

```

000.000      1 H8410 EQU 0 ASSEMBLE FOR H8-4 CARD INTERFACE
              3 *** LPDVD - LINE PRINTER DEVICE DRIVER
              4 *
              5 * G. A. CHANDLER 24-AUG-78
              6 *
              7 * Copyright 79.11.15 for:
              8 *
              9 * Heath Co.
             10 * Benton Harbor, MI
             11 * 49022
             12 *

```

```

14 ** LPDVD IS THE DEVICE DRIVER FOR THE DEVICE
15 *
16 * LP:
17 *
18 * LP: is a H-24 printer interfaced via an H-8-4 card (or equivalent,)
19 * at the configured port which may be changed by the set option.
20 *

```

```

000.000      22 XTEXT HOSDEF

```

```

24X ** HOSDEF - DEFINE HOS PARAMETER.
25X *
26X *
27X *

```

```

000.026      28X VERS EQU 1*16+6 VERSION 1.6
29X *

```

```

000.377      30X SYSCALL EQU 377Q SYSCALL INSTRUCTION
31X *
32X *

```

```

000.000      33X ORG 0
34X *

```

```

35X * RESIDENT FUNCTIONS
36X *

```

```

000.000      37X .EXIT DS 1 EXIT (MUST BE FIRST)
000.001      38X .SCIN DS 1 SCIN
000.002      39X .SCOUT DS 1 SCOUT
000.003      40X .PRINT DS 1 PRINT
000.004      41X .READ DS 1 READ
000.005      42X .WRITE DS 1 WRITE
000.006      43X .CONSL DS 1 SET/CLEAR CONSOLE OPTIONS
000.007      44X .CLRCD DS 1 CLEAR CONSOLE BUFFER
000.010      45X .LOADO DS 1 LOAD AN OVERLAY
000.011      46X .VERS DS 1 RETURN HOS VERSION NUMBER
000.012      47X .SYSRES DS 1 PRECEDING FUNCTIONS ARE RESIDENT
48X *
49X *

```

HOSDEF

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50X * *HDOSOVLO.SYS* FUNCTIONS

000.040	51X				
	52X	ORG	40A		
	53X				
000.040	54X	.LINK	DS	1	LINK (MUST BE FIRST)
000.041	55X	.CTLCL	DS	1	CTL-C
000.042	56X	.OPENR	DS	1	OPENR
000.043	57X	.OPENW	DS	1	OPENW
000.044	58X	.OPENU	DS	1	OPENU
000.045	59X	.OPENC	DS	1	OPENC
000.046	60X	.CLOSE	DS	1	CLOSE
000.047	61X	.POSIT	DS	1	POSITION
000.050	62X	.DELET	DS	1	DELETE
000.051	63X	.RENAM	DS	1	RENAME
000.052	64X	.SETTP	DS	1	SETTOP
000.053	65X	.DECODE	DS	1	NAME DECODE
000.054	66X	.NAME	DS	1	GET FILE NAME FROM CHANNEL
000.055	67X	.CLEAR	DS	1	CLEAR CHAN
000.056	68X	.CLEARA	DS	1	CLEAR ALL CHANS
000.057	69X	.ERROR	DS	1	LOOKUP ERROR
000.060	70X	.CHFLG	DS	1	CHANGE FLAGS
000.061	71X	.DISMT	DS	1	FLAG SYSTEM DISK DISMOUNTED
000.062	72X	.LOADD	DS	1	LOAD DEVICE DRIVER
	73X				
	74X				

75X * *HDOSOVLI.SYS* FUNCTIONS

000.200	76X				
	77X	ORG	200Q		
	78X				
000.200	79X	.MOUNT	DS	1	MOUNT (MUST BE FIRST)
000.201	80X	.DMOUN	DS	1	DISMOUNT
000.202	81X	.MONMS	DS	1	MOUNT/NO MESSAGE
000.203	82X	.DMNMS	DS	1	DISMOUNT/NO MESSAGE
000.204	83X	.RESET	DS	1	RESET = DISMOUNT/MOUNT OF UNIT
000.205	84	XTEXT	ASCII		

86X ** ASCII CHARACTER EQUIVALENCES.

000.015	87X				
000.012	88X	CR	EQU	13	CARRIAGE RETURN
000.200	89X	LF	EQU	10	LINE FEED
000.000	90X	NULL	EQU	200Q	PAD CHARACTER
000.007	91X	NUL2	EQU	0	
000.177	92X	BELL	EQU	7	BELL CHARACTER
000.010	93X	RUBOUT	EQU	177Q	
000.026	94X	BKSP	EQU	10Q	CTL-H
000.002	95X	C.SYN	EQU	26Q	SYNC
000.047	96X	C.STX	EQU	2	STX
000.011	97X	QUOTE	EQU	47Q	
000.033	98X	TAB	EQU	11Q	
000.012	99X	ESC	EQU	33Q	
000.212	100X	NL	EQU	12Q	NEW LINE (HDOS SYSTEMS)
000.014	101X	ENL	EQU	NL+200Q	NL + END-OF-LINE-FLAG
000.001	102X	FF	EQU	14Q	FORM FEED
000.002	103X	CTLA	EQU	01Q	CTL-A
	104X	CTLB	EQU	02Q	CTL-B

ASCII

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000.003	105X	CTLG	EQU	03Q	CTL-G
000.004	106X	CTLD	EQU	04Q	CTL-D
000.017	107X	CTLO	EQU	17Q	CTL-O
000.020	108X	CTLP	EQU	20Q	CTL-P
000.021	109X	CTLQ	EQU	21Q	CTL-Q
000.023	110X	CTLS	EQU	23Q	CTL-S
000.032	111X	CTLZ	EQU	32Q	CTL-Z
000.205	112		XTEXT	DDDEF	

114X ** DEVICE DRIVER COMMUNICATION FLAGS.

115X *

116X

000.000	117X	ORG	0	
	118X			

000.000	119X	DC.REA	DS	1	READ
000.001	120X	DC.WRI	DS	1	WRITE
000.002	121X	DC.REK	DS	1	READ REGARDLESS
000.003	122X	DC.OPR	DS	1	OPEN FOR READ
000.004	123X	DC.OPW	DS	1	OPEN FOR WRITE
000.005	124X	DC.OPU	DS	1	OPEN FOR UPDATE
000.006	125X	DC.CLO	DS	1	CLOSE
000.007	126X	DC.ABT	DS	1	ABORT
000.010	127X	DC.MOU	DS	1	MOUNT DEVICE
000.011	128X	DC.LOD	DS	1	LOAD DEVICE DRIVER
000.012	129X	DC.MAX	DS	1	MAXIMUM ENTRY INDEX
000.013	130		XTEXT	MTR	

133X ** MTR - PAM/8 EQUIVALENCES.

134X *

135X * THIS DECK CONTAINS SYMBOLIC DEFINITIONS USED TO

136X * MAKE USE OF THE PAM/8 CODE AND CONTROL BYTES.

138X ** IO PORTS

139X

000.360

140X IP.PAD

EQU 3600

PAD INPUT PORT

000.360

141X OP.CTL

EQU 3600

CONTROL OUTPUT PORT

000.360

142X OP.DIG

EQU 3600

DIGIT SELECT OUTPUT PORT

000.361

143X OP.SEG

EQU 3610

SEGMENT SELECT OUTPUT PORT

145X ** FRONT PANEL CONTROL BITS.

146X

000.020

147X CB.SSI

EQU 00010000B

SINGLE STEP INTERRUPT

000.040

148X CB.MTL

EQU 00100000B

MONITOR LIGHT

000.100

149X CB.CLI

EQU 01000000B

CLOCK INTERRUPT ENABLE

000.200

150X CB.SPK

EQU 10000000B

SPEAKER ENABLE

152X ** MONITOR MODE FLAGS.

153X

000.000

154X DM.MR

EQU 0

MEMORY READ

000.001

155X DM.MW

EQU 1

MEMORY WRITE

000.002

156X DM.RR

EQU 2

REGISTER READ

000.003

157X DM.RW

EQU 3

REGISTER WRITE

159X ** USER OPTION BITS.

160X *

161X *

THESE BITS ARE SET IN CELL .MFLAG.

162X

000.200

163X UD.HLT

EQU 10000000B

DISABLE HALT PROCESSING

000.100

164X UD.NFR

EQU CB.CLI

NO REFRESH OF FRONT PANEL

000.002

165X UD.DDU

EQU 00000010B

DISABLE DISPLAY UPDATE

000.001

166X UD.CLK

EQU 00000001B

ALLOW PRIVATE INTERRUPT PROCESSING

168X ** MONITOR IDENTIFICATION FLAGS

169X *

170X *

THESE BYTES IDENTIFY THE ROM MONITOR.

171X *

THEY ARE THE VARIOUS VALUES OF LOCATION .IDENT

172X

000.021

173X M.PAM8

EQU 0210

'LXI' INSTRUCTION AT 000.000 IN PAM-8

000.303

174X M.FOX

EQU 3030

'JMP' INSTRUCTION AT 000.000 IN FOX ROM

176X ** ROUTINE ENTRY POINTS.

177X *

178X

000.000	179X .IDENT	EQU	0000A	IDENTIFICATION LOCATION
000.053	180X .DLY	EQU	0053A	DELAY
001.267	181X .LOAD	EQU	1267A	TAPE LOAD
001.374	182X .DUMP	EQU	1374A	TAPE DUMP
002.136	183X .ALARM	EQU	2136A	ALARM ROUTINE
002.140	184X .HORN	EQU	2140A	HORN
002.172	185X .CTC	EQU	2172A	CHECK TAPE CHECKSUM
002.205	186X .TPERR	EQU	2205A	TAPE ERROR ROUTINE
002.264	187X .PCHL	EQU	2264A	PCHL INSTRUCTION
002.265	188X .SRS	EQU	2265A	SCAN RECORD START
002.325	189X .RNP	EQU	2325A	READ NEXT PAIR
002.331	190X .RNB	EQU	2331A	READ NEXT BYTE
002.347	191X .CRC	EQU	2347A	CRC-16 CALCULATOR
003.017	192X .WNP	EQU	3017A	WRITE NEXT PAIR
003.024	193X .WNB	EQU	3024A	WRITE NEXT BYTE
003.122	194X .DOD	EQU	3122A	DECODE FOR OCTAL DISPLAY
003.260	195X .RCK	EQU	3260A	READ CONSOLE KEYS
003.358	196X .DODA	EQU	3358A	SEGMENT CODE TABLE

198X ** RAM CELLS USED BY H8MTR.

199X *

200X

040.000	201X .START	EQU	40000A	START DUMP ADDRESS
040.002	202X .IOWRK	EQU	40002A	IN OR OUT INSTRUCTION
040.005	203X .REGI	EQU	40005A	DISPLAYED REGISTER INDEX
040.008	204X .DISPROT	EQU	40006A	PERIOD FLAG BYTE
040.007	205X .DISPMOD	EQU	40007A	DISPLAY MODE
040.010	206X .MFLAG	EQU	40010A	USER OPTION BYTE
040.011	207X .CTLFLG	EQU	40011A	PANEL CONTROL BYTE
040.013	208X .ALEDS	EQU	40013A	ABUSS LEDS
040.021	209X .DLEDS	EQU	40021A	DBUSS LEDS
040.024	210X .ABUSS	EQU	40024A	ABUSS REGISTER
040.027	211X .CRCSUM	EQU	40027A	CRC SUM WORD
040.031	212X .TPERRX	EQU	40031A	TAPE ERROR EXIT VECTOR
040.033	213X .TICCNT	EQU	40033A	CLOCK TICK COUNTER
040.035	214X .REGPTR	EQU	40035A	REGISTER POINTER
040.037	215X .UIVEC	EQU	40037A	USER INTERRUPT VECTORS
000.013	216	XTEXT	H8SEQU	

218X ** HDOS SYSTEM EQUIVALENCES.

219X *

220X

024.000	221X S.GRT0	EQU	24000A	SYSTEM AREA FOR GRT0
025.000	222X S.GRT1	EQU	25000A	SYSTEM AREA FOR GRT1
026.000	223X S.GRT2	EQU	26000A	SYSTEM AREA FOR GRT2
	224X			
030.000	225X ROMBOOT	EQU	30000A	ROM BOOT ENTRY
	226X			

FAM/8.EQUIVALENCES.

