

```
UJN          = AAJA      FAMILY    = CYBER      JOB ORIGIN    = INTERACTIVE.
CREATING JSN = AACA      USER NAME = WSCHAUB    SERVICE CLASS = INTERACTIVE.
```

IDENT XXXX

//////

*DELETE EBL.129

SHNI EQU 1000B

XTEXT COMPMAC

//////

*DELETE EDD.211

SHNI EQU 1000B

XTEXT COMPMAC

//////

*DELETE EDD.341

TRLLI EQU 5*4

TAPE RECORD LABEL LENGTH

//////

*DELETE EDD.750

LDN TRLLI

SET LABEL RECORD LENGTH

MODIFICATIONS / CONTROL CARDS

YANK\$\$\$

*DEFINE,CMSE17X

DFCMSE

DFCMSE

1

IPL

*CALL,VERS

DIMA317

1

IPL

*CALL,CDCCRN

DIMA317

5

IPL

*CALL

COMPCTI

IPL

91

IPL

*CALL

COMSCPA

IPL

92

IPL

*CALL

COMSCTI

IPL

93

IPL

*CALL

COMS844

IPL

94

IPL

*CALL

COMS885

IPL

95

IPL

*CALL

COMSMTS

IPL

96

IPL

*CALL

COMSATS

IPL

97

IPL

*CALL

COMS3TP

IPL

98

IPL

*CALL

COMPCHL

IPL

99

CD7

*CALL,VERS

DIMA317A

1

CD7

*CALL,CDCCRN

DIMA317A

5

CD7

*CALL

COMPCTI

CD7

121

CD7

*CALL

COMSATS

CD7

122

CD7

*CALL

COMPCHL

CD7

123

CD7

*CALL

COMSCPA

CD7

124

CD7

*CALL

COMSCTI

CD7

125

CD6

*CALL,VERS

DIMA317B

1

CD6

*CALL,CDCCRN

DIMA317B

5

CD6

*CALL

COMPCTI

CD6

121

CD6

*CALL

COMSMTS

CD6

122

CD6

*CALL

COMPCHL

CD6

123

CD6

*CALL

COMSCPA

CD6

124

CD6

*CALL

COMSCTI

CD6

125

CD3

*CALL,VERS

DIMA317C

1

CD3

*CALL,CDCCRN

DIMA317C

5

CD3

*CALL

COMPCTI

CD3

121

CD3 *CALL COMS3TP
CD3 *CALL COMPCHL
CD3 *CALL COMSCPA
CD3 *CALL COMSCTI

CD3 122
CD3 123
CD3 124
CD3 125

CD4 *CALL,VERS
CD4 *CALL,CDCCRN
CD4 *CALL COMPCTI
CD4 *CALL COMS844
CD4 *CALL COMPCHI
CD4 *CALL COMSCPA
CD4 *CALL COMSCTI

DIMA317D 1
DIMA317D 5
CD4 100
CD4 101
CD4 102
CD4 103
CD4 104

CD8 *CALL,VERS
CD8 *CALL,CDCCRN
CD8 *CALL COMPCTI
CD8 *CALL COMS885
CD8 *CALL COMPCHI
CD8 *CALL COMSCPA
CD8 *CALL COMSCTI

DIMA317E 1
DIMA317E 5
CD8 111
CD8 112
CD8 113
CD8 114
CD8 115

IOQ *CALL,VERS
IOQ *CALL,CDCCRN
IOQ *CALL COMPCTI
IOQ *CALL COMSSCR
IOQ *CALL COMSCPA
IOQ *CALL COMSCTI
IOQ *CALL,VERS

DIMA317F 1
DIMA317F 5
IOQ 162
IOQ 163
IOQ 164
IOQ 165
DIMA316 2

OIP *CALL,VERS
OIP *CALL,CDCCRN
OIP *CALL COMPMAC
OIP *CALL COMSCPA
OIP *CALL COMSCTI
OIP *CALL COMPDMS

DIMA317G 1
DIMA317G 5
OIP 172
OIP 173
OIP 174
OIP 560

AEI *CALL,VERS
AEI *CALL,CDCCRN
AEI *CALL COMPCTI
AEI *CALL COMSCPA
AEI *CALL COMSCTI

DIMA317H 1
DIMA317H 5
AEI 142
AEI 143
AEI 144

ICD *CALL,VERS
ICD *CALL,CDCCRN
ICD *CALL COMPCTI
ICD *CALL COMPCHI

DIMA317I 1
DIMA317I 5
ICD 125
ICD 126

ICD *CALL COMS844
ICD *CALL COMS885
ICD *CALL COMSCPA
ICD *CALL COMSCTI
ICD *CALL COMPQOD
ICD *CALL, CDCCRN

ICD 127
ICD 128
ICD 129
ICD 130
ICD 880
DIMA317I 8

EDD *CALL, VERS
EDD *CALL, CDCCRN
EDD *CALL COMPMAC
EDD SHNI EQU 1000B
EDD XTEXT COMPMAC
EDD *CALL COMSCPA
EDD *CALL COMSCTI
EDD *CALL COMSSCR
EDD TRLL EQU 5*4 TAPE RECORD LABEL LENGTH
EDD TRLLI EQU 5*4 TAPE RECORD LABEL LENGTH
EDD *CALL, CDCCRN
EDD *CALL COMPC2D
EDD LDN TRLL SET LABEL RECORD LENGTH
EDD LDN TRLLI SET LABEL RECORD LENGTH
EDD *CALL COMPDMS
EDD *CALL, CDCCRN
EDD *CALL, CDCCRN

DIMA317J 1
DIMA317J 5
EDD 211 D
XXXX 1 I
XXXX 2 I
EDD 212
EDD 213
EDD 215
EDD 341 D
XXXX 3 I
DIMA317J 8
EDD 519
EDD 750 D
XXXX 4 I
EDD 1581
DIMA317J 11
DIMA317J 14

SAD *CALL, VERS
SAD *CALL, CDCCRN
SAD *CALL COMPCTI
SAD *CALL COMSCPA
SAD *CALL COMSCTI
SAD *CALL COMPQOD

DIMA317K 1
DIMA317K 5
SAD 121
SAD 122
SAD 123
SAD 413

DHE *CALL, VERS
DHE *CALL, CDCCRN
DHE *CALL COMPMAC
DHE *CALL COMSCPA
DHE *CALL COMSCTI
DHE *CALL COMSSCR
DHE *CALL COMPCHI
DHE *CALL COMPC2D
DHE *CALL COMPSCE

DIMA317L 1
DIMA317L 5
DHE 62
DHE 63
DHE 64
DHE 65
DHE 66
DHE 817
DHE 819

MAD *CALL, VERS
MAD *CALL, CDCCRN
MAD *CALL COMPMAC
MAD *CALL COMSCPA
MAD *CALL COMSCTI
MAD *CALL COMSSCR
MAD *CALL COMPDMS

DIMA317M 1
DIMA317M 5
MAD 14
MAD 15
MAD 16
MAD 17
MAD 211

1	PCM	*CALL,VERS		DIMA317N	1		
2	PCM	*CALL,CDCCRN		DIMA317N	5		
3	PCM	*CALL	COMPCHI	PCM	219		
4	PCM	*CALL	COMSCPA	PCM	220		
5	PCM	*CALL	COMSCTI	PCM	221		
6	PCM	*CALL	COMPMAC	PCM	222		
7	PCM	*CALL	COMSSCR	PCM	223		
8	PCM	*CALL	COMPC2D	PCM	1732		
9	PCM	*CALL,CDCCRN		DIMA317N	8		
10	PCM	*CALL,VERS		DIMA394	1		
11	PCM	*CALL,CDCCRN		DIMA317N	11		
12	PCM	*CALL	COMPSCE	PCM	2364		
13							
14							
15	EBL	*CALL,VERS		DIMA3170	1		
16	EBL	*CALL,CDCCRN		DIMA3170	5		
17	EBL	*CALL	COMPCTI	EBL	128		
18	EBL	*CALL	COMPMAC	EBL	129		D
19	EBL	SHNI	EQU 1000B	XXXX	5		I
20	EBL		XTEXT COMPMAC	XXXX	6		I
21	EBL	*CALL	COMPCHI	EBL	130		
22	EBL	*CALL	COMS844	EBL	131		
23	EBL	*CALL	COMS885	EBL	132		
24	EBL	*CALL	COMSSCR	EBL	133		
25	EBL	*CALL	COMSCPA	EBL	134		
26	EBL	*CALL	COMSCTI	EBL	135		
27	EBL	*CALL	COMPQOD	EBL	1024		
28							
29							
30							
31	ZZZ	*CALL,VERS		DIMA317P	1		
32	ZZZ	*CALL,CDCCRN		DIMA317P	5		
33							
34							
35							
36							
37							
38							
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CORRECTION IDENTS ARE LISTED IN CHRONOLOGICAL ORDER OF INSERTION

COMSCPA	COMSCTI	COMSATS	COMSMTS	COMS3TP	COMS844	COMS885	COMPCHL
COMPCTI	COMPCHI	COMPQOD	COMPSCE	COMPMAC	COMPDMS	COMPC2D	COMSSCR
IPL	CD7	CD6	CD3	CD4	CD8	IOQ	OIP
AEI	ICD	EDD	SAD	DHE	MAD	PCM	EBL
ZZZ	HISTORY	DIMA284	*CT110PA*	DIMA272	DIMA222	DIMA222A	DIMA271
110B	CDCCRN	VERS	DIMA290	DIMA290A	DIMA290B	DIMA278	DIMA291
DIMA292	DIMA295	DIMA295A	DIMA295B	DIMA295C	DIMA295D	DIMA299	DIMA314
DIMA314A	DIMA315	DIMA294	DIMA316	DIMA317	DIMA317A	DIMA317B	DIMA317C
DIMA317D	DIMA317E	DIMA317F	DIMA317G	DIMA317H	DIMA317I	DIMA317J	DIMA317K
DIMA317L	DIMA317M	DIMA317N	DIMA317O	DIMA317P	DIMA324	DIMA267	A00
DIMA332	*CT110PD*	DIMA334	DIMA330	DIG0211	DIG0211A	DIG0210	*CT111PL*
DIMA331	DIG0205	*CT112PL*	DIMA366	DIMA369	DIMA357	DIMA357A	DIMA357B
DIMA357C	DIMA357D	*CT114PL*	DIMA380	DIM0238	DIMA386	*CT115PL*	DIM0251
DIG0230	DIMA398	DIMA403	*CT116PL*	DIMA407	DIMA407A	DIMA387	DIMA387A
CT117PL	DFCMSE	DIMA394	*A02*	XXXX			

DECKS ARE LISTED IN THE ORDER OF THEIR OCCURRENCE ON A NEW PROGRAM LIBRARY IF ONE IS CREATED BY THIS UPDATE

YANK\$\$\$	COMSCPA	COMSCTI	COMSATS	COMSMTS	COMS3TP	COMS844	COMS885
COMPCHL	COMPCTI	COMPCHI	COMPQOD	COMPSCE	COMPMAC	COMPDMS	COMPC2D
COMSSCR	CDCCRN	VERS	IPL	CD7	CD6	CD3	CD4
CD8	IOQ	OIP	AEI	ICD	EDD	SAD	DHE
MAD	PCM	EBL	ZZZ	HISTORY			

VALUES DEFINED FOR THIS UPDATE

CMSE17X

COMMON DECKS ENCOUNTERED

COMSCPA	COMSCTI	COMSATS	COMSMTS	COMS3TP	COMS844	COMS885	COMPCHL
COMPCTI	COMPCHI	COMPQOD	COMPSCE	COMPMAC	COMPDMS	COMPC2D	COMSSCR
CDCCRN	VERS	HISTORY					

DECKS WRITTEN TO COMPILE FILE

IPL	CD7	CD6	CD3	CD4	CD8	IOQ	OIP
AEI	ICD	EDD	SAD	DHE	MAD	PCM	EBL
ZZZ							

THIS UPDATE REQUIRED 62200B WORDS OF MEMORY.
IPL

	ADDRESS	LENGTH	BINARY CONTROL CARDS.		
1	7421	360	IDENT	IPL,IPLFWA	1
2	10001	(61)	END		2
3					3
4					4
5					5
6					6
7			IDENT	IPL,IPLFWA	7
8			PERIPH		8
9		VERID	MICRO	1,,*A02*	9
10		VERS	MICRO	1,,*"VERID"*	10
11			COMMENT	CTI INITIAL PROGRAM LOADER - "VERS"	11
12			COMMENT	COPYRIGHT CONTROL DATA CORPORATION, 1979	12
13					13
14					14
15		*	ALL RIGHTS RESERVED		15
16		*			16
17		*	CONTAINED HEREIN ARE SOFTWARE PRODUCTS COPYRIGHTED		17
18		*	BY CONTROL DATA CORPORATION. REPRODUCTION WITHOUT		18
19		*	PERMISSION IS PROHIBITED. THE COPYRIGHT NOTICE		19
20		*	MUST APPEAR ON ALL AUTHORIZED COMPLETE OR		20
21		*	PARTIAL COPIES.		21
22		*			22
23					23
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25					25
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1412THE

IPL

***** IPL - INITIAL PROGRAM LOADER -CTI-.
*
* R. A. MATTHEWS. 12/15/77.

IPL 8
IPL 9
IPL 10
IPL 11
IPL 12
IPL 13
IPL 14
IPL 15

IPL IS THE INITIAL PROGRAM IN THE COMMON TEST/INITIALIZATION
PACKAGE (CTI) FOR TAPE AND DISK DEADSTART. IPL
INITIATES THE CTI SEQUENCE AND READS IN A MORE ADEQUATE
DEVICE DRIVER FOR THE REST OF CTI PROCESSING.

*** IPL - INITIAL PROGRAM LOADER -CTI-.

IPL 17
IPL 18
IPL 19
IPL 20
IPL 21
IPL 22
IPL 23
IPL 24
IPL 25
IPL 26
IPL 27
IPL 28
IPL 29

IPL IS THE FIRST PROGRAM LOADED FROM THE COMMON TEST/INITIAL
-IZATION PACKAGE (CTI). IPL CHECKS THE DEADSTART DEVICE TYPE
FROM THE DEADSTART PANEL SETTING AND READS IN THE APPROPRIATE
DRIVER. IF THE DEVICE IS TAPE, IPL READS A GIVEN NO. OF
RECORDS BEFORE TRANSFERING CONTROL TO THE DRIVER. FOR 67X
(ATS) TAPE, THE FIRST RECORD AFTER IPL IS LOADED AND EXECUTED
FOR 66X (MTS) TAPE, THE SECOND RECORD AFTER IPL IS LOADED.
FOR 3000 TYPE TAPE DRIVES, THE THIRD RECORD IS LOADED.
FOR DISK DEADSTARTS, THE DRIVER IS LOADED FROM THE CTI AREA
ON THE DISK (SEE INSTALL UTILITY) BY ABSOLUTE DISK ADDRESS
FOUND IN THE COMMON POINTER AREA.

1412THE

** DEADSTART PANEL WORDS.					IPL	32
*					IPL	33
*					IPL	34
* DURING IPL EXECUTION. WORDS 0 - 4 MAY BE USED AS SCRATCH					IPL	35
* DIRECT CELLS.					IPL	36
0	D0	EQU	0	SCRATCH	IPL	37
1	D1	EQU	1	SCRATCH	IPL	38
2	D2	EQU	2	SCRATCH	IPL	39
3	D3	EQU	3	SCRATCH	IPL	40
4	D4	EQU	4	SCRATCH	IPL	41
5	D5	EQU	5	ZERO IF TAPE DEADSTART	IPL	42
6	D6	EQU	6	FUNCTION WORD	IPL	43
* (D6) = WARMSTART FUNCTION, IF MTS/ATS.					IPL	44
* = DEADSTART FUNCTION, IF 844 DISK.					IPL	45
7	D7	EQU	7	RESERVED	IPL	46
* (D7) = 1400B IF 3000 TYPE TAPE.					IPL	47
10	D10	EQU	10B	RESERVED	IPL	48
11	D11	EQU	11B	RESERVED	IPL	49
12	D12	EQU	12B	MSL PARAMETERS	IPL	50
13	D13	EQU	13B	OS PARAMETERS	IPL	51
14	D14	EQU	14B	OS PARAMETERS	IPL	52
15	D15	EQU	15B	UNUSED	IPL	53
16	D16	EQU	16B	C80/A170 RESERVED	IPL	54
17	D17	EQU	17B	RESERVED	IPL	55
20	D20	EQU	20B	RESERVED	IPL	56

** INSTRUCTION EQUATES.					IPL	58
*					IPL	59
0	PSNC	EQU	0000B	PASS	IPL	60
300	UJNC	EQU	0300B	UNCONDITIONAL JUMP	IPL	61
400	ZJNC	EQU	0400B	ZERO JUMP	IPL	62
1000	SHNC	EQU	1000B	SHIFT	IPL	63
1500	LCNC	EQU	1500B	LOAD COMPLEMENT	IPL	64
1700	SBNC	EQU	1700B	SUBTRACT NO-ADDRESS	IPL	65
2000	LDCC	EQU	2000B	LOAD CONSTANT	IPL	66
2100	ADCC	EQU	2100B	ADD CONSTANT	IPL	67
2300	LMCC	EQU	2300B	LOGICAL MINUS CONSTANT	IPL	68
3000	LDDC	EQU	3000B	LOAD DIRECT	IPL	69
6400	AJMC	EQU	6400B	ACTIVE JUMP	IPL	70
7300	OAMC	EQU	7300B	OUTPUT MEMORY	IPL	71
7400	ACNC	EQU	7400B	ACTIVATE CHANNEL	IPL	72
7500	DCNC	EQU	7500B	DISCONNECT CHANNEL	IPL	73

STATUS AND CONTROL REGISTER CHANNEL DEFINITIONS.

**						IPL	75
*						IPL	76
	16	CHSCR	EQU	16B		IPL	77
	2000	F.CLR	EQU	2000B	CLEAR SCR BIT	IPL	78
	4000	F.SET	EQU	4000B	SET SCR BIT	IPL	79
	124	B.2XSP	EQU	124B	2X PPU SPEED	IPL	80

MISCELLANEOUS DEFINITIONS.

*						IPL	82
						IPL	83
*						IPL	84
	0	FWDL\$	EQU	0	DEFINE FORWARD LINK FOR CHANNEL INST.	IPL	85

**DEFINITION COMMON DECKS.IPL88
*IPL89
**ALL SYMBOL AND MACRO DEFINITION COMMON DECKS ARE CALLED HERE.IPL90

1	0	CTI	CTEXT	COMPCTI - CTI COMMON MACROES.	COMPCTI	2	1
2	0	CPA	CTEXT	COMSCPA - CTI COMMON POINTER AREA DEFINITIONS.	COMSCPA	2	2
3	0	CTI	CTEXT	COMSCTI - CTI INTERNAL DEFINITIONS.	COMSCTI	2	3
4	0	844	CTEXT	COMS844 - 844 DISK DEFINITIONS.	COMS844	2	4
5	0	885	CTEXT	COMS885 - 885 DISK DEFINITIONS.	COMS885	2	5
6	0	MTS	CTEXT	COMSMTS - MTS TAPE DEFINITIONS.	COMSMTS	2	6
7	0	ATS	CTEXT	COMSATS - ATS TAPE DEFINITIONS.	COMSATS	2	7
8	0	3TP	CTEXT	COMS3TP - 3000 TYPE TAPE DEFINITIONS.	COMS3TP	2	8
9	0		CTEXT	COMPCHL - REDEFINE I/O INSTRUCTIONS.	COMPCHL	2	9
10		7660	CPAFWA	EQU /CTI/CPAFWA	IPL	100	10
11		7421	IPLFWA	EQU /CTI/IPLFWA	IPL	101	11
12							12
13							13
14							14
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IPL 103

1

7463	3006			LDD	D6		IPL	157
7464	1071			SHN	-6		IPL	158
7465	1205			LPN	5	MASK OUT DENSITY AND EQP. NO	IPL	159
7466	0504			NJN	IPL04	IF ATS, SET TO SKIP REREAD CHECK	IPL	160
7467	5400	7500		STM	IPLA	MTS/ATS TYPE DESIGNATOR (0 = MTS)	IPL	161
7471	3604			AOD	D4	SET NO. OF RECORDS TO SKIP FOR MTS	IPL	162
		0		ERRNZ	/CTI/D66X-/CTI/D67X-1		IPL	163
7472	1440		IPL04	LDN	/MTS/MRFW	READ FORWARD FUNCTION	IPL	164
		0		ERRNZ	/MTS/MRFW-/ATS/ARFW		IPL	165
7473	0200	7604		RJM	FAI	FUNCTION AND READ	IPL	166
7475	1412		IPL05	LDN	/MTS/MGST	GENERAL STATUS	IPL	167
		0		ERRNZ	/MTS/MGST-/ATS/AGST		IPL	168
7476	0200	7643		RJM	STS	GET GENERAL STATUS	IPL	169
7500	0305		IPLA	UJN	IPL06	IF ATS, SKIP NOISE CHECK	IPL	170
			*	PSN		(IF MTS)	IPL	171
7501	1011			SHN	/MTS/SL.GSNO	CHECK IF NOISE READ	IPL	172
7502	0603			PJN	IPL06	IF NOT NOISE RECORD	IPL	173
7503	1441			LDN	/MTS/MRRF	REREAD FORWARD	IPL	174
7504	0366			UJN	IPL05	REPROCESS	IPL	175
7505	3704		IPL06	SOD	D4	DECREMENT SKIP COUNT	IPL	176
7506	0663			PJN	IPL04	IF MORE RECORDS TO READ	IPL	177
7507	0313			UJN	IPL09	EXIT	IPL	178
			*			DEADSTART DEVICE IS A 3000 TYPE TAPE DRIVE, AND A SIMPLE READ	IPL	179
			*			IS DONE NEXT.	IPL	180
7510	1403		IPL07	LDN	/CTI/D3TP	3000 TAPE RECORD NO.	IPL	181
7511	3404			STD	D4	DRIVER RECORD NO.	IPL	182
7512	2000	1400	IPL08	LDC	/3TP/CIEI+/3TP/CMDA	READ ONE BINARY RECORD	IPL	183
7514	0200	7604		RJM	FAI	FUNCTION AND INPUT	IPL	184
7516	1703			SBN	/3TP/MBLN	MIN. NO. OF BYTES TO ACCEPT	IPL	185
7517	0772			MJN	IPL08	IF NOISE RECORD, REREAD	IPL	186
7520	3704			SOD	D4	DECREMENT DRIVER RECORD NO.	IPL	187
7521	0570			NJN	IPL08	IF MORE RECORDS TO READ	IPL	188
			*			ALL RETURNS ARE PROCESSED THROUGH THIS ADDRESS.	IPL	189
7522	0100	6120	IPL09	LJM	/CTI/IPLTRAN	JUMP TO FIRST EXEC. INST.	IPL	190
			*			THE DEADSTART DEVICE IS A DISK, SO PROCESS READ FROM DISK.	IPL	191
7524	5000	7732	IPL10	LDM	/CPA/CIDP+2	SAVE DISK ADDRESS	IPL	192
7526	5400	7570		STM	IPLB		IPL	193
7530	3006			LDD	D6		IPL	194
7531	1277			LPN	77B		IPL	195
7532	5400	7727		STM	/CPA/CIDP-1	UNIT NO. FOR SEEK	IPL	196
7534	1402		IPL11	LDN	/844/D2SK	SEEK 2:1	IPL	197
		0		ERRNZ	/844/D2SK-/885/D2SK		IPL	198
7535	0200	7623		RJM	FCN		IPL	199
7537	0474			ZJN	IPL11	IF FUNCTION REJECTED	IPL	200
			*****				IPL	201
			*			THE FOLLOWING SYMBOL, *IPLZ*, MUST DEFINE THE LOCATION OF	IPL	202
			*			THE FIRST CHANNEL INSTRUCTION USING THE DEADSTART DEVICE	IPL	203
			*			CHANNEL. THIS SYMBOL IS USED TO MARK THE INSTRUCTION IN	IPL	204
			*			WHICH THE FIRST FORWARD LINK IS DEFINED.	IPL	205
			*			SUCH A MEASURE IS NECCESARY TO ENSURE PROPER CHANNEL	IPL	206
			*			DEFINITION WHEN USING *COMPCHL*.	IPL	207
7540			IPLZ	BSS	0	FIRST CHANNEL INSTRUCTION	IPL	208
			*****				IPL	209
7540	7442			ACN	40B	ACTIVATE CHANNEL	IPL	210
7541	1404			LDN	4		IPL	211
7542	7302	7727		OAM	/CPA/CIDP-1,0	OUTPUT SEEK PARAMETER ARRAY	IPL	212
7544	6602	7544		FJM	*,0		IPL	213

7546	7566		DCN	40B		IPL	214
7547	1412		LDN	/844/DGST		IPL	215
		0	ERRNZ	/844/DGST-/885/DGST		IPL	216
7550	0200 7643		RJM	STS	GET GENERAL STATUS	IPL	217
7552	1212		LPN	/844/MP.GSBS+/844/MP.GSDR		IPL	218
		0	ERRNZ	/844/MP.GSBS-/885/MP.GSBS		IPL	219
7553	0560		NJN	IPL11	IF DRIVE BUSY	IPL	220
7554	1404		LDN	/844/DRED	READ FUNCTION	IPL	221
		0	ERRNZ	/844/DRED-/885/DRED		IPL	222
7555	0200 7604		RJM	FAI		IPL	223
7557	0200 7657		RJM	CLS	CHECK FOR LAST SECTOR	IPL	224
7561	0652		PJN	IPL11	IF MORE TO READ	IPL	225
7562	5000 7570		LDM	IPLB		IPL	226
7564	5400 7732		STM	/CPA/CIDP+2	RESTORE DISK ADDRESS	IPL	227
7566	0100 7522		LJM	IPL09		IPL	228
7570	0000	IPLB	CON	0		IPL	229

**	AWD - ACTIVATE CHANNEL AND WAIT FOR DATA.				IPL	232	
*					IPL	233	
*	AWD ACTIVATES THE FUNCTIONED CHANNEL AND TIMES OUT A FULL				IPL	234	
*	CONDITION.				IPL	235	
*					IPL	236	
*	EXIT (A) .NE. 0, DATA ON CHANNEL.				IPL	237	
*	(A) = 0, NO DATA RECIEVED, CHANNEL DISCONNECTED.				IPL	238	
7571	0100 0000	AWD	ENM	X	ENTRY/EXIT	IPL	239
7573	1500		LCN	0		IPL	240
7574	7441		ACN	40B	ACTIVATE CHANNEL	IPL	241
7575	6604 7571	AWD1	FJM	AWDX,0	IF FULL, RETURN	IPL	242
7577	1701		SBN	1		IPL	243
7600	0574		NJN	AWD1	IF TIME OUT NOT EXPIRED	IPL	244
7601	7551		DCN	40B	DISCONNECT	IPL	245
7602	0366		UJN	AWDX	RETURN	IPL	246
**	FAI - FUNCTION AND INPUT.				IPL	248	
*					IPL	249	
*	FAI FUNCTIONS THE DEVICE WITH THE FUNCTION CODE PASSED				IPL	250	
*	IN THE A REGISTER. IT THEN ACTIVATES THE CHANNEL AND WAITS FOR				IPL	251	
*	DATA ON THE CHANNEL. IF NO DATA IS SENT, FAI REISSUES THE				IPL	252	
*	FUNCTION AND TRIES AGAIN. IF DATA IS PRESENT, FAI READS				IPL	253	
*	FROM THE CHANNEL TO THE PP STARTING AT THE LOCATION SPECIFIED				IPL	254	
*	BY *FAIA*.				IPL	255	
*					IPL	256	
*	ENTRY (A) = FUNCTION CODE.				IPL	257	
*	(D5) = 0, IF TAPE DEADSTART.				IPL	258	
*	(FAIA) = ADDRESS FOR BUFFER.				IPL	259	
*					IPL	260	
*	EXIT (A) = NO. OF BYTES TRANSFERRED.				IPL	261	
*	(CLSA - CLSA+1) = LINKAGE BYTES, IF DISK DEADSTART.				IPL	262	
*					IPL	263	
*	USES D2.				IPL	264	
*					IPL	265	
*	CALLS FCN, AWD.				IPL	266	
7603	0100 0000	FAI	ENM	X	ENTRY/EXIT	IPL	267
7605	3402		STD	D2	SAVE FUNCTION	IPL	268
7606	3002	FAI1	LDD	D2		IPL	269
7607	0200 7623		RJM	FCN	FUNCTION DEVICE	IPL	270
7611	0474		ZJN	FAI1	IF FUNCTION REJECT	IPL	271
7612	7442		ACN	40B		IPL	272
7613	1400		LDN	0		IPL	273
7614	7112 6000	FAI2	IAM	/CTI/IPLB,0	READ (SET UP FOR READ FROM TAPE)	IPL	274
		FAIA	EQU	*-1		IPL	275
7616	2377 7777		LMC	777777B		IPL	276
7620	1601		ADN	1	NO. OF BYTES READ	IPL	277
7621	0361		UJN	FAIX	RETURN	IPL	278

**	FCN - FUNCTION DEVICE.	IPL	280
*		IPL	281
*	ENTRY (A) = FUNCTION CODE.	IPL	282
*	(FCNA) = EQUIPMENT NO. * 1000B.	IPL	283
*		IPL	284
*	EXIT (A) .NE. 0, FUNCTION ACCEPTED.	IPL	285
*	(A) = 0, FUNCTION REJECTED.	IPL	286
7622	0100 0000 FCN ENM X ENTRY/EXIT	IPL	287
7624	2100 0000 ADC 0 ADD IN EQUIPMENT NO.	IPL	288
	7625 FCNA EQU *-1 EQUIPMENT NO. * 1000B	IPL	289
7626	7642 FAN 40B ISSUE FUNCTION	IPL	290
7627	1500 LCN 0	IPL	291
7630	6504 7622 FCN1 IJM FCNX,0 IF FUNCTION ACCEPTED, RETURN	IPL	292
7632	1701 SBN 1	IPL	293
7633	0574 NJN FCN1 IF TIMEOUT NOT EXPIRED	IPL	294
7634	7542 DCN 40B NO HANG ON SECOND FUNCTION	IPL	295
7635	0364 UJN FCNX RETURN	IPL	296
**	STS - STATUS DEVICE.	IPL	298
*		IPL	299
*	ENTRY (A) = STATUS FUNCTION CODE.	IPL	300
*		IPL	301
*	EXIT (A) = STATUS RETURNED.	IPL	302
*		IPL	303
*	CALLS FCN, AWD.	IPL	304
*		IPL	305
*	USES D2.	IPL	306
7636	7043 STS1 IAN 40B INPUT STATUS	IPL	307
7637	5400 7655 STM STSA	IPL	308
7641	7540 DCN 40B DISCONNECT CHANNEL	IPL	309
7642	0100 0000 STS ENM X ENTRY/EXIT	IPL	310
7644	3402 STD D2 SAVE FOR REISSUE	IPL	311
7645	0200 7623 STS2 RJM FCN ISSUE STATUS FUNCTION	IPL	312
7647	0472 ZJN STSX IF NOT ACCEPTED, RETURN	IPL	313
7650	0200 7572 RJM AWD ACITVATE AND WAIT FOR DATA	IPL	314
7652	0563 NJN STS1 IF STATUS ON CHANNEL	IPL	315
7653	3002 LDD D2 GET FUNCTION FOR REISSUE	IPL	316
7654	0370 UJN STS2 REISSUE FUNCTION	IPL	317
7655	0000 STSA CON 0	IPL	318
**	CLS - CHECK FOR LAST SECTOR.	IPL	320
*		IPL	321
*	CLS CHECKS TO SEE IF THE LAST INPUT READ THE LAST SECTOR FROM	IPL	322
*	DISK BY CHECKING THE LINKAGE BYTES. CLS ALSO MOVES THE DATA	IPL	323
*	BLOCK OVER THE LINKAGE BYTES.	IPL	324
*		IPL	325
*	ENTRY (FAIA) = INPUT FWA.	IPL	326
*		IPL	327
*	EXIT (A) NEGATIVE, IF LAST SECTOR.	IPL	328
*	(FAIA) = INPUT FWA + 500B.	IPL	329
*	(/CPA/CIDP+2) = NEW SECTOR NUMBER.	IPL	330

				*						IPL	331	
				*	USES	D0, D2, D3,D4.				IPL	332	
				CLS	ENM	X	ENTRY/EXIT			IPL	333	
1	7656	0100	0000		LDN	/844/DGST				IPL	334	1
2	7660	1412			ERRNZ	/844/DGST-/885/DGST				IPL	335	2
3	7661	0200	7643	0	RJM	STS	GET GENERAL STATUS			IPL	336	3
4	7663	2000	0500		LDC	/CPA/PRU				IPL	337	4
5	7665	3402			STD	D2				IPL	338	5
6	7666	5500	7615		RAM	FAIA	BUMP READ ADDRESS			IPL	339	6
7	7670	3202			SBD	D2				IPL	340	7
8	7671	3404			STD	D4	SAVE OLD FWA			IPL	341	8
9	7672	1602			ADN	2				IPL	342	9
10	7673	5400	7706		STM	CLSA	FWA OF DATA BLOCK			IPL	343	10
11	7675	5004	0001		LDM	1,D4				IPL	344	11
12	7677	5500	7732		RAM	/CPA/CIDP+2	BUMP DISK ADDRESS			IPL	345	12
13	7701	4004			LDI	D4				IPL	346	13
14	7702	3400			STD	D0	SAVE SECTOR LENGTH			IPL	347	14
15	7703	1400			LDN	0				IPL	348	15
16	7704	3403			STD	D3				IPL	349	16
17	7705	5003	0000	CLS1	LDM	** ,D3				IPL	350	17
18			7706	CLSA	EQU	*-1				IPL	351	18
19	7707	4404			STI	D4				IPL	352	19
20	7710	3604			AOD	D4				IPL	353	20
21	7711	3603			AOD	D3				IPL	354	21
22	7712	3202			SBD	D2				IPL	355	22
23	7713	0571			NJN	CLS1	IF MOVE NOT COMPLETE			IPL	356	23
24	7714	3000			LDD	D0				IPL	357	24
25	7715	3202			SBD	D2				IPL	358	25
26	7716	0100	7656		LJM	CLSX	RETURN			IPL	359	26
27												27
28												28
29												29
30												30
31			10		ERRNG	/CPA/IPLLWA-*+1	IPL OVERFLOWED			IPL	361	31
32												32
33												33
34												34
35												35
36												36
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60												60

1412THE

363

1

**CMSE POINTER ADDRESS.IPL392

*THE CMSE POINTER ADDRESS HAS THE ADDRESS OF THE CMSE SUPPLIED.IPL393

*BOOTSTRAP LOADER.IPL394

17742MSDPBSS/CPA/MSDP-*IPL395

277420000VFD60/0IPL396

377430000

477440000

577450000

677460000

**DIAGNOSTIC SEQUENCER POINTER ADDRESS.IPL398

*IPL399

*THE DIAGNOSTIC SEQUENCER POINTER ADDRESS HAS THE ADDRESS OFIPL400

*THE BOOTSTRAP FOR THE DEADSTART DIAGNOSTIC SEQUENCER.IPL401

1577475DSDPBSS/CPA/DSDP-*IPL402

1677540000VFD60/0IPL403

1777550000

1877560000

1977570000

2077600000

**OPERATING SYSTEM POINTER ADDRESS.IPL405

*IPL406

*THE OPERATING SYSTEM POINTER HAS THE NAME OR THE ADDRESS OFIPL407

*THE OPERATING SYSTEM BOOTSTRAP ROUTINE.IPL408

2977615OSDPBSS/CPA/OSDP-*IPL409

3077661723VFD18/3LOS B,42/0IPL410

3177670200

3277700000

3377710000

3477720000

**SET UP DEADSTART TRANSFER ADDRESS.IPL412

4077735BSS10000B-*IPL413

41100007420CONIPLFWA-1FWA -1 OF EXECUTABLE CODEIPL414

4210001ENDIPL415

62100B CM STORAGE USED3071 STATEMENTS1856 SYMBOLS000340 INVENTED SYMBOLS

PARALLEL CPU ASSEMBLY2.243 SECONDS308 REFERENCES

SYMBOLIC REFERENCE TABLE.

ACNC74003/44 D

ADCC21003/39 D

AJMC64003/42 D

AWD75729/08 D10/38

14121HE

CIDP	7730	7/36	7/40 S	7/56	8/14 S	11/15 S	12/26
CIRP	7735	12/40					
DSDP	7754	13/18					
IPLLWA	7727	11/34					
MSDP	7742	13/04					
OSDP	7766	13/32					
PRU	500	11/07					

CTI

1412THE

SYMBOL QUALIFIER = 3TP

1	CIEI	1400	7/27	1
2	CMDA	0	7/27	2
3	MBLN	3	7/29	3
4	CD7			4
5				5
6				6
7				7
8				8
9				9
10				10
11				11
12				12
13				13
14				14
15				15
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60				60

1412THE

BINARY CONTROL CARDS.

14121HE

CD7

***** CD7 - 67X (ATS) TAPE DRIVER -CTI-.
*
* R. A. MATTHEWS. 12/23/77.
* R. A. TURGEON 6/8/78.

CD7 8
CD7 9
CD7 10
CD7 11
CD7 12
CD7 13
CD7 14
CD7 15
CD7 16
CD7 17

CD7 PROVIDES A BASIC TAPE DRIVER FOR 67X (ATS) TAPE DRIVES
WHEN USED AS THE DEADSTART DEVICE WITHIN THE COMMON TEST/
INITIALIZATION (CTI) PACKAGE. CD7 MOVES ITSELF OVER THE IPL
PREFIX TABLE AND PROGRAM BODY TO ALLOW SUBSEQUENT READS TO
USE THE IPL BUFFER AREA.

*** CD7 - 67X (ATS) TAPE DRIVER -CTI-.

CD7 19
CD7 20
CD7 21
CD7 22
CD7 23
CD7 24
CD7 25
CD7 26

CD7 IS THE FIRST RECORD FOLLOWING IPL ON A DEADSTART TAPE
AND IS NOT PRESENT IN THE DISK DEADSTART SEQUENCE. CD7,
THROUGH THE COMMON DRIVER INTERFACE, PROVIDES A DEVICE
READER THAT WILL LOAD GIVEN ROUTINES AND HAND OFF CONTROL
IF SO SPECIFIED. THE DEVICE READER WILL PROCESS RECORDS UP
TO 511 (DECIMAL) CM WORDS LONG.

1412THE

**
*
*
*
*
*
DEADSTART PANEL WORDS.
CD7 28
CD7 29
CD7 30
CD7 31
CD7 32
CD7 33
WORDS 5 - 20B OF THE DEADSTART PANEL MUST REMAIN INTACT
DURING CTI EXECUTION. WORDS 0 - 4 MAY BE USED AS SCRATCH
DIRECT CELLS.

0	D0	EQU	0	SCRATCH	CD7	34
1	D1	EQU	1	SCRATCH	CD7	35
2	D2	EQU	2	SCRATCH	CD7	36
3	D3	EQU	3	SCRATCH	CD7	37
4	D4	EQU	4	SCRATCH	CD7	38
5	D5	EQU	5	ZERO IF TAPE DEADSTART	CD7	39
6	D6	EQU	6	FUNCTION WORD	CD7	40
	*		(D6) =	WARMSTART FUNCTION, IF MTS/ATS.	CD7	41
	*		=	DEADSTART FUNCTION, IF 844 DISK.	CD7	42
7	D7	EQU	7	RESERVED	CD7	43
	*		(D7) =	1400B IF 3000 TYPE TAPE.	CD7	44
10	D10	EQU	10B	RESERVED	CD7	45
11	D11	EQU	11B	RESERVED	CD7	46
12	D12	EQU	12B	MSL PARAMETERS	CD7	47
13	D13	EQU	13B	OS PARAMETERS	CD7	48
14	D14	EQU	14B	OS PARAMETERS	CD7	49
15	D15	EQU	15B	UNUSED	CD7	50
16	D16	EQU	16B	C80/A170 RESERVED	CD7	51
17	D17	EQU	17B	RESERVED	CD7	52
20	D20	EQU	20B	RESERVED	CD7	53

**
*
INSTRUCTION EQUATES.
CD7 56
CD7 57
CD7 58
CD7 59
CD7 60
0 PSNC EQU 0000B PASS
CD7 61
300 UJNC EQU 0300B UNCONDITIONAL JUMP
CD7 62
400 ZJNC EQU 0400B ZERO JUMP
CD7 63
1000 SHNC EQU 1000B SHIFT
CD7 64
1500 LCNC EQU 1500B LOAD COMPLEMENT
CD7 65
1700 SBNC EQU 1700B SUBTRACT NO-ADDRESS
CD7 66
2000 LDCC EQU 2000B LOAD CONSTANT
CD7 67
2100 ADCC EQU 2100B ADD CONSTANT
CD7 68
2300 LMCC EQU 2300B LOGICAL MINUS CONSTANT
CD7 69
3000 LDDC EQU 3000B LOAD DIRECT
CD7 70
6400 AJMC EQU 6400B ACTIVE JUMP
CD7 71
7300 OAMC EQU 7300B OUTPUT MEMORY
CD7 72
7400 ACNC EQU 7400B ACTIVATE CHANNEL
CD7 73
7500 DCNC EQU 7500B DISCONNECT CHANNEL

** MISCELLANEOUS DEFINITIONS.
*
*

CD7 75
CD7 76
CD7 77
CD7 78
CD7 79
CD7 80
CD7 81
CD7 82
CD7 83
CD7 84
CD7 85

5	NAME	EQU	5	OFFSET OF NAME IN PRFX TABLE
210560	TIMEOUT	EQU	70000	TIMEOUT COUNT
12	RETRY	EQU	10D	NO. OF RETRIES IN ERROR PROCESSING
0	FWDL\$	EQU	0	DEFINE FORWARD LINK FOR CHANNEL INST.
0	QUAL\$	EQU	0	DON-T QUALIFY COMMON DECKS
0	DEBUG	EQU	0	

** DISPLAY CONTROLLER DEFINITIONS.
*
*

CD7 87
CD7 88
CD7 89
CD7 90
CD7 91
CD7 92
CD7 93
CD7 94
CD7 95
CD7 96
CD7 97
CD7 98
CD7 99
CD7 100
CD7 101
CD7 102
CD7 103
CD7 104
CD7 105
CD7 106
CD7 107
CD7 108
CD7 109
CD7 110
CD7 111
CD7 112
CD7 113

10	CHD	EQU	10B	DISPLAY CHANNEL
* DISPLAY FUNCTION CODES.				
7000	F.SEL	EQU	7000B	SELECT CONSOLE DISPLAY
0	F.SLS	EQU	0000B	SELECT CONSOLE LEFT SCREEN
100	F.SRS	EQU	0100B	SELECT CONSOLE RIGHT SCREEN
200	F.SBS	EQU	0200B	SELECT CONSOLE BOTH SCREEN
0	F.CHR	EQU	0000B	SELECT DOT MODE
10	F.DOT	EQU	0010B	SELECT DOT MODE
20	F.KEY	EQU	0020B	SELECT KEYBOARD INPUT
0	F.CHS	EQU	0000B	SET CHARACTER SIZE SMALL
1	F.CHM	EQU	0001B	SET CHARACTER SIZE MEDIUM
2	F.CHL	EQU	0002B	SET CHARACTER SIZE LARGE
* COORDINATE DESIGNATION.				
6000	XSET	EQU	6000B	SET X COORDINATE
7000	YSET	EQU	7000B	SET Y COORDINATE

** DEFINITION COMMON DECKS.
*
** ALL SYMBOL AND MACRO DEFINITION COMMON DECKS ARE CALLED HERE.

CD7	116
CD7	117
CD7	118
CD7	119
CD7	120
COMPCTI	2
COMSATS	2
COMPCHL	2
COMSCPA	2
COMSCTI	2
CD7	126

0	CTI	CTEXT	COMPCTI	- CTI COMMON MACROES.
0	ATS	CTEXT	COMSATS	- ATS TAPE DEFINITIONS.
0		CTEXT	COMPCHL	- REDEFINE I/O INSTRUCTIONS.
0	CPA	CTEXT	COMSCPA	- CTI COMMON POINTER AREA DEFINITIONS.
0	CTI	CTEXT	COMSCTI	- CTI INTERNAL DEFINITIONS.
	NFMAX	EQU	CDNFMAX	NOFIND MAXIMUM

36

6120

ORG IPLTRAN

CD7

128

*** INI - CD7 INITIALIZATION.

CD7 130

*

CD7 131

*

INI MOVES THE TAPE DRIVER INTO THE COMMON DRIVER AREA,
INITIALIZES THE CHANNEL INSTRUCTIONS AND LOADS THE FIRST
DISPLAY ROUTINE.

CD7 132

CD7 133

*

CD7 134

*

CD7 135

*

ENTRY CPA AREA INTACT.

CD7 136

*

DEADSTART PANEL CELLS INTACT.

CD7 137

*

CD7 138

*

USES D1, D2, D3, D4.

CD7 139

CD7 140

CD7 141

6120

INI

BSS

0

ENTRY POINT

CD7 142

*

CD7 143

*

MOVE THE COMMON DRIVER FOR TAPE, *CTD*, INTO THE COMMON
DRIVER AREA.

CD7 144

CD7 145

6120

2000 0576

LDC

TCTDL

CD7 146

6122

3404

STD

D4

LENGTH OF MOVE BLOCK

CD7 147

6123

5004 6237

INI1

LDM

TCTD-1,D4

CD7 148

6125

5404 6777

STM

CDEP-1,D4

MOVE DRIVER CODE

CD7 149

6127

3704

SOD

D4

CD7 150

6130

0572

NJN

INI1

IF MORE DRIVER CODE TO MOVE

CD7 151

6131

3006

LDD

D6

CD7 152

6132

1217

LPN

17B

CD7 153

6133

5500 7042

RAM

CTD1

PUT UNIT NO. IN CONNECT CODE

CD7 154

6135

3006

LDD

D6

CD7 155

6136

2200 7000

LPC

7000B

CD7 156

6140

5400 7234

STM

FCNA

EQUIPMENT NO. * 1000B

CD7 157

6142

3006

LDD

D6

CD7 158

6143

1217

LPN

17B

ISOLATE CHANNEL NO.

CD7 159

6144

5500 7370

RAM

FMUD

FIX FORMAT UNIT DATA

CD7 160

6146

1217

LPN

17B

ISOLATE CHANNEL NO.

CD7 161

6147

5500 7337

RAM

FMUN

FIX 9-TRK FMT UNIT DATA

CD7 162

*

CD7 163

*

PICK UP CHANNEL NUMBER AND STUFF CHANNELS INTO CODE USING

CD7 164

THE CHANNEL INSTRUCTION LINK.

CD7 165

6151

2000 7147

LDC

AWDZ

FIRST CHANNEL INSTRUCTION

CD7 166

6153

3402

STD

D2

CD7 167

6154

3010

LDD

D10

GET CHANNEL NO. FROM D/S PANEL

CD7 168

6155

1237

LPN

37B

CD7 169

6156

3403

STD

D3

CD7 170

6157

1400

LDN

0

CD7 171

6160

3502

INI2

RAD

D2

CHANNEL INST. POINTER + BIAS

CD7 172

6161

4002

LDI

D2

GET INSTRUCTION

CD7 173

6162

1237

LPN

37B

CD7 174

6163

3404

STD

D4

SAVE FOR NEXT INSTRUCTION

CD7 175

6164

3003

LDD

D3

GET CHANNEL NO.

CD7 176

6165

3204

SBD

D4

SUBTRACT LINK FROM CHANNEL NO.

CD7 177

6166

4502

RAI

D2

ADD CHANNEL NO. - LINK TO OLD INST.

CD7 178

CD7 179

CD7 180

CD7 181

6167	3004		LDD	D4	CHECK FOR ZERO LINK (LAST INST.)	CD7	182
6170	0567		NJN	INI2	CONTINUE PROCESSING INSTRUCTIONS	CD7	183
* CODE TO CREATE CTI INTERNAL STATE						CD7	185
						CD7	186
6171	7553		DCN.	13B+40B	DISCONNECT 13B	CD7	187
6172	7573		DCN.	33B+40B	DISCONNECT 33B	CD7	188
						CD7	189
6173	6512 6221		IJM.	INI7,12B	IF CHAN 12B IS D.S CHANNEL	CD7	190
6175	1400		LDN	0	OUTPUT 0000 TO CH 12B	CD7	191
6176	7212		OAN.	12B		CD7	192
6177	5600 0000		AOM	D0	WAIT A WHILE	CD7	193
6201	5700 0000		SOM	D0		CD7	194
6203	6612 6221		FJM.	INI7,12B	IF FULL (NO PP ON CH 12B)	CD7	195
						CD7	196
6205	3003		LDD	D3	ACTIVATE DEADSTART CHANNEL	CD7	197
6206	5500 6210		RAM	INIA		CD7	198
6210	7440	INIA	ACN.	40B		CD7	199
						CD7	200
6211	3003		LDD	D3	MOVE PP BACK TO D.S. CHAN	CD7	201
6212	5500 6225		RAM	INIC		CD7	202
6214	1403		LDN	INIL		CD7	203
6215	7312 6224		OAM.	INIB,12B		CD7	204
6217	6612 6217		FJM.	*,12B	WAIT FOR EMPTY	CD7	205
						CD7	206
6221	7552	INI7	DCN.	12B+40B	DISCONNECT 12B	CD7	207
6222	7572		DCN.	32B+40B	DISCONNECT 32B	CD7	208
6223	0304		UJN	INI9		CD7	209
						CD7	210
6224	1400	INIB	LDN	0		CD7	211
6225	7100 0000	3 INIC	IAM.	0,**		CD7	212
						CD7	213
						CD7	214
						CD7	215
* CALL THE COMMON DRIVER TO LOAD IOQ						CD7	216
* AND GIVE CONTROL TO IOQ.						CD7	217
						CD7	218
6227	2000 6233	INI9	LDC	INIR	A = ADDRESS OF PARAMS	CD7	219
6231	0100 7000		LJM	CDEP	GOTO COMMON DRIVER	CD7	220
						CD7	221
* PARAMETER BLOCK FOR COMMON DRIVER TO LOAD IOQ						CD7	222
						CD7	223
6233	6000	INIR	CON	IOQB	LOAD ADDRESS	CD7	224
6234	6000		CON	IOQTRAN	TRANSFER ADDRESS	CD7	225
6235	0000		CON	0	NO REWIND FIRST	CD7	226
6236	1117		VFD	18/3LIOQ,6/0	NAME CHECK FIELD	CD7	227
6237	2100						

CD7	229
CD7	230
CD7	231

1

L 7102	5200	7562		SBM	NFNM		DIMA295C	2
L 7104	0506			NJN	CTD5		CD7	290
L 7105	5002	0006		LDM	NAME+1,D2		CD7	291
L 7107	5200	7563		SBM	NFNM+1		DIMA295C	3
L 7111	0420			ZJN	CTD6	IF NAMES MATCH	CD7	294
							CD7	295
			*		HERE IF NO MATCH. CHECK IF ZZZ.		CD7	296
							CD7	297
L 7112	5700	7513	CTD5	SOM	NFCT	CHECK NOFIND COUNT	CD7	298
L 7114	0413			ZJN	CTD55	IF RUNAWAY TAPE	CD7	299
L 7115	5002	0005		LDM	NAME,D2		CD7	300
L 7117	2300	3232		LMC	2RZZ		CD7	301
L 7121	0554			NJN	CTD3		CD7	302
L 7122	5002	0006		LDM	NAME+1,D2		CD7	303
L 7124	2300	3200		LMC	1RZ*100B		CD7	304
L 7126	0547			NJN	CTD3		CD7	305
L 7127	0100	7535	CTD55	LJM	ERNF	IF ZZZ REACHED	CD7	306
							CD7	307
			*		HERE TO BACKSPACE TAPE ONE RECORD.		CD7	308
							CD7	309
L 7131	2000	0113	CTD6	LDC	ABCK		CD7	310
L 7133	0200	7450		RJM	RBT	BACKSPACE TAPE	CD7	311
							CD7	312
			*		HERE TO READ DESIRED RECORD		CD7	313
							CD7	314
L 7135	0200	7204	CTD7	RJM	RED	FULL READ	CD7	315
							CD7	316
							CD7	317
L 7137	0200	7422		RJM	RDC	RESTORE D.S. CHANNEL.	CD7	318
							CD7	319
							CD7	320
L 7141	0100	0000	JUMP	LJM	**	GO TO TRANSFER ADDRESS	CD7	321
		7142	CTDZ	EQU	*-1		CD7	322

1412THE

			**	AWD - ACTIVATE CHANNEL AND WAIT FOR DATA.				CD7	325
			*					CD7	326
			*	AWD ACTIVATES THE FUNCTIONED CHANNEL AND TIMES OUT A FULL				CD7	327
1			*	CONDITION.				CD7	328
2			*					CD7	329
3			*	EXIT (A) .NE. 0, DATA ON CHANNEL.				CD7	330
4			*	(A) = 0, NO DATA RECIEVED, CHANNEL DISCONNECTED.				CD7	331
5								CD7	332
6								CD7	333
7	L 7143	0100 0000	AWD	ENM	X	ENTRY/EXIT		CD7	334
8	L 7145	2021 0560		LDC	TIMEOUT			CD7	335
9								CD7	336
10			****					CD7	337
11			*	THE FOLLOWING IS THE FIRST CHANNEL INSTRUCTION IN *CD7* AND				CD7	338
12			*	IS USED IN DEFINING THE LINKED CHANNEL LIST. IF THE FIRST				CD7	339
13			*	CHANNEL INSTRUCTION IS MOVED, BE SURE TO ADJUST THE CHANNEL				CD7	340
14			*	REPLACEMENT SECTION IN *INI*.				CD7	341
15								CD7	342
16	L 7147		AWDZ	BSS	0	FIRST CHANNEL INSTRUCTION		CD7	343
17								CD7	344
18	L 7147	7441		ACN	40B	ACTIVATE CHANNEL		CD7	345
19								CD7	346
20			****					CD7	347
21								CD7	348
22	L 7150	6604 7143	AWD1	FJM	AWDX,0	IF FULL, RETURN		CD7	349
23	L 7152	1701		SBN	1			CD7	350
24	L 7153	0574		NJN	AWD1	IF TIME OUT NOT EXPIRED		CD7	351
25	L 7154	7547		DCN	40B	DISCONNECT		CD7	352
26	L 7155	0365		UJN	AWDX	RETURN		CD7	353
27								CD7	354
28									
29									
30									
31									
32			**	PRE - READ ENOUGH TO GET THE NAME				CD7	356
33			*					CD7	357
34			*	RETURN TO CALLER IF NO ERRORS				CD7	358
35			*	ELSE GO TO ERROR PROCESSING				CD7	359
36								CD7	360
37	L 7156	0100 0000	PRE	ENM	X	ENTRY/EXIT		CD7	361
38	L 7160	1440	PRE3	LDN	ARFW	READ FORWARD		CD7	362
39	L 7161	0200 7226		RJM	FCN	ISSUE FUNCTION		CD7	363
40	L 7163	7402		ACN	0			CD7	364
41	L 7164	1407		LDN	NAME+2	LENGTH TO INCLUDE NAME		CD7	365
42	L 7165	7103 0000		IAM	** ,0	READ TABLES		CD7	366
43			7166	PREB	EQU	*-1		CD7	367
44								CD7	368
45	L 7167	1477	PRE5	LDN	77B	BYPASS REST OF RECORD		CD7	369
46	L 7170	7103 0000		IAM	** ,0			CD7	370
47			7171	PREC	EQU	*-1		CD7	371
48	L 7172	0474		ZJN	PRE5			CD7	372
49	L 7173	7555		DCN	40B			CD7	373
50	L 7174	0200 7461		RJM	CHK	CHECK STATUS AFTER READ		CD7	374
51	L 7176	0657		PJN	PREX	IF NO ERRORS		CD7	375
52	L 7177	0360		UJN	PRE3	IF OK TO RETRY		CD7	376
53									
54									
55									
56									
57									
58									
59									
60									

				**	RED - READ FULL RECORD			CD7	378
				*				CD7	379
				*	RETURN TO CALLER IF NO ERRORS			CD7	380
1				*	ELSE GO TO ERROR PROCESSING			CD7	381
2								CD7	382
3	L 7200	0200 7504		RED1	RJM	ART	ASK TO RETRY	CD7	383
4	L 7202	0303			UJN	RED3	TRY AGAIN	CD7	384
5								CD7	385
6	L 7203	0100 0000		RED	ENM	X	ENTRY/EXIT	CD7	386
7	L 7205	1440		RED3	LDN	ARFW	READ FORWARD	CD7	387
8	L 7206	0200 7226			RJM	FCN	ISSUE FUNCTION	CD7	388
9	L 7210	7403			ACN	0		CD7	389
10	L 7211	2000 0120			LDC	LE77*BPW+LE6P*BPW	TABLES LENGTH	CD7	390
11	L 7213	7103 0000			IAM	** , 0	READ TABLES	CD7	391
12			7214	REDB	EQU	* - 1		CD7	392
13	L 7215	1400			LDN	0		CD7	393
14	L 7216	7102 0000			IAM	** , 0	READ REST OF RECORD	CD7	394
15			7217	REDC	EQU	* - 1		CD7	395
16	L 7220	7555			DCN	40B		CD7	396
17	L 7221	0200 7461			RJM	CHK	CHECK STATUS AFTER READ	CD7	397
18	L 7223	0657			PJN	REDX	IF NO ERRORS	CD7	398
19	L 7224	0360			UJN	RED3	OK TO RETRY	CD7	399
20									
21									
22									
23									
24				**	FCN - FUNCTION DEVICE.			CD7	401
25				*				CD7	402
26				*	ENTRY (A) = FUNCTION CODE.			CD7	403
27				*	(FCNA) = EQUIPMENT NO. * 1000B.			CD7	404
28				*				CD7	405
29				*	RETURNS TO CALLER IF NO ERRORS			CD7	406
30				*	ELSE GO TO ERROR PROCESSOR.			CD7	407
31								CD7	408
32								CD7	409
33	L 7225	0100 0000		FCN	ENM	X	ENTRY/EXIT	CD7	410
34	L 7227	5400 7232			STM	FCNF	SAVE FUNCTION CODE	CD7	411
35	L 7231	2000 7231		FCN3	LDC	*		DIMA295C	4
36			7232	FCNF	EQU	* - 1		DIMA295C	5
37	L 7233	2100 0000			ADC	0	ADD IN EQUIPMENT NO.	CD7	413
38			7234	FCNA	EQU	* - 1	EQUIPMENT NO. * 1000B	CD7	414
39	L 7235	7603			FAN	0	ISSUE FUNCTION	CD7	415
40								CD7	416
41	L 7236	2021 0560			LDC	TIMEOUT		CD7	417
42	L 7240	6504 7225		FCN1	IJM	FCNX , 0	IF FUNCTION ACCEPTED, RETURN	CD7	418
43	L 7242	1701			SBN	1		CD7	419
44	L 7243	0574			NJN	FCN1	IF TIMEOUT NOT EXPIRED	CD7	420
45	L 7244	7561			DCN	40B		CD7	421
46	L 7245	0200 7504			RJM	ART	ASK TO RETRY	CD7	422
47	L 7247	0361			UJN	FCN3	TRY AGAIN	CD7	423
48								CD7	424
49									
50									
51									
52									
53									
54									
55									
56									
57									
58									
59									
60									

** GDS - GET DETAIL STATUS.

CD7 427

*

CD7 428

* GDS GETS DETAIL STATUS FROM ATS EQUIPMENT.

CD7 429

*

CD7 430

* CALLS FCN, AWD.

CD7 431

*

CD7 432

CD7 433

CD7 434

CD7 435

L 7250 0200 7504 GDS2 RJM ART ASK TO RETRY

L 7252 0303 UJN GDS3 TRY AGAIN

CD7 436

CD7 437

CD7 438

L 7253 0100 0000 GDS ENM X ENTRY/EXIT

L 7255 2000 0112 GDS3 LDC ADST ATS DETAIL STATUS FUNCTION

CD7 439

L 7257 0200 7226 RJM FCN FUNCTION DEVICE

CD7 440

L 7261 0200 7144 RJM AWD ACTIVATE AND WAIT FOR DATA

CD7 441

L 7263 0464 ZJN GDS2 IF NO DATA COMING

CD7 442

L 7264 1416 LDN ADBL BLOCK LENGTH

CD7 443

L 7265 7102 7271 IAM GDSA,0 INPUT STATUS FROM CONTROLLER

CD7 444

L 7267 7573 DCN 40B DISCONNECT CHANNEL

CD7 445

L 7270 0362 UJN GDSX RETURN

CD7 446

CD7 447

L 7271 16 GDSA BSSZ ADBL

CD7 448

** GUS - GET GENERAL/UNIT STATUS.

CD7 450

*

CD7 451

* GUS ISSUES THE ATS GENERAL STATUS FUNCTION AND UPDATES

CD7 452

* THE FIELD *CDGS*. THE STATUS IS ALSO RETURNED IN (A).

CD7 453

*

CD7 454

* EXIT (CDGS) = GENERAL/UNIT STATUS REPLY.

CD7 455

* (A) = GENERAL/UNIT STATUS REPLY.

CD7 456

* IF STATUS = 0, NO ERRORS.

CD7 457

*

CD7 458

CD7 459

L 7307 0200 7504 GUS2 RJM ART ASK TO RETRY

CD7 460

L 7311 0303 UJN GUS3 TRY AGAIN

CD7 461

CD7 462

L 7312 0100 0000 GUS ENM X ENTRY/EXIT

CD7 463

L 7314 1412 GUS3 LDN AGST

CD7 464

L 7315 0200 7226 RJM FCN FUNCTION DEVICE

CD7 465

L 7317 0200 7144 RJM AWD ACTIVATE AND WAIT FOR DATA

CD7 466

L 7321 0465 ZJN GUS2 IF NO DATA COMING

CD7 467

L 7322 7003 IAN 0 READ STATUS

CD7 468

L 7323 5400 7327 STM CDGS

CD7 469

**

CD7 470

L 7325 7561 DCN 40B

CD7 471

L 7326 0363 UJN GUSX RETURN

CD7 472

CD7 473

L 7327 0000 CDGS CON 0 GENERAL STATUS WORD

CD7 474

				**	FMU - FORMAT UNIT			CD7	476
				*				CD7	477
				*	RETURNS TO CALLER IF NO ERRORS			CD7	478
1				*	ELSE GO TO ERROR PROCESSOR			CD7	479
2				*				CD7	480
3								CD7	481
4	L 7330	0100 0000		FMU	ENM	X	ENTRY/EXIT	CD7	482
5	L 7332	0200 7313			RJM	GUS	GET GENERAL STATUS	CD7	483
6	L 7334	1013			SHN	SL.GSUT	ISOLATE 9-TRACK BIT	CD7	484
7	L 7335	0605			PJN	FMU2	IF 7-TRACK	CD7	485
8	L 7336	2000 4260			LDC	4260B	FUNCTION PACKED MODE	CD7	486
9			7337	FMUN	EQU	*-1		CD7	487
10	L 7340	5400 7370			STM	FMUD	REPLACE FORMAT FUNCTION	CD7	488
11	L 7342	1404		FMU2	LDN	AFMT	FORMAT UNIT FUNCTION	CD7	489
12	L 7343	0200 7226			RJM	FCN	ISSUE FUNCTION	CD7	490
13	L 7345	1402			LDN	2	WORD COUNT	CD7	491
14	L 7346	7401			ACN	0	ACTIVATE CHANNEL	CD7	492
15	L 7347	7304 7370			OAM	FMUD,0	OUTPUT FORMAT DATA	CD7	493
16	L 7351	2021 0560			LDC	TIMEOUT		CD7	494
17	L 7353	6707 7362		FMU3	EJM	FMU5,0	WAIT FOR EMPTY	CD7	495
18	L 7355	1701			SBN	1		CD7	496
19	L 7356	0574			NJN	FMU3	IF NOT TIMED OUT YET	CD7	497
20	L 7357	0200 7504		FMU4	RJM	ART	ASK FOR RETRY PERMISSION	CD7	498
21	L 7361	0360			UJN	FMU2	RETRY	CD7	499
22	L 7362	7512		FMU5	DCN	0		CD7	500
23	L 7363	0200 7313			RJM	GUS	GET GENERAL STATUS	CD7	501
24	L 7365	1006			SHN	SL.GSAL		CD7	502
25	L 7366	0641			PJN	FMUX	IF FORMAT OK	CD7	503
26	L 7367	0367			UJN	FMU4	ELSE RETRY	CD7	504
27								CD7	505
28	L 7370	4220		FMUD	CON	FW0V	UNIT MUST BE ADDED IN	CD7	506
29	L 7371	2440			CON	FW1V		CD7	507
30									
31									
32									
33									
34				**	MDC - MOVE DEADSTART CHANNEL PP			CD7	509
35				*				CD7	510
36				*	IF THE DEADSTART CHANNEL IS ACTIVE,			CD7	511
37				*	MOVE PP(D.S. CHAN) OVER TO CHANNEL 12B.			CD7	512
38				*				CD7	513
39								CD7	514
40	L 7372	0100 0000		MDC	ENM	X	ENTRY/EXIT	CD7	515
41	L 7374	6503 7372			IJM	MDCX,0	IF D.S. CHAN INACTIVE	CD7	516
42	L 7376	1400			LDN	0		DIMA357A	1
43	L 7377	7202			OAN	0	OUTPUT ZERO WORD	DIMA357A	2
44	L 7400	4000			LDI	0	DELAY 3 MEMORY CYCLES	DIMA357A	3
45	L 7401	6702 7405			EJM	MDC1,0	IF WORD PICKED UP	DIMA357A	4
46	L 7403	7504			DCN	0	CLEAR CHANNEL OF DATA	DIMA357A	5
47	L 7404	0365			UJN	MDCX	RETURN TO CALLER	DIMA357A	6
48	L 7405		MDC1	BSS	0			DIMA357A	7
49	L 7405	7412			ACN	12B	ACTIVATE CHAN 12B	CD7	517
50	L 7406	1404			LDN	MDCL	OUTPUT PROG TO PP(D.S. CHAN)	CD7	518
51	L 7407	7302 7415			OAM	MDCA,0		CD7	519
52	L 7411	6602 7411			FJM	*,0		CD7	520
53	L 7413	7512			DCN	0		CD7	521
54	L 7414	0355			UJN	MDCX	RETURN	CD7	522
55									
56									
57									
58									
59									
60									

								CD7	523
	L 7415	0000	MDCA	CON	DEBUG			CD7	524
	L 7416			BSSZ	DEBUG			CD7	525
1	L 7416	1400		LDN	0			CD7	526
2	L 7417	7112 0000		IAM.	0,12B			CD7	527
3				IFGT	DEBUG,0,3			CD7	528
4			4	MDCL	EQU	*-MDCA		CD7	532
5									
6									
7									
8									
9			**		RDC - RESET DEADSTART CHANNEL PP			CD7	534
10			*					CD7	535
11			*		IF CHANNEL 12B ACTIVE,			CD7	536
12			*		MOVE PP ON CHAN 12B BACK TO D.S. CHAN.			CD7	537
13			*					CD7	538
14								CD7	539
15	L 7421	0100 0000	RDC	ENM	X	ENTRY/EXIT		CD7	540
16			*					CD7	542
17			*					CD7	543
18			*		REMOVE THE NEXT FUNCTION WHEN A DEADMAN TIMER			CD7	544
19			*		FCO IS INSTALLED IN ATS CONTROLLERS			CD7	545
20			*		REPLACE IT WITH A RELEASE UNIT FUNCTION			CD7	546
21			*		BEFORE THE RETURN JUMP TO RDC			CD7	547
22			*		SEE THE 66X DRIVER FOR PROPER INSTALLATION			CD7	548
23			*					CD7	549
24			*					CD7	550
25	L 7423	2000 1700		LDC	1700B	TURN OFF DEADMAN TIMER BY ISSUE OF		CD7	551
26	L 7425	7603		FAN	0	ILLEGAL FUNCTION		CD7	552
27	L 7426	1777		SBN	77B	GIVE SIGNAL TIME TO PROPAGATE		CD7	553
28	L 7427	0676		PJN	*-1	ON 4X PPUS		CD7	554
29	L 7430	7543		DCN	40B	FREE UP CHANNEL AFTER ILLEGAL FUNCTION		CD7	555
30	L 7431	6512 7421		IJM.	RDCX,12B	IF CHAN 12B INACTIVE	DIMA324	1	
31	L 7433	7412		ACN	0	ACTIVATE D.S. CHANNEL		CD7	556
32	L 7434	1404		LDN	RDCL	OUTPUT PROG TO CHANNEL 12B		CD7	557
33	L 7435	7312 7443		OAM.	RDCA,12B			CD7	558
34	L 7437	6612 7437		FJM.	*,12B			CD7	559
35	L 7441	7512		DCN.	12B			CD7	560
36	L 7442	0356		UJN	RDCX	RETURN		CD7	561
37								CD7	562
38	L 7443	0000	RDCA	CON	DEBUG	PP PROGRAM		CD7	563
39	L 7444			BSSZ	DEBUG			CD7	564
40	L 7444	1400		LDN	0			CD7	565
41	L 7445	7100 0000		IAM	0,0			CD7	566
42				IFGT	DEBUG,0,3			CD7	567
43			4	RDCL	EQU	*-RDCA		CD7	571
44									
45									
46									
47									
48									
49									
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51									
52									
53									
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56									
57									
58									
59									
60									

1412THE

** RBT - REWIND/BACKSPACE TAPE

CD7 573

*

CD7 574

* ENTRY (A) = FUNCTION CODE

CD7 575

*

CD7 576

*

CALLS FCN

CD7 577

CD7 578

L 7447 0100 0000 RBT ENM X ENTRY/EXIT

CD7 579

L 7451 0200 7226 RJM FCN

CD7 580

L 7453 0200 7313 RBT1 RJM GUS GET GENERAL STATUS

CD7 581

L 7455 1202 LPN MP.GSUB

CD7 582

L 7456 0574 NJN RBT1 IF STILL BUSY

CD7 583

L 7457 0367 UJN RBTX RETURN

CD7 584

** CHK - CHECK RESULTS/STATUS AFTER A READ OPERATION

CD7 586

*

CD7 587

* RETURNS TO CALLER IF NO ERRORS

CD7 588

* ELSE IF RECOVERABLE ERROR BACKSPACE AND RETURN

CD7 589

* ELSE GO TO ERROR PROCESSING

CD7 590

*

CD7 591

* (A) POSITIVE IF NO ERRORS

CD7 592

* (A) NEGATIVE IF ERROR BUT CALLER SHOULD RETRY READ

CD7 593

*

CD7 594

L 7460 0100 0000 CHK ENM X ENTRY/EXIT

CD7 595

L 7462 0200 7313 RJM GUS GET GENERAL STATUS

CD7 596

L 7464 1006 SHN SL.GSAL ALERT BIT

CD7 597

L 7465 0672 PJN CHKX NO ERRORS

CD7 598

L 7466 0200 7254 RJM GDS GET DETAILED STATUS

CD7 599

L 7470 5000 7271 LDM GDSA+ADW0

CD7 600

L 7472 0465 ZJN CHKX IF NO ERRORS

CD7 601

L 7473 0200 7504 CHK3 RJM ART ASK TO RETRY

CD7 602

L 7475 2000 0113 LDC ABCK

CD7 603

L 7477 0200 7450 RJM RBT BACKSPACE TAPE

CD7 604

L 7501 1500 LCN 0

CD7 605

L 7502 0355 UJN CHKX RETURN

CD7 606

CD7 607

** ART - ADJUST RETRY COUNTER

CD7 609

*

CD7 610

* DECREMENT COUNTER AND

CD7 611

* RETURN TO CALLER IF COUNTER .GE. 0

CD7 612

* ELSE GO TO ERROR PROCESSOR

CD7 613

*

CD7 614

L 7503 0100 0000 ART ENM X ENTRY/EXIT

CD7 615

L 7505 5700 7512 SOM ARTC

CD7 616

L 7507 0673 PJN ARTX EXIT IF MORE RETRIES AVAILABLE

CD7 617

L 7510 0100 7514 LJM ERIO IF NO MORE RETRIES AVAILABLE

CD7 618

CD7 619

CD7 620

L 7512 0000 ARTC CON 0 RETRY COUNTER

CD7 621

L 7513 0000 NFCT CON 0 NOFIND COUNTER

CD7 622

CD7 623

			**	CTO - CONVERT TO OCTAL DISPLAY			CD7	679
			*				CD7	680
			*	ENTRY (A) LOWER 6 BITS ARE VALUE TO BE CONVERTED			CD7	681
1			*				CD7	682
2			*	EXIT LOWER 12 BITS OF (A) ARE RESULT.			CD7	683
3			*				CD7	684
4			*	USES D2			CD7	685
5							CD7	686
6	L 7564	0100 0000	CTOX	LJM	0	EXIT	CD7	687
7		7565	CTO	EQU	*-1	ENTRY	CD7	688
8	L 7566	1277		LPN	77B	ISOLATE LOWER 6 BITS	CD7	689
9	L 7567	3402		STD	D2		CD7	690
10	L 7570	1003		SHN	3		CD7	691
11	L 7571	3302		LMD	D2		CD7	692
12	L 7572	1370		SCN	70B		CD7	693
13	L 7573	2100 3333		ADC	2R00		CD7	694
14	L 7575	0366		UJN	CTOX	RETURN	CD7	695
15								
16								
17								
18								
19			**	END OF COMMON TAPE DRIVER AND SUBROUTINES.			CD7	697
20			*				CD7	698
21			*	THE FOLLOWING SYMBOLS ARE DEFINED FOR MOVING *CTD* INTO THE			CD7	699
22			*	COMMON DRIVER AREA.			CD7	700
23			*				CD7	701
24			*	TCTD	FWA OF COMMON TAPE DRIVER.		CD7	702
25			*	LCTD	LWA+1 OF COMMON TAPE DRIVER.		CD7	703
26			*	TCTDL	LENGTH OF COMMON TAPE DRIVER.		CD7	704
27			*				CD7	705
28							CD7	706
29							CD7	707
30		62		ERRNG	CPAFWA-*	OVERFLOWED INTO POINTER AREA	CD7	708
31							CD7	709
32	7036			LOC	*0		CD7	710
33							CD7	711
34		7036	LCTD	EQU	*		CD7	712
35		576	TCTDL	EQU	LCTD-TCTD	LENGTH OF DRIVER	CD7	713
36								
37								
38								
39								
40			*	OVERFLOW CHECK.			CD7	715
41							CD7	716
42		363		ERRNG	IPLFWA-*	OVERFLOWED INTO IPL	CD7	717
43							CD7	718
44	7036			END			CD7	719
45								
46		55600B CM	STORAGE USED		1889 STATEMENTS	745 SYMBOLS	000102 INVENTED SYMBOLS	
47		PARALLEL	CPU ASSEMBLY		1.583 SECONDS	600 REFERENCES		
48								
49								
50								
51	SYMBOLIC REFERENCE TABLE.							
52								
53	ABCK	113		9/21	15/35			
54	ACNC	7400		3/48	D			
55								
56								
57								
58								
59								
60								

1412THE

ADBL	16	12/17	12/22						
ADCC	2100	3/43 D							
ADST	112	12/13							
ADW0	0	15/32							
AFMT	4	13/14							
AGST	12	12/41							
AJMC	6400	3/46 D							
AREW	10	8/43							
ARFW	40	10/41	11/10						
ART	7504	11/06	11/49	12/09	12/37	13/23	15/34	15/50 D	
ARTC	7512	8/31 S	15/51 S	15/55 L					
ARTX	7503	15/50 L	15/52						
AWD	7144	10/10 D	12/15	12/43					
AWDX	7143	10/10 L	10/25	10/29					
AWDZ	7147	6/45	10/19 L						
AWD1	7150	10/25 L	10/27						
BPW	5	8/49	11/13						
CDEP	7000	6/26 S	7/42	8/07					
CDGS	7327	12/46 S	12/51 L	16/11	16/14				
CDNC	3	8/26	8/28	8/37	8/46				
CDNFMAX	36	5/11							
CDRW	2	8/41							
CDTA	1	8/24							
CHD	10	4/21 D	16/24	16/26	16/27	16/31	16/32	16/35	
CHK	7461	10/53	11/20	15/27 D					
CHKX	7460	15/27 L	15/30	15/33	15/38				
CHK3	7473	15/34 L							
CH01\$	7147	10/21 D							
CH02\$	7150	10/21	10/21	10/25 D					
CH03\$	7154	10/25	10/25	10/28 D					
CH04\$	7163	10/28	10/28	10/43 D					
CH05\$	7165	10/43	10/43	10/45 D					
CH06\$	7170	10/45	10/45	10/49 D					
CH07\$	7173	10/49	10/49	10/52 D					
CH08\$	7210	10/52	10/52	11/12 D					
CH09\$	7213	11/12	11/12	11/14 D					
CH10\$	7216	11/14	11/14	11/17 D					
CH11\$	7220	11/17	11/17	11/19 D					
CH12\$	7235	11/19	11/19	11/42 D					
CH13\$	7240	11/42	11/42	11/45 D					
CH14\$	7244	11/45	11/45	11/48 D					
CH15\$	7265	11/48	11/48	12/18 D					
CH16\$	7267	12/18	12/18	12/19 D					
CH17\$	7322	12/19	12/19	12/45 D					
CH18\$	7325	12/45	12/45	12/48 D					
CH19\$	7346	12/48	12/48	13/17 D					
CH1\$	42	10/21 D	10/45	11/14 D	11/48	12/48 D	13/44	13/54 D	14/34
		10/21	10/45 D	11/17	11/48 D	13/17	13/44 D	13/55	14/34 D
		10/21 D	10/49	11/17 D	12/18	13/17 D	13/46	13/55 D	14/44
		10/25	10/49 D	11/19	12/18 D	13/18	13/46 D	13/56	14/44 D
		10/25 D	10/52	11/19 D	12/19	13/18 D	13/48	13/56 D	
		10/28	10/52 D	11/42	12/19 D	13/20	13/48 D	14/29	
		10/28 D	11/12	11/42 D	12/45	13/20 D	13/49	14/29 D	
		10/43	11/12 D	11/45	12/45 D	13/25	13/49 D	14/32	
		10/43 D	11/14	11/45 D	12/48	13/25 D	13/54	14/32 D	
CH20\$	7347	13/17	13/17	13/18 D					
CH21\$	7353	13/18	13/18	13/20 D					

1412THE

CH22\$	7362	13/20	13/20	13/25	D
CH23\$	7374	13/25	13/25	13/44	D
CH24\$	7377	13/44	13/44	13/46	D
CH25\$	7401	13/46	13/46	13/48	D
CH26\$	7403	13/48	13/48	13/49	D
CH27\$	7407	13/49	13/49	13/54	D
CH28\$	7411	13/54	13/54	13/55	D
CH29\$	7413	13/55	13/55	13/56	D
CH30\$	7425	13/56	13/56	14/29	D
CH31\$	7430	14/29	14/29	14/32	D
CH32\$	7433	14/32	14/32	14/34	D
CH33\$	7445	14/34	14/34	14/44	D
CH34\$	7445	14/44	14/44	17/46	D
CPAFWA	7660	17/33			
CTD	7000	8/09	D		
CTDZ	7142	8/25	S	9/33	D
CTD1	7042	6/31	S	8/34	L
CTD2	7064	8/42		8/46	L
CTD3	7076	8/47	8/53	L	9/13 9/16
CTD5	7112	9/02	9/09	L	
CTD55	7127	9/10	9/17	L	
CTD6	7131	9/05	9/21	L	
CTD7	7135	8/51	9/26	L	
CTO	7565	16/12	16/16	17/10	D
CTOX	7564	17/09	L	17/17	
DCNC	7500	3/49	D		
DEBUG	0	4/11	D	14/02	14/03 14/41 14/42
DOPLS	22	16/44	D		
D0	0	3/08	D	7/15	S 7/16 S
D1	1	3/09	D	8/17	8/26 8/37 8/46
		8/13	S	8/24	8/28 8/41
D10	10	3/19	D	6/47	
D11	11	3/20	D		
D12	12	3/21	D		
D13	13	3/22	D		
D14	14	3/23	D		
D15	15	3/24	D		
D16	16	3/25	D		
D17	17	3/26	D		
D2	2	3/10	D	6/51	S 6/57 I 8/48 9/03 9/14 17/14
		6/46	S	6/52	8/18 S 8/57 9/11 17/12 S
D20	20	3/27	D		
D3	3	3/11	D	6/49	S 6/55 7/19 7/23
D4	4	3/12	D	6/24	S 6/25 6/26 6/27 S 6/54 S 6/56 7/01
D5	5	3/13	D		
D6	6	3/14	D	6/29	6/32 6/36
D67X	1	8/11			
D7	7	3/17	D		
ENDCONS	7002	8/10		8/12	D
ERIO	7514	15/53		16/10	D
ERNF	7535	9/17		16/21	D
ERR8	7546	16/34	L	16/38	
ERR9	7551	16/36	L	16/37	
FCN	7226	8/35		10/42	11/11 11/36 D 12/14 12/42 13/15 15/08
FCNA	7234	6/34	S	11/41	D
FCNF	7232	11/37	S	11/39	D
FCNX	7225	11/36	L	11/45	

1412THE

FCN1	7240	11/45	L	11/47				
FCN3	7231	11/38	L	11/50				
FMU	7331	8/36		13/07	D			
FMUD	7370	6/38	S	13/13	S	13/18	13/31	L
FMUN	7337	6/40	S	13/12	D			
FMUX	7330	13/07	L	13/28				
FMU2	7342	13/10		13/14	L	13/24		
FMU3	7353	13/20	L	13/22				
FMU4	7357	13/23	L	13/29				
FMU5	7362	13/20		13/25	L			
FWDL\$	0	4/09	D					
FW0V	4220	13/31						
FW1V	2440	13/32						
F.CHL	2	4/37	D	16/31				
F.CHM	1	4/36	D					
F.CHR	0	4/31	D	16/31				
F.CHS	0	4/35	D					
F.DOT	10	4/32	D					
F.KEY	20	4/33	D					
F.SBS	200	4/29	D					
F.SEL	7000	4/25	D	16/31				
F.SLS	0	4/27	D	16/31				
F.SRS	100	4/28	D					
GDS	7254	12/12	D	15/31				
GDSA	7271	12/18	S	12/22	L	15/32		
GDSX	7253	12/12	L	12/20				
GDS2	7250	12/09	L	12/16				
GDS3	7255	12/10		12/13	L			
GUS	7313	12/40	D	13/08		13/26	15/09	15/28
GUSX	7312	12/40	L	12/49				
GUS2	7307	12/37	L	12/44				
GUS3	7314	12/38		12/41	L			
IDLA	7554	16/26		16/40	L	16/42		
IDLEDCN	7542	16/24		16/27	L			
IDLL	2	16/25		16/42	D			
INI	6120	6/18	L					
INIA	6210	7/20	S	7/21	L			
INIB	6224	7/26		7/33	L	7/35		
INIC	6225	7/24	S	7/34	L			
INIL	3	7/25		7/35	D			
INIR	6233	7/41		7/46	L			
INI1	6123	6/25	L	6/28				
INI2	6160	6/51	L	7/02				
INI7	6221	7/12		7/17		7/29	L	
INI9	6227	7/31		7/41	L			
IOMGS	7562	16/13	S	16/17	S	16/53	D	
IOQB	6000	7/46						
IOQTRAN	6000	7/47						
IPLFWA	7421	17/45						
IPLTRAN	6120	1/10		6/01				
JUMP	7141	8/40		9/32	L			
LCNC	1500	3/40	D					
LCTD	7036	17/37	D	17/38				
LDCC	2000	3/42	D					
LDDC	3000	3/45	D					
LE6P	1	8/49		11/13				
LE77	17	8/49		11/13				

1412THE

CD6

BINARY CONTROL CARDS.

14121HE

CD6

***** CD6 - 66X (MTS) TAPE DRIVER -CTI- .
*
* R. A. MATTHEWS. 12/23/77.
* R. A. TURGEON 6/8/78.

CD6 8
CD6 9
CD6 10
CD6 11
CD6 12
CD6 13
CD6 14
CD6 15
CD6 16
CD6 17

CD6 PROVIDES A BASIC TAPE DRIVER FOR 66X (MTS) TAPE DRIVES
WHEN USED AS THE DEADSTART DEVICE WITHIN THE COMMON TEST/
INITIALIZATION (CTI) PACKAGE. CD6 MOVES ITSELF OVER THE IPL
PREFIX TABLE AND PROGRAM BODY TO ALLOW SUBSEQUENT READS TO
USE THE IPL BUFFER AREA.

*** CD6 - 66X (MTS) TAPE DRIVER -CTI- .
*
* CD6 IS THE SECOND RECORD FOLLOWING IPL ON A DEADSTART TAPE
* AND IS NOT PRESENT IN THE DISK DEADSTART SEQUENCE. 66X,
* THROUGH THE COMMON DRIVER INTERFACE, PROVIDES A DEVICE
* READER THAT WILL LOAD GIVEN ROUTINES AND HAND OFF CONTROL
* IF SO SPECIFIED. THE DEVICE READER WILL PROCESS RECORDS UP
* TO 511 (DECIMAL) CM WORDS LONG.

CD6 19
CD6 20
CD6 21
CD6 22
CD6 23
CD6 24
CD6 25
CD6 26

1412THE

**
*
*
*
*
*
DEADSTART PANEL WORDS.
CD6 28
CD6 29
CD6 30
CD6 31
CD6 32
CD6 33
WORDS 5 - 20B OF THE DEADSTART PANEL MUST REMAIN INTACT
DURING CTI EXECUTION. WORDS 0 - 4 MAY BE USED AS SCRATCH
DIRECT CELLS.

0	D0	EQU	0	SCRATCH	CD6	34
1	D1	EQU	1	SCRATCH	CD6	35
2	D2	EQU	2	SCRATCH	CD6	36
3	D3	EQU	3	SCRATCH	CD6	37
4	D4	EQU	4	SCRATCH	CD6	38
5	D5	EQU	5	ZERO IF TAPE DEADSTART	CD6	39
6	D6	EQU	6	FUNCTION WORD	CD6	40
	*		(D6)	= WARMSTART FUNCTION, IF MTS/ATS.	CD6	41
	*			= DEADSTART FUNCTION, IF 844 DISK.	CD6	42
7	D7	EQU	7	RESERVED	CD6	43
	*		(D7)	= 1400B IF 3000 TYPE TAPE.	CD6	44
10	D10	EQU	10B	RESERVED	CD6	45
11	D11	EQU	11B	RESERVED	CD6	46
12	D12	EQU	12B	MSL PARAMETERS	CD6	47
13	D13	EQU	13B	OS PARAMETERS	CD6	48
14	D14	EQU	14B	OS PARAMETERS	CD6	49
15	D15	EQU	15B	UNUSED	CD6	50
16	D16	EQU	16B	C80/A170 RESERVED	CD6	51
17	D17	EQU	17B	RESERVED	CD6	52
20	D20	EQU	20B	RESERVED	CD6	53
					CD6	54

**
*
INSTRUCTION EQUATES.
CD6 56
CD6 57

0	PSNC	EQU	0000B	PASS	CD6	58
300	UJNC	EQU	0300B	UNCONDITIONAL JUMP	CD6	59
400	ZJNC	EQU	0400B	ZERO JUMP	CD6	60
1000	SHNC	EQU	1000B	SHIFT	CD6	61
1500	LCNC	EQU	1500B	LOAD COMPLEMENT	CD6	62
1700	SBNC	EQU	1700B	SUBTRACT NO-ADDRESS	CD6	63
2000	LDCC	EQU	2000B	LOAD CONSTANT	CD6	64
2100	ADCC	EQU	2100B	ADD CONSTANT	CD6	65
2300	LMCC	EQU	2300B	LOGICAL MINUS CONSTANT	CD6	66
3000	LDDC	EQU	3000B	LOAD DIRECT	CD6	67
6400	AJMC	EQU	6400B	ACTIVE JUMP	CD6	68
7300	OAMC	EQU	7300B	OUTPUT MEMORY	CD6	69
7400	ACNC	EQU	7400B	ACTIVATE CHANNEL	CD6	70
7500	DCNC	EQU	7500B	DISCONNECT CHANNEL	CD6	71

1412THE

** MISCELLANEOUS DEFINITIONS.
*
*

CD6 75
CD6 76
CD6 77
CD6 78
CD6 79
CD6 80
CD6 81
CD6 82
CD6 83
CD6 84
CD6 85

5	NAME	EQU	5	OFFSET OF NAME IN PRFX TABLE
210560	TIMEOUT	EQU	70000	TIMEOUT COUNT
12	RETRY	EQU	10D	NO. OF RETRIES IN ERROR PROCESSING
0	FWDL\$	EQU	0	DEFINE FORWARD LINK FOR CHANNEL INST.
0	QUAL\$	EQU	0	DON-T QUALIFY COMMON DECKS
0	DEBUG	EQU	0	

** DISPLAY CONTROLLER DEFINITIONS.
*
*

CD6 87
CD6 88
CD6 89
CD6 90
CD6 91
CD6 92
CD6 93
CD6 94
CD6 95
CD6 96
CD6 97
CD6 98
CD6 99
CD6 100
CD6 101
CD6 102
CD6 103
CD6 104
CD6 105
CD6 106
CD6 107
CD6 108
CD6 109
CD6 110
CD6 111
CD6 112
CD6 113

10	CHD	EQU	10B	DISPLAY CHANNEL
----	-----	-----	-----	-----------------

* DISPLAY FUNCTION CODES.

7000	F.SEL	EQU	7000B	SELECT CONSOLE DISPLAY
0	F.SLS	EQU	0000B	SELECT CONSOLE LEFT SCREEN
100	F.SRS	EQU	0100B	SELECT CONSOLE RIGHT SCREEN
200	F.SBS	EQU	0200B	SELECT CONSOLE BOTH SCREEN
0	F.CHR	EQU	0000B	SELECT DOT MODE
10	F.DOT	EQU	0010B	SELECT DOT MODE
20	F.KEY	EQU	0020B	SELECT KEYBOARD INPUT
0	F.CHS	EQU	0000B	SET CHARACTER SIZE SMALL
1	F.CHM	EQU	0001B	SET CHARACTER SIZE MEDIUM
2	F.CHL	EQU	0002B	SET CHARACTER SIZE LARGE

* COORDINATE DESIGNATION.

6000	XSET	EQU	6000B	SET X COORDINATE
7000	YSET	EQU	7000B	SET Y COORDINATE

**DEFINITION COMMON DECKS.

*ALL SYMBOL AND MACRO DEFINITION COMMON DECKS ARE CALLED HERE.

**

CD6	116
CD6	117
CD6	118
CD6	119
CD6	120
COMPCTI	2
COMSMTS	2
COMPCHL	2
COMSCPA	2
COMSCTI	2
CD6	126

1						1
2						2
3	0	CTI	CTEXT	COMPCTI	- CTI COMMON MACROES.	3
4	0	MTS	CTEXT	COMSMTS	- MTS TAPE DEFINITIONS.	4
5	0		CTEXT	COMPCHL	- REDEFINE I/O INSTRUCTIONS.	5
6	0	CPA	CTEXT	COMSCPA	- CTI COMMON POINTER AREA DEFINITIONS.	6
7	0	CTI	CTEXT	COMSCTI	- CTI INTERNAL DEFINITIONS.	7
8	36	NFMAX	EQU	CDNFMAX	NOFIND MAXIMUM	8
9						9
10						10
11						11
12						12
13						13
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60						60

6120

ORG

IPLTRAN

CD6

128

*** INI - CD6 INITIALIZATION.

CD6 130

*

CD6 131

*

INI MOVES THE TAPE DRIVER INTO THE COMMON DRIVER AREA,
INITIALIZES THE CHANNEL INSTRUCTIONS AND LOADS THE FIRST

CD6 132

*

CD6 133

*

DISPLAY ROUTINE.

CD6 134

*

CD6 135

*

ENTRY CPA AREA INTACT.

CD6 136

*

DEADSTART PANEL CELLS INTACT.

CD6 137

*

CD6 138

*

USES D1, D2, D3, D4.

CD6 139

CD6 140

CD6 141

6120

INI

BSS

0

ENTRY POINT

CD6 142

*

MOVE THE COMMON DRIVER FOR TAPE, *CTD*, INTO THE COMMON
DRIVER AREA.

CD6 143

*

CD6 144

CD6 145

CD6 146

6120

2000 0607

LDC

TCTDL

CD6 147

6122

3404

STD

D4

LENGTH OF MOVE BLOCK

CD6 148

6123

5004 6237

INI1

LDM

TCTD-1,D4

CD6 149

6125

5404 6777

STM

CDEP-1,D4

MOVE DRIVER CODE

CD6 150

6127

3704

SOD

D4

CD6 151

6130

0572

NJN

INI1

IF MORE DRIVER CODE TO MOVE

CD6 152

6131

3006

LDD

D6

CD6 153

6132

1217

LPN

17B

CD6 154

6133

5500 7042

RAM

CTD1

PUT UNIT NO. IN CONNECT CODE

CD6 155

6135

3006

LDD

D6

CD6 156

6136

2200 7000

LPC

7000B

CD6 157

6140

5400 7252

STM

FCNA

EQUIPMENT NO. * 1000B

CD6 158

CD6 159

CD6 160

6142

3006

LDD

D6

CD6 161

6143

1217

LPN

17B

ISOLATE CHANNEL NO.

CD6 162

6144

5500 7400

RAM

FMUD

FIX FORMAT UNIT DATA

CD6 163

6146

1217

LPN

17B

ISOLATE CHANNEL NO.

CD6 164

6147

5500 7347

RAM

FMUN

FIX 9-TRK FMT UNIT DATA

CD6 165

*

PICK UP CHANNEL NUMBER AND STUFF CHANNELS INTO CODE USING
THE CHANNEL INSTRUCTION LINK.

CD6 166

*

CD6 167

CD6 168

6151

2000 7152

LDC

AWDZ

FIRST CHANNEL INSTRUCTION

CD6 169

6153

3402

STD

D2

CD6 170

6154

3010

LDD

D10

GET CHANNEL NO. FROM D/S PANEL

CD6 171

6155

1237

LPN

37B

CD6 172

6156

3403

STD

D3

CD6 173

6157

1400

LDN

0

CD6 174

6160

3502

INI2

RAD

D2

CHANNEL INST. POINTER + BIAS

CD6 175

6161

4002

LDI

D2

GET INSTRUCTION

CD6 176

6162

1237

LPN

37B

CD6 177

6163

3404

STD

D4

SAVE FOR NEXT INSTRUCTION

CD6 178

6164

3003

LDD

D3

GET CHANNEL NO.

CD6 179

6165

3204

SBD

D4

SUBTRACT LINK FROM CHANNEL NO.

CD6 180

6166

4502

RAI

D2

ADD CHANNEL NO. - LINK TO OLD INST.

CD6 181

6167	3004	LDD	D4	CHECK FOR ZERO LINK (LAST INST.)	CD6	182
6170	0567	NJN	INI2	CONTINUE PROCESSING INSTRUCTIONS	CD6	183

*	CODE TO CREATE CTI INTERNAL STATE	CD6	185
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6171	7553	DCN.	13B+40B	DISCONNECT 13B	CD6	186
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6172	7573	DCN.	33B+40B	DISCONNECT 33B	CD6	187
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6173	6512 6221	DCN.	33B+40B	DISCONNECT 33B	CD6	188
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6175	1400	IJM.	INI7,12B	IF CHAN 12B IS D.S CHANNEL	CD6	189
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6176	7212	LDN	0	OUTPUT 0000 TO CH 12B	CD6	190
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6177	5600 0000	OAN.	12B		CD6	191
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6201	5700 0000	AOM	D0	WAIT A WHILE	CD6	192
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6203	6612 6221	SOM	D0		CD6	193
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6205	3003	FJM.	INI7,12B	IF FULL (NO PP ON CH 12B)	CD6	194
------	------	------	----------	---------------------------	-----	-----

6206	5500 6210				CD6	195
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6210	7440	LDD	D3	ACTIVATE DEADSTART CHANNEL	CD6	196
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INIA	RAM	D3			CD6	197
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	ACN.	INI7,12B			CD6	198
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		40B			CD6	199
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6211	3003			MOVE PP BACK TO D.S. CHAN	CD6	200
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6212	5500 6225	LDD	D3		CD6	201
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6214	1403	RAM	INIC		CD6	202
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6215	7312 6224	LDN	INIL		CD6	203
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6217	6612 6217	OAM.	INIB,12B		CD6	204
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6221	7552	FJM.	*,12B		CD6	205
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6222	7572				CD6	206
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6223	0304	DCN.	12B+40B	DISCONNECT 12B	CD6	207
------	------	------	---------	----------------	-----	-----

6224	1400	DCN.	32B+40B	DISCONNECT 32B	CD6	208
------	------	------	---------	----------------	-----	-----

6225	7100 0000	UJN	INI9		CD6	209
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					CD6	210
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		LDN	0		CD6	211
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		IAM.	0,**		CD6	212
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		EQU	*-INIB		CD6	213
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					CD6	214
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					CD6	215
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		*	CALL THE COMMON DRIVER TO LOAD IOQ		CD6	216
--	--	---	------------------------------------	--	-----	-----

		*	AND GIVE CONTROL TO IOQ.		CD6	217
--	--	---	--------------------------	--	-----	-----

6227	2000 6233				CD6	218
------	-----------	--	--	--	-----	-----

6231	0100 7000	INI9	LDC	INIR	A = ADDRESS OF PARAMS	CD6	219
------	-----------	------	-----	------	-----------------------	-----	-----

			LJM	CDEP	GOTO COMMON DRIVER	CD6	220
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						CD6	221
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		*	PARAMETER BLOCK FOR COMMON DRIVER TO LOAD IOQ		CD6	222
--	--	---	---	--	-----	-----

					CD6	223
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6233	6000	INIR	CON	IOQB	LOAD ADDRESS	CD6	224
------	------	------	-----	------	--------------	-----	-----

6234	6000		CON	IOQTRAN	TRANSFER ADDRESS	CD6	225
------	------	--	-----	---------	------------------	-----	-----

6235	0000		CON	0	NO REWIND FIRST	CD6	226
------	------	--	-----	---	-----------------	-----	-----

6236	1117		VFD	18/3LIOQ,6/0	NAME CHECK FIELD	CD6	227
------	------	--	-----	--------------	------------------	-----	-----

6237	2100					CD6	227
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*** CTD - COMMON TAPE DRIVER.
*

CD6	229
CD6	230
CD6	231
CD6	232
CD6	233
CD6	234
CD6	235
CD6	236
CD6	237
CD6	238
CD6	239
CD6	240
CD6	241
CD6	242
CD6	243
CD6	244
DIMA295B	1
CD6	246
CD6	247
CD6	248
CD6	249
CD6	250
CD6	251
CD6	252
CD6	253
CD6	254
CD6	256
CD6	257
CD6	259
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	6240	TCTD	EQU	*	FWA OF DRIVER AREA		
L 7000			LOC	CDEP	BEGINNING OF COMMON DRIVER AREA		
	7000	CTD	EQU	*	ENTRY POINT		
L 7000	0302		UJN	ENDCONS			
L 7001	0002		CON	D66X			
	7002	ENDCONS	EQU	*			
L 7002	3401		STD	D1	SAVE ADDRESS OF PARAMS.		
L 7003	0200	7403	RJM	MDC	SEIZE D.S. CHANNEL.		
L 7005	4001		LDI	D1	INPUT BUFFER FWA		
L 7006	3402		STD	D2			
L 7007	5400	7176	STM	PREB	PRFX READ		
L 7011	5400	7230	STM	REDB	FULL READ		
L 7013	5400	7233	STM	REDC			
L 7015	1607		ADN	NAME+2			
L 7016	5400	7201	STM	PREC	PRE BYPASS-READ		
L 7020	5001	0001	LDM	CDTA,D1	TRANSFER ADDRESS		
L 7022	5400	7145	STM	CTDZ			
L 7024	5001	0003	LDM	CDNC,D1	NAME CHECK FIELD		
L 7026	5400	7573	STM	NFNM			
L 7030	5001	0004	LDM	CDNC+1,D1			
L 7032	5400	7574	STM	NFNM+1			
L 7034	1412		LDN	RETRY			
L 7035	5400	7523	STM	ARTC	INIT ERROR RETRY COUNTER		
L 7037	1436		LDN	NFMAX			
L 7040	5400	7524	STM	NFCT	NO FIND COUNT LIMIT		
L 7042	1420		LDN	20B	THIS INST MODIFIED FOR CONNECT CODE		
L 7043	0200	7244	RJM	FCN			
L 7045	0200	7341	RJM	FMU	FORMAT UNIT		
L 7047	5001	0003	LDM	CDNC,D1			
L 7051	2300	7777	LMC	7777B			
L 7053	0503		NJN	*+3			
L 7054	0100	7144	LJM	JUMP			
L 7056	5001	0002	LDM	CDRW,D1			
L 7060	0404		ZJN	CTD2	IF NO REWIND FIRST		
L 7061	1410		LDN	MREW			
L 7062	0200	7452	RJM	RBT	REWIND TAPE		
L 7064	5001	0003	LDM	CDNC,D1			
L 7066	0510		NJN	CTD3	IF READ NAMED RECORD		
L 7067	3002		LDD	D2	ELSE READ NEXT RECORD		
L 7070	2100	0120	ADC	LE77*BPW+LE6P*BPW			
L 7072	5400	7233	STM	REDC			
L 7074	0100	7135	LJM	CTD7			
L 7076	0200	7165	RJM	PRE	READ PRFX TO GET NAME		
		*			TEST IF NAMES MATCH		
L 7100	5002	0005	LDM	NAME,D2			

L 7102	5200	7573		SBM	NFNM		DIMA295B	2
L 7104	0506			NJN	CTD5		CD6	290
L 7105	5002	0006		LDM	NAME+1,D2		CD6	291
L 7107	5200	7574		SBM	NFNM+1		DIMA295B	3
L 7111	0420			ZJN	CTD6	IF NAMES MATCH	CD6	294
			*		HERE IF NO MATCH. CHECK IF ZZZ.		CD6	295
							CD6	296
							CD6	297
L 7112	5700	7524	CTD5	SOM	NFCT	CHECK NOFIND COUNT	CD6	298
L 7114	0413			ZJN	CTD55	IF RUNAWAY TAPE	CD6	299
L 7115	5002	0005		LDM	NAME,D2		CD6	300
L 7117	2300	3232		LMC	2RZZ		CD6	301
L 7121	0554			NJN	CTD3		CD6	302
L 7122	5002	0006		LDM	NAME+1,D2		CD6	303
L 7124	2300	3200		LMC	1RZ*100B		CD6	304
L 7126	0547			NJN	CTD3		CD6	305
L 7127	0100	7546	CTD55	LJM	ERNF	IF ZZZ REACHED	CD6	306
			*		HERE TO BACKSPACE TAPE ONE RECORD.		CD6	307
							CD6	308
							CD6	309
L 7131	2000	0113	CTD6	LDC	MBCK		CD6	310
L 7133	0200	7452		RJM	RBT	BACKSPACE TAPE	CD6	311
			*		HERE TO READ DESIRED RECORD		CD6	312
							CD6	313
							CD6	314
L 7135	0200	7216	CTD7	RJM	RED	FULL READ	CD6	315
							CD6	316
L 7137	1401			LDN	1	RELEASE UNIT	CD6	317
L 7140	0200	7244		RJM	FCN		CD6	318
L 7142	0200	7432		RJM	RDC	RESTORE D.S. CHANNEL.	CD6	319
							CD6	320
							CD6	321
L 7144	0100	0000	JUMP	LJM	**	GO TO TRANSFER ADDRESS	CD6	322
		7145	CTDZ	EQU	*-1		CD6	323

1412THE

			**	AWD - ACTIVATE CHANNEL AND WAIT FOR DATA.				CD6	326
			*					CD6	327
			*	AWD ACTIVATES THE FUNCTIONED CHANNEL AND TIMES OUT A FULL				CD6	328
1			*	CONDITION.				CD6	329
2			*					CD6	330
3			*	EXIT (A) .NE. 0, DATA ON CHANNEL.				CD6	331
4			*	(A) = 0, NO DATA RECEIVED, CHANNEL DISCONNECTED.				CD6	332
5								CD6	333
6								CD6	334
7	L 7146	0100 0000	AWD	ENM	X	ENTRY/EXIT		CD6	335
8	L 7150	2021 0560		LDC	TIMEOUT			CD6	336
9								CD6	337
10			****					CD6	338
11			*	THE FOLLOWING IS THE FIRST CHANNEL INSTRUCTION IN *CD6* AND				CD6	339
12			*	IS USED IN DEFINING THE LINKED CHANNEL LIST. IF THE FIRST				CD6	340
13			*	CHANNEL INSTRUCTION IS MOVED, BE SURE TO ADJUST THE CHANNEL				CD6	341
14			*	REPLACEMENT SECTION IN *INI*.				CD6	342
15								CD6	343
16	L 7152		AWDZ	BSS	0	FIRST CHANNEL INSTRUCTION		CD6	344
17								CD6	345
18	L 7152	7441		ACN	40B	ACTIVATE CHANNEL		CD6	346
19								CD6	347
20			****					CD6	348
21								CD6	349
22	L 7153	6604 7146	AWD1	FJM	AWDX,0	IF FULL, RETURN		CD6	350
23	L 7155	1701		SBN	1			CD6	351
24	L 7156	0574		NJN	AWD1	IF TIME OUT NOT EXPIRED		CD6	352
25	L 7157	7556		DCN	40B	DISCONNECT		CD6	353
26	L 7160	0365		UJN	AWDX	RETURN		CD6	354
27									
28									
29									
30									
31			**	PRE - READ ENOUGH TO GET THE NAME				CD6	356
32			*					CD6	357
33			*	RETURN TO CALLER IF NO ERRORS				CD6	358
34			*	ELSE GO TO ERROR PROCESSING				CD6	359
35								CD6	360
36	L 7161	0200 7515	PRE1	RJM	ART	ASK TO RETRY		CD6	361
37	L 7163	0303		UJN	PRE3	TRY AGAIN		CD6	362
38								CD6	363
39	L 7164	0100 0000	PRE	ENM	X	ENTRY/EXIT		CD6	364
40	L 7166	1440	PRE3	LDN	MRFW	READ FORWARD		CD6	365
41	L 7167	0200 7244	PRE4	RJM	FCN	ISSUE FUNCTION		CD6	366
42	L 7171	0200 7147		RJM	AWD	ACTIVATE AND WAIT FOR DATA		CD6	367
43	L 7173	0465		ZJN	PRE1	IF NO DATA COMING		CD6	368
44	L 7174	1407		LDN	NAME+2	LENGTH TO INCLUDE NAME		CD6	369
45	L 7175	7103 0000		IAM	** ,0	READ TABLES		CD6	370
46			7176	PREB	EQU	*-1		CD6	371
47								CD6	372
48	L 7177	1477	PRE5	LDN	77B	BYPASS REST OF RECORD		CD6	373
49	L 7200	7103 0000		IAM	** ,0			CD6	374
50			7201	PREC	EQU	*-1		CD6	375
51	L 7202	0474		ZJN	PRE5			CD6	376
52	L 7203	7564		DCN	40B			CD6	377
53	L 7204	0200 7464		RJM	CHK	CHECK STATUS AFTER READ		CD6	378
54	L 7206	0757		MJN	PRE3	IF TO RETRY READ		CD6	379

L 7207	0554			NJN	PREX	IF NO ERRORS	CD6	380
L 7210	1441			LDN	MRRF	REREAD FORWARD FUNCTION	CD6	381
L 7211	0355			UJN	PRE4		CD6	382
			**		RED - READ FULL RECORD		CD6	384
			*				CD6	385
			*		RETURN TO CALLER IF NO ERRORS		CD6	386
			*		ELSE GO TO ERROR PROCESSING		CD6	387
							CD6	388
L 7212	0200	7515		RED1	RJM	ART	CD6	389
L 7214	0303				UJN	RED3	CD6	390
							CD6	391
L 7215	0100	0000		RED	ENM	X	CD6	392
L 7217	1440			RED3	LDN	MRFW	CD6	393
L 7220	0200	7244		RED4	RJM	FCN	CD6	394
L 7222	0200	7147			RJM	AWD	CD6	395
L 7224	0465				ZJN	RED1	CD6	396
L 7225	2000	0120			LDC	LE77*BPW+LE6P*BPW	CD6	397
L 7227	7103	0000			IAM	** ,0	CD6	398
			7230	REDB	EQU	*-1	CD6	399
L 7231	1400				LDN	0	CD6	400
L 7232	7102	0000			IAM	** ,0	CD6	401
			7233	REDC	EQU	*-1	CD6	402
L 7234	7557				DCN	40B	CD6	403
L 7235	0200	7464			RJM	CHK	CD6	404
L 7237	0757				MJN	RED3	CD6	405
L 7240	0554				NJN	REDX	CD6	406
L 7241	1441				LDN	MRRF	CD6	407
L 7242	0355				UJN	RED4	CD6	408
			**		FCN - FUNCTION DEVICE.		CD6	410
			*				CD6	411
			*		ENTRY (A) = FUNCTION CODE.		CD6	412
			*		(FCNA) = EQUIPMENT NO. * 1000B.		CD6	413
			*				CD6	414
			*		RETURNS TO CALLER IF NO ERRORS		CD6	415
			*		ELSE GO TO ERROR PROCESSOR.		CD6	416
							CD6	417
							CD6	418
L 7243	0100	0000		FCN	ENM	X	CD6	419
L 7245	5400	7250			STM	FCNF	CD6	420
L 7247	2000	7247		FCN3	LDC	*	DIMA295B	4
			7250	FCNF	EQU	*-1	DIMA295B	5
L 7251	2100	0000			ADC	0	CD6	422
			7252	FCNA	EQU	*-1	CD6	423
L 7253	7603				FAN	0	CD6	424
							CD6	425
L 7254	2021	0560			LDC	TIMEOUT	CD6	426
L 7256	6504	7243		FCN1	IJM	FCNX,0	CD6	427
L 7260	1701				SBN	1	CD6	428
L 7261	0574				NJN	FCN1	CD6	429

CD6	430
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CD6	436
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CD6 459

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CD6	479

CD6	479
CD6	480
CD6	481

L 7337 0000 CDGS CON 0 GENERAL STATUS WORD CD6 482

** FMU - FORMAT UNIT

CD6 484

*

CD6 485

*

RETURNS TO CALLER IF NO ERRORS

CD6 486

*

ELSE GO TO ERROR PROCESSOR

CD6 487

*

CD6 488

CD6 489

L 7340 0100 0000

FMU

ENM

X

ENTRY/EXIT

CD6 490

L 7342 0200 7323

RJM

GUS

GET GENERAL STATUS

CD6 491

L 7344 1013

SHN

SL.GSUT

ISOLATE 9-TRACK BIT

CD6 492

L 7345 0605

PJN

FMU2

IF 7-TRACK

CD6 493

L 7346 2000 4260

7347

FMUN

LDC

4260B

FUNCTION PACKED MODE

CD6 494

EQU

*-1

CD6 495

L 7350 5400 7400

STM

FMUD

REPLACE FORMAT FUNCTION

CD6 496

L 7352 1430

FMU2

LDN

MFMT

FORMAT UNIT FUNCTION

CD6 497

L 7353 0200 7244

RJM

FCN

ISSUE FUNCTION

CD6 498

L 7355 1402

LDN

2

WORD COUNT

CD6 499

L 7356 7401

ACN

0

ACTIVATE CHANNEL

CD6 500

L 7357 7304 7400

OAM

FMUD,0

OUTPUT FORMAT DATA

CD6 501

L 7361 2021 0560

LDC

TIMEOUT

CD6 502

L 7363 6707 7372

FMU3

EJM

FMU5,0

WAIT FOR EMPTY

CD6 503

L 7365 1701

SBN

1

CD6 504

L 7366 0574

NJN

FMU3

IF NOT TIMED OUT YET

CD6 505

L 7367 0200 7515

FMU4

RJM

ART

ASK FOR RETRY PERMISSION

CD6 506

L 7371 0360

UJN

FMU2

RETRY

CD6 507

L 7372 7512

FMU5

DCN

0

CD6 508

L 7373 0200 7323

RJM

GUS

GET GENERAL STATUS

CD6 509

L 7375 1006

SHN

SL.GSAL

CD6 510

L 7376 0641

PJN

FMUX

IF FORMAT OK

CD6 511

L 7377 0367

UJN

FMU4

ELSE RETRY

CD6 512

CD6 513

L 7400 4220

FMUD

CON

FW0V

UNIT MUST BE ADDED IN

CD6 514

L 7401 6540

CON

FW1V

CD6 515

** MDC - MOVE DEADSTART CHANNEL PP

CD6 517

*

CD6 518

*

IF THE DEADSTART CHANNEL IS ACTIVE,

CD6 519

*

MOVE PP(D.S. CHAN) OVER TO CHANNEL 12B.

CD6 520

*

CD6 521

CD6 522

L 7402 0100 0000

MDC

ENM

X

ENTRY/EXIT

CD6 523

L 7404 6503 7402

IJM

MDCX,0

IF D.S. CHAN INACTIVE

CD6 524

L 7406 1400

LDN

0

DIMA357B 1

L 7407 7202

OAN

0

OUTPUT ZERO WORD

DIMA357B 2

L 7410 4000

LDI

0

DELAY 3 MEMORY CYCLES

DIMA357B 3

L 7411 6702 7415

EJM

MDC1A,0

IF WORD PICKED UP

DIMA357B 4

L 7413 7504

DCN

0

CLEAR CHANNEL OF DATA

DIMA357B 5

L 7414 0365

MDC1A

UJN

MDCX

RETURN TO CALLER

DIMA357B 6

L 7415 7412

BSS

0

DIMA357B 7

L 7415 7412

ACN.

12B

ACTIVATE CHAN 12B

CD6 525

CD6	573
CD6	574
CD6	575
CD6	576
CD6	577
CD6	578

	**	CHK - CHECK RESULTS/STATUS AFTER A READ OPERATION				CD6	580	
	*					CD6	581	
	*	RETURNS TO CALLER IF NO ERRORS				CD6	582	
1	*	ELSE IF RECOVERABLE ERROR BACKSPACE AND RETURN				CD6	583	
2	*	ELSE GO TO ERROR PROCESSING				CD6	584	
3	*					CD6	585	
4	*	(A) .GT. 0 IF NO ERRORS				CD6	586	
5	*	(A) .EQ. 0 IF NOISE RECORD JUST READ. CALLER SHOULD				CD6	587	
6	*	ISSUE REREAD FUNCTION AND CONTINUE.				CD6	588	
7	*	(A) .LT. 0 IF ERROR BUT CALLER SHOULD RETRY READ.				CD6	589	
8	*					CD6	590	
9						CD6	591	
10	L 7462	1400	CHK1	LDN	0	SET RETURN CODE FOR NOISE RECORD	CD6	592
11							CD6	593
12	L 7463	0100 0000	CHK	ENM	X	ENTRY/EXIT	CD6	594
13	L 7465	0200 7323		RJM	GUS	GET GENERAL STATUS	CD6	595
14	L 7467	1011		SHN	SL.GSNO		CD6	596
15	L 7470	0771		MJN	CHK1	IF NOISE RECORD	CD6	597
16	L 7471	1017		SHN	18+SL.GSAL-SL.GSNO		CD6	598
17	L 7472	0703		MJN	CHK3	IF ALERT SET	CD6	599
18	L 7473	1401	CHK2	LDN	1	IF NO ERRORS	CD6	600
19	L 7474	0366		UJN	CHKX		CD6	601
20	L 7475	0200 7272	CHK3	RJM	GDS	GET DETAILED STATUS	CD6	602
21	L 7477	5000 7307		LDM	GDSA+MDAC	1ST WORD OF D.S.	CD6	603
22	L 7501	2200 5077		LPC	5077B		CD6	604
23	L 7503	0467		ZJN	CHK2	IF 0, BLOCK PROBABLY OK	CD6	605
24	L 7504	0200 7515	CHK5	RJM	ART	ASK TO RETRY	CD6	606
25	L 7506	2000 0113		LDC	MBCK		CD6	607
26	L 7510	0200 7452		RJM	RBT	BACKSPACE TAPE	CD6	608
27	L 7512	1500		LCN	0		CD6	609
28	L 7513	0347		UJN	CHKX	RETURN	CD6	610
29								
30								
31								
32								
33			**	ART - ADJUST RETRY COUNTER			CD6	612
34			*				CD6	613
35			*	DECREMENT COUNTER AND			CD6	614
36			*	RETURN TO CALLER IF COUNTER .GE. 0			CD6	615
37			*	ELSE GO TO ERROR PROCESSOR			CD6	616
38			*				CD6	617
39							CD6	618
40	L 7514	0100 0000	ART	ENM	X	ENTRY/EXIT	CD6	619
41	L 7516	5700 7523		SOM	ARTC		CD6	620
42	L 7520	0673		PJN	ARTX	EXIT IF MORE RETRIES AVAILABLE	CD6	621
43	L 7521	0100 7525		LJM	ERIO	IF NO MORE RETRIES AVAILABLE	CD6	622
44							CD6	623
45	L 7523	0000	ARTC	CON	0	RETRY COUNTER	CD6	624
46							CD6	625
47	L 7524	0000	NFCT	CON	0	NOFIND COUNTER	CD6	626
48								
49								
50								
51								
52								
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56								
57								
58								
59								
60								

				**	ERROR PROCESSING			CD6	628
				*				CD6	629
				*	ERIO IS ENTERED IF AN UNRECOVERABLE I/O ERROR			CD6	630
1				*	HAS OCCURRED. ERNF IS ENTERED IF A REQUEST TO			CD6	631
2				*	READ A NAMED RECORD WAS MADE BUT THE RECORD			CD6	632
3				*	COULD NOT BE FOUND. FOR EITHER ERROR, A MESSAGE			CD6	633
4				*	IS PUT ON THE DISPLAY AND THE PP IS HUNG IN A LOOP			CD6	634
5				*	OUTPUTTING THE ERROR MESSAGE.			CD6	635
6								CD6	636
7			7525	ERIO	EQU	*	BUILD ERROR MSG	CD6	637
8	L 7525	5000	7337		LDM	CDGS	GENERAL STATUS	CD6	638
9	L 7527	0200	7576		RJM	CTO		CD6	639
10	L 7531	5400	7574		STM	IOMGS+1		CD6	640
11	L 7533	5000	7337		LDM	CDGS		CD6	641
12	L 7535	1071			SHN	-6		CD6	642
13	L 7536	0200	7576		RJM	CTO		CD6	643
14	L 7540	5400	7573		STM	IOMGS+0		CD6	644
15	L 7542	2000	0723		LDC	2RGS		CD6	645
16	L 7544	5400	7571		STM	NFMB	CHANGE 1ST BYTE OF MSG TO *GS*	CD6	646
17								CD6	647
18			7546	ERNF	EQU	*	ENTRY WHEN NOFIND	CD6	648
19								CD6	649
20				*	IDLE PP 10			CD6	650
21	L 7546	6610	7553		FJM.	IDLEDCN,CHD		CD6	651
22	L 7550	1402			LDN	IDLL		CD6	652
23	L 7551	7310	7565		OAM.	IDLA,CHD	SEND IDLE PROGRAM	CD6	653
24	L 7553	7550		IDLEDCN	DCN.	CHD+40B	FREE DISPLAY CHANNEL	CD6	654
25								CD6	655
26				*	PAINT DISPLAY			CD6	656
27								CD6	657
28	L 7554	7710	7002		FNC.	F.SEL+F.SLS+F.CHR+F.CHL,CHD		CD6	658
29	L 7556	7410			ACN.	CHD		CD6	659
30								CD6	660
31	L 7557	1406		ERR8	LDN	NFML		CD6	661
32	L 7560	7310	7567		OAM.	NFM,CHD	OUTPUT ERROR MSG	CD6	662
33	L 7562	1740		ERR9	SBN	40B		DIMA295B	6
34	L 7563	0776			MJN	ERR9		DIMA295B	7
35	L 7564	0372			UJN	ERR8	HANG IN OUTPUT LOOP	CD6	663
36								CD6	664
37	L 7565	0000		IDLA	CON	0	PP 10 IDLE PROGRAM	CD6	665
38	L 7566	0300			CON	UJNC	HANG	CD6	666
39			2	IDLL	EQU	*-IDLA	LENGTH OF IDLE PROGRAM	CD6	667
40								CD6	668
41			22	DOPLS	EQU	22B	LINE (Y COOR) INCREMENT VALUE	CD6	669
42								CD6	670
43								CD6	671
44			7567	NFM	EQU	*	NOFIND ERROR MESSAGE	CD6	672
45								CD6	673
46	L 7567	7400			CON	7400B		CD6	674
47	L 7570	6000			CON	XSET		CD6	675
48	L 7571	1615		NFMB	DATA	H*NM= NNNN*		CD6	676
49			7573	NFNM	EQU	NFMB+2		CD6	677
50			7573	IOMGS	EQU	NFNM		CD6	678
51								CD6	679
52			6	NFML	EQU	*-NFM	MESSAGE LENGTH	CD6	680
53									
54									
55									
56									
57									
58									
59									
60									

CD6 682

CD6 683

CD6	684
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CD6 685

CD6 686

CD6	687
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CD6 688

CD6 689

CD6	690
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CD6 691

CD6 692

CD6	693
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CD6 694

CD6 695

CD6 696

CD6 697

CD6 698

CD6	700
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CD6 701

CD6 702

CD6	703
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CD6 704

CD6 705

CD6	706
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CD6 707

CD6 708

CD6	709
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CD3	710
CD6	711

CD6	713
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CD6 714

CD6	715
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CD6	715
CD6	716

CD6 716

CD6	718
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CD6 719

CD6 720

CD6	721
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CD6 722

INVENTED SYMBOLS

INVENTED CHARACTERS

AJMC	6400	3/46 D								
ART	7515	10/39	11/13	12/02	12/17	12/45	13/28	15/27	15/43 D	
ARTC	7523	8/31 S	15/44 S	15/48 L						
ARTX	7514	15/43 L	15/45							
AWD	7147	10/10 D	10/45	11/19	12/23	12/51				
AWDX	7146	10/10 L	10/25	10/29						
AWDZ	7152	6/45	10/19 L							
AWD1	7153	10/25 L	10/27							
BPW	5	8/49	11/21							
CDEP	7000	6/26 S	7/42	8/07						
CDGS	7337	12/54 S	13/01 L	16/11	16/14					
CDNC	3	8/26	8/28	8/37	8/46					
CDNFMAX	36	5/11								
CDRW	2	8/41								
CDTA	1	8/24								
CHD	10	4/21 D	16/24	16/26	16/27	16/31	16/32	16/35		
CHK	7464	10/56	11/28	15/15 D						
CHKX	7463	15/15 L	15/22	15/31						
CHK1	7462	15/13 L	15/18							
CHK2	7473	15/21 L	15/26							
CHK3	7475	15/20	15/23 L							
CHK5	7504	15/27 L								
CH01\$	7152	10/21 D								
CH02\$	7153	10/21	10/21	10/25 D						
CH03\$	7157	10/25	10/25	10/28 D						
CH04\$	7175	10/28	10/28	10/48 D						
CH05\$	7200	10/48	10/48	10/52 D						
CH06\$	7203	10/52	10/52	10/55 D						
CH07\$	7227	10/55	10/55	11/22 D						
CH08\$	7232	11/22	11/22	11/25 D						
CH09\$	7234	11/25	11/25	11/27 D						
CH10\$	7253	11/27	11/27	11/52 D						
CH11\$	7256	11/52	11/52	11/55 D						
CH12\$	7262	11/55	11/55	12/01 D						
CH13\$	7303	12/01	12/01	12/26 D						
CH14\$	7305	12/26	12/26	12/27 D						
CH15\$	7332	12/27	12/27	12/53 D						
CH16\$	7335	12/53	12/53	12/55 D						
CH17\$	7356	12/55	12/55	13/22 D						
CH18\$	7357	13/22	13/22	13/23 D						
CH19\$	7363	13/23	13/23	13/25 D						
CH1\$	36	10/21 D	10/48 D	11/25 D	12/01 D	12/55 D	13/30 D	13/54 D	14/25 D	
		10/21	10/52	11/27	12/26	13/22	13/49	14/02	14/35	
		10/21 D	10/52 D	11/27 D	12/26 D	13/22 D	13/49 D	14/02 D	14/35 D	
		10/25	10/55	11/52	12/27	13/23	13/51	14/03		
		10/25 D	10/55 D	11/52 D	12/27 D	13/23 D	13/51 D	14/03 D		
		10/28	11/22	11/55	12/53	13/25	13/53	14/04		
		10/28 D	11/22 D	11/55 D	12/53 D	13/25 D	13/53 D	14/04 D		
		10/48	11/25	12/01	12/55	13/30	13/54	14/25		
CH20\$	7372	13/25	13/25	13/30 D						
CH21\$	7404	13/30	13/30	13/49 D						
CH22\$	7407	13/49	13/49	13/51 D						
CH23\$	7411	13/51	13/51	13/53 D						
CH24\$	7413	13/53	13/53	13/54 D						
CH25\$	7417	13/54	13/54	14/02 D						
CH26\$	7421	14/02	14/02	14/03 D						
CH27\$	7423	14/03	14/03	14/04 D						

CH28\$	7435	14/04	14/04	14/25	D				
CH29\$	7447	14/25	14/25	14/35	D				
CH30\$	7447	14/35	14/35	17/46	D				
CPAFWA	7660	17/33							
CTD	7000	8/09	D						
CTDZ	7145	8/25	S	9/34	D				
CTD1	7042	6/31	S	8/34	L				
CTD2	7064	8/42		8/46	L				
CTD3	7076	8/47		8/53	L	9/13	9/16		
CTD5	7112	9/02		9/09	L				
CTD55	7127	9/10		9/17	L				
CTD6	7131	9/05		9/21	L				
CTD7	7135	8/51		9/26	L				
CT0	7576	16/12		16/16		17/10	D		
CTOX	7575	17/09	L	17/17					
DCNC	7500	3/49	D						
DEBUG	0	4/11	D	14/07		14/08		14/32	14/33
DOPLS	22	16/44	D						
D0	0	3/08	D	7/15	S	7/16	S		
D1	1	3/09	D	8/17		8/26		8/37	8/46
		8/13	S	8/24		8/28		8/41	
D10	10	3/19	D	6/47					
D11	11	3/20	D						
D12	12	3/21	D						
D13	13	3/22	D						
D14	14	3/23	D						
D15	15	3/24	D						
D16	16	3/25	D						
D17	17	3/26	D						
D2	2	3/10	D	6/51	S	6/57	I	8/48	9/03
		6/46	S	6/52		8/18	S	8/57	9/11
D20	20	3/27	D					17/12	S
D3	3	3/11	D	6/49	S	6/55		7/19	7/23
D4	4	3/12	D	6/24	S	6/25		6/26	6/27
D5	5	3/13	D					6/27	S
D6	6	3/14	D	6/29		6/32		6/36	
D66X	2	8/11							
D7	7	3/17	D						
ENDCONS	7002	8/10		8/12	D				
ERIO	7525	15/46		16/10	D				
ERNF	7546	9/17		16/21	D				
ERR8	7557	16/34	L	16/38					
ERR9	7562	16/36	L	16/37					
FCN	7244	8/35		10/44		11/46	D	12/50	14/49
		9/29		11/18		12/22		13/20	
FCNA	7252	6/34	S	11/51	D				
FCNF	7250	11/47	S	11/49	D				
FCNX	7243	11/46	L	11/55					
FCN1	7256	11/55	L	11/57					
FCN3	7247	11/48	L	12/03					
FMU	7341	8/36		13/12	D				
FMUD	7400	6/38	S	13/18	S	13/23		13/36	L
FMUN	7347	6/40	S	13/17	D				
FMUX	7340	13/12	L	13/33					
FMU2	7352	13/15		13/19	L	13/29			
FMU3	7363	13/25	L	13/27					
FMU4	7367	13/28	L	13/34					

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FMU5	7372	13/25	13/30	L				
FWDL\$	0	4/09	D					
FW0V	4220	13/36						
FW1V	6540	13/37						
F.CHL	2	4/37	D	16/31				
F.CHM	1	4/36	D					
F.CHR	0	4/31	D	16/31				
F.CHS	0	4/35	D					
F.DOT	10	4/32	D					
F.KEY	20	4/33	D					
F.SBS	200	4/29	D					
F.SEL	7000	4/25	D	16/31				
F.SLS	0	4/27	D	16/31				
F.SRS	100	4/28	D					
GDS	7272	12/20	D	15/23				
GDSA	7307	12/26	S	12/30	L	15/24		
GDSX	7271	12/20	L	12/28				
GDS2	7266	12/17	L	12/24				
GDS3	7273	12/18		12/21	L			
GUS	7323	12/48	D	13/13		13/31	14/50	15/16
GUSX	7322	12/48	L	12/56				
GUS2	7317	12/45	L	12/52				
GUS3	7324	12/46		12/49	L			
IDLA	7565	16/26		16/40	L	16/42		
IDLEDCN	7553	16/24		16/27	L			
IDLL	2	16/25		16/42	D			
INI	6120	6/18	L					
INIA	6210	7/20	S	7/21	L			
INIB	6224	7/26		7/33	L	7/35		
INIC	6225	7/24	S	7/34	L			
INIL	3	7/25		7/35	D			
INIR	6233	7/41		7/46	L			
INI1	6123	6/25	L	6/28				
INI2	6160	6/51	L	7/02				
INI7	6221	7/12		7/17		7/29	L	
INI9	6227	7/31		7/41	L			
IOMGS	7573	16/13	S	16/17	S	16/53	D	
IOQB	6000	7/46						
IOQTRAN	6000	7/47						
IPLFWA	7421	17/45						
IPLTRAN	6120	1/10		6/01				
JUMP	7144	8/40		9/33	L			
LCNC	1500	3/40	D					
LCTD	7047	17/37	D	17/38				
LDCC	2000	3/42	D					
LDDC	3000	3/45	D					
LE6P	1	8/49		11/21				
LE77	17	8/49		11/21				
LMCC	2300	3/44	D					
MBCK	113	9/21		15/28				
MDAC	0	15/24						
MDBL	10	12/25		12/30				
MDC	7403	8/15		13/48	D			
MDCA	7425	14/02		14/07	L	14/12		
MDCL	4	14/01		14/12	D			
MDCX	7402	13/48	L	13/49		13/55	14/05	
MDC1A	7415	13/53		13/56	L			

1412THE

CD3

	ADDRESS	LENGTH	BINARY CONTROL CARDS.		
1	6120	705	IDENT	CD3,IPLTRAN	1
2	7025	(134)	END		2
3					3
4					4
5					5
6					6
7			IDENT	CD3,IPLTRAN	7
8			PERIPH		8
9		VERID	MICRO	1,,*A02*	9
10		VERS	MICRO	1,,*"VERID"*	10
11			COMMENT	CTI 3000 TYPE TAPE DRIVER - "VERS"	11
12			COMMENT	COPYRIGHT CONTROL DATA CORPORATION, 1979	12
13					13
14					14
15		*	ALL RIGHTS RESERVED		15
16		*			16
17		*	CONTAINED HEREIN ARE SOFTWARE PRODUCTS COPYRIGHTED		17
18		*	BY CONTROL DATA CORPORATION. REPRODUCTION WITHOUT		18
19		*	PERMISSION IS PROHIBITED. THE COPYRIGHT NOTICE		19
20		*	MUST APPEAR ON ALL AUTHORIZED COMPLETE OR		20
21		*	PARTIAL COPIES.		21
22		*			22
23					23
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25					25
26					26
27					27
28					28
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60					60

1412THE

CD3

***** CD3 - 3000 TYPE TAPE DRIVER -CTI-.
*
* R. A. MATTHEWS. 12/23/77.
* R. A. TURGEON 6/8/78.

CD3 8
CD3 9
CD3 10
CD3 11
CD3 12
CD3 13
CD3 14
CD3 15
CD3 16
CD3 17

*** CD3 - 3000 TYPE TAPE DRIVER -CTI-.
*
* CD3 IS THE THIRD RECORD FOLLOWING IPL ON A DEADSTART TAPE
* AND IS NOT PRESENT IN THE DISK DEADSTART SEQUENCE. CD3,
* THROUGH THE COMMON DRIVER INTERFACE, PROVIDES A DEVICE
* READER THAT WILL LOAD GIVEN ROUTINES AND HAND OFF CONTROL
* IF SO SPECIFIED. THE DEVICE READER WILL PROCESS RECORDS UP
* TO 511 (DECIMAL) CM WORDS LONG.

CD3 19
CD3 20
CD3 21
CD3 22
CD3 23
CD3 24
CD3 25
CD3 26

1412THE

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*
*
*
*
*
DEADSTART PANEL WORDS.
CD3 28
CD3 29
CD3 30
CD3 31
CD3 32
CD3 33
WORDS 5 - 20B OF THE DEADSTART PANEL MUST REMAIN INTACT
DURING CTI EXECUTION. WORDS 0 - 4 MAY BE USED AS SCRATCH
DIRECT CELLS.
CD3 34
CD3 35
CD3 36
CD3 37
CD3 38
CD3 39
CD3 40
CD3 41
CD3 42
CD3 43
CD3 44
CD3 45
CD3 46
CD3 47
CD3 48
CD3 49
CD3 50
CD3 51
CD3 52
CD3 53
CD3 54

0	D0	EQU	0	SCRATCH
1	D1	EQU	1	SCRATCH
2	D2	EQU	2	SCRATCH
3	D3	EQU	3	SCRATCH
4	D4	EQU	4	SCRATCH
5	D5	EQU	5	ZERO IF TAPE DEADSTART
6	D6	EQU	6	FUNCTION WORD
				(D6) = WARMSTART FUNCTION, IF MTS/ATS.
				= DEADSTART FUNCTION, IF 844 DISK.
7	D7	EQU	7	RESERVED
				(D7) = 1400B IF 3000 TYPE TAPE.
10	D10	EQU	10B	RESERVED
11	D11	EQU	11B	RESERVED
12	D12	EQU	12B	MSL PARAMETERS
13	D13	EQU	13B	OS PARAMETERS
14	D14	EQU	14B	OS PARAMETERS
15	D15	EQU	15B	UNUSED
16	D16	EQU	16B	C80/A170 RESERVED
17	D17	EQU	17B	RESERVED
20	D20	EQU	20B	RESERVED

**
*
INSTRUCTION EQUATES.
CD3 56
CD3 57
CD3 58
CD3 59
CD3 60
CD3 61
CD3 62
CD3 63
CD3 64
CD3 65
CD3 66
CD3 67
CD3 68
CD3 69
CD3 70
CD3 71
CD3 72
CD3 73
CD3 74
CD3 75
CD3 76
CD3 77
CD3 78
CD3 79
CD3 80

0	PSNC	EQU	0000B	PASS
300	UJNC	EQU	0300B	UNCONDITIONAL JUMP
400	ZJNC	EQU	0400B	ZERO JUMP
1000	SHNC	EQU	1000B	SHIFT
1500	LCNC	EQU	1500B	LOAD COMPLEMENT
1700	SBNC	EQU	1700B	SUBTRACT NO-ADDRESS
2000	LDCC	EQU	2000B	LOAD CONSTANT
2100	ADCC	EQU	2100B	ADD CONSTANT
2300	LMCC	EQU	2300B	LOGICAL MINUS CONSTANT
3000	LDDC	EQU	3000B	LOAD DIRECT
6400	AJMC	EQU	6400B	ACTIVE JUMP
7300	OAMC	EQU	7300B	OUTPUT MEMORY
7400	ACNC	EQU	7400B	ACTIVATE CHANNEL
7500	DCNC	EQU	7500B	DISCONNECT CHANNEL

** MISCELLANEOUS DEFINITIONS.

*

*

CD375

CD376

CD377

CD378

CD379

CD380

CD381

CD382

CD383

CD384

CD385

5NAMEEQU5OFFSET OF NAME IN PRFX TABLE

210560TIMEOUTEQU70000TIMEOUT COUNT

24RETRYEQU20DNO OF RETRIES IN ERROR PROCESSING

0FWDLEQU0DEFINE FORWARD LINK FOR CHANNEL INST.

