

IPX Cabling Summary

Introduction

This appendix provides details on the IPX cabling required to connect customer devices and lines to the IPX node.

Note In all cable references, the transmit direction is from the IPX, receive is to the IPX.

T1 Cabling

Trunk cables connect the customer DSX-1 crossconnect point or T1-E1 Channel Service Unit to the IPX node at the BC-T1 or BC-E1 back card. Refer to Table C-1 for details.

Table C-1 T1 Trunk/Circuit Line Cabling Specification

Cable Parameter	Description
Cable Type:	Western Electric 22 AWG, ABAM individually shielded twisted pair. Two pair per T1 line (1 transmit and 1 receive).
Cable Connector:	Male DB-15 subminiature. See Table A-2 for pinouts. The connector pinouts are the same for the both the BA-T1 and for the MT3 Distribution Panel.
Max. Cable Length:	655 ft (199 m.) maximum between the IPX and the first repeater or CSU. Selection of cable length equalizers.

Table C-2 T1 Connector Pin Assignments

Pin #	Description
1	Transmit, Tip
2	Transmit Pair Shield
3	Receive, Tip
4	Receive Pair Shield
9	Transmit, Ring
11	Receive, Ring

Note Transmit direction is towards the T1 trunk.

E1 Cabling

E1 trunk cables connect the customer DSX-1 crossconnect point or E1 Channel Service Unit to the IPX node at the BC-E1 back card.

Table C-3 E1 Trunk/Circuit Line Cabling Specification

Cable Parameter	Description
Cable Type:	75-ohm coax cable for unbalanced connection or 100–120-ohm twisted pair for balanced connection. Two cables/pairs (1 transmit, 1 receive) per E1 line.
Cable Connector:	Two female BNC for unbalanced connection; male DB15 for balanced connection. See <i>Tables A-2</i> and <i>A-3</i> for pinouts.
Max. Cable Length:	Approx. 100 meters maximum between the IPX and the first repeater or CSU. Equalizer for cable length.

Table C-4 E1 Connector Pin Assignments (unbalanced)

Connector	Description
Rx BNC	Receive E1 from trunk
Tx BNC	Transmit E1 to trunk

Table C-5 E1 Connector Pin Assignments (balanced)

Pin #	Description
1	Receive, Tip
9	Receive, Ring
2	Receive Pair Shield
3	Transmit, Tip
11	Transmit, Ring
10	Transmit Pair Shield

Note Transmit direction is towards the E1 trunk.

Subrate (SR) Cabling

Table C-6 Subrate Trunk Cabling Specification

Cable Parameter	Description
Cable Type:	100–120-ohm twisted pair telephone cable.
Cable Connector:	V.11, DB15 subminiature, male. V.35, 34 pin M block (Winchester), male. MIL188/RS-449, DB-37 subminiature, male. See <i>Tables A-4</i> through <i>A-6</i> for pinouts.
Max. Cable Length:	Depends on operating speed. Ranges from 400 m. for 256 Kbps to 50 m. for 1.92 Mbps.

Table C-7 SR Connector Pin Assignments (V.11)

Pin #	Description
1	Shield ground
2	TX-A
9	TX-B
3	CA
10	CB
4	RX-A
11	RX-B
5	IA
12	IB
6	SA
13	SB
7	not used
8	Signal ground
14	not used
15	not used

Table C-8 SR Connector Pin Assignments (V.35)

Pin #	Name	Source	Description
A	Gnd.	both	Protective (Shield) ground
B	Sig. Gnd.	both	Signal ground
C	RTS	DTE	Request to Send
D	CTS	DCE	Clear to Send
E	DSR	DCE	Data Set Ready
F	DCD	DCE	Data Carrier Detect (RLSD)
H	DTR	DTE	Data Terminal Ready
J	RI	DCE	Ring Indicator
K	TM	DCE	Test Mode
L-N			not used
P/S	TxD	DTE	Transmit Data from DTE
R/T	RxD	DCE	Received Data to DTE
U/W	XTC	DTE	External Transmitter Clock
V/X	RxC	DCE	Receiver Clock
Y/AA	TxC	DCE	Transmitter Clock
BB-EE			not used

Table C-9 SR Connector Pin Assignments (RS-449)

