEVICE
042.266 021 047 046 518      LXI    D,DEFALT
042.271 041 155 046 519      LXI    H,LINE
042.274 257      520      XRA    A
042.275 377 042   521      DB      SYSCALL, .OPENR  OPEN FOR READ
042.277 332 220 043 522      JC      ERROR
042.302 052 352 040 523      LHLD   S,CFWA
000.000          524      ERRNZ  IDCCTD-1     ASSUME LINK 1 TO USER CHAN #0
042.305 315 211 030 525      CALL    $HLIHL
042.310 315 234 030 526      CALL    $INDL
042.313 041 000   527      DW      IDC,DIR+DIR,FLG
042.315 315 136 031 528      CALL    $TYPTX
042.320 103 168 162 529      DB      'Current Flags = ', ' '+2000
042.340 173      530      MOV    A,E          (A) = FLAGS
042.341 365      531      PUSH  PSW          SAVE FLAGS
042.342 315 251 045 532      CALL    TFF          TYPE FILE FLAGS
042.345 257      533      XRA    A
042.346 377 046   534      DB      SYSCALL, .CLOSE  CLOSE FILE
042.350 341      535      POP   PSW          (A) = FLAGS
042.351 346 100   536      ANI    DIF,LOC
042.353 312 050 043 537      JZ     FLAGS2
000.001          538      IF    DEBUG
.....
539      JMF   FLAGS2      * * DEBUG * *
540      ENDIF
541
.....

```

```

542 *      LOCKED. CANNOT CHANGE
543
042.356 315 136 031 544      CALL      $TYPTX
042.361 007 012 124 545      DB        BELL,NL,'This file is locked; its flags cannot be changed.',ENL
043.045 303 211 042 546      JMP        FLAGS1
547
043.050 315 136 031 548  FLAGS2  CALL      $TYPTX
043.053 012 040 116 549      DB        NL,' New flags:', ' '+2000
043.070 041 321 046 550      LXI      H,LINE2
043.073 315 351 045 551      CALL     $RTL,          READ UPPER CASE
043.076 332 264 043 552      JC        EXIT          EOF
553
554 *      CODE NEW FLAGS
555
043.101 006 000 556      MVI      B,0            (B) = FLAG ACCUM
043.103 176 557  FLAGS3  MOV      A,M
043.104 247 558      ANA      A
043.105 345 559      PUSH    H            SAVE LINE ADDRESS
043.106 312 171 043 560      JZ      FLAGS5          END OF LINE
043.111 041 211 043 561      LXI      H,FLAGR
043.114 315 301 045 562      CALL     $TBLS          FIND FLAG
043.117 312 161 043 563      JE      FLAGS4          GOT FLAG
564
565 *      ILLEGAL FLAG
566
043.122 315 136 031 567      CALL     $TYPTX
043.125 007 012 111 568      DB        BELL,NL,'Illegal flag -', ' '+2000
043.146 341 569      POP     H
043.147 176 570      MOV     A,M            (A) = BAD FLAG
043.150 315 340 045 571      CALL     $MCHAR
043.153 315 343 045 572      CALL     $CRLF
043.156 303 050 043 573      JMP     FLAGS2          GET NEW FLAGS
574
043.161 176 575  FLAGS4  MOV     A,M
043.162 260 576      ORA     B            ACCUMULATE FLAGS
043.163 107 577      MOV     B,A
043.164 341 578      POP     H
043.165 043 579      INX    H            MOVE TO NEXT FLAG
043.166 303 103 043 580      JMP     FLAGS3
581
582 *      GOT ALL THE FLAGS. SETEM
583
043.171 016 377 584  FLAGS5  MVI     C,3770          (C) = MASK
043.173 021 047 046 585      LXI     D,DEFAULT
043.176 041 155 046 586      LXI     H,LINE
043.201 377 060 587      DB     SYSCALL,CHFLG
043.203 332 220 043 588      JC     ERROR
043.206 303 211 042 589      JMP     FLAGS1
590
043.211 127 040 591  FLAGR  DB     'W',DIF.WP
043.213 123 200 592      DB     'S',DIF.SYS
043.215 114 100 593      DB     'L',DIF.LOC
043.217 000 594      DB     0

```

.....
 596 ** ERROR - ERROR ENCOUNTERED.
 597 *
 598
 599
 043.220 EQU *
 043.220 315 226 043 601 CALL ERROR.
 043.223 303 206 042 602 JMP RESTART
 603
 043.226 365 604 ERROR. PUSH PSW
 043.227 315 136 031 605 CALL \$TYPTX
 043.232 012 007 105 606 DB NL,BELL,ERROR,C'+2000
 043.244 361 607 POP PSW
 043.245 046 012 608 MUI H,NL
 043.247 377 057 609 DB SYSCALL,ERROR LOOKUP ERROR
 043.251 311 610 RET

.....
 612 ** CCHIT - HERE IF CTL-C HIT,
 613 *
 614
 615
 043.252 315 136 031 616 CCHIT CALL \$TYPTX
 043.255 136 303 617 DB NL,C'+2000
 043.257 377 007 618 DB SYSCALL,CLRCD CLEAR CONSOLE
 043.261 303 206 042 619 JMP RESTART

.....
 621 ** EXIT - EXIT TO OS.
 622
 623
 043.264 257 624 EXIT XRA A
 043.265 377 000 625 DB SYSCALL,EXIT