HROSERU

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040.100	227X	ORG	40100A	FREE SPACE FROM FAM-8
	228X			
040.100	229X	DS	8	JUMP TO SYSTEM EXIT
040.110	230X D.CON	DS	16	DISK CONSTANTS
040.130	231X SYDD	EQU	*	SYSTEM DISK ENTRY POINT
040.130	232X D.VEC	DS	24*3	SYSTEM ROM ENTRY VECTORS
040.240	233X D.RAM	DS	31	SYSTEM ROM WORK AREA
040.277	234X S.VAL	DS	36	SYSTEM VALUES
040.343	235X S.INT	DS	115	SYSTEM INTERNAL WORK AREAS
041.126	236X	DS	16	
041.146	237X S.SOVR	DS	2	STACK OVERFLOW WARNING
041.150	238X	DS	42200A*	SYSTEM STACK
001.032	239X STACKL	EQU	*-S.SOVR	STACK SIZE
	240X			
042.200	241X STACK	EQU	*	LWA+1 SYSTEM STACK
042.200	242X USERFWA	EQU	*	USER FWA
042.200	243	XTEXT	DIRDEF	

	245X **	DIRECTORY ENTRY FORMAT.		
	246X			
000.000	247X	ORG	0	
	248X			
	249X			
000.377	250X DF.EMP	EQU	3770	FLAGS ENTRY EMPTY
000.376	251X DF.CLR	EQU	3760	FLAGS ENTRY EMPTY, REST OF DIR ALSO CLEAR
	252X			
000.000	253X DIR.NAM	DS	8	NAME
000.010	254X DIR.EXT	DS	3	EXTENSION
000.013	255X DIR.PRO	DS	1	PROJECT
000.014	256X DIR.VER	DS	1	VERSION
000.015	257X DIRIDL	EQU	*	FILE IDENTIFICATION LENGTH
	258X			
000.015	259X DIR.CLU	DS	1	CLUSTER FACTOR
000.016	260X DIR.FLG	DS	1	FLAGS
000.017	261X	DS	1	RESERVED
000.020	262X DIR.FGN	DS	1	FIRST GROUP NUMBER
000.021	263X DIR.LGN	DS	1	LAST GROUP NUMBER
000.022	264X DIR.LSI	DS	1	LAST SECTOR INDEX (IN LAST GROUP)
000.023	265X DIR.CRD	DS	2	CREATION DATE
000.025	266X DIR.ALD	DS	2	LAST ALTERATION DATE
	267X			
000.027	268X DIRELEN	EQU	*	DIRECTORY ENTRY LENGTH
000.027	269	XTEXT	ESINT	

	271X **	S.INT - SYSTEM INTERNAL WORKAREA DEFINITIONS.		
	272X *			
	273X *	THESE CELLS ARE REFERENCED BY OVERLAYS AND MAIN CODE, AND		
	274X *	MUST THEREFORE RESIDE IN FIXED LOW MEMORY.		
	275X			
	276X			
040.343	277X	ORG	S.INT	

	278X				
	279X **	CONSOLE STATUS FLAGS			
	280X				
040.343	281X S.CDB DS	1	CONSOLE DESCRIPTOR BYTE		
000.000	282X CDB.H85 EQU	00000000B			
000.001	283X CDB.H84 EQU	00000001B	=0 IF H8-5, =1 IF H8-4		
040.344	284X S.BAUD DS	2	[0-14] H8-4 BAUD RATE, =0 IF H8-5		
	285X *		[15] =1 IF BAUD RATE => 2 STOP BITS		
	286X				
	287X **	TABLE ADDRESS WORDS			
	288X				
040.346	289X S.DLINK DS	2	ADDRESS OF DATA IN HDOS CODE		
040.350	290X S.OFWA DS	2	FWA OVERLAY TABLE		
040.352	291X S.CFWA DS	2	FWA CHANNEL TABLE		
040.354	292X S.DFWA DS	2	FWA DEVICE TABLE		
040.356	293X S.RFWA DS	2	FWA RESIDENT HDOS CODE		
	294X				
	295X **	DEVICE DRIVER DELAYED LOAD FLAGS			
	296X				
040.360	297X S.DDLDA DS	2	DRIVER LOAD ADDRESS (HIGH BYTE=0 IF NO LOAD PENDING)		
040.362	298X S.DDLEN DS	2	CODE LENGTH IN BYTES		
040.364	299X S.DDGRP DS	1	GROUP NUMBER FOR DRIVER		
040.365	300X DS	1	HOLD PLACE		
	301X *S.DDSEC DS	2	SECTOR NUMBER FOR DRIVER (* OBSOLETE ! *)		
040.368	302X S.DDDTA DS	2	DEVICE'S ADDRESS IN DEVLST+DEV.RES		
040.370	303X S.DDOPC DS	1	OPEN OPCODE PENDING		
	304X				
	305X **	OVERLAY MANAGEMENT FLAGS			
	306X				
000.001	307X OVL.IN EQU	00000001B	IN MEMORY		
000.002	308X OVL.RES EQU	00000010B	PERMANENTLY RESIDENT		
000.014	309X OVL.NUM EQU	00001100B	OVERLAY NUMBER MASK		
000.200	310X OVL.UCS EQU	10000000B	USER CODE SWAPPED FOR OVERLAY		
	311X				
040.371	312X S.OVLFL DS	1	OVERLAY FLAG		
040.372	313X S.UCSF DS	2	FWA SWAPPED USER CODE		
040.374	314X S.UCSL DS	2	LENGTH SWAPPED USER CODE		
040.376	315X S.OVLS DS	2	SIZE OF OVERLAY CODE		
041.000	316X S.OVLE DS	2	ENTRY POINT OF OVERLAY CODE		
	317X				
041.002	318X S.SSN DS	2	SWAP AREA SECTOR NUMBER		
041.004	319X S.OSN DS	2	OVERLAY SECTOR NUMBER		
	320X				
	321X *	SYSCALL PROCESSING WORK AREAS			
	322X				
041.006	323X S.CACC DS	1	(ACC) UPON SYSCALL		
041.007	324X S.CODE DS	1	SYSCALL INDEX IN PROGRESS		
	325X				
	326X *	JUMPS TO ROUTINES IN RESIDENT HDOS CODE			
	327X				
041.010	328X S.JUMPS DS	0	START OF JUMP VECTORS		
041.010	329X S.SDD DS	3	JUMP TO STAND-IN DEVICE DRIVER		
041.013	330X S.FASER DS	3	JUMP TO FATSERK (FATAL SYSTEM ERROR)		
041.016	331X S.DIREA DS	3	JUMP TO DIREAD (DISK FILE READ)		
041.021	332X S.FCI DS	3	JUMP TO FCI (FETCH CHANNEL INFO)		
041.024	333X S.SCI DS	3	JUMP TO SCI (STORE CHANNEL INFO)		

PAM/8 EQUIVALENCES.

ESINT.

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041.027	334X S.GUP DS	3	JUMP TO GUP (GET UNIT POINTER)
	335X		
041.032	336X S.MOUNT DS	1	<0 IF THE SYSTEM DISK IS MOUNTED
041.033	337X S.DCS DS	1	DEFAULT CLUSTER SIZE-1
	338X		
041.034	339X S.BOOTF DS	1	BOOT FLAGS
000.001	340X BOOT.P EQU	00000001B	EXECUTE PROLOGUE UPON BOOTUP
	341X		
	342X *		STACK VALUE SAVED FOR OVERLAY SYSCALLS
	343X		
041.035	344X S.OVSTK DS	2	VALUE OF SP UPON SYSCALLS USING OVERLAY
	345X		
041.037	346X DS	1	RESERVED
	348X **		ACTIVE I/O AREA.
	349X *		
	350X *		THE AIO.XXX AREA CONTAINS INFORMATION ABOUT THE I/O OPERATION
	351X *		CURRENTLY BEING PERFORMED. THE INFORMATION IS OBTAINED FROM
	352X *		THE CHANNEL TABLE, AND WILL BE RESTORED THERE WHEN DONE.
	353X *		
	354X *		NORMALLY, THE AIO.XXX INFORMATION WOULD BE OBTAINED DIRECTLY
	355X *		FROM VARIOUS SYSTEM TABLES VIA POINTER REGISTERS. SINCE THE
	356X *		8080 HAS NO GOOD INDEXED ADDRESSING, THE DATA IS MANUALLY
	357X *		COPIED INTO THE AIO.XXX CELLS BEFORE PROCESSING, AND
	358X *		BACKDATED AFTER PROCESSING.
	359X		
041.040	360X AIO.VEC DS	3	JUMP INSTRUCTION
041.041	361X AIO.DDA EQU	*-2	DEVICE DRIVER ADDRESS
041.043	362X AIO.FLG DS	1	FLAG BYTE
041.044	363X AIO.GRT DS	2	ADDRESS OF GROUP RESERV TABLE
041.046	364X AIO.SPG DS	1	SECTORS PER GROUP
041.047	365X AIO.CGN DS	1	CURRENT GROUP NUMBER
041.050	366X AIO.CSI DS	1	CURRENT SECTOR INDEX
041.051	367X AIO.LGN DS	1	LAST GROUP NUMBER
041.052	368X AIO.LSI DS	1	LAST SECTOR INDEX
041.053	369X AIO.DTA DS	2	DEVICE TABLE ADDRESS
041.055	370X AIO.DES DS	2	DIRECTORY SECTOR
041.057	371X AIO.DEV DS	2	DEVICE CODE
041.061	372X AIO.UNI DS	1	UNIT NUMBER (0-9)
	373X		
041.062	374X AIO.DIR DS	DIRELEN	DIRECTORY ENTRY
	375X		
041.111	376X AIO.CNT DS	1	SECTOR COUNT
041.112	377X AIO.EOM DS	1	END OF MEDIA FLAG
041.113	378X AIO.EOF DS	1	END OF FILE FLAG
041.114	379X AIO.TFP DS	2	TEMP FILE POINTERS
041.116	380X AIO.CHA DS	2	ADDRESS OF CHANNEL BLOCK (IOC.DDA)

041.120	382X S.SCR	DS	2	SYSTEM SCRATCH AREA ADDRESS
041.122	383	XTEXT	ESVAL	

385X ** S.VAL = SYSTEM VALUE DEFINITIONS.

386X *

387X * THESE VALUES ARE SET AND MAINTAINED BY THE SYSTEM.

388X *

389X * THE DECK H08SEQ MUST BE MODIFIED WHEN THIS IS MODIFIED.

390X

391X

040.277

392X

ORG

S.VAL

393X

040.277

394X

S.DATE

DS

9

SYSTEM DATE (IN ASCII)

040.310

395X

S.DATC

DS

2

CODED DATE

040.312

396X

S.TIME

DS

4

TIME FROM MIDNIGHT (IN TICS)

040.316

397X

S.HIMEM

DS

2

HARDWARE HIGH MEMORY ADDRESS+1

398X

040.320

399X

S.SYSM

DS

2

FWA RESIDENT SYSTEM

400X

040.322

401X

S.USRM

DS

2

LWA USER MEMORY

402X

040.324

403X

S.OMAX

DS

2

MAX OVERLAY SIZE FOR SYSTEM

404X

405X

406X ** THE FOLLOWING FIVE CELLS SHOULD BE MODIFIED/READ ONLY VIA THE .CONSL SYSCALL

407X

000.200

408X

CSL.ECH

EQU

10000000B

SUPPRESS ECHO

000.002

409X

CSL.WRP

EQU

00000010B

WRAP LINES AT WIDTH

000.001

410X

CSL.CHR

EQU

00000001B

OPERATE IN CHARACTER MODE

411X

000.000

412X

I.CSLMD

EQU

0

S.CSLMD IS FIRST BYTE

040.326

413X

S.CSLMD

DS

1

CONSOLE MODE

414X

000.200

415X

CTP.BKS

EQU

10000000B

TERMINAL PROCESSES BACKSPACES

000.040

416X

CTP.MLI

EQU

00100000B

MAP LOWER CASE TO UPPER ON INPUT

000.020

417X

CTP.MLO

EQU

00010000B

MAP LOWER CASE TO UPPER ON OUTPUT

000.010

418X

CTP.2SB

EQU

00001000B

TERMINAL NEEDS TWO STOP BITS

000.002

419X

CTP.BKM

EQU

00000010B

MAP BKSP (UPON INPUT) TO RUBOUT

000.001

420X

CTP.TAB

EQU

00000001B

TERMINAL SUPPORTS TAB CHARACTERS

421X

000.001

422X

I.CONTY

EQU

1

S.CONTY IS 2ND BYTE

000.000

423X

ERRNZ

*

S.CSLMD-I.CONTY

040.327

424X

S.CONTY

DS

1

CONSOLE TYPE FLAGS

000.002

425X

I.CUSOR

EQU

2

S.CUSOR IS 3RD BYTE

000.000

426X

ERRNZ

*

S.CSLMD-I.CUSOR

040.330

427X

S.CUSOR

DS

1

CURRENT CURSOR POSITION

000.003

428X

I.CONWI

EQU

3

S.CONWI IS 4TH BYTE

000.000

429X

ERRNZ

*

S.CSLMD-I.CONWI

040.331

430X

S.CONWI

DS

1

CONSOLE WIDTH

431X

000.001

432X

CO.FLG

EQU

00000001B

CTL-0 FLAG

000.200

433X

CS.FLG

EQU

10000000B

CTL-S FLAG

434X

000.004	435X	I.CONFL	EQU	4	S.CONFL IS 5TH BYTE
000.000	436X	ERRNZ			*-S.CSLMD-I.CONFL
040.332	437X	S.CONFL	DS	1	CONSOLE FLAGS
	438X				
040.333	439X	S.CAADR	DS	2	ADDRESS FOR ABORT PROCESSING (>256 IF VALID)
040.335	440X	S.CCTAB	DS	6	ADDR FOR CTL-A, CTL-B, CTL-C PROCESSING
040.343	441	XTEXT	ECDEF		

443X ** ERROR CODE DEFINITIONS.