0QUAL\$EQU0DON-T QUALIFY COMMON DECKS

0DEBUGEQU0

** DISPLAY CONTROLLER DEFINITIONS.

*

*

CD387

CD388

CD389

CD390

CD391

CD392

CD393

CD394

CD395

CD396

CD397

CD398

CD399

CD3100

CD3101

CD3102

CD3103

CD3104

CD3105

CD3106

CD3107

CD3108

CD3109

CD3110

CD3111

CD3112

CD3113

10CHDEQU10BDISPLAY CHANNEL

* DISPLAY FUNCTION CODES.

7000F.SELEQU7000BSELECT CONSOLE DISPLAY

0F.SLSEQU0000BSELECT CONSOLE LEFT SCREEN

100F.SRSEQU0100BSELECT CONSOLE RIGHT SCREEN

200F.SBSEQU0200BSELECT CONSOLE BOTH SCREEN

0F.CHREQU0000BSELECT DOT MODE

10F.DOTEQU0010BSELECT DOT MODE

20F.KEYEQU0020BSELECT KEYBOARD INPUT

0F.CHSEQU0000BSET CHARACTER SIZE SMALL

1F.CHMEQU0001BSET CHARACTER SIZE MEDIUM

2F.CHLEQU0002BSET CHARACTER SIZE LARGE

* COORDINATE DESIGNATION.

6000XSETEQU6000BSET X COORDINATE

7000YSETEQU7000BSET Y COORDINATE

CD3 116

CD3 117

CD3	118
-----	-----

1412THE

6120

ORG IPLTRAN

CD3

128

*** INI - CD3 INITIALIZATION.

CD3 130

*

CD3 131

* INI MOVES THE TAPE DRIVER INTO THE COMMON DRIVER AREA,
* INITIALIZES THE CHANNEL INSTRUCTIONS AND LOADS THE FIRST
* DISPLAY ROUTINE.

CD3 132

CD3 133

CD3 134

*

CD3 135

* ENTRY CPA AREA INTACT.

CD3 136

* DEADSTART PANEL CELLS INTACT.

CD3 137

*

CD3 138

* USES D1, D2, D3, D4.

CD3 139

CD3 140

CD3 141

6120

INI

BSS

0

ENTRY POINT

CD3 142

*

CD3 143

* MOVE THE COMMON DRIVER FOR TAPE, *CTD*, INTO THE COMMON
* DRIVER AREA.

CD3 144

CD3 145

6120 2000 0602

LDC TCTDL

CD3 146

6122 3404

STD D4

LENGTH OF MOVE BLOCK

CD3 147

6123 5004 6222

INI1

LDM TCTD-1,D4

CD3 148

6125 5404 6777

STM CDEP-1,D4

MOVE DRIVER CODE

CD3 149

6127 3704

SOD D4

CD3 150

6130 0572

NJN INI1

IF MORE DRIVER CODE TO MOVE

CD3 151

6131 3014

LDD D14

CD3 152

6132 5400 7425

STM E0UU

SAVE EQUIP/UNIT

CD3 153

CD3 154

CD3 155

* PICK UP CHANNEL NUMBER AND STUFF CHANNELS INTO CODE USING
* THE CHANNEL INSTRUCTION LINK.

CD3 156

CD3 157

CD3 158

6134 2000 7153

LDC AWDZ

FIRST CHANNEL INSTRUCTION

CD3 159

6136 3402

STD D2

CD3 160

6137 3010

LDD D10

GET CHANNEL NO. FROM D/S PANEL

CD3 161

6140 1237

LPN 37B

CD3 162

6141 3403

STD D3

CD3 163

6142 1400

LDN 0

CD3 164

6143 3502

INI2

RAD D2

CHANNEL INST. POINTER + BIAS

CD3 165

6144 4002

LDI D2

GET INSTRUCTION

CD3 166

6145 1237

LPN 37B

CD3 167

6146 3404

STD D4

SAVE FOR NEXT INSTRUCTION

CD3 168

6147 3003

LDD D3

GET CHANNEL NO.

CD3 169

6150 3204

SBD D4

SUBTRACT LINK FROM CHANNEL NO.

CD3 170

6151 4502

RAI D2

ADD CHANNEL NO. - LINK TO OLD INST.

CD3 171

6152 3004

LDD D4

CHECK FOR ZERO LINK (LAST INST.)

CD3 172

6153 0567

NJN INI2

CONTINUE PROCESSING INSTRUCTIONS

CD3 173

CD3 174

*

CODE TO CREATE CTI INTERNAL STATE

CD3 176

CD3 177

CD3 178

6154 7553

DCN. 13B+40B

DISCONNECT 13B

CD3 179

6155 7573

DCN. 33B+40B

DISCONNECT 33B

CD3 180

6156 6512 6204

IJM. INI7,12B

IF CHAN 12B IS D.S CHANNEL

CD3 181

6160 1400

LDN 0

OUTPUT 0000 TO CH 12B

CD3 182

6161 7212

OAN. 12B

CD3 183

6162 5600 0000

AOM 0

WAIT A WHILE

CD3 184

6164 5700 0000

SOM 0

CD3 185

6166 6612 6204

FJM. INI7,12B

IF FULL (NO PP ON CH 12B)

CD3 186

CD3 187

6170 3003

LDD D3

ACTIVATE DEADSTART CHANNEL

CD3 188

6171 5500 6173

RAM INIA

CD3 189

6173 7440

INIA

ACN. 40B

CD3 190

CD3 191

6174 3003

LDD D3

MOVE PP BACK TO D.S. CHAN

CD3 192

6175 5500 6210

RAM INIC

CD3 193

6177 1403

LDN INIL

CD3 194

6200 7312 6207

OAM. INIB,12B

CD3 195

6202 6612 6202

FJM. *,12B

CD3 196

CD3 197

6204 7552

INI7

DCN. 12B+40B

DISCONNECT 12B

CD3 198

6205 7572

DCN. 32B+40B

DISCONNECT 32B

CD3 199

6206 0304

UJN INI9

CD3 200

CD3 201

6207 1400

INIB

LDN 0

CD3 202

6210 7100 0000

3 INIC

IAM. 0,**

CD3 203

INIL

EQU *-INIB

CD3 204

CD3 205

CD3 206

*

CALL THE COMMON DRIVER TO LOAD IOQ

CD3 207

*

AND GIVE CONTROL TO IOQ.

CD3 208

6212 2000 6216

INI9

LDC INIR

A = ADDRESS OF PARAMS

CD3 210

6214 0100 7000

LJM CDEP

GOTO COMMON DRIVER

CD3 211

CD3 212

*

PARAMETER BLOCK FOR COMMON DRIVER TO LOAD IOQ

CD3 213

CD3 214

6216 6000

INIR

CON IOQB

LOAD ADDRESS

CD3 215

6217 6000

CON IOQTRAN

TRANSFER ADDRESS

CD3 216

6220 0000

CON 0

NO REWIND FIRST

CD3 217

6221 1117

VFD 18/3LIOQ,6/0

NAME CHECK FIELD

CD3 218

6222 2100

CD3	220
CD3	221

1

L 7100	5200 7560		SBM	NFNM		DIMA295	2
L 7102	0506		NJN	CTD5		CD3	281
L 7103	5002 0006		LDM	NAME+1,D2		CD3	282
L 7105	5200 7561		SBM	NFNM+1		DIMA295	3
L 7107	0420		ZJN	CTD6	IF NAMES MATCH	CD3	285
						CD3	286
		*		HERE IF NO MATCH. CHECK IF ZZZ.		CD3	287
						CD3	288
L 7110	5700 7471	CTD5	SOM	NFCT	CHECK NOFIND COUNT	CD3	289
L 7112	0413		ZJN	CTD55	IF NAME NOT FOUND	CD3	290
L 7113	5002 0005		LDM	NAME,D2		CD3	291
L 7115	2300 3232		LMC	2RZZ		CD3	292
L 7117	0554		NJN	CTD3		CD3	293
L 7120	5002 0006		LDM	NAME+1,D2		CD3	294
L 7122	2300 3200		LMC	1RZ*100B		CD3	295
L 7124	0547		NJN	CTD3		CD3	296
L 7125	0100 7533	CTD55	LJM	ERNF	IF ZZZ REACHED	CD3	297
						CD3	298
		*		HERE TO BACKSPACE TAPE ONE RECORD.		CD3	299
						CD3	300
L 7127	1412	CTD6	LDN	TBSP		CD3	301
L 7130	0200 7334		RJM	RBT	BACKSPACE TAPE	CD3	302
						CD3	303
		*		HERE TO READ DESIRED RECORD		CD3	304
						CD3	305
L 7132	0200 7214	CTD7	RJM	RED	FULL READ	CD3	306
						CD3	307
L 7134	0200 7440		RJM	DSEL	RELEASE AND DESELECT	CD3	308
						CD3	309
L 7136	0100 0000	JUMP	LJM	**	GO TO TRANSFER ADDRESS	CD3	310
	7137	CTDZ	EQU	*-1		CD3	311

			**	AWD - ACTIVATE CHANNEL AND WAIT FOR DATA.			CD3	314
			*				CD3	315
			*	AWD ACTIVATES THE FUNCTIONED CHANNEL AND TIMES OUT A FULL			CD3	316
1			*	CONDITION.			CD3	317
2			*				CD3	318
3			*	EXIT (A) .NE. 0, DATA ON CHANNEL.			CD3	319
4			*	(A) = 0, NO DATA RECIEVED, CHANNEL DISCONNECTED.			CD3	320
5							CD3	321
6							CD3	322
7	L 7140	0000	AWD	CON	0	ENTRY	CD3	323
8	L 7141	5000 7140		LDM	AWD	RETURN ADDRESS	CD3	324
9	L 7143	5400 7155		STM	AWDA	MODIFY FULL JUMP ADDRESS	CD3	325
10	L 7145	2000 1400	AWD1	LDC	CIEI+CMDA	READ EOR/CONVERSION A	CD3	326
11	L 7147	0200 7236		RJM	FCN		CD3	327
12							CD3	328
13	L 7151	2021 0560		LDC	TIMEOUT		CD3	329
14							CD3	330
15			****				CD3	331
16			*	THE FOLLOWING IS THE FIRST CHANNEL INSTRUCTION IN *CD3* AND			CD3	332
17			*	IS USED IN DEFINING THE LINKED CHANNEL LIST. IF THE FIRST			CD3	333
18			*	CHANNEL INSTRUCTION IS MOVED, BE SURE TO ADJUST THE CHANNEL			CD3	334
19			*	REPLACEMENT SECTION IN *INI*.			CD3	335
20							CD3	336
21	L 7153		AWDZ	BSS	0	FIRST CHANNEL INSTRUCTION	CD3	337
22							CD3	338
23	L 7153	7401		ACN	0	ACTIVATE CHANNEL	CD3	339
24							CD3	340
25			****				CD3	341
26							CD3	342
27	L 7154	6604 0000	AWD6	FJM	** ,0	IF FULL RETURN	CD3	343
28		7155	AWDA	EQU	*-1		CD3	344
29	L 7156	1701		SBN	1		CD3	345
30	L 7157	0574		NJN	AWD6	IF TIMEOUT NOT EXPIRED	CD3	346
31	L 7160	7555		DCN	40B		CD3	347
32	L 7161	0200 7461		RJM	ART	ASKTO RETRY	CD3	348
33	L 7163	0200 7323		RJM	MCC	MASTER CLEAR	CD3	349
34	L 7165	0200 7417		RJM	SEL	RESELECT UNIT	CD3	350
35	L 7167	0355		UJN	AWD1	RETRY	CD3	351
36								
37								
38								
39								
40			**	PRE - READ ENOUGH TO GET THE NAME			CD3	353
41			*				CD3	354
42			*	RETURN TO CALLER IF NO ERRORS			CD3	355
43			*	ELSE GO TO ERROR PROCESSING			CD3	356
44							CD3	357
45	L 7170	0100 0000	PRE	ENM	X	ENTRY/EXIT	CD3	358
46	L 7172	0200 7140	PRE3	RJM	AWD	ACTIVATE AND WAIT FOR DATA	CD3	359
47	L 7174	1407		LDN	NAME+2	LENGTH TO INCLUDE NAME	CD3	360
48	L 7175	7107 0000		IAM	** ,0	READ TABLES	CD3	361
49		7176	PREB	EQU	*-1		CD3	362
50	L 7177	0404		ZJN	PRE5	IF NOT NOISE RECORD	CD3	363
51	L 7200	0200 7371		RJM	CHK	CHECK STATUS AFTER READ	CD3	364
52	L 7202	0367		UJN	PRE3	OK TO RETRY	CD3	365
53							CD3	366
54	L 7203	1477	PRE5	LDN	77B	BYPASS REST OF RECORD	CD3	367
55								
56								
57								
58								
59								
60								

L 7204	7115 0000		IAM	** ,0		CD3	368	
		7205	PREC	EQU	*-1	CD3	369	
L 7206	0474		ZJN	PRE5		CD3	370	
L 7207	0200 7371		RJM	CHK	CHECK STATUS AFTER READ	CD3	371	
L 7211	0656		PJN	PREX	IF NO ERRORS	CD3	372	
L 7212	0357		UJN	PRE3	IF OK TO RETRY	CD3	373	
				**	RED - READ FULL RECORD	CD3	375	
				*		CD3	376	
				*	RETURN TO CALLER IF NO ERRORS	CD3	377	
				*	ELSE GO TO ERROR PROCESSING	CD3	378	
						CD3	379	
L 7213	0100 0000		RED	ENM	X	ENTRY/EXIT	CD3	380
L 7215	0200 7140		RED3	RJM	AWD	ACTIVATE AND WAIT FOR DATA	CD3	381
L 7217	2000 0120			LDC	LE77*BPW+LE6P*BPW	TABLES LENGTH	CD3	382
L 7221	7106 0000		IAM	** ,0		READ TABLES	CD3	383
		7222	REDB	EQU	*-1		CD3	384
L 7223	0404		ZJN	RED5	IF NOT NOISE RECORD		CD3	385
L 7224	0200 7371		RJM	CHK	CHECK STATUS AFTER READ		CD3	386
L 7226	0366		UJN	RED3	OK TO RETRY		CD3	387
							CD3	388
L 7227	7114 0000		RED5	IAM	** ,0		CD3	389
		7230	REDC	EQU	*-1		CD3	390
L 7231	0200 7371		RJM	CHK	CHECK STATUS AFTER READ		CD3	391
L 7233	0657		PJN	REDX	IF NO ERRORS		CD3	392
L 7234	0360		UJN	RED3	OK TO RETRY		CD3	393
				**	FCN - FUNCTION DEVICE.	CD3	395	
				*		CD3	396	
				*	ENTRY (A) = FUNCTION CODE.	CD3	397	
				*		CD3	398	
				*	RETURNS TO CALLER IF NO ERRORS	CD3	399	
				*	ELSE GO TO ERROR PROCESSOR.	CD3	400	
						CD3	401	
						CD3	402	
L 7235	0100 0000		FCN	ENM	X	ENTRY/EXIT	CD3	403
L 7237	5400 7242		FCN3	STM	FCNF	SAVE FUNCTION CODE	CD3	404
L 7241	2000 7241		FCNF	LDC	*	LOAD FUNCTION CODE	CD3	405
		7242		EQU	*-1	PLACE TO SAVE FUNCTION	CD3	406
L 7243	7603		FAN	0	ISSUE FUNCTION		CD3	407
							CD3	408
L 7244	2021 0560		LDC	TIMEOUT			CD3	409
L 7246	6504 7235		FCN1	IJM	FCNX ,0	IF FUNCTION ACCEPTED, RETURN	CD3	410
L 7250	1701		SBN	1			CD3	411
L 7251	0574		NJN	FCN1	IF TIMEOUT NOT EXPIRED		CD3	412
L 7252	7552		DCN	40B			CD3	413
L 7253	0200 7461		RJM	ART	ASK TO RETRY		CD3	414
L 7255	0363		UJN	FCN3	TRY AGAIN		CD3	415

**	CST - GET CONVERTER STATUS	CD3	417
*		CD3	418
*	EXIT (A) = (GDSA) = CONVERTER STATUS	CD3	419
*		CD3	420
		CD3	421
L 7256	0100 0000 CST ENM X ENTRY/EXIT	CD3	422
L 7260	2000 1200 CST2 LDC CCST	CD3	423
L 7262	0200 7236 RJM FCN	CD3	424
L 7264	7401 ACN 0	CD3	425
L 7265	7003 IAN 0	CD3	426
L 7266	5400 7272 STM GDSA SAVE STATUS	CD3	427
L 7270	7551 DCN 40B	CD3	428
L 7271	0364 UJN CSTX RETURN	CD3	429
		CD3	430
L 7272	1 GDSA BSSZ 1	CD3	431
**	EST - EQUIPMENT STATUS	CD3	433
*		CD3	434
*	EXIT (A) = (CDGS) = EQUIPMENT STATUS	CD3	435
*		CD3	436
		CD3	437
L 7273	0100 0000 EST ENM X ENTRY/EXIT	CD3	438
L 7275	2000 1300 EST2 LDC CEST	CD3	439
L 7277	0200 7236 RJM FCN	CD3	440
L 7301	7401 ACN 0	CD3	441
L 7302	7003 IAN 0	CD3	442
L 7303	5400 7307 STM CDGS SAVE EQUIPMENT STATUS	CD3	443
L 7305	7557 DCN 40B	CD3	444
L 7306	0364 UJN ESTX RETURN	CD3	445
		CD3	446
L 7307	1 CDGS BSSZ 1	CD3	447
**	C81 - CHECK 6681/84 STATUS	CD3	449
*		CD3	450
*	C81 CHECKS 6681/84 STATUS FOR TRANSMISSION PARITY ERRORS	CD3	451
*	OR REJECT	CD3	452
*		CD3	453
*	ENTRY (GDSA) = CONVERTER STATUS	CD3	454
*		CD3	455
*	EXIT (A) = 0 IF NO ERRORS	CD3	456
*		CD3	457
*	(A) .NE. 0 IF ERROR	CD3	458
*		CD3	459
		CD3	460
L 7310	0100 0000 C81 ENM X ENTRY/EXIT	CD3	461
L 7312	5000 7272 LDM GDSA 6681 STATUS	CD3	462
L 7314	1204 LPN MP.CSTP	CD3	463
L 7315	0572 NJN C81X IF TRANSMISSION PARITY ERROR	CD3	464
L 7316	5000 7272 LDM GDSA	CD3	465
L 7320	1203 LPN MP.CSRJ+MP.CSIR	CD3	466
L 7321	0366 UJN C81X RETURN	CD3	467

			**	MCC - MASTER CLEAR CHANNEL				CD3	469
			*					CD3	470
			*	MASTER CLEARS CHANNEL, WAITS FOR				CD3	471
1			*	EXPIRATION OF MASTER CLEAR CONTROL				CD3	472
2			*	TIMEOUT TO CONVERTER AND RESELECTS				CD3	473
3			*	EQUIPMENT AND UNIT.				CD3	474
4								CD3	475
5	L 7322	0100 0000		MCC	ENM	X	ENTRY/EXIT	CD3	476
6	L 7324	7700 1700			FNC	1700B,0		CD3	477
7	L 7326	2000 0764			LDC	500D	WAIT FOR MC TIMEOUT	CD3	478
8	L 7330	1701		MCC1	SBN	1		CD3	479
9	L 7331	0676			PJN	MCC1		CD3	480
10	L 7332	0367			UJN	MCCX	RETURN	CD3	481
11									
12									
13									
14									
15			**	RBT - REWIND/BACKSPACE TAPE				CD3	483
16			*					CD3	484
17			*	ENTRY (A) = FUNCTION CODE				CD3	485
18			*					CD3	486
19			*	CALLS FCN				CD3	487
20								CD3	488
21	L 7333	0100 0000		RBT	ENM	X	ENTRY/EXIT	CD3	489
22	L 7335	5400 7345			STM	RBTF	SAVE FUNCTION CODE	CD3	490
23	L 7337	0200 7274		RBT1	RJM	EST		CD3	491
24	L 7341	1203			LPN	3		CD3	492
25	L 7342	1101			LMN	1		CD3	493
26	L 7343	0573			NJN	RBT1	IF NOT (READY AND NOT BUSY)	CD3	494
27	L 7344	2000 7344			LDC	*		CD3	495
28									
29				7345	RBTF	EQU	*-1	CD3	496
30	L 7346	0200 7236			RJM	FCN	PLACE TO SAVE FUNCTION	CD3	497
31	L 7350	0200 7257			RJM	CST	FUNCTION DEVICE	CD3	498
32	L 7352	0200 7311			RJM	C81	GET STATUS	CD3	499
33	L 7354	0404			ZJN	RBT3	CHECK 6681 STATUS	CD3	500
34	L 7355	0200 7461			RJM	ART	IF NO STATUS PROBLEMS	CD3	501
35	L 7357	0357			UJN	RBT1	ASK TO RETRY	CD3	502
36	L 7360	0200 7274		RBT3	RJM	EST		CD3	503
37	L 7362	2200 1003			LPC	1003B	GET EQUIP STATUS	CD3	504
38	L 7364	2300 1001			LMC	1001B		CD3	505
39	L 7366	0571			NJN	RBT3	IF NOT (EOP, READY, AND NOT BUSY)	CD3	506
40	L 7367	0343			UJN	RBTX	RETURN	CD3	507
41									
42									
43									
44			**	CHK - CHECK RESULTS/STATUS AFTER A READ OPERATION				CD3	509
45			*					CD3	510
46			*	RETURNS TO CALLER IF NO ERRORS				CD3	511
47			*	ELSE IF RECOVERABLE ERROR BACKSPACE AND RETURN				CD3	512
48			*	ELSE GO TO ERROR PROCESSING				CD3	513
49			*					CD3	514
50			*	(A) POSITIVE IF NO ERRORS				CD3	515
51			*	(A) NEGATIVE IF ERROR BUT CALLER SHOULD RETRY READ				CD3	516
52			*					CD3	517
53								CD3	518
54	L 7370	0100 0000		CHK	ENM	X	ENTRY/EXIT	CD3	519
55									
56									
57									
58									
59									
60									

L 7372	0200 7257	CHK2	RJM	CST	GET CONVERTER STATUS	CD3	520
L 7374	1204		LPN	4		CD3	521
L 7375	0512		NJN	CHK5	IF TRANSMISSION PARITY	CD3	522
L 7376	0200 7274		RJM	EST	GET EQUIPMENT STATUS	CD3	523
L 7400	1010		SHN	SL.TSE0		CD3	524
L 7401	0670		PJN	CHK2	IF NOT END OF OPERATION	CD3	525
L 7402	5000 7307	CHK4	LDM	CDGS	UNIT STATUS	CD3	526
L 7404	2200 2400		LPC	MP.TSPE+MP.TSLD	P.E. OR LOST DATA	CD3	527
L 7406	0461		ZJN	CHKX	IF OK,RETURN	CD3	528
						CD3	529
		*			AN ERROR HAS OCCURRED. RETRY IF POSSIBLE.	CD3	530
						CD3	531
L 7407	0200 7461	CHK5	RJM	ART		CD3	532
L 7411	1412		LDN	TBSP		CD3	533
L 7412	0200 7334		RJM	RBT	BACKSPACE TAPE	CD3	534
L 7414	1500		LCN	0		CD3	535
L 7415	0352		UJN	CHKX	RETURN	CD3	536
		**			SEL - SELECT 6681 AND CONNECT UNIT	CD3	538
		*				CD3	539
		*			RETURN TO CALLER IF NO ERRORS ELSE GOTO ERI0	CD3	540
		*				CD3	541
						CD3	542
L 7416	0100 0000	SEL	ENM	X	ENTRY/EXIT	CD3	543
L 7420	2000 2000		LDC	CSEL		CD3	544
L 7422	0200 7236		RJM	FCN	SELECT 6681	CD3	545
L 7424	2000 0000	SEL2	LDC	**		CD3	546
		7425 E0UU	EQU	*-1		CD3	547
L 7426	0200 7236		RJM	FCN	CONNECT	CD3	548
L 7430	0200 7257		RJM	CST	GET CONVERTER STATUS	CD3	549
L 7432	1203		LPN	3		CD3	550
L 7433	0462		ZJN	SELX	IF NO REJECT	CD3	551
L 7434	0200 7461		RJM	ART		CD3	552
L 7436	0365		UJN	SEL2		CD3	553
		**			DSEL - RELEASE UNIT AND DESELECT 6681	CD3	555
		*				CD3	556
		*			RETURNS IF NO ERRORS ELSE GOTO ERI0	CD3	557
						CD3	558
L 7437	0100 0000	DSEL	ENM	X	ENTRY/EXIT	CD3	559
L 7441	1400	DSEL2	LDN	TREL		CD3	560
L 7442	0200 7236		RJM	FCN	RELEASE UNIT	CD3	561
L 7444	0200 7257		RJM	CST	GET CONVERTER STATUS	CD3	562
L 7446	1203		LPN	3		CD3	563
L 7447	0404		ZJN	DSEL5	IF NO REJECT	CD3	564
L 7450	0200 7461		RJM	ART		CD3	565
L 7452	0366		UJN	DSEL2		CD3	566
L 7453	2000 2100	DSEL5	LDC	CDSL		CD3	567
L 7455	0200 7236		RJM	FCN	DESELECT	CD3	568
L 7457	0357		UJN	DSELX	RETURN	CD3	569

**	ART - ADJUST RETRY COUNTER			CD3	571
*				CD3	572
*	DECREMENT COUNTER AND			CD3	573
*	RETURN TO CALLER IF COUNTER .GE. 0			CD3	574
*	ELSE GO TO ERROR PROCESSOR			CD3	575
*				CD3	576
				CD3	577
ART	ENM	X	ENTRY/EXIT	CD3	578
	SOM	ARTC		CD3	579
	PJN	ARTX	EXIT IF MORE RETRIES AVAILABLE	CD3	580
	RJM	MCC	MASTER CLEAR	CD3	581
	UJN	ERIO	IF NO MORE RETRIES AVAILABLE	CD3	582
				CD3	583
ARTC	CON	0	RETRY COUNTER	CD3	584
				CD3	585
NFCT	CON	0	NOFIND COUNTER	CD3	586

1412THE

1

CD3	643
CD3	644
CD3	645

CD3	649
CD3	650
CD3	651
CD3	652
CD3	653
CD3	654

CD3	656
CD3	657
CD3	658
CD3	659
CD3	660
CD3	661
CD3	662

CD3	664
CD3	665
CD3	666
CD3	667
CD3	668
CD3	669
CD3	670
CD3	671
CD3	672

CD3	674
CD3	675
CD3	676
CD3	677
CD3	678
CD3	679
CD3	680
CD3	681
CD3	682

CD3	685
CD3	686
CD3	687

CD3	688
CD3	689
CD3	690

* OVERFLOW CHECK.

CD3 692
CD3 693
CD3 694
CD3 695
CD3 696

374

ERRNG IPLFWA-*

OVERFLOWED INTO IPL

7025

END

54500B CM STORAGE USED
PARALLEL CPU ASSEMBLY

1196 STATEMENTS
1.186 SECONDS

373 SYMBOLS
509 REFERENCES

000021 INVENTED SYMBOLS

SYMBOLIC REFERENCE TABLE.

ACNC	7400	3/48	D						
ADCC	2100	3/43	D						
AJMC	6400	3/46	D						
ART	7461	10/35		11/53	13/36	14/13	14/36	14/52	15/08 D
ARTC	7470	8/31	S	15/09 S	15/14 L				
ARTX	7460	15/08	L	15/10					
AWD	7140	10/10	L	10/11	10/49	11/17			
AWDA	7155	10/12	S	10/31 D					
AWDZ	7153	6/36		10/24 L					
AWD1	7145	10/13	L	10/38					
AWD6	7154	10/30	L	10/33					
BPW	5	8/49		11/18					
CCST	1200	12/07							
CDEP	7000	6/26	S	7/36	8/07				
CDGS	7307	12/30	S	12/34 L	14/07	16/11	16/14		
CDNC	3	8/24		8/26	8/36	8/46			
CDNFMAX	36	5/11							
CDRW	2	8/41							
CDSL	2100	14/54							
CDTA	1	8/22							
CEST	1300	12/26							
CHD	10	4/21	D	16/33	16/35	16/36	16/40	16/41	16/44
CHK	7371	10/54		11/04	11/22	11/27	13/57 D		
CHKX	7370	13/57	L	14/09	14/17				
CHK2	7372	14/01	L	14/06					
CHK4	7402	14/07	L						
CHK5	7407	14/03		14/13 L					
CH01\$	7153	10/26	D						
CH02\$	7154	10/26		10/26	10/30 D				
CH03\$	7160	10/30		10/30	10/34 D				
CH04\$	7175	10/34		10/34	10/51 D				
CH05\$	7204	10/51		10/51	11/01 D				
CH06\$	7221	11/01		11/01	11/19 D				
CH07\$	7227	11/19		11/19	11/25 D				
CH08\$	7243	11/25		11/25	11/46 D				
CH09\$	7246	11/46		11/46	11/49 D				
CH10\$	7252	11/49		11/49	11/52 D				
CH11\$	7264	11/52		11/52	12/09 D				
CH12\$	7265	12/09		12/09	12/10 D				
CH13\$	7270	12/10		12/10	12/12 D				
CH14\$	7301	12/12		12/12	12/28 D				
CH15\$	7302	12/28		12/28	12/29 D				
CH16\$	7305	12/29		12/29	12/31 D				
CH17\$	7324	12/31		12/31	13/09 D				

CH18\$
CH1\$

7324
22

13/09
10/26 D
10/26

13/09
10/34
10/34 D

18/04 D
11/01 D
11/19

11/46
11/46 D
11/49

11/52 D
12/09
12/09 D

12/12
12/12 D
12/28

12/29 D
12/31
12/31 D

CIEI
CMDA
CPAFWA

1400
0
7660

10/13
10/13
17/49

CSEL
CST
CSTX

2000
7257
7256

14/28
12/06 D
12/06 L

13/33
12/13
12/13

14/01
14/33
14/49

CST2
CTD
CTDZ

7260
7000
7137

12/07 L
8/09 D
8/23 S

9/31 D
8/31 L
8/46 L

CTD1
CTD2
CTD3

7036
7062
7074

8/29
8/42
8/47

8/53 L
9/13
9/16

CTD5
CTD55
CTD6

7110
7125
7127

9/02
9/10
9/05

9/09 L
9/17 L
9/21 L

CTD7
CT0
CTOX

7132
7571
7570

8/51
16/12
17/25 L

9/26 L
16/16
17/33

16/21
16/25
17/26 D

C81
C81X
DCNC

7311
7310
7500

12/51 D
12/51 L
3/49 D

13/34
12/54
12/57

DEBUG
DOPLS
DSEL

0
22
7440

4/11 D
16/53 D
9/28

14/46 D
14/56
14/53

DSELX
DSEL2
DSEL5

7437
7441
7453

14/46 L
14/47 L
14/51

14/54 L
14/54 L

D0
D1

0
1

3/08 D
3/09 D
8/13 S

8/15
8/22
8/26

8/24
8/36
8/41

8/46

D10
D11
D12

10
11
12

3/19 D
3/20 D
3/21 D

6/38

D13
D14
D15

13
14
15

3/22 D
3/23 D
3/24 D

6/30

D16
D17
D2

16
17
2

3/25 D
3/26 D
3/10 D

6/42 S
6/43
8/16 S

6/48 I
8/57
9/11

8/48
9/03
9/14

17/30
17/28 S

D20
D3
D3TP

20
3
3

3/27 D
3/11 D
8/11

6/40 S
6/46
7/13

7/17

D4
D5
D6

4
5
6

3/12 D
3/13 D
3/14 D

6/24 S
6/25
6/26

6/27 S
6/45 S
6/47

6/49

D7
ENDCONS

7
7002

3/17 D
8/10

8/12 D

ERIO
ERNF
ERR8

7472
7533
7544

15/12
9/17
16/28 S

16/10 D
16/30 D
16/43 L

16/47

ERR9	7547	16/45 L	16/46				
EST	7274	12/25 D	13/26	13/38	14/04		
ESTX	7273	12/25 L	12/32				
EST2	7275	12/26 L					
E0UU	7425	6/31 S	14/31 D				
FCN	7236	10/14	12/08	13/32	14/32	14/55	
		11/42 D	12/27	14/29	14/48		
FCNF	7242	11/43 S	11/45 D				
FCNX	7235	11/42 L	11/49				
FCN1	7246	11/49 L	11/51				
FCN3	7241	11/44 L	11/54				
FWDL\$	0	4/09 D					
F.CHL	2	4/37 D	16/40				
F.CHM	1	4/36 D					
F.CHR	0	4/31 D	16/40				
F.CHS	0	4/35 D					
F.DOT	10	4/32 D					
F.KEY	20	4/33 D					
F.SBS	200	4/29 D					
F.SEL	7000	4/25 D	16/40				
F.SLS	0	4/27 D	16/40				
F.SRS	100	4/28 D					
GDSA	7272	12/11 S	12/15 L	12/52	12/55	16/20	16/23
IDLA	7552	16/35	16/49 L	16/51			
IDLEDCN	7540	16/33	16/36 L				
IDLL	2	16/34	16/51 D				
INI	6120	6/18 L					
INIA	6173	7/14 S	7/15 L				
INIB	6207	7/20	7/27 L	7/29			
INIC	6210	7/18 S	7/28 L				
INIL	3	7/19	7/29 D				
INIR	6216	7/35	7/40 L				
INI1	6123	6/25 L	6/28				
INI2	6143	6/42 L	6/50				
INI7	6204	7/06	7/11	7/23 L			
INI9	6212	7/25	7/35 L				
IOMGS	7560	16/13 S	16/17 S	17/05 D			
IOMGS1	7566	16/22 S	16/26 S	17/11 D			
IOQB	6000	7/40					
IOQTRAN	6000	7/41					
IPLFWA	7421	18/03					
IPLTRAN	6120	1/10	6/01				
JUMP	7136	8/39	9/30 L				
LCNC	1500	3/40 D					
LCTD	7025	17/53 D	17/54				
LDCC	2000	3/42 D					
LDDC	3000	3/45 D					
LE6P	1	8/49	11/18				
LE77	17	8/49	11/18				
LMCC	2300	3/44 D					
MCC	7323	10/36	13/08 D	15/11			
MCCX	7322	13/08 L	13/13				
MCC1	7330	13/11 L	13/12				
MP.CSIR	2	12/56					
MP.CSRJ	1	12/56					
MP.CSTP	4	12/53					
MP.TSLD	400	14/08					

MP.TSPE	2000	14/08							
NAME	5	4/06 D	8/20	8/57	9/03	9/11	9/14	10/50	
NFCT	7471	8/33 S	9/09 S	15/16 L					
NFM	7554	16/44	16/56 D	17/07	17/12				
NFMAX	36	5/11 D	8/32						
NFMB	7556	16/19 S	17/03 L	17/04					
NFMB1	7564	17/10 L	17/11						
NFML	6	16/27	16/43	17/07 D					
NFML1	14	16/27	17/12 D						
NFNM	7560	8/25 S	8/27 S	9/01	9/04	17/04 D	17/05		
OAMC	7300	3/47 D							
PRE	7171	8/53	10/48 D						
PREB	7176	8/17 S	10/52 D						
PREC	7205	8/21 S	11/02 D						
PREX	7170	10/48 L	11/05						
PRE3	7172	10/49 L	10/55	11/06					
PRE5	7203	10/53	10/57 L	11/03					
PSNC	0	3/36 D							
QUAL\$	0	4/10 D							
RBT	7334	8/44	9/22	13/24 D	14/15				
RBTF	7345	13/25 S	13/31 D						
RBTX	7333	13/24 L	13/42						
RBT1	7337	13/26 L	13/29	13/37					
RBT3	7360	13/35	13/38 L	13/41					
RED	7214	9/26	11/16 D						
REDB	7222	8/18 S	11/20 D						
REDC	7230	8/19 S	8/50 S	11/26 D					
REDX	7213	11/16 L	11/28						
RED3	7215	11/17 L	11/23	11/29					
RED5	7227	11/21	11/25 L						
RETRY	24	4/08 D	8/28						
SBNC	1700	3/41 D							
SEL	7417	8/35	10/37	14/27 D					
SELX	7416	14/27 L	14/35						
SEL2	7424	14/30 L	14/37						
SHNC	1000	3/39 D							
SL.TSE0	10	14/05							
TBSP	12	9/21	14/14						
TCHS	7324	10/26 D	10/34 D	11/19 D	11/49 D	12/10 D	12/29 D	18/04	
		10/26 D	10/51 D	11/25 D	11/52 D	12/12 D	12/31 D		
		10/30 D	11/01 D	11/46 D	12/09 D	12/28 D	13/09 D		
TCTD	6223	6/25	8/05 D	17/54					
TCTDL	602	6/23	17/54 D						
TIMEOUT	210560	4/07 D	10/16	11/48					
TREL	0	14/47							
TREW	10	8/43							
UJNC	300	3/37 D	16/50						
XSET	6000	4/41 D	17/02	17/09					
YSET	7000	4/42 D							
ZJNC	400	3/38 D							

CD4

BINARY CONTROL CARDS.

1

CD4

*****	CD4 - 844 DISK DRIVER -CTI-.	CD4	8
*		CD4	9
*	R. A. MATTHEWS. 02/28/78.	CD4	10
*	R. A. TURGEON 6/13/78.	CD4	11
*		CD4	12
*	CD4 PROVIDES A BASIC DISK DRIVER FOR 844 DISK DRIVES	CD4	13
*	WHEN USED AS THE DEADSTART DEVICE WITHIN THE COMMON TEST/	CD4	14
*	INITIALIZATION (CTI) PACKAGE. CD4 MOVES ITSELF OVER THE IPL	CD4	15
*	PREFIX TABLE AND PROGRAM BODY TO ALLOW SUBSEQUENT READS TO	CD4	16
*	USE THE IPL BUFFER AREA.	CD4	17

***	CD4 - 844 DISK DRIVER -CTI-.	CD4	19
*		CD4	20
*	CD4 IS THE FOURTH RECORD FOLLOWING IPL ON A DEADSTART	CD4	21
*	TAPE AND IS THE FIRST RECORD IN THE CTI AREA FOR DISK	CD4	22
*	DEADSTART. CD4, THROUGH THE COMMON DRIVER INTERFACE,	CD4	23
*	PROVIDES A DEVICE READER THAT WILL LOAD GIVEN ROUTINES AND	CD4	24
*	HAND OFF CONTROL IF SO SPECIFIED. THE DEVICE READER WILL	CD4	25
*	PROCESS A MAXIUMIM OF 510 DECIMAL CM WORDS OF INFORMATION.	CD4	26

1412THE

** DEADSTART PANEL WORDS.

*

*

WORDS 5 - 20B OF THE DEADSTART PANEL MUST REMAIN INTACT
DURING CTI EXECUTION. WORDS 0 - 4 MAY BE USED AS SCRATCH
DIRECT CELLS.

CD4	28
CD4	29
CD4	30
CD4	31
CD4	32
CD4	33
CD4	34
CD4	35
CD4	36
CD4	37
CD4	38
CD4	39
CD4	40
CD4	41
CD4	42
CD4	43
CD4	44
CD4	45
CD4	46
CD4	47
CD4	48
CD4	49
CD4	50

0	D0	EQU	0	SCRATCH
1	D1	EQU	1	SCRATCH
2	D2	EQU	2	SCRATCH
3	D3	EQU	3	SCRATCH
4	D4	EQU	4	SCRATCH
5	D5	EQU	5	ZERO IF TAPE DEADSTART
6	D6	EQU	6	FUNCTION WORD
	*		(D6) =	WARMSTART FUNCTION, IF MTS/ATS.
7	D7	EQU	7	RESERVED
	*		(D7) =	1400B IF 3000 TYPE TAPE.
10	D10	EQU	10B	RESERVED
11	D11	EQU	11B	RESERVED
12	D12	EQU	12B	MSL PARAMETERS
13	D13	EQU	13B	OS PARAMETERS
15	D15	EQU	15B	UNUSED
16	D16	EQU	16B	C80/A170 RESERVED
17	D17	EQU	17B	RESERVED
20	D20	EQU	20B	RESERVED

** INSTRUCTION EQUATES.

*

0	PSNC	EQU	0000B	PASS
300	UJNC	EQU	0300B	UNCONDITIONAL JUMP
400	ZJNC	EQU	0400B	ZERO JUMP
1000	SHNC	EQU	1000B	SHIFT
1500	LCNC	EQU	1500B	LOAD COMPLEMENT
1700	SBNC	EQU	1700B	SUBTRACT NO-ADDRESS
2000	LDCC	EQU	2000B	LOAD CONSTANT
2100	ADCC	EQU	2100B	ADD CONSTANT
2300	LMCC	EQU	2300B	LOGICAL MINUS CONSTANT
3000	LDDC	EQU	3000B	LOAD DIRECT
6400	AJMC	EQU	6400B	ACTIVE JUMP
7300	OAMC	EQU	7300B	OUTPUT MEMORY
7400	ACNC	EQU	7400B	ACTIVATE CHANNEL
7500	DCNC	EQU	7500B	DISCONNECT CHANNEL

** MISCELLANEOUS DEFINITIONS.

*

*

5	NAME	EQU	5	OFFSET OF NAME IN PRFX TABLE
210560	TIMEOUT	EQU	70000	TIMEOUT COUNT
12	RETRY	EQU	10D	NO. OF RETRIES IN ERROR PROCESSING
0	QUAL\$	EQU	0	DON-T QUALIFY COMMON DECKS

DISPLAY CONTROLLER DEFINITIONS.

**
*
*

CD4 77
CD4 78
CD4 79
CD4 80
CD4 81
CD4 82
CD4 83
CD4 84
CD4 85
CD4 86
CD4 87
CD4 88
CD4 89
CD4 90
CD4 91
CD4 92
CD4 93
CD4 94

1	10	CHD	EQU	10B	DISPLAY CHANNEL	CD4	80	1
2		*			DISPLAY FUNCTION CODES.	CD4	81	2
3	7000	F.SEL	EQU	7000B	SELECT CONSOLE DISPLAY	CD4	82	3
4	0	F.SLS	EQU	0000B	SELECT CONSOLE LEFT SCREEN	CD4	83	4
5	100	F.SRS	EQU	0100B	SELECT CONSOLE RIGHT SCREEN	CD4	84	5
6	200	F.SBS	EQU	0200B	SELECT CONSOLE BOTH SCREEN	CD4	85	6
7	0	F.CHR	EQU	0000B	SELECT DOT MODE	CD4	86	7
8	10	F.DOT	EQU	0010B	SELECT DOT MODE	CD4	87	8
9	20	F.KEY	EQU	0020B	SELECT KEYBOARD INPUT	CD4	88	9
10	0	F.CHS	EQU	0000B	SET CHARACTER SIZE SMALL	CD4	89	10
11	1	F.CHM	EQU	0001B	SET CHARACTER SIZE MEDIUM	CD4	90	11
12	2	F.CHL	EQU	0002B	SET CHARACTER SIZE LARGE	CD4	91	12
13		*			COORDINATE DESIGNATION.	CD4	92	13
14	6000	XSET	EQU	6000B	SET X COORDINATE	CD4	93	14
15	7000	YSET	EQU	7000B	SET Y COORDINATE	CD4	94	15
16								16
17								17
18								18
19								19
20								20
21								21
22								22
23								23
24								24
25								25
26								26
27								27
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40								40
41								41
42								42
43								43
44								44
45								45
46								46
47								47
48								48
49								49
50								50
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52								52
53								53
54								54
55								55
56								56
57								57
58								58
59								59
60								60

CD4 97

CD4 98

CD4 99

14121NE

6120

ORG IPLTRAN

CD4

107

*** INI - CD4 INITIALIZATION.

CD4 109

*

CD4 110

*

INI MOVES THE DISK DRIVER INTO THE COMMON DRIVER AREA,

CD4 111

*

AND INITIALIZES CHANNEL INSTRUCTIONS

CD4 112

*

AND LOADS THE FIRST DISPLAY ROUTINE.

CD4 113

*

CD4 114

*

ENTRY CPA AREA INTACT.

CD4 115

*

DEADSTART PANEL CELLS INTACT.

CD4 116

*

CD4 117

*

USES D2, D3, D4.

CD4 118

6120

1

INI

BSSZ 1 ENTRY POINT

CD4 119

*

MOVE THE COMMON DRIVER FOR DISK, *CDD*, INTO THE COMMON

CD4 120

*

DRIVER AREA.

CD4 121

6121

2000 0652

LDC TCDDL

CD4 122

6123

3404

STD D4

LENGTH OF MOVE BLOCK

CD4 123

6124

5004 6225

INI1

LDM TCDD-1,D4

CD4 124

6126

5404 6777

STM CDEP-1,D4

MOVE DRIVER CODE

CD4 125

6130

3704

SOD D4

CD4 126

6131

0572

NJN INI1

IF MORE DRIVER CODE TO MOVE

CD4 127

*

INITIALIZE DISK POINTERS AND CHANNEL INSTRUCTIONS.

CD4 128

6132

0200 7274

RJM REW

USE DRIVER ROUTINE

CD4 129

6134

2000 7526

LDC CHT

FWA OF CHANNEL TABLE

CD4 130

6136

3403

STD D3

CD4 131

6137

3010

LDD D10

CD4 132

6140

1237

LPN 37B

CD4 133

6141

3404

STD D4

CHANNEL NO.

CD4 134

6142

4003

LDI D3

CD4 135

6143

3402

INI4

STD D2

INSTRUCTION ADDRESS

CD4 136

6144

4002

LDI D2

CD4 137

6145

1337

SCN 37B

CD4 138

6146

3104

ADD D4

CD4 139

6147

4402

STI D2

CD4 140

6150

3603

AOD D3

NEXT LIST ENTRY

CD4 141

6151

4003

LDI D3

CD4 142

6152

0570

NJN INI4

IF NOT END OF LIST

CD4 143

6153

3603

AOD D3

CD4 144

6154

3006

LDD D6

FUNCTION WORD

CD4 145

6155

1277

LPN 77B

CD4 146

6156

4403

STI D3

UNIT NO.

CD4 147

			*	CODE TO CREATE CTI INTERNAL STATE	CD4	149
6157	7553			DCN. 13B+40B DISCONNECT 13B	CD4	150
6160	7573			DCN. 33B+40B DISCONNECT 33B	CD4	151
6161	6512	6207		IJM. INI7,12B IF CHAN 12B IS D.S CHANNEL	CD4	152
6163	1400			LDN 0 OUTPUT 0000 TO CH 12B	CD4	153
6164	7212			OAN. 12B	CD4	154
6165	5600	0000		AOM 0 WAIT A WHILE	CD4	155
6167	5700	0000		SOM 0	CD4	156
6171	6612	6207		FJM. INI7,12B IF FULL (NO PP ON CH 12B)	CD4	157
6173	3004			LDD D4 ACTIVATE DEADSTART CHANNEL	CD4	158
6174	5500	6176		RAM INIA	CD4	159
6176	7440		INIA	ACN. 40B	CD4	160
6177	3004			LDD D4 MOVE PP BACK TO D.S. CHAN	CD4	161
6200	5500	6213		RAM INIC	CD4	162
6202	1403			LDN INIL	CD4	163
6203	7312	6212		OAM. INIB,12B	CD4	164
6205	6612	6205		FJM. *,12B WAIT FOR EMPTY	CD4	165
6207	7552		INI7	DCN. 12B+40B DISCONNECT 12B	CD4	166
6210	7572			DCN. 32B+40B DISCONNECT 32B	CD4	167
6211	0304			UJN INI9	CD4	168
6212	1400		INIB	LDN 0	CD4	169
6213	7100	0000	3	IAM. 0,**	CD4	170
			INIL	EQU *-INIB	CD4	171
			*	CALL THE COMMON DRIVER TO LOAD IOQ	CD4	172
			*	AND GIVE CONTROL TO IOQ.	CD4	173
6215	2000	6221	INI9	LDC INIR A = ADDRESS OF PARAMS	CD4	174
6217	0100	7000		LJM CDEP GOTO COMMON DRIVER	CD4	175
			*	PARAMETER BLOCK FOR COMMON DRIVER TO LOAD IOQ	CD4	176
6221	6000		INIR	CON IOQB LOAD ADDRESS	CD4	177
6222	6000			CON IOQTRAN TRANSFER ADDRESS	CD4	178
6223	0000			CON 0 NO REWIND FIRST	CD4	179
6224	1117			VFD 18/3LIOQ,6/0 NAME CHECK FIELD	CD4	180
6225	2100					

		***		CDD - COMMON DISK DRIVER.		CD4	182
		*				CD4	183
		6226	TCDD	EQU	*	FWA OF DRIVER AREA	CD4 184
1	L 7000			LOC	CDEP	BEGINNING OF COMMON DRIVER AREA	CD4 185
2		7000	CDD	EQU	*		CD4 186
3	L 7000	0302		UJN	ENDCONS		CD4 187
4	L 7001	0013		CON	D844		CD4 188
5		7002	ENDCONS	EQU	*		CD4 189
6	L 7002	3401		STD	D1	SAVE ADDRESS OF PARAMS	CD4 190
7	L 7003	0200 7460		RJM	MDC	SEIZE D.S. CHANNEL	CD4 191
8	L 7005	4001		LDI	D1		DIMA295A 1
9	L 7006	3402		STD	D2	D2 = INPUT BUFFER ADDRESS	CD4 193
10	L 7007	5400 7425		STM	RRRA		CD4 194
11	L 7011	5001 0001		LDM	CDTA,D1		CD4 195
12	L 7013	5400 7133		STM	CDDZ	STORE TRANSFER ADDRESS	CD4 196
13	L 7015	5001 0003		LDM	CDNC,D1		CD4 197
14	L 7017	5400 7636		STM	NFNM		CD4 199
15	L 7021	5001 0004		LDM	CDNC+1,D1		CD4 200
16	L 7023	5400 7637		STM	NFNM+1		CD4 202
17	L 7025	1412		LDN	RETRY		CD4 203
18	L 7026	5400 7143		STM	ARTC	INIT RETRY COUNTER	CD4 204
19	L 7030	1436		LDN	NFMAX		CD4 205
20	L 7031	5400 7144		STM	NFCT	INIT NOFIND COUNTER	CD4 206
21	L 7033	5001 0002		LDM	CDRW,D1		CD4 207
22	L 7035	0403		ZJN	CDD2	IF NO REWIND FIRST	CD4 208
23	L 7036	0200 7274		RJM	REW		CD4 209
24	L 7040	0200 7236	CDD2	RJM	GGs	GET GENERAL STATUS	DIMA295A 2
25	L 7042	1007		SHN	17-10		DIMA295A 3
26	L 7043	0774		MJN	CDD2	IF COUPLER RESERVED	DIMA295A 4
27	L 7044	5001 0003		LDM	CDNC,D1		DIMA295A 5
28	L 7046	0512		NJN	CDD3	IF READ NAMED RECORD	CD4 211
29	L 7047	0200 7307		RJM	RCS	ELSE READ CURRENT SECTOR	CD4 212
30	L 7051	0100 7122		LJM	CDD7	JOIN COMMON CODE	CD4 213
31	L 7053	0200 7411	CDD2A	RJM	RRR	BYPASS REST OF RECORD	DIMA295A 6
32	L 7055	5000 7425		LDM	RRRA		DIMA295A 7
33	L 7057	3402		STD	D2	RESET D2 TO ORIGINAL	DIMA295A 8
34	L 7060	0200 7307	CDD3	RJM	RCS	READ CURRENT SECTOR	CD4 214
35			*	TEST IF NAMES MATCH			CD4 215
36	L 7062	5000 7425		LDM	RRRA		CD4 216
37	L 7064	3402		STD	D2	SET D2 TO INPUT BUFFER ADDR	CD4 217
38	L 7065	5002 0005		LDM	NAME,D2		CD4 218
39	L 7067	5200 7636		SBM	NFNM		DIMA295A 9
40	L 7071	0506		NJN	CDD5		CD4 221
41	L 7072	5002 0006		LDM	NAME+1,D2		CD4 222
42	L 7074	5200 7637		SBM	NFNM+1		DIMA295A 10
43	L 7076	0420		ZJN	CDD6	IF NAMES MATCH	CD4 225
44			*	HERE IF NO MATCH. CHECK IF ZZZ.			CD4 226
45	L 7077	5700 7144	CDD5	SOM	NFCT	CHECK NOFIND COUNTER	CD4 227
46	L 7101	0413		ZJN	CDD55	IF TOO MANY NOFINDS	CD4 228
47	L 7102	5002 0005		LDM	NAME,D2		CD4 229
48	L 7104	2300 3232		LMC	2RZZ		CD4 230
49	L 7106	0544	CDD52	NJN	CDD2A	JUMP IF NOT ZZZ	DIMA295A 11
50	L 7107	5002 0006	CDD53	LDM	NAME+1,D2		CD4 236
51	L 7111	2300 3200		LMC	1RZ*100B		CD4 237
52	L 7113	0572		NJN	CDD52	IF NOT ZZZ	CD4 238
53	L 7114	0100 7607	CDD55	LJM	ERNF	IF ZZZ REACHED	CD4 239
54			*	STRIP OFF PRFX AND 6PPM TABLES			CD4 240

L 7116	2000 0120	CDD6	LDC	LE77*BPW+LE6P*BPW	CD4	241
L 7120	0200 7252		RJM	MVE	CD4	242
		*	READ IN	REST OF RECORD IF MORE THAN ONE SECTOR	CD4	243
L 7122	1400	CDD7	LDN	0	CD4	244
L 7123	0200 7411		RJM	RRR	CD4	245
L 7125	1410		LDN	DOPC	CD4	246
L 7126	0200 7212		RJM	FCN	CD4	247
L 7130	0200 7507		RJM	RDC	CD4	248
L 7132	0100 0000		LJM	**	CD4	249
	7133	CDDZ	EQU	*-1	CD4	250

1412THE

			**	ART - ADJUST RETRY COUNTER			CD4	253
			*				CD4	254
			*	DECREMENT COUNTER AND			CD4	255
			*	RETURN TO CALLER IF COUNTER .GE. 0			CD4	256
			*	ELSE GO TO ERROR PROCESSOR			CD4	257
			*				CD4	258
	L 7134	0100 0000	ART	ENM	X	ENTRY/EXIT	CD4	259
	L 7136	5700 7143		SOM	ARTC		CD4	260
	L 7140	0673		PJN	ARTX	EXIT IF MORE RETRIES AVAILABLE	CD4	261
	L 7141	0100 7566		LJM	ERIO	IF NO MORE RETRIES AVAILABLE	CD4	262
	L 7143	0000	ARTC	CON	0	RETRY COUNTER	CD4	263
	L 7144	0000	NFCT	CON	0	NOFIND COUNTER	CD4	264
			**	AWD - ACTIVATE CHANNEL AND WAIT FOR DATA.			CD4	266
			*				CD4	267
			*	AWD ACTIVATES THE FUNCTIONED CHANNEL AND TIMES OUT A FULL			CD4	268
			*	CONDITION.			CD4	269
			*				CD4	270
			*	EXIT (A) .NE. 0, DATA ON CHANNEL.			CD4	271
			*	(A) = 0, NO DATA RECIEVED, CHANNEL DISCONNECTED.			CD4	272
	L 7145	0100 0000	AWD	ENM	X	ENTRY/EXIT	CD4	273
	L 7147	7440		ACN	40B	ACTIVATE CHANNEL	CD4	274
	L 7150	2021 0560		LDC	TIMEOUT		CD4	275
	L 7152	6600 7145	AWD1	FJM	AWDX,0	IF FULL, RETURN	CD4	276
	L 7154	1701		SBN	1		CD4	277
	L 7155	0574		NJN	AWD1	IF TIME OUT NOT EXPIRED	CD4	278
	L 7156	7540		DCN	40B	DISCONNECT	CD4	279
	L 7157	0365		UJN	AWDX	RETURN	CD4	280
			**	BDA - BUMP DISK ADDRESSES.			CD4	282
			*				CD4	283
			*	BDA ADJUSTS THE CURRENT DISK ADDRESS BY THE OFFSET READ			CD4	284
			*	IN THE LINKAGE BYTES.			CD4	285
			*				CD4	286
			*	ENTRY (DADR - DADR+2) = DISK ADDRESS.			CD4	287
			*				CD4	288
			*	EXIT (DADR - DADR+2) = NEW DISK ADDRESS.			CD4	289
	L 7160	5400 7565	BDA1	STM	DADR+2		CD4	290
	L 7162	5600 7564		AOM	DADR+1	BUMP TRACK BY ONE	CD4	291
	L 7164	5000 7565	BDA2	LDM	DADR+2		CD4	292
	L 7166	1730		SBN	MSRS	MAX. NO OF SECTORS	CD4	293
	L 7167	0670		PJN	BDA1	IF MORE THAN ONE TRACK	CD4	294
	L 7170	0100 0000	BDA	ENM	X	ENTRY/EXIT	CD4	295
	L 7172	5000 7403		LDM	LINKAGE+1	PRU OFFSET	CD4	296
	L 7174	1021		SHN	18-1		CD4	297
	L 7175	0610		PJN	BDA3	IF EVEN, NOT END OF CYLINDER	CD4	298
	L 7176	1001		SHN	1		CD4	299
	L 7177	5400 7565		STM	DADR+2		CD4	300
	L 7201	1400		LDN	0		CD4	301
	L 7202	5400 7564		STM	DADR+1	CLEAR TRACK NO.	CD4	302
	L 7204	0357		UJN	BDA2		CD4	303

L 7205	1001		BDA3	SHN	1		CD4	304
L 7206	5500	7565		RAM	DADR+2		CD4	305
L 7210	0353			UJN	BDA2		CD4	306

** FCN - FUNCTION DEVICE.

CD4 308

*

CD4 309

* ENTRY (A) = FUNCTION CODE.

CD4 310

*

CD4 311

* RETURNS TO CALLER IF NO ERRORS

CD4 312

* ELSE GO TO ERROR PROCESSOR.

CD4 313

L 7211 0100 0000 FCN ENM X ENTRY/EXIT

CD4 314

L 7213 5400 7216 STM FCNF SAVE FUNCTION CODE

CD4 315

L 7215 7700 0000 FCN3 FNC 0,0 ISSUE FUNCTION

DIMA295A 12

7216

FCNF EQU *-1

DIMA295A 13

L 7217 2021 0560 LDC TIMEOUT

CD4 318

L 7221 6500 7211 FCN1 IJM FCNX,0 IF FUNCTION ACCEPTED, RETURN

CD4 319

L 7223 1701 SBN 1

CD4 320

L 7224 0574 NJN FCN1 IF TIMEOUT NOT EXPIRED

CD4 321

L 7225 7540 DCN 40B

CD4 322

L 7226 0200 7135 RJM ART ASK TO RETRY

CD4 323

L 7230 0364 UJN FCN3 TRY AGAIN

CD4 324

** GGS - GET GENERAL STATUS.

CD4 327

*

CD4 328

* GGS ISSUES THE GENERAL STATUS FUNCTION AND UPDATES

CD4 329

* THE COMMON DRIVER FIELD *CDGS*. THE STATUS IS ALSO RETURNED

CD4 330

* IN (A).

CD4 331

*

CD4 332

* EXIT (CDGS) = GENERAL STATUS REPLY.

CD4 333

* (A) = GENERAL STATUS REPLY.

CD4 334

*

CD4 335

L 7231 7000 GGS2 IAN 0 READ STATUS

DIMA295A 14

L 7232 5400 7250 STM CDGS

DIMA295A 15

L 7234 7540 DCN 40B

DIMA295A 16

L 7235 0100 0000 GGS ENM X ENTRY/EXIT

CD4 338

L 7237 1412 GGS3 LDN DGST

CD4 339

L 7240 0200 7212 RJM FCN FUNCTION DEVICE

CD4 340

L 7242 0200 7146 RJM AWD ACTIVATE CHAN AND WAIT FOR DATA

CD4 341

L 7244 0564 NJN GGS2 IF DATA COMING

DIMA295A 17

L 7245 0200 7135 RJM ART ASK TO RETRY

DIMA295A 18

L 7247 0367 UJN GGS3 TRY AGAIN

DIMA295A 19

CD4 350

L 7250 0000 CDGS CON 0

CD4 351

				*		(RRRT) = DISK LOAD TYPE		DIMA407	1
				*				CD4	404
				*	EXIT	(D2) = FWA FOR AN ADDITIONAL READ		CD4	405
				*		(DADR) = DISK ADDRESS FOR NEXT READ		CD4	406
				*		(RRRT) = DISK LOAD TYPE		DIMA407	2
				*				CD4	407
								CD4	408
	L 7306	0100 0000		RCS	ENM	X		CD4	409
	L 7310	0200 7434		RCS1	RJM	SEK	SEEK TO CURRENT DISK ADDRESS	CD4	410
	L 7312	1404			LDN	DRED		CD4	411
	L 7313	0200 7212			RJM	FCN	ISSUE READ FUNC	CD4	412
	L 7315	7440			ACN	40B		CD4	413
	L 7316	1402			LDN	2		CD4	414
	L 7317	7100 7402			IAM	LINKAGE,0	READ LINKAGE BYTES	CD4	415
	L 7321	7540			DCN	40B		CD4	416
	L 7322	0406			ZJN	RCS2	IF COUNTED DOWN	CD4	417
	L 7323	0200 7236			RJM	GGs	CLEAR SHORT READ ERRORS	DIMA295A	20
	L 7325	0200 7135			RJM	ART	ASK TO RETRY	CD4	419
	L 7327	0360			UJN	RCS1	TRY AGAIN	CD4	420
	L 7330	5000 7402		RCS2	LDM	LINKAGE	GET LENGTH BYTE	CD4	421
	L 7332	0503			NJN	RCS3		CD4	422
	L 7333	2000 0500			LDC	500B		CD4	423
	L 7335	1602		RCS3	ADN	2		CD4	424
	L 7336	5400 7357			STM	LENGTH	STORE TRUE LENGTH	CD4	425
	L 7340	0200 7236			RJM	GGs	CLEAR SHORT READ ERRORS	DIMA295A	21
	L 7342	5000 7432			LDM	RRRT	LOAD TYPE	DIMA407	3
	L 7344	0532			NJN	RCS9	IF ADDITIONAL SECTORS TO BE IGNORED	DIMA407	4
	L 7345	0200 7434		RCS5	RJM	SEK	SEEK AGAIN TO SAME SECTOR	CD4	427
	L 7347	3002			LDD	D2		CD4	428
	L 7350	5400 7361			STM	RCSB	STORE INPUT BUFFER ADDRESS	CD4	429
	L 7352	1404			LDN	DRED		CD4	430
	L 7353	0200 7212			RJM	FCN	ISSUE READ FUNC	CD4	431
	L 7355	7440			ACN	40B		CD4	432
	L 7356	2000 0000			LDC	**		CD4	433
			7357	LENGTH	EQU	*-1		CD4	434
	L 7360	7100 0000			IAM	** ,0	READ AMOUNT INDICATED	CD4	435
			7361	RCSB	EQU	*-1		CD4	436
	L 7362	7540			DCN	40B		CD4	437
	L 7363	0406			ZJN	RCS7	IF COUNTED DOWN	CD4	438
	L 7364	0200 7236			RJM	GGs	CLEAR SHORT READ ERRORS	DIMA295A	22
	L 7366	0200 7135			RJM	ART	ASK TO RETRY	CD4	440
	L 7370	0354			UJN	RCS5	TRY AGAIN	CD4	441
	L 7371	0200 7236		RCS7	RJM	GGs	CLEAR ERRORS	CD4	442
	L 7373	1402			LDN	2		CD4	443
	L 7374	0200 7252			RJM	MVE	STRIP OFF LINKAGE BYTES	CD4	444
	L 7376	0200 7171		RCS9	RJM	BDA	BUMP DISK ADDRESS	DIMA407	5
	L 7400	0100 7306			LJM	RCSX	RETURN	CD4	446
								CD4	447
	L 7402		3	LINKAGE	BSSZ	3	PLACE TO READ IN LINKAGE BYTES	CD4	448

			**	RRR - READ REST OF LOGICAL RECORD		CD4	450
			*			CD4	451
			*	RRR READS IN THE REST OF A LOGICAL RECORD IF THE RECORD		CD4	452
			*	CONSISTS OF MORE THAN ONE SECTOR.		CD4	453
			*			CD4	454
			*	ENTRY (A) = 0 IF ADDITIONAL SECTORS ARE TO BE APPENDED		CD4	455
			*	TO THE FIRST SECTOR ALREADY IN MEMORY.		CD4	456
			*	(A) .NE. 0 IF ADDITIONAL SECTORS ARE TO BE IGNORED.		CD4	457
			*			DIMA407	6
			*	USES RRRT,D2.		DIMA407	7
			*			DIMA407	8
			*	CALLS RCS.		DIMA407	9
			*			CD4	458
11	L 7405	1400	RRR5	LDN 0		DIMA407	10
12	L 7406	5400 7432		STM RRRT	RESET DISK LOAD TYPE	DIMA407	11
13	L 7410	0100 0000	RRR	ENM X	ENTRY/EXIT	CD4	459
14	L 7412	5400 7432		STM RRRT	SAVE TYPE	CD4	460
15	L 7414	5000 7402	RRR2	LDM LINKAGE	LENGTH OF SECTOR JUST READ	CD4	461
16	L 7416	2300 0500		LMC PRU		CD4	462
17	L 7420	0564		NJN RRR5	IF ALL SECTORS HAVE BEEN READ	DIMA407	12
18	L 7421	5000 7432		LDM RRRT		CD4	464
19	L 7423	0404		ZJN RRR4	IF SECTOR TO BE APPENDED	CD4	465
20	L 7424	2000 0000		LDC **	ELSE RESET D2 = ORIGINAL CDIB	CD4	466
21		7425	RRRA	EQU *-1		CD4	467
22	L 7426	3402		STD D2		CD4	468
23	L 7427	0200 7307	RRR4	RJM RCS	READ CURRENT SECTOR	CD4	469
24	L 7431	0362		UJN RRR2	LOOP	CD4	470
25	L 7432	0000	RRRT	CON 0	HOLDS TYPE	CD4	471
26							
27							
28							
29							
30			**	SEK - SEEK DISK ADDRESS.		CD4	473
31			*			CD4	474
32			*	SEK ISSUES A SEEK FUNCTION, AND WILL CONTINUE TO ISSUE AS LONG		CD4	475
33			*	AS THE DRIVE HEADS ARE IN MOTION.		CD4	476
34			*			CD4	477
35			*	ENTRY (UNIT - DADR+2) = SEEK PARAMETER ARRAY.		CD4	478
36			*			CD4	479
37			*	EXIT (A) .NE. 0, ERROR ON SEEK.		CD4	480
38			*			CD4	481
39			*	CALLS FCN, GGS.		CD4	482
40	L 7433	0100 0000	SEK	ENM X	ENTRY/EXIT	CD4	483
41	L 7435	1402	SEK1	LDN D2SK		CD4	484
42	L 7436	0200 7212		RJM FCN	SEEK 2:1	CD4	485
43	L 7440	1404		LDN 4		CD4	486
44	L 7441	7440		ACN 40B		CD4	487
45	L 7442	7300 7562		OAM UNIT,0		CD4	488
46	L 7444	6600 7444		FJM *,0		CD4	489
47	L 7446	7540		DCN 40B		CD4	490
48	L 7447	0200 7236		RJM GGS	GET GENERAL STATUS	CD4	491
49	L 7451	0461		ZJN SEKX	IF ON CYLINDER	CD4	492
50	L 7452	1212		LPN 12B	CHECK FOR BUSY OR RESERVED	DIMA295A	23
51	L 7453	0561		NJN SEK1	IF DRIVE RESERVED OR BUSY	DIMA295A	24
52	L 7454	0200 7135		RJM ART	ASK TO RETRY	CD4	495
53	L 7456	0356		UJN SEK1	TRY AGAIN	CD4	496

				**	MDC - MOVE DEADSTART CHANNEL PP			CD4	498
				*				CD4	499
				*	IF THE DEADSTART CHANNEL IS ACTIVE,			CD4	500
				*	MOVE PP(D.S. CHAN) OVER TO CHANNEL 12B.			CD4	501
				*				CD4	502
1								CD4	503
2								CD4	504
3	L 7457	0100 0000		MDC	ENM	X	ENTRY/EXIT	CD4	503
4	L 7461	6500 7457			IJM	MDCX,0	IF D.S. CHAN INACTIVE	CD4	504
5	L 7463	1400			LDN	0		DIMA357C	1
6	L 7464	7200			OAN	0	OUTPUT ZERO WORD	DIMA357C	2
7	L 7465	4000			LDI	0	DELAY 3 MEMORY CYCLES	DIMA357C	3
8	L 7466	6700 7472			EJM	MDC1,0	IF WORD PICKED UP	DIMA357C	4
9	L 7470	7500			DCN	0	CLEAR CHANNEL OF DATA	DIMA357C	5
10	L 7471	0365			UJN	MDCX	RETURN TO CALLER	DIMA357C	6
11	L 7472			MDC1	BSS	0		DIMA357C	7
12	L 7472	7412			ACN.	12B	ACTIVATE CHAN 12B	CD4	505
13	L 7473	1404			LDN	MDCL	OUTPUT PROG TO PP(D.S. CHAN)	CD4	506
14	L 7474	7300 7502			OAM	MDCA,0		CD4	507
15	L 7476	6600 7476			FJM	*,0		CD4	508
16	L 7500	7540			DCN	40B		CD4	509
17	L 7501	0355			UJN	MDCX	RETURN	CD4	510
18	L 7502	0000		MDCA	CON	0		CD4	511
19	L 7503	1400			LDN	0		CD4	512
20	L 7504	7112 0000			IAM.	0,12B		CD4	513
21			4	MDCL	EQU	*-MDCA		CD4	514
22									
23									
24									
25									
26				**	RDC - RESET DEADSTART CHANNEL PP			CD4	516
27				*				CD4	517
28				*	IF CHANNEL 12B ACTIVE,			CD4	518
29				*	MOVE PP ON CHAN 12B BACK TO D.S. CHAN.			CD4	519
30				*				CD4	520
31	L 7506	0100 0000		RDC	ENM	X	ENTRY/EXIT	CD4	521
32	L 7510	6512 7506			IJM.	RDCX,12B	IF CHAN 12B INACTIVE	CD4	522
33	L 7512	7400			ACN	0	ACTIVATE D.S. CHANNEL	CD4	523
34	L 7513	1404			LDN	RDCL	OUTPUT PROG TO CHANNEL 12B	CD4	524
35	L 7514	7312 7522			OAM.	RDCA,12B		CD4	525
36	L 7516	6612 7516			FJM.	*,12B		CD4	526
37	L 7520	7512			DCN.	12B		CD4	527
38	L 7521	0364			UJN	RDCX	RETURN	CD4	528
39	L 7522	0000		RDCA	CON	0	PP PROGRAM	CD4	529
40	L 7523	1400			LDN	0		CD4	530
41	L 7524	7100 0000			IAM	0,0		CD4	531
42			4	RDCL	EQU	*-RDCA		CD4	532
43									
44									
45									
46									
47									
48									
49									
50									
51									
52									
53									
54									
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58									
59									
60									

** CHT - CHANNEL INSTRUCTION TABLE. CD4 534
* CD4 535
* CHT IS A LIST OF ADDRESSES THAT CONTAIN CHANNEL INSTRUCTIONS CD4 536
* FOR CHANNEL STUFFING. THE LIST IS TERMINATED BY A ZERO ENTRY. CD4 537
* CD4 538
* FOR FURTHER DETAILS, SEE *COMPCHI*. CD4 539

L 7526			CHT	CHTB		CHANNEL INSTRUCTION ADDRESS LIST	CD4	540
L 7562	0000		UNIT	CON	0	UNIT NO.	CD4	541
L 7563	0000	0000	DADR	CON	0,0,0	SEEK PARAMETER ARRAY	CD4	542
L 7565	0000							

				**	ERROR PROCESSING		CD4	544
				*			CD4	545
				*	ERIO IS ENTERED IF AN UNRECOVERABLE I/O ERROR		CD4	546
1				*	HAS OCCURRED. ERNF IS ENTERED IF A REQUEST TO		CD4	547
2				*	READ A NAMED RECORD WAS MADE BUT THE RECORD		CD4	548
3				*	COULD NOT BE FOUND. FOR EITHER ERROR, A MESSAGE		CD4	549
4				*	IS PUT ON THE DISPLAY AND THE PP IS HUNG IN A LOOP		CD4	550
5				*	OUTPUTTING THE ERROR MESSAGE.		CD4	551
6							CD4	552
7			7566	ERIO	EQU *	BUILD ERROR MSG	CD4	553
8	L 7566	5000 7250		LDM	CDGS	GENERAL STATUS	CD4	554
9	L 7570	0200 7641		RJM	CTO		CD4	555
10	L 7572	5400 7637		STM	IOMGS+1		CD4	556
11	L 7574	5000 7250		LDM	CDGS		CD4	557
12	L 7576	1071		SHN	-6		CD4	558
13	L 7577	0200 7641		RJM	CTO		CD4	559
14	L 7601	5400 7636		STM	IOMGS+0		CD4	560
15	L 7603	2000 0723		LDC	2RGS		CD4	561
16	L 7605	5400 7634		STM	NFMB	CHANGE 1ST BYTE OF MSG TO *GS*	CD4	562
17							CD4	563
18			7607	ERNF	EQU *	ENTRY WHEN NOFIND	CD4	564
19							CD4	565
20				*	IDLE PP 10		CD4	566
21	L 7607	6710 7612		EJM.	IDLE10,CHD		CD4	567
22	L 7611	7550		DCN.	CHD+40B		CD4	568
23	L 7612	7450		ACN.	CHD+40B		CD4	569
24	L 7613	1402		LDN	IDLL		CD4	570
25	L 7614	7310 7630		OAM.	IDLA,CHD	SEND IDLE PROGRAM	CD4	571
26	L 7616	7550		IDLEDCN	DCN.	CHD+40B	CD4	572
27						FREE DISPLAY CHANNEL	CD4	573
28				*	PAINT DISPLAY		CD4	574
29							CD4	575
30	L 7617	7710 7002		FNC.	F.SEL+F.SLS+F.CHR+F.CHL,CHD		CD4	576
31	L 7621	7410		ACN.	CHD		CD4	577
32							CD4	578
33	L 7622	1406		ERR8	LDN	NFML	CD4	579
34	L 7623	7310 7632		OAM.	NFM,CHD	OUTPUT ERROR MSG	CD4	580
35	L 7625	1740		ERR9	SBN	40B	DIMA295A	25
36	L 7626	0776			MJN	ERR9	DIMA295A	26
37	L 7627	0372			UJN	ERR8	CD4	581
38							CD4	582
39	L 7630	0000		IDLA	CON	0	CD4	583
40	L 7631	0300			CON	UJNC	CD4	584
41			2	IDLL	EQU	*-IDLA	CD4	585
42						LENGTH OF IDLE PROGRAM	CD4	586
43			22	DOPLS	EQU	22B	CD4	587
44						LINE (Y COOR) INCREMENT VALUE	CD4	588
45							CD4	589
46			7632	NFM	EQU *	NOFIND ERROR MESSAGE	CD4	590
47							CD4	591
48	L 7632	7400		CON	7400B		CD4	592
49	L 7633	6000		CON	XSET		CD4	593
50	L 7634	1615		NFMB	DATA	H*NM= NNNN*	CD4	594
51			7636	NFNM	EQU	NFMB+2	CD4	595
52			7636	IOMGS	EQU	NFNM	CD4	596
53							CD4	597
54			6	NFML	EQU	*-NFM	CD4	598
55						MESSAGE LENGTH		

**CTO - CONVERT TO OCTAL DISPLAYCD4600

*CD4601

*ENTRY (A) LOWER 6 BITS ARE VALUE TO BE CONVERTEDCD4602

*CD4603

*EXIT LOWER 12 BITS OF (A) ARE RESULT.CD4604

*CD4605

*USES D2CD4606

L 76400100 0000CTOX LJM 0EXITCD4607

7641CT0 EQU *-1ENTRYCD4608

L 76421277LPN 77BISOLATE LOWER 6 BITSCD4609

L 76433402STD D2CD4610

L 76441003SHN 3CD4611

L 76453302LMD D2CD4612

L 76461370SCN 70BCD4613

L 76472100 3333ADC 2R00CD4614

L 76510366UJN CTOXRETURNCD4615

CD4616

CD4617

CD4618

CD4619

CD4620

CD4621

CD4622

CD4623

CD4624

CD4625

CD4626

CD4627

CD4628

CD4629

CD4630

CD4631

CD4632

CD4633

CD4634

CD4635

CD4636

CD4637

CD4638

CD4639

CD4640

CD4641

CD4642

CD4643

CD4644

CD4645

CD4646

CD4647

CD4648

CD4649

CD4650

CD4651

CD4652

CD4653

CD4654

CD4655

CD4656

CD4657

CD4658

CD4659

CD4660

**END OF COMMON DISK DRIVER AND SUBROUTINES.CD4618

*CD4619

*THE FOLLOWING SYMBOLS ARE DEFINED FOR MOVING *CDD* INTO THECD4620

*COMMON DRIVER AREA.CD4621

*CD4622

*TCDD FWA OF COMMON DISK DRIVER.CD4623

*LCDD LWA+1 OF COMMON DISK DRIVER.CD4624

*TCDDL LENGTH OF COMMON DISK DRIVER.CD4625

*CD4626

6ERRNG CPAFWA-*OVERFLOWED INTO POINTER AREACD4627

7100LOC *0CD4628

7100LCDD EQU *CD4629

652TCDDL EQU LCDD-TCDDLENGTH OF DRIVERCD4630

*OVERFLOW CHECK.CD4631

760LCD4 EQU *-IPLTRANLENGTH OF CD4CD4632

321ERRNG IPLFWA-*OVERFLOWED INTO IPLCD4633

7100ENDCD4634

55700B CM STORAGE USED1636 STATEMENTS784 SYMBOLS000140 INVENTED SYMBOLS

PARALLEL CPU ASSEMBLY1.408 SECONDS406 REFERENCES

SYMBOLIC REFERENCE TABLE.

ACNC	7400	3/42	D					
ADCC	2100	3/37	D					
AJMC	6400	3/40	D					
ART	7135	10/07	D	11/23	11/46	13/18	13/41	14/55
ARTC	7143	8/21	S	10/08	S	10/11	L	
ARTX	7134	10/07	L	10/09				
AWD	7146	10/24	D	11/44				
AWDX	7145	10/24	L	10/27	10/31			
AWD1	7152	10/27	L	10/29				
BDA	7171	10/49	D	13/46				
BDAX	7170	10/49	L					

BDA1	7160	10/44	L	10/48												
BDA2	7164	10/46	L	10/57	11/03											
BDA3	7205	10/52		11/01	L											
BPW	5	9/01														
CDD	7000	8/05	D													
CDDZ	7133	8/15	S	9/10	D											
CDD2	7040	8/25		8/27	L	8/29										
CDD2A	7053	8/34	L	8/52												
CDD3	7060	8/31		8/37	L											
CDD5	7077	8/43		8/48	L											
CDD52	7106	8/52	L	8/55												
CDD53	7107	8/53	L													
CDD55	7114	8/49		8/56	L											
CDD6	7116	8/46		9/01	L											
CDD7	7122	8/33		9/04	L											
CDEP	7000	6/22	S	7/27		8/04										
CDGS	7250	11/39	S	11/49	L	17/11	17/14									
CDNC	3	8/16		8/18		8/30										
CDNFMAX	36	5/09														
CDRW	2	8/24														
CDTA	1	8/14														
CHD	10	4/04	D	17/25	17/28	17/33	17/37									
		17/24		17/26	17/29	17/34										
CHT	7526	6/27		16/07	L											
CHTE	7561	16/07	L													
CIRP	7735	12/37														
CPAFWA	7660	18/31														
CTO	7641	17/12		17/16	18/10	D										
CTOX	7640	18/09	L	18/17												
DADR	7563	10/44	S	10/45	S	10/46	10/54	S	10/56	S	11/02	S	12/38	S	16/09	L
DCNC	7500	3/43	D													
DGST	12	11/42														
DOPC	10	9/06														
DOPLS	22	17/46	D													
DRED	4	13/10		13/31												
D0	0	3/06	D													
D1	1	3/07	D	8/09	S	8/11	8/14	8/16	8/18	8/24	8/30					
D10	10	3/16	D	6/29												
D11	11	3/17	D													
D12	12	3/18	D													
D13	13	3/19	D													
D15	15	3/20	D													
D16	16	3/21	D													
D17	17	3/22	D													
D2	2	3/08	D	6/37	I	8/40	S	8/50	12/20	I	14/25	S				
		6/33	S	8/12	S	8/41	8/53	12/21	S	18/12	S					
		6/34		8/36	S	8/44	12/18	13/29	18/14							
D2SK	2	14/44														
D20	20	3/23	D													
D3	3	3/09	D	6/32		6/39	6/44	I	12/22	S						
		6/28	S	6/38	S	6/41	S	12/16	S							
D4	4	3/10	D	6/21	6/23	S	6/36	7/13	12/37	12/39	S					
		6/20	S	6/22	6/31	S	7/10	12/36	S	12/38						
D5	5	3/11	D													
D6	6	3/12	D	6/42												
D7	7	3/14	D													
D844	13	8/07														

	ENDCONS	7002	8/06	8/08 D					
	ERIO	7566	10/10	17/10 D					
	ERNF	7607	8/56	17/21 D					
1	ERR8	7622	17/36 L	17/40					
2	ERR9	7625	17/38 L	17/39					
3	FCN	7212	9/07	11/14 D	11/43	13/11	13/32	14/45	
4	FCNF	7216	11/15 S	11/17 D					
5	FCNX	7211	11/14 L	11/19					
6	FCN1	7221	11/19 L	11/21					
7	FCN3	7215	11/16 L	11/24					
8	F.CHL	2	4/15 D	17/33					
9	F.CHM	1	4/14 D						
10	F.CHR	0	4/10 D	17/33					
11	F.CHS	0	4/13 D						
12	F.DOT	10	4/11 D						
13	F.KEY	20	4/12 D						
14	F.SBS	200	4/09 D						
15	F.SEL	7000	4/06 D	17/33					
16	F.SLS	0	4/07 D	17/33					
17	F.SRS	100	4/08 D						
18	GGs	7236	8/27	11/41 D	13/17	13/25	13/40	13/43	14/51
19	GGsX	7235	11/41 L						
20	GGs2	7231	11/38 L	11/45					
21	GGs3	7237	11/42 L	11/47					
22	IDLA	7630	17/28	17/42 L	17/44				
23	IDLEDCN	7616	17/29 L						
24	IDLE10	7612	17/24	17/26 L					
25	IDLL	2	17/27	17/44 D					
26	INI	6120	6/16 L						
27	INIA	6176	7/11 S	7/12 L					
28	INIB	6212	7/16	7/21 L	7/23				
29	INIC	6213	7/14 S	7/22 L					
30	INIL	3	7/15	7/23 D					
31	INIR	6221	7/26	7/29 L					
32	INI1	6124	6/21 L	6/24					
33	INI4	6143	6/33 L	6/40					
34	INI7	6207	7/04	7/09	7/18 L				
35	INI9	6215	7/20	7/26 L					
36	IOMGS	7636	17/13 S	17/17 S	17/55 D				
37	IOQB	6000	7/29						
38	IOQTRAN	6000	7/30						
39	IPLFWA	7421	18/37						
40	IPLTRAN	6120	1/10	6/01	18/36				
41	LCDD	7100	18/33 D	18/34					
42	LCD4	760	18/36 D						
43	LCNC	1500	3/34 D						
44	LDCC	2000	3/36 D						
45	LDDC	3000	3/39 D						
46	LENGTH	7357	12/14	12/17 S	13/24 S	13/35 D			
47	LE6P	1	9/01						
48	LE77	17	9/01						
49	LINKAGE	7402	10/50	13/14 S	13/20	13/49 L	14/18		
50	LMCC	2300	3/38 D						
51	MDC	7460	8/10	15/06 D					
52	MDCA	7502	15/17	15/21 L	15/24				
53	MDCL	4	15/16	15/24 D					
54	MDCX	7457	15/06 L	15/07	15/13	15/20			
55									
56									
57									
58									
59									
60									

MDC1	7472	15/11	15/14	L					
MSRS	30	10/47							
MVE	7252	9/02	12/12	D	13/45				
MVEA	7265	12/13	S	12/15	12/19	D			
MVEX	7251	12/12	L	12/24					
MVE1	7264	12/18	L	12/23					
NAME	5	3/51	D	8/41	8/44	8/50	8/53		
NFCT	7144	8/23	S	8/48	S	10/12	L		
NFM	7632	17/37		17/49	D	17/57			
NFMAX	36	5/09	D	8/22					
NFMB	7634	17/19	S	17/53	L	17/54			
NFML	6	17/36		17/57	D				
NFNM	7636	8/17	S	8/19	S	8/42	8/45	17/54	D
OAMC	7300	3/41	D					17/55	
PRU	500	14/19							
PSNC	0	3/30	D						
QUAL\$	0	3/54	D						
RCS	7307	8/32		8/37	13/08	D	14/26		
RCSB	7361	13/30	S	13/37	D				
RCSX	7306	13/08	L	13/47					
RCS1	7310	13/09	L	13/19					
RCS2	7330	13/16		13/20	L				
RCS3	7335	13/21		13/23	L				
RCS5	7345	13/28	L	13/42					
RCS7	7371	13/39		13/43	L				
RCS9	7376	13/27		13/46	L				
RDC	7507	9/08		15/34	D				
RDCA	7522	15/38		15/42	L	15/45			
RDCL	4	15/37		15/45	D				
RDCX	7506	15/34	L	15/35		15/41			
RETRY	12	3/53	D	8/20					
REW	7274	6/26		8/26	12/34	D			
REWX	7273	12/34	L	12/41					
REW1	7277	12/37	L	12/40					
RRR	7411	8/34		9/05	14/16	D			
RRRA	7425	8/13	S	8/35	8/39	14/24	D		
RRRT	7432	13/26		14/15	S	14/17	S	14/21	14/28
RRRX	7410	14/16	L						
RRR2	7414	14/18	L	14/27					
RRR4	7427	14/22		14/26	L				
RRR5	7405	14/14	L	14/20					
SBNC	1700	3/35	D						
SEK	7434	13/09		13/28	14/43	D			
SEKX	7433	14/43	L	14/52					
SEK1	7435	14/44	L	14/54	14/56				
SHNC	1000	3/33	D						
TCDD	6226	6/21		8/03	D	18/34			
TCDDL	652	6/19		18/34	D				
TIMEOUT	210560	3/52	D	10/26	11/18				
UJNC	300	3/31	D	17/43					
UNIT	7562	14/48		16/08	L				
XSET	6000	4/17	D	17/52					
YSET	7000	4/18	D						
ZJNC	400	3/32	D						

CD8

BINARY CONTROL CARDS.

1

CD8

*****	CD8 - 885 DISK DRIVER -CTI-.	CD8	8
*		CD8	9
*	R. A. MATTHEWS. 02/28/78.	CD8	10
*	R. A. TURGEON 6/13/78.	CD8	11
*		CD8	12
*	CD8 PROVIDES A BASIC DISK DRIVER FOR 885 DISK DRIVES	CD8	13
*	WHEN USED AS THE DEADSTART DEVICE WITHIN THE COMMON TEST/	CD8	14
*	INITIALIZATION (CTI) PACKAGE. CD8 MOVES ITSELF OVER THE IPL	CD8	15
*	PREFIX TABLE AND PROGRAM BODY TO ALLOW SUBSEQUENT READS TO	CD8	16
*	USE THE IPL BUFFER AREA.	CD8	17

***	CD8 - 885 DISK DRIVER -CTI-.	CD8	19
*		CD8	20
*	CD8 IS THE FIFTH RECORD FOLLOWING IPL ON A DEADSTART	CD8	21
*	TAPE AND IS THE FIRST RECORD IN THE CTI AREA FOR DISK	CD8	22
*	DEADSTART. CD8, THROUGH THE COMMON DRIVER INTERFACE,	CD8	23
*	PROVIDES A DEVICE READER THAT WILL LOAD GIVEN ROUTINES AND	CD8	24
*	HAND OFF CONTROL IF SO SPECIFIED. THE DEVICE READER WILL	CD8	25
*	PROCESS A MAXIUMIM OF 510 DECIMAL CM WORDS OF INFORMATION.	CD8	26

1412THE

** DEADSTART PANEL WORDS.

CD8 28

*

CD8 29

*

WORDS 5 - 20B OF THE DEADSTART PANEL MUST REMAIN INTACT

CD8 30

*

DURING CTI EXECUTION. WORDS 0 - 4 MAY BE USED AS SCRATCH

CD8 31

*

DIRECT CELLS.

CD8 32

CD8 33

0 D0 EQU 0 SCRATCH

CD8 34

1 D1 EQU 1 SCRATCH

CD8 35

2 D2 EQU 2 SCRATCH

CD8 36

3 D3 EQU 3 SCRATCH

CD8 37

4 D4 EQU 4 SCRATCH

CD8 38

5 D5 EQU 5 ZERO IF TAPE DEADSTART

CD8 39

6 D6 EQU 6 FUNCTION WORD

CD8 40

* (D6) = WARMSTART FUNCTION, IF MTS/ATS.

CD8 41

* = DEADSTART FUNCTION, IF 844/885 DISK.

CD8 42

7 D7 EQU 7 RESERVED

CD8 43

* (D7) = 1400B IF 3000 TYPE TAPE.

CD8 44

10 D10 EQU 10B RESERVED

CD8 45

11 D11 EQU 11B RESERVED

CD8 46

12 D12 EQU 12B MSL PARAMETERS

CD8 47

13 D13 EQU 13B OS PARAMETERS

CD8 48

14 D14 EQU 14B OS PARAMETERS

CD8 49

15 D15 EQU 15B UNUSED

CD8 50

16 D16 EQU 16B C80/A170 RESERVED

CD8 51

17 D17 EQU 17B RESERVED

CD8 52

20 D20 EQU 20B RESERVED

CD8 53

** INSTRUCTION EQUATES.

CD8 55

*

CD8 56

CD8 57

0 PSNC EQU 0000B PASS

CD8 58

300 UJNC EQU 0300B UNCONDITIONAL JUMP

CD8 59

400 ZJNC EQU 0400B ZERO JUMP

CD8 60

1000 SHNC EQU 1000B SHIFT

CD8 61

1500 LCNC EQU 1500B LOAD COMPLEMENT

CD8 62

1700 SBNC EQU 1700B SUBTRACT NO-ADDRESS

CD8 63

2000 LDCC EQU 2000B LOAD CONSTANT

CD8 64

2100 ADCC EQU 2100B ADD CONSTANT

CD8 65

2300 LMCC EQU 2300B LOGICAL MINUS CONSTANT

CD8 66

3000 LDDC EQU 3000B LOAD DIRECT

CD8 67

6400 AJMC EQU 6400B ACTIVE JUMP

CD8 68

7300 OAMC EQU 7300B OUTPUT MEMORY

CD8 69

7400 ACNC EQU 7400B ACTIVATE CHANNEL

CD8 70

7500 DCNC EQU 7500B DISCONNECT CHANNEL

CD8 71

1412THE

1

** MISCELLANEOUS DEFINITIONS.

*

*

CD8 73

CD8 74

CD8 75

CD8 76

CD8 77

CD8 78

CD8 79

CD8 80

5	NAME	EQU	5	OFFSET OF NAME IN PRFX TABLE
210560	TIMEOUT	EQU	70000	TIMEOUT COUNT
12	RETRY	EQU	10D	NO. OF RETRIES IN ERROR PROCESSING
0	QUAL\$	EQU	0	DON-T QUALIFY COMMON DECKS

** DISPLAY CONTROLLER DEFINITIONS.

*

*

CD8 82

CD8 83

CD8 84

CD8 85

CD8 86

CD8 87

10	CHD	EQU	10B	DISPLAY CHANNEL
----	-----	-----	-----	-----------------

* DISPLAY FUNCTION CODES.

CD8 88

CD8 89

CD8 90

CD8 91

CD8 92

CD8 93

CD8 94

CD8 95

CD8 96

CD8 97

CD8 98

CD8 99

7000	F.SEL	EQU	7000B	SELECT CONSOLE DISPLAY
0	F.SLS	EQU	0000B	SELECT CONSOLE LEFT SCREEN
100	F.SRS	EQU	0100B	SELECT CONSOLE RIGHT SCREEN
200	F.SBS	EQU	0200B	SELECT CONSOLE BOTH SCREEN
0	F.CHR	EQU	0000B	SELECT DOT MODE
10	F.DOT	EQU	0010B	SELECT DOT MODE
20	F.KEY	EQU	0020B	SELECT KEYBOARD INPUT
0	F.CHS	EQU	0000B	SET CHARACTER SIZE SMALL
1	F.CHM	EQU	0001B	SET CHARACTER SIZE MEDIUM
2	F.CHL	EQU	0002B	SET CHARACTER SIZE LARGE

* COORDINATE DESIGNATION.

CD8 100

CD8 101

CD8 102

CD8 103

CD8 104

6000	XSET	EQU	6000B	SET X COORDINATE
7000	YSET	EQU	7000B	SET Y COORDINATE

CD8 107

CD8 108

CD8	109
-----	-----

14121HE

6120

ORG

IPLTRAN

CD8

118

*** INI - CD8 INITIALIZATION.

CD8 120

*

CD8 121

*

INI MOVES THE DISK DRIVER INTO THE COMMON DRIVER AREA,

CD8 122

*

AND INITIALIZES CHANNEL INSTRUCTIONS

CD8 123

*

AND LOADS THE FIRST DISPLAY ROUTINE.

CD8 124

*

CD8 125

*

ENTRY CPA AREA INTACT.

CD8 126

*

DEADSTART PANEL CELLS INTACT.

CD8 127

*

CD8 128

*

USES D2, D3, D4.

CD8 129

6120

1

INI

BSSZ

1

ENTRY POINT

CD8 130

CD8 131

CD8 132

*

MOVE THE COMMON DRIVER FOR DISK, *CDD*, INTO THE COMMON

CD8 133

*

DRIVER AREA.

CD8 134

CD8 135

6121

2000 0652

LDC

TCDDL

CD8 136

6123

3404

STD

D4

LENGTH OF MOVE BLOCK

CD8 137

6124

5004 6225

INI1

LDM

TCDD-1,D4

CD8 138

6126

5404 6777

STM

CDEP-1,D4

MOVE DRIVER CODE

CD8 139

6130

3704

SOD

D4

CD8 140

6131

0572

NJN

INI1

IF MORE DRIVER CODE TO MOVE

CD8 141

CD8 142

*

INITIALIZE DISK POINTERS AND CHANNEL INSTRUCTIONS.

CD8 143

CD8 144

6132

0200 7274

RJM

REW

USE DRIVER ROUTINE

CD8 145

CD8 146

6134

2000 7526

LDC

CHT

FWA OF CHANNEL TABLE

CD8 147

6136

3403

STD

D3

CD8 148

6137

3010

LDD

D10

CD8 149

6140

1237

LPN

37B

CD8 150

6141

3404

STD

D4

CHANNEL NO.

CD8 151

6142

4003

LDI

D3

CD8 152

6143

3402

INI4

STD

D2

INSTRUCTION ADDRESS

CD8 153

6144

4002

LDI

D2

CD8 154

6145

1337

SCN

37B

CD8 155

6146

3104

ADD

D4

CD8 156

6147

4402

STI

D2

CD8 157

6150

3603

AOD

D3

NEXT LIST ENTRY

CD8 158

6151

4003

LDI

D3

CD8 159

6152

0570

NJN

INI4

IF NOT END OF LIST

CD8 160

6153

3603

AOD

D3

CD8 161

6154

3006

LDD

D6

FUNCTION WORD

CD8 162

6155

1277

LPN

77B

CD8 163

6156

4403

STI

D3

UNIT NO.

CD8 164

*

CODE TO CREATE CTI INTERNAL STATE

CD8 166

CD8 167

CD8 168

CD8 169

CD8 170

CD8 171

CD8 172

CD8 173

CD8 174

CD8 175

CD8 176

CD8 177

CD8 178

CD8 179

CD8 180

CD8 181

CD8 182

CD8 183

CD8 184

CD8 185

CD8 186

CD8 187

CD8 188

CD8 189

CD8 190

CD8 191

CD8 192

CD8 193

CD8 194

CD8 195

CD8 196

CD8 197

CD8 198

CD8 199

CD8 200

CD8 201

CD8 202

CD8 203

CD8 204

CD8 205

CD8 206

CD8 207

CD8 208

6157 7553

DCN. 13B+40B

DISCONNECT 13B

6160 7573

DCN. 33B+40B

DISCONNECT 33B

6161 6512 6207

IJM. INI7,12B

IF CHAN 12B IS D.S CHANNEL

6163 1400

LDN 0

OUTPUT 0000 TO CH 12B

6164 7212

OAN. 12B

6165 5600 0000

AOM 0

WAIT A WHILE

6167 5700 0000

SOM 0

6171 6612 6207

FJM. INI7,12B

IF FULL (NO PP ON CH 12B)

6173 3004

LDD D4

ACTIVATE DEADSTART CHANNEL

6174 5500 6176

RAM INIA

6176 7440

INIA

ACN. 40B

6177 3004

LDD D4

MOVE PP BACK TO D.S. CHAN

6200 5500 6213

RAM INIC

6202 1403

LDN INIL

6203 7312 6212

OAM. INIB,12B

6205 6612 6205

FJM. *,12B

6207 7552

INI7

DCN. 12B+40B

DISCONNECT 12B

6210 7572

DCN. 32B+40B

DISCONNECT 32B

6211 0304

UJN INI9

6212 1400

INIB

LDN 0

6213 7100 0000

INIC

IAM. 0,**

3

INIL

EQU *-INIB

*

CALL THE COMMON DRIVER TO LOAD IOQ

*

AND GIVE CONTROL TO IOQ.

6215 2000 6221

INI9

LDC INIR

A = ADDRESS OF PARAMS

6217 0100 7000

LJM CDEP

GOTO COMMON DRIVER

*

PARAMETER BLOCK FOR COMMON DRIVER TO LOAD IOQ

6221 6000

INIR

CON IOQB

LOAD ADDRESS

6222 6000

CON IOQTRAN

TRANSFER ADDRESS

6223 0000

CON 0

NO REWIND FIRST

6224 1117

VFD 18/3LIOQ,6/0

NAME CHECK FIELD

6225 2100

* CDD - COMMON DISK DRIVER.

CD8	210
CD8	211
CD8	212
CD8	213
CD8	214
CD8	215
CD8	216
CD8	217
CD8	218
CD8	219
CD8	220
CD8	221
CD8	222
DIMA295D	1
CD8	224
CD8	225
CD8	226
CD8	227
CD8	228
CD8	230
CD8	231
CD8	233
CD8	234
CD8	235
CD8	236
CD8	237
CD8	238
CD8	239
CD8	240
DIMA295D	2
DIMA295D	3
DIMA295D	4
DIMA295D	5
CD8	242
CD8	243
CD8	244
DIMA295D	6
DIMA295D	7
DIMA295D	8
CD8	245
CD8	246
CD8	247
CD8	248
CD8	249
DIMA295D	9
CD8	252
CD8	253
DIMA295D	10
CD8	256
CD8	257
CD8	258
CD8	259
CD8	260
CD8	261
DIMA295D	11
CD8	267
CD8	268

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	6226	TCDD	EQU	*	FWA OF DRIVER AREA
L 7000			LOC	CDEP	BEGINNING OF COMMON DRIVER AREA
	7000	CDD	EQU	*	
L 7000	0302		UJN	ENDCONS	
L 7001	0014		CON	D885	
	7002	ENDCONS	EQU	*	
L 7002	3401		STD	D1	SAVE ADDRESS OF PARAMS
L 7003	0200 7460		RJM	MDC	SEIZE D.S. CHANNEL
L 7005	4001		LDI	D1	
L 7006	3402		STD	D2	D2 = INPUT BUFFER ADDRESS
L 7007	5400 7425		STM	RRRA	
L 7011	5001 0001		LDM	CDTA,D1	
L 7013	5400 7133		STM	CDDZ	STORE TRANSFER ADDRESS
L 7015	5001 0003		LDM	CDNC,D1	
L 7017	5400 7636		STM	NFNM	
L 7021	5001 0004		LDM	CDNC+1,D1	
L 7023	5400 7637		STM	NFNM+1	
L 7025	1412		LDN	RETRY	
L 7026	5400 7143		STM	ARTC	INIT RETRY COUNTER
L 7030	1436		LDN	NFMAX	
L 7031	5400 7144		STM	NFCT	INIT NOFIND COUNTER
L 7033	5001 0002		LDM	CDRW,D1	
L 7035	0403		ZJN	CDD2	IF NO REWIND FIRST
L 7036	0200 7274		RJM	REW	
L 7040	0200 7236	CDD2	RJM	GGG	GET GENERAL STATUS
L 7042	1007		SHN	17-10	
L 7043	0774		MJN	CDD2	
L 7044	5001 0003		LDM	CDNC,D1	
L 7046	0512		NJN	CDD3	IF READ NAMED RECORD
L 7047	0200 7307		RJM	RCS	ELSE READ CURRENT SECTOR
L 7051	0100 7122		LJM	CDD7	JOIN COMMON CODE
L 7053	0200 7411	CDD2A	RJM	RRR	BYPASS REST OF RECORD
L 7055	5000 7425		LDM	RRRA	
L 7057	3402		STD	D2	
L 7060	0200 7307	CDD3	RJM	RCS	READ CURRENT SECTOR
		*	TEST	IF NAMES MATCH	
L 7062	5000 7425		LDM	RRRA	
L 7064	3402		STD	D2	SET D2 TO INPUT BUFFER ADDR
L 7065	5002 0005		LDM	NAME,D2	
L 7067	5200 7636		SBM	NFNM	
L 7071	0506		NJN	CDD5	
L 7072	5002 0006		LDM	NAME+1,D2	
L 7074	5200 7637		SBM	NFNM+1	
L 7076	0420		ZJN	CDD6	IF NAMES MATCH
		*	HERE	IF NO MATCH. CHECK IF ZZZ.	
L 7077	5700 7144	CDD5	SOM	NFCT	CHECK NOFIND COUNTER
L 7101	0413		ZJN	CDD55	IF TOO MANY NOFINDS
L 7102	5002 0005		LDM	NAME,D2	
L 7104	2300 3232		LMC	2RZZ	
L 7106	0544	CDD52	NJN	CDD2A	JUMP IF NOT ZZZ
L 7107	5002 0006	CDD53	LDM	NAME+1,D2	
L 7111	2300 3200		LMC	1RZ*100B	

1412THE

L 7113	0572		NJN	CDD52	IF NOT ZZZ	CD8	269
L 7114	0100 7607		LJM	ERNF	IF ZZZ REACHED	CD8	270
		CDD55				CD8	271
		*		STRIP OFF PRFX AND 6PPM TABLES		CD8	272
L 7116	2000 0120	CDD6	LDC	LE77*BPW+LE6P*BPW		CD8	273
L 7120	0200 7252		RJM	MVE		CD8	274
		*		READ IN REST OF RECORD IF MORE THAN ONE SECTOR		CD8	275
L 7122	1400	CDD7	LDN	0		CD8	276
L 7123	0200 7411		RJM	RRR		CD8	277
L 7125	1410		LDN	DOPC	OPERATION COMPLETE	CD8	278
L 7126	0200 7212		RJM	FCN		CD8	279
L 7130	0200 7507		RJM	RDC	RESTORE D.S. CHANNEL.	CD8	280
L 7132	0100 0000		LJM	**	GO TO TRANSFER ADDRESS	CD8	281
	7133	CDDZ	EQU	*-1		CD8	

			**	ART - ADJUST RETRY COUNTER			CD8	284
			*				CD8	285
			*	DECREMENT COUNTER AND			CD8	286
1			*	RETURN TO CALLER IF COUNTER .GE. 0			CD8	287
2			*	ELSE GO TO ERROR PROCESSOR			CD8	288
3			*				CD8	289
4	L 7134	0100 0000	ART	ENM	X	ENTRY/EXIT	CD8	290
5	L 7136	5700 7143		SOM	ARTC		CD8	291
6	L 7140	0673		PJN	ARTX	EXIT IF MORE RETRIES AVAILABLE	CD8	292
7	L 7141	0100 7566		LJM	ERIO	IF NO MORE RETRIES AVAILABLE	CD8	293
8	L 7143	0000	ARTC	CON	0	RETRY COUNTER	CD8	294
9	L 7144	0000	NFCT	CON	0	NOFIND COUNTER	CD8	295
10								
11								
12								
13								
14			**	AWD - ACTIVATE CHANNEL AND WAIT FOR DATA.			CD8	297
15			*				CD8	298
16			*	AWD ACTIVATES THE FUNCTIONED CHANNEL AND TIMES OUT A FULL			CD8	299
17			*	CONDITION.			CD8	300
18			*				CD8	301
19			*	EXIT	(A) .NE. 0, DATA ON CHANNEL.		CD8	302
20			*		(A) = 0, NO DATA RECIEVED, CHANNEL DISCONNECTED.		CD8	303
21	L 7145	0100 0000	AWD	ENM	X	ENTRY/EXIT	CD8	304
22	L 7147	7440		ACN	40B	ACTIVATE CHANNEL	CD8	305
23	L 7150	2021 0560		LDC	TIMEOUT		CD8	306
24	L 7152	6600 7145	AWD1	FJM	AWDX,0	IF FULL, RETURN	CD8	307
25	L 7154	1701		SBN	1		CD8	308
26	L 7155	0574		NJN	AWD1	IF TIME OUT NOT EXPIRED	CD8	309
27	L 7156	7540		DCN	40B	DISCONNECT	CD8	310
28	L 7157	0365		UJN	AWDX	RETURN	CD8	311
29								
30								
31								
32								
33			**	BDA - BUMP DISK ADDRESSES.			CD8	313
34			*				CD8	314
35			*	BDA ADJUSTS THE CURRENT DISK ADDRESS BY THE OFFSET READ			CD8	315
36			*	IN THE LINKAGE BYTES.			CD8	316
37			*				CD8	317
38			*	ENTRY	(DADR - DADR+2) = DISK ADDRESS.		CD8	318
39			*				CD8	319
40			*	EXIT	(DADR - DADR+2) = NEW DISK ADDRESS.		CD8	320
41	L 7160	5400 7565	BDA1	STM	DADR+2		CD8	321
42	L 7162	5600 7564		AOM	DADR+1	BUMP TRACK BY ONE	CD8	322
43	L 7164	5000 7565	BDA2	LDM	DADR+2		CD8	323
44	L 7166	1740		SBN	MSRS	MAX. NO OF SECTORS	CD8	324
45	L 7167	0670		PJN	BDA1	IF MORE THAN ONE TRACK	CD8	325
46	L 7170	0100 0000	BDA	ENM	X	ENTRY/EXIT	CD8	326
47	L 7172	5000 7403		LDM	LINKAGE+1	PRU OFFSET	CD8	327
48	L 7174	1021		SHN	18-1		CD8	328
49	L 7175	0610		PJN	BDA3	IF EVEN, NOT END OF CYLINDER	CD8	329
50	L 7176	1001		SHN	1		CD8	330
51	L 7177	5400 7565		STM	DADR+2		CD8	331
52	L 7201	1400		LDN	0		CD8	332
53	L 7202	5400 7564		STM	DADR+1	CLEAR TRACK NO.	CD8	333
54	L 7204	0357		UJN	BDA2		CD8	334
55								
56								
57								
58								
59								
60								

L 7205	1001		BDA3	SHN	1		CD8	335
L 7206	5500	7565		RAM	DADR+2		CD8	336
L 7210	0353			UJN	BDA2		CD8	337

** FCN - FUNCTION DEVICE.

CD8 339

*

CD8 340

* ENTRY (A) = FUNCTION CODE.

CD8 341

*

CD8 342

* RETURNS TO CALLER IF NO ERRORS

CD8 343

* ELSE GO TO ERROR PROCESSOR.

CD8 344

L 7211 0100 0000 FCN ENM X ENTRY/EXIT

CD8 345

L 7213 5400 7216 STM FCNF SAVE FUNCTION CODE

CD8 346

L 7215 7700 0000 FCN3 FNC 0,0 ISSUE FUNCTION

DIMA295D 12

7216

FCNF EQU *-1

DIMA295D 13

L 7217 2021 0560 LDC TIMEOUT

CD8 349

L 7221 6500 7211 FCN1 IJM FCNX,0 IF FUNCTION ACCEPTED, RETURN

CD8 350

L 7223 1701 SBN 1

CD8 351

L 7224 0574 NJN FCN1 IF TIMEOUT NOT EXPIRED

CD8 352

L 7225 7540 DCN 40B

CD8 353

L 7226 0200 7135 RJM ART ASK TO RETRY

CD8 354

L 7230 0364 UJN FCN3 TRY AGAIN

CD8 355

** GGS - GET GENERAL STATUS.

CD8 358

*

CD8 359

* GGS ISSUES THE GENERAL STATUS FUNCTION AND UPDATES
* THE COMMON DRIVER FIELD *CDGS*. THE STATUS IS ALSO RETURNED
* IN (A).

CD8 360

CD8 361

CD8 362

*

CD8 363

* EXIT (CDGS) = GENERAL STATUS REPLY.

CD8 364

* (A) = GENERAL STATUS REPLY.

CD8 365

*

CD8 366

L 7231 7000 GGS2 IAN 0 READ STATUS

DIMA295D 14

L 7232 5400 7250 STM CDGS

DIMA295D 15

L 7234 7540 DCN 40B

DIMA295D 16

L 7235 0100 0000 GGS ENM X ENTRY/EXIT

CD8 369

L 7237 1412 GGS3 LDN DGST

CD8 370

L 7240 0200 7212 RJM FCN FUNCTION DEVICE

CD8 371

L 7242 0200 7146 RJM AWD ACTIVATE CHAN AND WAIT FOR DATA

CD8 372

L 7244 0564 NJN GGS2 IF DATA COMING

DIMA295D 17

L 7245 0200 7135 RJM ART ASK TO RETRY

DIMA295D 18

L 7247 0367 UJN GGS3 TRY AGAIN

DIMA295D 19

CD8 381

L 7250 0000 CDGS CON 0

CD8 382

**	MVE - MOVE DATA BLOCK.	CD8	384
*		CD8	385
*	MVE MOVES DOWN A SPECIFIED PORTION OF THE LAST	CD8	386
*	SECTOR THAT WAS READ AND ADJUSTS THE REMAINING	CD8	387
*	LENGTH. D2 IS ADVANCED ACCORDINGLY.	CD8	388
*		CD8	389
*	ENTRY (A) = NO. OF BYTES TO MOVE DOWN.	CD8	390
*	(D2) = FWA OF BUFFER.	CD8	391
*		CD8	392
*	EXIT (D2) = FWA FOR NEXT READ.	CD8	393
*		CD8	394
L 7251	0100 0000 MVE ENM X ENTRY/EXIT	CD8	395
L 7253	5400 7265 STM MVEA STORE MOVE OFFSET	CD8	396
L 7255	5000 7357 LDM LENGTH COMPUTE MOVE LENGTH	CD8	397
L 7257	5200 7265 SBM MVEA	CD8	398
L 7261	3403 STD D3	CD8	399
L 7262	5400 7357 STM LENGTH ADJUST LENGTH REMAINING	CD8	400
L 7264	5002 0000 MVE1 LDM **,D2	CD8	401
	7265 MVEA EQU *-1	CD8	402
L 7266	4402 STI D2	CD8	403
L 7267	3602 AOD D2 ADVANCE INDEX	CD8	404
L 7270	3703 SOD D3 ADJUST COUNT	CD8	405
L 7271	0572 NJN MVE1 IF MORE TO MOVE	CD8	406
L 7272	0356 UJN MVEX RETURN	CD8	407
**	REW - LOGICALLY REWIND DISK FILE	CD8	409
*		CD8	410
*	REW MOVES THE CTI ADDRESS BYTES OF THE COMMON	CD8	411
*	POINTER AREA TO OUR CURRENT DISK ADDRESS *DADR*.	CD8	412
*		CD8	413
L 7273	0100 0000 REW ENM X ENTRY/EXIT	CD8	414
L 7275	1402 LDN 2	CD8	415
L 7276	3404 STD D4	CD8	416
L 7277	5004 7735 REW1 LDM CIRP,D4 MOVE	CD8	417
L 7301	5404 7563 STM DADR,D4	CD8	418
L 7303	3704 SOD D4	CD8	419
L 7304	0672 PJN REW1	CD8	420
L 7305	0365 UJN REWX RETURN	CD8	421
**	RCS - READ CURRENT SECTOR	CD8	423
*		CD8	424
*	RCS DOES A SEEK TO THE CURRENT SECTOR,	CD8	425
*	READS IN THE TWO LINKAGE BYTES TO DETERMINE THE	CD8	426
*	TRUE LENGTH OF THE USEFUL DATA IN THE SECTOR.	CD8	427
*	SEEKS AGAIN TO THE CURRENT SECTOR,	CD8	428
*	READS IN THE AMOUNT DETERMINED BY THE PRIOR READ,	CD8	429
*	STRIPS OFF THE LINKAGE BYTES,	CD8	430
*	AND ADJUSTS THE CURRENT DISK ADDRESS *DADR*.	CD8	431
*		CD8	432
*	ENTRY (D2) = FWA FOR READ	CD8	433
*	(DADR) = DISK ADDRESS FOR READ	CD8	434

				*		(RRRT) = DISK LOAD TYPE		DIMA407A	1
				*				CD8	435
				*	EXIT	(D2) = FWA FOR AN ADDITIONAL READ		CD8	436
				*		(DADR) = DISK ADDRESS FOR NEXT READ		CD8	437
				*		(RRRT) = DISK LOAD TYPE		DIMA407A	2
				*				CD8	438
								CD8	439
	L 7306	0100 0000		RCS	ENM	X		CD8	440
	L 7310	0200 7434		RCS1	RJM	SEK	SEEK TO CURRENT DISK ADDRESS	CD8	441
	L 7312	1404			LDN	DRED		CD8	442
	L 7313	0200 7212			RJM	FCN	ISSUE READ FUNC	CD8	443
	L 7315	7440			ACN	40B		CD8	444
	L 7316	1402			LDN	2		CD8	445
	L 7317	7100 7402			IAM	LINKAGE,0	READ LINKAGE BYTES	CD8	446
	L 7321	7540			DCN	40B		CD8	447
	L 7322	0406			ZJN	RCS2	IF COUNTED DOWN	CD8	448
	L 7323	0200 7236			RJM	GGs	CLEAR SHORT READ ERRORS	DIMA295D	20
	L 7325	0200 7135			RJM	ART	ASK TO RETRY	CD8	450
	L 7327	0360			UJN	RCS1	TRY AGAIN	CD8	451
	L 7330	5000 7402		RCS2	LDM	LINKAGE	GET LENGTH BYTE	CD8	452
	L 7332	0503			NJN	RCS3		CD8	453
	L 7333	2000 0500			LDC	500B		CD8	454
	L 7335	1602		RCS3	ADN	2		CD8	455
	L 7336	5400 7357			STM	LENGTH	STORE TRUE LENGTH	CD8	456
	L 7340	0200 7236			RJM	GGs	CLEAR SHORT READ ERRORS	DIMA295D	21
	L 7342	5000 7432			LDM	RRRT	LOAD TYPE	DIMA407A	3
	L 7344	0532			NJN	RCS9	IF ADDITIONAL SECTORS TO BE IGNORED	DIMA407A	4
	L 7345	0200 7434		RCS5	RJM	SEK	SEEK AGAIN TO SAME SECTOR	CD8	458
	L 7347	3002			LDD	D2		CD8	459
	L 7350	5400 7361			STM	RCSB	STORE INPUT BUFFER ADDRESS	CD8	460
	L 7352	1404			LDN	DRED		CD8	461
	L 7353	0200 7212			RJM	FCN	ISSUE READ FUNC	CD8	462
	L 7355	7440			ACN	40B		CD8	463
	L 7356	2000 0000			LDC	**		CD8	464
			7357	LENGTH	EQU	*-1		CD8	465
	L 7360	7100 0000			IAM	** ,0	READ AMOUNT INDICATED	CD8	466
			7361	RCSB	EQU	*-1		CD8	467
	L 7362	7540			DCN	40B		CD8	468
	L 7363	0406			ZJN	RCS7	IF COUNTED DOWN	CD8	469
	L 7364	0200 7236			RJM	GGs	CLEAR SHORT READ ERRORS	DIMA295D	22
	L 7366	0200 7135			RJM	ART	ASK TO RETRY	CD8	471
	L 7370	0354			UJN	RCS5	TRY AGAIN	CD8	472
	L 7371	0200 7236		RCS7	RJM	GGs	CLEAR ERRORS	CD8	473
	L 7373	1402			LDN	2		CD8	474
	L 7374	0200 7252			RJM	MVE	STRIP OFF LINKAGE BYTES	CD8	475
	L 7376	0200 7171		RCS9	RJM	BDA	BUMP DISK ADDRESS	DIMA407A	5
	L 7400	0100 7306			LJM	RCSX	RETURN	CD8	477
								CD8	478
	L 7402		3	LINKAGE	BSSZ	3	PLACE TO READ IN LINKAGE BYTES	CD8	479

			**	RRR - READ REST OF LOGICAL RECORD		CD8	481
			*			CD8	482
			*	RRR READS IN THE REST OF A LOGICAL RECORD IF THE RECORD		CD8	483
			*	CONSISTS OF MORE THAN ONE SECTOR.		CD8	484
			*			CD8	485
			*	ENTRY (A) = 0 IF ADDITIONAL SECTORS ARE TO BE APPENDED		CD8	486
			*	TO THE FIRST SECTOR ALREADY IN MEMORY.		CD8	487
			*	(A) .NE. 0 IF ADDITIONAL SECTORS ARE TO BE IGNORED.		CD8	488
			*			DIMA407A	6
			*	USES RRRT,D2.		DIMA407A	7
			*			DIMA407A	8
			*	CALLS RCS.		DIMA407A	9
			*			CD8	489
	L 7405	1400	RRR5	LDN 0		DIMA407A	10
	L 7406	5400 7432		STM RRRT	RESET DISK LOAD TYPE	DIMA407A	11
	L 7410	0100 0000	RRR	ENM X	ENTRY/EXIT	CD8	490
	L 7412	5400 7432		STM RRRT	SAVE TYPE	CD8	491
	L 7414	5000 7402	RRR2	LDM LINKAGE	LENGTH OF SECTOR JUST READ	CD8	492
	L 7416	2300 0500		LMC PRU		CD8	493
	L 7420	0564		NJN RRR5	IF ALL SECTORS HAVE BEEN READ	DIMA407A	12
	L 7421	5000 7432		LDM RRRT		CD8	495
	L 7423	0404		ZJN RRR4	IF SECTOR TO BE APPENDED	CD8	496
	L 7424	2000 0000		LDC **	ELSE RESET D2 = ORIGINAL CDIB	CD8	497
		7425	RRRA	EQU *-1		CD8	498
	L 7426	3402		STD D2		CD8	499
	L 7427	0200 7307	RRR4	RJM RCS	READ CURRENT SECTOR	CD8	500
	L 7431	0362		UJN RRR2	LOOP	CD8	501
	L 7432	0000	RRRT	CON 0	HOLDS TYPE	CD8	502
			**	SEK - SEEK DISK ADDRESS.		CD8	504
			*			CD8	505
			*	SEK ISSUES A SEEK FUNCTION, AND WILL CONTINUE TO ISSUE AS LONG		CD8	506
			*	AS THE DRIVE HEADS ARE IN MOTION.		CD8	507
			*			CD8	508
			*	ENTRY (UNIT - DADR+2) = SEEK PARAMETER ARRAY.		CD8	509
			*			CD8	510
			*	EXIT (A) .NE. 0, ERROR ON SEEK.		CD8	511
			*			CD8	512
			*	CALLS FCN, GGS.		CD8	513
	L 7433	0100 0000	SEK	ENM X	ENTRY/EXIT	CD8	514
	L 7435	1402	SEK1	LDN D2SK		CD8	515
	L 7436	0200 7212		RJM FCN	SEEK 2:1	CD8	516
	L 7440	1404		LDN 4		CD8	517
	L 7441	7440		ACN 40B		CD8	518
	L 7442	7300 7562		OAM UNIT,0		CD8	519
	L 7444	6600 7444		FJM *,0		CD8	520
	L 7446	7540		DCN 40B		CD8	521
	L 7447	0200 7236		RJM GGS	GET GENERAL STATUS	CD8	522
	L 7451	0461		ZJN SEKX	IF ON CYLINDER	CD8	523
	L 7452	1212		LPN 12B	CHECK FOR BUSY OR RESERVED	DIMA295D	23
	L 7453	0561		NJN SEK1	IF DRIVE RESERVED OR BUSY	DIMA295D	24
	L 7454	0200 7135		RJM ART	ASK TO RETRY	CD8	526
	L 7456	0356		UJN SEK1	TRY AGAIN	CD8	527

				**	MDC - MOVE DEADSTART CHANNEL PP			CD8	529
				*				CD8	530
				*	IF THE DEADSTART CHANNEL IS ACTIVE,			CD8	531
1				*	MOVE PP(D.S. CHAN) OVER TO CHANNEL 12B.			CD8	532
2				*				CD8	533
3	L 7457	0100 0000		MDC	ENM	X	ENTRY/EXIT	CD8	534
4	L 7461	6500 7457			IJM	MDCX,0	IF D.S. CHAN INACTIVE	CD8	535
5	L 7463	1400			LDN	0		DIMA357D	1
6	L 7464	7200			OAN	0	OUTPUT ZERO WORD	DIMA357D	2
7	L 7465	4000			LDI	0	DELAY 3 MEMORY CYCLES	DIMA357D	3
8	L 7466	6700 7472			EJM	MDC1,0	IF WORD PICKED UP	DIMA357D	4
9	L 7470	7500			DCN	0	CLEAR CHANNEL OF DATA	DIMA357D	5
10	L 7471	0365			UJN	MDCX	RETURN TO CALLER	DIMA357D	6
11	L 7472		MDC1		BSS	0		DIMA357D	7
12	L 7472	7412			ACN.	12B	ACTIVATE CHAN 12B	CD8	536
13	L 7473	1404			LDN	MDCL	OUTPUT PROG TO PP(D.S. CHAN)	CD8	537
14	L 7474	7300 7502			OAM	MDCA,0		CD8	538
15	L 7476	6600 7476			FJM	*,0		CD8	539
16	L 7500	7540			DCN	40B		CD8	540
17	L 7501	0355			UJN	MDCX	RETURN	CD8	541
18	L 7502	0000		MDCA	CON	0		CD8	542
19	L 7503	1400			LDN	0		CD8	543
20	L 7504	7112 0000			IAM.	0,12B		CD8	544
21			4	MDCL	EQU	*-MDCA		CD8	545
22									
23									
24									
25									
26				**	RDC - RESET DEADSTART CHANNEL PP			CD8	547
27				*				CD8	548
28				*	IF CHANNEL 12B ACTIVE,			CD8	549
29				*	MOVE PP ON CHAN 12B BACK TO D.S. CHAN.			CD8	550
30				*				CD8	551
31	L 7506	0100 0000		RDC	ENM	X	ENTRY/EXIT	CD8	552
32	L 7510	6512 7506			IJM.	RDCX,12B	IF CHAN 12B INACTIVE	CD8	553
33	L 7512	7400			ACN	0	ACTIVATE D.S. CHANNEL	CD8	554
34	L 7513	1404			LDN	RDCL	OUTPUT PROG TO CHANNEL 12B	CD8	555
35	L 7514	7312 7522			OAM.	RDCA,12B		CD8	556
36	L 7516	6612 7516			FJM.	*,12B		CD8	557
37	L 7520	7512			DCN.	12B		CD8	558
38	L 7521	0364			UJN	RDCX	RETURN	CD8	559
39	L 7522	0000		RDCA	CON	0	PP PROGRAM	CD8	560
40	L 7523	1400			LDN	0		CD8	561
41	L 7524	7100 0000			IAM	0,0		CD8	562
42			4	RDCL	EQU	*-RDCA		CD8	563
43									
44									
45									
46									
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50									
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53									
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** CHT - CHANNEL INSTRUCTION TABLE.
*
* CHT IS A LIST OF ADDRESSES THAT CONTAIN CHANNEL INSTRUCTIONS
* FOR CHANNEL STUFFING. THE LIST IS TERMINATED BY A ZERO ENTRY.
*
* FOR FURTHER DETAILS, SEE *COMPCHI*.

CD8 565
CD8 566
CD8 567
CD8 568
CD8 569
CD8 570
CD8 571
CD8 572
CD8 573

L 7526			CHT	CHTB		CHANNEL INSTRUCTION ADDRESS LIST
L 7562	0000		UNIT	CON 0		UNIT NO.
L 7563	0000	0000	DADR	CON 0,0,0		SEEK PARAMETER ARRAY
L 7565	0000					

				**	ERROR PROCESSING		CD8	575
				*			CD8	576
				*	ERIO IS ENTERED IF AN UNRECOVERABLE I/O ERROR		CD8	577
1				*	HAS OCCURRED. ERNF IS ENTERED IF A REQUEST TO		CD8	578
2				*	READ A NAMED RECORD WAS MADE BUT THE RECORD		CD8	579
3				*	COULD NOT BE FOUND. FOR EITHER ERROR, A MESSAGE		CD8	580
4				*	IS PUT ON THE DISPLAY AND THE PP IS HUNG IN A LOOP		CD8	581
5				*	OUTPUTTING THE ERROR MESSAGE.		CD8	582
6							CD8	583
7			7566	ERIO	EQU *	BUILD ERROR MSG	CD8	584
8	L 7566	5000 7250		LDM	CDGS	GENERAL STATUS	CD8	585
9	L 7570	0200 7641		RJM	CTO		CD8	586
10	L 7572	5400 7637		STM	IOMGS+1		CD8	587
11	L 7574	5000 7250		LDM	CDGS		CD8	588
12	L 7576	1071		SHN	-6		CD8	589
13	L 7577	0200 7641		RJM	CTO		CD8	590
14	L 7601	5400 7636		STM	IOMGS+0		CD8	591
15	L 7603	2000 0723		LDC	2RGS		CD8	592
16	L 7605	5400 7634		STM	NFMB	CHANGE 1ST BYTE OF MSG TO *GS*	CD8	593
17							CD8	594
18			7607	ERNF	EQU *	ENTRY WHEN NOFIND	CD8	595
19							CD8	596
20				*	IDLE PP 10		CD8	597
21	L 7607	6710 7616		EJM.	IDLEDCN,CHD		CD8	598
22	L 7611	7550		DCN.	CHD+40B		CD8	599
23	L 7612	7450		ACN.	CHD+40B		CD8	600
24	L 7613	1402		LDN	IDLL		CD8	601
25	L 7614	7310 7630		OAM.	IDLA,CHD	SEND IDLE PROGRAM	CD8	602
26	L 7616	7550		IDLEDCN	DCN.	CHD+40B	CD8	603
27						FREE DISPLAY CHANNEL	CD8	604
28				*	PAINT DISPLAY		CD8	605
29							CD8	606
30	L 7617	7710 7002		FNC.	F.SEL+F.SLS+F.CHR+F.CHL,CHD		CD8	607
31	L 7621	7410		ACN.	CHD		CD8	608
32							CD8	609
33	L 7622	1406		ERR8	LDN	NFML	CD8	610
34	L 7623	7310 7632		OAM.	NFM,CHD	OUTPUT ERROR MSG	CD8	611
35	L 7625	1740		ERR9	SBN	40B	DIMA295D	25
36	L 7626	0776			MJN	ERR9	DIMA295D	26
37	L 7627	0372			UJN	ERR8	CD8	612
38							CD8	613
39	L 7630	0000		IDLA	CON	0	CD8	614
40	L 7631	0300			CON	UJNC	CD8	615
41			2	IDLL	EQU	*-IDLA	CD8	616
42						LENGTH OF IDLE PROGRAM	CD8	617
43			22	DOPLS	EQU	22B	CD8	618
44						LINE (Y COOR) INCREMENT VALUE	CD8	619
45							CD8	620
46			7632	NFM	EQU *	NOFIND ERROR MESSAGE	CD8	621
47							CD8	622
48	L 7632	7400		CON	7400B		CD8	623
49	L 7633	6000		CON	XSET		CD8	624
50	L 7634	1615		NFMB	DATA	H*NM= NNNN*	CD8	625
51			7636	NFNM	EQU	NFMB+2	CD8	626
52			7636	IOMGS	EQU	NFNM	CD8	627
53							CD8	628
54			6	NFML	EQU	*-NFM	CD8	629
55						MESSAGE LENGTH		
56								
57								
58								
59								
60								

** CTO - CONVERT TO OCTAL DISPLAY CD8 631

* CD8 632

* ENTRY (A) LOWER 6 BITS ARE VALUE TO BE CONVERTED CD8 633

* CD8 634

* EXIT LOWER 12 BITS OF (A) ARE RESULT. CD8 635

* CD8 636

* USES D2 CD8 637

L 7640 0100 0000 CTOX LJM 0 EXIT CD8 638

7641 CTO EQU *-1 ENTRY CD8 639

L 7642 1277 LPN 77B ISOLATE LOWER 6 BITS CD8 640

L 7643 3402 STD D2 CD8 641

L 7644 1003 SHN 3 CD8 642

L 7645 3302 LMD D2 CD8 643

L 7646 1370 SCN 70B CD8 644

L 7647 2100 3333 ADC 2R00 CD8 645

L 7651 0366 UJN CTOX RETURN CD8 646

CD8 647

** END OF COMMON DISK DRIVER AND SUBROUTINES. CD8 649

* CD8 650

* THE FOLLOWING SYMBOLS ARE DEFINED FOR MOVING *CDD* INTO THE CD8 651

* COMMON DRIVER AREA. CD8 652

* CD8 653

* TCDD FWA OF COMMON DISK DRIVER. CD8 654

* LCDD LWA+1 OF COMMON DISK DRIVER. CD8 655

* TCDDL LENGTH OF COMMON DISK DRIVER. CD8 656

* CD8 657

6 ERRNG CPAFWA-* OVERFLOWED INTO POINTER AREA CD8 658

7100 LOC *0 CD8 659

7100 LCDD EQU * CD8 660

652 TCDDL EQU LCDD-TCDD LENGTH OF DRIVER CD8 661

* OVERFLOW CHECK. CD8 662

760 LCD8 EQU *-IPLTRAN LENGTH OF CD8 CD8 663

321 ERRNG IPLFWA-* OVERFLOWED INTO IPL CD8 664

7100 END CD8 665

54600B CM STORAGE USED 1210 STATEMENTS 479 SYMBOLS 000067 INVENTED SYMBOLS

PARALLEL CPU ASSEMBLY 0.998 SECONDS 406 REFERENCES

SYMBOLIC REFERENCE TABLE.