```

629 ** PRS - PRESET CONSOLE.
630 *
631
632
043.267 633 PRS EQU *
634
043.267 377 011 635 DB SYSCALL,,VERS /79.12.GC/
043.271 332 362 043 636 JC PRSERR1 PROBABLY NO .VERS SYSCALL /79.12.GC/
043.274 376 026 637 CFI VERS
043.276 302 362 043 638 JNZ PRSERR1 NOT CORRECT VERSION OF BIOS /79.12.GC/
639
043.301 257 640 XRA A
043.302 062 326 040 641 STA S,CSLMD
043.305 041 252 043 642 LXI H,CCHIT
043.310 076 003 643 MVI A,CTLC
043.312 377 041 644 DB SYSCALL,,CTLC
043.314 076 377 645 MVI A,3770
043.316 377 046 646 DB SYSCALL,,CLOSE CLOSE OVERLAY CHANNEL
043.320 041 231 047 647 LXI H,RMEML
043.323 377 052 648 DB SYSCALL,,SETTP SET RUN MEMORY LIMIT
043.325 315 136 031 649 CALL $TYPTX
043.330 012 106 114 650 DB NL, FLAGS Issue $50.05.00.,NL,ENL
043.361 311 651 RET
652
043.362 076 050 653 PRSERR1 MVI A,EC.NCV NOT CORRECT VERSION OF BIOS /79.12.GC/
654
043.364 315 226 043 655 PRSERR CALL ERROR. /79.12.GC/
043.367 303 264 043 656 JMP EXIT /79.12.GC/