000.000	444X				
	445X	ORG		0	
000.000	446X	DS		1	NO ERROR #0
000.001	447X	EC.EOF	DS	1	END OF FILE
000.002	448X	EC.EOM	DS	1	END OF MEDIA
000.003	449X	EC.ILC	DS	1	ILLEGAL SYSCALL CODE
000.004	450X	EC.CNA	DS	1	CHANNEL NOT AVAILABLE
000.005	451X	EC.DNS	DS	1	DEVICE NOT SUITABLE
000.006	452X	EC.IDN	DS	1	ILLEGAL DEVICE NAME
000.007	453X	EC.IFN	DS	1	ILLEGAL FILE NAME
000.010	454X	EC.NRD	DS	1	NO ROOM FOR DEVICE DRIVER
000.011	455X	EC.FNO	DS	1	CHANNEL NOT OPEN
000.012	456X	EC.ILR	DS	1	ILLEGAL REQUEST
000.013	457X	EC.FUC	DS	1	FILE USAGE CONFLICT
000.014	458X	EC.FNF	DS	1	FILE NAME NOT FOUND
000.015	459X	EC.UND	DS	1	UNKNOWN DEVICE
000.016	460X	EC.ICN	DS	1	ILLEGAL CHANNEL NUMBER
000.017	461X	EC.DIF	DS	1	DIRECTORY FULL
000.020	462X	EC.IFC	DS	1	ILLEGAL FILE CONTENTS
000.021	463X	EC.NEM	DS	1	NOT ENOUGH MEMORY
000.022	464X	EC.RF	DS	1	READ FAILURE
000.023	465X	EC.WF	DS	1	WRITE FAILURE
000.024	466X	EC.WPV	DS	1	WRITE PROTECTION VIOLATION
000.025	467X	EC.WP	DS	1	DISK WRITE PROTECTED
000.026	468X	EC.FAP	DS	1	FILE ALREADY PRESENT
000.027	469X	EC.DDA	DS	1	DEVICE DRIVER ABORT
000.030	470X	EC.FL	DS	1	FILE LOCKED
000.031	471X	EC.FAO	DS	1	FILE ALREADY OPEN
000.032	472X	EC.IS	DS	1	ILLEGAL SWITCH
000.033	473X	EC.UUN	DS	1	UNKNOWN UNIT NUMBER
000.034	474X	EC.FNR	DS	1	FILE NAME REQUIRED
000.035	475X	EC.DIW	DS	1	DEVICE IS NOT WRITABLE (OR WRITE LOCKED)
000.036	476X	EC.UNA	DS	1	UNIT NOT AVAILABLE
000.037	477X	EC.ILV	DS	1	ILLEGAL VALUE
000.040	478X	EC.ILO	DS	1	ILLEGAL OPTION
000.041	479X	EC.VPM	DS	1	VOLUME PRESENTLY MOUNTED ON DEVICE
000.042	480X	EC.NVM	DS	1	NO VOLUME PRESENTLY MOUNTED
000.043	481X	EC.FOD	DS	1	FILE OPEN ON DEVICE
000.044	482X	EC.NPM	DS	1	NO PROVISIONS MADE FOR REMOUNTING MORE DISKS
000.045	483X	EC.DNI	DS	1	DISK NOT INITIALIZED
000.046	484X	EC.DNR	DS	1	DISK IS NOT READABLE
000.047	485X	EC.DSC	DS	1	DISK STRUCTURE IS CORRUPT
000.050	486X	EC.NCV	DS	1	NOT CORRECT VERSION OF HDOS
000.051	487X	EC.NOS	DS	1	NO OPERATING SYSTEM MOUNTED
000.052	488X	EC.IDI	DS	1	ILLEGAL OVERLAY INDEX

PAM/8 EQUIVALENCES:

ECDEF

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000.053	489X EC.OTL	DS	1	OVERLAY TO LARGE
000.054	490	XTEXT	PICDEF	

492X ** PIC FORMAT EQUIVALENCES.

	493X			
000.000	494X	ORG	0	
	495X			
000.000	496X PIC.ID	DS	1	377Q = BINARY FILE FLAG
000.001	497X	DS	1	FILE TYPE (FT.PIC)
000.002	498X PIC.LEN	DS	2	LENGTH OF ENTIRE RECORD
000.004	499X PIC.PTR	DS	2	INDEX OF START OF PIC TABLE
	500X			
000.006	501X PIC.COD	DS	0	CODE STARTS HERE
000.006	502	XTEXT	DEVDEF	

504X ** DEVICE TABLE ENTRIES.

	505X			
000.000	506X	ORG	0	
	507X			
000.000	508X DEV.NAM	DS	2	DEVICE NAME
000.000	509X DV.EL	EQU	00000000B	END OF DEVICE LIST FLAG
000.001	510X DV.NU	EQU	00000001B	DEVICE ENTRY NOT IN USE
	511X			
000.002	512X DEV.RES	DS	1	DRIVER RESIDENCE CODE
000.001	513X DR.IM	EQU	00000001B	DRIVER IN MEMORY
000.002	514X DR.PR	EQU	00000010B	DRIVER PERMINANTLY RESIDENT
	515X			
000.003	516X DEV.JMP	DS	1	JMP TO PROCESSOR
000.004	517X DEV.IDA	DS	2	DRIVER ADDRESS
000.006	518X DEV.FLG	DS	1	FLAG BYTE
000.001	519X DT.DD	EQU	00000001B	DIRECTORY DEVICE
000.002	520X DT.CR	EQU	00000010B	CAPABLE OF READ OPERATION
000.004	521X DT.CW	EQU	00000100B	CAPABLE OF WRITE OPERATION
	522X			
000.007	523X DEV.SPG	DS	1	SECTORS PER GROUP THIS DEVICE
000.010	524X DEV.MUM	DS	1	MOUNTED UNIT MASK
000.011	525X DEV.MNU	DS	1	MAXIMUM NUMBER OF UNITS
000.012	526X DEV.UNT	DS	2	ADDRESS OF UNIT SPECIFIC DATA TABLE
	527X			
000.014	528X DEV.DVL	DS	2	DRIVER BYTE LENGTH
000.016	529X DEV.DVG	DS	1	DRIVER ROUTINE GROUP ADDRESS
	530X			
000.017	531X DEVELEN	EQU	*	DEVICE TABLE ENTRY LENGTH

PAM/8.EQUIVALENCES.

UNIT.TAB

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533X ** UNIT SPECIFIC DEVICE DATA TABLE ENTRIES

000.000	534X				
	535X	ORG	0		
	536X				
000.000	537X	UNT.FLG DS	1	UNIT SPECIFIC *DEV.FLG*	
000.001	538X	UNT.GRT DS	2	ADDRESS OF GROUP RESERVATION TABLE (IF DT.DD)	
000.003	539X	UNT.GTS DS	2	GRT SECTOR NUMBER	
000.005	540X	UNT.DIS DS	2	DIRECTORY FIRST SECTOR NUMBER	
	541X				
000.007	542X	UNT.SIZ EQU	*	SIZE OF UNIT SPECIFIC DATA TABLE PER UNIT	
000.007	543	XTEXT	DVDDEF		

545X ** DEVICE DRIVER EQUIVALENCES.

	546X				
000.307	547X	DVDFLV EQU	3070	DEVICE DRIVER FLAG VALUE	
	548X				
000.006	549X	ORG	PIC.COD	STARTS AT PIC CODE AREA	
	550X				
000.006	551X	DVD.DVD DS	1	MUST BE DVDFLV FLAG TO HDOS AS DRIVER	
000.007	552X	DVD.CAP DS	1	DEVICE CAPABILITY FLAG	
000.010	553X	DVD.MUM DS	1	MOUNTED UNIT MASK	
000.011	554X	DVD.MNU DS	1	MAXIMUM NUMBER OF UNITS	
000.012	555X	DVD.UFL DS	8	UNIT SUB-CAPABILITY FLAGS FOR UNITS 0-7	
000.022	556X	DVD.SET DS	1	= DVDFLV IFF DRIVER WILL TAKE SET OPTIONS	
000.023	557X	DS	24	RESERVED, MUST BE 0	
000.053	558X	DVD.STE EQU	*	ENTRY FOR 'SET' INVOCATION	
	559X				
002.000	560X	DVD.ENT EQU	2000A	DRIVER ENTRY POINT (MUST BE MULT OF 256)	
000.053	561	XTEXT	U8250		

563X ** 8250 UART CONTROL AND BIT DEFINITIONS.

	564X				
000.350	565X	SC.ACE EQU	3500	SYSTEM CONSOLE PORT IF 8250 ACE	
000.156	566X	AC.DLY EQU	110	220. MIL. SEC. DELAY FOR 8250	
	567X				
000.000	568X	UR.RBR EQU	0	RECEIVER BUFFER REGISTER (READ ONLY)	
	569X				
000.000	570X	UR.THR EQU	0	TRANSMITTER HOLDING REGISTER (WRITE ONLY)	
	571X				
000.000	572X	UR.DLL EQU	0	DIVISOR LATCH (LEAST SIGNIFICANT)	
	573X				
000.001	574X	UR.DLM EQU	1	DIVISOR LATCH (MOST SIGNIFICANT)	
	575X				
000.001	576X	UR.IER EQU	1	INTERRUPT ENABLE REGISTER	
000.001	577X	UC.EDA EQU	00000001B	ENABLE RECEIVED DATA AVAILABLE INTERRUPT	
000.002	578X	UC.TRE EQU	00000010B	ENABLE TRANSMIT HOLD REGISTER EMPTY INTERRUPT	
000.004	579X	UC.RSI EQU	00000100B	ENABLE RECEIVE STATUS INTERRUPT	
000.010	580X	UC.MSI EQU	00001000B	ENABLE MODEM STATUS INTERRUPT	
	581X				
000.002	582X	UR.IIR EQU	2	INTERRUPT IDENTIFICATION REGISTER	