ACNC	7400	3/46	D					
ADCC	2100	3/41	D					
AJMC	6400	3/44	D					
ART	7135	10/07	D	11/23	11/46	13/18	13/41	14/55
ARTC	7143	8/24	S	10/08	S	10/11	L	
ARTX	7134	10/07	L	10/09				
AWD	7146	10/24	D	11/44				
AWDX	7145	10/24	L	10/27	10/31			
AWD1	7152	10/27	L	10/29				
BDA	7171	10/49	D	13/46				
BDAX	7170	10/49	L					

BDA1	7160	10/44 L	10/48			
BDA2	7164	10/46 L	10/57	11/03		
BDA3	7205	10/52	11/01 L			
BPW	5	9/04				
CDD	7000	8/08 D				
CDDZ	7133	8/18 S	9/13 D			
CDD2	7040	8/28	8/30 L	8/32		
CDD2A	7053	8/37 L	8/55			
CDD3	7060	8/34	8/40 L			
CDD5	7077	8/46	8/51 L			
CDD52	7106	8/55 L	9/01			
CDD53	7107	8/56 L				
CDD55	7114	8/52	9/02 L			
CDD6	7116	8/49	9/04 L			
CDD7	7122	8/36	9/07 L			
CDEP	7000	6/25 S	7/36	8/06		
CDGS	7250	11/39 S	11/49 L	17/11	17/14	
CDNC	3	8/19	8/21	8/33		
CDNFMAX	36	5/10				
CDRW	2	8/27				
CDTA	1	8/17				
CHD	10	4/17 D	17/25	17/28	17/33	
		17/24	17/26	17/29	17/34	
CHT	7526	6/33	16/07 L			
CHTE	7561	16/07 L				
CIRP	7735	12/37				
CPAFWA	7660	18/31				
CTO	7641	17/12	17/16	18/10 D		
CTOX	7640	18/09 L	18/17			
DADR	7563	10/44 S	10/45 S	10/46	10/54	
DCNC	7500	3/47 D				
DGST	12	11/42				
DOPC	10	9/09				
DOPLS	22	17/46 D				
DRED	4	13/10	13/31			
D0	0	3/07 D				
D1	1	3/08 D	8/12 S	8/14	8/17	
D10	10	3/18 D	6/35			
D11	11	3/19 D				
D12	12	3/20 D				
D13	13	3/21 D				
D14	14	3/22 D				
D15	15	3/23 D				
D16	16	3/24 D				
D17	17	3/25 D				
D2	2	3/09 D	6/43 I	8/43 S	8/53	
		6/39 S	8/15 S	8/44	8/56	
		6/40	8/39 S	8/47	12/18	
D2SK	2	14/44				
D20	20	3/26 D				
D3	3	3/10 D	6/38	6/45	6/50	
		6/34 S	6/44 S	6/47 S	12/16	
D4	4	3/11 D	6/24	6/26 S	6/42	
		6/23 S	6/25	6/37 S	7/13	
D5	5	3/12 D				
D6	6	3/13 D	6/48			
D7	7	3/16 D				

D885	14	8/10							
ENDCONS	7002	8/09	8/11 D						
ERIO	7566	10/10	17/10 D						
ERNF	7607	9/02	17/21 D						
ERR8	7622	17/36 L	17/40						
ERR9	7625	17/38 L	17/39						
FCN	7212	9/10	11/14 D	11/43	13/11	13/32	14/45		
FCNF	7216	11/15 S	11/17 D						
FCNX	7211	11/14 L	11/19						
FCN1	7221	11/19 L	11/21						
FCN3	7215	11/16 L	11/24						
F.CHL	2	4/30 D	17/33						
F.CHM	1	4/29 D							
F.CHR	0	4/25 D	17/33						
F.CHS	0	4/28 D							
F.DOT	10	4/26 D							
F.KEY	20	4/27 D							
F.SBS	200	4/24 D							
F.SEL	7000	4/21 D	17/33						
F.SLS	0	4/22 D	17/33						
F.SRS	100	4/23 D							
GGs	7236	8/30	11/41 D	13/17	13/25	13/40	13/43	14/51	
GGsX	7235	11/41 L							
GGs2	7231	11/38 L	11/45						
GGs3	7237	11/42 L	11/47						
IDLA	7630	17/28	17/42 L	17/44					
IDLEDCN	7616	17/24	17/29 L						
IDLL	2	17/27	17/44 D						
INI	6120	6/17 L							
INIA	6176	7/14 S	7/15 L						
INIB	6212	7/20	7/27 L	7/29					
INIC	6213	7/18 S	7/28 L						
INIL	3	7/19	7/29 D						
INIR	6221	7/35	7/40 L						
INI1	6124	6/24 L	6/27						
INI4	6143	6/39 L	6/46						
INI7	6207	7/06	7/11	7/23 L					
INI9	6215	7/25	7/35 L						
IOMGS	7636	17/13 S	17/17 S	17/55 D					
IOQB	6000	7/40							
IOQTRAN	6000	7/41							
IPLFWA	7421	18/37							
IPLTRAN	6120	1/10	6/01	18/36					
LCDD	7100	18/33 D	18/34						
LCD8	760	18/36 D							
LCNC	1500	3/38 D							
LDCC	2000	3/40 D							
LDDC	3000	3/43 D							
LENGTH	7357	12/14	12/17 S	13/24 S	13/35 D				
LE6P	1	9/04							
LE77	17	9/04							
LINKAGE	7402	10/50	13/14 S	13/20	13/49 L	14/18			
LMCC	2300	3/42 D							
MDC	7460	8/13	15/06 D						
MDCA	7502	15/17	15/21 L	15/24					
MDCL	4	15/16	15/24 D						
MDCX	7457	15/06 L	15/07	15/13	15/20				

MDC1	7472	15/11	15/14	L					
MSRS	40	10/47							
MVE	7252	9/05	12/12	D	13/45				
MVEA	7265	12/13	S	12/15	12/19	D			
MVEX	7251	12/12	L	12/24					
MVE1	7264	12/18	L	12/23					
NAME	5	4/05	D	8/44	8/47	8/53	8/56		
NFCT	7144	8/26	S	8/51	S	10/12	L		
NFM	7632	17/37		17/49	D	17/57			
NFMAX	36	5/10	D	8/25					
NFMB	7634	17/19	S	17/53	L	17/54			
NFML	6	17/36		17/57	D				
NFNM	7636	8/20	S	8/22	S	8/45	8/48	17/54	D
OAMC	7300	3/45	D					17/55	
PRU	500	14/19							
PSNC	0	3/34	D						
QUAL\$	0	4/08	D						
RCS	7307	8/35		8/40	13/08	D	14/26		
RCSB	7361	13/30	S	13/37	D				
RCSX	7306	13/08	L	13/47					
RCS1	7310	13/09	L	13/19					
RCS2	7330	13/16		13/20	L				
RCS3	7335	13/21		13/23	L				
RCS5	7345	13/28	L	13/42					
RCS7	7371	13/39		13/43	L				
RCS9	7376	13/27		13/46	L				
RDC	7507	9/11		15/34	D				
RDCA	7522	15/38		15/42	L	15/45			
RDCL	4	15/37		15/45	D				
RDCX	7506	15/34	L	15/35		15/41			
RETRY	12	4/07	D	8/23					
REW	7274	6/31		8/29	12/34	D			
REWX	7273	12/34	L	12/41					
REW1	7277	12/37	L	12/40					
RRR	7411	8/37		9/08	14/16	D			
RRRA	7425	8/16	S	8/38	8/42	14/24	D		
RRRT	7432	13/26		14/15	S	14/17	S	14/21	14/28
RRRX	7410	14/16	L						
RRR2	7414	14/18	L	14/27					
RRR4	7427	14/22		14/26	L				
RRR5	7405	14/14	L	14/20					
SBNC	1700	3/39	D						
SEK	7434	13/09		13/28	14/43	D			
SEKX	7433	14/43	L	14/52					
SEK1	7435	14/44	L	14/54	14/56				
SHNC	1000	3/37	D						
TCDD	6226	6/24		8/04	D	18/34			
TCDDL	652	6/22		18/34	D				
TIMEOUT	210560	4/06	D	10/26	11/18				
UJNC	300	3/35	D	17/43					
UNIT	7562	14/48		16/08	L				
XSET	6000	4/34	D	17/52					
YSET	7000	4/35	D						
ZJNC	400	3/36	D						

IOQ

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	ADDRESS	LENGTH	BINARY CONTROL CARDS.		
1	6000	503	IDENT	IOQ,IOQB	1
2	6503	(102)	END		2
3					3
4					4
5					5
6					6
7			IDENT	IOQ,IOQB	7
8			PERIPH		8
9		VERID	MICRO	1,,*A02*	9
10		VERS	MICRO	1,,*"VERID"*	10
11			COMMENT	CTI INITIAL OPERATOR QUERIES - "VERS"	11
12			COMMENT	COPYRIGHT CONTROL DATA CORPORATION, 1979	12
13					13
14					14
15		*	ALL RIGHTS RESERVED		15
16		*			16
17		*	CONTAINED HEREIN ARE SOFTWARE PRODUCTS COPYRIGHTED		17
18		*	BY CONTROL DATA CORPORATION. REPRODUCTION WITHOUT		18
19		*	PERMISSION IS PROHIBITED. THE COPYRIGHT NOTICE		19
20		*	MUST APPEAR ON ALL AUTHORIZED COMPLETE OR		20
21		*	PARTIAL COPIES.		21
22		*			22
23					23
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25					25
26					26
27					27
28					28
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31					31
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59					59
60					60

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IOQ

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***** IOQ - INITIAL OPERATOR QUERIES -CTI-. IOQ 8
* IOQ 9
* R. A. MATTHEWS. 01/29/78. IOQ 10
* R. A. TURGEON 6/19/78. IOQ 11
* IOQ 12
* IOQ PROVIDES THE INITIAL OPERATOR INTERFACE FOR THE COMMON IOQ 13
* TEST/INITIALIZATION PACKAGE AND IS RESPONSIBLE FOR LOADING IOQ 14
* THE APPROPRIATE BOOTSTRAP ROUTINES. IOQ 15

*** IOQ - INITIAL OPERATOR QUERIES -CTI-. IOQ 17
* IOQ 18
* IOQ PRESENTS THE INITIAL OPERATOR DISPLAY FOR THE COMMON TEST IOQ 19
* AND INITIALIZATION PACKAGE (CTI), AND ALLOWS OPERATOR INPUT IOQ 20
* TO SELECT THE VARIOUS LOAD OPTIONS. IOQ ALSO HANDLES LOADING IOQ 21
* OF THE SELECTED MODULE BY CALLING THE COMMON DRIVER. IOQ 22

*** OPERATOR MESSAGES. IOQ 24
* IOQ 25
* IOQ PRESENTS THE FOLLOWING INITIAL DISPLAY: IOQ 26
* IOQ 27
* IOQ 28
* *A* IOQ 29
* IOQ 30
* (CR) - OS LOAD AUTOMATIC IOQ 31
* IOQ 32
* I - DEADSTART W/OPERATOR IOQ 33
* INTERVENTION IOQ 34
* IOQ 35
* U - UTILITIES IOQ 36
* IOQ 37
* M - OFFLINE MAINTENANCE IOQ 38
* IOQ 39
* CTI A00 DIMA316 1
* IOQ 40
* THE M OPTION IS NOT ALLOWED NOR IS IT DISPLAYED IOQ 41
* IF (BITS 5-0 OF MSRP+4) = 0 OR 1. IOQ 42
* IOQ 43
* ANY ERROR MESSAGE MAY BE CLEARED BY ENTERING A LEFT BLANK IOQ 44
* FROM THE DISPLAY CONSOLE. IOQ 45
```

1412THE

*** ENTRY CONDITIONS.

IOQ 47

*

IOQ 48

*

IOQ ASSUMES THAT THE IOQ RECORD ON THE CTI FILE

IOQ 49

*

IS PRIOR TO ANY MODULE THAT IT WILL LOAD. FOR THIS

IOQ 50

*

REASON, REQUESTS TO THE COMMON DRIVER ARE WITH NO REWIND.

IOQ 51

*

IOQ 52

*

CTI INTERNAL STATE IS IN EFFECT.

IOQ 53

*** EXIT CONDITIONS.

IOQ 55

*

IOQ 56

*

CTI INTERNAL STATE IS IN EFFECT.

IOQ 57

**
*
*
*
*

DEADSTART PANEL WORDS.

WORDS 5 - 20B OF THE DEADSTART PANEL MUST REMAIN INTACT
DURING CTI EXECUTION. WORDS 0 - 4 MAY BE USED AS SCRATCH
DIRECT CELLS.

IOQ
IOQ
IOQ
IOQ
IOQ

59
60
61
62
63
64

0	D0	EQU	0	SCRATCH	IOQ	65
1	D1	EQU	1	SCRATCH	IOQ	66
2	D2	EQU	2	SCRATCH	IOQ	67
3	D3	EQU	3	SCRATCH	IOQ	68
4	D4	EQU	4	SCRATCH	IOQ	69
5	D5	EQU	5	ZERO IF TAPE DEADSTART	IOQ	70
6	D6	EQU	6	FUNCTION WORD	IOQ	71
	*		(D6)	= WARMSTART FUNCTION, IF MTS/ATS.	IOQ	72
	*			= DEADSTART FUNCTION, IF 844/885 DISK	IOQ	73
7	D7	EQU	7	RESERVED	IOQ	74
	*		(D7)	= 1400B IF 3000 TYPE TAPE.	IOQ	75
10	D10	EQU	10B	RESERVED	IOQ	76
11	D11	EQU	11B	RESERVED	IOQ	77
12	D12	EQU	12B	MSL PARAMETERS	IOQ	78
13	D13	EQU	13B	OS PARAMETERS	IOQ	79
14	D14	EQU	14B	OS PARAMETERS	IOQ	80
15	D15	EQU	15B	UNUSED	IOQ	81
16	D16	EQU	16B	C80/A170 RESERVED	IOQ	82
17	D17	EQU	17B	RESERVED	IOQ	83
20	D20	EQU	20B	RESERVED	IOQ	84

**
*

INSTRUCTION EQUATES.

IOQ
IOQ
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101
102
103
104
105

0	PSNC	EQU	0000B	PASS	
300	UJNC	EQU	0300B	UNCONDITIONAL JUMP	
400	ZJNC	EQU	0400B	ZERO JUMP	
1000	SHNC	EQU	1000B	SHIFT	
1500	LCNC	EQU	1500B	LOAD COMPLEMENT	
1700	SBNC	EQU	1700B	SUBTRACT NO-ADDRESS	
2000	LDCC	EQU	2000B	LOAD CONSTANT	
2100	ADCC	EQU	2100B	ADD CONSTANT	
2300	LMCC	EQU	2300B	LOGICAL MINUS CONSTANT	
3000	LDDC	EQU	3000B	LOAD DIRECT	
6400	AJMC	EQU	6400B	ACTIVE JUMP	
7100	IAMC	EQU	7100B	INPUT MEMORY	
7300	OAMC	EQU	7300B	OUTPUT MEMORY	
7400	ACNC	EQU	7400B	ACTIVATE CHANNEL	
7500	DCNC	EQU	7500B	DISCONNECT CHANNEL	

1412THE

** MISCELLANEOUS DEFINITIONS

*

*

IOQ 107

IOQ 108

IOQ 109

IOQ 110

IOQ 111

IOQ 112

IOQ 113

0 QUAL\$ EQU 0 DON-T QUALIFY COMMON DECKS
15 MPPUN EQU 15B MAX PPU NUMBER

0 DEBUG EQU 0

** DISPLAY CONTROLLER DEFINITIONS.

*

*

IOQ 115

IOQ 116

IOQ 117

IOQ 118

IOQ 119

10 CHD EQU 10B DISPLAY CHANNEL

IOQ 120

IOQ 121

* DISPLAY FUNCTION CODES.

IOQ 122

IOQ 123

IOQ 124

7000 F.SEL EQU 7000B SELECT CONSOLE DISPLAY

IOQ 125

0 F.SLS EQU 0000B SELECT CONSOLE LEFT SCREEN

IOQ 126

100 F.SRS EQU 0100B SELECT CONSOLE RIGHT SCREEN

IOQ 127

200 F.SBS EQU 0200B SELECT CONSOLE BOTH SCREEN

IOQ 128

IOQ 129

0 F.CHR EQU 0000B SELECT DOT MODE

IOQ 130

10 F.DOT EQU 0010B SELECT DOT MODE

IOQ 131

20 F.KEY EQU 0020B SELECT KEYBOARD INPUT

IOQ 132

IOQ 133

0 F.CHS EQU 0000B SET CHARACTER SIZE SMALL

IOQ 134

1 F.CHM EQU 0001B SET CHARACTER SIZE MEDIUM

IOQ 135

2 F.CHL EQU 0002B SET CHARACTER SIZE LARGE

IOQ 136

IOQ 137

* COORDINATE DESIGNATION.

IOQ 138

IOQ 139

6000 XSET EQU 6000B SET X COORDINATE

IOQ 140

7000 YSET EQU 7000B SET Y COORDINATE

IOQ 141

** STATUS AND CONTROL REGISTER CHANNEL DEFINITION.

*

IOQ 143

IOQ 144

IOQ 145

IOQ 146

0 SCANCH EQU 0 SCANNER CHANNEL

IOQ 147

16 CHSCR EQU 16B

IOQ 148

2000 SCRCLR EQU 2000B SCR CLEAR FUNCTION

IOQ 149

4000 SCRSET EQU 4000B SCR SET FUNCTION

IOQ 150

7000 SCRTE EQU 7000B SCR TEST ERRORS FUNCTION

IOQ 151

72 DSPPU EQU 72B SCR DEADSTART PPU BIT NUMBER

IOQ 152

110 SCANSB EQU 110B SCR SCANNER SELECT BIT NUMBER

IOQ 153

122 ENSCNR EQU 122B SCR ENABLE SCANNER INTERFACE

IOQ 154

1412THE

DEFINITION COMMON DECKS.

**DEFINITION COMMON DECKS.

*IOQ157

**ALL SYMBOL AND MACRO DEFINITION COMMON DECKS ARE CALLED HERE.

IOQ158

IOQ159

IOQ160

IOQ161

0CTI CTEXT COMPCTI - CTI COMMON MACROES.

0CTI CTEXT COMSSCR - S/C REGISTER EQUIVALENCES.

0CPA CTEXT COMSCPA - CTI COMMON POINTER AREA DEFINITIONS.

0CTI CTEXT COMSCTI - CTI INTERNAL DEFINITIONS.

COMPCTI2

COMSSCR2

COMSCPA2

COMSCTI2

6000

ORG

IOQB

IOQ

167

1											1
2											2
3											3
4											4
5											5
6											6
7											7
8											8
9											9
10											10
11											11
12											12
13											13
14											14
15											15
16											16
17											17
18											18
19											19
20											20
21	6000	0200	6352	IOQ	RJM	INI	DO INITIALIZATION	IOQ	184		21
22											22
23											23
24											24
25											25
26											26
27											27
28	6002	5000	7753		LDM	MSRP+4		IOQ	191		28
29	6004	1276			LPN	76B		IOQ	192		29
30	6005	0513			NJN	IOQ1	IF M OPTION ALLOWED	IOQ	193		30
31											31
32	6006	5400	6276		STM	ORTM	DROP M FROM O.R.T.	IOQ	194		32
33	6010	1415			LDN	DOOML		IOQ	195		33
34	6011	3404			STD	D4		IOQ	196		34
35	6012	2000	5555	IOQ05	LDC	2R	BLANK OUT M LINE	IOQ	197		35
36	6014	5404	6214		STM	DOOM-1,D4		IOQ	198		36
37	6016	3704			SOD	D4		IOQ	199		37
38	6017	0572			NJN	IOQ05		IOQ	200		38
39											39
40	6020	0200	6334	IOQ1	RJM	FDC	FREE DISPLAY CHANNEL	IOQ	201		40
41											41
42	6022	0200	6315	IOQ2	RJM	DOP	DISPLAY OPTIONS	IOQ	202		42
43	6024	0200	6445		RJM	PKI	PROCESS KEYBOARD INPUT	IOQ	203		43
44	6026	0473			ZJN	IOQ2	IF NO ENTRY OR ERROR	IOQ	204		44
45	6027	5003	0001		LDM	ORTX,D3	GET ROUTINE ADDRESS	IOQ	205		45
46	6031	5400	6034		STM	IOQA		IOQ	206		46
47	6033	0100	0000		LJM	**	GO TO APPROPRIATE ROUTINE	IOQ	207		47
48											48
49											49
50											50
51											51
52											52
53											53
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74											74
75											75
76											76
77											77
78											78
79											79
80											80

1

** D00 - DISPLAY OPERATOR OPTIONS BUFFER.

IOQ 254

*

IOQ 255

*

IOQ 256

* THE DISPLAY OPERATOR OPTIONS BUFFER CONTAINS THE ENTIRE
* INITIAL OPERATOR DISPLAY WITH THE POSSIBLE INCLUSION OF AN
* ERROR MESSAGE.

IOQ 257

IOQ 258

IOQ 259

22 DOPLS EQU 22B LINE (Y COOR) INCREMENT

IOQ 260

IOQ 261

6114 D00 EQU * START OF BUFFER

IOQ 262

IOQ 263

5 LINE SET 5 FIRST LINE

IOQ 264

6114 7630 CON YSET+762B-LINE*DOPLS

IOQ 265

6115 6000 CON XSET+0

IOQ 266

6116 5555 DATA H; *A*;

IOQ 267

IOQ 268

10 LINE SET LINE+3

IOQ 269

6126 7542 CON YSET+762B-LINE*DOPLS

IOQ 270

6127 6000 CON XSET+0

IOQ 271

6130 5103 DATA H*(CR) - OS LOAD AUTOMATIC*

IOQ 272

IOQ 273

13 LINE SET LINE+3

IOQ 274

6144 7454 CON YSET+762B-LINE*DOPLS

IOQ 275

6145 6000 CON XSET+0

IOQ 276

6146 5555 DATA H* 0 - DEADSTART WITH OPERATOR*

IOQ 277

IOQ 278

14 LINE SET LINE+1

IOQ 279

6165 7426 CON YSET+762B-LINE*DOPLS-4

IOQ 280

6166 6000 CON XSET+0

IOQ 281

6167 5555 DATA H* INTERVENTION*

IOQ 282

IOQ 283

17 LINE SET LINE+3

IOQ 284

6201 7344 CON YSET+762B-LINE*DOPLS

IOQ 285

6202 6000 CON XSET+0

IOQ 286

6203 5555 DATA H* U - UTILITIES*

IOQ 287

IOQ 288

22 LINE SET LINE+3

IOQ 289

6213 7256 CON YSET+762B-LINE*DOPLS

IOQ 290

6214 6000 CON XSET+0

IOQ 291

6215 5555 DATA H* M - OFFLINE MAINTENANCE*

IOQ 292

IOQ 293

15 DOOML EQU *-DOOM

IOQ 294

VERID MICRO 1,,*A02*

A02 1

VERS MICRO 1,,*"VERID"*

VERS 3

25 LINE SET LINE+3

DIMA316 3

6232 7170 CON YSET+762B-LINE*DOPLS

DIMA316 4

6233 6000 CON XSET+0

DIMA316 5

6234 0324 DATA H*CTI *

DIMA316 6

6236 0133 DATA H*"VERS"*

DIMA316 7

DIMA316 8

124 D00L EQU *-D00 BUFFER LENGTH IF NO ERROR MSG

IOQ 295

IOQ 296

30 LINE SET LINE+3

DIMA316 9

6240 7102 CON YSET+762B-LINE*DOPLS

IOQ 298

6241 6000 CON XSET+0

IOQ 299

6242 1116 DATA H*INVALID OPTION*

IOQ 300

IOQ 301

135 D00LE EQU *-D00 BUFFER LENGTH IF ERROR MSG

IOQ 302

1412THE

TABLE OF VALID OPERATOR RESPONSES

THIS TABLE HAS ONE ENTRY FOR EACH VALID OPERATOR RESPONSE
IT INCLUDES THE CORRESPONDING PARAMETER BLOCKS PASSED TO
THE COMMON DRIVER TO LOAD THE APPROPRIATE MODULE.

IOQ 304
IOQ 305
IOQ 306
IOQ 307
IOQ 308
IOQ 309
IOQ 310
IOQ 311
IOQ 312
IOQ 313
IOQ 314
IOQ 315
IOQ 316
IOQ 317
IOQ 318
IOQ 319
IOQ 320
IOQ 321
IOQ 322
IOQ 323
IOQ 324
IOQ 325
IOQ 326
IOQ 327
IOQ 328
IOQ 329
IOQ 330
IOQ 331
IOQ 332
IOQ 333
IOQ 334
IOQ 335
IOQ 336
IOQ 337
IOQ 338
IOQ 339
IOQ 340
IOQ 341
IOQ 342
IOQ 343
IOQ 344
IOQ 345
IOQ 346
IOQ 347
IOQ 348
IOQ 349
IOQ 350
IOQ 351
IOQ 352
IOQ 353
IOQ 354
IOQ 355
IOQ 356

6251 ORT EQU * START OF TABLE
1 ORTX EQU 1 OFFSET OF ADDRESS OF ASSOC. ROUTINE
2 ORTP EQU 2 OFFSET OF PARAMETER BLOCK
7 ORTS EQU 7 SIZE OF EACH TABLE ENTRY

OS LOAD AUTOMATIC

6251 0060 CON 60B (CR)
6252 6035 CON XXC
6253 0010 CON LOAD LOAD ADDRESS FOR MAD
6254 0100 CON TRAN TRANSFER ADDRESS FOR MAD
6255 0000 CON 0 NO REWIND FIRST
6256 1501 VFD 18/3LMAD,6/0
6257 0400

DEADSTART W/OPERATOR INTERVENTION

6260 0017 CON 1R0 0
6261 6102 CON XXI
6262 0010 CON LOAD
6263 0100 CON TRAN
6264 0000 CON 0
6265 1711 VFD 18/3LOIP,6/0
6266 2000

UTILITIES

6267 0025 CON 1RU U
6270 6105 CON XXU
6271 6000 CON IPLB
6272 6000 CON IPLB
6273 0000 CON 0
6274 0105 VFD 18/3LAEI,6/0
6275 1100

OFFLINE MAINTENANCE

6276 0015 ORTM CON 1RM M
6277 6107 CON XXM
6300 0200 CON EBLLOAD
6301 0200 CON EBLLOAD
6302 0000 CON 0
6303 0502 VFD 18/3LEBL,6/0
6304 1400

DISPLAY HARDWARE ERRORS (DHE)
THIS ENTRY DOES NOT CORRESPOND TO A VALID OPERATOR
RESPONSE BUT IS HERE TO END THE LIST OF VALID
OPERATOR RESPONSES AND FOR THE PARAMETER BLOCK
WHICH IS NEEDED WHEN DHE IS TO BE LOADED.

1412THE

6305	0000	DHE	CON	0	IOQ	357
6306	0000		CON	0	IOQ	358
6307	0010		CON	LOAD	IOQ	359
6310	0100		CON	TRAN	IOQ	360
6311	0000		CON	0	IOQ	361
6312	0410		VFD	18/3LDHE,6/0	IOQ	362
6313	0500					363

** DOP - DISPLAY OPTIONS.					IOQ	366
*					IOQ	367
* DOP DISPLAYS THE INITIAL OPERATOR OPTIONS AND					IOQ	368
* POSSIBLY AN ERROR MESSAGE.					IOQ	369
*					IOQ	370
* ENTRY (DOPL) = LENGTH TO DISPLAY.					IOQ	371
*					IOQ	372
6314	0100 0000	DOP	ENM X	ENTRY/EXIT	IOQ	373
*					IOQ	374
* FUNCTION DISPLAY CONSOLE AND OUTPUT INITIAL OPTIONS.					IOQ	375
					IOQ	376
					IOQ	377
6316	7710 7001		FNC	F.SEL+F.SLS+F.CHR+F.CHM,CHD	IOQ	378
6320	7410		ACN	CHD	IOQ	379
6321	2000 0124		LDC	DOOL LENGTH OF DISPLAY BUFFER	IOQ	380
					IOQ	381
6323	7310 6114	6322 DOPL	EQU	*-1	IOQ	382
6325	6610 6325		OAM	DOO,CHD DISPLAY INITIAL OPTIONS	IOQ	383
6327	7510		FJM	*,CHD	IOQ	384
6330	1740		DCN	CHD	IOQ	385
6331	0776		SBN	40B DISPLAY REFRESH DELAYB	IOQ	386
6332	0361		MJN	*-1	IOQ	387
					IOQ	388
					IOQ	389
** FDC - FREE DISPLAY CHANNEL					IOQ	390
*					IOQ	391
* FDC HANGS PP 10 ON CHANNEL 12B.					IOQ	392
*					IOQ	393
6333	0100 0000	FDC	ENM X	ENTRY/EXIT	IOQ	394
6335	7412		ACN	12B	IOQ	395
6336	1404		LDN	FDCL LENGTH OF IDLE PROGRAM	IOQ	396
6337	7310 6345		OAM	FDCA,CHD SEND IDLE PROGRAM	IOQ	397
6341	6610 6341		FJM	*,CHD	IOQ	398
6343	7510		DCN	CHD	IOQ	399
6344	0366		UJN	FDCX RETURN	IOQ	400
					IOQ	401
6345	0000	FDCA	CON	DEBUG PP 10 PROGRAM	IOQ	402
6346			BSSZ	DEBUG	IOQ	403
6346	1400		LDN	0	IOQ	404
6347	7112 0000	FDCB	IAM	0,12B READ NEW PROGRAM	IOQ	405
					IOQ	406
4 FDCL EQU *-FDCA LENGTH OF IDLE PROGRAM					IOQ	410

** INI - INITIALIZATION

IOQ 412

*

IOQ 413

*

IOQ 414

INITIALIZE HDT TO ALL ZEROS.

*

IOQ 415

IF DEADSTARTING FROM AN ACTIVE PP CHANNEL, ON A
C70 OR 6000, THEN COPY WORD 12B OF THE DEADSTART
PANEL IMAGE TO WORD 13B OF THE IMAGE.

*

IOQ 416

SAVE DEADSTART PANEL LOCATIONS 5-20B.

*

IOQ 417

SAVE DEADSTART PANEL LOCATIONS 5-20B.

*

IOQ 418

ENTRY (D10) = XXCC WHERE CC = D.S. CHANNEL NO.

*

IOQ 419

ENTRY (D10) = XXCC WHERE CC = D.S. CHANNEL NO.

IOQ 420

IOQ 421

IOQ 422

6351

0100 0000

INI

ENM

X

ENTRY/EXIT

IOQ 423

6353

1413

LDN

13B

LENGTH OF HDT

IOQ 424

6354

3404

STD

D4

IOQ 425

6355

1400

INI2

LDN

0

IOQ 426

6356

5404 7670

STM

DEGR,D4

CLEAR UPPER 110 WORDS OF HDT

IOQ 427

6360

3704

SOD

D4

IOQ 428

6361

0573

NJN

INI2

IOQ 429

6362

6416 6402

AJM

INI4,CHSCR

IF NOT C70 OR 6000

IOQ 430

6364

1400

LDN

0

CLEAR CM WRITE DISTRIBUTOR

IOQ 431

6365

6000

CRD

0

IOQ 432

6366

6200

CWD

0

IOQ 433

6367

6200

CWD

0

IOQ 434

6370

3010

LDD

D10

IOQ 435

6371

1237

LPN

37B

ISOLATE D.S. CHANNEL

IOQ 436

6372

5500 6374

RAM

INIB

IOQ 437

6374

6500 6402

INIB

IJM

INI4,**

IF NOT ACTIVE PP CHANNEL

IOQ 438

6376

3015

LDD

D15

SAD FLAG WORD

IOQ 439

6377

0503

NJN

INI4

WORD 13 HAS OS PARAMETER WORD

IOQ 440

6400

3012

LDD

D12

IOQ 441

6401

3413

STD

D13

IOQ 442

6402

INI4

EQU

*

IOQ 443

6402

1414

LDN

20B-4

LENGTH OF D.S. PANEL TO SAVE

IOQ 444

6403

3404

STD

D4

IOQ 445

6404

5004 0004

INI6

LDM

5-1,D4

IOQ 446

6406

5404 7703

STM

DSPNL-1,D4

SAVE D.S. PANEL

IOQ 447

6410

3704

SOD

D4

IOQ 448

6411

0572

NJN

INI6

IOQ 449

6412

0100 6351

INI8

LJM

INIX

RETURN

IOQ 450

IOQ 451

IOQ 452

IOQ 453

IOQ 454

** LCM - LOAD CTI MODULE

IOQ 455

*

IOQ 456

*

IOQ 457

LCM RETURNS PP 10 TO THE DEADSTART STATE AND CALLS THE
COMMON DRIVER TO LOAD A CTI MODULE.

*

IOQ 458

COMMON DRIVER TO LOAD A CTI MODULE.

*

IOQ 459

ENTRY (D3) = ADDRESS OF ORT ENTRY

*

IOQ 460

ENTRY (D3) = ADDRESS OF ORT ENTRY

*

IOQ 461

NO EXIT. CONTROL GOES TO MODULE LOADED.

*

IOQ 462

IOQ 463

IOQ 464

IOQ 465

			6414	LCM	EQU	*		IOQ	466
	6414	7710 0000			FNC	0,CHD	GET DISPLAY OFF CHAN 10	IOQ	467
	6416	1477			LDN	77B		IOQ	468
1	6417	1701			SBN	1	WAIT A WHILE	IOQ	469
2	6420	0576			NJN	*-1		IOQ	470
3	6421	6510 6424			IJM	LCM3,CHD		IOQ	471
4	6423	7510			DCN	CHD		IOQ	472
5								IOQ	473
6	6424	7410		LCM3	ACN	CHD	PREPARE CHANNEL	IOQ	474
7	6425	1404			LDN	LCML	PP 10 IS ON CHANNEL 12B	IOQ	475
8	6426	7312 6437			OAM	LCMA,12B		IOQ	476
9	6430	6612 6430			FJM	*,12B		IOQ	477
10	6432	7512			DCN	12B		IOQ	478
11								IOQ	479
12			*			GO TO CTI MODULE		IOQ	480
13								IOQ	481
14	6433	3003			LDD	D3		IOQ	482
15	6434	1602			ADN	ORTP	(A) = ADDRESS OF PARAMETERS	IOQ	483
16	6435	0100 7000			LJM	CDEP	GO TO COMMON DRIVER	IOQ	484
17									
18									
19	6437	0000		LCMA	CON	DEBUG	PP 10 PROGRAM	IOQ	486
20	6440				BSSZ	DEBUG		IOQ	487
21	6440	1400			LDN	0		IOQ	488
22	6441	7110 0000			IAM	0,CHD		IOQ	489
23					IFGT	DEBUG,0,3		IOQ	490
24			4	LCML	EQU	*-LCMA	LENGTH OF PROGRAM	IOQ	494
25									
26									
27									
28									
29			**			PKI - PROCESS KEYBOARD INPUT.		IOQ	496
30			*					IOQ	497
31			*			PKI FUNCTIONS THE DISPLAY CONSOLE FOR KEYBOARD INPUT, AND		IOQ	498
32			*			CHECKS THE INPUT AGAINST THE VALID OPERATOR		IOQ	499
33			*			RESPONSES. IF NO INPUT HAS BEEN ENTERED, PKI RETURNS WITH		IOQ	500
34			*			(A) ZERO. IF THE INPUT DOES NOT MATCH A VALID OPTION, (A)		IOQ	501
35			*			IS ZERO AND AN ERROR MESSAGE HAS BEEN ACTIVATED. IF A		IOQ	502
36			*			VALID OPTION IS FOUND, (A) IS THE FIRST WORD ADDRESS OF THE		IOQ	503
37			*			ORT ENTRY.		IOQ	504
38			*					IOQ	505
39			*			EXIT (A) = 0, NO INPUT OR INPUT IN ERROR.		IOQ	506
40			*			(A) .NE. 0, FWA OF ORT ENTRY SELECTED.		IOQ	507
41			*			(D3) = FWA OF ORT ENTRY IF VALID ENTRY		IOQ	508
42			*					IOQ	509
43								IOQ	510
44	6443	3003		PKI1	LDD	D3	VALID OPTION ADDRESS	IOQ	511
45								IOQ	512
46								IOQ	513
47	6444	0100 0000		PKI	ENM	X	ENTRY/EXIT	IOQ	514
48	6446	7710 7020			FNC	F.SEL+F.KEY,CHD	GET INPUT	IOQ	515
49	6450	7410			ACN	CHD		IOQ	516
50	6451	7010			IAN	CHD	READ KEYBOARD	IOQ	517
51	6452	7510			DCN	CHD		IOQ	518
52	6453	0470			ZJN	PKIX	IF NO INPUT, RETURN	IOQ	519
53	6454	3402			STD	D2	SAVE ENTRY	IOQ	520
54	6455	2000 6251			LDC	ORT	ADDRESS OF OPERATOR RESP TBL	IOQ	521
55									
56									
57									
58									
59									
60									

6457	3403		STD	D3					IOQ	522	
6460	4003		LDI	D3					IOQ	523	
6461	0406		ZJN	PKI4					IOQ	524	
6462	3202		SBD	D2					IOQ	525	
6463	0457		ZJN	PKI1					IOQ	526	
6464	1407		LDN	ORTS					IOQ	527	
6465	3503		RAD	D3					IOQ	528	
6466	0371		UJN	PKI2					IOQ	529	
6467	3002		LDD	D2					IOQ	530	
6470	1753		SBN	53B					IOQ	531	
6471	0407		ZJN	PKI6					IOQ	532	
6472	2000 0135		LDC	D00LE					IOQ	533	
6474	5400 6322		STM	DOPL					IOQ	534	
6476	1400		LDN	0					IOQ	535	
6477	0344		UJN	PKIX					IOQ	536	
									IOQ	537	
*									IOQ	538	
									IOQ	539	
6500	2000 0124		PKI6	LDC	D00L				IOQ	540	
6502	0371			UJN	PKI5				IOQ	541	
									IOQ	544	
									IOQ	545	
270			ERRNG	CTIFWA-*	TOO BIG					IOQ	546
									IOQ	547	
									IOQ	548	
6503				END					IOQ	549	
53700B CM			STORAGE USED		765 STATEMENTS		246 SYMBOLS				
			PARALLEL CPU ASSEMBLY		0.751 SECONDS		301 REFERENCES				
SYMBOLIC REFERENCE TABLE.											
ACNC	7400		4/49	D							
ADCC	2100		4/43	D							
AJMC	6400		4/46	D							
CDEP	7000		15/19								
CHD	10		5/17	D	13/17	13/35	15/02	15/09	15/52		
			13/13		13/18	13/36	15/06	15/25	15/53		
			13/14		13/19	13/37	15/07	15/51	15/54		
CHSCR	16		5/48	D	8/16	8/25	8/28	8/31	14/21		
			8/09		8/17	8/26	8/29	8/32			
CTIFWA	6773		16/31								
DCNC	7500		4/50	D							
DEBUG	0		5/07	D	13/40	13/41	15/22	15/23			
DEGR	7670		14/17	S							
DHE	6305		8/20		12/02	L					
DHEP	6776		8/05	S							

D00	6114	10/09	D	10/50	10/57	13/17			
D00L	124	10/50	D	13/15	16/19				
D00LE	135	10/57	D	16/12					
D00M	6215	7/39	S	10/39	L	10/40			
D00ML	15	7/36		10/40	D				
D0P	6315	7/45		13/09	D				
D0PL	6322	13/16	D	16/13	S				
D0PLS	22	10/07	D	10/17		10/27	10/37	10/53	
		10/12		10/22		10/32	10/45		
D0PX	6314	13/09	L	13/22					
DSPNL	7704	14/39	S						
DSPPU	72	5/52	D						
D0	0	4/08	D						
D1	1	4/09	D						
D10	10	4/19	D	14/26					
D11	11	4/20	D						
D12	12	4/21	D	14/32					
D13	13	4/22	D	14/33	S				
D14	14	4/23	D						
D15	15	4/24	D	14/30					
D16	16	4/25	D						
D17	17	4/26	D						
D2	2	4/10	D	15/56	S	16/04	16/09		
D20	20	4/27	D						
D3	3	4/11	D	7/48		8/21	S	15/17	15/47
D4	4	4/12	D	7/39		14/15	S	14/18	S
		7/37	S	7/40	S	14/17		14/37	S
								14/39	
D5	5	4/13	D						
D6	6	4/14	D						
D7	7	4/17	D						
EBLLOAD	200	11/47		11/48					
EBLP	6777	8/07	S	9/04	S				
ENSCNR	122	5/54	D						
FCCA	6000	8/24		8/27					
FCSB	4000	8/30							
FCTE	7000	8/15							
FDC	6334	7/43		13/32	D				
FDCA	6345	13/35		13/40	L	13/45			
FDCB	6347	13/43	L						
FDCL	4	13/34		13/45	D				
FDCX	6333	13/32	L	13/38					
F.CHL	2	5/33	D						
F.CHM	1	5/32	D	13/13					
F.CHR	0	5/27	D	13/13					
F.CHS	0	5/31	D						
F.DOT	10	5/28	D						
F.KEY	20	5/29	D	15/51					
F.SBS	200	5/25	D						
F.SEL	7000	5/21	D	13/13		15/51			
F.SLS	0	5/23	D	13/13					
F.SRS	100	5/24	D						
IAMC	7100	4/47	D						
INI	6352	7/24		14/12	D				
INIB	6374	14/28	S	14/29	L				
INIX	6351	14/12	L	14/42					
INI2	6355	14/16	L	14/19					
INI4	6402	14/21		14/29		14/31	14/34	D	

14121HE

XXI 6102 8/40 L 11/26
XXM 6107 9/03 L 11/46
XXU 6105 8/49 L 11/36
YSET 7000 5/38 D 10/17 10/27 10/37 10/53
ZJNC 400 10/12 10/22 10/32 10/45
4/38 D

OIP

BINARY CONTROL CARDS.

1

OIP

```
***** OIP - OPERATOR INTERVENTION PROCESSOR - CTI. DIG0211A 1
* OIP 11
* J. F. RIAN 78/06/09. OIP 12
* OIP 13
* OIP PROVIDES FOR OPERATOR INTERVENTION TO OIP 14
* 1. CHANGE DEADSTART PANEL PARAMETERS OIP 15
* 2. CHANGE HARDWARE DESCRIPTOR TABLE ENTRIES OIP 16
* 3. EXECUTE THE DEADSTART DIAGNOSTIC SEQUENCER OIP 17

*** IOQ CALLS OIP TO PROCESS THE *A* DISPLAY *I* OPTION. OIP 19

*** *B* DISPLAY. OIP 21
* OIP 22
* OIP INITIALLY DISPLAYS THE *B* DISPLAY AS FOLLOWS - OIP 23
* SCREEN OIP 24
***** LINE OIP 25
* *B* * 01 OIP 26
* * 02 OIP 27
* (CR) - ENTER OS LOAD AUTOMATIC * 03 OIP 28
* (BS) - RETURN TO *A* DISPLAY * 04 OIP 29
* * 05 OIP 30
* D - DEADSTART DIAGNOSTIC SEQ. * 06 OIP 31
* H - HARDWARE RECONFIGURATION * 07 OIP 32
* P - DEADSTART PANEL PARAMS * 08 OIP 33
* * OIP 34
* * OIP 35
* * OIP 36
* ERROR MESSAGE * 23 OIP 37
* * 24 OIP 38
***** OIP 39
* OIP 40
* OIP 41
* IF THE OPERATOR RESPONDS WITH (CR) TO THE OIP *B* DISPLAY, OIP 42
* OIP CALLS MAD TO DO OS AUTOMATIC LOAD PROCESSING. OIP 43
* OIP 44
* IF THE OPERATOR RESPONDS WITH (BS) TO THE OIP *B* DISPLAY, OIP 45
* OIP RETURNS TO IOQ, WHICH DISPLAYS THE *A* DISPLAY. OIP 46
* OIP 47
* IF THE OPERATOR RESPONDS WITH *D* TO THE OIP *B* DISPLAY, OIP 48
* OIP CALLS MAD TO INITIATE THE DEADSTART DIAGNOSTIC OIP 49
* SEQUENCER. OIP 50
* OIP 51
* OIP 52
* IF THE OPERATOR RESPONDS WITH *H* TO THE OIP *B* DISPLAY, OIP 53
* OIP PROCESSES AS FOLLOWS - OIP 54
* OIP 55
* 1. DISPLAYS THE *H* DISPLAY AND ACCEPTS KEYBOARD ENTRY OF OIP 56
* HARDWARE RECONFIGURATION STATEMENTS. OIP 57
* OIP 58
* 2. IF STATEMENT INPUT IS ENDED VIA A SINGLE (CR), OIP 59
* CALLS MAD TO DO OS AUTOMATIC LOAD PROCESSING. OIP 60
```

***	*H*	DISPLAY.			OIP	79
*					OIP	80
*	THE	*H*	DISPLAY IS AS FOLLOWS -		OIP	81
*				SCREEN	OIP	82
*****				LINE	OIP	83
*		*H*		* 01	OIP	84
*				* 02	OIP	85
*	(CR)	-	ENTER OS LOAD AUTOMATIC	* 03	OIP	86
*	(BS)	-	RETURN TO *B* DISPLAY	* 04	OIP	87
*				* 05	OIP	88
*	CM =	NNNNNN.	CEJ/MEJ = ON	* 06	OIP	89
*			CMU = ON	* 07	OIP	90
*				* 08	OIP	91
*		OFF	ELEMENTS	* 09	OIP	92
*	CPU1	PP20	PP21 PP22	* 10	OIP	93
*	PP23	PP24	PP25 PP26	* 11	OIP	94
*	PP27	PP30	PP31 PPU1	* 12	OIP	95
*	PPU2	* 13	OIP	96
*				* .	OIP	97
*				* .	OIP	98
*				* .	OIP	99
*	ERROR	MESSAGE		* 23	OIP	100
*	KEYBOARD	BUFFER		* 24	OIP	101
*****					OIP	102

*** HARDWARE RECONFIGURATION STATEMENTS.

OIP 104

*

OIP 105

*

THE HARDWARE RECONFIGURATION STATEMENTS ARE OF THE FOLLOWING

OIP 106

*

FORM -

OIP 107

*

OIP 108

*

KEYWORD=PARAMETER

OIP 109

*

OIP 110

*

OIP RECOGNIZES THE FOLLOWING STATEMENTS -

OIP 111

*

OIP 112

*

KEYWORD

PARAMETER

FUNCTION

OIP 113

*

OIP 114

*

CM=

NNNNNN

DECLARES THE SIZE OF CENTRAL MEMORY

OIP 115

*

OIP 116

IN HUNDREDS OF WORDS. VALUE IS OCTAL.

*

OIP 117

THUS FOR -

*

OIP 118

32K, NNNNNN = 1000

*

OIP 119

49K, NNNNNN = 1400

*

OIP 120

65K, NNNNNN = 2000

*

OIP 121

98K, NNNNNN = 3000

*

OIP 122

131K, NNNNNN = 4000

*

OIP 123

198K, NNNNNN = 6000

*

OIP 124

262K, NNNNNN = 10000

*

OIP 125

*

CPUN=

OFF/ON

DECLARES THE LOGICAL STATUS OF EACH

OIP 126

*

OIP 127

AVAILABLE CPU. VALID VALUES FOR N

*

OIP 128

ARE 0 AND 1.

*

OIP 129

*

OIP 130

*

PPN=

OFF/ON

DECLARES THE LOGICAL STATUS OF ONE

OIP 131

*

OIP 132

*

PPN-M=

OFF/ON

OR MORE PERIPHERAL PROCESSORS.

OIP 133

*

OIP 134

VALID VALUES FOR N AND M ARE ANY

*

OIP 135

OCTAL NUMBERS FROM 3 THRU 31,

*

OIP 136

EXCLUDING 10 AND 12 THRU 17.

*

OIP 137

*

PPUN=

OFF/ON

DECLARES THE LOGICAL STATUS OF THE

OIP 138

*

OIP 139

*

PPUN-M=

OFF/ON

INDICATED PHYSICAL FIRST LEVEL

OIP 140

*

OIP 141

PERIPHERAL PROCESSOR (PPU). VALID

*

OIP 142

VALUES FOR N AND M ARE ANY OCTAL

*

OIP 143

NUMBERS FROM 1 THRU 15.

*

OIP 144

*

CEJ/MEJ=

OFF/ON

DECLARES THE LOGICAL STATUS OF

OIP 145

*

OIP 146

CEJ/MEJ. IF THE STATUS IS *ON*,

*

OIP 147

CEJ/MEJ WILL BE USED IF PRESENT.

*

OIP 148

CMU=

OFF/ON

DECLARES THE LOGICAL STATUS OF THE

*

OIP 149

CMU HARDWARE. IF THE STATUS IS

*

OIP 150

ON, CMU WILL BE USED IF PRESENT.

*

OIP 151

*

OIP 152

*

OIP 153

*

OIP 154

*

OIP 155

*

OIP 156

*

OIP 157

*

OIP 158

*

OIP 159

*

OIP 160

*

OIP 161

*

OIP 162

*

OIP 163

*

OIP 164

*

OIP 165

*

OIP 166

*

OIP 167

*

OIP 168

*

OIP 169

*** *P* DISPLAY.

OIP 150

*

OIP 151

* THE *P* DISPLAY IS AS FOLLOWS -

OIP 152

* SCREEN

OIP 153

***** LINE

OIP 154

* *P* * 01

OIP 155

* * 02

OIP 156

* (CR) - ENTER OS LOAD AUTOMATIC

OIP 157

* (BS) - RETURN TO *B* DISPLAY

OIP 158

* * 05

OIP 159

* I = X - INIT/RECOVERY LVL

OIP 160

* C = XX - CMRDECK NUMBER

OIP 161

* W12 = XXXX - D/S PANEL WORD 12

OIP 162

* W14 = XXXX - D/S PANEL WORD 14

OIP 163

* * 10

OIP 164

* *

OIP 165

* *

OIP 166

* *

OIP 167

* ERROR MESSAGE

OIP 168

* KEYBOARD BUFFER

OIP 169

OIP 170

0
0
0CPA
CTICTEXT
CTEXT
CTEXTCOMPMAC - PP SYSTEM MACROS.
COMSCPA - CTI COMMON POINTER AREA DEFINITIONS.
COMSCTI - CTI INTERNAL DEFINITIONS.COMPMAC
COMSCPA
COMSCTI2
2
2

** INSTRUCTIONS USED AS CONSTANTS.

OIP 176
OIP 177
OIP 178
OIP 179

1000 SHNI EQU 1000 SHN

** DISPLAY DEFINITIONS.

OIP 181
OIP 182
OIP 18310 CH EQU 10 DISPLAY CHANNEL
7001 DSFC EQU 7001 SELECT LEFT SCREEN, 32 CHARACTERS/LINEOIP 184
OIP 185
OIP 186M_D BASE D
20 XCIN EQU 20B X-COORDINATE INCREMENT
6000 XC01 EQU 6000B CHAR 01 X-COORDINATEOIP 187
OIP 188
OIP 189

6020 XC02 EQU XC01+XCIN*1

OIP 190

6040 XC03 EQU XC01+XCIN*2

OIP 191

6060 XC04 EQU XC01+XCIN*3

OIP 192

6100 XC05 EQU XC01+XCIN*4

OIP 193

6120 XC06 EQU XC01+XCIN*5

OIP 194

6140 XC07 EQU XC01+XCIN*6

OIP 195

6160 XC08 EQU XC01+XCIN*7

OIP 196

6200 XC09 EQU XC01+XCIN*8

OIP 197

6220 XC10 EQU XC01+XCIN*9

OIP 198

6240 XC11 EQU XC01+XCIN*10

OIP 199

6260 XC12 EQU XC01+XCIN*11

OIP 200

6300 XC13 EQU XC01+XCIN*12

OIP 201

6320 XC14 EQU XC01+XCIN*13

OIP 202

6340 XC15 EQU XC01+XCIN*14

OIP 203

6360 XC16 EQU XC01+XCIN*15

OIP 204

6400 XC17 EQU XC01+XCIN*16

OIP 205

6420 XC18 EQU XC01+XCIN*17

OIP 206

6440 XC19 EQU XC01+XCIN*18

OIP 207

6460 XC20 EQU XC01+XCIN*19

OIP 208

6500 XC21 EQU XC01+XCIN*20

OIP 209

6520 XC22 EQU XC01+XCIN*21

OIP 210

6540 XC23 EQU XC01+XCIN*22

OIP 211

6560 XC24 EQU XC01+XCIN*23

OIP 212

6600 XC25 EQU XC01+XCIN*24

OIP 213

6620 XC26 EQU XC01+XCIN*25

OIP 214

6640 XC27 EQU XC01+XCIN*26

OIP 215

6660 XC28 EQU XC01+XCIN*27

OIP 216

6700 XC29 EQU XC01+XCIN*28

OIP 217

6720 XC30 EQU XC01+XCIN*29

OIP 218

6740 XC31 EQU XC01+XCIN*30

OIP 219

6760 XC32 EQU XC01+XCIN*31

OIP 220

OIP 221

24 YCIN EQU 24B Y-COORDINATE INCREMENT

OIP 222

1

** OIP - OPERATOR INTERVENTION PROCESSOR.

OIP 272

*

OIP 273

* ENTRY PP10 ON CHANNEL 10.

OIP 274

*

OIP 275

* EXIT PP10 ON CHANNEL 0.

OIP 276

* TO *OID*.

OIP 277

*

OIP 278

* USES NONE.

OIP 279

*

OIP 280

* CALLS NONE.

OIP 281

OIP 282

OIP 283

100

ORG /CTI/TRAN

OIP 284

OIP 285

OIP 286

100

OIP

BSS 0

OIP 287

100 7400

ACN 0

MOVE DISPLAY PP TO CHANNEL 0

OIP 288

101 1403

LDN 3

OIP 289

102 7310 0107

OAM OIPA,CH

OIP 290

104 7550

DCN CH+40

OIP 291

105 0100 0113

LJM OID

OIP 292

OIP 293

107 0000

OIPA

CON 0

OIP 294

110 1500

LCN 0

OIP 295

111 7100 0000

IAM 0,0

OIP 296

** OID - OPERATOR INTERVENTION DISPLAY.

OIP 298

*

OIP 299

* ENTRY NONE.

OIP 300

*

OIP 301

* EXIT TO *OSL* IF (CR).

OIP 302

* TO *IOQ* IF (BS).

OIP 303

* TO *DDS* IF *D*.

OIP 304

* TO *HRC* IF *H*.

OIP 305

* TO *PAN* IF *P*.

OIP 306

*

OIP 307

* USES NONE.

OIP 308

*

OIP 309

* CALLS CKB, DSB, KBI.

OIP 310

OIP 311

OIP 312

113 0200 1444

OID

RJM CKB

CLEAR KEYBOARD BUFFER

OIP 313

115 0200 1520

OID1

RJM DSB

0 DISPLAY

OIP 314

117 0200 0303

RJM DRD

DISPLAY REFRESH DELAY

OIP 315

121 0200 1342

RJM KBI

READ KEYBOARD

OIP 316

123 0524

NJN OID5

IF (CR) OR (BS)

OIP 317

124 5000 1460

LDM KBUF

OIP 318

126 0466

ZJN OID1

IF NO DATA

OIP 319

127 1104

LMN 1RD

OIP 320

130 0503

NJN OID2

IF NOT *D*

OIP 321

131 0100 0172

LJM DDS

OIP 322

OIP 323

133 1114

OID2

LMN 1RH&1RD

OIP 324

134 0503

NJN OID3

IF NOT *H*

OIP 325

135	0100 0211	LJM	HRC			OIP	326
						OIP	327
137	1130	OID3	LMN	1RP&1RH		OIP	328
140	0503		NJN	OID4	IF NOT *P*	OIP	329
141	0100 0246		LJM	PAN		OIP	330
						OIP	331
143	2000 2777	OID4	LDC	=C*INVALID OPTION*		OIP	332
145	3416		STD	KM		OIP	333
146	0346		UJN	OID1		OIP	334
						OIP	335
147	1101	OID5	LMN	1		OIP	336
150	0472		ZJN	OID4	IF END OF STATEMENT (CR)	OIP	337
151	1103		LMN	2&1		OIP	338
152	0503		NJN	OID6	IF NOT (CR)	OIP	339
153	0100 0157		LJM	OSL		OIP	340
155	0100 0176	OID6	LJM	IOQ		OIP	341
		**		OSL - OS LOAD AUTOMATIC.		OIP	343
		*				OIP	344
		*	ENTRY	NONE.		OIP	345
		*				OIP	346
		*	EXIT	TO *MAD*.		OIP	347
		*				OIP	348
		*	USES	NONE.		OIP	349
		*				OIP	350
		*	CALLS	CDEP.		OIP	351
						OIP	352
157	0200 2656	OSL	RJM	CDS	CLEAR DISPLAY	OIP	353
161	2000 0165		LDC	OSLA	CALL *MAD*	OIP	354
163	0100 7000		LJM	/CTI/CDEP		OIP	355
						OIP	356
165	0010	OSLA	CON	/CTI/LOAD	CDIB	OIP	357
166	0100		CON	/CTI/TRAN	CDTA	OIP	358
167	0000		CON	0	CDRW	OIP	359
170	1501		DATA	L*MAD*	CDNC	OIP	360
						OIP	361
		**		DDS - PREPARE FOR DEADSTART DIAGNOSTIC SEQUENCER.		OIP	363
		*				OIP	364
		*	ENTRY	NONE.		OIP	365
		*				OIP	366
		*	EXIT	TO *OSL*.		OIP	367
		*				OIP	368
		*	USES	NONE.		OIP	369
		*				OIP	370
		*	CALLS	NONE.		OIP	371
						OIP	372
						OIP	373
172	1401	DDS	LDN	1	INDICATE DEADSTART DIAGNOSTIC SEQUENCER	OIP	374
173	5400 6777		STM	/CTI/EBLP		OIP	375
175	0361		UJN	OSL	CALL *MAD*	OIP	376

IOQ

** IOQ - RETURN TO *IOQ*.

OIP 378

*

OIP 379

* ENTRY NONE.

OIP 380

*

OIP 381

* EXIT TO *IOQ*.

OIP 382

*

OIP 383

* USES NONE.

OIP 384

*

OIP 385

* CALLS CDEP.

OIP 386

OIP 387

OIP 388

OIP 389

176 0200 2656 IOQ RJM CDS CLEAR DISPLAY

200 2000 0204 LDC IOQA CALL *IOQ*

202 0100 7000 LJM /CTI/CDEP

OIP 390

OIP 391

OIP 392

204 6000 IOQA CON /CTI/IOQB CDIB

OIP 393

205 6002 CON /CTI/IOQALT CDTA

OIP 394

206 0001 CON 1 CDRW

OIP 395

207 1117 DATA L*IOQ* CDNC

OIP 396

** HRC - HARDWARE RECONFIGURATION.

OIP 398

*

OIP 399

* ENTRY NONE.

OIP 400

*

OIP 401

* EXIT TO *OSL* IF SINGLE (CR).

OIP 402

* TO *OID* IF SINGLE (BS).

OIP 403

*

OIP 404

* USES NONE.

OIP 405

*

OIP 406

* CALLS CKB, DSH, KBI, XLS.

OIP 407

OIP 408

OIP 409

OIP 410

211 0200 1444 HRC RJM CKB CLEAR KEYBOARD BUFFER

213 0200 1663 HRC1 RJM DSH DISPLAY H-DISPLAY

215 0200 0303 RJM DRD DISPLAY REFRESH DELAY

217 0200 1342 RJM KBI READ KEYBOARD

OIP 411

OIP 412

OIP 413

221 0471 ZJN HRC1 IF STATEMENT INCOMPLETE

OIP 414

222 1101 LMN 1

OIP 415

223 0506 NJN HRC2 IF NOT CONTROL STATEMENT

OIP 416

224 2000 0237 LDC HSYN TRANSLATE STATEMENT

OIP 417

226 0200 0320 RJM XLS

OIP 418

230 0362 UJN HRC1

OIP 419

OIP 420

OIP 421

OIP 422

231 1103 HRC2 LMN 2&1

232 0503 NJN HRC3 IF NOT END OF INFORMATION (SINGLE CR)

233 0100 0157 LJM OSL

OIP 423

235 0100 0113 HRC3 LJM OID GO TO B-DISPLAY (SINGLE BS)

OIP 424

OIP 425

** HSYN - HARDWARE ATTRIBUTES SYNTAX TABLE

OIP 426

OIP 427

OIP 428

237 0333 HSYN CON CMZ CM

OIP 429

240 0546 CON CPX CPUN

OIP 430

241 0670 CON PUN PPUN

OIP 431

242 0611 CON PPX PPN

0IP	432
0IP	433
0IP	434

OIP	436
OIP	437
OIP	438
OIP	439
OIP	440
OIP	441
OIP	442
OIP	443
OIP	444
OIP	445
OIP	446
OIP	447
OIP	448
OIP	449
OIP	450
OIP	451
OIP	452
OIP	453
OIP	454
OIP	455
OIP	456
OIP	457
OIP	458
OIP	459
OIP	460
OIP	461
OIP	462
OIP	463
OIP	464
OIP	465
OIP	466
OIP	467
OIP	468
OIP	469
OIP	470
OIP	471
OIP	473
OIP	474
OIP	475
OIP	476
OIP	477
OIP	478
OIP	479
OIP	480
OIP	481
OIP	482

**	XLS - TRANSLATE STATEMENT.	OIP	485			
*		OIP	486			
*	ENTRY (A) = SYNTAX TABLE ADDRESS.	OIP	487			
*	(KI) = KEYBOARD INDEX.	OIP	488			
*	(KBUF) = STATEMENT.	OIP	489			
*		OIP	490			
*	EXIT (KM) = ZERO IF NO ERROR.	OIP	491			
*	(KM) = ADDR OF ERROR MESSAGE, IF ERROR.	OIP	492			
*	(KI) = ZERO IF NO ERROR.	OIP	493			
*	(KI) = INDEX TO END OF STATEMENT, IF ERROR.	OIP	494			
*		OIP	495			
*	USES T3.	OIP	496			
*		OIP	497			
*	CALLS CKB, CPS.	OIP	498			
		OIP	499			
**	ILL - INVALID ENTRY RETURN FROM STATEMENT PROCESSOR.	OIP	500			
		OIP	501			
		OIP	502			
311	2000 3007	ILL	LDC =C*INVALID ENTRY*	OIP	503	
313	3416		STD KM	OIP	504	
314	0303		UJN XLSX	OIP	505	
				OIP	506	
**	KBR - NORMAL RETURN FROM STATEMENT PROCESSOR.	OIP	507			
		OIP	508			
315	0200 1444	KBR	RJM CKB	CLEAR KEYBOARD BUFFER	OIP	509
					OIP	510
317	0100 0317	XLS	SUBR	ENTRY/EXIT	OIP	511
321	3403		STD T3	SYNTAX TABLE ADDRESS	OIP	512
322	2000 1460		LDC KBUF	KEYBOARD BUFFER ADDRESS	OIP	513
324	3417		STD KA		OIP	514
325	3003		LDD T3		OIP	515
326	0200 1230		RJM CPS	COMPARE KEYBOARD BUFFER VS SYNTAX TABLE	OIP	516
330	0460		ZJN ILL	IF NO MATCH	OIP	517
331	0103 0001		LJM 1,T3	GO TO STATEMENT PROCESSOR	OIP	518
**	CM=XXXXXX.	OIP	520			
*	SET CENTRAL MEMORY SIZE = XXXXXX/100B WORDS.	OIP	521			
		OIP	522			
		OIP	523			
333	0315	CMZ	DATA C*CM=*		OIP	524
336	2000 0476		LDC CMZA	DETERMINE MEMORY SIZE	OIP	525
340	0200 0407		RJM DMS		OIP	526
342	1003		SHN 3		OIP	527
343	3407		STD T7		OIP	528
344	1063		SHN -14		OIP	529
345	3406		STD T6		OIP	530
346	0200 1160		RJM ASD	SPECIFIED SIZE	OIP	531
350	3405		STD T5		OIP	532
351	1063		SHN -14		OIP	533
352	3404		STD T4		OIP	534
353	3006		LDD T6	VERIFY ACTUAL .GE. SPECIFIED SIZE	OIP	535
354	3204		SBD T4		OIP	536
355	0503		NJN CMZ1	IF UPPER BITS UNLIKE	OIP	537
356	3007		LDD T7		OIP	538

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605	5400	7673		STM	/CPA/OPTN		OIP	593
607	0100	0311		LJM	ILL		OIP	594
				**	PPXX=ON/OFF.		OIP	596
				*	SETS THE LOGICAL STATUS OF THE SPECIFIED PP.		OIP	597
							OIP	598
							OIP	599
611	2020		PPX	DATA	C*PP*		OIP	600
613	0200	1266		RJM	RNG	GET *XX=ON/OFF* OR *XX-YY=ON/OFF*	OIP	601
615	3007			LDD	T7	CHECK RANGE LIMITS	OIP	602
616	1712			SBN	12		OIP	603
617	0715			MJN	PPX3	IF NOT INVALID	OIP	604
620	1706			SBN	20-12		OIP	605
621	0603			PJN	PPX2	IF NOT INVALID	OIP	606
622	0100	0311	PPX1	LJM	ILL		OIP	607
							OIP	608
624	1712		PPX2	SBN	32-20		OIP	609
625	0674			PJN	PPX1	IF INVALID	OIP	610
626	3006			LDD	T6		OIP	611
627	1720			SBN	20		OIP	612
630	0771			MJN	PPX1	IF INVALID	OIP	613
631	1712			SBN	32-20		OIP	614
632	0667			PJN	PPX1	IF INVALID	OIP	615
633	0311			UJN	PPX4		OIP	616
							OIP	617
634	3006		PPX3	LDD	T6		OIP	618
635	1703			SBN	3		OIP	619
636	0763			MJN	PPX1	IF INVALID	OIP	620
637	1705			SBN	5		OIP	621
640	0461			ZJN	PPX1	IF INVALID	OIP	622
641	3007			LDD	T7		OIP	623
642	1710			SBN	10		OIP	624
643	0456			ZJN	PPX1	IF INVALID	OIP	625
644	3006		PPX4	LDD	T6		OIP	626
645	3414			STD	AB+4		OIP	627
646	1710			SBN	10		OIP	628
647	0413			ZJN	PPX7		OIP	629
650	1710			SBN	10		OIP	630
651	0705			MJN	PPX5	IF 1ST CHASSIS PP	OIP	631
652	3414			STD	AB+4		OIP	632
653	2000	7677		LDC	/CPA/LPP1		OIP	633
655	0303			UJN	PPX6		OIP	634
							OIP	635
656	2000	7676	PPX5	LDC	/CPA/LPP0		OIP	636
660	0200	1121	PPX6	RJM	STB	STORE BIT FOR ON/OFF PP	OIP	637
662	3606		PPX7	AOD	T6		OIP	638
663	3207			SBD	T7		OIP	639
664	0757			MJN	PPX4	IF NOT DONE	OIP	640
665	0456			ZJN	PPX4	IF NOT DONE	OIP	641
666	0100	0315		LJM	KBR		OIP	642

** PPUXX=ON/OFF.
* SETS THE LOGICAL STATUS OF THE SPECIFIED PPU.

OIP 644

OIP 645

OIP 646

OIP 647

OIP 648

OIP 649

OIP 650

OIP 651

OIP 652

OIP 653

OIP 654

OIP 655

OIP 656

OIP 657

OIP 658

OIP 659

OIP 660

OIP 661

OIP 662

OIP 663

OIP 664

OIP 665

OIP 666

OIP 667

OIP 668

OIP 669

OIP 670

OIP 671

OIP 672

OIP 673

** CEJ/MEJ=ON/OFF.
* SETS LOGICAL STATUS OF CEJ/MEJ.

OIP 675

OIP 676

OIP 677

OIP 678

OIP 679

OIP 680

OIP 681

OIP 682

OIP 683

OIP 684

OIP 685

OIP 686

OIP 687

OIP 688

OIP 689

670	2020	PUN	DATA	C*PPU*	
673	0200 1266		RJM	RNG	GET *XX=ON/OFF OR *XX-YY=ON/OFF*
675	3006		LDD	T6	CHECK LIMITS
676	1702		SBN	2	
677	0603		PJN	PUN2	IF LOWER LIMIT VALID
700	0100 0311	PUN1	LJM	ILL	
702	3007	PUN2	LDD	T7	
703	1716		SBN	16	
704	0673		PJN	PUN1	IF UPPER LIMIT INVALID
705	3006	PUN3	LDD	T6	
706	1701		SBN	1	
707	3414		STD	AB+4	
710	1714		SBN	14	
711	0705		MJN	PUN4	IF BIT IS IN *LPPU+1*
712	3414		STD	AB+4	
713	2000 7702		LDC	/CPA/LPPU	
715	0303		UJN	PUN5	
716	2000 7703	PUN4	LDC	/CPA/LPPU+1	
720	0200 1121	PUN5	RJM	STB	STORE BIT FOR ON/OFF PPU
722	3606		AOD	T6	
723	3207		SBD	T7	
724	0760		MJN	PUN3	IF NOT DONE
725	0457		ZJN	PUN3	IF NOT DONE
726	0100 0315		LJM	KBR	

730	0305	CEJ	DATA	C*CEJ/MEJ*	
735	0200 1320		RJM	NFF	CHECK FOR *=ON* OR *=OFF*
737	0603		PJN	CEJ1	IF LEGAL
740	0100 0311		LJM	ILL	
742	3401	CEJ1	STD	T1	SAVE BIT VALUE
743	1402		LDN	2	SET BIT NUMBER TO STORE
744	3414		STD	AB+4	
745	2000 7673		LDC	/CPA/OPTN	STORE BIT FOR ON/OFF CEJ/MEJ
747	0200 1121		RJM	STB	
751	0100 0315		LJM	KBR	

** CMU=ON/OFF
* SETS LOGICAL STATUS OF CMU.

OIP 691
OIP 692
OIP 693
OIP 694
OIP 695
OIP 696
OIP 697
OIP 698
OIP 699
OIP 700
OIP 701
OIP 702
OIP 703
OIP 704
OIP 705

753	0315	CMU	DATA	C*CMU*	
756	0200 1320		RJM	NFF	CHECK FOR *=ON* OR *=OFF*
760	0603		PJN	CMU1	IF LEGAL
761	0100 0311		LJM	ILL	
763	3401	CMU1	STD	T1	SAVE BIT VALUE
764	1403		LDN	3	SET BIT NUMBER TO STORE
765	3414		STD	AB+4	
766	2000 7673		LDC	/CPA/OPTN	STORE BIT FOR ON/OFF CMU
770	0200 1121		RJM	STB	
772	0100 0315		LJM	KBR	

** I=X.
* SET INITIALIZATION/RECOVERY LEVEL.

OIP 707
OIP 708
OIP 709
OIP 710
OIP 711
OIP 712
OIP 713
OIP 714
OIP 715
OIP 716
OIP 717
OIP 718
OIP 719
OIP 720
OIP 721
OIP 722
OIP 723

774	1154	REC	DATA	C*I=*	
776	0200 1160		RJM	ASD	ASSEMBLE DIGITS
1000	1710		SBN	10	
1001	0703		MJN	REC1	IF LEGAL
1002	0100 0311		LJM	ILL	
1004	5000 7712	REC1	LDM	/CPA/DSPNLZ+13	CHANGE DEAD START PANEL
1006	1011		SHN	9D	
1007	1307		SCN	7	
1010	3314		LMD	AB+4	
1011	1011		SHN	9D	
1012	5400 7712		STM	/CPA/DSPNLZ+13	
1014	0100 0315		LJM	KBR	

** C=XX.
* SET CMR DECK NUMBER.

OIP 725
OIP 726
OIP 727
OIP 728
OIP 729
OIP 730
OIP 731
OIP 732
OIP 733
OIP 734
OIP 735
OIP 736
OIP 737
OIP 738
OIP 739

1016	0354	DEK	DATA	C*C=*	
1020	0200 1160		RJM	ASD	ASSEMBLE DIGITS
1022	2177 7677		ADC	-100	
1024	0703		MJN	DEK1	IF LEGAL
1025	0100 0311		LJM	ILL	
1027	5000 7712	DEK1	LDM	/CPA/DSPNLZ+13	
1031	1377		SCN	77	
1032	3314		LMD	AB+4	
1033	5400 7712		STM	/CPA/DSPNLZ+13	
1035	0100 0315		LJM	KBR	

** D=X.
* SET DISPLAY CMRDECK PARAMETER

OIP 741
OIP 742
OIP 743
OIP 744
OIP 745
OIP 746
OIP 747
OIP 748
OIP 749
OIP 750
OIP 751
OIP 752
OIP 753
OIP 754
OIP 755
OIP 756
OIP 757
OIP 758

1037	0454	CMR	DATA	C*D=*	
1041	4017		LDI	KA	
1042	1716		SBN	1RN	
1043	0406		ZJN	CMR2	IF D=N
1044	1713		SBN	1RY-1RN	
1045	0403		ZJN	CMR1	IF D=Y
1046	0100 0311		LJM	ILL	
1050	1401	CMR1	LDN	1	
1051	3401	CMR2	STD	T1	
1052	1406		LDN	6	
1053	3414		STD	AB+4	
1054	2000 7712		LDC	/CPA/DSPNLZ+13	
1056	0200 1121		RJM	STB	SET BIT VALUE
1060	0100 0315		LJM	KBR	

** W12=XXXX.
* SET DEADSTART PANEL WORD 12.

OIP 760
OIP 761
OIP 762
OIP 763
OIP 764
OIP 765
DIMA292 1
DIMA292 2
DIMA292 3
DIMA292 4
OIP 766
OIP 767

1062	2734	W12	DATA	C*W12=*	
1065	0200 1160		RJM	ASD	ASSEMBLE DIGITS
1067	2176 7777		ADC	-10000B	
1071	0703		MJN	W12A	
1072	0100 0311		LJM	ILL	
1074	3014	W12A	LDD	AB+4	
1075	5400 7711		STM	/CPA/DSPNLZ+12	
1077	0100 0315		LJM	KBR	

** W14=XXXX.
* SET DEADSTART PANEL WORD 14.

OIP 769
OIP 770
OIP 771
OIP 772
OIP 773
OIP 774
DIMA292 5
DIMA292 6
DIMA292 7
DIMA292 8
OIP 775
OIP 776

1101	2734	W14	DATA	C*W14=*	
1104	0200 1160		RJM	ASD	ASSEMBLE DIGITS
1106	2176 7777		ADC	-10000B	
1110	0703		MJN	W14A	
1111	0100 0311		LJM	ILL	
1113	3014	W14A	LDD	AB+4	
1114	5400 7713		STM	/CPA/DSPNLZ+14	
1116	0100 0315		LJM	KBR	

** STB - STORE BIT IN HARDWARE DESCRIPTOR TABLE.
*
* ENTRY (A) = ADDRESS OF HDT WORD.
* (T1) = BIT VALUE.
* (AB+4) = BIT OFFSET IN HDT WORD.
*
* EXIT NONE.
*
* USES T2, T3.
*
* CALLS NONE.

OIP 778
OIP 779
OIP 780
OIP 781
OIP 782
OIP 783
OIP 784
OIP 785
OIP 786
OIP 787
OIP 788
OIP 789
OIP 790
OIP 791
OIP 792
OIP 793
OIP 794
OIP 795
OIP 796
OIP 797
OIP 798
OIP 799
OIP 800
OIP 801
OIP 802
OIP 803
OIP 804
OIP 805
OIP 806
OIP 807
OIP 808
OIP 809
OIP 810
OIP 811

1120	0100	1120	STB	SUBR	ENTRY/EXIT
1122	3402			STD	T2
1123	3014			LDD	AB+4
1124	1217			LPN	17
1125	2100	1000		ADC	SHNI
1127	5400	1134		STM	STBA
1131	5400	1143		STM	STBB
1133	1401			LDN	1
1134	1000		STBA	SHN	0
1135	2300	7777		LMC	7777
1137	5400	1147		STM	STBC
1141	3001			LDD	T1
1142	1201			LPN	1
1143	1000		STBB	SHN	0
1144	3403			STD	T3
1145	4002			LDI	T2
1146	2200	0000		LPC	0
		1147	STBC	EQU	*-1
1150	3303			LMD	T3
1151	4402			STI	T2
1152	0345			UJN	STBX

RETURN

** ASD - ASSEMBLE DIGITS.
*
* ENTRY (KA) = ADDRESS OF CHARACTER STRING.
*
* EXIT (A) = LOWER ASSEMBLY (16 BITS).
* (AB - AB+4) = ASSEMBLED DIGITS.
* TO *ILL* IF NO (CR).
*
* USES NONE.
*
* CALLS CDR.

OIP 813
OIP 814
OIP 815
OIP 816
OIP 817
OIP 818
OIP 819
OIP 820
OIP 821
OIP 822
OIP 823
OIP 824
OIP 825
OIP 826
OIP 827
OIP 828
OIP 829
OIP 830
OIP 831

1153	3013		ASD1	LDD	AB+3
1154	1237			LPN	37
1155	1014			SHN	14
1156	3314			LMD	AB+4
1157	0100	1157	ASD	SUBR	ENTRY/EXIT

1161	0200 1174	RJM	CDR	CONVERT DIGITS RIGHT ADJUSTED	OIP	832
1163	0467	ZJN	ASD1	IF (CR)	OIP	833
1164	1157	LMN	1R.		OIP	834
1165	0465	ZJN	ASD1	IF *.*	OIP	835
1166	0100 0311	LJM	ILL	INVALID ENTRY	OIP	836
		**	CDR - CONVERT DIGITS RIGHT ADJUSTED.			OIP 838
		*				OIP 839
		*	ENTRY (KA) = ADDRESS OF CHARACTER STRING.			OIP 840
		*				OIP 841
		*	EXIT (A) = SEPARATOR CHARACTER.			OIP 842
		*	(AB - AB+4) = ASSEMBLY.			OIP 843
		*				OIP 844
		*	USES T1, T2.			OIP 845
		*				OIP 846
		*	CALLS NONE.			OIP 847
					OIP	848
1170	1712	CDR4	SBN	1R -1R8	OIP	849
1171	0434		ZJN	CDR3	OIP	850
1172	4017	CDR5	LDI	KA	OIP	851
				RETURN WITH CHARACTER	OIP	852
1173	0100 1173	CDR	SUBR	ENTRY/EXIT	OIP	853
1175	1400		LDN	0	OIP	854
1176	3410		STD	AB	OIP	855
1177	3411		STD	AB+1	OIP	856
1200	3412		STD	AB+2	OIP	857
1201	3413		STD	AB+3	OIP	858
1202	3414		STD	AB+4	OIP	859
1203	4017	CDR1	LDI	KA	OIP	860
1204	1733		SBN	1R0	OIP	861
1205	0764		MJN	CDR5	OIP	862
1206	1710		SBN	1R8-1R0	OIP	863
1207	0660		PJN	CDR4	OIP	864
1210	1610		ADN	10	OIP	865
1211	3401		STD	T1	OIP	866
1212	1414		LDN	AB+4	OIP	867
1213	3402		STD	T2	OIP	868
1214	4002	CDR2	LDI	T2	OIP	869
1215	1003		SHN	3	OIP	870
1216	3301		LMD	T1	OIP	871
1217	4402		STI	T2	OIP	872
1220	1063		SHN	-14	OIP	873
1221	3401		STD	T1	OIP	874
1222	3702		SOD	T2	OIP	875
1223	1107		LMN	AB-1	OIP	876
1224	0567		NJN	CDR2	OIP	877
1225	3617	CDR3	AOD	KA	OIP	878
1226	0354		UJN	CDR1	OIP	879

** CPS - COMPARE STRING.

OIP 881

*

OIP 882

*

ENTRY (A) = SYNTAX TABLE ADDRESS.

OIP 883

*

(KA) = CHARACTER ADDRESS IN KEYBOARD BUFFER.

OIP 884

*

OIP 885

*

EXIT (A) = SYNTAX TABLE ORDINAL IF MATCH.

OIP 886

*

0 IF NO MATCH.

OIP 887

*

(KA) = LWA+1 OF KEYBOARD STRING, IF MATCH.

OIP 888

*

(T3) = LWA+1 OF SYNTAX STRING.

OIP 889

*

OIP 890

*

USES T1, T2, T3, T4.

OIP 891

*

OIP 892

*

CALLS NONE.

OIP 893

OIP 894

OIP 895

1227 0100 1227

CPS

SUBR

ENTRY/EXIT

OIP 896

1231 1701

SBN

1

SET CURRENT POSITION IN SYNTAX TABLE

OIP 897

1232 3401

STD

T1

OIP 898

1233 3402

STD

T2

SET 1ST POSITION - 1 IN SYNTAX TABLE

OIP 899

1234 3601

CPS1

AOD

T1

TRY NEXT SYNTAX TABLE ENTRY

OIP 900

1235 4001

LDI

T1

OIP 901

1236 0470

ZJN

CPSX

IF END OF TABLE, RETURN (A) = 0

OIP 902

1237 3403

STD

T3

ADDR OF SYNTAX TABLE STRING

OIP 903

1240 3017

LDD

KA

ADDR OF KEYBOARD BUFFER STRING

OIP 904

1241 3404

STD

T4

OIP 905

1242 4003

CPS2

LDI

T3

COMPARE UPPER

OIP 906

1243 1071

SHN

-6

OIP 907

1244 0414

ZJN

CPS3

IF COMPARE COMPLETE

OIP 908

1245 4304

LMI

T4

OIP 909

1246 0565

NJN

CPS1

IF NO MATCH

OIP 910

1247 3604

AOD

T4

OIP 911

1250 4003

LDI

T3

OIP 912

1251 1277

LPN

77

OIP 913

1252 0406

ZJN

CPS3

IF COMPARE COMPLETE

OIP 914

1253 4304

LMI

T4

OIP 915

1254 0557

NJN

CPS1

IF NO MATCH

OIP 916

1255 3604

AOD

T4

OIP 917

1256 3603

AOD

T3

OIP 918

1257 0362

UJN

CPS2

OIP 919

1260 3004

CPS3

LDD

T4

ADVANCE KEYBOARD BUFFER POINTER

OIP 920

1261 3417

STD

KA

OIP 921

1262 3001

LDD

T1

COMPUTE SYNTAX TABLE ORDINAL

OIP 922

1263 3202

SBD

T2

OIP 923

1264 0342

UJN

CPSX

RETURN

OIP 924

OIP 925

**	RNG - GET RANGE VALUES.	OIP	927
*	HANDLES *N* AND *N-M* FOR PPN, PPN-M,	OIP	928
*	PPUN, AND PPUN-M STATEMENTS.	OIP	929
*		OIP	930
*	ENTRY (KA) = KEYBOARD BUFFER POINTER.	OIP	931
*		OIP	932
*	EXIT (T1) = 1 IF *OFF*.	OIP	933
*	= 0 IF *ON*.	OIP	934
*	(T6) = LOWER LIMIT.	OIP	935
*	(T7) = UPPER LIMIT.	OIP	936
*	TO *ILL* IF ERROR.	OIP	937
*		OIP	938
*	USES NONE.	OIP	939
*		OIP	940
*	CALLS CDR, NFF.	OIP	941
		OIP	942
		OIP	943
1265	0100 1265 RNG SUBR ENTRY/EXIT	OIP	944
1267	0200 1174 RJM CDR ASSEMBLE DIGITS	OIP	945
1271	3014 LDD AB+4	OIP	946
1272	3406 STD T6 LOWER LIMIT	OIP	947
1273	3407 STD T7 UPPER LIMIT	OIP	948
1274	4017 LDI KA	OIP	949
1275	1146 LMN 1R-	OIP	950
1276	0506 NJN RNG1 IF NOT EXPRESSED AS RANGE OF VALUES	OIP	951
1277	3617 AOD KA BYPASS *-*	OIP	952
1300	0200 1174 RJM CDR ASSEMBLE DIGITS	OIP	953
1302	3014 LDD AB+4	OIP	954
1303	3407 STD T7 UPPER LIMIT	OIP	955
1304	0200 1320 RNG1 RJM NFF CHECK FOR *=ON* OR *=OFF*	OIP	956
1306	0603 PJN RNG3 IF VALID SYNTAX	OIP	957
1307	0100 0311 RNG2 LJM ILL	OIP	958
		OIP	959
1311	3401 RNG3 STD T1 SAVE BIT VALUE (1=*OFF*)	OIP	960
1312	3007 LDD T7 CHECK UPPER LIMIT .GE. LOWER LIMIT	OIP	961
1313	3206 SBD T6	OIP	962
1314	0650 PJN RNGX IF VALID RANGE	OIP	963
1315	0371 UJN RNG2	OIP	964
**	NFF - CHECK FOR *=ON* OR *=OFF*.	OIP	966
*		OIP	967
*	ENTRY (KA) = ADDRESS OF STRING.	OIP	968
*		OIP	969
*	EXIT (A) = 1 IF *=OFF*.	OIP	970
*	(A) = 0 IF *=ON*.	OIP	971
*	(A) = - IF NEITHER.	OIP	972
*		OIP	973
*	USES T1.	OIP	974
*		OIP	975
*	CALLS CPS.	OIP	976
		OIP	977
		OIP	978
1316	3001 NFF2 LDD T1 RETURN (A) = 0 FOR *ON*, (A) = 1 FOR *OFF*	OIP	979
		OIP	980

1317	0100	1317	NFF	SUBR		ENTRY/EXIT	OIP	981
1321	2000	1336		LDC	NFFA	LOOK FOR *ON* OR *OFF*	OIP	982
1323	0200	1230		RJM	CPS		OIP	983
1325	0407			ZJN	NFF1	IF NO MATCH	OIP	984
1326	1701			SBN	1	SET RETURN PARAMETER	OIP	985
1327	3401			STD	T1		OIP	986
1330	4017			LDI	KA	VERIFY (CR) OR *.*	OIP	987
1331	0464			ZJN	NFF2	IF (CR)	OIP	988
1332	1157			LMN	1R.		OIP	989
1333	0462			ZJN	NFF2	IF *.*	OIP	990
							OIP	991
1334	1501		NFF1	LCN	1	RETURN (A) = -1 FOR MISMATCH	OIP	992
1335	0361			UJN	NFFX		OIP	993
							OIP	994
1336	3026		NFFA	CON	=C*=ON*	1	OIP	995
1337	3031			CON	=C*=OFF*	2	OIP	996
1340	0000			CON	0	END OF TABLE	OIP	997

**	KBI - KEYBOARD INPUT.	OIP	1000
*	KBI READS A CHARACTER FROM THE KEYBOARD, AND INTERPRETS	OIP	1001
*	CONTROL CHARACTERS AS FOLLOWS -	OIP	1002
*		OIP	1003
*	(CR) PRECEDED BY OTHER CHARACTERS INDICATES END OF	OIP	1004
*	STATEMENT.	OIP	1005
*		OIP	1006
*	(CR) NOT PRECEDED BY OTHER CHARACTERS INDICATES END	OIP	1007
*	OF INFORMATION.	OIP	1008
*		OIP	1009
*	(BS) PRECEDED BY OTHER CHARACTERS INDICATES DELETE	OIP	1010
*	THE PRECEDING CHARACTER.	OIP	1011
*		OIP	1012
*	(BS) NOT PRECEDED BY OTHER CHARACTERS INDICATES END	OIP	1013
*	OF INFORMATION AND RETURN TO PREVIOUS STEP IN	OIP	1014
*	THE PROCESS.	OIP	1015
*		OIP	1016
*	(LEFT BLANK) INDICATES DELETE THE ENTIRE STATEMENT.	OIP	1017
*		OIP	1018
*	ENTRY (KBIA) = PREVIOUS CHARACTER.	OIP	1019
*	(KI) = INDEX INTO KEYBOARD BUFFER.	OIP	1020
*	(KBUF) = KEYBOARD BUFFER	OIP	1021
*		OIP	1022
*	EXIT (A) = 0 IF NORMAL CHARACTER OR NO DATA.	OIP	1023
*	(A) = 1 IF END OF STATEMENT (CR).	OIP	1024
*	(A) = 2 IF END OF INFORMATION (CR ONLY).	OIP	1025
*	(A) = 3 IF RETURN TO PREVIOUS STEP (BS ONLY)	OIP	1026
*		OIP	1027
*	USES T1.	OIP	1028
*		OIP	1029
*	CALLS KEY, CKB.	OIP	1030
		OIP	1031
		OIP	1032
1341	0100 1341 KBI SUBR ENTRY/EXIT	OIP	1033
1343	0200 1430 RJM KEY INPUT CHARACTER	OIP	1034
1345	0406 ZJN KBI1 IF NO INPUT	OIP	1035
1346	2300 0060 LMC 60 (PRESET CR)	OIP	1036
	1347 KBIA EQU *-1	OIP	1037
1350	0470 ZJN KBIX IF SAME INPUT, RETURN A = 0	OIP	1038
1351	5300 1347 LMM KBIA	OIP	1039
1353	5400 1347 KBI1 STM KBIA SAVE CHARACTER	OIP	1040
1355	3401 STD T1	OIP	1041
1356	0462 ZJN KBIX IF NO INPUT, RETURN A = 0	OIP	1042
1357	1160 LMN 60	OIP	1043
1360	0507 NJN KBI4 IF NOT (CR)	OIP	1044
1361	3015 LDD KI	OIP	1045
1362	0403 ZJN KBI2 IF END OF INFORMATION	OIP	1046
1363	1401 LDN 1	OIP	1047
1364	0354 UJN KBIX RETURN A = 1	OIP	1048
		OIP	1049
1365	1402 KBI2 LDN 2	OIP	1050
1366	0352 KBI3 UJN KBIX RETURN A = 2	OIP	1051
		OIP	1052
1367	1101 KBI4 LMN 61&60	OIP	1053
1370	0513 NJN KBI6 IF NOT (BS)	OIP	1054
1371	3015 LDD KI	OIP	1055
1372	0503 NJN KBI5 IF NOT ((BS) AND 1ST CHAR)	OIP	1056

1427	0100	1427	KEY	SUBR		ENTRY/EXIT	OIP	1096
1431	2000	0200		LDC	200	DELAY	OIP	1097
1433	1701			SBN	1		OIP	1098
1434	0576			NJN	*-1		OIP	1099
1435	7710	7020		FNC	7020,CH	SELECT KEYBOARD INPUT	OIP	1100
1437	7410			ACN	CH		OIP	1101
1440	7010			IAN	CH	INPUT CHARACTER	OIP	1102
1441	7510			DCN	CH		OIP	1103
1442	0364			UJN	KEYX	RETURN	OIP	1104

** CKB - CLEAR KEYBOARD BUFFER.
*
* ENTRY NONE.
*
* EXIT (KBUF) = 0.
* (KI) = 0.
* (KM) = 0.
*
* USES NONE.
*
* CALLS NONE.

OIP 1106
OIP 1107
OIP 1108
OIP 1109
OIP 1110
OIP 1111
OIP 1112
OIP 1113
OIP 1114
OIP 1115
OIP 1116
OIP 1117
OIP 1118
OIP 1119
OIP 1120
OIP 1121
OIP 1122
OIP 1123
OIP 1124
OIP 1125
OIP 1126
OIP 1127
OIP 1128
OIP 1129
OIP 1130
OIP 1131
OIP 1132
OIP 1133
OIP 1134
OIP 1135

1443 0100 1443
1445 1400
1446 3415
1447 1400
1450 5415 1460
1452 3615
1453 1136
1454 0572
1455 3415
1456 3416
1457 0363

CKB SUBR ENTRY/EXIT
LDN 0
CKB1 STD KI
LDN 0 CLEAR KEYBOARD BUFFER
STM KBUF,KI
AOD KI
LMN KBUFL
NJN CKB1
STD KI CLEAR KEYBOARD BUFFER INDEX
STD KM CLEAR ERROR MESSAGE
UJN CKBX RETURN

** KBUF - KEYBOARD BUFFER.

1460 36 KBUF BSS 30D
36 KBUFL EQU *-KBUF
1516 0000 CON 0 INSURE END OF LINE

1412THE

** DSB - DISPLAY B-DISPLAY.

OIP 1138

*

OIP 1139

* ENTRY NONE.

OIP 1140

*

OIP 1141

* EXIT NONE.

OIP 1142

*

OIP 1143

* USES NONE.

OIP 1144

*

OIP 1145

* CALLS DFN, DEM.

OIP 1146

OIP 1147

OIP 1148

OIP 1149

1517 0100 1517 DSB SUBR ENTRY/EXIT

1521 0200 2644 RJM DFN FUNCTION DISPLAY

1523 2000 0127 LDC DSBAL DISPLAY OPTIONS

1525 7350 1533 OAM DSBA,CH+40

1527 0200 2577 RJM DEM DISPLAY ERROR MESSAGE, IF ANY

1531 7510 DCN CH

1532 0364 UJN DSBX RETURN

OIP 1155

OIP 1156

OIP 1157

OIP 1158

1533 6340 7730 DSBA CON XC15,YC01

1535 4717 DATA H/*0*/

1537 6000 7660 CON XC01,YC03

1541 5103 DATA H*(CR) - ENTER OS LOAD AUTOMATIC*

1560 6000 7634 CON XC01,YC04

1562 5102 DATA H/(BS) - RETURN TO *A* DISPLAY/

1600 6040 7564 CON XC03,YC06

1602 0455 DATA H*D - DEADSTART DIAGNOSTIC SEQ.*

1621 6040 7540 CON XC03,YC07

1623 1055 DATA H*H - HARDWARE RECONFIGURATION*

1642 6040 7514 CON XC03,YC08

1644 2055 DATA H*P - DEADSTART PANEL PARAMS*

OIP 1168

OIP 1169

127 DSBAL EQU *-DSBA

** DSH - DISPLAY H-DISPLAY.

OIP 1171

*

OIP 1172

* ENTRY (HDT) = HARDWARE DESCRIPTOR TABLE.

OIP 1173

*

OIP 1174

* EXIT NONE.

OIP 1175

*

OIP 1176

* USES T1.

OIP 1177

*

OIP 1178

* CALLS DFN, D20, D40, DNF, DOE, DEM, DKB.

OIP 1179

OIP 1180

OIP 1181

OIP 1182

1662 0100 1662 DSH SUBR ENTRY/EXIT

1664 0200 2644 RJM DFN DISPLAY HEADER

1666 2000 0045 LDC DSHAL

1670 7350 1744 OAM DSHA,CH+40

OIP 1185

OIP 1186

OIP 1187

OIP 1188

* DISPLAY CM = NNNNNN. CEJ/MEJ = ON/OFF CMU = ON/OFF.

1672 1405 LDN DSHBL *CM = *

1673 7350 2011 OAM DSHB,CH+40

1675 1400 LDN 0

OIP 1189

OIP 1190

OIP 1191

1676	3401		STD	T1		OIP	1192
1677	5000 7671		LDM	/CPA/CMSZ		OIP	1193
1701	0200 2742		RJM	D20		OIP	1194
1703	5000 7672		LDM	/CPA/CMSZ+1		OIP	1195
1705	3402		STD	T2		OIP	1196
1706	0200 2766		RJM	D40		OIP	1197
1710	2000 5755		LDC	2R.		OIP	1198
1712	7250		OAN	CH+40		OIP	1199
						OIP	1200
1713	1406		LDN	DSHCL	* CEJ/MEJ = *	OIP	1201
1714	7350 2016		OAM	DSHC,CH+40		OIP	1202
1716	5000 7673		LDM	/CPA/OPTN		OIP	1203
1720	1075		SHN	-2		OIP	1204
1721	0200 2032		RJM	DNF		OIP	1205
						OIP	1206
1723	1405		LDN	DSHDL	* CMU = *	OIP	1207
1724	7350 2024		OAM	DSHD,CH+40		OIP	1208
1726	5000 7673		LDM	/CPA/OPTN		OIP	1209
1730	1074		SHN	-3		OIP	1210
1731	0200 2032		RJM	DNF		OIP	1211
						OIP	1212
1733	0200 2052		RJM	DOE	DISPLAY *OFF* ELEMENTS	OIP	1213
1735	0200 2577		RJM	DEM	DISPLAY ERROR MESSAGE, IF ANY.	OIP	1214
1737	0200 2617		RJM	DKB	DISPLAY KEYBOARD BUFFER	OIP	1215
1741	7510		DCN	CH		OIP	1216
1742	0100 1662		LJM	DSHX	RETURN	OIP	1217
						OIP	1218
1744	6340 7730	DSHA	CON	XC15,YC01		OIP	1219
1746	4710		DATA	H/*H*/		OIP	1220
1750	6000 7660		CON	XC01,YC03		OIP	1221
1752	5103		DATA	H*(CR) - ENTER OS LOAD AUTOMATIC*		OIP	1222
1771	6000 7634		CON	XC01,YC04		OIP	1223
1773	5102		DATA	H/(BS) - RETURN TO *0* DISPLAY/		OIP	1224
		45	DSHAL	EQU	*-DSHA	OIP	1225
						OIP	1226
2011	6000 7564		DSHB	CON	XC01,YC06	OIP	1227
2013	0315		DATA	H*CM = *		OIP	1228
		5	DSHBL	EQU	*-DSHB	OIP	1229
						OIP	1230
2016	6460		DSHC	CON	XC20	OIP	1231
2017	0305		DATA	H*CEJ/MEJ = *		OIP	1232
		6	DSHCL	EQU	*-DSHC	OIP	1233
						OIP	1234
2024	6560 7540		DSHD	CON	XC24,YC07	OIP	1235
2026	0315		DATA	H*CMU = *		OIP	1236
		5	DSHDL	EQU	*-DSHD	OIP	1237

** DNF - DISPLAY *ON * OR *OFF *.

OIP 1239

*

OIP 1240

* ENTRY (A) = BIT 0 CLEAR FOR *ON*.

OIP 1241

* (A) = BIT 0 SET FOR *OFF*.

OIP 1242

*

OIP 1243

* EXIT *ON * OR *OFF * DISPLAYED.

OIP 1244

*

OIP 1245

* USES NONE.

OIP 1246

*

OIP 1247

* CALLS NONE.

OIP 1248

OIP 1249

OIP 1250

2031 0100 2031 DNF SUBR ENTRY/EXIT

OIP 1251

2033 1201 LPN 1

OIP 1252

2034 0506 NJN DNF1 IF *OFF*

OIP 1253

2035 2000 1716 LDC 2RON

OIP 1254

2037 7250 OAN CH+40

OIP 1255

2040 1400 LDN 0

OIP 1256

2041 0306 UJN DNF2

OIP 1257

OIP 1258

2042 2000 1706 DNF1 LDC 2ROF

OIP 1259

2044 7250 OAN CH+40

OIP 1260

2045 2000 0655 LDC 2RF

OIP 1261

2047 7250 DNF2 OAN CH+40

OIP 1262

2050 0360 UJN DNF2 RETURN

OIP 1263

OIP 1264

** DOE - DISPLAY *OFF* ELEMENTS.

OIP 1266

*

OIP 1267

* ENTRY (HDT) = HARDWARE DESCRIPTOR TABLE.

OIP 1268

*

OIP 1269

* EXIT NONE.

OIP 1270

*

OIP 1271

* USES T1, T2, T3.

OIP 1272

*

OIP 1273

* CALLS DPP, DPU.

OIP 1274

OIP 1275

2051 0100 2051 DOE SUBR ENTRY/EXIT

OIP 1276

2053 1410 LDN DOEAL DISPLAY *OFF ELEMENTS*

OIP 1277

2054 7350 2142 OAM DOEAL,CH+40

OIP 1278

OIP 1279

OIP 1280

2056 2000 7444 LDC YC10 SET Y-COORDINATE FOR 1ST LINE

OIP 1281

2060 3401 STD T1

OIP 1282

2061 1400 LDN 0 SET COLUMN NUMBER

OIP 1283

2062 3402 STD T2

OIP 1284

OIP 1285

* DISPLAY *OFF* CPU.

OIP 1286

OIP 1287

2063 5000 7673 LDM /CPA/OPTN

OIP 1288

2065 1203 LPN 3

OIP 1289

2066 0421 ZJN DOE1 IF BOTH CPU-S *ON*

OIP 1290

2067 0200 2271 RJM SOL HANDLE START OF LINE

OIP 1291

OIP 1292

2071	2000 0320	LDC	2RCP	DISPLAY CPUX	OIP	1293
2073	7250	OAN	CH+40		OIP	1294
2074	5000 7673	LDM	/CPA/OPTN		OIP	1295
2076	1201	LPN	1		OIP	1296
2077	1101	LMN	1		OIP	1297
2100	2100 2533	ADC	2RU0		OIP	1298
2102	7250	OAN	CH+40		OIP	1299
2103	1400	LDN	0		OIP	1300
2104	7250	OAN	CH+40		OIP	1301
2105	7250	OAN	CH+40		OIP	1302
2106	3602	AOD	T2	INCR COLUMN NUMBER	OIP	1303
					OIP	1304
		*		DISPLAY *OFF* PP-S.	OIP	1305
					OIP	1306
2107	1400	DOE1	LDN 0	DISPLAY CHASSIS 1 *OFF* PP-S	OIP	1307
2110	3403	STD	T3		OIP	1308
2111	5000 7676	LDM	/CPA/LPP0		OIP	1309
2113	0200 2153	RJM	DPP		OIP	1310
2115	1420	LDN	20	DISPLAY CHASSIS 2 *OFF* PP-S	OIP	1311
2116	3403	STD	T3		OIP	1312
2117	5000 7677	LDM	/CPA/LPP1		OIP	1313
2121	0200 2153	RJM	DPP		OIP	1314
					OIP	1315
		*		DISPLAY *OFF* PPU-S.	OIP	1316
					OIP	1317
2123	1401	LDN	1	DISPLAY PPU-S 1-14B	OIP	1318
2124	3403	STD	T3		OIP	1319
2125	5000 7703	LDM	/CPA/LPPU+1		OIP	1320
2127	0200 2221	RJM	DPU		OIP	1321
2131	1415	LDN	15	DISPLAY PPU15	OIP	1322
2132	3403	STD	T3		OIP	1323
2133	5000 7702	LDM	/CPA/LPPU		OIP	1324
2135	1201	LPN	1		OIP	1325
2136	0200 2221	RJM	DPU		OIP	1326
2140	0100 2051	LJM	DOEX	RETURN	OIP	1327
					OIP	1328
2142	6240 7470	DOEA	CON XC11,YC09		OIP	1329
2144	1706	DATA	H*OFF ELEMENTS*		OIP	1330
	10	DOEAL	EQU *-DOEA		OIP	1331

** DPP - DISPLAY *OFF* PP-S.

OIP 1333

*

OIP 1334

* ENTRY (A) = (LPP0) OR (LPP1).

OIP 1335

* (T1) = Y-COORDINATE.

OIP 1336

* (T2) = COLUMN NUMBER.

OIP 1337

* (T3) = STARTING PP NUMBER.

OIP 1338

*

OIP 1339

* EXIT (T1) = Y-COORDINATE.

OIP 1340

* (T2) = COLUMN NUMBER.

OIP 1341

*

OIP 1342

* USES T4.

OIP 1343

*

OIP 1344

* CALLS SOL.

OIP 1345

OIP 1346

OIP 1347

2152 0100 2152 DPP SUBR ENTRY/EXIT

OIP 1348

2154 2200 1777 LPC 1777 *OFF* MASK

OIP 1349

2156 3404 DPP1 STD T4

OIP 1350

2157 0472 ZJN DPPX IF REMAINING PP-S *ON*

OIP 1351

2160 1201 LPN 1

OIP 1352

2161 0432 ZJN DPP4 IF *ON*

OIP 1353

OIP 1354

2162 0200 2271 RJM SOL HANDLE START OF LINE IF NECESSARY

OIP 1355

2164 2000 2020 LDC 2RPP

OIP 1356

2166 7250 OAN CH+40

OIP 1357

2167 3003 LDD T3

OIP 1358

2170 1270 LPN 70

OIP 1359

2171 0505 NJN DPP2 IF NO ZERO SUPPRESS

OIP 1360

2172 3003 LDD T3

OIP 1361

2173 1633 ADN 1R0

OIP 1362

2174 1006 SHN 6

OIP 1363

2175 0306 UJN DPP3

OIP 1364

OIP 1365

2176 1003 DPP2 SHN 3

OIP 1366

2177 3303 LMD T3

OIP 1367

2200 1370 SCN 70

OIP 1368

2201 2100 3333 ADC 2R00

OIP 1369

2203 7250 DPP3 OAN CH+40

OIP 1370

2204 1400 LDN 0

OIP 1371

2205 7250 OAN CH+40

OIP 1372

2206 7250 OAN CH+40

OIP 1373

2207 3602 AOD T2 INCR COLUMN NUMBER

OIP 1374

2210 1104 LMN 4

OIP 1375

2211 0502 NJN DPP4 IF NOT END OF LINE

OIP 1376

2212 3402 STD T2 SET START OF LINE

OIP 1377

OIP 1378

2213 3603 DPP4 AOD T3 INCR PP NUMBER

OIP 1379

2214 3004 LDD T4

OIP 1380

2215 1076 SHN -1

OIP 1381

2216 0100 2156 LJM DPP1

OIP 1382

** DPU - DISPLAY *OFF* PPU-S.

OIP 1384

*

OIP 1385

*

ENTRY (A) = (LPPU) OR (LPPU+1).

OIP 1386

*

(T1) = Y-COORDINATE.

OIP 1387

*

(T2) = COLUMN NUMBER.

OIP 1388

*

(T3) = STARTING PPU NUMBER.

OIP 1389

*

OIP 1390

*

EXIT NONE.

OIP 1391

*

OIP 1392

*

USES T4.

OIP 1393

*

OIP 1394

*

CALLS SOL.

OIP 1395

OIP 1396

OIP 1397

OIP 1398

2220 0100 2220

DPU

SUBR

ENTRY/EXIT

OIP 1399

2222 3404

DPU1

STD

T4

OFF MASK

OIP 1400

2223 0474

ZJN

DPUX

IF REMAINING PPU-S *ON*

OIP 1401

2224 1201

LPN

1

OIP 1402

2225 0436

ZJN

DPU4

IF *ON*

OIP 1403

2226 0200 2271

RJM

SOL

HANDLE START OF LINE IF NECESSARY

OIP 1404

2230 2000 2020

LDC

2RPP

DISPLAY *PPUX* OR *PPUXX*

OIP 1405

2232 7250

OAN

CH+40

OIP 1406

2233 3003

LDD

T3

OIP 1407

2234 1270

LPN

70

OIP 1408

2235 0507

NJN

DPU2

IF NO ZERO SUPPRESS

OIP 1409

2236 3003

LDD

T3

OIP 1410

2237 2100 2533

ADC

2RU0

OIP 1411

2241 7250

OAN

CH+40

OIP 1412

2242 1400

LDN

0

OIP 1413

2243 0311

UJN

DPU3

OIP 1414

OIP 1415

OIP 1416

2244 1074

DPU2

SHN

-3

OIP 1417

2245 2100 2533

ADC

2RU0

OIP 1418

2247 7250

OAN

CH+40

OIP 1419

2250 3003

LDD

T3

OIP 1420

2251 1207

LPN

7

OIP 1421

2252 1633

ADN

1R0

OIP 1422

2253 1006

SHN

6

OIP 1423

2254 7250

DPU3

OAN

CH+40

OIP 1424

2255 1400

LDN

0

OIP 1425

2256 7250

OAN

CH+40

OIP 1426

2257 3602

AOD

T2

INCR COLUMN NUMBER

OIP 1427

2260 1104

LMN

4

OIP 1428

2261 0502

NJN

DPU4

IF NOT END OF LINE

OIP 1429

2262 3402

STD

T2

SET START OF LINE

OIP 1430

2263 3603

DPU4

AOD

T3

INCR PPU NUMBER

OIP 1431

2264 3004

LDD

T4

OIP 1432

2265 1076

SHN

-1

OIP 1433

2266 0100 2222

LJM

DPU1

OIP 1434

** SOL - START OF LINE.

OIP 1436

*

OIP 1437

*

ENTRY (T1) = Y-COORDINATE.

OIP 1438

*

(T2) = COLUMN NUMBER.

OIP 1439

*

OIP 1440

*

EXIT NONE.

OIP 1441

*

OIP 1442

*

USES NONE.

OIP 1443

*

OIP 1444

*

CALLS NONE.

OIP 1445

OIP 1446

OIP 1447

2270 0100 2270

SOL

SUBR

ENTRY/EXIT

OIP 1448

2272 3002

LDD

T2

OIP 1449

2273 0574

NJN

SOLX

IF NOT START OF LINE

OIP 1450

2274 3001

LDD

T1

OUTPUT COORDINATES

OIP 1451

2275 7250

OAN

CH+40

OIP 1452

2276 2000 6040

LDC

XC03

OIP 1453

2300 7250

OAN

CH+40

OIP 1454

2301 1524

LCN

YCIN

DECR Y-COORDINATE

OIP 1455

2302 3501

RAD

T1

OIP 1456

2303 0364

UJN

SOLX

RETURN

OIP 1457

** DSP - DISPLAY P-DISPLAY.

OIP 1459

*

OIP 1460

*

ENTRY (DSPNL) = DEADSTART PANEL IMAGE.

OIP 1461

*

OIP 1462

*

EXIT NONE.

OIP 1463

*

OIP 1464

*

USES NONE.

OIP 1465

*

OIP 1466

*

CALLS D1D, D2D, D4D, DEM, DKB.

OIP 1467

OIP 1468

OIP 1469

2304 0100 2304

DSP

SUBR

ENTRY/EXIT

OIP 1470

2306 0200 2644

RJM

DFN

DISPLAY HEADER AND OPTIONS

OIP 1471

2310 1445

LDN

DSPAL

OIP 1472

2311 7350 2407

OAM

DSPA,CH+40

OIP 1473

2313 1405

LDN

DSPBL

DISPLAY *I = X - INIT/RECOVERY LVL*

OIP 1474

2314 7350 2454

OAM

DSPB,CH+40

OIP 1475

2316 5000 7712

LDM

/CPA/DSPNLZ+13

OIP 1476

2320 1066

SHN

-9D

OIP 1477

2321 0200 2712

RJM

D1D

OIP 1478

2323 1414

LDN

DSPCL

OIP 1479

2324 7350 2461

OAM

DSPC,CH+40

OIP 1480

2326 1405

LDN

DSPDL

DISPLAY *C = XX - CMRDECK NUMBER*

OIP 1481

2327 7350 2475

OAM

DSPD,CH+40

OIP 1482

2331 5000 7712

LDM

/CPA/DSPNLZ+13

OIP 1483

2333 0200 2721

RJM

D2D

OIP 1484

2335 1412

LDN

DSPEL

OIP 1485

2336 7310 2502

OAM

DSPE,CH

OIP 1486

2340 1405

LDN

DSPJL

DISPLAY *D=X - DISPLAY CMRDECK *

OIP 1487

2341 7310 2514

OAM

DSPJ,CH

OIP 1488

2343 5000 7712

LDM

/CPA/DSPNLZ+13

OIP 1489

2345	1071			SHN	-6		OIP	1490
2346	1201			LPN	1		OIP	1491
2347	0200	2701		RJM	D1C		OIP	1492
2351	1413			LDN	DSPKL		OIP	1493
2352	7310	2521		OAM	DSPK,CH		OIP	1494
							OIP	1495
2354	1405			LDN	DSPFL	DISPLAY *W12 = XXXX - D/S PANEL WORD 12*	OIP	1496
2355	7350	2534		OAM	DSPF,CH+40		OIP	1497
2357	5000	7711		LDM	/CPA/DSPNLZ+12		OIP	1498
2361	0200	2732		RJM	D4D		OIP	1499
2363	1414			LDN	DSPGL		OIP	1500
2364	7350	2541		OAM	DSPG,CH+40		OIP	1501
2366	1405			LDN	DSPHL	DISPLAY *W14 = XXXX - D/S PANEL WORD 14*	OIP	1502
2367	7350	2555		OAM	DSPH,CH+40		OIP	1503
2371	5000	7713		LDM	/CPA/DSPNLZ+14		OIP	1504
2373	0200	2732		RJM	D4D		OIP	1505
2375	1414			LDN	DSPIL		OIP	1506
2376	7350	2562		OAM	DSPI,CH+40		OIP	1507
2400	0200	2577		RJM	DEM	DISPLAY ERROR MESSAGE, IF ANY	OIP	1508
2402	0200	2617		RJM	DKB	DISPLAY KEYBOARD BUFFER	OIP	1509
2404	7510			DCN	CH		OIP	1510
2405	0100	2304		LJM	DSPX		OIP	1511
							OIP	1512
2407	6340	7730		DSPA	CON	XC15,YC01	OIP	1513
2411	4720			DATA	H/*P*/		OIP	1514
2413	6000	7660		CON	XC01,YC03		OIP	1515
2415	5103			DATA	H*(CR) - ENTER OS LOAD AUTOMATIC*		OIP	1516
2434	6000	7634		CON	XC01,YC04		OIP	1517
2436	5102			DATA	H/(BS) - RETURN TO *0* DISPLAY/		OIP	1518
		45	DSPAL	EQU	*-DSPA		OIP	1519
							OIP	1520
2454	6020	7564		DSPB	CON	XC02,YC06	OIP	1521
2456	5555			DATA	H* I = *		OIP	1522
		5	DSPBL	EQU	*-DSPB		OIP	1523
							OIP	1524
2461	6300	7564		DSPC	CON	XC13,YC06	OIP	1525
2463	4655			DATA	H*- INIT/RECOVERY LVL*		OIP	1526
		14	DSPCL	EQU	*-DSPC		OIP	1527
							OIP	1528
2475	6020	7540		DSPD	CON	XC02,YC07	OIP	1529
2477	5555			DATA	H* C = *		OIP	1530
		5	DSPDL	EQU	*-DSPD		OIP	1531
							OIP	1532
2502	6300	7540		DSPE	CON	XC13,YC07	OIP	1533
2504	4655			DATA	H*- CMRDECK NUMBER*		OIP	1534
		12	DSPEL	EQU	*-DSPE		OIP	1535
2514	6020	7514		DSPJ	CON	XC02,YC08	OIP	1536
2516	5555			DATA	H* D = *		OIP	1537
		5	DSPJL	EQU	*-DSPJ		OIP	1538
							OIP	1539
2521	6300	7514		DSPK	CON	XC13,YC08	OIP	1540
2523	4655			DATA	H*- DISPLAY CMRDECK*		OIP	1541
		13	DSPKL	EQU	*-DSPK		OIP	1542
							OIP	1543
2534	6020	7470		DSPF	CON	XC02,YC09	OIP	1544
2536	2734			DATA	H*W12 = *		OIP	1545
		5	DSPFL	EQU	*-DSPF		OIP	1546

2541	6300	7470	DSPG	CON	XC13,YC09	OIP	1547
2543	4655			DATA	H*- D/S PANEL WORD 12*	OIP	1548
		14	DSPGL	EQU	*-DSPG	OIP	1549
2555	6020	7444	DSPH	CON	XC02,YC10	OIP	1550
2557	2734			DATA	H*W14 = *	OIP	1551
		5	DSPHL	EQU	*-DSPH	OIP	1552
2562	6300	7444	DSPI	CON	XC13,YC10	OIP	1553
2564	4655			DATA	H*- D/S PANEL WORD 14*	OIP	1554
		14	DSPIL	EQU	*-DSPI	OIP	1555
						OIP	1556
						OIP	1557
						OIP	1558
			**	DEM	- DISPLAY ERROR MESSAGE.	OIP	1560
			*			OIP	1561
			*	ENTRY	(KM) = ADDRESS OF ERROR MESSAGE.	OIP	1562
			*			OIP	1563
			*	EXIT	NONE.	OIP	1564
			*			OIP	1565
			*	USES	T1.	OIP	1566
			*			OIP	1567
			*	CALLS	NONE.	OIP	1568
						OIP	1569
						OIP	1570
2576	0100	2576	DEM	SUBR	ENTRY/EXIT	OIP	1571
2600	3016			LDD	KM	OIP	1572
2601	0474			ZJN	DEMX	OIP	1573
2602	1701			SBN	1	OIP	1574
2603	3401			STD	T1	OIP	1575
2604	1402			LDN	2	OIP	1576
2605	7350	2614		OAM	DEMA,CH+40	OIP	1577
2607	3601		DEM1	AOD	T1	OIP	1578
2610	4001			LDI	T1	OIP	1579
2611	7250			OAN	CH+40	OIP	1580
2612	0574			NJN	DEM1	OIP	1581
2613	0362			UJN	DEMX	OIP	1582
					RETURN	OIP	1583
2614	6000	7040	DEMA	CON	XC01,YCER	OIP	1584
			**	DKB	- DISPLAY KEYBOARD BUFFER.	OIP	1586
			*			OIP	1587
			*	ENTRY	(KBUF) = KEYBOARD BUFFER.	OIP	1588
			*			OIP	1589
			*	EXIT	NONE.	OIP	1590
			*			OIP	1591
			*	USES	T1.	OIP	1592
			*			OIP	1593
			*	CALLS	NONE.	OIP	1594
						OIP	1595
						OIP	1596
2616	0100	2616	DKB	SUBR	ENTRY/EXIT	OIP	1597

2620	1402		LDN	2	OUTPUT COORDINATES	OIP	1598
2621	7350 2641		OAM	DKBA,CH+40		OIP	1599
2623	1400		LDN	0		OIP	1600
2624	3401		STD	T1		OIP	1601
2625	5001 1460	DKB1	LDM	KBUF,T1		OIP	1602
2627	0466		ZJN	DKBX	IF END OF KEYBOARD LINE	OIP	1603
2630	1006		SHN	6		OIP	1604
2631	5101 1461		ADM	KBUF+1,T1		OIP	1605
2633	7250		OAN	CH+40		OIP	1606
2634	1277		LPN	77B		OIP	1607
2635	0460		ZJN	DKBX	IF END OF KEYBOARD LINE	OIP	1608
2636	1402		LDN	2		OIP	1609
2637	3501		RAD	T1		OIP	1610
2640	0364		UJN	DKB1		OIP	1611
						OIP	1612
2641	6000 7014	DKBA	CON	XC01,YCKB		OIP	1613
		**	DFN	-	DELAY AND FUNCTION DISPLAY.	OIP	1615
		*				OIP	1616
		*	ENTRY	NONE.		OIP	1617
		*				OIP	1618
		*	EXIT	NONE.		OIP	1619
		*				OIP	1620
		*	USES	NONE.		OIP	1621
		*				OIP	1622
		*	CALLS	NONE.		OIP	1623
						OIP	1624
						OIP	1625
2643	0100 2643	DFN	SUBR		ENTRY/EXIT	OIP	1626
2645	2000 1000		LDC	1000	DELAY	OIP	1627
2647	1701		SBN	1		OIP	1628
2650	0576		NJN	*-1		OIP	1629
2651	7710 7001		FNC	DSFC,CH	SELECT LEFT SCREEN, 32 LINES PER SCREEN	OIP	1630
2653	7410		ACN	CH		OIP	1631
2654	0366		UJN	DFNX	RETURN	OIP	1632
		**	CDS	-	CLEAR DISPLAY.	OIP	1634
		*				OIP	1635
		*	ENTRY	PP 10 ON CHANNEL 0.		OIP	1636
		*		CHANNEL 10 USED FOR DISPLAY.		OIP	1637
		*				OIP	1638
		*	EXIT	PP 10 ON CHANNEL 10.		OIP	1639
		*				OIP	1640
		*	USES	NONE.		OIP	1641
		*				OIP	1642
		*	CALLS	NONE.		OIP	1643
						OIP	1644
						OIP	1645
2655	0100 2655	CDS	SUBR		ENTRY/EXIT	OIP	1646
2657	7710 0000		FNC	0,CH	CLEAR DISPLAY SYNC	OIP	1647
2661	2000 1000		LDC	1000	DELAY	OIP	1648

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**      D2D - DISPLAY 2 DIGITS.                                OIP      1700
*                                              OIP      1701
*      ENTRY  (A) = DIGITS RIGHT ADJUSTED.                    OIP      1702
*                                              OIP      1703
*      EXIT   NONE.                                           OIP      1704
*                                              OIP      1705
*      USES   T0, T1.                                         OIP      1706
*                                              OIP      1707
*      CALLS  D20.                                           OIP      1708
*                                              OIP      1709
*                                              OIP      1710
*                                              OIP      1711
2720      0100 2720      D2D      SUBR      ENTRY/EXIT        OIP      1712
2722      3400                                OIP      1713
2723      1577                                OIP      1714
2724      3401                                OIP      1715
2725      3000                                OIP      1716
2726      0200 2742      LDD      T0      DISPLAY 2 DIGITS    OIP      1717
2727      0367                                OIP
2730      UJN      D2DX      RETURN

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**      D4D - DISPLAY 4 DIGITS.                                OIP      1719
*                                              OIP      1720
*      ENTRY  (A) = DIGITS RIGHT ADJUSTED.                    OIP      1721
*                                              OIP      1722
*      EXIT   NONE.                                           OIP      1723
*                                              OIP      1724
*      USES   T1, T2.                                         OIP      1725
*                                              OIP      1726
*      CALLS  D40.                                           OIP      1727
*                                              OIP      1728
*                                              OIP      1729
2731      0100 2731      D4D      SUBR      ENTRY/EXIT        OIP      1730
2733      3402                                OIP      1731
2734      1577                                OIP      1732
2735      3401                                OIP      1733
2736      0200 2766      LDD      T1      DISPLAY 4 DIGITS    OIP      1734
2740      0370                                OIP      1735
2740      UJN      D4DX

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1412THE

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27760366UJND40XRETURNOIP1791

3034ENDOIP1793

54100B CM STORAGE USED2028 STATEMENTS988 SYMBOLS
PARALLEL CPU ASSEMBLY1.626 SECONDS1064 REFERENCES

SYMBOLIC REFERENCE TABLE.

AB	10	7/46 D	15/17 S	16/33	17/48	19/27 S	19/31 S	21/28
		13/36 S	15/20 S	16/53	18/16	19/28 S	19/39	
		14/38 S	15/46 S	17/15 S	18/52	19/29 S	19/48	
		14/43 S	16/12 S	17/32	18/55	19/30 S	21/20	
ASD	1160	12/50	16/25	16/46	17/28	17/44	18/57 D	
ASDX	1157	18/57 L						
ASD1	1153	18/52 L	19/02	19/04				
CDR	1174	19/01	19/25 D	21/19	21/27			
CDRX	1173	19/25 L						
CDR1	1203	19/32 L	19/51					
CDR2	1214	19/41 L	19/49					
CDR3	1225	19/22	19/50 L					
CDR4	1170	19/21 L	19/36					
CDR5	1172	19/23 L	19/34					
CDS	2656	9/32	10/12	35/55 D				
CDSA	2674	36/06	36/10 L					
CDSX	2655	35/55 L	36/08					
CEJ	730	11/01	15/39 L					
CEJ1	742	15/41	15/44 L					
CH	10	6/19 D	26/17	28/22	30/38	32/17	33/05	35/02
		8/19	26/51	28/24	30/40	32/19	33/08	35/09
		8/20	26/56	28/44	30/41	32/41	33/12	35/36
		24/47	27/08	29/02	31/23	32/43	33/14	35/37
		24/48	27/11	29/07	31/29	32/48	33/18	35/56
		24/49	27/17	29/09	31/35	32/50	33/21	36/03
		24/50	27/25	29/10	31/40	32/54	34/34	36/04
		26/15	28/17	30/25	31/42	32/56	34/37	36/12
CKB	1444	8/45	10/36	11/20	12/25	24/12	25/14 D	
CKBX	1443	25/14 L	25/24					
CKB1	1447	25/17 L	25/21					
CMR	1037	11/40	17/04 L					
CMR1	1050	17/09	17/12 L					
CMR2	1051	17/07	17/13 L					
CMU	753	11/02	16/05 L					
CMU1	763	16/07	16/10 L					
CMZ	333	10/54	12/43 L					
CMZA	476	12/44	13/24 L					
CMZ1	360	12/56	13/02 L					
CMZ2	366	13/02	13/07 L					
CMZ3	376	13/10	13/12	13/15 L				
CMZ4	377	13/08	13/16 L					
CPS	1230	12/32	20/16 D	22/03				
CPSX	1227	20/16 L	20/22	20/45				

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	CPS1	1234	20/20	L	20/30	20/36	
	CPS2	1242	20/26	L	20/39		
	CPS3	1260	20/28		20/34	20/41	L
1	CPX	546	10/55		13/33	L	
2	CPX1	563	13/39		13/43	L	
3	CPX2	565	13/42		13/45	L	
4	CPX3	604	13/53		13/57	L	
5	CPX4	557	13/37		13/40	L	
6	DDS	172	8/54		9/55	L	
7	DEK	1016	11/39		16/45	L	
8	DEK1	1027	16/48		16/51	L	
9	DEM	2577	26/16		27/23		33/19 34/28 D
10	DEMA	2614	34/34		34/41	L	
11	DEMX	2576	34/28	L	34/30		34/39
12	DEM1	2607	34/35	L	34/38		
13	DFN	2644	26/13		26/49		32/39 35/32 D
14	DFNX	2643	35/32	L	35/38		
15	DKB	2617	27/24		33/20		34/57 D
16	DKBA	2641	35/02		35/16	L	
17	DKBX	2616	34/57	L	35/06		35/11
18	DKB1	2625	35/05	L	35/14		
19	DMS	407	12/45				
20	DNF	2032	27/14		27/20		28/13 D
21	DNFX	2031	28/13	L	28/25		
22	DNF1	2042	28/15		28/21	L	
23	DNF2	2047	28/19		28/24	L	
24	DOE	2052	27/22		28/42	D	
25	DOEA	2142	28/44		29/37	L	29/39
26	DOEAL	10	28/43		29/39	D	
27	DOEX	2051	28/42	L	29/35		
28	DOE1	2107	28/55		29/15	L	
29	DPP	2153	29/18		29/22		30/16 D
30	DPPX	2152	30/16	L	30/19		
31	DPP1	2156	30/18	L	30/50		
32	DPP2	2176	30/28		30/34	L	
33	DPP3	2203	30/32		30/38	L	
34	DPP4	2213	30/21		30/44		30/47 L
35	DPU	2221	29/29		29/34		31/15 D
36	DPUX	2220	31/15	L	31/17		
37	DPU1	2222	31/16	L	31/51		
38	DPU2	2244	31/26		31/33	L	
39	DPU3	2254	31/31		31/40	L	
40	DPU4	2263	31/19		31/45		31/48 L
41	DRD	303	8/47		10/38		11/22 11/53 D
42	DRDX	302	11/53	L	11/57		
43	DSB	1520	8/46		26/12	D	
44	DSBA	1533	26/15		26/20	L	26/32
45	DSBAL	127	26/14		26/32	D	
46	DSBX	1517	26/12	L	26/18		
47	DSFC	7001	6/20	D	35/36		
48	DSH	1663	10/37		26/48	D	
49	DSHA	1744	26/51		27/28	L	27/34
50	DSHAL	45	26/50		27/34	D	
51	DSHB	2011	26/56		27/36	L	27/38
52	DSHBL	5	26/55		27/38	D	
53	DSHC	2016	27/11		27/40	L	27/42
54	DSHCL	6	27/10		27/42	D	

DSHD	2024	27/17	27/44	L	27/46
DSHDL	5	27/16	27/46	D	
DSHX	1662	26/48	L	27/26	
DSP	2305	11/21	32/38	D	
DSPA	2407	32/41	33/24	L	33/30
DSPAL	45	32/40	33/30	D	
DSPB	2454	32/43	33/32	L	33/34
DSPBL	5	32/42	33/34	D	
DSPC	2461	32/48	33/36	L	33/38
DSPCL	14	32/47	33/38	D	
DSPD	2475	32/50	33/40	L	33/42
DSPDL	5	32/49	33/42	D	
DSPE	2502	32/54	33/44	L	33/46
DSPEL	12	32/53	33/46	D	
DSPF	2534	33/08	33/55	L	33/57
DSPFL	5	33/07	33/57	D	
DSPG	2541	33/12	34/02	L	34/04
DSPGL	14	33/11	34/04	D	
DSPH	2555	33/14	34/06	L	34/08
DSPHL	5	33/13	34/08	D	
DSPI	2562	33/18	34/10	L	34/12
DSPIL	14	33/17	34/12	D	
DSPJ	2514	32/56	33/47	L	33/49
DSPJL	5	32/55	33/49	D	
DSPK	2521	33/05	33/51	L	33/53
DSPKL	13	33/04	33/53	D	
DSPX	2304	32/38	L	33/22	
D1C	2701	33/03	36/28	D	
D1CX	2700	36/28	L	36/35	
D1C1	2705	36/29	36/32	L	
D1C2	2706	36/31	36/33	L	
D1D	2712	32/46	36/51	D	
D1DX	2711	36/51	L	36/56	
D2D	2721	32/52	37/12	D	
D2DX	2720	37/12	L	37/18	
D20	2742	27/03	37/17		38/15
D20X	2741	38/15	L	38/21	38/33
D201	2751	38/19	38/22	L	
D202	2756	38/23	38/27	L	
D4D	2732	33/10	33/16		37/34
D4DX	2731	37/34	L	37/39	
D40	2766	27/06	37/38		38/52
D40X	2765	38/52	L	39/01	
HRC	211	9/01	10/36	L	
HRC1	213	10/37	L	10/40	10/45
HRC2	231	10/42	10/47	L	
HRC3	235	10/48	10/50	L	
HSYN	237	10/43	10/54	L	
ILL	311	12/19	L	13/13	14/02
		12/33		13/43	14/18
IOQ	176	9/16	10/12	L	
IOQA	204	10/13	10/16	L	
KA	17	7/49	D	13/34	17/05
		12/30	S	13/40	S
					19/23
KBI	1342	8/48		10/39	11/23
KBIA	1347	23/38	D	23/40	23/41
KBIX	1341	23/34	L	23/39	23/43

KBI1	1353	23/36	23/41 L						
KBI2	1365	23/47	23/51 L						
KBI3	1366	23/52 L	24/08	24/14					
KBI4	1367	23/45	23/54 L						
KBI5	1375	23/57	24/04 L						
KBI6	1403	23/55	24/10 L						
KBI7	1411	24/11	24/16 L						
KBI8	1415	24/17	24/20 L						
KBI9	1425	24/22	24/27 L						
KBR	315	12/25 L	13/54	15/30	16/15	16/55	17/34		
		13/19	14/53	15/49	16/36	17/18	17/50		
KBUF	1460	8/50	24/06 S	25/18 S	25/29	35/08			
		12/29	24/24 S	25/28 L	35/05				
KBUFL	36	24/21	25/20	25/29 D					
KEY	1430	23/35	24/43 D						
KEYX	1427	24/43 L	24/51						
KI	15	7/47 D	23/56	24/06	24/24	25/16 S	25/19 S		
		23/46	24/04 S	24/20	24/25 S	25/18	25/22 S		
KM	16	7/48 D	9/08 S	12/20 S	13/04 S	24/07 S	25/23 S	34/29	
NFF	1320	13/41	15/40	16/06	21/30	22/01 D			
NFFA	1336	22/02	22/15 L						
NFFX	1317	22/01 L	22/13						
NFF1	1334	22/04	22/12 L						
NFF2	1316	21/56 L	22/08	22/10					
OID	113	8/21	8/45 L	10/50	11/34				
OID1	115	8/46 L	8/51	9/09					
OID2	133	8/53	8/56 L						
OID3	137	8/57	9/03 L						
OID4	143	9/04	9/07 L	9/12					
OID5	147	8/49	9/11 L						
OID6	155	9/14	9/16 L						
OIP	100	8/16 L							
OIPA	107	8/19	8/23 L						
OSL	157	9/15	9/32 L	9/57	10/49	11/33			
OSLA	165	9/33	9/36 L						
PAN	246	9/05	11/20 L						
PAN1	250	11/21 L	11/24	11/29					
PAN2	266	11/26	11/31 L						
PAN3	272	11/32	11/34 L						
PPX	611	10/57	14/11 L						
PPX1	622	14/18 L	14/21	14/24	14/26	14/31	14/33	14/36	
PPX2	624	14/17	14/20 L						
PPX3	634	14/15	14/29 L						
PPX4	644	14/27	14/37 L	14/51	14/52				
PPX5	656	14/42	14/47 L						
PPX6	660	14/45	14/48 L						
PPX7	662	14/40	14/49 L						
PSYN	274	11/27	11/38 L						
PUN	670	10/56	15/05 L						
PUN1	700	15/10 L	15/14						
PUN2	702	15/09	15/12 L						
PUN3	705	15/15 L	15/28	15/29					
PUN4	716	15/19	15/24 L						
PUN5	720	15/22	15/25 L						
RCM\$	0	13/21 D							
REC	774	11/38	16/24 L						
REC1	1004	16/27	16/30 L						

RNG	1266		14/12	15/06	21/18	D
RNGX	1265		21/18 L	21/37		
RNG1	1304		21/25	21/30 L		
RNG2	1307		21/32 L	21/38		
RNG3	1311		21/31	21/34 L		
SHNI	1000		6/11 D	18/18		
SOL	2271		28/57	30/23	31/21	
SOLX	2270		32/13 L	32/15	32/22	
STB	1121		13/49	14/48	15/25	
STBA	1134		18/19 S	18/22 L		
STBB	1143		18/20 S	18/27 L		
STBC	1147		18/24 S	18/31 D		
STBX	1120		18/14 L	18/34		
T0	0	NOSTEXT	7/37 D	37/13 S	37/16	
T1	1	NOSTEXT	7/38 D	18/25	20/20	S
			13/45 S	19/38 S	20/21	
			15/44 S	19/43	20/43	
			16/10 S	19/46 S	21/34	S
			17/13 S	20/18 S	21/56	
T2	2	NOSTEXT	7/39 D	18/33 I	19/44	I
			18/15 S	19/40 S	19/47	S
			18/29	19/41	20/19	S
T3	3	NOSTEXT	7/40 D	12/34	20/23	S
			12/28 S	18/28 S	20/26	
			12/31	18/32	20/32	
T4	4	NOSTEXT	7/41 D	12/55	13/15	
			12/53 S	13/07	20/25	S
T5	5	NOSTEXT	7/42 D	12/51 S	13/01	
T6	6	NOSTEXT	7/43 D	12/54	14/29	
			12/49 S	14/22	14/37	
T7	7	NOSTEXT	7/44 D	12/57	13/57	
			12/47 S	13/47 S	14/13	
W12	1062		11/41	17/27 L		
W12A	1074		17/30	17/32 L		
W14	1101		11/42	17/43 L		
W14A	1113		17/46	17/48 L		
XCIN	20		6/23 D	6/28	6/32	
			6/25	6/29	6/33	
			6/26	6/30	6/34	
			6/27	6/31	6/35	
XC01	6000		6/24 D	6/30	6/36	
			6/25	6/31	6/37	
			6/26	6/32	6/38	
			6/27	6/33	6/39	
			6/28	6/34	6/40	
			6/29	6/35	6/41	
XC02	6020		6/25 D	33/32	33/40	
XC03	6040		6/26 D	26/26	26/28	
XC04	6060		6/27 D			
XC05	6100		6/28 D			
XC06	6120		6/29 D			
XC07	6140		6/30 D			
XC08	6160		6/31 D			
XC09	6200		6/32 D			
XC10	6220		6/33 D			
XC11	6240		6/34 D	29/37		
XC12	6260		6/35 D			

	XC13	6300	6/36 D	33/36	33/44	33/51	34/02	34/10	
	XC14	6320	6/37 D						
	XC15	6340	6/38 D	26/20	27/28	33/24			
1	XC16	6360	6/39 D						
2	XC17	6400	6/40 D						
3	XC18	6420	6/41 D						
4	XC19	6440	6/42 D						
5	XC20	6460	6/43 D	27/40					
6	XC21	6500	6/44 D						
7	XC22	6520	6/45 D						
8	XC23	6540	6/46 D						
9	XC24	6560	6/47 D	27/44					
10	XC25	6600	6/48 D						
11	XC26	6620	6/49 D						
12	XC27	6640	6/50 D						
13	XC28	6660	6/51 D						
14	XC29	6700	6/52 D						
15	XC30	6720	6/53 D						
16	XC31	6740	6/54 D						
17	XC32	6760	6/55 D						
18	XLS	320	10/44	11/28	12/27 D				
19	XLSX	317	12/21	12/27 L	13/05				
20	YCER	7040	7/26 D	34/41					
21	YCIN	24	6/57 D	7/05	7/09	7/13	7/17	7/21	32/20
22			7/02	7/06	7/10	7/14	7/18	7/22	
23			7/03	7/07	7/11	7/15	7/19	7/23	
24			7/04	7/08	7/12	7/16	7/20	7/24	
25	YCKB	7014	7/27 D	35/16					
26	YC01	7730	7/01 D	7/05	7/09	7/13	7/17	7/21	26/20
27			7/02	7/06	7/10	7/14	7/18	7/22	27/28
28			7/03	7/07	7/11	7/15	7/19	7/23	33/24
29			7/04	7/08	7/12	7/16	7/20	7/24	
30	YC02	7704	7/02 D						
31	YC03	7660	7/03 D	26/22	27/30	33/26			
32	YC04	7634	7/04 D	26/24	27/32	33/28			
33	YC05	7610	7/05 D						
34	YC06	7564	7/06 D	26/26	27/36	33/32	33/36		
35	YC07	7540	7/07 D	26/28	27/44	33/40	33/44		
36	YC08	7514	7/08 D	26/30	33/47	33/51			
37	YC09	7470	7/09 D	29/37	33/55	34/02			
38	YC10	7444	7/10 D	28/46	34/06	34/10			
39	YC11	7420	7/11 D						
40	YC12	7374	7/12 D						
41	YC13	7350	7/13 D						
42	YC14	7324	7/14 D						
43	YC15	7300	7/15 D						
44	YC16	7254	7/16 D						
45	YC17	7230	7/17 D						
46	YC18	7204	7/18 D						
47	YC19	7160	7/19 D						
48	YC20	7134	7/20 D						
49	YC21	7110	7/21 D						
50	YC22	7064	7/22 D						
51	YC23	7040	7/23 D	7/26					
52	YC24	7014	7/24 D	7/27					
53									
54									
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59									
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SYMBOL QUALIFIER = CPA

1	CMSZ	7671	13/16 S	13/18 S	27/02	27/04				
2	DSPNLZ	7677	16/30	16/51	17/16	17/49 S	32/51	33/09		
3			16/35 S	16/54 S	17/33 S	32/44	32/57	33/15		
4	LPPU	7702	15/21	15/24	29/28	29/32				
5	LPP0	7676	14/47	29/17						
6	LPP1	7677	14/44	29/21						
7	OPTN	7673	13/46	13/50	15/47	27/12	28/53			
8			13/48	14/01 S	16/13	27/18	29/03			
9										
10										
11										
12										
13	SYMBOL QUALIFIER = CTI									
14										
15										
16	CDEP	7000	9/34	10/14						
17	EBLP	6777	9/56 S							
18	IOQALT	6002	10/17							
19	IOQB	6000	10/16							
20	LOAD	10	1/16	9/36						
21	TRAN	100	8/13	9/37						
22										
23										
24										
25	SYMBOL QUALIFIER = COMPDMS									
26										
27										
28										
29	AEI	NMS	10	13/24						
30										
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1412THE

BINARY CONTROL CARDS.

1412THE

*****	AEI - UTILITIES EXECUTIVE -CTI-.	AEI	8
*		AEI	9
*	R. A. MATTHEWS. 01/29/78.	AEI	10
*	R. A. TURGEON 6/19/78.	AEI	11
*		AEI	12
*	AEI PROVIDES THE OPERATOR INTERFACE TO THE CTI	AEI	13
*	UTILITIES. A DISPLAY OF THE ALTERNATIVES IS PRESENTED.	AEI	14
*	WHEN THE OPERATOR RESPONDS, A CTI MODULE IS LOADED.	AEI	15
***	AEI - UTILITIES EXECUTIVE -CTI-.	AEI	17
*		AEI	18
*	AEI PRESENTS THE *U* DISPLAY AND DEPENDING ON THE OPERATOR	AEI	19
*	RESPONSE, WILL LOAD ONE OF THE FOLLOWING CTI MODULES...	AEI	20
*	IOQ, SAD, EDD, ICD.	AEI	21
***	OPERATOR MESSAGES.	AEI	23
*		AEI	24
*	AEI PRESENTS THE FOLLOWING DISPLAY:	AEI	25
*		AEI	26
*		AEI	27
*	*U*	AEI	28
*		AEI	29
*	(BS) - RETURN TO *A* DISPLAY	AEI	30
*		AEI	31
*	A - ALTERNATE DEADSTART	AEI	32
*		AEI	33
*	E - EXPRESS DEADSTART DUMP	AEI	34
*		AEI	35
*	I - INSTALL CTI ON RMS	AEI	36
*		AEI	37
*		AEI	38
*	ANY ERROR MESSAGE MAY BE CLEARED BY ENTERING A LEFT BLANK	AEI	39
*	FROM THE DISPLAY CONSOLE.	AEI	40
***	ENTRY CONDITIONS.	AEI	42
*		AEI	43
*	AEI ASSUMES THAT IOQ PRECEDES IT ON THE CTI FILE AND THAT	AEI	44
*	SAD, EDD, ICD FOLLOW IT ON THE CTI FILE.	AEI	45
*		AEI	46
*	CTI INTERNAL STATE IS IN EFFECT.	AEI	47

*
*

EXIT CONDITIONS.

CTI INTERNAL STATE IS IN EFFECT.

AEI
AEI
AEI

49
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51

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*
DEADSTART PANEL WORDS.
AEI 53
AEI 54
AEI 55
AEI 56
AEI 57
AEI 58
WORDS 5 - 20B OF THE DEADSTART PANEL MUST REMAIN INTACT
AEI 59
DURING CTI EXECUTION. WORDS 0 - 4 MAY BE USED AS SCRATCH
AEI 60
DIRECT CELLS.
AEI 61
AEI 62
AEI 63
AEI 64

0	D0	EQU	0	SCRATCH	AEI	60
1	D1	EQU	1	SCRATCH	AEI	61
2	D2	EQU	2	SCRATCH	AEI	62
3	D3	EQU	3	SCRATCH	AEI	63
4	D4	EQU	4	SCRATCH	AEI	64
5	D5	EQU	5	ZERO IF TAPE DEADSTART	AEI	65
6	D6	EQU	6	FUNCTION WORD	AEI	66
	*		(D6)	= WARMSTART FUNCTION, IF MTS/ATS.	AEI	67
	*			= DEADSTART FUNCTION, IF 844/885 DISK	AEI	68
7	D7	EQU	7	RESERVED	AEI	69
	*		(D7)	= 1400B IF 3000 TYPE TAPE.	AEI	70
10	D10	EQU	10B	RESERVED	AEI	71
11	D11	EQU	11B	RESERVED	AEI	72
12	D12	EQU	12B	MSL PARAMETERS	AEI	73
13	D13	EQU	13B	OS PARAMETERS	AEI	74
14	D14	EQU	14B	OS PARAMETERS	AEI	75
15	D15	EQU	15B	UNUSED	AEI	76
16	D16	EQU	16B	C80/A170 RESERVED	AEI	77
17	D17	EQU	17B	RESERVED	AEI	78
20	D20	EQU	20B	RESERVED	AEI	79

**
*
INSTRUCTION EQUATES.
AEI 81
AEI 82
AEI 83
AEI 84
AEI 85
AEI 86
AEI 87
AEI 88
AEI 89
AEI 90
AEI 91
AEI 92
AEI 93
AEI 94
AEI 95
AEI 96
AEI 97
AEI 98
AEI 99
0 PSNC EQU 0000B PASS
300 UJNC EQU 0300B UNCONDITIONAL JUMP
400 ZJNC EQU 0400B ZERO JUMP
1000 SHNC EQU 1000B SHIFT
1500 LCNC EQU 1500B LOAD COMPLEMENT
1700 SBNC EQU 1700B SUBTRACT NO-ADDRESS
2000 LDCC EQU 2000B LOAD CONSTANT
2100 ADCC EQU 2100B ADD CONSTANT
2300 LMCC EQU 2300B LOGICAL MINUS CONSTANT
3000 LDDC EQU 3000B LOAD DIRECT
6400 AJMC EQU 6400B ACTIVE JUMP
7100 IAMC EQU 7100B INPUT MEMORY
7300 OAMC EQU 7300B OUTPUT MEMORY
7400 ACNC EQU 7400B ACTIVATE CHANNEL
7500 DCNC EQU 7500B DISCONNECT CHANNEL

** MISCELLANEOUS DEFINITIONS

AEI 101

*

AEI 102

*

AEI 103

0 QUAL\$ EQU 0 DON-T QUALIFY COMMON DECKS
0 DEBUG EQU 0

AEI 104

AEI 105

AEI 106

** DISPLAY CONTROLLER DEFINITIONS.

AEI 108

*

AEI 109

*

AEI 110

AEI 111

AEI 112

10 CHD EQU 10B DISPLAY CHANNEL

AEI 113

* DISPLAY FUNCTION CODES.

AEI 114

AEI 115

7000 F.SEL EQU 7000B SELECT CONSOLE DISPLAY

AEI 116

AEI 117

AEI 118

0 F.SLS EQU 0000B SELECT CONSOLE LEFT SCREEN
100 F.SRS EQU 0100B SELECT CONSOLE RIGHT SCREEN
200 F.SBS EQU 0200B SELECT CONSOLE BOTH SCREEN

AEI 119

AEI 120

AEI 121

0 F.CHR EQU 0000B SELECT DOT MODE
10 F.DOT EQU 0010B SELECT DOT MODE
20 F.KEY EQU 0020B SELECT KEYBOARD INPUT

AEI 122

AEI 123

AEI 124

AEI 125

AEI 126

AEI 127

0 F.CHS EQU 0000B SET CHARACTER SIZE SMALL
1 F.CHM EQU 0001B SET CHARACTER SIZE MEDIUM
2 F.CHL EQU 0002B SET CHARACTER SIZE LARGE

AEI 128

AEI 129

AEI 130

* COORDINATE DESIGNATION.

AEI 131

AEI 132

6000 XSET EQU 6000B SET X COORDINATE
7000 YSET EQU 7000B SET Y COORDINATE

AEI 133

AEI 134

DEFINITION COMMON DECKS.

** DEFINITION COMMON DECKS.
*
** ALL SYMBOL AND MACRO DEFINITION COMMON DECKS ARE CALLED HERE.

AEI 137
AEI 138
AEI 139
AEI 140
AEI 141
COMPCTI 2
COMSCPA 2
COMSCTI 2

0 CTI CTEXT COMPCTI - CTI COMMON MACROES.
0 CPA CTEXT COMSCPA - CTI COMMON POINTER AREA DEFINITIONS.
0 CTI CTEXT COMSCTI - CTI INTERNAL DEFINITIONS.

1412THE

6000

ORGIOQB

AEI146

1											1
2											2
3			***	AEI - UTILITIES EXECUTIVE FOR CTI.					AEI	148	3
4			*						AEI	149	4
5			*	AEI PRESENTS THE *U* DISPLAY AND WAITS FOR A VALID					AEI	150	5
6			*	OPERATOR RESPONSE. WHEN IT COMES, A RELATED CTI					AEI	151	6
7			*	MODULE IS LOADED AS FOLLOWS...					AEI	152	7
8			*						AEI	153	8
9			*	(BS) - IOQ (ALTERNATE ENTRY POINT)					AEI	154	9
10			*	S - SAD					AEI	155	10
11			*	E - EDD					AEI	156	11
12			*	I - ICD					AEI	157	12
13			*						AEI	158	13
14											14
15											15
16											16
17			6000	AEI	EQU	*	ENTRY POINT		AEI	160	17
18									AEI	161	18
19	6000	0200 6224		AEI1	RJM	FDC	FREE DISPLAY CHANNEL		AEI	162	19
20									AEI	163	20
21	6002	0200 6205		AEI2	RJM	DOP	DISPLAY OPTIONS		AEI	164	21
22	6004	0200 6272			RJM	PKI	PROCESS KEYBOARD INPUT		AEI	165	22
23	6006	0473			ZJN	AEI2	IF NO ENTRY OR ERROR		AEI	166	23
24	6007	5003 0001			LDM	ORTX,D3	GET ROUTINE ADDRESS		AEI	167	24
25	6011	5400 6014			STM	AEIA			AEI	168	25
26	6013	0100 0000			LJM	**	GO TO APPROPRIATE ROUTINE		AEI	169	26
27			6014	AEIA	EQU	*-1			AEI	170	27
28											28
29											29
30											30
31											31
32			*	OPERATOR ENTERED (BS)					AEI	172	32
33									AEI	173	33
34			6015	XXB	EQU	*			AEI	174	34
35	6015	0100 6241			LJM	LCM	GO LOAD IOQ		AEI	175	35
36											36
37											37
38											38
39											39
40											40
41			*	OPERATOR ENTERED S					AEI	177	41
42									AEI	178	42
43			6017	XXA	EQU	*			AEI	179	43
44	6017	0100 6241			LJM	LCM	GO LOAD SAD		AEI	180	44
45											45
46											46
47											47
48											48
49											49
50											50
51											51
52											52
53											53
54											54
55											55
56											56
57											57
58											58
59											59
60											60

1412THE

				*	OPERATOR ENTERED E			AEI	182	
								AEI	183	
								AEI	184	
								AEI	185	
1	6021	0100	6241	6021	XXE	EQU	*			
2						LJM	LCM			
3										
4										
5										
6										
7				*	OPERATOR ENTERED I			AEI	187	
8								AEI	188	
9	6023	0100	6241	6023	XXI	EQU	*			
10						LJM	LCM			
11										
12										
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60										

** D00 - DISPLAY OPERATOR OPTIONS BUFFER.

AEI 192

*

AEI 193

*

THE DISPLAY OPERATOR OPTIONS BUFFER CONTAINS THE ENTIRE

AEI 194

*

INITIAL OPERATOR DISPLAY WITH THE POSSIBLE INCLUSION OF AN

AEI 195

*

ERROR MESSAGE.

AEI 196

AEI 197

22 DOPLS EQU 22B LINE (Y COOR) INCREMENT

AEI 198

6025 D00 EQU * START OF BUFFER

AEI 199

AEI 200

5 LINE SET 5 FIRST LINE

AEI 201

6025 7630 CON YSET+762B-LINE*DOPLS

AEI 202

AEI 203

6026 6000 CON XSET+0

AEI 204

6027 5555 DATA H/ *U*/

AEI 205

AEI 206

10 LINE SET LINE+3

AEI 207

6037 7542 CON YSET+762B-LINE*DOPLS

AEI 208

6040 6000 CON XSET+0

AEI 209

6041 5102 DATA H/(BS) - RETURN TO *A* DISPLAY/

AEI 210

AEI 211

13 LINE SET LINE+3

AEI 212

6057 7454 CON YSET+762B-LINE*DOPLS

AEI 213

6060 6000 CON XSET+0

AEI 214

6061 5555 DATA H/ S - ALTERNATE DEADSTART/

AEI 215

AEI 216

16 LINE SET LINE+3

AEI 217

6076 7366 CON YSET+762B-LINE*DOPLS

AEI 218

6077 6000 CON XSET+0

AEI 219

6100 5555 DATA H/ E - EXPRESS DEADSTART DUMP/

AEI 220

AEI 221

21 LINE SET LINE+3

AEI 222

6117 7300 CON YSET+762B-LINE*DOPLS

AEI 223

6120 6000 CON XSET+0

AEI 224

6121 5555 DATA H/ I - INSTALL CTI ON RMS/

AEI 225

AEI 226

111 D00L EQU *-D00 BUFFER LENGTH IF NO ERROR MSG

AEI 227

AEI 228

27 LINE SET LINE+6

AEI 229

6136 7124 CON YSET+762B-LINE*DOPLS

AEI 230

6137 6000 CON XSET+0

AEI 231

6140 1116 DATA H*INVALID OPTION*

AEI 232

AEI 233

122 D00LE EQU *-D00 BUFFER LENGTH IF ERROR MSG

AEI 234

** TABLE OF VALID OPERATOR RESPONSES

*
* THIS TABLE HAS ONE ENTRY FOR EACH VALID OPERATOR RESPONSE
* IT INCLUDES THE CORRESPONDING PARAMETER BLOCKS PASSED TO
* THE COMMON DRIVER TO LOAD THE APPROPRIATE MODULE.
*

AEI 236
AEI 237
AEI 238
AEI 239
AEI 240
AEI 241
AEI 242
AEI 243
AEI 244
AEI 245
AEI 246
AEI 247
AEI 248
AEI 249
AEI 250
AEI 251
AEI 252
AEI 253
AEI 254
AEI 255

AEI 256
AEI 257
AEI 258
AEI 259
AEI 260
AEI 261
AEI 262
AEI 263
AEI 264

AEI 265
AEI 266
AEI 267
AEI 268
AEI 269
AEI 270
AEI 271
AEI 272
AEI 273

AEI 274
AEI 275
AEI 276
AEI 277
AEI 278
AEI 279
AEI 280
AEI 281
AEI 282

AEI 283
AEI 284
AEI 285

6147 ORT EQU * START OF TABLE
1 ORTX EQU 1 OFFSET OF ADDRESS OF ASSOC. ROUTINE
2 ORTP EQU 2 OFFSET OF PARAMETER BLOCK
7 ORTS EQU 7 SIZE OF EACH TABLE ENTRY

* RETURN TO *A* DISPLAY

6147 0061 CON 61B (BS)
6150 6015 CON XXB
6151 6000 CON IOQB IOQB ADDRESS FOR IOQ
6152 6002 CON IOQALT TRANSFER ADDRESS FOR IOQ
6153 0001 CON 1 REWIND FIRST
6154 1117 VFD 18/3LIOQ,6/0
6155 2100

* ALTERNATE DEADSTART

6156 0023 CON 1RS S
6157 6017 CON XXA
6160 0100 CON TRAN
6161 0100 CON TRAN
6162 0000 CON 0
6163 2301 VFD 18/3LSAD,6/0
6164 0400

* EXPRESS DEADSTART DUMP

6165 0005 CON 1RE E
6166 6021 CON XXE
6167 6000 CON IPLB
6170 6000 CON IPLB
6171 0000 CON 0
6172 0504 VFD 18/3LEDD,6/0
6173 0400

* INSTALL CTI ON RMS

6174 0011 CON 1RI I
6175 6023 CON XXI
6176 0150 CON ICDLOAD
6177 0150 CON ICDLOAD
6200 0000 CON 0
6201 1103 VFD 18/3LICD,6/0
6202 0400

6203 0000 EOT CON 0 END OF TABLE MARKER

AEI 288

AEI 289

AEI	290
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AEI 291

AEI 292

AEI	293
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AEI 294

AEI	296
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AEI 298

AEI 299

AEI	300
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AEI 301

AEI 302

AEI 303

AEI	304
AEI	304

AEI	305
AEI	305

AEI	306
AEI	307

AEI	307
AET	308

AEI	308
AET	308

AEI 309

AEI	311
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AEI	312
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AEI 313

AEI	314
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AEI 316

AEI	317
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AEI	318
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AEI 319

AEI	320
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AEI 321

AEI 322

AEI	323
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AEI	324
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AEI	325
AEI	326

AEI	326
AEI	326

AEI 327

AEI 332

			**	LCM - LOAD CTI MODULE		AEI	334
			*			AEI	335
			*	LCM RETURNS PP 10 TO THE DEADSTART STATE AND CALLS THE		AEI	336
1			*	COMMON DRIVER TO LOAD A CTI MODULE.		AEI	337
2			*			AEI	338
3			*	ENTRY (D3) = ADDRESS OF ORT ENTRY		AEI	339
4			*			AEI	340
5			*	NO EXIT. CONTROL GOES TO MODULE LOADED.		AEI	341
6			*			AEI	342
7						AEI	343
8		6241	LCM	EQU *		AEI	344
9	6241	7710 0000		FNC 0,CHD	GET DISPLAY OFF CHAN 10	AEI	345
10	6243	1477		LDN 77B		AEI	346
11	6244	1701		SBN 1	WAIT A WHILE	AEI	347
12	6245	0576		NJN *-1		AEI	348
13	6246	6510 6251		IJM LCM3,CHD		AEI	349
14	6250	7510		DCN CHD		AEI	350
15						AEI	351
16	6251	7410	LCM3	ACN CHD	PREPARE CHANNEL	AEI	352
17	6252	1404		LDN LCML	PP 10 IS ON CHANNEL 12B	AEI	353
18	6253	7312 6264		OAM LCMA,12B		AEI	354
19	6255	6612 6255		FJM *,12B		AEI	355
20	6257	7512		DCN 12B		AEI	356
21						AEI	357
22			*	GO TO CTI MODULE		AEI	358
23						AEI	359
24	6260	3003		LDD D3		AEI	360
25	6261	1602		ADN ORTP	(A) = ADDRESS OF PARAMETERS	AEI	361
26	6262	0100 7000		LJM CDEP	GO TO COMMON DRIVER	AEI	362
27							
28							
29	6264	0000	LCMA	CON DEBUG	PP 10 PROGRAM	AEI	364
30	6265			BSSZ DEBUG		AEI	365
31	6265	1400		LDN 0		AEI	366
32	6266	7110 0000		IAM 0,CHD		AEI	367
33				IFGT DEBUG,0,3		AEI	368
34		4	LCML	EQU *-LCMA	LENGTH OF PROGRAM	AEI	372
35							
36							
37							
38							
39			**	PKI - PROCESS KEYBOARD INPUT.		AEI	374
40			*			AEI	375
41			*	PKI FUNCTIONS THE DISPLAY CONSOLE FOR KEYBOARD INPUT, AND		AEI	376
42			*	CHECKS THE INPUT AGAINST THE VALID OPERATOR		AEI	377
43			*	RESPONSES. IF NO INPUT HAS BEEN ENTERED, PKI RETURNS WITH		AEI	378
44			*	(A) ZERO. IF THE INPUT DOES NOT MATCH A VALID OPTION, (A)		AEI	379
45			*	IS ZERO AND AN ERROR MESSAGE HAS BEEN ACTIVATED. IF A		AEI	380
46			*	VALID OPTION IS FOUND, (A) IS THE FIRST WORD ADDRESS OF THE		AEI	381
47			*	ORT ENTRY.		AEI	382
48			*			AEI	383
49			*	EXIT (A) = 0, NO INPUT OR INPUT IN ERROR.		AEI	384
50			*	(A) .NE. 0, FWA OF ORT ENTRY SELECTED.		AEI	385
51			*	(D3) = FWA OF ORT ENTRY IF VALID ENTRY		AEI	386
52			*			AEI	387
53						AEI	388
54	6270	3003	PKI1	LDD D3	VALID OPTION ADDRESS	AEI	389
55							
56							
57							
58							
59							
60							

									AEI	390
									AEI	391
									AEI	392
1	6271	0100 0000	PKI	ENM	X	ENTRY/EXIT			AEI	393
2	6273	7710 7020		FNC	F.SEL+F.KEY,CHD	GET INPUT			AEI	394
3	6275	7410		ACN	CHD				AEI	395
4	6276	7010		IAN	CHD	READ KEYBOARD			AEI	396
5	6277	7510		DCN	CHD				AEI	397
6	6300	0470		ZJN	PKIX	IF NO INPUT, RETURN			AEI	398
7	6301	3402		STD	D2	SAVE ENTRY			AEI	399
8	6302	2000 6147		LDC	ORT	ADDRESS OF OPERATOR RESP TBL			AEI	400
9	6304	3403		STD	D3				AEI	401
10	6305	4003	PKI2	LDI	D3	LOAD TABLE VALUE			AEI	402
11	6306	0406		ZJN	PKI4	IF END OF TABLE REACHED			AEI	403
12	6307	3202		SBD	D2				AEI	404
13	6310	0457		ZJN	PKI1	IF VALID OPTION FOUND			AEI	405
14	6311	1407		LDN	ORTS				AEI	406
15	6312	3503		RAD	D3	ADVANCE TABLE POINTER			AEI	407
16	6313	0371		UJN	PKI2				AEI	408
17	6314	3002	PKI4	LDD	D2				AEI	409
18	6315	1753		SBN	53B				AEI	410
19	6316	0407		ZJN	PKI6	IF LEFT BLANK			AEI	411
20	6317	2000 0122		LDC	DOOLE	SET MSG LENGTH FOR ERROR			AEI	412
21	6321	5400 6212	PKI5	STM	DOPL				AEI	413
22	6323	1400		LDN	0				AEI	414
23	6324	0344		UJN	PKIX	RETURN			AEI	415
24			*			LEFT BLANK 53B DETECTED. CLEAR ERROR MESSAGE.			AEI	416
25									AEI	417
26	6325	2000 0111	PKI6	LDC	DOOL	SET MSG LENGTH FOR NO ERROR			AEI	418
27	6327	0371		UJN	PKI5				AEI	419
28										
29										
30										
31										
32			*			OVERFLOW CHECK.			AEI	421
33									AEI	422
34		443		ERRNG	CTIFWA-*	TOO BIG			AEI	423
35									AEI	424
36									AEI	425
37	6330			END					AEI	426
38										
39		53500B CM	STORAGE USED		559	STATEMENTS		167	SYMBOLS	
40		PARALLEL CPU	ASSEMBLY		0.486	SECONDS		206	REFERENCES	
41										
42										
43										
44										
45										
46	ACNC	7400	4/49	D						
47	ADCC	2100	4/43	D						
48	AEI	6000	7/21	D						
49	AEIA	6014	7/29	S	7/31	D				
50	AEI1	6000	7/23	L						
51	AEI2	6002	7/25	L	7/27					
52	AJMC	6400	4/46	D						
53	CDEP	7000	12/29							
54										
55										
56										
57										
58										
59										
60										

CHD	10	5/16 D	11/17	11/35	12/12	12/19	13/05
		11/13	11/18	11/36	12/16	12/35	13/06
		11/14	11/19	11/37	12/17	13/04	13/07
CTIFWA	6773	13/37					
DCNC	7500	4/50 D					
DEBUG	0	5/06 D	11/40	11/41	12/32	12/33	
D00	6025	9/09 D	9/36	9/43	11/17		
D00L	111	9/36 D	11/15	13/29			
D00LE	122	9/43 D	13/22				
D0P	6205	7/25	11/09 D				
D0PL	6212	11/16 D	13/23 S				
D0PLS	22	9/07 D	9/12	9/17	9/22	9/27	9/32 9/39
D0PX	6204	11/09 L	11/22				
D0	0	4/08 D					
D1	1	4/09 D					
D10	10	4/19 D					
D11	11	4/20 D					
D12	12	4/21 D					
D13	13	4/22 D					
D14	14	4/23 D					
D15	15	4/24 D					
D16	16	4/25 D					
D17	17	4/26 D					
D2	2	4/10 D	13/09 S	13/14	13/19		
D20	20	4/27 D					
D3	3	4/11 D	7/28	12/27	12/57	13/11 S	13/12 13/17 S
D4	4	4/12 D					
D5	5	4/13 D					
D6	6	4/14 D					
D7	7	4/17 D					
EOT	6203	10/54 L					
FDC	6224	7/23	11/32 D				
FDCA	6235	11/35	11/40 L	11/45			
FDCB	6237	11/43 L					
FDCL	4	11/34	11/45 D				
FDCX	6223	11/32 L	11/38				
F.CHL	2	5/32 D					
F.CHM	1	5/31 D	11/13				
F.CHR	0	5/26 D	11/13				
F.CHS	0	5/30 D					
F.DOT	10	5/27 D					
F.KEY	20	5/28 D	13/04				
F.SBS	200	5/24 D					
F.SEL	7000	5/20 D	11/13	13/04			
F.SLS	0	5/22 D	11/13				
F.SRS	100	5/23 D					
IAMC	7100	4/47 D					
ICDLOAD	150	10/47	10/48				
IOQALT	6002	10/18					
IOQB	6000	1/10	7/01	10/17			
IPLB	6000	10/37	10/38				
LCM	6241	7/39	7/47	8/04	8/12	12/11 D	
LCMA	6264	12/21	12/32 L	12/37			
LCML	4	12/20	12/37 D				
LCM3	6251	12/16	12/19 L				
LCNC	1500	4/40 D					
LDCC	2000	4/42 D					

LDDC LINE	3000 27	4/45 D 9/11 D 9/12	9/16 D 9/17	9/21 D 9/22	9/26 D 9/27	9/31 D 9/32	9/38 D 9/39
		9/16	9/21	9/26	9/31	9/38	
LMCC	2300	4/44 D					
OAMC	7300	4/48 D					
ORT	6147	10/08 D	13/10				
ORTP	2	10/10 D	12/28				
ORTS	7	10/11 D	13/16				
ORTX	1	7/28	10/09 D				
PKI	6272	7/26	13/03 D				
PKIX	6271	13/03 L	13/08	13/25			
PKI1	6270	12/57 L	13/15				
PKI2	6305	13/12 L	13/18				
PKI4	6314	13/13	13/19 L				
PKI5	6321	13/23 L	13/30				
PKI6	6325	13/21	13/29 L				
PSNC	0	4/36 D					
QUAL\$	0	5/05 D					
SBNC	1700	4/41 D					
SHNC	1000	4/39 D					
TRAN	100	10/27	10/28				
UJNC	300	4/37 D					
XSET	6000	5/36 D	9/13	9/18	9/23	9/28	9/33
XXA	6017	7/46 D	10/26				9/40
XXB	6015	7/38 D	10/16				
XXE	6021	8/03 D	10/36				
XXI	6023	8/11 D	10/46				
YSET	7000	5/37 D	9/12	9/17	9/22	9/27	9/32
ZJNC	400	4/38 D					9/39

ICD

1412THE

ADDRESS		LENGTH	BINARY CONTROL CARDS.	
1	150	2223	IDENT ICD,/CTI/ICDLOAD	1
2	2373	(354)		2
3				3
4				4
5				5
6				6
7	ADDRESS	LENGTH	BINARY CONTROL CARDS.	7
8				8
9	150	747	IDENT ICE,/CTI/ICDLOAD	9
10	1117	(143)	END	10
11				11
12				12
13				13
14				14
15			IDENT ICD,/CTI/ICDLOAD	15
16			PERIPH	16
17		VERID	MICRO 1,,*A02*	17
18		VERS	MICRO 1,,*"VERID"*	18
19			COMMENT CTI INSTALL CTI ON DISK - "VERS"	19
20			COMMENT COPYRIGHT CONTROL DATA CORPORATION, 1979	20
21				21
22				22
23		*	ALL RIGHTS RESERVED	23
24		*		24
25		*	CONTAINED HEREIN ARE SOFTWARE PRODUCTS COPYRIGHTED	25
26		*	BY CONTROL DATA CORPORATION. REPRODUCTION WITHOUT	26
27		*	PERMISSION IS PROHIBITED. THE COPYRIGHT NOTICE	27
28		*	MUST APPEAR ON ALL AUTHORIZED COMPLETE OR	28
29		*	PARTIAL COPIES.	29
30		*		30
31				31
32				32
33				33
34				34
35				35
36				36
37				37
38				38
39				39
40				40
41				41
42				42
43				43
44				44
45				45
46				46
47				47
48				48
49				49
50				50
51				51
52				52
53				53
54				54
55				55
56				56
57				57
58				58
59				59
60				60

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ICD 8

ICD 9

ICD 10

ICD	11
ICD	12
ICD	13

ICD 15

ICD 16

ICD	17
ICD	18

ICD 19

ICD	20
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ICD	21
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ICD 25

ICD	26
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ICD 30

ICD 31

ICD	32
ICD	33

ICD	34
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ICD 35

ICD 36

ICD 37

ICD	38
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ICD 40

ICD 41

ICD	42
ICD	43

ICD 44

ICD 45

ICD 46

** DEADSTART PANEL WORDS.

ICD 48

*

ICD 49

*

ICD 50

* DURING CTI EXECUTION. WORDS 0 - 4 MAY BE USED AS SCRATCH

ICD 51

* DIRECT CELLS.

ICD 52

0

D0

EQU

0

SCRATCH

ICD 53

1

D1

EQU

1

SCRATCH

ICD 54

2

D2

EQU

2

SCRATCH

ICD 55

3

D3

EQU

3

SCRATCH

ICD 56

4

D4

EQU

4

SCRATCH

ICD 57

5

D5

EQU

5

ZERO IF TAPE DEADSTART

ICD 58

6

D6

EQU

6

FUNCTION WORD

ICD 59

* (D6) = WARMSTART FUNCTION, IF MTS/ATS.

ICD 60

* = DEADSTART FUNCTION, IF 844/885 DISK

ICD 61

7

D7

EQU

7

RESERVED

ICD 62

* (D7) = 1400B IF 3000 TYPE TAPE.

ICD 63

10

D10

EQU

10B

RESERVED

ICD 64

11

D11

EQU

11B

RESERVED

ICD 65

12

D12

EQU

12B

MSL PARAMETERS

ICD 66

13

D13

EQU

13B

OS PARAMETERS

ICD 67

14

D14

EQU

14B

OS PARAMETERS

ICD 68

15

D15

EQU

15B

UNUSED

ICD 69

16

D16

EQU

16B

C80/A170 RESERVED

ICD 70

17

D17

EQU

17B

RESERVED

ICD 71

20

D20

EQU

20B

RESERVED

ICD 72

** INSTRUCTION EQUATES.

ICD 74

*

ICD 75

0

PSNC

EQU

0000B

PASS

ICD 76

300

UJNC

EQU

0300B

UNCONDITIONAL JUMP

ICD 77

400

ZJNC

EQU

0400B

ZERO JUMP

ICD 78

1000

SHNC

EQU

1000B

SHIFT

ICD 79

1500

LCNC

EQU

1500B

LOAD COMPLEMENT

ICD 80

1700

SBNC

EQU

1700B

SUBTRACT NO-ADDRESS

ICD 81

2000

LDCC

EQU

2000B

LOAD CONSTANT

ICD 82

2100

ADCC

EQU

2100B

ADD CONSTANT

ICD 83

2300

LMCC

EQU

2300B

LOGICAL MINUS CONSTANT

ICD 84

3000

LDDC

EQU

3000B

LOAD DIRECT

ICD 85

6400

AJMC

EQU

6400B

ACTIVE JUMP

ICD 86

7100

IAMC

EQU

7100B

INPUT MEMORY

ICD 87

7300

OAMC

EQU

7300B

OUTPUT MEMORY

ICD 88

7400

ACNC

EQU

7400B

ACTIVATE CHANNEL

ICD 89

7500

DCNC

EQU

7500B

DISCONNECT CHANNEL

ICD 90

** MISCELLANEOUS DEFINITIONS

*

*

ICD 93

ICD 94

ICD 95

0	RICHI\$	EQU	0	ALLOW SELECTIVE CHANNEL REDEFINITION
210560	TIMEOUT	EQU	70000	TIMEOUT COUNT FOR DISK
5	NAME	EQU	5	OFFSET OF NAME IN PRFX TABLE
0	DEBUG\$	EQU	0	DEBUG MODE IF .GT. 0

ICD 96

ICD 97

ICD 98

ICD 99

** DISPLAY CONTROLLER DEFINITIONS.

ICD 101

*

ICD 102

*

ICD 103

10	CHD	EQU	10B	DISPLAY CHANNEL
----	-----	-----	-----	-----------------

ICD 104

* DISPLAY FUNCTION CODES.

ICD 105

7000	F.SEL	EQU	7000B	SELECT CONSOLE DISPLAY
------	-------	-----	-------	------------------------

ICD 106

0	F.SLS	EQU	0000B	SELECT CONSOLE LEFT SCREEN
---	-------	-----	-------	----------------------------

ICD 107

100	F.SRS	EQU	0100B	SELECT CONSOLE RIGHT SCREEN
-----	-------	-----	-------	-----------------------------

ICD 108

200	F.SBS	EQU	0200B	SELECT CONSOLE BOTH SCREEN
-----	-------	-----	-------	----------------------------

ICD 109

0	F.CHR	EQU	0000B	SELECT CHARACTER MODE
---	-------	-----	-------	-----------------------

ICD 110

10	F.DOT	EQU	0010B	SELECT DOT MODE
----	-------	-----	-------	-----------------

ICD 111

20	F.KEY	EQU	0020B	SELECT KEYBOARD INPUT
----	-------	-----	-------	-----------------------

ICD 112

0	F.CHS	EQU	0000B	SET CHARACTER SIZE SMALL
---	-------	-----	-------	--------------------------

ICD 113

1	F.CHM	EQU	0001B	SET CHARACTER SIZE MEDIUM
---	-------	-----	-------	---------------------------

ICD 114

2	F.CHL	EQU	0002B	SET CHARACTER SIZE LARGE
---	-------	-----	-------	--------------------------

ICD 115

* COORDINATE DESIGNATION.

ICD 116

6000	XSET	EQU	6000B	SET X COORDINATE
------	------	-----	-------	------------------

ICD 117

7000	YSET	EQU	7000B	SET Y COORDINATE
------	------	-----	-------	------------------

ICD 118

22	YINCR	EQU	22B	Y INCREMENT PER LINE
----	-------	-----	-----	----------------------

ICD 119

**DEFINITION COMMON DECKS.

*ICD122

**ALL SYMBOL AND MACRO DEFINITION COMMON DECKS ARE CALLED HERE.ICD123

ICD124

1	0	CTI	CTEXT	COMPCTI - CTI COMMON MACROES.	COMPCTI	2	1
2	0		CTEXT	COMPCHI - REDEFINE I/O INSTRUCTIONS.	COMPCHI	2	2
3	0	844	CTEXT	COMS844 - 844 DISK DEFINITIONS.	COMS844	2	3
4	0	885	CTEXT	COMS885 - 885 DISK DEFINITIONS.	COMS885	2	4
5	0	CPA	CTEXT	COMSCPA - CTI COMMON POINTER AREA DEFINITIONS.	COMSCPA	2	5
6	0	CTI	CTEXT	COMSCTI - CTI INTERNAL DEFINITIONS.	COMSCTI	2	6
7							7
8							8
9							9
10							10
11	502	DSL	EQU	/CPA/DSL	ICD	132	11
12	500	PRU	EQU	/CPA/PRU	ICD	133	12
13							13
14							14
15							15
16							16
17		*		DEFINE 885 D.S. SECTOR FUNCTIONS	ICD	135	17
18					ICD	136	18
19			IFEQ	DSIFT,0	ICD	137	19
20	4	DSR885	EQU	/885/DRED	ICD	138	20
21	35	DSW885	EQU	/885/DWLS	ICD	139	21
22			ELSE		ICD	140	22
23			ENDIF		ICD	143	23
24							24
25							25
26							26
27							27
28							28
29							29
30							30
31							31
32							32
33							33
34							34
35							35
36							36
37							37
38							38
39							39
40							40
41							41
42							42
43							43
44							44
45							45
46							46
47							47
48							48
49							49
50							50
51							51
52							52
53							53
54							54
55							55
56							56
57							57
58							58
59							59
60							60

** DIRECT CELL DEFINITIONS
*
*

ICD 145
ICD 146
ICD 147

1	20	REPADDR	EQU	20B		ICD	148	1
2	21	RETRY	EQU	21B	RETRY COUNTER	ICD	149	2
3	22	IOR	EQU	22B	INITIAL OPERATOR RESPONSE	ICD	150	3
4	23	MSGLEN	EQU	23B	WHEN MSG LENGTH .GT. 77B	ICD	151	4
5	24	FCNF	EQU	24B	SAVE AREA FOR FCN	ICD	152	5
6	25	GENSTAT	EQU	25B	GENERAL STATUS SAVE AREA	ICD	153	6
7	26	CHAN	EQU	26B	1ST WORD OF QOD COMM AREA	ICD	154	7
8	27	UNIT	EQU	CHAN+1	2ND WORD OF QOD COMM AREA	ICD	155	8
9	30	DTYPE	EQU	UNIT+1	0=885, 1=844S, 2=844D	ICD	156	9
10	31	TRKSPER	EQU	DTYPE+1	TRACKS PER CYLINDER	ICD	157	10
11	32	SECSPER	EQU	TRKSPER+1	SECTORS PER TRACK	ICD	158	11
12	33	DSCYL	EQU	SECSPER+1	DEADSTART CYLINDER	ICD	159	12
13	34	DSTRK	EQU	DSCYL+1	DEADSTART TRACK	ICD	160	13
14	35	DSSEC	EQU	DSTRK+1	DEADSTART SECTOR	ICD	161	14
15	36	CTICYL	EQU	DSSEC+1	CTI CYLINDER	ICD	162	15
16	37	CTITRK	EQU	CTICYL+1	CTI TRACK	ICD	163	16
17	40	CTISEC	EQU	CTITRK+1	CTI SECTOR	ICD	164	17
18	41	RWADDR	EQU	CTISEC+1	ADDR OF DATA FOR RSEC/WSEC	ICD	165	18
19	42	LENGTH	EQU	RWADDR+1	LENGTH REMAINING 2 B WRITTEN	ICD	166	19
20	43	PREV	EQU	LENGTH+1	TTSS OF LAST GOOD WRITE	ICD	167	20
21	44	RVLTRK	EQU	PREV+1		ICD	168	21
22	45	RVLSEC	EQU	RVLTRK+1		ICD	169	22
23	46	RVLLB2	EQU	RVLSEC+1		ICD	170	23
24	47	CMADDR	EQU	RVLLB2+1		ICD	171	24
25	50	CTICSC	EQU	CMADDR+1	CTI-CYLINDER SECTOR COUNT	ICD	172	25

** OTHER LOW-CORE DEFINITIONS
*

ICD 174
ICD 175
ICD 176
ICD 177
ICD 178
ICD 179
ICD 180
ICD 181

31	50	CPBLEN	EQU	40		ICD	175	31
32	76	CPBCTI	EQU	/CTI/ICDLOAD-CPBLEN-2		ICD	176	32
33	110	CPBMS	EQU	CPBCTI+10		ICD	177	33
34	122	CPBDS	EQU	CPBMS+10		ICD	178	34
35	134	CPBOS	EQU	CPBDS+10		ICD	179	35
36	76	CPBUFF	EQU	CPBCTI		ICD	180	36

150	ORG	/CTI/ICDLOAD	ICD	183
	QUAL	ICD	ICD	184

	*	ICD - INSTALL CTI ON DISK. CTI.	ICD	186
	*		ICD	187
	*		ICD	188
150	0307	ICD UJN S05	ENTRY POINT WHEN FIRST LOADED	ICD 189
151	0100 0266	ICDALT LJM S129	ENTRY FOR NORMAL RETURN FROM ICE	DIMA294 1
153	0200 0503	ICDERR RJM ERROR	ENTRY FROM ICE FOR DEVICE ERROR	DIMA294 2
155	0200 0541	ICDERR2 RJM ERRFLO	ENTRY FROM ICE FOR CYLINDER OVERFLOW	DIMA294 3

	*	HANG ALL OTHER PP-S.	ICD	193
157	0200 0575	S05 RJM HPP	ICD	194
		IFGT DEBUG\$,0	ICD	195
		ENDIF	ICD	208

	*	PRESENT MSG A AND WAIT FOR CR OR R.	ICD	210
161	2000 0107	S10 LDC MSGAL	ICD	211
163	3423	STD MSGLEN	ICD	212
164	2000 1401	LDC MSGA	ICD	213
166	0200 0460	RJM DIS	ICD	214
170	2000 2102	LDC ORTR	ICD	215
172	0200 0650	RJM PKI	ICD	216
174	0464	ZJN S10	IF NO VALID INPUT YET	ICD 217
175	1760	SBN 60B		ICD 218
176	3422	STD IOR	SAVE INIT OPER RESP	ICD 219
177	0403	ZJN S50	IF I.O.R. = CR	ICD 220
200	0100 0363	LJM S200	IF TO RELEASE	ICD 221

	*	PRESENT MSG B AND WAIT FOR CR	ICD	223
202	2000 0111	S50 LDC MSGBL	ICD	224
204	3423	STD MSGLEN	ICD	225
205	2000 1510	LDC MSGB	ICD	226
207	0200 0460	RJM DIS	ICD	227
211	2000 2103	LDC ORTCR	ICD	228
213	0200 0650	RJM PKI	ICD	229
215	0464	ZJN S50	IF NO CR YET	ICD 230

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216	0200 0433	*	CALL QOD TO GET CONNECT CODE	ICD	232
220	0200 0421	S60	RJM CQOD RJM CLRCPB CLEAR CPBUFF	ICD ICD	233 234
222	0200 1044	*	READ DEADSTART SECTOR	ICD	236
224	0421	S70	RJM RDSS	ICD	237
225	0630		ZJN S100 IF OK AND FLAWED	ICD	238
			PJN S120 IF NOT FLAWED	ICD	239
		*	UJN S80 IF UNABLE TO ACCESS DEVICE	ICD	240
226	2015 1664	*	PRESENT MSG E/F AND WAIT FOR CR. THEN GOTO TOP.	ICD	242
230	0200 0460	S80	LDC MSGEL*1S12+MSGE	ICD	243
232	2022 1701		RJM DIS	ICD	244
234	0200 0460		LDC MSGFL*1S12+MSGF	ICD	245
236	2000 2103		RJM DIS	ICD	246
240	0200 0650		LDC ORTCR	ICD	247
242	0463		RJM PKI	ICD	248
243	0100 0161		ZJN S80 IF NO CR YET	ICD	249
			LJM S10	ICD	250
		*	COPY POINTER WORDS OF DEADSTART SECTOR JUST READ	ICD	252
		*	TO OUR CPBUFF.	ICD	253
245	1447	S100	LDN CPBLN-1	ICD	254
246	3401		STD D1	ICD	255
247	5001 3022	S105	LDM BUFFER+/CPA/CIDP-/CTI/IPLA,D1	ICD	256
251	5401 0076		STM CPBUFF,D1	ICD	257
253	3701		SOD D1	ICD	258
254	0672		PJN S105	ICD	259
		*	WRITE CTI MODULES TO THE CTI CYLINDER	ICD	261
255	2000 0261	S120	LDC S120P	ICD	262
257	0100 7000		LJM /CTI/CDEP CALL COMMON DRIVER TO LOAD OVERLAY	ICD	263
261	0150	S120P	CON /CTI/ICDLOAD LOAD ADDRESS	ICD	264
262	0150		CON /CTI/ICDLOAD TRANSFER ADDRESS	ICD	265
263	0000		CON 0 NO REWIND FIRST	ICD	266
264	1103		VFD 18/3LICE,6/0 NAME OF ICD OVERLAY	ICD	267
265	0500				
266	2000 2105	266 S129	EQU *	ICD	268
270	0200 0633		LDC CHTB	ICD	269
			RJM ICN RESTORE CHANNEL INSTRUCTIONS	ICD	270

1

			*	HERE IF RELEASING		ICD	313
363	0200 0433		S200	RJM CQOD	CALL QOD TO GET CONNECT CODE	ICD	314
365	0200 0421			RJM CLRCPB	CLEAR CPBUFF	ICD	315
367	0200 1044			RJM RDSS	READ DEADSTART SECTOR	ICD	316
371	0404			ZJN S250	IF OK AND FLAWED	ICD	317
372	0613			PJN S270	IF NOT FLAWED	ICD	318
373	0100 0226			LJM S80	IF UNABLE TO ACCESS DEVICE	ICD	319

			*	COPY OS WORDS OF DEADSTART SECTOR TO CPBUFF		ICD	321
375	1411		S250	LDN 10-1		ICD	322
376	3401			STD D1		ICD	323
377	5001 3060		S255	LDM BUFFER+/CPA/OSDP-/CTI/IPLA,D1		ICD	324
401	5401 0134			STM CPBOS,D1		ICD	325
403	3701			SOD D1		ICD	326
404	0672			PJN S255		ICD	327

			*	PRESENT MSG G AND WAIT FOR CR		ICD	329
405	2037 1723		S270	LDC MSGGL*1S12+MSGG		ICD	330
407	0200 0460			RJM DIS		ICD	331
411	2000 2103			LDC ORTCR		ICD	332
413	0200 0650			RJM PKI		ICD	333
415	0467			ZJN S270	IF NO CR YET	ICD	334
416	0100 0272			LJM S130		ICD	335

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** CLRCPB - CLEAR CPBUFF

ICD 338

*

ICD 339

420 0100 0000 CLRCPB ENM X ENTRY/EXIT ICD 340

422 1447 LDN CPBLN-1 ICD 341

423 3401 STD D1 ICD 342

424 1400 CLRCPB2 LDN 0 ICD 343

425 5401 0076 STM CPBUFF,D1 ICD 344

427 3701 SOD D1 ICD 345

430 0673 PJN CLRCPB2 ICD 346

431 0366 UJN CLRCPBX RETURN ICD 347

** CQOD - CALL QOD AND INSERT CHANNEL NUMBER ICD 349

*

ICD 350

* ENTRY (IOR) = 0 IF I.O.R. WAS CR ICD 351

432 0100 0000 CQOD ENM X ENTRY/EXIT ICD 352

434 1400 LDN 0 ICD 353

435 3426 STD CHAN ICD 354

436 3427 STD UNIT ICD 355

437 1426 LDN CHAN ICD 356

440 3420 STD REPADDR ICD 357

441 3022 LDD IOR ICD 358

442 0504 NJN CQOD5 IF NOT CR ICD 359

443 2021 1621 LDC MSGCL*1S12+MSGC ICD 360

445 0303 UJN CQOD7 ICD 361

446 2022 1642 CQOD5 LDC MSGDL*1S12+MSGD ICD 362

450 0200 2147 CQOD7 RJM /QOD/QOD CALL QOD ICD 363

452 2000 2105 LDC CHTB ICD 364

454 0200 0633 RJM ICN INSERT CHANNEL NUMBER ICD 365

456 0353 UJN CQODX RETURN ICD 366

** DIS - DISPLAY MESSAGE ON DD60 ICD 368

*

ICD 369

* DIS OUTPUTS A SPECIFIED BUFFER TO THE DISPLAY. ICD 370

*

ICD 371

* ENTRY (A) = LLAAAA WHERE ICD 372

* LL = LENGTH OF MESSAGE BUFFER ICD 373

* AAAA = FWA OF MESSAGE BUFFER. ICD 374

* IF LL = 0, THEN MSGLEN HAS LENGTH ICD 375

457 0100 0000 DIS ENM X ENTRY/EXIT ICD 376

461 5400 0473 STM DISB STORE FWA OF MSG ICD 377

463 1006 SHN 6 ICD 378

464 1277 LPN 77B ISOLATE LENGTH ICD 379

465 0502 NJN DIS4 ICD 380

466 3023 LDD MSGLEN ICD 381

467 7710 7001 DIS4 FNC F.SEL+F.SLS+F.CHR+F.CHM,CHD ICD 382

471 7410 ACN CHD ICD 383

472 7310 0000 OAM **,CHD OUTPUT MSG ICD 384

473 DISB EQU *-1 ICD 385

474 6610 0474 FJM *,CHD WAIT FOR TRANSFER TO COMPLETE ICD 386

476 7510 DCN CHD ICD 387

477 1740 SBN 40B DISPLAY REFRESH DELAY ICD 388

389
390

1

** HPP - HANG PP-S

ICD 407

*

ICD 408

*

HPP HANGS ALL ACTIVE PP-S THEREBY FREEING ALL CHANNELS.

ICD 409

*

ICD 410

*

CALLS ICN

ICD 411

*

ICD 412

*

USES CHAN

ICD 413

574 0100 0000

HPP

ENM

X

ENTRY/EXIT

ICD 414

576

1401

LDN

1

ICD 415

577

3426

HPP03

STD

CHAN

CURRENT CHANNEL

ICD 416

600

3026

HPP04

LDD

CHAN

ICD 417

601

1712

SBN

12B

ICD 418

602

0706

MJN

HPP06

IF IN RANGE 1-11

ICD 419

603

0503

NJN

HPP05

IF IN RANGE 20-32

ICD 420

604

1420

LDN

20B

ICD 421

605

0371

HPP05

UJN

HPP03

ICD 422

606

1720

SBN

32B-12B

ICD 423

607

0664

PJN

HPPX

IF DONE, RETURN

ICD 424

*

A VALID CHANNEL HAS BEEN FOUND. HANG THE ASSOC PP.

ICD 425

610

2000 0626

HPP06

LDC

HPPE

FWA OF CHANNEL LIST

ICD 426

612

0200 0633

RJM

ICN

INSERT CHANNEL NO.

ICD 427

614

6540 0622

HPPA

IJM

HPP07,40B

IF NOT ACTIVE

ICD 428

616

1402

LDN

2

ICD 429

617

7340 0624

HPPB

OAM

HPPD,40B

ICD 430

621

7540

HPPC

DCN

40B

ICD 431

622

3626

HPP07

AOD

CHAN

ICD 432

623

0354

UJN

HPP04

CONTINUE

ICD 433

624

0000 0300

HPPD

CON

0,UJNC

PP HANG PROGRAM

ICD 434

626

0614 0617

HPPE

CON

HPPA,HPPB,HPPC,0

ICD 435

630

0621 0000

**

ICN - INSERT CHANNEL NO.

ICD 437

*

ICD 438

*

ICN INSERTS CHANNEL NO.S IN INSTRUCTIONS GIVEN

ICD 439

*

IN A LIST TERMINATED WITH A ZERO.

ICD 440

*

ICD 441

*

ENTRY (A) = FWA OF CHANNEL LIST.

ICD 442

*

(CHAN) = CHANNEL NO.

ICD 443

*

ICD 444

*

USES D2, D3.

ICD 445

632

0100 0000

ICN

ENM

X

ENTRY/EXIT

ICD 446

634

3402

STD

D2

ICD 447

635

4002

ICN1

LDI

D2

ICD 448

636

0473

ZJN

ICNX

IF LIST COMPLETE

ICD 449

637

3403

STD

D3

ICD 450

640

4003

LDI

D3

ICD 451

641

1337

SCN

37B

ICD 452

642

3126

ADD

CHAN

ADD IN NEW CHANNEL NO.

ICD 453

643

4403

STI

D3

ICD 454

644

3602

AOD

D2

ICD 455

645

0367

UJN

ICN1

CONTINUE PROCESSING

ICD 456