658 ** OUI - OFFER USER INSTRUCTIONS.
659 *
660 * ENTRY NONE
661 * EXIT NONE
662 * USES ALL
663
043.372 315 136 031 665 OUI CALL $TYPTX
043.375 111 156 163 666 DB 'Instructions (Yes/No) <No>?', /42000
044.031 041 155 046 667 LXI H,LINE
044.034 315 351 045 668 CALL $RTL.
044.037 332 264 043 669 JC EXIT EOF
044.042 176 670 MOV A,H
044.043 247 671 ANA A
044.044 310 672 RZ DEFAULT, NO
044.045 376 116 673 CFI 'N'
044.047 310 674 RE NO
044.050 376 131 675 CFI 'Y'
044.052 302 372 043 676 JNE OUI KEEP TRYING TILL THE BOZO GETS IT RIGHT
044.055 315 136 031 677 CALL $TYPTX
044.060 012 106 114 678 DB NL, FLAGS is used to set and/or clear the file flags. When
044.147 012 160 162 679 DB NL, prompted for the new flag, specify ALL the flags that are
044.242 012 164 157 680 DB NL, to be set. Note that if you set the 'L' flag, you will
044.331 012 156 157 681 DB NL, not be able to clear it again. The legal flags are:

```

DUI

045.015	012	682	DB	NL	
045.016	012 127 011	683	DB	NL,'M	Write protect file. May not be renamed, replaced, or deleted.
045.116	012 123 011	684	DB	NL,'S	Suppress normal listings or copying of file.
045.174	012 114 011	685	DB	NL,'L	Lock the file from further flag changes.
045.247	212	686	DB	ENL	
045.250	311	687	RET		

689 ** TFF - TYPE FILE FLAGS.

690 *
 691 * TYPE THE CURRENT FLAGS ON THE CONSOLE.

692 *
 693 * ENTRY (A) = FLAGS
 694 * EXIT CURSOR LEFT AFTER LAST FLAG
 695 * USES A,F,H,L

045.251 041 271 045 698 IFF LXI H,TFFA (NL) = FLAG TABLE FWA

045.254 207 699 TFF4 ADD A SAVE FLAGS

045.255 365 700 PUSH PSW

045.256 176 701 MOV A,M TYPE CHARACTER IF FLAG SET

045.257 334 340 045 702 CC #CCHAR POINT TO NEXT FLAG CHARACTER

045.262 043 703 INX H RESTORE FLAGS

045.263 341 704 POP PSW

045.264 247 705 ANA A MORE FLAGS SET

045.265 302 254 045 706 JNZ TFF4 EXIT

045.270 311 707 RET

045.271 123 114 127 708 TFF4 DB 'SLW' IGNORE THE CONTIGUOUS FLAG /79.12.6C/

045.274 000 710 DB 0

045.275 061 062 063 711 DB '1234' CODES

000.000 712 ERRNZ DIF,SYS-2000

000.000 713 ERRNZ DIF,LOC-1000

000.000 714 ERRNZ DIF,WP-400

000.000 715 ERRNZ DIF,CNT-200

045.301

71B

XTEXT TBL5

```

720X ** $TBL5 - TABLE SEARCH
721X *
722X * TABLE FORMAT
723X *
724X * DB KEY1,VAL1,
725X *
726X *
727X * DB KEYN,VALN
728X * DB 0
729X *
730X * ENTRY (A) = PATTERN
731X * (H,L) = TABLE FWA
732X * EXIT (A) = PATTERN IF FOUND
733X * 'Z' SET IF FOUND
734X * 'Z' CLEAR IF NOT FOUND OR PATTERN=0 /78.10.GC/
735X * USES A,F,H,L
736X *
737X *
045.301 305 738X $TBL5 PUSH B
045.302 378 000 739X CPI 0 /78.10.GC/
045.304 312 326 045 740X JZ TBL2 /78.10.GC/
045.307 107 741X MOV B,A
045.310 176 742X TBL1 MOV A,M (A) = CHARACTER
045.311 043 743X INX H
045.312 270 744X CMP B
045.313 312 330 045 745X JZ TBL3 IF MATCH
045.316 247 746X ANA A
045.317 043 747X INX H SKIP FAST
045.320 302 310 045 748X JNZ TBL1 IF NOT END OF TABLE
045.323 053 749X DCX H
045.324 053 750X DCX H
045.325 257 751X XRA A SET TO ZERO FOR OLD USERS /78.10.GC/
045.326 376 001 752X TBL2 CPI 1 CLEAR ZERO /78.10.GC/
753X *
754X * DIONE
755X *
045.330 301 756X TBL3 POP B
045.331 311 757X RET
045.332 758 XTEXT HLIHL

```