Pin #	IPX Name	EIAName	Source	Description
1	Frm. Gnd.		Both	Shield Ground
2	SI	SI	DCE	Signaling Rate Indicator (to DTE)
4/22	TxD	SD	DTE	Transmit Data from DTE
5/23	TxC	ST	DCE	Transmitter Clock
6/24	RxD	RD	DCE	Received Data to DTE
7/25	RTS	RS	DTE	Request to Send
8/26	RxC	RT	DCE	Receiver Clock
9/27	CTS	CS	DCE	Clear to Send
10	LL	LL	DTE	Local Loopback
11/29	DSR	DM	DCE	Data Set Ready
12/30	DTR	TR	DTE	Data Terminal Ready
13/31	DCD	RR	DCE	Data Carrier Detect (RLSD)
14	RL	RL	DTE	Remote Loopback
15	RI	IC	DCE	Ring Indicator
16	SF	SF	DTE	Signal Rate Select (to DCE)
17/35	XTC	TT	DTE	External Transmitter Clock
18	TM	TM	DCE	Test Mode
19	Sig. Gnd.	SG	Both	Signal Ground
20		RC	DCE	Receive Common
28	BSY	IS	DTE	Busy (in service)
32	SS	SS	DTE	Select Standby
33	SQ	SQ	DCE	Signal Quality Detect
34	NS	NS	DTE	New Synchronization
36	SB	SB	DCE	Standby Indicator
37		SC	DTE	Send Common
3, 21				Spare

ATM Cabling

ATM Trunk cables connect the AIT back card to a DSX-3 cross-connect point, another AIT back card in a co-located node, or to a BPX node at the BNI LM-3T3 back card.

Table C-10 T3 /E3 Trunk Cables

Cable Parameter	Description
Type:	75-ohm coax cable (RG-59 B/U for short runs, AT&T 734A for longer runs). Two per T3/E3 line (XMT and RCV).
Max. Length:	450 feet max. between the ATM back card and the DSX-3 point, or ATM trunk card.
Connector	Female BNC; Rx is receive T3/E3 to ATM back card, Tx is transmit T3/E3 to DSX-3 cross-connect.

Table C-11 T3 Connector Pin Assignments

Connector	Description
Rx BNC	Receive T3 from trunk
Tx BNC	Transmit T3 to trunk

Data Cabling

Cables for use with the LDP and SDP for synchronous and asynchronous data circuits are specified in Table C-12.

Table C-12 Synchronous Data Cables

Cable Parameter	Description
Cable Type:	Standard RS-232C/D (V.24), V.35, or RS-449/422 (with adaptor cable for X.21).
Cable Connectors:	RS-232C/D (V.24): DB-25 Subminiature, male. V.35: 34 pin M block-type (Winchester), male. RS-449/422: DB-37 Subminiature, male. See <i>Tables A-9 through A-17</i> for pinouts.
Max. Cable Length:	Not to exceed interface standards.

SDI RS-232D Port Pin Assignments

Table C-13 contains a listing of IPX RS-232D Port pin assignments for the SDI data card. A standard RS-232 cable is used for this application.

Table C-13 SDI RS-232D Port Pin Assignments

Pin #	IPX Name	EIA Name	Source	Description
1	Frame Gnd.	AA	Both	Frame Ground
2	TxD	BA	DTE	Transmit Data from DTE
3	RxD	BB	DCE	Received Data to DTE
4	RTS	CA	DTE	Request to Send
5	CTS	CB	DCE	Clear to Send
6	DSR	CC	DCE	Data Set Ready
7				Signal Ground
8	DCD	CF	DCE	Data Carrier Detect (RLSD)
9	+VS		Both	+12 volt test
10	–VS		Both	–12 volt test
11	QM		DCE	Equalizer Mode (to DTE only)
12	SDCD	SCF	DCE	Secondary Data Carrier Detect
13	SCTS	SCB	DCE	Secondary Clear to Send
14	STxD	SBA	DTE	Secondary Transmit Data
15	TxC	DB	DCE	Transmitter Clock
16	SRxD	SBB	DCE	Secondary Received Data
17	RxC	DD	DCE	Receiver Clock
18	RL		DTE	Remote Loop Back
19	SRTS	SCA	DTE	Secondary Request to Send
20	DTR	CD	DTE	Data Terminal Ready
21	SQ	CG	DCE	Signal Quality Detect
22	RI	CE	DCE	Ring Indicator
23	SF	CH	DTE	Signal Rate Select (to DCE)
23	SI	CI	DCE	Signaling Rate Indicator (to DTE)
24	XTC	DA	DTE	External Transmitter Clock
25	TST		DCE	Test Indicator

SDI RS-232C (V.24) Port Pin Assignments

Table C-14 contains a listing of IPX RS-232 Port pin assignments for the SDI data card. A standard RS-232 (V.24) cable is used for this application.