000.001	583X UC.IIF	EQU	00000001B	INVERTED INTERRUPT PENDING (0 MEANS PENDING)
000.006	584X UC.IID	EQU	00000110B	INTERRUPT ID
	585X			
000.003	586X UR.LCR	EQU	3	LINE CONTROL REGISTER
000.000	587X UC.SBW	EQU	00000000B	5 BIT WORDS
000.001	588X UC.6BW	EQU	00000001B	6 BIT WORDS
000.002	589X UC.7BW	EQU	00000010B	7 BIT WORDS
000.003	590X UC.8BW	EQU	00000011B	8 BIT WORDS
000.004	591X UC.2SB	EQU	00000100B	TWO STOP BITS SELECTED
000.010	592X UC.PEN	EQU	00001000B	PARITY COMPUTATION ENABLED
000.020	593X UC.EPS	EQU	00010000B	EVEN PARITY SELECT
000.040	594X UC.SKP	EQU	00100000B	STICK PARITY
000.100	595X UC.SB	EQU	01000000B	SET BREAK
000.200	596X UC.DLA	EQU	10000000B	DIVISOR LATCH ACCESS
	597X			
000.004	598X UR.MCR	EQU	4	MODEM CONTROL REGISTER
000.001	599X UC.DTR	EQU	00000001B	DATA TERMINAL READY
000.002	600X UC.RTS	EQU	00000010B	REQUEST TO SEND
000.004	601X UC.OU1	EQU	00000100B	OUT 1
000.010	602X UC.OU2	EQU	00001000B	OUT 2
000.020	603X UC.LOD	EQU	00010000B	LOOP
	604X			
000.005	605X UR.LSR	EQU	5	LINE STATUS REGISTER
000.001	606X UC.DR	EQU	00000001B	DATA READY
000.002	607X UC.OR	EQU	00000010B	OVERRUN
000.004	608X UC.PE	EQU	00000100B	PARITY ERROR
000.010	609X UC.FE	EQU	00001000B	FRAMING ERROR
000.020	610X UC.BI	EQU	00010000B	BREAK INTERRUPT
000.040	611X UC.THE	EQU	00100000B	TRANSMITTER HOLDING REGISTER EMPTY
000.100	612X UC.TSE	EQU	01000000B	TRANSMITTER SHIFT REGISTER EMPTY
	613X			
000.006	614X UR.MSR	EQU	6	MODEM STATUS REGISTER
000.001	615X UC.DCS	EQU	00000001B	DELTA CLEAR TO SEND
000.002	616X UC.DDR	EQU	00000010B	DELTA DATA SET READY
000.004	617X UC.TER	EQU	00000100B	TRAILING EDGE OF RING
000.010	618X UC.DRL	EQU	00001000B	DELTA RECEIVE LINE SIGNAL DETECT
000.020	619X UC.CTS	EQU	00010000B	CLEAR TO SEND
000.040	620X UC.DSR	EQU	00100000B	DATA SET READY
000.100	621X UC.RI	EQU	01000000B	RING INDICATOR
000.200	622X UC.RLS	EQU	10000000B	RECEIVED LINE SIGNAL DETECT
000.053	623	XTEXT	U8251	

8251 USART BIT DEFINITIONS.

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```

626X **      8251 USART BIT DEFINITIONS.
627X *
628X
629X **      PORT ADDRESSES
630X
000.000      631X UDR      EQU      0      DATA REGISTER IS EVEN
000.001      632X USR      EQU      1      STATUS REGISTER IS NEXT
633X
000.372      634X SC.UART EQU      3720    CONSOLE USART ADDRESS (IFF 8251)
635X
636X
637X **      MODE INSTRUCTION CONTROL BITS.
638X
000.100      639X UMI.1B EQU      01000000B  1 STOP BIT
000.200      640X UMI.HB EQU      10000000B  1 1/2 STOP BITS
000.300      641X UMI.2B EQU      11000000B  2 STOP BITS
000.040      642X UMI.PE EQU      00100000B  EVEN PARITY
000.020      643X UMI.PA EQU      00010000B  USE PARITY
000.000      644X UMI.L5 EQU      00000000B  5 BIT CHARACTERS
000.004      645X UMI.L6 EQU      00000100B  6 BIT CHARACTERS
000.010      646X UMI.L7 EQU      00001000B  7 BIT CHARACTERS
000.014      647X UMI.L8 EQU      00001100B  8 BIT CHARACTERS
000.001      648X UMI.1X EQU      00000001B  CLOCK X 1
000.002      649X UMI.16X EQU     00000010B  CLOCK X 16
000.003      650X UMI.64X EQU     00000011B  CLOCK X 64
651X
652X **      COMMAND INSTRUCTION BITS.
653X
000.100      654X UCI.IR EQU      01000000B  INTERNAL RESET
000.040      655X UCI.RD EQU      00100000B  READER-ON CONTROL FLAG
000.020      656X UCI.ER EQU      00010000B  ERROR RESET
000.004      657X UCI.RE EQU      00000100B  RECEIVE ENABLE
000.002      658X UCI.IE EQU      00000010B  ENABLE INTERRUPTS FLAG
000.001      659X UCI.TE EQU      00000001B  TRANSMIT ENABLE
660X
661X **      STATUS READ COMMAND BITS.
662X
000.040      663X USR.FE EQU      00100000B  FRAMING ERROR
000.020      664X USR.OE EQU      00010000B  OVERRUN ERROR
000.010      665X USR.PE EQU      00001000B  PARITY ERROR
000.004      666X USR.TXE EQU      00000100B  TRANSMITTER EMPTY
000.002      667X USR.RXR EQU      00000010B  RECEIVER READY
000.001      668X USR.TXR EQU      00000001B  TRANSMITTER READY
000.053      669X XTEXT SETCAL

```

```

671X **      SETCAL - FIXED ADDRESS ROUTINES IN SET
672X *
673X *      THESE VECTORS ARE FIXED ENTRY POINTS INTO THE
674X *      SET PROGRAM TO UTILIZED BY DEVICE DRIVERS IN
675X *      PROCESSING SET COMMANDS.
676X *
677X
042.201      678X ORG      USERFWA+1

```

		679X			
042.201		680X \$SNA	DS	3	
		681X			
042.204		682X \$DCS	DS	3	
		683X			
042.207		684X \$CNA	DS	3	
		685X			
042.212		686X \$FST	DS	3	
		687X			
042.215		688X \$TBLS	DS	3	
		689X			
042.220		690X \$WTBLS	DS	3	
		691X			
042.223		692X \$LBD	DS	3	
		693X			
042.226		694X \$SOP	DS	3	
		695X			
042.231		696X \$PBF	DS	3	
		697X			
042.234		698X \$FBV	DS	3	
		699X			
042.237		700X	DS	60	RESERVED
		701	CODE	PIC	
		702			
		703 *	CODE	HEADER	
		704			
000.006	307	705	DB	DVDFLV	DEVICE DRIVER FLAG VALUE
000.007	004	706	DB	DT.CW	DEVICE CAPABILITY: WRITE
000.010	001	707	DB	00000001B	MOUNTED UNIT MASK
000.011	001	708	DB	1	ONLY 1 UNIT
000.012	004	709	DB	DT.CW	0: CAPABLE OF WRITE
000.013		710	DS	7	1-7: IGNORED
000.022	307	711	DB	DVDFLV	
		712			
000.000		713	ERRNZ	*-23Q	
000.023		714	DS	DVD.STE-23Q	RESERVED AREAS

ASSEMBLY CONSTANTS

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717 *** ASSEMBLY CONSTANTS

718 *

719 *

720

721 ** FLAG DEFINITIONS

722 *

723

000.001

724 F.FORM

EQU

00000001B

FORM-FEED UPON CLOSE

726 ** DEFAULT DEVICE DEFINITIONS

727 *

000.340

728 DFLT.LP

EQU

3400

DEFAULT LPO: ADDRESS

000.030

729 DFLT.BD

EQU

30A

DEFAULT BAUD RATE = 4800 BAUD

730

000.001

731 DFLT.FG

EQU

F.FORM

DEFAULT FLAG: FORM

000.006

732 DFLT.LI

EQU

6

LINES/INCH

000.204

733 DFLT.WD

EQU

132

CHARACTERS/LINE

000.102

734 DFLT.FL

EQU

66

11 INCH FORM

000.074

735 DFLT.LC

EQU

60

LINE COUNT = 60 LINES/PAGE

736

000.001

737 DFLT.LX

EQU

1

INITIAL LINE INDEX

000.001

738 DFLT.CX

EQU

1

INITIAL COLUMN INDEX

SET CODE

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```

741 *** SET CODE ENTRY POINT
742 *
743 * SET COMMANDS ENTER HERE
744 *
745 * ENTRY: (DE) = LINE POINTER
746 * (A) = UNIT NUMBER
747 *
748 * EXIT: 'C' CLEAR IF OK
749 * 'C' SET IF ERROR
750 * (A) = ERROR CODE
751 *
752 * USES: ALL
753 *
754
000.053 755 SETNTR EQU *
000.000 756 ERRNZ *-DVD.STE
000.053 247 757 ANA A
000.054 302 103 000 758 JNZ SET1
000.057 102 759 MOV B,D
000.060 113 760 MOV C,E (BC) = PARAMETER LIST ADDRESS
000.061 021 342 001 761 LXI D,PRCTAB (DE) = PROCESSOR TABLE ADDRESS
000.064 041 200 001 762 LXI H,OPTTAB (HL) = OPTION TABLE ADDRESS
000.067 315 226 042 763 CALL $SOP
000.072 330 764 RC
000.073 315 201 042 765 CALL $SNA
000.076 310 766 RZ AT END OF LINE
000.077 076 040 767 MVI A,EC.ILO ILLEGAL OPTION
000.101 067 768 STC
000.102 311 769 RET
770
000.103 076 033 771 SET1 MVI A,EC.UON
000.105 067 772 STC
000.106 311 773 RET

```

```

775 *** PROCESSORS
776 *

```

```

778 ** FLAG - PROCESS FLAG OPTIONS
779 *
780 * PROCESS FLAG TYPE OPTION SPECIFICATIONS
781 *
782 *
783 * ENTRY, EXIT, AND USE SAME AS PBF
784
042.231 785 FLAG EQU $PBF PROCESS BYTE FLAGS

```

SET CODE

VAL

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```

787 ** VAL - PROCESS VALUE OPTIONS
788 *
789 * PROCESS VALUE TYPE OPTION SPECIFICATIONS
790 *
791 *
792 * ENTRY, EXIT, AND USE SAME AS PBV
793 *
042,234 794 VAL EQU $PBV PROCESS BYTE VALUES

```

```

796 ** BAUD - PROCESS BAUD RATE
797 *
798 * PROCESS BAUD RATE OPTION SPECIFICATION.
799 *
800 *
801 * ENTRY: (BC) = TEXT ADDRESS
802 *
803 * EXIT: (BC) = TEXT ADDRESS UPDATED
804 * 'C' CLEAR IF OK
805 * 'C' SET IF ERROR
806 * (A) = ERROR CODE
807 *
808 * USES: ALL
809 *
810
000,107 076 012 811 BAUD MVI A,10 (A) = DEFAULT RADIX
000,111 315 207 042 812 CALL $CNA
000,114 332 132 000 813 JC BAUI
000,117 353 814 XCHG (DE) = BAUD RATE
000,120 315 223 042 815 CALL $LBD
000,123 302 132 000 816 JNZ BAUI
000,126 042 037 004 817 SHLD TLP,BAU SET BAUD RATE WORD
000,131 311 818 RET
819
000,132 076 037 820 BAUI MVI A,EC,ILV ILLEGAL VALUE
000,134 047 821 STC
000,135 311 822 RET

```