```

**      PKI - PROCESS KEYBOARD INPUT                                ICD      458
*
*      PKI READS KEYBOARD AND CHECKS INPUT AGAINST A                ICD      459
*      TABLE SUPPLIED BY THE CALLER.                               ICD      460
*
*      ENTRY  (A) = FWA OF TABLE OF VALID RESPONSES.              ICD      461
*      TABLE TERMINATED BY ZERO BYTE.                             ICD      462
*
*      EXIT   (A) = 0 IF NO INPUT OR INPUT NOT VALID.              ICD      463
*      ELSE A HAS INPUT CHARACTER.                                  ICD      464
*
*      USES   D1,D2                                                ICD      465
*
646      3002      PKI1      LDD      D2      LOAD CHARACTER READ    ICD      466
647      0100 0000      PKI      ENM      X      ENTRY/EXIT         ICD      467
651      3401      STD      D1      SAVE ADDRESS OF RESPONSE TABLE ICD      468
652      7710 7020      FNC      F.SEL+F.KEY,CHD                  ICD      469
654      7410      ACN      CHD
655      7010      IAN      CHD
656      7510      DCN      CHD
657      0467      ZJN      PKIX      IF NO INPUT                  ICD      470
660      3402      STD      D2      SAVE ENTRY                     ICD      471
661      4001      PKI2      LDI      D1      GET TABLE VALUE      ICD      472
662      0464      ZJN      PKIX      IF END OF TABLE REACHED    ICD      473
663      3202      SBD      D2
664      0461      ZJN      PKI1      IF MATCH FOUND              ICD      474
665      3601      AOD      D1
666      0372      UJN      PKI2

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492

1

730	7540	DCN	40B		ICD	540
731	0200 0670	RJM	ART	ASK TO RETRY	ICD	541
733	0364	UJN	FCN3	TRY AGAIN	ICD	542

**	GDS - GET DETAIL STATUS	ICD	544				
*		ICD	545				
*	GDS GETS DETAIL STATUS INTO BUFFER *DETAIL*	ICD	546				
*		ICD	547				
*	EXIT (DETAIL) = DETAIL STATUS	ICD	548				
734	0100 0000	GDS	ENM	X	ENTRY/EXIT	ICD	549
736	1413	GDS2	LDN	/844/DDSS		ICD	550
737	0200 0716	RJM	FCN			ICD	551
741	0200 0703	RJM	AWD			ICD	552
743	0504	NJN	GDS5	IF DATA ON CHANNEL		ICD	553
744	0200 0670	RJM	ART			ICD	554
746	0367	UJN	GDS2			ICD	555
747	1414	GDS5	LDN	DETAILL		ICD	556
750	7100 0754	IAM	DETAIL,0			ICD	557
752	7540	DCN	40B			ICD	558
753	0360	UJN	GDSX	RETURN		ICD	559
754		14	DETAIL	BSSZ	/844/SLNS	ICD	560
		14	DETAILL	EQU	*-DETAIL	ICD	561

**	GGG - GET GENERAL STATUS.	ICD	563				
*		ICD	564				
*	GGG ISSUES THE GENERAL STATUS FUNCTION AND UPDATES	ICD	565				
*	THE DIRECT CELL *GENSTAT*. THE STATUS IS ALSO RETURNED	ICD	566				
*	IN (A).	ICD	567				
*		ICD	568				
*	EXIT (GENSTAT) = GENERAL STATUS REPLY.	ICD	569				
*	(A) = GENERAL STATUS REPLY.	ICD	570				
*		ICD	571				
770	0200 0670	GGG2	RJM	ART	ASK TO RETRY	ICD	572
772	0303	UJN	GGG3	TRY AGAIN		ICD	573
773	0100 0000	GGG	ENM	X	ENTRY/EXIT	ICD	574
775	1412	GGG3	LDN	/844/DGST		ICD	575
776	0200 0716	RJM	FCN	FUNCTION DEVICE		ICD	576
1000	0200 0703	RJM	AWD	ACTIVATE CHAN AND WAIT FOR DATA		ICD	577
1002	0465	ZJN	GGG2	IF NO DATA COMING		ICD	578
1003	7000	IAN	0	READ STATUS		ICD	579
1004	7540	DCN	40B			ICD	580
1005	3425	STD	GENSTAT			ICD	581
1006	0364	UJN	GGGX	RETURN		ICD	585

**	CON	-	CONNECT DISK DRIVE	DIMA314	2
*				DIMA314	3
*	CON	CONNECTS TO THE DISK UNIT AND WAITS FOR		DIMA314	4
*	DRIVE	NOT RESERVED.		DIMA314	5
*				DIMA314	6
*	ENTRY	(UNIT) = UNIT NUMBER		DIMA314	7
*	EXIT	(A) = GENERAL STATUS WORD		DIMA314	8
*				DIMA314	9
*	CALLS	FCN, GGS.		DIMA314	10
				DIMA314	11
				DIMA314	12
1007	0100	0000	CON ENM X ENTRY/EXIT	DIMA314	13
1011	1400		CON2 LDN /844/DCON	DIMA314	14
1012	0200	0716	RJM FCN ISSUE CONNECT FUNCTION	DIMA314	15
1014	7400		ACN 0	DIMA314	16
1015	3027		LDD UNIT	DIMA314	17
1016	7200		OAN 0 CONNECT UNIT	DIMA314	18
1017	6600	1017	FJM *,0	DIMA314	19
1021	7540		DCN 40B	DIMA314	20
1022	0200	0774	RJM GGS GET GENERAL STATUS	DIMA314	21
1024	1210		LPN /844/MP.GSDR	DIMA314	22
1025	0563		NJN CON2 IF DRIVE RESERVED	DIMA314	23
1026	3025		LDD GENSTAT	DIMA314	24
1027	0357		UJN CONX	DIMA314	25
**	WNB	-	WAIT NOT BUSY	DIMA314	27
*				DIMA314	28
*	WNB	WAITS FOR DRIVE NOT BUSY STATUS.		DIMA314	29
*				DIMA314	30
*	EXIT	(A) = GENERAL STATUS WORD		DIMA314	32
*				DIMA314	33
*	CALLS	GGS, CON.		DIMA314	34
				DIMA314	35
				DIMA314	36
1030	3025		WNB2 LDD GENSTAT	DIMA314	37
1031	0100	0000	WNB ENM X ENTRY/EXIT	DIMA314	38
1033	0200	0774	RJM GGS	DIMA314	39
1035	0473		WNB4 ZJN WNBX IF NOT BUSY AND NO ERRORS	DIMA314	40
1036	1202		LPN /844/MP.GSBS	DIMA314	41
1037	0470		ZJN WNB2 IF NOT BUSY	DIMA314	42
1040	0200	1010	RJM CON	DIMA314	43
1042	0372		UJN WNB4	DIMA314	44

				**	RDSS - READ D.S. SECTOR FROM 844 (885)			ICD	587
				*				ICD	588
				*	EXIT	(A) .LT. 0	IF UNABLE TO ACCESS DEVICE	ICD	589
1				*		(A) = 0	IF OK AND FLAWED (NOT FLAWED)	ICD	590
2				*		(A) .GT. 0	IF OK BUT NOT FLAWED (FLAWED)	ICD	591
3	1043	0100	0000	RDSS	ENM	X	ENTRY/EXIT	ICD	592
4	1045	2000	1214		LDC	RDSSERR		ICD	593
5	1047	5400	0701		STM	ARTEC	SET SPECIAL EXIT	ICD	594
6	1051	1410			LDN	10B		DIMA314	45
7	1052	3421			STD	RETRY	INITIALIZE RETRY COUNT	DIMA314	46
8	1053	0200	0774	RDSS2	RJM	GGG	GET GENERAL STATUS	ICD	597
9	1055	1007			SHN	17-10		ICD	598
10	1056	0774			MJN	RDSS2	IF CONTROLLER RESERVED	DIMA314	47
11	1057	0200	1010	RDSS4	RJM	CON	WAIT FOR UNIT NOT RESERVED	DIMA314	48
12	1061	1006			SHN	17-11		DIMA314	49
13	1062	0604			PJN	RDSS15	IF NO ALERT STATUS	DIMA314	50
14	1063	0200	0670		RJM	ART		DIMA314	51
15	1065	0371			UJN	RDSS4		DIMA314	52
16								DIMA314	53
17	1066	0200	0735	RDSS15	RJM	GDS	GET DETAIL STATUS	ICD	609
18				*		DETERMINE DEVICE TYPE		ICD	610
19	1070	5000	0757		LDM	DETAIL+/844/DSWRV		ICD	611
20	1072	1007			SHN	17-10		ICD	612
21	1073	0710			MJN	RDSS45	IF 885 OR 844-DOUBLE	ICD	613
22	1074	5000	0764		LDM	DETAIL+/844/DSWUD		ICD	614
23	1076	1014			SHN	17-5		ICD	615
24	1077	0706			MJN	RDSS50	IF 844-DOUBLE	ICD	616
25	1100	2000	1230		LDC	D44SD	HERE IF 844-SINGLE	ICD	617
26	1102	0321			UJN	RDSS70		ICD	618
27	1103	1005		RDSS45	SHN	10-5		ICD	619
28	1104	0704			MJN	RDSS60	IF 885	ICD	620
29	1105	2000	1241	RDSS50	LDC	D44DD	HERE IF 844-DOUBLE	ICD	621
30	1107	0314			UJN	RDSS70		ICD	622
31	1110	5000	0763	RDSS60	LDM	DETAIL+/844/DSWCV	DETERMINE IF WRITE ENABLED	DIMA386	1
32	1112	1220			LPN	20B		DIMA386	2
33	1113	0506			NJN	RDSS65	IF WRITE ENABLED	DIMA386	3
34	1114	2033	2047	RDSS64	LDC	MSGML*1S12+MSGM	IF WRITE NOT ENABLED	DIMA386	4
35	1116	0200	0460		RJM	DIS	DISPLAY MESSAGE	DIMA386	5
36	1120	0373			UJN	RDSS64	LOOP ON MESSAGE	DIMA386	6
37	1121	2000	1252	RDSS65	LDC	D885	IF 885	DIMA386	7
38	1123	5400	1130	RDSS70	STM	RDSS75A	MOVE DISK ATTRIBUTES INTO PLACE	ICD	624
39	1125	1410			LDN	D44DD-D44SD-1		ICD	625
40	1126	3401			STD	D1		ICD	626
41	1127	5001	0000	RDSS75	LDM	** ,D1		ICD	627
42			1130	RDSS75A	EQU	*-1		ICD	628
43	1131	5401	0030		STM	DTYPE ,D1		ICD	629
44	1133	3701			SOD	D1		ICD	630
45	1134	0672			PJN	RDSS75		ICD	631
46				*		READ DEADSTART SECTOR		ICD	632
47	1135	1433		RDSS77	LDN	DSCYL		ICD	633
48	1136	0200	1264		RJM	SEK	SEEK	ICD	634
49	1140	5030	1222		LDM	RDSST ,DTYPE		ICD	635
50	1142	0200	0716		RJM	FCN	READ OR READ-FLAWED	ICD	636
51	1144	7440			ACN	40B		ICD	637
52	1145	2021	0560		LDC	TIMEOUT		ICD	638
53	1147	6600	1155	RDSS78	FJM	RDSS79 ,0	WAIT UNTIL FULL	ICD	639
54	1151	1701			SBN	1		ICD	640

1152	0574			NJN	RDSS78		ICD	641
1153	7540			DCN	40B	TIMED OUT	ICD	642
1154	0306			UJN	RDSS79J		DIMA332	1
1155	2000	0502		RDSS79	LDC	DSL N	DIMA314	56
1157	7100	2373		IAM	BUFFER,0	READ IN D.S. SECTOR	ICD	644
1161	7540			DCN	40B		ICD	646
1162	0200	0774		RDSS79J	RJM	GET GENERAL STATUS	ICD	647
1164	0200	0735		RJM	GDS	GET DETAIL STATUS	ICD	648
1166	3025			LDD	GENSTAT		ICD	649
1167	0412			ZJN	RDSS80	IF NO ERRORS	ICD	650
1170	5000	0754		LDM	DETAIL+/844/DSWAE		ICD	651
1172	1217			LPN	17B		ICD	652
1173	1710			SBN	10B		ICD	653
1174	0405			ZJN	RDSS80	IF FLAW ERROR	ICD	654
1175	0200	0670		RJM	ART	ELSE ASK TO RETRY	ICD	655
1177	0100	1135		LJM	RDSS77	TRY AGAIN	ICD	656
			*		DETERMINE IF D.S. SECTOR	FLAWED.	ICD	657
1201	1400			RDSS80	LDN	0	ICD	658
1202	5400	0701		STM	ARTEC	RESET ART EXIT CODE	ICD	659
1204	3025			LDD	GENSTAT		ICD	660
1205	0504			NJN	RDSS83	IF FLAW ERROR	ICD	661
1206	1400			LDN	0		ICD	662
1207	0100	1043		LJM	RDSSX	RETURN	ICD	663
1211	1401			RDSS83	LDN	1	DIMA332	2
1212	0100	1043		LJM	RDSSX	RETURN	ICD	668
1214	1400			RDSSERR	LDN	0	ICD	669
1215	5400	0701		STM	ARTEC	RESET ART EXIT ADDRESS	ICD	670
1217	1500			LCN	0	SET A .LT. 0	ICD	671
1220	0100	1043		LJM	RDSSX	RETURN	ICD	672
1222	0034	0034		RDSST	CON	/885/DRFS,/844/DRFS,/844/DRFS	ICD	674
1224	0034							
1225			3	ADDR0	BSSZ	3	ICD	675
1230	0001	0023		D44SD	CON	1,/844/MTKS,/844/MSRS	ICD	677
1232	0030							
1233	0632	0000			CON	/844/CSDD,/844/TSDD,/844/SSDD	ICD	678
1235	0003							
1236	0627	0000			CON	/844/DSSC,0,0	ICD	679
1240	0000							
1241	0002	0023		D44DD	CON	2,/844/MTKS,/844/MSRS	ICD	680
1243	0030							
1244	1466	0000			CON	/844/CDDS,/844/TDDD,/844/SDDD	ICD	681
1246	0003							
1247	1463	0000			CON	/844/DSDC,0,0	ICD	682
1251	0000							
1252	0000	0050		D885	CON	0,/885/MTKS,/885/MSRS	ICD	683
1254	0040							
1255	1511	0001			CON	/885/CSDD,/885/TSDD,/885/SSDD	ICD	684
1257	0036							

1260 1510 0000 CON /885/DSSC,0,0
1262 0000

ICD 685

** SEK - SEEK DISK ADDRESS.

ICD 687

*

ICD 688

*

SEK ISSUES A SEEK FUNCTION, AND WILL CONTINUE TO ISSUE AS LONG

ICD 689

AS THE DRIVE HEADS ARE IN MOTION.

ICD 690

*

ICD 691

*

ENTRY (UNIT) = UNIT NUMBER

ICD 692

*

(A) = ADDRESS OF CYL/TRACK/SECTOR VECTOR

ICD 693

*

ICD 694

*

RETURNS TO CALLER IF NO ERRORS

ICD 695

*

ELSE GO TO ERROR PROCESSOR

ICD 696

1263 0100 0000

SEK

ENM

X

ENTRY/EXIT

ICD 697

1265 5400 1277

STM

SEKB

STORE ADDRESS OF DISK ADDRESS

ICD 698

1267 1402

SEK1

LDN

/844/D2SK

ICD 699

1270 0200 0716

RJM

FCN

SEEK 2:1

ICD 700

1272 7440

ACN

40B

ICD 701

1273 3027

LDD

UNIT

ICD 702

1274 7200

OAN

0

OUTPUT UNIT

ICD 703

1275 1403

LDN

3

ICD 704

1276 7300 0000

OAM

** ,0

OUTPUT CYL/TRACK/SECTOR

ICD 705

1277

SEKB

EQU

* -1

ICD 706

1300 6600 1300

FJM

* ,0

WAIT FOR TRANSFER TO COMPLETE

ICD 707

1302 7540

DCN

40B

ICD 708

1303 0200 0774

RJM

GGG

GET GENERAL STATUS

ICD 709

1305 0455

ZJN

SEKX

IF ON CYLINDER

ICD 710

1306 1202

LPN

/844/MP.GSBS

ICD 711

1307 0557

NJN

SEK1

IF BUSY

ICD 712

1310 0200 0670

RJM

ART

ASK TO RETRY

ICD 713

1312 0354

UJN

SEK1

TRY AGAIN

ICD 714

** WDSS - WRITE DEADSTART SECTOR

ICD 716

*

ICD 717

*

RETURN TO CALLER IF NO ERRORS

ICD 718

*

ELSE GOTO ERROR PROCESSING

ICD 719

1313 0100 0000

WDSS

ENM

X

ENTRY/EXIT

ICD 720

1315 1412

LDN

10

ICD 721

1316 3421

STD

RETRY

INIT RETRY COUNTER

ICD 722

1317 2000 0500

LDC

PRU

ICD 723

1321 5400 2373

STM

BUFFER

SET DATA LENGTH

ICD 724

1323 1433

WDSS2

LDN

DSCYL

ADDR OF CYL/TRACK/SECTOR

ICD 725

1324 0200 1264

RJM

SEK

SEEK

ICD 726

*

IF 885 DO NOT TRY TO SET FLAW

ICD 727

1326 3030

LDD

DTYPE

ICD 728

1327 0423

ZJN

WDSS20

IF 885

ICD 729

1330 1422

LDN

/844/DSCF

ICD 730

1331 0200 0716

RJM

FCN

SET/CLEAR FLAW FUNCTION

ICD 731

1333 7440

ACN

40B

ICD 732

1334 1402

LDN

2

CODE FOR SET SECTOR FLAW

ICD 733

1335 7200

OAN

0

ICD 734

1336	6600	1336	FJM	*,0	WAIT FOR TRANSFER TO COMPLETE	ICD	735
1340	7540		DCN	40B		ICD	736
1341	0200	1032	RJM	WNB		DIMA314	57
1343	0404		ZJN	WDSS8	IF OK TO PROCEED	ICD	738
1344	0200	0670	RJM	ART	ASK TO RETRY	ICD	741
1346	0354		UJN	WDSS2	TRY AGAIN	ICD	742
1347	1433		LDN	DSCYL		ICD	743
1350	0200	1264	RJM	SEK	RE-SEEK TO D.S. SECTOR	ICD	744
			*	WRITE D.S. SECTOR USING EITHER WRITE-FLAWED (844) OR		ICD	745
			*	WRITE (885) .		ICD	746
1352	5030	1376	LDM	WDSST,DTYPE		ICD	747
1354	0200	0716	RJM	FCN		ICD	748
1356	7440		ACN	40B		ICD	749
1357	2000	0502	LDC	DSLN		ICD	750
1361	7300	2373	OAM	BUFFER,0		ICD	751
1363	6600	1363	FJM	*,0	WAIT FOR TRANSFER TO COMPLETE	ICD	752
1365	7540		DCN	40B		ICD	753
1366	0200	1032	RJM	WNB		DIMA314	58
1370	0404		ZJN	WDSS30	IF NO ERRORS	ICD	755
1371	0200	0670	RJM	ART		ICD	756
1373	0353		UJN	WDSS8	TRY AGAIN	ICD	757
1374	0100	1313	LJM	WDSSX	RETURN	ICD	758
1376	0037	0037	CON	/885/DWFS,/844/DWFS,/844/DWFS		ICD	759
1400	0037						

1401			RSTC		DISABLE CHANNEL INSTRUCTIONS	ICD	761
------	--	--	------	--	------------------------------	-----	-----

1412THE

			1401	MSGA	EQU	*		ICD	764	
			5	LINE	SET	5		ICD	765	
	1401	7630			CON	YSET+762B-LINE*YINCR		ICD	766	
1	1402	6000			CON	XSET+0		ICD	767	1
2	1403	0516			DATA	H*ENTER ONE OF THE FOLLOWING*		ICD	768	2
3			10	LINE	SET	LINE+3		ICD	769	3
4	1420	7542			CON	YSET+762B-LINE*YINCR		ICD	770	4
5	1421	6000			CON	XSET+0		ICD	771	5
6	1422	5551			DATA	H* (CR) - INSTALL DEADSTART*		ICD	772	6
7			11	LINE	SET	LINE+1		ICD	773	7
8	1437	7520			CON	YSET+762B-LINE*YINCR		ICD	774	8
9	1440	6000			CON	XSET+0		ICD	775	9
10	1441	5555			DATA	H* MODULE ON DISK*		ICD	776	10
11			13	LINE	SET	LINE+2		ICD	777	11
12	1454	7454			CON	YSET+762B-LINE*YINCR		ICD	778	12
13	1455	6000			CON	XSET+0		ICD	779	13
14	1456	5555			DATA	H* R - RELEASE CMSE-RESERVED*		ICD	780	14
15			14	LINE	SET	LINE+1		ICD	781	15
16	1475	7432			CON	YSET+762B-LINE*YINCR		ICD	782	16
17	1476	6000			CON	XSET+0		ICD	783	17
18	1477	5555			DATA	H* DISK SPACE*		ICD	784	18
19			107	MSGAL	EQU	*-MSGA		ICD	785	19
20										20
21										21
22										22
23										23
24			1510	MSGB	EQU	*		ICD	787	24
25			5	LINE	SET	5		ICD	788	25
26	1510	7630			CON	YSET+762B-LINE*YINCR		ICD	789	26
27	1511	6000			CON	XSET+0		ICD	790	27
28	1512	5555			DATA	H/ * WARNING */		ICD	791	28
29			10	LINE	SET	LINE+3		ICD	792	29
30	1525	7542			CON	YSET+762B-LINE*YINCR		ICD	793	30
31	1526	6000			CON	XSET+0		ICD	794	31
32	1527	2005			DATA	H*PERMANENT FILES MAY BE LOST IF*		ICD	795	32
33			11	LINE	SET	LINE+1		ICD	796	33
34	1546	7520			CON	YSET+762B-LINE*YINCR		ICD	797	34
35	1547	6000			CON	XSET+0		ICD	798	35
36	1550	0411			DATA	H*DISK DEADSTART MODULE NOT*		ICD	799	36
37			12	LINE	SET	LINE+1		ICD	800	37
38	1565	7476			CON	YSET+762B-LINE*YINCR		ICD	801	38
39	1566	6000			CON	XSET+0		ICD	802	39
40	1567	2022			DATA	H*PREVIOUSLY INSTALLED ON DEVICE*		ICD	803	40
41			15	LINE	SET	LINE+3		ICD	804	41
42	1606	7410			CON	YSET+762B-LINE*YINCR		ICD	805	42
43	1607	6000			CON	XSET+0		ICD	806	43
44	1610	5551			DATA	H* (CR) TO CONTINUE*		ICD	807	44
45			111	MSGBL	EQU	*-MSGB		ICD	808	45
46										46
47										47
48										48
49										49
50										50
51										51
52										52
53										53
54										54
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56										56
57										57
58										58
59										59
60										60

10

			1762	MSGH	EQU	*		ICD	849	
			5	LINE	SET	5		ICD	850	
	1762	7630			CON	YSET+762B-LINE*YINCR		ICD	851	
1	1763	6000			CON	XSET+0		ICD	852	1
2	1764	1116			DATA	H*INSTALL COMPLETE*		ICD	853	2
3			12	MSGHL	EQU	*-MSGH		ICD	854	3
4										4
5										5
6										6
7										7
8			1774	MSGI	EQU	*		ICD	856	8
9			5	LINE	SET	5		ICD	857	9
10	1774	7630			CON	YSET+762B-LINE*YINCR		ICD	858	10
11	1775	6000			CON	XSET+0		ICD	859	11
12	1776	2205			DATA	H*RELEASE COMPLETE*		ICD	860	12
13			12	MSGIL	EQU	*-MSGI		ICD	861	13
14										14
15										15
16										16
17										17
18			2006	MSGJ	EQU	*		ICD	863	18
19			5	LINE	SET	5		ICD	864	19
20	2006	7630			CON	YSET+762B-LINE*YINCR		ICD	865	20
21	2007	6000			CON	XSET+0		ICD	866	21
22	2010	0522			DATA	H*ERRORS IN INSTALL*		ICD	867	22
23			13	MSGJL	EQU	*-MSGJ		ICD	868	23
24										24
25										25
26										26
27										27
28			2021	MSGK	EQU	*		DIMA294	42	28
29			5	LINE	SET	5		DIMA294	43	29
30	2021	7630			CON	YSET+762B-LINE*YINCR		DIMA294	44	30
31	2022	6000			CON	XSET+0		DIMA294	45	31
32	2023	1120			DATA	H*IPL NOT FOUND*		DIMA294	46	32
33			11	MSGKL	EQU	*-MSGK		DIMA294	47	33
34										34
35										35
36										36
37										37
38			2032	MSGL	EQU	*		DIMA294	49	38
39			5	LINE	SET	5		DIMA294	50	39
40	2032	7630			CON	YSET+762B-LINE*YINCR		DIMA294	51	40
41	2033	6000			CON	XSET+0		DIMA294	52	41
42	2034	0324			DATA	H*CTI CYLINDER OVERFLOW*		DIMA294	53	42
43			15	MSGLL	EQU	*-MSGL		DIMA294	54	43
44										44
45										45
46										46
47										47
48										48
49										49
50										50
51										51
52										52
53										53
54										54
55										55
56										56
57										57
58										58
59										59
60										60

		*	OPERATOR RESPONSE TABLES		ICD	870
2102	0022	ORTR	CON	1RR	ICD	871
2103	0060	ORTCR	CON	60B	ICD	872
2104	0000		CON	0	ICD	873

2105

*
CHTB

CHTB - TABLE OF REDEFINED CHANNEL INSTRUCTIONS
CHTB

ICD
ICD

876
877

2146

**
QOD

CALL COMPQOD HERE.
CTEXT COMPQOD - CTI QUERY OPERATOR FOR DEVICE.

ICD
COMPQOD

879
2

2371

2
2373

*
BUFFERX
BUFFER

GENERAL I/O BUFFER
BSSZ 2 EXTRA FOR LINKAGE BYTES
EQU *
QUAL *

ICD
ICD
ICD
ICD

882
883
884
885

IDENT

ICE,/CTI/ICDLOAD

ICD

887

1					1
2					2
3					3
4			COMMENT CTI ICD OVERLAY	DIMA317I 6	4
5			COMMENT COPYRIGHT CONTROL DATA CORPORATION, 1979	DIMA317I 7	5
6					6
7			ALL RIGHTS RESERVED	CDCCRN 3	7
8				CDCCRN 4	8
9			CONTAINED HEREIN ARE SOFTWARE PRODUCTS COPYRIGHTED	CDCCRN 5	9
10			BY CONTROL DATA CORPORATION. REPRODUCTION WITHOUT	CDCCRN 6	10
11			PERMISSION IS PROHIBITED. THE COPYRIGHT NOTICE	CDCCRN 7	11
12			MUST APPEAR ON ALL AUTHORIZED COMPLETE OR	CDCCRN 8	12
13			PARTIAL COPIES.	CDCCRN 9	13
14				CDCCRN 10	14
15					15
16					16
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57					57
58					58
59					59
60					60

1412THE

150

ORG /CTI/ICDLOAD

ICD

892

1	**	ICE - OVERLAY FOR ICD	ICD	894	1
2	*		ICD	895	2
3	*	ICE IS CALLED TO WRITE THE CTI MODULES TO THE	ICD	896	3
4	*	CTI CYLINDER. ALL MODULES FROM IPL THRU ZZZ ARE	ICD	897	4
5	*	WRITTEN. IT WILL ALSO SET THE CTI POINTER WORDS SO	ICD	898	5
6	*	THAT CTI WORD 1 POINTS TO THE FIRST RECORD WHICH IS	ICD	899	6
7	*	LOADED BY IPL AT DEADSTART TIME. CTI WORD 2 WILL	ICD	900	7
8	*	POINT TO THE FIRST RECORD IN THE CTI FILE IE. IPL.	ICD	901	8
9	*		ICD	902	9
10	*	WHEN ICE IS DONE, IT WILL RELOAD ICD WHICH WILL	ICD	903	10
11	*	FINISH THE INSTALLATION PROCESS.	ICD	904	11
12					12
13					13
14		QUAL ICE	ICD	906	14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
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58					58
59					59
60					60

1412THE

150	2000	1064	150	ICE	EQU	*	ENTRY POINT	ICD	909
152	0200	0502			LDC	CHTB		ICD	910
					RJM	ICN	FIX CHANNEL INSTRUCTIONS	ICD	911
154	1400				LDN	0		ICD	913
155	3443				STD	PREV	INIT PREV = 0	ICD	914
156	3450				STD	CTICSC	INIT SECTOR COUNT	ICD	915
157	2000	5653		*	SET	INPUT BUFFER AREA TO ALL 7777B		ICD	917
161	3401			E20	LDC	/CTI/CTIFWA-BUFFER-1		ICD	918
162	2000	7777		E22	STD	D1		ICD	919
164	5401	1117	163	E22	LDC	7777B		ICD	920
166	3701			FILL	EQU	*-1		ICD	921
167	0672				STM	BUFFER,D1		ICD	922
170	2000	0174		E30	SOD	D1		ICD	923
172	0100	7000		E30P	PJN	E22		ICD	924
174	1117								
175	0201								
176	0001	0000							
200	0000								
201	1400		201	E39					
202	5400	0176							
204	2000	6772		*	CALL	COMMON DRIVER TO (REWIND), READ NEXT RECORD,		ICD	926
206	3401			*	WITH	NO STRIPPING. REWIND OCCURS ONLY 1ST TIME.		ICD	927
207	4001			E30	LDC	E30P		ICD	928
210	5300	0163		E30P	LJM	/CTI/CDEP		ICD	929
212	0503				CON	BUFFER	LOAD ADDR	ICD	930
213	3701				CON	E39	TRANSFER ADDR	ICD	931
214	0372			E30R	CON	1,0,0	REWIND,READ NEXT,NO STRIP	ICD	932
215	3001								
216	2177	6661							
220	3442								
221	1702								
222	3442								
223	5000	7001							
225	1713								
204	2000	6772		*	COMPUTE	LENGTH OF RECORD JUST READ AND INIT RWADDR		ICD	937
206	3401			E40	LDC	/CTI/CTIFWA-1		ICD	938
207	4001			E42	STD	D1		ICD	939
210	5300	0163			LDI	D1		ICD	940
212	0503				LMM	FILL		ICD	941
213	3701				NJN	E44	IF NON-7777B REACHED	ICD	942
214	0372				SOD	D1		ICD	943
215	3001			E44	UJN	E42		ICD	944
216	2177	6661			LDD	D1		ICD	945
220	3442				ADC	1-BUFFER		ICD	946
					STD	LENGTH	STORE LENGTH	ICD	947
				*	NOW	ADJUST THE LENGTH AS FOLLOWS		ICD	948
				*	TAPE	- 5 LESS FOR TRAILER AND DISCONNECT BYTE		ICD	949
				*	DISK	- 2 LESS BECAUSE OF LINKAGE BYTES SHIFT.		ICD	950
221	1702				SBN	2		ICD	951
222	3442				STD	LENGTH		ICD	952
223	5000	7001			LDM	/CTI/CDTYPE	GET DEVICE TYPE CODE	ICD	953
225	1713				SBN	/CTI/D844		ICD	954

226	0604			PJN	E46	IF NOT FROM TAPE	ICD	955
227	3042			LDD	LENGTH		ICD	956
230	1703			SBN	3		ICD	957
231	3442			STD	LENGTH		ICD	958
		232	E46	EQU	*		ICD	959
232	2000	1117		LDC	BUFFER		ICD	960
234	3441			STD	RWADDR	RWADDR = A(BUFFER)	ICD	961
			*		WRITE A DISK SECTOR		ICD	963
235	0200	0753	E60	RJM	WSEC	WRITE SECTOR	ICD	964
237	0404			ZJN	E100	IF NO ERRORS	ICD	965
240	0200	0516	E90	RJM	IDA	INCREMENT DISK ADDRESS	ICD	966
242	0372			UJN	E60	TRY AGAIN	ICD	967
			*		SET PREV TO POINT TO SECTOR JUST WRITTEN		ICD	969
243	3037		E100	LDD	CTITRK		ICD	970
244	1006			SHN	6		ICD	971
245	3140			ADD	CTISEC		ICD	972
246	3443			STD	PREV		ICD	973
247	3650			AOD	CTICSC	COUNT NUMBER OF SECTORS WRITTEN	ICD	974
			*		TEST IF LAST SECTOR OF CURRENT RECORD HAS BEEN WRITTEN		ICD	976
250	3042		E110	LDD	LENGTH		ICD	977
251	0402			ZJN	E120	IF NO MORE TO WRITE	ICD	978
252	0365			UJN	E90		ICD	979
			*		TEST IF ZZZ RECORD JUST FINISHED		ICD	981
253	5000	1124	E120	LDM	BUFFER+NAME		ICD	982
255	2300	3232		LMC	2RZZ		ICD	983
257	0521			NJN	E130	IF NOT ZZZ	ICD	984
260	5000	1125		LDM	BUFFER+NAME+1		ICD	985
262	2300	3200		LMC	1RZ*100B		ICD	986
264	0514			NJN	E130	IF NOT ZZZ	ICD	987
			*		REVERSE LINKS AND SET CTI POINTER WORDS		ICD	988
265	0200	0602		RJM	RVL		ICD	989
			*		HERE IF ALL DONE. RELOAD ICD TO FINISH INSTALL.		ICD	990
267	2000	0273	DONE	LDC	E120P		ICD	991
271	0100	7000		LJM	/CTI/CDEP	GOTO COMMON DRIVER	ICD	992
273	0150		E120P	CON	/CTI/ICDLOAD		ICD	993
274	0151		E120PT	CON	/ICD/ICDALT		DIMA294	55
275	0001			CON	1		ICD	995
276	1103			VFD	18/3LICD,6/0		ICD	996
277	0400							

*

INCREMENT DISK ADDRESS AND GO PROCESS NEXT RECORD

ICD 998

300

0200 0516

E130

RJM IDA

ICD 999

302

0100 0157

LJM E20

ICD 1000

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1412THE

1003

1

344	0365		UJN	CPOX	RETURN	ICD	1051
345	3044		LDD	RVLTRK		ICD	1052
346	3237		SBD	CTITRK		ICD	1053
347	0200 0356		RJM	MPY		ICD	1054
351	3145		ADD	RVLSEC		ICD	1055
352	3240		SBD	CTISEC		ICD	1056
353	0356		UJN	CPOX	RETURN	ICD	1057
			**	MPY - CONVERT TRACKS TO SECTORS		ICD	1059
			*			ICD	1060
			*	ENTRY	(A) = TRACKS	ICD	1061
			*	EXIT	(A) = TRACKS * SECSPER	ICD	1062
354	3002		MPY1	LDD	D2	ICD	1063
355	0100 0000		MPY	ENM	X ENTRY/EXIT	ICD	1064
357	3401			STD	D1	ICD	1065
360	1400			LDN	0	ICD	1066
361	3402			STD	D2	ICD	1067
362	3701		MPY3	SOD	D1	ICD	1068
363	0770		MJN	MPY1		ICD	1069
364	3032		LDD	SECSPER		ICD	1070
365	3502		RAD	D2		ICD	1071
366	0373		UJN	MPY3		ICD	1072
			**	ERROR - INTERCEPTS ERROR STATES		ICD	1074
			*			ICD	1075
			*	RELOADS ICD AND ENTERS IT AT THE ERROR ENTRY.		ICD	1076
367	0100 0000		ERROR	ENM	X ENTRY ONLY	ICD	1077
371	2000 0153			LDC	/ICD/ICDERR	DIMA294	56
373	5400 0274			STM	E120PT CHANGE TRANSFER ADDRESS	ICD	1079
375	0100 0267			LJM	DONE	ICD	1080
			**	ERROROF - USED WHEN CTI OVERFLOWS ASSIGNED DISK CYLINDER		DIMA294	57
			*			DIMA294	58
			*	RELOADS ICD AND ENTERS ICD AT ICDERR2 ENTRY POINT		DIMA294	59
			*			DIMA294	60
			*	CALLS ICD.		DIMA294	61
			*			DIMA294	62
			*	USES NONE.		DIMA294	63
			*			DIMA294	64
			*	EXIT DOES NOT RETURN TO CALLER.		DIMA294	65
			*			DIMA294	66
						DIMA294	67
377	0100 0000		ERROROF	ENM	X ENTER ONLY	DIMA294	68
401	2000 0155			LDC	/ICD/ICDERR2 CHANGE TRANSFER ADDRESS	DIMA294	69
403	5400 0274			STM	E120PT	DIMA294	70
405	0100 0267			LJM	DONE	DIMA294	71

**	FCN - FUNCTION DEVICE.	ICD	1082
*		ICD	1083
*	ENTRY (A) = FUNCTION CODE.	ICD	1084
*		ICD	1085
*	RETURNS TO CALLER IF NO ERRORS	ICD	1086
*	ELSE GO TO ERROR PROCESSOR.	ICD	1087
407	0100 0000 FCN ENM X ENTRY/EXIT	ICD	1088
411	3424 STD FCNF SAVE FUNCTION CODE	ICD	1089
412	3024 FCN3 LDD FCNF GET FUNCTION CODE	ICD	1090
413	7640 FAN 40B ISSUE FUNCTION	ICD	1091
414	2021 0560 LDC TIMEOUT	ICD	1092
416	6500 0407 FCN1 IJM FCNX,0 IF FUNCTION ACCEPTED, RETURN	ICD	1093
420	1701 SBN 1	ICD	1094
421	0574 NJN FCN1 IF TIMEOUT NOT EXPIRED	ICD	1095
422	7540 DCN 40B	ICD	1096
423	0200 0305 RJM ART ASK TO RETRY	ICD	1097
425	0364 UJN FCN3 TRY AGAIN	ICD	1098
**	GDS - GET DETAIL STATUS	ICD	1100
*		ICD	1101
*	GDS GETS DETAIL STATUS INTO BUFFER *DETAIL*	ICD	1102
*		ICD	1103
*	EXIT (DETAIL) = DETAIL STATUS	ICD	1104
426	0100 0000 GDS ENM X ENTRY/EXIT	ICD	1105
430	1413 GDS2 LDN /844/DDSS	ICD	1106
431	0200 0410 RJM FCN	ICD	1107
433	0200 0320 RJM AWD	ICD	1108
435	0504 NJN GDS5 IF DATA ON CHANNEL	ICD	1109
436	0200 0305 RJM ART	ICD	1110
440	0367 UJN GDS2	ICD	1111
441	1414 GDS5 LDN DETAILL	ICD	1112
442	7100 0446 IAM DETAIL,0	ICD	1113
444	7540 DCN 40B	ICD	1114
445	0360 UJN GDSX RETURN	ICD	1115
446	14 14 DETAIL BSSZ /844/SLNS	ICD	1116
	14 DETAIL EQU *-DETAIL	ICD	1117
**	GGG - GET GENERAL STATUS.	ICD	1119
*		ICD	1120
*	GGG ISSUES THE GENERAL STATUS FUNCTION AND UPDATES	ICD	1121
*	THE DIRECT CELL *GENSTAT*. THE STATUS IS ALSO RETURNED	ICD	1122
*	IN (A).	ICD	1123
*		ICD	1124
*	EXIT (GENSTAT) = GENERAL STATUS REPLY.	ICD	1125
*	(A) = GENERAL STATUS REPLY.	ICD	1126
*		ICD	1127
462	0200 0305 GGS2 RJM ART ASK TO RETRY	ICD	1128
464	0303 UJN GGS3 TRY AGAIN	ICD	1129
465	0100 0000 GGS ENM X ENTRY/EXIT	ICD	1130
467	1412 GGS3 LDN /844/DGST	ICD	1131
470	0200 0410 RJM FCN FUNCTION DEVICE	ICD	1132

472	0200 0320	RJM	AWD	ACTIVATE CHAN AND WAIT FOR DATA	ICD	1133
474	0465	ZJN	GGS2	IF NO DATA COMING	ICD	1134
475	7000	IAN	0	READ STATUS	ICD	1135
476	7540	DCN	40B		ICD	1136
477	3425	STD	GENSTAT		ICD	1137
500	0364	UJN	GGSX	RETURN	ICD	1138
** ICN - INSERT CHANNEL NO.						ICD 1140
* ICN INSERTS CHANNEL NO.S IN INSTRUCTIONS GIVEN						ICD 1141
* IN A LIST TERMINATED WITH A ZERO.						ICD 1142
* ENTRY (A) = FWA OF CHANNEL LIST.						ICD 1143
* (CHAN) = CHANNEL NO.						ICD 1144
* ENTRY (A) = FWA OF CHANNEL LIST.						ICD 1145
* (CHAN) = CHANNEL NO.						ICD 1146
* ENTRY (A) = FWA OF CHANNEL LIST.						ICD 1147
* (CHAN) = CHANNEL NO.						ICD 1148
501	0100 0000	ICN	USES D2, D3.	ENTRY/EXIT	ICD	1149
503	3402	STD	D2		ICD	1150
504	4002	ICN1	LDI D2		ICD	1151
505	0473	ZJN	ICNX	IF LIST COMPLETE	ICD	1152
506	3403	STD	D3		ICD	1153
507	4003	LDI	D3		ICD	1154
510	1337	SCN	37B		ICD	1155
511	3126	ADD	CHAN	ADD IN NEW CHANNEL NO.	ICD	1156
512	4403	STI	D3		ICD	1157
513	3602	AOD	D2		ICD	1158
514	0367	UJN	ICN1	CONTINUE PROCESSING	ICD	1159
** IDA - INCREMENT DISK ADDRESS						ICD 1161
* IDA INCREMENTS THE CTI DISK ADDRESS VECTOR,						ICD 1162
* (CTICYL,CTITRK,CTISEC),						ICD 1163
* TO THE NEXT POSSIBLE LOCATION.						ICD 1164
* IDA INCREMENTS THE CTI DISK ADDRESS VECTOR,						ICD 1165
* (CTICYL,CTITRK,CTISEC),						ICD 1166
* TO THE NEXT POSSIBLE LOCATION.						ICD 1167
515	0100 0000	IDA	ENM X	ENTRY/EXIT	ICD	1168
517	1402	LDN	2	ADD 2 TO SECTOR	ICD	1169
520	3540	RAD	CTISEC		ICD	1170
521	3232	SBD	SECSPER		ICD	1171
522	0772	MJN	IDAX	IF .LE. MAX, RETURN	ICD	1172
523	3440	STD	CTISEC		ICD	1173
524	3637	AOD	CTITRK	ADD 1 TO TRACK	ICD	1174
525	3231	SBD	TRKSPER		ICD	1175
526	0766	MJN	IDAX	IF .LE. MAX, RETURN	ICD	1176
527	3040	LDD	CTISEC		ICD	1177
530	0403	ZJN	IDA3		ICD	1178
531	0200 0400	RJM	ERROROF	CALLS AND ENTERS ICD, DOES NOT RETURN	DIMA294	73
533	1400	IDA3	LDN 0	SET TRACK=0, SECTOR=1	ICD	1179
534	3437	STD	CTITRK		ICD	1180
535	3640	AOD	CTISEC		ICD	1181
536	0356	UJN	IDAX	RETURN	ICD	1181

**	RSEC - READ SECTOR	ICD	1183
*		ICD	1184
*	READS SECTOR (CTICYL,CTITRK,CTISEC) INTO BUFFERX	ICD	1185
*		ICD	1186
*	RETURNS TO CALLER IF NO ERRORS	ICD	1187
*	ELSE GOTO ERROR PROCESSOR	ICD	1188
537	0100 0000 RSEC ENM X ENTRY/EXIT	ICD	1189
541	1412 LDN 10	ICD	1190
542	3421 STD RETRY INIT RETRY COUNTER	ICD	1191
543	1436 RSEC20 LDN CTICYL	ICD	1192
544	0200 0721 RJM SEK SEEK	ICD	1193
546	1404 LDN /844/DRED	ICD	1194
547	0200 0410 RJM FCN READ	ICD	1195
551	7440 ACN 40B	ICD	1196
552	2021 0560 LDC TIMEOUT	ICD	1197
554	6600 0564 RSEC25 FJM RSEC30,0 WAIT UNTIL FULL	ICD	1198
556	1701 SBN 1	ICD	1199
557	0574 NJN RSEC25	ICD	1200
560	7540 DCN 40B	ICD	1201
561	0200 0305 RSEC27 RJM ART ASK TO RETRY	ICD	1202
563	0357 UJN RSEC20 TRY AGAIN	ICD	1203
564	2000 0502 RSEC30 LDC DSLN	ICD	1204
566	7100 1115 IAM BUFFERX,0 READ IN DATA	ICD	1205
570	7540 DCN 40B	ICD	1206
571	0200 0466 RJM GGS GET GENERAL STATUS	ICD	1207
573	0404 ZJN RSEC40 IF NO ERRORS	ICD	1208
574	0200 0427 RJM GDS GET DETAIL STATUS	ICD	1209
576	0362 UJN RSEC27 TRY AGAIN	ICD	1210
577	0100 0537 RSEC40 LJN RSECX OK,RETURN	ICD	1211
**	RVL - REVERSE LINKS AND SET CTI POINTERS	ICD	1213
*		ICD	1214
*	RVL READS (IN REVERSE ORDER), THE SECTORS WRITTEN IN THE	ICD	1215
*	CTI CYLINDER AND REWRITES THEM SO THAT THE 2ND LINKAGE	ICD	1216
*	BYTE OF EACH SECTOR IS A FORWARD POINTING PRU OFFSET.	ICD	1217
*	IT WILL ALSO SET THE CTI POINTER WORDS SO THAT THE CTI	ICD	1218
*	POINTER WORD 1 HAS THE ADDRESS OF THE CTI MODULE WHICH	ICD	1219
*	IS LOADED BY IPL AT DEADSTART TIME, AND CTI POINTER	ICD	1220
*	WORD 2 HAS THE ADDRESS OF THE 1ST CTI MODULE, IE. IPL.	ICD	1221
*		ICD	1222
*	RETURNS TO THE CALLER IF NO ERRORS	ICD	1223
*	ELSE GOTO ERROR PROCESSOR.	ICD	1224
601	0100 0000 RVL ENM X ENTRY/EXIT	ICD	1225
603	3037 LDD CTITRK	ICD	1226
604	3444 STD RVLTRK	ICD	1227
605	3040 LDD CTISEC	ICD	1228
606	3445 STD RVLSEC	ICD	1229
607	0200 0540 RVL10 RJM RSEC READ CURRENT SECTOR INTO BUFFERX	ICD	1230
611	5000 1116 LDM BUFFERX+1	ICD	1231
613	3446 STD RVLLB2 SAVE 2ND LINKAGE BYTE	ICD	1232
614	5000 1115 LDM BUFFERX	ICD	1233
616	0405 ZJN RVL18 IF FULL-LAST SECTOR	ICD	1234
617	2177 7277 ADC -500B	ICD	1235
621	0502 NJN RVL18	ICD	1236

622	1401		LDN	1	FORCE WSEC TO NOT CHANGE 500 TO 0	ICD	1237
623	2100 0500	RVL18	ADC	500B		ICD	1238
625	3442	RVL20	STD	LENGTH	SAVE LENGTH OF DATA	ICD	1239
626	2000 1117		LDC	BUFFER		ICD	1240
630	3441		STD	RWADDR		ICD	1241
631	0200 0333		RJM	CPO	COMPUTE PRU OFFSET	ICD	1242
633	3443		STD	PREV		ICD	1243
634	0200 0753		RJM	WSEC	REWRITE SECTOR WITH NEW LINK	ICD	1244
636	0403		ZJN	RVL30	IF NO ERRORS	ICD	1245
637	0200 0370		RJM	ERROR	ELSE TOO BAD	ICD	1246
		*			IF APPROPRIATE DRIVER, SET CTI POINTER WORD 1	ICD	1247
641	5000 1124	RVL30	LDM	BUFFER+NAME	LOOKING FOR CD4 OR CD8	ICD	1248
643	2300 0304		LMC	2RCD		ICD	1249
645	0517		NJN	RVL50	IF NOT	ICD	1250
646	5000 1125		LDM	BUFFER+NAME+1		ICD	1251
650	5330 0715		LMM	RVLTAB,DTYPE		ICD	1252
652	0512		NJN	RVL50	IF NOT	ICD	1253
653	3036		LDD	CTICYL	SAVE ADDRESS OF DRIVER	ICD	1254
654	5400 0076		STM	CPBCTI+0		ICD	1255
656	3037		LDD	CTITRK		ICD	1256
657	5400 0077		STM	CPBCTI+1		ICD	1257
661	3040		LDD	CTISEC		ICD	1258
662	5400 0100		STM	CPBCTI+2		ICD	1259
664	3037	RVL50	LDD	CTITRK	RVLTRK/RVLSEC = CTITRK/CTISEC	ICD	1260
665	3444		STD	RVLTRK		ICD	1261
666	3040		LDD	CTISEC		ICD	1262
667	3445		STD	RVLSEC		ICD	1263
670	3750		SOD	CTICSC	DECREMENT RECORDS WRITTEN COUNT	ICD	1264
671	0514		NJN	RVL60	IF MORE RECORDS TO READ	ICD	1265
672	3036		LDD	CTICYL	SAVE ADDRESS OF 1ST CTI RECORD	ICD	1266
673	5400 0103		STM	CPBCTI+5+0		ICD	1267
675	3037		LDD	CTITRK		ICD	1268
676	5400 0104		STM	CPBCTI+5+1		ICD	1269
700	3040		LDD	CTISEC		ICD	1270
701	5400 0105		STM	CPBCTI+5+2		ICD	1271
703	0100 0601		LJM	RVLX	RETURN	ICD	1272
705	3046	RVL60	LDD	RVLLB2		ICD	1273
706	1277		LPN	77B	CTITRK/CTISEC = RVLLB2	ICD	1274
707	3440		STD	CTISEC		ICD	1275
710	3046		LDD	RVLLB2		ICD	1276
711	1071		SHN	-6		ICD	1277
712	3437		STD	CTITRK		ICD	1278
713	0100 0607		LJM	RVL10		ICD	1279
715	4300 3700	RVLTAB	CON	1R8*100B,1R4*100B,1R4*100B		ICD	1280
717	3700						

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				*	EXIT	(LENGTH) IS REDUCED BY THE AMOUNT WRITTEN.	ICD	1333
				*		(RWADDR) IS ADVANCED BY THE AMOUNT WRITTEN.	ICD	1334
				*		(A) = 0 IF NO ERRORS	ICD	1335
				*		(A) .NE. 0 IF UNABLE TO WRITE CURRENT SECTOR.	ICD	1336
1								1
2	752	0100	0000	WSEC	ENM	X		2
3	754	1412			LDN	10	ENTRY/EXIT	3
4	755	3421			STD	RETRY		4
5	756	2000	1053		LDC	WSECERR		5
6	760	5400	0316		STM	ARTEC	SET ART EXIT ADDRESS	6
7	762	3041			LDD	RWADDR		7
8	763	1702			SBN	2		8
9	764	3401			STD	D1	(D1) = (RWADDR) - 2	9
10	765	5400	1020		STM	WSEC20B		10
11	767	3042			LDD	LENGTH	DETERMINE VALUE FOR 1ST LINKAGE BYTE	11
12	770	2177	7277		ADC	-500B		12
13	772	0405			ZJN	WSEC10		13
14	773	0702			MJN	WSEC8		14
15	774	1400			LDN	0		15
16	775	2100	0500	WSEC8	ADC	500B		16
17	777	4401		WSEC10	STI	D1	STORE 1ST LINKAGE BYTE	17
18	1000	5400	1035		STM	WSEC60B		18
19	1002	3043			LDD	PREV		19
20	1003	5401	0001		STM	1,D1	STORE 2ND LINKAGE BYTE	20
21	1005	1436		WSEC20	LDN	CTICYL		21
22	1006	0200	0721		RJM	SEK	SEEK	22
23	1010	5030	1061		LDM	WSECWFT,DTYPE		23
24	1012	0200	0410		RJM	FCN	WRITE	24
25	1014	7440			ACN	40B		25
26	1015	2000	0502		LDC	DSLN		26
27	1017	7300	0000		OAM	** ,0	OUTPUT ONE SECTOR	27
28			1020	WSEC20B	EQU	*-1		28
29	1021	6600	1021		FJM	* ,0	WAIT FOR TRANSFER TO COMPLETE	29
30	1023	7540			DCN	40B		30
31	1024	0200	0466		RJM	GGG	GET GENERAL STATUS	31
32	1026	0406			ZJN	WSEC40	IF NO ERRORS	32
33	1027	0200	0427		RJM	GDS	GET DETAIL STATUS	33
34	1031	0200	0305	WSEC30	RJM	ART	ASK TO RETRY	34
35	1033	0351			UJN	WSEC20	TRY AGAIN	35
36			1034	WSEC40	EQU	*		36
37				*		HERE IF SUCCESSFUL WRITE COMPLETED		37
38					IFGT	DEBUG\$,0		38
39					ENDIF			39
40	1034	2000	0000	WSEC60	LDC	**	LENGTH BYTE JUST WRITTEN	40
41			1035	WSEC60B	EQU	*-1		41
42	1036	0503			NJN	WSEC62		42
43	1037	2000	0500		LDC	500B		43
44	1041	3401		WSEC62	STD	D1	STORE LENGTH JUST WRITTEN	44
45	1042	3541			RAD	RWADDR	UPDATE DATA ADDRESS FOR NEXT SECTOR	45
46	1043	3042			LDD	LENGTH		46
47	1044	3201			SBD	D1		47
48	1045	3442			STD	LENGTH	UPDATE LENGTH REMAINING	48
49	1046	1400			LDN	0		49
50	1047	5400	0316		STM	ARTEC	RESET ART EXIT CODE	50
51	1051	0100	0752		LJM	WSECX	RETURN	51
52				*		HERE IF UNABLE TO WRITE GOOD SECTOR		52
53	1053	1400		WSECERR	LDN	0		53
54	1054	5400	0316		STM	ARTEC	RESET ART EXIT CODE	54

1056
1057

1401
0100 0752

LDN
LJM

1
WSECX

RETURN (A) .NE. 0

ICD
ICD
ICD
ICD

1404
1405
1406
1407
1408
1409

1				*	WRITE FUNCTION TABLE					ICD	1407	1		
2										ICD	1408	2		
3	1061	0035	0005		WSECWFT	CON	/885/DWLS,/844/DWRT,/844/DWRT					ICD	1409	3
4	1063	0005												4
5														5
6														6
7														7
8														8
9														9
10														10
11														11
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58														58
59														59
60														60

ICD	1412
ICD	1413

D10	10
D11	11

14121HE

YINCR	22	4/30 D	22/11	22/29	22/41	23/13	23/43	24/13	24/43
		22/03	22/15	22/33	22/45	23/23	23/47	24/23	25/03
		22/07	22/19	22/37	23/03	23/33	24/03	24/33	25/07

ZJNC	400	3/34 D							
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SYMBOL QUALIFIER = 844

CDDS	1466	19/50		
CSDD	632	19/44		
DCON	0	17/13		
DDSS	13	16/14	34/28	
DGST	12	16/42	34/56	
DOPC	10	9/34	12/17	12/48
DRED	4	36/12		
DRFS	34	19/35	19/35	
DSCF	22	20/53		
DSDC	1463	19/52		
DSSC	627	19/46		
DSWAE	0	19/12		
DSWCV	7	18/34		
DSWRV	3	18/22		
DSWUD	10	18/25		
DWFS	37	21/23	21/23	
DWRT	5	40/06	40/06	
D2SK	2	20/19	38/13	
MP.GSBS	2	17/42	20/31	38/25
MP.GSDR	10	17/21		
MSRS	30	19/42	19/48	
MTKS	23	19/42	19/48	
SDDD	3	19/50		
SLNS	14	16/24	34/38	
SSDD	3	19/44		
TDDD	0	19/50		
TSDD	0	19/44		

SYMBOL QUALIFIER = 885

CSDD	1511	19/56		
DRED	4	5/23		
DRFS	34	19/35		
DSSC	1510	20/01		
DWFS	37	21/23		
DWLS	35	5/24	40/06	
MSRS	40	19/54		
MTKS	50	19/54		
SSDD	36	19/56		

TSDD

1

19/56

SYMBOL QUALIFIER = CPA

CIDP	7730	8/34	9/25 S
DSL N	502	5/14	
OSDP	7766	10/15	
PRU	500	5/15	

SYMBOL QUALIFIER = CTI

CDEP	7000	8/44	9/03	29/28	30/50				
CDTYPE	7001	29/56							
CTIFWA	6773	29/14	29/41						
D844	13	29/57							
ICDLOAD	150	1/18	6/36	7/01	8/45	8/46	27/01	28/01	30/51
IPLA	7301	8/34	9/25 S	10/15					

SYMBOL QUALIFIER = ICD

ADDR0	1225	19/37 L							
ART	670	15/13 D	16/18	18/17	20/33	21/20			
		16/02	16/39	19/16	21/05				
ARTEC	701	12/14 S	12/47 S	15/16	15/20 D	18/08 S	19/20 S	19/28 S	
ARTX	667	15/13 L	15/15						
ART5	700	15/17	15/19 L						
AWD	703	15/32 D	16/16	16/44					
AWDX	702	15/32 L	15/35	15/39					
AWD1	707	15/35 L	15/37						
BUFFER	2373	8/34	9/08	9/25 S	19/06 S	21/15			
		9/04	9/11	10/15	20/47 S	26/15 D			
BUFFERX	2371	26/14 L							
CHTB	2105	8/51	11/30	12/11	12/44	26/02 L			
CHTBE	2145	26/02 L							
CLRCPB	421	8/03	10/03	11/03 D					
CLRCPBX	420	11/03 L	11/10						
CLRCPB2	424	11/06 L	11/09						
CON	1010	17/12 D	17/44	18/14					
CONX	1007	17/12 L	17/24						
CON2	1011	17/13 L	17/22						
CQOD	433	8/02	10/02	11/18 D					
CQODX	432	11/18 L	11/32						
CQOD5	446	11/25	11/28 L						
CQOD7	450	11/27	11/29 L						
DETAIL	754	16/21 S	16/24 L	16/25	18/22	18/25	18/34	19/12	

DETAILL
DIS14
46016/20
7/30
7/4616/25 D
8/19
8/219/15
9/469/48
10/2511/45 D
12/2012/22
12/5112/53
18/38DISB
DISX
DIS4473
457
46711/46 S
11/45 L
11/4911/54 D
12/02
11/51 LD44DD
D44SD
D8851241
1230
125218/32
18/28
18/4018/42
18/42
19/54 L19/48 L
19/42 LERRFLO
ERRFLOX
ERROR541
540
5037/13
12/43 L
7/1212/43 D
12/10 D

15/18

ERRORX
ERROR2
ERROR3502
521
55512/10 L
12/13
12/4612/19 L
12/50 L12/25
12/56

FCN

716

9/35

12/49

16/15

17/14

20/20

21/12

FCNX

715

12/18

15/50 D

16/43

18/53

20/54

FCN1

724

15/55 L

15/57

FCN3

720

15/52 L

16/03

GDS

735

16/13 D

18/20

19/09

GDSX

734

16/13 L

16/23

GDS2

736

16/14 L

16/19

GDS5

747

16/17

16/20 L

GGS

774

16/41 D

17/20

17/40

18/11

19/08

20/29

GGSX

773

16/41 L

16/49

GGS2

770

16/39 L

16/45

GGS3

775

16/40

16/42 L

HPP

575

7/19

13/08 D

HPPA

614

13/22 L

13/29

HPPB

617

13/24 L

13/29

HPPC

621

13/25 L

13/29

HPPD

624

13/24

13/28 L

HPPE

626

13/20

13/29 L

HPPX

574

13/08 L

13/18

HPP03

577

13/10 L

13/16

HPP04

600

13/11 L

13/27

HPP05

606

13/14

13/17 L

HPP06

610

13/13

13/20 L

HPP07

622

13/22

13/26 L

ICD

150

7/10 L

ICDALT

151

7/11 L

30/52

ICDERR

153

7/12 L

33/34

ICDERR2

155

7/13 L

33/53

ICN

633

8/52

11/31

12/12

12/45

13/21

13/44 D

ICNX

632

13/44 L

13/47

ICN1

635

13/46 L

13/54

LINE

10

22/02 D

22/11

22/28 D

22/37

23/02 D

23/33

24/03

24/42 D

22/03

22/14

22/29

22/40

23/03

23/42 D

24/12 D

24/43

22/06

22/14 D

22/32

22/40 D

23/12 D

23/43

24/13

25/02 D

22/06 D

22/15

22/32 D

22/41

23/13

23/46

24/22 D

25/03

22/07

22/18

22/33

22/44

23/22 D

23/46 D

24/23

25/06

22/10

22/18 D

22/36

22/44 D

23/23

23/47

24/32 D

25/06 D

22/10 D

22/19

22/36 D

22/45

23/32 D

24/02 D

24/33

25/07

MSGA

1401

7/29

22/01 D

22/22

MSGAL

107

7/27

22/22 D

MSGB

1510

7/45

22/27 D

22/48

76 1

S105	247	8/34 L	8/37						
S120	255	8/11	8/43 L						
S120P	261	8/43	8/45 L						
S129	266	7/11	8/50 D						
S130	272	9/02 L	10/29						
S130P	276	9/02	9/04 L						
S139	303	9/05	9/08 L						
S139T	315	9/10	9/14 L	9/16					
S140	322	9/13	9/22 L						
S145	324	9/24 L	9/27						
S150	332	9/33 L							
S190	337	9/41 L	9/51						
S195	344	9/42	9/45 L						
S196	346	9/44	9/46 L						
S200	363	7/37	10/02 L						
S250	375	10/05	10/13 L						
S255	377	10/15 L	10/18						
S270	405	10/06	10/24 L	10/28					
S50	202	7/36	7/43 L	7/49	12/57				
S60	216	8/02 L							
S70	222	8/09 L							
S80	226	8/18 L	8/24	10/07					
WDSS	1314	9/33	20/43 D						
WDSST	1376	21/11	21/23 L						
WDSSX	1313	20/43 L	21/22						
WDSS2	1323	20/48 L	21/06						
WDSS20	1352	20/52	21/11 L						
WDSS30	1374	21/19	21/22 L						
WDSS8	1347	21/04	21/07 L	21/21					
WNB	1032	17/39 D	21/03	21/18					
WNBX	1031	17/39 L	17/41						
WNB2	1030	17/38 L	17/43						
WNB4	1035	17/41 L	17/45						

SYMBOL QUALIFIER = QOD

QOD	2147	11/29
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SYMBOL QUALIFIER = ICE

ART	305	32/13 D	34/16	34/32	34/53	36/20	38/27	39/37
ARTEC	316	32/16	32/20 D	39/09 S	39/53 S	39/57 S		
ARTX	304	32/13 L	32/15					
ART5	315	32/17	32/19 L					
AWD	320	32/32 D	34/30	35/01				
AWDX	317	32/32 L	32/35	32/39				
AWD1	324	32/35 L	32/37					
BUFFER	1117	29/14	29/29	30/06	30/43	37/12	41/09 D	
		29/18 S	29/49	30/40	37/04	37/15		

	BUFFERX	1115	36/23 S	36/52	36/54	41/08 L
	CHTB	1064	29/02	41/02 L		
	CHTBE	1114	41/02 L			
1	CPO	333	32/50 D	37/06		
2	CPOX	332	32/50 L	33/01	33/07	
3	CP08	345	32/54	33/02 L		
4	DETAIL	446	34/35 S	34/38 L	34/39	
5	DETAILL	14	34/34	34/39 D		
6	DONE	267	30/49 L	33/36	33/55	
7	ERROR	370	32/18	33/33 D	37/10	
8	ERROROF	400	33/52 D	35/51		
9	ERROROFX	377	33/52 L			
10	ERRORX	367	33/33 L			
11	E100	243	30/14	30/22 L		
12	E110	250	30/32 L			
13	E120	253	30/33	30/40 L		
14	E120P	273	30/49	30/51 L		
15	E120PT	274	30/52 L	33/35 S	33/54 S	
16	E130	300	30/42	30/45	31/02 L	
17	E20	157	29/14 L	31/03		
18	E22	162	29/16 L	29/20		
19	E30	170	29/27 L			
20	E30P	174	29/27	29/29 L		
21	E30R	176	29/31 L	29/35 S		
22	E39	201	29/30	29/33 D		
23	E40	204	29/41 L			
24	E42	207	29/43 L	29/47		
25	E44	215	29/45	29/48 L		
26	E46	232	30/01	30/05 D		
27	E60	235	30/13 L	30/16		
28	E90	240	30/15 L	30/34		
29	FCN	410	34/07 D	34/29	34/57	36/13 38/14 39/27
30	FCNX	407	34/07 L	34/12		
31	FCN1	416	34/12 L	34/14		
32	FCN3	412	34/09 L	34/17		
33	FILL	163	29/17 D	29/44		
34	GDS	427	34/27 D	36/27	39/36	
35	GDSX	426	34/27 L	34/37		
36	GDS2	430	34/28 L	34/33		
37	GDS5	441	34/31	34/34 L		
38	GGs	466	34/55 D	36/25	38/23	39/34
39	GGsX	465	34/55 L	35/06		
40	GGs2	462	34/53 L	35/02		
41	GGs3	467	34/54	34/56 L		
42	ICE	150	29/01 D			
43	ICN	502	29/03	35/20 D		
44	ICNX	501	35/20 L	35/23		
45	ICN1	504	35/22 L	35/30		
46	IDA	516	30/15	31/02	35/40 D	
47	IDAX	515	35/40 L	35/44	35/48	35/55
48	IDA3	533	35/50	35/52 L		
49	MPY	356	32/56	33/04	33/17 D	
50	MPYX	355	33/17 L			
51	MPY1	354	33/16 L	33/22		
52	MPY3	362	33/21 L	33/25		
53	RSEC	540	36/07 D	36/51		
54	RSECX	537	36/07 L	36/29		
55						
56						
57						
58						
59						
60						

	RSEC20	543	36/10	L	36/21	
	RSEC25	554	36/16	L	36/18	
	RSEC27	561	36/20	L	36/28	
1	RSEC30	564	36/16		36/22	L
2	RSEC40	577	36/26		36/29	L
3	RVL	602	30/47		36/46	D
4	RVLTAB	715	37/16		37/44	L
5	RVLX	601	36/46	L	37/36	
6	RVL10	607	36/51	L	37/43	
7	RVL18	623	36/55		36/57	37/02 L
8	RVL20	625	37/03	L		
9	RVL30	641	37/09		37/12	L
10	RVL50	664	37/14		37/17	37/24 L
11	RVL60	705	37/29		37/37	L
12	SEK	721	36/11		38/11	D 39/25
13	SEKB	734	38/12	S	38/20	D
14	SEKX	720	38/11	L	38/24	
15	SEK1	724	38/13	L	38/26	38/28
16	TRAP	750	38/35	L		
17	WSEC	753	30/13		37/08	39/05 D
18	WSECERR	1053	39/08		39/56	L
19	WSECWFT	1061	39/26		40/06	L
20	WSECX	752	39/05	L	39/54	40/02
21	WSEC10	777	39/16		39/20	L
22	WSEC20	1005	39/24	L	39/38	
23	WSEC20B	1020	39/13	S	39/31	D
24	WSEC30	1031	39/37	L		
25	WSEC40	1034	39/35		39/39	D
26	WSEC60	1034	39/43	L		
27	WSEC60B	1035	39/21	S	39/44	D
28	WSEC62	1041	39/45		39/47	L
29	WSEC8	775	39/17		39/19	L
30	EDD					
31						
32						
33						
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		ADDRESS	LENGTH	BINARY CONTROL CARDS.			
1	2	6000	422	IDENT	EDD,EDD		
3	4	6422	(70)				
5	6						
7	8	ADDRESS	LENGTH	BINARY CONTROL CARDS.			
9	10	100	2543	IDENT	EDT,EDT		
11	12	2643	(425)				
13	14						
15	16	ADDRESS	LENGTH	BINARY CONTROL CARDS.			
17	18	1201	533	IDENT	DEM,DFPX		
19	20	1734	(107)				
21	22						
23	24	ADDRESS	LENGTH	BINARY CONTROL CARDS.			
25	26	1060	257	IDENT	DPC,DBCX		
27	28	1337	(44)	END			
29	30						
31	32			IDENT	EDD,EDD	EDD	2
33	34			PERIPH		EDD	3
35	36			SST	T0,T1,T2,T3,T4,T5,T6,T7,ON	EDD	4
37	38		D_M	BASE	M	EDD	5
39	40			MICRO	1,,*A02*	*A02*	1
41	42		VERID	MICRO	1,,*"VERID"*	VERS	3
43	44		VERS	COMMENT CTI EXPRESS DEADSTART DUMP - "VERS"		DIMA317J	3
45	46			COMMENT COPYRIGHT CONTROL DATA CORPORATION, 1979		DIMA317J	4
47	48						
49	50		*	ALL RIGHTS RESERVED		CDCCRN	3
51	52		*			CDCCRN	4
53	54		*	CONTAINED HEREIN ARE SOFTWARE PRODUCTS COPYRIGHTED		CDCCRN	5
55	56		*	BY CONTROL DATA CORPORATION. REPRODUCTION WITHOUT		CDCCRN	6
57	58		*	PERMISSION IS PROHIBITED. THE COPYRIGHT NOTICE		CDCCRN	7
59	60		*	MUST APPEAR ON ALL AUTHORIZED COMPLETE OR		CDCCRN	8
61	62		*	PARTIAL COPIES.		CDCCRN	9
63	64		*			CDCCRN	10
65	66						
67	68						
69	70						
71	72						
73	74						
75	76						
77	78						
79	80						

*****	EDD - EXPRESS DEADSTART DUMP.	EDD	10
*	J. C. BOHNHOFF. 73/02/03.	EDD	11
*	P. D. HAAS. 74/04/12.	EDD	12
***	*EDD* DUMPS ALL PP-S AND CENTRAL MEMORY TO MAGNETIC TAPE.	EDD	14
*	THE DUMP ALSO INCLUDES THE CONTENTS OF THE STATUS/CONTROL	EDD	15
*	REGISTERS OF A CYBER 170 AND THE CPU HARDWARE REGISTER	EDD	16
*	CONTENTS AT DEADSTART TIME PLUS THE CONTENTS OF *FLPP*	EDD	17
*	MEMORY ON A CYBER 176. THE TAPE DENSITY IS SET TO	EDD	18
*	800 BPI FOR 65X AND 7 TRACK 66X/67X TAPES AND 1600 BPI FOR	EDD	19
*	9 TRACK 66X/67X TAPES. ALL TAPES ARE WRITTEN IN S FORMAT.	EDD	20
*		EDD	21
*	THE FOLLOWING AREAS OF PP MEMORY ARE DESTROYED BY *EDD* -	EDD	22
*	LOCATIONS 0 - 21 OF PP0 (DEADSTART PANEL)	EDD	23
*	LOCATIONS 6000 - 7777 OF PP0 (IF PP0 SAVE SWITCH ON)	EDD	24
*	LOCATIONS 0 - 7 OF PP1 (PP1 IDLER)	EDD	25
*	LOCATIONS 0 - 5 OF ALL OTHER PP-S (PP IDLER)	EDD	26
*		EDD	27
*	IF ALL OF PP0 MEMORY IS DESIRED, TRANSFER PP0 MEMORY TO	EDD	28
*	ANOTHER PP BY MEANS OF THE FOLLOWING PROGRAM ON THE DEAD	EDD	29
*	START PANEL.	EDD	30
*		EDD	31
*	0001 2000	EDD	32
*	0002 7776	EDD	33
*	0003 73XX XX = PP NUMBER	EDD	34
*	0004 0000	EDD	35
*	0005 0300	EDD	36
*		EDD	37
*	THE EXCHANGE AREA OF CENTRAL MEMORY IS SAVED AND REWRITTEN	EDD	38
*	VIA THE IDLER IN PP1 TO PREVENT DESTRUCTION DURING CPU	EDD	39
*	HARDWARE REGISTER AND ECS/LCM DUMPING. THE ASSEMBLY SYMBOL	EDD	40
*	*CMEC* CONTROLS WHICH AREA WILL BE USED FOR THE EXCHANGES.	EDD	41
*	*CMEC* DEFINES A LOCATION WHERE A CPU PROGRAM, ITS EXCHANGE	EDD	42
*	PACKAGE, AND AN ECS/LCM BUFFER WILL BE PLACED. THE LENGTH OF	EDD	43
*	THIS AREA IS SET TO 1100B WORDS FOR THE PP1 IDLER TO SAVE.	EDD	44
*	THE CPU HARDWARE REGISTER EXCHANGE PACKAGE USES THIS SAME	EDD	45
*	AREA, HOWEVER, THE PROGRAM LOOP IS WORD ZERO OF CMR.	EDD	46
*		EDD	47
*	IF TWO CPUS EXIST, BOTH WILL BE EXCHANGED, AND THE REGISTERS	EDD	48
*	DUMPED. HOWEVER, IF A CPU IS TURNED OFF VIA THE	EDD	49
*	DEADSTART OPTION, THAT CPU WILL NOT BE EXCHANGED, BUT A FLAG	EDD	50
*	BIT WILL BE SET IN THE DUMP NOTING THAT THE CPU IS OFF.	EDD	51
*	THE CPU THAT IS TURNED OFF ALSO WILL NOT BE USED FOR	EDD	52
*	EXCHANGING DURING THE ECS/LCM DUMP.	EDD	53
*		EDD	54
*	NOTES- 1) IF CPU0 IS DOWN AND ONLY ONE CPU EXISTS, THE	EDD	55
*	OPERATOR MUST TURN OFF BOTH CPU0 AND CPU1 AT	EDD	56
*	DEADSTART TO AVOID ANY ATTEMPT AT EXCHANGING THE	EDD	57
*	HARDWARE REGISTERS OR THE ECS/LCM DUMP PROGRAM.	EDD	58
*		EDD	59
*	2) IF BOTH CPUS ARE TURNED OFF, NO ECS/LCM	EDD	60
*	DUMP WILL BE PREFORMED, REGARDLESS OF THE	EDD	61
*	ECS/LCM SIZE VALUE ENTERED.	EDD	62
*		EDD	63

*	CONSOLE INTERACTION WITH EDD IS AS FOLLOWS -	EDD	64
*	1) ENTER TAPE CHANNEL.	EDD	65
*	2) ENTER TAPE EQUIPMENT, CONTROLLER TYPE AND UNIT IN THE	EDD	66
*	FORM ECUU.	EDD	67
*	E = EQUIPMENT.	EDD	68
*	C = CONTROLLER TYPE. (IF NOTHING IS ENTERED, DEFAULT	EDD	69
*	IS MTS IF EQ = 0 AND MMTC IF EQ .NE. 0)	EDD	70
*	1 = ATS. (67X)	EDD	71
*	2 = MTS. (66X)	EDD	72
*	3 = MMTC. (65X)	EDD	73
*	UU = UNIT NUMBER.	EDD	74
*	3) ENTER 2 DIGIT DUMP IDENTIFIER. THIS WILL BE PLACED IN THE	EDD	75
*	TAPE LABEL FOR FUTURE REFERENCE.	EDD	76
*	4) ENTER TAPE REWIND OPTION. A NONZERO ENTRY INHIBITS REWIND	EDD	77
*	BEFORE AND AFTER DUMP.	EDD	78
*	5) ENTER ECS SIZE/1000. IF ZERO, ECS/LCM WILL NOT BE DUMPED.	EDD	79
*	6) WHEN DUMP IS COMPLETE, MESSAGE *DUMP NN COMPLETE* IS	EDD	80
*	POSTED ON THE DISPLAY.	EDD	81
*		EDD	82
*	IF A TAPE ERROR OCCURS DURING DUMPING, A MESSAGE OF THIS FORM	EDD	83
*	WILL APPEAR -	EDD	84
*	ERR CSAA DSB BBBB	EDD	85
*	WHERE - ERR INDICATES ERROR TYPE -	EDD	86
*	CON - CONNECT REJECT	EDD	87
*	FCN - FUNCTION REJECT	EDD	88
*	WRT - WRITE ERROR	EDD	89
*	AA IS THE CHANNEL CONVERTER STATUS.	EDD	90
*	BBBB IS THE EQUIPMENT STATUS.	EDD	91
*	IF A *CR* IS ENTERED, *EDD* WILL RETRY THE OPERATION.	EDD	92
*	IF AN *S* IS ENTERED, *EDD* WILL STOP THE	EDD	93
*	ENTIRE DUMP OPERATION.	EDD	94
**	DUMP TAPE FORMAT - ALL RECORD SIZES MUST BE MULTIPLES OF	EDD	96
*	FOUR CM WORDS TO BE COMPATIBLE WITH ANY TYPE OF TAPE UNIT.	EDD	97
*		EDD	98
*	1) FOUR WORD LABEL BLOCK FOR STATUS/CONTROL REGISTER(S)	EDD	99
*	IF A CYBER 170.	EDD	100
*	60/ *SCR *	EDD	101
*	60/ *EXPRESS NN* (NN = DUMP IDENTIFIER)	EDD	102
*	60/	EDD	103
*	60/	EDD	104
*		EDD	105
*	2) ONE RECORD FOR EACH STATUS/CONTROL REGISTER EXISTING	EDD	106
*	ON A CYBER 170 (CHANNEL 16 FIRST, CHANNEL 36 SECOND).	EDD	107
*	EACH RECORD HAS THE FORM -	EDD	108
*	12/ 0,12/ *SC*,12/ CHANNEL,24/ 0	EDD	109
*	60/ REGISTER BITS 203 - 144	EDD	110
*	60/ REGISTER BITS 143 - 84	EDD	111
*	60/ REGISTER BITS 83 - 24	EDD	112
*	24/ BITS 23 - 0,36/ 0	EDD	113
*	60/ UNUSED	EDD	114
*	60/ UNUSED	EDD	115
*	60/ UNUSED	EDD	116
*		EDD	117

	*	3) FOUR WORD LABEL BLOCK FOR PP DUMP.	EDD	118
	*	60/ *PP *	EDD	119
	*	60/ *EXPRESS NN* (NN = DUMP IDENTIFIER)	EDD	120
1	*	60/	EDD	121
2	*	60/	EDD	122
3	*		EDD	123
4	*	4) SEVERAL RECORDS OF PP DUMPS, EACH RECORD IN FORM -	EDD	124
5	*	12/ BYTE 0,12/ *PP*,12/ PP NUMBER,24/ BYTES 3 AND 4	EDD	125
6	*	60/ BYTES 5 THROUGH 11	EDD	126
7	*	.	EDD	127
8	*	.	EDD	128
9	*	.	EDD	129
10	*	60/ BYTES 7772 THROUGH 7776	EDD	130
11	*	12/ BYTE 7777,48/	EDD	131
12	*		EDD	132
13	*	5) FOUR WORD LABEL BLOCK FOR CM DUMP.	EDD	133
14	*	48/ *CM *,12/ SIZE/1000	EDD	134
15	*	60/ *EXPRESS NN* (NN = DUMP IDENTIFIER)	EDD	135
16	*	60/	EDD	136
17	*	60/	EDD	137
18	*		EDD	138
19	*	6) ONE RECORD CONTAINING DUMP OF ALL OF CENTRAL MEMORY.	EDD	139
20	*		EDD	140
21	*	7) FOUR WORD LABEL BLOCK FOR CPU HARDWARE REGISTER	EDD	141
22	*	CONTENTS DUMP.	EDD	142
23	*	60/ *CPR *	EDD	143
24	*	60/ *EXPRESS NN* (NN = DUMP IDENTIFIER)	EDD	144
25	*	60/	EDD	145
26	*	60/	EDD	146
27	*		EDD	147
28	*	8) ONE RECORD FOR EACH EXISTING CPU CONTAINING CONTENTS	EDD	148
29	*	OF CPU HARDWARE REGISTERS AT DEADSTART TIME. EACH	EDD	149
30	*	RECORD HAS THE FORM -	EDD	150
31	*	12/ 0,18/ *CPU*,6/ NO.,24/ BIT 0 SET IF CPU OFF	EDD	151
32	*	6/ 0,18/ P,18/ A0,18/ B0	EDD	152
33	*	.	EDD	153
34	*	.	EDD	154
35	*	.	EDD	155
36	*	60/ X7	EDD	156
37	*	60/ UNUSED	EDD	157
38	*	60/ UNUSED	EDD	158
39	*	60/ UNUSED	EDD	159
40	*		EDD	160
41	*	9) FOUR WORD LABEL BLOCK FOR FLPP DUMP ON A CYBER 176.	EDD	161
42	*	60/ *FPP *	EDD	162
43	*	60/ *EXPRESS NN* (NN = DUMP IDENTIFIER)	EDD	163
44	*	60/	EDD	164
45	*	60/	EDD	165
46	*		EDD	166
47	*	10) SEVERAL RECORDS OF FLPP DUMPS, EACH RECORD IN FORM -	EDD	167
48	*	12/ BYTE 0,12/ *FP*,12/ PPU NUMBER,24/ BYTES 3 AND 4	EDD	168
49	*	60/ BYTES 5 THROUGH 11	EDD	169
50	*	.	EDD	170
51	*	.	EDD	171
52	*	.	EDD	172
53	*	60/ BYTES 7772 THROUGH 7776	EDD	173
54	*	12/ BYTE 7777,48/	EDD	174
55				
56				
57				
58				
59				
60				

		*				EDD	175	
		*		11) FOUR WORD LABEL BLOCK FOR ECS/LCM DUMP.		EDD	176	
		*		30/ *ECS *,18/ FLAG REGISTER,12/ SIZE/1000		EDD	177	
1		*		60/ *EXPRESS NN* (NN = DUMP IDENTIFIER)		EDD	178	1
2		*		60/		EDD	179	2
3		*		60/		EDD	180	3
4		*				EDD	181	4
5		*		12) ONE RECORD CONTAINING ECS/LCM DUMP. THIS IS AS LONG		EDD	182	5
6		*		AS WAS INDICATED BY THE OPERATOR.		EDD	183	6
7		*				EDD	184	7
8		*		13) FOUR WORD LABEL BLOCK FOR BUFFER CONTROLLER DUMPS.		EDD	185	8
9		*		60/ *BC *		EDD	186	9
10		*		60/ *EXPRESS NN* (NN = DUMP IDENTIFIER)		EDD	187	10
11		*		60/		EDD	188	11
12		*		60/		EDD	189	12
13		*				EDD	190	13
14		*		14) SEVERAL CONTROLWARE RECORDS, DEPENDING UPON THE NUMBER		EDD	191	14
15		*		OF BUFFER CONTROLLER CHANNELS IDENTIFIED. EACH RECORD		EDD	192	15
16		*		CONTAINS 10000 HEXIDECIMAL WORDS DEBLOCKED INTO 20000		EDD	193	16
17		*		BYTES IN THE FORM -		EDD	194	17
18		*		12/ BYTE 0,12/ *CH*,12/ CHANNEL,24/ BYTES 3 AND 4		EDD	195	18
19		*		60/ BYTES 5 THROUGH 11		EDD	196	19
20		*		.		EDD	197	20
21		*		.		EDD	198	21
22		*		.		EDD	199	22
23		*		60/ BYTES 17771 THROUGH 17775		EDD	200	23
24		*		24/ BYTES 17776 AND 17777,36/		EDD	201	24
25		*		60/		EDD	202	25
26		*				EDD	203	26
27		*		15) FILE MARK.		EDD	204	27
28		*				EDD	205	28
29		*		16) FILE MARK.		EDD	206	29
30								30
31								31
32								32
33								33
34		**		COMMON DECKS.		EDD	208	34
35						EDD	209	35
36						EDD	210	36
37			1000	SHNI EQU 1000B		XXXX	1	37
38	0			XTEXT COMPMAC		XXXX	2	38
39	0		CPA	CTEXT COMSCPA - CTI COMMON POINTER AREA DEFINITIONS.		COMSCPA	2	39
40	0		CTI	CTEXT COMSCTI - CTI INTERNAL DEFINITIONS.		COMSCTI	2	40
41				LIST X		EDD	214	41
42								42
43								43
44								44
45								45
46								46
47								47
48								48
49								49
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58								58
59								59
60								60

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	124	PPCT	EQU	84D	PPU MAJOR CYCLE TIME SELECT	COMSSCR	47
	136	PPCM	EQU	94D	STOP ON CM READ ERROR	COMSSCR	48
	137	PPPE	EQU	95D	STOP ON PP MEMORY PARITY ERROR	COMSSCR	49
1	166	DSBL	EQU	118D	DISABLE SINGLE BIT LOGGING	COMSSCR	50
2	167	PCMP	EQU	119D	PPU CM READ PARITY ERROR	COMSSCR	51
3	177	CCIO	EQU	127D	CPU CLEAR I/O (176 ONLY)	COMSSCR	52
4	211	SPUM	EQU	137D	STOP ON PPU MEMORY PARITY ERROR	COMSSCR	53
5	250	CCRT	EQU	168D	CM CLEAR RANK II ERROR (176 ONLY)	COMSSCR	54
6	251	CCRO	EQU	169D	CM CLEAR RANK I ERROR (176 ONLY)	COMSSCR	55
7	260	LCRT	EQU	176D	LCME CLEAR RANK II ERROR (176 ONLY)	COMSSCR	56
8	261	LCRO	EQU	177D	LCME CLEAR RANK 1 ERROR (176 ONLY)	COMSSCR	57
9	262	DLSL	EQU	178D	DISABLE LCME SINGLE BIT LOGGING	COMSSCR	58
10	263	CTBB	EQU	179D	CHANNEL 2,3 BUFFER BIAS BIT 0 (176 ONLY)	COMSSCR	59
11	267	SDSC	EQU	183D	CM DOUBLE BIT SECDED ERROR	COMSSCR	60
12	304	LDSC	EQU	196D	LCME DOUBLE BIT SECDED ERROR	COMSSCR	61
13						COMSSCR	62
14	* WORD NAMES.					COMSSCR	63
15						COMSSCR	64
16	1	PPEW	EQU	1	PP MEMORY PARITY ERROR WORD	COMSSCR	65
17	4	CMAW	EQU	4	CM SECDED ERROR ADDRESS WORD	COMSSCR	66
18	4	EBBW	EQU	4	EXCHANGE BUFFER BIAS BIT WORD (176 ONLY)	COMSSCR	67
19	10	LCAW	EQU	10	LCM SECDED ERROR ADDRESS WORD (176 ONLY)	COMSSCR	68
20	17	CBBW	EQU	17	819 CHANNEL BUFFER BIAS BIT WORD (176 ONLY)	COMSSCR	69
21	17	CDSW	EQU	17	CM DOUBLE BIT SECDED ERROR WORD	COMSSCR	70
22	20	LDSW	EQU	20	LCME DOUBLE BIT SECDED WORD (176 ONLY)	COMSSCR	71
23	20	PMSW	EQU	20	PP MEMORY SELECT SWITCH WORD (176 ONLY)	COMSSCR	72
24						COMSSCR	73
25	* CONSTANTS.					COMSSCR	74
26						COMSSCR	75
27	50	NTEB	EQU	50	NUMBER OF TEST/ERROR BITS	COMSSCR	76
28	764	DSBT	EQU	500D	DEADSTART SINGLE BIT ERROR THRESHOLD	COMSSCR	77
29	12	OSBT	EQU	10D	ON-LINE SINGLE BIT ERROR THRESHOLD	COMSSCR	78
30	12	OLST	EQU	10D	ON-LINE LCME SINGLE BIT ERROR THRESHOLD	COMSSCR	79
31	21	NSCB	EQU	21	NUMBER OF S/C REGISTER (BYTES) WORDS	COMSSCR	80
32	314	NBIT	EQU	314	NUMBER OF S/C REGISTER BITS	COMSSCR	81
33						COMSSCR	82
34	* SCR PROCESSING (*1MB*) FUNCTION CODES.					COMSSCR	83
35						COMSSCR	84
36	0	SPLG	EQU	0	LOG SCR ERRORS	COMSSCR	85
37	1	SPTP	EQU	1	TIME PROCESSING	COMSSCR	86
38	2	SPMX	EQU	2	MAXIMUM NUMBER OF FUNCTION CODES	COMSSCR	87
39						COMSSCR	88
40	*****					COMSSCR	89
41							
42							
43							
44							
45	M_M		BASE	*		COMSSCR	91
46			ENDX			COMSSCR	92
47			LIST	*		EDD	216
48							
49							
50							
51							
52							
53							
54							
55							
56							
57							
58							
59							
60							

MACRO DEFINITIONS.