Table C-14 SDI RS-232C Port Pin Assignments

Pin #	IPX Name	EIA Name	Source	Description
1	Frame Gnd.	AA	Both	Frame Ground
2	TxD	BA	DTE	Transmit Data from DTE
3	RxD	BB	DCE	Received Data to DTE
4	RTS	CA	DTE	Request to Send
5	CTS	CB	DCE	Clear to Send
6	DSR	CC	DCE	Data Set Ready
7				Signal Ground
8	DCD	CF	DCE	Data Carrier Detect (RLSD)
9	+VS		Both	+12 volt test
10	-VS		Both	-12 volt test
11	QM Pin 11		DCE DTE	Equalizer Mode (to DTE). Pin 11 to (DCE)
12	SDCD	SCF	DCE	Secondary Data Carrier Detect
13	SCTS	SCB	DCE	Secondary Clear to Send
14	STxD	SBA	DTE	Secondary Transmit Data
15	TxC	DB	DCE	Transmitter Clock
16	SRxD	SBB	DCE	Secondary Received Data
17	RxC	DD	DCE	Receiver Clock
18	DCR		DCE	Divided Receiver Clock
19	SRTS	SCA	DTE	Secondary Request to Send
20	DTR	CD	DTE	Data Terminal Ready
21	SQ	CG	DCE	Signal Quality Detect
22	RI	CE	DCE	Ring Indicator
23	SFCI	CH CI	DTE DCE	Signal Rate Select (to DCE). Signaling Rate Indicator (to DTE)
24	XTC	DA	DTE	External Transmitter Clock
25	BSY		DTE	Busy (in service)

SDI RS-449/422 Port Pin Assignments

Table C-15 contains a listing of IPX RS-449/422 port pin assignments. A standard RS-449 cable is used for this application unless interface is X.21.

Table C-15 SDI RS-449/422 Port Pin Assignments

Pin #	IPX Name	EIA Name	Source	Description
1			Both	Shield Ground
2	SI	SI	DCE	Signaling Rate Indicator (to DTE)
3				Spare
4/22	TxD	SD	DTE	Transmit Data from DTE
5/23	TxC	ST	DCE	Transmitter Clock
6/24	RxD	RD	DCE	Received Data to DTE
7/25	RTS	RS	DTE	Request to Send
8/26	RxC	RT	DCE	Receiver Clock
9/27	CTS	CS	DCE	Clear to Send
10	LL	LL	DTE	Local Loopback
11/29	DSR	DM	DCE	Data Set Ready
12/30	DTR	TR	DTE	Data Terminal Ready
13/31	DCD	RR	DCE	Data Carrier Detect (RLSD)
14	RL	RL	DTE	Remote Loopback
15	RI	IC	DCE	Ring Indicator
16	SF	SF	DTE	Signal Rate Select (to DCE)
17/35	XTC	TT	DTE	External Transmitter Clock
18	TM	TM	DTE	Test Mode
19		SG	Both	Signal Ground
20		RC	DCE	Receive Common
21				Spare
28	BSY	IS	DTE	Busy (in service)
32	SS	SS	DTE	Select Standby
33	SQ	SQ	DCE	Signal Quality Detect
34	NS	NS	DTE	New Synchronization
36	SB	SB	DCE	Standby Indicator
37		SC	DTE	Send Common

See Table C-16 and Table C-17 for Wire Lists for adapter cables for X.21 application. This adapter cable is available in two models, one is used when the SDI is a DCE, the other when it is a DTE. It has a male DB-37 on the IPX end and a female DB-15 (DCE) or male DB-15 (DTE) on the user end.

