

SINTRAN III
System Documentation
Appendix A — Data Fields

Norsk Data



REVISION RECORD

[illegible]

SINTRAN III System Documentation

Appendix A – DATA FIELDS

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1 INTRODUCTION

This is a documentation of data fields in the 1978 version of SINTRAN III/VS (SIII). It is based on:

1. Listing of files SIN1-GEN to SIN4-GEN. This is produced from NORD-10, S/N 10-54, October 9, 1978.
2. A list from T. Fledsberg, Norsk Data, marked "Data fields 1/9 78".
3. Discussions with the Norsk Data department of development.

In Section 2, the data fields are listed with its name, label name, person responsible and paragraph number in the SINTRAN III listing. They occur in the same order as in the SINx-GEN listings.

Section 3 documents each data field in detail. "Contents" are default contents from listing. The data fields are ordered alphabetically by label name, shown in upper left corner (note that digits precede letters in the alphabetical order). Lower case X denotes the device number. For instance, DTxxR for terminal, in byte means DT01R, DT02R, and so on. In some cases the letters m and n are used.

Section 4 shows the meaning of the different bits in the words DFLAG, TSPEED and TYPRING (see, for instance, DTxxR data field).

Section 5 is a cross reference of library marks. For each library mark the data fields affected are listed. Some library marks are not listed since the relationships are too complex. This applies especially to communication line and communication channel.

SECTION 2

SINTRAN III/VS DATA FIELDS

CONTENTS

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File: SIN4-GEN

29.11 Spooling

Paragraph: Data Field Name:

Label:

28.2 STANDARD DATAFIELDS

Monitor work field for nondemand	NDEMF
	NDEM2
Monitor work field for demand	DEMF
Semaphore for segment transport	CLFIE
Clock	CLCFI
Error message, internal device, output	OERRF
Error message, internal device, input	IERRF

28.3 DF Datafields (DMA File Transport)

File transfer, RT program	DF1	
Open/Close, RT program	DF2	
Mag. tape, controller no. 1	DF3	
Cassette no. 1	DF4	
Versatec no. 1	DF5	
CDC link (not used)	DF6	
Mag. tape, controller no. 2	DF7	
Versatec no. 2	DF8	
Floppy disk no. 1	DF9	
Floppy disk no. 2	DF10	
Line printer/Versatec paral. no. 1	DF11	
Line printer/Versatec paral. no. 2	DF12	
Block internal device no. 1, input	DF13	
Block internal device no. 2, input	DF14	
Block internal device no. 3, input	DF15	
Block internal device no. 4, input	DF16	
Block internal device no. 5, input	DF17	
(not used)	DF18	
(not used)	DF19	} see DFx
Block internal device no. 1, output	DF20	
Block internal device no. 2, output	DF21	
Block internal device no. 3, output	DF22	
Block internal device no. 4, output	DF23	
Block internal device no. 5, output	DF24	
DMA HASP no. 1, input	DF25	
DMA HASP no. 1, output	DF26	
DMA HASP no. 2, input	DF27	
DMA HASP no. 2, output	DF28	
DMA HASP no. 3, input	DF29	
DMA HASP no. 3, output	DF30	
DMA HASP no. 4, input	DF31	
DMA HASP no. 4, output	DF32	
DMA HASP no. 5, input	DF33	
DMA HASP no. 5, output	DF34	
DMA HASP no. 6, input	DF35	
DMA HASP no. 6, output	DF36	
Line printer/versatec paral. no. 3	DF37	
Line printer/versatec paral. no. 4	DF38	

*Paragraph: Data Field Name:**Label:***28.4 Mass Storage Data Field**

Disk (10 mby)	DRFIE
Disk System 2	DRF12 see DRFIE
Big disk ($\neq$ 10 mby)	BIGDI
Big disk 2	BIGD2
Drum 1	DDRUM see DRFIE
Drum 2	DRUM2 - 32 - + 20
Tandberg/Pertec mag. tape, contr. 1	MTFIE } Choose
HP mag. tape, contr. 2	MTFIE } only one
Tandberg/Pertec mag. tape, contr. 2	M2FIE } Choose
HP mag. tape, contr. 2	M2FIE } only one
INBT/OUTBT for mag. tape contr. 1	MTDI1
	MTDI2
	MTDI3
	MTDO1
	MTDO2
	MTDO3
INBT/OUTBT for mag. tape contr. 2	M2DI1
	M2DI2
	M2DI3
	M2DO1
	M2DO2
	M2DO3
Cassette controller	CAFIE
INBT/OUTBT cassette 1, input	CADI1
INBT/OUTBT cassette 1, output	CADO1
INBT/OUTBT cassette 2, input	CADI2
INBT/OUTBT cassette 2, output	CADO2
Versatec DMA, contr. 1	VEFIE
OUTBT Versatec, contr. 1	VEDO1
Versatec DMA, contr. 2	VE2FI
OUTBT Versatec, contr. 2	VEDO2
Floppy disk, contr. 1	FDID1
INBT/OUTBT F.D., contr. 1, drive 0	F1U0I see FyUxI
	F1U0O see FyUxO
INBT/OUTBT F.D., contr. 1, drive 1	F1U1I
	F1U1O
INBT/OUTBT F.D., contr. 1, drive 2	F1U2I
	F1U2O
Floppy disk, contr. 2	FDID2
INBT/OUTBT F.D., contr. 2, drive 0	F2U0I
	F2U0O
INBT/OUTBT F.D., contr. 2, drive 1	F2U1I
	F2U1O
INBT/OUTBT F.D., contr. 2, drive 2	F2U2I
	F2U2O
CDC DMA link (not used)	CDFIE
	CDINN
	CDOUT
BSC DMA link (HASP)	
BSC DMA, modem 1, contr. input	HDMI1 SB
BSC DMA, modem 1, contr. output	HDMO1
BSC DMA, modem 1, monitor call, input	HDFI1
BSC DMA, modem 1, monitor call, output	HDFO1

Paragraph: Data Field Name:

Label:

.....	HDMI6	↓ SB
BSC DMA, modem 6, contr. input	HDMI6	
BSC DMA, modem 6, contr. output	HDFI6	
BSC DMA, modem 6, monitor call, input	HDFO6	
BSC DMA, modem 6, monitor call, output	DACM1	
ACM, accumulator, unit 1		
.....		
ACM, accumulator, unit 5	DACM5	

28.5

Terminal Data Fields

INBT/OUTBT, terminal 1	DT01R
	DT01W
INBT/OUTBT, terminal 2	DT02R
	DT02W
.....	
INBT/OUTBT, terminal 64	DT64R
	DT64W

<i>Paragraph:</i>	<i>Data Field Name:</i>	<i>Label:</i>
28.6	Card Reader Data Field	
	Card reader 1	IDV4
	Card reader 2	IDV42
28.7	Paper Tape Reader Data Field	
	Paper tape reader 1	DREAR
	Paper tape reader 2	DREA2
28.8	Modem Data Fields	
	Modem 1, input/output	IDMO1
		UDMO1
	Modem 2, input/output	IDMO6
		UDMO6
		
	Modem 16, input/output	IDM16
		UDM16
28.9	TET Data Fields	
	TET 1, input/output	DTL1 TK
		DTL1 TK
	TET 2, input/output	DTL2 TK
		DTL2 TK
		
	TET 15, input/output	DTL15 TK
		DTL15 TK
28.10	Line Printer Data Fields	
	Line printer 1, input block transfer	DMLP1
		DILP1
	Line printer 2	DMLP2
		DILP2
		
	Line printer 4	DMLP4
		DILP4
	Line printer, character	DLPR
		DLPR2
		DLPR3
		DLPR4
28.11	Photosetter Data Fields	
	Photosetter 1	DPHOT TK
	Photosetter 2	DPHO2 TK
	Photosetter 3	DPHO3 TK
	Harris photos 1, input/output	HA1R TK
		HA1W TK
	Harris photos 2, input/output	HA2R TK
		HA2W TK

28.12	Graf Cassette Data Fields	
	Graf cassette 1, input/output	GR1R TK GR1W TK
	Graf cassette 2, input/output	GR2R TK GR2W TK
28.13	Tape Punch Data Fields	
	Paper tape punch 1	DPNCH
	Paper tape punch 2	DPUN2
28.14	Card Punch Data Fields	
	Card punch 1	CAP1 TG
	Card punch 2	CAP2 TG
	Card punch 3	CAP3 TG
28.15	Plotter Data Fields	
	Calcomp plotter	CALCO
	Calcomp FIFO plotter 1	CALNY TG
	Calcomp FIFO plotter 2	CALN2
	D.F. for TTY link, input/output	TLSI TLSO TLRI not used
	Receiver	
28.16	Communication Line	
	Line 1, common	CM01
	Line 1, input	TTIL1
	Line 1, output	TTUL1
		
	Line 6, common	CM06
	Line 6, input	TTIL6
	Line 6, output	TTUL6
	See also:	
	"SINTRAN III/SINTRAN III Communication System Documentation", Chapter 4.	
28.17	Communication Channel Data Fields	
	Line 1, channel 1, input/output	S011R S011W
		
	Line 1, channel 16, input/output	S161R S161W
	Line 2, channel 1, input/output	S012R S012W
		
	Line 6, channel 16, input/output	S166R S166W
	(Line n, channel mm, input/output	SmmnR SmmnW)
	See also:	
	"SINTRAN III/SINTRAN III Communication System Documentation", Chapter 4.	

Paragraph: Data Field Name:

Label:

SIN2-GEN

(Various Customized Data Fields)

28.18

NORDCOM Data Fields

Selector module, ACM no. 1, SM no. 1	SLM1	
Selector module, ACM no. 1, SM no. 2	SLM2	
.....		
Selector module, ACM no. 1, SM no. 12	SLM12	see SMNz, SyNz
Selector module, ACM no. 3, SM no. 1	S3M1	
Selector module, ACM no. 3, SM no. 2	S3M2	
.....		
Selector module, ACM no. 3, SM no. 12	S3M12	
Semigraphic buffer, ACM no. 1, buffer no. 0	SMN0	
Semigraphic buffer, ACM no. 1, buffer no. 1	SMN1	
.....		
Semigraphic buffer, ACM no. 1, buffer no. 7	SMN7	see SMNz, SyNz
Semigraphic buffer, ACM no. 3, buffer no. 0	S3N0	TG
.....		
Semigraphic buffer, ACM no. 3, buffer no. 7	S3N7	
Graphic buffer, ACM no. 1, buffer no. 1	GRB1	
.....		
Graphic buffer, ACM no. 1, buffer no. 7	GRB7	
.....		
Graphic buffer, ACM no. 3, buffer no. 1	G3B1	see GRBz, GyBz
Graphic buffer, ACM No. 3, buffer no. 4	G3B4	
Tracker ball, ACM no. 1, tracker ball no. 1	TBA1	
.....		
Tracker ball, ACM no. 1, tracker ball no. 4	TBA4	
.....		
Tracker ball, ACM no. 3, tracker ball no. 1	T3A1	
.....		
Tracker ball, ACM no. 3, tracker ball no. 4	T3A4	

(Tektronix)

NORD-50, CPU Control

DFN50

DF502

DF503

DF504

DMA1

JFB

Universal DMA interface ND-850

.....

Universal DMA interface ND-850

(Extra clock no. 2

(Extra clock no. 3

(External interrupt level 13

DMA7

CLOC2)

CLOC3)

INEX1)

28.19	"Connect" no. 1 "Connect" no. 2 "Connect" no. 16	CDF01 } CDF02 } HKD CDF16 }
28.20	Semaphore Data Field Semaphore no. 1 Semaphore no. 2 Semaphore no. 50 ₁₀	SEMI1 } SEMI2 } HKD SEM50 }
28.21	File System Semaphore	RTLFI FS4 FS5 FS6 FS7 FS11 FS12 FS13 FS14see SEMxx } HKD FS21 F1342 NAUSE ACSEM F1203

Paragraph: Data Field Name:

Label:

28.22

Internal Device

Sibas

SI01	} see IDxxI, IDxxO
.....	
SI06	

I.D., character orient, no. 1, input

ID01I

I.D., character orient, no. 1, output

ID01O

I.D., block orient, no. 1, input

IB01I

I.D., block orient, no. 1, output

IB01O

.....

I.D., character orient, no. 5, input

IDO5I

I.D., character orient, no. 5, output

IDO5O

I.D., block orient, no. 5, input

IBO5I

I.D., block orient, no. 5, output

IBO5O

I.D., character orient, no. 6, input

IDO6I

I.D., character orient, no. 6, output

IDO6O

.....

I.D., character orient, no. 30, input

ID30I

I.D., character orient, no. 30, output

ID30O

I.D. for append remote, Command, IBM Hasp 3780

IIBMI

IIBMO

I.D. for append remote command, CDC 200 user

ICDCI

ICDCO	} see IDxxI, IDxxO	} SB

I.D. for append remote command, UNIVAC NTR

IUNII

IUNIO

I.D. for append remote command, Honeywell, Gerts 115

IHONI

IHONO

User restart program ("Connect")

URERT

HKD

28.23

Batch

Batch device no. 1, input

BT01R

Batch device no. 1, output

BT01W

Batch device no. 1, batch kØ, output

BT01O see IDxxO

Batch device no. 1, batch kØ, input

BT01I see IDxxI

.....