```

760X ** $HLIHL = LOAD HL INDIRECT THROUGH HL.
761X *
762X * (HL) = ((HL))
763X *
764X * ENTRY NONE
765X * EXIT NONE
766X * USES A,F,H,L
767X *

```


030.211 768X \$HLIHL EQU 30211A IN H17 ROM
 045.332 769 XTEXT INDL

771X ** \$INDL - INDEXED LOAD.
 772X *
 773X * \$INDL LOADS DE WITH THE TWO BYTES AT (HL)+DISPLACEMENT
 774X *
 775X * THIS ACTS AS AN INDEXED FULL WORD LOAD.
 776X *
 777X * (DE) = ((HL) + DISPLACEMENT)
 778X *
 779X * ENTRY ((RET)) = DISPLACEMENT (FULL WORD)
 780X * (HL) = TABLE ADDRESS
 781X * EXIT TO (RET+2)
 782X * USES A,F,B,E
 783X
 784X

030.234 785X \$INDL EQU 30234A IN H17 ROM
 045.332 786 XTEXT RCHAR

788X ** \$RCHAR - READ SINGLE CHARACTER FROM CONSOLE.
 789X *
 790X * ENTRY NONE
 791X * EXIT (A) = CHARACTER
 792X * USES A,F
 793X
 794X

045.332 377 001 795X \$RCHAR DB SYSCALL,,SCIN
 045.334 332 332 045 796X JC \$RCHAR NOT READY
 045.337 311 797X RET
 798X
 045.340 377 002 799X \$WCHAR DB SYSCALL,,SCOUT
 045.342 311 800X RET
 045.343 801 XTEXT CRLF

803X ** \$CRLF - TYPE CARRIAGE RETURN/ LINE FEED
 804X *
 805X * \$CRLF IS USED TO GENERATE PADDED CRLF'S.
 806X *
 807X * ENTRY NONE
 808X * EXIT (A) = 0
 809X * USES A,F
 810X
 811X

045.343 076 012 812X \$CRLF MVI A,NL
 045.345 377 002 813X DB SYSCALL,,SCOUT
 045.347 257 814X XRA A

045.350 311 815X RET
045.351 816 XTEXT RTL

818X ** \$RTL = READ TEXT LINE.
819X *
820X * \$RTL READS A LINE FROM THE TERMINAL.
821X *
822X * CHARACTER ARE ACCEPTED FROM THE TERMINAL, RUBOUT AND BACKSPACE
823X * CHARACTERS ARE PROCESSED. WHEN A CARRIAGE RETURN IS ENTERED,
824X * \$RTL RETURNS.
825X *
826X * ENTRY (HL) = BUFFER FWA
827X * EXIT 'C' CLEAR IF OK
828X * DATA IN BUFFER
829X * (A) = TEXT LENGTH
830X * 'C' SET IF CTL-D STRUCK
831X * USES A,F
832X
833X

045.351 315 360 045 834X \$RTL CALL \$RTL \$RTL IN UPPER CASE
045.354 330 835X RC CTL-D
045.355 303 027 046 836X JMP \$HLU MAP LINE TO UPPER CASE
837X

045.360 838X \$RTL EQU *
045.360 345 839X PUSH H SAVE FWA
045.361 315 332 045 840X \$RTL1 CALL \$RCHAR
045.364 376 004 841X CPI CTLD
045.366 312 013 046 842X JE \$RTL2 CTL-D STRUCK