Table C-16 **Wiring List, SDI RS-449 to X.21 Adapter Cable (for RS-449 DCE Port)**

DB-37 Pin # (SDI)	IPX Name	DB-15 Pin # (User)	Description
1	Drain	1	Frame Ground
4	TxD-A	2	Transmit Data from DTE
22	TxD-B	9	Transmit Data from DTE
6	RxD-A	4	Receive Data to DTE
24	RxD-B	11	Receive Data to DTE
7	RTS-A	3	Request to Send
25	RTS-B	10	Request to Send
9	CTS-A	5	Clear to Send
27	CTS-A	12	Clear to Send
8	RxC-A	6	Receive Clock
26	RxC-B	13	Receive Clock
19	SG	8	Signal Ground

Table C-17 **Wiring List, SDI RS-449 to X.21 Adapter Cable (for RS-449 DTE Port)**

DB-37 Pin # (SDI)	IPX Name	DB-15 Pin # (User)	Description
1	Drain	1	Frame Ground
4	TxD-A	2	Transmit Data from DTE
22	TxD-B	9	Transmit Data from DTE
6	RxD-A	4	Receive Data to DTE
24	RxD-B	11	Receive Data to DTE
7	RTS-A	3	Request to Send
25	RTS-B	10	Request to Send
9	CTS-A	5	Clear to Send
27	CTS-A	12	Clear to Send
5	TxC-A	6	Transmit Clock
23	TxC-B	13	Transmit Clock
19	SG	8	Signal Ground
5 to 8	TxC-A		Receive Clock ¹
23 to 26	TxC-B		Receive Clock ¹

1. Loops Receive Clock to Transmit Clock when necessary.

SDI V.35 Port Pin Assignments

Table C-18 contains a listing of IPX V.35 Port pin assignments for the SDI card. A standard V.35 cable is used for this application.

Table C-18 **SDI V.35 Port Pin Assignments**

Pin #	Name	Source	Description
A	Gnd.	both	Protective (Shield) ground
B	Sig. Gnd.	both	Signal ground
C	RTS	DTE	Request to Send
D	CTS	DCE	Clear to Send
E	DSR	DCE	Data Set Ready
F	DCD	DCE	Data Carrier Detect (RLSD)
H	DTR	DTE	Data Terminal Ready
J	RI	DCE	Ring Indicator
K	TM	DCE	Test Mode
P/S	TxD	DTE	Transmit Data from DTE
R/T	RxD	DCE	Receive Data to DTE
U/W	XTC	DTE	External Transmitter Clock
V/X	RxC	DCE	Receiver Clock
Y/a	TxC	DCE	Transmitter Clock

LDI RS-232 Port Pin Assignments

Table C-19 lists the LDI RS-232 Port Pin Assignments at the DB-15 connector on the card. The LDP card supports only a limited subset of EIA control leads. The LDI is always used with a DCE or DTE DB-15 to DB-25 Adapter Cable. Refer to Table C-19 and Table C-20 for wiring lists and the pin-outs for the standard male DB-25 connector to the user data device.

Table C-19 LDI RS-232C Port Pin Assignments

Pin #	IPX Name	EIA Name	Source	Description
1	Shield	AA	Both	Frame Ground
2	TxD	BA	DTE	Transmit Data from DTE
3	CTS	CB	DCE	Clear to Send
4	RxD	BB	DCE	Received Data to DTE
5	RTS	CA	DTE	Request to Send
6	XTC	DB	DCE	Transmitter Clock
7	RxC	DD	DCE	Receiver Clock
8	SG	AB	Both	Signal Ground
9	DSR	CC	DCE	Data Set Ready
10	DTR	CD	DTE	Data Terminal Ready
11	+VS		Both	+12V test voltage
12	–VS		Both	–12V test voltage
13	DCD	CF	DCE	Data Carrier Detect (RLSD)
14	RL		DTE	Remote Loop (for modem loopback)
15	MOD			Mode Select for cable (DTE or DCE)