**CHIM - REDEFINE M-TYPE CHANNEL INSTRUCTIONS.

EDD219

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EDD220

*

EDD221

*CHIM OPC, CODE

EDD222

*ENTRY *OPC* = INSTRUCTION MNEMONIC.

EDD223

* *CODE* = OPERATION CODE.

EDD224

EDD225

EDD226

CHIM MACRO OPC, CODE

EDD227

PURGMAC OPC

EDD228

OPC. PPOP 7, CODE

EDD229

OPC MACRO M, D

EDD230

LOCAL A

EDD231

A OPC. M, D

EDD232

CT_D RMT

EDD233

CON A

EDD234

RMT

EDD235

OPC ENDM

EDD236

CHIM ENDM

EDD237

EDD238

0CHIM AJM, 6400

EDD239

0CHIM IJM, 6500

EDD240

0CHIM FJM, 6600

EDD241

0CHIM EJM, 6700

EDD242

0CHIM IAM, 7100

EDD243

0CHIM OAM, 7300

EDD244

0CHIM FNC, 7700

EDD245

**CHIN - REDEFINE N-TYPE CHANNEL INSTRUCTIONS.

EDD247

*

EDD248

*

EDD249

*CHIN OPC, CODE

EDD250

*ENTRY *OPC* = INSTRUCTION MNEMONIC.

EDD251

* *CODE* = OPERATION CODE.

EDD252

*

EDD253

*NOTE BIT 2*5 SET ON ALL *DCN* INSTRUCTIONS.

EDD254

EDD255

EDD256

CHIN MACRO OPC, CODE

EDD257

PURGMAC OPC

EDD258

OPC. PPOP 4, CODE

EDD259

OPC MACRO D

EDD260

LOCAL A

EDD261

A OPC. D

EDD262

CT_D RMT

EDD263

CON A

EDD264

RMT

EDD265

OPC ENDM

EDD266

CHIN ENDM

EDD267

EDD268

0CHIN IAN, 7000

EDD269

0CHIN OAN, 7200

EDD270

0CHIN ACN, 7400

EDD271

0CHIN DCN, 7540

EDD272

273

1

SYMBOL DEFINITIONS.

**** DIRECT LOCATION ASSIGNMENTS.

EDD 289

EDD 290

EDD 291

1	0	T0	EQU	0	TEMPORARY STORAGE	EDD	292	1
2	1	T1	EQU	1		EDD	293	2
3	2	T2	EQU	2		EDD	294	3
4	3	T3	EQU	3		EDD	295	4
5	4	T4	EQU	4		EDD	296	5
6	5	T5	EQU	5		EDD	297	6
7	6	T6	EQU	6		EDD	298	7
8	7	T7	EQU	7		EDD	299	8
9	10	LL	EQU	10	RECORD LABEL LENGTH	EDD	300	9
10	11	RL	EQU	11	RECORD LENGTH	EDD	301	10
11	12	T8	EQU	12	TEMPORARY STORAGE	EDD	302	11
12	13	EQ	EQU	13	EQUIPMENT NUMBER	EDD	303	12
13	14	CN	EQU	14	CHANNEL NUMBER	EDD	304	13
14	15	TS	EQU	15	TAPE SYSTEM	EDD	305	14
15	16	DS	EQU	16	DEADSTART CHANNEL	EDD	306	15
16	17	DT	EQU	DS+1	DUMP TAPE CHANNEL	EDD	307	16
17	20	PB	EQU	20	PP0 SAVE ADDRESS	EDD	308	17
18	21	DP	EQU	21	UPPER PPS/CHANNEL FLAG	EDD	309	18
19						EDD	310	19
20	* THE FOLLOWING LOCATIONS ARE NOT USED UNTIL PP0 IS DUMPED.					EDD	311	20
21						EDD	312	21
22	22	ON	EQU	22	CONSTANT 1	EDD	313	22
23	23	CS	EQU	23 - 27	CPU STATUS	EDD	314	23
24	24	PS	EQU	24 - 30	PP STATUS	EDD	315	24
25	30	MB	EQU	PS+4	MEMORY BLOCK COUNT	EDD	316	25
26	30	PN	EQU	MB	PP NUMBER	EDD	317	26
27	****					EDD	318	27
28								28
29								29
30								30
31								31
32	* CONSTANTS USED AS INSTRUCTIONS.					EDD	320	32
33						EDD	321	33
34						EDD	322	34
35	100	LJMI	EQU	0100	LJM	EDD	323	35
36	300	UJNI	EQU	0300	UJN	EDD	324	36
37	600	PJNI	EQU	0600	PJN	EDD	325	37
38	7100	IAMI	EQU	7100	IAM	EDD	326	38
39	7300	OAMI	EQU	7300	OAM	EDD	327	39
40	7400	ACNI	EQU	7400	ACN	EDD	328	40
41	7500	DCNI	EQU	7500	DCN	EDD	329	41
42								42
43								43
44								44
45								45
46								46
47								47
48								48
49								49
50								50
51								51
52								52
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54								54
55								55
56								56
57								57
58								58
59								59
60								60

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SYMBOL DEFINITIONS.

* OTHER SYMBOLS.

EDD	331
EDD	332
EDD	333
EDD	334
EDD	335
EDD	336
EDD	337
EDD	338
EDD	339
EDD	340
DIMA271	1
DIMA271	2
XXXX	3
EDD	342
EDD	343
EDD	344
EDD	345
EDD	346
EDD	347
EDD	348
EDD	349
EDD	350
EDD	351
EDD	352
EDD	353
EDD	354
EDD	355
EDD	356
EDD	357
EDD	358
EDD	359
EDD	360
EDD	361
EDD	362
EDD	363
EDD	364

0	MC	EQU	0	MAINTENANCE CHANNEL (C176)
1	PC	EQU	1	PP BUFFER CHANNEL
7	BC	EQU	7	BUFFER CONTROLLER CHANNEL
10	CH	EQU	10	DISPLAY CHANNEL
13	DC	EQU	13	DEADSTART CHANNEL
13	TC	EQU	13	DUMP TAPE CHANNEL
16	SC	EQU	16	S/C REGISTER CHANNEL
17	XC	EQU	17	PP DATA TRANSFER CHANNEL
7774	PPIA	EQU	7774	PP IDLE ADDRESS
24	TRLLI	EQU	5*4	TAPE RECORD LABEL LENGTH
100	OVLA	EQU	100	*EDD* RESIDENT LOAD ADDRESS
7677	DSPB	EQU	/CPA/DSPNLZ	DEADSTART PANEL BUFFER
7000	CDEP	EQU	/CTI/CDEP	COMMON DRIVER ADDRESS
7673	OPTN	EQU	/CPA/OPTN	DEADSTART OPTIONS WORD
2000	BUF	EQU	CDEP-5000	TAPE BUFFER
5000	PPS1	EQU	1000*5	PP DUMP SECTION 1 LENGTH
3004	PPS2	EQU	10004-PPS1	PP DUMP SECTION 2 LENGTH
1464	PPSZ	EQU	10000/5+1	PP SIZE (CM WORD COUNT)
20000	BCSZ	EQU	4096DS1	LENGTH OF BUFFER CONTROLLER DUMP RECORD
3	BCR1	EQU	BCSZ/5000	NUMBER OF FULL BUFFER CONTROLLER BLOCKS
1000	BCR2	EQU	BCSZ-BCR1*5000	LENGTH OF DATA IN LAST BLOCK
1023	.L	SET	BCR2+23	
1010	BCR3	EQU	.L/24*24	LENGTH OF LAST BUFFER CONTROLLER PRU
17000	CMEC	EQU	17000	CM ADDRESS OF ECS/LCM PROGRAM AND BUFFER
1100	CMECL	EQU	1100	LENGTH OF ECS/LCM PROGRAM AND BUFFER
0		ERRNZ	CMEC/1000*1000-CMEC	*CMEC* NOT ON 1000 WORD BOUNDARY
0		ERRNG	17000-CMEC	*CMEC* MUST BE .LE. 17000
17000	CMCP	EQU	CMEC	CPU REGISTER EXCHANGE PACKAGE ADDRESS
17020	CPIA	EQU	CMEC+20	CYBER 176 IDLE ADDRESS

** EDD - PRESET EDD.

EDD 366
EDD 367
EDD 368
EDD 369
EDD 370
EDD 371
EDD 372
EDD 373
EDD 374
EDD 375
EDD 376
EDD 377
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EDD 399
EDD 400
EDD 401
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EDD 406
EDD 407
EDD 408
EDD 409
EDD 410

1	6000			ORG	/CTI/IPLB		
2							
3	6000	6516	6006	EDD	IJM.	EDD0,SC	IF NOT C17X
4	6002	2000	2115		LDC	FCCL+DSCU	STOP CPU IF C176
5	6004	7256			OAN.	SC+40	
6	6005	7056			IAN.	SC+40	
7	6006	5000	7712	EDD0	LDM	DSPB+13	CHECK PP0 SAVE FLAG
8	6010	2200	0200		LPC	1S7	
9	6012	0424			ZJN	EDD2	IF PP0 NOT TO BE SAVED
10	6013	2000	1464		LDC	PPSZ	SET PP SIZE
11	6015	3406			STD	T6	
12	6016	2000	6261		LDC	TBUF-3	
13	6020	3407			STD	T7	
14	6021	1603			ADN	3	LOCATE FREE MEMORY BLOCK IN CM
15	6022	0200	6065		RJM	CMA	
16	6024	1404		EDD1	LDN	4	ADVANCE LIST ADDRESS
17	6025	3507			RAD	T7	
18	6026	4007			LDI	T7	
19	6027	0407			ZJN	EDD2	IF END OF LIST
20	6030	5007	0002		LDM	2,T7	
21	6032	1006			SHN	6	
22	6033	3206			SBD	T6	
23	6034	0767			MJN	EDD1	IF INSUFFICIENT CM TO SAVE PP0
24	6035	4007			LDI	T7	SET RA OF PP0 SAVE AREA
25	6036	3420		EDD2	STD	PB	
26	6037	0404			ZJN	EDD3	IF PP0 NOT BEING SAVED
27	6040	1006			SHN	6	
28	6041	6306	0000		CWM	0,T6	
29	6043	5000	7707	EDD3	LDM	DSPB+10	DEADSTART CHANNEL
30	6045	1237			LPN	37	
31	6046	3416			STD	DS	
32	6047	7552			DCN.	12	DEACTIVATE NON-PP CHANNELS
33	6050	7553			DCN.	13	
34	6051	7572			DCN.	32	
35	6052	7573			DCN.	33	
36	6053	2000	6057		LDC	EDDA	LOAD *EDD* RESIDENT
37	6055	0100	7000		LJM	CDEP	EXIT TO COMMON DRIVER
38							
39	6057	0100		EDDA	CON	OVLA	LOAD ADDRESS
40	6060	0100			CON	OVLA	TRANSFER ADDRESS
41	6061	0000			CON	0	REWIND FLAG
42	6062	0504			VFD	24/0LEDT	RECORD NAME
43	6063	2400					
44							
45							
46							
47							
48							
49							
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55							
56							
57							
58							
59							
60							

EDD
PRESET.

CTI EXPRESS DEADSTART DUMP - A02

COMPASS 3.7-871.

23/08/13. 15.42.29.

PAGE 13

** COMMON DECKS.

EDD 412
EDD 413
EDD 414
EDD 415

** BUFFERS.

EDD 417
EDD 418
EDD 419
EDD 420
EDD 421
EDD 422
EDD 423

6064

XTEXT COMPCMA

6264

134

TBUF

BSS 27*4

6420

0000 0000

CON 0,0

-356

ERRPL *-CDEP

OVERFLOW INTO DRIVER

1412THE

IDENTEDT,EDT

COMMENTCTI EDD OVERLAY

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EDD425

DIMA317J6

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1412THE

								EDD	427	
								EDD	428	
	100				ORG	OVLA		EDD	429	
1								EDD	430	1
2	100	0200	1725		EDT	RJM	PRS	PRESET RESIDENT	EDD	431
3	102	0200	1202			RJM	DSC	DUMP S/C REGISTERS	EDD	432
4									EDD	433
5				*				DUMP PP-S AND CENTRAL MEMORY.	EDD	434
6									EDD	435
7	104	0200	1320			RJM	DP0	DUMP PP0	EDD	436
8	106	0200	1411			RJM	DPP	DUMP OTHER PP-S	EDD	437
9	110	0200	1523			RJM	DCM	DUMP CENTRAL MEMORY	EDD	438
10									EDD	439
11				*				SAVE EXCHANGE AREA.	EDD	440
12									EDD	441
13	112	5600	0432			AOM	DIGE	SET RESTORE CM FLAG	EDD	442
14	114	7401				ACN	PC		EDD	443
15	115	1415				LDN	EDTFL	SEND EXCHANGE AREA READ PROGRAM	EDD	444
16	116	7301	0247			OAM	EDTF,PC		EDD	445
17	120	7541				DCN	PC		EDD	446
18	121	1500				LCN	0	DELAY TO INSURE COMPLETION OF CM READ	EDD	447
19	122	1701				SBN	1		EDD	448
20	123	0576				NJN	*-1		EDD	449
21									EDD	450
22				*				DUMP CPU HARDWARE REGISTERS, FLPP-S AND ECS/LCM.	EDD	451
23									EDD	452
24	124	0200	1567			RJM	DCP	DUMP CPU HARDWARE REGISTERS	EDD	453
25	126	0200	0561			RJM	LNO	LOAD NEXT DUMP OVERLAY	EDD	454
26	130	2000	0000			LDC	0		EDD	455
27				131	EDTA	EQU	*-1		EDD	456
28	132	0403				ZJN	EDT1	IF NOT CYBER 176	EDD	457
29	133	0200	1202			RJM	DFP	DUMP FLPP-S	EDD	458
30	135	0200	1331		EDT1	RJM	DEM	DUMP EXTENDED MEMORY	EDD	459
31	137	7401				ACN	PC	REWRITE EXCHANGE AREA VIA PP1 IDLER	EDD	460
32	140	5700	0432			SOM	DIGE	CLEAR CM RESTORATION FLAG	EDD	461
33									EDD	462
34				*				DUMP PERIPHERAL CONTROLLERS.	EDD	463
35									EDD	464
36	142	0200	0561			RJM	LNO	LOAD NEXT DUMP OVERLAY	EDD	465
37	144	0200	1061			RJM	DBC	DUMP BUFFER CONTROLLERS	EDD	466
38									EDD	467
39				*				TERMINATE DUMP.	EDD	468
40									EDD	469
41	146	1451			.TF1	LDN	51	WRITE FILE MARK	EDD	470
42				*		LDN	15	(65X TAPE SYSTEM)	EDD	471
43	147	0200	0726			RJM	FCN		EDD	472
44	151	1451			.TF2	LDN	51	WRITE 2ND FILE MARK	EDD	473
45				*		LDN	15	(65X TAPE SYSTEM)	EDD	474
46	152	0200	0726			RJM	FCN		EDD	475
47	154	1400				LDN	0	DISABLE BUSY WAIT	EDD	476
48	155	5400	0724			STM	FCNB		EDD	477
49	157	2000	0113			LDC	113	BACKSPACE OVER 2ND FILE MARK	EDD	478
50				160	.BK	EQU	*-1		EDD	479
51				*		LDC	12	(65X TAPE SYSTEM)	EDD	480
52				*		LDC	10	(REWIND ENABLE)	EDD	481
53	161	0200	0726			RJM	FCN		EDD	482
54	163	1500			EDT2	LCN	0	DELAY FOR WRITE JOG	EDD	483
55										
56										
57										
58										
59										
60										

264	CTEXT	COMPC2D - CONVERT 2 OCTAL DIGITS TO DISPLAY CODE.
-----	-------	---

				**	CVD - CONVERT DIGITS.		EDD	522
				*			EDD	523
				*	ENTRY (A) = DIGITS TO CONVERT TO BINARY.		EDD	524
1				*			EDD	525
2				*	EXIT (A) = CONVERSION.		EDD	526
3				*			EDD	527
4				*	USES T0.		EDD	528
5							EDD	529
6							EDD	530
7	276	0100 0276		CVD	SUBR	ENTRY/EXIT	EDD	531
8	300	2177 4444			ADC -2R00		EDD	532
9	302	3400			STD T0		EDD	533
10	303	1074			SHN -3		EDD	534
11	304	3100			ADD T0		EDD	535
12	305	1277			LPN 77		EDD	536
13	306	0367			UJN CVDX	RETURN	EDD	537
14								
15								
16								
17								
18				**	DIG - DISPLAY MESSAGE AND INPUT DIGITS.		EDD	539
19				*			EDD	540
20				*	ENTRY (A) = 6/BYTE COUNT, 12/MESSAGE ADDRESS.		EDD	541
21				*			EDD	542
22				*	EXIT (A) = INPUT DIGITS.		EDD	543
23				*	(T5) = NUMBER OF DIGITS INPUT.		EDD	544
24				*			EDD	545
25				*	USES T1 - T5.		EDD	546
26				*			EDD	547
27				*	CALLS CVD.		EDD	548
28							EDD	549
29							EDD	550
30	307	0100 0307		DIG	SUBR	ENTRY/EXIT	EDD	551
31	311	5400 0347			STM DIGA	STORE MESSAGE	EDD	552
32	313	1701			SBN 1		EDD	553
33	314	3401			STD T1		EDD	554
34	315	1063			SHN -14	STORE COUNT	EDD	555
35	316	3404			STD T4		EDD	556
36	317	1404			LDN T4		EDD	557
37	320	3204			SBD T4		EDD	558
38	321	5400 0353			STM DIGB		EDD	559
39	323	3601		DIG1	AOD T1	FIND MESSAGE LENGTH	EDD	560
40	324	4001			LDI T1		EDD	561
41	325	0575			NJN DIG1	IF NOT END	EDD	562
42	326	3405			STD T5		EDD	563
43	327	3001			LDD T1		EDD	564
44	330	5200 0347			SBM DIGA		EDD	565
45	332	3401			STD T1		EDD	566
46	333	2000 3333			LDC 2R00	SET INITIAL DIGITS	EDD	567
47	335	3402			STD T2		EDD	568
48	336	3403			STD T3		EDD	569
49	337	7710 7001		DIG2	FNC. 7001,CH		EDD	570
50	341	7410			ACN. CH		EDD	571
51	342	1402			LDN 2	OUTPUT COORDINATES	EDD	572
52	343	7310 0442			OAM. DIGD,CH		EDD	573
53	345	3001			LDD T1	DISPLAY MESSAGE	EDD	574
54	346	7310 0346			OAM. *,CH		EDD	575
55								
56								
57								
58								
59								
60								

			347	DIGA	EQU	*-1			EDD	576	
	350	3004			LDD	T4	DISPLAY ADDRESS		EDD	577	
	351	0403			ZJN	DIG3	IF NO INPUT REQUIRED		EDD	578	
1	352	7310 0352			OAM.	*,CH			EDD	579	1
2			353	DIGB	EQU	*-1			EDD	580	2
3	354	7550		DIG3	DCN.	CH			EDD	581	3
4	355	1740			SBN	40B	REDUCE DISPLAY INTENSITY		EDD	582	4
5	356	0776			MJN	*-1			EDD	583	5
6	357	7710 7020			FNC.	7020,CH			EDD	584	6
7	361	7410			ACN.	CH			EDD	585	7
8	362	7010			IAN.	CH			EDD	586	8
9	363	7550			DCN.	CH			EDD	587	9
10	364	2300 0012			LMC	1RJ	CHECK SAME INPUT AS LAST TIME		EDD	588	10
11			365	DIGC	EQU	*-1			EDD	589	11
12	366	0450			ZJN	DIG2	LOOP IF SAME INPUT		EDD	590	12
13	367	5300 0365			LMM	DIGC	SAVE INPUT		EDD	591	13
14	371	5400 0365			STM	DIGC			EDD	592	14
15	373	1760			SBN	60			EDD	593	15
16	374	0423			ZJN	DIG5	IF CR		EDD	594	16
17	375	1635			ADN	60-1RS			EDD	595	17
18	376	0434			ZJN	DIG7	IF STOP KEY		EDD	596	18
19	377	1710			SBN	1R0-1RS			EDD	597	19
20	400	0715			MJN	DIG4	IF ALPHA		EDD	598	20
21	401	1710			SBN	10			EDD	599	21
22	402	0613			PJN	DIG4	IF NOT OCTAL DIGIT	DIG0230		1	22
23	403	1643			ADN	1R0+10			EDD	601	23
24	404	1014			SHN	14	ASSEMBLE DIGITS		EDD	602	24
25	405	3303			LMD	T3			EDD	603	25
26	406	1006			SHN	6			EDD	604	26
27	407	3403			STD	T3			EDD	605	27
28	410	3303			LMD	T3			EDD	606	28
29	411	3302			LMD	T2			EDD	607	29
30	412	1006			SHN	6			EDD	608	30
31	413	3402			STD	T2			EDD	609	31
32	414	3605			AOD	T5	ADVANCE COUNT OF DIGITS ENTERED		EDD	610	32
33	415	0100 0337		DIG4	LJM	DIG2	LOOP FOR NEXT CHARACTER		EDD	611	33
34									EDD	612	34
35	417	3003		DIG5	LDD	T3	CONVERT DIGITS		EDD	613	35
36	420	0200 0277			RJM	CVD			EDD	614	36
37	422	3403			STD	T3			EDD	615	37
38	423	3002			LDD	T2			EDD	616	38
39	424	0200 0277			RJM	CVD			EDD	617	39
40	426	1006			SHN	6			EDD	618	40
41	427	3503			RAD	T3			EDD	619	41
42	430	0100 0307		DIG6	LJM	DIGX	RETURN		EDD	620	42
43									EDD	621	43
44	432	1400		DIG7	LDN	0			EDD	622	44
45				*	LDN	1	(RESTORE CM)		EDD	623	45
46			432	DIGE	EQU	DIG7			EDD	624	46
47	433	0402			ZJN	DIG8	IF RESTORE NOT REQUIRED		EDD	625	47
48	434	7401			ACN	PC	ACTIVATE PP1 TO RESTORE CM		EDD	626	48
49	435	2000 0235		DIG8	LDC	EDTE	DISPLAY DUMP STOPPED MESSAGE		EDD	627	49
50	437	0200 0310			RJM	DIG			EDD	628	50
51	441	0373			UJN	DIG8	LOOP DISPLAYING STOPPED MESSAGE		EDD	629	51
52									EDD	630	52
53	442	6000		DIGD	DATA	6000,7400			EDD	631	53
54											54
55											55
56											56
57											57
58											58
59											59
60											60

** ERR - PROCESS ERROR.

EDD 633

*

EDD 634

* ENTRY (A) = ERROR CODE.

EDD 635

* (T6) = CONVERTER STATUS.

EDD 636

* (T7) = EQUIPMENT STATUS.

EDD 637

*

EDD 638

* USES T1.

EDD 639

*

EDD 640

* CALLS C2D, DIG.

EDD 641

EDD 642

EDD 643

444 0100 0444 ERR SUBR ENTRY/EXIT

EDD 644

446 1001 SHN 1 SET MESSAGE ADDRESS

EDD 645

447 3401 STD T1

EDD 646

450 5001 0514 LDM ERRA,T1 SET MESSAGE

EDD 647

452 5400 0522 STM ERRB

EDD 648

454 5001 0515 LDM ERRA+1,T1

EDD 649

456 5400 0523 STM ERRB+1

EDD 650

460 3006 LDD T6 CONVERT CONVERTER STATUS

EDD 651

461 0200 0265 RJM C2D

EDD 652

463 5400 0526 STM ERRC+1

EDD 653

465 3006 LDD T6

EDD 654

466 1071 SHN -6

EDD 655

467 0200 0265 RJM C2D

EDD 656

471 5400 0525 STM ERRC

EDD 657

473 3007 LDD T7 CONVERT EQUIPMENT STATUS

EDD 658

474 0200 0265 RJM C2D

EDD 659

476 5400 0532 STM ERRD+1

EDD 660

500 3007 LDD T7

EDD 661

501 1071 SHN -6

EDD 662

502 0200 0265 RJM C2D

EDD 663

504 5400 0531 STM ERRD

EDD 664

506 2001 0522 LDC ERRB+10000 DISPLAY ERROR AND WAIT FOR ACTION

EDD 665

510 0200 0310 RJM DIG

EDD 666

512 0100 0444 LJM ERRX RETURN

EDD 667

EDD 668

514 0317 ERRA DATA Z*CON*

EDD 669

516 0603 DATA Z*FCN*

EDD 670

520 2722 DATA Z*WRT*

EDD 671

522 0000 0000 ERRB CON 0,0

EDD 672

524 0323 DATA 2HCS

EDD 673

525 0000 0000 ERRC CON 0,0 CONVERTER STATUS

EDD 674

527 5555 DATA 4H DS

EDD 675

531 0000 0000 ERRD CON 0,0 EQUIPMENT STATUS

EDD 676

533 0000 CON 0

EDD 677

** LN0 - LOAD NEXT OVERLAY.

EDD 679

*

EDD 680

* USES T1 - T3.

EDD 681

*

EDD 682

* CALLS CON, *CDEP*.

EDD 683

EDD 684

534 5000 2115 LN01 LDM BUF+5*17+2 EXTRACT LOAD ADDRESS FROM *6PPM* TABLE

EDD 685

536 1605 ADN 5

EDD 686

537 3401 STD T1

EDD 687

540 3403 STD T3

EDD 688

541 2000 2117 LDC BUF+5*17+4

EDD 689

543 3402 STD T2

EDD 690

544 4002 LDI T2 SET END OF OVERLAY

EDD 691

545 1002 SHN 2

EDD 692

546 4102 ADI T2

EDD 693

547 3503 RAD T3

EDD 694

550 3602 LN02 AOD T2 ADVANCE BUFFER ADDRESS

EDD 695

551 4002 LDI T2 RELOCATE OVERLAY

EDD 696

552 4401 STI T1

EDD 697

553 3601 AOD T1 ADVANCE RELOCATION ADDRESS

EDD 698

554 3303 LMD T3

EDD 699

555 0572 NJN LN02 IF NOT END OF OVERLAY

EDD 700

556 0200 0670 RJM CON RECONNECT

EDD 701

EDD 702

560 0100 0560 LN0 SUBR ENTRY/EXIT

EDD 703

562 2000 0566 LDC LNOA

EDD 704

564 0100 7000 LJM CDEP EXIT TO COMMON DRIVER

EDD 705

566 2000 LNOA CON BUF LOAD ADDRESS

EDD 706

567 0534 CON LN01 TRANSFER ADDRESS

EDD 707

570 0000 0000 CON 0,0,0

EDD 708

EDD 709

EDD 710

** MCI - MODIFY CHANNEL INSTRUCTIONS.

EDD 712

*

EDD 713

* ENTRY (A) = ADDRESS OF INSTRUCTION LIST.

EDD 714

* (CN) = CHANNEL NUMBER.

EDD 715

*

EDD 716

* USES T6, T7.

EDD 717

EDD 718

EDD 719

573 3407 MCI1 STD T7 SET INSTRUCTION ADDRESS

EDD 720

574 4007 LDI T7 MODIFY INSTRUCTION

EDD 721

575 1337 SCN 37

EDD 722

576 3314 LMD CN

EDD 723

577 4407 STI T7

EDD 724

600 3606 AOD T6 ADVANCE LIST ADDRESS

EDD 725

601 4006 MCI2 LDI T6 IF NOT END OF LIST

EDD 726

602 0570 NJN MCI1

EDD 727

EDD 728

603 0100 0603 MCI SUBR ENTRY/EXIT

EDD 729

605 3406 STD T6 SET LIST ADDRESS

EDD 730

606 0372 UJN MCI2 ENTER LOOP

EDD 731

** WLB - WRITE LABEL BLOCK. EDD 733

* EDD 734

* ENTRY (A) = BLOCK IDENTIFICATION. EDD 735

* EDD 736

* EXIT LABEL BLOCK WRITTEN. EDD 737

* EDD 738

* EDD 739

* EDD 740

* CALLS WRT. EDD 741

607	0100 0607	WLB	SUBR	ENTRY/EXIT	EDD	742
611	5400 0176		STM	EDTB	EDD	743
613	1071		SHN	-6	EDD	744
614	1377		SCN	77	EDD	745
615	1155		LMN	1R	EDD	746
616	5400 0177		STM	EDTB+1	EDD	747
620	1424		LDN	TRLLI	XXXX	748
621	3411		STD	RL	EDD	749
622	2000 0176		LDC	EDTB	EDD	751
624	5400 1015		STM	WRTB	EDD	752
626	0200 1005		RJM	WRT	EDD	753
630	0356		UJN	WLBX	EDD	754

** CKR - CHECK READY, BUSY AND EOP.

EDD 758

*

EDD 759

* ENTRY (T7) = UNIT STATUS.

EDD 760

*

EDD 761

* EXIT (A) = 0 IF READY, NOT BUSY AND EOP OCCURRED.

EDD 762

EDD 763

631 3007 CKR1 LDD T7

EDD 764

632 1203 LPN 3

EDD 765

633 1101 LMN 1

EDD 766

634 0100 0634 CKR SUBR ENTRY/EXIT

EDD 767

636 3015 LDD TS

EDD 768

637 0571 NJN CKR1 IF 66X/67X TAPE SYSTEM

EDD 769

640 3007 LDD T7

EDD 770

641 2200 1003 LPC 1003

EDD 771

643 2300 1001 LMC 1001

EDD 772

645 0366 UJN CKRX RETURN

EDD 773

EDD 774

EDD 775

** CON - CONNECT TAPE UNIT.

EDD 777

*

EDD 778

* ENTRY (CONA) = CONNECT CODE FOR 3000 TYPE EQUIPMENT.

EDD 779

*

EDD 780

* CALLS ERR, FCN, STS.

EDD 781

EDD 782

646 7713 0030 CON3 FNC 30,TC FORMAT UNIT

EDD 783

* FNC 4,TC (ATS UNIT)

EDD 784

647 CONC EQU *-1

EDD 785

650 7413 ACN TC

EDD 786

651 1402 LDN 2

EDD 787

652 7313 0720 OAM CONB,TC OUTPUT PARAMETER BLOCK

EDD 788

654 6613 0654 FJM *,TC

EDD 789

656 7553 DCN TC

EDD 790

657 0200 0765 RJM STS GET GENERAL STATUS

EDD 791

661 3007 CON4 LDD T7

EDD 792

662 2200 7213 LPC 7213

EDD 793

* LPC 7447 (65X TAPE SYSTEM)

EDD 794

663 COND EQU *-1

EDD 795

664 2300 0201 LMC 201

EDD 796

* LMC 1005 (65X TAPE SYSTEM)

EDD 797

665 CONE EQU *-1

EDD 798

666 0526 NJN CON2 IF CONNECT REJECT

EDD 799

EDD 800

667 0100 0667 CON SUBR ENTRY/EXIT

EDD 801

671 3015 CON1 LDD TS

EDD 802

672 0553 NJN CON3 IF 66X/67X TAPE SYSTEM

EDD 803

673 7713 2000 FNC 2000,TC

EDD 804

675 7713 5001 FNC 5001,TC CONNECT

EDD 805

676 CONA EQU *-1

EDD 806

677 0200 0765 RJM STS GET STATUS

EDD 807

701 0513 NJN CON2 IF CONNECT REJECT

EDD 808

702 1401 LDN 1 SELECT BINARY MODE

EDD 809

703 0200 0726 RJM FCN

EDD 810

EDD 811

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750	7553		DCN	TC		EDD	863
751	1412		LDN	12	REQUEST GENERAL STATUS	EDD	864
752	3113		ADD	EQ		EDD	865
753	7613		FAN	TC		EDD	866
754	7413		ACN	TC		EDD	867
755	6713	0743	EJM	STS1,TC	IF CHANNEL EMPTY	EDD	868
757	7013		IAN	TC		EDD	869
760	7553		DCN	TC		EDD	870
761	3407		STD	T7		EDD	871
762	1400		LDN	0		EDD	872
763	3406		STD	T6		EDD	873
						EDD	874
764	0100	0764	STS	SUBR	ENTRY/EXIT	EDD	875
766	3015		LDD	TS		EDD	876
767	0561		NJN	STS3	IF 66X/67X TAPE SYSTEM	EDD	877
770	7713	1300	FNC	1300,TC	REQUEST EQUIPMENT STATUS	EDD	878
772	7413		ACN	TC		EDD	879
773	7013		IAN	TC		EDD	880
774	7553		DCN	TC		EDD	881
775	3407		STD	T7		EDD	882
776	7713	1200	FNC	1200,TC	REQUEST 6681 STATUS	EDD	883
1000	7413		ACN	TC		EDD	884
1001	7013		IAN	TC		EDD	885
1002	7553		DCN	TC		EDD	886
1003	0357		UJN	STS5		EDD	887
			**	WRT - WRITE TAPE.		EDD	889
			*			EDD	890
			*	ENTRY (RL) = RECORD LENGTH.		EDD	891
			*	(WRTB) = RECORD ADDRESS.		EDD	892
			*			EDD	893
			*	USES T2, T3.		EDD	894
			*			EDD	895
			*	CALLS CKR, CON, ERR, FCN, STS.		EDD	896
						EDD	897
						EDD	898
1004	0100	1004	WRT	SUBR	ENTRY/EXIT	EDD	899
1006	1420		WRT1	LDN	20	EDD	900
1007	3403		STD	T3	SET RETRY COUNT	EDD	901
1010	7713	1600	WRT2	FNC	1600,TC	EDD	902
			*	FNC	E050,TC	EDD	903
		1011	WRTA	EQU	*-1	EDD	904
1012	7413			ACN	TC	EDD	905
1013	3011		WRT3	LDD	RL	EDD	906
1014	7313	0176		OAM	EDTB,TC	EDD	907
		1015	WRTB	EQU	*-1	EDD	908
1016	6613	1016		FJM	*,TC	EDD	909
1020	7553			DCN	TC	EDD	910
1021	0200	0765	WRT4	RJM	STS	EDD	911
1023	0526			NJN	WRT6	EDD	912
1024	0200	0635		RJM	CKR	EDD	913
1026	0572			NJN	WRT4	EDD	914
1027	3007			LDD	T7	EDD	915
1030	2200	4010		LPC	4010	EDD	916

			1031	* WRTC	LPC EQU	6440 *-1	(65X TAPE SYSTEM)	EDD	917
					ZJN	WRTX		EDD	918
	1032	0451					IF OK	EDD	919
1	1033	3703			SOD	T3	DECREMENT RETRY COUNT	EDD	920
2	1034	0415			ZJN	WRT6	IF EXHAUSTED	EDD	921
3	1035	2000 0113			LDC	113	BACKSPACE	EDD	922
4				* WRTD	LDC	12	(65X TAPE SYSTEM)	EDD	923
5			1036		EQU	*-1		EDD	924
6	1037	0200 0726			RJM	FCN		EDD	925
7	1041	3003			LDD	T3	CHECK TIME TO SKIP BAD SPOT	EDD	926
8	1042	1203			LPN	3		EDD	927
9	1043	0504			NJN	WRT5	IF NOT	EDD	928
10	1044	1452		WRTE	LDN	52	SKIP BAD SPOT	EDD	929
11				*	LDN	16	(65X TAPE SYSTEM)	EDD	930
12	1045	0200 0726			RJM	FCN		EDD	931
13	1047	0100 1010		WRT5	LJM	WRT2	RETRY	EDD	932
14								EDD	933
15	1051	1402		WRT6	LDN	2	*WRITE ERROR*	EDD	934
16	1052	0200 0445			RJM	ERR	PROCESS ERROR	EDD	935
17	1054	0200 0670			RJM	CON	RE-CONNECT	EDD	936
18	1056	0100 1006			LJM	WRT1	RETRY	EDD	937
19									
20									
21									
22									
23	1060			OVLB	BSS	0	DUMP OVERLAY LOAD ADDRESS	EDD	939
24									
25									
26									
27									
28									
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31									
32									
33									
34									
35									
36									
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1

**	ECP - EXCHANGE CYBER 176 CPU.	EDD	957
*		EDD	958
*	EXIT CPU IS EXCHANGED TO ADDRESS *CMEC*.	EDD	959
*		EDD	960
*	USES T6, T7.	EDD	961
*		EDD	962
*	CALLS SCR.	EDD	963
		EDD	964
		EDD	965
1135	0100 1135 ECP SUBR ENTRY/EXIT	EDD	966
1137	2000 2115 LDC FCCL+DSCU CLEAR DEADSTART	EDD	967
1141	7256 OAN. SC+40	EDD	968
1142	7056 IAN. SC+40	EDD	969
1143	1404 LDN 4 SET EXCHANGE BUFFER BIAS BITS	EDD	970
1144	3406 STD T6	EDD	971
1145	1466 LDN EXBB	EDD	972
1146	3407 STD T7 FIRST BIT NUMBER	EDD	973
1147	1417 LDN CMEC/1000 BIT PATTERN	EDD	974
1150	0200 1160 RJM SCR SET S/C REGISTER	EDD	975
1152	2000 4115 LDC FCSB+DSCU SET DEADSTART	EDD	976
1154	7256 OAN. SC+40	EDD	977
1155	7056 IAN. SC+40	EDD	978
1156	0356 UJN ECPX RETURN	EDD	979
**	SCR - SET S/C REGISTER.	EDD	981
*		EDD	982
*	ENTRY (A) = BIT PATTERN TO SET.	EDD	983
*	(T6) = NUMBER OF BITS TO SET.	EDD	984
*	(T7) = FIRST BIT NUMBER.	EDD	985
*		EDD	986
*	USES T3, T6, T7.	EDD	987
		EDD	988
		EDD	989
1157	0100 1157 SCR SUBR ENTRY/EXIT	EDD	990
1161	3403 SCR1 STD T3 SAVE BIT PATTERN	EDD	991
1162	1201 LPN 1 SAVE NEXT BIT FOR S/C	EDD	992
1163	0403 ZJN SCR2 IF BIT NOT SET	EDD	993
1164	2000 6000 LDC FCSB&FCCL SET BIT FUNCTION	EDD	994
1166	2300 2000 SCR2 LMC FCCL CLEAR BIT FUNCTION	EDD	995
1170	3107 ADD T7 ADD BIT NUMBER TO SET/CLEAR	EDD	996
1171	7256 OAN. SC+40	EDD	997
1172	7056 IAN. SC+40	EDD	998
1173	3607 AOD T7 UPDATE BIT NUMBER	EDD	999
1174	3706 SOD T6 UPDATE BIT COUNT	EDD	1000
1175	0461 ZJN SCRX IF ALL BITS DONE, RETURN	EDD	1001
1176	3003 LDD T3 UPDATE BIT PATTERN	EDD	1002
1177	1076 SHN -1	EDD	1003
1200	0360 UJN SCR1 LOOP FOR NEXT BIT	EDD	1004

1201 OVLC BSS 0 DUMP OVERLAY LOAD ADDRESS EDD 1006

** DSC - DUMP STATUS/CONTROL REGISTERS.

EDD 1008

*

EDD 1009

* USES T7, T8, RL.

EDD 1010

*

EDD 1011

* CALLS WLB, WRT.

EDD 1012

EDD 1013

EDD 1014

1201 0100 1201 DSC SUBR ENTRY/EXIT
1203 6516 1201 IJM. DSCX,SC IF NOT CYBER 170
1205 2022 2303 LDC 3LRSC WRITE *SCR* LABEL BLOCK
1207 0200 0610 RJM WLB

EDD 1015

EDD 1016

EDD 1017

EDD 1018

EDD 1019

* READ S/C REGISTER CONTENTS.

EDD 1020

EDD 1021

1211 1400 DSC1 LDN 0

EDD 1022

1212 3412 STD T8

EDD 1023

1213 1420 LDN FCRD+NSCB-1 SET READ WORD FUNCTION

EDD 1024

1214 3407 STD T7

EDD 1025

1215 7256 DSC2 OAN. SC+40

EDD 1026

1215 DSCA EQU DSC2

EDD 1027

* OAN. SC+40+20 (CHANNEL 36 PROCESSING)

EDD 1028

1216 7056 DSCB IAN. SC+40

EDD 1029

* IAN. SC+40+20 (CHANNEL 36 PROCESSING)

EDD 1030

1217 5412 1273 STM DSCE,T8 STORE CONTENTS OF WORD

EDD 1031

1221 3612 AOD T8

EDD 1032

1222 3707 SOD T7

EDD 1033

1223 0671 PJN DSC2 IF NOT FINISHED READING REGISTER

EDD 1034

EDD 1035

* WRITE TOTAL OF 8 CM WORDS TO TAPE TO CREATE MULTIPLE OF 4

EDD 1036

* CM WORDS NECESSARY FOR S FORMAT.

EDD 1037

EDD 1038

1224 1450 LDN 50 SET RECORD LENGTH

EDD 1039

1225 3411 STD RL

EDD 1040

1226 2000 1266 LDC DSCD SET RECORD ADDRESS

EDD 1041

1230 5400 1015 STM WRTB WRITE RECORD

EDD 1042

1232 0200 1005 RJM WRT

EDD 1043

EDD 1044

* SET UP TO READ CHANNEL 36 S/C REGISTER.

EDD 1045

EDD 1046

1234 1400 DSCC LDN 0

EDD 1047

* LDN 1 (CHANNEL 36 PRESENT)

EDD 1048

1235 0417 ZJN DSC3 IF S/C REGISTER PROCESSING COMPLETE

EDD 1049

1236 5700 1234 SOM DSCC SET CHANNEL 36 DUMPED

EDD 1050

1240 1420 LDN 20 SET CHANNEL 36 IN I/O INSTRUCTIONS

EDD 1051

1241 5500 1215 RAM DSCA

EDD 1052

1243 1420 LDN 20

EDD 1053

1244 5500 1216 RAM DSCB

EDD 1054

1246 2000 0200 LDC 200 SET CHANNEL 36 IN HEADER WORD

EDD 1055

1250 5500 1270 RAM DSCD+2

EDD 1056

1252 0100 1211 LJN DSC1 LOOP TO READ CHANNEL 36 REGISTER

EDD 1057

EDD 1058

1254 2000 2137 DSC3 LDC FCCL+PPPE CLEAR *STOP ON PP MEMORY PARITY ERROR*

EDD 1059

1256	7256			OAN.	SC+40		EDD	1060
1257	7056			IAN.	SC+40		EDD	1061
1260	2000 2136			LDC	FCCL+PPCM	CLEAR *STOP ON CM READ ERROR*	EDD	1062
1262	7256			OAN.	SC+40		EDD	1063
1263	7056			IAN.	SC+40		EDD	1064
1264	0100 1201			LJM	DSCX	RETURN	EDD	1065
							EDD	1066
1266		1	DSCD	BSSZ	1	S/C REGISTER CONTENTS BUFFER	EDD	1067
1267	2303			DATA	4LSC16		EDD	1068
1271		2		BSSZ	2		EDD	1069
1273		24	DSCE	BSSZ	24		EDD	1070
			**	DP0	- DUMP PP0.		EDD	1072
			*				EDD	1073
			*	ENTRY	(PB) = RA OF WHERE PP0 SAVED.		EDD	1074
			*				EDD	1075
			*	EXIT	(ON) = CONSTANT 1.		EDD	1076
			*				EDD	1077
			*	USES	T4, T5, RL.		EDD	1078
			*				EDD	1079
			*	CALLS	WLB, WRT.		EDD	1080
							EDD	1081
							EDD	1082
1317	0100 1317		DP0	SUBR		ENTRY/EXIT	EDD	1083
1321	2055 2020			LDC	3L PP	WRITE *PP* LABEL BLOCK	EDD	1084
1323	0200 0610			RJM	WLB		EDD	1085
1325	2000 1000			LDC	PPS1/5		EDD	1086
1327	3405			STD	T5		EDD	1087
1330	3020			LDD	PB		EDD	1088
1331	0411			ZJN	DP01	IF PP0 NOT SAVED	EDD	1089
1332	1006			SHN	6		EDD	1090
1333	6105 2000			CRM	BUF,T5		EDD	1091
1335	3020			LDD	PB	SET PP0 SAVE INDICATOR	EDD	1092
1336	5400 2020			STM	BUF+PB		EDD	1093
1340	2000 2000			LDC	BUF	SET BUFFER ADDRESS	EDD	1094
1342	3404		DP01	STD	T4		EDD	1095
1343	5400 1015			STM	WRTB		EDD	1096
1345	2000 2020			LDC	2RPP	SET PP IDENTIFICATION BYTE	EDD	1097
1347	5404 0001			STM	1,T4		EDD	1098
1351	2000 3333			LDC	2R00	SET PP NUMBER	EDD	1099
1353	5404 0002			STM	2,T4		EDD	1100
1355	2000 5000			LDC	PPS1	SET RECORD LENGTH	EDD	1101
1357	3411			STD	RL		EDD	1102
1360	0200 1005			RJM	WRT	WRITE FIRST PART	EDD	1103
1362	2000 0464			LDC	PPS2/5		EDD	1104
1364	3404			STD	T4		EDD	1105
1365	3020			LDD	PB		EDD	1106
1366	0406			ZJN	DP02	IF PP0 NOT SAVED	EDD	1107
1367	1006			SHN	6		EDD	1108
1370	3105			ADD	T5		EDD	1109
1371	6104 2000			CRM	BUF,T4		EDD	1110
1373	0304			UJN	DP03	DUMP SECOND PART OF PP0	EDD	1111
							EDD	1112
1374	3011		DP02	LDD	RL		EDD	1113

1375	5400	1015		STM	WRTB		EDD	1114
1377	2000	3004	DP03	LDC	PPS2	WRITE SECOND PART	EDD	1115
1401	3411			STD	RL		EDD	1116
1402	0200	1005		RJM	WRT		EDD	1117
1404	1401			LDN	1	DEFINE CONSTANT 1	EDD	1118
1405	3422			STD	ON		EDD	1119
1406	0100	1317		LJM	DP0X	RETURN	EDD	1120

EDD 1162

EDD	1164
-----	------

EDD 1166

EDD	1168
-----	------

DIMA271 4

EDD 1172

DIMA271	6
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EDD 1176

EDD 1178

EDD	1180
-----	------

EDD	1182
-----	------

EDD 1184

EDD	1186
-----	------

EDD	1187
FDD	1182

EDD 1190

EDD	1191
-----	------

EDD 1193

EDD	1195
-----	------

EDD 1197

EDD	1198
-----	------

EDD	1199
-----	------

EDD 1200

EDD	1201
-----	------

EDD	1202
-----	------

EDD 1203

EDD	1204
-----	------

EDD 1205

EDD	1206
-----	------

EDD	1207
-----	------

EDD 1208

EDD 1209

EDD	1210
-----	------

EDD	1210
EDD	1211

EDD 1211

EDD 1212

1111	1111
------	------

** DCP - DUMP CPU HARDWARE REGISTERS.

EDD 1214

*

EDD 1215

* USES T1 - T5, T8, RL.

EDD 1216

*

EDD 1217

* CALLS ECP, WLB, WRT.

EDD 1218

EDD 1219

EDD 1220

EDD 1221

EDD 1222

EDD 1223

EDD 1224

EDD 1225

EDD 1226

EDD 1227

EDD 1228

EDD 1229

EDD 1230

EDD 1231

EDD 1232

EDD 1233

EDD 1234

EDD 1235

EDD 1236

EDD 1237

EDD 1238

EDD 1239

EDD 1240

EDD 1241

EDD 1242

EDD 1243

EDD 1244

EDD 1245

EDD 1246

EDD 1247

EDD 1248

EDD 1249

EDD 1250

EDD 1251

EDD 1252

EDD 1253

EDD 1254

EDD 1255

EDD 1256

EDD 1257

EDD 1258

EDD 1259

EDD 1260

EDD 1261

EDD 1262

EDD 1263

EDD 1264

EDD 1265

EDD 1266

EDD 1267

EDD 1268

EDD 1269

EDD 1270

1566 0100 1566

DCP

SUBR

ENTRY/EXIT

1570 2022 0320

LDC 3LRCP

1572 0200 0610

RJM

WLB

WRITE CPU REGISTER LABEL

*

WRITE EXCHANGE PACKAGE AND LOOP INTO CM.

1574 2000 0000

LDC

0

STORE CPU IDLE LOOP

1575

DCPG

EQU

*-1

(CYBER 176)

*

LDC

CPIA

(CYBER 176)

1576 6322 1130

CWM

CPIL,ON

1600 1410

DCP1

LDN

CXJPL

SET NUMBER OF WORDS IN EXCHANGE PACKAGE

1601 3412

STD

T8

1602 2001 7000

LDC

CMCP

MOVE RECORD HEADER WORD TO BUFFER

1604 6322 1717

CWM

DCPF,ON

1606 1701

SBN

1

1607 6122 2000

CRM

BUF,ON

1611 1701

SBN

1

COPY EXCHANGE PACKAGE

1612 6312 1060

CWM

CXJP,T8

1614 5000 7673

LDM

OPTN

CHECK CPU OFF

1616 1021

DCPA

SHN

21-0

CPU0 FLAG

*

SHN

21-1

(CPU1 FLAG)

1617 0604

PJN

DCP2

IF CPU NOT OFF

1620 5600 2004

AOM

BUF+4

SET CPU OFF FLAG IN HEADER WORD

1622 0320

UJN

DCP5

*

EXCHANGE CPU AND READ IN REGISTER CONTENTS.

1623 5000 0131

DCP2

LDM

EDTA

1625 0404

ZJN

DCP3

IF NOT CYBER 176

1626 0200 1136

RJM

ECP

EXCHANGE CPU

1630 0304

UJN

DCP4

READ REGISTER CONTENTS

1631 2001 7000

DCP3

LDC

CMCP

EXCHANGE CPU

1633 2600

DCPB

EXN

0

*

EXN

1

(EXCHANGE CPU1 (CPU0 IF NO CPU1))

1634 1420

DCP4

LDN

20

SET NUMBER OF WORDS TO READ

1635 3405

STD

T5

1636 2001 7000

LDC

CMCP

READ CPU HARDWARE REGISTERS

1640 6105 2005

CRM

BUF+5,T5

1642 0317

DCP5

UJN

DCP7

1642

DCPC

EQU

DCP5

*

PSN

(BOTH CPUS CHECKED)

*

CHECK FOR TWO CPUS.

1643 5600 1071

AOM

CXJP+11

SET B1 = 1

1645 2001 7000

LDC

CMCP

WRITE EXCHANGE PACKAGE

1647 6312 1060

CWM

CXJP,T8

1651 1710

SBN

CXJPL

EXCHANGE CPU0

1652 2600

DCPD

EXN

0

			*	PSN	(CPU0 OFF)	EDD	1271	
1653	1601			ADN	1	EDD	1272	
1654	6001			CRD	T1	EDD	1273	
1655	3005			LDD	T1+4	EDD	1274	
1656	0503			NJN	DCP7	EDD	1275	
1657	0100	1566	DCP6	LJM	DCPX	EDD	1276	
						EDD	1277	
			*	DUMP CPU REGISTER CONTENTS TO TAPE.			EDD	1278
			*	WRITE TOTAL OF 24 CM WORDS TO TAPE TO CREATE MULTIPLE OF 4			EDD	1279
			*	CM WORDS NECESSARY FOR S FORMAT.			EDD	1280
						EDD	1281	
1661	2000	0144	DCP7	LDC	144	EDD	1282	
1663	3411			STD	RL	EDD	1283	
1664	2000	2000		LDC	BUF	EDD	1284	
1666	5400	1015		STM	WRTB	EDD	1285	
1670	0200	1005		RJM	WRT	EDD	1286	
						EDD	1287	
			*	SET UP FOR NEXT CPU.			EDD	1288
						EDD	1289	
1672	5600	1633		AOM	DCPB	EDD	1290	
1674	1277			LPN	77	EDD	1291	
1675	1702			SBN	2	EDD	1292	
1676	0660		DCPE	PJN	DCP6	EDD	1293	
			*	UJN	DCP6	EDD	1294	
						EDD	1295	
1677	5000	2004		LDM	BUF+4	EDD	1296	
1701	0404			ZJN	DCP8	EDD	1297	
1702	1400			LDN	0	EDD	1298	
1703	5400	1652		STM	DCPD	EDD	1299	
1705	5400	1642	DCP8	STM	DCPC	EDD	1300	
1707	5700	1616		SOM	DCPA	EDD	1301	
1711	5700	1071		SOM	CXJP+11	EDD	1302	
1713	5600	1721		AOM	DCPF+2	EDD	1303	
1715	0100	1600		LJM	DCP1	EDD	1304	
						EDD	1305	
1717	0000		DCPF	CON	0	EDD	1306	
1720	0320			DATA	4LCPU0	EDD	1307	
1722	0000			CON	0	EDD	1308	
1723	0000			CON	0	EDD	1309	

-52ERRPL*-BUF+2OVERFLOW INTO TAPE BUFFEREDD1311

1412THE

** PRS - PRESET *EDD* RESIDENT.

EDD 1313

EDD 1314

EDD 1315

EDD 1316

EDD 1317

EDD 1318

EDD 1319

EDD 1320

EDD 1321

EDD 1322

EDD 1323

EDD 1324

EDD 1325

EDD 1326

EDD 1327

EDD 1328

EDD 1329

EDD 1330

EDD 1331

EDD 1332

EDD 1333

EDD 1334

EDD 1335

EDD 1336

EDD 1337

EDD 1338

EDD 1339

EDD 1340

EDD 1341

EDD 1342

EDD 1343

EDD 1344

EDD 1345

EDD 1346

EDD 1347

EDD 1348

EDD 1349

EDD 1350

EDD 1351

EDD 1352

EDD 1353

EDD 1354

EDD 1355

EDD 1356

EDD 1357

EDD 1358

EDD 1359

EDD 1360

EDD 1361

EDD 1362

EDD 1363

EDD 1364

EDD 1365

EDD 1366

EDD 1367

EDD 1368

* DETERMINE PPS CONFIGURATION.

PRS1 LDN 0 PRESET 65X TAPE FORMAT

STD TS

STD DP

IJM. PRS4,20 IF NO UPPER PPS

STM PRSB

AOM DSCC

AOD DP SET UPPER PPS FLAG

LCN 12

PRS2 ADN 12 SET CHANNEL INDEX

STD T6

LMC IAMI

IJM. PRS3,0 CHECK LOWER 10 PP-S

STM PPT,T6

PRS3 UJN PRS4

PSN 0 (UPPER PPS PRESENT)

2021 PRSB EQU PRS3

ADN 20

IJM. PRS4,20 CHECK UPPER 10 PP-S

STM PPT+20,T6

AOM PRSC ADVANCE CHANNEL NUMBER

AOM PRSA

SET CHANNEL TEST FOR LOWER PP-S

LPN 17

SBN 12

NJN PRS2 IF NOT END OF PP-S

DIMA271 8

2036	7400		ACN.	0		EDD	1369
2037	2000 7100		LDC	IAMI+0	TIE PP ON DISPLAY CHANNEL TO CHANNEL 0	DIMA271	9
2041	5400 1500		STM	PPT+CH		DIMA271	10
2043	1403		LDN	3		EDD	1371
2044	7310 2420		OAM.	PRSH,CH		EDD	1372
2046	7550		DCN.	CH		EDD	1373
2047	2001 2430	PRS5	LDC	PRSI+10000	GET TAPE CHANNEL	EDD	1374
2051	0200 0310		RJM	DIG		EDD	1375
2053	1277		LPN	77		EDD	1376
2054	3414		STD	CN		EDD	1377
2055	1734		SBN	34		EDD	1378
2056	0670		PJN	PRS5	IF CHANNEL TOO LARGE	EDD	1379
2057	7710 0000		FNC.	0,CH	DESELECT DISPLAY SYNC	EDD	1380
2061	1477		LDN	77		EDD	1381
2062	1701		SBN	1		EDD	1382
2063	0576		NJN	*-1		EDD	1383
2064	7550		DCN.	CH		EDD	1384
2065	7410		ACN.	CH		EDD	1385
2066	1410		LDN	CH	RESET DISPLAY CHANNEL PP	EDD	1386
2067	5500 2422		RAM	PRSH+2		EDD	1387
2071	1403		LDN	3		EDD	1388
2072	7300 2420		OAM.	PRSH,0		EDD	1389
2074	7540		DCN.	0		EDD	1390
2075	3014		LDD	CN	CHECK CHANNEL FOR PP	EDD	1391
2076	3417		STD	DT		EDD	1392
2077	0410		ZJN	PRS6	IF CHANNEL ZERO	DIM0251	1
2100	1212		LPN	12		EDD	1393
2101	1112		LMN	12		EDD	1394
2102	0405		ZJN	PRS6	IF NO PP	EDD	1395
2103	2000 7113		LDC	IAMI+13	SET PP ON CHANNEL 13	DIM0251	2
2105	5414 1470		STM	PPT,CN		EDD	1397
2107	2000 2473	PRS6	LDC	CTTC	MODIFY CHANNEL INSTRUCTIONS	EDD	1398
2111	0200 0604		RJM	MCI		EDD	1399
* CHECK STATUS OF PP BUFFER CHANNEL.						EDD	1400
						EDD	1401
						EDD	1402
2113	1417		LDN	DT		EDD	1403
2114	3407		STD	T7		EDD	1404
2115	3016		LDD	DS		EDD	1405
2116	1101		LMN	PC		EDD	1406
2117	0405		ZJN	PRS7	IF DEADSTART ON PP BUFFER CHANNEL	EDD	1407
2120	3707		SOD	T7		EDD	1408
2121	3017		LDD	DT		EDD	1409
2122	1101		LMN	PC		EDD	1410
2123	0512		NJN	PRS9	IF DUMP NOT ON PP BUFFER CHANNEL	EDD	1411
2124	1412	PRS7	LDN	12	CHANGE PP BUFFER CHANNEL TO 12	EDD	1412
2125	3414		STD	CN		EDD	1413
2126	4307		LMI	T7		EDD	1414
2127	0502		NJN	PRS8	IF NO CONFLICT WITH DEADSTART/DUMP	EDD	1415
2130	3614		AOD	CN	SET CHANNEL 13	EDD	1416
2131	2000 2531	PRS8	LDC	CTPC	MODIFY CHANNEL INSTRUCTIONS	EDD	1417
2133	0200 0604		RJM	MCI		EDD	1418
* OUTPUT IDLERS TO PP-S.						EDD	1419
						EDD	1420
2135	5000 2153	PRS9	LDM	PRSD		DIMA271	12
2137	2300 0700		LMC	OAMI&ACNI		EDD	1432

2141	5400	2422	STM	PRSH+2		EDD	1433
2143	2300	0200	LMC	IAMI&OAMI	SET BUFFER PP CHANNEL	DIM0238	1
2145	5400	1471	STM	PPT+PC		DIM0238	2
2147	1407		LDN	PRSHL	OUTPUT PP1 IDLER	DIMA271	13
2150	7301	2420	OAM.	PRSH,1		DIMA271	14
2152	7541		DCN.	1		DIMA271	15
2153	7401		ACN	PC		DIMA271	16
2154	1402		LDN	2	TRANSMIT IDLER TO REMAINING PP-S	DIMA271	17
2155	3406		STD	T6		DIMA271	18
2156	3017		LDD	DT		DIM0251	3
2157	0505		NJN	PRS10	IF DUMP NOT ON CHANNEL ZERO	DIM0251	4
2160	2000	7113	LDC	IAMI+13	MOVE DISPLAY CHANNEL PP TO CHANNEL 13	DIM0251	5
2162	5400	1500	STM	PPT+CH		DIM0251	6
2164	5006	1470	LDM	PPT,T6		DIMA271	19
2166	0421		ZJN	PRS11	IF NO PP ON CHANNEL	DIMA271	20
2167	1237		LPN	37	SET CHANNEL NUMBER	DIMA271	21
2170	3414		STD	CN		DIMA271	22
2171	2000	2544	LDC	CTXC	MODIFY CHANNEL INSTRUCTIONS	DIMA271	23
2173	0200	0604	RJM	MCI		DIMA271	24
2175	1403		LDN	PRSML	TRANSMIT IDLE PACKAGE PRELOADER	DIMA271	25
2176	7302	2463	OAM.	PRSM,2		DIMA271	26
2200	7542		DCN.	2		DIMA271	27
2201	7417		ACN	XC		DIMA271	28
2202	1405		LDN	PRSNL	OUTPUT IDLE PACKAGE	DIMA271	29
2203	7317	2466	OAM	PRSN,XC		DIMA271	30
2205	7557		DCN	XC		DIMA271	31
2206	7417		ACN	XC		DIMA271	32
2207	5600	2176	AOM	PRSE		DIMA271	33
2211	5600	2200	AOM	PRSF	ADVANCE PP NUMBER	DIMA271	34
2213	1237		LPN	37		DIMA271	35
2214	3406		STD	T6		DIMA271	36
2215	1132		LMN	32		DIMA271	37
2216	0545		NJN	PRS10	IF NOT END OF PP-S	DIMA271	38
* GET TAPE EQUIPMENT AND UNIT.						DIMA271	39
						DIMA271	40
						DIMA271	41
2217	2002	2435	LDC	PRSJ+20000		DIMA271	42
2221	0200	0310	RJM	DIG		DIMA271	43
2223	3401		STD	T1	SAVE CONSOLE INPUT	EDD	1454
2224	2200	7017	LPC	7017	SET EQUIPMENT AND UNIT IN CONNECT ROUTINE	EDD	1455
2226	5400	0676	STM	CONA		EDD	1456
2230	1317		SCN	17	SAVE EQUIPMENT NUMBER	EDD	1457
2231	3413		STD	EQ		EDD	1458
2232	3001		LDD	T1	DETERMINE CONTROLLER TYPE	EDD	1459
2233	1071		SHN	-6		EDD	1460
2234	1203		LPN	3		EDD	1461
2235	0505		NJN	PRS14	IF CONTROLLER TYPE SPECIFIED	EDD	1462
2236	3013		LDD	EQ		EDD	1463
2237	0402		ZJN	PRS13	IF NULL EQUIPMENT (DEFAULT TO MTS)	EDD	1464
2240	1401		LDN	3-2		EDD	1465
2241	1602		ADN	2	SET TABLE INDEX	EDD	1466
2242	3402		STD	T2		EDD	1467
2243	5002	2457	LDM	PRSL-1,T2		EDD	1468
2245	3402		STD	T2		EDD	1469
2246	1400		LDN	0		EDD	1470
2247	0102	0000	LJM	0,T2		EDD	1471
						EDD	1472

* PRESET DUMP TO 65X TAPE SYSTEM.

EDD 1473

EDD 1474

EDD 1475

2251 3413

PRS15

STD EQ

SET WRITE TAPE MARK FUNCTION

EDD 1476

2252 1534

LCN 51-15

2253 5500 0146

RAM .TF1

EDD 1477

2255 5400 0151

STM .TF2

EDD 1478

2257 1412

LDN 12

SET BACKSPACE FUNCTION

EDD 1479

2260 5400 1036

STM WRTD

EDD 1480

2262 5400 0160

STM .BK

EDD 1481

2264 1534

LCN 52-16

SET ERASE FUNCTION

EDD 1482

2265 5500 1044

RAM WRTE

EDD 1483

2267 2000 7447

LDC 7447

RESET STATUS MASKS

EDD 1484

2271 5400 0663

STM COND

EDD 1485

2273 2000 1005

LDC 1005

EDD 1486

2275 5400 0665

STM CONE

EDD 1487

2277 2000 6440

LDC 6440

EDD 1488

2301 5400 1031

STM WRTC

EDD 1489

2303 0100 2352

LJM PRS18

PROCESS DUMP

EDD 1490

* PRESET DUMP TO 66X TAPE SYSTEM.

EDD 1491

EDD 1492

EDD 1493

2305 1403

PRS16

LDN 3

RELEASE OPPOSITE RESERVES

EDD 1494

2306 3113

ADD EQ

ADD EQUIPMENT NUMBER

EDD 1495

2307 7613

FAN TC

EDD 1496

2310 2000 0100

LDC 100

EDD 1497

2312 5400 2334

STM PRSG

EDD 1498

2314 1424

LDN 30-4

EDD 1499

* PRESET DUMP TO 67X TAPE SYSTEM.

EDD 1500

EDD 1501

EDD 1502

2315 1604

PRS17

ADN 4

SET FORMAT UNIT FUNCTION

EDD 1503

2316 3113

ADD EQ

EDD 1504

2317 5400 0647

STM CONC

EDD 1505

2321 3615

AOD TS

SET ATS/MTS UNIT

EDD 1506

2322 3001

LDD T1

CONNECT TO UNIT

EDD 1507

2323 1217

LPN 17

EDD 1508

2324 1620

ADN 20

EDD 1509

2325 5500 0720

RAM CONB

EDD 1510

2327 1237

LPN 37

EDD 1511

2330 0200 0726

RJM FCN

EDD 1512

2332 3007

LDD T7

SET DENSITY

EDD 1513

2333 2200 0000

LPC 0

EDD 1514

* (MTS UNIT)

EDD 1515

2334

PRSG

LPC 100

(MTS UNIT)

EDD 1516

2335 5100 2334

EQU *-1

EDD 1517

2337 5500 0721

ADM PRSG

EDD 1518

2341 3007

RAM CONB+1

EDD 1519

2342 1076

LDD T7

SET MT/NT IN FORMAT PARAMETER

EDD 1520

2343 1240

SHN -1

EDD 1521

2344 5500 0720

LPN 40

EDD 1522

2346 1450

RAM CONB

EDD 1523

2347 3113

LDN 50

SET WRITE FUNCTION

EDD 1524

2350 5400 1011

ADD EQ

EDD 1525

STM WRTA

EDD 1526

* GET DUMP LABEL INFORMATION.

EDD 1527

2352 2001 0203

PRS18

LDC

EDTC+10000

REQUEST DUMP NUMBER

EDD 1528

EDD 1529

EDD
PRESET.

CTI EXPRESS DEADSTART DUMP - A02

COMPASS 3.7-871.

23/08/13. 15.42.29.

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2354	0200	0310	RJM	DIG		EDD	1530
2356	0200	0265	RJM	C2D	CONVERT	EDD	1531
2360	5400	0207	STM	EDTC+4		EDD	1532
2362	5400	0226	STM	EDTD+3		EDD	1533
2364	5400	0240	STM	EDTE+3		EDD	1534
* CHECK REWIND DESIRED.						EDD	1535
						EDD	1536
						EDD	1537
2366	0200	0670	RJM	CON	CONNECT UNIT	EDD	1538
2370	2000	2443	LDC	PRSK		EDD	1539
2372	0200	0310	RJM	DIG		EDD	1540
2374	0506		NJN	PRS19	IF DISABLE REWIND	EDD	1541
2375	1410		LDN	10	REWIND	EDD	1542
2376	5400	0160	STM	.BK		EDD	1543
2400	0200	0726	RJM	FCN		EDD	1544
2402	2000	2643	LDC	SBUF	DETERMINE SIZE OF CENTRAL MEMORY	EDD	1545
2404	0200	2554	RJM	DMS		EDD	1546
2406	5400	1525	STM	DCMA		EDD	1547
2410	5000	0131	LDM	EDTA		EDD	1548
2412	0404		ZJN	PRS20	IF NOT CYBER 176	EDD	1549
2413	1420		LDN	20	SET MONITOR FLAG IN EXCHANGE PACKAGE	EDD	1550
2414	5400	1077	STM	CXJPA		EDD	1551
2416	0100	1724	LJM	PRSX	RETURN	EDD	1552
						EDD	1553
2420			PRSH	BSS	0 PP1 IDLE PROGRAM	DIMA271	44
2420	0000		CON	0		DIMA271	45
2421	1500		LCN	0		EDD	1556
2422	7100	0000	IAM.	0,0		EDD	1557
2424	6501	0004	IJM	*-PRSH,PC		EDD	1558
2426	7101	0000	IAM	0,PC		EDD	1560
7 PRSHL EQU *-PRSH-1 LENGTH OF PP1 IDLE PROGRAM						DIMA271	46
						EDD	1561
2430	1524		PRSI	DATA	C*MT CH *	EDD	1562
2435	1524		PRSJ	DATA	C*MT ECUU *	EDD	1563
2443	1617		PRSK	DATA	C*NONZERO INHIBITS REWIND *	EDD	1564
						EDD	1565
2460			PRSL	BSS	0	EDD	1566
2460	2315		CON	PRS17	ATS	EDD	1567
2461	2305		CON	PRS16	MTS	EDD	1568
2462	2251		CON	PRS15	MMTC	EDD	1569
						DIMA271	47
2463			PRSM	BSS	0 IDLE PACKAGE PRELOADER	DIMA271	48
2463	0000		CON	0		DIMA271	49
2464	7117	7774	IAM	PPIA,XC		DIMA271	50
3 PRSML EQU *-PRSM LENGTH OF PRELOADER						DIMA271	51
						DIMA271	52
2466			PRSN	BSS	0 PP IDLE PACKAGE	DIMA271	53
2466	1500		LCN	0		DIMA271	54
2467	7317	0000	OAM	0,XC		DIMA271	55
2471	0376		UJN	*-1		DIMA271	56
2472	7773		CON	PPIA-1		DIMA271	57
5 PRSNL EQU *-PRSN LENGTH OF IDLE PACKAGE						DIMA271	58
						DIMA271	59
0 ERRNZ PPIA+PRSNL-10001						DIMA271	60

1412THE

** CHANNEL TABLES.

EDD 1571
EDD 1572
EDD 1573
EDD 1574
EDD 1575
DIMA271 61

CHTB TC
CHTB PC
CHTB XC

2473
2531
2544

** COMMON DECKS.

EDD 1577
EDD 1578
EDD 1579
EDD 1580
COMPDMS 2
EDD 1582
EDD 1583
EDD 1584

0 RCM\$ EQU 0 SELECT RESTORE CM TEST CELLS
CTEXT COMPDMS - DETERMINE MEMORY SIZE.

2553

SBUF BSS 0 SCRATCH BUFFER FOR *COMPDMS*

2643

IDENT DEM,DFPX

COMMENT CTI EDD OVERLAY

COMMENT COPYRIGHT CONTROL DATA CORPORATION, 1979

EDD 1586

DIMA317J 9

DIMA317J 10

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** DFP - DUMP FLPP MEMORY.

EDD 1588

*

EDD 1589

* USES PN, RL, T6, T7.

EDD 1590

*

EDD 1591

* CALLS C2D, SCR, WLB, WRT.

EDD 1592

EDD 1593

1201

ORG OVLC

EDD 1594

EDD 1595

EDD 1596

1201 0100 1201

DFP

SUBR

ENTRY/EXIT

EDD 1597

1203 2020 0620

LDC

3RPFP

WRITE *FPP* LABEL BLOCK

EDD 1598

1205 0200 0610

RJM

WLB

EDD 1599

1207 2000 2073

LDC

FCCL+DDFP

CLEAR *DUMP FLPP*

EDD 1600

1211 7256

OAN.

SC+40

EDD 1601

1212 7056

IAN.

SC+40

EDD 1602

1213 1400

LDN

0

INITIALIZE FLPP NUMBER

EDD 1603

1214 3430

STD

PN

EDD 1604

1215 2000 2000

LDC

BUF

SET RECORD ADDRESS

EDD 1605

1217 5400 1015

STM

WRTB

EDD 1606

1221 2000 2211

LDC

FCCL+SPUM

CLEAR *STOP ON PPU MEMORY PARITY ERROR*

EDD 1607

1223 7256

OAN.

SC+40

EDD 1608

1224 7056

IAN.

SC+40

EDD 1609

1225 7440

ACN.

MC+40

ACTIVATE SCANNER CHANNEL

EDD 1610

EDD 1611

* SET SCANNER SELECT BITS.

EDD 1612

EDD 1613

1226 1404

DFP1

LDN

4

SET SCANNER SELECT BITS

EDD 1614

1227 3406

STD

T6

NUMBER OF BITS

EDD 1615

1230 2000 0110

LDC

SCSL

FIRST BIT NUMBER

EDD 1616

1232 3407

STD

T7

EDD 1617

1233 3030

LDD

PN

BIT PATTERN

EDD 1618

1234 0200 1160

RJM

SCR

SET S/C REGISTER

EDD 1619

1236 2000 4122

LDC

FCSB+ENSC

ENABLE SCANNER INTERFACE

EDD 1620

1240 7256

OAN.

SC+40

EDD 1621

1241 7056

IAN.

SC+40

EDD 1622

EDD 1623

* ACTIVATE FLPP DEAD DUMP.

EDD 1624

EDD 1625

1242 0200 1707

RJM

DSP

DEADSTART FLPP

EDD 1626

1244 2000 4073

LDC

FCSB+DDFP

SET DEAD DUMP FLPP

EDD 1627

1246 7256

OAN.

SC+40

EDD 1628

1247 7056

IAN.

SC+40

EDD 1629

1250 2000 2073

LDC

FCCL+DDFP

CLEAR DEAD DUMP FLPP

EDD 1630

1252 7256

OAN.

SC+40

EDD 1631

1253 7056

IAN.

SC+40

EDD 1632

1254 6740 1310

EJM.

DFP2,MC+40

IF FLPP NOT PRESENT

EDD 1633

EDD 1634

* DUMP SECTION ONE.

EDD 1635

EDD 1636

1256 2000 5000

LDC

PPS1

SET SECTION 1 LENGTH

EDD 1637

1260 3411

STD

RL

EDD 1638

1261 7140 2000

IAM.

BUF,MC+40

EDD 1639

1263 2000 0620

LDC

2RFP

SET FLPP IDENTIFICATION

EDD 1640

1265 5400 2001

STM

BUF+1

EDD 1641

1267 3030

LDD

PN

STORE FLPP NUMBER

EDD 1642

1270 0200 0265

RJM

C2D

EDD 1643

1272 5400 2002

STM

BUF+2

EDD 1644

1274	0200 1005	RJM	WRT	WRITE SECTION 1	EDD	1645
					EDD	1646
		*		DUMP SECTION TWO.	EDD	1647
					EDD	1648
1276	2000 3004	LDC	PPS2	SET SECTION 2 LENGTH	EDD	1649
1300	3411	STD	RL		EDD	1650
1301	1705	SBN	5		EDD	1651
1302	7140 2000	IAM.	BUF,MC+40		EDD	1652
1304	0200 1005	RJM	WRT	WRITE SECTION 2	EDD	1653
1306	0200 1707	RJM	DSP	REDEADSTART FLPP	EDD	1654
1310	2000 2122	LDC	FCCL+ENSC	DISABLE SCANNER INTERFACE	EDD	1655
1312	7256	OAN.	SC+40		EDD	1656
1313	7056	IAN.	SC+40		EDD	1657
1314	3630	AOD	PN	ADVANCE FLPP NUMBER	EDD	1658
1315	1116	LMN	16		EDD	1659
1316	0403	ZJN	DFP3	IF ALL FLPP-S DUMPED	EDD	1660
1317	0100 1226	LJM	DFP1	LOOP FOR NEXT FLPP	EDD	1661
					EDD	1662
1321	7540	DCN.	MC	DEACTIVATE SCANNER CHANNEL	EDD	1663
1322	2000 2004	LDC	FCCL+PPUE	CLEAR *FLPP ERROR*	EDD	1664
1324	7256	OAN.	SC+40		EDD	1665
1325	7056	IAN.	SC+40		EDD	1666
1326	0100 1201	LJM	DFPX	RETURN	EDD	1667
		**		DEM - DUMP EXTENDED MEMORY.	EDD	1669
		*			EDD	1670
		*		USES MB, LL, RL, T8, T1 - T6.	EDD	1671
		*			EDD	1672
		*		CALLS DIG, ECP, WLB, WRT.	EDD	1673
					EDD	1674
					EDD	1675
1330	0100 1330	DEM	SUBR	ENTRY/EXIT	EDD	1676
1332	2002 1517	LDC	DEMB+20000	ASK FOR ECS SIZE	EDD	1677
1334	0200 0310	RJM	DIG		EDD	1678
1336	0471	ZJN	DEMX	IF NO ECS/LCM DUMP	EDD	1679
1337	3430	STD	MB	SAVE BLOCK COUNT	EDD	1680
1340	5400 0202	STM	EDTB+4		EDD	1681
					EDD	1682
		*		CHECK CPU OFF BITS.	EDD	1683
					EDD	1684
1342	5000 7673	LDM	OPTN		EDD	1685
1344	1021	SHN	21-0		EDD	1686
1345	0605	PJN	DEM1	IF CPU0 ON	EDD	1687
1346	1021	SHN	1+21-1		EDD	1688
1347	0760	MJN	DEMX	IF BOTH CPUS OFF	EDD	1689
1350	5600 1404	AOM	DEMA	SET UP EXCHANGE TO CPU1	EDD	1690
					EDD	1691
		*		WRITE CPU PROGRAM TO CM.	EDD	1692
					EDD	1693
1352	1410	DEM1	LDN	CXJPL	EDD	1694
1353	3401	STD	T1	GET LENGTH OF EXCHANGE PACKAGE	EDD	1695
1354	1412	LDN	DEMCL	GET LENGTH OF CPU PROGRAM	EDD	1696
1355	3402	STD	T2		EDD	1697
1356	1401	LDN	1	SET B1 = 1	EDD	1698

1357	5400 1071	STM	CXJP+11		EDD	1699
1361	2001 7021	LDC	CMEC+21	SET P FOR CPU PROGRAM	EDD	1700
1363	5400 1061	STM	CXJP+1		EDD	1701
1365	1063	SHN	-14		EDD	1702
1366	5400 1060	STM	CXJP		EDD	1703
1370	2001 7000	LDC	CMEC	WRITE EXCHANGE PACKAGE TO CM	EDD	1704
1372	6301 1060	CWM	CXJP,T1		EDD	1705
1374	1611	ADN	21-CXJPL	COPY CPU PROGRAM TO CM	EDD	1706
1375	6302 1527	CWM	DEMC,T2		EDD	1707
1377	5000 0131	LDM	EDTA	CHECK IF CYBER 176	EDD	1708
1401	0527	NJN	DEM3	IF CYBER 176	EDD	1709
1402	2001 7000	LDC	CMEC	EXCHANGE CPU	EDD	1710
1404	2600	EXN	0		EDD	1711
	*	EXN	1	(CPU0 TURNED OFF)	EDD	1712
					EDD	1713
	*			GET ECS FLAG REGISTER.	EDD	1714
					EDD	1715
1405	2001 7032	DEM2	LDC	CMEC+20+DEMCL CHECK DATA READY	EDD	1716
1407	6023	CRD	CS		EDD	1717
1410	1601	ADN	1		EDD	1718
1411	6002	CRD	T2		EDD	1719
1412	3023	LDD	CS		EDD	1720
1413	0471	ZJN	DEM2	IF NOT READY	EDD	1721
1414	3005	LDD	T2+3	SET FLAG REGISTER IN LABEL	EDD	1722
1415	2355 5500	LMC	2L		EDD	1723
1417	5400 0200	STM	EDTB+2		EDD	1724
1421	3006	LDD	T2+4		EDD	1725
1422	5400 0201	STM	EDTB+3		EDD	1726
					EDD	1727
	*			INITIALIZE ECS TRANSFERS, WRITE ECS LABEL RECORD.	EDD	1728
					EDD	1729
1424	2001 7032	LDC	CMEC+20+DEMCL		EDD	1730
1426	6224	CWD	PS		EDD	1731
1427	0323	UJN	DEM4	WRITE LABEL RECORD	EDD	1732
					EDD	1733
	*			WRITE LCM DUMP ROUTINES TO CM.	EDD	1734
					EDD	1735
1430	1405	DEM3	LDN	DEMDL	EDD	1736
1431	3402	STD	T2		EDD	1737
1432	2001 7021	LDC	CMEC+21	COPY CPU PROGRAM TO CM	EDD	1738
1434	6302 1605	CWM	DEMD,T2		EDD	1739
1436	1410	LDN	DEMEL	WRITE EXCHANGE PACKAGE 2 TO CM	EDD	1740
1437	3401	STD	T1		EDD	1741
1440	2002 0040	LDC	CMEC+1000+40		EDD	1742
1442	6301 1636	CWM	DEME,T1		EDD	1743
1444	2000 2114	LDC	FCCL+BCXC	CLEAR *BLOCK COPY EXIT CONTROL*	EDD	1744
1446	7256	OAN.	SC+40		EDD	1745
1447	7056	IAN.	SC+40		EDD	1746
1450	0200 1136	RJM	ECP	EXCHANGE CYBER 176 CPU	EDD	1747
1452	2023 0503	DEM4	LDC	3RSEC WRITE ECS/LCM LABEL RECORD	EDD	1748
1454	0200 0610	RJM	WLB		EDD	1749
1456	2000 1000	LDC	1000	SET BLOCK SIZE	EDD	1750
1460	3412	STD	T8		EDD	1751
1461	2000 5000	LDC	5000	SET RECORD LENGTH	EDD	1752
1463	3411	STD	RL		EDD	1753
1464	2000 2000	LDC	BUF	SET BUFFER ADDRESS	EDD	1754
1466	5400 1015	STM	WRTB		EDD	1755

1470	2001	7022		LDC	CMEC+22	STORE HANG INSTRUCTION	EDD	1756
1472	6322	1130		CWM	CPIL,ON		EDD	1757
			*	DUMP	ECS/LCM.		EDD	1758
							EDD	1759
1474	2001	7032	DEM5	LDC	CMEC+20+DEMCL	READ BLOCK FROM CM	EDD	1760
1476	6023			CRD	CS		EDD	1761
1477	3023			LDD	CS		EDD	1762
1500	0473			ZJN	DEM5	IF NOT READY	EDD	1763
1501	2001	7033		LDC	CMEC+20+DEMCL+1	READ BLOCK	EDD	1764
1503	6112	2000		CRM	BUF,T8		EDD	1765
1505	3730			SOD	MB	DECREMENT BLOCK COUNT	EDD	1766
1506	2001	7032		LDC	CMEC+20+DEMCL		EDD	1767
1510	6224			CWD	PS		EDD	1768
1511	0200	1005		RJM	WRT	WRITE BLOCK	EDD	1769
1513	3030			LDD	MB		EDD	1770
1514	0557			NJN	DEM5	IF NOT ALL BLOCKS DUMPED	EDD	1771
1515	0100	1330		LJM	DEMX	RETURN	EDD	1772
							EDD	1773
1517	0503		DEMB	DATA	C*ECS SIZE/1000*		EDD	1774
							EDD	1775
							EDD	1776
1527			DEMC	BSS	0	CPU PROGRAM FOR ECS	EDD	1777
1527	4300			VFD	15/43002	1. MX0 2 SET STATUS FUNCTION	EDD	1778
1530	2							
	761			VFD	15/76110	SX1 B1 INITIALIZE RESULT	EDD	1779
1531	10							
	13			VFD	15/13777	BX7 X7-X7	EDD	1780
1532	777							
	2			VFD	15/20030	LX0 24 POSITION FUNCTION	EDD	1781
1533	0030							
							EDD	1782
1534	4325			VFD	15/43252	2. MX2 42 SET MASK	EDD	1783
1535	2							
	110			VFD	15/11020	BX0 X2*X0 FUNCTION ONLY	EDD	1784
1536	20							
	43			VFD	15/43601	MX6 1	EDD	1785
1537	601							
	1			VFD	15/12001	BX0 X0+X1 INSERT TEST BIT	EDD	1786
1540	2001							
							EDD	1787
1541	0110			VFD	30/0110000001	3. RE 1 TEST FLAG REGISTER BIT	EDD	1788
1542	0000							
1543	01							
	15			VFD	15/15502	BX5 -X2*X0 SET BIT IN RESULT	EDD	1789
1544	502							
	1			VFD	15/12775	BX7 X7+X5	EDD	1790
1545	2775							
							EDD	1791
1546	2010			VFD	15/20101	4. LX1 1 ADVANCE BIT	EDD	1792
1547	1							
	151			VFD	15/15112	BX1 -X2*X1	EDD	1793
1550	12							
	03			VFD	12/0311	NZ X1,CMEC+22 IF NOT 18 BITS	EDD	1794
1551	11							
	01			VFD	18/CMEC+22		EDD	1795
1552	7022						EDD	1796

1553	5470	VFD	15/54700	5.	SA7	A0	STORE RESULT	EDD	1797
1554	0								
	762	VFD	15/76220		SX2	B2	SET ADDRESS ADVANCE	EDD	1798
1555	20								
	56	VFD	15/56630		SA6	B3	SET *CPU READY*	EDD	1799
1556	630								
	1	VFD	15/13000		BX0	X0-X0	INITIALIZE ECS ADDRESS	EDD	1800
1557	3000								
								EDD	1801
1560	5113	VFD	30/5113000000	6.	SA1	B3+		EDD	1802
1561	0000								
1562	00								
	03	VFD	12/0331		NG	X1,CMEC+26	WAIT PP READY	EDD	1803
1563	31								
	01	VFD	18/CMEC+26					EDD	1804
1564	7026								
								EDD	1805
1565	0311	VFD	12/0311	7.	NZ	X1,CMEC+30	IF DUMP NOT COMPLETE	EDD	1806
1566	0170	VFD	18/CMEC+30					EDD	1807
1567	30								
	01	VFD	12/0100		RJ	CMEC+21	VOID INSTRUCTION STACK	EDD	1808
1570	00								
	01	VFD	18/CMEC+21					EDD	1809
1571	7021								
1572	0112	VFD	30/0112000000	10.	RE	B2	READ ECS/LCM	EDD	1810
1573	0000								
1574	00								
	61	VFD	30/6100000000		SB0	0		EDD	1811
1575	0000								
1576	0000								
								EDD	1812
1577	5663	VFD	15/56630	11.	SA6	B3	SET CPU READY	EDD	1813
1600	0								
	360	VFD	15/36002		IX0	X0+X2	ADVANCE ECS ADDRESS	EDD	1814
1601	02								
	04	VFD	12/0400		EQ	CMEC+26	LOOP	EDD	1815
1602	00								
	01	VFD	18/CMEC+26					EDD	1816
1603	7026								
								EDD	1817
1604	0000							EDD	1818
		CON	0				INITIAL READY FLAG (0 = PP READY)	EDD	1819
	56	SET	*-DEMC					EDD	1820
	12	EQU	.1/5+1					EDD	1821
								EDD	1822
1605		DEMD	BSS	0			CPU PROGRAM FOR LCM	EDD	1823
1605	0400	VFD	12/0400	1.	EQ	CMEC+25	JUMP TO LCM CODE	EDD	1824
1606	0170	VFD	18/CMEC+25					EDD	1825
1607	25								
	61	VFD	30/6100000000		SB0	0		EDD	1826
1610	0000								
1611	0000								
								EDD	1827
1612	6100	VFD	30/6100000000	2.	SB0	0		EDD	1828
1613	0000								
1614	00								
	61	VFD	30/6100000000		SB0	0		EDD	1829
1615	0000								

1616 0000

1617 0130

VFD

15/01300

3. XJ

EXCHANGE BACK TO DUMP

EDD

1829

EDD

1830

1620 0

VFD

30/6100000000

SB0 0

EDD

1831

1621 610

1622 0000

1622 000

EDD

1832

EDD

1833

1623 4

VFD

15/46000

NO

1624 6000

VFD

12/0400

4. EQ

CMEC+23

LCM ERROR RECOVERY

EDD

1834

1625 0400

VFD

18/CMEC+23

EDD

1835

1626 0170

1626 23

VFD

30/6100000000

SB0 0

EDD

1836

1627 61

1627 0000

1630 0000

EDD

1837

EDD

1838

1631 4360

VFD

15/43601

5. MX6

1

START OF LCM DUMP

1632 1

VFD

30/7100000000

SX0 0

INITIALIZE LCM ADDRESS

EDD

1839

1633 710

1633 0000

1634 000

VFD

15/76220

SX2 B2

X2 = ADDRESS INCREMENT

EDD

1840

1635 7

1635 6220

EDD

1841

EDD

1842

EDD

1843

31

.1

SET

*-DEMD

5

DEMDL

EQU

.1/5

EDD

1844

EDD

1845

1636 0001

DEME

BSS

0

EXCHANGE PACKAGE FOR LCM ERROR EXIT

EDD

1846

VFD

24/CMEC+24,18/0,18/0

P,A0,B0

1636 7024

1637 0000

1640 0000

1641 0000

1642 0000

VFD

24/0,18/0,18/0

RAS,A1,B1

EDD

1847

1643 0000

1644 0000

1645 0000

1646 0000

1647 0000

VFD

24/CMEC+2000,18/0,18/0

FLS,A2,B2

EDD

1848

1650 0002

1651 1000

1652 0000

1653 0000

1654 0000

VFD

24/200000,18/0,18/0

PSD,A3,B3

EDD

1849

1655 0020

1656 0000

1657 0000

1660 0000

VFD

24/0,18/0,18/0

RAL,A4,B4

EDD

1850

1661 0000

1662 0000

1663 0000

1664 0000

1665 0000

1666 0000

VFD

24/17777777,18/0,18/0

FLL,A5,B5

EDD

1851

1667 1777

1670 7777

1671 0000

1

-42

ERRPL *-BUF+2

OVERFLOW INTO TAPE BUFFER

EDD

1885



1412THE

1		1
2		2
3		3
4		4
5		5
6		6
7		7
8		8
9		9
10		10
11		11
12		12
13		13
14		14
15		15
16		16
17		17
18		18
19		19
20		20
21		21
22		22
23		23
24		24
25		25
26		26
27		27
28		28
29		29
30		30
31		31
32		32
33		33
34		34
35		35
36		36
37		37
38		38
39		39
40		40
41		41
42		42
43		43
44		44
45		45
46		46
47		47
48		48
49		49
50		50
51		51
52		52
53		53
54		54
55		55
56		56
57		57
58		58
59		59
60		60

IDENT DPC,DBCX

COMMENT CTI EDD OVERLAY

COMMENT COPYRIGHT CONTROL DATA CORPORATION, 1979

EDD 1887

DIMA317J 12

DIMA317J 13

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1412THE

** DBC - DUMP BUFFER CONTROLLERS.

*

* USES T4, MB, CN, RL.

* CALLS DIG, MCI, TOF, WLB, C2D, WRT.

EDD 1889

EDD 1890

EDD 1891

EDD 1892

EDD 1893

EDD 1894

EDD 1895

EDD 1896

EDD 1897

EDD 1898

EDD 1899

EDD 1900

EDD 1901

EDD 1902

EDD 1903

EDD 1904

EDD 1905

EDD 1906

EDD 1907

EDD 1908

EDD 1909

EDD 1910

EDD 1911

EDD 1912

EDD 1913

EDD 1914

EDD 1915

EDD 1916

EDD 1917

EDD 1918

EDD 1919

EDD 1920

EDD 1921

EDD 1922

EDD 1923

EDD 1924

EDD 1925

EDD 1926

EDD 1927

EDD 1928

EDD 1929

EDD 1930

EDD 1931

EDD 1932

EDD 1933

EDD 1934

EDD 1935

EDD 1936

EDD 1937

EDD 1938

EDD 1939

EDD 1940

EDD 1941

EDD 1942

EDD 1943

EDD 1944

EDD 1945

1060

ORG OVLB

1060

0100 1060

DBC

SUBR

ENTRY/EXIT

1062

2001 1240

DBC1

LDC

DBCC+10000

REQUEST CHANNEL NUMBER

1064

0200 0310

RJM

DIG

1066

0504

NJN

DBC2

IF NOT CHANNEL 0

1067

3005

LDD

T5

1070

0467

ZJN

DBCX

IF NULL INPUT

1071

1400

DBC2

LDN

0

1072

3414

STD

CN

SET CHANNEL NUMBER

1073

1714

SBN

14

1074

0707

MJN

DBC3

IF LOWER CHANNEL BANK

1075

1704

SBN

20-14

1076

0763

MJN

DBC1

IF ILLEGAL CHANNEL

1077

1714

SBN

34-20

1100

0661

PJN

DBC1

IF ILLEGAL CHANNEL

1101

3021

LDD

DP

CHECK 2ND PPS PRESENT

1102

0457

DBC3

ZJN

DBC1

IF NO UPPER CHANNEL BANK

1103

3017

LDD

DT

1104

3314

LMD

CN

1105

0454

ZJN

DBC1

IF DUMP TAPE CHANNEL

1106

2000 1321

LDC

CTBC

MODIFY CHANNEL INSTRUCTIONS

1110

0200 0604

RJM

MCI

1112

2000 0414

LDC

414

TIMEOUT AUTOLOAD FUNCTION

1114

0200 1310

RJM

TOF

1116

0443

ZJN

DBC1

IF FUNCTION REJECTED

1117

7407

ACN

BC

1120

1406

LDN

DBC DL

REINITIALIZE CONTROLWARE

1121

7307 1253

OAM

DBC DL, BC

1123

7547

DCN

BC

1124

1400

DBCA

LDN

0

*

LDN

1

(LABEL BLOCK WRITTEN)

1125

0511

NJN

DBC4

IF LABEL BLOCK WRITTEN

1126

5400 0202

STM

EDTB+4

1130

2055 0203

LDC

3L BC

WRITE *BC* LABEL BLOCK

1132

0200 0610

RJM

WLB

1134

5600 1124

AOM

DBCA

SET LABEL BLOCK WRITTEN

1136

1461

DBC4

LDN

61

PRESET 7155 AUTODUMP FUNCTION

1137

3404

STD

T4

1140

1455

LDN

55

TIMEOUT *INITIATE TIMING* FUNCTION

1141

0200 1310

RJM

TOF

1143

0514

NJN

DBC5

IF 7155 CONTROLLER

1144

1401

LDN

1

1145

3404

STD

T4

1146

2000 0414

LDC

414

ISSUE AUTOLOAD FUNCTION

1150

0200 1310

RJM

TOF

1152

7407

ACN

BC

1153

1426

LDN

DBCEL

LOAD AUTODUMP PROGRAM TO NON 7155

1154

7307 1261

OAM

DBCE, BC

1156

7547

DCN

BC

1157	2000	5000	DBC5	LDC	5000	SET RECORD LENGTH	EDD	1946
1161	3411			STD	RL		EDD	1947
1162	2000	2000		LDC	BUF	SET BUFFER ADDRESS	EDD	1948
1164	5400	1015		STM	WRTB		EDD	1949
1166	1403			LDN	BCR1	SET FULL BLOCK COUNT	EDD	1950
1167	3430			STD	MB		EDD	1951
1170	3004			LDD	T4	INITIATE AUTODUMP	EDD	1952
1171	0200	1310		RJM	TOF		EDD	1953
1173	7407			ACN	BC		EDD	1954
1174	3011		DBC6	LDD	RL	INPUT CONTROLWARE BLOCK	EDD	1955
1175	7107	2000		IAM	BUF,BC		EDD	1956
1177	1400		DBC6	LDN	0		EDD	1957
			*	LDN	1	(FIRST BLOCK WRITTEN)	EDD	1958
1200	0514			NJN	DBC7	IF FIRST BLOCK WRITTEN	EDD	1959
1201	5600	1177		AOM	DBC6		EDD	1960
1203	2000	0310		LDC	2RCH	SET CHANNEL MNEMONIC	EDD	1961
1205	5400	2001		STM	BUF+1		EDD	1962
1207	3014			LDD	CN	CONVERT CHANNEL NUMBER	EDD	1963
1210	0200	0265		RJM	C2D		EDD	1964
1212	5400	2002		STM	BUF+2	STORE IN BUFFER	EDD	1965
1214	0200	1005	DBC7	RJM	WRT	WRITE CONTROLWARE BLOCK TO TAPE	EDD	1966
1216	3730			SOD	MB	DECREMENT BLOCK COUNT	EDD	1967
1217	0554			NJN	DBC6	IF NOT END OF FULL BLOCKS	EDD	1968
1220	2000	1010		LDC	BCR3		EDD	1969
1222	3411			STD	RL		EDD	1970
1223	1710			SBN	BCR3-BCR2	INPUT SHORT BLOCK	EDD	1971
1224	7107	2000		IAM	BUF,BC		EDD	1972
1226	7547			DCN	BC		EDD	1973
1227	0200	1005		RJM	WRT	WRITE SHORT BLOCK	EDD	1974
1231	5700	1177		SOM	DBC6		EDD	1975
1233	1410			LDN	10	ISSUE OPERATION COMPLETE	EDD	1976
1234	0200	1310		RJM	TOF		EDD	1977
1236	0100	1062		LJM	DBC1	LOOP FOR NEXT CONTROLLER	EDD	1978
1240	0317		DBCC	DATA	C*CONTROLWARE CHANNEL*		EDD	1979
							EDD	1980
							EDD	1981
1253			DBCD	BSS	0		EDD	1982
1253	0224	0000		CON	0224,0000	9400	DIMA334	1
1255	0005	0000		CON	0005,0000	0500	DIMA334	2
1257	0273	0376		CON	0273,0376	BBFE	DIMA334	3
			6	DBC6	EQU	*-DBC6	EDD	1985
							EDD	1986
1261			DBCE	BSS	0		EDD	1987
1261	0000	0000		CON	0000,0000	CON 0	EDD	1988
1263	0011	0000		CON	0011,0000	TCB 0,0	EDD	1989
1265	0357	0001		CON	0357,0001	FJR \$-1	EDD	1990
1267	0014	0060		CON	0014,0060	IAN 3	EDD	1991
1271	0017	0000		CON	0017,0000	OAA 0	EDD	1992
1273	0012	0000		CON	0012,0000	SCB 0,0	EDD	1993
1275	0013	0000		CON	0013,0000	CCB 0,0	EDD	1994
1277	0030	0001		CON	0030,0001	LDN 1	EDD	1995
1301	0011	0006		CON	0011,0006	TCB 0,6	EDD	1996
1303	0357	0001		CON	0357,0001	FJR \$-1	EDD	1997
1305	0374	0000		CON	0374,0000	OTI 0	EDD	1998
			26	DBCE	EQU	*-DBCE	EDD	1999

CH	10	11/07 D	17/55	18/06	18/11	35/05	35/17	36/13 S
		17/52	17/57	18/09	18/12	35/06	35/18	
		17/53	18/04	18/10	35/03 S	35/13	35/19	
CKR	635	22/12 D	23/28	24/54				
CKRX	634	22/12 L	22/18					
CKR1	631	22/08 L	22/14					
CMA	6065	12/18						
CMAW	4	7/20 D						
CMCE	5	6/45 D						
CMCP	17000	11/35 D	32/20	32/40	32/45	32/54		
CMEC	17000	11/29 D	11/36	26/17	43/06	43/40	44/10	45/19
		11/32	16/20	26/37	43/12	43/44	44/13	45/23
		11/33	26/02	27/18	43/18	44/01	44/55	45/38
		11/35	26/12	43/02	43/32	44/06	45/15	45/47
CMECL	1100	11/30 D	16/29					46/12
CN	14	10/16 D	35/10 S	35/31	35/50 S	50/17 S	51/18	46/30
		20/49	35/24	35/47 S	36/17 S	50/27		46/40
CON	670	20/24	22/48 D	25/20	38/09			47/03
CONA	676	22/53 D	36/41 S					
CONB	720	22/35	23/12 L	37/38 S	37/46 S	37/50 S		
CONC	647	22/32 D	37/33 S					
COND	663	22/42 D	37/13 S					
CONE	665	22/45 D	37/15 S					
CONX	667	22/48 L						
CON1	671	22/49 L	23/10					
CON2	714	22/46	22/55	23/08 L				
CON3	646	22/30 L	22/50					
CON4	661	22/39 L	23/03	23/06				
CPIA	17020	11/36 D	34/20	34/28				
CPIL	1130	26/48 L	32/17	34/24 S	34/27 S	44/02		
CPUE	123	6/57 D	47/39	47/42				
CS	23	10/26 D	43/19 S	43/22	44/07 S	44/08		
CTBB	263	7/13 D						
CTBC	1321	50/29	52/23 L					
CTPC	2531	35/51	39/05 L					
CTTC	2473	35/32	39/04 L					
CTXC	2544	36/18	39/06 L					
CVD	277	17/10 D	18/39	18/42				
CVDX	276	17/10 L	17/16					
CXJP	1060	26/01 L	32/25	32/55	34/21 S	43/01 S	43/05 S	
		26/42	32/53 S	33/32 S	34/29 S	43/03 S	43/07	
CXJPA	1077	26/17 L	38/22 S					
CXJPL	10	26/43 D	32/18	32/56	42/53	43/08		
C2D	265	19/20	19/24	19/27	19/31	30/39	38/02	41/56
DBC	1061	15/40	50/10 D					51/19
DBCA	1124	50/38 L	50/44 S					
DBCB	1177	51/12 L	51/15 S	51/30 S				
DBCC	1240	50/11	51/35 L					
DBCD	1253	50/36	51/37 L	51/41				
DBCDL	6	50/35	51/41 D					
DBCE	1261	50/56	51/43 L	51/55				
DBCEL	26	50/55	51/55 D					
DBCX	1060	49/01	50/10 L	50/15				
DBC1	1062	50/11 L	50/21	50/23	50/25	50/28	50/33	51/33
DBC2	1072	50/13	50/17 L					
DBC3	1103	50/19	50/26 L					
DBC4	1136	50/40	50/45 L					

DBC5	1157	50/49	51/01	L	
DBC6	1174	51/10	L	51/23	
DBC7	1214	51/14	51/21	L	
DC	13	11/08	D		
DCM	1523	15/12	31/29	D	
DCMA	1525	31/31	D	38/18	S
DCMX	1522	31/29	L	31/54	
DCM1	1550	31/46	L	31/52	
DCNI	7500	10/44	D	30/31	
DCP	1567	15/27	32/08	D	
DCPA	1616	32/27	L	33/31	S
DCPB	1633	32/41	L	33/20	S
DCPC	1642	32/48	D	33/30	S
DCPD	1652	32/57	L	33/29	S
DCPE	1676	33/23	L	34/19	S
DCPF	1717	32/21	33/33	S	33/36
DCPG	1575	32/15	D	34/22	S
DCPX	1566	32/08	L	33/06	
DCP1	1600	32/18	L	33/34	
DCP2	1623	32/29	32/35	L	
DCP3	1631	32/36	32/40	L	
DCP4	1634	32/38	32/43	L	
DCP5	1642	32/31	32/47	L	32/48
DCP6	1657	33/06	L	33/23	
DCP7	1661	32/47	33/05	33/12	L
DCP8	1705	33/27	33/30	L	
DDFP	73	6/52	D	41/13	41/40
DEM	1331	15/33	42/35	D	
DEMA	1404	42/49	S	43/13	L
DEMB	1517	42/36	44/20	L	
DEMC	1527	43/09	44/22	L	45/42
DEMCL	12	42/55	43/18	43/32	
DEMD	1605	43/41	45/45	L	46/26
DEMDL	5	43/38	46/27	D	
DEME	1636	43/45	46/29	L	47/14
DEMEL	10	43/42	47/15	D	
DEMX	1330	42/35	L	42/38	42/48
DEM1	1352	42/46	42/53	L	
DEM2	1405	43/18	L	43/23	
DEM3	1430	43/11	43/38	L	
DEM4	1452	43/34	43/50	L	
DEM5	1474	44/06	L	44/09	44/17
DFP	1202	15/32	41/10	D	
DFPX	1201	40/01	41/10	L	42/23
DFP1	1226	41/27	L	42/17	
DFP2	1310	41/46	42/11	L	
DFP3	1321	42/16	42/19	L	
DIG	310	16/06	18/53	35/08	
		17/33	D	19/34	36/38
DIGA	347	17/34	S	17/47	18/01
DIGB	353	17/41	S	18/05	D
DIGC	365	18/14	D	18/16	18/17
DIGD	442	17/55	18/56	L	S
DIGE	432	15/16	S	15/35	S
DIGX	307	17/33	L	18/45	18/49
DIG1	323	17/42	L	17/44	D
DIG2	337	17/52	L	18/15	18/36

DIG3	354	18/03	18/06 L						
DIG4	415	18/23	18/25 L	18/36 L					
DIG5	417	18/19	18/38 L						
DIG6	430	18/45 L							
DIG7	432	18/21	18/47 L	18/49					
DIG8	435	18/50	18/52 L	18/54					
DLSL	262	7/12 D							
DMS	2554	38/17							
DP	21	10/21 D	34/36 S	34/40 S	50/24				
DPP	1411	15/11	30/19 D						
DPPA	1441	30/30 S	30/35 L						
DPPB	1461	30/29 S	30/44 L						
DPPC	1463	30/32 S	30/45 L						
DPPX	1410	30/19 L	30/26						
DPP1	1420	30/24 L	30/28	30/47					
DP0	1320	15/10	29/27 D						
DP0X	1317	29/27 L	30/07						
DP01	1342	29/33	29/39 L						
DP02	1374	29/51	29/57 L						
DP03	1377	29/55	30/02 L						
DS	16	10/18 D	10/19	12/34 S	35/39				
DSBL	166	7/04 D							
DSBT	764	7/31 D							
DSC	1202	15/06	28/13 D						
DSCA	1215	28/25 D	28/50 S						
DSCB	1216	28/27 L	28/52 S						
DSCC	1234	28/45 L	28/48 S	34/39 S					
DSCD	1266	28/39	28/54 S	29/08 L					
DSCE	1273	28/29 S	29/11 L						
DSCU	115	6/55 D	12/07	27/11	27/20				
DSCX	1201	28/13 L	28/14	29/06					
DSC1	1211	28/20 L	28/55						
DSC2	1215	28/24 L	28/25	28/32					
DSC3	1254	28/47	28/57 L						
DSFP	72	6/51 D	47/31	47/34					
DSP	1707	41/39	42/10	47/30 D					
DSPB	7677	11/15 D	12/10	12/32					
DSPX	1706	47/30 L	47/45						
DSP1	1723	47/37	47/39 L						
DT	17	10/19 D	35/25 S	35/37	35/43	36/10	50/26		
EBBW	4	7/21 D							
ECP	1136	27/10 D	32/37	43/49					
ECPX	1135	27/10 L	27/23						
EDD	6000	1/34	12/06 L						
EDDA	6057	12/39	12/42 L						
EDD0	6006	12/06	12/10 L						
EDD1	6024	12/19 L	12/26						
EDD2	6036	12/12	12/22	12/28 L					
EDD3	6043	12/29	12/32 L						
EDT	100	14/01	15/05 L						
EDTA	131	15/30 D	32/35	34/17 S	38/19	43/10			
EDTB	176	16/09 L	21/17 S	24/48	31/51	42/40 S	43/28 S		
		21/13 S	21/20	31/32 S	31/53 S	43/26 S	50/41 S		
EDTC	203	16/11 L	37/57	38/03 S					
EDTD	223	16/05	16/15 L	38/04 S					
EDTE	235	16/16 L	18/52	38/05 S					
EDTF	247	15/19	16/18 L	16/22	16/28	16/31			

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14121HE

PRS20	2416	38/20	38/23 L							
PRS3	2021	34/45	34/47 L	34/49						
PRS4	2027	34/37	34/47	34/51	34/53 L					
PRS5	2047	35/07 L	35/12							
PRS6	2107	35/26	35/29	35/32 L						
PRS7	2124	35/41	35/46 L							
PRS8	2131	35/49	35/51 L							
PRS9	2135	35/45	35/56 L							
PS	24	10/27 D	10/28	43/33	44/14					
RCM\$	0	39/14 D								
RL	11	10/13 D	28/38 S	30/03 S	31/43 S	42/06 S	51/10			
		21/19 S	29/46 S	30/34 S	33/13 S	43/55 S	51/25 S			
		24/47	29/57	30/43 S	41/51 S	51/02 S				
SBUF	2643	38/16	39/18 L							
SC	16	11/10 D	27/21	28/27	34/07	41/14	41/41	42/21	47/35	
		12/06	27/22	29/01	34/08	41/15	41/42	42/22	47/36	
		12/08	27/44	29/02	34/10	41/21	41/44	43/47	47/40	
		12/09	27/45	29/04	34/11	41/22	41/45	43/48	47/41	
		27/12	28/14	29/05	34/14	41/34	42/12	47/32	47/43	
		27/13	28/24	34/05	34/15	41/35	42/13	47/33	47/44	
SCR	1160	27/19	27/37 D	41/32						
SCRX	1157	27/37 L	27/48							
SCR1	1161	27/38 L	27/51							
SCR2	1166	27/40	27/42 L							
SCSL	110	6/53 D	34/06	34/09	34/13	41/29				
SDSC	267	7/14 D								
SECD	3	6/43 D								
SHIM	45	6/49 D								
SHNI	1000	5/40 D								
SPLG	0	7/39 D								
SPMX	2	7/41 D								
SPTP	1	7/40 D								
SPUM	211	7/07 D	41/20							
STS	765	22/38	22/54	23/37	24/13 D	24/52				
STSX	764	24/13 L								
STS1	743	23/54 L	24/06							
STS2	744	23/55 L	23/57							
STS3	751	24/02 L	24/15							
STS4	757	23/55	24/07 L							
STS5	763	24/11 L	24/25							
TBUF	6264	12/15	13/12 L							
TC	13	11/09 D	22/36	23/35	24/05	24/16	24/21	24/43	24/51	
		22/30	22/37	23/55	24/06	24/17	24/22	24/46	37/24	
		22/33	22/51	24/01	24/07	24/18	24/23	24/48		
		22/35	22/52	24/04	24/08	24/19	24/24	24/50		
TOF	1310	50/32	50/48	50/53	51/08	51/32	52/08 D			
TOFX	1307	52/08 L	52/11	52/15						
TOF1	1313	52/11 L	52/13							
TRLLI	24	11/13 D	21/18							
TS	15	10/17 D	16/03	22/13	22/49	24/14	34/35 S	37/34 S		
T0	0	10/04 D	17/12 S	17/14						
T1	1	10/05 D	17/43	17/56	19/17	20/21 S	36/39 S	42/54 S	43/45	
		17/36 S	17/46	19/14 S	20/10 S	33/03 S	36/44	43/07		
		17/42 S	17/48 S	19/15	20/20 I	33/04	37/35	43/43 S		
T2	2	10/06 D	18/34 S	20/14	20/19	36/54 S	43/09	43/27		
		17/50 S	18/41	20/16	36/52 S	36/56	43/21 S	43/39 S		
		18/32	20/13 S	20/18 S	36/53	42/56 S	43/24	43/41		

SYMBOLIC REFERENCE TABLE.

T3	3	10/07 D	18/28	18/31	18/40 S	20/11 S	20/22	25/04 S	27/38 S
		17/51 S	18/30 S	18/38	18/44 S	20/17 S	24/42 S	25/10	27/49
T4	4	10/08 D	17/39	18/02	29/42	29/49 S	50/46 S	51/07	
		17/38 S	17/40	29/39 S	29/44	29/54	50/51 S		
T5	5	10/09 D	18/35 S	29/35	32/44 S	50/14			
		17/45 S	29/31 S	29/53	32/46				
T6	6	10/10 D	12/31	20/51 S	24/11 S	34/43 S	36/09 S	41/28 S	
		12/14 S	19/19	20/52	27/15 S	34/46	36/14		
		12/25	19/22	20/56 S	27/47 S	34/52	36/31 S		
T7	7	10/11 D	12/23	20/46 S	22/15	24/20 S	27/46 S	35/42 S	41/30 S
		12/16 S	12/27	20/47	22/39	24/56	28/23 S	35/48	
		12/20 S	19/26	20/50 I	23/01	27/17 S	28/31 S	37/41	
		12/21	19/29	22/08	24/09 S	27/43	35/38 S	37/47	
T8	12	10/14 D	28/29	31/41 S	32/19 S	32/55	44/11		
		28/21 S	28/30 S	31/48	32/25	43/53 S			
UJNI	300	10/39 D	34/18						
WC	14	16/21	16/23	16/25	16/28 D				
WLB	610	21/12 D	28/16	29/29	31/34	32/10	41/12	43/51	50/43
WLBX	607	21/12 L	21/23						
WRT	1005	21/22	28/41	30/04	30/46	33/16	42/09	51/21	
		24/40 D	29/47	30/41	31/49	42/01	44/15	51/29	
WRTA	1011	24/45 D	37/53 S						
WRTB	1015	21/21 S	28/40 S	30/01 S	31/45 S	41/19 S	51/04 S		
		24/49 D	29/40 S	30/23 S	33/15 S	43/57 S			
WRTC	1031	25/02 D	37/17 S						
WRTD	1036	25/08 D	37/08 S						
WRTE	1044	25/13 L	37/11 S						
WRTX	1004	24/40 L	25/03						
WRT1	1006	24/41 L	25/21						
WRT2	1010	24/43 L	25/16						
WRT3	1013	24/47 L							
WRT4	1021	24/52 L	24/55						
WRT5	1047	25/12	25/16 L						
WRT6	1051	24/53	25/05	25/18 L					
XC	17	11/11 D	36/23	36/25	36/26	36/27	38/44	38/49	
.BK	160	15/53 D	37/09 S	38/14 S					
.L	1023	11/26 D	11/27						
.TF1	146	15/44 L	37/05 S						
.TF2	151	15/47 L	37/06 S						

SYMBOL QUALIFIER = CPA

DSPNLZ	7677	11/15
OPTN	7673	11/17

SYMBOL QUALIFIER = CTI

CDEP	7000	11/16
IPLB	6000	12/04

SAD

1412THE

	ADDRESS	LENGTH	BINARY CONTROL CARDS.		
1	100	1063	IDENT	SAD,/CTI/TRAN	1
2	1163	(162)	END		2
3					3
4					4
5					5
6					6
7			IDENT	SAD,/CTI/TRAN	7
8			PERIPH		8
9		VERID	MICRO	1,,*A02*	9
10		VERS	MICRO	1,,*"VERID"*	10
11			COMMENT	CTI SELECT ALT. DEADSTART DEVICE - "VERS"	11
12			COMMENT	COPYRIGHT CONTROL DATA CORPORATION, 1979	12
13					13
14					14
15		*	ALL RIGHTS RESERVED		15
16		*			16
17		*	CONTAINED HEREIN ARE SOFTWARE PRODUCTS COPYRIGHTED		17
18		*	BY CONTROL DATA CORPORATION. REPRODUCTION WITHOUT		18
19		*	PERMISSION IS PROHIBITED. THE COPYRIGHT NOTICE		19
20		*	MUST APPEAR ON ALL AUTHORIZED COMPLETE OR		20
21		*	PARTIAL COPIES.		21
22		*			22
23					23
24					24
25					25
26					26
27					27
28					28
29					29
30					30
31					31
32					32
33					33
34					34
35					35
36					36
37					37
38					38
39					39
40					40
41					41
42					42
43					43
44					44
45					45
46					46
47					47
48					48
49					49
50					50
51					51
52					52
53					53
54					54
55					55
56					56
57					57
58					58
59					59
60					60

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SAD

***** SAD - SELECT ALTERNATE DEADSTART DEVICE. CTI. SAD 8
* SAD 9
* R. A. TURGEON 06/26/78. SAD 10
* SAD 11
* SAD PROVIDES AN INTERFACE WHEREBY THE OPERATOR SAD 12
* MAY PROVIDE A CONNECT CODE FOR A DEVICE FROM WHICH SAD 13
* A DEADSTART IS TO OCCUR. SAD 14

*** SAD - SELECT ALTERNATE DEADSTART DEVICE. CTI. SAD 16
* SAD 17
* SAD IS THE CTI MODULE WHICH ALLOWS THE OPERATOR TO SAD 18
* DEADSTART FROM SOME OTHER DEVICE WITHOUT HAVING TO SAD 19
* MODIFY THE DEADSTART PANEL SWITCHES. THE OPERATOR SAD 20
* SPECIFIES THE TYPE, CHANNEL, EQUIPMENT AND UNIT OF SAD 21
* THE ALTERNATE DEADSTART DEVICE. SAD WILL THEN SAD 22
* RECONSTRUCT THE DEADSTART PANEL IN THE PP CELLS 1-20B SAD 23
* WITH THE NEW DEVICE DATA, INSURE THAT ALL PP-S AND SAD 24
* CHANNELS ARE IN THE APPROPRIATE STATE, AND THEN JUMP SAD 25
* TO ADDRESS 1, THEREBY DEADSTARTING FROM THE SAD 26
* ALTERNATE DEVICE. SAD 27

1412THE

** DEADSTART PANEL WORDS. SAD 29

* SAD 30

* WORDS 5 - 20B OF THE DEADSTART PANEL MUST REMAIN INTACT SAD 31

* DURING CTI EXECUTION. WORDS 0 - 4 MAY BE USED AS SCRATCH SAD 32

* DIRECT CELLS. SAD 33

0	D0	EQU	0	SCRATCH	SAD	34
1	D1	EQU	1	SCRATCH	SAD	35
2	D2	EQU	2	SCRATCH	SAD	36
3	D3	EQU	3	SCRATCH	SAD	37
4	D4	EQU	4	SCRATCH	SAD	38
5	D5	EQU	5	ZERO IF TAPE DEADSTART	SAD	39
6	D6	EQU	6	FUNCTION WORD	SAD	40
	*		(D6) =	WARMSTART FUNCTION, IF MTS/ATS.	SAD	41
	*		=	DEADSTART FUNCTION, IF 844/885 DISK	SAD	42
7	D7	EQU	7	RESERVED	SAD	43
	*		(D7) =	1400B IF 3000 TYPE TAPE.	SAD	44
10	D10	EQU	10B	RESERVED	SAD	45
11	D11	EQU	11B	RESERVED	SAD	46
12	D12	EQU	12B	MSL PARAMETERS	SAD	47
13	D13	EQU	13B	OS PARAMETERS	SAD	48
14	D14	EQU	14B	OS PARAMETERS	SAD	49
15	D15	EQU	15B	UNUSED	SAD	50
16	D16	EQU	16B	C80/A170 RESERVED	SAD	51
17	D17	EQU	17B	RESERVED	SAD	52
20	D20	EQU	20B	RESERVED	SAD	53

** INSTRUCTION EQUATES. SAD 57

* SAD 58

0	PSNC	EQU	0000B	PASS	SAD	59
300	UJNC	EQU	0300B	UNCONDITIONAL JUMP	SAD	60
400	ZJNC	EQU	0400B	ZERO JUMP	SAD	61
1000	SHNC	EQU	1000B	SHIFT	SAD	62
1500	LCNC	EQU	1500B	LOAD COMPLEMENT	SAD	63
1700	SBNC	EQU	1700B	SUBTRACT NO-ADDRESS	SAD	64
2000	LDCC	EQU	2000B	LOAD CONSTANT	SAD	65
2100	ADCC	EQU	2100B	ADD CONSTANT	SAD	66
2300	LMCC	EQU	2300B	LOGICAL MINUS CONSTANT	SAD	67
3000	LDDC	EQU	3000B	LOAD DIRECT	SAD	68
6400	AJMC	EQU	6400B	ACTIVE JUMP	SAD	69
7100	IAMC	EQU	7100B	INPUT MEMORY	SAD	70
7300	OAMC	EQU	7300B	OUTPUT MEMORY	SAD	71
7400	ACNC	EQU	7400B	ACTIVATE CHANNEL	SAD	72
7500	DCNC	EQU	7500B	DISCONNECT CHANNEL	SAD	73

1412THE

** MISCELLANEOUS DEFINITIONS

*

*

SAD 77

SAD 78

SAD 79

SAD 80

SAD 81

SAD 82

SAD 83

SAD 84

SAD 85

** DISPLAY CONTROLLER DEFINITIONS.

*

*

SAD 87

SAD 88

SAD 89

SAD 90

SAD 91

10 CHD EQU 10B DISPLAY CHANNEL

SAD 92

SAD 93

* DISPLAY FUNCTION CODES.

SAD 94

7000 F.SEL EQU 7000B SELECT CONSOLE DISPLAY

SAD 95

SAD 96

SAD 97

0 F.SLS EQU 0000B SELECT CONSOLE LEFT SCREEN

SAD 98

100 F.SRS EQU 0100B SELECT CONSOLE RIGHT SCREEN

SAD 99

200 F.SBS EQU 0200B SELECT CONSOLE BOTH SCREEN

SAD 100

0 F.CHR EQU 0000B SELECT DOT MODE

SAD 101

SAD 102

10 F.DOT EQU 0010B SELECT DOT MODE

SAD 103

20 F.KEY EQU 0020B SELECT KEYBOARD INPUT

SAD 104

SAD 105

0 F.CHS EQU 0000B SET CHARACTER SIZE SMALL

SAD 106

1 F.CHM EQU 0001B SET CHARACTER SIZE MEDIUM

SAD 107

2 F.CHL EQU 0002B SET CHARACTER SIZE LARGE

SAD 108

SAD 109

* COORDINATE DESIGNATION.

SAD 110

SAD 111

6000 XSET EQU 6000B SET X COORDINATE

SAD 112

7000 YSET EQU 7000B SET Y COORDINATE

SAD 113

125

1

14121HE

	325	4005		LDI	CC		SAD	273
	326	5500 0665		RAM	DSPZ+10B		SAD	274
	330	5000 7711		LDM	/CPA/DSPNLZ+12B		SAD	275
1	332	5400 0667		STM	DSPZ+12B		SAD	276
2	334	5000 7712		LDM	/CPA/DSPNLZ+13B		SAD	277
3	336	5400 0670		STM	DSPZ+13B		SAD	278
4	340	5000 7713		LDM	/CPA/DSPNLZ+14B		SAD	279
5	342	5400 0671		STM	DSPZ+14B		SAD	280
6	344	5000 7715		LDM	/CPA/DSPNLZ+16B		SAD	281
7	346	5400 0673		STM	DSPZ+16B		SAD	282
8								
9								
10								
11								
12			*		TEST IF D.S. CHANNEL ACTIVE		SAD	284
13							SAD	285
14	350	4005		LDI	CC		SAD	286
15	351	5500 0353		RAM	CDPA		SAD	287
16	353	6500 0407	CDPA	IJM	CDP7,**	IF INACTIVE,SKIP	SAD	288
17								
18								
19								
20								
21			*		MAKE CHANGES NEEDED FOR ACTIVE PP CHANNEL		SAD	290
22							SAD	291
23	355	2000 1402		LDC	1402B		SAD	292
24	357	5400 0656		STM	DSPZ+1		SAD	293
25	361	4005		LDI	CC		SAD	294
26	362	2100 7300		ADC	7300B		SAD	295
27	364	5400 0657		STM	DSPZ+2		SAD	296
28	366	1417		LDN	17B		SAD	297
29	367	5400 0660		STM	DSPZ+3		SAD	298
30	371	4005		LDI	CC		SAD	299
31	372	2100 7500		ADC	7500B		SAD	300
32	374	5400 0661		STM	DSPZ+4		SAD	301
33	376	2000 7112		LDC	7112B		SAD	302
34	400	5400 0675		STM	DSPZ+20B		SAD	303
35	402	6416 0407		AJM	CDP7,SC	IF CY17X	SAD	304
36	404	1401		LDN	1		SAD	305
37	405	5400 0672		STM	DSPZ+15B	FLAG FOR IOQ, INHIBIT D12 TO D13 COPY	SAD	306
38							SAD	307
39			407	CDP7	EQU	*	SAD	308
40	407	1420		LDN	20B	LENGTH TO MOVE	SAD	309
41	410	3477		STD	D77		SAD	310
42	411	5077 0655	CDP8	LDM	DSPZ,D77	MOVE TO 1-20B	SAD	311
43	413	4477		STI	D77		SAD	312
44	414	3777		SOD	D77		SAD	313
45	415	0573		NJN	CDP8		SAD	314
46								
47								
48								
49								
50								
51								
52								
53								
54								
55								
56								
57								
58								
59								
60								

1412THE

* RETURN CHANNELS TO DEADSTART STATE

SAD	316
SAD	317
SAD	318
SAD	319
SAD	320
SAD	321

416	7452	ACN	12B+40B
417	7453	ACN	13B+40B
420	7472	ACN	32B+40B
421	7473	ACN	33B+40B

* JUMP TO ADDRESS 1 TO FAKE A DEADSTART

SAD	323
SAD	324
SAD	325

422	0100 0001	LJM	1,0
-----	-----------	-----	-----

** RBM - RETURN TO 6 BIT MODE

DIMA267	8
---------	---

*

DIMA267	9
---------	---

* RBM RETURNS ATS CONTROLLER TO 6 BIT MODE

DIMA267	10
---------	----

*

DIMA267	11
---------	----

* CALLS - ICN,FAC,RAP

DIMA267	12
---------	----

*

DIMA267	13
---------	----

* EXIT - (D1) = CHANNEL NUMBER

DIMA267	14
---------	----

*

DIMA267	15
---------	----

424	0100 0000	RBM	ENM	X	ENTRY/EXIT
426	4005		LDI	CC	GET CHANNEL

DIMA267	16
DIMA267	17

427	3401		STD	D1
430	5005 0001		LDM	1,REPADDR
432	1377		SCN	77B

DIMA267	18
DIMA267	19
DIMA267	20

433	1003		SHN	3	
434	5500 0452		RAM	RBM6+1	ADD EQUIP NUMBER
436	5005 0001		LDM	1,REPADDR	

DIMA267	21
DIMA267	22
DIMA267	23

440	1217		LPN	17B	
441	5500 0517		RAM	RBM14	ADD UNIT NUMBER
443	2000 0500		LDC	RBM15	

DIMA267	24
DIMA267	25
DIMA267	26

445	0200 0567		RJM	ICN	INSERT CHANNEL NUMBER
447	0200 0523		RJM	FAC	MOVE PP TO CH12
451	7700 0004	RBM6	FNC	0004,0	* EQUIP NUMBER MUST BE ADDED IN *

DIMA267	27
DIMA267	28
DIMA267	29

453	2000 0560		LDC	0560B	TIMEOUT COUNT
455	6500 0465	RBM7	IJM	RBM7.1,0	
457	1701		SBN	1	

DIMA267	30
DIMA267	31
DIMA267	32

460	0574		NJN	RBM7	
461	0200 0603		RJM	HPP	HANG PP 10 ON CHANNEL 0
463	0200 0620		RJM	ERD	DISPLAY ERROR MESSAGE AND STOP

DIMA267	33
DIMA267	34
DIMA267	35

465	1403	RBM7.1	LDN	3
466	7440	RBM8	ACN	40B
467	7300 0517	RBM9	OAM	RBM14,0

DIMA267	36
DIMA267	37
DIMA267	38

471	6600 0471	RBM10	FJM	*,0	
473	7540	RBM11	DCN	40B	
474	0200 0547	RBM12	RJM	RAP	RETURN PP TO DEADSTART STATE
476	0100 0424		LJM	RBMX	

DIMA267	39
DIMA267	40
DIMA267	41
DIMA267	42

* ADDRESS TABLE OF MODIFIED INSTRUCTIONS FOLLOWS

DIMA267	43
DIMA267	44

500	0451 0455	RBM15	CON	RBM6,RBM7,RBM8,RBM9,RBM10,FAC4
502	0466 0467			
504	0471 0534			

DIMA267	45
---------	----

14121HE

562	1400		LDN	0			DIMA267	94
563	7400		RAPA.1	ACN	0		DIMA267	95
564	7100	0000	RAPA.2	IAM	0,0		DIMA267	96
		566	RAPZ	EQU	*		DIMA267	97
			**	ICN - INSERT CHANNEL NUMBER			DIMA267	99
			*				DIMA267	100
			*	ICN INSERTS CHANNEL NO.S IN INSTRUCTIONS GIVEN			DIMA267	101
			*	IN A LIST TERMINATED WITH A ZERO.			DIMA267	102
			*				DIMA267	103
			*	ENTRY (A) = FWA OF CHANNEL LIST.			DIMA267	104
			*	(D1) = CHANNEL NUMBER			DIMA267	105
			*				DIMA267	106
			*	USES D2,D3			DIMA267	107
							DIMA267	108
566	0100	0000	ICN	ENM	X	ENTRY/EXIT	DIMA267	109
570	3402			STD	D2		DIMA267	110
571	4002		ICN1	LDI	D2		DIMA267	111
572	0473			ZJN	ICNX	IF LIST COMPLETE	DIMA267	112
573	3403			STD	D3		DIMA267	113
574	4003			LDI	D3		DIMA267	114
575	1337			SCN	37B		DIMA267	115
576	3101			ADD	D1	ADD IN NEW CHANNEL NUMBER	DIMA267	116
577	4403			STI	D3		DIMA267	117
600	3602			AOD	D2		DIMA267	118
601	0367			UJN	ICN1	CONTINUE PROCESSING	DIMA267	119
			**	HPP - HANG PP 10 ON CHANNEL 0			DIMA267	121
			*				DIMA267	122
			*	USES NONE.			DIMA267	123
			*				DIMA267	124
			*	CALLS NONE.			DIMA267	125
			*				DIMA267	126
							DIMA267	127
602	0100	0000	HPP	ENM	X		DIMA267	128
604	7400			ACN	0		DIMA267	129
605	1403			LDN	HPPZ-HPPA	LOAD MESSAGE LENGTH	DIMA267	130
606	7310	0614		OAM	HPPA,CHD		DIMA267	131
610	6610	0610		FJM	*,CHD		DIMA267	132
612	7510			DCN	CHD		DIMA267	133
613	0366			UJN	HPPX		DIMA267	134
							DIMA267	135
614	1400		HPPA	LDN	0		DIMA267	136
615	7100	0000		IAM	0,0		DIMA267	137
		617	HPPZ	EQU	*		DIMA267	138

MAIN ROUTTNE

**	ERD	-	ERROR DISPLAY	DIMA267	140
*				DIMA267	141
*	USES		NONE.	DIMA267	142
*				DIMA267	143
*	CALLS		NONE.	DIMA267	144
*				DIMA267	145
*	EXIT		NONE.	DIMA267	146
				DIMA267	147
				DIMA267	148
617	0100	0000	ERD ENM X	DIMA267	149
621	7710	7001	FNC F.SEL+F.SLS+F.CHR+F.CHM,CHD DISPLAY ERROR MESSAGE	DIMA267	150
623	7410		ACN CHD	DIMA267	151
624	1422		ERD1 LDN MSGAL	DIMA267	152
625	7310	0634	OAM MSGA,CHD OUTPUT MESSAGE	DIMA267	153
627	6610	0627	FJM *,CHD WAIT FOR OUTPUT TO COMPLETE	DIMA267	154
631	1740		SBN 40B DISPLAY REFRESH DELAY	DIMA267	155
632	0776		MJN *-1	DIMA267	156
633	0370		UJN ERD1	DIMA267	157
				DIMA267	158
		634	MSGA EQU *	DIMA267	159
		5	LINE SET 5	DIMA267	160
634	7630		CON YSET+762B-LINE*DOPLS	DIMA267	161
635	6000		CON XSET+0	DIMA267	162
636	5506		DATA H* FORMAT UNIT FUNCTION REJECTED *	DIMA267	163
		22	MSGAL EQU *-MSGA	DIMA267	

1412THE

	**	C170/C180				SAD	328
	*					SAD	329
	*	ACTIVE		INACTIVE		SAD	330
1	*					SAD	331
2	*	1402	01	0000		SAD	332
3	*	73CC	02	75CC	NOTE A	SAD	333
4	*	0017	03	0000		SAD	334
5	*	75CC	04	0000		SAD	335
6	*	77CC	05	77CC		SAD	336
7	*	EEEE	06	EEEE		SAD	337
8	*	74CC	07	74CC		SAD	338
9	*	71CC	10	71CC		SAD	339
10	*	7301	11	7301		SAD	340
11	*	WXYF	12	WXYF	NOTE B	SAD	341
12	*	IPCC	13	IPCC	NOTE B	SAD	342
13	*	FFFF	14	FFFF	NOTE B	SAD	343
14	*	0000	15	0000		SAD	344
15	*	RSVD	16	RSVD	NOTE B	SAD	345
16	*	0000	17	0000		SAD	346
17	*	7112	20	0000		SAD	347
18	*					SAD	348
19	*					SAD	349
20	*	NOTE A - 75CC IF CC = 12B,13B,32B,33B				SAD	350
21	*	0000 OTHERWISE.				SAD	351
22	*					SAD	352
23	*	NOTE B - SAME AS CORRESPONDING WORD IN SAVED				SAD	353
24	*	DEADSTART PANEL IMAGE.				SAD	354
25							
26							
27							
28							
29	656	0000	DSP	CON	0	1 INACTIVE PP SKELETON	SAD 356
30	657	7500		CON	7500B	2	SAD 357
31	660	0000		CON	0	3	SAD 358
32	661	0000		CON	0	4	SAD 359
33	662	7700		CON	7700B	5	SAD 360
34	663	0000		CON	0	6	SAD 361
35	664	7400		CON	7400B	7	SAD 362
36	665	7100		CON	7100B	10	SAD 363
37	666	7301		CON	7301B	11	SAD 364
38	667	0000		CON	0	12	SAD 365
39	670	0000		CON	0	13	SAD 366
40	671	0000		CON	0	14	SAD 367
41	672	0000		CON	0	15	SAD 368
42	673	0000		CON	0	16	SAD 369
43	674	0000		CON	0	17	SAD 370
44	675	0000		CON	0	20	SAD 371
45		655	DSPZ	EQU	DSP-1	VIRTUAL ZERO	SAD 372
46							SAD 373
47			*	DEADSTART FUNCTIONS TABLE			SAD 374
48							SAD 375
49	676	0260	F66X	CON	0260B		SAD 376
50	677	0120	F67X	CON	0120B		SAD 377
51	700	0300	F844	CON	0300B		SAD 378
52							
53							
54							
55							
56							
57							
58							
59							
60							

1412THE

**HDR IS THE FOLLOWING DISPLAY.

*DEADSTART DEVICE TYPE - M

*(1=66X, 2=67X, 3=DISK)

*

SAD381

SAD382

SAD383

SAD384

SAD385

SAD386

SAD387

SAD388

SAD389

SAD390

SAD391

SAD392

SAD393

SAD394

SAD395

SAD396

SAD397

SAD398

SAD399

SAD400

SAD401

SAD402

SAD403

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22DOPLSEQU22BLINE Y COORDINATE INCREMENT

701HDEREQU*START OF BUFFER

5LINESET5FIRST LINE

7017630CONYSET+762B-LINE*DOPLS

7026000CONXSET+0

7035504DATAH* DEADSTART DEVICE TYPE - M*

717HDEREQU*-1

10LINESETLINE+3

7207542CONYSET+762B-LINE*DOPLS

7216000CONXSET+0

7225551DATAH* (1=66X, 2=67X, 3=DISK)*

35HDRL EQU *-HDRLENGTH OF HEADER

*REPLY AREA

*

7362REPLYBSSZ2

**CALL COMPQOD HERE.

LISTX

SAD405

SAD406

SAD407

SAD408

SAD410

SAD411

SAD412

740

QOD

CTEXT

COMPQOD - CTI QUERY OPERATOR FOR DEVICE.

COMPQOD

2

1						1
2						2
3						3
4						4
5						5
6						6
7						7
8						8
9						9
10						10
11						11
12						12
13						13
14						14
15						15
16						16
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57						57
58						58
59						59
60						60

IF -DEF,QUAL\$,1

COMPQOD4

QUAL QOD

COMPQOD5

D_D

BASE D

COMPQOD6

*

COMMENT COPYRIGHT CONTROL DATA CORPORATION. 1978.