Batch device no. 10₁₀, input

BT10R

Batch device no. 10₁₀, output

BT10W

Batch device no. 10₁₀, batch kØ, output

BT10O see IDxxO

Batch device no. 10₁₀, batch kØ, input

BT10I see IDxxI

28.24 Digital I/O

Digital input (ND810), no. 1	NDI01	} HKD
Digital input (ND810), no. 2,	NDI02	
.....		
Digital input (ND810), no.20	NDI20	
.....		
Digital output (ND811), no. 1	NDO01	
Digital input (ND811), no. 1	NDO01	
.....		
Digital output (ND811), no. 20	NDO20	}
Digital input (ND811), no. 20	NDI20	
(Norcontrol Process I/O)		

28.25 Analog Input

"Connect" D.F. for analog input (ND820), no. 1	820N1	} SN
"Connect" D.F. for analog input (ND820), no. 2	820N2	
.....		
"Connect" D.F. for analog input (ND820), no 8	820N8	

29.11 SIN4-GEN
Spooling

Spooling no. 1	SPPR1	} HKD
.....		
Spooling no. 10	SPPR10	

SECTION 3

DATA FIELD LAYOUT

Data Field Layout				Library Mark 7AIRx	Name 820Nx
Description					
"Connect" D.F. for analog input (ND820)					
Relat.					
Addr.	Symbol	Contents	Explanation		
-4		IOX 1440#			
-3	DC NRT	0	Connected RT program		
-2	STDRIV	DDRIV	Starting point of driver		
-1	DRIVER	DDRIV	Restart after interrupt		
0	RESLINK	0	} Standard (see DTxxR)		
1	RTRES	0			
2	BWLINK	*-2			
3	TYPRING	30000			
4	ISTATE	0			
5	MLINK	0			
6	MFUNC	DMONI			
7		0			
10		0			
11		AISSET			

= for input no. 1, (x = 1)

Data Field Layout				Library Mark	Name
				8BD1	BIGDI
				8BD2	BIGD2
Description					
Big Disk (≠ 10 Mb)					
Relat.					
Addr.	Symbol	Contents	Explanation		
-56	CORCUM	0	Accumulated error corrections		
-55	SLONG	0	Sector control no. (no. of sectors left to be retried)		
-54	ECCFL	0	Data correction cycle flag		
-53	CPAT1	0	Correcting pattern word no. 1		
-52	CDISP	0	Correcting memory address		
-51	CPAT2	0	Correction pattern word no. 2		
-50	TYPEC	0	Control word type (1 = new, 0 = old)		
-47	SVLBB	0	Last block address 2 used (cylinder)		
-46	SVLBA	0	Last block address 1 used (surface and sector)		
-45	ERRC1	-4	Error counter for ordinary retrials		
-44	ERRC2	-34	Error counter for marg. rec. cycles		
-43	SRTRY	0	No. of ordinary retrials for read		
-43	SWTRY	0	No. of ordinary retrials for write		
-42	SMARG	0	No. of marg. rec. cycles retried		
-41	SVLCO	0	Last control word used		
-37	SCADR	0	Expected memory address after transfer		
-36	MARGC	0	Marg. rec. cycle flag (-1 = marg. rec., 0 = nor. op.)		
-35	BUSFL	0	Transfer flag (1 = transfer started)		
-34	SVLCA	0	Last memory address used		
-33	SVLWC	0	Last word counter used		
-32	TRG	0	Reg. when calling driver (real = TADRG)		
-31	ARG	0	Reg. when calling driver (real = TADRG)		
-30	DRG	0	Reg. when calling driver (real = TADRG)		
-27	XRG	0	Reg. when calling driver (real = TADRG)		
-26	CTRG	0	Reg. when calling driver first time (real = CTRG)		
-25	CARG	0	Reg. when calling driver first time (real = CTRG)		
-24	CDRG	0	Reg. when calling driver first time (real = CTRG)		
-23	CXRG	0	Reg. when calling driver first time (real = CTRG)		
-22	ERCNT	0	No. of error returns from driver		
-21	SERRB	0	Serious error bits		
-20	WERRB	20	Write back bits		
-17	AERRB	0	Accumulated error bits		
-16	TACNS	-40	No. of retrials wanted before error message		
-15	TACOUNT	0	Retrial counter		
-14	COMFL	0	Compare flag		
-13	BLSZ	1000	Block size		
-12	TRNSF	BDISK	Driver address		
-11	BUSY	BUSYE	Busy return		
-10	FINISH	COOPT	Transfer finished		
-7	ERROR	PFEIL	Error return from driver		
-6	TMSUB	MTMRS	Time-out routine		
-5	TMR	0	Time-out counter		
-4	TTMR	-4	Start value of TMR		
-3	HDEV	1540#	Hardware device no. (i.e., IOX 1540)		
-2	STDRIV	CTRDI	Start address of driver		
-1	DRIVER	0	Restart after interrupt		

0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	2	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	RETRA	Monitor level function address
7	TRLREG	0	Return address on monitor level after transfer
10	HSTAT	0	Hardware status from driver
11	MTRANS	MTRNS	Monitor level routine to activate driver
12	TRMFLG	0	not used
13	BREGC	0	not used
14	NEMA1	0	Initial memory address
15	MEMA2	0	Initial memory address
16	CMAD1	0	Current memory address
17	CMAD2	0	Current memory address
20	MONTYP	xxuN	Disk type/unit (bit 0 - 3, 1 = 288 Mb)

= for BIGDI

Data Field Layout		Library Mark 8BCHx	Name BTxxR
Description Batch Input			
Relat. Addr.	Symbol	Contents	Explanation
-16	CESCP	33	Escape character
-15	BRKMAX	0	Maximum BHOLD before break
-14		0	Not used
-13		0	Not used
-12	DFLAG	0	Flag bits
-11		0	Not used
-10	BRKTAB	0	Break table
-7	LAST	0	Last typed character
-6	TMSUB	0	Time-out subroutine
-5	TMR	0	Time-out counter
-4	TTMR	0	Start value of TMR
-3	HDEV	0	IOX instruction
-2	STDRIV	0	Start address of driver
-1	DRIVER	0	Restart after interrupt
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	110002	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	IORES	Monitor level function address
7	IOTRANS	0	Called from INBT/OUTBT to transfer
10	STDEV	TEXIT	Start device
11	SETDV	CEXIT	IOSET routine
12	DFOPP	BTxxW	Opposite data field for two-way devices
13		0	
14	PRI0	0	Not used
15	USIDX	0	Current user index
16	IDLE	0	= 0: IDLE, ≠0: active
17	MXTIME	0	Maximum CPU time
20	BCHNUM	BATNO	Batch number
21		0	Not used
22	BSTATE	0	Background program state
23	TSTATE	0	Time slice state
24	DBPROG	BCHxx	Background RT program
25	DBADDR	0	Saved P register on escape + file system monitor call
26	RIFIL	0	Batch input file number
27	BCHISTS	0	Batch input status input file cannot be accessed. Batch input status = 0: input file cannot be accessed because of an error in ≠ 0: otherwise
30	DER0 (2)	0, 0	Register block
32	DER2 (6)	0, ..., 0	Register block
	BREGBLOCK = DER0		Register save at escape
40	DBPREG	0	P register on page fault on IOBT level
41	DBATPRI	0	ACTPRI on page fault on IOBT level
42	FLAGB	0	Background flag

FLAGB: (bit)

0	5NOSLICE	Run with fixed PRIO
1	5ESCON	Escape allowed in command mode
2	5ESC2SET	Escape has been typed but not served
3	5LOGOUT	Logout on missing carrier
4	5ABJOB	Abort job (error)
5	5OLBRK	Missing carrier on output

Data Field Layout		Library Mark	Name
Description		8BCHx	BTxxW
Batch Output			
Relat. Addr.	Symbol	Contents	Explanation
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	110002	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	IORES	Monitor level function address
7	IOTRANS	0	Called from INBT/OUTBT to transfer
10	STDEV	0	Start device
11	SETDV	CEXIT	IOSET routine
12	DFOPP	BTxxR	Opposite data field for two-way devices
13	DERROR	0	Error code
14	BUFST	0	Start of ring buffer
15	MAX	0	Buffer capacity
16	BHOLD	0	Number of characters in buffer
17	HENTE	0	Fetch pointer
20	CFREE	BATNO	Free positions
21	FYLLE	0	Store pointer
22	MINBHOLD	0	Lower limit for break
23	ROFIL	0	Batch output file number
24	BCHOSTS	0	Batch output status = 0: output file cannot be accessed because of an error, ≠ 0: otherwise

Data Field Layout	Library Mark	Name
	8CAS1	
	8CAS2	CADIX

Description
Cassette X, INBT

Relat. Addr.	Symbol	Contents	Explanation
- 1	ADBHEAD	0	Buffer head address
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	113000	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	IORES	Monitor level function address
7	IOTRANS	CBGET	Called from INBT/OUTBT to transfer
10	STDEV	TEXT	Start device
11	SETDV	CAICL	IOSET routine
12	DFOPP	CADOX	Opposite data field for two-way devices
13	DERROR	0	Error code
14	BUFST	0	Start of ring buffer
15	MAX	1000	Buffer capacity
16	BHOLD	0	Number of characters in buffer
17	HENTE	0	Fetch pointer
20	CFREE	1000	Free positions
21	FYLLE	0	Store pointer
22	CLOGDV	575	Logical unit number for DMA data field
23	DFDEV	574	Logical unit number for DF data fields
24	LREGC	0	Return address after IOTRANS is executed
25	CASUN	x	Device unit number
26	CERROR	0	Current error code
27	LASTC	0	Current character
30	NOWRE	0	Number of characters to read/write
31	CPARM (5)	0, *+3, *-6, *-4, 0	Parameter list for MTRANS (including first word in memory buffer address)
36	MABUF	0	Second word in memory buffer address
37	VEFUNC	0	Not used
40	CIOLOG	20#	Logical device number
41			

= for driver 1 (x = 1)

DATA FIELD LAYOUT

Library Mark
8CACS1
8CAS2Name
CADOXDescription
Cassette x, OUTBT

Relat. Addr.	Symbol	Contents	Explanation
-1	ADRBHEAD	0	Buffer head address
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	113000	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	IORES	Monitor level function address
7	IOTRANS	CRPUT	Called from INBT/OUTBT to transfer
10	STDEV	TEXIT	Start device
11	SETDV	CAOCL	IOSET routine
12	DFOPP	CADIX	Opposite data field for two-way devices
13	DERROR	0	Error code
14	BUFST	0	Start of ring buffer
15	MAX	1000	Buffer capacity
16	BHOLD	0	Number of characters in buffer
17	HENTE	0	Fetch pointer
20	CFREE	1000	Free positions
21	FYLLE	0	Store pointer
22	CLOGDV	575	Logical unit number for DMA data field
23	DFDEV	574	Logical unit number for DF data field
24	LREGC	0	Return address after IOTRANS is executed
25	CASUN	x	Device unit number
26	CERROR	0	Current error code
27	LASTC	0	Current character
30	NOWRE	400#	Number of characters to read/write
31	CPARM (5)	1, *+3, *-6, *-4, 0	Parameter list for MTRANS (including first word in memory buffer address)
36	MABUF	0	Second word in memory buffer address
37	VEFUNC	0	Not used
40	CIOLOG	20#	Logical device number

= for cassette 1 (x = 1)

DATA FIELD LAYOUT

Library Mark
8CACS1Name
CAFIEDescription
Cassette Controller

Relat. Addr.	Symbol	Contents	Explanation
-52	ADNSTY (4)	0, ..., 0	Actual density/partiy (unit 0, 1, 2, 3)
-46	SHSTAT (4)	0, ..., 0	Saved last status (unit 0, 1, 2, 3)
-42	CERRCODE	0	Current error code
-41	MAXUNIT	89NCA	Maximum unit number on this controller
-40	MACOU	0	Erase counter
-37	MRETURN		Address for returning read words
-36	MWRING		Write ring bit
-35	MWSTAT	0	Status when write ring present
-34	MLOAD	0	Load point status
-33	CLRG	0	Saved L register
-32	TRG	0	Register when calling driver (real = TADRG)
-31	ARG	0	Register when calling driver (real = TADRG)
-30	DRG	0	Register when calling driver (real = TADRG)
-27	XRG		Register when calling driver (real = TADRG)
-26	CTRG		Register when calling driver first time (real = CTRG)
-25	CARG	0	Register when calling driver first time (real = CTRG)
-24	CDRG	0	Register when calling driver first time (real = CTRG)
-23	CXRG	0	Register when calling driver first time (real = CTRG)
-22	ERCNT	0	Number of error returns from driver
-21	SERRB	0	Serious error bits (bit 12: overflow in read bit 10: word counter not zero)
-20	WERRB	0	Not used
-17	AERRB	0	Accumulated error bits
-16	TACNS	-5	Number of retrials wanted before message
-15	TACOUNT	0	Retrial counter
-14	MWCNT	0	Number of times to write erase gap
-13	BLSZ	400	Block size
-12	TRNSF	CASDR	Driver address
-11	BUSY	BUSYC	Busy return
-10	FINISH	FINIC	Transfer finish
-7	ERROR	FEILC	Error return from driver
-6	TMSUB	TEXIT	Time-out subroutine
-5	TMR	0	Time-out counter
-4	TTMR	-10	Start value of TMR
-3	HDEV	700	Hardware device number (i.e., IOX 520)
-2	STDRIV	STCAS	Start address of driver
-1	DRIVER	0	Restart after interrupt
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	1002	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	RETRA	Monitor level function address
7	TRLREG	0	Return address on monitor level after transfer
10	MSTAT	0	Hardware status from driver
11	MTRANS	MTRNS	Monitor level routine to activate driver
12	MRTREF	0	Program calling close
13	BREGC	0	Address of I/O data field

DATA FIELD LAYOUT

Library Mark
8CALCName
CALCODescription
Calcomp Plotter

Relat. Addr.	Symbol	Contents	Explanation
- 10	SCREEN	0	Counter for stop on full page
- 7	EMPTFLAG	0	= 0 when buffer empty and print of last character finished
- 6	TMSUB	TTOMR	Time-out subroutine
- 5	TMR	0	Time-out counter
- 4	TTMR	-3	Start value of TMR
- 3	HDEV	IOX 440	IOX instruction
- 2	STDRIV	DWRIT	Start address of driver
- 1	DRIVER	DWRIT	Restart after interrupt
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	110000	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	IORES	Monitor level function address
7	IOTRANS	TTPUT	Called from INBT/OUTBT to transfer
10	STDEV	DMOUNT	Start device routine
11	SETDV	CEXIT	IOSET routine
12	DFOPP	0	Opposite data field for two-way devices
13	DERROR	0	Error code
14	BUFST	BUF0 + BUF	Start of ring buffer
15	MAX	120 + 120	Buffer capacity
16	BHOLD	0	Number of characters in buffer
17	HENTE	0	Fetch pointer
20	CFREE	120 + 120	Free positions
21	FYLLE	0	Store pointer
22	MINBHOLD	120	Lower limit for break

DATA FIELD LAYOUT

Library Mark
8NCAL
8NCA2

Name
CALNY
CALN2

Description
Calcomp FIFO Plotter

Relat. Addr.	Symbol	Contents	Explanation
-6		UUS0	Routine for PLOTT monitor call
-5	STAAD	0	Work cell
-4	KLUMP	0	Save cell
-3	HDEV	IOX 440#	IOX for plotter
-2	STDRIV	DPLOT	Start point for driver
-1	DRIVER	DPLOT	Restart after interrupt
0	RESLINK	0	} see DTxxW
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	10000	
4	ISTATE	0	
5	MLINK	0	} work area
6	MFUNC	PBRES	
7	XDIFF	0	
10	YDIFF	0	
11	IOSET	CEXIT	
12	INNX	0	} Return address
13	DERRO	0	
14	RETAD	0	
15	PVAL	0	} work area
16	PPOS	0	
17	MAM	0	
20	CAM	0	
21	GACC	0	
22	OLDX	0	
23	OLDY	0	
24	PULIN	LING	
25	PNLIN	LING	
26	ERASE	ERAS	
27	NEWPEN	NOCO1	
30	IDXXP	0	
31	IDYYP	0	
32	P2DX	0	
33	P2DY	0	
34	IDX (1)	0	
35	IDX (2)	0	
36	SVAF (1)	0	
37	SVAF (2)	0	
40	SVAF (3)	0	
41		0	

= for plotter number 1 (CALNY)

DATA FIELD LAYOUT

Library Mark
8CPxName
CAPxDescription
Card Punch

Relat. Addr.	Symbol	Contents	Explanation
-23-			
...			
- 7		0	} work area
- 6	TMSUB	CPOMR	
- 5	TMR	0	
- 4	TTMR	-5	
- 3	HDEV	IOX 444#	
- 2	STDRI	CPDRI	
- 1	DRIVER	CPDRI	} see DPNCH
0	RESLINK	0	
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	110000	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	IORES	
7	IOTRANS	CPPUT	
10	STDEV	CPSTD	
11	SETDV	CPSET	
12	DFOPP	0	
13	DERROR	0	