```

824 ** LPI - PROCESS LINES/INCH OPTION
825 *
826 * INPUT EITHER 6 OR 8 FOR THE LINES/INCH
827 *
828
000,136 829 LPI EQU *
830
000,136 076 012 831 MVI A,10 DEFAULT BASE = 10
000,140 315 207 042 832 CALL $CNA
000,143 332 200 000 833 JC LPI1 NOT A GOOD NUMERIC VALUE
834
000,146 174 835 MOV A,H
000,147 247 836 ANA A

```

SET CODE

LPI

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000.150 302 200 000 837 JNZ LPI1 VALUE IS TOO BIG

000.153 175 838
000.154 376 006 839

MOV A,L

000.156 332 200 000 840

CPI 6

000.161 376 007 841

JC LPI1

VALUE IS TOO SMALL

000.163 312 200 000 842

CPI 7

000.166 376 011 843

JZ LPI1

7 IS NOT LEGAL

000.170 322 200 000 844

CPI 8+1

000.173 062 041 004 845

JNC LPI1

STILL TOO BIG

000.176 247 846

STA TLP:LPI

000.177 311 847

ANA A

CLEAR CARRY

000.200 076 037 848

PROCESS A LEGAL WIDTH

000.202 067 849 *

STA TLP:LPI

000.203 311 850

ANA A

000.204 315 136 031 851

JNZ LPI1

000.207 012 012 123 852

DB

000.227 102 101 125 853

DB

000.253 106 117 122 854

DB

000.310 110 105 114 855

DB

000.335 116 117 106 856

DB

000.375 114 105 116 857

DB

001.032 114 120 111 858

DB

001.057 120 101 107 859

DB

001.104 120 117 122 860

DB

001.132 127 111 104 861

DB

001.174 012 212 862

DB

001.176 257 863

DB

001.177 311 864

DB

001.204 315 136 031 865

DB

001.207 012 012 123 866

DB

001.227 102 101 125 867

DB

001.253 106 117 122 868

DB

001.310 110 105 114 869

DB

001.335 116 117 106 870

DB

001.375 114 105 116 871

DB

001.032 114 120 111 872

DB

001.057 120 101 107 873

DB

001.104 120 117 122 874

DB

001.132 127 111 104 875

DB

001.174 012 212 876

DB

001.176 257 877

DB

001.177 311 878

DB

001.204 315 136 031 879

DB

001.207 012 012 123 880

DB

001.227 102 101 125 881

DB

001.253 106 117 122 882

DB

001.310 110 105 114 883

DB

001.335 116 117 106 884

DB

001.375 114 105 116 885

DB

001.032 114 120 111 886

DB

001.057 120 101 107 887

DB

001.104 120 117 122 888

DB

001.132 127 111 104 889

DB

001.174 012 212 890

DB

001.176 257 891

DB

001.177 311 892

DB

861 ** HELP - PROCESS HELP OPTION

862 *

863 *

864 *

865 *

866 *

867 *

868 *

869 *

870 *

871 *

872 *

873 *

874 *

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1021 *

1022 *

1023 *

1024 *

1025 *

1026 *

1027 *

1028 *

1029 *

SET CODE

18:31:31 14-MAY-80

886 *** TABLES
 887 *
 888 *

890 ** OPTTAB - OPTION TABLE
 891 *

001.200	341	001	892		
001.202	006		893	OPTTAB	DW OPTTAB
			894	DB	6
			895		
001.203	106	117 122	896	DB	'FOR', 'M'+2000, FLAG1, F, FORM, F, FORM
001.212	035	004	897	DW	TLP.FLG
001.214	000		898	DB	0
			899		
001.215	116	117 106	900	DB	'NOFOR', 'M'+2000, FLAG1, F, FORM, 0
001.226	035	004	901	DW	TLP.FLG
001.230	000		902	DB	0
			903		
001.231	114	105 116	904	DB	'LENGT', 'H'+2000, VAL1, 10, 4, 112
001.243	043	004	905	DW	TLP.LEN
			906		
001.245	120	101 107	907	DB	'PAG', 'E'+2000, VAL1, 10, 0, 255
001.255	044	004	908	DW	TLP.LC
			909		
001.257	120	117 122	910	DB	'POR', 'T'+2000, VAL1, 8, 0, 3770
001.267	036	004	911	DW	TLP.POR
			912		
001.271	127	111 104	913	DB	'WIDT', 'H'+2000, VAL1, 10, 0, 132
001.302	042	004	914	DW	TLP.WID
			915		
001.304	102	101 125	916	DB	'BAU', 'D'+2000, BAUDI
001.311	000	000 000	917	DB	0,0,0,0,0
			918		
001.316	114	120 311	919	DB	'LP', 'I'+2000, LPII
001.322	000	000 000	920	DB	0,0,0,0,0
			921		
001.327	110	105 114	922	DB	'HEL', 'F'+2000, HELPI
001.334	000	000 000	923	DB	0,0,0,0,0
			924		
001.341	000		925	OPTTAB	DB 0

927 ** PRCTAB - PROCESSOR TABLE

928 *

001.342			929		
			930	PRCTAB	DS 0
			931		
000.000			932	FLAG1	EQU *-PRCTAB/2
001.342	231	042	933	DW	FLAG
			934		
000.001			935	VAL1	EQU *-PRCTAB/2

SET CODE

PRCTAB

18:31:32 16-MAY-80

001.344	234 042	936	DW	VAL
		937		
000.002		938	BAUDI	EQU
001.346	107 000	939	DW	BAUD
		940		
000.003		941	LFII	EQU
001.350	136 000	942	DW	LPT
		943		
000.004		944	HELPI	EQU
001.352	204 000	945	DW	HELP

001.354		947	SET	1354A
000.000		948	ERRNZ	*-
001.354		949	DS	DVD.ENT-

```

952 *** LPDVD ENTRY POINT
953 *
954 * ENTRY: (A) = PROCESS CODE
955 * (BC) = BYTE COUNT
956 * (DE) = BUFFER ADDRESS AS PER ROUTINE
957 *
958 * EXIT: (PSW) = 'C' CLEAR IF NO ERRORS
959 * = 'C' SET IF ERROR
960 * (A) = ERROR CODE
961 *
962 * USES: ALL
963 *
964 *
965 *
966 *
002.000 967 LPDVD EQU *
000.000 968 ERRNZ *-DVD.ENT
002.000 376 012 969 CPI DC,MAX
002.002 322 022 002 970 JNC LPDVD1 IF ILLEGAL PROCESS CODE
971 *
002.005 315 076 031 972 CALL $TBRA ENTRY PROCESSOR
002.010 016 973 DB LPNSUIT-* READ
002.011 113 974 DB LPWRITE-* WRITE
002.012 014 975 DB LPNSUIT-* READR
002.013 013 976 DB LPNSUIT-* OPENR
002.014 027 977 DB LPOPENW-* OPENW
002.015 011 978 DB LPNSUIT-* OPENU
002.016 150 979 DB LPCLOSE-* CLOSE
002.017 013 980 DB LPABORT-* ABORT
002.020 012 981 DB LPABORT-* MOUNT
002.021 020 982 DB LPLOADD-* LOADD
983 *
002.022 076 012 984 LPDVD1 MOVI A,EC.ILR ILLEGAL REQUEST
002.024 067 985 STC
002.025 311 986 RET
987 *

```

```

990 ***      LPNSUIT - LINE PRINTER NOT SUITABLE
991 *
992 *      ENTRY:  NONE
993 *
994 *      EXIT:   (PSW) = 'C' SET FLAGGING ERROR
995 *              (A)  = ERROR CODE
996 *
997 *      USES:   PSW
998 *
999
002.026      1000 LPNSUIT EQU  *
002.026 076 005 1001      MVI  A,EC.DNS      DEVICE NOT SUITABLE ERROR CODE
002.030 067      1002      STC
002.031 311      1003      RET

```

```

1005 ***      LPABORT - LINE PRINTER ABORT
1006 *
1007 *      ENTRY:  NONE
1008 *
1009 *      EXIT:   (PSW) = 'C' SET FLAGGING ERROR
1010 *              (A)  = ERROR CODE
1011 *
1012 *      USES:   PSW
1013 *
1014
002.032      1015 LPABORT EQU  *
002.032 315 166 002 1016      CALL  LPCLOSE
002.035 076 027      1017      MVI  A,EC.DDA      DEVICE DRIVER ABORT ERROR CODE
002.037 067      1018      STC
002.040 311      1019      RET

```

```

1021 ***      LPLOADD - LOAD LP:
1022 *
1023 *      LPLOADD PROCESS THE LOAD DEVICE DRIVER ENTRY POINT.
1024 *
1025 *
1026 *      ENTRY:  NONE
1027 *
1028 *      EXIT:   NONE
1029 *
1030 *      USES:   (F)
1031 *
1032
002.041      1033 LPLOADD EQU  *
002.041 247      1034      ANA  A      CLEAR CARRY
002.042 311      1035      RET

```

```

1038 ***      LOPENW - LINE PRINTER OPEN FOR WRITE
1039 *
1040 *      SET UP LINE PRINTER FOR OUTPUT
1041 *
1042 *      ENTRY    NONE
1043 *
1044 *      EXIT      (PSW) = 'C' CLEAR => NO ERROR
1045 *                'C' SET => ERROR
1046 *                (A)  = ERROR CODE
1047 *
1048 *      USES      ALL
1049 *
1050
002.043      1051 LOPENW EQU *
1052
002.043 315 072 003 1053      CALL    UNITASS
002.046 067      1054      STC          ASSUME ERROR
002.047 076 036 1055      MVI      A,EC.UNA
002.051 300      1056      RNZ          ALREADY ASSIGNED
1057
1058 *      FLAG ASSIGNED, INITIALIZE INDICES, AND CTL-S FLAG
1059
002.052 076 200 1060      MVI      A,10000000B
002.054 062 034 004 1061      STA      TLP,AS
002.057 076 001 1062      MVI      A,1
002.061 062 045 004 1063      STA      TLP,LX
002.064 062 046 004 1064      STA      TLP,CX
1065
1066
1067 *      INITIALIZE PORT
1068
002.067 072 036 004 1069      LDA      TLP,POR
002.072 052 037 004 1070      LHLD    TLP,BAU
002.075 315 302 003 1071      CALL    I8250
1072
002.100 072 036 004 1073      LDA      TLP,POR
002.103 147      1074      MOV      H,A
002.104 056 004 1075      MVI      L,UR.MCR
002.106 076 013 1076      MVI      A,UC.DTR+UC.RTS+UC.OU2
002.110 315 022 004 1077      CALL    OUT          SET UP FOR HAND-SHAKE
1078
1079 *      INITIALIZE LP:
1080
002.113 315 130 003 1081      CALL    INITLP
002.116 076 015 1082      MVI      A,CR
002.120 315 241 002 1083      CALL    LPOUTCH
002.123 311      1084      RET
  
```



```

1087 *** LPWRITE - LINE PRINTER WRITE
1088 *
1089 * WRITE BYTES TO LP: DEVICE
1090 *
1091 *
1092 * ENTRY: (BC) = BYTE COUNT
1093 * (DE) = ADDRESS OF DATA BUFFER
1094 *
1095 * EXIT: (PSW) = 'C' CLEAR => NO ERROR
1096 * = 'C' SET => ERROR
1097 * (A) = ERROR CODE
1098 * (BC) = UNUSED BYTE COUNT
1099 * (DE) = ADDRESS OF NEXT BYTE TO BE WRITTEN
1100 *
1101 * USES: ALL
1102 *
1103
002.124 1104 LPWRITE EQU *
1105
002.124 315 072 003 1106 CALL UNITASS
002.127 067 1107 STC ASSUME ERROR
002.130 076 036 1108 MVI A,EC.UNA
002.132 310 1109 RZ NOT ASSIGNED
1110
002.133 170 1111 LPW1 MOV A,B
002.134 261 1112 ORA C
002.135 310 1113 RZ LAST BYTE WRITTEN
1114
002.136 072 334 040 1115 LDA S.CAADR+1
002.141 247 1116 ANA A
002.142 302 156 002 1117 JNZ LPWS CTL-Z,-A,-B,-C HIT
002.145 032 1118 LDAX D (A) = BYTE TO BE WRITTEN
002.146 315 241 002 1119 CALL LPDUTCH
002.151 023 1120 INX D INCREMENT ADDRESS
002.152 013 1121 DCX B DECREMENT COUNT
002.153 303 133 002 1122 JMP LPW1
1123
002.156 1124 LPWS EQU *
002.156 345 1125 PUSH H
002.157 365 1126 PUSH PSW
002.160 315 205 002 1127 CALL LPCLDS. OUTPUT FORM-FEED
002.163 361 1128 POP PSW
002.164 341 1129 POP H
002.165 311 1130 RET

```

```

1133 ***      LPCLOSE - CLOSE LINE PRINTER FOR OUTPUT
1134 *
1135 *      REMOVE SELECTED LP: DEVICE FROM TABLE OF CURRENTLY ACTIVE DEVICES.
1136 *
1137 *      ENTRY      NONE
1138 *
1139 *      EXIT      (PSW) = 'C' CLEAR => NO ERROR
1140 *               = 'C' SET  => ERROR
1141 *               (A)  = ERROR CODE
1142 *
1143 *      USES      ALL
1144 *
1145 *
002.166      1146 LPCLOSE EQU      *
1147
002.166 315 072 003 1148      CALL      UNITASS
002.171 076 036 1149      MVI      A,EC.UNA      UNIT NOT AVAILABLE
002.173 067 1150      STC
002.174 310 1151      RZ      UNIT NOT ASSIGNED
1152
002.175 072 034 004 1153      LDA      TLP,AS
002.200 346 177 1154      ANI      #01111111B      CLEAR ASSIGNED BIT
002.202 062 034 004 1155      STA      TLP,AS
1156
002.205 072 035 004 1157 LPCLOS. LDA      TLP,FLG
002.210 346 001 1158      ANI      F,FDRM
002.212 310 1159      RZ      NO FORM-FEED UPON CLOSE
1160
002.213 072 036 004 1161      LDA      TLP,POR
002.216 147 1162      MOV      H,A
002.217 056 005 1163      MVI      L,UR.LSR
1164
002.221 315 012 004 1165 LPC1  CALL      IN
002.224 346 040 1166      ANI      UC,THE
002.226 312 221 002 1167      JZ      LPC1      NOT READY FOR TRANSMIT
1168
002.231 056 000 1169      MVI      L,UR,THR
002.233 076 014 1170      MVI      A,FF
002.235 315 022 004 1171      CALL      OUT      OUTPUT FORM-FEED
1172
002.240 311 1173      RET
  
```