COMPQOD7

*** COMPQOD - CTI QUERY OPERATOR FOR DEVICE. COMPQOD 10
* COMPQOD 11
* R. A. TURGEON 6-22-78. COMPQOD 12

*** COMPQOD - CTI QUERY OPERATOR FOR DEVICE. COMPQOD 14
* COMPQOD 15
* COMPQOD IS A CALLABLE SUBROUTINE WHICH WILL QUERY THE COMPQOD 16
* OPERATOR FOR CONNECT CODES DEFINING A DEVICE LOCATION. COMPQOD 17
* COMPQOD 18
* ENTRY IS VIA RJM QOD COMPQOD 19
* COMPQOD 20
* ENTRY (A) = NNAAAA WHERE COMPQOD 21
* AAAA = FWA OF A STRING TO BE DISPLAYED AND COMPQOD 22
* NN = BYTE COUNT OF THIS STRING. COMPQOD 23
* (REPADDR) = FWA OF TWO BYTE REPLY AREA WITH FORMAT COMPQOD 24
* 00CC/EEUU. COMPQOD 25
* REPADDR IS A DIRECT CELL. COMPQOD 26
* COMPQOD 27
* EXIT TWO BYTE REPLY AREA HAS BEEN MODIFIED AS DIRECTED COMPQOD 28
* BY THE OPERATOR. COMPQOD 29
* COMPQOD 30
* USES D6,D7,D10,D11. COMPQOD 31

1412THE

**

MISCELLANEOUS DEFINITIONS.

*

COMPQOD 33

COMPQOD 34

COMPQOD 35

COMPQOD 36

COMPQOD 37

COMPQOD 38

COMPQOD 39

1	6	DCL	EQU	D6	DIRECT CELL FOR LENGTH	COMPQOD 36	1
2	7	DCA	EQU	D7	DIRECT CELL FOR ADDRESS	COMPQOD 37	2
3	10	DCF	EQU	D10	DIRECT CELL FOR FLAG	COMPQOD 38	3
4	11	DCW	EQU	D11	WORK CELL	COMPQOD 39	4

1412THE

1

1011 BUF EQU * START OF OUR BUFFER

COMPQOD 86

21 BUFL SET 17 FIRST LINE

COMPQOD 87

COMPQOD 88

1	1011	7300		CON	YSET+762B-BUFL*22B	COMPQOD	89	1
2	1012	6000		CON	XSET+0	COMPQOD	90	2
3	1013	0310		DATA	H*CHANNEL - MN*	COMPQOD	91	3
4			1021	BUFC	EQU *	COMPQOD	92	4
5						COMPQOD	93	5
6			24	BUFL	SET BUFL+3	COMPQOD	94	6
7	1021	7212		CON	YSET+762B-BUFL*22B	COMPQOD	95	7
8	1022	6000		CON	XSET+0	COMPQOD	96	8
9	1023	0521		DATA	H*EQUIPMENT - M*	COMPQOD	97	9
10			1032	BUFE	EQU *	COMPQOD	98	10
11						COMPQOD	99	11
12			27	BUFL	SET BUFL+3	COMPQOD	100	12
13	1032	7124		CON	YSET+762B-BUFL*22B	COMPQOD	101	13
14	1033	6000		CON	XSET+0	COMPQOD	102	14
15	1034	2516		DATA	H*UNIT - MN*	COMPQOD	103	15
16			1041	BUFU	EQU *	COMPQOD	104	16
17								17
18								18
19								19
20								20
21								21
22								22
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56								56
57								57
58								58
59								59
60								60

	**	DIS - DISPLAYS CALLER TITLE AND OUR BUFFER.					COMPQOD	107
	*						COMPQOD	108
	*	DIS CONVERTS THE DATA IN THE TWO BYTE REPLY AREA TO					COMPQOD	109
1	*	DISPLAY CODE AND STORES IT INTO THE APPROPRIATE WORDS					COMPQOD	110
2	*	OF OUR DISPLAY BUFFER. THEN IT DISPLAYS THE CALLERS					COMPQOD	111
3	*	TITLE AND OUR DISPLAY BUFFER.					COMPQOD	112
4	*						COMPQOD	113
5							COMPQOD	114
6	1041	0100 0000	DIS	ENM	X	ENTRY/EXIT	COMPQOD	115
7	1043	4005		LDI	REPADDR	FIRST BYTE OF REPLY AREA	COMPQOD	116
8	1044	0200 1152		RJM	CTO	CONVERT TO OCTAL	COMPQOD	117
9	1046	5400 1020		STM	BUFC-1	STORE CHANNEL	COMPQOD	118
10	1050	5005 0001		LDM	1,REPADDR	SECOND BYTE OF REPLY AREA	COMPQOD	119
11	1052	1071		SHN	-6		COMPQOD	120
12	1053	0200 1152		RJM	CTO		COMPQOD	121
13	1055	1277		LPN	77B		COMPQOD	122
14	1056	2100 5500		ADC	1R *100B		COMPQOD	123
15	1060	5400 1031		STM	BUFE-1	STORE EQUIPMENT	COMPQOD	124
16	1062	5005 0001		LDM	1,REPADDR		COMPQOD	125
17	1064	0200 1152		RJM	CTO		COMPQOD	126
18	1066	5400 1040		STM	BUFU-1	STORE UNIT	COMPQOD	127
19							COMPQOD	128
20	1070	7710 7001		FNC	F.SEL+F.SLS+F.CHR+F.CHM,CHD		COMPQOD	129
21	1072	7410		ACN	CHD		COMPQOD	130
22	1073	2000 0000		LDC	**		COMPQOD	131
23			1074	DISA	EQU *-1		COMPQOD	132
24	1075	7310 0000		OAM	** ,CHD	DISPLAY CALLERS TITLE	COMPQOD	133
25			1076	DISB	EQU *-1		COMPQOD	134
26							COMPQOD	135
27	1077	3006		LDD	DCL	LENGTH OF OUR ACTIVE BUFFER	COMPQOD	136
28	1100	7310 1011		OAM	BUF,CHD	DISPLAY OUR BUFFER	COMPQOD	137
29	1102	7510		DCN	CHD		COMPQOD	138
30	1103	1740		SBN	40B		COMPQOD	139
31	1104	0776		MJN	*-1	REDUCE DISPLAY INTENSITY	COMPQOD	140
32	1105	0100 1041		LJM	DISX	RETURN	COMPQOD	141
33								
34								
35								
36								
37			**	PKI - PROCESS KEYBOARD INPUT			COMPQOD	143
38			*				COMPQOD	144
39			*	PKI FUNCTIONS THE DISPLAY CONSOLE FOR KEYBOARD INPUT.			COMPQOD	145
40			*	IF AN OCTAL DIGIT HAS BEEN ENTERED, THEN THAT PORTION			COMPQOD	146
41			*	OF THE REPLY AREA SPECIFIED BY DCA AND DCF IS MODIFIED.			COMPQOD	147
42			*				COMPQOD	148
43			*	EXIT	(A) = 0 IF INPUT = (CR)		COMPQOD	149
44			*		(A) .NE. 0 IF NO INPUT OR INPUT NOT (CR)		COMPQOD	150
45			*				COMPQOD	151
46							COMPQOD	152
47	1107	1401	PKI1	LDN	1	SET A NON-ZERO	COMPQOD	153
48							COMPQOD	154
49	1110	0100 0000	PKI	ENM	X	ENTRY/EXIT	COMPQOD	155
50	1112	7710 7020		FNC	F.SEL+F.KEY,CHD		COMPQOD	156
51	1114	7410		ACN	CHD		COMPQOD	157
52	1115	7010		IAN	CHD	READ KEYBOARD	COMPQOD	158
53	1116	7510		DCN	CHD		COMPQOD	159
54	1117	0467		ZJN	PKI1	IF NO INPUT	COMPQOD	160
55								
56								
57								
58								
59								
60								

1

D_D BASE *
IF -DEF,QUAL\$,1
QUAL *
ENDX

COMPQOD 212
COMPQOD 213
COMPQOD 214
COMPQOD 215
SAD 414
SAD 415

1163

END

53600B CM STORAGE USED 961 STATEMENTS 230 SYMBOLS
PARALLEL CPU ASSEMBLY 0.804 SECONDS 440 REFERENCES

SYMBOLIC REFERENCE TABLE.

ACNC	7400	3/49	D						
ADCC	2100	3/43	D						
AJMC	6400	3/46	D						
CC	5	4/07	D	8/28	8/56	9/17	9/33		
		8/26		8/40	9/01	9/28	10/27		
CDPA	353	9/18	S	9/19	L				
CDP1	256	8/24		8/26	L				
CDP2	275	8/30		8/32	8/34	8/36	8/40	L	
CDP7	407	9/19		9/38	9/42	D			
CDP8	411	9/45	L	9/48					
CHD	10	4/19	D	6/50	7/02	7/54	12/46	21/23	21/53
		6/19		6/52	7/03	7/56	13/10	21/24	21/54
		6/20		6/53	7/04	8/09	13/11	21/27	21/55
		6/21		6/56	7/49	12/44	13/13	21/31	21/56
		6/49		7/01	7/53	12/45	13/14	21/32	
DCNC	7500	3/50	D						
DEBUG	0	4/09	D	6/24	6/25	8/06	8/07		
DOPLS	22	13/21		15/08	D	15/13	15/19		
DSP	656	14/32	L	14/48					
DSPZ	655	8/27	S	8/54	S	9/04	S	9/10	S
		8/38	S	8/57	S	9/06	S	9/27	S
		8/41	S	9/02	S	9/08	S	9/30	S
								9/32	S
								9/35	S
								9/37	S
								14/48	D
D0	0	3/08	D						
D1	1	3/09	D	8/45	S	8/52	10/28	S	11/26
D10	10	3/19	D	7/24	18/06				12/26
D11	11	3/20	D	18/07					
D12	12	3/21	D						
D13	13	3/22	D						
D14	14	3/23	D						
D15	15	3/24	D						
D16	16	3/25	D						
D17	17	3/26	D						
D2	2	3/10	D	8/48	S	8/53	12/20	S	12/21
D20	20	3/27	D						12/28
D3	3	3/11	D	12/23	S	12/24	12/27	I	
D4	4	3/12	D						
D5	5	3/13	D	4/06					
D6	6	3/14	D	7/28	7/33	18/04			
D7	7	3/17	D	18/05					
D77	77	4/08	D	9/44	S	9/45	9/46	I	9/47
								S	
ERD	620	10/45		13/09	D				
ERDX	617	13/09	L						
ERD1	624	13/12	L	13/17					

1412THE

	FAC	523	10/38	11/22 D					
	FACA	542	11/28	11/29	11/34 L				
	FACX	522	11/22 L	11/23	11/32				
1	FACZ	546	11/28	11/37 D					
2	FAC1	524	11/01	11/23 L					
3	FAC2	527	11/01	11/25 L					
4	FAC3	531	11/04	11/27 L					
5	FAC4	534	10/55	11/29 L					
6	FAC5	536	11/01	11/30 L					
7	FAC6	540	11/01	11/27	11/31 L				
8	FDC	100	6/17 L						
9	FDCA	110	6/18	6/19	6/24 L				
10	FDCZ	114	6/18	6/22	6/29 D				
11	F66X	676	8/52	14/52 L					
12	F67X	677	14/53 L						
13	F844	700	14/54 L						
14	F.CHL	2	4/35 D						
15	F.CHM	1	4/34 D	6/49	13/10	21/23			
16	F.CHR	0	4/29 D	6/49	13/10	21/23			
17	F.CHS	0	4/33 D						
18	F.DOT	10	4/30 D						
19	F.KEY	20	4/31 D	7/01	21/53				
20	F.SBS	200	4/27 D						
21	F.SEL	7000	4/23 D	6/49	7/01	13/10	21/23	21/53	
22	F.SLS	0	4/25 D	6/49	13/10	21/23			
23	F.SRS	100	4/26 D						
24	HDR	701	6/52	7/41	15/10 D	15/23			
25	HDRL	35	6/51	7/41	15/23 D				
26	HDRM	717	6/37 S	6/45 S	7/16 S	8/22	8/43	15/16 D	
27	HPP	603	10/44	12/41 D					
28	HPPA	614	12/43	12/44	12/49 L				
29	HPPX	602	12/41 L	12/47					
30	HPPZ	617	12/43	12/51 D					
31	IAMC	7100	3/47 D						
32	ICN	567	10/37	12/19 D					
33	ICNX	566	12/19 L	12/22					
34	ICN1	571	12/21 L	12/29					
35	LCNC	1500	3/40 D						
36	LDCC	2000	3/42 D						
37	LDDC	3000	3/45 D						
38	LINE	10	13/20 D	13/21	15/12 D	15/13	15/18	15/18 D	15/19
39	LMCC	2300	3/44 D						
40	MSGA	634	13/13	13/19 D	13/24				
41	MSGAL	22	13/12	13/24 D					
42	OAMC	7300	3/48 D						
43	PSNC	0	3/36 D						
44	RAP	547	10/51	11/49 D					
45	RAPA	561	11/51	11/52	11/57 L				
46	RAPA.1	563	11/04	12/02 L					
47	RAPA.2	564	11/04	12/03 L					
48	RAPX	546	11/49 L	11/50	11/55				
49	RAPZ	566	11/51	12/04 D					
50	RBM	425	8/25	10/26 D					
51	RBMX	424	10/26 L	10/52					
52	RBM10	471	10/49 L	10/55					
53	RBM11	473	10/50 L	11/01					
54	RBM12	474	10/51 L						
55									
56									
57									
58									
59									
60									

RBM14	517	10/35 S	10/48	11/08 L					
RBM15	500	10/36	10/55 L						
RBM6	451	10/32 S	10/39 L	10/55					
RBM7	455	10/41 L	10/43	10/55					
RBM7.1	465	10/41	10/46 L						
RBM8	466	10/47 L	10/55						
RBM9	467	10/48 L	10/55						
REPADDR	5	4/06 D	7/39 S	8/49	10/33	21/10	21/19		
		4/07	8/46	10/29	19/15	21/13			
REPLY	736	7/26 S	7/31 S	7/36 S	7/38	15/31 L			
RPP	223	7/49 L							
RPPA	243	7/57	8/01	8/06 L					
RPPZ	247	7/57	8/04	8/11 D					
RPP3	233	7/53	7/56 L						
SAD	100	6/10 D							
SAD2	136	6/39	6/49 L	7/05	7/11	7/13	7/17		
SAD7	172	7/08	7/24 L						
SAD7.1	211	6/47 S	7/35 D						
SBNC	1700	3/41 D							
SC	16	4/05 D	9/38						
SHNC	1000	3/39 D							
UJNC	300	3/37 D							
XSET	6000	4/39 D	13/22	15/14	15/20	20/05	20/11	20/17	
YSET	7000	4/40 D	13/21	15/13	15/19	20/04	20/10	20/16	
ZJNC	400	3/38 D							

SYMBOL QUALIFIER = CPA

DSPNLZ	7677	6/38	7/24	7/33	9/05	9/09			
		6/41	7/28	9/03	9/07				

SYMBOL QUALIFIER = CTI

TRAN	100	1/10	6/01						
------	-----	------	------	--	--	--	--	--	--

SYMBOL QUALIFIER = QOD

BUF	1011	19/13	19/29	19/43	20/01 D	21/31			
BUFC	1021	19/13	20/07 D	21/12 S					
BUFE	1032	19/29	20/13 D	21/18 S					
BUFL	27	20/03 D	20/04	20/09	20/09 D	20/10	20/15	20/15 D	20/16
BUFU	1041	19/43	20/19 D	21/21 S					
CTO	1152	21/11	21/15	21/20	22/46 D				
CTOX	1151	22/46 L	22/53						
DCA	7	18/05 D	19/16 S	19/31 S	22/18	22/22	22/25 I	22/28	

DCF	10	18/06 D	19/18 S	19/32 S	19/45 S	22/15		
DCL	6	18/04 D	19/14 S	19/30 S	19/44 S	21/30		
DCW	11	18/07 D	22/13 S	22/21 S	22/24	22/31	22/48 S	22/50
DIS	1042	19/20	19/34	19/47	21/09 D			
DISA	1074	19/06 S	21/26 D					
DISB	1076	19/03 S	21/28 D					
DISX	1041	21/09 L	21/35					
PKI	1111	19/21	19/35	19/48	21/52 D			
PKIX	1110	21/52 L	22/03					
PKI1	1107	21/50 L	21/57	22/08	22/10	22/26		
PKI4	1141	22/25 L	22/33					
PKI6	1143	22/16	22/28 L					
QOD	741	7/42	19/01 D					
QODX	740	19/01 L	19/51					
QOD1	757	19/20 L	19/22					
QOD2	771	19/34 L	19/36					
QOD3	1002	19/47 L	19/49					

DHE

1412THE

BINARY CONTROL CARDS.

1

*****	DHE - DISPLAY HARDWARE ERRORS	DIG0211	1
*	R. E. DENNIS. 78/06/23.	DHE	10
*	J. F. RIAN. 78/06/23.	DHE	11

***	*DHE* IS CALLED BY *PCM* OR *IOQ* IF AN ERROR BIT IS	DHE	13
*	FOUND TO BE SET IN THE S/C REGISTER. IF THE ERROR	DHE	14
*	IS CORRECTABLE (SINGLE BIT SECDED ERROR) *DHE*	DHE	15
*	SIMPLY CLEARS THE ERROR BIT AND LOADS THE ROUTINE	DHE	16
*	IDENTIFIED BY *DHEP* AS FOLLOWS -	DHE	17
*		DHE	18
*	DHEP = 0 *MAD*	DHE	19
*	DHEP = 1 *OIP*	DHE	20
*	DHEP = 2 *EBL*	DHE	21
*		DHE	22
*	IF THE MAINFRAME IS A C76A, C76B, OR C176,	DHE	23
*	*DHE* WILL ALSO MASTER CLEAR CM RANK II AND	DHE	24
*	RETEST THE S/C REGISTER BEFORE EXITING. THIS	DHE	25
*	IS NECESSARY BECAUSE A DOUBLE-BIT ERROR MAY BE	DHE	26
*	DETECTED AND HELD IN CM RANK I UNTIL CM RANK II	DHE	27
*	IS CLEARED.	DHE	28
*		DHE	29
*	IF THE ERROR IS UNCORRECTABLE, *DHE* WILL NOT	DHE	30
*	ALLOW THE DEADSTART PROCESS TO CONTINUE. *DHE*	DHE	31
*	WILL SAVE THE CURRENT S/C REGISTER IMAGE AND THEN	DHE	32
*	CLEAR ALL ERROR BITS WHICH ARE SET.	DHE	33
*		DHE	34
*	ON C76A, C76B, AND C176 MAINFRAMES, CM RANK I	DHE	35
*	AND RANK II WILL BE MASTER CLEARED IN THAT ORDER.	DHE	36
*		DHE	37
*	*DHE* WILL THEN DISPLAY THE SAVED S/C REGISTER	DHE	38
*	CONTENTS ON THE LEFT SCREEN IN THE FOLLOWING FORMAT -	DHE	39
*		DHE	40
*	DEADSTART ABORTED - FATAL ERROR	DHE	41
*	SC-0-2 YYYY YYYY YYYY YYYY YYYY.	DHE	42
*	SC-0-1 YYYY YYYY YYYY YYYY YYYY YYYY.	DHE	43
*	SC-0-0 YYYY YYYY YYYY YYYY YYYY YYYY.	DHE	44
*		DHE	45
*	WHERE YYYY IS THE CONTENTS OF A WORD IN THE REGISTER, WORD	DHE	46
*	0 AT THE LOWER RIGHT, WORD 16 AT THE UPPER LEFT,	DHE	47
*	FOLLOWED BY THE EXPLANATIONS, THE CONTENTS OF THE	DHE	48
*	CHANNEL 36 S/C REGISTER, IF IT EXISTS, IS DISPLAYED IN	DHE	49
*	SIMILAR FORMAT, WITH 1 REPLACING 0 IN THE X FIELD OF	DHE	50
*	SC-X-Y. FINALLY, THE EXPLANATIONS OF THE CHANNEL	DHE	51
*	36 ERROR BITS CURRENTLY SET ARE DISPLAYED. OVERFLOW FROM	DHE	52
*	THE LEFT DISPLAY SCREEN IS DISPLAYED ON THE RIGHT SCREEN,	DHE	53
*	WITH AN INFORMATIVE MESSAGE DISPLAYED AT THE END OF THE	DHE	54
*	MESSAGES ON THE LEFT SCREEN. IF ALL OF THE ERROR MESSAGES	DHE	55
*	CANNOT FIT ON THE TWO SCREENS, THE MESSAGES NOT SHOWING	DHE	56
*	WILL APPEAR AS OTHERS ARE CLEARED.	DHE	57
*		DHE	58
*		DHE	59

1412THE

1

	6	T6	EQU	6		DHE	106
	7	T7	EQU	7		DHE	107
						DHE	108
1	10	3056	BA	CON	SC0B	S/C REGISTER CONTENTS BUFFER ADDRESS	DHE 109
2	11	0000	NO	CON	0	CHANNEL 36 S/C REGISTER FLAG	DHE 110
3	12	3120	TA	CON	TEMA	ADDRESS OF MESSAGE ADDRESS TABLE (TEMA)	DHE 111
4	13	0000	BN	CON	0	BIT NUMBER	DHE 112
5	14	0000	FF	CON	0	FATAL ERROR FLAG	DHE 113
6	15	0000	IL	CON	0	1 = IDLE LOOP SENT TO PP10	DHE 114
7							DHE 115
8	16	0000	RN	CON	0	REGISTER NUMBER	DHE 116
9	17	0000	MS	CON	0	MESSAGE ADDRESS	DHE 117
10	20	6140	XS	CON	6140	X COORDINATE FOR REGISTER DISPLAY	DHE 118
11	21	6160	XE	CON	6160	X COORDINATE FOR MESSAGE DISPLAY	DHE 119
12	22	6060	XK	CON	6060	X COORDINATE FOR KEYBOARD INPUT DISPLAY	DHE 120
13	23	7764	YC	CON	7764	Y COORDINATE	DHE 121
14							DHE 122
15	24	34		BSS	60-*		DHE 123
16							DHE 124
17			*		COMPSCE REQUIRED DIRECT LOCATIONS.		DHE 125
18							DHE 126
19							DHE 127
20							DHE 128
21	60	0000	C1	CON	0		DHE 129
22	61	0000	C2	CON	0		DHE 130
23	62	3241	FW	CON	EBUF	FWA OF ERROR MESSAGE BUFFER	DHE 131
24	63	2000	LW	CON	EBUFL	LWA+1 OF ERROR MESSAGE BUFFER	DHE 132
25	64	0000	AM	CON	0	ADDRESS OF ERROR MESSAGE	DHE 133
26	65	3120	TE	CON	TEMA	ADDRESS IN TABLE TEMA	DHE 134
27	66	0000	BT	CON	0	FIRST BIT IN WORD BIT NUMBER	DHE 135
28	67	0000	BW	CON	0	BIT NUMBER WITHIN WORD	DHE 136
29							DHE 137
30	70	0000	CB	CON	0	CURRENT BIT NUMBER	DHE 138
31	71	0000	WC	CON	0	S/C REGISTER WORD CONTENTS	DHE 139
32	72	0000	RW	CON	FCRD	READ CURRENT WORD FUNCTION	DHE 140
33	73	0000	CT	CON	0	NOT USED BIT TABLE FLAG	DIMA299 43
34							DHE 141
35			****				DIG0211 2
36							DHE 142
37							DHE 143
38							
39							
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60							

** DHE - MAIN PROGRAM.

DHE 146

DHE 147

DHE 148

DHE 149

DHE 150

DHE 151

DHE 152

DHE 153

DHE 154

DHE 155

DHE 156

DHE 157

DHE 158

DHE 159

DHE 160

DHE 161

DHE 162

DHE 163

DHE 164

DHE 165

DHE 166

DHE 167

DHE 168

DHE 169

DIMA290 1

DIMA290 2

DIMA290 3

DIMA290 4

DIMA290 5

DIMA290 6

DIMA290 7

DIMA290 8

DIMA290 9

DIMA290 10

DIMA290 11

DIMA290 12

DIMA290 13

DIMA290 14

DIMA290 15

DIMA290 16

DIMA290 17

DIMA290 18

DHE 171

DHE 172

DHE 173

DIMA222 4

DIMA222 5

DIMA222 6

DIMA222 7

DIMA222 8

DHE 174

DHE 175

DIMA222 9

DIMA403 1

DIMA222 10

DIMA222 11

DIMA222 12

1	100			ORG	/CTI/TRAN				
2									
3	100	0200	3121	DHE	RJM	PRS	PRESET		
4	102	0200	0463		RJM	RSC	READ S/C REGISTER(S)		
5	104	0200	1151		RJM	CLE	CLASSIFY ERRORS		
6	106	3014			LDD	FF			
7	107	0522			NJN	DHE2	IF FATAL ERRORS		
8	110	0200	0555		RJM	CEB	CLEAR ERRORS		
9	112	5000	7673		LDM	/CPA/OPTN			
10	114	1066			SHN	-11			
11	115	1203			LPN	3			
12	116	0411			ZJN	DHE1	IF NOT A CYBER 176		
13	117	0200	0463		RJM	RSC	READ S/C REGISTER(S)		
14	121	0200	1151		RJM	CLE	CLASSIFY ERRORS		
15	123	3014			LDD	FF			
16	124	0505			NJN	DHE2	IF FATAL ERRORS		
17	125	0200	0555		RJM	CEB	CLEAR ERRORS		
18	127	0100	0256	DHE1	LJM	LNP	LOAD NEXT PROGRAM		
19									
20				*			SET UP ERROR MESSAGES.		
21									
22	131	5000	7673	DHE2	LDM	/CPA/OPTN			
23	133	1066			SHN	-11			
24	134	1203			LPN	3			
25	135	0412			ZJN	DHE2.5	IF NOT A CYBER176		
26				*			THE FOLLOWING IDLE PP10 CODE		
27				*			SEQUENCE IS REQUIRED TO		
28				*			RELEASE PP10 FROM THE SCANNER		
29				*			CHANNEL ON A C176. THIS		
30				*			CONDITION WAS ESTABLISHED IN		
31				*			PRESET OF DHE.		
32	136	7410			ACN.	CH			
33	137	7400			ACN.	MC			
34	140	1402			LDN	DHEAL			
35	141	7310	0254		OAM.	DHEA,CH	IDLE PP10		
36	143	6610	0143		FJM.	*,CH			
37	145	7550			DCN.	CH+40			
38	146	7540			DCN.	MC+40			
39	147	2000	2000	DHE2.5	LDC	EBUFL	SET BUFFER LENGTH		
40	151	3463			STD	LW			
41	152	2000	3120		LDC	TEMA	SET FWA OF ADDRESS TABLE		
42	154	3465			STD	TE			
43	155	3401			STD	T1	INITIALIZATION FWA		
44	156	4401		DHE2A	STI	T1			
45	157	3601			AOD	T1			
46	160	2300	6000		LMC	/CTI/IPLB	INITIALIZATION LWA		
47	162	0573			NJN	DHE2A			
48	163	2000	3241		LDC	EBUF	SET BUFFER FWA		
49	165	0200	1526		RJM	SCE	PROCESS S/C REGISTER ERRORS		
50	167	0200	1304		RJM	HPP			
51	171	0200	0555		RJM	CEB	CLEAR ERRORS		
52	173	2000	6000		LDC	FCCA	CLEAR ALL BITS		
53	175	7276			OAN	SC+40B+20B			
54	176	7076			IAN	SC+40B+20B			
55									
56									
57									
58									
59									
60									

177	2000 6000	LDC	FCCA	CLEAR ALL SCR0 CONTROL BITS	DIMA403	2
201	7256	OAN	SC+40B		DIMA222	13
202	7056	IAN	SC+40B		DIMA222	14

			*	DISPLAY CHANNEL 16 S/C REGISTER AND ERROR MESSAGES.			DHE	177
							DHE	178
							DHE	179
203	2000	7764	DHE3	LDC	YCUL-YCIN	SET Y COORDINATE	DHE	180
205	3423			STD	YC		DHE	181
206	2000	7000		LDC	7000	SELECT LEFT SCREEN	DHE	182
210	5400	1122		STM	DCLA		DHE	183
212	2000	3056		LDC	SC0B	SET CHANNEL 16 S/C REGISTER BUFFER	DHE	184
214	3410			STD	BA		DHE	185
215	2000	1472		LDC	DMSC	*DEADSTART ABORTED - FATAL ERROR.*	DHE	186
217	3417			STD	MS		DHE	187
220	2000	6070		LDC	6000+7*10		DHE	188
222	0200	1115		RJM	DCL		DHE	189
224	1512			LCN	YCIN	SKIP ONE LINE	DHE	190
225	3523			RAD	YC		DHE	191
226	1400			LDN	0	DISPLAY REGISTER CONTENTS	DHE	192
227	0200	0402		RJM	DRC		DHE	193
231	2000	3120		LDC	TEMA	SET ADDRESS OF MESSAGE ADDRESS TABLE	DHE	194
233	3412			STD	TA		DHE	195
234	1400			LDN	0	DISPLAY ERROR MESSAGES	DHE	196
235	0200	0355		RJM	DEM		DHE	197
			*	DISPLAY CHANNEL 36 S/C REGISTER AND ERROR MESSAGES.			DHE	198
							DHE	199
							DHE	200
237	3011			LDD	NO		DHE	201
240	0442			ZJN	DHE3	IF NO CHANNEL 36 S/C REGISTER	DHE	202
241	2000	3077		LDC	SC1B	SET BUFFER ADDRESS FOR CHANNEL 36 REGISTER	DHE	203
243	3410			STD	BA		DHE	204
244	1401			LDN	1	DISPLAY REGISTER CONTENTS	DHE	205
245	0200	0402		RJM	DRC		DHE	206
247	1401			LDN	1	DISPLAY ERROR MESSAGES	DHE	207
250	0200	0355		RJM	DEM		DHE	208
252	0100	0203		LJM	DHE3		DHE	209
							DIMA290	19
254		1	DHEA	BSSZ	1	PP10 IDLE PROGRAM	DIMA290	20
255	0300			CON	0300B		DIMA290	21
		2	DHEAL	EQU	*-DHEA		DIMA290	22

** LNP - LOAD NEXT PROGRAM.

*

* ENTRY (DHEP) = 0 CALL *MAD*.

* = 1 CALL *OIP*.

* = 2 CALL *EBL*.

*

* EXIT TO SPECIFIED PROGRAM.

*

* USES T1.

*

* CALLS CDS.

DHE 211

DHE 212

DHE 213

DHE 214

DHE 215

DHE 216

DHE 217

DHE 218

DHE 219

DHE 220

DHE 221

DHE 222

DHE 223

DIG0205 1

DHE 226

DHE 227

DHE 228

DHE 229

DHE 230

DIG0205 2

DIG0205 3

DIG0205 4

DIG0205 5

DIG0205 6

DIG0205 7

DIG0205 8

DIG0205 9

DIG0205 10

DIG0205 11

DIG0205 12

DIG0205 13

DIG0205 14

DIG0205 15

DIG0205 16

DHE 233

DIG0205 17

DIG0205 18

DIG0205 19

DIG0205 20

DHE 234

DHE 235

DHE 236

DHE 237

DHE 238

DHE 239

DHE 240

DHE 241

DHE 242

DHE 243

DHE 244

DHE 245

DHE 246

DHE 247

DHE 248

DHE 249

DHE 250

DHE 251

256	5000	0353	LNP	LDM	LNPE	RESTORE /CPA/OPTN WORD
260	5400	7673		STM	/CPA/OPTN	
262	5000	6776		LDM	/CTI/DHEP	
264	3401			STD	T1	
265	1703			SBN	3	
266	0722			MJN	LNP1	IF VALID PROGRAM NUMBER
267	7710	7001	LPN.1	FNC.	7001,CH	FUNCTION DISPLAY
271	7410			ACN.	CH	
272	3021			LDD	XE	OUTPUT X COORDINATE
273	7210			OAN.	CH	
274	3023			LDD	YC	OUTPUT Y COORDINATE
275	7210			OAN.	CH	
276	2000	0013		LDC	MSGAL	
300	7310	0316		OAM.	MSGAL,CH	OUTPUT MESSAGE
302	6610	0302		FJM.	*,CH	
304	7510			DCN.	CH	
305	1740			SBN	40B	DELAY TO REDUCE INTENSITY
306	0776			MJN	*-1	
307	0357			UJN	LPN.1	LOOP ON DISPLAY
310	0200	0536	LNP1	RJM	CDS	CLEAR DISPLAY
312	5001	0331		LDM	LNPA,T1	
314	0100	7000		LJM	/CTI/CDEP	CALL DRIVER
316	1116		316	MSGAL	EQU	* H*INVALID PROGRAM NUMBER*
			13	MSGAL	EQU	*-MSGAL
331	0334		LNPA	CON	LNPB	
332	0341			CON	LNPC	
333	0346			CON	LNPB	
334	0010		LNPB	CON	/CTI/LOAD	CDIB
335	0100			CON	/CTI/TRAN	CDTA
336	0000			CON	0	CDRW
337	1501			DATA	L*MAD*	CDNC
341	0010		LNPC	CON	/CTI/LOAD	CDIB
342	0100			CON	/CTI/TRAN	CDTA
343	0001			CON	1	CDRW
344	1711			DATA	L*OIP*	CDNC
346	0200		LNPB	CON	/CTI/EBLLOAD	CDIB
347	0200			CON	/CTI/EBLLOAD	CDTA
350	0000			CON	0	CDRW

252

254

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DHE 257

DHE	258
DHE	259
DHE	260
DHE	261
DHE	262

DHE	264
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DHE	265
DHE	266

DHE	267
DHE	268

DHE 271

DHE	272
DUE	273

DHE	273
DHE	274

DHE	274
DHE	275

DHE 276

DHE	277
DHE	278

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DHE	281
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DHE	282
DHF	283

DHE	283
DHE	284

DHE	284
DHE	285

DHE 286

DHE	287
DHF	288

DRE 288

DHE	290
-----	-----

DHE	291
DHE	292

DHE	293
DHE	294

DHE	295
DHE	296

DHE	297
DHE	298

DHE	301
-----	-----

DHE	302
DHE	303

DHE	303
DHE	304

DHE	304
DHE	305

DHE 306

DHE	307
DHE	308

DHE	308
DHE	309

DHE	309
DHE	310

421	3403	STD	T3		DHE	311	
					DHE	312	
		*		SET REGISTER CONTENTS IN MESSAGE.	DHE	313	
					DHE	314	
422	0200 1370	DRC2	RJM	PDB	POSITION TO DISPLAY WITH BLANK	DHE	315
424	3702		SOD	T2		DHE	316
425	0430		ZJN	DRC4	IF FIRST MESSAGE BYTES DONE	DHE	317
426	0200 1423		RJM	PDC	POSITION TO DISPLAY	DHE	318
430	3703		SOD	T3		DHE	319
431	0570		NJN	DRC2	IF NOT END OF MESSAGE	DHE	320
432	2000 5755		LDC	2R.	PLACE PERIOD (.) AT END OF MESSAGE	DHE	321
					DHE	322	
		*		DISPLAY MESSAGE.	DHE	323	
					DHE	324	
434	4404	DRC3	STI	T4		DHE	325
435	3604		AOD	T4		DHE	326
436	1400		LDN	0	END MESSAGE WITH BYTE OF ZEROS	DHE	327
437	4404		STI	T4		DHE	328
440	2000 1446		LDC	DMSA	SET MESSAGE ADDRESS	DHE	329
442	3417		STD	MS		DHE	330
443	3020		LDD	XS	SET X COORDINATE	DHE	331
444	0200 1115		RJM	DCL	DISPLAY CODED LINE	DHE	332
446	5700 1450		SOM	DMSA+2	DECREMENT MESSAGE TO NEXT LINE	DHE	333
450	1277		LPN	77	CHECK IF ENTIRE REGISTER DISPLAYED	DHE	334
451	1132		LMN	1R0-1		DHE	335
452	0542		NJN	DRC1	IF NOT DONE WITH REGISTER	DHE	336
453	0100 0401		LJM	DRCX	RETURN	DHE	337
					DHE	338	
455	3704	DRC4	SOD	T4	TERMINATE MESSAGE WITH PERIOD (.)	DHE	339
456	4004		LDI	T4		DHE	340
457	1377		SCN	77		DHE	341
460	1157		LMN	1R.		DHE	342
461	0352		UJN	DRC3	LOOP FOR NEXT MESSAGE	DHE	343
		**		RSC - READ S/C REGISTER(S).	DHE	345	
		*			DHE	346	
		*		ENTRY NONE.	DHE	347	
		*			DHE	348	
		*		EXIT (SC0B) = CHANNEL 16 S/C REGISTER.	DHE	349	
		*		(SC1B) = CHANNEL 36 S/C REGISTER.	DHE	350	
		*			DHE	351	
		*		USES NONE.	DHE	352	
		*			DHE	353	
		*		CALLS CCH, RER.	DHE	354	
					DHE	355	
					DHE	356	
462	0100 0462	RSC	SUBR		ENTRY/EXIT	DHE	357
464	1400		LDN	0	CHANGE TO CHANNEL 16	DHE	358
465	0200 0522		RJM	CCH		DHE	359
467	2000 3056		LDC	SC0B	SET CHANNEL 16 S/C REGISTER BUFFER	DHE	360
471	0200 0505		RJM	RER	READ REGISTER	DHE	361
473	3011		LDD	NO		DHE	362
474	0465		ZJN	RSCX	RETURN IF NO CHANNEL 36 S/C REGISTER	DHE	363
475	0200 0522		RJM	CCH	CHANGE CHANNEL	DHE	364

* CHANNEL 10 USED FOR DISPLAY.

DHE 413

*

DHE 414

* EXIT PP 10 ON CHANNEL 10.

DHE 415

*

DHE 416

* USES NONE.

DHE 417

*

DHE 418

* CALLS NONE.

DHE 419

DHE 420

DHE 421

535 0100 0535 CDS SUBR ENTRY/EXIT

DHE 422

537 7710 0000 FNC. 0,CH

DHE 423

541 2000 1000 LDC 1000 DELAY

DHE 424

543 1701 SBN 1

DHE 425

544 0576 NJN *-1

DHE 426

545 7550 DCN. CH+40

DHE 427

546 3015 LDD IL

DHE 428

547 0465 ZJN CDSX IF IDLE LOOP NOT SENT TO PP10

DHE 429

550 7410 ACN. CH MOVE PP10 TO CHANNEL 10

DHE 430

551 7400 ACN. 0

DHE 431

552 7540 DCN. 0+40

DHE 432

553 0361 UJN CDSX RETURN

DHE 433

** CEB - CLEAR ALL ERROR BITS.

DHE 435

*

DHE 436

* ENTRY (NO) = 0 IF NO CHANNEL 36 S/C REGISTER.

DHE 437

* (NO) = 1 IF CHANNEL 36 S/C REGISTER EXISTS.

DHE 438

*

DHE 439

* EXIT ALL ERROR BITS IN S/C REGISTER(S)

DHE 440

* AND SECDED ERRORS CLEARED.

DHE 441

*

DHE 442

* USES BN, RN.

DHE 443

*

DHE 444

* CALLS CCH, CLS, SFC.

DHE 445

DHE 446

DHE 447

554 0100 0554 CEB SUBR ENTRY/EXIT

DHE 448

556 3011 LDD NO INITIALIZE NOT-BOTH-REGISTERS-CLEARED

DHE 449

557 3416 STD RN

DHE 450

560 0200 0522 CEB1 RJM CCH CHANGE CHANNEL

DHE 451

562 2000 0167 LDC 0167B CLEAR BIT 119

DIMA222 15

564 3413 STD BN

DIMA222 16

565 3016 LDD RN

DIMA222 17

566 0200 0711 RJM CLS

DIMA222 18

570 0200 1442 RJM SFC

DIMA222 19

572 1400 LDN 0 SET BIT NUMBER

DHE 452

573 3413 STD BN

DHE 453

574 3016 CEB2 LDD RN CLEAR SECDED ERROR AND FLPP ERROR

DHE 454

575 0200 0711 RJM CLS

DHE 455

577 0200 1442 RJM SFC SEND FUNCTION

DHE 456

601 3613 AOD BN ADVANCE BIT NUMBER

DHE 457

602 1750 SBN NTEB

DHE 458

603 0770 MJN CEB2 IF NOT ALL ERROR BITS CLEARED

DHE 459

604 3716 SOD RN

DHE 460

605 0652 PJN CEB1 IF SECOND PPS TO PROCESS

DHE 461

462

1

**	CLS - CLEAR SECDED ERROR BITS AND FLPP ERRORS.	DHE	496
*		DHE	497
*	ENTRY (A) .NE. 0 IF CHANNEL 36 FUNCTION.	DHE	498
*	(BN) = BIT NUMBER.	DHE	499
*		DHE	500
*	EXIT (A) = CLEAR BIT FUNCTION SET FOR BIT (BN).	DHE	501
*	DOUBLE SECDED ERROR BIT CLEARED FOR CYBER 171 - 175.	DHE	502
*	CLEAR RANK BIT(S) SET AND CLEARED FOR CYBER 176.	DHE	503
*	ERRORS FOUND AND CLEARED FOR FLPP-S FOR CYBER 176.	DHE	504
*		DHE	505
*	USES T3.	DHE	506
*		DHE	507
*	CALLS CCH, IPN, SFC.	DHE	508
		DHE	509
		DHE	510
*	CLEAR SECDED ERROR ON CYBER 171 - 175.	DHE	511
		DHE	512
654	3013 CLS6 LDD BN CHECK IF SECDED ERROR BIT	DHE	513
655	1703 SBN SECD	DHE	514
656	0527 NJN CLS9 IF NOT SECDED BIT	DIMA290A	1
657	2000 2267 LDC FCCL+SDSC CLEAR DOUBLE BIT ERROR	DHE	516
661	0200 1442 RJM SFC SEND FUNCTION	DHE	517
663	0322 UJN CLS9 CLEAR ERROR BIT	DIMA290A	2
		DHE	519
*	CLEAR FLPP ERRORS ON CYBER 176.	DHE	520
		DHE	521
664	1400 CLS7 LDN 0 INITIALIZE (PPU NUMBER TO 1)	DIMA290	23
665	3403 STD T3	DIMA290	24
666	2000 2073 LDC FCCL+DDFP CLEAR DEADSTART DUMP BIT	DIMA290	25
670	0200 1442 RJM SFC	DIMA290	26
672	3603 CLS8 AOD T3	DIMA290	27
673	0200 1056 RJM ASE ACTIVATE SCANNER ENABLE	DIMA290	28
675	1472 LDN DSFP DEADSTART LOAD PPU FUNCTION	DIMA290	29
676	0200 1012 RJM DSP	DIMA290	30
700	0200 1046 RJM CSE CLEAR SCANNER ENABLE AND CHANNEL	DIMA290	31
702	3003 LDD T3	DIMA290	32
703	1115 LMN 15	DIMA290	33
704	0565 NJN CLS8 IF NOT ALL PPU-S	DIMA290	34
705	2000 2000 CLS9 LDC FCCL CLEAR BIT FUNCTION	DHE	544
707	3113 ADD BN	DHE	545
		DHE	546
710	0100 0710 CLS SUBR ENTRY/EXIT	DHE	547
712	0572 NJN CLS9 IF CHANNEL 36	DHE	548
713	5000 7673 LDM /CPA/OPTN	DHE	549
715	1066 SHN -11	DHE	550
716	1203 LPN 3	DHE	551
717	0503 NJN CLS1 IF A CYBER 176	DHE	552
720	0100 0654 LJM CLS6	DHE	553
		DHE	554
*	CLEAR SECDED ERROR ON CYBER 176.	DHE	555
		DHE	556
722	3013 CLS1 LDD BN CHECK CM SECDED ERROR BIT	DHE	557
723	1703 SBN SECD	DHE	558
724	0436 ZJN CLS4 IF CM SECDED ERROR	DHE	559
725	1701 SBN PPUE-SECD CHECK IF PPU ERROR	DHE	560
726	0503 NJN CLS2 IF NOT PPU ERROR	DHE	561
727	0100 0664 LJM CLS7	DHE	562

1

1031	0200	1442	RJM	SFC		DIMA290	59
1033	2000	4123	LDC	FCSB+CPUE	SET *CLEAR PPU* ERROR	DIMA290	60
1035	0200	1442	RJM	SFC		DIMA290	61
1037	2000	2123	LDC	FCCL+CPUE	CLEAR *CLEAR PPU* ERROR	DIMA290	62
1041	0200	1442	RJM	SFC		DIMA290	63
1043	0100	1011	LJM	DSPX	RETURN	DIMA290	64
			**	CSE - CLEAR SCANNER ENABLE AND CHANNEL		DIMA290	66
			*			DIMA290	67
			*	ENTRY- SCANNER INTERFACE IS ENABLED AND		DIMA290	68
			*	SCANNER CHANNEL IS ACTIVE.		DIMA290	69
			*			DIMA290	70
			*	EXIT - SCANNER INTERFACE IS DISABLED AND		DIMA290	71
			*	SCANNER CHANNEL IS INACTIVE.		DIMA290	72
					DIMA290	73	
					DIMA290	74	
1045	0100	1045	CSE	SUBR	ENTRY/EXIT	DIMA290	75
1047	2000	2122	LDC	FCCL+ENSC	CLEAR SCANNER ENABLE	DIMA290	76
1051	7256		OAN.	SC+40		DIMA290	77
1052	7056		IAN.	SC+40		DIMA290	78
1053	7540		DCN.	MC+40		DIMA290	79
1054	0370		UJN	CSEX	RETURN	DIMA290	80
			**	ASE - ACTIVATE SCANNER ENABLE.		DIMA290	82
			*			DIMA290	83
			*	ENTRY SCANNER CHANNEL IS INACTIVE AND		DIMA290	84
			*	SCANNER INTERFACE IS DISABLED.		DIMA290	85
			*			DIMA290	86
			*	(T3) = PPU NUMBER.		DIMA290	87
			*			DIMA290	88
			*	EXIT ACTIVE SCANNER CHANNEL, PPU NUMBER		DIMA290	89
			*	INSERTED IN SCR AND SCANNER		DIMA290	90
			*	INTERFACE IS ENABLED.		DIMA290	91
			*			DIMA290	92
			*	CALLS IPN		DIMA290	93
					DIMA290	94	
					DIMA290	95	
1055	0100	1055	ASE	SUBR	ENTRY/EXIT	DIMA290	96
1057	7400		ACN.	MC	ACTIVATE SCANNER CHANNEL	DIMA290	97
1060	0200	1106	RJM	IPN	INSERT PPU NUMBER IN S/C REGISTER	DIMA290	98
1062	2000	4122	LDC	FCSB+ENSC	ENABLE SCANNER INTERFACE	DIMA290	99
1064	0200	1442	RJM	SFC		DIMA290	100
1066	0366		UJN	ASEX	RETURN	DIMA290	101

```
**      IPN - INSERT FIRST LEVEL PPU NUMBER IN S/C REGISTER.
*
*      ENTRY  (T3) = FLPP NUMBER.
*
*      EXIT   (A) = 0.
*
*      USES   T1, T2.
*
*      CALLS  NONE.
```

```
DHE      594
DHE      595
DHE      596
DHE      597
DHE      598
DHE      599
DHE      600
DHE      601
DHE      602
DHE      603
DHE      604
DHE      605
DHE      606
DHE      607
DHE      608
DHE      609
DHE      610
DHE      611
DHE      612
DHE      613
DHE      614
DHE      615
DHE      616
DHE      617
DHE      618
DHE      619
DHE      620
DHE      621
DHE      622
```

```
1067      3001      IPN1      LDD      T1      CHECK NEXT BIT
1070      1076
1071      3401      IPN2      STD      T1
1072      1201      LPN      1
1073      0403      ZJN      IPN3      IF BIT TO BE CLEARED
1074      2000 6000      LDC      FCSB&FCCL
1076      3302      IPN3      LMD      T2
1077      7256      OAN.      SC+40
1100      7056      IAN.      SC+40
1101      3602      AOD      T2      ADVANCE BIT NUMBER
1102      2300 2114      LMC      FCCL+SCSL+4
1104      0562      NJN      IPN1      IF NOT END OF BITS
1105      0100 1105      IPN      SUBR      ENTRY/EXIT
1107      2000 2110      LDC      FCCL+SCSL      PRESET FUNCTION AND BIT NUMBER
1111      3402      STD      T2
1112      3003      LDD      T3
1113      0355      UJN      IPN2      ENTER LOOP
```

```
**      DCL - DISPLAY CODED LINE.
*
*      ENTRY  (A) = X COORDINATE.
*              (YC) = Y COORDINATE.
*              (MS) = MESSAGE ADDRESS.
*
*      EXIT   (YC) = Y COORDINATE FOR NEXT DISPLAY LINE.
*
*      USES   T1.
*
*      CALLS  CF0, DNL.
```

```
DHE      624
DHE      625
DHE      626
DHE      627
DHE      628
DHE      629
DHE      630
DHE      631
DHE      632
DHE      633
DHE      634
DHE      635
DHE      636
DHE      637
DHE      638
DHE      639
DHE      640
DHE      641
DHE      642
DHE      643
DHE      644
DHE      645
DHE      646
DHE      647
```

```
1114      0100 1114      DCL      SUBR      ENTRY/EXIT
1116      3401      STD      T1      SAVE X COORDINATE
1117      0200 0610      RJM      CF0      CHECK FOR SCREEN OVERFLOW
1121      7710 7000      FNC.      7000,CH      SELECT LEFT SCREEN, 64 CHARACTERS/LINE
1122      DCLA      EQU      *-1
*      FNC.      7100,CH      (IF OVERFLOW ON RIGHT SCREEN)
1123      7410      ACN.      CH
1124      3001      LDD      T1      OUTPUT X COORDINATE
1125      7210      OAN.      CH
1126      3023      LDD      YC      OUTPUT Y COORDINATE
1127      7210      OAN.      CH
```

1

1171	5007 3073	CLE1	LDM	SC0B+15,T7		DIMA291	12
1173	1217		LPN	17B	MASK OFF SYNDROME BITS	DIMA291	13
1174	0517		NJN	CLE2		DIMA291	14
1175	5007 3074		LDM	SC0B+16,T7		DIMA291	15
1177	0514		NJN	CLE2		DIMA291	16
1200	5007 3075		LDM	SC0B+17,T7		DIMA291	17
1202	0511		NJN	CLE2		DIMA291	18
1203	5007 3076		LDM	SC0B+20,T7		DIMA291	19
1205	0503		NJN	CLE1.1		DIMA291	20
1206	0100 1252		LJM	CLE9		DIMA291	21
1210	2200 3767	CLE1.1	LPC	3767B	CHECK BITS 0 - 2, 4 -10	DIMA291	22
1212	0403		ZJN	CLE3		DIMA291	23
1213	0100 1277	CLE2	LJM	CLE10	FATAL ERROR EXIT	DIMA291	24
1215	5007 3076	CLE3	LDM	SC0B+20,T7		DIMA291	25
1217	1210		LPN	10B	CHECK BIT 3	DIMA291	26
1220	0411		ZJN	CLE6		DIMA291	27
1221	5007 3057		LDM	SC0B+1,T7	CHECK BIT 183	DIMA291	28
1223	1016		SHN	21-3		DIMA291	29
1224	0766		MJN	CLE2	IF FATAL ERROR	DIMA291	30
1225	5000 2003		LDM	FCCL+SECD	CLEAR BIT 3	DIMA291	31
1227	7256	CLE4	OAN.	SC+40B		DIMA291	32
		*	OAN	SC+40B+20B	IF CHANNEL 36	DIMA291	33
1230	7056	CLE5	IAN.	SC+40B		DIMA291	34
		*	IAN	SC+40B+20B	IF CHANNEL 36	DIMA291	35
1231	5007 3076	CLE6	LDM	SC0B+20,T7	CHECK BIT 11	DIMA291	36
1233	1006		SHN	21-13		DIMA291	37
1234	0616		PJN	CLE9	IF NO ERROR	DIMA291	38
1235	5000 7673		LDM	/CPA/OPTN	CHECK IF CYBER 176	DIMA291	39
1237	1066		SHN	-11		DIMA291	40
1240	1203		LPN	3		DIMA291	41
1241	0436		ZJN	CLE10	IF NOT CYBER 176	DIMA291	42
1242	5007 3056		LDM	SC0B,T7	CHECK BIT 196	DIMA291	43
1244	1015		SHN	21-4		DIMA291	44
1245	0732		MJN	CLE10		DIMA291	45
1246	5000 2013		LDM	FCCL+LSCD	CLEAR BIT 11	DIMA291	46
1250	7256	CLE7	OAN.	SC+40B		DIMA291	47
		*	OAN	SC+60B	IF CHANNEL 36	DIMA291	48
1251	7056	CLE8	IAN.	SC+40B		DIMA291	49
		*	IAN	SC+60B	IF CHANNEL 36	DIMA291	50
1252	3011	CLE9	LDD	NO	CHECK FOR CHANNEL 36 S/C REGISTER	DIMA291	51
1253	0526		NJN	CLE11		DIMA291	52
1254	3007		LDD	T7		DIMA291	53
1255	0524		NJN	CLE11	IF CHANNEL 36 ALREADY CHECKED, EXIT	DIMA291	54
1256	2000 0021		LDC	NSCB	CHANGE T7 TO INDEX CHANNEL 36 BUFFER	DIMA291	55
1260	3407		STD	T7		DIMA291	56
1261	2000 7060		LDC	IANI+60B	CHANGE FOR CHANNEL 36	DIMA291	57
1263	5400 1230		STM	CLE5		DIMA291	58
1265	5400 1251		STM	CLE8		DIMA291	59
1267	2000 7260		LDC	OANI+60B	CHANGE FOR CHANNEL 36	DIMA291	60
1271	5400 1227		STM	CLE4		DIMA291	61
1273	5400 1250		STM	CLE7		DIMA291	62
1275	0100 1171		LJM	CLE1	CHECK CHANNEL 36 ERRORS	DIMA291	63
1277	1401	CLE10	LDN	1	SET FATAL ERROR FLAG	DIMA291	64
1300	3414		STD	FF		DIMA291	65
1301	0100 1150	CLE11	LJM	CLEX	EXIT	DIMA291	66
						DHE	730

			**	HPP - HANG PP-S		DIMA222	23	
			*			DIMA222	24	
			*	HPP WRITES UPPER CELL OF ALL PP-S TO CLEAR PARITY.		DIMA222	25	
1			*			DIMA222	26	1
2			*	CALLS ICN		DIMA222	27	2
3			*			DIMA222	28	3
4			*	EXIT (T1) = CHANNEL NO.		DIMA222	29	4
5	1303	0100 1303	HPP	SUBR ENTRY/EXIT		DIMA222	30	5
6	1305	7450		ACN CH+40B		DIMA222	31	6
7	1306	1400		LDN 0		DIMA222	32	7
8	1307	3401	HPP03	STD T1	CURRENT CHANNEL	DIMA222	33	8
9	1310	3001	HPP04	LDD T1		DIMA222	34	9
10	1311	1712		SBN 12B		DIMA222	35	10
11	1312	0706		MJN HPP06	IF IN RANGE 1-11	DIMA222	36	11
12	1313	0503		NJN HPP05	IF IN RANGE 20-32	DIMA222	37	12
13	1314	1420		LDN 20B		DIMA222	38	13
14	1315	0371		UJN HPP03		DIMA222	39	14
15	1316	1720	HPP05	SBN 32B-12B		DIMA222	40	15
16	1317	0663		PJN HPPX	IF DONE, RETURN	DIMA222	41	16
17	1320	2000 1345	HPP06	LDC HPPE	FWA OF CHAN LIST	DIMA222	42	17
18	1322	0200 1354		RJM ICN	INSERT CHANNEL NO.	DIMA222	43	18
19	1324	7440	HPPF	ACN 40B		DIMA222	44	19
20	1325	1400		LDN 0		DIMA222	45	20
21	1326	7200	HPPG	OAN 0	CHECK FOR A PP	DIMA222	46	21
22	1327	4001		LDI T1	DELAY FOR PP TO TAKE WORD	DIMA222	47	22
23	1330	1404		LDN 4		DIMA222	48	23
24	1331	6700 1334	HPPH	EJM HPPB,0		DIMA222	49	24
25	1333	0303		UJN HPPC	THERE IS NOT A PP	DIMA222	50	25
26	1334	7300 1341	HPPB	OAM HPPD,0	CLEAR UPPER CELL OF PP	DIMA222	51	26
27	1336	7540	HPPC	DCN 40B		DIMA222	52	27
28	1337	3601		AOD T1		DIMA222	53	28
29	1340	0347		UJN HPP04	CONTINUE	DIMA222	54	29
30	1341	1500 3401	HPPD	CON LCNI,STDI,STII,UJNI		DIMA222	55	30
31	1343	4401 0300						31
32			* ADDRESS	TABLE OF MODIFIED INSTRUCTIONS FOLLOWS		DIMA222	56	32
33	1345	1334 1336	HPPE	CON HPPB,HPPC,HPPF,HPPG,HPPH,0		DIMA222	57	33
34	1347	1324 1326						34
35	1351	1331 0000						35
36								36
37								37
38								38
39								39
40			**	ICN - INSERT CHANNEL NO.		DIMA222	59	40
41			*			DIMA222	60	41
42			*	ICN INSERTS CHANNEL NO.S IN INSTRUCTIONS GIVEN		DIMA222	61	42
43			*	IN A LIST TERMINATED WITH A ZERO.		DIMA222	62	43
44			*			DIMA222	63	44
45			*	ENTRY (A) = FWA OF CHANNEL LIST.		DIMA222	64	45
46			*	(T1) = CHANNEL NO.		DIMA222	65	46
47			*			DIMA222	66	47
48			*	USES T2,T3.		DIMA222	67	48
49	1353	0100 1353	ICN	SUBR ENTRY/EXIT		DIMA222	68	49
50	1355	3402		STD T2		DIMA222	69	50
51	1356	4002	ICN1	LDI T2		DIMA222	70	51
52	1357	0473		ZJN ICNX	IF LIST COMPLETE	DIMA222	71	52
53	1360	3403		STD T3		DIMA222	72	53
54	1361	4003		LDI T3		DIMA222	73	54
55								55
56								56
57								57
58								58
59								59
60								60

DIMA222	74
DIMA222	75
DIMA222	76
DIMA222	77
DIMA222	78

DHE	732
DHE	733
DHE	734
DHE	735
DHE	736
DHE	737
DHE	738
DHE	739
DHE	740

DHE	743
DHE	744
DHE	745
DHE	746
DHE	747
DHE	748
DHE	749
DHE	750
DHE	751
DHE	752
DHE	753
DHE	754
DHE	755
DHE	756
DHE	757
DHE	758
DHE	759
DHE	760
DHE	761
DHE	762


```
**      PDC - POSITION TO DISPLAY CODE WITH NO LEADING BLANK.
*
*      ENTRY  (BA) = BUFFER ADDRESS OF NUMBER TO CONVERT.
*              (T4) = ADDRESS OF INSERT.
*
*      EXIT   (BA) = ADDRESS OF NEXT NUMBER.
*              (T4) = ADDRESS OF NEXT INSERT.
*
*      USES   NONE.
*
*      CALLS  C2D.
```

```
DHE      764
DHE      765
DHE      766
DHE      767
DHE      768
DHE      769
DHE      770
DHE      771
DHE      772
DHE      773
DHE      774
DHE      775
DHE      776
DHE      777
DHE      778
DHE      779
DHE      780
DHE      781
DHE      782
DHE      783
DHE      784
DHE      785
DHE      786
DHE      787
DHE      788
```

```
1422      0100 1422      PDC      SUBR      ENTRY/EXIT
1424      4010      LDI      BA      WORD TO CONVERT
1425      1071      SHN      -6
1426      0200 1514      RJM      C2D      CONVERT TO DISPLAY
1430      4404      STI      T4
1431      3604      AOD      T4
1432      4010      LDI      BA
1433      0200 1514      RJM      C2D      CONVERT TO DISPLAY
1435      4404      STI      T4
1436      3604      AOD      T4
1437      3610      AOD      BA
1440      0361      UJN      PDCX      RETURN
```

```
**      SFC - SEND FUNCTION TO S/C REGISTER.
*
*      ENTRY  (A) = FUNCTION.
*
*      EXIT   (A) = FUNCTION REPLY.
*
*      USES   NONE.
*
*      CALLS  NONE.
```

```
DHE      790
DHE      791
DHE      792
DHE      793
DHE      794
DHE      795
DHE      796
DHE      797
DHE      798
DHE      799
DHE      800
DHE      801
DHE      802
DHE      803
DHE      804
DHE      805
DHE      806
```

```
1441      0100 1441      SFC      SUBR      ENTRY/EXIT
1443      7256      SFCA      OAN.      SC+40      SEND FUNCTION
*      OAN.      SC+40+20      (IF CHANNEL 36 CALL)
1444      7056      SFCB      IAN.      SC+40
*      IAN.      SC+40+20      (IF CHANNEL 36 CALL)
1445      0373      UJN      SFCX      RETURN
```

```
*      DISPLAY MESSAGES.
```

```
DHE      808
DHE      809
DHE      810
DHE      811
DHE      812
```

```
1446      2322      DMSA      DATA      C*SR-0-2 YYYY YYYY YYYY YYYY YYYY YYYY.*
1472      0405      DMSC      DATA      C*DEADSTART ABORTED - FATAL ERROR.*
```


*COMMON DECKS.

DHE814
DHE815
DHE816
COMPC2D2
DHE818

1	1513	CTEXT	COMPC2D - CONVERT 2 OCTAL DIGITS TO DISPLAY CODE.	COMPC2D	2	1
2		LIST	X			2
3						3
4						4
5						5
6						6
7						7
8						8
9						9
10						10
11						11
12						12
13						13
14						14
15						15
16						16
17						17
18						18
19						19
20						20
21						21
22						22
23						23
24						24
25						25
26						26
27						27
28						28
29						29
30						30
31						31
32						32
33						33
34						34
35						35
36						36
37						37
38						38
39						39
40						40
41						41
42						42
43						43
44						44
45						45
46						46
47						47
48						48
49						49
50						50
51						51
52						52
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54						54
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57						57
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59						59
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						69
						70
						71
						72
						73
						74
						75
						76
						77
						78
						79
						80

1412THE

1525

CTEXT COMPSCE - STATUS/CONTROL REGISTER ERROR PROCESSOR.

COMPSCE 2

IF -DEF,QUAL\$,1

COMPSCE 4

QUAL COMPSCE

COMPSCE 5

COMMENT COPYRIGHT CONTROL DATA CORP. 1975.

COMPSCE 6

*** SCE - STATUS/CONTROL REGISTER ERROR PROCESSOR.
* A. J. BEEKMAN. 75/01/01.

COMPSCE 8
COMPSCE 9

*** COMPSCE CHECKS THE S/C REGISTER(S) FOR STATUS BITS THAT ARE
* SET. WHEN A SET STATUS BIT IS FOUND, THE APPROPRIATE
* EXPLANATION OF THE ERROR IS ENTERED IN A BUFFER WHOSE
* BEGINNING AND ENDING ADDRESSES ARE SPECIFIED BY THE
* CALLING PROGRAM. THE BEGINNING ADDRESS OF THE EXPLANATION
* IS ENTERED IN TABLE TEMA (TABLE OF ERROR MESSAGE ADDRESSES).
* TABLE TEMA HAS THE FOLLOWING FORMAT -

COMPSCE 11
COMPSCE 12
COMPSCE 13
COMPSCE 14
COMPSCE 15
COMPSCE 16
COMPSCE 17

* TEMA 12/ ADDR 1
* 12/ ADDR 2
* 12/ .
* 12/ .
* 12/ .
* 12/ ADDR N
* 12/ 0

COMPSCE 18
COMPSCE 19
COMPSCE 20
COMPSCE 21
COMPSCE 22
COMPSCE 23
COMPSCE 24
COMPSCE 25

* WHERE N IS THE TOTAL NUMBER OF STATUS BITS SET IN THE
* S/C REGISTER(S),
* ADDR 1 - ADDR N ARE FIRST WORD ADDRESSES OF ERROR
* MESSAGES IN THE EXPLANATION BUFFER (ADDR 1 IS
* THE FIRST WORD ADDRESS OF THE EXPLANATION BUFFER).

COMPSCE 26
COMPSCE 27
COMPSCE 28
COMPSCE 29
COMPSCE 30
COMPSCE 31

* WHEN ALL THE STATUS BITS ARE CHECKED, TABLE TEMA IS
* TERMINATED BY A WORD OF ZEROS, AND THE LWA+1 OF THE FINAL
* EXPLANATION IN THE EXPLANATION BUFFER IS PASSED BACK TO THE
* CALLING PROGRAM. THE FORMAT OF AN ENTRY IN THE EXPLANATION
* BUFFER IS -

COMPSCE 32
COMPSCE 33
COMPSCE 34
COMPSCE 35
COMPSCE 36
COMPSCE 37

* ADDR 6/ REG,6/
* 12/ BIT NUM
* 6/ ,6/ *-*
* 12/ MESSAGE X
* 12/ .
* 12/ .
* 12/ 0

COMPSCE 38
COMPSCE 39
COMPSCE 40
COMPSCE 41
COMPSCE 42
COMPSCE 43
COMPSCE 44
COMPSCE 45
COMPSCE 46

* WHERE ADDR X = ADDRESS OF FIRST WORD OF ERROR MESSAGE,
* REG = 0 IF CHANNEL 16 S/C REGISTER,

COMPSCE 47
COMPSCE 48
COMPSCE 49

1412THE

* = 1 IF CHANNEL 36 S/C REGISTER,
* BIT NUM = STATUS BIT NUMBER,
* MESSAGE X = EXPLANATION OF ERROR.

COMPSCE 50
COMPSCE 51
COMPSCE 52

* NOTES- 1) THIS COMMON DECK REQUIRES THAT THE CALLING
* PROGRAM ALSO CALL COMMON DECK COMSSCR.

COMPSCE 53
COMPSCE 54
COMPSCE 55

* 2) TABLE TEMA MAY BE UP TO 81 WORDS IN LENGTH
* (ONE WORD PER STATUS ERROR BIT PLUS WORD OF ZEROS)
* IF TWO S/C REGISTERS EXIST. IT IS UP TO THE
* CALLING PROGRAM TO RESERVE ENOUGH SPACE
* FOR THIS TABLE.
* FOLLOWING THE COMMON DECK FOR THIS TABLE.

COMPSCE 56
COMPSCE 57
COMPSCE 58
COMPSCE 59
COMPSCE 60
COMPSCE 61
COMPSCE 62

* ENTRY (A) = FWA OF ERROR MESSAGE BUFFER.
* (TE) = MESSAGE ADDRESS TABLE (TEMA) ADDRESS.
* (LW) = LENGTH OF ERROR MESSAGE BUFFER.
* (/CPA/OPTN) = HDT OPTION WORD.

COMPSCE 63
COMPSCE 64
COMPSCE 65
COMPSCE 66
COMPSCE 67

* EXIT (FW) = LWA+1 OF FINAL ERROR MESSAGE IN BUFFER.
* (TE) = ADDRESS OF ZERO WORD IN TABLE TEMA.
* IF MESSAGE BUFFER FILLS BEFORE ALL STATUS BITS ARE
* CHECKED, (FW) = LWA+1 OF FINAL ERROR MESSAGE THAT
* FITS ENTIRELY INTO THE BUFFER.

COMPSCE 68
COMPSCE 69
COMPSCE 70
COMPSCE 71
COMPSCE 72
COMPSCE 73

* USES C1,C2,AM,BT,BW,CB,FW,LW,RW,TE,WC,CT.

COMPSCE 74
DIMA299 1

* INSTRUCTIONS USED AS CONSTANTS.

COMPSCE 76
COMPSCE 77

1000 SHNI EQU 1000 SHN INSTRUCTION
1200 LPNI EQU 1200 LPN INSTRUCTION
1400 LDNI EQU 1400 LDN INSTRUCTION
1500 LCNI EQU 1500 LCN INSTRUCTION
7000 IANI EQU 7000 IAN INSTRUCTION
7200 OANI EQU 7200 OAN INSTRUCTION

COMPSCE 78
COMPSCE 79
COMPSCE 80

* ASSEMBLY CONSTANTS.

COMPSCE 81
COMPSCE 82
COMPSCE 83
COMPSCE 84
COMPSCE 85
COMPSCE 86
COMPSCE 87
COMPSCE 88

47 UBIT EQU 47 BIT NUMBER OF A CHANNEL 16 BIT NOT IN USE

COMPSCE 89
COMPSCE 90
COMPSCE 91

1525 0100 1525 SCE SUBR ENTRY/EXIT
1527 3462 STD FW SAVE FWA OF MESSAGE BUFFER
1530 3563 RAD LW CALCULATE LWA+1 OF BUFFER

COMPSCE 92

COMPSCE 94

* SET *TUBT* AND *TNUB* FOR CY176, 176B, AND 17X MODEL D.
1531 1401 LDN 1
1532 3473 STD CT INITIALIZE NOT USED BIT TABLE FLAG
1533 2000 3124 LDC FCTC+PPCT TEST AND CLEAR BIT 84D
1535 7256 OAN. CHSC+40B
1536 7056 IAN. CHSC+40B

COMPSCE 95
COMPSCE 96
COMPSCE 97

DIMA299 2
DIMA299 3
DIMA299 4
DIMA299 5
DIMA299 6
DIMA299 7

1537	0425		ZJN	SCE1.2	NOT MODEL B OR D	DIMA299	8
1540	2000 1124		LDC	FCTB+PPCT	TEST BIT 84D	DIMA299	9
1542	7256		OAN.	CHSC+40B		DIMA299	10
1543	7056		IAN.	CHSC+40B		DIMA299	11
1544	0414		ZJN	SCE1.1	NOT MODEL B OR D, WAS IN 2X SPEED	DIMA299	12
1545	1460		LDN	60B		DIMA299	13
1546	5500 2347		RAM	TNUB	SET NOT USED BITS FOR MODEL B OR D	DIMA299	14
1550	1400		LDN	0		DIMA299	15
1551	3473		STD	CT	CLEAR NOT USED BIT TABLE FLAG	DIMA299	16
1552	5400 2353		STM	TUBT	CLEAR USED BITS IN TABLE * TUBT *	DIMA299	17
1554	2000 1400		LDC	LDNI		DIMA299	18
1556	5400 1571		STM	SCE1.3	CLEAR CH36 USED BITS	DIMA299	19
1560	2000 4124	SCE1.1	LDC	FCSB+PPCT	SET BIT 84D	DIMA299	20
1562	7256		OAN.	CHSC+40B		DIMA299	21
1563	7056		IAN.	CHSC+40B		DIMA299	22
1564	5000 7673	SCE1.2	LDM	/CPA/OPTN	CHECK FOR CYBER 176	DIMA299	23
1566	1066		SHN	-11B		DIMA299	24
1567	1203		LPN	3		DIMA299	25
1570	0427		ZJN	SCE1.4	IF NOT A CYBER 176	DIMA299	26
1571	1460	SCE1.3	LDN	60B	SET USED BITS IN TABLE * TUBT *	DIMA299	27
		*	LDN	0	* MODIFIED FOR MODEL B *	DIMA299	28
1572	5400 2353		STM	TUBT		COMPSCE	105
1574	1400		LDN	0	CLEAR NOT USED BIT TABLE FLAG	DIMA299	29
1575	3473		STD	CT		DIMA299	30
1576	2000 1777		LDC	1777		COMPSCE	106
1600	5400 2354		STM	TUBT+1		COMPSCE	107
1602	2000 2567		LDC	PPEM	SET *PPU ERROR* FOR FLPP-S	COMPSCE	108
1604	5400 2367		STM	TEMF+TEMFA		COMPSCE	109
1606	2000 2535		LDC	LSEM	SET *LCM SECDED* ERROR	COMPSCE	110
1610	5400 2405		STM	TEMF+TEMFB		COMPSCE	111
1612	2000 4000		LDC	4000		COMPSCE	112
1614	5400 2406		STM	TEMF+TEMFB+1		COMPSCE	113
1616	0307		UJN	SCE1		DIMA299	31
1617	3073	SCE1.4	LDD	CT		DIMA299	32
1620	0505		NJN	SCE1	IF NOT MODEL D	DIMA299	33
1621	2000 1274		LDC	1274B		DIMA299	34
1623	5400 2347		STM	TNUB		DIMA299	35
						COMPSCE	114
		*		SET CHANNEL 16 IF NECESSARY.		COMPSCE	115
1625	5000 1643	SCE1	LDM	SCEA	CHECK PRESENT CHANNEL	COMPSCE	116
1627	1220		LPN	20		COMPSCE	117
1630	0404		ZJN	SCE2	IF CHANNEL 16	COMPSCE	119
1631	1416		LDN	16		COMPSCE	120
1632	0200 2304		RJM	CGC	CHANGE CHANNELS	COMPSCE	121
1634	1400	SCE2	LDN	0	SET ORIGINAL BIT NUMBER	COMPSCE	122
1635	3466		STD	BT		COMPSCE	123
1636	1400		LDN	FCRD	READ WORD CODE	COMPSCE	124
1637	3472		STD	RW		COMPSCE	125
						COMPSCE	126
		*		READ WORD FROM STATUS/CONTROL REGISTER.		COMPSCE	127
1640	1400	SCE3	LDN	0	SET BIT NUMBER WITHIN WORD	COMPSCE	128
1641	3467		STD	BW		COMPSCE	129
1642	3072		LDD	RW	READ WORD CODE	COMPSCE	131
1643	7256	SCEA	OAN.	CHSC+40		COMPSCE	132
		*	OAN.	CHSC+40+20	(IF CHANNEL 36 CALL)	COMPSCE	133

1644	7056	SCEB	IAN.	CHSC+40		COMPSCE	134
		*	IAN.	CHSC+40+20	(IF CHANNEL 36 CALL)	COMPSCE	135
1645	3471		STD	WC		COMPSCE	136
1646	0510		NJN	SCE5	IF STATUS BITS SET IN WORD	COMPSCE	137
1647	3672	SCE4	AOD	RW	SET NEXT WORD	COMPSCE	138
1650	1414		LDN	14	SET BIT NUMBER	COMPSCE	139
1651	3566		RAD	BT		COMPSCE	140
1652	1750		SBN	NTEB		COMPSCE	141
1653	0764		MJN	SCE3	IF NOT ALL STATUS BITS CHECKED	COMPSCE	142
1654	0100 2264		LJM	SCE32	JUMP IF NO SET STATUS BITS IN WORD 4	COMPSCE	143
		*			CHECK FOR SET STATUS BITS IN WORD.	COMPSCE	144
						COMPSCE	145
1656	3071	SCE5	LDD	WC	GET NEXT BIT	COMPSCE	146
1657	1021		SHN	21-0		COMPSCE	147
1660	3471		STD	WC		COMPSCE	148
1661	0705		MJN	SCE7	IF BIT SET	COMPSCE	149
1662	3667	SCE6	AOD	BW	SET NEXT BIT IN WORD	COMPSCE	150
1663	1714		SBN	14		COMPSCE	151
1664	0771		MJN	SCE5	IF NOT END OF WORD	COMPSCE	152
1665	0361		UJN	SCE4	LOOP TO SET NEXT WORD	COMPSCE	153
		*			FIND ERROR MESSAGE FOR SET STATUS BIT.	COMPSCE	154
						COMPSCE	155
1666	3066	SCE7	LDD	BT	SET CURRENT BIT NUMBER	COMPSCE	156
1667	3167		ADD	BW		COMPSCE	157
1670	1750		SBN	NTEB		COMPSCE	158
1671	0703		MJN	SCE8	IF NOT ALL STATUS BITS CHECKED	COMPSCE	159
1672	0100 2264		LJM	SCE32	JUMP IF 4 BITS CHECKED IN WORD 4	COMPSCE	160
						COMPSCE	161
1674	1650	SCE8	ADN	NTEB		COMPSCE	162
1675	3470		STD	CB		COMPSCE	163
1676	1001		SHN	1		COMPSCE	164
1677	3460		STD	C1		COMPSCE	165
		*			SET *NOT USED* FOR CYBER 176 AND CHANNEL 36 UNUSED BITS.	COMPSCE	166
						COMPSCE	167
1700	3067		LDD	BW	SET UP SHIFT COUNT	COMPSCE	168
1701	1606		ADN	6		COMPSCE	169
1702	2300 1000		LMC	SHNI		COMPSCE	170
1704	5400 1725		STM	SCEC		COMPSCE	171
1706	5400 1720		STM	SCEF		COMPSCE	172
1710	5000 1643		LDM	SCEA	CHECK CHANNEL	COMPSCE	173
1712	1220		LPN	20		COMPSCE	174
1713	0510		NJN	SCE9	IF NOT CHANNEL 16	COMPSCE	175
1714	3073		LDD	CT		DIMA299	176
1715	0515		NJN	SCE11	IF NO BITS HAVE CHANGED TO UNUSED	DIMA299	177
1716	5072 2347		LDM	TNUB,RW	READ NOT USED BIT MASK	DIMA299	178
1720	1006	SCEF	SHN	21-13	CHECK IF BIT NOT USED	COMPSCE	179
		*	SHN	21-13+BIT	(BIT NUMBER *BIT* IN WORD)	COMPSCE	180
1721	0706		MJN	SCE10	IF BIT NOT USED	COMPSCE	181
1722	0310		UJN	SCE11	CHECK FOR INSERTION CODE	COMPSCE	182
						COMPSCE	183
1723	5072 2353	SCE9	LDM	TUBT,RW	READ CHANNEL 36 USED BIT MASK	COMPSCE	184
1725	1006	SCEC	SHN	21-13	CHECK IF BIT USED	COMPSCE	185
		*	SHN	21-13+BIT	(IF BIT NUMBER *BIT*)	COMPSCE	186
1726	0704		MJN	SCE11	IF BIT USED	COMPSCE	187

1727	2000 0116	SCE10	LDC	UBIT*2	SET *NOT USED* MESSAGE	COMPSCE	193
1731	3460		STD	C1		COMPSCE	194
						COMPSCE	195
		*			CHECK FOR CODE TO INSERT IN SKELETON MESSAGE.	COMPSCE	196
						COMPSCE	197
1732	5060 2357	SCE11	LDM	TEMF,C1	READ ERROR MESSAGE ADDRESS	COMPSCE	198
1734	3464		STD	AM		COMPSCE	199
1735	1701		SBN	1	SET ADDRESS OF INSERTION CODE WORD NUMBER	COMPSCE	200
1736	3461		STD	C2		COMPSCE	201
1737	5060 2360		LDM	TEMF+1,C1	CHECK FOR INSERTION CODE	COMPSCE	202
1741	3460		STD	C1		COMPSCE	203
1742	1006		SHN	6		COMPSCE	204
1743	0503		NJN	SCE12	IF CODE	COMPSCE	205
1744	0100 2174		LJM	SCE24	PROCESS NORMAL MESSAGE	COMPSCE	206
						COMPSCE	207
1746	0703	SCE12	MJN	SCE13	IF SPECIAL MESSAGE	COMPSCE	208
1747	0100 2127		LJM	SCE22	INSERT CODE	COMPSCE	209
						COMPSCE	210
		*			SET UP CM SECDED ERROR MESSAGE.	COMPSCE	211
						COMPSCE	212
1751	1400	SCE13	LDN	0	SET INCREMENT FOR MESSAGES	COMPSCE	213
1752	3461		STD	C2		COMPSCE	214
1753	2000 2535		LDC	LSEM		COMPSCE	215
1755	3364		LMD	AM		COMPSCE	216
1756	0503		NJN	SCE14	IF CM SECDED ERROR	COMPSCE	217
1757	0100 2054		LJM	SCE20	PROCESS LCM SECDED ERROR	COMPSCE	218
						COMPSCE	219
1761	5061 3051	SCE14	LDM	QRNT,C2	SET *QUADRANT* IN MESSAGE	COMPSCE	220
1763	5461 2554		STM	SEEM+15,C2		COMPSCE	221
1765	3661		AOD	C2		COMPSCE	222
1766	1705		SBN	5		COMPSCE	223
1767	0571		NJN	SCE14	IF NOT END OF INSERT	COMPSCE	224
1770	1417		LDN	FCRD+CDSW	SET CM DOUBLE ERROR BIT CHECK	COMPSCE	225
1771	7256		OAN.	CHSC+40		COMPSCE	226
1772	7056		IAN.	CHSC+40		COMPSCE	227
1773	5400 2033		STM	SCEG		COMPSCE	228
1775	1404		LDN	FCRD+CMAW	OBTAIN QUADRANT AND CSU	COMPSCE	229
1776	7256		OAN.	CHSC+40		COMPSCE	230
1777	7056		IAN.	CHSC+40		COMPSCE	231
2000	3461		STD	C2	ISOLATE QUADRANT	COMPSCE	232
2001	1074		SHN	-3		COMPSCE	233
2002	3460		STD	C1		COMPSCE	234
2003	5000 7673		LDM	/CPA/OPTN		COMPSCE	235
2005	1066		SHN	-11		COMPSCE	236
2006	1203		LPN	3		COMPSCE	237
2007	0403		ZJN	SCE15	IF NOT A CYBER 176	COMPSCE	238
2010	3061		LDD	C2		COMPSCE	239
2011	0302		UJN	SCE16	OBTAIN QUADRANT NUMBER	COMPSCE	240
						COMPSCE	241
2012	3060	SCE15	LDD	C1		COMPSCE	242
2013	1203	SCE16	LPN	3		COMPSCE	243
2014	2100 5533		ADC	2R 0	CONVERT TO DISPLAY CODE	COMPSCE	244
2016	5400 2560		STM	SEEM+21	SET QUADRANT NUMBER IN MESSAGE	COMPSCE	245
2020	3060		LDD	C1	ISOLATE CSU	COMPSCE	246
2021	1075		SHN	-2		COMPSCE	247
2022	1201		LPN	1		COMPSCE	248
2023	2100 5533		ADC	2R 0	CONVERT TO DISPLAY CODE	COMPSCE	249

2025	5400	2564		STM	SEEM+25	SET CSU NUMBER IN MESSAGE	COMPSCE	250
2027	2000	3034	SCE17	LDC	SSET	SET SINGLE BIT SECDED ERROR MESSAGE	COMPSCE	251
2031	3460			STD	C1		COMPSCE	252
2032	2000	2032		LDC	*	CHECK FOR SINGLE/DOUBLE BIT ERROR	COMPSCE	253
			*	LDC	XXXX	(XXXX = CONTENTS OF BYTE WITH DOUBLE BIT)	COMPSCE	254
		2033	SCEG	EQU	*-1		COMPSCE	255
2034	1016			SHN	21-3		COMPSCE	256
2035	0604			PJN	SCE18	IF DOUBLE BIT NOT SET	COMPSCE	257
2036	2000	3040		LDC	SDET	SET DOUBLE BIT MESSAGE	COMPSCE	258
2040	3460			STD	C1		COMPSCE	259
2041	1400		SCE18	LDN	0		COMPSCE	260
2042	3461			STD	C2		COMPSCE	261
2043	4060		SCE19	LDI	C1	TRANSFER INSERT TO SECDED MESSAGE	COMPSCE	262
2044	5461	2542		STM	SEEM+3,C2		COMPSCE	263
2046	3660			AOD	C1		COMPSCE	264
2047	3661			AOD	C2		COMPSCE	265
2050	1704			SBN	4		COMPSCE	266
2051	0571			NJN	SCE19	IF NOT END OF INSERT	COMPSCE	267
2052	0100	2174		LJM	SCE24		COMPSCE	268
			*			SET UP LCM SECDED ERROR MESSAGE.	COMPSCE	269
							COMPSCE	270
2054	5061	3044	SCE20	LDM	BNKT,C2	SET *BANK* IN MESSAGE	COMPSCE	271
2056	5461	2554		STM	SEEM+15,C2		COMPSCE	272
2060	3661			AOD	C2		COMPSCE	273
2061	1705			SBN	5		COMPSCE	274
2062	0571			NJN	SCE20	IF NOT END OF INSERT	COMPSCE	275
2063	3461			STD	C2		COMPSCE	276
2064	1420			LDN	FCRD+LDSW	SET LCM DOUBLE BIT ERROR CHECK	COMPSCE	277
2065	7256			OAN.	CHSC+40		COMPSCE	278
2066	7056			IAN.	CHSC+40		COMPSCE	279
2067	1076			SHN	-1		COMPSCE	280
2070	5400	2033		STM	SCEG		COMPSCE	281
2072	1203			LPN	3	ISOLATE SIZE BITS	COMPSCE	282
2073	3460			STD	C1		COMPSCE	283
2074	1076			SHN	-1		COMPSCE	284
2075	0410			ZJN	SCE21	IF NOT 2048K OF LCM (SIZE .LT. 2)	COMPSCE	285
2076	1411			LDN	FCRD+LCAW+1	READ SECOND LCM ERROR ADDRESS WORD	COMPSCE	286
2077	7256			OAN.	CHSC+40		COMPSCE	287
2100	7056			IAN.	CHSC+40		COMPSCE	288
2101	1071			SHN	-6	OBTAIN UPPER BIT OF BANK NUMBER	COMPSCE	289
2102	1204			LPN	4		COMPSCE	290
2103	3461			STD	C2		COMPSCE	291
2104	3760			SOD	C1	DECREMENT SIZE NUMBER	COMPSCE	292
2105	3060		SCE21	LDD	C1	SET UP MASK FOR BANK NUMBER	COMPSCE	293
2106	1001			SHN	1		COMPSCE	294
2107	2100	1201		ADC	LPNI+1		COMPSCE	295
2111	5400	2117		STM	SCEH		COMPSCE	296
2113	1410			LDN	FCRD+LCAW	READ FIRST LCM ERROR ADDRESS WORD	COMPSCE	297
2114	7256			OAN.	CHSC+40		COMPSCE	298
2115	7056			IAN.	CHSC+40		COMPSCE	299
2116	1073			SHN	-4	FORM BANK NUMBER	COMPSCE	300
2117	1201		SCEH	LPN	1		COMPSCE	301
			*	LPN	3	(LCM SIZE = 1024K OR 2048K)	COMPSCE	302
2120	3161			ADD	C2		COMPSCE	303
2121	2100	5533		ADC	2R 0	CONVERT TO DISPLAY CODE	COMPSCE	304
2123	5400	2556		STM	SEEM+17	SET BANK NUMBER IN MESSAGE	COMPSCE	305

2125	0100	2027		LJM	SCE17	SET SINGLE/DOUBLE BIT ERROR	COMPSCE	307
							COMPSCE	308
			*		PROCESS PP STOPPED ON PARITY ERROR MESSAGE.		COMPSCE	309
							COMPSCE	310
2127	2000	2740	SCE22	LDC	PMEM		COMPSCE	311
2131	3364			LMD	AM		COMPSCE	312
2132	0535			NJN	SCE23	IF NOT PP DETECTED PARITY ERROR	COMPSCE	313
2133	2000	5520		LDC	2R P	PRESET MESSAGE FOR PP MEMORY ERROR	COMPSCE	314
2135	5400	2757		STM	PMEM+17		COMPSCE	315
2137	2000	2015		LDC	2RPM		COMPSCE	316
2141	5400	2760		STM	PMEM+20		COMPSCE	317
2143	2000	5755		LDC	2R.		COMPSCE	318
2145	5400	2761		STM	PMEM+21		COMPSCE	319
2147	2000	1167		LDC	FCTB+PCMP	CHECK FOR CM READ ERROR	COMPSCE	320
2151	7256		SCED	OAN.	CHSC+40		COMPSCE	321
			*	OAN.	CHSC+40+20	(IF CHANNEL 36 CALL)	COMPSCE	322
2152	7056		SCEE	IAN.	CHSC+40		COMPSCE	323
			*	IAN.	CHSC+40+20	(IF CHANNEL 36 CALL)	COMPSCE	324
2153	0414			ZJN	SCE23	IF NOT CM READ ERROR	COMPSCE	325
2154	2000	5503		LDC	2R C		COMPSCE	326
2156	5400	2757		STM	PMEM+17		COMPSCE	327
2160	2000	1557		LDC	2RM.		COMPSCE	328
2162	5400	2760		STM	PMEM+20		COMPSCE	329
2164	1400			LDN	0		COMPSCE	330
2165	5400	2761		STM	PMEM+21		COMPSCE	331
							COMPSCE	332
			*		SET INSERTION CODE IN ERROR MESSAGES.		COMPSCE	333
							COMPSCE	334
2167	4061		SCE23	LDI	C2	GET WORD NUMBER FOR INSERTION CODE	COMPSCE	335
2170	3164			ADD	AM	SET INSERTION CODE ADDRESS	COMPSCE	336
2171	3461			STD	C2		COMPSCE	337
2172	3060			LDD	C1	STORE INSERTION CODE IN MESSAGE	COMPSCE	338
2173	4461			STI	C2		COMPSCE	339
							COMPSCE	340
			*		COPY MESSAGE TO BUFFER AND SET ADDRESS IN TABLE TEMA.		COMPSCE	341
							COMPSCE	342
2174	3062		SCE24	LDD	FW	STORE BUFFER ADDRESS OF MESSAGE IN TEMA	COMPSCE	343
2175	4465			STI	TE		COMPSCE	344
2176	3665			AOD	TE	ADVANCE TABLE INDEX	COMPSCE	345
2177	3062			LDD	FW	CHECK FOR END OF BUFFER	COMPSCE	346
2200	1603			ADN	3		COMPSCE	347
2201	3263			SBD	LW		COMPSCE	348
2202	0703			MJN	SCE25	IF NOT END OF BUFFER	COMPSCE	349
2203	0100	2255		LJM	SCE30		COMPSCE	350
							COMPSCE	351
2205	5000	1643	SCE25	LDM	SCEA	SET UP FIRST WORD OF MESSAGE	COMPSCE	352
2207	1220			LPN	20		COMPSCE	353
2210	1002			SHN	2		COMPSCE	354
2211	2100	3355		ADC	2R0	SET DISPLAY CODED REGISTER NUMBER	COMPSCE	355
2213	4462			STI	FW		COMPSCE	356
2214	3662			AOD	FW		COMPSCE	357
2215	1400			LDN	0		COMPSCE	358
2216	3460			STD	C1		COMPSCE	359
2217	3070		SCE26	LDD	CB	CONVERT BIT NUMBER TO DISPLAY CODE	COMPSCE	360
2220	1712			SBN	12		COMPSCE	361
2221	0704			MJN	SCE27	IF DECIMAL REMAINDER FOUND	COMPSCE	362
2222	3470			STD	CB		COMPSCE	363

2223	3660		AOD	C1	INCREMENT QUOTIENT	COMPSCE	364	
2224	0372		UJN	SCE26	LOOP FOR DECIMAL REMAINDER	COMPSCE	365	
						COMPSCE	366	
2225	3060	SCE27	LDD	C1	STORE BIT NUMBER AS SECOND WORD	COMPSCE	367	
2226	1006		SHN	6		COMPSCE	368	
2227	3170		ADD	CB		COMPSCE	369	
2230	2100	3333	ADC	2R00		COMPSCE	370	
2232	4462		STI	FW		COMPSCE	371	
2233	3662		AOD	FW		COMPSCE	372	
2234	2000	5546	LDC	2R -	SET UP THIRD WORD OF MESSAGE	COMPSCE	373	
2236	4462		STI	FW		COMPSCE	374	
2237	3662		AOD	FW		COMPSCE	375	
2240	4064	SCE28	LDI	AM	TRANSFER MESSAGE TO BUFFER	COMPSCE	376	
2241	4462		STI	FW		COMPSCE	377	
2242	0406		ZJN	SCE29	IF END OF MESSAGE	COMPSCE	378	
2243	3664		AOD	AM	INCREMENT TRANSFER ADDRESSES	COMPSCE	379	
2244	3662		AOD	FW		COMPSCE	380	
2245	3263		SBD	LW		COMPSCE	381	
2246	0771		MJN	SCE28	IF NOT END OF BUFFER	COMPSCE	382	
2247	0306		UJN	SCE30		COMPSCE	383	
						COMPSCE	384	
2250	3662	SCE29	AOD	FW	SET BUFFER ADDRESS FOR NEXT MESSAGE	COMPSCE	385	
2251	3263		SBD	LW		COMPSCE	386	
2252	0606		PJN	SCE31	IF END OF BUFFER	COMPSCE	387	
2253	0100	1662	LJM	SCE6	LOOP FOR NEXT BIT	COMPSCE	388	
						COMPSCE	389	
		*			SET ZERO WORD AT END OF TABLE TEMA.	COMPSCE	390	
						COMPSCE	391	
2255	3765	SCE30	SOD	TE	SET ADDRESS FOR ZERO WORD IN TABLE TEMA	COMPSCE	392	
2256	4065		LDI	TE	SET LWA+1 OF LAST MESSAGE IN BUFFER	COMPSCE	393	
2257	3462		STD	FW		COMPSCE	394	
2260	1400	SCE31	LDN	0	STORE ZERO WORD	COMPSCE	395	
2261	4465		STI	TE		COMPSCE	396	
2262	0100	1525	LJM	SCEX	RETURN	COMPSCE	397	
						COMPSCE	398	
		*			SET CHANNEL 36 REGISTER IF TO BE CHECKED.	COMPSCE	399	
						COMPSCE	400	
2264	5000	1643	SCE32	LDM	SCEA	CHECK REGISTER CHANNEL	COMPSCE	401
2266	1220		LPN	20		COMPSCE	402	
2267	0402		ZJN	SCE33	IF NOT BOTH REGISTERS CHECKED	COMPSCE	403	
2270	0367		UJN	SCE31		COMPSCE	404	
						COMPSCE	405	
2271	6520	2260	SCE33	IJM.	SCE31,20	IF NOT 20 PPS	COMPSCE	406
2273	5000	7675	LDM	/CPA/PPP1		COMPSCE	407	
2275	0562		NJN	SCE31	IF NOT 20 PPS	COMPSCE	408	
2276	1436		LDN	36		COMPSCE	409	
2277	0200	2304	RJM	CGC	CHANGE CHANNELS	COMPSCE	410	
2301	0100	1634	LJM	SCE2	LOOP TO CHECK CHANNEL 36 S/C REGISTER	COMPSCE	411	
		**			CGC - CHANGE CHANNELS.	COMPSCE	413	
		*				COMPSCE	414	
		*			ENTRY (A) = CHANNEL NUMBER.	COMPSCE	415	
		*				COMPSCE	416	
		*			USES C2.	COMPSCE	417	

1

** TUBT - TABLE OF USED CHANNEL 36 BITS.

*
* ENTRY - ONE WORD FOR EACH OF FIRST FOUR WORDS OF CHANNEL 36
* S/C REGISTER. EACH BIT CORRESPONDS TO A BIT IN THE
* S/C REGISTER. IF SET IN THE MASK, THAT CORRESPONDING
* BIT IS CURRENTLY IN USE IN THE CHANNEL 36 S/C REGISTER.

COMPSCE 469
COMPSCE 470
COMPSCE 471
COMPSCE 472
COMPSCE 473
COMPSCE 474
COMPSCE 475
COMPSCE 476
COMPSCE 477
COMPSCE 478
COMPSCE 479
COMPSCE 480
COMPSCE 481
COMPSCE 482
COMPSCE 483
COMPSCE 484
COMPSCE 485

2353

TUBT

BSS 0

L 0

LOC 0

L 0

4060

CON 4060

BITS 0 - 11

*

CON 0060

(CYBER 176 MASK)

*

CON 0

(CYBER 176 MOD B OR CYBER 17X MOD D MASK)

L 1

7777

CON 7777

BITS 12 - 23

*

CON 1777

(CYBER 176 MASK)

L 2

7777

CON 7777

BITS 24 - 35

L 3

0000

CON 0

BITS 36 - 39

2357

LOC *0

** TEMF - TABLE OF ERROR MESSAGE FORMAT ADDRESSES.

*
* ENTRY TWO WORDS, INDEXED BY BIT NUMBER, IN FORMAT -

*

12/ ADDR

*

12/ CODE

*

*

*

WHERE ADDR = ERROR MESSAGE ADDRESS,

*

CODE = DISPLAY CODE TO BE INSERTED IN MESSAGE.

*

*

UPPER BIT SET REPRESENTS SECDED ERROR
MESSAGE.

COMPSCE 487
COMPSCE 488
COMPSCE 489
COMPSCE 490
COMPSCE 491
COMPSCE 492
COMPSCE 493
COMPSCE 494
COMPSCE 495
COMPSCE 496
COMPSCE 497

2357

TEMF

BSS 0

L 0

LOC 0

L 0

2477 0000

CON RPEM,0

READ PYRAMID PARITY ERROR

L 2

2516 3355

CON CAEM,2R0

CSU 0 ADDRESS PARITY ERROR

L 4

2516 3455

CON CAEM,2R1

CSU 1 ADDRESS PARITY ERROR

L 6

2537 4000

CON SEEM,4000B

SECDED ERROR

L 10

3026 0000

TEMFA

CON NUEM,0

NOT USED

*

CON PPEM,0

(PPU ERROR FOR FLPP-S - CYBER 176)

L 12

2575 0000

CON CMEM,0

CMC PARITY ERROR

L 14

2607 0000

CON DREM,0

PE ON DATA RECEIVED FROM EXTERNAL CHANNEL

L 16

2636 0000

CON DTEM,0

PE ON DATA TRANSMITTED FROM EXTERNAL PP

L 20

2666 3355

CON MTEM,2R0

CSU 0 FAULT

L 22

2666 3455

CON MTEM,2R1

CSU 1 FAULT

L 24

2675 0000

CON ESEM,0

ERROR IN SECOND PPS

L 26

2710 0000

TEMFB

CON ECEM,0

ECS ERROR

*

CON LSEM,4000

(LCM SECDED ERROR - CYBER 176)

L 30

2717 3355

CON PREM,2R0

CPU 0 P REGISTER PARITY ERROR

L 32

2717 3455

CON PREM,2R1

CPU 1 P REGISTER PARITY ERROR

L 34

2740 3333

CON PMEM,2R00

PP00 MEMORY PARITY ERROR (PP20)

35

TEMFC

EQU *-1

L 36

2740 3334

CON PMEM,2R01

PP01 STOPPED ON PARITY ERROR (PP21)

L 40

2740 3335

CON PMEM,2R02

PP02 STOPPED ON PARITY ERROR (PP22)

COMPSCE 498
COMPSCE 499
COMPSCE 500
COMPSCE 501
COMPSCE 502
COMPSCE 503
COMPSCE 504
COMPSCE 505
COMPSCE 506
COMPSCE 507
COMPSCE 508
COMPSCE 509
COMPSCE 510
COMPSCE 511
COMPSCE 512
COMPSCE 513
COMPSCE 514
COMPSCE 515
COMPSCE 516
COMPSCE 517
COMPSCE 518
COMPSCE 519
COMPSCE 520
COMPSCE 521

L	42	2740	3336	CON	PMEM,2R03	PP03 STOPPED ON PARITY ERROR (PP23)	COMPSCE	522
L	44	2740	3337	CON	PMEM,2R04	PP04 STOPPED ON PARITY ERROR (PP24)	COMPSCE	523
L	46	2740	3340	CON	PMEM,2R05	PP05 STOPPED ON PARITY ERROR (PP25)	COMPSCE	524
L	50	2740	3341	CON	PMEM,2R06	PP06 STOPPED ON PARITY ERROR (PP26)	COMPSCE	525
L	52	2740	3342	CON	PMEM,2R07	PP07 STOPPED ON PARITY ERROR (PP27)	COMPSCE	526
L	54	2740	3433	CON	PMEM,2R10	PP10 STOPPED ON PARITY ERROR (PP30)	COMPSCE	527
L	56	2740	3434	CON	PMEM,2R11	PP11 STOPPED ON PARITY ERROR (PP31)	COMPSCE	528
L	60	2764	3333	CON	CPEM,2R00	CHANNEL 00 PARITY ERROR (20)	COMPSCE	529
L	62	2764	3334	CON	CPEM,2R01	CHANNEL 01 PARITY ERROR (21)	COMPSCE	530
L	64	2764	3335	CON	CPEM,2R02	CHANNEL 02 PARITY ERROR (22)	COMPSCE	531
L	66	2764	3336	CON	CPEM,2R03	CHANNEL 03 PARITY ERROR (23)	COMPSCE	532
L	70	2764	3337	CON	CPEM,2R04	CHANNEL 04 PARITY ERROR (24)	COMPSCE	533
L	72	2764	3340	CON	CPEM,2R05	CHANNEL 05 PARITY ERROR (25)	COMPSCE	534
L	74	2764	3341	CON	CPEM,2R06	CHANNEL 06 PARITY ERROR (26)	COMPSCE	535
L	76	2764	3342	CON	CPEM,2R07	CHANNEL 07 PARITY ERROR (27)	COMPSCE	536
L	100	2764	3433	CON	CPEM,2R10	CHANNEL 10 PARITY ERROR (30)	COMPSCE	537
L	102	2764	3434	CON	CPEM,2R11	CHANNEL 11 PARITY ERROR (31)	COMPSCE	538
L	104	2764	3435	CON	CPEM,2R12	CHANNEL 12 PARITY ERROR (32)	COMPSCE	539
L	106	2764	3436	CON	CPEM,2R13	CHANNEL 13 PARITY ERROR (33)	COMPSCE	540
			107	TEMFD	EQU *-1		COMPSCE	541
L	110	3001	0000	CON	PFEM,0	MAINS POWER FAILURE	COMPSCE	542
L	112	3014	0000	CON	SIEM,0	SHUTDOWN IMMINENT	COMPSCE	543
L	114	3026	0000	CON	NUEM,0	NOT USED	COMPSCE	544
L	116	3026	0000	CON	NUEM,0	NOT USED	COMPSCE	545
	2477			LOC	*0		COMPSCE	546
							COMPSCE	547
							COMPSCE	548
			*		ERROR MESSAGE FORMATS.		COMPSCE	549
	2477	2205	RPEM	DATA	C*READ PYRAMID PARITY ERROR.*		COMPSCE	550
	2515	0002		CON	2		COMPSCE	551
	2516	0323	CAEM	DATA	C*CSU ADDRESS PARITY ERROR.*		COMPSCE	552
	2535	1403	LSEM	DATA	H*LCM *		COMPSCE	553
	2537	2305	SEEM	DATA	C*SECEDED BIT ERROR - QUADRANT , CSU .*		COMPSCE	554
	2567	2020	PPEM	DATA	C*PPU ERROR.*		COMPSCE	555
	2575	0315	CMEM	DATA	C*CMC PARITY ERROR.*		COMPSCE	556
	2607	2001	DREM	DATA	C*PARITY ERROR ON DATA RCVD FROM EXT CHANNEL.*		COMPSCE	557
	2636	2001	DTEM	DATA	C*PARITY ERROR ON DATA XMTD FROM EXTERNAL PP.*		COMPSCE	558
	2665	0002		CON	2		COMPSCE	559
	2666	0323	MTEM	DATA	C*CSU FAULT.*		COMPSCE	560
	2675	0522	ESEM	DATA	C*ERROR IN SECOND PPS.*		COMPSCE	561
	2710	0503	ECM	DATA	C*ECS ERROR.*		COMPSCE	562
	2716	0002		CON	2		COMPSCE	563
	2717	0320	PREM	DATA	C*CPU P REGISTER PARITY ERROR.*		COMPSCE	564
	2737	0001		CON	1		COMPSCE	565
	2740	2020	PMEM	DATA	C*PP STOPPED ON PARITY ERROR - PPM.*		COMPSCE	566
	2763	0004		CON	4		COMPSCE	567
	2764	0310	CPEM	DATA	C*CHANNEL PARITY ERROR.*		COMPSCE	568
	3001	1501	PFEM	DATA	C*MAINS POWER FAILURE.*		COMPSCE	569
	3014	2310	SIEM	DATA	C*SHUTDOWN IMMINENT.*		COMPSCE	570
	3026	1617	NUEM	DATA	C*NOT USED.*		COMPSCE	571
	3034	5523	SSET	DATA	8H SINGLE		COMPSCE	572
	3040	5504	SDET	DATA	8H DOUBLE		COMPSCE	573
	3044	0201	BNKT	DATA	C*BANK .*		COMPSCE	574
	3051	2125	QRNT	DATA	H*QUADRANT *		COMPSCE	575

		QUAL\$	IF	-DEF,QUAL\$		COMPSCE	578
			QUAL	*		COMPSCE	579
	1526	SCE	EQU	/COMPSCE/SCE		COMPSCE	580
1		QUAL\$	ENDIF			COMPSCE	581
2			ENDX			COMPSCE	582
3			LIST	*		DHE	820
4							
5							
6							
7							
8			USE	LITERALS		DHE	822
9						DHE	823
10		*	BUFFERS.			DHE	824
11						DHE	825
12	3056	21	SC0B	BSSZ	NSCB	CHANNEL 16 S/C REGISTER BUFFER	DIMA290A 3
13	3077	21	SC1B	BSSZ	NSCB	CHANNEL 36 S/C REGISTER BUFFER	DIMA290A 4
14		3120	TEMA	EQU	*	TABLE OF ERROR MESSAGE BUFFER ADDRESSES	DIMA290A 5
15		3241	EBUF	EQU	TEMA+NTEB*2+1	ERROR MESSAGE BUFFER	DIMA290A 6
16						DHE	830
17						DHE	831
18	537		ERRNG	/CTI/IPLB-EBUF-EBUFL	IF *IOQ* OVERWRITTEN	DHE	832
19							
20							
21							
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59							
60							

** PRS - SWITCH PP 10 TO CHANNEL 0.
*
* EXIT (NO) = 1 IF CHANNEL 36 S/C REGISTER EXISTS.
*
* USES NONE.
*
* CALLS NONE.

DHE 834
DHE 835
DHE 836
DHE 837
DHE 838
DHE 839
DHE 840
DHE 841
DHE 842
DHE 843
DHE 844
DHE 845
DHE 846
DHE 847
DHE 848
DHE 849
DHE 850
DHE 851
DHE 852
DHE 853
DHE 854
DHE 855
DHE 856
DHE 857
DHE 858
DHE 859
DHE 860
DHE 861
DHE 862
DHE 863
DHE 864
DHE 865
DHE 866
DHE 867
DHE 868
DHE 869
DHE 870
DHE 871
DHE 872
DHE 873
DHE 874
DHE 875
DHE 876
DHE 877
DHE 878
DHE 879
DHE 880
DHE 881
DHE 882
DHE 883
DHE 884
DHE 885

3120 0100 3120 PRS SUBR ENTRY/EXIT
* CONNECT DISPLAY CHANNEL.
3122 1405 LDN PRSAL-1 OUTPUT IDLE LOOP
3123 7310 3165 OAM. PRSA,CH
3125 6610 3125 FJM *,CH WAIT FOR TRANSFER TO COMPLETE
3127 7550 DCN. CH+40
3130 3615 AOD IL FLAG IDLE LOOP OUTPUT DONE
* CHECK FOR CHANNEL 36 S/C REGISTER.
3131 6520 3135 PRS1 IJM. PRS2,20 IF NOT 20 PPUS
3133 1401 LDN 1 SET CHANNEL 36 REGISTER FLAG
3134 3411 STD NO
3135 5000 7673 PRS2 LDM /CPA/OPTN SAVE /CPA/OPTN
3137 5400 0353 STM LNPE
3141 2000 4110 LDC FCSB+SCSL DETERMINE IF MAINFRAME IS C176
3143 7256 OAN. SC+40
3144 7056 IAN. SC+40
3145 2000 3110 LDC FCTC+SCSL
3147 7256 OAN. SC+40
3150 7056 IAN. SC+40
3151 0412 ZJN PRS3 IF BIT NOT SET, NOT C176
3152 2000 1110 LDC FCTB+SCSL
3154 7256 OAN. SC+40
3155 7056 IAN. SC+40
3156 0505 NJN PRS3 IF BIT NOT CLEARED, NOT C176
3157 2000 3000 LDC 3000 INDICATE C176
3161 5400 7673 STM /CPA/OPTN
3163 0100 3120 PRS3 LJM PRSX
3165 PRSA BSS 0
L 0 LOC 0
L 0 0000 CON 0
L 1 6500 0001 IJM. *,0
L 3 1500 LCN 0
L 4 7110 0000 IAM. 0,CH
3173 LOC *0
6 PRSAL EQU *-PRSA
3172 ORG *-1
3207 END

54400B CM STORAGE USED 1954 STATEMENTS 1028 SYMBOLS 000013 INVENTED SYMBOLS
PARALLEL CPU ASSEMBLY 1.738 SECONDS 1064 REFERENCES

AM	64	4/28 L	28/07 S	28/24	30/06	30/30	31/13	31/16 S
ASE	1056	14/32	16/44 D					
ASEX	1055	16/44 L	16/49					
BA	10	4/04 L	6/31 S	11/24 I	21/22	21/39 S	22/20	
		6/12 S	11/20 S	11/25 S	21/30	22/15	22/24 S	
BN	13	4/07 L	12/44 S	12/49 S	12/53 S	14/18	14/40	14/52
BT	66	4/30 L	26/47 S	27/07 S	27/25			
BW	67	4/31 L	26/54 S	27/18 S	27/26	27/38		
CB	70	4/33 L	27/32 S	30/54	30/57 S	31/06		
CCH	522	10/52	10/57	11/44 D	12/42			
CCHX	521	11/44 L	11/50					
CCRO	251	15/22	15/24					
CCRT	250	15/26	15/28					
CDS	536	7/33	12/10 D					
CDSW	17	15/18	28/33					
CDSX	535	12/10 L	12/17	12/21				
CEB	555	5/11	5/20	5/54	12/39 D			
CEBX	554	12/39 L	13/01					
CEB1	560	12/42 L	12/57					
CEB2	574	12/50 L	12/55					
CFO	610	13/18 D	17/49					
CFOA	640	13/27	13/36 L	13/38				
CFOAL	14	13/26	13/38 D					
CFOX	607	13/18 L	13/21	13/34				
CH	10	3/14 D	5/40	7/25	12/11	13/23	13/29	17/57 36/15
		5/35	7/20	7/27	12/15	13/25	17/50	18/03 36/16
		5/38	7/21	7/28	12/18	13/27	17/53	18/27 36/17
		5/39	7/23	7/29	13/22	13/28	17/55	20/09 36/47
CHSC	16 NOSTEXT	3/17 D	26/03	26/15	28/34	28/39	29/39	29/51
		25/56	26/04	26/56	28/35	29/30	29/40	30/15
		25/57	26/14	27/01	28/38	29/31	29/50	30/17
CLE	1151	5/08	5/17	18/48 D				
CLEX	1150	18/48 L	19/55					
CLE1	1171	19/01 L	19/52					
CLE10	1277	19/13	19/31	19/34	19/53 L			
CLE11	1301	19/41	19/43	19/55 L				
CLE1.1	1210	19/09	19/11 L					
CLE2	1213	19/03	19/05	19/07	19/13 L	19/19		
CLE3	1215	19/12	19/14 L					
CLE4	1227	18/56 S	19/21 L	19/50 S				
CLE5	1230	18/53 S	19/23 L	19/47 S				
CLE6	1231	19/16	19/25 L					
CLE7	1250	18/57 S	19/36 L	19/51 S				
CLE8	1251	18/54 S	19/38 L	19/48 S				
CLE9	1252	19/10	19/27	19/40 L				
CLS	711	12/46	12/51	14/42 D				
CLSX	710	14/42 L						
CLS1	722	14/47	14/52 L					
CLS2	731	14/56	15/01 L					
CLS3	750	15/06	15/11 L					
CLS4	762	14/54	15/18 L					
CLS5	777	15/21	15/26 L					
CLS6	654	14/18 L	14/48					
CLS7	664	14/27 L	14/57					
CLS8	672	14/31 L	14/38					
CLS9	705	14/20	14/23	14/39 L	14/43	15/02	15/15	15/30
CMAW	4	28/37						

CPUE	123	16/02	16/04							
CSE	1046	14/35	16/20 D							
CSEX	1045	16/20 L	16/25							
CT	73	4/36 L	25/54 S	26/09 S	26/24 S	26/34	27/46			
C1	60	4/24 L	28/06	28/42 S	29/03 S	29/15 S	29/45	31/01 S		
		27/34 S	28/10	28/50	29/10 S	29/35 S	30/32	31/04		
		28/02 S	28/11 S	28/54	29/13	29/44 S	30/53 S			
C2	61	4/25 L	28/28	28/40 S	29/14	29/24	29/43 S	30/31 S	32/29 I	
		28/09 S	28/29	28/47	29/16 S	29/25 S	29/55	30/33 I	32/31 S	
		28/22 S	28/30 S	29/12 S	29/23	29/28 S	30/29	32/24 S		
C2D	1514	21/24	21/31	22/17	22/21					
DCL	1115	6/16	9/30	10/22	17/47 D					
DCLA	1122	6/10 S	13/31 S	17/51 D						
DCLX	1114	17/47 L	18/06							
DDFP	73	14/29								
DEM	355	6/24	6/35	9/15 D						
DEMX	354	9/15 L	9/22	9/26						
DEM1	364	9/21 L	9/32							
DHE	100	5/06 L								
DHEA	254	5/38	6/38 L	6/40						
DHEAL	2	5/37	6/40 D							
DHE1	127	5/15	5/21 L							
DHE2	131	5/10	5/19	5/25 L						
DHE2A	156	5/47 L	5/50							
DHE2.5	147	5/28	5/42 L							
DHE3	203	6/07 L	6/29	6/36						
DMSA	1446	9/50 S	9/52 S	9/55	10/19	10/23 S	22/54 L			
DMSC	1472	6/13	22/55 L							
DNL	1140	18/02	18/22 D							
DNLX	1137	18/22 L	18/28							
DNL1	1143	18/25 L	18/29							
DRC	402	6/20	6/33	9/48 D						
DRCX	401	9/48 L	10/27							
DRC1	415	9/55 L	10/26							
DRC2	422	10/05 L	10/10							
DRC3	434	10/15 L	10/33							
DRC4	455	10/07	10/29 L							
DSFP	72	14/33	15/51	15/55						
DSP	1012	14/34	15/46 D							
DSPA	1024	15/50 S	15/53 D							
DSPB	1030	15/48 S	15/57 D							
DSPX	1011	15/46 L	16/06							
EBUF	3241	4/26	5/51	35/18 D	35/21					
EBUFL	2000	3/26 D	4/27	5/42	35/21					
ENSC	122	16/21	16/47							
FCCA	6000	5/55	6/01							
FCCL	2000	14/21	15/09	15/28	15/55	17/17	19/20			
		14/29	15/13	15/47	16/04	17/22	19/35			
		14/39	15/24	15/49	16/21	17/26				
FCRD	0	4/35	15/03	26/48	28/37	29/38				
		11/21	15/18	28/33	29/29	29/49				
FCSB	4000	15/07	15/22	15/49	16/02	17/17	36/27			
		15/11	15/26	15/51	16/47	26/13				
FCTB	1000	26/02	30/14	36/34						
FCTC	3000	25/55	36/30							
FF	14	4/08 L	5/09	5/18	18/50 S	19/54 S				

FW	62	4/26 L	30/37	30/50 I	31/08 I	31/11 I	31/14 I	31/22 S
		25/49 S	30/40	30/51 S	31/09 S	31/12 S	31/17 S	31/31 S
HPP	1304	5/53	20/08 D					
HPPB	1334	20/27	20/29 L	20/36				
HPPC	1336	20/28	20/30 L	20/36				
HPPD	1341	20/29	20/33 L					
HPPE	1345	20/20	20/36 L					
HPPF	1324	20/22 L	20/36					
HPPG	1326	20/24 L	20/36					
HPPH	1331	20/27 L	20/36					
HPPX	1303	20/08 L	20/19					
HPP03	1307	20/11 L	20/17					
HPP04	1310	20/12 L	20/32					
HPP05	1316	20/15	20/18 L					
HPP06	1320	20/14	20/20 L					
IAMI	7100	3/39 D						
IANI	7000	3/38 D	11/48	18/52	19/46			
IC	15	3/15 D						
ICN	1354	20/21	20/52 D					
ICNX	1353	20/52 L	20/55					
ICN1	1356	20/54 L	21/05					
IL	15	4/09 L	12/16	36/18 S				
IPN	1106	16/46	17/25 D					
IPNX	1105	17/25 L						
IPN1	1067	17/12 L	17/23					
IPN2	1071	17/14 L	17/29					
IPN3	1076	17/16	17/18 L					
LCAW	10	29/38	29/49					
LCNI	1500	3/41 D	20/33					
LCRO	261	15/07	15/09					
LCRT	260	15/11	15/13					
LDNI	1400	3/37 D						
LDSW	20	15/03	29/29					
LJMI	100	3/35 D						
LNP	256	5/21	7/14 L					
LNPA	331	7/34	7/41 L					
LNPB	334	7/41	7/45 L					
LNPC	341	7/42	7/50 L					
LNPD	346	7/43	7/55 L					
LNPE	353	7/14	8/03 L	36/26 S				
LNP1	310	7/19	7/33 L					
LPN.1	267	7/20 L	7/32					
LSCD	13	15/01	19/35					
LW	63	4/27 L	5/43 S	25/50 S	30/42	31/18	31/23	
MC	0	3/18 D	5/36	5/41	16/24	16/45		
MS	17	4/12 L	6/14 S	9/28 S	10/20 S	18/01		
MSGA	316	7/27	7/37 D	7/39				
MSGAL	13	7/26	7/39 D					
NO	11	4/05 L	6/28	10/55	12/40	19/40	36/24 S	
NSCB	21	11/21	19/44	35/15	35/16			
NTEB	50	12/54	27/08	27/27	27/31	35/18		
OANI	7200	3/40 D	11/46	11/48	18/55	19/49		
PCMP	167	30/14						
PDB	1370	10/05	21/21 D					
PDBX	1367	21/21 L	21/40					
PDC	1423	10/08	22/14 D					
PDCX	1422	22/14 L	22/25					

PPCT	124	25/55	26/02	26/13
PPUE	4	14/55	15/01	
PRS	3121	5/06	36/10 D	
PRSA	3165	36/15	36/42 L	36/50
PRSA L	6	36/14	36/50 D	
PRSX	3120	36/10 L	36/40	
PRS1	3131	36/22 L		
PRS2	3135	36/22	36/25 L	
PRS3	3163	36/33	36/37	36/40 L
RER	505	10/54	11/02	11/19 D
RERX	504	11/19 L	11/28	
RER1	512	11/23 L	11/27	
RN	16	4/11 L	12/41 S	12/45 12/50 12/56 S
RSC	463	5/07	5/16	10/50 D
RSCX	462	10/50 L	10/56	11/03
RW	72	4/35 L	26/49 S	26/55 27/05 S 27/48 27/54
SC	16	3/16 D	5/57	11/46 17/19 19/23 22/42 36/29 36/35
		3/17	6/02	16/22 17/20 19/36 22/44 36/31 36/36
		5/56	6/03	16/23 19/21 19/38 36/28 36/32
SCE	1526	5/52	35/03 D	
SCSL	110	17/22	17/26	36/27 36/30 36/34
SC0B	3056	4/04	10/53	19/04 19/08 19/17 19/32
		6/11	19/01	19/06 19/14 19/25 35/15 L
SC1B	3077	6/30	11/01	35/16 L
SDSC	267	14/21		
SECD	3	14/19	14/53	14/55 19/20
SFC	1442	11/23	14/22	15/08 15/14 15/25 15/54 16/05
		12/47	14/30	15/10 15/19 15/27 16/01 16/48
		12/52	15/04	15/12 15/23 15/29 16/03 22/41 D
SFCA	1443	11/47 S	22/42 L	
SFCB	1444	11/49 S	22/44 L	
SFCX	1441	22/41 L	22/46	
STDI	3401	3/42 D	20/33	
STII	4401	3/43 D	20/33	
TA	12	4/06 L	6/22 S	9/21 9/31 S
TE	65	4/29 L	5/45 S	30/38 I 30/39 S 31/29 S 31/30 31/33 I
TEMA	3120	4/06	4/29	5/44 6/21 35/17 D 35/18
T0	0	NOSTEXT	3/52 D	
T1	1	NOSTEXT	3/53 D	5/48 S 11/22 S 17/14 S 18/24 S 20/11 S 20/31 S
		5/46 S	7/17 S	11/26 S 17/48 S 18/25 S 20/12 21/02
		5/47 I	7/34	17/12 17/54 18/26 20/25
T2	2	NOSTEXT	3/54 D	10/06 S 17/21 S 20/53 S 21/04 S
		9/54 S	17/18	17/27 S 20/54
T3	3	NOSTEXT	3/55 D	10/09 S 14/31 S 17/28 20/57
		10/01 S	14/28 S	14/36 20/56 S 21/03 I
T4	4	NOSTEXT	3/56 D	10/15 I 10/18 I 10/30 21/29 21/36 22/18 I 22/22 I
		9/56 S	10/16 S	10/29 S 21/26 21/34 21/38 S 22/19 S 22/23 S
T5	5	NOSTEXT	3/57 D	9/18 S 9/25
T6	6	NOSTEXT	4/01 D	9/23 S 9/24 9/27 S
T7	7	NOSTEXT	4/02 D	19/01 19/06 19/14 19/25 19/42
		18/51 S	19/04	19/08 19/17 19/32 19/45 S
UJNI	300	3/36 D	20/33	
WC	71	4/34 L	27/03 S	27/14 27/16 S
XE	21	4/14 L	7/22	9/29
XK	22	4/15 L		
XS	20	4/13 L	10/21	

YC	23	4/16 L	6/18 S	9/20 S	13/24	17/56		
YCIN	12	6/08 S	7/24	13/19	13/33 S	18/05 S		
YCLC	7012	3/28 D	6/07	6/17	9/19	13/32	18/04	
YCUL	7776	3/29 D	13/20					
		3/27 D	6/07	13/32				

SYMBOL QUALIFIER = CPA

OPTN	7673	5/12	7/15 S	19/28	28/43	36/39 S		
		5/25	14/44	26/16	36/25			
PPP1	7675	31/44						

SYMBOL QUALIFIER = CTI

CDEP	7000	7/35						
DHEP	6776	7/16						
EBLLOAD	200	7/55	7/56					
IPLB	6000	5/49	35/21					
LOAD	10	1/16	3/51	7/45	7/50			
TRAN	100	5/04	7/46	7/51				

SYMBOL QUALIFIER = COMPSCE

BNKT	3044	29/23	34/54 L					
CAEM	2516	33/39	33/40	34/32 L				
CGC	2304	26/45	31/47	32/03 D				
CGCA	2335	32/22 S	32/26 D					
CGCX	2303	32/03 L	32/34					
CGC1	2326	32/14	32/21 L					
CGC2	2330	32/19	32/22 L					
CGC3	2335	32/25 L	32/33					
CMEM	2575	33/44	34/36 L					
CPEM	2764	34/08	34/10	34/12	34/14	34/16	34/18	34/48 L
		34/09	34/11	34/13	34/15	34/17	34/19	
DREM	2607	33/45	34/37 L					
DTM	2636	33/46	34/38 L					
ECEM	2710	33/50	34/42 L					
ESEM	2675	33/49	34/41 L					
IANI	7000	25/36 D	32/10					
LCNI	1500	25/35 D	32/21					
LDNI	1400	25/34 D	26/11	32/18				
LPNI	1200	25/33 D	29/47					
LSEM	2535	26/29	28/23	34/33 L				
MTEM	2666	33/47	33/48	34/40 L				
NUEM	3026	33/42	34/23	34/24	34/51 L			

OANI	7200	25/37 D	32/07	32/10				
PFEM	3001	34/21	34/49 L					
PMEM	2740	30/05	30/13 S	30/25 S	33/57	34/03	34/06	
		30/09 S	30/21 S	33/54	34/01	34/04	34/07	
		30/11 S	30/23 S	33/56	34/02	34/05	34/46 L	
	PPEM	26/27	34/35 L					
	PREM	2717	33/52	33/53	34/44 L			
	QRNT	3051	28/28	34/55 L				
	RPEM	2477	33/38	34/30 L				
	SCE	1526	25/48 D	35/03				
	SCEA	1643	26/41	26/56 L	27/43	30/46	31/38	32/08 S
	SCEB	1644	27/01 L	32/11 S				
	SCEC	1725	27/41 S	27/55 L				
	SCED	2151	30/15 L	32/09 S				
	SCEE	2152	30/17 L	32/12 S				
	SCEF	1720	27/42 S	27/49 L				
	SCEG	2033	28/36 S	29/06 D	29/33 S			
	SCEH	2117	29/48 S	29/53 L				
	SCEX	1525	25/48 L	31/34				
	SCE1	1625	26/33	26/35	26/41 L			
	SCE10	1727	27/51	28/01 L				
	SCE11	1732	27/47	27/52	27/57	28/06 L		
	SCE12	1746	28/13	28/16 L				
	SCE13	1751	28/16	28/21 L				
	SCE14	1761	28/25	28/28 L	28/32			
	SCE15	2012	28/46	28/50 L				
	SCE16	2013	28/48	28/51 L				
	SCE17	2027	29/02 L	30/01				
	SCE18	2041	29/08	29/11 L				
	SCE19	2043	29/13 L	29/18				
	SCE1.1	1560	26/05	26/13 L				
	SCE1.2	1564	26/01	26/16 L				
	SCE1.3	1571	26/12 S	26/20 L				
	SCE1.4	1617	26/19	26/34 L				
	SCE2	1634	26/43	26/46 L	31/48			
	SCE20	2054	28/26	29/23 L	29/27			
	SCE21	2105	29/37	29/45 L				
	SCE22	2127	28/17	30/05 L				
	SCE23	2167	30/07	30/19	30/29 L			
	SCE24	2174	28/14	29/19	30/37 L			
	SCE25	2205	30/43	30/46 L				
	SCE26	2217	30/54 L	31/02				
	SCE27	2225	30/56	31/04 L				
	SCE28	2240	31/13 L	31/19				
	SCE29	2250	31/15	31/22 L				
	SCE3	1640	26/53 L	27/09				
	SCE30	2255	30/44	31/20	31/29 L			
	SCE31	2260	31/24	31/32 L	31/41	31/43	31/45	
	SCE32	2264	27/10	27/29	31/38 L			
	SCE33	2271	31/40	31/43 L				
	SCE4	1647	27/05 L	27/21				
	SCE5	1656	27/04	27/14 L	27/20			
	SCE6	1662	27/18 L	31/25				
	SCE7	1666	27/17	27/25 L				
	SCE8	1674	27/28	27/31 L				
	SCE9	1723	27/45	27/54 L				
	SDET	3040	29/09	34/53 L				

SEEM	2537	28/29 S	28/53 S	29/01 S	29/14 S	29/24 S	29/57 S	33/41	34/34 L
SHNI	1000	25/32 D	27/40						
SIEM	3014	34/22	34/50 L						
SSET	3034	29/02	34/52 L						
TEMF	2357	26/28 S	26/30 S	26/32 S	28/06	28/10	32/23	32/32	33/36 L
TEMFA	10	26/28 S	33/42 L						
TEMFB	26	26/30 S	26/32 S	33/50 L					
TEMFC	35	32/23	33/55 D						
TEMFD	107	32/32	34/20 D						
TNUB	2347	26/07 S	26/37 S	27/48	32/48 L				
TUBT	2353	26/10 S	26/22 S	26/26 S	27/54	33/09 L			
UBIT	47	25/43 D	28/01						

MAD

BINARY CONTROL CARDS.