= for card punch number 1 (x = 1)

DATA FIELD LAYOUT

Library Mark
8CDxxName
CDFxxDescription
Connect (SINTRAN command)

Relat. Addr.	Symbol	Contents	Explanation
-4		0	Not used
-3	DCNRT	0	Connected RT program
-2	STDIV	DDIV	
-1	DRIVER	DDIV	Restart after interrupt
0	RESLINK	0	
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	200000	Standard (see DTxxR)
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	DMONI	

DATA FIELD LAYOUT

Library Mark

Name
CLCFIDescription
Clock

Relat. Addr.	Symbol	Contents	Explanation
-1	DRIVER	ENT13	Driver restart address
0			
1			
2			
3			Standard part (not used)
4			
5			
6	MFUNC	ICLK	Monitor level function address

DATA FIELD LAYOUT

Library Mark

Name
CLFIEDescription
Semaphore for Segment Transport

Relat. Addr.	Symbol	Contents	Explanation
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of wait queue
3	TYPRING	2	Device type bits and ring

DATA FIELD LAYOUT

Library Mark
See SIN1-GENName
CM0n

Description

Communication Line, Line n, Common

Relat. Addr.	Symbol	Contents	Explanation
-14	TSPEED	-1	Line speed (see table)
-13		0	Not used
-12	STAD	0, 0	Save AD register while computing CRC on input
-10	SOAD	0, 0	Save AD register while computing CRC on output
-6	TMSUB	TISSI	Time-out routine
-5	TMR	0	Counter for time-out
-4	TTMR	-3	Time-out time (— seconds)
-3	XTEMI	0	Save X register while computing CRC on input
-2	XTEMO	0	Save X register while computing CRC on output
-1	ISIT	0	Frame phase bit on input
0	GSI	0	Group number on input
1	ANI	0	Status information in input frame
2	GRI	0	Group number for ANI
3	IRI	0	Phase bit for GRI
4	ISTATE	0	Send status (1 = waiting for acknowledge, 0 = otherwise)
5	ISI (4)	0, 0, 0, 0	Last received phase bit on group n
11	GSO	0	Current group number output
12	CDFILD	TTILN#	Pointer to line data filed input
13	SINIT	CSINI#	Initializing routine
14	BSINIT	CBSIN#	Initializing routine for remote load
15	PLMSG	*	Last frame of send queue
16	PFMSG	0	First frame of send queue
17	ISO (4)	0, 0, 0, 0	Last sent phase bit on group n
23	SEND	TSEND#	Send routine
24	BSEND	TRAWA#	Send bootstrap routine for remote load
25	RECEIVE	TRECE#	Receive routine
26	VENTX	TEXIT#	Wait routine (half duplex)
27	RMLNR	n	Remote line number
30	FRETR	0	Frames retransmitted
31	MISTRART	0	Start of current input frame
32	SBYTS	0	Number of I field bytes in output frame
33	CUIBU	0	Current input buffer
34	CUUBU	0	Current output buffer
35	RGSI	0	Temporary variable to hold last received group number
36	SQERR	0	Number of sequence errors since command started
37	RNACO	0	Number of NAK's received since command started
40	SNACO	0	Number of NAK's sent since command started
41	CTRCH	0	Controller and channel of last received frame
42	BADANT	0	Retransmit flag (set when received NAK and by timeout)
43	SMI	0	CRC on input
44	SMO	0	CRC on output
45	ACQFP	0	Write pointer in status information buffer (range 0, 3)
46	ACQHP	0	Read pointer in status information buffer (range 0, 3)
47	ACQBH	0	Number of items in status information buffer (range 0, 4)
50	IBYTS	0	Number of I field bytes in input frame
51	CURID	0	Address of current input buffer
52	SPRS	SCOMn	Send RT program
53	RPRS	RCOMn	Receive RT program
54	ACQU (4)	0, 0, 0, 0	Status information buffer

60	ILSAV	0	Temporary saved L register input
61	DLSAV	0	Temporary saved L register output
62	LINR	n	Line number
63	DNACO	0	Number of NAC's sent since last ACK sent (3 = no status received)
64	BUSTA (4)	0, 0, 0, 0	Output status for last sent frame in group n (0 = ACK, 2 = NAK)
70	BUFAD (4)	0, 0, 0, 0	Address of first buffer of output frame in group n
74	INHBT	0	Address of first buffer of output frame while it is retransmitted
75	LOST	0	Group number frame to retransmit
76	COTAB	COTAn#	Pointer to configuration table
77	COFLAG	2	Line status (0 = com. running, 2 = com. dead)
100	RETRN	0	Retransmission count (reset when ACK is received - if RETRN > 4 then 2 to COFLAG)
101	AKMCH	AKMCS	Number of channels with lower number than first channel on this line
102	MXCHN	IDAn	Maximum channel number on this line
103	IDADR (MXCHN)	MXCC	Pointer array to the channel input data field of this line

= for line 1, n = 1

DATA FIELD LAYOUT

Library Mark
9ACM1
C9CM5Name
DACMxDescription
ACM Line, Accumulator to Memory

Relat. Addr.	Symbol	Contents	Explanation
-3	HDEV	IOX40#	} see DTxxR
-2	STDRIV	0	
-1	DRIVER	0	
0	RESLINK	0	
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	4000	

= for link 1 (x = 1)

DATA FIELD LAYOUT

Library Mark
8DR1
8DR2

Name
DDRUM
DRUM2

Description
Drum

Relat. Addr.	Symbol	Contents	Explanation
-32	TRG	0	} see DRFIE
-31	ARG	0	
-30	DRG	0	
-27	XRG	0	
-26	CTRG	0	
-25	CARG	0	
-24	CDRG	0	
-23	CXRG	0	
-22	ERCNT	0	
-21	SERRB	0	
-20	WERRB	0	
-17	AERRB	0	
-16	TACNS	-12	
-15	TACOUNT	0	
-14	COMFL	0	
-13	BLSZ	100	
-12	TRNSF	XDRUM	
-11	BUSY	BUSYE	
-10	FINICH	LOOPT	
-7	ERROR	DRFEI	
-6	TMSUB	MTMRS	
-5	TMR	0	
-4	TTMR	-3	
-3	HDEV	540#	
-2	STDRIV	CTRDI	
-1	DRIVER	0	
0	RESLINK	0	
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	2	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	RETRA	
7	TRLREG	0	
10	HSTAT	0	
11	MTRANS	MTRNS	
12	TRMFLG	0	
13	BREGC	0	
14	MEMA1	0	
15	MEMA2	0	
16	CMAD1	0	
17	CMAD2	0	

= for Drum number 1 (DDRUM)

DATA FIELD LAYOUT

Library Mark

Name
DEMF1

Description

Monitor Work Field for Demand

Relat. Addr.	Symbol	Contents	Explanation
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of wait queue
3	TYPRING	0	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	0	Monitor level function address
7	ZPREG	0	} Register block
10	ZXREG	0	
11	ZTREG	0	
12	ZAREG	0	
13	ZDREG	0	
14	ZLREG	0	
15	ZSREG	0	
16	ZBREG	0	
17	OLDPAG	0	Actual priority of calling program
20	D0	0	} Monitor call parameters
21	D1	0	
22	D2	0	
23	D3	0	
24	D4	0	} Work area
25-36		0	

DATA FIELD LAYOUT

Library Mark
8N50
8N50X

Name
DFN50
DF50X

Description
NORD-50 CPU Control

Relat. Addr.	Symbol	Contents	Explanation
-6	TMSUB	50TMR	Time-out subroutine
-5	TMR	0	Time-out counter
-4	TTMR	0	Start value of TMR
-3	5DIOX	IOX30#	First IOX instruction
-2	5CIOX	IOX60#	Last IOX instruction
-1	DRIVER	RSIN5	Restart address after interrupt
0	RESLINK	0	} see DTxxW
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	0	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	50DMO	
7	50RFILE	50RFx	RFILE routine for N50
10	50WFILE	50WFx	WFILE routine for N50
11	50TID (1)	0	NORD-50 CPU time used
12	50TID (2)	0	NORD-50 CPU time used
13	ATID	ATIME	Pointer to ATIME in SINTRAN III
14	50CF	1	Cold start flag
15	50DI	50DIx	Entry for direct file transfer
16	50MT	50MTx	Magnetic tape routine for NORD-50
17		*+4	} ABSTR parameter list
20		*+4	
21		*+5	
22		*+5	
23	50FNC	0	
24	50PHAD (1)	0	
25	50PHAD (2)	0	
26	50MASAD	0	
27	50NBLOCK	0	
30	50LLGPH	LOGPH	SINTRAN III logic number conversion routine
31	50VERSION	5	NORD-50 routine version
32	50LPPIOF	LDPIO	SINTRAN III word fetch routine
33	N50NO	0 or 1#	NORD-50 number
34	50PBP (1)	0	NORD-50 BP register (power fail)
35	50PBP (2)	0	NORD-50 BP register (power fail)
36	50PBQ (1)	0	NORD-50 BQ register (power fail)
37	50PBQ (2)	0	NORD-50 BQ register (power fail)
40	50PBC	0	NORD-50 break condition (power fail)
41	50FLA	0	NORD-50 flag
42	50HQU	0	NORD-50 head of task queue
43	50SWI (1)	0	} Task entry points
44	50SWI (2)	0	
45	50PWF (1)	0	
46	50PWF (2)	0	
47	50PC (1)	0	
50	50PC (2)	0	

51	50RUN	0	Running task
52	55TABU	50TSB#	Task descriptor buffer
53	55FUN	0	Parameters to level 12
54	50TSK	0	Parameters to level 12
55	LL12C	L50CH#	Level 12 entry points for task function
56	LL50SL	SLV12#	SINTRAN III address of SLV12
57-70		0	Not used
71	50TSB	0	Start of task descriptor (if used)

= for NORD-50 no. 1 (DFN50)

DATA FIELD LAYOUT

Library Mark
see SIN1-GENName
DFxDescription
DF Data Fields (DMA File Transport)

Relat. Addr.	Symbol	Contents	Explanation
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of wait queue
3	TYPRING	0	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	0	Monitor level function address
7	ZPREG	0	} Register block
10	ZXREG	0	
11	ZTREG	0	
12	ZAREG	0	
13	ZDREG	0	
14	ZLREG	0	
15	ZSREG	0	
16	ZBREG	0	
17	OLDPAG	0	Actual priority of calling program
20	IOLOG	0	Logical number
21	WFLAG	0	Original waiting flag
22	ICORAD	0	Memory address
23	IBLOAD	0	Block address
24	IMAXW	0	Number of words
25	IFUNC	0	Function code
26	IRETW	0	Returned record length (magnetic tape) pointer
27	MTFLG	0	MON 144 flag
30	MRSTA		
	5MRSTA	0	Start address of routine
31	SSREG	0	Originator
32	STRSEG	0	Sements of originator
33	DRT	RWRTx	Procesing RT program
34	MCLRG	0	Return address for MC144
35		0	
36		0	
37		0	
40		0	
41		0	
42		0	
43		0	
44	TRTn	LDA * 3	
45		JMP I*1	
46		COMMO	
47		DFx	

DATA FIELD LAYOUT	Library Mark 8DLP4 8DVE4	Name DILPx
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Description
Line Printer n, Input

Relat. Addr.	Symbol	Contents	Explanation
-1	ADBHEAD	0	Buffer head address
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	112000	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	IORES	Monitor level function address
7	IOTRANS	CLPUT	Called from INBT/OUTBT to transfer
10	STDEV	TEXIT	Start device
11	SETDV	CLCLO	IOSET routine
12	DFOPP	0	Opposite data field for two-way devices
13	DERROR	0	Error code
14	BUFST	0	Start of ring buffer
15	MAX	1000	Buffer capacity
16	BHOLD	0	Number of characters in buffer
17	HENTE	0	Fetch pointer
20	CFREE	1000	Free positions
21	FYLLE	0	Store pointer
22	CLOGDV	1167#	Logical unit number for DMA data field
23	DFDEV	1170#	Logical unit number for DF data field
24	LREGC	0	Return address after IOTRANS is executed
25	CASUN	0	Device unit number
26	CERROR	0	Current error code
27	LASTC	0	Current character
30	NOWRE	0	Number of characters to read/write
31	CPARM (5)	1, *-3, *-6, *-4, 0	Parameter list for MTRANS (including first word in memory buffer address)
36	MABUF	0	Second word in memory buffer address
37	VEFUNC	11	Modus if versatec (10 = plot, 11 = print)
40	CIOLOG	5	Logical device number of I/O data field
41	MDATAF	DMLPX	Address of DMA data field

= for line printer 1 (x = 1)

DATA FIELD LAYOUT

Library Mark
8LPxName
DLPR
DLPRXDescription
Line Printer, Character Orientation

Relat. Addr.	Symbol	Contents	Explanation
-10		0	
- 7	LAST	0	
- 6	TMSUB	TTOMR	
- 5	TMR	0	
- 4	TTMR	-3	
- 3	HDEV	IOX 430#	
- 2	STDRIV	DWRIT	
- 1	DRIVER	DWRIT	
0	RESLINK	0	
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	110000	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	IORES	see DPNCH, paper tape punch
7	IOTRANS	TTPUT#	
10	STDEV	DMOUT	
11	SETDV	CEXIT	
12	DFOPP	0	
13	DERROR	0	
14	BUFST	BUFO + BUF	
15	MAX	120 + 120	
16	BHOLD	0	
17	HENTE	0	
20	CFREE	120 + 120	
21	FYLLE	0	
22	MINBHOLD	120	

= for line printer 1 (DLPR)

DATA FIELD LAYOUT

Library Mark
8FI6Name
DMAxDescription
Universal DMA Interface

Relat. Addr.	Symbol	Contents	Explanation
-36	DERRC	-4	} see DRFIE
-35	BUSFL	0	
-34	SVLCA	0	
-33	SVLWC	0	
-32	TRG	0	
-31	ARG	0	
-30	DRG	0	
-27	XRG	0	
-26	CTRG	0	
-25	CARG	0	
-24	CDRG	0	
-23	CXRG	0	
-22	ERCNT	0	
-21	SERRB	0	
-20	WERRB	0	
-17	AERRB	0	
-16	TACNS	-2	
-15	TACOUNT	0	
-14	COMFL	0	
-13	BLSZ	0	
-12	TRNSF	DMATE	
-11	BUSY	DMABU	
-10	FINICH	DMAFI	
-7	ERROR	DMAFE	
-6	TMSUB	0	} see DRFIE
-5	TMR	0	
-4	TTMR	-3	
-3	HDLV	1400	
-2	STDRIV	DMAUI	
-1	DRIVER	0	
0	RESLINK	0	
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	0	
4	ISTATE	0	} see DRFILE
5	MLINK	0	
6	MFUNC	RETRA	
7	TRLREG	0	
10	HSTAT	0	
11	MTRANS	DMATR	
12		0	
13	DMAPR	DMPR1	
14	MEMA1	0	
15	MEMA2	0	
16	CMAD1	0	} Not used
17	CMAD2	0	
20		0	Not used