Table C-20 Wiring List, DB15 to DB25 Adapter Cable (LDI as DTE)¹

DB-15 Pin # (LDI)	IPX Name	DB-25 Pin # (User)	Description
1	Frm. Gnd.	1	Frame Ground
2	RxD	3	Received Data to DTE
3	RTS	4	Request to Send
4	TxD	2	Transmit Data from DTE
5	CTS	5	Clear to Send
6	XTC	24	External Transmit Clock
7	RxC	17	Receive Clock
8	SG	7	Signal Ground
9	DTR	20	Data Terminal Ready
10	DSR	6	Data Set Ready
11	+VS	9	+12V test voltage ²
12	-VS	10	-12V test voltage ²
13	DCD	8	Data Carrier Detect (RLSD)
14	RL	21	Remote Loop output
15	MOD	n.c.	Connects internally to DB15-8
(3)	LL	18	Local Loop output

1. This may be ordered in 25' length as StrataCom Model 5626-25.

2. May be used to force a control lead permanently high or low.

3. There is no LDI local loop output. Suggest using DTR output, DB15-9.

Note There are two adapter cables used with the LDI card. The choice of cable determines whether the LDI card acts as a DCE or as a DTE. These may be ordered from StrataCom or made up by the customer. Make sure the correct cable is used for the type of user device connected

Table C-21 **Wiring List, DB15 to DB25 Adapter Cable (LDI as DCE)¹**

DB-15 Pin # (LDI)	IPX Name	DB-25 Pin # (User)	Description
1	Shield	1	Frame Ground
2	TxD	2	Transmit Data from DTE
3	CTS	5	Clear to Send
4	RxD	3	Receive Data to DTE
5	RTS	4	Request to Send
6	RxC	17 *	Receive Clock, connects to DB25-15 for looped clock
7	XTC	24	External Transmit Clock
8	SG	7	Signal Ground
9	DSR	6	Data Set Ready
10	DTR	20	Data Terminal Ready
11	+VS	9	+12V test voltage (Note 2)
12	-VS	10	-12V test voltage (Note 2)
13	n.c.	n.c.	not used
14	DCD	8	Data Carrier Detect (RLSD)
15	MOD	n.c.	Mode Select, no connection for DCE cable
n.c.	TxC	15 *	Transmit Clock, connects to DB25-17 for looped clock

1. This may be ordered in a 25' length as StrataCom Model 5625-25.

LDI DDS Port Pin Assignments

Table C-22 contains a listing of DB15 DDS port pin assignments on the LDI4/DDS card. Standard twisted pair cable is used for this application.

Table C-22 **DDS Connector Pinouts**

Pin #	Mnemonic	Name	Description
1	TTIP	Transmit Tip	Transmit output from the port -tip side
9	TRING	Transmit Ring	Transmit output from the port -ring side
2	GND	Ground	Ground for transmit pair shield
3	RTIP	Receive Tip	Receive input to the port -tip side
11	RRING	Receive Ring	Receive input to the port -ring side
4	GND	Ground	Ground for receive pair shield
5–8			not used
10			not used
12–15			not used

FRI V.35 Port Pin Assignments

Table C-23 contains a listing of IPX V.35 Port pin assignments for the Frame Relay FRI card. A standard V.35 cable is used for this application.

Table C-23 FRI V.35 Port Pin Assignments

Pin #	Name	Source	Description
A	Gnd.	both	Protective (Shield) ground
B	Sig. Gnd.	both	Signal ground
C	RTS	DTE	Request to Send
D	CTS	DCE	Clear to Send
E	DSR	DCE	Data Set Ready
F	DCD	DCE	Data Carrier Detect
H	DTR	DTE	Data Terminal Ready
L	LLB	DTE	Local Loopback command to user device
N	RLB	DTE	Remote Loopback command to user device
n	TM	DTE	Test Mode indicates user device. ready for test
P/S	TxD	DTE	Transmit Data from DTE
R/T	RxD	DCE	Receive Data to DTE
U/W	XTC	DTE	External Transmitter Clock
V/X	RxC	DCE	Receiver Clock
Y/a	TxC	DCE	Transmitter Clock

Port Concentrator Cables

Concentrated Link or X.24/V.11 Cable

This cable is used to connect the PCS to an FRM-2 or FRP-2 card. It can also be used as an X.24/V.11 cable to a user device.

Table C-24 Concentrated Link or X.24/V.11 Cable

PCS 25-pin male	FRP/FRM 15-pin male	Signals
1	1	Shield
7	8	G
2	2	TA
14	9	TB
3	4	RA
16	11	RB
4	3	CA
23	10	CB
8	5	IA
9	12	IB
15	6	SA
13	13	SB

V.28 Interface Cable

The following cable is used to connect a PCS port with a V.28 interface to a user device.