1

MAD	10
MAD	11

1								1
2								2
3								3
4								4
5		0	**	COMMON DECKS.		MAD	13	5
6		0		CTEXT COMPMAC - PP SYSTEM MACROS.		COMPMAC	2	6
7		0	CPA	CTEXT COMSCPA - CTI COMMON POINTER AREA DEFINITIONS.		COMSCPA	2	7
8		0	CTI	CTEXT COMSCTI - CTI INTERNAL DEFINITIONS.		COMSCTI	2	8
9		0		CTEXT COMSSCR - S/C REGISTER EQUIVALENCES.		COMSSCR	2	9
10								10
11								11
12								12
13								13
14								14
15								15
16								16
17								17
18								18
19								19
20								20
21								21
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50								50
51								51
52								52
53								53
54								54
55								55
56								56
57								57
58								58
59								59
60								60

** DIRECT LOCATION ASSIGNMENTS.

MAD19

MAD20

MAD21

MAD22

MAD23

MAD24

MAD25

MAD26

MAD27

MAD28

MAD29

MAD30

MAD31

MAD32

MAD33

MAD34

MAD35

MAD36

MAD37

MAD38

** ASSEMBLY CONSTANTS.

MAD40

MAD41

MAD42

MAD43

MAD44

MAD45

MAD46

MAD47

MAD48

** DISPLAY CONTROLLER DEFINITIONS.

MAD50

*

MAD51

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MAD52

MAD53

MAD54

MAD55

MAD56

MAD57

MAD58

MAD59

MAD60

MAD61

								MAD	63
								MAD	64
								MAD	65
1	100			MAD	BSS	0		MAD	66
2	100	0200 0545	MAD1	RJM	CHS	SET CHANNEL STATUS		MAD	67
3	102	0200 0767		RJM	DOT	DETERMINE 170 TYPE		MAD	68
4	104	0613		PJN	MAD2	IF NOT C176		MAD	69
5	105	2000 4177		LDC	FCSB+CCIO	PERFORM CPU CLEAR IO FUNCTION		MAD	70
6	107	7256		OAN	SC+40			MAD	71
7	110	7056		IAN	SC+40			MAD	72
8	111	2000 2177		LDC	FCCL+CCIO			MAD	73
9	113	7256		OAN	SC+40			MAD	74
10	114	7056		IAN	SC+40			MAD	75
11	115	0100 0174		LJM	MAD4			MAD	76
12								MAD	77
13	117	1401	MAD2	LDN	1			MAD	78
14	120	5400 7700		STM	/CPA/PPPU	SET NO PPU-S		MAD	79
15	122	1500		LCN	0			MAD	80
16	123	5400 7701		STM	/CPA/PPPU+1			MAD	81
17	125	5000 7712		LDM	/CPA/DSPNLZ+13	CHECK RECOVERY LEVEL		MAD	82
18	127	1066		SHN	-11B			MAD	83
19	130	1207		LPN	7			MAD	84
20	131	1703		SBN	3			MAD	85
21	132	0707		MJN	MAD2.5	IF MEMORY NOT TO BE RECOVERED		MAD	86
22	133	1401		LDN	1	SAVE LOW CORE		MAD	87
23	134	6170 2307		CRM	BUF,ON			MAD	88
24	136	3071		LDD	HN			MAD	89
25	137	6171 2314		CRM	BUF+5,HN			MAD	90
26	141	1402	MAD2.5	LDN	2			MAD	91
27	142	3401		STD	T1			MAD	92
28	143	1400		LDN	0	WRITE STOP PROGRAMS TO CM		MAD	93
29	144	6301 1633		CWM	CPOA,T1			MAD	94
30	146	6415 0154		AJM	MAD3,IC	IF CYBER 7X		MAD	95
31	150	2000 0200		LDC	200	SET NO INTERLOCK REGISTER		MAD	96
32	152	5500 7673		RAM	/CPA/OPTN			MAD	97
33	154	0200 0655	MAD3	RJM	CPT	DETERMINE CPU 0 TYPE		MAD	98
34	156	0200 0615		RJM	CPC	DETERMINE CPU COUNT		MAD	99
35	160	0200 0710		RJM	CXJ	DETERMINE CENTRAL EXCHANGE STATUS		MAD	100
36	162	0200 0471		RJM	CCU	CHECK CMU		MAD	101
37	164	0200 1237		RJM	ECH	ESTABLISH CPU HAND-OFF STATE		MAD	102
38	166	1401		LDN	1	RESTORE LOW CORE		MAD	103
39	167	6370 2307		CWM	BUF,ON			MAD	104
40	171	3071		LDD	HN			MAD	105
41	172	6371 2314		CWM	BUF+5,HN			MAD	106
42								DIMA380	1
43			*			DETERMINE MODEL TYPE		DIMA380	2
44								DIMA380	3
45	174	5000 7673	MAD4	LDM	/CPA/OPTN			DIMA380	4
46	176	2200 0100		LPC	100B			DIMA380	5
47	200	0514		NJN	MAD4.1	IF NO SCR, NOT MODEL D		DIMA380	6
48	201	2000 3124		LDC	FCTC+PPCT	TEST AND CLEAR BIT 84D		DIMA380	7
49	203	7256		OAN	SC+40B			DIMA380	8
50	204	7056		IAN	SC+40B			DIMA380	9
51	205	0407		ZJN	MAD4.1	NOT MODEL D		DIMA380	10
52	206	2000 5124		LDC	FCTS+PPCT	TEST AND SET BIT 84D		DIMA380	11
53	210	7256		OAN	SC+40B			DIMA380	12
54	211	7056		IAN	SC+40B			DIMA380	13

	212	0402		ZJN	MAD4.1	NOT MODEL D, WAS IN 2X SPEED	DIMA380	14
	213	0311		UJN	MAD4.2		DIMA380	15
	214	5000 7673	MAD4.1	LDM	/CPA/OPTN		DIMA380	16
1	216	2200 7377		LPC	7377B		DIMA380	17
2	220	2100 0400		ADC	400B		DIMA380	18
3	222	5400 7673		STM	/CPA/OPTN	SET NOT MODEL D BIT	DIMA380	19
4							MAD	107
5			*		DETERMINE MEMORY SIZE		MAD	108
6							MAD	109
7	224	5000 7671	MAD4.2	LDM	/CPA/CMSZ	CHECK FOR MEMORY DEFINE	DIMA380	20
8	226	5100 7672		ADM	/CPA/CMSZ+1		MAD	111
9	230	0513		NJN	MAD4A	IF MEMORY ALREADY SPECIFIED	MAD	112
10	231	2000 2307		LDC	BUF	DETERMINE SIZE OF CENTRAL MEMORY	MAD	113
11	233	0200 0401		RJM	DMS		MAD	114
12	235	1003		SHN	3	SET MEMORY SIZE/100	MAD	115
13	236	5400 7672		STM	/CPA/CMSZ+1		MAD	116
14	240	1063		SHN	-14		MAD	117
15	241	5400 7671		STM	/CPA/CMSZ		MAD	118
16							MAD	119
17			*		LOGICALLY OFF PHYSICALLY NOT PRESENT ELEMENTS.		MAD	120
18							MAD	121
19	243	1400	MAD4A	LDN	0	TURN OFF PP-S NOT PRESENT	MAD	122
20	244	3401		STD	T1		MAD	123
21	245	3001	MAD5	LDD	T1		MAD	124
22	246	1177		LMN	77		MAD	125
23	247	2100 1000		ADC	SHNI		MAD	126
24	251	5400 0257		STM	MADA		MAD	127
25	253	5400 0270		STM	MADB		MAD	128
26	255	5000 7674		LDM	/CPA/PPP0		MAD	129
27	257	1000	MADA	SHN	0		MAD	130
28	260	1201		LPN	1		MAD	131
29	261	0405		ZJN	MAD6	IF PP PRESENT	MAD	132
30	262	2000 7676		LDC	/CPA/LPP0	*OFF* THE PP	MAD	133
31	264	0200 0347		RJM	SAB		MAD	134
32	266	5000 7675	MAD6	LDM	/CPA/PPP1		MAD	135
33	270	1000	MADB	SHN	0		MAD	136
34	271	1201		LPN	1		MAD	137
35	272	0405		ZJN	MAD7	IF PP PRESENT	MAD	138
36	273	2000 7677		LDC	/CPA/LPP1	*OFF* THE PP	MAD	139
37	275	0200 0347		RJM	SAB		MAD	140
38	277	3601	MAD7	AOD	T1	INCREMENT BIT OFFSET	MAD	141
39	300	1112		LMN	10D		MAD	142
40	301	0543		NJN	MAD5	IF NOT DONE WITH BOTH CHASSIS	MAD	143
41	302	3401		STD	T1	BIT OFFSET FOR PPU15	MAD	144
42	303	5000 7700		LDM	/CPA/PPPU	*OFF* NOT PRESENT PPU-S	MAD	145
43	305	1201		LPN	1		MAD	146
44	306	0405		ZJN	MAD8	IF PPU15 PRESENT	MAD	147
45	307	2000 7702		LDC	/CPA/LPPU	*OFF* PPU 15	MAD	148
46	311	0200 0347		RJM	SAB		MAD	149
47	313	3001	MAD8	LDD	T1		MAD	150
48	314	1177		LMN	77		MAD	151
49	315	2100 1000		ADC	SHNI		MAD	152
50	317	5400 0323		STM	MADC		MAD	153
51	321	5000 7701		LDM	/CPA/PPPU+1		MAD	154
52	323	1000	MADC	SHN	0		MAD	155
53	324	1201		LPN	1		MAD	156
54	325	0405		ZJN	MAD9	IF PPU PRESENT	MAD	157
55								
56								
57								
58								
59								
60								

1412THE

400

MAD
COMPDMS14121HE

564	3301			LMD	T1		MAD	255
565	2300	6400		LMC	AJMI		MAD	256
567	5400	0574		STM	CHSA		MAD	257
571	5002	7674		LDM	/CPA/PPP0,T2	SHIFT STATUS BYTE	MAD	258
573	1001			SHN	1		MAD	259
							MAD	260
			*	NOTE -	THIS CODE CHECKS PPU PRESENT, NOT CHANNEL PRESENT.		MAD	261
							MAD	262
574	6400	0577	CHSA	AJM	CHS2,**	CHECK CHANNEL	MAD	263
576	1101			LMN	1	SET CHANNEL INACTIVE	MAD	264
577	5402	7674	CHS2	STM	/CPA/PPP0,T2		MAD	265
601	3701			SOD	T1	ADVANCE CHANNEL	MAD	266
602	0657			PJN	CHS1	LOOP FOR 10 CHANNELS	MAD	267
603	1411			LDN	11	RESET UPPER CHANNEL	MAD	268
604	3401			STD	T1		MAD	269
605	3602			AOD	T2	ADVANCE CHANNEL STATUS BYTE	MAD	270
606	1102		CHSB	LMN	2		MAD	271
607	0552			NJN	CHS1	LOOP FOR ALL CHANNELS	MAD	272
610	5700	7674		SOM	/CPA/PPP0	SET PP 0 PRESENT	MAD	273
612	0100	0544		LJM	CHSX	EXIT	MAD	274
			**	CPC -	DETERMINE CPU COUNT.		MAD	276
							MAD	277
							MAD	278
614	0100	0614	CPC	SUBR		ENTRY/EXIT	MAD	279
616	5000	7673		LDM	/CPA/OPTN	CHECK CPU 1	MAD	280
620	1020			SHN	21-1		MAD	281
621	0772			MJN	CPCX	IF TURNED OFF	MAD	282
622	1001			SHN	1-0		MAD	283
623	0770			MJN	CPCX	IF TURNED OFF	MAD	284
624	1400			LDN	0		MAD	285
625	5400	1656		STM	CPOC+4	(B1) = 0	MAD	286
627	3071			LDD	HN	STORE EXCHANGE PACKAGE	MAD	287
630	6367	1645		CWM	CPOB,EL		MAD	288
632	6373	1765		CWM	CPOD,TR	STORE PROGRAM	MAD	289
634	1723			SBN	23	EXCHANGE CPU 1	MAD	290
635	2601			EXN	1		MAD	291
636	3071			LDD	HN	RESTORE EXCHANGE PACKAGE	MAD	292
637	6367	1645		CWM	CPOB,EL		MAD	293
641	1720			SBN	20		MAD	294
642	2600			EXN	0	EXCHANGE CPU 0	MAD	295
643	1601			ADN	1	READ (B1)	MAD	296
644	6010			CRD	CM		MAD	297
645	3014			LDD	CM+4	SET CPU 1 STATUS	MAD	298
646	0545			NJN	CPCX	IF CPU 1 AVAILABLE	MAD	299
647	1402			LDN	2		MAD	300
650	5500	7673		RAM	/CPA/OPTN		MAD	301
652	0100	0614		LJM	CPCX	RETURN	MAD	302

** CPT - DETERMINE CPU 0 TYPE.

MAD 304

MAD 305

MAD 306

1	654	0100 0654	CPT	SUBR	ENTRY/EXIT	MAD	307
2	656	5000 7673		LDM	/CPA/OPTN	MAD	308
3	660	1021		SHN	21-0	MAD	309
4	661	0605		PJN	CPT1	MAD	310
5	662	5600 0674		AOM	CPTA	MAD	311
6	664	5600 0701		AOM	CPTB	MAD	312
7	666	3071	CPT1	LDD	HN	MAD	313
8	667	6367 1645		CWM	CPOB,EL	MAD	314
9	671	6373 1765		CWM	CPOD,TR	MAD	315
10	673	1723		SBN	23	MAD	316
11	674	2600	CPTA	EXN	0	MAD	317
12			*	EXN	1	MAD	318
13	675	6010		CRD	CM	MAD	319
14	676	1477		LDN	77	MAD	320
15	677	1701		SBN	1	MAD	321
16	700	0576		NJN	*-1	MAD	322
17	701	2700	CPTB	RPN	0	MAD	323
18			*	RPN	1	MAD	324
19	702	0551		NJN	CPTX	MAD	325
20	703	1420		LDN	20	MAD	326
21	704	5500 7673		RAM	/CPA/OPTN	MAD	327
22	706	0345		UJN	CPTX	MAD	328

** CXJ - DETERMINE CENTRAL EXCHANGE STATUS.

MAD 330

MAD 331

MAD 332

MAD 333

30	707	0100 0707	CXJ	SUBR	ENTRY/EXIT	MAD	333
31	711	5000 7673		LDM	/CPA/OPTN	MAD	334
32	713	1021		SHN	21-0	MAD	335
33	714	0603		PJN	CXJ1	MAD	336
34	715	5600 0737		AOM	XJ1	MAD	337
35	717	5000 7673	CXJ1	LDM	/CPA/OPTN	MAD	338
36	721	1017		SHN	21-2	MAD	339
37	722	0764		MJN	CXJX	MAD	340
38	723	3071		LDD	HN	MAD	341
39	724	6367 1777		CWM	CXJA,EL	MAD	342
40	726	6367 2047		CWM	CXJB,EL	MAD	343
41	730	6367 2117		CWM	CXJC,EL	MAD	344
42	732	2000 0170		LDC	170	MAD	345
43	734	6373 2167		CWM	CXJD,TR	MAD	346
44	736	3071		LDD	HN	MAD	347
45	737	2600	XJ1	EXN	0	MAD	348
46	740	1701		SBN	1	MAD	349
47	741	0576		NJN	*-1	MAD	350
48	742	1400		LDN	0	MAD	351
49	743	6010		CRD	CM	MAD	352
50	744	3010		LDD	CM	MAD	353
51	745	1011		SHN	21B-10B	MAD	354
52	746	0740		MJN	CXJX	MAD	355
53	747	1404		LDN	4	MAD	356
54	750	5500 7673		RAM	/CPA/OPTN	MAD	357

1065	0505		NJN	DOT1.3	IF C76A	MAD	410
1066	2000 1000		LDC	1000	SET C76B CODE	MAD	411
1070	5500 7673		RAM	/CPA/OPTN		MAD	412
1072	2000 2003	DOT1.3	LDC	FCCL+SECD	CLEAR CM SECDED ERROR	MAD	413
1074	7216		OAN	SC		MAD	414
1075	7016		IAN	SC		MAD	415
							MAD 416
* DEADSTART FIRST LEVEL PPU-S.							MAD 417
							MAD 418
1076	2000 2073	DOT1.5	LDC	FCCL+DDFP	CLEAR DEADSTART DUMP BIT	MAD	419
1100	0200 1553		RJM	SFC		DIMA290B	1
1102	3603	DOT2	AOD	T3		MAD	422
1103	0200 1541		RJM	ASE	ACTIVATE SCANNER ENABLE	DIMA290B	2
1105	1472		LDN	DSFP	DEADSTART FUNCTION CODE	MAD	423
1106	0200 1475		RJM	DSP	DEADSTART PPU	MAD	424
1110	0200 1531		RJM	CSE	CLEAR SCANNER ENABLE AND CHANNEL	MAD	425
1112	3003		LDD	T3		MAD	426
1113	1115		LMN	15		MAD	427
1114	0565		NJN	DOT2	IF NOT ALL PPU-S	MAD	428
1115	5000 7703		LDM	/CPA/LPPU+1	LOGICAL PPU BYTE	MAD	429
1117	3404		STD	T4		MAD	430
1120	1400		LDN	0	PHYSICAL PPU BYTE	MAD	431
1121	3405		STD	T5		MAD	432
1122	5000 7702		LDM	/CPA/LPPU	CHECK PPU 15	MAD	433
1124	0403		ZJN	DOT3	IF ON	MAD	434
1125	0100 1203		LJM	DOT7	IF OFF	MAD	435
1127	0200 1541	DOT3	RJM	ASE	ACTIVATE SCANNER ENABLE	DIMA290B	3
1131	1473		LDN	DDFP	DEADSTART DUMP PPU FUNCTION	DIMA290B	4
1132	0200 1475		RJM	DSP		DIMA290B	5
1134	1477		LDN	77B		DIMA290B	6
1135	6600 1142	DOT4	FJM	DOT4.1,MC	IF PPU PRESENT	DIMA290B	7
1137	1701		SBN	1		DIMA290B	8
1140	0674		PJN	DOT4	IF NOT TIMED OUT	DIMA290B	9
1141	0322		UJN	DOT4.4		DIMA290B	10
							DIMA290B 11
1142	1472	DOT4.1	LDN	DSFP	DEADSTART LOAD PPU FUNCTION	DIMA290B	12
1143	0200 1475		RJM	DSP		DIMA290B	13
* THIS DEADSTART LOAD OPERATION WILL							DIMA290B 14
* EMPTY THE SCANNER CHANNEL AND THE							DIMA290B 15
* NEXT OPERATION WILL ESTABLISH A							DIMA290B 16
* TRUE DEADSTART STATE FOR THE PPU.							DIMA290B 17
1145	1472		LDN	DSFP		DIMA290B	18
1146	0200 1475		RJM	DSP		DIMA290B	19
1150	1405		LDN	DOTAL	OUTPUT IDLE LOOP	MAD	446
1151	7300 1231		OAM	DOTA,MC		MAD	447
1153	2000 7772		LDC	7777B-DOTAL		MAD	448
1155	3406		STD	T6		MAD	449
1156	0420	DOT4.2	ZJN	DOT6		MAD	450
1157	1400		LDN	0		MAD	451
1160	7200		OAN	MC	PAD PPU MEMORY WITH ZEROS	MAD	452
1161	3706		SOD	T6		MAD	453
1162	0373		UJN	DOT4.2		MAD	454
							MAD 455
1163	3003	DOT4.4	LDD	T3		DIMA290B	20
1164	1115		LMN	15		MAD	459
1165	0506		NJN	DOT5	IF NOT PPU 15	MAD	460
1166	5000 7700		LDM	/CPA/PPPU	SET PPU 15 NOT PRESENT	MAD	461

1

1262	3071			LDD	HN	REWRITE EXCHANGE PACKAGE	MAD	518	
1263	6367 2117			CWM	CXJC,EL		MAD	519	
1265	3071			LDD	HN	EXCHANGE CPU 1	MAD	520	
1266	2601			EXN	1		MAD	521	
1267	0346			UJN	ECHX	RETURN	MAD	522	
				**	FDC - FREE DISPLAY CHANNEL			MAD	524
				*				MAD	525
				*	FDC HANGS PP 10 ON CHANNEL 12			MAD	526
				*				MAD	527
							MAD	528	
							MAD	529	
1270	0100 1270			FDC	SUBR	ENTRY/EXIT	MAD	530	
1272	7412			ACN	12B		MAD	531	
1273	1404			LDN	FDCL	LENGTH OF IDLE PROGRAM	MAD	532	
1274	7310 1302			OAM	FDCA,CH	SEND IDLE PROGRAM	MAD	533	
1276	6610 1276			FJM	*,CH		MAD	534	
1300	7510			DCN	CH		MAD	535	
1301	0366			UJN	FDCX	RETURN	MAD	536	
							MAD	537	
1302	0000			FDCA	CON	0	MAD	538	
1303	1400			LDN	0	PP 10 PROGRAM	MAD	539	
1304	7112 0000			FDCB	IAM	0,12B	MAD	540	
				4	FDCL	EQU	*	MAD	541
						FDCA			
				**	DOA - DISPLAY OPERATOR ALERT			MAD	543
				*				MAD	544
				*	EXIT CONTINUE DEADSTART WITH NON CEJ/MEJ USAGE			MAD	545
				*				MAD	546
				*	USES PKI			MAD	547
				*				MAD	548
							MAD	549	
							MAD	550	
1306	0100 1306			DOA	SUBR	ENTRY/EXIT	MAD	551	
1310	2001 1000			DOA1	LDC	11000B	MAD	552	
1312	1701				SBN	1	MAD	553	
1313	0576				NJN	*-1	MAD	554	
1314	7710 7001				FNC	DSFC,CH	MAD	555	
1316	7410				ACN	CH	MAD	556	
1317	2000 0103				LDC	DSBAL	MAD	557	
				1320	DOAL	EQU	*	MAD	558
1321	7310 1332				OAM	DSBA,CH	MAD	559	
1323	6610 1323				FJM	*,CH	MAD	560	
1325	7510				DCN	CH	MAD	561	
1326	0200 1605				RJM	PKI	MAD	562	
1330	0457				ZJN	DOA1	MAD	563	
1331	0354				UJN	DOAX	MAD	564	
							MAD	565	
							MAD	566	
							MAD	567	
							MAD	568	

76 1

** DSP - DEADSTART FIRST LEVEL PPU-S.

DIMA290B 25

*

DIMA290B 26

* ENTRY (A) = FUNCTION.

DIMA290B 27

*

DIMA290B 28

* EXIT PPU DEADSTARTED AND PPU
ERROR STATUS CLEARED.

DIMA290B 29

DIMA290B 30

*

DIMA290B 31

*

DIMA290B 32

* CALLS SFC.

DIMA290B 33

DIMA290B 34

DIMA290B 35

1474 0100 1474 DSP SUBR ENTRY/EXIT

DIMA290B 36

1476 2100 2000 ADC FCCL

DIMA290B 37

1500 5400 1513 STM DSPB

DIMA290B 38

1502 2100 2000 ADC FCSB-FCCL

DIMA290B 39

1504 5400 1507 STM DSPA

DIMA290B 40

1506 2000 4072 LDC FCSB+DSFP DEADSTART PPU

DIMA290B 41

* LDC FCSB+DDFP DEADSTART DUMP PPU

DIMA290B 42

1507 DSPA EQU *-1

DIMA290B 43

1510 0200 1553 RJM SFC

DIMA290B 44

1512 2000 2072 LDC FCCL+DSFP CLEAR DEADSTART BIT

DIMA290B 45

* LDC FCCL+DDFP CLEAR DEADSTART DUMP BIT

DIMA290B 46

1513 DSPB EQU *-1

DIMA290B 47

1514 0200 1553 RJM SFC

DIMA290B 48

1516 2000 4123 LDC FCSB+CPUE SET *CLEAR PPU* ERROR

DIMA290B 49

1520 0200 1553 RJM SFC

DIMA290B 50

1522 2000 2123 LDC FCCL+CPUE CLEAR *CLEAR PPU* ERROR

DIMA290B 51

1524 0200 1553 RJM SFC

DIMA290B 52

1526 0100 1474 LJM DSPX RETURN

DIMA290B 53

** CSE - CLEAR SCANNER ENABLE AND CHANNEL

MAD 651

*

MAD 652

* ENTRY SCANNER INTERFACE IS ENABLED AND
SCANNER CHANNEL IS ACTIVE

MAD 653

MAD 654

*

MAD 655

* EXIT SCANNER INTERFACE IS DISABLED AND
SCANNER CHANNEL IS INACTIVE

MAD 656

MAD 657

*

MAD 658

MAD 659

1530 0100 1530 CSE SUBR ENTRY/EXIT

MAD 660

1532 2000 2122 LDC FCCL+ENSC CLEAR SCANNER ENABLE

MAD 661

1534 7256 OAN SC+40

MAD 662

1535 7056 IAN SC+40

MAD 663

1536 7500 DCN MC

MAD 664

1537 0370 UJN CSEX RETURN

MAD 665

		**	IPN - INSERT FIRST LEVEL PPU NUMBER IN S/C REGISTER.			MAD	667
		*				MAD	668
		*	ENTRY (T3) = FLPP NUMBER.			MAD	669
		*				MAD	670
		*	EXIT (A) = 0.			MAD	671
		*				MAD	672
		*	USES T1, T2.			MAD	673
						MAD	674
						MAD	675
1557	3001	IPN1	LDD	T1	CHECK NEXT BIT	MAD	676
1560	1076		SHN	-1		MAD	677
1561	3401	IPN2	STD	T1		MAD	678
1562	1201		LPN	1		MAD	679
1563	0403		ZJN	IPN3	IF BIT TO BE CLEARED	MAD	680
1564	2000 6000		LDC	FCSB&FCCL		MAD	681
1566	3302	IPN3	LMD	T2		MAD	682
1567	7256		OAN	SC+40		MAD	683
1570	7056		IAN	SC+40		MAD	684

1571	3602		AOD	T2	ADVANCE BIT NUMBER	MAD	685
1572	2300 2114		LMC	FCCL+SCSL+4		MAD	686
1574	0562		NJN	IPN1	IF NOT END OF BITS	MAD	687
						MAD	688
1575	0100 1575	IPN	SUBR		ENTRY/EXIT	MAD	689
1577	2000 2110		LDC	FCCL+SCSL	PRESET FUNCTION AND BIT NUMBER	MAD	690
1601	3402		STD	T2		MAD	691
1602	3003		LDD	T3		MAD	692
1603	0355		UJN	IPN2	ENTER LOOP	MAD	693
		**			PKI - PROCESS KEYBOARD INPUT.	MAD	695
		*				MAD	696
		*			PKI FUNCTIONS THE DISPLAY CONSOLE FOR KEYBOARD INPUT, AND	MAD	697
		*			CHECKS THE INPUT FOR A VALID RESPONSE. IF NO INPUT HAS	MAD	698
		*			BEEN ENTERED, PKI RETURNS WITH (A) ZERO. IF THE INPUT IS	MAD	699
		*			NOT VALID, (A) IS ZERO AND AN ERROR MESSAGE HAS BEEN	MAD	700
		*			ACTIVATED. IF CARRIAGE RETURN IS SELECTED, (A) IS SET TO	MAD	701
		*			A ONE. IF LEFT BLANK KEY IS ENTERED, THE ERROR MESSAGE	MAD	702
		*			IS CLEARED.	MAD	703
		*				MAD	704
		*			EXIT (A) = 0, NO INPUT OR INPUT ERROR.	MAD	705
		*			(A) = 1, CONTINUE WITH NON CEJ/MEJ USAGE	MAD	706
		*				MAD	707
						MAD	708
						MAD	709
1604	0100 1604	PKI	SUBR		ENTRY/EXIT	MAD	710
1606	7710 7020		FNC	7020B,CH	SELECT KEYBOARD INPUT	MAD	711
1610	7410		ACN	CH		MAD	712
1611	7010		IAN	CH	READ KEYBOARD	MAD	713
1612	7510		DCN	CH		MAD	714
1613	0470		ZJN	PKIX	IF NO INPUT RETURN	MAD	715
1614	1760		SBN	60B		MAD	716
1615	0411		ZJN	PKIA	IF CARRIAGE RETURN	MAD	717
1616	1605		ADN	5		MAD	718
1617	0411		ZJN	PKIB	IF LEFT BLANK	MAD	719
1620	2000 0114		LDC	DSBEL	SET MESSAGE LENGTH FOR ERROR	MAD	720
1622	5400 1320	PKIC	STM	DOAL		MAD	721
1624	1400		LDN	0		MAD	722
1625	0356		UJN	PKIX	RETURN	MAD	723
1626	1401	PKIA	LDN	1		MAD	724
1627	0354		UJN	PKIX	RETURN AND CONTINUE NON CEJ/MEJ	MAD	725
1630	2000 0103	PKIB	LDC	DSBAL	SET MESSAGE LENGTH FOR NO ERROR	MAD	726
1632	0367		UJN	PKIC		MAD	727

**CPU TEST PROGRAMS.

MAD729

MAD730

MAD731

MAD732

1	1633	0400	CPOA	VFD	30/0400000000,30/0	CPU 0 STOP	MAD	732	1
2	1634	0000							2
3	1635	0000							3
4	1636	0000							4
5	1637	0000							5
6	1640	0400		VFD	30/0400000001,30/0	CPU 1 STOP	MAD	733	6
7	1641	0000							7
8	1642	0100							8
9	1643	0000							9
10	1644	0000							10
11							MAD	734	11
12							MAD	735	12
13			*		EXCHANGE PACKAGE FOR CPU TYPE.		MAD	736	13
14							MAD	737	14
15	1645	0000	CPOB	VFD	6/0,18/120,18/0,18/0		MAD	738	15
16	1646	0120							16
17	1647	0000							17
18	1650	0000							18
19	1651	0000							19
20	1652	0000	CPOC	VFD	6/0,18/0,18/0,18/1	(B1) = 1 TO CPU 1	MAD	739	20
21	1653	0000							21
22	1654	0000							22
23	1655	0000							23
24	1656	0001							24
25	1657	0000		VFD	6/0,18/200,18/0,18/0		MAD	740	25
26	1660	0200							26
27	1661	0000							27
28	1662	0000							28
29	1663	0000							29
30	1664	0000		VFD	60/0		MAD	741	30
31	1665	0000							31
32	1666	0000							32
33	1667	0000							33
34	1670	0000							34
35	1671	0000		VFD	60/0		MAD	742	35
36	1672	0000							36
37	1673	0000							37
38	1674	0000							38
39	1675	0000							39
40	1676	0000		VFD	60/0		MAD	743	40
41	1677	0000							41
42	1700	0000							42
43	1701	0000							43
44	1702	0000							44
45	1703	0000		VFD	60/0		MAD	744	45
46	1704	0000							46
47	1705	0000							47
48	1706	0000							48
49	1707	0000							49
50	1710	0000		VFD	60/0		MAD	745	50
51	1711	0000							51
52	1712	0000							52
53	1713	0000							53
54	1714	0000							54
55									55
56									56
57									57
58									58
59									59
60									60

1715	0000		VFD	60/0			MAD	746
1716	0000						MAD	747
1717	0000							
1720	0000							
1721	0000							
1722	0000		VFD	60/0			MAD	748
1723	0000							
1724	0000							
1725	0000							
1726	0000							
1727	0000		VFD	60/0			MAD	749
1730	0000							
1731	0000							
1732	0000							
1733	0000							
1734	0000		VFD	60/0			MAD	750
1735	0000							
1736	0000							
1737	0000							
1740	0000							
1741	0000		VFD	60/0			MAD	751
1742	0000							
1743	0000							
1744	0000							
1745	0000							
1746	0000		VFD	60/0			MAD	752
1747	0000							
1750	0000							
1751	0000							
1752	0000							
1753	0200		VFD	30/0200000000,30/0	JUMP IF 6400		MAD	753
1754	0000							
1755	0000							
1756	0000							
1757	0000							
1760	0000		VFD	60/0			MAD	754
1761	0000							
1762	0000							
1763	0000							
1764	0000							
							MAD	755
		*	TEST PROGRAM FOR CPU TYPE.				MAD	756
							MAD	757
1765	5160	CP0D	VFD	30/5160000121,30/6100046000	STORE IN (P+1)		MAD	758
1766	0001							
1767	2161							
1770	0004							
1771	6000							
1772	0200		VFD	30/0200000001,30/0	EXECUTE IF 6600		MAD	759
1773	0000							
1774	0100							
1775	0000							
1776	0000							
							MAD	760
							MAD	761
		*	EXCHANGE PACKAGES FOR CEJ/MEJ OPTION.				MAD	762

	1777	0000	CXJA	VFD	6/0,18/170,18/0,18/0	(P) = PROGRAM 1	MAD	763
	2000	0170					MAD	764
1	2001	0000						
2	2002	0000						
3	2003	0000						
4	2004	0000		VFD	60/0		MAD	765
5	2005	0000						
6	2006	0000						
7	2007	0000						
8	2010	0000						
9	2011	0000		VFD	6/0,18/200,18/0,18/0		MAD	766
10	2012	0200						
11	2013	0000						
12	2014	0000						
13	2015	0000						
14	2016	0000		VFD	60/0		MAD	767
15	2017	0000						
16	2020	0000						
17	2021	0000						
18	2022	0000						
19	2023	0000		VFD	60/0		MAD	768
20	2024	0000						
21	2025	0000						
22	2026	0000						
23	2027	0000						
24	2030	0000		VFD	60/0		MAD	769
25	2031	0000						
26	2032	0000						
27	2033	0000						
28	2034	0000						
29	2035	0000		VFD	6/0,18/120,18/0,18/0	(MA) = SECOND EXCHANGE PACKAGE	MAD	770
30	2036	0120						
31	2037	0000						
32	2040	0000						
33	2041	0000						
34	2042	0000		VFD	60/0		MAD	771
35	2043	0000						
36	2044	0000						
37	2045	0000						
38	2046	0000						
39							MAD	772
40	2047	0000	CXJB	VFD	6/0,18/172,18/0,18/0	(P) = PROGRAM 2	MAD	773
41	2050	0172						
42	2051	0000						
43	2052	0000						
44	2053	0000						
45	2054	0000		VFD	60/0		MAD	774
46	2055	0000						
47	2056	0000						
48	2057	0000						
49	2060	0000						
50	2061	0000		VFD	6/0,18/200,18/0,18/0		MAD	775
51	2062	0200						
52	2063	0000						
53	2064	0000						
54	2065	0000						
55								
56								
57								
58								
59								
60								

2066	0000	VFD	60/0	MAD	776
2067	0000				
2070	0000				
2071	0000				
2072	0000				
2073	0000	VFD	60/0	MAD	777
2074	0000				
2075	0000				
2076	0000				
2077	0000				
2100	0000	VFD	60/0	MAD	778
2101	0000				
2102	0000				
2103	0000				
2104	0000				
2105	0000	VFD	6/0,18/100,18/0,18/0	(MA) = FIRST EXCHANGE PACKAGE	MAD 779
2106	0100				
2107	0000				
2110	0000				
2111	0000				
2112	0000	VFD	60/0	MAD	780
2113	0000				
2114	0000				
2115	0000				
2116	0000				
2117	0000	CXJC	VFD	6/0,18/00,18/0,18/0	(P) = PROGRAM 3
2120	0000			MAD	781
2121	0000			MAD	782
2122	0000				
2123	0000				
2124	0000	VFD	6/0,18/0,18/0,18/0	MAD	783
2125	0000				
2126	0000				
2127	0000				
2130	0000				
2131	0000	VFD	6/0,18/200,18/0,18/0	MAD	784
2132	0200				
2133	0000				
2134	0000				
2135	0000				
2136	0000	VFD	60/0	MAD	785
2137	0000				
2140	0000				
2141	0000				
2142	0000				
2143	0000	VFD	60/0	MAD	786
2144	0000				
2145	0000				
2146	0000				
2147	0000				
2150	0000	VFD	60/0	MAD	787
2151	0000				
2152	0000				
2153	0000				
2154	0000				
2155	0000	VFD	60/0	MAD	788

CPU TEST PROGRAMS.

21560000

21570000

21600000

21610000

21620000

21630000

21640000

21650000

21660000

VFD60/0

MAD789

*TEST PROGRAMS FOR CEJ/MEJ OPTION.

MAD790

MAD791

MAD792

MAD793

21670130CXJDVFD30/0130000000,30/0XJ TO (MA)

21700000

21710000

21720000

21730000

21740400

VFD30/0400000071,30/0

MAD794

21750000

21767100

21770000

22000000

22010130CXJEVFD30/0130000140,30/0XJ TO STOP PROGRAM

MAD795

MAD796

22020001

22034000

22040000

22050000

*EXCHANGE PACKAGE FOR CMU OPTION TEST.

MAD798

22060000CCUAVFD6/0,18/60,18/0,18/0(P) = CMU TEST PROGRAM

MAD799

MAD800

22070060

22100000

22110000

22120000

22130000

VFD6/0,18/100,18/0,18/0

MAD801

22140100

22150000

22160000

22170000

22200000

VFD6/0,18/100,18/0,18/0

MAD802

22210100

22220000

22230000

22240000

22250000

VFD60/0

MAD803

22260000

22270000

22300000

22310000

22320000

VFD60/0

MAD804

22330000

22340000

2235 0000
2236 0000
2237 0000
2240 0000
2241 0000
2242 0000
2243 0000
2244 0000
2245 0120
2246 0000
2247 0000
2250 0000
2251 0000
2252 0000
2253 0000
2254 0000
2255 0000

2256 4650
2257 0000
2260 6310
2261 0000
2262 0064
2263 0130
2264 0000
2265 0000
2266 0000
2267 0000
2270 0400
2271 0000
2272 6100
2273 0000
2274 0000
2275 7777
2276 7777
2277 0000
2300 0000
2301 0000
2302 0000
2303 0000
2304 0000
2305 0000
2306 0000

VFD 60/0

VFD 6/0,18/120,18/0,18/0 (MA) = SECOND EXCHANGE PACKAGE

VFD 60/0

* TEST PROGRAM FOR CMU OPTION.

CCUB VFD 9/465,3/0,18/63,4/2,26/64 *DM* INSTRUCTION

VFD 30/0130000000,30/0

VFD 30/0400000061,30/0

VFD 24/77777777,36/0 CHARACTERS TO MOVE

VFD 60/0 LOCATION TO PLACE CHARACTERS

MAD 805

MAD 806

MAD 807

MAD 808

MAD 809

MAD 810

MAD 811

MAD 812

MAD 813

MAD 814

MAD	816
MAD	817
MAD	818
MAD	819
MAD	820
MAD	821
MAD	822
MAD	823
MAD	824

1

CXJA	1777	9/42	20/02	L					
CXJB	2047	7/16	9/43		20/43	L			
CXJC	2117	7/17	9/44		12/49		13/02	21/27	L
CXJD	2167	9/46	22/13	L					
CXJE	2201	7/21	22/24	L					
CXJX	707	9/33	L	9/40	9/55		10/04		
CXJ1	717	9/36	9/38	L					
DDFP	73	11/10	11/28						
DMS	401	5/14							
DOA	1307	10/02	13/40	D					
DOAL	1320	13/47	D	17/40	S				
DOAX	1306	13/40	L	13/53					
DOA1	1310	13/41	L	13/52					
DOT	767	4/06	10/15	D					
DOTA	1231	11/45	12/30	L	12/35				
DOTAL	5	11/44	11/46		12/35	D			
DOTX	766	10/15	L	10/25	10/29		12/26		
DOT1	1035	10/39	10/41	L					
DOT1.3	1072	11/01	11/04	L					
DOT1.5	1076	10/40	11/10	L					
DOT2	1102	11/12	L	11/19					
DOT3	1127	11/25	11/27	L	12/19				
DOT4	1135	11/31	L	11/33					
DOT4.1	1142	11/31	11/36	L					
DOT4.2	1156	11/48	L	11/52					
DOT4.4	1163	11/34	11/54	L					
DOT5	1173	11/56	12/03	L					
DOT6	1176	11/48	12/06	L					
DOT7	1203	11/26	12/09	L	12/18				
DOT8	1217	12/10	12/21	L					
DOT9	762	10/12	L	10/18					
DSBA	1332	13/48	14/01	L	14/09		14/12		
DSBAL	103	13/46	14/09	D	17/45				
DSBEL	114	14/12	D	17/39					
DSFC	7001	3/47	D	13/44					
DSFP	72	11/14	11/36		11/42	12/06	15/17	15/21	
DSP	1475	11/15	11/29		11/37	11/43	12/07	15/12	D
DSPA	1507	15/16	S	15/19	D				
DSPB	1513	15/14	S	15/23	D				
DSPX	1474	15/12	L	15/29					
ECH	1237	4/40	12/43	D					
ECHX	1236	12/43	L	12/57	13/05				
ECH1	1265	12/52	13/03	L					
EL	67	3/19	L	7/16	8/37	9/11	9/43	12/49	
		7/15	7/17		8/42	9/42	9/44	13/02	
ENSC	122	15/44	16/18						
FCCL	2000	4/11	10/52		11/10	15/13	15/21	15/44	17/02
		10/46	11/04		12/23	15/15	15/27	16/54	17/06
FCRD	0	10/35							
FCSB	4000	4/08	10/43		15/15	15/25	16/54		
		10/19	10/49		15/17	16/18			
FCTB	1000	10/26	10/55						
FCTC	3000	4/51	10/22						
FCTS	5000	4/55							
FDC	1271	10/01	13/16	D					
FDCA	1302	13/19	13/24	L	13/27				
FDCB	1304	13/26	L						

1

SFCX	1552	16/32	16/35	5/52	6/42					
SHNI	1000	3/37	5/26							
TH	72	NOSTEXT	3/22							
1	TR	73	NOSTEXT	3/23	L	7/18	7/19	8/38	9/12	9/46
2	T0	0	NOSTEXT	3/05	D					
3	T1	1	NOSTEXT	3/06	D	5/23	S	5/44	S	12/47
4				4/30	S	5/24		5/50	7/51	S
5				4/32		5/41	S	6/03	S	8/01
6	T2	2	NOSTEXT	3/07	D	6/52		7/49	S	8/04
7				6/39	S	6/56	I	7/56	8/11	16/55
8	T3	3	NOSTEXT	3/08	D	6/55		11/12	S	11/54
9				6/51	S	10/30	S	11/17	12/09	S
10	T4	4	NOSTEXT	3/09	D	11/21	S	12/14	12/16	S
11	T5	5	NOSTEXT	3/10	D	11/23	S	12/03	12/05	S
12	T6	6	NOSTEXT	3/11	D	11/47	S	11/51	S	
13	T7	7	NOSTEXT	3/12	D					
14	XC01	6000		3/53	D	14/01		14/03	14/05	14/07
15	XJ1	737		9/37	S	9/48	L			14/10
16	YCER	7040		3/52	D	14/10				
17	YC09	7470		3/48	D	14/01				
18	YC12	7374		3/49	D	14/03				
19	YC13	7350		3/50	D	14/05				
20	YC16	7254		3/51	D	14/07				
21										
22										
23										
24										
25	SYMBOL QUALIFIER = CPA									
26										
27										
28	CMSZ	7671		5/10		5/11		5/16	S	5/18
29	DSPNLZ	7677		4/20						
30	LPPU	7702		5/48		6/01		11/20		11/24
31	LPP0	7676		5/33						
32	LPP1	7677		5/39						
33	OPTN	7673		4/35	S	5/06	S	7/38	S	9/05
34				4/48		7/11		8/29	9/24	S
35				5/03		7/22		8/50	S	9/34
36	PPPU	7700		4/17	S	4/19	S	5/45	5/54	11/57
37	PPP0	7674		5/29		8/04		8/11	S	8/19
38	PPP1	7675		5/35		7/54	S			
39										
40										
41										
42										
43	SYMBOL QUALIFIER = CTI									
44										
45										
46	CDEP	7000		6/16						
47	IPLB	6000		24/07						
48	LOAD	10		1/10		3/04		6/18		
49	TRAN	100		4/03		6/19				
50	PCM									
51										
52										
53										
54										
55										
56										
57										
58										
59										
60										

ADDRESS		LENGTH	BINARY CONTROL CARDS.	
1	10	3446	IDENT	PCM,/CTI/LOAD
2	3456	(557)		
3				
4				
5				
6				
7	ADDRESS	LENGTH	BINARY CONTROL CARDS.	
8				
9	3456	1245	IDENT	CMC,OVL
10	4723	(211)		
11				
12				
13				
14				
15	ADDRESS	LENGTH	BINARY CONTROL CARDS.	
16				
17	3456	1332	IDENT	SCE,OVL
18	5010	(223)	END	
19				
20				
21				
22				
23			IDENT	PCM,/CTI/LOAD
24			PERIPH	J
25		D_M	BASE	MIXED
26			SST	RDS,TH
27		VERID	MICRO	1,,*A02*
28		VERS	MICRO	1,,*"VERID"*
29			COMMENT	CTI PRESET COMPUTER MEMORY - "VERS"
30			COMMENT	COPYRIGHT CONTROL DATA CORPORATION, 1979
31				
32				
33		*	ALL RIGHTS RESERVED	
34		*		
35		*	CONTAINED HEREIN ARE SOFTWARE PRODUCTS COPYRIGHTED	
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1412THE

*****	PCM - PRESET COMPUTER MEMORY.	PCM	9
*	R. E. DENNIS. 78/06/06.	PCM	10
***	*PCM* CLEARS THE MEMORY OF CYBER/6000 PROCESSORS. ON A	PCM	12
*	LEVEL 0, 1, OR 2 RECOVERY CENTRAL MEMORY AND ALL PPU MEMORY	PCM	13
*	IS SET TO 0..0 AND CHECKED FOR 0..0. THE MEMORYS ARE THEN	PCM	14
*	ALL SET TO 7..7 AND CHECKED FOR ALL 7..7. ANY ERROR	PCM	15
*	ENCOUNTERED DURING THE CHECKING PHASE WILL BE REPORTED ON THE	PCM	16
*	CONSOLE DISPLAY AS SHOWN BELOW. ON A LEVEL 3 RECOVERY ONLY	PCM	17
*	THE PPU MEMORYS ARE CHECKED. ALL DISPLAYS ARE DYNAMIC	PCM	18
*	AND EACH NUMERIC REPRESENTS THE CURRENT VALUE BEING	PCM	19
*	PROCESSED.	PCM	20
*		PCM	21
*		PCM	22
*	CONSOLE MESSAGES -	PCM	23
*	(LEFT SCREEN.)	PCM	24
*		PCM	25
*		PCM	26
*	CHECK COMPUTER MEMORY.	PCM	27
*		PCM	28
*		PCM	29
*	S/C REGISTER 00 BIT 0314	PCM	30
*	(OR)	PCM	31
*	INTERLOCK REGISTER 00 BIT 0177	PCM	32
*	(OR)	PCM	33
*	NULL LINE.	PCM	34
*		PCM	35
*	PPU 05 4317	PCM	36
*	CM ADDRESS 012567 P0= 000312	PCM	37
*	(OR)	PCM	38
*	CM NOT ACTIVE - LEVEL 3 REC.	PCM	39
*	(OR)	PCM	40
*	NO CPU DEFINED FOR SYSTEM.	PCM	41
*		PCM	42
*		PCM	43
*	CHECK MEMORY COMPLETE.	PCM	44
*		PCM	45
*		PCM	46
*	IF A FATAL COMMUNICATIONS ERROR OCCURS, THE PPU NUMBER WILL	PCM	47
*	NOT BE ADVANCED ON THE LEFT SCREEN AND THE PPU NUMBER OF THE	PCM	48
*	PPU WITH THE ERROR WILL BE DISPLAYED ON THE RIGHT SCREEN.	PCM	49
*		PCM	50
*	IF A CENTRAL MEMORY ERROR OCCURS IN THE AREA WHERE THE TEST	PCM	51
*	PROGRAM WILL EXECUTE, IT IS CONSIDERED FATAL AND WILL	PCM	52
*	HANG DEADSTART WITH THE ERROR DISPLAYED.	PCM	53
*		PCM	54
*		PCM	55
*	(RIGHT SCREEN.)	PCM	56
*		PCM	57
*		PCM	58
*	MEMORY DATA ERRORS.	PCM	59
*		PCM	60
*	PP 05	PCM	61
*	NONE.	PCM	62

	*	(OR)		PCM	63
	*	FATAL COMMUNICATION ERROR.		PCM	64
	*	(OR)		PCM	65
1	*	ADDRESS 4317		PCM	66
2	*	EXPECTED DATA 7777		PCM	67
3	*	ACTUAL DATA 5777		PCM	68
4	*	DIFFERENCE 2000		PCM	69
5	*			PCM	70
6	*	CENTRAL MEMORY		PCM	71
7	*	NONE.		PCM	72
8	*	(OR)		PCM	73
9	*	ADDRESS 012567		PCM	74
10	*	EXPECTED DATA 0000 0000 0000 0000 0000		PCM	75
11	*	ACTUAL DATA 0200 0000 0000 0000 0000		PCM	76
12	*	DIFFERENCE 0200 0000 0000 0000 0000		PCM	77
13	*			PCM	78
14	*			PCM	79
15	*	NOTE - THE VALUE OF ANY OF THE DATA/ADDRESS FIELDS MAY BE		PCM	80
16	*	INCORRECT IF THE COMMUNICATIONS CHANNEL HAS A PROBLEM OR THE		PCM	81
17	*	PROGRAM IN THE PROCESSOR BEING CHECKED CANNOT EXECUTE		PCM	82
18	*	CORRECTLY. THE MESSAGE *NONE,* MAY ALSO BE DISPLAYED EVEN		PCM	83
19	*	IF AN ERROR HAS OCCURRED IF THE CPU/PPU PROGRAM IS INCAPABLE		PCM	84
20	*	OF EXECUTING CORRECTLY CAUSING THE STATUS WORDS TO BE		PCM	85
21	*	INCORRECT.		PCM	86
22	*			PCM	87
23	*			PCM	88
24	*			PCM	89
25	*			PCM	90
26	*	THE REMAINING PORTION OF THE DISPLAY WILL ONLY OCCUR ON CYBER		PCM	91
27	*	170 MACHINES.		PCM	92
28	*			PCM	93
29	*			PCM	94
30	*	S/C REGISTER ERRORS.		PCM	95
31	*			PCM	96
32	*	NONE.		PCM	97
33	*	(OR)		PCM	98
34	*	S/C REGISTER CHANNEL FULL - FATAL ERROR.		PCM	99
35	*	(OR)		PCM	100
36	*	(IF ANY S/C REGISTER ERRORS EXIST.)		PCM	101
37	*			PCM	102
38	*			PCM	103
39	*	(ALL S/C REGISTER 0 MESSAGES HAVE ARE PRECEDED BY A 0)		PCM	104
40	*			PCM	105
41	*			PCM	106
42	*	0 00 -READ PYRAMID PARITY ERROR.		PCM	107
43	*	0 01 -CSU 0 ADDRESS PARITY ERROR.		PCM	108
44	*			PCM	109
45	*			PCM	110
46	*	(ALL S/C REGISTER 1 MESSAGES HAVE ARE PRECEDED BY A 1)		PCM	111
47	*			PCM	112
48	*			PCM	113
49	*	1 00 -READ PYRAMID PARITY ERROR.		PCM	114
50	*	1 14 -PP20 PARITY ERROR.		PCM	115
51					
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60					

* MACRO DEFINITIONS.

PCM	117
PCM	118
PCM	119
PCM	120
PCM	121
PCM	122
PCM	123
PCM	124
PCM	125
PCM	126
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PCM	130
PCM	131
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PCM	162
PCM	163
PCM	164
PCM	165
PCM	166
PCM	167
PCM	168
PCM	169
PCM	170
PCM	171
PCM	172
PCM	173

* EXJP - EXCHANGE JUMP PACKAGE DEFINITION MACRO.

* TAG EXJP P=X,A0=Y,RA=Z,...,X7=M

* EXJP BUILDS AN EXCHANGE PACKAGE IN PPU MEMORY SUBSTITUTING
* THE VALUES FOR THE NAMED PARAMETERS. ALL OTHER FIELDS ARE
* SET TO 0 EXCEPT THE EXIT MODE FIELD WHICH IS SET TO THE
* REQUESTED VALUE OR THE *SYSTEXT* DEFINED VALUE *EEMC*.

EXJP MACROE P,A0,RA,A1,B1,FL,A2,B2,EM,A3,B3,RAX,A4,B4,FLX,A5,B5,MA,
,A6,B6,A7,B7,X0,X1,X2,X3,X4,X5,X6,X7

A LOCAL A

BSS 0

VFD 6/0

VFD 18/P

VFD 18/A0

VFD 18/0

VFD 6/0

VFD 18/RA

VFD 18/A1

VFD 18/B1

VFD 6/0

VFD 18/FL

VFD 18/A2

VFD 18/B2

IFC EQ,*EM**

VFD 12/EEMC

ELSE

VFD 12/EM

ENDIF

VFD 12/0

VFD 18/A3

VFD 18/B3

VFD 3/0

VFD 21/RAX

VFD 18/A4

VFD 18/B4

VFD 3/0

VFD 21/FLX

VFD 18/A5

VFD 18/B5

VFD 6/0

VFD 18/MA

VFD 18/A6

VFD 18/B6

VFD 24/0

VFD 18/A7

VFD 18/B7

VFD 60/X0

VFD 60/X1

VFD 60/X2

VFD 60/X3

VFD 60/X4

VFD 60/X5
VFD 60/X6
VFD 60/X7

PCM 174
PCM 175
PCM 176
PCM 177

ENDM

* ASSEMBLY CONSTANTS.

PCM 179

1000	SHNI	EQU	1000
2400	PSNI	EQU	2400
6500	IJMI	EQU	6500
6700	EJMI	EQU	6700
7000	IANI	EQU	7000
7200	OANI	EQU	7200
7100	IAMI	EQU	7100
7300	OAMI	EQU	7300
7400	ACNI	EQU	7400
7500	DCNI	EQU	7500
7700	FNCI	EQU	7700
200	NIBIT	EQU	128D

NUMBER OF INTERLOCK REGISTER BITS

PCM 180
PCM 181
PCM 182
PCM 183
PCM 184
PCM 185
PCM 186
PCM 187
PCM 188
PCM 189
PCM 190
PCM 191
PCM 192
PCM 193

* CENTRAL MEMORY EQUIVALENCES.

PCM 195
PCM 196
PCM 197

1000	IXPA	EQU	1000	IDLE EXCHANGE PACKAGE AREA
1020	MTXA	EQU	1020	MEMORY CHECK EXCHANGE PACKAGE
1040	IDLP	EQU	1040	IDLE PROGRAM ADDRESS
1041	CPR	EQU	1041	SCM RUN FLAG
1042	CPA	EQU	1042	CURRENT SCM ADDRESS
1043	EDA	EQU	1043	EXPECTED DATA
1044	ADA	EQU	1044	ACTUAL DATA
1045	DDA	EQU	1045	LOGICAL DIFFERENCE
1060	MTPA	EQU	1060	MEMORY CHECK PROGRAM ADDRESS

PCM 198
PCM 199
PCM 200
PCM 201
PCM 202
PCM 203
PCM 204
PCM 205
PCM 206

* CHANNEL EQUIVALENCES.

PCM 208
PCM 209
PCM 210
PCM 211
PCM 212
PCM 213
PCM 214

10	CH	EQU	10	DISPLAY CHANNEL
15	IC	EQU	15	INTERLOCK REGISTER CHANNEL
16	SC	EQU	16	S/C REGISTER CHANNEL
16	CHSC	EQU	SC	

** COMMON DECKS.

PCM 216
PCM 217
PCM 218

1	0		CTEXT	COMPCHI	- REDEFINE I/O INSTRUCTIONS.	COMPCHI	2	1
2	0	CPA	CTEXT	COMSCPA	- CTI COMMON POINTER AREA DEFINITIONS.	COMSCPA	2	2
3	0	CTI	CTEXT	COMSCTI	- CTI INTERNAL DEFINITIONS.	COMSCTI	2	3
4	0		CTEXT	COMPMAC	- PP SYSTEM MACROS.	COMPMAC	2	4
5	0		CTEXT	COMSSCR	- S/C REGISTER EQUIVALENCES.	COMSSCR	2	5
6								6
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* DIRECT LOCATION ASSIGNMENTS.

10	ORG	/CTI/LOAD	PCM	225
			PCM	226
			PCM	227
			PCM	228
	0	T0 EQU 0	PCM	229
	1	T1 EQU 1	PCM	230
	2	T2 EQU 2	PCM	231
	3	T3 EQU 3	PCM	232
	4	T4 EQU 4	PCM	233
	5	T5 EQU 5	PCM	234
	6	T6 EQU 6	PCM	235
	7	T7 EQU 7	PCM	236
			PCM	237
10	0000	TA CON 0	PCM	238
11	0000	TD CON 0	PCM	239
12	0000	TE CON 0	PCM	240
13	0000	TF CON 0	PCM	241
14	0000	TG CON 0	PCM	242
15	0000	TH CON 0	PCM	243
16	0000	PP CON 0	PCM	244
17	0000	EF CON 0	PCM	245
18	0000	WD CON 0	PCM	246
19	0000	RF CON 0	PCM	247
20	0000	ED CON 0	PCM	248
21	0000	AD CON 0	PCM	249
22	0000	DD CON 0	PCM	250
23	0400	SP VFD 30/0400000000,30/0	PCM	251
24	0000			
25	0000			
26	0000			
27	0000			
28	0000			
29	7777	SV VFD 60/-0 SEVENS	PCM	252
30	7777			
31	7777			
32	7777			
33	7777			
34			PCM	253
35			PCM	254
36			PCM	255
37			PCM	256
38			PCM	257
39	37	21 BSS 60-*	PCM	258
40			PCM	259
41		QUAL COMPSCE	PCM	260
42			PCM	261
43	60	0000 C1 CON 0	PCM	262
44	61	0000 C2 CON 0	PCM	263
45	62	0000 FW CON 0	PCM	264
46	63	0000 LW CON 0	PCM	265
47	64	0000 AM CON 0	PCM	266
48	65	0000 TE CON 0	PCM	267
49	66	0000 BT CON 0	PCM	268
50	67	0000 BW CON 0	PCM	269
51	70	0000 CB CON 0	PCM	270
52	71	0000 WC CON 0	PCM	271
53	72	0000 RW CON FCRD	PCM	272
54	73	0000 CT CON 0	DIMA299	44

* COMPSCE REQUIRED DIRECT LOCATIONS.

37	21	BSS	60-*	PCM	258
		QUAL	COMPSCE	PCM	259
				PCM	260
				PCM	261
60	0000	C1	CON 0	PCM	262
61	0000	C2	CON 0	PCM	263
62	0000	FW	CON 0	PCM	264
63	0000	LW	CON 0	PCM	265
64	0000	AM	CON 0	PCM	266
65	0000	TE	CON 0	PCM	267
66	0000	BT	CON 0	PCM	268
67	0000	BW	CON 0	PCM	269
70	0000	CB	CON 0	PCM	270
71	0000	WC	CON 0	PCM	271
72	0000	RW	CON FCRD	PCM	272
73	0000	CT	CON 0	DIMA299	44

QUAL

*

PCM

273



1412THE

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** PCM - MAIN PROGRAM.

PCM 276

PCM 277

PCM 278

* CLEAR S/C REGISTER IF CYBER 170.

PCM 279

PCM 280

PCM 281

100 ORG /CTI/TRAN

PCM 282

100 0200 1155 PCM RJM RPT REASSIGN PP10 TO CHANNEL 0

PCM 283

102 6516 0124 IJM. PCM1,SC IF NOT CYBER 17X

PCM 284

104 2000 2400 LDC PSNI SET PROCESS *NONE.*

PCM 285

106 5400 2435 STM DRSE

PCM 286

110 2000 3251 LDC SCRE SET *S/C REGISTER ERRORS.*

PCM 287

112 5400 2543 STM DRSD

PCM 288

114 2000 2607 LDC MESB SET MESSAGE POINTERS

PCM 289

116 5400 2370 STM DLSB

PCM 290

120 2000 2616 LDC MESBA

PCM 291

122 0200 0732 RJM CSR CLEAR S/C REGISTER

PCM 292

PCM 293

* CLEAR INTERLOCK REGISTER IF CYBER 70.

PCM 294

PCM 295

PCM 296

124 6515 0136 PCM1 IJM. PCM2,IC IF NOT CYBER 7X

PCM 297

PCM 298

126 2000 2731 LDC MESF

PCM 299

130 5400 2370 STM DLSB

PCM 300

132 2000 2743 LDC MESFA

PCM 301

134 0200 0732 RJM CSR CLEAR INTERLOCK REGISTER

PCM 302

PCM 303

PCM 304

* CHECK CM/PPU MEMORY.

PCM 305

PCM 306

PCM 307

136 0200 1671 PCM2 RJM CPU START CPU

PCM 308

140 0200 1601 RJM CPP CHECK PRESENCE OF AVAILABLE PPS

PCM 309

142 2000 2625 LDC MESC

PCM 310

144 5400 2371 STM DLSC

PCM 311

146 0200 0265 RJM CPM CHECK PERIPHERAL PROCESSOR MEMORY

PCM 312

150 6516 0154 IJM. PCM3,SC IF NOT CYBER 17X

PCM 313

152 0200 1100 RJM SED CHECK FOR S/C REGISTER ERRORS

PCM 314

PCM 315

PCM 316

154 2000 2771 PCM3 LDC MSG SEND COMPLETE MESSAGE

PCM 317

156 5400 2400 PCM4 STM DLSF

PCM 318

160 0200 1244 RJM DPS DISPLAY *CHECK MEMORY COMPLETE.*

PCM 319

162 0200 1171 RJM RDS CLEAR PPUS TO DEAD START STATUS

PCM 320

164 5000 7673 LDM /CPA/OPTN

PCM 321

166 1066 SHN -11

PCM 322

167 1203 LPN 3

PCM 323

170 0411 ZJN PCM5 IF NOT CYBER 176

PCM 324

171 2000 2115 LDC FCCL+DSCU DEADSTART CPU

PCM 325

173 7256 OAN. SC+40

PCM 326

174 7056 IAN. SC+40

PCM 327

175 2000 2066 LDC FCCL+EXBB CLEAR EXCHANGE BIAS

PCM 328

177 7256 OAN. SC+40

PCM 329

200 7056 IAN. SC+40

PCM 330

201 2000 0205 PCM5 LDC PCMA CALL *EBL*

PCM 331

203 0100 7000 LJM /CTI/CDEP

PCM 332

205	0200	PCMA	CON	/CTI/EBLLOAD	CDIB	PCM	333
206	0200		CON	/CTI/EBLLOAD	CDTA	PCM	334
207	0000		CON	0	CDRW	PCM	335
210	0502		DATA	L*EBL*	CDNC	PCM	337

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60								60

1412THE

** MCI - MODIFY CHANNEL INSTRUCTIONS.
*
* ENTRY (A) .EQ. CURRENT CHANNEL.
*
* EXIT CHANNEL INSTRUCTIONS MODIFIED.
*
* USES T5, T6.

PCM 340
PCM 341
PCM 342
PCM 343
PCM 344
PCM 345
PCM 346
PCM 347
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PCM 353
PCM 354
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PCM 356
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PCM 385
PCM 386
PCM 387
PCM 388

212 0100 0212
214 1237
215 1640
216 3405
217 5000 0236
221 1377
222 3305
223 5400 0236
225 5400 0254
227 2000 1736
231 3405
232 4005
233 3406
234 4006
235 1377
236 1100
237 4406
240 3605
241 4005
242 0570
243 2000 4707
245 3405
246 4005
247 2100 4432
251 3406
252 4006
253 1377
254 1100
255 4406
256 3605
257 4005
260 0566
261 0100 0212
L 243
L 243 0346
264

MCI
MCI1
MCIA
MCIB
*
MCI2
MCIC
MCID

SUBR
LPN 37
ADN 40
STD T5
LDM MCIA
SCN 77
LMD T5
STM MCIA
STM MCIC
LDC PCHS
STD T5
LDI T5
STD T6
LDI T6
SCN 77
LMN 0
STI T6
AOD T5
LDI T5
NJN MCIA
LDC ICHS
* UJN MCIX
STD T5
LDI T5
ADC IDLE
STD T6
LDI T6
SCN 77
LMN 0
STI T6
AOD T5
LDI T5
NJN MCIA
LJM MCIX
EQU *
LOC MCIB
UJN MCIX
LOC *0

ENTRY/EXIT
SET SKIP ON ERROR
MODIFY LOGICAL DIFFERENCE
SAVE INSTRUCTION ADDRESS
MODIFY INSTRUCTION
IF *PCM* RESIDENT I/O NOT MODIFIED
IF ALL PPU IDLE LOOPS SET RETURN
RELOCATE ADDRESS
SAVE INSTRUCTION ADDRESS
MODIFY INSTRUCTION
IF MODIFICATION NOT COMPLETE
RETURN
RETURN

263

1412THE

** CPM - CHECK PPU MEMORY. PCM 390

* PCM 391

* NOTE - THE DISPLAYS ARE UPDATED AFTER EACH 100 WORD BLOCK OF PPU 0 MEMORY PROCESSED BY THIS ROUTINE. PCM 392

* PCM 393

* PCM 394

* EXIT PPU0 IS TESTED AND ALL OTHER CHECKING PROGRAMS COMPLETE. PCM 395

* PCM 396

* PCM 397

* PCM 398

* USES RF, WD, ED, AD, DD. PCM 399

* CALLS UDS. PCM 400

PCM 401

264	0100 0264	CPM	SUBR	ENTRY/EXIT	PCM	402
266	2000 3336	CPM1	LDC	END	PCM	403
270	3420		STD	WD	PCM	404
271	3020	CPM2	LDD	WD	PCM	405
272	1277		LPN	77	PCM	406
273	0504		NJN	CPM3	PCM	407
274	0200 0347		RJM	UDS	PCM	408
276	0565		NJN	CPMX	PCM	409
				IF NOT MULTIPLE OF 100	PCM	410
				UPDATE DISPLAYS	PCM	411
				IF S/C REGISTER ERROR RETURN	PCM	412
277	3022	CPM3	LDD	ED	PCM	413
300	4420		STI	WD	PCM	414
301	3620		AOD	WD	PCM	415
302	2300 6000		LMC	/CTI/IPLB	PCM	416
304	0564		NJN	CPM2	PCM	417
305	2000 3336		LDC	END	PCM	418
307	3420		STD	WD	PCM	419
310	3020	CPM4	LDD	WD	PCM	420
311	1277		LPN	77	PCM	421
312	0504		NJN	CPM5	PCM	422
313	0200 0347		RJM	UDS	PCM	423
315	0546		NJN	CPMX	PCM	424
				IF S/C REGISTER ERROR RETURN	PCM	425
316	4020	CPM5	LDI	WD	PCM	426
317	3423		STD	AD	PCM	427
320	3322		LMD	ED	PCM	428
321	3424		STD	DD	PCM	429
322	0514		NJN	CPM6	PCM	430
323	3620		AOD	WD	PCM	431
324	2300 6000		LMC	/CTI/IPLB	PCM	432
326	0561		NJN	CPM4	PCM	433
327	3022		LDD	ED	PCM	434
330	2300 7777		LMC	7777	PCM	435
332	3422		STD	ED	PCM	436
333	0403		ZJN	CPM6	PCM	437
334	0100 0266		LJM	CPM1	PCM	438
				IF 0*S AND 1*S COMPLETE	PCM	439
336	1410	CPM6	LDN	10	PCM	440
337	3421		STD	RF	PCM	441
340	5400 0541		STM	TPCI	PCM	442
342	0200 0347		RJM	UDS	PCM	443
344	0100 0264		LJM	CPMX	PCM	443
				UPDATE DISPLAYS		
				RETURN		

** UDS - UPDATE STATUS DISPLAYS.
*
* CALLS DPS, CPC.

PCM 445
PCM 446
PCM 447
PCM 448
PCM 449
PCM 450
PCM 451
PCM 452
PCM 453
PCM 454
PCM 455
PCM 456
PCM 457

346	0100	0346	UDS	SUBR		ENTRY/EXIT
350	0200	1244		RJM	DPS	UPDATE DISPLAY
352	5000	0541		LDM	TPCI	
354	0471			ZJN	UDSX	IF PPU 0 NOT FORCED COMPLETE RETURN
355	0200	0446	UDS1	RJM	CPC	CHECK FOR PROCESSORS COMPLETE
357	1401			LDN	1	
360	0365			UJN	UDSX	RETURN

** CEM - CHECK EXECUTED CENTRAL MEMORY.
*
* EXIT CENTRAL MEMORY IS TESTED FOR THE TEST PROGRAM ONLY.
*
* USES T3 - T7.
*
* CALLS VCM.
*
* NOTE - ERRORS WILL HANG THE PROGRAM WITH THE ERROR DISPLAYED.

PCM 459
PCM 460
PCM 461
PCM 462
PCM 463
PCM 464
PCM 465
PCM 466
PCM 467
PCM 468

* LOOP TO READ/VERIFY CM.

PCM 469
PCM 470
PCM 471

361	3004		CEM3	LDD	T4	GET CM ADDRESS
362	6106	2151		CRM	GSDB+17,T6	
364	0200	2260		RJM	VCM	VERIFY ONE CM WORD
366	3604			AOD	T4	
367	3603			AOD	T3	
370	3307			LMD	T7	
371	0567			NJN	CEM3	IF MORE CM TO READ
372	3403			STD	T3	
373	5000	2144		LDM	GSDB+12	
375	2300	7777		LMC	7777	
377	0516			NJN	CEM1	IF BOTH PATTERNS NOT TESTED

PCM 472
PCM 473
PCM 474
PCM 475
PCM 476
PCM 477
PCM 478
PCM 479
PCM 480
PCM 481
PCM 482
PCM 483

400	0100	0400	CEM	SUBR		ENTRY/EXIT
402	2000	1000		LDC	IXPA	SET UP STARTING CM ADDRESS
404	3405			STD	T5	
405	1401			LDN	1	CM WRITE/READ LENGTH
406	3406			STD	T6	
407	2000	0213		LDC	MTPA-IXPA+/SCM/MTPL+100	LENGTH TO TEST
411	1377			SCN	77	
412	3407			STD	T7	
413	1400			LDN	0	FIRST PATTERN TO TEST
414	3403			STD	T3	

PCM 484
PCM 485
PCM 486
PCM 487
PCM 488
PCM 489
PCM 490
PCM 491
PCM 492
PCM 493

* LOOP TO WRITE/READ/VERIFY ONE PATTERN.

PCM 494
PCM 495

415	5400	2144	CEM1	STM	GSDB+12	SAVE EXPECTED PATTERN
417	5400	2145		STM	GSDB+13	

PCM 496
PCM 497
PCM 498

421	5400	2146		STM	GSDB+14		PCM	499
423	5400	2147		STM	GSDB+15		PCM	500
425	5400	2150		STM	GSDB+16		PCM	501
427	3005			LDD	T5	SET STARTING ADDRESS	PCM	502
430	3404			STD	T4		PCM	503
							PCM	504
			*		LOOP TO WRITE CM.		PCM	505
							PCM	506
431	3004		CEM2	LDD	T4	GET CM ADDRESS	PCM	507
432	6306	2144		CWM	GSDB+12,T6		PCM	508
434	3604			AOD	T4		PCM	509
435	3603			AOD	T3		PCM	510
436	3307			LMD	T7		PCM	511
437	0571			NJN	CEM2	IF MORE CM TO WRITE	PCM	512
440	3403			STD	T3		PCM	513
441	3005			LDD	T5	SET STARTING ADDRESS	PCM	514
442	3404			STD	T4		PCM	515
443	0100	0361		LJM	CEM3		PCM	516
			**		CPC - CHECK FOR ALL PROCESSORS COMPLETE.		PCM	518
			*				PCM	519
			*	ENTRY	IF PPU 0 MEMORY CHECK COMPLETE.		PCM	520
			*		(TPCI) = TABLE OF COMPLETED PPS.		PCM	521
			*		(TPPA) = TABLE OF AVAILABLE PPS.		PCM	522
			*				PCM	523
			*	USES	TA, TG, PP.		PCM	524
			*				PCM	525
			*	CALLS	DPS, FCE, ABT.		PCM	526
			*				PCM	527
			*	NOTE	- PPU 0 WILL BE COMPLETE IF ALL CHECKING IS COMPLETE		PCM	528
			*	OR A NON	- FATAL S/C REGISTER ERROR HAS OCCURRED ON A CYBER		PCM	529
			*		170 MACHINE.		PCM	530
							PCM	531
							PCM	532
445	0100	0445	CPC	SUBR		ENTRY/EXIT	PCM	533
447	1400		CPC1	LDN	0	CLEAR OVERFLOW COUNT	PCM	534
450	3414			STD	TG		PCM	535
451	1400		CPC2	LDN	0		PCM	536
452	3410			STD	TA		PCM	537
453	5010	0541	CPC3	LDM	TPCI,TA		PCM	538
455	0405			ZJN	CPC5	IF NOT COMPLETE	PCM	539
456	3610		CPC4	AOD	TA		PCM	540
457	1125			LMN	TPCIL		PCM	541
460	0572			NJN	CPC3	IF TABLE CHECK NOT COMPLETE	PCM	542
461	0363			UJN	CPCX	RETURN	PCM	543
							PCM	544
462	5010	0514	CPC5	LDM	TPPA,TA	PPU POSSIBLY NOT AVAILABLE	PCM	545
464	0471			ZJN	CPC4	IF PPU NOT AVAILABLE	PCM	546
465	0200	1244		RJM	DPS	UPDATE DISPLAY	PCM	547
467	3614			AOD	TG		PCM	548
470	1005			SHN	21-14		PCM	549
471	0657			PJN	CPC2	IF NO OVERFLOW	PCM	550
472	1400		CPCA	LDN	0	FIRST OVERFLOW	PCM	551
			*CPCA	LDN	1	(SECOND OVERFLOW)	PCM	552

1

614	7256		OAN.	SC+40		PCM	607
615	7056		IAN.	SC+40		PCM	608
616	0503		NJN	CSE3	IF SECDED ERROR	PCM	609
617	0100 0661		LJM	CSE6		PCM	610
621	2000 0017	CSE3	LDC	FCRD+CDSW	TEST FOR DOUBLE BIT ERROR	DIMA387	1
623	7256		OAN.	SC+40		PCM	612
624	7056		IAN.	SC+40		PCM	613
625	1016		SHN	SDSC/12D*12D-SDSC+21		DIMA387	2
626	0733		MJN	CSE6	IF DOUBLE BIT ERROR	DIMA387	3
627	5600 0722		AOM	CSEA	UPDATE SINGLE BIT SECDED ERROR COUNT	PCM	615
631	1063		SHN	-14		PCM	616
632	0404		ZJN	CSE4	IF NO OVERFLOW OF COUNTER	PCM	617
633	1500		LCN	0	CORRECT OVERFLOW (COUNT REMAINS AT 7777)	PCM	618
634	5400 0722		STM	CSEA		PCM	619
636	2000 2003	CSE4	LDC	FCCL+SECD	CLEAR SECDED ERROR BIT	PCM	620
640	7256		OAN.	SC+40		PCM	621
641	7056		IAN.	SC+40		PCM	622
642	5000 7673		LDM	/CPA/OPTN	CHECK IF CYBER 176	PCM	623
644	1066		SHN	-11		PCM	624
645	1203		LPN	3		PCM	625
646	0411		ZJN	CSE5	IF NOT 176	PCM	626
647	2000 4250		LDC	FCSB+CCRT	SET CM RANK II CLEAR	PCM	627
651	7256		OAN.	SC+40		PCM	628
652	7056		IAN.	SC+40		PCM	629
653	2000 2250		LDC	FCCL+CCRT	CLEAR CM RANK II CLEAR	PCM	630
655	7256		OAN.	SC+40		PCM	631
656	7056		IAN.	SC+40		PCM	632
657	0100 0603	CSE5	LJM	CSE1	CHECK FOR OTHER ERRORS	PCM	633
661	5000 3457	CSE6	LDM	SCE		PCM	634
663	2300 0714		LMC	CSE8	CHECK FOR SCE LOADED	PCM	636
665	0412		ZJN	CSE7		PCM	637
666	1401		LDN	1		PCM	638
667	5400 0726		STM	CSEC+2	SET REWIND FLAG	PCM	639
671	5400 0723		STM	CSEB	SET NON-SINGLE BIT ERROR FLAG	PCM	640
673	2000 0724		LDC	CSEC	LOAD *SCE*	PCM	641
675	0100 7000		LJM	/CTI/CDEP		PCM	642
677	1401	CSE7	LDN	1	SET REWIND FOR :CMC* LOADING	PCM	643
700	5400 1704		STM	CPUB		PCM	644
702	2000 0771		LDC	/CTI/IPLB-BUFR	SET LWA FOR ERROR MESSAGES	PCM	645
704	3463		STD	/COMPSCE/LW		PCM	646
705	2000 3335		LDC	TEMA	SET ADDRESS OF MESSAGE ADDRESS TABLE	PCM	647
707	3465		STD	/COMPSCE/TE		PCM	648
710	2000 5007		LDC	BUFR	PROCESS SCR ERRORS	PCM	649
712	0200 3457		RJM	SCE		PCM	650
714	2000 2166	CSE8	LDC	FCCL+DSBL	ENABLE SINGLE BIT ERROR LOGGING	PCM	651
716	7256		OAN.	SC+40		PCM	652
717	7056		IAN.	SC+40		PCM	653
720	0100 0566		LJM	CSEX	EXIT	PCM	654
722	0000	CSEA	CON	0	SINGLE BIT ERROR COUNTER	PCM	655
723	0000	CSEB	CON	0	NON-SINGLE BIT ERROR FLAG	PCM	656
724	3456	CSEC	CON	OVL	CDIB	PCM	657
725	0677		CON	CSE7	CDTA	PCM	659
726	0000		CON	0	CDRW	PCM	660
727	2303		DATA	L*SCE*	CDNC	PCM	661

**	CSR - CLEAR STATUS CONTROL REGISTER OR INTERLOCK REGISTER.	PCM	665
*		PCM	666
*	ENTRY (A) .EQ. ADDRESS OF MESSAGE TO BE UPDATED.	PCM	667
*		PCM	668
*	EXIT (STATUS CONTROL REGISTER) .EQ. 0.	PCM	669
*	(INTERLOCK REGISTER) .EQ. 0.	PCM	670
*		PCM	671
*	USES T3, T4, T6, TF.	PCM	672
*		PCM	673
*	CALLS C2D, CPD, DPS, SCS, CHN, ICS.	PCM	674
*		PCM	675
*	NOTE - THIS ROUTINE SHOULD NOT BE ENTERED UNLESS IT WAS	PCM	676
*	PREVIOUSLY DETERMINED THAT THE MACHINE IS A CYBER 70/170.	PCM	677
		PCM	678
		PCM	679
731	0100 0731 CSR SUBR ENTRY/EXIT	PCM	680
733	3403 STD T3 SAVE MESSAGE ADDRESS	PCM	681
734	6516 0741 IJM. CSR1,SC IF NOT CYBER 17X	PCM	682
736	2000 0315 LDC NBIT+1	PCM	683
740	0325 UJN CSR3 PROCEED FOR CYBER 17X	PCM	684
		PCM	685
741	1415 CSR1 LDN IC MODIFY CHANNELS	PCM	686
742	0200 1060 RJM CHN	PCM	687
744	0200 1142 RJM ICS CHECK CHANNEL STATUS	PCM	688
746	2000 4100 LDC FCSB+NIBIT/2 SET BIT 64	PCM	689
750	7255 OAN. IC+40	PCM	690
751	7055 IAN. IC+40	PCM	691
752	0200 1142 RJM ICS	PCM	692
754	2000 1100 LDC FCTB+NIBIT/2 CHECK BIT 64	PCM	693
756	7255 OAN. IC+40	PCM	694
757	7055 IAN. IC+40	PCM	695
760	0403 ZJN CSR2 IF NOT 128 BIT INTERLOCK REGISTER	PCM	696
761	2000 0100 LDC NIBIT/2 64 BITS +	PCM	697
763	2100 0100 CSR2 ADC NIBIT/2 64 BITS	PCM	698
765	5400 1024 CSR3 STM CSRD	PCM	699
767	1400 CSR4 LDN 0	PCM	700
770	3404 STD T4 BIT POSITION	PCM	701
771	3413 STD TF	PCM	702
772	3406 STD T6 REGISTER COUNTER	PCM	703
773	0200 2557 RJM C2D	PCM	704
775	4403 STI T3	PCM	705
776	1404 LDN 4	PCM	706
777	3503 RAD T3	PCM	707
1000	3003 CSR5 LDD T3 CONVERT BIT POSITION	PCM	708
1001	0200 2217 RJM CPD	PCM	709
1003	0200 1244 RJM DPS DISPLAY STATUS	PCM	710
1005	6516 1012 IJM. CSR6,SC IF NO S/C REGISTER	PCM	711
1007	0200 1125 RJM SCS S/C REGISTER STATUS	PCM	712
1011	0303 UJN CSR7 CONTINUE	PCM	713
		PCM	714
1012	0200 1142 CSR6 RJM ICS INTERLOCK REGISTER STATUS	PCM	715
1014	2000 2000 CSR7 LDC FCCL FORCE CLEAR OF BIT	PCM	716
1016	3104 ADD T4	PCM	717
1017	7256 CSRB OAN. SC+40	PCM	718
	*	PCM	719
	OAN. SC + 20 + 40		
	*	PCM	720
	OAN. IC + 40 IF CYBER 7X		
1020	7056 CSRC IAN. SC+40 2**5 SET ALLOWS FALL THROUGH	PCM	721

				*	IAN.	SC + 20 + 40		PCM	722	
				*	IAN.	IC + 40 IF CYBER 7X		PCM	723	
	1021	3604			AOD	T4		PCM	724	
1	1022	3413			STD	TF		PCM	725	1
2	1023	2300 0314			LMC	NBIT		PCM	726	2
3			1024	CSRD	EQU	*-1		PCM	727	3
4	1025	0552			NJN	CSR5 IF ANOTHER BIT TO CLEAR		PCM	728	4
5	1026	6415 0731			AJM.	CSRX,IC IF CYBER 7X		PCM	729	5
6	1030	5000 7675			LDM	/CPA/PPP1		PCM	730	6
7	1032	0523			NJN	CSR8 IF LESS THAN 11 PP SYSTEM		PCM	731	7
8	1033	3006			LDD	T6		PCM	732	8
9	1034	0521			NJN	CSR8 IF BOTH REGISTERS CLEARED		PCM	733	9
10	1035	1436			LDN	SC+20		PCM	734	10
11	1036	0200 1060			RJM	CHN MODIFY CHANNELS		PCM	735	11
12	1040	1400			LDN	0 BIT POSITION		PCM	736	12
13	1041	3404			STD	T4		PCM	737	13
14	1042	3413			STD	TF		PCM	738	14
15	1043	1504			LCN	4 MESSAGE POINTER		PCM	739	15
16	1044	3503			RAD	T3		PCM	740	16
17	1045	3606			AOD	T6 REGISTER COUNTER		PCM	741	17
18	1046	0200 2557			RJM	C2D		PCM	742	18
19	1050	4403			STI	T3		PCM	743	19
20	1051	1404			LDN	4 RESET MESSAGE POINTER		PCM	744	20
21	1052	3503			RAD	T3		PCM	745	21
22	1053	0100 1000			LJM	CSR5 CLEAR NEXT REGISTER		PCM	746	22
23								PCM	747	23
24	1055	0100 0731		CSR8	LJM	CSRX RETURN		PCM	748	24
25										25
26										26
27										27
28										28
29				**		CHN - CHANGE SC OR IC REGISTER CHANNELS.		PCM	750	29
30				*				PCM	751	30
31				*	ENTRY	(A) .EQ. NEW CHANNEL.		PCM	752	31
32				*				PCM	753	32
33				*	EXIT	REGISTER CHANNEL INSTRUCTIONS MODIFIED.		PCM	754	33
34								PCM	755	34
35								PCM	756	35
36	1057	0100 1057		CHN	SUBR	ENTRY/EXIT		PCM	757	36
37	1061	2300 7240			LMC	OANI+40		PCM	758	37
38	1063	5400 1017			STM	CSRB		PCM	759	38
39	1065	2300 0200			LMC	IANI&OANI		PCM	760	39
40	1067	5400 1020			STM	CSRC		PCM	761	40
41	1071	1277			LPN	77		PCM	762	41
42	1072	2300 6700			LMC	EJMI		PCM	763	42
43	1074	5400 1126			STM	SCSA		PCM	764	43
44	1076	0360			UJN	CHNX RETURN		PCM	765	44
45										45
46										46
47										47
48										48
49										49
50										50
51										51
52										52
53										53
54										54
55										55
56										56
57										57
58										58
59										59
60										60

1412THE

**	SED - S/C REGISTER ERROR DETECTION.	PCM	767
*		PCM	768
*	EXIT EXIT TO LOAD *DHE* IF NON-SINGLE BIT ERROR.	PCM	769
*		PCM	770
*	USES T1, T3.	PCM	771
*		PCM	772
*	CALLS DPS, KBI, RDS, SCS.	PCM	773
		PCM	774
		PCM	775
1077	0100 1077 SED SUBR ENTRY/EXIT	PCM	776
1101	0200 0567 RJM CSE CHECK FOR SCR ERRORS	PCM	777
1103	5000 0723 LDM CSEB GET NON-SINGLE BIT ERROR FLAG	PCM	778
1105	0471 ZJN SEDX IF ONLY SINGLE BIT ERRORS FOUND	PCM	779
1106	0200 1171 RJM RDS RESTORE PPU,S TO DEADSTART CONDITIONS	PCM	780
1110	1402 LDN 2 TELL *DHE* TO CALL *EBL*	PCM	781
1111	5400 6776 STM /CTI/DHEP	PCM	782
1113	2000 1117 LDC SEDA CALL *DHE*	PCM	783
1115	0100 7000 LJM /CTI/CDEP	PCM	784
		PCM	785
1117	0010 SEDA CON /CTI/LOAD CDIB	PCM	786
1120	0100 CON /CTI/TRAN CDTA	PCM	787
1121	0001 CON 1 CDRW	PCM	788
1122	0410 DATA L*DHE* CDNC	PCM	789
**	SCS - S/C REGISTER STATUS PROCESSOR.	PCM	791
*		PCM	792
*	EXIT S/C REGISTER CHANNEL IS EMPTY.	PCM	793
*		PCM	794
*	CALLS DLS, DRS.	PCM	795
		PCM	796
		PCM	797
1124	0100 1124 SCS SUBR ENTRY/EXIT	PCM	798
1126	6716 1124 SCSA EJM. SCSX,SC IF CHANNEL EMPTY RETURN	PCM	799
1130	2000 3267 LDC SCFE SET *S/C REGISTER CHANNEL FULL - FATAL E*	PCM	800
1132	5400 2544 STM DRSAL-1	PCM	801
1134	0200 2335 SCS1 RJM DLS DISPLAY LEFT SCREEN	PCM	802
1136	0200 2447 RJM DRS DISPLAY RIGHT SCREEN	PCM	803
1140	0373 UJN SCS1 HANG WITH DISPLAY ACTIVE	PCM	804
**	ICS - INTERLOCK REGISTER STATUS PROCESSOR.	PCM	806
*		PCM	807
*	EXIT INTERLOCK REGISTER CHANNEL EMPTY.	PCM	808
*		PCM	809
*	CALLS DLS.	PCM	810
		PCM	811
		PCM	812
1141	0100 1141 ICS SUBR ENTRY/EXIT	PCM	813
1143	6715 1141 EJM. ICSX,IC IF CHANNEL EMPTY	PCM	814
1145	2000 2752 LDC ICFE SET *INTERLOCK CHANNEL FULL.*	PCM	815
1147	5400 2370 STM DLSB	PCM	816
1151	0200 2335 ICS1 RJM DLS	PCM	817

818

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1227	0440	ZJN	RDSX	IF PP10 *OFF*	PCM	869
1230	7410	ACN.	CH	MOVE PP10 TO CHANNEL 10	PCM	870
1231	1403	LDN	3		PCM	871
1232	7300 1237	OAM.	RDSA,0		PCM	872
1234	7540	DCN.	0+40	CHANNEL 0 DEACTIVE	PCM	873
1235	0100 1170	LJM	RDSX	RETURN	PCM	874

1237	0000	RDSA	CON	0	PCM	875
1240	1500		LCN	0	PCM	876
1241	7110 0000	IAM.	0,CH		PCM	877

**	DPS - DISPLAY PROGRAM STATUS	PCM	882
*		PCM	883
*	ENTRY (PP) .EQ. PPU STATUS TO BE DISPLAYED.	PCM	884
*		PCM	885
*	EXIT (PP) .EQ. NEXT PPU STATUS TO BE DSPLAYED.	PCM	886
*		PCM	887
*	USES NONE.	PCM	888
*		PCM	889
*	CALLS GPI, GSD, CSE, DLS, DRS, ABT.	PCM	890
		PCM	891
1243	0100 1243 DPS SUBR ENTRY/EXIT	PCM	892
1245	0200 1414 RJM GPI GENERATE PPU DISPLAY	PCM	893
1247	0200 2055 RJM GSD GENERATE CM DISPLAY	PCM	894
1251	0200 0567 RJM CSE CHECK FOR SCR ERRORS	PCM	895
1253	5000 0723 LDM CSEB LOAD NON SINGLE BIT ERROR FLAG	DIMA387	4
1255	3417 STD EF STORE IN ERROR FLAG	DIMA387	5
1256	0200 2335 RJM DLS DISPLAY LEFT SCREEN	PCM	896
1260	0200 2447 RJM DRS DISPLAY RIGHT SCREEN	PCM	897
1262	6516 1273 IJM. DPS1,SC IF NO S/C REGISTER	DIMA315	1
1264	2000 7000 LDC FCTE TEST ERRORS	DIMA315	2
1266	7256 OAN. SC+40B	DIMA315	3
1267	7056 IAN. SC+40B	DIMA315	4
1270	0403 ZJN DPS1 IF NO S/C REGISTER BITS SET	DIMA315	5
1271	5400 0541 STM TPCI FORCE PP0 COMPLETE	PCM	902
1273	3017 DPS1 LDD EF	PCM	903
1274	0513 NJN DPS4 IF ANY ERROR	PCM	904
1275	3616 DPS2 AOD PP	PCM	905
1276	1124 LMN 20D	PCM	906
1277	0503 NJN DPS3 IF NOT ALL PPUS DISPLAYED	PCM	907
1300	3416 STD PP	PCM	908
1301	0341 UJN DPSX RETURN	PCM	909
		PCM	910
1302	5016 0514 DPS3 LDM TPPA,PP	PCM	911
1304	0470 ZJN DPS2 IF PPU NOT AVAILABLE	PCM	912
1305	0100 1243 LJM DPSX RETURN	PCM	913
		PCM	914
1307	0200 1773 DPS4 RJM ABT ABORT	PCM	915
**	GPI - GENERATE PPU INFORMATION.	PCM	917
*		PCM	918
*	ENTRY (PP) .EQ. CURRENT PPU NUMBER.	PCM	919
*		PCM	920
*	EXIT PPU STATUS MESSAGE IS UPDATED.	PCM	921
*	(EF) .EQ. XXX1 IF A PP ERROR HAS OCCURRED.	PCM	922
*	TPCI+PP .NE. 0 IF PPU COMPLETE.	PCM	923
*		PCM	924
*	USES T7, TD, TF, EF.	PCM	925
*		PCM	926
*	CALLS MCI, C2D, RID, CPD.	PCM	927
		PCM	928
		PCM	929
*	PROCESS OTHER ACTIVE PPU ERRORS.	PCM	930
		PCM	931
		PCM	932

1311	0200	0213	GPI6	RJM	MCI	MODIFY CHANNEL INSTRUCTIONS	PCM	933
1313	0200	1507		RJM	RID	READ INPUT STATUS DATA	PCM	934
1315	5000	1470		LDM	GPIA+1	SET RUN FLAG	PCM	935
1317	5416	0541		STM	TPCI,PP		PCM	936
1321	3016			LDD	PP	SETUP DISPLAYS	PCM	937
1322	1712			SBN	10D		PCM	938
1323	0702			MJN	GPI7	IF NOT UPPER PPUS	PCM	939
1324	1606			ADN	6		PCM	940
1325	1612		GPI7	ADN	10D		PCM	941
1326	0200	2557		RJM	C2D	CONVERT PPU NUMBER	PCM	942
1330	5400	2626		STM	MESCA		PCM	943
1332	5400	3031		STM	RMSAA		PCM	944
1334	5000	1467		LDM	GPIA	CONVERT ADDRESS	PCM	945
1336	3413			STD	TF		PCM	946
1337	2000	2630		LDC	MESCB		PCM	947
1341	0200	2217		RJM	CPD		PCM	948
1343	1404			LDN	GPIAL-1		PCM	949
1344	3407			STD	T7		PCM	950
1345	5007	1467		LDM	GPIA,T7		PCM	951
1347	0503			NJN	GPI8	IF ERROR	PCM	952
1350	0100	1403		LJM	GPI12	IF NO ERROR	PCM	953
1352	3413		GPI8	STD	TF		PCM	954
1353	5007	1474		LDM	GPIB,T7	CONVERT ERROR DATA	PCM	955
1355	0403			ZJN	GPI9	IF NOT RELEVANT DATA	PCM	956
1356	0200	2217		RJM	CPD		PCM	957
1360	3707		GPI9	SOD	T7		PCM	958
1361	0704			MJN	GPI10	IF CONVERSION COMPLETE	PCM	959
1362	5007	1467		LDM	GPIA,T7		PCM	960
1364	0365			UJN	GPI8		PCM	961
1365	1404		GPI10	LDN	GPICL-1	SET MESSAGES	PCM	962
1366	3407			STD	T7		PCM	963
1367	5007	1501	GPI11	LDM	GPIC,T7	SET MESSAGE ADDRESSES	PCM	964
1371	4411			STI	TD		PCM	965
1372	3611			AOD	TD		PCM	966
1373	3707			SOD	T7		PCM	967
1374	0572			NJN	GPI11	IF ALL MESSAGE ADDRESSES NOT SET	PCM	968
1375	3017			LDD	EF	SET PPU ERROR	PCM	969
1376	2200	7776		LPC	7776		PCM	970
1400	1101			LMN	1		PCM	971
1401	3417			STD	EF		PCM	972
1402	0311			UJN	GPIX	RETURN	PCM	973
*							PCM	974
						RESET ERROR DISPLAYS.	PCM	975
							PCM	976
							PCM	977
1403	1404		GPI12	LDN	4	RESET RIGHT SCREEN MESSAGES	PCM	978
1404	3407			STD	T7		PCM	979
1405	2000	2605	GPI13	LDC	MESA		PCM	980
1407	4411			STI	TD		PCM	981
1410	3611			AOD	TD		PCM	982
1411	3707			SOD	T7		PCM	983
1412	0572			NJN	GPI13	IF DATA NOT RESET	PCM	984
1413	0100	1413	GPI	SUBR		ENTRY/EXIT	PCM	985
1415	2000	2526		LDC	DRSB	SET MESSAGE ADDRESS	PCM	986

1417	3411		STD	TD		PCM	990
1420	3016		LDD	PP		PCM	991
1421	0406		ZJN	GPI1	IF PPU 0	PCM	992
1422	5016	0514	LDM	TPPA,PP		PCM	993
1424	0466		ZJN	GPIX	IF PP NOT AVAILABLE	PCM	994
1425	0100	1311	LJM	GPI6		PCM	995
						PCM	996
						PCM	997
			*	PROCESS PPU 0 ERROR DISLAY.		PCM	998
						PCM	999
						PCM	1000
1427	2000	3333	GPI1	LDC	2R00	PCM	1001
1431	5400	2626	STM	MESCA		PCM	1002
1433	5400	3031	STM	RMSAA		PCM	1003
1435	3020		LDD	WD	CONVERT ADDRESS	PCM	1004
1436	3413		STD	TF		PCM	1005
1437	2000	2630	LDC	MESCB		PCM	1006
1441	0200	2217	RJM	CPD		PCM	1007
1443	1404		LDN	GPIAL-1		PCM	1008
1444	3407		STD	T7		PCM	1009
1445	5007	0020	LDM	WD,T7		PCM	1010
1447	0503		NJN	GPI3	IF DATA ERROR HAS OCCURRED	PCM	1011
1450	0100	1403	GPI2	LJM	GPI12 RESET DISPLAY POINTERS	PCM	1012
						PCM	1013
1452	3413		GPI3	STD	TF	PCM	1014
1453	5007	1474	LDM	GPIB,T7	CONVERT DATA	PCM	1015
1455	0403		ZJN	GPI4	IF DATA NOT RELEVANT	PCM	1016
1456	0200	2217	RJM	CPD		PCM	1017
1460	3707		GPI4	SOD	T7	PCM	1018
1461	0603		PJN	GPI5	IF CONVERSION COMPLETE	PCM	1019
1462	0100	1365	LJM	GPI10		PCM	1020
						PCM	1021
1464	5007	0020	GPI5	LDM	WD,T7	PCM	1022
1466	0363		UJN	GPI3		PCM	1023
						PCM	1024
						PCM	1025
			*	PPU STATUS BUFFER.		PCM	1026
						PCM	1027
						PCM	1028
1467	0000		GPIA	DATA	0 WD	PCM	1029
1470	0000			DATA	0 RNF	PCM	1030
1471	0000			DATA	0 ED	PCM	1031
1472	0000			DATA	0 AD	PCM	1032
1473	0000			DATA	0 DD	PCM	1033
		5	GPIAL	EQU	*-GPIA	PCM	1034
						PCM	1035
						PCM	1036
			*	PPU STATUS DATA MESSAGE POINTERS.		PCM	1037
						PCM	1038
						PCM	1039
1474	3042		GPIB	CON	RMSBA ADDRESS	PCM	1040
1475	0000			CON	0 RUN FLAG	PCM	1041
1476	3054			CON	RMSCA ED	PCM	1042
1477	3066			CON	RMSDA AD	PCM	1043
1500	3100			CON	RMSEA DD	PCM	1044
		5	GPIBL	EQU	*-GPIB	PCM	1045
						PCM	1046

1412THE

PCM	1047
PCM	1048
PCM	1049

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** WDA - WAIT FOR CHANNEL DEACTIVE.							PCM	1098
*							PCM	1099
* ENTRY CHANNELS MODIFIED.							PCM	1100
* EXIT IF CHANNEL DEACTIVE.							PCM	1101
* USES T4.							PCM	1102
* CALLS FCE.							PCM	1103
PCM 1104							PCM	1104
PCM 1105							PCM	1105
PCM 1106							PCM	1106
PCM 1107							PCM	1107
PCM 1108							PCM	1108
1537	0100	1537	WDA	SUBR	ENTRY/EXIT		PCM	1109
1541	1477			LDN	77		PCM	1110
1542	3404			STD	T4		PCM	1111
1543	3704		WDA1	SOD	T4		PCM	1112
1544	6500	1537		IJM	WDAX,**	IF CHANNEL INACTIVE RETURN	PCM	1113
1546	0574			NJN	WDA1	IF DELAY NOT COMPLETE	PCM	1114
1547	0200	1752		RJM	FCE	PROCESS FATAL COMMUNICATION ERROR	PCM	1115
1551	0365			UJN	WDAX	RETURN	PCM	1116
** WOT - WAIT FOR NEXT OUTPUT (CHANNEL EMPTY).							PCM	1118
*							PCM	1119
* ENTRY CHANNELS MODIFIED.							PCM	1120
* EXIT IF CHANNEL IS EMPTY.							PCM	1121
* USES T4.							PCM	1122
* CALLS FCE.							PCM	1123
PCM 1124							PCM	1124
PCM 1125							PCM	1125
PCM 1126							PCM	1126
PCM 1127							PCM	1127
PCM 1128							PCM	1128
1552	0100	1552	WOT	SUBR	ENTRY/EXIT		PCM	1129
1554	1477			LDN	77		PCM	1130
1555	3404			STD	T4		PCM	1131
1556	3704		WOT1	SOD	T4		PCM	1132
1557	6700	1552	WOTA	EJM	WOTX,**	IF CHANNEL EMPTY RETURN	PCM	1133
1561	0574			NJN	WOT1	IF DELAY NOT COMPLETE	PCM	1134
1562	0200	1752		RJM	FCE	PROCESS FATAL CHANNEL ERROR	PCM	1135
1564	0365			UJN	WOTX	RETURN	PCM	1136
** WIN - WAIT FOR INPUT DATA.							PCM	1138
*							PCM	1139
* ENTRY CHANNEL MODIFIED.							PCM	1140
* EXIT IF CHANNEL FULL.							PCM	1141
* USES T4.							PCM	1142
* CALLS FCE.							PCM	1143
PCM 1144							PCM	1144
PCM 1145							PCM	1145
PCM 1146							PCM	1146
PCM 1147							PCM	1147
PCM 1148							PCM	1148

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1713	5013	1732		LDM	IDLT,TF	OBTAIN ADDRESS OF IDLE LOOP	PCM	1254
1715	3401			STD	T1		PCM	1255
1716	5013	1734		LDM	IDLT+2,TF	OBTAIN LWA+1 OF IDLE LOOP	PCM	1256
1720	3402			STD	T2		PCM	1257
1721	4001		WPI1	LDI	T1	OUTPUT IDLE LOOP	PCM	1258
1722	7200		WPIA	OAN	**		PCM	1259
1723	0200	1553		RJM	WOT		PCM	1260
1725	3601			AOD	T1		PCM	1261
1726	3302			LMD	T2		PCM	1262
1727	0571			NJN	WPI1	IF COMPLETE LOOP NOT OUTPUT	PCM	1263
1730	7500		WPIB	DCN	**		PCM	1264
1731	0355			UJN	WPIX	RETURN	PCM	1265
							PCM	1266
							PCM	1267
			**		IDLT	TABLE OF IDLE PROGRAM ADDRESSES.	PCM	1268
							PCM	1269
1732			IDLT	BSS	0		PCM	1270
1732	4432			CON	IDLE	IDLE PROGRAM FOR MEMORY TEST	PCM	1271
1733	4705			CON	OFFL	IDLE PROGRAM FOR *OFF* PPU-S	PCM	1272
1734	4705			CON	IDLEL	LWA+1 FOR *IDLE*	PCM	1273
1735	4707			CON	OFFLL	LWA+1 FOR *OFFL*	PCM	1274
							PCM	1275
							PCM	1276
			*		PCHS	TABLE OF RESIDENT PPU CHANNEL INSTRUCTIONS.	PCM	1277
							PCM	1278
							PCM	1279
1736			PCHS	CHTB		*PCM* RESIDENT CHANNEL INSTRUCTIONS	PCM	1280
	13		PCHSL	EQU	*-PCHS		PCM	1281
			**		FCE	PROCESS FATAL CHANNEL ERRORS.	PCM	1283
			*				PCM	1284
			*		ENTRY	(PP) = PP NUMBER.	PCM	1285
			*				PCM	1286
			*		EXIT	NONE AS FATAL ERROR HAS OCCURRED.	PCM	1287
			*			DISPLAY REMAINS ACTIVE.	PCM	1288
			*				PCM	1289
			*		USES	/COMPSCE/LW	PCM	1290
			*				PCM	1291
			*		CALLS	C2D, CSE, DLS, DRS, GSD, ABT.	PCM	1292
			*				PCM	1293
			*		NOTE	- ONCE *FCE* IS ENTERED NO EXIT IS MADE BACK TO THE	PCM	1294
			*		CALLING ROUTINE AS A FATAL ERROR OCCURRED.		PCM	1295
							PCM	1296
							PCM	1297
1751	0100	1751	FCE	SUBR		ENTRY/EXIT	PCM	1298
1753	3016			LDD	PP	SET PPU NUMBER	PCM	1299
1754	1712			SBN	10D	CONVERT PPU NUMBER	PCM	1300
1755	0702			MJN	FCE1	IF FIRST 10 PPUS	PCM	1301
1756	1606			ADN	6		PCM	1302
1757	1612		FCE1	ADN	10D		PCM	1303
1760	0200	2557		RJM	C2D		PCM	1304
1762	5400	3031		STM	RMSAA		PCM	1305
1764	2000	3233		LDC	FCM	SET *PROCESSOR NOT RESPONDING.*	PCM	1306
1766	5400	2526		STM	DRSB		PCM	1307

1770 0200 1773 RJM ABT ABORT PCM 1308

** ABT - ABORT DEADSTART.

PCM 1310

*
* ENTRY NONE.

PCM 1311

*
* EXIT DOES NOT EXIT.

PCM 1312

*
* USES NONE.

PCM 1313

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1314

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1315

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1316

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1317

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1318

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1319

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1320

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1321

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1322

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1323

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1324

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1325

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1326

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1327

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1328

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1329

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1330

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1331

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1332

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1333

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1334

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1335

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1336

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1337

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1338

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1339

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1340

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1341

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1342

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1343

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1344

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1345

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1346

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1347

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1348

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1349

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1350

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1351

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1352

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1353

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1354

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1355

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1356

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1357

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1358

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1359

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1360

*
* CALLS CSE, GSD, DLS, DRS.

PCM 1361

* CPU STATUS BUFFER.

1

** VCM - VERIFY CENTRAL MEMORY.

PCM 1521

*

PCM 1522

*

NOTE - NO EXIT IS TAKEN IF A CM ERROR OCCURS.

PCM 1523

*

IF THIS IS CHANGED, T1-T7 USAGE MUST BE CHECKED

PCM 1524

*

PLUS MESSAGES DISPLAYED ON THE RIGHT SCREEN.

PCM 1525

*

PCM 1526

*

ENTRY (T4) = CM ADDRESS TO VERIFY.

PCM 1527

*

PCM 1528

*

USES T1, T2.

PCM 1529

*

PCM 1530

*

CALLS GEM, DLS, DRS.

PCM 1531

PCM 1532

PCM 1533

PCM 1534

2257 0100 2257

VCM

SUBR

ENTRY/EXIT

2261

3004

LDD

T4

SAVE CM ADDRESS

PCM 1535

2262

5400 2143

STM

GSDB+11

PCM 1536

2264

1063

SHN

-14

PCM 1537

2265

5400 2142

STM

GSDB+10

PCM 1538

2267

1400

LDN

0

PCM 1539

2270

3402

STD

T2

CLEAR ERROR FLAG

PCM 1540

2271

3401

STD

T1

CLEAR COUNTER

PCM 1541

2272

5001 2144

VCM1

LDM

GSDB+12,T1

GET EXPECTED

PCM 1542

2274

5301 2151

LMM

GSDB+17,T1

COMPARE WITH ACTUAL

PCM 1543

2276

5401 2156

STM

GSDB+24,T1

SAVE DIFFERENCE

PCM 1544

2300

0402

ZJN

VCM2

IF NO ERROR

PCM 1545

2301

3602

AOD

T2

SET ERROR FLAG

PCM 1546

2302

3601

VCM2

AOD

T1

PCM 1547

2303

1105

LMN

5

PCM 1548

2304

0565

NJN

VCM1

IF CM WORD NOT FINISHED

PCM 1549

2305

3002

LDD

T2

PCM 1550

2306

0450

ZJN

VCMX

IF NO ERRORS RETURN

PCM 1551

2307

0200 0567

RJM

CSE

CHECK SCR ERRORS

PCM 1552

2311

2000 2672

LDC

EIEA

SET *ERROR IN EXECUTABLE AREA.*

PCM 1553

2313

5400 2375

STM

DLSE

PCM 1554

2315

2000 2710

LDC

FEDA

SET *FATAL ERROR - DEADSTART ABORTED.*

PCM 1555

2317

5400 2400

STM

DLSF

PCM 1556

2321

2000 2535

LDC

DRSC

SET BASE ADDRESS FOR RIGHT SCREEN

PCM 1557

2323

3411

STD

TD

PCM 1558

2324

0200 2012

RJM

GEM

GENERATE ERROR MESSAGE

PCM 1559

2326

0200 2335

VCM3

RJM

DLS

DISPLAY LEFT SCREEN

PCM 1560

2330

0200 2447

RJM

DRS

DISPLAY RIGHT SCREEN

PCM 1561

2332

0373

UJN

VCM3

HANG DEADSTART

PCM 1562

** DLS - DISPLAY LEFT SCREEN.

PCM 1565

*

PCM 1566

* ENTRY (DLSA) - (DLSF) .EQ. ADDRESS OF RESPECTIVE
* MESSAGE.

PCM 1567

PCM 1568

PCM 1569

* USES T5, TF.

PCM 1570

*

PCM 1571

* CALLS DNL.

PCM 1572

PCM 1573

PCM 1574

2333 7550 DLS2 DCN. CH+40

PCM 1575

2334 0100 2334 DLS SUBR ENTRY/EXIT

PCM 1576

2336 7710 7001 FNC. 7001,CH MEDIUM CHARACTERS, LEFT SCREEN

PCM 1577

2340 7410 ACN. CH

PCM 1578

2341 2000 7600 LDC 7600

PCM 1579

2343 3413 STD TF

PCM 1580

2344 2000 2364 LDC DLSA-1

PCM 1581

2346 3405 STD T5

PCM 1582

2347 3605 DLS1 AOD T5

PCM 1583

2350 2300 2401 LMC DLSAL

PCM 1584

2352 0460 ZJN DLS2 IF END OF LEFT SCREEN DISPLAY RETURN

PCM 1585

2353 1524 LCN 24 MOVE DISPLAY COORDINATES

PCM 1586

2354 3513 RAD TF

PCM 1587

2355 7250 OAN. CH+40

PCM 1588

2356 2000 6000 LDC 6000

PCM 1589

2360 7250 OAN. CH+40

PCM 1590

2361 4005 LDI T5

PCM 1591

2362 0200 2546 RJM DNL DISPLAY NEXT LINE

PCM 1592

2364 0362 UJN DLS1

PCM 1593

PCM 1594

* TABLE OF LEFT SCREEN LINE POINTERS.

PCM 1595

PCM 1596

PCM 1597

2365 2570 DLSA CON TITLE

PCM 1598

2366 2605 CON MESA

PCM 1599

2367 2605 CON MESA

PCM 1600

2370 2605 DLSB VFD 12/MESA

PCM 1601

2371 2605 DLSC VFD 12/MESA

PCM 1602

2372 2605 DLSD VFD 12/MESA

PCM 1603

2373 2605 VFD 12/MESA

PCM 1604

2374 2605 CON MESA

PCM 1605

2375 2605 DLSE VFD 12/MESA

PCM 1606

2376 2605 CON MESA

PCM 1607

2377 2605 CON MESA

PCM 1608

2400 2605 DLSF VFD 12/MESA

PCM 1609

2401 DLSAL EQU *

PCM 1610

PCM 1611

1412THE

				**	DRS - DISPLAY RIGHT SCREEN.			PCM	1613	
				*				PCM	1614	
				*	ENTRY	((DRSA) - (DRSA + DRSAL) .EQ. ADDRESS OF RESPECTIVE		PCM	1615	
1				*		MESSAGE.		PCM	1616	1
2				*				PCM	1617	2
3				*	EXIT	RIGHT SCREEN DATA DISPLAYED.		PCM	1618	3
4				*				PCM	1619	4
5				*	USES	T1, T5, TF.		PCM	1620	5
6				*				PCM	1621	6
7				*	CALLS	DNL.		PCM	1622	7
8								PCM	1623	8
9								PCM	1624	9
10	2401	2000	3334		DRS5	LDC	TEMA-1	PCM	1625	10
11	2403	3405				STD	T5	PCM	1626	11
12	2404	1512			DRS6	LCN	12	PCM	1627	12
13	2405	3513				RAD	TF	PCM	1628	13
14	2406	7250				OAN.	CH+40	PCM	1629	14
15	2407	2177	0761			ADC	-7016	PCM	1630	15
16	2411	0712				MJN	DRS7	PCM	1631	16
17	2412	2000	6000			LDC	6000	PCM	1632	17
18	2414	7250				OAN.	CH+40	PCM	1633	18
19	2415	3605				AOD	T5	PCM	1634	19
20	2416	4005				LDI	T5	PCM	1635	20
21	2417	0416				ZJN	DRS8	PCM	1636	21
22	2420	0200	2546			RJM	DNL	PCM	1637	22
23	2422	0361				UJN	DRS6	PCM	1638	23
24								PCM	1639	24
25	2423	2000	7012		DRS7	LDC	7012	PCM	1640	25
26	2425	7250				OAN.	CH+40	PCM	1641	26
27	2426	2000	6000			LDC	6000	PCM	1642	27
28	2430	7250				OAN.	CH+40	PCM	1643	28
29	2431	2000	3314			LDC	MSCE	PCM	1644	29
30	2433	0200	2546			RJM	DNL	PCM	1645	30
31								PCM	1646	31
32	2435	0310			DRS8	UJN	DRS9	PCM	1647	32
33			2435		DRSE	EQU	*-1	PCM	1648	33
34				*	PSN		IF CYBER 170	PCM	1649	34
35								PCM	1650	35
36	2436	5000	3335			LDM	TEMA	PCM	1651	36
37	2440	0505				NJN	DRS9	PCM	1652	37
38	2441	2000	3024			LDC	NONM	PCM	1653	38
39	2443	0200	2546			RJM	DNL	PCM	1654	39
40								PCM	1655	40
41	2445	7550			DRS9	DCN.	CH+40	PCM	1656	41
42								PCM	1657	42
43	2446	0100	2446		DRS	SUBR		PCM	1658	43
44	2450	5000	2526			LDM	DRSB	PCM	1659	44
45	2452	2300	2605			LMC	MESA	PCM	1660	45
46	2454	0505				NJN	DRS1	PCM	1661	46
47	2455	2000	3024			LDC	NONM	PCM	1662	47
48	2457	5400	2526			STM	DRSB	PCM	1663	48
49	2461	5000	2535		DRS1	LDM	DRSC	PCM	1664	49
50	2463	2300	2605			LMC	MESA	PCM	1665	50
51	2465	0505				NJN	DRS2	PCM	1666	51
52	2466	2000	3024			LDC	NONM	PCM	1667	52
53	2470	5400	2535			STM	DRSC	PCM	1668	53
54	2472	7710	7100		DRS2	FNC.	7100,CH	PCM	1669	54
55										55
56										56
57										57
58										58
59										59
60										60

2474	7410		ACN.	CH		PCM	1670
2475	2000 7700		LDC	7700		PCM	1671
2477	3413		STD	TF		PCM	1672
2500	2000 2522		LDC	DRSA-1		PCM	1673
2502	3405		STD	T5		PCM	1674
2503	3605	DRS3	AOD	T5	FIND NEXT WORD	PCM	1675
2504	2300 2545		LMC	DRSAL		PCM	1676
2506	0503		NJN	DRS4	IF ERROR DATA NOT COMPLETE	PCM	1677
2507	0100 2401		LJM	DRS5		PCM	1678
2511	1512	DRS4	LCN	12	MODIFY DISPLAY COORDINATES	PCM	1679
2512	3513		RAD	TF		PCM	1680
2513	7250		OAN.	CH+40		PCM	1681
2514	2000 6000		LDC	6000		PCM	1682
2516	7250		OAN.	CH+40		PCM	1683
2517	4005		LDI	T5	DISPLAY NEXT LINE	PCM	1684
2520	0200 2546		RJM	DNL		PCM	1685
2522	0360		UJN	DRS3		PCM	1686
						PCM	1687
						PCM	1688
						PCM	1689
		*			TABLE OF RIGHT SCREEN LINE POINTERS.	PCM	1690
						PCM	1691
						PCM	1692
2523	3006	DRSA	VFD	12/TITL		PCM	1693
2524	2605		VFD	12/MESA		PCM	1694
2525	3030		VFD	12/RMSA		PCM	1695
2526	2605	DRSB	VFD	12/MESA		PCM	1696
2527	2605		VFD	12/MESA		PCM	1697
2530	2605		VFD	12/MESA		PCM	1698
2531	2605		VFD	12/MESA		PCM	1699
2532	2605		VFD	12/MESA		PCM	1700
2533	2605		VFD	12/MESA		PCM	1701
2534	3103		VFD	12/RMSF		PCM	1702
2535	2605	DRSC	VFD	12/MESA		PCM	1703
2536	2605		VFD	12/MESA		PCM	1704
2537	2605		VFD	12/MESA		PCM	1705
2540	2605		VFD	12/MESA		PCM	1706
2541	2605		VFD	12/MESA		PCM	1707
2542	2605		VFD	12/MESA		PCM	1708
2543	2605	DRSD	VFD	12/MESA		PCM	1709
2544	2605		VFD	12/MESA		PCM	1710
	2545	DRSAL	EQU	*		PCM	1711
		**			DNL - DISPLAY NEXT LINE.	PCM	1713
		*				PCM	1714
		*			ENTRY (A) = MESSAGE ADDRESS.	PCM	1715
		*				PCM	1716
		*			USES T1.	PCM	1717
						PCM	1718
						PCM	1719
2545	0100 2545	DNL	SUBR		ENTRY/EXIT	PCM	1720
2547	1701		SBN	1		PCM	1721
2550	3401		STD	T1		PCM	1722
2551	3601	DNL1	AOD	T1		PCM	1723

25524001LDIT1PCM1724
25537250OAN.CH+40PCM1725
25540470ZJNDNLXIF END OF LINE, EXITPCM1726
25550373UJNDNL1DISPLAY NEXT WORDPCM1727

*COMMON DECK.

2556CTEXT COMPC2D - CONVERT 2 OCTAL DIGITS TO DISPLAY CODE.COMPC2D2

1412THE

** CONSOLE MESSAGES.

PCM 1735
PCM 1736
PCM 1737
PCM 1738
PCM 1739
PCM 1740
PCM 1741
PCM 1742
PCM 1743
PCM 1744
PCM 1745
PCM 1746
PCM 1747
PCM 1748
PCM 1749
PCM 1750
PCM 1751
PCM 1752
PCM 1753
PCM 1754
PCM 1755
PCM 1756
PCM 1757
PCM 1758
PCM 1759
PCM 1760
PCM 1761
PCM 1762
PCM 1763
PCM 1764
PCM 1765
PCM 1766
PCM 1767
PCM 1768
PCM 1769
PCM 1770
PCM 1771
PCM 1772
PCM 1773
PCM 1774
PCM 1775
PCM 1776
PCM 1777
PCM 1778
PCM 1779
PCM 1780
PCM 1781
PCM 1782
PCM 1783
PCM 1784
PCM 1785
PCM 1786
PCM 1787
PCM 1788
PCM 1789
PCM 1790
PCM 1791

1	2570	5503	TITLE	DATA	C* CHECK COMPUTER MEMORY.*
2					
3					
4	2605	5555	MESA	DATA	C* *
5					
6					
7	2607	2350	MESB	DATA	L*S/C REGISTER *
8	2616	3333	MESBA	DATA	L*00*
9	2617	5502		DATA	L* BIT *
10	2622	0000	MESBB	DATA	0
11	2623	0000		DATA	0
12	2624	0000		CON	0
13					
14					
15	2625	2020	MESC	DATA	L*PP*
16	2626	3333	MESCA	DATA	L*00*
17	2627	5555		DATA	L* *
18	2630	0000	MESCB	DATA	0
19	2631	0000		DATA	0
20	2632	0000		CON	0
21					
22					
23	2633	0315	MESD	DATA	L*CM ADDRESS *
24	2641	0000	MESDA	DATA	0
25	2642	0000		DATA	0
26	2643	0000		DATA	0
27	2644	5520		DATA	L* P*
28	2645	3354	MESDB	DATA	L*0= *
29	2647	0000	MESDC	DATA	0
30	2650	0000		DATA	0
31	2651	0000		DATA	0
32	2652	0000		CON	0
33					
34					
35	2653	0315	CPNA	DATA	C*CM NOT ACTIVE - LEVEL 3 REC.*
36					
37					
38	2672	0522	EIEA	DATA	C*ERROR IN EXECUTABLE AREA.*
39					
40					
41	2710	0601	FEDA	DATA	C*FATAL ERROR - DEADSTART ABORTED.*
42					
43					
44	2731	1116	MESF	DATA	L*INTERLOCK REGISTER *
45	2743	3333	MESFA	DATA	L*00*
46	2744	5502		DATA	L* BIT *
47	2747	0000	MESFB	DATA	0
48	2750	0000		DATA	0
49	2751	0000		CON	0
50					
51					
52	2752	1116	ICFE	DATA	C*INTERLOCK REG. CHANNEL FULL.*
53					
54					
55					
56					
57					
58					
59					
60					

3164
3203

0000

17

RMSIA

BSS
CON

15D
0

PCM
PCM
PCM

1849
1850
1851

3204
3213

0411

17

RMSJ
RMSJA

DATA
BSS

L*DIFFERENCE
15D

*

PCM
PCM
PCM

1852
1853
1854

3232

0000

CON

0

PCM

1855

3233

2022

FCEM

DATA

C*PROCESSOR NOT RESPONDING.*

PCM

1858

3251

5555

SCRE

DATA

C* S/C REGISTER ERRORS.*

PCM

1861

3267

2350

SCFE

DATA

C*S/C REGISTER CHANNEL FULL.- FATAL ERROR.*

PCM

1864

3314

5555

MSCE

DATA

C* MORE S/C REGISTER ERRORS.*

PCM

1867

3335
3336

0000

120

TEMA

CON
BSS

0
NTEB*2

TABLE OF ERROR MESSAGE ADDRESSES

PCM
PCM
PCM

1869
1870
1871
1872

3456

OVL

BSS

0

OVERLAY LOAD ADDRESS

PCM

1873
1874

3456

IDENT CMC,OVL
ORG OVL
COMMENT CTI PCM OVERLAY
COMMENT COPYRIGHT CONTROL DATA CORPORATION, 1979

PCM 1876
PCM 1877
DIMA317N 6
DIMA317N 7

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CDCCRN 3
CDCCRN 4
CDCCRN 5
CDCCRN 6
CDCCRN 7
CDCCRN 8
CDCCRN 9
CDCCRN 10

1412THE

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1

**	SCM - START CM CHECK PROGRAM.	PCM	1881
*		PCM	1882
*	ENTRY (SPW = 7776) .EQ. WORD 14 OF D.S. PANEL.	PCM	1883
*		PCM	1884
*	EXIT (000000) - (777777) .EQ. 7777....7777.	PCM	1885
*		PCM	1886
*	USES T3, T4, T6.	PCM	1887
*		PCM	1888
*	CALLS CEM.	PCM	1889
		PCM	1890
		PCM	1891
3456	2000 2653 SCM7 LDC CPNA SET *CM NOT ACTIVE - LEVEL 3 REC.*	PCM	1892
3460	5400 2372 SCM8 STM DLSD	PCM	1893
		PCM	1894
3462	0100 3462 SCM SUBR ENTRY/EXIT	PCM	1895
3464	5000 7673 LDM /CPA/OPTN	PCM	1896
3466	1021 SHN 21-0	PCM	1897
3467	0613 PJN SCM1 IF CPU 0 ON	PCM	1898
3470	5600 2112 AOM GSDA SET CPU 1	PCM	1899
3472	5600 3611 AOM SCMA	PCM	1900
3474	5400 3632 STM SCMB	PCM	1901
3476	2000 0100 LDC 100 SET *P1=*	PCM	1902
3500	5500 2645 RAM MESDB	PCM	1903
3502	5000 7712 SCM1 LDM /CPA/DSPNLZ+13	PCM	1904
3504	1066 SHN -11	PCM	1905
3505	1207 LPN 7	PCM	1906
3506	1703 SBN 3	PCM	1907
3507	0646 PJN SCM7 IF MEMORY TO BE RECOVERED	PCM	1908
		PCM	1909
3510	0200 0401 RJM CEM CHECK EXECUTED CENTRAL MEMORY	PCM	1910
3512	1401 LDN 1 SET CPU AVAILABLE	PCM	1911
3513	5400 0540 STM TPPA+20D	PCM	1912
3515	5000 7671 LDM /CPA/CMSZ SET MEMORY SIZE	PCM	1913
3517	0403 ZJN SCM2 IF NOT 262K CM	PCM	1914
3520	1500 LCN 0 SET 262K CM = 777777B.	PCM	1915
3521	0305 UJN SCM3 PROCEED	PCM	1916
		PCM	1917
3522	5000 7672 SCM2 LDM /CPA/CMSZ+1	PCM	1918
3524	1006 SHN 6	PCM	1919
3525	1701 SBN 1	PCM	1920
3526	3404 SCM3 STD T4	PCM	1921
3527	5400 3740 STM /SCM/IXPA+/SCM/FL SET LOWER FL	PCM	1922
3531	5400 4060 STM /SCM/MTXA+/SCM/FL	PCM	1923
3533	1063 SHN -14	PCM	1924
3534	3403 STD T3	PCM	1925
3535	5400 3737 STM /SCM/IXPA+/SCM/FL-1 SET UPPER FL	PCM	1926
3537	5400 4057 STM /SCM/MTXA+/SCM/FL-1	PCM	1927
3541	1014 SHN 14	PCM	1928
3542	3304 LMD T4	PCM	1929
3543	1071 SHN -6	PCM	1930
3544	5400 3727 STM /SCM/IXPA+/SCM/A0 SET UPPER A0	PCM	1931
3546	5400 4047 STM /SCM/MTXA+/SCM/A0	PCM	1932
3550	3004 LDD T4 SET LOWER A0	PCM	1933
3551	1006 SHN 6	PCM	1934
3552	5400 3730 STM /SCM/IXPA+/SCM/A0+1	PCM	1935
3554	5400 4050 STM /SCM/MTXA+/SCM/A0+1	PCM	1936
3556	3003 LDD T3 WRITE LAST CM WORD	PCM	1937

3557	1014	SHN	14	PCM	1938
3560	3304	LMD	T4	PCM	1939
3561	6232	CWD	SV	PCM	1940
3562	1400	LDN	0	PCM	1941
3563	6225	CWD	SP	PCM	1942
3564	2000 0020	LDC	/SCM/IXPAL/5	PCM	1943
3566	3406	STD	T6	PCM	1944
3567	2000 1000	LDC	IXPA	PCM	1945
3571	6306 3725	CWM	/SCM/IXPA,T6	PCM	1946
3573	2000 0006	LDC	/SCM/IDLPL	PCM	1947
3575	3403	STD	T3	PCM	1948
3576	2000 1040	LDC	IDLPL	PCM	1949
3600	6303 4165	CWM	/SCM/IDLPL,T3	PCM	1950
3602	5000 7673	LDM	/CPA/OPTN	PCM	1951
3604	1066	SHN	-11	PCM	1952
3605	1203	LPN	3	PCM	1953
3606	0531	NJN	SCM5	PCM	1954
3607	2000 1000	LDC	IXPA	PCM	1955
3611	2600	EXN	0	PCM	1956
	*	EXN	1	PCM	1957
			IF CPU 0 OFF AND CPU 1 ON	PCM	1958
3612	2000 0033	LDC	/SCM/MTPL	PCM	1959
3614	3403	STD	T3	PCM	1960
3615	2000 1060	LDC	MTPA	PCM	1961
3617	6303 4223	CWM	/SCM/MTP,T3	PCM	1962
3621	2000 0020	LDC	/SCM/MTXAL/5	PCM	1963
3623	3506	RAD	T6	PCM	1964
3624	2000 1000	LDC	IXPA	PCM	1965
3626	6306 3725	CWM	/SCM/IXPA,T6	PCM	1966
3630	2000 1020	LDC	MTXA	PCM	1967
			START CHECK PROGRAM	PCM	1968
3632	2600	EXN	0	PCM	1969
	*	EXN	1	PCM	1970
			IF CPU 0 OFF AND CPU 1 ON	PCM	1971
3633	2000 2633	LDC	MESD	PCM	1972
3635	0100 3460	LJM	SCM8	PCM	1973
			SET *CM ADDRESS 000000 P0= 000000.*	PCM	1974
			RETURN	PCM	1975
	*		PROCESS 176 CPU.	PCM	1976
3637	2000 2115	LDC	FCCL+DSCU	PCM	1977
3641	7256	OAN.	SC+40	PCM	1978
3642	7056	IAN.	SC+40	PCM	1979
3643	1460	LDN	60	PCM	1980
3644	5400 4064	STM	/SCM/MTXA+5*3	PCM	1981
3646	1420	LDN	/SCM/MTXAL/5	PCM	1982
3647	3406	STD	T6	PCM	1983
3650	2000 1000	LDC	IXPA	PCM	1984
3652	6306 4045	CWM	/SCM/MTXA,T6	PCM	1985
3654	5000 4166	LDM	/SCM/IDLPL+1	PCM	1986
3656	5400 4320	STM	/SCM/IDLE1+1	PCM	1987
3660	5400 4363	STM	/SCM/IDLE2+1	PCM	1988
3662	5400 4426	STM	/SCM/IDLE3+1	PCM	1989
3664	5000 4167	LDM	/SCM/IDLPL+2	PCM	1990
3666	5400 4321	STM	/SCM/IDLE1+2	PCM	1991
3670	5400 4364	STM	/SCM/IDLE2+2	PCM	1992
3672	5400 4427	STM	/SCM/IDLE3+2	PCM	1993
			CHANGE CPU HANG TO IDLE 176 CPU	PCM	1994

3674	1433		LDN	/SCM/MTPL	COPY PROGRAM TO CM	PCM	1995
3675	3406		STD	T6		PCM	1996
3676	2000 1060		LDC	MTPA		PCM	1997
3700	6306 4223		CWM	/SCM/MTP,T6		PCM	1998
3702	2000 4066		LDC	FCSB+EXBB	SET EXCHANGE BIAS	PCM	1999
3704	7256		OAN.	SC+40		PCM	2000
3705	7056		IAN.	SC+40		PCM	2001
3706	2000 2067		LDC	FCCL+EXBB+1	CLEAR OTHER BITS	PCM	2002
		3707	EQU	*-1		PCM	2003
3710	7256		OAN.	SC+40		PCM	2004
3711	7056		IAN.	SC+40		PCM	2005
3712	5600 3707		AOM	SCMC	BUMP BIT ADDRESS	PCM	2006
3714	2300 2072		LMC	FCCL+EXBB+4		PCM	2007
3716	0567		NJN	SCM6	IF ALL BITS NOT CLEAR	PCM	2008
3717	2000 4115		LDC	FCSB+DSCU	START THE PROGRAM	PCM	2009
3721	7256		OAN.	SC+40		PCM	2010
3722	7056		IAN.	SC+40		PCM	2011
3723	0100 3633		LJM	SCM4	RETURN	PCM	2012
						PCM	2013
						PCM	2014
			*	CENTRAL MEMORY CHECK EXCHANGE PACKAGES.		PCM	2015
						PCM	2016
						PCM	2017
			QUAL	SCM		PCM	2018
		2	A0	EQU	2	PCM	2019
		13	FL	EQU	13	PCM	2020
					PPU RELATIVE ADDRESS OF A0 IN XP	PCM	2021
					PPU RELATIVE ADDRESS OF FL IN XP	PCM	2022
			*	IDLE EXCHANGE PACKAGE.		PCM	2023
						PCM	2024
3725			IXPA	EXJP	P=001040,A0=377777,B1=1,FL=377777,EM=0	PCM	2025
	120		IXPAL	EQU	*-IXPA	PCM	2026
						PCM	2027
						PCM	2028
						PCM	2029
			*	CENTRAL MEMORY CHECK EXCHANGE PACKAGE.		PCM	2030
						PCM	2031
4045			MTXA	EXJP	P=1060,A0=377777,B1=1,FL=377777,EM=0	PCM	2032
	120		MTXAL	EQU	*-MTXA	PCM	2033
						PCM	2034
						PCM	2035
						PCM	2036
			**	CENTRAL MEMORY CHECK PROGRAM.		PCM	2037
						PCM	2038
						PCM	2039
			* 001040			PCM	2040
			* IDLP	EQ	*	PCM	2041
4165	0400		VFD	60/04000010406100046000		PCM	2042
4166	0010						
4167	4061						
4170	0004						
4171	6000						
			* 001041			PCM	2043
			*RNF	DATA	0	PCM	2044
4172	0000		VFD	60/0		PCM	2045
4173	0000						
4174	0000						

4175 0000
4176 0000

* 001042

PCM 2046

*CPA DATA 0
VFD 60/0

PCM 2047
PCM 2048

4177 0000
4200 0000
4201 0000
4202 0000
4203 0000

* 001043

PCM 2049

*ED DATA 0
VFD 60/0

PCM 2050
PCM 2051

4204 0000
4205 0000
4206 0000
4207 0000
4210 0000

* 001044

PCM 2052

*AD DATA 0
VFD 60/0

PCM 2053
PCM 2054

4211 0000
4212 0000
4213 0000
4214 0000
4215 0000

* 001045

PCM 2055

*DD DATA 0
VFD 60/0

PCM 2056
PCM 2057

4216 0000
4217 0000
4220 0000
4221 0000
4222 0000

36 IDLPLL EQU *-IDLP
6 IDLPL EQU IDLPLL/5
MTP BSS 0

PCM 2058
PCM 2059
PCM 2060

4223

* 001060

PCM 2061

* SA1 ED EXPECTED DATA
* SB2 A0 FIELD LENGTH
* BX6 X1

PCM 2062
PCM 2063

4223 5110
4224 0010
4225 4364
4226 2001
4227 0611

VFD 60/51100010436420010611

PCM 2064
PCM 2065

* 001061

PCM 2066

*LOOP SB3 IXPA
* SA7 CPA

PCM 2067
PCM 2068

4230 6130
4231 0010
4232 0051
4233 7000
4234 1042

VFD 60/61300010005170001042

PCM 2069

* 001062

PCM 2070

*LOOP1 SB4 B1 FIRST WORD ADDRESS
* SX7 B4
* SA7 A7

PCM 2071
PCM 2072
PCM 2073

4235 6641
4236 0767
4237 4054

VFD 60/66410767405477046000

PCM 2074

1412THE

1

4240
4241 7704
6000

* 001063

PCM 2075

*LOOP2 SA6 B4 SET DATA PCM 2076

* SB4 B4+B1 PCM 2077

* SX7 B4 PCM 2078

* SA7 A7 SET CURRENT ADDRESS PCM 2079

4242 5664 VFD 60/56640664417674054770 PCM 2080

4243 0664

4244 4176

4245 7405

4246 4770

* 001064 PCM 2081

* NE B4,B3,LOOP2 IF LOW CORE NOT COMPLETE PCM 2082

* SB4 END PCM 2083

4247 0543 VFD 60/05430010636140001113 PCM 2084

4250 0010

4251 6361

4252 4000

4253 1113

* 001065 PCM 2085

* SX7 B4 PCM 2086

* SA7 A7 PCM 2087

* SB6 3 PCM 2088

4254 7674 VFD 60/76740547706160000003 PCM 2089

4255 0547

4256 7061

4257 6000

4260 0003

* 001066 PCM 2090

*LOOP3 SA6 B4 PCM 2091

* SB4 B4+B1 PCM 2092

* SX7 B4 PCM 2093

* SA7 A7 PCM 2094

4261 5664 VFD 60/56640664417674054770 PCM 2095

4262 0664

4263 4176

4264 7405

4265 4770

* 001067 PCM 2096

*LOOP4 NE B4,B2,LOOP3 IF UPPER CORE NOT COMPLETE PCM 2097

* SB4 B1 PCM 2098

* SX7 B4 PCM 2099

4266 0524 VFD 60/05240010666641076740 PCM 2100

4267 0010

4270 6666

4271 4107

4272 6740

* 001070 PCM 2101

* SA7 A7 PCM 2102

4273 5477 VFD 60/54770460006100046000 PCM 2103

4274 0460

4275 0061

4276 0004

4277 6000

* 001071 PCM 2104

*LOOP5 SA1 B4 READ DATA PCM 2105

			*	BX7	X1-X6		PCM	2106
			*	SA7	A7+B6	SET DIFFERENCE	PCM	2107
	4300	5614		VFD	60/56140137165477646000		PCM	2108
1	4301	0137						
2	4302	1654						
3	4303	7764						
4	4304	6000						
5			* 001072				PCM	2109
6			*	ZR	X7,LOOP6	IF DATA CORRECT	PCM	2110
7			*	BX7	X1		PCM	2111
8			*	SA7	A7-B1	SET ACTUAL DATA	PCM	2112
9	4305	0307		VFD	60/03070010751071155771		PCM	2113
10	4306	0010						
11	4307	7510						
12	4310	7115						
13	4311	5771						
14			* 001073				PCM	2114
15			*	SX7	B1		PCM	2115
16			*	SA7	A7-B6	SET COMPLETE	PCM	2116
17	4312	7671		VFD	60/76710557766100046000		PCM	2117
18	4313	0557						
19	4314	7661						
20	4315	0004						
21	4316	6000						
22			* 001074				PCM	2118
23			*	EQ	0	HANG CPU	PCM	2119
24	4317	0400	IDLE1	VFD	60/04000000004600046000		PCM	2120
25	4320	0000						
26	4321	0046						
27	4322	0004						
28	4323	6000						
29			* 001075				PCM	2121
30			*LOOP6	SB4	B4+B1	INCREMENT ADDRESS	PCM	2122
31			*	SX7	B4		PCM	2123
32			*	SA7	A7-B6		PCM	2124
33	4324	6644		VFD	60/66441767405577646000		PCM	2125
34	4325	1767						
35	4326	4055						
36	4327	7764						
37	4330	6000						
38			* 001076				PCM	2126
39			*	NE	B3,B4,LOOP5	IF LOW CORE NOT COMPLETE	PCM	2127
40			*	SB4	END		PCM	2128
41	4331	0534		VFD	60/05340010716140001113		PCM	2129
42	4332	0010						
43	4333	7161						
44	4334	4000						
45	4335	1113						
46			* 001077				PCM	2130
47			*	SX7	B4		PCM	2131
48			*	SA7	A7		PCM	2132
49	4336	7674		VFD	60/76740547706100046000		PCM	2133
50	4337	0547						
51	4340	7061						
52	4341	0004						
53	4342	6000						
54			* 001100				PCM	2134
55								
56								
57								
58								
59								
60								

1412THE

1

4404
4405 0672
 0373

* 001107

PCM 2166

* PL X3,LOOP9 IF CHECK COMPLETE
* BX6 -X6
* SA6 A7+B1

PCM 2167
PCM 2168
PCM 2169

VFD 60/03230011111466654671

PCM 2170

4406 0323
4407 0011
4410 1114
4411 6665
4412 4671

* 001110

PCM 2171

* EQ LOOP CHECK COMPLEMENT
VFD 60/04000010614600046000

PCM 2172
PCM 2173

4413 0400
4414 0010
4415 6146
4416 0004
4417 6000

* 001111

PCM 2174

*L00P9 SX7 B1
* SA7 A7-B1 SET COMPLETE

PCM 2175
PCM 2176

VFD 60/76710557716100046000

PCM 2177

4420 7671
4421 0557
4422 7161

4423 0004
4424 6000

* 001112

PCM 2178

* EQ 0 HANG CPU
IDLE3 VFD 60/04000000004600046000

PCM 2179
PCM 2180

4425 0400
4426 0000
4427 0046
4430 0004
4431 6000

* 001113

PCM 2181

207 MTPLL EQU *-MTP
33 MTPL EQU MTPLL/5
QUAL *

PCM 2182
PCM 2183
PCM 2184

1412THE

PCM	2188
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PCM	2190
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PCM	2192
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PCM	2194
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PCM	2196
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PCM	2198
-----	------

PCM	2200
-----	------

PCM 2202

PCM	2204
-----	------

PCM	2206
-----	------

PCM 2208

PCM 2210

PCM	2212
-----	------

0177 7011

PCM	2215
-----	------

PCM	2218
PCM	2217

PCM	2218
PCM	2219

PCM	2220
PCM	2221

PCM	2222
PCM	2223

PCM	2224
PCM	2225

PCM	2226
PCM	2227

PCM	2228
PCM	2229

PCM	2230
PCM	2231

PCM	2232
PCM	2233

PCM	2234
PCM	2235

PCM	2236
PCM	2237

PCM	2238
PCM	2239

PCM	2240
PCM	2241

									PCM	2242	
									PCM	2243	
				**	STR	-	STATUS REQUEST.		PCM	2244	
1									PCM	2245	1
2	L	123	0100 0123	STR	SUBR		ENTRY/EXIT		PCM	2246	2
3	L	125	1405		LDN	5	DELAY		PCM	2247	3
4	L	126	1701		SBN	1			PCM	2248	4
5	L	127	0576		NJN	*-1	DELAY		PCM	2249	5
6	L	130	3011		LDD	WD			PCM	2250	6
7	L	131	7200		OAN	**			PCM	2251	7
8	L	132	3010		LDD	RF			PCM	2252	8
9	L	133	7200		OAN	**			PCM	2253	9
10	L	134	3012		LDD	ED			PCM	2254	10
11	L	135	7200		OAN	**			PCM	2255	11
12	L	136	3013		LDD	AD			PCM	2256	12
13	L	137	7200		OAN	**			PCM	2257	13
14	L	140	3014		LDD	DD			PCM	2258	14
15	L	141	7200		OAN	**			PCM	2259	15
16	L	142	6600 0142		FJM	*,**	IF DATA NOT ACCEPTED		PCM	2260	16
17	L	144	7500		DCN	**			PCM	2261	17
18	L	145	0355		UJN	STRX	RETURN		PCM	2262	18
19									PCM	2263	19
20									PCM	2264	20
21				**	RDS	-	RESET DEAD START STATUS.		PCM	2265	21
22									PCM	2266	22
23									PCM	2267	23
24	L	146	0100 0146	RDS	SUBR		ENTRY/EXIT		PCM	2268	24
25	L	150	1500		LCN	0			PCM	2269	25
26	L	151	7100 0000	RDSA	IAM	0,**			PCM	2270	26
27									PCM	2271	27
28									PCM	2272	28
29				**	CPM	-	CHECK PP MEMORY.		PCM	2273	29
30									PCM	2274	30
31									PCM	2275	31
32	L	153	0100 0153	CPM	SUBR		ENTRY/EXIT		PCM	2276	32
33	L	155	3012	CPM1	LDD	ED	INVERT DATA		PCM	2277	33
34	L	156	2300 7777		LMC	7777			PCM	2278	34
35	L	160	3412		STD	ED			PCM	2279	35
36	L	161	1415		LDN	DD+1			PCM	2280	36
37	L	162	3411		STD	WD			PCM	2281	37
38	L	163	0200 0113	CPM2	RJM	IDL	CHECK FOR REQUEST		DIMA331	1	38
39	L	165	3012		LDD	ED	PRESET DATA		DIMA331	2	39
40	L	166	4411		STI	WD			PCM	2283	40
41	L	167	3611		AOD	WD			PCM	2284	41
42	L	170	2300 0100		LMC	IDL1			PCM	2285	42
43	L	172	0570		NJN	CPM2	IF NOT COMPLETE		PCM	2286	43
44	L	173	2000 0253		LDC	END			PCM	2287	44
45	L	175	3411		STD	WD			PCM	2288	45
46	L	176	0200 0113	CPM3	RJM	IDL	CHECK FOR REQUEST		PCM	2289	46
47	L	200	3012		LDD	ED			PCM	2290	47
48	L	201	4411		STI	WD			PCM	2291	48
49	L	202	3611		AOD	WD			PCM	2292	49
50	L	203	2301 0000		LMC	10000			PCM	2293	50
51	L	205	0570		NJN	CPM3	IF NOT COMPLETE		PCM	2294	51
52	L	206	1415		LDN	DD+1	RESET DIRECT LOCATIONS		PCM	2295	52
53	L	207	3411		STD	WD			PCM	2296	53
54	L	210	0200 0113	CPM4	RJM	IDL	CHECK FOR NEW REQUEST		PCM	2297	54
55											55
56											56
57											57
58											58
59											59
60											60

L 212	4011			LDI	WD	CHECK DATA IN MEMORY	PCM	2298
L 213	3413			STD	AD		PCM	2299
L 214	3312			LMD	ED		PCM	2300
L 215	3414			STD	DD		PCM	2301
L 216	0506			NJN	CPM5	IF DATA ERROR	PCM	2302
L 217	3611			AOD	WD		PCM	2303
L 220	2300	0100		LMC	IDL1		PCM	2304
L 222	0565			NJN	CPM4	IF NOT COMPLETE	PCM	2305
L 223	0303			UJN	CPM6		PCM	2306
L 224	0100	0115	CPM5	LJM	XIDL	END OF ATTEMPT TO VALIDATE MEMORY	PCM	2307
							PCM	2308
							PCM	2309
L 226	2000	0253	CPM6	LDC	END		PCM	2310
L 230	3411			STD	WD		PCM	2311
L 231	0200	0113	CPM7	RJM	IDL	CHECK FOR NEW REQUEST	PCM	2312
L 233	4011			LDI	WD	CHECK MEMORY DATA	PCM	2313
L 234	3413			STD	AD		PCM	2314
L 235	3312			LMD	ED		PCM	2315
L 236	3414			STD	DD		PCM	2316
L 237	0564			NJN	CPM5	IF DATA ERROR	PCM	2317
L 240	3611			AOD	WD		PCM	2318
L 241	2301	0000		LMC	10000		PCM	2319
L 243	0565			NJN	CPM7	IF NOT COMPLETE	PCM	2320
L 244	3012			LDD	ED		PCM	2321
L 245	2300	7777		LMC	7777		PCM	2322
L 247	0502			NJN	CPM8	IF NOT COMPLETE	PCM	2323
L 250	0353			UJN	CPM5		PCM	2324
L 251	0100	0155	CPM8	LJM	CPM1		PCM	2325
							PCM	2326
							PCM	2327
			*		FWA OF DATA CHECK AREA.		PCM	2328
							PCM	2329
							PCM	2330
L 253			END	BSS	0		PCM	2331
4705				LOC	*0		PCM	2332
				QUAL	*		PCM	2333
	4705	IDLEL		EQU	*		PCM	2334
							PCM	2335
							PCM	2336
			*		OFFL - PP OFF LOOP.		PCM	2337
							PCM	2338
							PCM	2339
4705			OFFL	BSS	0		PCM	2340
L 0				LOC	0		PCM	2341
L 0	0000			CON	0		PCM	2342
L 1	0300			UJN	*		PCM	2343
4707				LOC	*0		PCM	2344
	4707	OFFLL		EQU	*		PCM	2345
							PCM	2346
							PCM	2347
							PCM	2348
			*		PPU IDLE LOOP CHANNEL RELOCATION TABLE.		PCM	2349
							PCM	2350
							PCM	2351
4707		ICHS		BSS	0		PCM	2352
				QUAL	IDLE		PCM	2353
4707				CHTB		PP RESIDENT CHANNEL INSTRUCTIONS	PCM	2354

14 ICHSL QUAL *
EQU *-ICHS

PCM 2355
PCM 2356
PCM 2357

1		1
2		2
3		3
4		4
5		5
6		6
7		7
8		8
9		9
10		10
11		11
12		12
13		13
14		14
15		15
16		16
17		17
18		18
19		19
20		20
21		21
22		22
23		23
24		24
25		25
26		26
27		27
28		28
29		29
30		30
31		31
32		32
33		33
34		34
35		35
36		36
37		37
38		38
39		39
40		40
41		41
42		42
43		43
44		44
45		45
46		46
47		47
48		48
49		49
50		50
51		51
52		52
53		53
54		54
55		55
56		56
57		57
58		58
59		59
60		60

3456

IDENT SCE,OVL
ORG OVL
LIST X
MICRO 1,,*A02*
MICRO 1,,*"VERID"*

PCM 2360
PCM 2361
PCM 2362
A02 1
VERS VERS 3

1412THE

COMMENT PCM OVERLAY
COMMENT CTI PCM OVERLAY
COMMENT COPYRIGHT CONTROL DATA CORPORATION, 1979

DIMA394 3
DIMA317N 9
DIMA317N 10

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CDCCRN 3

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CDCCRN 4
CDCCRN 5
CDCCRN 6
CDCCRN 7
CDCCRN 8
CDCCRN 9
CDCCRN 10

3456

CTEXT COMPSCE - STATUS/CONTROL REGISTER ERROR PROCESSOR.