DATA FIELD LAYOUT				Library Mark	Name
				8DLPx	
				8DVEx	DMLPx
Description					
Line Printer DMA/Versatec Parallel Int.					
Relat. Addr.	Symbol	Contents	Explanation		
-42	CERRCODE	0	Current error code		
-41	VEFLG	nDVEn	1 = Versatec, 0 = line printer		
-40	VEMOD	0	Function code if not write on Versatec		
-37	CHCONV	COCHB	Address of character converting table		
-36					
-25			Not used		
-24	CXMAX	400	Maximum number of bytes in extra buffer		
-23	CXBHOLD	0	Actual number of bytes in extra buffer		
-22	CXBUFST	BUF0 + BUF	Address of extra buffer		
-21	CXHENTE (2)	0, DMLPn	HENTE pointer in extra buffer		
-20	CIOXC	4	Code to set out in IOX write control		
-17	IOXWC	IOX433#	Code for IOX write control		
-16	IOXRS	IOX432#	Code for IOX read status		
-15	IOXWD (2)	IOX431#	Code for IOX write data		
-13	BLSZ	0	Not used		
-12	LP5MF	THDLF	Address of monitor function routine		
-11	CBHOLD	0	Current number of bytes in device buffer		
-10	CHENTE	0	HENTE pointer in device buffer		
-7	ERROR	0	Error return from driver		
-6	TMSUB	DLPTM	Time-out subroutine		
-5	TMR	0	Time-out counter		
-4	TTMR	-3	Start value of TMR		
-3	HDEV	IOX430#	IOX instruction (i.e., IOX 430)		
-2	STDRIV	TLPRI	Start address of driver		
-1	DRIVER	CLP10	Restart address after interrupt		
0	RESLINK	0	Reservation link		
1	RTRES	0	Reserving RT program		
2	BWLINK	*-2	Beginning of waiting queue		
3	TYPRING	2006	Device type bits and ring		
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode		
5	MLINK	0	Monitor queue link		
6	MFUNC	RETRA	Monitor level function address		
7	TRLREG	0	Return address on monitor level after transfer		
10	HSTAT	0	Hardware status from driver		
11	MTRANS	MTRNS	Monitor level routine to activate driver		
12	MRTREF	0	Not used		
13	BREGC	DILP1	Address of I/O data field		
14	MEMA1	0	Not used		
15	MEMA2	0	Not used		
16	CMAD1	0	Not used		
17	CMAD2	0	Not used		
20	CLEDV	DMLPC	Address of clear device routine		
21	PVEFUNC	DILPX + 37	Address of VEFUNC in I/O data field		
22	COCHB		Start of converting table		

= line printer 1 (x = 1)

DATA FIELD LAYOUT

Library Mark
7DPHxName
DPHOT
DPHOxDescription
Photosetter

Relat. Addr.	Symbol	Contents	Explanation
-7	EMPTFLAG	0	} see DTxxW
-6	TMSUB	PSTOU	
-5	TMR	0	
-4	TTMR	-60	
-3	HDEV	IOX 1240#	
-2	STDRIV	PSDRI	
-1	DRIVER	PSDRI	
0	RESLINK	0	
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	110000	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	IORES	
7	IOTRANS	TTPUT	
10	STDEV	DMOUT	
11	SETDV	PSSET	
12	DFOPP	0	
13	DERROR	0	
14	BUFST	BUF0 + BUF	
15	MAX	120 + 120	
16	BHOLD	0	
17	HENTE	0	
20	CFREE	120 + 120	
21	FYLLE	0	
22	MINBHOLD	120	

= for photosetter 1

DATA FIELD LAYOUT

Library Mark
8PUN1Name
DPUNCH
DPUN2Description
Paper Tape Punch

Relat. Addr.	Symbol	Contents	Explanation
-10		0	
- 7	LAST	0	Not used
- 6	TMSUB	TTOMR	Time-out subroutine
- 5	TMR	0	Time-out counter
- 4	TTMR	-3	Start value of TMR
- 3	HDEV	IOX 410#	IOX instruction (i.e., IOX 410)
- 2	STDRIV	DWRIT	Start address of driver
- 1	DRIVER	DWRIT	Restart address after interrupt
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	110000	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait queue
5	MLINK	0	Monitor queue link
6	MFUNC	IORES	Monitor level function address
7	IOTRANS	TTPUT	Called from INBT/OUTBT to transfer
10	STDEV	DMOUT	Start device
11	SETDV	CEXIT	IOSET routine
12	DFOPP	0	Not used
13	DERROR	0	Error code
14	BUFST	BUF0 + BUF	Start of ring buffer
15	MAX	100 + 100	Buffer capacity
16	BHOLD	0	Number of characters in buffer
17	HENTE	0	Fetch pointer
20	CFREE	100 + 100	Free positions
21	FYLLE	100	Store pointer
22	MINBHOLD	8PUNn	Lower limit for break

= for punch / (DPNCH)

DATA FIELD LAYOUT

Library Mark
8REA1
8REA2Name
DREAR
DREA2Description
Paper Tape Reader

Relat. Addr.	Symbol	Contents	Explanation
-7	LAST		Not used
-6	TMSUB	DTAPT	Time-out subroutine
-5	TMR		Time-out counter
-4	TTMR	-2	Start value of TMR
-3	HDEV		IOX instruction (i.e., IOX 400)
-2	STDRIV	DTAPR	Start address of driver
-1	DRIVER	WT12	Restart address after interrupt
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of wait queue
3	TYPRING	110000	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	IORES	Monitor level function address
7	IOTRANS	TRGET	Called from INBT/OUTBT to transfer
10	STDEV	RSTDE	Start device
11	SETDV	CLBUF	IOSET routine
12	DFOPP	0	Not used
13	DERROR	0	Error code
14	BUFST	BUF0 + BUF	Start of ring buffer
15	MAX	100 + 100	Buffer capacity
16	BHOLD	0	Number of characters in buffer
17	HENTE	0	Fetch pointer
20	CFREE	100 + 100	Free positions
21	FYLLE	0	Store pointer
22	MINBHOLD	40	Lower limit for break
23	MAXBHOLD	100	Upper limit for break

DATA FIELD LAYOUT	Library Mark	Name
	8DI1	DRFIE
	8DI2	DRFI2

Description
Disk (10 Mb)

Relat. Addr.	Symbol	Contents	Explanation
-36	DERC	-4	Number of consecutive errors before clear device
-35	BUSFL	0	Transfer flag (1 = transfer started)
-34	SVLCA	0	Last memory address used
-33	SVLWC	0	Last word counter used
-32	TRG	0	Register when calling driver (real = TADRG)
-31	ARG	0	Register when calling driver (real = TADRG)
-30	DRG	0	Register when calling driver (real = TADRG)
-27	XRG	0	Register when calling driver (real = TADRG)
-26	CTRG	0	Register when calling driver first time (real = CTRG)
-25	CARG	0	Register when calling driver first time (real = CTRG)
-24	CDRG	0	Register when calling driver first time (real = CTRG)
-23	CXRG	0	Register when calling driver first time (real = CTRG)
-22	ERCNT	0	Number of error returns from driver
-21	SERRB	0	Serious error bits
-20	WERRB	20	Write back bits
-17	AERRB	0	Accumulated error bits
-16	TACNS	-40	Number of retrials wanted for before error messages
-15	TACOUNT	0	Retrial counter
-14	COMFL	0	Compare flag
-13	BLSZ	200	Block size
-12	TRNSF	CDISK	Driver address
-11	BUSY	BUSYE	Busy return
-10	FINISH	COOPT	Transfer finished
-7	ERROR	PFEIL	Error return from driver
-6	TMSUB	MTMRS	Time-out subroutine
-5	TMR	0	Time-out counter
-4	TTMR	-4	Start value of TMR
-3	HDEV	500#	Hardware device number (i.e., IOX 1540)
-2	STDRIV	CTRDI	Start address of driver
-1	DRIVER	0	Restart address after interrupt
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	2	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	RETRA	Monitor level function address
7	TRLREG	0	Return address on monitor level after transfer
10	HSTAT	0	Hardware status from driver
11	MTRANS	MTRNS	Monitor level routine to activate driver
12	TMRFLG	0	Not used
13	BREGC	0	Not used
14	MEMA1	0	Initial memory address
15	MEMA2	0	Initial memory address
16	CMAD1	0	Current memory address
17	CMAD2	0	Current memory address

= for disk number 1 (DRFIE)

DATA FIELD LAYOUT

Library Mark
7TE_xName
DTEL_xDescription
TET Input

Relat. Addr.	Symbol	Contents	Explanation
-15	BRKMAX	0	} see DTxxR
-14	TSPEED	-1	
-13	CNTREG	5	
-12	DFLAG	0	
-11	ECHOTAB	0	
-10	BRKTAB	0	
-7	LAST	0	
-6	TMSUB	TTIMR	
-5	TMR	-3	
-4	TTMR	-3	
-3	HDEV	IOX 1370#	
-2	STDIV	TELIN	
-1	DRIVER	TELEN	
0	RESLINK	0	
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	110000	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	IORES	
7	IOTRANS	TRGET	
10	STDEV	TEXIT	
11	SETDV	CLBUF	
12	DFOPP	0	
13	DERROR	0	
14	BUFST	BUF0 + BUF	
15	MAX	40 + 40	
16	BHOLD	0	
17	HENTE	0	
20	CFREE	40 + 40	
21	FYLLE	0	

= for TET input number 1 (x = 1)

DATA FIELD LAYOUT

Library Mark
TTExName
DTLxWDescription
TET Output

Relat. Addr.	Symbol	Contents	Explanation
-10	SCREEN	0	} see DTxxW
-7	EMPTFLAG	1	
-6	TMSUB	TTOMR	
-5	TMR	0	
-4	TTMR	-10	
-3	HDEV	IOX 1374#	
-2	STDRIV	DWRIT	
-1	DRIVER	DWRIT	
0	RESLINK	0	
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	110000	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	IORES	
7	IOTRANS	TTPUT	
10	STDEV	DMOUT	
11	SETDV	CLBUF	
12	DFOPP	DTLxR	
13	DERROR	0	
14	BUFST	BUF0 + BUF	
15	MAX	40 + 40	
16	BHOLD	0	
17	HENTE	0	
20	CFREE	40 + 40	
21	FYLLE	0	
22	MINBHOLD	40	
23	ROFIL	0	
24	BCHOSTS	0	

= for TET number 1 (x = 1)

DATA FIELD LAYOUT				Library Mark see SIN1-GEN	Name DTxxR
Description Terminal, Inbyte					
Relat. Addr.	Symbol	Contents	Explanation		
-41	PECH7 (10)		Echo table 7		
-31	PBRK7 (10)		Break table 7		
-21	ROUSPEC		Address of special subroutine		
-20	NCBRK		Number of characters after last break		
-17	CTTYP		Terminal type		
-16	CESCP	33	Escape character		
-15	BRKMAX		Maximum BHOLD before break		
-14	TSPEED	see table	Terminal speed		
-13	CNTREG	44005	Control register		
-12	DFLAG		Flag bits		
-11	ECHOTAB	ECH0	Echo table		
-10	BRKTAB	BRK0	Break table		
- 7	LAST		Last typed character		
- 6	TMSUB	TTIMR	Time-out subroutine		
- 5	TMR		Time-out counter		
- 4	TTMR	-3	Start value of TMR		
- 3	HDEV		IOX instruction		
- 2	STDRIV	STTIN	Start address of driver		
- 1	DRIVER	TYENT	Restart address after interrupt		
0	RESLINK	0	Reservation link		
1	RTRES	0	Reserving RT program		
2	BWLINK	*-2	Beginning of waiting queue		
3	TYPRING	110040	Device type bits and ring		
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode		
5	MLINK	0	Monitor queue link		
6	MFUNC	IORES	Monitor level function address		
7	IOTRANS	TTGET	Called from INBT/OUTBT to transfer		
10	STDEV	TEXT	Start device		
11	SETDV	CLBUF	IOSET routine		
12	DFOPP	DTxxW	Opposite data field for two-way devices		
13	DERROR	0	Error code		
14	BUFST	BUF0 + BUF	Start of ring buffer		
15	MAX	40 + 40	Buffer capacity		
16	BHOLD	0	Number of characters in buffer		
17	HENTE	0	Fetch pointer		
20	CFREE	40 + 40	Free positions		
21	FYLLE	0	Store pointer		
22	BSTATE	see below	Background program state		
23	TSTATE	see below	Time slice state		
24	DBPROG	BAKxx	Background RT program		
25	DBADDR	0	Saved P register on escape and file system monitor call		
26	RIFIL	0	For MODE (input file no.)		
27	BCHISTS	0	For MODE (input status = 0: output file cannot be accessed)		
30	DERO (2)	0	Register block		
32	DER2 (6)	0	Register block		
	BREGBLOCK = DERO		Register save on escape		
40	DBPREG	0	P register on page fault on IOBT level		
41	DBCTPRI	0	ACTPRI on page fault on IOBT level		
42	FLAGB	see below	Background flag		

Values of BSTATE:

- 0: not logged in (5BPASSIVE)
- 1: command mode (5BCOMM)
- 2: user mode (5BUSER)
- 3: escape is punched (5BESC)
- 4: error printout (5ERROR)
- 5: remote processing (5REMOT) (REMOTE)
- 6: rubout is punched (5RERUB) (REMOTE)
- 7: remote file transfer (5CFILTRA)

Value of TSTATE:

- 0: outside time slice (5TDUM) PRIO. 20
- 1: inside time slice (5TLOW) PRIO. 40
- 2: after break character (5THIGH) PRIO. 60
- 3: after break character (PRIO. not yet raised) (5TREACT)
- 4: medium priority (5CONT) PRIO. 50
- 5: waiting for medium priority (5WCONT) PRIO. 50

FLAGB (bit):

- 0: 5NOSLICE - run with fixed prio.
- 1: 5ESCON - escape allowed in command mode
- 2: 5ESC2SET - escape has been typed but no served
- 3: 5LOGOUT - log out on missing carrier
- 4: 5ABJOB - abort job (ERROR)
- 5: 5OLBRK - missing carrier on output