Table C-25 V.28 Cable

PCS port 25-pin male	User Device 25-pin male	Signals
1	1	Shield
2	2	103
3	3	104
4	4	105
5	5	106
6	6	107
8	8	109
15	15	114
7	7	102
17	17	115
18	18	141
20	20	108
21	21	140
10	10	117
9	9	116
22	22	125
23	23	111
25	25	142

V.35 Interface Cable

The following cable is used to connect a PCS port with a V.35 interface to a user device.

Table C-26 V.35 Cable

PCS port 25-pin male	User Device 34-pin male	Signals
17	V	115A
12	X	115B
15	Y	114A
13	AA	114B
3	R	104A
16	T	104B
2	P	103A
14	S	103B
7	B	102
5	D	106
8	F	109
22	J	125
18	L	141
21	N	140
6	E	107
20	H	108
4	C	105
25	NN	142
1	A	Shield
24	U	113A
11	W	113B

X.21bis V.10/V.11 (RS449) DTE Cable

The following cable is used to connect a PCS port with a V.11 DTE interface to a user device.

Table C-27 X.21bis V.10/V.11 (RS449) DTE Cable

PCS port 25-pin male	User Device 37-pin male	Signals
1	1	Shield
7	37	102A
10	20	102B
2	4	103A
14	22	103B
3	6	104A
16	24	104B
4	7	105A
23	25	105B
5	9	106
10	27	102B
6	11	107
10	29	102B
20	12	108
7	30	102A
8	13	109A
9	31	109B
15	5	114A
13	23	114B
17	8	115A
12	26	115B
21	14	140
18	10	141
25	18	142

X.21bis V.10/V.11 (RS449) DCE Cable

The following cable is used to connect a PCS port with a V.11 DCE interface to a user device.

Table C-28 X.21bis V.10/V.11 (RS449) DCE Cable

PCS port 25-pin male	User Device 37-pin male	Signals
1	1	Shield
10	37	102A
7	20	102B
2	4	103A
14	22	103B
3	6	104A
16	24	104B
4	7	105A
23	25	105B
5	9	106
7	27	102B
6	11	107
7	29	102B
20	12	108
10	30	102A
8	13	109A
9	31	109B
15	5	114A
13	23	114B
17	8	115A
12	26	115B
21	14	140
18	10	141
25	18	142

Redundancy Cabling

The redundancy cables are a special “Y” cable available from StrataCom. They are required for redundant data and trunk interfaces. Table C-29 lists the Y-cables used for redundancy for various IPX back cards.

Table C-29 Redundancy Y-Cables

Cable	Used On	StrataCom P/N
RS-232C	SDI	5624
RS-232D	SDI	5624
RS-232	LDI	5629
V.35	SDI	5635
V.35	SDI	special DTE/DCE jumper
RS-422/449	SDI	5644
T1	BC-T1	5607
E1	BC-E1	5685

Power Cabling

AC Power Cabling

Cable:	Provided with 6 feet of 4-conductor wire with plug.
Connector:	(T1 systems prior to August 1994) 30 A NEMA, Twist Lock, NEMA L14 30R. (T1 systems after July 1994) 20 A NEMA, Twist Lock, NEMA L6 20R. (E1 systems) 32 A 220/240 VAC Type S 32.20 (DIN 49 462) 3-pin plug.

DC Power Cabling

Cable:	Single conductor. Wire gauge determined by distance between IPX and power source. (Contact StrataCom ISC for specific information.).
Connector:	Ring lug for screw terminal block.

SCC Cabling

This cabling connects the Network Management ports on the SCC to StrataView Network Management computers, control terminals, and modems. It is also used for external clock inputs from a clock source.

Auxiliary and Control Port Cabling

- Interface: The IPX SCC auxiliary and control ports are configured as an RS-232 DCE port.
- Suggested Cable: 24 AWG, 25-pair. A straight-through RS-232 cable is used for a terminal or printer connection. A null modem cable is needed when interfacing with modems on either port.
- Cable Length: 50 feet (15 m.) max.
- Cable Connector: DB-25, subminiature, male. Table C-30 contains a list of the port pin assignments.