COMPSCE 2

IF -DEF,QUAL\$,1

COMPSCE 4

QUAL COMPSCE

COMPSCE 5

COMMENT COPYRIGHT CONTROL DATA CORP. 1975.

COMPSCE 6

*** SCE - STATUS/CONTROL REGISTER ERROR PROCESSOR.
* A. J. BEEKMAN. 75/01/01.

COMPSCE 8
COMPSCE 9

*** COMPSCE CHECKS THE S/C REGISTER(S) FOR STATUS BITS THAT ARE
* SET. WHEN A SET STATUS BIT IS FOUND, THE APPROPRIATE
* EXPLANATION OF THE ERROR IS ENTERED IN A BUFFER WHOSE
* BEGINNING AND ENDING ADDRESSES ARE SPECIFIED BY THE
* CALLING PROGRAM. THE BEGINNING ADDRESS OF THE EXPLANATION
* IS ENTERED IN TABLE TEMA (TABLE OF ERROR MESSAGE ADDRESSES).
* TABLE TEMA HAS THE FOLLOWING FORMAT -

COMPSCE 11
COMPSCE 12
COMPSCE 13
COMPSCE 14
COMPSCE 15
COMPSCE 16
COMPSCE 17

* TEMA 12/ ADDR 1
* 12/ ADDR 2
* 12/ .
* 12/ .
* 12/ .
* 12/ ADDR N
* 12/ 0

COMPSCE 18
COMPSCE 19
COMPSCE 20
COMPSCE 21
COMPSCE 22
COMPSCE 23
COMPSCE 24
COMPSCE 25

* WHERE N IS THE TOTAL NUMBER OF STATUS BITS SET IN THE
* S/C REGISTER(S),
* ADDR 1 - ADDR N ARE FIRST WORD ADDRESSES OF ERROR
* MESSAGES IN THE EXPLANATION BUFFER (ADDR 1 IS
* THE FIRST WORD ADDRESS OF THE EXPLANATION BUFFER).

COMPSCE 26
COMPSCE 27
COMPSCE 28
COMPSCE 29
COMPSCE 30
COMPSCE 31

* WHEN ALL THE STATUS BITS ARE CHECKED, TABLE TEMA IS
* TERMINATED BY A WORD OF ZEROS, AND THE LWA+1 OF THE FINAL
* EXPLANATION IN THE EXPLANATION BUFFER IS PASSED BACK TO THE
* CALLING PROGRAM. THE FORMAT OF AN ENTRY IN THE EXPLANATION
* BUFFER IS -

COMPSCE 32
COMPSCE 33
COMPSCE 34
COMPSCE 35
COMPSCE 36
COMPSCE 37

* ADDR 6/ REG,6/
* 12/ BIT NUM
* 6/ ,6/ *-
* 12/ MESSAGE X
* 12/ .
* 12/ .
* 12/ 0

COMPSCE 38
COMPSCE 39
COMPSCE 40
COMPSCE 41
COMPSCE 42
COMPSCE 43
COMPSCE 44
COMPSCE 45
COMPSCE 46

* WHERE ADDR = ADDRESS OF FIRST WORD OF ERROR MESSAGE,
* REG = 0 IF CHANNEL 16 S/C REGISTER,

COMPSCE 47
COMPSCE 48
COMPSCE 49

1412THE

* = 1 IF CHANNEL 36 S/C REGISTER,
* BIT NUM = STATUS BIT NUMBER,
* MESSAGE X = EXPLANATION OF ERROR.

COMPSCE 50
COMPSCE 51
COMPSCE 52

* NOTES- 1) THIS COMMON DECK REQUIRES THAT THE CALLING
* PROGRAM ALSO CALL COMMON DECK COMSSCR.

COMPSCE 53
COMPSCE 54
COMPSCE 55

* 2) TABLE TEMA MAY BE UP TO 81 WORDS IN LENGTH
* (ONE WORD PER STATUS ERROR BIT PLUS WORD OF ZEROS)
* IF TWO S/C REGISTERS EXIST. IT IS UP TO THE
* CALLING PROGRAM TO RESERVE ENOUGH SPACE
* FOR THIS TABLE.
* FOLLOWING THE COMMON DECK FOR THIS TABLE.

COMPSCE 56
COMPSCE 57
COMPSCE 58
COMPSCE 59
COMPSCE 60
COMPSCE 61
COMPSCE 62

* ENTRY (A) = FWA OF ERROR MESSAGE BUFFER.
* (TE) = MESSAGE ADDRESS TABLE (TEMA) ADDRESS.
* (LW) = LENGTH OF ERROR MESSAGE BUFFER.
* (/CPA/OPTN) = HDT OPTION WORD.

COMPSCE 63
COMPSCE 64
COMPSCE 65
COMPSCE 66
COMPSCE 67

* EXIT (FW) = LWA+1 OF FINAL ERROR MESSAGE IN BUFFER.
* (TE) = ADDRESS OF ZERO WORD IN TABLE TEMA.
* IF MESSAGE BUFFER FILLS BEFORE ALL STATUS BITS ARE
* CHECKED, (FW) = LWA+1 OF FINAL ERROR MESSAGE THAT
* FITS ENTIRELY INTO THE BUFFER.

COMPSCE 68
COMPSCE 69
COMPSCE 70
COMPSCE 71
COMPSCE 72
COMPSCE 73

* USES C1,C2,AM,BT,BW,CB,FW,LW,RW,TE,WC,CT.

COMPSCE 74

* INSTRUCTIONS USED AS CONSTANTS.

COMPSCE 76
COMPSCE 77

1000 SHNI EQU 1000 SHN INSTRUCTION
1200 LPNI EQU 1200 LPN INSTRUCTION
1400 LDNI EQU 1400 LDN INSTRUCTION
1500 LCNI EQU 1500 LCN INSTRUCTION
7000 IANI EQU 7000 IAN INSTRUCTION
7200 OANI EQU 7200 OAN INSTRUCTION

COMPSCE 78
COMPSCE 79
COMPSCE 80
COMPSCE 81
COMPSCE 82
COMPSCE 83
COMPSCE 84
COMPSCE 85
COMPSCE 86

* ASSEMBLY CONSTANTS.

COMPSCE 87
COMPSCE 88
COMPSCE 89

47 UBIT EQU 47 BIT NUMBER OF A CHANNEL 16 BIT NOT IN USE

COMPSCE 90
COMPSCE 91
COMPSCE 92

3456 0100 3456 SCE SUBR ENTRY/EXIT
3460 3462 STD FW SAVE FWA OF MESSAGE BUFFER
3461 3563 RAD LW CALCULATE LWA+1 OF BUFFER

COMPSCE 94
COMPSCE 95
COMPSCE 96
COMPSCE 97

* SET *TUBT* AND *TNUB* FOR CY176, 176B, AND 17X MODEL D.
3462 1401 LDN 1
3463 3473 STD CT INITIALIZE NOT USED BIT TABLE FLAG
3464 2000 3124 LDC FCTC+PPCT TEST AND CLEAR BIT 84D
3466 7256 OAN. CHSC+40B
3467 7056 IAN. CHSC+40B

DIMA299 2
DIMA299 3
DIMA299 4
DIMA299 5
DIMA299 6
DIMA299 7

3470	0425		ZJN	SCE1.2	NOT MODEL B OR D	DIMA299	8
3471	2000 1124		LDC	FCTB+PPCT	TEST BIT 84D	DIMA299	9
3473	7256		OAN.	CHSC+40B		DIMA299	10
3474	7056		IAN.	CHSC+40B		DIMA299	11
3475	0414		ZJN	SCE1.1	NOT MODEL B OR D, WAS IN 2X SPEED	DIMA299	12
3476	1460		LDN	60B		DIMA299	13
3477	5500 4300		RAM	TNUB	SET NOT USED BITS FOR MODEL B OR D	DIMA299	14
3501	1400		LDN	0		DIMA299	15
3502	3473		STD	CT	CLEAR NOT USED BIT TABLE FLAG	DIMA299	16
3503	5400 4304		STM	TUBT	CLEAR USED BITS IN TABLE * TUBT *	DIMA299	17
3505	2000 1400		LDC	LDNI		DIMA299	18
3507	5400 3522		STM	SCE1.3	CLEAR CH36 USED BITS	DIMA299	19
3511	2000 4124	SCE1.1	LDC	FCSB+PPCT	SET BIT 84D	DIMA299	20
3513	7256		OAN.	CHSC+40B		DIMA299	21
3514	7056		IAN.	CHSC+40B		DIMA299	22
3515	5000 7673	SCE1.2	LDM	/CPA/OPTN	CHECK FOR CYBER 176	DIMA299	23
3517	1066		SHN	-11B		DIMA299	24
3520	1203		LPN	3		DIMA299	25
3521	0427		ZJN	SCE1.4	IF NOT A CYBER 176	DIMA299	26
3522	1460	SCE1.3	LDN	60B	SET USED BITS IN TABLE * TUBT *	DIMA299	27
		*	LDN	0	* MODIFIED FOR MODEL B *	DIMA299	28
3523	5400 4304		STM	TUBT		COMPSCE	105
3525	1400		LDN	0	CLEAR NOT USED BIT TABLE FLAG	DIMA299	29
3526	3473		STD	CT		DIMA299	30
3527	2000 1777		LDC	1777		COMPSCE	106
3531	5400 4305		STM	TUBT+1		COMPSCE	107
3533	2000 4520		LDC	PPEM	SET *PPU ERROR* FOR FLPP-S	COMPSCE	108
3535	5400 4320		STM	TEMF+TEMFA		COMPSCE	109
3537	2000 4466		LDC	LSEM	SET *LCM SECDED* ERROR	COMPSCE	110
3541	5400 4336		STM	TEMF+TEMFB		COMPSCE	111
3543	2000 4000		LDC	4000		COMPSCE	112
3545	5400 4337		STM	TEMF+TEMFB+1		COMPSCE	113
3547	0307		UJN	SCE1		DIMA299	31
3550	3073	SCE1.4	LDD	CT		DIMA299	32
3551	0505		NJN	SCE1	IF NOT MODEL D	DIMA299	33
3552	2000 1274		LDC	1274B		DIMA299	34
3554	5400 4300		STM	TNUB		DIMA299	35
						COMPSCE	114
		*			SET CHANNEL 16 IF NECESSARY.	COMPSCE	115
						COMPSCE	116
3556	5000 3574	SCE1	LDM	SCEA	CHECK PRESENT CHANNEL	COMPSCE	117
3560	1220		LPN	20		COMPSCE	118
3561	0404		ZJN	SCE2	IF CHANNEL 16	COMPSCE	119
3562	1416		LDN	16		COMPSCE	120
3563	0200 4235		RJM	CGC	CHANGE CHANNELS	COMPSCE	121
3565	1400	SCE2	LDN	0	SET ORIGINAL BIT NUMBER	COMPSCE	122
3566	3466		STD	BT		COMPSCE	123
3567	1400		LDN	FCRD	READ WORD CODE	COMPSCE	124
3570	3472		STD	RW		COMPSCE	125
						COMPSCE	126
		*			READ WORD FROM STATUS/CONTROL REGISTER.	COMPSCE	127
						COMPSCE	128
3571	1400	SCE3	LDN	0	SET BIT NUMBER WITHIN WORD	COMPSCE	129
3572	3467		STD	BW		COMPSCE	130
3573	3072		LDD	RW	READ WORD CODE	COMPSCE	131
3574	7256	SCEA	OAN.	CHSC+40		COMPSCE	132
		*	OAN.	CHSC+40+20	(IF CHANNEL 36 CALL)	COMPSCE	133

3575	7056	SCEB	IAN.	CHSC+40		COMPSCE	134
		*	IAN.	CHSC+40+20	(IF CHANNEL 36 CALL)	COMPSCE	135
3576	3471		STD	WC		COMPSCE	136
3577	0510		NJN	SCE5	IF STATUS BITS SET IN WORD	COMPSCE	137
3600	3672	SCE4	AOD	RW	SET NEXT WORD	COMPSCE	138
3601	1414		LDN	14	SET BIT NUMBER	COMPSCE	139
3602	3566		RAD	BT		COMPSCE	140
3603	1750		SBN	NTEB		COMPSCE	141
3604	0764		MJN	SCE3	IF NOT ALL STATUS BITS CHECKED	COMPSCE	142
3605	0100 4215		LJM	SCE32	JUMP IF NO SET STATUS BITS IN WORD 4	COMPSCE	143
		*			CHECK FOR SET STATUS BITS IN WORD.	COMPSCE	144
						COMPSCE	145
3607	3071	SCE5	LDD	WC	GET NEXT BIT	COMPSCE	146
3610	1021		SHN	21-0		COMPSCE	147
3611	3471		STD	WC		COMPSCE	148
3612	0705		MJN	SCE7	IF BIT SET	COMPSCE	149
3613	3667	SCE6	AOD	BW	SET NEXT BIT IN WORD	COMPSCE	150
3614	1714		SBN	14		COMPSCE	151
3615	0771		MJN	SCE5	IF NOT END OF WORD	COMPSCE	152
3616	0361		UJN	SCE4	LOOP TO SET NEXT WORD	COMPSCE	153
		*			FIND ERROR MESSAGE FOR SET STATUS BIT.	COMPSCE	154
						COMPSCE	155
3617	3066	SCE7	LDD	BT	SET CURRENT BIT NUMBER	COMPSCE	156
3620	3167		ADD	BW		COMPSCE	157
3621	1750		SBN	NTEB		COMPSCE	158
3622	0703		MJN	SCE8	IF NOT ALL STATUS BITS CHECKED	COMPSCE	159
3623	0100 4215		LJM	SCE32	JUMP IF 4 BITS CHECKED IN WORD 4	COMPSCE	160
						COMPSCE	161
3625	1650	SCE8	ADN	NTEB		COMPSCE	162
3626	3470		STD	CB		COMPSCE	163
3627	1001		SHN	1		COMPSCE	164
3630	3460		STD	C1		COMPSCE	165
		*			SET *NOT USED* FOR CYBER 176 AND CHANNEL 36 UNUSED BITS.	COMPSCE	166
						COMPSCE	167
3631	3067		LDD	BW	SET UP SHIFT COUNT	COMPSCE	168
3632	1606		ADN	6		COMPSCE	169
3633	2300 1000		LMC	SHNI		COMPSCE	170
3635	5400 3656		STM	SCEC		COMPSCE	171
3637	5400 3651		STM	SCEF		COMPSCE	172
3641	5000 3574		LDM	SCEA	CHECK CHANNEL	COMPSCE	173
3643	1220		LPN	20		COMPSCE	174
3644	0510		NJN	SCE9	IF NOT CHANNEL 16	COMPSCE	175
3645	3073		LDD	CT		DIMA299	176
3646	0515		NJN	SCE11	IF NO BITS HAVE CHANGED TO UNUSED	DIMA299	177
3647	5072 4300		LDM	TNUB,RW	READ NOT USED BIT MASK	DIMA299	178
3651	1006	SCEF	SHN	21-13	CHECK IF BIT NOT USED	COMPSCE	179
		*	SHN	21-13+BIT	(BIT NUMBER *BIT* IN WORD)	COMPSCE	180
3652	0706		MJN	SCE10	IF BIT NOT USED	COMPSCE	181
3653	0310		UJN	SCE11	CHECK FOR INSERTION CODE	COMPSCE	182
						COMPSCE	183
3654	5072 4304	SCE9	LDM	TUBT,RW	READ CHANNEL 36 USED BIT MASK	COMPSCE	184
3656	1006	SCEC	SHN	21-13	CHECK IF BIT USED	COMPSCE	185
		*	SHN	21-13+BIT	(IF BIT NUMBER *BIT*)	COMPSCE	186
3657	0704		MJN	SCE11	IF BIT USED	COMPSCE	187

3660	2000	0116	SCE10	LDC	UBIT*2	SET *NOT USED* MESSAGE	COMPSCE	193
3662	3460			STD	C1		COMPSCE	194
							COMPSCE	195
			*			CHECK FOR CODE TO INSERT IN SKELETON MESSAGE.	COMPSCE	196
							COMPSCE	197
3663	5060	4310	SCE11	LDM	TEMF,C1	READ ERROR MESSAGE ADDRESS	COMPSCE	198
3665	3464			STD	AM		COMPSCE	199
3666	1701			SBN	1	SET ADDRESS OF INSERTION CODE WORD NUMBER	COMPSCE	200
3667	3461			STD	C2		COMPSCE	201
3670	5060	4311		LDM	TEMF+1,C1	CHECK FOR INSERTION CODE	COMPSCE	202
3672	3460			STD	C1		COMPSCE	203
3673	1006			SHN	6		COMPSCE	204
3674	0503			NJN	SCE12	IF CODE	COMPSCE	205
3675	0100	4125		LJM	SCE24	PROCESS NORMAL MESSAGE	COMPSCE	206
							COMPSCE	207
3677	0703		SCE12	MJN	SCE13	IF SPECIAL MESSAGE	COMPSCE	208
3700	0100	4060		LJM	SCE22	INSERT CODE	COMPSCE	209
							COMPSCE	210
			*			SET UP CM SECDED ERROR MESSAGE.	COMPSCE	211
							COMPSCE	212
3702	1400		SCE13	LDN	0	SET INCREMENT FOR MESSAGES	COMPSCE	213
3703	3461			STD	C2		COMPSCE	214
3704	2000	4466		LDC	LSEM		COMPSCE	215
3706	3364			LMD	AM		COMPSCE	216
3707	0503			NJN	SCE14	IF CM SECDED ERROR	COMPSCE	217
3710	0100	4005		LJM	SCE20	PROCESS LCM SECDED ERROR	COMPSCE	218
							COMPSCE	219
3712	5061	5002	SCE14	LDM	QRNT,C2	SET *QUADRANT* IN MESSAGE	COMPSCE	220
3714	5461	4505		STM	SEEM+15,C2		COMPSCE	221
3716	3661			AOD	C2		COMPSCE	222
3717	1705			SBN	5		COMPSCE	223
3720	0571			NJN	SCE14	IF NOT END OF INSERT	COMPSCE	224
3721	1417			LDN	FCRD+CDSW	SET CM DOUBLE ERROR BIT CHECK	COMPSCE	225
3722	7256			OAN.	CHSC+40		COMPSCE	226
3723	7056			IAN.	CHSC+40		COMPSCE	227
3724	5400	3764		STM	SCEG		COMPSCE	228
3726	1404			LDN	FCRD+CMAW	OBTAIN QUADRANT AND CSU	COMPSCE	229
3727	7256			OAN.	CHSC+40		COMPSCE	230
3730	7056			IAN.	CHSC+40		COMPSCE	231
3731	3461			STD	C2	ISOLATE QUADRANT	COMPSCE	232
3732	1074			SHN	-3		COMPSCE	233
3733	3460			STD	C1		COMPSCE	234
3734	5000	7673		LDM	/CPA/OPTN		COMPSCE	235
3736	1066			SHN	-11		COMPSCE	236
3737	1203			LPN	3		COMPSCE	237
3740	0403			ZJN	SCE15	IF NOT A CYBER 176	COMPSCE	238
3741	3061			LDD	C2		COMPSCE	239
3742	0302			UJN	SCE16	OBTAIN QUADRANT NUMBER	COMPSCE	240
							COMPSCE	241
3743	3060		SCE15	LDD	C1		COMPSCE	242
3744	1203		SCE16	LPN	3		COMPSCE	243
3745	2100	5533		ADC	2R 0	CONVERT TO DISPLAY CODE	COMPSCE	244
3747	5400	4511		STM	SEEM+21	SET QUADRANT NUMBER IN MESSAGE	COMPSCE	245
3751	3060			LDD	C1	ISOLATE CSU	COMPSCE	246
3752	1075			SHN	-2		COMPSCE	247
3753	1201			LPN	1		COMPSCE	248
3754	2100	5533		ADC	2R 0	CONVERT TO DISPLAY CODE	COMPSCE	249

3756	5400	4515		STM	SEEM+25	SET CSU NUMBER IN MESSAGE	COMPSCE	250
3760	2000	4765	SCE17	LDC	SSET	SET SINGLE BIT SECDED ERROR MESSAGE	COMPSCE	251
3762	3460			STD	C1		COMPSCE	252
3763	2000	3763		LDC	*	CHECK FOR SINGLE/DOUBLE BIT ERROR	COMPSCE	253
			*	LDC	XXXX	(XXXX = CONTENTS OF BYTE WITH DOUBLE BIT)	COMPSCE	254
	3764		SCEG	EQU	*-1		COMPSCE	255
3765	1016			SHN	21-3		COMPSCE	256
3766	0604			PJN	SCE18	IF DOUBLE BIT NOT SET	COMPSCE	257
3767	2000	4771		LDC	SDET	SET DOUBLE BIT MESSAGE	COMPSCE	258
3771	3460			STD	C1		COMPSCE	259
3772	1400		SCE18	LDN	0		COMPSCE	260
3773	3461			STD	C2		COMPSCE	261
3774	4060		SCE19	LDI	C1	TRANSFER INSERT TO SECDED MESSAGE	COMPSCE	262
3775	5461	4473		STM	SEEM+3,C2		COMPSCE	263
3777	3660			AOD	C1		COMPSCE	264
4000	3661			AOD	C2		COMPSCE	265
4001	1704			SBN	4		COMPSCE	266
4002	0571			NJN	SCE19	IF NOT END OF INSERT	COMPSCE	267
4003	0100	4125		LJM	SCE24		COMPSCE	268
			*			SET UP LCM SECDED ERROR MESSAGE.	COMPSCE	269
							COMPSCE	270
4005	5061	4775	SCE20	LDM	BNKT,C2	SET *BANK* IN MESSAGE	COMPSCE	271
4007	5461	4505		STM	SEEM+15,C2		COMPSCE	272
4011	3661			AOD	C2		COMPSCE	273
4012	1705			SBN	5		COMPSCE	274
4013	0571			NJN	SCE20	IF NOT END OF INSERT	COMPSCE	275
4014	3461			STD	C2		COMPSCE	276
4015	1420			LDN	FCRD+LDSW	SET LCM DOUBLE BIT ERROR CHECK	COMPSCE	277
4016	7256			OAN.	CHSC+40		COMPSCE	278
4017	7056			IAN.	CHSC+40		COMPSCE	279
4020	1076			SHN	-1		COMPSCE	280
4021	5400	3764		STM	SCEG		COMPSCE	281
4023	1203			LPN	3	ISOLATE SIZE BITS	COMPSCE	282
4024	3460			STD	C1		COMPSCE	283
4025	1076			SHN	-1		COMPSCE	284
4026	0410			ZJN	SCE21	IF NOT 2048K OF LCM (SIZE .LT. 2)	COMPSCE	285
4027	1411			LDN	FCRD+LCAW+1	READ SECOND LCM ERROR ADDRESS WORD	COMPSCE	286
4030	7256			OAN.	CHSC+40		COMPSCE	287
4031	7056			IAN.	CHSC+40		COMPSCE	288
4032	1071			SHN	-6	OBTAIN UPPER BIT OF BANK NUMBER	COMPSCE	289
4033	1204			LPN	4		COMPSCE	290
4034	3461			STD	C2		COMPSCE	291
4035	3760			SOD	C1	DECREMENT SIZE NUMBER	COMPSCE	292
4036	3060		SCE21	LDD	C1	SET UP MASK FOR BANK NUMBER	COMPSCE	293
4037	1001			SHN	1		COMPSCE	294
4040	2100	1201		ADC	LPNI+1		COMPSCE	295
4042	5400	4050		STM	SCEH		COMPSCE	296
4044	1410			LDN	FCRD+LCAW	READ FIRST LCM ERROR ADDRESS WORD	COMPSCE	297
4045	7256			OAN.	CHSC+40		COMPSCE	298
4046	7056			IAN.	CHSC+40		COMPSCE	299
4047	1073			SHN	-4	FORM BANK NUMBER	COMPSCE	300
4050	1201		SCEH	LPN	1		COMPSCE	301
			*	LPN	3	(LCM SIZE = 1024K OR 2048K)	COMPSCE	302
4051	3161			ADD	C2		COMPSCE	303
4052	2100	5533		ADC	2R 0	CONVERT TO DISPLAY CODE	COMPSCE	304
4054	5400	4507		STM	SEEM+17	SET BANK NUMBER IN MESSAGE	COMPSCE	305

4056	0100 3760	LJM	SCE17	SET SINGLE/DOUBLE BIT ERROR	COMPSCE	307
					COMPSCE	308
		*		PROCESS PP STOPPED ON PARITY ERROR MESSAGE.	COMPSCE	309
					COMPSCE	310
4060	2000 4671	SCE22	LDC	PMEM	COMPSCE	311
4062	3364		LMD	AM	COMPSCE	312
4063	0535		NJN	SCE23	COMPSCE	313
4064	2000 5520		LDC	2R P	COMPSCE	314
4066	5400 4710		STM	PMEM+17	COMPSCE	315
4070	2000 2015		LDC	2RPM	COMPSCE	316
4072	5400 4711		STM	PMEM+20	COMPSCE	317
4074	2000 5755		LDC	2R.	COMPSCE	318
4076	5400 4712		STM	PMEM+21	COMPSCE	319
4100	2000 1167		LDC	FCTB+PCMP	COMPSCE	320
4102	7256	SCED	OAN.	CHSC+40	COMPSCE	321
		*	OAN.	CHSC+40+20 (IF CHANNEL 36 CALL)	COMPSCE	322
4103	7056	SCEE	IAN.	CHSC+40	COMPSCE	323
		*	IAN.	CHSC+40+20 (IF CHANNEL 36 CALL)	COMPSCE	324
4104	0414		ZJN	SCE23	COMPSCE	325
4105	2000 5503		LDC	2R C	COMPSCE	326
4107	5400 4710		STM	PMEM+17	COMPSCE	327
4111	2000 1557		LDC	2RM.	COMPSCE	328
4113	5400 4711		STM	PMEM+20	COMPSCE	329
4115	1400		LDN	0	COMPSCE	330
4116	5400 4712		STM	PMEM+21	COMPSCE	331
					COMPSCE	332
		*		SET INSERTION CODE IN ERROR MESSAGES.	COMPSCE	333
					COMPSCE	334
4120	4061	SCE23	LDI	C2	COMPSCE	335
4121	3164		ADD	AM	COMPSCE	336
4122	3461		STD	C2	COMPSCE	337
4123	3060		LDD	C1	COMPSCE	338
4124	4461		STI	C2	COMPSCE	339
					COMPSCE	340
		*		COPY MESSAGE TO BUFFER AND SET ADDRESS IN TABLE TEMA.	COMPSCE	341
					COMPSCE	342
4125	3062	SCE24	LDD	FW	COMPSCE	343
4126	4465		STI	TE	COMPSCE	344
4127	3665		AOD	TE	COMPSCE	345
4130	3062		LDD	FW	COMPSCE	346
4131	1603		ADN	3	COMPSCE	347
4132	3263		SBD	LW	COMPSCE	348
4133	0703		MJN	SCE25	COMPSCE	349
4134	0100 4206		LJM	SCE30	COMPSCE	350
					COMPSCE	351
4136	5000 3574	SCE25	LDM	SCEA	COMPSCE	352
4140	1220		LPN	20	COMPSCE	353
4141	1002		SHN	2	COMPSCE	354
4142	2100 3355		ADC	2R0	COMPSCE	355
4144	4462		STI	FW	COMPSCE	356
4145	3662		AOD	FW	COMPSCE	357
4146	1400		LDN	0	COMPSCE	358
4147	3460		STD	C1	COMPSCE	359
4150	3070	SCE26	LDD	CB	COMPSCE	360
4151	1712		SBN	12	COMPSCE	361
4152	0704		MJN	SCE27	COMPSCE	362
4153	3470		STD	CB	COMPSCE	363

4154	3660		AOD	C1	INCREMENT QUOTIENT	COMPSCE	364	
4155	0372		UJN	SCE26	LOOP FOR DECIMAL REMAINDER	COMPSCE	365	
						COMPSCE	366	
4156	3060	SCE27	LDD	C1	STORE BIT NUMBER AS SECOND WORD	COMPSCE	367	
4157	1006		SHN	6		COMPSCE	368	
4160	3170		ADD	CB		COMPSCE	369	
4161	2100	3333	ADC	2R00		COMPSCE	370	
4163	4462		STI	FW		COMPSCE	371	
4164	3662		AOD	FW		COMPSCE	372	
4165	2000	5546	LDC	2R -	SET UP THIRD WORD OF MESSAGE	COMPSCE	373	
4167	4462		STI	FW		COMPSCE	374	
4170	3662		AOD	FW		COMPSCE	375	
4171	4064	SCE28	LDI	AM	TRANSFER MESSAGE TO BUFFER	COMPSCE	376	
4172	4462		STI	FW		COMPSCE	377	
4173	0406		ZJN	SCE29	IF END OF MESSAGE	COMPSCE	378	
4174	3664		AOD	AM	INCREMENT TRANSFER ADDRESSES	COMPSCE	379	
4175	3662		AOD	FW		COMPSCE	380	
4176	3263		SBD	LW		COMPSCE	381	
4177	0771		MJN	SCE28	IF NOT END OF BUFFER	COMPSCE	382	
4200	0306		UJN	SCE30		COMPSCE	383	
						COMPSCE	384	
4201	3662	SCE29	AOD	FW	SET BUFFER ADDRESS FOR NEXT MESSAGE	COMPSCE	385	
4202	3263		SBD	LW		COMPSCE	386	
4203	0606		PJN	SCE31	IF END OF BUFFER	COMPSCE	387	
4204	0100	3613	LJM	SCE6	LOOP FOR NEXT BIT	COMPSCE	388	
						COMPSCE	389	
		*			SET ZERO WORD AT END OF TABLE TEMA.	COMPSCE	390	
						COMPSCE	391	
4206	3765	SCE30	SOD	TE	SET ADDRESS FOR ZERO WORD IN TABLE TEMA	COMPSCE	392	
4207	4065		LDI	TE	SET LWA+1 OF LAST MESSAGE IN BUFFER	COMPSCE	393	
4210	3462		STD	FW		COMPSCE	394	
4211	1400	SCE31	LDN	0	STORE ZERO WORD	COMPSCE	395	
4212	4465		STI	TE		COMPSCE	396	
4213	0100	3456	LJM	SCEX	RETURN	COMPSCE	397	
						COMPSCE	398	
		*			SET CHANNEL 36 REGISTER IF TO BE CHECKED.	COMPSCE	399	
						COMPSCE	400	
4215	5000	3574	SCE32	LDM	SCEA	CHECK REGISTER CHANNEL	COMPSCE	401
4217	1220		LPN	20		COMPSCE	402	
4220	0402		ZJN	SCE33	IF NOT BOTH REGISTERS CHECKED	COMPSCE	403	
4221	0367		UJN	SCE31		COMPSCE	404	
						COMPSCE	405	
4222	6520	4211	SCE33	IJM.	SCE31,20	IF NOT 20 PPS	COMPSCE	406
4224	5000	7675		LDM	/CPA/PPP1		COMPSCE	407
4226	0562		NJN	SCE31	IF NOT 20 PPS	COMPSCE	408	
4227	1436		LDN	36		COMPSCE	409	
4230	0200	4235	RJM	CGC	CHANGE CHANNELS	COMPSCE	410	
4232	0100	3565	LJM	SCE2	LOOP TO CHECK CHANNEL 36 S/C REGISTER	COMPSCE	411	
		**			CGC - CHANGE CHANNELS.	COMPSCE	413	
		*				COMPSCE	414	
		*			ENTRY (A) = CHANNEL NUMBER.	COMPSCE	415	
		*				COMPSCE	416	
		*			USES C2.	COMPSCE	417	

								COMPSCE	418
								COMPSCE	419
								COMPSCE	420
1								COMPSCE	421
2				*		CHANGE CHANNEL IN I/O INSTRUCTIONS.		COMPSCE	422
3								COMPSCE	423
4	4236	2100	7240		ADC	OANI+40	CHANGE CHANNEL	COMPSCE	424
5	4240	5400	3574		STM	SCEA		COMPSCE	425
6	4242	5400	4102		STM	SCED		COMPSCE	426
7	4244	2300	0200		LMC	IANI&OANI		COMPSCE	427
8	4246	5400	3575		STM	SCEB		COMPSCE	428
9	4250	5400	4103		STM	SCEE		COMPSCE	429
10	4252	1220			LPN	20		COMPSCE	430
11	4253	0404			ZJN	CGC1	IF CHANGE TO CHANNEL 16	COMPSCE	431
12								COMPSCE	432
13				*		CHANGE PPU AND CHANNEL NUMBERS IN TABLE *TEMF*.		COMPSCE	433
14								COMPSCE	434
15	4254	2000	1420		LDC	LDNI+20	CHANGE TO CHANNEL 36 INSTRUCTION	COMPSCE	435
16	4256	0303			UJN	CGC2		COMPSCE	436
17								COMPSCE	437
18	4257	2000	1520	CGC1	LDC	LCNI+20	CHANGE TO CHANNEL 16 INSTRUCTION	COMPSCE	438
19	4261	5400	4266	CGC2	STM	CGCA		COMPSCE	439
20	4263	2000	4345		LDC	TEMF+TEMFC	CHANGE PPU AND CHANNEL MESSAGE NUMBERS	COMPSCE	440
21	4265	3461			STD	C2		COMPSCE	441
22	4266	1420		CGC3	LDN	20		COMPSCE	442
23			4266	CGCA	EQU	*-1		COMPSCE	443
24				*	LCN	20	(IF CHANGING TO CHANNEL 16)	COMPSCE	444
25	4267	1003			SHN	3		COMPSCE	445
26	4270	4561			RAI	C2		COMPSCE	446
27	4271	1402			LDN	2		COMPSCE	447
28	4272	3561			RAD	C2		COMPSCE	448
29	4273	2177	3357		ADC	-TEMF-TEMFD-1		COMPSCE	449
30	4275	0770			MJN	CGC3	IF NOT ALL INSERTION CODES CHANGED	COMPSCE	450
31	4276	0100	4234		LJM	CGCX	RETURN	COMPSCE	451
32									
33									
34									
35									
36				**		TNUB - TABLE OF NOT USED BITS.		DIMA299	39
37				*				COMPSCE	454
38				*	ENTRY	ONE WORD FOR EACH OF FIRST FOUR WORDS OF CHANNEL 16		COMPSCE	455
39				*		S/C REGISTER ON A CYBER 176. EACH BIT CORRESPONDS TO		COMPSCE	456
40				*		A BIT IN THE S/C REGISTER. IF SET IN THE MASK, THAT		COMPSCE	457
41				*		CORRESPONDING BIT IS CURRENTLY NOT USED ON A 176.		COMPSCE	458
42				*		MASK FOR BITS 0 - 11 IS MODIFIED FOR A 17X MODEL D.		DIMA299	40
43								COMPSCE	459
44								COMPSCE	460
45	4300			TNUB	BSS	0		COMPSCE	461
46	L 0				LOC	0		COMPSCE	462
47	L 0	7114			CON	7114	BITS 0 - 11	COMPSCE	463
48				*	CON	1274B	(17X MODEL D MASK)	DIMA299	41
49	L 1	6000			CON	6000	BITS 12 - 23	COMPSCE	464
50	L 2	0000			CON	0000	BITS 24 - 35	COMPSCE	465
51	L 3	1400			CON	1400	BITS 36 - 39	COMPSCE	466
52	4304				LOC	*0		COMPSCE	467
53									
54									
55									
56									
57									
58									
59									
60									

** TUBT - TABLE OF USED CHANNEL 36 BITS.

*

*

ENTRY - ONE WORD FOR EACH OF FIRST FOUR WORDS OF CHANNEL 36

*

S/C REGISTER. EACH BIT CORRESPONDS TO A BIT IN THE

*

S/C REGISTER. IF SET IN THE MASK, THAT CORRESPONDING

*

BIT IS CURRENTLY IN USE IN THE CHANNEL 36 S/C REGISTER.

COMPSCE 469

COMPSCE 470

COMPSCE 471

COMPSCE 472

COMPSCE 473

COMPSCE 474

COMPSCE 475

COMPSCE 476

COMPSCE 477

COMPSCE 478

COMPSCE 479

COMPSCE 480

DIMA299 42

COMPSCE 481

COMPSCE 482

COMPSCE 483

COMPSCE 484

COMPSCE 485

4304

TUBT

BSS

0

L 0

LOC

0

L 0

4060

CON

4060

BITS 0 - 11

*

CON

0060

(CYBER 176 MASK)

*

CON

0

(CYBER 176 MOD B OR CYBER 17X MOD D MASK)

L 1

7777

CON

7777

BITS 12 - 23

*

CON

1777

(CYBER 176 MASK)

L 2

7777

CON

7777

BITS 24 - 35

L 3

0000

CON

0

BITS 36 - 39

4310

LOC

*0

** TEMF - TABLE OF ERROR MESSAGE FORMAT ADDRESSES.

*

*

ENTRY TWO WORDS, INDEXED BY BIT NUMBER, IN FORMAT -

*

*

12/ ADDR

*

12/ CODE

*

*

WHERE ADDR = ERROR MESSAGE ADDRESS,

*

CODE = DISPLAY CODE TO BE INSERTED IN MESSAGE.

*

UPPER BIT SET REPRESENTS SECDED ERROR

*

MESSAGE.

COMPSCE 487

COMPSCE 488

COMPSCE 489

COMPSCE 490

COMPSCE 491

COMPSCE 492

COMPSCE 493

COMPSCE 494

COMPSCE 495

COMPSCE 496

COMPSCE 497

COMPSCE 498

COMPSCE 499

COMPSCE 500

4310

TEMF

BSS

0

L 0

LOC

0

L 0

4430 0000

CON

RPEM,0

READ PYRAMID PARITY ERROR

L 2

4447 3355

CON

CAEM,2R0

CSU 0 ADDRESS PARITY ERROR

L 4

4447 3455

CON

CAEM,2R1

CSU 1 ADDRESS PARITY ERROR

L 6

4470 4000

CON

SEEM,4000B

SECDED ERROR

L 10

4757 0000

TEMFA

CON

NUEM,0

NOT USED

*

CON

PPEM,0

(PPU ERROR FOR FLPP-S - CYBER 176)

L 12

4526 0000

CON

CMEM,0

CMC PARITY ERROR

L 14

4540 0000

CON

DREM,0

PE ON DATA RECEIVED FROM EXTERNAL CHANNEL

L 16

4567 0000

CON

DTEM,0

PE ON DATA TRANSMITTED FROM EXTERNAL PP

L 20

4617 3355

CON

MTEM,2R0

CSU 0 FAULT

L 22

4617 3455

CON

MTEM,2R1

CSU 1 FAULT

L 24

4626 0000

CON

ESEM,0

ERROR IN SECOND PPS

L 26

4641 0000

TEMFB

CON

ECEM,0

ECS ERROR

*

CON

LSEM,4000

(LCM SECDED ERROR - CYBER 176)

L 30

4650 3355

CON

PREM,2R0

CPU 0 P REGISTER PARITY ERROR

L 32

4650 3455

CON

PREM,2R1

CPU 1 P REGISTER PARITY ERROR

L 34

4671 3333

CON

PMEM,2R00

PP00 MEMORY PARITY ERROR (PP20)

35

TEMFC

EQU

*-1

L 36

4671 3334

CON

PMEM,2R01

PP01 STOPPED ON PARITY ERROR (PP21)

L 40

4671 3335

CON

PMEM,2R02

PP02 STOPPED ON PARITY ERROR (PP22)

COMPSCE 501

COMPSCE 502

COMPSCE 503

COMPSCE 504

COMPSCE 505

COMPSCE 506

COMPSCE 507

COMPSCE 508

COMPSCE 509

COMPSCE 510

COMPSCE 511

COMPSCE 512

COMPSCE 513

COMPSCE 514

COMPSCE 515

COMPSCE 516

COMPSCE 517

COMPSCE 518

COMPSCE 519

COMPSCE 520

COMPSCE 521

L	42	4671	3336	CON	PMEM,2R03	PP03 STOPPED ON PARITY ERROR (PP23)	COMPSCE	522
L	44	4671	3337	CON	PMEM,2R04	PP04 STOPPED ON PARITY ERROR (PP24)	COMPSCE	523
L	46	4671	3340	CON	PMEM,2R05	PP05 STOPPED ON PARITY ERROR (PP25)	COMPSCE	524
L	50	4671	3341	CON	PMEM,2R06	PP06 STOPPED ON PARITY ERROR (PP26)	COMPSCE	525
L	52	4671	3342	CON	PMEM,2R07	PP07 STOPPED ON PARITY ERROR (PP27)	COMPSCE	526
L	54	4671	3433	CON	PMEM,2R10	PP10 STOPPED ON PARITY ERROR (PP30)	COMPSCE	527
L	56	4671	3434	CON	PMEM,2R11	PP11 STOPPED ON PARITY ERROR (PP31)	COMPSCE	528
L	60	4715	3333	CON	CPEM,2R00	CHANNEL 00 PARITY ERROR (20)	COMPSCE	529
L	62	4715	3334	CON	CPEM,2R01	CHANNEL 01 PARITY ERROR (21)	COMPSCE	530
L	64	4715	3335	CON	CPEM,2R02	CHANNEL 02 PARITY ERROR (22)	COMPSCE	531
L	66	4715	3336	CON	CPEM,2R03	CHANNEL 03 PARITY ERROR (23)	COMPSCE	532
L	70	4715	3337	CON	CPEM,2R04	CHANNEL 04 PARITY ERROR (24)	COMPSCE	533
L	72	4715	3340	CON	CPEM,2R05	CHANNEL 05 PARITY ERROR (25)	COMPSCE	534
L	74	4715	3341	CON	CPEM,2R06	CHANNEL 06 PARITY ERROR (26)	COMPSCE	535
L	76	4715	3342	CON	CPEM,2R07	CHANNEL 07 PARITY ERROR (27)	COMPSCE	536
L	100	4715	3433	CON	CPEM,2R10	CHANNEL 10 PARITY ERROR (30)	COMPSCE	537
L	102	4715	3434	CON	CPEM,2R11	CHANNEL 11 PARITY ERROR (31)	COMPSCE	538
L	104	4715	3435	CON	CPEM,2R12	CHANNEL 12 PARITY ERROR (32)	COMPSCE	539
L	106	4715	3436	CON	CPEM,2R13	CHANNEL 13 PARITY ERROR (33)	COMPSCE	540
			107	EQU	*-1		COMPSCE	541
L	110	4732	0000	CON	PFEM,0	MAINS POWER FAILURE	COMPSCE	542
L	112	4745	0000	CON	SIEM,0	SHUTDOWN IMMINENT	COMPSCE	543
L	114	4757	0000	CON	NUEM,0	NOT USED	COMPSCE	544
L	116	4757	0000	CON	NUEM,0	NOT USED	COMPSCE	545
	4430			LOC	*0		COMPSCE	546
							COMPSCE	547
							COMPSCE	548
			*		ERROR MESSAGE FORMATS.		COMPSCE	549
							COMPSCE	550
	4430	2205	RPEM	DATA	C*READ PYRAMID PARITY ERROR.*		COMPSCE	551
	4446	0002		CON	2		COMPSCE	552
	4447	0323	CAEM	DATA	C*CSU ADDRESS PARITY ERROR.*		COMPSCE	553
	4466	1403	LSEM	DATA	H*LCM *		COMPSCE	554
	4470	2305	SEEM	DATA	C*SECEDED BIT ERROR - QUADRANT , CSU .*		COMPSCE	555
	4520	2020	PPEM	DATA	C*PPU ERROR.*		COMPSCE	556
	4526	0315	CMEM	DATA	C*CMC PARITY ERROR.*		COMPSCE	557
	4540	2001	DREM	DATA	C*PARITY ERROR ON DATA RCVD FROM EXT CHANNEL.*		COMPSCE	558
	4567	2001	DTEM	DATA	C*PARITY ERROR ON DATA XMTD FROM EXTERNAL PP.*		COMPSCE	559
	4616	0002		CON	2		COMPSCE	560
	4617	0323	MTEM	DATA	C*CSU FAULT.*		COMPSCE	561
	4626	0522	ESEM	DATA	C*ERROR IN SECOND PPS.*		COMPSCE	562
	4641	0503	ECM	DATA	C*ECS ERROR.*		COMPSCE	563
	4647	0002		CON	2		COMPSCE	564
	4650	0320	PREM	DATA	C*CPU P REGISTER PARITY ERROR.*		COMPSCE	565
	4670	0001		CON	1		COMPSCE	566
	4671	2020	PMEM	DATA	C*PP STOPPED ON PARITY ERROR - PPM.*		COMPSCE	567
	4714	0004		CON	4		COMPSCE	568
	4715	0310	CPEM	DATA	C*CHANNEL PARITY ERROR.*		COMPSCE	569
	4732	1501	PFEM	DATA	C*MAINS POWER FAILURE.*		COMPSCE	570
	4745	2310	SIEM	DATA	C*SHUTDOWN IMMINENT.*		COMPSCE	571
	4757	1617	NUEM	DATA	C*NOT USED.*		COMPSCE	572
	4765	5523	SSET	DATA	8H SINGLE		COMPSCE	573
	4771	5504	SDET	DATA	8H DOUBLE		COMPSCE	574
	4775	0201	BNKT	DATA	C*BANK .*		COMPSCE	575
	5002	2125	QRNT	DATA	H*QUADRANT *		COMPSCE	576

QUAL\$	IF	-DEF,QUAL\$	COMPSCE	578
	QUAL	*	COMPSCE	579
3457	SCE	/COMPSCE/SCE	COMPSCE	580
	QUAL\$	ENDIF	COMPSCE	581
		ENDX	COMPSCE	582
			PCM	2365
5007	0000	BUFR	CON	0
			ERROR MESSAGES	
			DIMA222A	1
			PCM	2368
			PCM	2369
3336	END	EQU	TEMA+1	FWA TO CLEAR IN PP0
			PCM	2370
			PCM	2371
5010		END		
			PCM	2372

55400B CM STORAGE USED 3413 STATEMENTS 1265 SYMBOLS 000027 INVENTED SYMBOLS
PARALLEL CPU ASSEMBLY 2.999 SECONDS 1764 REFERENCES

SYMBOLIC REFERENCE TABLE.

ABT	1773		15/15	22/37	30/01	30/17	D												
ABTX	1772		30/17	L															
ABT1	2000		30/20	L	30/24														
ACNI	7400		5/20	D															
AD	23		7/25	L	12/37	S													
ADA	1044		5/37	D															
BUFR	5007		16/40		16/44	68/08	L												
CCRT	250		16/22		16/25														
CDSW	17		16/05		61/33														
CDW	2236		30/53		33/43	D													
CDWX	2235		33/43	L	33/57														
CDW1	2242		33/47	L	33/56														
CEM	401		13/43	D	43/30														
CEMX	400		13/43	L															
CEM1	415		13/41		13/56	L													
CEM2	431		14/09	L	14/14														
CEM3	361		13/31	L	13/37	14/18													
CH	10		5/47	D	20/38	21/02	35/13	35/26	36/29	36/57	37/15								
			20/16		20/42	21/10	35/14	36/17	36/31	37/01	38/02								
			20/17		20/57	35/11	35/24	36/21	36/44	37/13									
CHN	1060		15/46		17/23	18/14	18/39	D											
CHNX	1057		18/39	L	18/47														
CHSC	16	NOSTEXT	5/50	D	59/03	59/15	61/34	61/39	62/39	62/51									
			58/56		59/04	59/56	61/35	62/30	62/40	63/15									
			58/57		59/14	60/01	61/38	62/31	62/50	63/17									
			61/37																
CMAW	4		30/46		31/37	31/43	32/41	D											
COA	2174		32/41	L	32/55														
COAX	2173		5/35	D															
CPA	1042		13/11		14/38	D													
CPC	446		14/56	L	15/02	S													
CPCA	472		14/38	L	14/48														
CPCX	445		14/39	L	15/03														
CPC1	447		14/41	L	14/55														
CPC2	451		14/43	L	14/47														
CPC3	453		14/45	L	14/51														
CPC4	456																		

1412THE

14121HE

C2D	2557	17/40	23/10	32/44	32/53	33/22			
		18/21	29/54	32/49	33/18				
DCNI	7500	5/21 D							
DD	24	7/26 L	12/39 S						
DDA	1045	5/38 D							
DLS	2335	19/39	19/57	22/17	30/22	34/40	35/12 D		
DLSA	2365	35/17	35/35 L						
DLSAL	2401	35/20	35/47 D						
DLSB	2370	9/15 S	9/25 S	19/56 S	35/38 L				
DLSC	2371	9/36 S	35/39 L						
DLSD	2372	35/40 L	43/13 S						
DLSE	2375	34/34 S	35/43 L						
DLSF	2400	9/43 S	30/19 S	34/36 S	35/46 L				
DLSX	2334	35/12 L							
DLS1	2347	35/19 L	35/29						
DLS2	2333	35/11 L	35/21						
DNL	2546	35/28	36/25	36/33	36/42	37/17	37/54 D		
DNLX	2545	37/54 L	38/03						
DNL1	2551	37/57 L	38/04						
DPS	1244	9/44	13/07	14/52	17/46	22/11 D			
DPSX	1243	22/11 L	22/31	22/35					
DPS1	1273	22/19	22/23	22/25 L					
DPS2	1275	22/27 L	22/34						
DPS3	1302	22/29	22/33 L						
DPS4	1307	22/26	22/37 L						
DRS	2447	19/40	22/18	30/23	34/41	36/46 D			
DRSA	2523	37/04	37/24 L						
DRSAL	2545	19/38 S	37/07	37/42 D					
DRSB	2526	23/57	29/57 S	36/47	36/51 S	37/27 L			
DRSC	2535	15/14 S	31/24	34/37	36/52	36/56 S	37/34 L		
DRSD	2543	9/13 S	37/40 L						
DRSE	2435	9/11 S	36/36 D						
DRSX	2446	36/46 L							
DRS1	2461	36/49	36/52 L						
DRS2	2472	36/54	36/57 L						
DRS3	2503	37/06 L	37/18						
DRS4	2511	37/08	37/11 L						
DRS5	2401	36/13 L	37/09						
DRS6	2404	36/15 L	36/26						
DRS7	2423	36/19	36/28 L						
DRS8	2435	36/24	36/35 L						
DRS9	2445	36/35	36/40	36/44 L					
DSBL	166	15/48	16/46						
DSCU	115	9/50	44/41	45/15					
ED	22	7/24 L	12/23	12/38	12/44	12/46 S			
EDA	1043	5/36 D							
EF	17	7/21 L	22/16 S	22/25	23/39	23/42 S	31/03	31/06 S	
EIEA	2672	34/33	39/41 L						
EJMI	6700	5/15 D	18/45						
END	3336	12/15	12/28	68/11 D					
EXBB	66	9/53	45/05	45/08	45/13				
FCCL	2000	9/50	16/15	16/46	44/41	45/13			
		9/53	16/25	17/52	45/08				
FCE	1752	15/10	26/18	26/41	27/07	29/48 D			
FCEM	3233	15/13	29/56	41/10 L					
FCEX	1751	29/48 L							
FCE1	1757	29/51	29/53 L						

FICRD	0	7/56	16/05	59/48	61/33	61/37	62/29	62/38	62/49
FCSB	4000	15/48	16/22	17/25	45/05	45/15	59/13		
FCTB	1000	15/57	17/29	59/02	63/14				
FCTC	3000	58/55							
FCTE	7000	15/51	22/20						
FEDA	2710	30/18	34/35	39/44	L				
FNCI	7700	5/22	D						
GEM	2012	30/40	D	31/48	34/39				
GEMX	2011	30/40	L	31/07					
GEM1	2032	30/51	L	31/02					
GEM2	2037	30/52		30/54	L				
GPI	1414	22/12		23/56	D				
GPIA	1467	23/03	23/13	23/19	23/29	24/40	L	24/45	25/37
GPIAL	5	23/17	24/19	24/45	D	25/39			
GPIB	1474	23/24	24/26	24/51	L	24/56			
GPIBL	5	24/56	D						
GPIC	1501	23/34		25/05	L	25/10			
GPICL	5	23/32		25/10	D				
GPIX	1413	23/43	23/56	L	24/05				
GPI1	1427	24/03	24/12	L					
GPI10	1365	23/28	23/32	L	24/31				
GPI11	1367	23/34	L	23/38					
GPI12	1403	23/21	23/48	L	24/23				
GPI13	1405	23/50	L	23/54					
GPI2	1450	24/23	L						
GPI3	1452	24/22		24/25	L	24/34			
GPI4	1460	24/27	24/29	L					
GPI5	1464	24/30	24/33	L					
GPI6	1311	23/01	L	24/06					
GPI7	1325	23/07	23/09	L					
GPI8	1352	23/20	23/23	L	23/30				
GPI9	1360	23/25	23/27	L					
GSD	2055	22/13	30/21		31/21	D			
GSDA	2112	31/40	L	43/19	S				
GSDB	2132	13/32	S	13/57	S	14/03	S	30/45	31/30
		13/39		14/01	S	14/10		30/47	31/34
		13/56	S	14/02	S	30/43		31/29	S
		31/52		32/04	D			32/04	
GSDBL	31	30/51		32/10	L	32/14			
GSDC	2163	31/01		32/14	D				
GSDCCL	4	30/54		32/20	L	32/24			
GSDD	2167	32/24	D						
GSDDL	4	31/21	L	31/23		31/54			
GSDX	2054	31/46	L	31/53					
GSD1	2117	31/47		31/51	L				
GSD2	2125	31/49		31/54	L				
GSD3	2130	5/18	D						
IAMI	7100	5/16	D	18/42					
IANI	7000	5/48	D	17/22	17/27	17/31	19/54		
IC	15	9/23		17/26	17/30	18/08			
ICFE	2752	19/55		39/55	L				
ICHS	4707	11/30		53/55	L	54/02			
ICHSL	14	54/02	D						
ICS	1142	17/24		17/28	17/51	19/53	D		
ICSX	1141	19/53	L	19/54					
ICS1	1151	19/57	L	20/01					
IDLE	4432	11/35		29/18	51/04	L			

	IDLEL	4705	29/20	53/38 D						
	IDLP	1040	5/33 D	44/12						
	IDLT	1732	29/01	29/03	29/17 L					
1	IJMI	6500	5/14 D							
2	IXPA	1000	5/31 D	13/44	13/48	44/08	44/18	44/29	44/48	
3	LCAW	10	62/38	62/49						
4	LDSW	20	62/29							
5	MCI	213	11/10 D	20/47	23/01	28/02				
6	MCIA	236	11/14	11/17 S	11/25 L					
7	MCIB	243	11/30 L	11/47	28/11 S					
8	MCIC	254	11/18 S	11/39 L						
9	MCID	263	11/46 D	28/10						
10	MCIX	212	11/10 L	11/44	11/48					
11	MCI1	233	11/22 L	11/29						
12	MCI2	247	11/35 L	11/43						
13	MESA	2605	23/50	35/39	35/43	36/48	37/28	37/32	37/37	37/41
14			35/36	35/40	35/44	36/53	37/29	37/34	37/38	39/07 L
15			35/37	35/41	35/45	37/25	37/30	37/35	37/39	
16			35/38	35/42	35/46	37/27	37/31	37/36	37/40	
17	MESB	2607	9/14	39/10 L						
18	MESBA	2616	9/16	39/11 L						
19	MESBB	2622	39/13 L							
20	MESC	2625	9/35	39/18 L						
21	MESCA	2626	23/11 S	24/13 S	39/19 L					
22	MESCB	2630	23/15	24/17	39/21 L					
23	MESD	2633	39/26 L	44/36						
24	MESDA	2641	31/32	39/27 L						
25	MESDB	2645	31/38	39/31 L	43/23 S					
26	MESDC	2647	31/38	39/32 L						
27	MESF	2731	9/24	39/47 L						
28	MESFA	2743	9/26	39/48 L						
29	MESFB	2747	39/50 L							
30	MESG	2771	9/42	40/01 L						
31	MSCE	3314	36/32	41/19 L						
32	MTPA	1060	5/39 D	13/48	44/25	45/03				
33	MTXA	1020	5/32 D	44/31						
34	NBIT	314	17/19	18/05						
35	NIBIT	200	5/23 D	17/25	17/29	17/33	17/34			
36	NONM	3024	36/41	36/50	36/55	40/10 L				
37	NTEB	50	41/23	60/08	60/27	60/31				
38	OAMI	7300	5/19 D							
39	OANI	7200	5/17 D	18/40	18/42					
40	OFFL	4705	29/19	53/44 L						
41	OFFLL	4707	29/21	53/49 D						
42	OVL	3456	16/54	28/36	41/26 L	42/01	42/02	55/01	55/02	
43	PCHS	1736	11/19	29/27 L	29/28					
44	PCHSE	1750	29/27 L							
45	PCHSL	13	29/28 D							
46	PCM	100	9/08 L							
47	PCMA	205	9/56	10/02 L						
48	PCMP	167	63/14							
49	PCM1	124	9/09	9/23 L						
50	PCM2	136	9/23	9/33 L						
51	PCM3	154	9/38	9/42 L						
52	PCM4	160	9/44 L							
53	PCM5	201	9/49	9/56 L						
54										
55										
56										
57										
58										
59										
60										

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15/09 S 20/54 S 22/33 24/02 27/29 28/09 S
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RID1 1524
RMSA 3030
RMSAA 3031
RMSB 3033
RMSBA 3042
RMSC 3045
RMSCA 3054
RMSD 3057
RMSDA 3066
RMSE 3071
RMSEA 3100
RMSF 3103
RMSG 3113
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RMSHA 3135
RMSI 3155
RMSIA 3164
RMSJ 3204
RMSJA 3213
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RPTX 1154
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SCE 3457
SCFE 3267
SCM 3463
SCMA 3611
SCMB 3632
SCMC 3707
SCMX 3462
SCM1 3502
SCM2 3522
SCM3 3526
SCM4 3633
SCM5 3637
SCM6 3706

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5/13 D 9/10
9/45 19/14 20/37 D
21/04 21/08 L
20/37 L 21/01 21/06
20/45 L 20/56
20/46 20/54 L
20/51 25/30 25/47 L 25/53
25/53 D
7/23 L 12/51 S
23/02 25/26 D
25/26 L 25/41
25/35 L 25/40
37/26 40/13 L
23/12 S 24/14 S 29/55 S 40/14 L
25/09 40/18 L
24/51 40/19 L
25/08 40/24 L
24/53 40/25 L
25/07 40/30 L
24/54 40/31 L
25/06 40/36 L
24/55 40/37 L
37/33 40/42 L
32/20 40/45 L
30/41 40/46 L
32/21 40/52 L
32/11 40/53 L
32/22 40/57 L
32/12 41/01 L
32/23 41/05 L
32/13 41/06 L
9/08 20/13 D
20/16 20/20 L
20/13 L 20/18
5/49 D 9/54 15/52 16/16 16/47 18/13 44/43 45/17
5/50 9/55 15/53 16/17 16/48 19/36 45/06
9/09 15/44 16/01 16/23 17/18 22/19 45/07
9/38 15/45 16/02 16/24 17/47 22/21 45/10
9/51 15/49 16/06 16/26 17/54 22/22 45/11
9/52 15/50 16/07 16/27 17/57 44/42 45/16
16/30 16/45 68/03 D
19/37 41/16 L
28/33 43/15 D
43/20 S 44/20 L
43/21 S 44/33 L
45/09 D 45/12 S
43/15 L
43/18 43/24 L
43/34 43/38 L
43/36 43/41 L
44/36 L 45/18
44/17 44/41 L
45/08 L 45/14

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UDS	347
UDSX	346
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VCM	2260	13/33	34/14	D					
VCMX	2257	34/14	L	34/31					
VCM1	2272	34/22	L	34/29					
VCM2	2302	34/25		34/27	L				
VCM3	2326	34/40	L	34/42					
WD	20	7/22	L	12/17		12/25	S	12/30	12/41 S 24/21
		12/16	S	12/24	I	12/29	S	12/36	24/15 24/33
WDA	1540	20/48		25/27		26/12	D		
WDAX	1537	26/12	L	26/16		26/19			
WDA1	1543	26/15	L	26/17					
WIN	1566	25/35		27/01	D				
WINX	1565	27/01	L	27/05		27/08			
WIN1	1571	27/04	L	27/06					
WOT	1553	20/50		20/53		25/29		25/32	26/35 D 28/57 29/07
WOTA	1557	26/39	L						
WOTX	1552	26/35	L	26/39		26/42			
WOT1	1556	26/38	L	26/40					
WPI	1710	28/03		28/56	D				
WPIA	1722	29/06	L						
WPIB	1730	29/11	L						
WPIX	1707	28/56	L	29/12					
WPI1	1721	29/05	L	29/10					

SYMBOL QUALIFIER = CPA

CMSZ	7671	43/33		43/38					
DSPNLZ	7677	43/24							
LPP0	7676	27/50							
OPTN	7673	9/46		16/18	43/16	44/14	59/16	61/43	
PPP0	7674	27/42							
PPP1	7675	18/09		64/44					

SYMBOL QUALIFIER = CTI

CDEP	7000	9/57		16/37	19/18	28/32			
DHEP	6776	19/16	S						
EBLLOAD	200	10/02		10/03					
IPLB	6000	12/26		12/42	16/40				
LOAD	10	1/26		7/03	19/20				
TRAN	100	9/07		19/21					

SYMBOL QUALIFIER = COMPSCE

AM	64	7/50	L	61/07	S	61/24	63/06	63/30	64/13 64/16 S
BNKT	4775	62/23		67/54	L				

BT	66	7/52 L	59/47 S	60/07 S	60/25				
BW	67	7/53 L	59/54 S	60/18 S	60/26	60/38			
CAEM	4447	66/39	66/40	67/32 L					
CB	70	7/54 L	60/32 S	63/54	63/57 S	64/06			
CGC	4235	59/45	64/47	65/03 D					
CGCA	4266	65/22 S	65/26 D						
CGCX	4234	65/03 L	65/34						
CGC1	4257	65/14	65/21 L						
CGC2	4261	65/19	65/22 L						
CGC3	4266	65/25 L	65/33						
CMEM	4526	66/44	67/36 L						
CPEM	4715	67/08	67/10	67/12	67/14	67/16	67/18	67/48 L	
		67/09	67/11	67/13	67/15	67/17	67/19		
CT	73	7/57 L	58/54 S	59/09 S	59/24 S	59/34	60/46		
C1	60	7/46 L	61/06	61/42 S	62/03 S	62/15 S	62/45	64/01 S	
		60/34 S	61/10	61/50	62/10 S	62/35 S	63/32	64/04	
		61/02 S	61/11 S	61/54	62/13	62/44 S	63/53 S		
C2	61	7/47 L	61/28	61/40 S	62/14	62/24	62/43 S	63/31 S	65/29 I
		61/09 S	61/29	61/47	62/16 S	62/25 S	62/55	63/33 I	65/31 S
		61/22 S	61/30 S	62/12 S	62/23	62/28 S	63/29	65/24 S	
DREM	4540	66/45	67/37 L						
DTM	4567	66/46	67/38 L						
ECM	4641	66/50	67/42 L						
ESEM	4626	66/49	67/41 L						
FW	62	7/48 L	63/37	63/50 I	64/08 I	64/11 I	64/14 I	64/22 S	
		58/49 S	63/40	63/51 S	64/09 S	64/12 S	64/17 S	64/31 S	
IANI	7000	58/36 D	65/10						
LCNI	1500	58/35 D	65/21						
LDNI	1400	58/34 D	59/11	65/18					
LPNI	1200	58/33 D	62/47						
LSEM	4466	59/29	61/23	67/33 L					
LW	63	7/49 L	16/41 S	58/50 S	63/42	64/18	64/23		
MTEM	4617	66/47	66/48	67/40 L					
NUEM	4757	66/42	67/23	67/24	67/51 L				
OANI	7200	58/37 D	65/07	65/10					
PFEM	4732	67/21	67/49 L						
PMEM	4671	63/05	63/13 S	63/25 S	66/57	67/03	67/06		
		63/09 S	63/21 S	66/54	67/01	67/04	67/07		
		63/11 S	63/23 S	66/56	67/02	67/05	67/46 L		
PPEM	4520	59/27	67/35 L						
PREM	4650	66/52	66/53	67/44 L					
QRNT	5002	61/28	67/55 L						
RPEM	4430	66/38	67/30 L						
RW	72	7/56 L	59/49 S	59/55	60/05 S	60/48	60/54		
SCE	3457	58/48 D	68/03						
SCEA	3574	59/41	59/56 L	60/43	63/46	64/38	65/08 S		
SCEB	3575	60/01 L	65/11 S						
SCEC	3656	60/41 S	60/55 L						
SCED	4102	63/15 L	65/09 S						
SCEE	4103	63/17 L	65/12 S						
SCEF	3651	60/42 S	60/49 L						
SCEG	3764	61/36 S	62/06 D	62/33 S					
SCEH	4050	62/48 S	62/53 L						
SCEX	3456	58/48 L	64/34						
SCE1	3556	59/33	59/35	59/41 L					
SCE10	3660	60/51	61/01 L						
SCE11	3663	60/47	60/52	60/57	61/06 L				

A0	2	43/51 S	43/52 S	43/55 S	43/56 S	45/25 D
----	---	---------	---------	---------	---------	---------

FL	13	43/42 S	43/43 S	43/46 S	43/47 S	45/26 D			
IDLE1	4317	44/51 S	44/55 S	48/27 L					
IDLE2	4362	44/52 S	44/56 S	49/28 L					
IDLE3	4425	44/53 S	44/57 S	50/29 L					
IDLP	4165	44/13	44/50	44/54	45/48 L	46/31			
IDLPL	6	44/10	46/32 D						
IDLPLL	36	46/31 D	46/32						
IXPA	3725	43/42 S	43/46 S	43/51 S	43/55 S	44/09	44/30	45/32 L	45/33
IXPAL	120	44/06	45/33 D						
MTP	4223	44/26	45/04	46/33 L	50/35				
MTPL	33	13/48	44/23	45/01	50/36 D				
MTPLL	207	50/35 D	50/36						
MTXA	4045	43/43 S	43/47 S	43/52 S	43/56 S	44/45 S	44/49	45/39 L	45/40
MTXAL	120	44/27	44/46	45/40 D					

SYMBOL QUALIFIER = IDLE

AD	13	51/24 L	52/15	53/02 S	53/17 S				
CPM	154	51/42	52/35 D						
CPMX	153	52/35 L							
CPM1	155	52/36 L	53/29						
CPM2	163	52/41 L	52/46						
CPM3	176	52/49 L	52/54						
CPM4	210	52/57 L	53/08						
CPM5	224	53/05	53/11 L	53/20	53/27				
CPM6	226	53/09	53/13 L						
CPM7	231	53/15 L	53/23						
CPM8	251	53/26	53/29 L						
DD	14	51/25 L	52/17	52/39	52/55	53/04 S	53/19 S		
E	4722	53/57 L							
ED	12	51/23 L	52/36	52/42	53/03	53/24			
		52/13	52/38 S	52/50	53/18				
END	253	52/47	53/13	53/35 L					
IDL	113	51/46 D	51/55 S	52/41	52/49	52/57	53/15		
IDLA	111	51/41 S	51/43 D						
IDLX	112	51/34	51/36	51/39	51/45 L	51/57			
IDL1	100	51/34 L	51/45	51/48	51/54	52/45	53/07		
IDL2	110	51/13	51/42 L						
RDS	147	25/51	52/27 D						
RDSA	151	52/29 L							
RDSX	146	52/27 L							
RF	10	51/21 L	51/56 S	52/11					
STR	124	25/50	52/05 D						
STRX	123	52/05 L	52/21						
T0	0	51/13 L							
T1	1	51/14 L							
T2	2	51/15 L							
T3	3	51/16 L							
T4	4	51/17 L							
T5	5	51/18 L							
T6	6	51/19 L							
T7	7	51/20 L							

WD	11	51/22 L	52/40 S	52/44 S	52/51 I	52/56 S	53/06 S	53/16
XIDL	115	52/09	52/43 I	52/48 S	52/52 S	53/01	53/14 S	53/21 S
		51/54 L	53/11					

1	EBL	1
2		2
3		3
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59		59
60		60

	ADDRESS	LENGTH	BINARY CONTROL CARDS.				
1	200	2564	IDENT	EBL,/CTI/EBLLOAD			1
2	2764	(431)	END				2
3							3
4							4
5							5
6							6
7			IDENT	EBL,/CTI/EBLLOAD	EBL	2	7
8			PERIPH		EBL	3	8
9			SST	D0,D1,D2,D3,D4,D5	EBL	4	9
10		VERID	MICRO	1,,*A02*	*A02*	1	10
11		VERS	MICRO	1,,*"VERID"*	VERS	3	11
12			COMMENT	CTI EXTERNAL BOOTSTRAP LOADER - "VERS"	DIMA3170	3	12
13			COMMENT	COPYRIGHT CONTROL DATA CORPORATION, 1979	DIMA3170	4	13
14							14
15							15
16		*	ALL RIGHTS RESERVED		CDCCRN	3	16
17		*			CDCCRN	4	17
18		*	CONTAINED HEREIN ARE SOFTWARE PRODUCTS COPYRIGHTED		CDCCRN	5	18
19		*	BY CONTROL DATA CORPORATION. REPRODUCTION WITHOUT		CDCCRN	6	19
20		*	PERMISSION IS PROHIBITED. THE COPYRIGHT NOTICE		CDCCRN	7	20
21		*	MUST APPEAR ON ALL AUTHORIZED COMPLETE OR		CDCCRN	8	21
22		*	PARTIAL COPIES.		CDCCRN	9	22
23		*			CDCCRN	10	23
24							24
25							25
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*****	EBL - EXTERNAL BOOTSTRAP LOADER. CTI.	EBL	9
*		EBL	10
*	R. A. TURGEON 06/26/78.	EBL	11
*		EBL	12
*	EBL IS THE CTI MODULE WHICH IS CALLED TO LOAD AN EXTERNAL	EBL	13
*	BOOTSTRAP. EBL WILL LOCATE THE BOOTSTRAP IF POSSIBLE,	EBL	14
*	LOAD IT AT LOCATION 6200B, CREATE THE BOOTSTRAP PASS-ON	EBL	15
*	STATE, AND FINALLY TRANSFER TO ADDRESS 6320B.	EBL	16
***	EBL - EXTERNAL BOOTSTRAP LOADER. CTI.	EBL	18
*		EBL	19
*		EBL	20
*	EBL IS CALLED TO LOAD MODULES EXTERNAL TO CTI, I.E.,	EBL	21
*	A BOOTSTRAP FOR SOME SOFTWARE SYSTEM. THE MODULE	EBL	22
*	LOADED DEPENDS ON THE VALUE OF *EBLP*. THE CURRENTLY	EBL	23
*	SUPPORTED VALUES AND THEIR ASSOCIATED BOOTSTRAPS ARE	EBL	24
*		EBL	25
*	0 = OSB	EBL	26
*	1 = DSB	EBL	27
*	2 = MSB	EBL	28
*		EBL	29
*	THESE BOOTSTRAPS MUST BE NO LONGER THAN ONE DISK SECTOR.	EBL	30
*	BOOTSTRAPS LOADED FROM TAPE ARE LOADED AT 6200B.	EBL	31
*	BOOTSTRAPS LOADED FROM DISK ARE LOADED AT 6176B.	EBL	32
*	EBL TRANSFERS CONTROL TO ALL BOOTSTRAPS AT ADDRESS 6320B.	EBL	33
*	BEFORE TRANSFERRING CONTROL TO THE BOOTSTRAP, EBL WILL	EBL	34
*	TAKE FINAL STEPS TO CREATE THE BOOTSTRAP PASS-ON STATE.	EBL	35
*	IF DSB IS BEING LOADED, THE DDSMEM FIELDS ARE SET TO THE	EBL	36
*	APPROPRIATE VALUES.	EBL	37
*		EBL	38
*	EBL USES THE COMMON TAPE DRIVER ONLY IF THE DEADSTART WAS	EBL	39
*	FROM TAPE AND OSB IS TO BE LOADED. EBL HAS ITS OWN DISK	EBL	40
*	ROUTINES AND DOES NOT USE ANY COMMON DISK DRIVER.	EBL	41
*		EBL	42
*	EBL ASSUMES THAT THE CTI INTERNAL STATE EXISTS	EBL	43
*	WHEN IT IS ENTERED.	EBL	44

		**	DEADSTART PANEL WORDS.			EBL	46
		*				EBL	47
		*	WORDS 5 - 20B OF THE DEADSTART PANEL MUST REMAIN INTACT			EBL	48
1		*	DURING CTI EXECUTION. WORDS 0 - 4 MAY BE USED AS SCRATCH			EBL	49
2		*	DIRECT CELLS.			EBL	50
3	0	D0	EQU	0	SCRATCH	EBL	51
4	1	D1	EQU	1	SCRATCH	EBL	52
5	2	D2	EQU	2	SCRATCH	EBL	53
6	3	D3	EQU	3	SCRATCH	EBL	54
7	4	D4	EQU	4	SCRATCH	EBL	55
8	5	D5	EQU	5	ZERO IF TAPE DEADSTART	EBL	56
9	6	D6	EQU	6	FUNCTION WORD	EBL	57
10		*	(D6) = WARMSTART FUNCTION, IF MTS/ATS.			EBL	58
11		*	= DEADSTART FUNCTION, IF 844/885 DISK			EBL	59
12	7	D7	EQU	7	RESERVED	EBL	60
13		*	(D7) = 1400B IF 3000 TYPE TAPE.			EBL	61
14	10	D10	EQU	10B	RESERVED	EBL	62
15	11	D11	EQU	11B	RESERVED	EBL	63
16	12	D12	EQU	12B	MSL PARAMETERS	EBL	64
17	13	D13	EQU	13B	OS PARAMETERS	EBL	65
18	14	D14	EQU	14B	OS PARAMETERS	EBL	66
19	15	D15	EQU	15B	UNUSED	EBL	67
20	16	D16	EQU	16B	C80/A170 RESERVED	EBL	68
21	17	D17	EQU	17B	RESERVED	EBL	69
22	20	D20	EQU	20B	RESERVED	EBL	70
23							
24							
25							
26							
27		**	INSTRUCTION EQUATES.			EBL	72
28		*				EBL	73
29	0	PSNC	EQU	0000B	PASS	EBL	74
30	100	LJMC	EQU	0100B	LONG JUMP	EBL	75
31	300	UJNC	EQU	0300B	UNCONDITIONAL JUMP	EBL	76
32	400	ZJNC	EQU	0400B	ZERO JUMP	EBL	77
33	1000	SHNC	EQU	1000B	SHIFT	EBL	78
34	1500	LCNC	EQU	1500B	LOAD COMPLEMENT	EBL	79
35	1700	SBNC	EQU	1700B	SUBTRACT NO-ADDRESS	EBL	80
36	2000	LDCC	EQU	2000B	LOAD CONSTANT	EBL	81
37	2100	ADCC	EQU	2100B	ADD CONSTANT	EBL	82
38	2300	LMCC	EQU	2300B	LOGICAL MINUS CONSTANT	EBL	83
39	3000	LDDC	EQU	3000B	LOAD DIRECT	EBL	84
40	6400	AJMC	EQU	6400B	ACTIVE JUMP	EBL	85
41	7100	IAMC	EQU	7100B	INPUT MEMORY	EBL	86
42	7300	OAMC	EQU	7300B	OUTPUT MEMORY	EBL	87
43	7400	ACNC	EQU	7400B	ACTIVATE CHANNEL	EBL	88
44	7500	DCNC	EQU	7500B	DISCONNECT CHANNEL	EBL	89
45							
46							
47							
48							
49							
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51							
52							
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54							
55							
56							
57							
58							
59							
60							

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**

MISCELLANEOUS DEFINITIONS

EBL

92

*

EBL

93

*

EBL

94

0

RICHI\$

EQU

0

ALLOW SELECTIVE CHANNEL REDEFINITION

EBL

95

210560

TIMEOUT

EQU

70000

TIMEOUT COUNT FOR DISK

EBL

96

5

NAME

EQU

5

OFFSET OF NAME IN PRFX TABLE

EBL

97

0

DSIFT

EQU

0

885 D.S. SECTOR NOT IN FLAWED TRACK

EBL

98

**

DISPLAY CONTROLLER DEFINITIONS.

EBL

100

*

EBL

101

*

EBL

102

10

CHD

EQU

10B

DISPLAY CHANNEL

EBL

103

*

DISPLAY FUNCTION CODES.

EBL

104

7000

F.SEL

EQU

7000B

SELECT CONSOLE DISPLAY

EBL

105

0

F.SLS

EQU

0000B

SELECT CONSOLE LEFT SCREEN

EBL

106

100

F.SRS

EQU

0100B

SELECT CONSOLE RIGHT SCREEN

EBL

107

200

F.SBS

EQU

0200B

SELECT CONSOLE BOTH SCREEN

EBL

108

0

F.CHR

EQU

0000B

SELECT CHARACTER MODE

EBL

109

10

F.DOT

EQU

0010B

SELECT DOT MODE

EBL

110

20

F.KEY

EQU

0020B

SELECT KEYBOARD INPUT

EBL

111

0

F.CHS

EQU

0000B

SET CHARACTER SIZE SMALL

EBL

112

1

F.CHM

EQU

0001B

SET CHARACTER SIZE MEDIUM

EBL

113

2

F.CHL

EQU

0002B

SET CHARACTER SIZE LARGE

EBL

114

*

COORDINATE DESIGNATION.

EBL

115

6000

XSET

EQU

6000B

SET X COORDINATE

EBL

116

7000

YSET

EQU

7000B

SET Y COORDINATE

EBL

117

22

YINCR

EQU

22B

Y INCREMENT PER LINE

EBL

118

*

SCR DEFINITIONS

EBL

120

16

CHSCR

EQU

16B

SCR CHANNEL

EBL

121

36

SCR2

EQU

36B

2ND SCR CHANNEL

EBL

122

** DEFINITION COMMON DECKS.

*

** ALL SYMBOL AND MACRO DEFINITION COMMON DECKS ARE CALLED HERE.

EBL 125
EBL 126
EBL 127

CTEXT COMPCTI - CTI COMMON MACROES.

COMPCTI 2

EQU 1000B

XXXX 5

XTEXT COMPMAC

XXXX 6

CTEXT COMPCHI - REDEFINE I/O INSTRUCTIONS.

COMPCHI 2

CTEXT COMS844 - 844 DISK DEFINITIONS.

COMS844 2

CTEXT COMS885 - 885 DISK DEFINITIONS.

COMS885 2

CTEXT COMSSCR - S/C REGISTER EQUIVALENCES.

COMSSCR 2

CTEXT COMSCPA - CTI COMMON POINTER AREA DEFINITIONS.

COMSCPA 2

CTEXT COMSCTI - CTI INTERNAL DEFINITIONS.

COMSCTI 2

502 DSLN EQU /CPA/DSL

EBL 137

500 PRU EQU /CPA/PRU

EBL 138

7720 DDSCMRA EQU /CPA/DDS

EBL 139

7722 DDSCMFL EQU /CPA/DDS+2

EBL 140

7724 DDSECRA EQU /CPA/DDS+4

EBL 141

7726 DDSECFL EQU /CPA/DDS+6

EBL 142

* DEFINE 885 D.S. SECTOR READ FUNCTION

EBL 144

IFEQ DSIFT,0

EBL 145

4 DSR885 EQU /885/DRED

EBL 146

ELSE

EBL 147

ENDIF

EBL 148

EBL 150

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** DIRECT CELL DEFINITIONS

*

*

EBL 152
EBL 153
EBL 154
EBL 155
EBL 156
EBL 157
EBL 158
EBL 159
EBL 160
EBL 161
EBL 162
EBL 163
EBL 164
EBL 165
EBL 166
EBL 167
EBL 168
EBL 169
EBL 170
EBL 171
EBL 172

20	REPADDR	EQU	20B	
21	RETRY	EQU	21B	RETRY COUNTER
23	MSGLEN	EQU	23B	WHEN MSG LENGTH .GT. 77B
24	FCNF	EQU	24B	SAVE AREA FOR FCN
25	GENSTAT	EQU	25B	GENERAL STATUS SAVE AREA
26	CHAN	EQU	26B	1ST WORD OF QOD COMM AREA
27	UNIT	EQU	CHAN+1	2ND WORD OF QOD COMM AREA
30	DTYPE	EQU	UNIT+1	0=885, 1=844S, 2=844D
31	TRKSPER	EQU	DTYPE+1	TRACKS PER CYLINDER
32	SECSPER	EQU	TRKSPER+1	SECTORS PER TRACK
33	DSCYL	EQU	SECSPER+1	DEADSTART CYLINDER
34	DSTRK	EQU	DSCYL+1	DEADSTART TRACK
35	DSSEC	EQU	DSTRK+1	DEADSTART SECTOR
36	CTICYL	EQU	DSSEC+1	CTI CYLINDER
37	CTITRK	EQU	CTICYL+1	CTI TRACK
40	CTISEC	EQU	CTITRK+1	CTI SECTOR
41	EBLPD	EQU	CTISEC+1	DIRECT CELL VERSION
42	REDA	EQU	EBLPD+1	WORK CELL FOR RED

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EBL 174

1

277	0200	1031		RJM	DIS		EBL	221	
301	0373			UJN	TOS65		EBL	222	
		302	*	TOS90	CREATE DEADSTART PASS-ON STATE		EBL	224	
					EQU *		EBL	225	
			*		IF DSB LOAD, SET UP DDSMEM FIELD		EBL	226	
302	3041				LDD	EBLPD	EBL	227	
303	1701				SBN	1	EBL	228	
304	0403				ZJN	TOS100	IF DSB LOAD	EBL	229
305	0100	0406			LJM	TOS200	IF NOT DSB LOAD	EBL	230
307	1407			TOS100	LDN	8-1	CLEAR DDSMEM FIRST	EBL	231
310	3401				STD	D1		EBL	232
311	1400			TOS105	LDN	0		EBL	233
312	5401	7720			STM	DDSCMRA,D1		EBL	234
314	3701				SOD	D1		EBL	235
315	0673				PJN	TOS105		EBL	236
316	5000	7712			LDM	/CPA/DSPNLZ+D13	GET ORIGINAL D13	EBL	237
320	1066				SHN	-9		EBL	238
321	1207				LPN	7		EBL	239
322	1703				SBN	3		EBL	240
323	0613				PJN	TOS120	IF I .GE. 3	EBL	241
			*		HERE IF I .LT. 3, SET CM ACCORDING TO HDT.		EBL	242	
324	5000	7671			LDM	/CPA/CMSZ		EBL	243
326	5400	7722			STM	DDSCMFL		EBL	244
330	5000	7672			LDM	/CPA/CMSZ+1		EBL	245
332	5400	7723			STM	DDSCMFL+1		EBL	246
334	0100	0406			LJM	TOS160		EBL	247
			*		HERE IF I .GE. 3, USE COMPCMA TO SET CM.		EBL	248	
336	2000	2604		TOS120	LDC	CMABUF		EBL	249
340	0200	2405			RJM	CMA		EBL	250
			*		FIND LARGEST PARTITION		EBL	251	
342	2000	2604			LDC	CMABUF		EBL	252
344	3401				STD	D1		EBL	253
345	5001	0001		TOS130	LDM	1,D1		EBL	254
347	0437				ZJN	TOS160	IF END OF TABLE REACHED	EBL	255
350	5001	0002			LDM	2,D1	TEST UPPER FL BYTE	EBL	256
352	5200	7722			SBM	DDSCMFL		EBL	257
354	0726				MJN	TOS150	IF NOT LARGER	EBL	258
355	0506				NJN	TOS140	IF LARGER	EBL	259
356	5000	7723			LDM	DDSCMFL+1	CHECK LOWER FL BYTE	EBL	260
360	5201	0003			SBM	3,D1		EBL	261
362	0620				PJN	TOS150	IF NOT LARGER	EBL	262
363	4001			TOS140	LDI	D1	REPLACE WITH NEW MAX	EBL	263
364	5400	7720			STM	DDSCMRA		EBL	264
366	5001	0001			LDM	1,D1		EBL	265
370	5400	7721			STM	DDSCMRA+1		EBL	266
372	5001	0002			LDM	2,D1		EBL	267
374	5400	7722			STM	DDSCMFL		EBL	268
376	5001	0003			LDM	3,D1		EBL	269
400	5400	7723			STM	DDSCMFL+1		EBL	270
402	1404			TOS150	LDN	4	ADVANCE TABLE POINTER	EBL	271
403	3501				RAD	D1		EBL	272
404	0100	0345			LJM	TOS130	CONTINUE SEARCH	EBL	273
			*		SET UP ECS FIELDS.		EBL	274	

1412THE

EBL	275
EBL	276
EBL	287

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EBL	332
EBL	333
EBL	334

EBL	335
EBL	336
EBL	337

EBL	339
EBL	340

EBL	341
EBL	342

EBL	344
EBL	345

EBL 346

EBL	347
EBL	348

EBL	349
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EBL	350
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EBL 351

EBL 352

EBL	353
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EBL 354

EBL	355
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EBL	356
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EBL 357

EBL 358

EBL	359
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EBL 360

EBL	361
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EBL	362
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EBL 363

EBL 364

EBL	365
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EBL 366

EBL 367

EBL	368
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EBL 369

EBL 370

EBL	371
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EBL 372

EBL 373

EBL	374
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EBL	375
EBL	375

EBL	376
EBL	376

EBL	377
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EBL	377
EBL	378

EBL	379
EBL	379

EDE	379
FBI	380

EBL	380
EBL	381
EBL	382

1

				**	ACH - ACTIVATE CHANNELS			EBL	435
				*				EBL	436
				*	ACH WILL EXAMINE A PPP-X AND RELATED LPP-X WORD			EBL	437
1				*	OF THE HDT. IF FOR PP-N, THE LPP BIT IS SET AND			EBL	438
2				*	THE PPP BIT IS NOT SET, THEN CHANNEL-N IS ACTIVATED.			EBL	439
3				*				EBL	440
4				*	ENTRY (A) = PPAAAA WHERE			EBL	441
5				*	PP = PP NUMBER CORRESPONDING TO			EBL	442
6				*	LEAST SIGNIFICANT BIT.			EBL	443
7				*	AAAA = ADDRESS OF PPP WORD.			EBL	444
8	703	0100 0000		ACH	ENM	X	ENTRY/EXIT	EBL	445
9	705	3401			STD	D1	SAVE ADDRESS OF PPP WORD	EBL	446
10	706	1063			SHN	-12		EBL	447
11	707	3426			STD	CHAN		EBL	448
12	710	4001			LDI	D1		EBL	449
13	711	2300 7777			LMC	7777B		EBL	450
14	713	5400 0720			STM	ACHA		EBL	451
15	715	5001 0002			LDM	/CPA/LPP0-/CPA/PPP0,D1		EBL	452
16	717	2200 0000			LPC	**		EBL	453
17			720	ACHA	EQU	*-1		EBL	454
18	721	1001			SHN	1		EBL	455
19	722	3404			STD	D4	STORE SHIFTED LOGICAL PRODUCT	EBL	456
20	723	3004		ACH2	LDD	D4		EBL	457
21	724	1076			SHN	-1		EBL	458
22	725	3404			STD	D4		EBL	459
23	726	0454			ZJN	ACHX	RETURN,NO MORE SET	EBL	460
24	727	1201			LPN	1		EBL	461
25	730	0417			ZJN	ACH8	IF NOT SET	EBL	462
26	731	2000 0751			LDC	ACHT		EBL	463
27	733	0200 1151			RJM	ICN	INSERT CHANNEL NUMBER	EBL	464
28	735	6500 0746		ACHE	IJM	ACHF,**	IF NOT ACTIVE	EBL	465
29	737	0200 1054			RJM	F10	FREE DISPLAY CH	EBL	466
30	741	2014 2054		ACHL	LDC	MSGEL*1S12+MSGE		EBL	467
31	743	0200 1031			RJM	DIS		EBL	468
32	745	0373			UJN	ACHL	LOOP ON DISPLAY	EBL	469
33	746	7400		ACHF	ACN	**	ACTIVATE CHANNEL	EBL	470
34	747	3626		ACH8	AOD	CHAN	BUMP CHANNEL	EBL	471
35	750	0352			UJN	ACH2	LOOP	EBL	472
36	751	0735 0746		ACHT	CON	ACHE,ACHF,0		EBL	473
37	753	0000							
38									
39									
40									
41									
42				**	CNM - CHECK NAME			EBL	475
43				*				EBL	476
44				*	CNM WILL CHECK THE NAME IN THE PRFX TABLE TO SEE			EBL	477
45				*	IF IT IS AS IT SHOULD BE DEPENDING ON EBLP.			EBL	478
46				*				EBL	479
47				*	EXIT (A) = 0 IF CORRECT NAME			EBL	480
48				*	(A) .NE. 0 IF WRONG.			EBL	481
49	754	0100 0000		CNM	ENM	X	ENTRY/EXIT	EBL	482
50	756	5000 6205			LDM	/CTI/BOOTLOD+NAME		EBL	483
51	760	5341 0770			LMM	CNMTA,EBLPD		EBL	484
52	762	0571			NJN	CNMX	RETURN,WRONG	EBL	485
53	763	5000 6206			LDM	/CTI/BOOTLOD+NAME+1		EBL	486
54	765	5341 0773			LMM	CNMTB,EBLPD		EBL	487
55									
56									
57									
58									
59									
60									

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1043	7310 0000		OAM	** ,CHD	OUTPUT MSG	EBL	538
		1044	EQU	*-1		EBL	539
1045	6610 1045		FJM	* ,CHD	WAIT FOR TRANSFER TO COMPLETE	EBL	540
1047	7510		DCN	CHD		EBL	541
1050	1740		SBN	40B	DISPLAY REFRESH DELAY	EBL	542
1051	0776		MJN	*-1		EBL	543
1052	0355		UJN	DISX	RETURN	EBL	544
			**	F10 - FREE CHANNEL 10		EBL	546
			*			EBL	547
			*	F10 HANGS PP 10 ON CHANNEL 12		EBL	548
1053	0100 0000		F10	ENM	X ENTRY/EXIT	EBL	549
1055	6510 1053		IJM	F10X ,CHD	IF CHANNEL 10 NOT ACTIVE	EBL	550
1057	7452		ACN	12B+40B		EBL	551
1060	1404		LDN	F10L		EBL	552
1061	7310 1067		OAM	F10A ,CHD	SEND IDLE PROGRAM	EBL	553
1063	6610 1063		FJM	* ,CHD		EBL	554
1065	7510		DCN	CHD		EBL	555
1066	0364		UJN	F10X	RETURN	EBL	556
1067	0000		F10A	CON	IDLE PROGRAM	EBL	557
1070	1400		LDN	0		EBL	558
1071	7112 0000		IAM	0 ,12B		EBL	559
		4	F10L	EQU	*-F10A	EBL	560
			**	MDSP - MODIFY DEADSTART PANEL		EBL	562
			*			EBL	563
			*	MDSP PLUGS (CHAN) AND (UNIT) INTO		EBL	564
			*	DEADSTART PANEL WORDS 5, 6, 7, 10.		EBL	565
1073	0100 0000		MDSP	ENM	X ENTRY/EXIT	EBL	567
1075	3026		LDD	CHAN		EBL	568
1076	2100 7100		ADC	7100B		EBL	569
1100	5400 7707		STM	/CPA/DSPNLZ+D10		EBL	570
1102	2100 0300		ADC	7400B-7100B		EBL	571
1104	5400 7706		STM	/CPA/DSPNLZ+D7		EBL	572
1106	2100 0300		ADC	7700B-7400B		EBL	573
1110	5400 7704		STM	/CPA/DSPNLZ+D5		EBL	574
1112	3027		LDD	UNIT		EBL	575
1113	2100 0300		ADC	0300B	DEADSTART FUNCTION	EBL	576
1115	5400 7705		STM	/CPA/DSPNLZ+D6		EBL	577
1117	0353		UJN	MDSPX	RETURN	EBL	578

1412THE

				**	R10 - RESET CHANNEL 10			EBL	580
				*				EBL	581
				*	R10 RETURNS PP 10 TO THE DEADSTART STATE			EBL	582
1	1120	0100 0000	R10	ENM	X	ENTRY/EXIT		EBL	583
2	1122	7710 0000		FNC	0,CHD	GET DISPLAY OFF OF CHANNEL 10		EBL	584
3	1124	1477		LDN	77B			EBL	585
4	1125	1701		SBN	1			EBL	586
5	1126	0576		NJN	*-1			EBL	587
6	1127	6510 1132		IJM	R103,CHD			EBL	588
7	1131	7510		DCN	CHD			EBL	589
8	1132	6512 1120	R103	IJM	R10X,12B	IF 12B INACTIVE		EBL	590
9	1134	7410		ACN	CHD			EBL	591
10	1135	1404		LDN	R10L			EBL	592
11	1136	7312 1144		OAM	R10A,12B	SEND IDLE PROGRAM		EBL	593
12	1140	6612 1140		FJM	*,12B			EBL	594
13	1142	7512		DCN	12B			EBL	595
14	1143	0354		UJN	R10X	RETURN		EBL	596
15	1144	0000	R10A	CON	0	IDLE PROGRAM		EBL	597
16	1145	1400		LDN	0			EBL	598
17	1146	7110 0000		IAM	0,CHD			EBL	599
18			4	R10L	EQU	*-R10A		EBL	600
19									
20									
21									
22									
23									
24									
25									
26									
27				**	ICN - INSERT CHANNEL NO.			EBL	603
28				*				EBL	604
29				*	ICN INSERTS CHANNEL NO.S IN INSTRUCTIONS GIVEN			EBL	605
30				*	IN A LIST TERMINATED WITH A ZERO.			EBL	606
31				*				EBL	607
32				*	ENTRY (A) = FWA OF CHANNEL LIST.			EBL	608
33				*	(CHAN) = CHANNEL NO.			EBL	609
34				*				EBL	610
35				*	USES D2, D3.			EBL	611
36	1150	0100 0000	ICN	ENM	X	ENTRY/EXIT		EBL	612
37	1152	3402		STD	D2			EBL	613
38	1153	4002	ICN1	LDI	D2			EBL	614
39	1154	0473		ZJN	ICNX	IF LIST COMPLETE		EBL	615
40	1155	3403		STD	D3			EBL	616
41	1156	4003		LDI	D3			EBL	617
42	1157	1337		SCN	37B			EBL	618
43	1160	3126		ADD	CHAN	ADD IN NEW CHANNEL NO.		EBL	619
44	1161	4403		STI	D3			EBL	620
45	1162	3602		AOD	D2			EBL	621
46	1163	0367		UJN	ICN1	CONTINUE PROCESSING		EBL	622
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									
57									
58									
59									
60									

1164

RICHI

ENABLE CHANNEL MACROES

EBL

626

** ART - ADJUST RETRY COUNTER

EBL 628

*

EBL 629

*

DECREMENT COUNTER AND

EBL 630

*

RETURN TO CALLER IF COUNTER .GE. 0

EBL 631

*

ELSE GOTO ERROR IF ARTEC = 0

EBL 632

*

RDSSERR IF ARTEC .NE. 0

EBL 633

*

EBL 634

1164 0100 0000

ART

ENM

X

ENTRY/EXIT

EBL 635

1166 3721

SOD

RETRY

EBL 636

1167 0674

PJN

ARTX

EXIT IF MORE RETRIES AVAILABLE

EBL 637

1170 5000 1203

LDM

ARTEC

CHECK EXIT CODE

EBL 638

1172 0510

NJN

ART5

IF SPECIAL EXIT

EBL 639

1173 0200 1054

RJM

F10

FREE DISPLAY CH

EBL 640

1175 2015 2070

ARTL

LDC

MSGFL*1S12+MSGF

EBL 641

1177 0200 1031

RJM

DIS

EBL 642

1201 0373

UJN

ARTL

LOOP ON DISPLAY

EBL 643

1202 0100 0000

ART5

LJM

0

EBL 644

1203

ARTEC

EQU

*-1

EBL 645

** AWD - ACTIVATE CHANNEL AND WAIT FOR DATA.

EBL 647

*

EBL 648

*

AWD ACTIVATES THE FUNCTIONED CHANNEL AND TIMES OUT A FULL

EBL 649

*

CONDITION.

EBL 650

*

EBL 651

*

EXIT (A) .NE. 0, DATA ON CHANNEL.

EBL 652

*

(A) = 0, NO DATA RECEIVED, CHANNEL DISCONNECTED.

EBL 653

1204 0100 0000

AWD

ENM

X

ENTRY/EXIT

EBL 654

1206 7440

ACN

40B

ACTIVATE CHANNEL

EBL 655

1207 2021 0560

LDC

TIMEOUT

EBL 656

1211 6600 1204

AWD1

FJM

AWDX,0

IF FULL, RETURN

EBL 657

1213 1701

SBN

1

EBL 658

1214 0574

NJN

AWD1

IF TIME OUT NOT EXPIRED

EBL 659

1215 7540

DCN

40B

DISCONNECT

EBL 660

1216 0365

UJN

AWDX

RETURN

EBL 661

** CONLD - CONNECT TO LOAD DEVICE

EBL 663

*

EBL 664

1217 0100 0000

CONLD

ENM

X

ENTRR/EXIT

EBL 665

1221 5000 7001

LDM

/CTI/CDTYPE

EBL 666

1223 1713

SBN

/CTI/D844

EBL 667

1224 0613

PJN

CONLD6

IF D.S. DEVICE IS DISK

EBL 668

1225 2000 1231

LDC

CONLDC

EBL 669

1227 0100 7000

LJM

/CTI/CDEP

CALL COMMON DRIVER TO CONNECT

EBL 670

EBL 671

EBL 672

EBL 673

1231	0000		CONLDC	CON	0		EBL	674
1232	1236			CON	CONLD2		EBL	675
1233	0000			CON	0		EBL	676
1234	7777 0000			CON	7777B,0	CONNECT REQUEST	EBL	677
1236	0360		CONLD2	UJN	CONLDX	RETURN	EBL	678
1237	5000 7707		CONLD6	LDM	/CPA/DSPNLZ+D10	HERE FOR DISK	EBL	679
1241	1237			LPN	37B		EBL	680
1242	3426			STD	CHAN		EBL	681
1243	2000 2105			LDC	CHTB		EBL	682
1245	0200 1151			RJM	ICN		EBL	683
1247	0200 1402			RJM	MDC	MOVE DEVICE CHANNEL PP	EBL	684
1251	0100 1217			LJM	CONLDX	RETURN	EBL	685

				**	GGS - GET GENERAL STATUS.			EBL	726
				*				EBL	727
				*	GGS ISSUES THE GENERAL STATUS FUNCTION AND UPDATES			EBL	728
1				*	THE DIRECT CELL *GENSTAT*. THE STATUS IS ALSO RETURNED			EBL	729
2				*	IN (A).			EBL	730
3				*				EBL	731
4				*	EXIT (GENSTAT) = GENERAL STATUS REPLY.			EBL	732
5				*	(A) = GENERAL STATUS REPLY.			EBL	733
6				*				EBL	734
7	1326	0200 1165		GGS2	RJM	ART	ASK TO RETRY	EBL	735
8	1330	0303			UJN	GGS3	TRY AGAIN	EBL	736
9	1331	0100 0000		GGS	ENM	X	ENTRY/EXIT	EBL	737
10	1333	1412		GGS3	LDN	/844/DGST		EBL	738
11	1334	0200 1254			RJM	FCN	FUNCTION DEVICE	EBL	739
12	1336	0200 1205			RJM	AWD	ACTIVATE CHAN AND WAIT FOR DATA	EBL	740
13	1340	0465			ZJN	GGS2	IF NO DATA COMING	EBL	741
14	1341	7000			IAN	0	READ STATUS	EBL	742
15	1342	7540			DCN	40B		EBL	743
16	1343	3425			STD	GENSTAT		EBL	744
17	1344	0364			UJN	GGSX	RETURN	EBL	748
18									
19									
20									
21									
22				**	CON - CONNECT DISK DRIVE			DIMA314A	2
23				*				DIMA314A	3
24				*	CON CONNECTS TO THE DISK UNIT AND WAITS FOR			DIMA314A	4
25				*	DRIVE NOT RESERVED.			DIMA314A	5
26				*				DIMA314A	6
27				*	ENTRY (UNIT) = UNIT NUMBER			DIMA314A	7
28				*	EXIT (A) = GENERAL STATUS WORD			DIMA314A	8
29				*				DIMA314A	9
30				*	CALLS FCN,GGS.			DIMA314A	10
31								DIMA314A	11
32								DIMA314A	12
33	1345	0100 0000		CON	ENM	X	ENTRY/EXIT	DIMA314A	13
34	1347	1400		CON2	LDN	/844/DCON		DIMA314A	14
35	1350	0200 1254			RJM	FCN	ISSUE CONNECT FUNCTION	DIMA314A	15
36	1352	7400			ACN	0		DIMA314A	16
37	1353	3027			LDD	UNIT		DIMA314A	17
38	1354	7200			OAN	0	CONNECT UNIT	DIMA314A	18
39	1355	6600 1355			FJM	*,0		DIMA314A	19
40	1357	7540			DCN	40B		DIMA314A	20
41	1360	0200 1332			RJM	GGS	GET GENERAL STATUS	DIMA314A	21
42	1362	1210			LPN	/844/MP.GSDR		DIMA314A	22
43	1363	0563			NJN	CON2	IF DRIVE RESERVED	DIMA314A	23
44	1364	3025			LDD	GENSTAT		DIMA314A	24
45	1365	0357			UJN	CONX		DIMA314A	25
46									
47									
48									
49									
50									
51									
52									
53									
54									
55									
56									
57									
58									
59									
60									

			**	WNB	- WAIT NOT BUSY		DIMA314A	27
			*				DIMA314A	28
			*	WNB	WAITS FOR DRIVE NOT BUSY STATUS.		DIMA314A	29
1			*				DIMA314A	30
2			*	ENTRY	(A) = GENERAL STATUS WORD		DIMA314A	31
3			*	EXIT	(A) = GENERAL STATUS WORD		DIMA314A	32
4			*				DIMA314A	33
5			*	CALLS	GGs,CON.		DIMA314A	34
6							DIMA314A	35
7							DIMA314A	36
8	1366	3025		WNB2	LDD GENSTAT		DIMA314A	37
9	1367	0100 0000		WNB	ENM X ENTRY/EXIT		DIMA314A	38
10	1371	0200 1332					DIMA314A	39
11	1373	0473		WNB4	RJM GGS		DIMA314A	40
12	1374	1202			ZJN WNBX IF NOT BUSY AND NO ERRORS		DIMA314A	41
13	1375	0470			LPN /844/MP.GSBS		DIMA314A	42
14	1376	0200 1346			ZJN WNB2 IF NOT BUSY		DIMA314A	43
15	1400	0372			RJM CON		DIMA314A	44
					UJN WNB4		DIMA314A	44
16								
17								
18								
19								
20			**	MDC	- MOVE DEVICE CHANNEL PP		EBL	750
21			*				EBL	751
22			*		IF THE DEVICE CHANNEL IS ACTIVE,		EBL	752
23			*		MOVE PP(DEVICE CHAN) OVER TO CHANNEL 12B.		EBL	753
24			*				EBL	754
25	1401	0100 0000		MDC	ENM X ENTRY/EXIT		EBL	755
26	1403	6500 1401			IJM MDCX,0 IF DEVICE CHAN INACTIVE		EBL	756
27	1405	7412			ACN. 12B ACTIVATE CHAN 12B		EBL	757
28	1406	1404			LDN MDCL OUTPUT PROG TO PP(DEVICE CHAN)		EBL	758
29	1407	7300 1415			OAM MDCA,0		EBL	759
30	1411	6600 1411			FJM *,0		EBL	760
31	1413	7540			DCN 40B		EBL	761
32	1414	0364			UJN MDCX RETURN		EBL	762
33	1415	0000		MDCA	CON 0		EBL	763
34	1416	1400			LDN 0		EBL	764
35	1417	7112 0000			IAM. 0,12B		EBL	765
36			4	MDCL	EQU *-MDCA		EBL	766
37								
38								
39								
40								
41			**	RDC	- RESET DEVICE CHANNEL PP		EBL	768
42			*				EBL	769
43			*		IF CHANNEL 12B ACTIVE,		EBL	770
44			*		MOVE PP ON CHAN 12B BACK TO DEVICE CHAN.		EBL	771
45			*				EBL	772
46	1421	0100 0000		RDC	ENM X ENTRY/EXIT		EBL	773
47	1423	6512 1421			IJM. RDCX,12B IF CHAN 12B INACTIVE		EBL	774
48	1425	7400			ACN 0 ACTIVATE DEVICE CHANNEL		EBL	775
49	1426	1404			LDN RDCL OUTPUT PROG TO CHANNEL 12B		EBL	776
50	1427	7312 1435			OAM. RDCA,12B		EBL	777
51	1431	6612 1431			FJM. *,12B		EBL	778
52	1433	7512			DCN. 12B		EBL	779
53	1434	0364			UJN RDCX RETURN		EBL	780
54	1435	0000		RDCA	CON 0 PP PROGRAM		EBL	781
55								
56								
57								
58								
59								
60								

1436	1400	LDN	0	EBL	782
1437	7100 0000	IAM	0,0	EBL	783
	4 RDCL	EQU	*-RDCA	EBL	784
		**	RED - READ DISK	EBL	786
		*		EBL	787
		*	ENTRY (A) = ADDR(CYL,TRK,SEC) TO READ INTO /CTI/BOOTLOD-2	EBL	788
		*	(A) = 0 IF TO READ DEADSTART SECTOR INTO DSSBUF	EBL	789
		*	(CHAN) = CHANNEL WHERE DEVICE IS	EBL	790
		*	(UNIT) = EQUIP/UNIT WHERE DEVICE IS.	EBL	791
		*		EBL	792
		*	RED WILL	EBL	793
		*	FREE THE DEVICE CHANNEL,	EBL	794
		*	INSERT THE CHANNEL NUMBER INTO THE DISK I/O INSTRUCTIONS,	EBL	795
		*	RESERVE THE CONTROLLER,	EBL	796
		*	GET GENERAL AND DETAIL STATUS,	EBL	797
		*	DETERMINE AND SAVE THE DEVICE CHARACTERISTICS,	EBL	798
		*	EITHER READ THE DEADSTART SECTOR OR BOOTSTRAP SECTOR,	EBL	799
		*	CHECK FOR ERRORS,	EBL	800
		*	RESET THE DEVICE CHANNEL PP,	EBL	801
		*	AND RETURN TO THE CALLER.	EBL	802
		*		EBL	803
		*	EXIT (A) = 0 IF GOOD READ ELSE NONZERO.	EBL	804
1441	0100 0000	RED	ENM X ENTRY/EXIT	EBL	805
1443	3442	STD	REDA SAVE (A)	EBL	806
1444	2000 2105	LDC	CHTB	EBL	807
1446	0200 1151	RJM	ICN INSERT CHANNEL NUMBER	EBL	808
1450	0200 1402	RJM	MDC FREE DEVICE CHANNEL	EBL	809
1452	2000 1624	LDC	REDERR SET ART EXIT ADDRESS	EBL	810
1454	5400 1203	STM	ARTEC	EBL	811
				EBL	812
1456	1410	LDN	10B	DIMA314A	45
1457	3421	STD	RETRY INITIALIZE RETRY COUNTER	DIMA314A	46
1460	0200 1332	RED2	RJM GGS GET GENERAL STATUS	EBL	815
1462	1007	SHN	17-10	EBL	816
1463	0774	MJN	RED2	DIMA314A	47
1464	0200 1346	RED4	RJM CON WAIT FOR UNIT NOT RESERVED	DIMA314A	48
1466	1006	SHN	17-11	DIMA314A	49
1467	0604	PJN	RED15	DIMA314A	50
1470	0200 1165	RJM	ART	DIMA314A	51
1472	0371	UJN	RED4	DIMA314A	52
				DIMA314A	53
1473	0200 1273	RED15	RJM GDS GET DETAIL STATUS	EBL	827
		*	DETERMINE DEVICE TYPE	EBL	828
1475	5000 1315	LDM	DETAIL+/844/DSWRV	EBL	829
1477	1007	SHN	17-10	EBL	830
1500	0710	MJN	RED45 IF 885 OR 844-DOUBLE	EBL	831
1501	5000 1322	LDM	DETAIL+/844/DSWUD	EBL	832
1503	1014	SHN	17-5	EBL	833
1504	0706	MJN	RED50 IF 844-DOUBLE	EBL	834
1505	2000 1642	LDC	D44SD HERE IF 844-SINGLE	EBL	835
1507	0310	UJN	RED70	EBL	836
1510	1005	RED45	SHN 10-5	EBL	837
1511	0704	MJN	RED60 IF 885	EBL	838

1512	2000	1653	RED50	LDC	D44DD	HERE IF 844-DOUBLE	EBL	839
1514	0303			UJN	RED70		EBL	840
1515	2000	1664	RED60	LDC	D885	HERE IF 885	EBL	841
1517	5400	1524	RED70	STM	RED75A	MOVE DISK ATTRIBUTES INTO PLACE	EBL	842
1521	1410			LDN	D44DD-D44SD-1		EBL	843
1522	3401			STD	D1		EBL	844
1523	5001	0000	RED75	LDM	** ,D1		EBL	845
		1524	RED75A	EQU	*-1		EBL	846
1525	5401	0030		STM	DTYPE ,D1		EBL	847
1527	3701			SOD	D1		EBL	848
1530	0672			PJN	RED75		EBL	849
1531	3042			LDD	REDA		EBL	850
1532	0503			NJN	RED150		EBL	851
1533	0100	1574		LJM	RED250	IF DEADSTART SECTOR READ	EBL	852
1535	3042		RED150	LDD	REDA		EBL	853
1536	0200	1676		RJM	SEK	SEEK	EBL	854
1540	1404			LDN	/844/DRED		EBL	855
1541	0200	1254		RJM	FCN	ISSUE READ	EBL	856
1543	7440			ACN	40B		EBL	857
1544	2000	0502		LDC	DSL N		EBL	858
1546	7100	6176		IAM	/CTI/BOOTLOD-2,0	READ ONE SECTOR	EBL	859
1550	7540			DCN	40B		EBL	860
1551	0200	1370		RJM	WNB	GET GENERAL STATUS AND WAIT NOT BUSY	DIMA314A	54
1553	0200	1273		RJM	GDS	GET DETAIL STATUS	EBL	862
1555	3025			LDD	GENSTAT		EBL	863
1556	0404			ZJN	RED170	IF OK	EBL	864
1557	0200	1165		RJM	ART	ASK TO RETRY	EBL	865
1561	0353			UJN	RED150	TRY AGAIN	EBL	866
1562	1410		RED170	LDN	/844/DOPC	RELEASE DISK CONTROLLER	EBL	867
		0		ERRNZ	/844/DOPC-/885/DOPC		EBL	868
1563	0200	1254		RJM	FCN		EBL	869
1565	0200	1422		RJM	RDC	RESET DEVICE CHANNEL	EBL	870
1567	1400			LDN	0	SET GOOD	EBL	871
1570	5400	1203		STM	ARTEC	RESET ART EXIT ADDR	EBL	872
1572	0100	1441		LJM	REDX	RETURN	EBL	873
			*		HERE FOR DEADSTART SECTOR READ		EBL	875
1574	1433		RED250	LDN	DSCYL		EBL	876
1575	0200	1676		RJM	SEK	SEEK	EBL	877
1577	5030	1634		LDM	RDFTBL ,DTYPE		EBL	878
1601	0200	1254		RJM	FCN	READ OR READ-FLAWED	EBL	879
1603	7440			ACN	40B		EBL	880
1604	2000	0502		LDC	DSL N		EBL	881
1606	7100	2764		IAM	DSSBUF ,0		EBL	882
1610	7540			DCN	40B		EBL	883
1611	0200	1370		RJM	WNB	GET GENERAL STATUS AND WAIT NOT BUSY	DIMA314A	55
1613	0200	1273		RJM	GDS		EBL	885
1615	3025			LDD	GENSTAT		EBL	886
1616	0503			NJN	RED260	IF ERROR	EBL	887
1617	0100	1562		LJM	RED170	IF OK	EBL	888
1621	0200	1165	RED260	RJM	ART		EBL	889
1623	0350			UJN	RED250	TRY AGAIN	EBL	890

1

1710	7300 0000		OAM	** ,0	OUTPUT CYL/TRACK/SECTOR	EBL	930
		1711	SEKB	EQU	* -1	EBL	931
1712	6600 1712		FJM	* ,0	WAIT FOR TRANSFER TO COMPLETE	EBL	932
1714	7540		DCN	40B		EBL	933
1715	0200 1332		RJM	GGG	GET GENERAL STATUS	EBL	934
1717	0455		ZJN	SEKX	IF ON CYLINDER	EBL	935
1720	1202		LPN	/844/MP.GSBS		EBL	936
1721	0557		NJN	SEK1	IF BUSY	EBL	937
1722	0200 1165		RJM	ART	ASK TO RETRY	EBL	938
1724	0354		UJN	SEK1	TRY AGAIN	EBL	939

1725			RSTC		DISABLE CHANNEL INSTRUCTIONS	EBL	941
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			1725	MSGA	EQU	*		EBL	944	
			5	LINE	SET	5		EBL	945	
		1725	7630		CON	YSET+762B-LINE*YINCR		EBL	946	
1		1726	6000		CON	XSET+0		EBL	947	1
2		1727	1723		DATA	H*OSB NOT FOUND ON TAPE*		EBL	948	2
3				10	SET	LINE+3		EBL	949	3
4		1742	7542		CON	YSET+762B-LINE*YINCR		EBL	950	4
5		1743	6000		CON	XSET+0		EBL	951	5
6		1744	0405		DATA	H*DEADSTART ABORTED*		EBL	952	6
7				30	EQU	*-MSGA		EBL	953	7
8										8
9										9
10										10
11										11
12				1755	MSGB	EQU	*	EBL	955	12
13				5	LINE	SET	5	EBL	956	13
14		1755	7630		CON	YSET+762B-LINE*YINCR		EBL	957	14
15		1756	6000		CON	XSET+0		EBL	958	15
16		1757	3030		DATA	H*XXX NOT FOUND ON DEVICE*		EBL	959	16
17				10	SET	LINE+3		EBL	960	17
18		1773	7542		CON	YSET+762B-LINE*YINCR		EBL	961	18
19		1774	6000		CON	XSET+0		EBL	962	19
20		1775	0516		DATA	H*ENTER ALTERNATE DEVICE LOCATION*		EBL	963	20
21				40	EQU	*-MSGB		EBL	964	21
22										22
23										23
24										24
25										25
26				2015	MSGC	EQU	*	EBL	966	26
27				5	LINE	SET	5	EBL	967	27
28		2015	7630		CON	YSET+762B-LINE*YINCR		EBL	968	28
29		2016	6000		CON	XSET+0		EBL	969	29
30		2017	0516		DATA	H*ENTER LOCATION*		EBL	970	30
31				10	SET	LINE+3		EBL	971	31
32		2026	7542		CON	YSET+762B-LINE*YINCR		EBL	972	32
33		2027	6000		CON	XSET+0		EBL	973	33
34		2030	1706		DATA	H*OF CMSE/DDS DEVICE*		EBL	974	34
35				24	EQU	*-MSGC		EBL	975	35
36								EBL	976	36
37								EBL	977	37
38								EBL	978	38
39								EBL	979	39
40				2041	MSGD	EQU	*	EBL	980	40
41				5	LINE	SET	5	EBL	981	41
42		2041	7630		CON	YSET+762B-LINE*YINCR		EBL	982	42
43		2042	6000		CON	XSET+0		EBL	983	43
44		2043	0502		DATA	H*EBLP OUT OF RANGE*		EBL	984	44
45				13	EQU	*-MSGD		EBL	985	45
46								EBL	986	46
47								EBL	987	47
48								EBL	988	48
49								EBL	989	49
50				2054	MSGE	EQU	*	EBL	990	50
51				5	LINE	SET	5	EBL	991	51
52		2054	7630		CON	YSET+762B-LINE*YINCR		EBL	992	52
53		2055	6000		CON	XSET+0		EBL	993	53
54		2056	0310		DATA	H*CHANNEL ACTIVE ERROR*		EBL	994	54
55										55
56										56
57										57
58										58
59										59
60										60

14 MSGEL EQU *-MSGE

EBL 995

EBL 996

EBL 997

EBL 998

EBL 999

EBL 1000

EBL 1001

EBL 1002

EBL 1003

EBL 1004

EBL 1005

2070

MSGF

EQU

*

5

LINE

SET

5

2070

7630

CON

YSET+762B-LINE*YINCR

2071

6000

CON

XSET+0

2072

0411

DATA

H*DISK RETRY COUNT ERROR*

15

MSGFL

EQU

*-MSGF

1412THE

2105

*
CHTB

CHTB - TABLE OF REDEFINED CHANNEL INSTRUCTIONS
CHTB

EBL
EBL

1008
1009

*
DSSTBL

TABLE OF OFFSETS OF POINTERS IN DEADSTART SECTOR
CON /CPA/OSDP-/CTI/IPLA
CON /CPA/DSDP-/CTI/IPLA
CON /CPA/MSDP-/CTI/IPLA

EBL
EBL
EBL
EBL

1011
1012
1013
1014

*
CPATBL

TABLE OF ADDRESSES OF POINTERS IN HIGH-CORE
CON /CPA/OSDP,/CPA/DSDP,/CPA/MSDP

EBL
EBL

1016
1017

*
NMTBL1
NMTBL2

TABLE OF NAMES TO PLUG MESSAGE B
DATA H*OSDSMS*
DATA H*B B B *

EBL
EBL
EBL

1019
1020
1021

**
QOD

CALL COMPQOD HERE.
CTEXT COMPQOD - CTI QUERY OPERATOR FOR DEVICE.

EBL
COMPQOD

1023
2

*

CALL COMPCMA HERE
BASE M
XTEXT COMPCMA
BASE *

EBL
EBL
EBL
EBL

1026
1027
1028
1029

*
CMABUF

BUFFER USED WITH COMPCMA
BSSZ 27*4
CON 0,0 END OF TABLE MARKER

EBL
EBL
EBL

1031
1032
1033

2762	2	* BUFFERX	GENERAL I/O BUFFER	EBL	1035
	2764	BUFFER	BSSZ 2	EBL	1036
	2764	DSSBUF	EQU *	EBL	1037
			DEADSTART SECTOR INPUT BUFFER	EBL	1038
				EBL	1039

70200B CM	STORAGE USED	2746 STATEMENTS	1820 SYMBOLS	000182 INVENTED SYMBOLS
PARALLEL CPU ASSEMBLY		2.948 SECONDS	828 REFERENCES	

SYMBOLIC REFERENCE TABLE.

ACH	704	9/17	9/19	12/11 D						
ACHA	720	12/17 S	12/20 D							
ACHE	735	12/31 L	12/39							
ACHF	746	12/31	12/36 L	12/39						
ACHL	741	12/33 L	12/35							
ACHT	751	12/29	12/39 L							
ACHX	703	12/11 L	12/26							
ACH2	723	12/23 L	12/38							
ACH8	747	12/28	12/37 L							
ACNC	7400	3/46 D								
ADCC	2100	3/40 D								
ADDR0	1637	22/13 L								
AJMC	6400	3/43 D								
ART	1165	16/13 D	17/34	17/50	18/10	20/43	21/27	21/54	23/09	
ARTEC	1203	16/16	16/23 D	20/33 S	21/34 S	22/03 S				
ARTL	1175	16/19 L	16/21							
ARTX	1164	16/13 L	16/15							
ART5	1202	16/17	16/22 L							
AWD	1205	16/35 D	17/48	18/15						
AWDX	1204	16/35 L	16/38	16/42						
AWD1	1211	16/38 L	16/40							
BUFFER	2764	7/43	27/03 D	27/04						
BUFFERX	2762	27/02 L								
CHAN	26	6/09 D	10/27 S	11/23 S	12/37 S	13/28	15/46			
		6/10	10/38 S	12/14 S	13/26 S	14/37	17/10 S			
CHD	10	4/15 D	13/57	14/03	14/16	14/20	15/05	15/10	15/20	
		13/56	14/01	14/04	14/19	14/21	15/09	15/12		
CHSCR	16	4/36 D	9/35	9/38	9/41	10/02				
		9/29	9/36	9/39	9/42	10/03				
CHTB	2105	17/11	20/29	26/02 L						
CHTBE	2144	26/02 L								
CMA	2405	8/33								
CMABUF	2604	8/32	8/35	26/44 L						
CNM	755	7/54	10/44	11/32	12/52 D					
CNMTA	770	12/54	13/02 L							
CNMTB	773	12/57	13/03 L							
CNMX	754	12/52 L	12/55	13/01						
CON	1346	18/36 D	19/17	20/40						
CONLD	1220	9/23	16/50 D							
CONLDC	1231	16/55	17/01 L							
CONLDX	1217	16/50 L	17/06	17/14						
CONLD2	1236	17/02	17/06 L							
CONLD6	1237	16/53	17/08 L							
CONX	1345	18/36 L	18/48							

14121HE

D2	2	3/08 D	11/06 I	11/44 S	11/50 S	15/41					
		11/02 S	11/08 S	11/48 I	15/40 S	15/48 S					
D20	20	3/25 D									
D3	3	3/09 D	11/04 S	11/09 S	11/46 S	11/51 S	15/43 S	15/44	15/47 I		
D4	4	3/10 D	12/22 S	12/23	12/25 S						
D44DD	1653	21/01	21/05	22/24 L							
D44SD	1642	20/54	21/05	22/18 L							
D5	5	3/11 D	14/43 S								
D6	6	3/12 D	10/28	11/25	14/46 S						
D7	7	3/15 D	14/41 S								
D885	1664	21/03	22/30 L								
EBL	200	7/06 D									
EBLL	211	7/15 L	7/17								
EBLPD	41	6/20 D	7/09 S	7/21	7/32	9/10	9/30	11/01	12/54		
		6/21	7/19	7/29	8/10	9/21	10/56	11/19	12/57		
EBL1	207	7/11	7/14 L								
EBL2	216	7/13	7/18 D								
EBL5	240	7/28	7/32 L								
EBL6	244	7/33	7/35 L								
FCN	1254	17/25 D	17/47	18/14	18/38	21/18	21/31	21/44	22/53		
FCNF	24	6/07 D	17/26 S	17/27							
FCNX	1253	17/25 L	17/30								
FCN1	1262	17/30 L	17/32								
FCN3	1256	17/27 L	17/35								
FCSB	4000	9/34	9/37	9/40	9/46	9/49	9/52	10/01			
F10	1054	7/14	7/56	12/32	13/24	14/15 D	16/18				
F10A	1067	14/19	14/23 L	14/26							
F10L	4	14/18	14/26 D								
F10X	1053	14/15 L	14/16	14/22							
F.CHL	2	4/26 D									
F.CHM	1	4/25 D	13/56								
F.CHR	0	4/21 D	13/56								
F.CHS	0	4/24 D									
F.DOT	10	4/22 D									
F.KEY	20	4/23 D									
F.SBS	200	4/20 D									
F.SEL	7000	4/17 D	13/56								
F.SLS	0	4/18 D	13/56								
F.SRS	100	4/19 D									
GDS	1273	17/45 D	20/46	21/24	21/50						
GDSX	1272	17/45 L	17/55								
GDS2	1274	17/46 L	17/51								
GDS5	1305	17/49	17/52 L								
GENSTAT	25	6/08 D	18/19 S	18/47	19/11	21/25	21/51				
GGs	1332	18/12 D	18/44	19/13	20/37	23/05					
GGsX	1331	18/12 L	18/20								
GGs2	1326	18/10 L	18/16								
GGs3	1333	18/11	18/13 L								
IAMC	7100	3/44 D									
ICN	1151	12/30	15/39 D	17/12	20/30						
ICNX	1150	15/39 L	15/42								
ICN1	1153	15/41 L	15/49								
JUMP	504	9/32	10/06 L								
LCNC	1500	3/37 D									
LDCC	2000	3/39 D									
LDDC	3000	3/42 D									

LINE	5	24/02 D	24/06 D	24/17	24/21	24/34	24/44 D	24/55
		24/03	24/07	24/20	24/30 D	24/34 D	24/45	25/07 D
		24/06	24/16 D	24/20 D	24/31	24/35	24/54 D	25/08
LJMC	100	3/33 D						
LMCC	2300	3/41 D						
MDC	1402	17/13	19/28 D	20/31				
MDCA	1415	19/32	19/36 L	19/39				
MDCL	4	19/31	19/39 D					
MDCX	1401	19/28 L	19/29	19/35				
MDSP	1074	10/46	11/34	11/53	14/36 D			
MDSPX	1073	14/36 L	14/47					
MSGA	1725	7/57	24/01 D	24/10				
MSGAL	30	7/57	24/10 D					
MSGB	1755	10/48	11/36	24/15 D	24/24			
MSGBL	40	10/48	11/36	24/24 D				
MSGBNM	1757	7/20 S	7/22 S	24/19 L				
MSGC	2015	10/12	24/29 D	24/38				
MSGCL	24	10/12	24/38 D					
MSGD	2041	7/15	24/43 D	24/48				
MSGDL	13	7/15	24/48 D					
MSGE	2054	12/33	24/53 D	25/01				
MSGEL	14	12/33	25/01 D					
MSGF	2070	16/19	25/06 D	25/11				
MSGFL	15	16/19	25/11 D					
MSGLEN	23	6/06 D	13/55					
NAME	5	4/06 D	12/53	12/56				
NMTBL1	2153	7/19	26/23 L					
NMTBL2	2156	7/21	26/24 L					
NOSCR	504	9/29	10/05 D					
NOTX76	504	9/57	10/04 D					
OAMC	7300	3/45 D						
PPCM	136	9/37	9/49					
PPCT	124	9/40	9/52					
PPPE	137	9/34	9/46					
PRU	500	5/18 D						
PSNC	0	3/32 D						
RDC	1422	19/49 D	21/32	22/04				
RDCA	1435	19/53	19/57 L	20/03				
RDCL	4	19/52	20/03 D					
RDCX	1421	19/49 L	19/50	19/56				
RDFTBL	1634	21/43	22/11 L					
RED	1442	10/32	10/42	10/51	11/30	11/39	20/27 D	
REDA	42	6/21 D	20/28 S	21/12	21/15			
REDERR	1624	20/32	22/02 L					
REDX	1441	20/27 L	21/35	22/06				
RED15	1473	20/42	20/46 L					
RED150	1535	21/13	21/15 L	21/28				
RED170	1562	21/26	21/29 L	21/53				
RED2	1460	20/37 L	20/39					
RED250	1574	21/14	21/41 L	21/55				
RED260	1621	21/52	21/54 L					
RED4	1464	20/40 L	20/44					
RED45	1510	20/50	20/56 L					
RED50	1512	20/53	21/01 L					
RED60	1515	20/57	21/03 L					
RED70	1517	20/55	21/02	21/04 L				
RED75	1523	21/07 L	21/11					

1412THE

RED75A	1524	21/04	S	21/08	D						
REPADDR	20	6/04	D	13/29	S						
RETRY	21	6/05	D	16/14	S	20/36	S				
RICHI\$	0	4/04	D								
R10	1121	13/34		15/04	D						
R10A	1144	15/14		15/18	L	15/21					
R10L	4	15/13		15/21	D						
R10X	1120	15/04	L	15/11		15/17					
R103	1132	15/09		15/11	L						
SBNC	1700	3/38	D								
SCR2	36	4/37	D	9/47		9/48	9/50	9/51	9/53	9/54	
SECSPER	32	6/13	D	6/14							
SEK	1676	21/16		21/42		22/50	D				
SEKB	1711	22/51	S	23/02	D						
SEKX	1675	22/50	L	23/06							
SEK1	1701	22/52	L	23/08		23/10					
SHNC	1000	3/36	D								
SHNI	1000	5/05	D								
SPUM	211	10/01									
TIMEOUT	210560	4/05	D	16/37		17/29					
TIX76	473	9/45		9/55	L						
TMS	506	7/31		10/12	L						
TOS	246	7/30		7/41	L						
TOSP	252	7/41		7/43	L						
TOSR	263	7/48		7/50	L						
TOS100	307	8/12		8/14	L						
TOS105	311	8/16	L	8/19							
TOS120	336	8/24		8/32	L						
TOS130	345	8/37	L	8/56							
TOS140	363	8/42		8/46	L						
TOS150	402	8/41		8/45		8/54	L				
TOS160	406	8/30		8/38		9/01	D				
TOS200	406	8/13		9/09	D						
TOS250	424	9/11		9/21	L						
TOS300	430	9/22		9/29	L						
TOS310	436	9/31		9/33	L						
TOS50	270	7/51		7/54	L						
TOS60	273	7/56	L								
TOS65	275	7/57	L	8/02							
TOS7	257	7/44		7/48	L						
TOS90	302	7/55		8/08	D	10/47	11/35				
TRKSPER	31	6/12	D	6/13							
UJNC	300	3/34	D								
UNIT	27	6/10	D	10/30	S	11/27	S	14/44	22/55		
		6/11		10/40	S	13/27	S	18/40			
WNB	1370	19/12	D	21/23		21/49					
WNBX	1367	19/12	L	19/14							
WNB2	1366	19/11	L	19/16							
WNB4	1373	19/14	L	19/18							
XSET	6000	4/28	D	24/08		24/22	24/36	24/56			
		24/04		24/18		24/32	24/46	25/09			
YINCR	22	4/30	D	24/07		24/21	24/35	24/55			
		24/03		24/17		24/31	24/45	25/08			
YSET	7000	4/29	D	24/07		24/21	24/35	24/55			
		24/03		24/17		24/31	24/45	25/08			
ZJNC	400	3/35	D								

SYMBOL QUALIFIER = 844

1		CDDS	1466	22/26						1			
2		CSDD	632	22/20						2			
3		DCON	0	18/37						3			
4		DDSS	13	17/46						4			
5		DGST	12	18/13						5			
6		DOPC	10	21/29	21/30					6			
7		DRED	4	21/17						7			
8		DRFS	34	22/11	22/11					8			
9		DSDC	1463	22/28						9			
10		DSSC	627	22/22						10			
11		DSWRV	3	20/48						11			
12		DSWUD	10	20/51						12			
13		D2SK	2	22/52						13			
14		MP.GSBS	2	19/15	23/07					14			
15		MP.GSDR	10	18/45						15			
16		MSRS	30	22/18	22/24					16			
17		MTKS	23	22/18	22/24					17			
18		SDDD	3	22/26						18			
19		SLNS	14	17/56						19			
20		SSDD	3	22/20						20			
21		TDDD	0	22/26						21			
22		TSDD	0	22/20						22			
23										23			
24										24			
25										25			
26										26			
27				SYMBOL QUALIFIER = 885						27			
28										28			
29										29			
30		CSDD	1511	22/32						30			
31		DOPC	10	21/30						31			
32		DRED	4	5/30	22/11					32			
33		DSSC	1510	22/34						33			
34		MSRS	40	22/30						34			
35		MTKS	50	22/30						35			
36		SSDD	36	22/32						36			
37		TSDD	1	22/32						37			
38										38			
39										39			
40										40			
41										41			
42				SYMBOL QUALIFIER = CPA						42			
43										43			
44										44			
45		CMSZ	7671	8/26	8/28					45			
46		DDSMEM	7720	5/19	5/20	5/21	5/22			46			
47		DSDP	7754	26/09	26/16					47			
48		DSLN	502	5/17						48			
49		DSPNLZ	7677	7/24	10/25	11/21	14/39 S	14/43 S	17/08	49			
50				8/20	10/28	11/25	14/41 S	14/46 S		50			
51		LPP0	7676	12/18						51			
52		MSDP	7742	26/10	26/16					52			
53		OPTN	7673	9/55						53			
54		OSDP	7766	10/21	10/31	10/36	10/39	10/41	10/53	26/08	26/16	54	
55													55
56													56
57													57
58													58
59													59
60													60

PPP0
PPP1
PRU

7674
7675
500

9/16
9/18
5/18

12/18
9/43

SYMBOL QUALIFIER = CTI

BOOTLOD
BOOTTRN
CDEP
CDTYPE
D844
EBLLOAD
EBLP
IPLA

6200
6320
7000
7001
13
200
6777
7301

7/50
10/06
7/42
16/51
16/52
1/10
7/08
10/53

12/53
7/49
7/01
26/08

12/56
16/56

21/21 S
26/09
26/10

SYMBOL QUALIFIER = QOD

QOD

2162

13/33

ZZZ

BINARY CONTROL CARDS.

14121HE

ZZZ

CTI LAST PROGRAM - A02

COMPASS 3.7-871.

23/08/13. 15.42.54.

PAGE

2

ZZZ

ZZZ - LAST PROGRAM -CTI-.

ZZZ

8

*

ZZZ

9

*

R. A. MATTHEWS. 02/28/78.

ZZZ

10

*

ZZZ

11

*

ZZZ IS THE LAST PROGRAM IN THE COMMON TEST/INITIALIZATION (CTI) PACKAGE. CTI HAS NO EXECUTABLE CODE AND IS A FLAG TO

ZZZ

12

*

ZZZ

13

*

MARK THE END OF THE PACKAGE WHEN LOADING FROM TAPE.

ZZZ

14

0

1

FIRST

BSSZ 1

ZZZ

15

1

END

ZZZ

16

51300B CM STORAGE USED
PARALLEL CPU ASSEMBLY

31 STATEMENTS
0.014 SECONDS

1 SYMBOLS
1 REFERENCES

SYMBOLIC REFERENCE TABLE.

FIRST

0

2/08 L

1412THE



1		1
2		2
3		3
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