DATA FIELD LAYOUT

Library Mark
see SIN1-GENName
DTxxWDescription
Terminal, Out Byte

Relat. Addr.	Symbol	Contents	Explanation
- 10	SCREEN	0	Counter for stop on full page
- 7	EMPTFLAG	1	= 0 when buffer empty and print of last character finished
- 6	TMSUB	TTOMR	Time-out subroutine
- 5	TMR	0	Time-out counter
- 4	TTMR	- 10	Start value of TMR
- 3	HDEV	IOX 310 + 4#	IOX instruction
- 2	STDRIV	DWRIT	Start address of driver
- 1	DRIVER	DWRIT	Restart address after interrupt
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	* -2	Beginning of wait queue
3	TYPRING	110000	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	IORES	Monitor level function address
7	IOTRANS	TTPUT	Called from INBT/OUTBT to transfer
10	STDEV	DMOUT	Start device
11	SETDV	CLBUF	IOSET routine
12	DFOPP	DTxxR	Opposite data field for two-way devices
13	DERROR	0	Error code
14	BUFST	BUF0 + BUF	Start of ring buffer
15	MAX	40 + 40	Buffer capacity
16	BHOLD	0	Number of characters in buffer
17	HENTE	0	Fetch pointer
20	CFREE	40 + 40	Free positions
21	FYLLE	0	Store pointer
22	MINBHOLD	40	Lower limit for break
23	ROFIL	0	For MODE (output file number)
24	BCHOSTS	0	For MODE (output status = 0, output file cannot be accessed, > < 0: otherwise)
26	CBUADR	0	Current user buffer address (OUTSTRING)
27	NOCHAR	0	Number of bytes in OUTSTRING
30	CNOCHAR	0	Number of words left to transfer (OUTSTRING)
31	XNOCHAR	0	Working location (OUTSTRING)
32	ZOPRG	0	P, X, and T registers in OUTSTRING
35	ZOARG	0	A, D and L registers in OUTSTRING
40	ZOSRG	0	S and B registers and OLD PAGE in OUTSTRING
43	SBHOLD	0	Saved BHOLD in OUTSTRING

26 - 43 only if background

= For terminal 1 (xx = 01)

DATA FIELD LAYOUT				Library Mark 8FDIx	Name FDIDx
Description DMA Floppy Disk					
Relat. Addr.	Symbol	Contents	Explanation		
- 123	SPTB		Saved page table content (page 33)		
- 122	SPTB		Saved page table content (page 34)		
- 121	FCNT3		Used by RT program (word count)		
- 120	FCNT4		Word counter used by RT program (—WDCNT)		
- 117	FDIST		Temporary hardware status		
- 116	MRETURN		Address of the 3rd parameter (format number)		
- 115	FRTRY		Retrial counter for address mismatch		
- 114	DINCR		Number of sectors transferred		
- 113			Link for monitor queue (MLINK)		
- 112		MFDIS	Address of monitor function routine (MFUNC)		
- 111	FRTPR	FDRT1	RT program to fill or empty the buffer		
- 110	WDCNT		Word/sector used by the RT program (FDIRT)		
- 107	FDIMOD		Disk address modifier (— 1 = rev. to EOF, 1 = addr. to EOF)		
- 106	FCNT1		Maximum number of sectors in buffer		
- 105	FCNT2		Counter for sectors in buffer		
- 104	DPFLG		Routine switch in driver		
- 103	DATAF		Current format number		
- 102	SECT		Sector address		
- 101	SCTIB		Number of sectors in buffer		
- 100	FDIFORM (3)		Hardware format (format 0, 1, 2)		
- 75	LFADDR (3)		Last legal disk address (format 0, 1, 2)		
- 72	OLDTR (3)		Old track number (unit 0, 1, 2)		
- 67	NEWTR (3)		New track number (unit 0, 1, 2)		
- 64	WDSCT (3)		Word/sector (format 0, 1, 2)		
- 61	MSCIB (3)		Maximum number of sectors allowed in buffer (format 0, 1, 2)		
- 56	SCTTR (3)		Sectors/track (format 0, 1, 2)		
- 53	CALIB (3)		Calibration flag (unit 0, 1, 2)		
- 50	NFDIADR (3)		Next disk address (unit 0, 1, 2)		
- 45	SHSTAT (3)		Saved last status (unit 0, 1, 2)		
- 42	CERCODE		Error code		
- 41	MAXUNIT		Maximum unit number on this controller		
- 40	FDRIVE		Current drive number		
- 37			Not used		
- 36			Not used		
- 35	BUSFL		Transfer flag (1 = transfer started)		
- 34	SVLCA		Not used		
- 33	CFLRG		Return address inside TFDISK		
- 32	TRG		Register when calling driver (real = TADRG)		
- 31	ARG		Register when calling driver (real = TADRG)		
- 30	DRG		Register when calling driver (real = TADRG)		
- 27	XRG		Register when calling driver (real = TADRG)		
- 26	CTRG		Register when calling driver first time (real = CTRG)		
- 25	CARG		Register when calling driver first time (real = CTRG)		
- 24	CDRG		Register when calling driver first time (real = CTRG)		
- 23	CXRG		Register when calling driver first time (real = CTRG)		
- 22	ERCNT		Number of error returns from driver		
- 21	SERRB		Serious error bits		
- 20			Not used		

- 17	AERRB		Accumulated error bits
- 16	TACNS	- 12	Number of retrials wanted before error message
- 15	TACOUNT		Retrial counter
- 14	COMPL		Not used
- 13	BLSZ		Not used
- 12	TRNSF	FDISK	Driver address
- 11	BUSY	FDIBU	Busy return
- 10	FINISH	FDIFI	Transfer finished
- 7	ERROR	FDIFE	Error return from driver
- 6	TMSUB	MTMRS	Time-out subroutine
- 5	TMR		Time-out counter
- 4	TTMR	- 10	Start value of TMR
- 3	HDEV		IOX instruction (i.e., IOX 1560)
- 2	STDRIV	TFDISK	Start address of driver
- 1	DRIVER		Restart address after interrupt
0	RESLINK		Reservation link
1	RTRES		Reserving RT program
2	BWLINK		Beginning of waiting queue
3	TYPRING	402	Device type bits and ring
4	ISTATE		0 = idle, 1 = busy, - 1 = no wait mode
5	MLINK		Monitor queue link
6	MFUNC	RETRA	Monitor level function address
7	TRLREG		Return address on monitor level after transfer
10	HSTAT		Hardware status from driver
11	MTRANS	MTRNS	Monitor level routine to activate driver
12	MRTREF		Program calling close
13	BREGC		Address of I/O data field

DATA FIELD LAYOUT

Library Mark
8FyLLxName
FyUxlDescription
Floppy Disk Input
(y = controller, x = driver)

Relat. Addr.	Symbol	Contents	Explanation
-1	ADRBHEAD		Buffer head address
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	112000	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	IORES	Monitor level function address
7	IOTRANS	CBGET	Called from INBT/OUTBT to transfer
10	STDEV	TEXIT	Start device
11	SETDV	CAICL	IOSET routine
12	DFOPP	FyUxO	Opposite data field for two-way devices
13	DERROR	0	Error code
14	BUFST	0	Start of ring buffer
15	MAX	0	Buffer capacity
16	BHOLD	0	Number of characters in buffer
17	HENTE	0	Fetch pointer
20	CFREE	0	Free positions
21	FYLLE	0	Store pointer
22	CLOGDV	1145#	Logical unit number for DMA data field
23	DFDEV	1146#	Logical unit number for DF data field
24	LREGC	0	Return address after IOTRANS is executed
25	CASUN	x	Device unit number
26	CERROR	0	Current error code
27	LASTC	0	Current character
30	NOWRE	0	Number of characters to read/write
31	CPARM (5)	0, *+3, *+6, *-4, 0	Parameter list for MTRANS (including first word in memory buffer address)#
36	MABUF	0	Second word in memory buffer address
37	VFUNC	0	Not used
40	CIOLOG	1000#	Logical device number
41	FDIADR	0	Floppy disk address

= for controller 1, unit 0 (y = 1, x = 0)

DATA FIELD LAYOUT

Library Mark
8FyUxName
FyUxODescription
Floppy Disk Output

Relat. Addr.	Symbol	Contents	Explanation
-1	ADRBHEAD	0	Buffer head address
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	112000	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	IORES	Monitor level function address
7	IOTRANS	CBPUT	Called from INBT/OUTBT to transfer
10	STDEV	TEXT	Start device
11	SETDV	CAOCL	IOSET routine
12	DFOPP	FyUxl	Opposite data field for two-way devices
13	DERROR	0	Error code
14	BUFST	0	Start of ring buffer
15	MAX	0	Buffer capacity
16	BHOLD	0	Number of characters in buffer
17	HENTE	0	Fetch pointer
20	CFREE	0	Free positions
21	FYLLE	0	Store pointer
22	CLOGDV,	1145#	Logical unit number for DMA data field
23	DFDEV	1146#	Logical unit number for DF data field
24	LREGC	0	Return address after IOTRANS is executed
25	CASUN	x	Device unit number
26	CERROR	0	Current error code
27	LASTC	0	Current character
30	NOWRE	0	Number of characters to read/write
31	CPARM (5)	1, *+3, *+6, *-4, 0	Parameter list for MTRANS (including first word in memory buffer address)#
36	MABUF	0	Second word in memory buffer address
37	VEFUNC	0	Not used
40	CIOLOG	1000#	Logical device number
41	FDIADR	0	Floppy disk address

= For controller 1, drive 0 (y = 1, x = 0)

DATA FIELD LAYOUT

Library Mark
yGBzName
GRBz
GyBz

Description

NORCOM Graphic Buffer (y = ACM no.z = bank no.)

Relat. Addr.	Symbol	Contents	Explanation
-6		UUS0	Routine for PLOTT monitor call
-5	STAAD	0	Work cell
-4	KLUMP	0	Save cell
-3	HDEV	IOX 40#	IOX for ACM
-2	BCOVN	0	Work cell
-1	DRIVER	0	Driver address
0	RESLINK	0	} see DTxxW
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	10000	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	IORES	
7	XDIFF	0	Increment difference, x coordinate
10	YDIFF	0	Increment difference, y coordinate
11	SETDV	SETFA	IOSET routine
12	INNX	0	Save X register
13	DERRO	0	Error code
14	RETAD	0	Return address
15	CURAD	0	Current ACM address
16	CURDA	0	ACM data
17	BATEM	0	Bank number
20	BANKB	71#	Blank position
21	COLOR	0	Current colour
22	OLDX	0	Previous X coordinate
23	OLDY	0	Previous Y coordinate
24	TEXTIT	ATEXI	Exit address
25		LINEG	Vector generating routine
26		ERESE	Erase line routine
27		NOCUL	Select colour routine
30	VAR	0	} work area
31	TELL	0	
32	REFAD	0	
33	TEMP	0	
34	REST	0	
35	ADRE	0	
36		0	
37	XREG	0	
40	RESU	0	
41	YPAR	0	
42	COPO	0	
43	SAVA	0	
44	LREG	0	
45	LMER	0	
46	INC1	0	
47	INC2	0	
50	SW1	0	
51	SW2	0	
52	INST	0	
53	X2	0	
54	Y2	0	
55	YSTA	0	

= ACM no. 1, bank no. 1, (y,z) = (1,1)

DATA FIELD LAYOUT

Library Mark
7GRCxName
GRxRDescription
Graf Cassette, Input

Relat. Addr.	Symbol	Contents	Explanation
-13	CNTREG	40005	} see DTxxR
-12	DFLAG	20000	
-11	ECHOTAB	0	
-10	BRKTAB	0	
-7	LAST	0	
-6	TMSUB	GROUT	
-5	TMR	0	
-4	TTMR	-100	
-3	HDEV	IOX 1220#	
-2	STDRIV	GRSTA	
-1	DRIVER	GRCAS	
0	RESLINK	0	
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	110000	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	IOREs	
7	IOTRANS	GRGET	
10	STDEV	GRGET	
11	SETDV	CLBUF	
12	DFOPP	GRxW	
13	DERROR	0	
14	BUFST	BUF0 + BUF	
15	MAX	40 + 40	
16	BHOLD	0	
17	HENTE	0	
20	CFREE	40 + 40	
21	FYLLE	0	
22	BSTATE	0	
23	TSTATE	0	
24	DBFROG	0	
25	DBADDR	0	
26	RIFIL	0	
27	BCHISTS	0	

= for Graf cassette, input no. 1 (x = 1)

DATA FIELD LAYOUT

Library Mark
7GRCxName
GRxWDescription
Graf Cassette, Output

Relat. Addr.	Symbol	Contents	Explanation
-10	SCREEN	0	} see DTxxW
-7	EMPTFLAG	1	
-6	TMSUB	TTOMR	
-5	TMR	0	
-4	TTMR	-10	
-3	HDEV	IOX 1224#	
-2	STDRIV	DWRIT	
-1	DRIVER	DWRIT	
0	RESLINK	0	
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	110000	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	IORES	
7	IOTRANS	TTPUT	
10	STDEV	DMOUT	
11	SETDV	CLBUF	
12	DFOPP	GRxR	
13	DERROR	0	
14	BUFST	BUF0 + BUF	
15	MAX	40 + 40	
16	BHOLD	0	
17	HENTE	0	
20	CFREE	40 + 40	
21	FYLLE	0	
22	MINBHOLD	40	
23	ROFIL	0	
24	BCHOSTS	0	

= for Graf cassette, output no. 1 (x = 1)

DATA FIELD LAYOUT

Library Mark
7HARxName
HAXRDescription
Harris Photosetter, Input

Relat. Addr.	Symbol	Contents	Explanation
-13	CNTREG	40005	} see DTxxR
-12	DFLAG	0	
-11	ECHOTAB	0	
-10	BRKTAB	0	
-7	LAST	0	
-6	TMSUB	HOUT	
-5	TMR	0	
-4	TTMR	-100	
-3	HDEV	IOX 1240#	
-2	STDRIV	HSTDE	
-1	DRIVER	HARRI	
0	RESLINK	0	
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	110000	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	IORES	
7	IOTRANS	TRGET	
10	STDEV	DEVST	
11	SETDV	CLBUF	
12	DFOPP	0	
13	DERROR	0	
14	BUFST	BUF0 + BUF	
15	MAX	40 + 40	
16	BHOLD	0	
17	HENTE	0	
20	CFREE	40 + 40	
21	FYLLE	0	
22	BSTATE	40	
23	TSTATE	0	
24	DBPROG	0	
25	DBADDR	0	
26	RIFIL	0	
27	BCHISTS	0	

= Harris photosetter, input no. 1 (x = 1)

DATA FIELD LAYOUT

Library Mark
7HARxName
HAXWDescription
Harris Photosetter, output

Relat. Addr.	Symbol	Contents	Explanation
-10	SCREEN	0	} see DTxxW
-7	EMPTFLAG	1	
-6	TMSUB	0	
-5	TMR	0	
-4	TTMR	-10	
-3	HDEV	IOX 1244#	
-2	STDRIV	DWRIT	
-1	DRIVER	DWRIT	
0	RESLINK	0	
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	110000	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	IORES	
7	IOTRANS	TTPUT	
10	STDEV	DMOUT	
11	SETDV	CLBUF	
12	DFOPP	HAXR	
13	DERROR	0	
14	BUFST	BUF0 + BUF	
15	MAX	40 + 40	
16	BHOLD	0	
17	HENTE	0	
20	CFREE	40 + 40	
21	FYLLE	0	
22	BSTATE	40	
23	TSTATE	0	
24	DBPROG	0	

= Harris photosetter no. 1 (x = 1)