Table C-30 SCC AUX. and CONT. Port Pin Assignments

Pin#	Name	Source	Description
1	FG	both	Frame Ground
2	TxD	DTE	Transmit Data
3	RxD	DCE	Receive Data
4	RTS	DTE	Request to Send
5	CTS	DCE	Clear to Send
6	DSR	DCE	Data Set Ready
7	SG	both	Signal Ground
8	CD	DCE	Carrier Detect
20	DTR	DTE	Data Term Ready

Modem Cabling

For modem cabling informations, refer to Appendix B.

External Clock Input Cabling

This cable is for connecting external clock inputs to the SCC EXT. CLK. connector. There are two separate inputs, A and B, for primary and standby clock sources, either one or both of which may be 1.544 Mbps or 2.048 Mbps rate.

Table C-31 Ext. Clock Cabling Specification

Cable Parameter	Description
Interface:	Differential RS 422.
Suggested Cable:	24 AWG, individually shielded, 1 or 2-pair.
Cable Connector:	DB-15, subminiature, male. See <i>Table A-21</i> for pinouts.
Max. Cable Length:	50 feet (15 m.)

Table C-32 EXT. CLK. Connector Pin Assignments

Pin #	Description
1	Ext. Clk 1-A
9	Ext. Clk 1-B
2	Shield gnd. pair 1
3	Ext. Clk 2-A
11	Ext. Clk 2-B
4	Shield gnd. pair 1
5	8.192 MHz. test output ¹

1. For factory use only.

External Alarm Cabling

This cable is for connecting network alarm outputs to the DTI Faceplate, or the ARI card Alarm connector only. Table C-33 lists the pinouts for the network alarm outputs.

Table C-33 External Alarm Interface

Parameter	Description
Interface:	Dry-contact relay closure.
Wire:	24 AWG, shielded, 10-pair.
Connector:	DB-37, Subminiature, male

Table C-34 Network Alarm Pin Assignments

Pin#	Name	Description
1	CHASSIS	Chassis Ground
2		Reserved
3	NWMAJA	Network Major Alarm
4	NWMAJC	Network Major Alarm
5		Reserved
6		Reserved
7		Reserved
8		Reserved
9		Reserved
10	MNVISA	Minor Visual Alarm
11		Reserved
12	MNVISC	Minor Visual Alarm
13		Reserved
14		Unused
15		Unused
16	MJAUDC	Major Audible Alarm
17	MJAUDA	Major Audible Alarm
18		Unused
19		Unused
20		Reserved
21		Reserved
22		Reserved
23	NWMINA	Network Minor Alarm
24		Reserved
25	NWMINC	Network Minor Alarm
26		Reserved
27		Reserved
28		Reserved
29	MNAUDA	Minor Audible Alarm
30		Reserved
31	MNAUDC	Minor Audible Alarm
32		Unused
33		Unused
34		Unused
35	MJVISC	Major Visual Alarm
36	MJVISA	Major Visual Alarm
37		Unused

Note Pins whose names end in A are normally open. Pins whose names end in C are common.

Standard IPX Cables

Table C-35 lists the cables that may be ordered directly from StrataCom. Cable lengths are specified as a suffix to the IPX model number. For example, 5610-50 indicates a 50 foot cable. Cables are generally available in standard lengths of 10 ft (3 m.), 25 ft (7.6 m.), 50 ft (15 m.), 75 ft (22.8 m.), and 100 ft (30 m.). Lengths of 101 ft. (30 m.) to 600 ft. (183 m.) are available on a special order.

When a cable is connectorized, the connector gender (male-female) will be indicated as well as the number of pins. For example T1/M15-M15 indicates a cable terminated with a male DB15 at both ends.