```

1177 *** LPOUTCH - LINE PRINTER OUTPUT CHARACTER
1178 *
1179 * The special characters processed are:
1180 *
1181 * NULL
1182 * TAB
1183 *
1184 * ENTRY: (A) = BYTE TO BE WRITTEN
1185 * (HL) = UNIT NUMBER OF OUTPUT DEVICE
1186 *
1187 * EXIT: Column Index updated
1188 *
1189 * USES: (PSW)
1190 *
1191 *
002.241 1192 LPOUTCH EQU *
002.241 1193 PUSH H
1194
1195
002.242 376 014 1196 CPI FF
002.244 302 265 002 1197 JNZ LPOT1 IF NOT FORM FEED
002.247 315 234 003 1198 CALL OUTCHAR
002.252 076 001 1199 MVI A,#1
002.254 062 045 004 1200 STA TLP.LX UNIT LINE INDEX = 1
002.257 062 046 004 1201 STA TLP.CX UNIT COLUMN INDEX = 1
002.262 303 070 003 1202 JMP LPOT9
1203
1204
1205 * CHECK FOR LINE OVER-FLOW
1206
002.265 345 1207 LPOT1 PUSH H
002.266 365 1208 PUSH PSW
002.267 072 044 004 1209 LDA TLP.LC
002.272 267 1210 ORA A
002.273 312 312 002 1211 JZ LPOT2 LINES/PAGE = 0
002.276 041 045 004 1212 LXI H,TLP.LX
002.301 276 1213 CMP H
002.302 322 312 002 1214 JNC LPOT2 TLP.LC >= TLP.LX
002.305 076 014 1215 MVI A,FF
002.307 315 241 002 1216 CALL LPOUTCH
002.312 361 1217 POP PSW
002.313 341 1218 POP H
1219
002.314 376 011 1220 CPI TAB
002.316 302 347 002 1221 JNZ LPOT5 IF NOT TAB
002.321 076 040 1222 MVI A,' ' IF PRESENTLY AT TAB STOP FORCE
002.323 315 241 002 1223 CALL LPOUTCH TO THE NEXT ONE
002.326 072 046 004 1224 LPOT3 LDA TLP.CX
002.331 075 1225 INCR A
002.332 346 007 1226 ANI 7
002.334 312 070 003 1227 JZ LPOT9 CHECK FOR MULTIPLE OF 8
002.337 076 040 1228 MVI A,' '
002.341 315 241 002 1229 CALL LPOUTCH
002.344 303 326 002 1230 JMP LPOT3
1231
002.347 376 015 1232 LPOT5 CPI CR

```

SUBROUTINES

LPOUTCH

18:31:36 16-MAY-80

```

002.351 302 367 002 1233 JNZ LPOT6 NOT CARRIAGE RETURN
002.354 315 234 003 1234 CALL QUTCHAR
002.357 076 001 1235 MVI A,1
002.361 062 046 004 1236 STA TLP.CX COLUMN INDEX = 1
002.364 303 070 003 1237 JMP LPOT9
1238
002.367 376 012 1239 LPOT6 CPI NL
002.371 302 020 003 1240 JNZ LPOT7
002.374 076 015 1241 MVI A,CR
002.376 315 241 002 1242 CALL LPOUTCH
003.001 076 212 1243 MVI A,LF+2000 AVOID THE INFINITE RECURSE
003.003 315 241 002 1244 CALL LPOUTCH
003.006 072 045 004 1245 LDA TLP.LX
003.011 074 1246 INR A UPDATE LINE INDEX
003.012 062 045 004 1247 STA TLP.LX
003.015 303 070 003 1248 JMP LPOT9
1249
003.020 376 040 1250 LPOT7 CPI ' '
003.022 332 065 003 1251 JC LPOT8 (A) < ' ' => NON-PRINT
003.025 376 177 1252 CPI RUBOUT
003.027 322 065 003 1253 JNC LPOT8 (A) >= RUBOUT => NON-PRINT
1254
003.032 365 1255 PUSH PSW
003.033 345 1256 PUSH H
003.034 072 042 004 1257 LDA TLP.WID
003.037 247 1258 ANA A
003.040 312 054 003 1259 JZ LPOT7.5 DON'T DO ANY WRAP
1260
003.043 041 046 004 1261 LXI H,TLP.CX
003.046 276 1262 CMP M
003.047 076 012 1263 MVI A,NL
003.051 334 241 002 1264 CC CALL LPOUTCH OUTPUT IF WIDTH < INDEX
1265
003.054 072 046 004 1266 LPOT7.5 LDA TLP.CX
003.057 074 1267 INR A
003.060 062 046 004 1268 STA TLP.CX INCREMENT LINE COUNTER
003.063 341 1269 POP H
003.064 361 1270 POP PSW
1271
003.065 315 234 003 1272 LPOT8 CALL QUTCHAR OUTPUT THE CHARACTER
1273
003.070 341 1274 LPOT9 POP H
003.071 311 1275 RET

```

SUBROUTINES

UNITASS

18:31:37 16-MAY-80

```

1278 **      UNITASS - UNIT ASSIGNED
1279 *
1280 *      CHECK LP: DEVICE TABLE TO SEE IF SPECIFIED UNIT IS ASSIGNED.
1281 *
1282 *      ENTRY  (HL) = UNIT NUMBER
1283 *
1284 *      EXIT   (PSW) = 'Z' SET    => UNIT FREE
1285 *              = 'Z' CLEAR => UNIT ASSIGNED
1286 *
1287 *      USES   (PSW)
1288 *
1289 *
003.072      1290 UNITASS EQU *
1291
003.072 072 034 004 1292      LDA    TLP,AS
003.075 346 200      1293      ANI    10000000B          [7] = 1 => ASSIGNED
1294
003.077 311          1295      RET

1297 **      WAIT - WAIT FOR H14
1298 *
1299 *      WAIT UNTIL DEVICE READY FOR OUTPUT
1300 *
1301 *      ENTRY  NONE
1302 *
1303 *      EXIT   NONE
1304 *
1305 *      USES   (PSW)
1306 *
1307 *
003.100      1308 WAIT    EQU    *
003.100 345      1309      PUSH   H
1310
003.101 072 334 040 1311 WAIT0   LDA    S,CAADR+1
003.104 247          1312      ANA    A
003.105 302 126 003 1313      JNZ    WAIT3          IF CTL-Z,-A,-B,-C HIT
1314
003.110 072 036 004 1315      LDA    TLP,POR
003.113 147          1316      MOV    H,A
003.114 056 006      1317      MVI    L,UR.MSR
003.116 315 012 004 1318      CALL   IN
003.121 346 020      1319      ANI    UC.CTS
003.123 302 101 003 1320      JNZ    WAIT0          INVERTED SIGNAL!!!
1321
003.126 341          1322 WAIT3   POP    H
003.127 311          1323      RET

```

SUBROUTINES

INITLP

18:31:38 16-MAY-80

```

1326 **      INITLP - INITIALIZE LP:
1327 *
1328 *      INITIALIZE DEVICE LP: BY:
1329 *
1330 *      SETTING LINES/INCH
1331 *      SETTING FORM LENGTH
1332 *
1333 *
1334 *
1335 *      ENTRY  NONE
1336 *
1337 *      EXIT   NONE
1338 *
1339 *      USES   (PSW),(HL)
1340 *
1341 *
003.130      1342 INITLP EQU  *
1343 *
1344 *      SET UP LINES/INCH
1345 *
003.130 072 041 004 1346 LDA TLP,LPI
003.133 376 006 1347 CPI 6
003.135 076 064 1348 MVI A,'4' 6 LINES/INCH
003.137 312 144 003 1349 JZ LPI0
1350
003.142 076 065 1351 MVI A,'5' 8 LINES/INCH
1352
003.144 062 174 003 1353 LPI0 STA INIA+1 SET UP LINES/INCH ESCAPE SEQUENCE
1354
1355 *      SET UP FORM LENGTH
1356 *
003.147 072 043 004 1357 LDA TLP,LEN
003.152 062 177 003 1358 STA INIB+2
1359
1360 *      OUTPUT THE STRING
1361 *
003.155 041 173 003 1362 LXI H,INIA
003.160 176 1363 INI1 MOV A,M
003.161 376 377 1364 CPI 377Q
003.163 310 1365 RZ TO THE END OF THE SEQUENCE
003.164 315 234 003 1366 CALL OUTCHAR
003.167 043 1367 INX H
003.170 303 160 003 1368 JMP INI1
1369
003.173 033 000 1370 INIA DB ESC,0 LINES/INCH (SET UP BY *LPI*)
003.175 033 062 000 1371 INIB DB ESC,'2',0,CR FORM LENGTH
003.201 377 1372 DB 377Q

```

003.202

1375

XTEXT DVDIO

1377X ** INCHAR - INPUT CHARACTER
1378X *
1379X * INPUT CHARACTER FROM SPECIFIED DEVICE
1380X *
1381X * ENTRY NONE
1382X *
1383X * EXIT (PSW) = 'Z' CLEAR IF THERE IS A CHARACTER
1384X * (A) = CHARACTER
1385X * = 'Z' SET IF THERE IS NOT A CHARACTER
1386X *
1387X * USES (PSW)
1388X *
1389X *

003.202

1390X INCHAR EQU *

003.202 345

1391X

PUSH H

003.203 072 036 004

1392X

LDA D,PORT

003.206 147

1393X

MOV H,A

1394X

1395X *

CHECK FOR DATA

1396X

000.000

1397X

IF H84IO

1398X

003.207 056 005

1399X

MVI L,UR,LSR

003.211 315 012 004

1400X

CALL IN

003.214 346 001

1401X

ANI UC,DR

003.216 312 231 003

1402X

JZ INC1

'Z' SET IF THERE IS DATA
NO DATA

003.221 056 000

1403X

MVI L,UR,RBR

003.223 315 012 004

1404X

CALL IN

003.226 303 232 003

1405X

JMP INC2

1406X

1407X

ELSE

1408X

1409X

MVI L,USR

1410X

CALL IN

1411X

ANI USR,RXR

'Z' SET IF THERE IS NO DATA
NO DATA

1412X

JZ INC1

1413X

MVI L,UDR

1414X

CALL IN

1415X

ANA A

IGNORE NULL CHARACTERS

1416X

JMP INC2

1417X

1418X

ENDIF

1419X

003.231 067

1420X INC1

STC

1421X

003.232 341

1422X INC2

POP H

003.233 311

1423X

RET

```

1425X **      OUTCHAR - OUTPUT CHARACTER
1426X *
1427X *      OUTPUT CHARACTER TO SPECIFIED DEVICE
1428X *
1429X *      ENTRY (A) = CHARACTER
1430X *
1431X *      EXIT NONE
1432X *
1433X *      USES (PSW)
1434X *
1435X
003.234      1436X OUTCHAR EQU *
003.234 345   1437X PUSH H
1438X
003.235 365   1439X PUSH PSW
003.234 072 036 004 1440X LDA D,PORT
003.241 147     1441X MOV H,A
1442X
000.000      1443X IF H8410
1444X
003.242 056 005 1445X MVI L,UR,LSR
003.244 315 100 003 1446X CALL WAIT
003.247 072 334 040 1447X OUTCO LDA S,CAADR+1
003.252 247     1448X ANA A
003.253 302 277 003 1449X JNZ OUTC1
003.254 315 012 004 1450X CALL IN
003.261 346 040     1451X ANI UC,THE
003.263 312 247 003 1452X JZ OUTC0
003.266 361     1453X POP PSW
003.267 056 000     1454X MVI L,UR,THR
003.271 315 022 004 1455X CALL OUT
003.274 303 300 003 1456X JMP OUTC2
1457X
1458X ELSE
1459X
1460X MVI L,USR
1461X CALL WAIT
1462X OUTCO LDA S,CAADR+1
1463X ANA A
1464X JNZ OUTC1
1465X CALL IN
1466X ANI USR,THR
1467X JZ OUTC0
1468X POP PSW
1469X MVI L,UDR
1470X CALL OUT
1471X JMP OUTC2
1472X
1473X ENDIF
1474X
003.277 361     1475X OUTC1 POP PSW
1476X
003.300 341     1477X OUTC2 POP H
003.301 311     1478X RET
000.000      1479X IF H8410

```