DATA FIELD LAYOUT

Library Mark
8HDMxName
HDFixDescription
BSC-DMA Link, Monitor Call Input

Relat. Addr.	Symbol	Contents	Explanation
-1	ADRBHEAD	0	} see MTDIx
0	RESLINK	0	
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	12200	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	IORES	
7	IOTRANS	TEXT	
10	STDEV	TEXT	
11	SETDV	TEXT	
12	DFOPP	HDFOx	
13	DERROR	0	
14	BUFST	0	
15	MAX	0	
16	BHOLD	0	
17	HENTE	0	
20	CFREE	0	
21	FYLLE	0	
22	CLOG	1303#	
23	DFDEV	1305#	
24	LREGC	0	

= for modem 1 (x = 1)

DATA FIELD LAYOUT

Library Mark
8HDMxName
HDFOxDescription
BSC-DMA Link Monitor Call, Output

Relat. Addr.	Symbol	Contents	Explanation
-1	ADRBHEAD	0	} see MTDOx
0	RESLINK	0	
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	12200	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	IORES	
7	IOTRANS	TEXT	
10	STDEV	TEXT	
11	SETDV	TEXT	
12	DFOPP	HDFIx	
13	DERROR	0	
14	BUFST	0	
15	MAX	0	
16	BHOLD	0	
17	HENTE	0	
20	CFREE	0	
21	FYLLE	0	
22	CLOGDV	1304#	
23	DFDEV	1306#	
24	LREGC	0	

= for modem no. 1 (x = 1)

DATA FIELD LAYOUT

Library Mark
8HDMxName
HDMIxDescription
BSC-DMA Link Controller, Input

Relat. Addr.	Symbol	Contents	Explanation
-44	HCTRL	100	Input control word
-43	HMOD		Not used
-42	CERRCODE	0	Error code
-41			} Not used
-37		0	
-36	MRETURN	0	
-35		0	
-34		0	Not used
-33	CLREG	0	} see MTFIE
-32	TRG	0	
-31	ARG	0	
-30	DRG	0	
-27	XRG	0	
-26	CTRG	0	
-25	CARG	0	
-24	CDRG	0	
-23	CXRG	0	} Not used
-22			
-13		0	
-12	TRNSF	HDMID	
-11	BUSY	HDIBU	} see MTFIE
-10	FINISH	HDIFI	
-7	ERROR	HDIFE	
-6	TMSUB	HITMR	
-5	TMR	0	
-4	TTMR	-6	
-3	HDEV	IOX 560#	
-2	STDRIV	CTRID	
-1	DRIVER	0	
0	RESLINK	0	
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	202	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	RETRA	
7	TRLREG	0	
10	HSTAT	0	
11	MTRANS	HITRN	
12	MRTREF	0	
13	BREGC	0	

= for modem 1 (x = 1)

DATA FIELD LAYOUT

Library Mark
8HDMxName
HDMOxDescription
BSC-DMA Link Controller, Output

Relat. Addr.	Symbol	Contents	Explanation
-44	HCTRL	100	Output control word
-43	HMOD		
-42	GERRCODE	0	
-41			
-37		0	
-36	MRETURN	0	
-35		0	
-34		0	
-33	CLREG	0	
-32	TRG	0	
-31	ARG	0	
-30	DRG	0	
-27	XRG	0	
-26	CTRG	0	
-25	CARG	0	
-24	CDRG	0	
-23	CXRG	0	
-22			
-13		0	
-12	TRNSF	HDMOD	
-11	BUSY	HDOBU	
-10	FINISH	HDOFI	
-7	ERROR	HDOFE	
-6	TMSUB	HOTMR	
-5	TMR	0	see HDMIx
-4	TTMR	-12	
-3	HDEV	IOX 560#	
-2	STDRIV	CTROD	
-1	DRIVER	0	
0	RESLINK	0	
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	202	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	RETRA	
7	TRLREG	0	
10	HSTAT	0	
11	MTRANS	HOTRN	
12	MRTREF	0	
13	BREGC	0	

= for modem no. 1 (x = 1)

DATA FIELD LAYOUT

Library Mark
IBLxxName
IBxxIDescription
Internal Device, Block Oriented Output

Relat. Addr.	Symbol	Contents	Explanation
-3	CIDEVBU	0	Address to buffer
-2	INWORDS	0	Number of words in buffer
-1	IDFOPP	IDxxO	Pointer to opposite data field
0	RESLINK	0	} see DRFIE
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	102	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	0	
7	TRLREG	0	
10	HSTAT	0	
11	MTRANS	IMTRI	
12	TRMFLG	0	
13	BREGC	0	

DATA FIELD LAYOUT

Library Mark
IBLxxName
IBxxO

Description

Internal Device, Block Oriented Output

Relat. Addr.	Symbol	Contents	Explanation
-1	IDEFOPP	IDxxl	Pointer to opposite data
0	RESLINK	0	
1	RTRES	0	see DRFIE
2	BWLINK	*-2	
3	TYPRING	102	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC.	0	
7	TRLREG	0	
10	HSTAT	0	
11	MTRANS	IMTRO	
12	TRMFLG	0	
13	BREGC	0	

DATA FIELD LAYOUT

Library Mark
8SM0x
9SM0xName
IDM0x
IDMxxDescription
Synchronous Modem Input

Relat. Addr.	Symbol	Contents	Explanation
-12	NOWSTAT	0	Switch for modem output
-11	TERSW	0	Terminate condition switch
-10	MOSW	0	Block switch
-7	LAST	0	Last character
-6	TMSUB	MOTMI	Timer subroutine
-5	TMR	0	Time-out counter
-4	TTMR	-16	Not used
-3	HDEV	IOX 100#	IOX instruction (i.e., IOX 100)
-2	STDRIV	MODIN	Start address of driver
-1	DRIVER	MODI1	Restart address after interrupt
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	110000	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	IOREM	Monitor level function address
7	IOTRANS	MOTRI	Called from INBT/OUTBT to transfer
10	STDEV	TEXT	Start device
11	SETDV	MOSTI	IOSET routine
12	DFOPP	0	Not used
13	DERROR	0	Error code
14	BUFST	BUF0 + BUF	Start of ring buffer
15	MAX	MIBUx + MIBUx	Buffer capacity
16	BHOLD	0	Number of characters in buffer
17	HENTE	0	Fetch pointer
20	CFREE	MIBUx + MIBUx	Free positions
21	FYLLE	0	Store pointer
22	MINBHOLD	0	Lower limit for break
23	MAXBHOLD	MIBUx + MIBUx	Upper limit for break

= for modem 1 (x = 1)

DATA FIELD LAYOUT

Library Mark
8CRD
8CRD2

Name
IDV4
IDV42

Description
Card Reader

Relat. Addr.	Symbol	Contents	Explanation
-12	BINCARD	0	> < 0: binary read (no conversion), = 0: convert to ASCII
-11	CSC	0	Column counter for IOTRANS routine
-10	CNC	0	Column counter for interrupt routine
-7	CASW	0	Information exchange between driver and IOTRANS routine
-6	TMSUB	CATIM	Time-out routine
-5	TMR	0	Time-out counter
-4	TTMR	-6	Start value of TMR
-3	HDEV	IOX 420#	IOX instruction (i.e., IOX 420)
-2	STDRIV	IDR4	Start address of driver
-1	DRIVER	IDR41	Restart address after interrupt
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	110000	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	IORES	Monitor level function address
7	IOTRANS	CATRA	Called from INBT/OUTBT to transfer
10	STDEV	TEXT	Start device
11	SETDV	CARST	IOSET routine
12	DFOPP	0	Not used
13	DERROR	0	Error code
14	BUFST	BUF + BUF0	Start of ring buffer

= for IDB4 only.

DATA FIELD LAYOUT	Library Mark	Name
	INDxx	
	IBLxx	IDxxI

Description
Internal Device, Character Oriented Input

Relat. Addr.	Symbol	Contents	Explanation
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	* -2	Beginning of waiting queue
3	TYPRING	112100	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	IORES	Monitor level function address
7	IOTRANS	IGTCH	Called from INBT/OUTBT to transfer
10	STDEV	ISTDV	Start device
11	SETDV	CLBUF	IOSET routine
12	DFOPP	IDxxO	Opposite data field for two-way devices
13		0	Not used
14	BUFST	BUF0 + BUF	Buffer start
15	MAX	IDBUS + IDBUS	Buffer capacity
16	BHOLD	0	Number of characters in buffer
17	HENTE	0	Fetch pointer
20	CFREE	IDBUS + IDBUS	Free positions
21	FYLLE	0	Store pointer
22	CLOGDV	1210 + XIBNX	Logical unit number for DMA data field
23	DFDEV	1211 + XIBNX	Logical unit number for DF data fields
24	IMAXBHOLD (2)	1, 0	MAXBHOLD
26	TERM	TERMC	Terminator character
27	CHARI	0	Current character

DATA FIELD LAYOUT

Library Mark
INDxx
IBLxxName
IDxxO

Description

Internal device, character arr. output

Relat. Addr.	Symbol	Contents	Explanation
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	112100	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	IORES	Monitor level function address
7	IOTRANS	IPTCH	Called from INBT/OUTBT to transfer
10	STDEV	OSTDV	Start device
11	SETDV	INIOS	IOSET routine
12	DFOPP	IDxxI	Opposite data field for two-way devices
13	DERROR	0	Error code
14		0	} not used
15		0	
16		0	
17		0	
20		0	
21		0	
22	CLOGDV	1210 + XIBNX	Logical unit number for DMA data field
23	DFDV	1272 + YIBNY	Logical unit number for DF data field
24	LREGC	0	Return address after IOTRANS is executed
25	CASUN	0	Device unit number

DATA FIELD LAYOUT

Library Mark

Name
IERRF

Description

Error message, internal device input

Relat. Addr.	Symbol	Contents	Explanation
0	RESLINK	0	} see IDxxl
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	110002	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	IORES	
7	IOTRANS	GETW	
10	STDEV	ISTDV	
11	SETDV	CLBUF	
12	DFOPP	OERRF	
13		0	

DATA FIELD LAYOUT

Library Mark

8M1Ua

8M2Ua

where a = x - 1

Name

M1Dlx

M2Dlx

Description
Magnetic Tape Input

Relat. Addr.	Symbol	Contents	Explanation
-1	ADRBHEAD	0	Buffer head address
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	112000	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	IORES	Monitor level function address
7	IOTRANS	CBGET	Called from INBT/OUTBT to transfer
10	STDEV	TEXT	Start device
11	SETDV	CAICL	IOSET routine
12	DFOPP	MTDOx	Opposite data field for two-way devices
13	DERROR	0	Error code
14	BUFST	0	Start of ring buffer
15	MAX	4000	Buffer capacity
16	BHOLD	0	Number of characters in buffer
17	HENTE	0	Fetch pointer
20	CFREE	4000	Free pointer
21	FYLLE	0	Store pointer
22	CLOGDV	560#	Logical unit number for DMA data field
23	DFDEV	5266, 526#	Logical unit number for DF data fields
24	LREGC	0	Return address after IORANS is executed
25	CASUN	x-1	Device unit number
26	CERROR	0	Current error code
27	LASTC	0	Current character
30	NOWRE	0	Number of characters to read/write
31	CPARM (5)	0, *+3, *-6, *-4, 0	Parameter list for MTRANS (including first word in memory buffer address)
36	MABUF	0	Second word in memory buffer address
37	VEFUNC	0	Not used
40	CIOLOG	40#	Logical device number
41			

= For magnetic tape controller 1, drive 1 (y = 1, x = 1)

DATA FIELD LAYOUT

Library Mark

8M1Ua

8M2Ua

where a = x - 1

Name

MTDOx

M2DOx

Description

Magnetic Tape Output

Relat. Addr.	Symbol	Contents	Explanation
-1	ADRBHEAD	0	Buffer head address
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	112000	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	IORES	Monitor level function address
7	IOTRANS	CBPUT	Called from INBT/OUTBT to transfer
10	STDEV	TEXIT	Start device
11	SETDV	CADCL	IOSET routine
12	DFOPP	MTDT1	Opposite data field for two-way device
13	DERROR	0	Error code
14	BUFST	0	Start of ring buffer
15	MAX	4000	Buffer capacity
16	BHOLD	0	Number of characters in buffer
17	HENTE	0	Fetch pointer
20	CFREE	4000	Free positioning
21	FYLLE	0	Store pointer
22	CLOGDV	560#	Logical unit number for DMA data field
23	DFDEV	526#	Logical unit number for DF data field
24	LREGC	0	Return address after IORANS is executed
25	CASUN	x-1	Device unit number
26	CERROR	0	Current error code
27	LASTC	0	Current character
30	NOWRE	2000	Number of characters to read/write
31	CPARM (5)	1, *+3, *-6, *-4, 0	Parameter list for MTRANS (including first word in memory buffer address)
36	MABUF	0	Second word in memory buffer address
37	VEFUNC	0	Not used
40	CIOLOG	40#	Logical device number
41			

= for controller 1, drive 1 (y = 1, x = 1)

DATA FIELD LAYOUT

Library Mark
99TMT
99HMT/8MT2

Name
MTFIE
M2FIE

Description
Tandberg/Pertec or H.P. (Mag. tape DMA)

Relat. Addr.	Symbol	Contents	Explanation
-52	ADNSTY (4)	0, --, 0	Actual density/parity (unit 0, 1, 2, 3)
-46	SHSTAT (4)	0, --, 0	Saved last status (unit 0, 1, 2, 3)
-42	CERRCODE	0	Current error code
-41	MAXUNIT	89NMT	Maximum unit number on this controller
-40	MACOU	0	Erase counter
-37	MRETURN	0	Address for returning read words
-36	MWRING	2#	Write ring bit
-35	MWSTAT	0	Status when write ring present
-34	MLOAD	0#	Load point status
-33	CLRG	0	Saved L register
-32	TRG	0	Register when calling driver (REAL = TADRG)
-31	ARG	0	Register when calling driver (REAL = TADRG)
-30	DRG	0	Register when calling driver (REAL = TADRG)
-27	XRG	0	Register when calling driver (REAL = TADRG)
-26	CTRG	0	Register when calling driver first time (REAL = CTRG)
-25	CARG	0	Register when calling driver first time (REAL = CTRG)
-24	CDRG	0	Register when calling driver first time (REAL = CTRG)
-23	CXRG	0	Register when calling driver first time (REAL = CTRG)
-22	ERCNT	0	Number of error returns from driver
-21	SERRB	1200	Serious error bits (bit 12: overflow in read, bit 10: data field for channel input SIII/SIII communication)
-20	WERRB	0	Not used
-17	AERRB	0	Accumulated error bits
-16	TACNS	-4	Number of retrials wanted before message
-15	TACOUNT	0	Retrial counter
-14	MWCNT	-2	Number of times to write erase gap
-13	BLSZ	2000	Block size
-12	TRNSF	TMAGT#	Driver address
-11	BUSY	MBUSY	Busy return
-10	FINISH	MFINI	Transfer finished
-7	ERROR	MFEIL	Error return from driver
-6	TMSUB	MGTMR	Time-out subroutine
-5	TMR	0	Time-out counter
-4	TTMR	-10	Start value of TMR
-3	HDEV	520##	Hardware device number (i.e., IOX 520)
-2	STDRIV	CTRMA	Start address of driver
-1	DRIVER	0	Restart address after interrupt
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	1006	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	RETRA	Monitor level function address
7	TRLREG	0	Return address on monitor level after transfer
10	MSTAT	0	Hardware status from driver
11	MTRANS	MTRNS	Monitor level routine to activate driver
12	MRTREF	0	Program calling CLOSE
13	BREGC	0	Address of I/O data field
14	MEMA1	0	Initial memory address
15	MEMA2	0	Initial memory address