Table C-35 Standard IPX Cables Available from StrataCom

Model#	Description	Usage
5605	T1, 12 pair, pigtail-pigtail	T1 trunk, general
5608	T1, pigtail to RJ48	CSU to telco demarc
5618	T1, F15 to RJ48	CSU to telco demarc
5619	T1, RJ48 to RJ48	CSU to telco demarc
5609	T1, 2 pair, pigtail-pigtail, Teflon	CSU to DSX; for fire resistance code
5610	T1, 2 pair, pigtail-pigtail	CSU to DSX, echo canceller to chan. bank
5611	T1/M15-pigtail	T1 trunk to CSU, DSX; external echo canceller to PBX, chan. bank.
5612	T1, F15 sliplock-pigtail	same as 5611
5613	T1/F15-pigtail	same as 5611
5614	T1/M15-M15 turnover	E1 trunk to CSU
5615	T1/M15-M15 sliplock	same as 5611
5616	T1/M15-M15	same as 5611
5617	T1/F15 sliplock-RJ48	same as 5610
5618	T1/F15-RJ48	
5619	T1/RJ48-RJ48	CSU to connectorized patch panel
5680	BNC-DB15	E1 trunk
5685	T1/M15-M15 turnover, Y-cable	E1 trunk redundancy
5630	V.35/M34-F34	Subrate trunk or data circuit
5633	V.35/M34-M34	Subrate trunk or data circuit
5636	V.35 Y-cable	Subrate trunk or data circuit redundancy
5640	RS-422/M37-F-37	Subrate trunk or data circuit
5643	RS-422/M37-M-37	Subrate trunk or data circuit
5645	RS-422/X.21 adapter-DTE	IPX is DTE
5646	RS-422/X.21 adapter-DCE	IPX is DCE
5644	RS-422 Y-cable	Subrate trunk or data circuit redundancy
5690	X.21/V.11 DTE-M to DCE-M	Subrate trunk or data circuit

Model#	Description	Usage
5691	X.21/V.11 DTE-M to DCE-F	Subrate trunk or data circuit
5695	X.21/DB15 Y-cable	Subrate trunk or data circuit redundancy
5620	RS-232/M25-F25	Control port to control terminal, StrataView, or ext. window device
5621	RS-232/M25-M25 special	Control or Aux. port to modem
5622	RS-232/M25-M25 special	Aux. port to Okidata 182 printer
5623	RS-232/M25-M25	Aux. port to ext. window device
5625	V.35/M15-F25	LDI8 (DCE) to data device
5626	V.35/M15-M25	LDI8 (DTE) to data device
5628	V.35/M15-F25 adapter	LDI8 (DCE) to data device
5627	V.35/M15-F25 adapter	LDI8 (DTE) to data device
5629	RS 232/M15-M15, Y-cable	LDI redundancy
5651	F50 Amphenol-M50 Amphenol	VF, chan. bank to P66 block
5660	Punch-down block w/F50 Amphenol	VF termination
TBD	75-ohm coax/BNC	T3 trunk to MT3DP connection
TBD	75-ohm coax/BNC-BNC	T3 redundancy
TBD	T1/M15-M15	MT3DP to BC-T1 or DTI
5601	Ground cable	DC
5670	Molex-pigtail	DC
5671	Spade lug-pigtail	DC

Note Most cables listed as T1 can also be used for E1 service.

TTC JJ-20 (J1) Cabling

Table C-36 Japanese J1 Cabling

Cable Parameter	Description
Cable Type:	110 ohm twisted pair for balanced operation. Two cable pairs (1 transmit, 1 receive) per TTC line.
Cable Connection:	Male DB15 for balanced connection. See Table C-37 for pinouts.
Max. Cable Length:	Maximum cable length is determined by the loss in the cable. The maximum permissible loss is 13 dB.

Table C-37 TTC Connector Pin Assignments (balanced)

Pin #	Description
2	Send Tip S(T)
9	Send Ring S(R)
4	Receive Tip R(T)
11	Receive Ring R(R)
1	Ground

Note Transmit (send) direction is towards the IPX.

“Y” (Y1) Trunk Cabling

Table C-38 Japanese Y1 Cabling

Pin #	Description
Cable Type:	110 ohm twisted pair, balanced operation. Two cable pairs (1 transmit, 1 receive) per Y1 line.
Cable Connection:	Male DB15. See Table C-39 for pinouts.
Max. Cable Length:	Maximum cable length is determined by Vp-p (Voltage peak-to-peak). The maximum permissible value is 1 Vp-p.

Table C-39 “Y” Trunk Connector Pin Assignments (balanced)

Pin #	Description
2	Transmit Tip T(A)
9	Transmit Ring T(B)
4	Receive Tip R(A)
11	Receive Ring R(B)
1	Shield

Note Transmit direction is towards the “Y” trunk.