```

1481X **      18250 - INITIALIZE 8250
1482X *
1483X *      INITIALIZE AN 8250 PORT.  STOLEN AS CAP FROM CONSL. DRIVER.
1484X *
1485X *      ENTRY      (A)      = PORT ADDRESS
1486X *      (HL)[0-14] = NEW BAUD RATE
1487X *      (HL)[15]   = 1 IF TWO STOP BITS
1488X *
1489X *      EXIT      NONE
1490X *
1491X *      USES      (A)
1492X *
1493X
003.302      1494X 18250 EQU *
003.302 325   1495X      PUSH D
1496X
003.303 353   1497X      XCHG
003.304 147   1498X      MOV  H,A
003.305 056 001 1499X      MVI  L,UR:IER      /79.02.GC/
003.307 257   1500X      XRA  A      /79.02.GC/
003.310 315 022 004 1501X      CALL OUT      /79.02.GC/
003.313 056 004   1502X      MVI  L,UR:MCR      /79.01.GC/
003.315 076 020   1503X      MVI  A,UC:L00      /79.01.GC/
003.317 315 022 004 1504X      CALL OUT      SET LOOP-BACK      /79.01.GC/
003.322 056 003   1505X      MVI  L,UR:LCR
003.324 076 200   1506X      MVI  A,UC:DLA
003.326 315 022 004 1507X      CALL OUT
003.331 056 000   1508X      MVI  L,UR:DLL
003.333 173   1509X      MOV  A,E
003.334 315 022 004 1510X      CALL OUT
003.337 056 001   1511X      MVI  L,UR:DLH
003.341 172   1512X      MOV  A,D
003.342 346 177   1513X      ANI  1770
003.344 315 022 004 1514X      CALL OUT
003.347 056 003   1515X      MVI  L,UR:LCR
003.351 172   1516X      MOV  A,D
003.352 007   1517X      RLC
003.353 007   1518X      RLC
003.354 007   1519X      RLC
000.000      1520X      ERRNZ UC,2SB-4
003.355 346 004   1521X      ANI  UC,2SB
003.357 366 003   1522X      ORI  UC,8BW      8 BIT WORDS
003.361 315 022 004 1523X      CALL OUT
003.364 056 000   1524X      MVI  L,UR:RBR
003.366 315 012 004 1525X      CALL IN      REMOVE GARBAGE
003.371 076 156   1526X      MVI  A,AC:DLY      /79.01.GC/
003.373 315 053 000 1527X      CALL :DLY      /79.01.GC/
003.376 056 004   1528X      MVI  L,UR:MCR      /79.01.GC/
004.000 315 012 004 1529X      CALL IN      /79.01.GC/
004.003 346 357   1530X      ANI  3770-UC:L00      /79.01.GC/
004.005 315 022 004 1531X      CALL OUT      TURN OFF LOOP-BACK      /79.01.GC/
1532X
004.010 321   1533X      POP  D
004.011 311   1534X      RET
1535X      ELSE
1536X 18251      SPACE  4,10

```

COMMON DECKS INVOKED

I8250

18:31:43 16-MAY-80

```

1537X **      I8251 - INITIALIZE 8251
1538X *
1539X *      INITIALIZE AN 8251 PORT
1540X *
1541X *      ENTRY (A) = PORT ADDRESS
1542X *      (HL)[15] = 1 IF TWO STOP BITS
1543X *
1544X *      EXIT NONE
1545X *
1546X *      USES ALL
1547X *
1548X *
1549X I8251 EQU *
1550X XCHG
1551X MOV H,A
1552X MVI L,USR
1553X MOV A,D
1554X ANI 2000 (A) = 2000 IF TWO STOP BITS
1555X ERNZ 2000+UMI.1B-UMI.2B
1556X ORI UMI.1B+UMI.1B+UMI.16X
1557X STA I8251.B
1558X LXI B,I8251.A
1559X I8251.1 LDAX B
1560X CPI #3770
1561X JZ I8251.2
1562X CALL OUT
1563X INX B
1564X JMP I8251.1
1565X I8251.2 MVI A,UCI.ER+UCI.1E+UCI.RE
1566X CALL OUT
1567X MVI L,UDR
1568X CALL IN
1569X RET
1570X I8251.A DB 0,0,0,0,0,0
1571X DB UCI.IR
1572X I8251.B DB 0
1573X DB 3770 CONFIGURATION BYTE
1574X ENDDIF

```

```

1576X **      IN - INPUT
1577X *
1578X *      INPUT BYTE FROM SPECIFIED PORT
1579X *
1580X *      ENTRY (H) = PORT ADDRESS
1581X *      (L) = OFFSET
1582X *
1583X *      EXIT (A) = BYTE READ
1584X *
1585X *      USES (PSW)
1586X *
1587X *
1588X IN EQU *
1589X MOV A,H

```

004.012

004.012 174

```

004.013 205      1590X      ADD    L
004.014 062 020 004 1591X      STA    IN.ADD
004.017 333 000      1592X      IN     *-*
004.020      1593X IN.ADD EQU    *-1
004.021 311      1594X      RET

```

```

1596X **      OUT - OUTPUT
1597X *
1598X *      OUTPUT BYTE TO SPECIFIED PORT
1599X *
1600X *      ENTRY (A) = BYTE TO BE WRITTEN
1601X *      (H) = PORT ADDRESS
1602X *      (L) = OFFSET
1603X *

```

```

1604X *      EXIT    NONE
1605X *
1606X *      USES    NONE
1607X *
1608X *

```

```

004.022      1609X OUT    EQU    *
004.022 365      1610X      PUSH   PSW
004.023 174      1611X      MOV    A,H
004.024 205      1612X      ADD    L
004.025 062 032 004 1613X      STA    OUT.ADD
004.030 361      1614X      POP    PSW
004.031 323 000      1615X      OUT    *-*
004.032      1616X OUT.ADD EQU    *-1
004.033 311      1617X      RET
004.034      1618      XTEXT    TBRA

```

```

1620X **      $TBRA - BRANCH RELATIVE THOUGH TABLE.
1621X *
1622X *      $TBRA USES THE SUPPLIED INDEX TO SELECT A BYTE FROM THE
1623X *      JUMP TABLE. THE CONTENTS OF THIS BYTE ARE ADDED TO THE
1624X *      ADDRESS OF THE BYTE, YEILDING THE PROCESSOR ADDRESS.
1625X *

```

```

1626X *      CALL    $TBRA
1627X *      DB      LAB1-*      INDEX = 0 FOR LAB1
1628X *      DB      LAB2-*      INDEX = 1 FOR LAB2
1629X *      DB      LABN-*      INDEX = N-1 FOR LABN
1630X *

```

```

1631X *      ENTRY (A) = INDEX
1632X *      (RET) = TABLE FWA
1633X *      EXIT    TO COMPUTED ADDRESS
1634X *      USES    F,H,L
1635X *

```