16	CMAD1	0	Current memory address
17	CMAD2	0	Current memory address
20	CLEDEV	MTCLD	Address of clear device routine
21	BADTAPE	100#	Status bit for bad tape
22	RHSTAT (4)	0, --, 0	Error status in read (unit 0, 1, 2, 3)
26	RERRCOUNT		
	(4)	0, --, 0	Error counter in read (unit 0, 1, 2, 3)
32	WHSTAT (4)		Error status in write (unit 0, 1, 2, 3)
36	WERRCOUNT		
	(4)	0, --, 0	Error counter in write (unit 0, 1, 2, 3)

FLAGB = BIT:

0:	5NOSLICE	Run with fixed priority
1:	5ESCON	Escape allowed in command mode
2:	5ESC2SET	Escape has been typed but not served
3:	5LOGOUT	Logout on missing carrier
4:	5ABJOB	Abort job (error)
5:	5OLBRK	Missing carrier on output

= Tandberg/Pertec only

= Controller 1 only (MTFIE)

DATA FIELD LAYOUT

Library Mark
8S3CName
NDEM2Description
Monitor Work Field for Non-Demand

Relat. Addr.	Symbol	Contents	Explanation
0	ZPREG	0	Register block
1	ZXREG	0	
2	ZTREG	0	
3	ZAREG	0	
4	ZDREG	0	
5	ZLREG	0	
6	ZSREG	0	
7	ZBREG	0	
10	OLDPAG	0	Saved priority and page table numbers of calling program
11	D0	0	Monitor call parameters
12	D1	0	
13	D2	0	
14	D3	0	
15	D4	0	Work area
16-27		0	

DATA FIELD LAYOUT

Library Mark
7DIxxName
NDIxxDescription
Digital Input (ND810)

Relat. Addr.	Symbol	Contents	Explanation
-3	HDEV	IOX 3000#	} see DTxxR
-2	STDRIV	DIGIN	
-1	DRIVER	DIGIF	
0	RESLINK	0	
1	RTRES	0	
2	BWLINK	* -2	
3	TYPRING	110000	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	IORES	
7	IOTRANS	DIGIT	
10	STDEV	DIGIS	
11	SETDV	DIOSE	
12	DFOPP	0	
13	DERROR	0	
14	BUFST	BUF0 + BUF	}
15	MAX	20 + 20	
16	BHOLD	0	
17	HENTE	0	
20	CFREE	20 + 20	
21	FYLLE	0	
22	BMASK	0	
23	DITYPE	0	
24	CURRDAT	0	
25	BITTE	0	
26	MATCH	0	

Mask for significant bits

Interrupt flag

Last significant input data

Work cell

Last match register

= for input number 1 (xx = 01)

DATA FIELD LAYOUT

Library Mark
7DOxxName
NDOxxDescription
Digital Output (ND811)

Relat. Addr.	Symbol	Contents	Explanation
-3	HDEV	IOX3004#	See DTxxW
-2	STDRIV	0	
-1	DRIVER	0	
0	RESLINK	0	
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	110200	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	0	
7	IOTRANS	DOITR	Not used Error code Last status for output
10	STDEV	TEXIT	
11	SETDV	DOIOS	
12	DFOPP	0	
13	DERRO	0	
14	OLDREG	0	

= for digital output number 1 (xx = 01)

DATA FIELD LAYOUT

Library Mark

Name
OERRFDescription
Error message internal device output

Relat. Addr.	Symbol	Contents	Explanation
0	RESLINK	0	} see IDxxO
1	RTRES	0	
2	BWLINK	0	
3	TYPRING	110002	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	IORES	
7	IOTRANS	PUTW	
10	STDEV	OSTDV	
11	SETDV	CLBUF	
12	DFOPP	IERRF	
13	DERROR	0	

DATA FIELD LAYOUT

Library Mark
8SM10
8SM50Name
SEMIx
SEMxxDescription
Semaphore

Relat. Addr.	Symbol	Contents	Explanation
0	RESLINK	0	} see DTxxW
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	0	

DATA FIELD LAYOUT

Library Mark
ySLxName
SLMx
SyMxDescription
NORDCOM Selector Module

Relat. Addr.	Symbol	Contents	Explanation
-5		0	n/a
-4	KLUMP	0	Save T register
-3	HDEV	IOX40#	IOX for ACM
-2	—	0	n/a
-1	—	0	n/a
0	RESLINK	0	} see DTxxR
1	RTRES	0	
2	BWLINK	*-2	
3	TYPRING	110000	
4	ISTATE	0	
5	MLINK	0	
6	MFUNC	IORES	} Called from INBT/OUTBT to transfer
7	IOTRANS	NORSE	
10	STDEV	TEXT	Start device
11	SETDV	SMSTA	IOSET routine
12	—	0	n/a
13	DERRO	0	Error code
14	RETAD	0	Return address
15	REGAD	142000#	Selector module
16	SCRAT	0	Work cell
17	ENSTA	0	Data
20	INSTA	0	Bank number

= ACM number 1, selector module number 1 (x,y) = (1,1)

DATA FIELD LAYOUT				Library Mark CmmLn	Name SmmnR
Description Channel Input SIII/SIII Communication					
Relat. Addr.	Symbol	Contents	Explanation		
-17	CTTYP	0	Terminal type		
-16	CESCP	33	Escape character		
-15	BRKMAX	0	Maximum BHOLD before break		
-14	ANTORD	0	Number of words to read (for MAGTP)		
-13	XSAC	0	Save X register in IOTRANS		
-12	DFLAG	4	Flag bits		
-11	ECHOTAB	ECHO	Echo table		
-10	BRKTAB	0	Break table		
-7	LAST	0	Last typed character		
-6	CMDAT	COMOn	Pointer to communication data field		
-5	IXSAC	0	Save data field for magnetic tape		
-4	ANTMEL	0	Number of frames in input queue		
-3	BYTS	0	Byte counter in frame		
-2	INCR	0	Byte counter in buffer		
-1	CHAN	mm-1	Channel number (0 - 37 octal)		
0	RESLINK	0	Reservation link		
1	RTRES	0	Reserving RT program		
2	BWLINK	*-2	Beginning of waiting queue		
3	TYPRING	116000	Device type bits and ring		
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode		
5	MLINK	0	Monitor queue link		
6	MFUNC	CIORE	Monitor level function address		
7	IOTRANS	SSTI	Called from INBT/OUTBT to transfer		
10	STDEV	TEXT	Start device		
11	SETDV	CLSBI	IOSET routine		
12	DFOPP	SmmnW	Opposite data field for two-way devices		
13	DERROR	0	Error code		
14	MSSTART	0	Pointer to first buffer of frame		
15	PLMSG	*	Last frame of input queue		
16	PFMSG	0	First frame of input queue		
17	CURBU	0	Current input buffer		
20	CHNST	0	Channel input status		
21	LRSA	0	Save L register in IOTRANS		
22	BSTATE	0	Background program state		
23	TSTATE	0	Time slice state		
24	DBPROG	BCmmn	Background RT program		
25	DBADDR	0	Saved P register on escape + file system monitor call		
26	RIFIL	0	For MODE (input file number)		
27	BCHISTS	0	For MODE (input status)		
30	DERO (2)	0, 0	Register block		
32	DER2 (6)	0, --, 0	Register block		
	BREG- BLOCK =				
	DERO		Register save at escape		
40	DBPREG	0	P register on page fault on IOBT level		
41	DBATPRI	0	ACTPRI on page fault on IOBT level		
42	FLAGB	0	Background flag		
43	RTTUT	RUmmn	RT description of file transfer program		

DATA FIELD LAYOUT				Library Mark CmmLn	Name SmmnW
Description Channel Output					
Relat. Addr.	Symbol	Contents	Explanation		
-15		0			
-14	ANTORD	0	Number of words to write (from MAGTP)		
-13	XSAC	0	Save X register in IOTRANS		
-12	DFLAG	0	Flag word (described in manual)		
-11	ECHOTAB	ECH0	Pointer to echo table		
-10	BRKTAB	0	Pointer to break table		
-7	LAST	0	Save last byte		
-6	CMDAT	CMOn	Pointer to communication data field		
-5	MSIZE	BUSIZ + BUSIZ	Maximum number of bytes in a frame (406 octal)		
-4	SCPRI	0	Channel priority		
-3	BYTS	0	Byte counter in frame		
-2	INCR	0	Byte counter in buffer		
-1	CHAN	mm-1	Channel number (0-37 octal)		
0	RESLINK	0	Reservation link		
1	RTRES	0	Reserving RT program		
2	BWLINK	*-2	Beginning of waiting queue		
3	TYPRING	116000	Device type bits and ring		
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode		
5	MLINK	0	Monitor queue link		
6	MFUNC	CIORE	Monitor level function address		
7	IOTRANS	SSTO	Called from INBT/OUTBT to transfer		
10	STDEV	TEXIT	Start device		
11	SETDV	CLSBO	IOSET routine		
12	DFOPP	SmmnR	Opposite data field for two-way devices		
13	DERROR	0	Error code		
14	MSSTART	0	Pointer to first buffer of frame		
15	UANTMEL	0	Number of frames in send queue for this channel		
16			Not used		
17	CURBU	0	Current output buffer		
20	CHNST	0	Channel output status		
21	LRSA	0	Save L register in IOTRANS		
22	RTIN	RUmmn	RT description of file transfer program		
23	ROFIL	0	For mode (IOUTPUT file number)		
24	BCHOSTS	0	For mode (output status)		

DATA FIELD LAYOUT				Library Mark ySMz	Name SMNz SyNz
Description NORCOM Semigraphic Buffer				(y = ACM no.) (z = sem.bank no.)	
Relat. Addr.	Symbol	Contents	Explanation		
-5	-	0	} see SLMz		
-4	KLUMP	0			
-3	HDEV	IOX 40#			
-2	-	0			
-1	-	0			
0	RESLINK	0			
1	RTRES	0			
2	BWLINK	*-2			
3	TYPRING	110000			
4	ISTATE	0			
5	MLINK	0			
6	MFUNC	IORES			
7	IOTRANS	NORDC			
10	STDEV	TEXT			
11	SETDV	NORST			
12	-	0	}		
13	DERRO	0			
14	RETAD	0			
15	CURAD	0			Current ACM address
16	CHSTA	0			ACM data
17	BANKN	z			Bank number
20	RUNMO	1			Program mode
21	MAXAD	5277#			Maximum address semigraphic
22	SAVE	0			
23	INKRE	1			Screen direction increment
24	NOSTA	0			Screen addressing modus
25	CURIN	0	}		Parameters for ACM address
26	SAML1	0			
27	SAML2	0			
30	SAML3	0			
31	NOVI	0			Address for RTCOMMON semigraphic buffer
32	NOVO	0			Number of words for RTCOMMON semigraphic buffer

= ACM no. = 1, bank no = 1, (y,z) = (1,1)

DATA FIELD LAYOUT				Library Mark SLPx	Name SPPRx
Description Spooling					
Relat. Addr.	Symbol	Contents	Explanation		
-1	JPLI *1				
0	SPOLPRO- GRAM	SPOOL	Pointer to spooling program		
1	RTDESCRIPTI- ON	SPRTx	Address to RT description		
2	DEVNO	SNLPx	Peripheral logical device number		
3	QSEGMENTS	SPSGx	Queue segment (= queue no.)		
4	QSEMAPHORE	1136#	Queue semaphore		
5	QIOSEMA- HORE	1137#	Queue I/O semaphore		
6	STOPF	0	Stop command flag		
7	ABORF	0	Abort command flag:		
			1 = abort current print; 2 = restart current print; 3 = stop print; bit 8=1 = forward space print; bit 9=1 = backspace bit; bit 10=1 = new file is set first in queue		
10	HEADER	HEAPR	Device dependent routine		
11	TRAILER	TRAPR	Device dependent routine		
12	PRINTBUFFER	SPRIN	Device dependent routines		
13	FILENUMBER	0	File number		
14	LASTPAGE	0	Last page number, if any		
15	PAGENUMBER	0	Current page		
16	REMAINDING	0	Byte number on last page		
17	BYTENUMBER	0	Current byte number		
20	FPARLIST	0			
21	FPARDLIST	0			
22	BUFFAD	74000	Device buffer		
23	FPAR1LIST	0			
24	FPAR2LIST	0			
25	PRINPAR	ENEN	ABSTRANS parameter list		
26	BUFPEK	* + 3	ABSTRANS parameter list		
27	DUMPAR	S000	ABSTRANS parameter list		
30	BYTNPEK	* - 11			
31	PCORAD (2)	0,0			
33	PRSEGM	177400 + SPSGx + 1	Buffer segment		
34	CMAPI	0	Memory map element		
35	CMAPI	36	Memory map element		
36	CMAPI	162000	Memory map element		
37	SNPAGE	0	Number of pages to backspace/forward space		
40	SNLINE	0	Number of lines to backspace/forward space		
41	SCONDITION	0	Spooling conditions		
42	SNLPAGE	104	Number of lines on one page		
43	SPMODE	0	0 = print, 1 = plot		
44	SPAGENUM- BER	0	Saved page number		
45	WSNLINE	0	Temporary SNLINE		
46	WSNPAGE	0	Temporary SNPAGE		
47	LF COUNT	0	LF counter		

50	SPFNAM (11)	0	Peripheral file name
61	QELEM (0)	0	Buffer for one queue element
61	NOCOPYS	0	First word = number of copies
62	FSPMESS	0	Flag for spooling file message
63	FNAME (57)	0	Position of spooling file name
142	BSMESS		
	(117)	0	Users message buffer

Note: 1 relative address 0 corresponds to label SPPRx -1 (B register points to SPPRx -1 in driver)

= for spooling number 1

DATA FIELD LAYOUT

Library Mark
yTBqName
TBAq
TByAq

Description
 NORCOM Trackerball
 (y = ACM no.; q = trackerball no.)