045.371 167 843X MOV M,A
045.372 043 844X INX H
045.373 376 012 845X CPI NL
045.375 302 361 045 846X JNE \$RTL1
046.000 053 847X DCX H
046.001 066 000 848X MVI M,0
046.003 043 849X INX H
850X

851X * ALL DONE. COMPUTE LENGTH

852X
046.004 353 853X XCHG (DE) = LWA+1
046.005 343 854X XTHL (HL) = FWA
046.006 173 855X MOV A,E
046.007 225 856X SUB L (A) = LENGTH
046.010 247 857X ANA A CLEAR CARRY
046.011 321 858X POP D RESTORE (DE)
046.012 311 859X RET
860X

861X * CTL-D STRUCK

862X
046.013 341 863X \$RTL2 POP H (HL) = FWA
046.014 067 864X STC
046.015 311 865X RET
046.016 866 XTEXT MCU

.....
 \$MCU

.....
 868X ** MCU - MAP LOWER CASE TO UPPER CASE.
 869X *
 870X * MCU MAPS A LOWER CASE ALPHABETIC TO UPPER
 871X * CASE.
 872X *
 873X * ENTRY (A) = CHARACTER
 874X * EXIT (A) = CHARACTER RESULT
 875X * USES A,F
 876X *
 877X *
 046.016 376 141 878X \$MCU CPI 'a'
 046.020 330 879X RC NOT LOWER CASE
 046.021 376 173 880X CFI 'z'+1
 046.023 320 881X RNC NOT LOWER CASE
 046.024 326 040 882X SUI 'a','A'
 046.026 311 883X RET
 046.027 884 XTEXT MLU

.....
 886X ** MLU - MAP LOWER CASE LINE TO UPPER CASE.
 887X *
 888X * MLU MAPS THE LOWER CASE ALPHABETICS IN A LINE TO UPPER CASE.
 889X *
 890X * ENTRY (HL) = LINE FWA
 891X * EXIT NONE
 892X * USES NONE
 893X *
 894X *
 046.027 365 895X \$MLU PUSH FSW SAVE (FSW)
 046.030 345 896X PUSH H SAVE FWA
 046.031 053 897X DCX H ANTICIPATE INX H
 046.032 043 898X \$MLU1 INX H
 046.033 176 899X MOV A,M (A)= CHARACTER
 046.034 315 016 046 900X CALL \$MCU MAP CHAR TO UPPER
 046.037 167 901X MOV M,A
 046.040 247 902X ANA A
 046.041 302 032 046 903X JNZ \$MLU1 MORE TO GO
 046.044 341 904X POP H RESTORE (HL)
 046.045 361 905X POP FSW RESTORE (FSW)
 046.046 311 906X RET
 046.047 907 XTEXT TYPTX

.....
 909X ** \$TYPTX - TYPE TEXT.
 910X *
 911X * \$TYPTX IS CALLED TO TYPE A BLOCK OF TEXT ON THE SYSTEM CONSOLE.
 912X *
 913X * IMBEDDED ZERO BYTES INDICATE A CARRIAGE RETURN LINE FEED.
 914X * A BYTE WITH THE 2000 BIT SET IS THE LAST BYTE IN THE MESSAGE.
 915X *
 916X * ENTRY (RET) = TEXT
 917X * EXIT TO (RET+LENGTH)