```

031.076      1636X
004.034      1637X $TBRA EQU    31076A      IN H17 ROM
1638      XTEXT    TYP TX

```

1640X ** \$TYPTX - TYPE TEXT.
1641X *
1642X * \$TYPTX IS CALLED TO TYPE A BLOCK OF TEXT ON THE SYSTEM CONSOLE.
1643X *
1644X * IMBEDDED ZERO BYTES INDICATE A CARRIAGE RETURN LINE FEED.
1645X * A BYTE WITH THE 200Q BIT SET IS THE LAST BYTE IN THE MESSAGE.
1646X *
1647X * ENTRY (RET) = TEXT
1648X * EXIT TO (RET+LENGTH)
1649X * USES A,F
1650X
1651X
031.136 1652X \$TYPTX EQU 31136A IN H17 ROM
1653X
031.144 1654X \$TYPTX. EQU 31144A IN H17 ROM

1657 *** TLP.UNT - TABLE OF LP: UNIT CONSTANTS

	1658 *				
	1659 *				
	1660				
004.034	1661 TLP.UNA EQU *				
	1662				
004.034 000	1663 TLP.UNT DB 0			UNIT NUMBER	
	1664				
004.034	1665 TLP.AS EQU TLP.UNT			[7] = 1 IF ASSIGNED	
	1666				
004.035 001	1667 TLP.FLG DB DFLT.FG			GENERAL FLAG BYTE	
	1668				
004.036 340	1669 TLP.POR DB DFLT.LP			PORT	
004.036	1670 D.PORT EQU TLP.POR				
	1671				
004.037 030 000	1672 TLP.BAU DW DFLT.BD			[15] = 1 IF TWO STOP BITS	
	1673				
004.041 006	1674 TLP.LPI DB DFLT.LI			LINES/INCH	
	1675				
004.042 204	1676 TLP.WID DB DFLT.WD			CHARACTERS/LINE	
	1677				
004.043 102	1678 TLP.LEN DB DFLT.FL			FORM LENGTH	
	1679				
004.044 074	1680 TLP.LC DB DFLT.LC			LINE COUNT = LINES/PAGE	
	1681				
004.045 001	1682 TLP.LX DB DFLT.LX			LINE INDEX = LINE HEAD IS OVER	
	1683				
004.046 001	1684 TLP.CX DB DFLT.CX			COLUMN INDEX = COLUMN HEAD IS OVER	

004.047 103 107	1686 DW 'GC'		DUMMY ADDRESS FOR RELOCATION
004.051	1687 DS 64		PATCH AREA
	1688 LON 6		
	1689		
004.151 055 000 062	1690 END		

000 065 000
115 000 124
000 127 000
144 000 151
000 157 000
164 000 171
000 174 000
200 001 212
001 226 001
243 001 255
001 267 001
302 001 346
001 350 001
352 001 003
002 033 002
044 002 055
002 062 002
065 002 070
002 073 002

076 002 101
002 111 002
114 002 121
002 125 002
143 002 147
002 154 002
161 002 167
002 174 002
203 002 206
002 214 002
222 002 227
002 234 002
245 002 250
002 255 002
260 002 263
002 270 002
274 002 277
002 303 002
310 002 317
002 324 002
327 002 335
002 342 002
345 002 352
002 355 002
362 002 365
002 372 002
377 002 004
003 007 003
013 003 016
003 023 003
030 003 035
003 041 003
044 003 052
003 055 003
061 003 066
003 073 003
106 003 111
003 117 003
124 003 131
003 140 003
145 003 150
003 153 003
156 003 165
003 171 003
204 003 212
003 217 003
224 003 227
003 237 003
245 003 254
003 257 003
264 003 272
003 275 003
311 003 320
003 327 003
335 003 345
003 362 003

HDOS LPT DEVICE DRIVER, H-24 (TI 810)
COMMON DECKS INVOKED

HEATH HBASH V1.4 01/20/78
18:31:50 16-MAY-80

PAGE 39

367 003 001
004 006 004
015 004 026
004 000 000

ASSEMBLY COMPLETE
1690 STATEMENTS
0 ERRORS DETECTED
11506 BYTES FREE

CROSS REFERENCE TABLE

*CNA	042207	684L	812	832
*DCS	042204	682L		
*FST	042212	686L		
*LBD	042223	692L	815	
*PBF	042231	694L	785	
*PBV	042234	698L	794	
*SNA	042201	680L	765	
*SOP	042226	694L	763	
*TBLS	042215	688L		
*TBRA	031076	972	1637E	
*TYPTX	031136	871	1652E	
*TYPTX	031144	1654E		
*WTBLS	042220	690L		
.	001354	947S	948	949
.ABUSS	040024	210E		
.ALARM	002136	183E		
.ALEDs	040013	208E		
.CHFLG	000060	70L		
.CLEAR	000055	67L		
.CLEARA	000056	68L		
.CLOSE	000046	60L		
.CLRCO	000007	44L		
.CONSL	000006	43L		
.CRC	002347	191E		
.CRCSUM	040027	211E		
.CTC	002172	185E		
.CTL	000041	55L		
.CTLFLG	040011	207E		
.DECODE	000053	65L		
.DELET	000050	62L		
.DISMT	000061	71L		
.DLEDs	040021	209E		
.PLY	000053	180E	1527	
.DMNMS	000203	82L		
.DMOUN	000201	80L		
.DOD	003122	194E		
.DODA	003356	196E		
.DSPMOD	040007	205E		
.DSPROT	040006	204E		
.DUMP	001374	182E		
.ERROR	000057	69L		
.EXIT	000000	37L		
.HORN	002140	184E		
.IDENT	000000	179E		
.IOWRK	040002	202E		
.LINK	000040	54L		
.LOAD	001267	181E		
.LOADI	000062	72L		
.LOADQ	000010	45L		
.MFLAG	040010	206E		
.MONMS	000202	81L		
.MOUNT	000200	79L		
.NAME	000054	66L		
.OPENC	000045	59L		
.OPENR	000042	56L		
.OPENU	000044	58L		
.OPENW	000043	57L		
.PCHL	002264	187E		

CROSS REFERENCE TABLE

.POSIT	000047	61L		
.PRINT	000003	40L		
.RCK	003260	195E		
.READ	000004	41L		
.REGI	040005	203E		
.REGPTR	040035	214E		
.RENAM	000051	63L		
.RESET	000204	83L		
.RNB	002331	190E		
.RNP	002325	189E		
.SCIN	000001	38L		
.SCOUT	000002	39L		
.SETTP	000052	64L		
.SRS	002265	188E		
.START	040000	201E		
.SYSRES	000012	47L		
.TICCNT	040033	213E		
.TPERR	002205	186E		
.TPERRX	040031	212E		
.UIVEC	040037	215E		
.VERS	000011	46L		
.WNB	003024	193E		
.WNP	003017	192E		
.WRITE	000005	42L		
AC.DLY	000156	566E	1526	
AIO.CBN	041047	365L		
AIO.CHA	041116	380L		
AIO.CNT	041111	376L		
AIO.CSI	041050	366L		
AIO.DDA	041041	361E		
AIO.DES	041055	370L		
AIO.DEV	041057	371L		
AIO.DIR	041062	374L		
AIO.DTA	041053	369L		
AIO.EOF	041113	378L		
AIO.EOM	041112	377L		
AIO.FLG	041043	362L		
AIO.GRT	041044	363L		
AIO.LGN	041051	367L		
AIO.LSI	041052	368L		
AIO.SPG	041046	364L		
AIO.TFF	041114	379L		
AIO.UNI	041061	372L		
AIO.VEC	041040	360L		
BAU1	000132	813	816	820L
BAUD	000107	811L	939	
BAUDI	000002	916	938E	
BELL	000007	92E		
BKSP	000010	94E		
BOOT.P	000001	340E		
C.STX	000002	96E		
C.SYN	000026	95E		
CB.CLI	000100	149E	164	
CB.MTL	000040	148E		
CB.SPK	000200	150E		
CB.SSI	000020	147E		
CDB.H84	000001	283E		
CDB.H85	000000	282E		

CROSS-REFERENCE TABLE

CO.FLG	000001	432E				
CR	000015	88E	1082	1232	1241	1371
CS.FLG	000200	433E				
CSL.CHR	000001	410E				
CSL.ECH	000200	408E				
CSL.WRP	000002	409E				
CTLA	000001	103E				
CTLB	000002	104E				
CTLC	000003	105E				
CTLD	000004	106E				
CTLQ	000017	107E				
CTLP	000020	108E				
CTLQ	000021	109E				
CTLS	000023	110E				
CTLZ	000032	111E				
CTP.2SB	000010	418E				
CTP.BKM	000002	419E				
CTP.BKS	000200	415E				
CTP.MLI	000040	416E				
CTP.MLO	000020	417E				
CTP.TAB	000001	420E				
D.CON	040110	230L				
D.PORT	004036	1392	1440	1670E		
D.RAM	040240	233L				
D.VEC	040130	232L				
DC.ABT	000007	126L				
DC.CLO	000006	125L				
DC.LOD	000011	128L				
DC.MAX	000012	129L	969			
DC.MOU	000010	127L				
DC.OPR	000003	122L				
DC.OPU	000005	124L				
DC.OPW	000004	123L				
DC.REA	000000	119L				
DC.RER	000002	121L				
DC.WRI	000001	120L				
DEV.DDA	000004	517L				
DEV.DVG	000016	529L				
DEV.DVL	000014	528L				
DEV.FLG	000006	518L				
DEV.JMP	000003	516L				
DEV.MNU	000011	525L				
DEV.MUM	000010	524L				
DEV.NAM	000000	508L				
DEV.RES	000002	512L				
DEV.SPG	000007	523L				
DEV.UNT	000012	526L				
DEVELEN	000017	531E				
DF.CLR	000376	251E				
DF.EMP	000377	250E				
DFLT.BD	000030	729E	1672			
DFLT.CX	000001	738E	1684			
DFLT.FG	000001	731E	1667			
DFLT.FL	000102	734E	1678			
DFLT.LC	000074	735E	1680			
DFLT.LI	000006	732E	1674			
DFLT.LP	000340	728E	1669			
DFLT.LX	000001	737E	1682			

CROSS REFERENCE TABLE

DELT.WD	000204	733E	1676	
DIR.ALD	000025	266L		
DIR.CLU	000015	259L		
DIR.CRD	000023	265L		
DIR.EXT	000010	254L		
DIR.FGN	000020	262L		
DIR.FLG	000016	260L		
DIR.LGN	000021	263L		
DIR.LSI	000022	264L		
DIR.NAM	000000	253L		
DIR.PRO	000013	255L		
DIR.VER	000014	256L		
DIRELEN	000027	268E	374	
DIRIDL	000015	257E		
DM.MR	000000	154E		
DM.MW	000001	155E		
DM.RR	000002	156E		
DM.RW	000003	157E		
DR.IM	000001	513E		
DR.FR	000002	514E		
DT.CR	000002	520E		
DT.CW	000004	521E	706	709
DT.DD	000001	519E		
DV.EL	000000	509E		
DV.NU	000001	510E		
DVD.CAP	000007	552L		
DVD.DVD	000006	551L		
DVD.ENT	002000	560E	949	968
DVD.MNU	000011	554L		
DVD.MUM	000010	553L		
DVD.SET	000022	556L		
DVD.STE	000053	558E	714	756
DVD.UFL	000012	555L		
DVD.FLV	000307	547E	705	711
EC.CNA	000004	450L		
EC.DDA	000027	469L	1017	
EC.DIF	000017	461L		
EC.DIW	000035	475L		
EC.DNI	000045	483L		
EC.DNR	000046	484L		
EC.DNS	000005	451L	1001	
EC.DSC	000047	485L		
EC.EOF	000001	447L		
EC.EOM	000002	448L		
EC.FAO	000031	471L		
EC.FAP	000026	468L		
EC.FL	000030	470L		
EC.FNF	000014	458L		
EC.FNO	000011	455L		
EC.FNR	000034	474L		
EC.FOD	000043	481L		
EC.FUC	000013	457L		
EC.ICN	000016	460L		
EC.IDN	000006	452L		
EC.IFC	000020	462L		
EC.IFN	000007	453L		
EC.ILC	000003	449L		
EC.ILO	000040	478L	767	

EC.ILR	000012	456L	984					
EC.ILV	000037	477L	820	857				
EC.IOI	000052	488L						
EC.IS	000032	472L						
EC.NCV	000050	484L						
EC.NEM	000021	463L						
EC.NOS	000051	487L						
EC.NPM	000044	482L						
EC.NRD	000010	454L						
EC.NVM	000042	480L						
EC.OTL	000053	489L						
EC.RF	000022	464L						
EC.UNA	000036	476L	1055	1108	1149			
EC.UND	000015	459L						
EC.UUN	000033	473L	771					
EC.VPM	000041	479L						
EC.WF	000023	465L						
EC.WP	000025	467L						
EC.WPV	000024	466L						
ENL	000212	101E	882					
ESC	000033	99E	1370	1371				
F.FORM	000001	724E	731	896	896	900	1158	
FF	000014	102E	1170	1196	1215			
FLAG	042231	785E	933					
FLAGI	000000	896	900	932E				
HB4IO	000000	1E	1397	1443	1479			
HELP	000204	871L	945					
HELPI	000004	922	944E					
I.CONFL	000004	435E	436					
I.CONTY	000001	422E	423					
I.CONWI	000003	428E	429					
I.CSLMD	000000	412E						
I.CUSOR	000002	425E	426					
IB250	003302	1071	1494E					
IN	004012	1165	1318	1400	1404	1450	1525	1529
IN.ADD	004020	1591	1593E					1588E
INC1	003231	1402	1420L					
INC2	003232	1405	1422L					
INCHAR	003202	1390E						
INI1	003160	1363L	1368					
INIA	003173	1353	1362	1370L				
INIB	003175	1358	1371L					
INITLP	003130	1081	1342E					
IP.PAD	000360	140E						
LF	000012	89E	1243					
LPABORT	002032	980	981	1015E				
LPCI	002221	1165L	1167					
LPCL0S	002205	1127	1157L					
LPCL0SE	002166	979	1016	1146E				
LPDVD	002000	967E						
LPDVD1	002022	970	984L					
LPI	000136	829E	942					
LPI0	003144	1349	1353L					
LPI1	000200	833	837	841	844	847	857L	
LPII	000003	919	941E					
LPLOADD	002041	982	1033E					
LPNSUIT	002026	973	975	976	978	1000E		
LPOPENW	002043	977	1051E					

[illegible]

[illegible]

CROSS REFERENCE TABLE

UC.2SB	000004	591E	1520	1521
UC.5BW	000000	587E		
UC.6BW	000001	588E		
UC.7BW	000002	589E		
UC.8BW	000003	590E	1522	
UC.BI	000020	610E		
UC.CTS	000020	619E	1319	
UC.DCS	000001	615E		
UC.DDR	000002	616E		
UC.DLA	000200	596E	1506	
UC.DR	000001	606E	1401	
UC.DRL	000010	618E		
UC.DSR	000040	620E		
UC.DTR	000001	599E	1076	
UC.EDA	000001	577E		
UC.EPS	000020	593E		
UC.FE	000010	609E		
UC.IID	000006	584E		
UC.IIP	000001	583E		
UC.L00	000020	603E	1503	1530
UC.MSI	000010	580E		
UC.OR	000002	607E		
UC.OU1	000004	601E		
UC.OU2	000010	602E	1076	
UC.PE	000004	608E		
UC.PEN	000010	592E		
UC.RI	000100	621E		
UC.RLS	000200	622E		
UC.RSI	000004	579E		
UC.RTS	000002	600E	1076	
UC.SB	000100	595E		
UC.SKF	000040	594E		
UC.TER	000004	617E		
UC.THE	000040	611E	1166	1451
UC.TRE	000002	578E		
UC.TSE	000100	612E		
UCI.ER	000020	656E		
UCI.IE	000002	658E		
UCI.IR	000100	654E		
UCI.RE	000004	657E		
UCI.RO	000040	655E		
UCI.TE	000001	659E		
UDR	000000	631E		
UMI.16X	000002	649E		
UMI.1B	000100	639E		
UMI.1X	000001	648E		
UMI.2B	000300	641E		
UMI.64X	000003	650E		
UMI.HB	000200	640E		
UMI.L5	000000	644E		
UMI.L6	000004	645E		
UMI.L7	000010	646E		
UMI.L8	000014	647E		
UMI.PA	000020	643E		
UMI.PE	000040	642E		
UNITASS	003072	1053	1106	1148 1290E
UNT.DIS	000005	540L		
UNT.FLG	000000	537L		

CROSS REFERENCE TABLE

UNT.GRT	000001	538L				
UNT.GTS	000003	539L				
UNT.SIZ	000007	542E				
UD.CLK	000001	166E				
UD.DDU	000002	165E				
UD.HLT	000200	163E				
UD.NFR	000100	164E				
UR.DLL	000000	572E	1508			
UR.DLM	000001	574E	1511			
UR.IER	000001	576E	1499			
UR.IIR	000002	582E				
UR.LCR	000003	586E	1505	1515		
UR.LSR	000005	605E	1163	1399	1445	
UR.MCR	000004	598E	1075	1502	1528	
UR.MSR	000006	614E	1317			
UR.RBR	000000	568E	1403	1524		
UR.THR	000000	570E	1169	1454		
USERFWA	042200	242E	678			
USR	000001	632E				
USR.FE	000040	663E				
USR.OE	000020	664E				
USR.FE	000010	665E				
USR.RXR	000002	667E				
USR.TXE	000004	666E				
USR.TXR	000001	668E				
VAL	042234	794E	936			
VALI	000001	904	907	910	913	935E
VERS	000026	28E				
WAIT	003100	1308E	1446			
WAIT0	003101	1311L	1320			
WAIT3	003126	1313	1322L			

25484 BYTES FREE