Relat. Addr.	Symbol	Contents	Explanation
-5	KDEV	IOX 1040#	Digital I/O IOX
-4	KLUMP	0	Save T register
-3	HDEV	IOX 40#	IOX for ACM
-2	FADR	172000#	ACM foreground address
-1	DRIVER	TBAEN	
0		0	} see DTxxR
1		0	
2		*-2	
3		0	
4		0	
5		0	
6	MFUNC	TBRES	Monitor level function address
7	TBNO	q	Trackerball number
10	OLDIO	0	Last information from digital I/O
11	FLAGG	0	Read/no read flag
12	SCNO	0	Screen number
13	DERRO	0	Error code
14	RETAD	OUT1Y	Return address
15	NOADR	0	Current ACM address
16	NODAT	0	ACM data
17	XVS0	0	X address screen 0
20	YVS0	0	Y address screen 0
21	XVS1	0	X address screen 1
22	YVS1	0	Y address screen 1
23	XVS2	0	X address screen 2
24	YVS2	0	Y address screen 2
25	XVS3	0	X address screen 3
26	YVS3	0	Y address screen 3
27	SMT0	0	} Pointer to current selector module
30	SMT1	0	
31	SMT2	0	
32	SMT3	0	
33	RTR0	0	} Wait flag for screen 0-3
34	RTR1	0	
35	RTR2	0	
36	RTR3	0	
37	CRTR	0	Current RT ref.
40	SVNOA	0	Save ACM address

= ACM number = 1, trackerball number = 1 (y,q) = (1,1)

DATA FIELD LAYOUT

Library Mark
Se file
SIN1-GEN

Name
TTILn

Description

Communication Line Input (Not HDLC DMA)

Relat. Addr.	Symbol	Contents	Explanation
-7	CCTRL	20005#	Hardware control word
-6	TMSUB	TAIMR#	Time-out subroutine
-5	TMR	0	Time-out counter
-4	TTMR	-3	Start value of TMR
-3	HDEV	IOX 1374#	IOX instructions
-2	STDIV	CTIDR#	Start address of driver
-1	DRIVER	CTDR#	Restart address after interrupt
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	2	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	IORES	Monitor level function address
7	CHKO	0	Character pointer in input buffer
10	STDEV	CRWAI#	Start device
11	ANCHA	0	Character counter for input driver
12	DFOPP	TTULn	Opposite data field for two-way devices
13	IIN	TEXIT#	I/O initiating routine
14	NPBUF	0	Current buffer chain used by input driver
15	SWICH	0	Go switch for input driver
16	NPHBUF	0	Current buffer chain read by receive RT program
17	CUDBU	0	Current buffer filled by driver
20	IDBST(4)	0,0,0,4	Status of buffer chain n (0 = empty, 6 = filled)
27	IDBAD(4)	CH2, CH430,0,0	Address of first buffer in chain n

= for line 1 (n = 1)

DATA FIELD LAYOUT

Library Mark
Se file
SIN1-GENName
TTILnDescription
Communication Line Input (HDLC DMA)

Relat. Addr.	Symbol	Contents	Explanation
-7	CCTRL	20005#	Hardware control word
-6	TMSUB	TAIMR#	Time-out subroutine
-5	TMR	0	Time-out counter
-4	TTMR	-3	Start value of TMR
-3	HDEV	IOX 1374#	IOX instruction
-2	STDRIV	CTIDR#	Start address of driver
-1	DRIVER	CTDR#	Restart address after interrupt
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	2	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	IORES	Monitor level function address
7	CHKO	0	Character pointer in input buffer
10	STDEV	CRWAI#	Start device
11	ANCHA	0	Character counter for input driver
12	DFOPP	TTULn	Opposite data field for two-way devices
13	IIN	TEXT#	I/O initiating routine
14	LIBEG	0	Start of buffer descriptor list
15	SWICH	0	Go switch for input driver
16	HPEK	0	Current buffer chain read by receive RT program
17	CUDBU	0	Current buffer filled by driver
20	INIAD(7)		Initializing parameters for interface
27	LIPOL(124)		Buffer descriptor list

= for line 1 (n = 1)

DATA FIELD LAYOUT

Library Mark
Se file
SIN1-GENName
TTULn

Description

Communication Line, Line n, Output

Relat. Addr.	Symbol	Contents	Explanation
-4	OCTRL	5#	Output control word
-3	HDEV	IOX 1374#	IOX instruction
-2	STDRIV	CTODR#	Start address of driver
-1	DRIVER	CTODR#	Restart address after interrupt
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	2	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	IORES	Monitor level function address
7	CHKO	0	Character pointer in output buffer
10	STDEV	CSWAI	Start device
11	ANCHA	0	Character counter for output driver
12	DFOPP	TTILn	Opposite data field for two-way devices
13	RSICH	CRSVI#	Reset device routine
14	BUFST	0	Pointer to first buffer of current output buffer chain
15	SWICH	0	Go switch for output driver
16	LMDATA	CMOn	Pointer to communication data field
17	CUDBU	0	Current output buffer
20	SLIPO (25)		Buffer descriptor for HDLC

= for line 1 (n = 1)

DATA FIELD LAYOUT

Library Mark
8SM0x
9SM0x

Name
UDM0x
UDMxx

Description
Synchronous Modem Output

Relat. Addr.	Symbol	Contents	Explanation
-12	MOWSTAT	0	Switch for modem output
-11	TERSW	0	Terminate condition switch
-10	MOSW	0	Block switch
-7	LAST	0	Last character
-6	TMSUB	MOTMO	Time-out subroutine
-5	TMR	0	Time-out counter
-4	TTMR	-3	Start value of TMR
-3	HDEV	IOX 104#	IOX instruction (i.e., IOX 104)
-2	STDIV	MODUT	Start address of driver
-1	DRIVER	MODUT	Restart address after interrupt
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	110000	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	IORES	Monitor level function address
7	IOTRANS	MOTRO	Called from INBT/OUTBT to transfer
10	STDEV	TEXT	Start device-
11	SETDV	MOST0	IOSET routine
12	DFOPP	0	Not used
13	DERROR	0	Error code
14	BUFST	BUF0 + BUF	Start of ring buffer
15	MAX	MOBUX + MOBUX	Buffer capacity
16	BHOLD	0	Number of characters in buffer
17	HENTE	0	Fetch pointer
20	CFREE	MOBUX + MOBUX 0	Free positions

= modem number 1 (x = 1)

DATA FIELD LAYOUT				Library Mark	Name
Description				8DMVC	
Versatec OUTBT				8DMV2	VEDOx
Relat. Addr.	Symbol	Contents	Explanation		
-1	ADRBHEAD	0	Buffer head address		
0	RESLINK	0	Reservation link		
1	RTRES	0	Reserving RT program		
2	BWLINK	*-2	Beginning of waiting queue		
3	TYPRING	112000	Device type bits and ring		
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode		
5	MLINK	0	Monitor queue link		
6	MFUNC	IORES	Monitor level function address		
7	IOTRANS	CBPUT	Called from INBT/OUTBT to transfer		
10	STDEV	TEXT	Start device		
11	SETDV	VEICL	IOSET routine		
12	DFOPP	0	Opposite data field for two-way devices		
13	DERROR	0	Error code		
14	BUFST	0	Start of ring buffer		
15	MAX	DVEBz + DVEBz	Buffer capacity		
16	BHOLD	0	Number of characters in buffer		
17	HENTE	0	Fetch pointer		
20	CFREE	DVEBz + DVEBz	Free positions		
21	FYLLE	0	Store pointer		
22	CLOGDV	577	Logical unit number for DMA data field		
23	DFDEV	576	Logical unit number for DF data field		
24	LREGC	0	Return address after IOTRANS is executed		
25	CASUN	0	Device unit number		
26	CERROR	0	Current error code		
27	LASTC	0	Current character		
30	NOWRE	DVEBz	Number of characters to read/write		
31	CPARM (5)	1, *+3, *-6, *-4, 0	Parameter list for MTRANS (including first word in memory buffer address)		
36	MABUF	0	Second word in memory buffer address		
37	VEFUNC	11	Not used		
40	CIOLOG	22	Logical device number		
41					

DATA FIELD LAYOUT

Library Mark

8DMVC

8DMV2

Name

VEFIE

VE2FI

Description

Versatec DMA Controller

Relat. Addr.	Symbol	Contents	Explanation
-52	ADNSTY(4)	0,...,0	Not used
-46	SHSTAT(4)	0,...,0	Saved last status (unit 0, 1, 2, 3)
-42	CERRCODE	0	Current error code
-41	MAXUNIT	89NDV#	Maximum unit number on this controller
-40	MACOU	0	Erase counter
-37	MRETURN	0	Not used
-36	MWRING	0	Not used
-35	MWSTAT	0	Not used
-34	MLoad	0	Load point status
-33	CLRG	0	Saved L register
-32	TRG	0	Register when calling driver (REAL = TADRG)
-31	ARG	0	Register when calling driver (REAL = TADRG)
-30	DRG	0	Register when calling driver (REAL = TADRG)
-27	XRG	0	Register when calling driver (REAL = TADRG)
-26	CTRG	0	Register when calling driver first time (REAL = CTRG)
-25	CARG	0	Register when calling driver first time (REAL = CTRG)
-24	CDRG	0	Register when calling driver first time (REAL = CTRG)
-23	CXRG	0	Register when calling driver first time (REAL = CTRG)
-22	ERCNT	0	Number of error returns from driver
-21	SERRB	0	Not used
-20	WERRB	0	Not used
-17	AERRB	0	Accumulated error bits
-16	TACNS	-5	Number of retrials wanted before message
-15	TACOUNT	0	Retrial counter
-14	MWCNT	0	Not used
-13	BLSZ	DVEBZ#	Block size
-12	TRNSF	VERDR	Driver address
-11	BUSY	BUSYV	Busy return
-10	FINISH	FINIV	Transfer finish
-7	ERROR	FEILV	Error return from driver
-6	TMSUB	VETMR	Time-out subroutine
-5	TMR	0	Time-out counter
-4	TTMR	-200	Start value TMR
-3	HDEV	600#	Hardware device number (i.e., IOX 520)
-2	STDRIV	CTRVE	Start address of driver
-1	DRIVER	0	Restart address after interrupt
0	RESLINK	0	Reservation link
1	RTRES	0	Reserving RT program
2	BWLINK	*-2	Beginning of waiting queue
3	TYPRING	6	Device type bits and ring
4	ISTATE	0	0 = idle, 1 = busy, -1 = no wait mode
5	MLINK	0	Monitor queue link
6	MFUNC	RETRA	Monitor level function address
7	TRLREG	0	Return address on monitor level after transfer
10	HSTAT	0	Hardware status from driver
11	MTRANS	MTRNS	Monitor level routine to activate driver
12	MRTREF	0	Program calling CLOSE
13	BREGC	0	Address of I/O data field
14	MEMA1	0	Initial memory address
15	MEMA2	0	Initial memory address
16	CMAD1	0	Current memory address
17	CMAD2	0	Current memory address
20	CLEDEV	VDMAC	Address of clear device routine
21	PVEFUNC	VEDO1 + 37#	Address of VEFUNC in I/O data field

= for controller number 1 (VEFIE)

SECTION 4

DEFINTIION OF SOME WORDS

DFLAG Bits:

(Relative address = -12)

Bit	Name	Explanation
0	5ECHO	The driver may give echo
1	5BREAK	Break flag
2	5SPEC	Special break character. No echo on next character.
3	5MDUP	Half duplex
4	5FIMO	Fixed line modem interface
5	5RQI	SINTRAN III communication
6	5WRQI	SINTRAN III communication
7	5XON	Print XON as next output character (XON = 21)
8	5XOFF	Print XOFF as next output character (XOFF = 223)
9	5XDEVICE	Used by TLIN driver
10	5OXON	
11	5CAPITAL	Convert to capital letters
12	6XOFF	Buffer almost full. XOFF is or should be printed
13	5IESC	Inhibit escape
14	5LBRK	Missing carrier
15	5LBLOG	Logout on missing carrier

TSPEED Table:

4 Asynchronous Current Loop (1122 Card) and Dual Asynchronous V24 (1147 Card)

Baud Rate	T Speed
50	42
75	63
110	377
134.5	104
150	356
200	125
300	335
600	146
1200	273
1800	252
2400	167
4800	231
9600	210

Terminal Buffer (1095 Card)

Baud Rate	T Speed
50	377
75	273
100	356
110	314
150	252
200	335
300	231
600	210
1200	63
2400	42
4800	21
9600	0

Bits in TYPRING:

Bit	Name	Explanation
0		} Ring number
1		
2	5CLDV	Clear device routine available
3	5NORES	No reservation necessary (terminal output)
4	5REMPO	Communication channel used for remote file access
5	5TERM	Terminal
6	5IBDV	Internal block devices
7	5INVRT	Invert digital I/O
8	5FLOP	Floppy disk
9	5MT	Magnetic tape
10	M144B	Block monitor calls allowed
11	5COM	Communication channel
12	5ISET	IOSET allowed
13	5CONCT	CONCT allowed
14	5RFILE	File
15	5IOBT	INBT/OUTBT allowed
9	5CRDLY	Carriage return delay in software

TYPRING bits 9-6 are used to delay carriage return in driver CRDLY.

SECTION 5

CROSS REFERENCE OF LIBRARY MARKS

Library Mark:	Label Name(s):
7AIRx	82ONx
7DIxx	NDIxx
7DOxx	NDOxx
7DPHx	DPHOT, DPHOx
7GRCx	GRxR, GRxW
7HARx	HAxR, HAxW
7TEx	DTELx, DTLxW
8BCHx	BTxxR, BTxxW
8BDx	BIGDI, BIGD2
8CACs1	CADIx, CADOx, CAFIE
8CALC	CALCO
8CAS2	CADIx, CADOx
8CDxx	CDFxx
8CPx	CAPx
8CRD	IDV4
8CRD2	IDV42
8DIX	DRFIE, DRFI2
8DLPx	DMLPx, DILPx
8DMVC	VEDOx, VEFIE
8DMV2	VEDOx, VE2FI
8DRx	DDRUM, DRUM2
8DVEx	DMLPx, DILPx
8F16	DMAX
8FDIx	FDIDx
8FyUx	FyUxI, FyUxO
8HDMx	HDFIx, HDFOx, HDMIx, HDMOx
8LPx	DLPR, DLPRx
8M1U(x-1)	MTDix, MTDOx
8M2U(x-1)	M2Dix, M2DOx
8MT2	MTFIE, M2FIE
8N50	DFN50
8N50x	DF50x
8NCA2	CALN2
8NCAL	CALNY
8PUN1	DPNCH
8PUN2	DPUN2
8REA1	DREAR
8REA2	DREA2
8S3C	NDEMF, NDEM2
8SM0x	IDMOx, IDMxx, UDMOx, UDMxx
8SMxx	SEMIx, SEMxx
99HMT	MTFIE, M2FI2
99TMT	MTFIE, M2FI2
9ACMx	DACMx
9SM0x	IDMOx, IDMxx, UDMOx, UDMxx

C9CMx
CmmLn
IBLxx
INDxx
SLPx
yGBz
ySLx
ySLPx
ySMz
yTBq

DACMx
SmmnR, SmmnW
IBxxI, IBxxO, IDxxI, IDxxO
IDxxI, IDxxO

GRBz, GyBz
SLMx, SyMx
SPPRx
SMNz, SyNz
TBAq, TByAq

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Manual name: _____

Appendix A - Data Fields

What problems do you have? (use extra pages if needed)

Answered by _____ Date _____

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