```
046.047 123 131 060 926 DEFALT DB SY0,0,0,0 DEFAULTS
927
046.055 928 MEML EQU * LOAD MEML
929
046.055 930 PATCH DS 64 PATCH AREA
931
046.155 932 LINE DS 100 LINE BUFFER
046.321 933 LINE2 DS 100 FLAGS BUFFER
047.065 934 FLAGA DS 100 DECODE BUFFER
047.231 935 RMEML EQU * RUN MEML
936
047.231 937 END
```

```
ASSEMBLY COMPLETE
937 STATEMENTS
0 ERRORS DETECTED
12952 BYTES FREE
```


CROSS REFERENCE TABLE

DEV.RES	000002	49L			
DEV.SPG	000007	60L			
DEV.UNT	000012	63L			
DEVELEN	000017	68E			
DF.CLR	000376	97E			
DF.EMP	000377	96E			
DIF.CNT	000020	87E	715		
DIF.LOC	000100	85E	536	593	713
DIF.SYS	000200	84E	592	712	
DIF.WP	000040	86E	591	714	
DIR.ALD	000025	112L			
DIR.CLU	000015	105L			
DIR.CRD	000023	111L			
DIR.EXT	000010	100L			
DIR.FGN	000020	108L			
DIR.FLG	000016	106L	527		
DIR.LGN	000021	109L			
DIR.LSI	000022	110L			
DIR.NAM	000000	99L			
DIR.PRO	000013	101L			
DIR.VER	000014	102L			
DIRELEN	000027	114E	145	402	
DIRIDL	000015	103E			
DR.IM	000001	50E			
DR.PR	000002	51E			
DT.CR	000002	57E			
DT.CW	000004	58E			
DT.DD	000001	56E	515		
DV.EL	000000	46E			
DV.NU	000001	47E			
EC.CNA	000004	420L			
EC.DDA	000027	439L			
EC.DIF	000017	431L			
EC.DIW	000035	445L			
EC.DNI	000045	453L			
EC.DNR	000046	454L			
EC.DNS	000005	421L	516		
EC.DSC	000047	455L			
EC.EOF	000001	417L			
EC.EGM	000002	418L			
EC.FAO	000031	441L			
EC.FAP	000026	438L			
EC.FL	000030	440L			
EC.FNF	000014	428L			
EC.FNQ	000011	425L			
EC.FNR	000034	444L			
EC.FOD	000043	451L			
EC.FUC	000013	427L			
EC.ICN	000016	430L			
EC.IDN	000006	422L			
EC.IFC	000020	432L			
EC.IFN	000007	423L			
EC.ILC	000003	419L			
EC.ILO	000040	448L			
EC.ILR	000012	426L			
EC.ILV	000037	447L			
EC.IOI	000052	458L			
EC.IS	000032	442L			

..... FLAGS - SET/CLEAR FILE FLAGS

XREF V1.1

CROSS REFERENCE TABLE

PAGE 25

EC.NCV	000050	456L	653			
EC.NEM	000021	433L				
EC.NOS	000051	457L				
EC.NPM	000044	452L				
EC.NRD	000010	424L				
EC.NVM	000042	450L				
EC.OTL	000053	459L				
EC.RF	000022	434L				
EC.UNA	000036	446L				
EC.UND	000015	429L				
EC.UUN	000033	443L				
EC.VPM	000041	449L				
EC.WF	000023	435L				
EC.WP	000025	437L				
EC.WPV	000024	436L				
ENL	000212	28E	545	650	686	
ENTRY	042200	490	495E			
ERROR	043220	513	517	522	588	600E
ERROR.	043226	601	604L	655		
ESC	000033	26E				
EXIT	043264	509	552	624L	656	669
FF	000014	29E				
FLAGA	047065	511	514	934L		
FLAGB	043211	561	591L			
FLAGS1	042211	505L	546	589		
FLAGS2	043050	537	548L	573		
FLAGS3	043103	557L				
FLAGS4	043161	563	575L			
FLAGS5	043171	560	584L			
FT.ABS	000000	467E	487			
FT.BAC	000003	470E				
FT.DD	000001	125E				
FT.OR	000002	126E				
FT.OU	000010	128E				
FT.OW	000004	127E				
FT.PIC	000001	468E				
FT.REL	000002	469E				
I.CONFL	000004	291E	292			
I.CONTY	000001	278E	279			
I.CONWI	000003	284E	285			
I.CSLMD	000000	268E				
I.CUSOR	000002	281E	282			
IOC.CGN	000010	133L				
IOC.CSI	000011	134L				
IOC.DDA	000002	122L	129	143		
IOC.DES	000016	140L				
IOC.DEV	000020	141L				
IOC.DIL	000021	143E				
IOC.DIR	000023	145L	527			
IOC.DRL	000010	137E				
IOC.DTA	000014	139L				
IOC.FLG	000004	124L	137			
IOC.GRT	000005	131L				
IOC.LGN	000012	135L				
IOC.LNK	000000	121L				
IOC.LSI	000013	136L				
IOC.SFG	000007	132L				
IOC.SQL	000003	129E				

FLAGS - SET/CLEAR FILE FLAGS
CROSS REFERENCE TABLE

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S.MOUNT	041032	364L																	
S.OFWA	040350	318L																	
S.DMAX	040324	259L																	
S.DSN	041004	347L																	
S.OVLE	041000	344L																	
S.OVLFL	040371	340L																	
S.OVLS	040376	343L																	
S.OVSTK	041035	372L																	
S.RFWA	040356	321L																	
S.SCI	041024	361L																	
S.SCR	041120	410L																	
S.SDD	041010	357L																	
S.SQVR	041144	233L	235																
S.SSN	041002	346L																	
S.SYSM	040320	255L																	
S.TIME	040312	252L																	
S.UCSF	040372	341L																	
S.UCSL	040374	342L																	
S.USRM	040322	257L																	
S.VAL	040277	230L	248																
STACK	042200	237E																	
STACKL	001032	235E																	
SYDH	040130	227E																	
SYSCALL	000377	158E	502	512	521	534	587	609	618	625	635	644	646						
		648	795	799	813														
TAB	000011	25E																	
TBL1	045310	742L	748																
TBL2	045326	740	752L																
TBL3	045330	745	754L																
TFF	045251	532	698L																
TFFA	045254	697L	706																
TFFA	045271	698	709L																
UNT.DIS	000005	77L																	
UNT.FLG	000000	74L																	
UNT.GRT	000001	75L																	
UNT.GTS	000003	76L																	
UNT.SIZ	000007	77E																	
USERFWA	042200	238E	486	488	489														
VERS	000026	156E	637																

28204 BYTES FREE

