

Cabling Specifications

This appendix provides pinouts for the following:

- Console Port Pinouts (RJ-45), Table A-1
- Auxiliary Port Pinouts (RJ-45), Table A-2
- BRI Port Pinouts (RJ-45), Table A-3
- EIA-530 DTE Cable Pinouts (DB-60 to DB-25), Table A-4
- EIA/TIA-232 DTE Cable Pinouts (DB-60 to DB-25), Table A-5
- EIA/TIA-232 DCE Cable Pinouts (DB-60 to DB-25), Table A-6
- EIA/TIA-449 DTE Cable Pinouts (DB-60 to DB-37), Table A-7
- EIA/TIA-449 DCE Cable Pinouts (DB-60 to DB-37), Table A-8
- V.35 DTE Cable Pinouts (DB-60 to 34-Pin), Table A-9
- V.35 DCE Cable Pinouts (DB-60 to 34-Pin), Table A-10
- X.21 DTE Cable Pinouts (DB-60 to DB-15), Table A-11
- X.21 DCE Cable Pinouts (DB-60 to DB-15), Table A-12
- Ethernet (AUI) Cable Pinouts (DB-15), Table A-13
- Token Ring Port Pinouts (DB-9), Table A-14
- Asynchronous Breakout Cable Pinouts (8-Pin RJ-45), Table A-15
- Asynchronous Breakout Cable Pinouts (68-Pin SCSI), Table A-16
- Asynchronous Breakout Cable Pinouts (DB-25), Table A-17
- Asynchronous Cable Pinouts (68-Pin to DB-25), Table A-18
- Ethernet 10BaseT (RJ-45) Port Pinouts, Table A-19
- Ethernet 10BaseT Port Pinouts (For 2505 and 2507 Models), Table A-20
- Pins for the RJ-45, M/F DTE, M/F DCE, and MMOD, Table A-21
- Connection Configuration, Table A-22
- DB-25 to DB-9 Adapter Pinouts, Table A-23
- RJ-45 to DB-9 Adapter Pinouts, Table A-24

Console and Auxiliary Port Signals and Pinouts

The console port is configured as data communications equipment (DCE), and the auxiliary port is configured as data terminal equipment (DTE). The console and auxiliary ports both use RJ-45 connectors. RJ-45-to-DB-25 adapters are available for connection to modems and other external communications equipment. Both ports are configured as asynchronous serial ports.

Following are the pinouts for the console port (see Table A-1), the auxiliary port (see Table A-2), and the adapter (see Table A-21):

Table A-1 Console Port Pinouts (RJ-45)

Console Port (DTE)		
Pin¹	Signal	Input/Output
1	–	–
2	DTR	Output
3	TxD	Output
4	GND	–
5	GND	–
6	RxD	Input
7	DSR	Input
8	–	–

1. Any pin not referenced is not connected.

Table A-2 Auxiliary Port Pinouts (RJ-45)

Auxiliary Port (DTE)		
Pin¹	Signal	Input/Output
1	RTS	Output
2	DTR	Output
3	TXD	Output
4	GND	–
5	GND	–
6	RXD	Input
7	DSR	Input
8	CTS	Input

1. Any pin not referenced is not connected.

BRI Port Pinouts

The pinouts for the BRI interface port appear in Table A-3.

Table A-3 BRI Port Pinouts (RJ-45)

Pin ¹	TE ²	NT ³	Polarity
3	Transmit	Receive	+
4	Receive	Transmit	+
5	Receive	Transmit	-
6	Transmit	Receive	-

1. Pins 1, 2, 7, and 8 are not used.
2. TE refers to terminal terminating layer 1 aspects of TE1, TA, and NT2 functional groups.
3. NT refers to network terminating layer 1 aspects of NT1 and NT2 functional groups.



Caution To prevent damage to the system, make certain you connect the BRI cable to the BRI connector *only* and not to any other RJ-45 connector. The console, auxiliary, and BRI ports all use RJ-45 connectors.



Warning Network hazardous voltages are accessible in the BRI cable. If you detach the BRI cable, detach the end away from the router first to avoid possible electric shock. Network hazardous voltages also are accessible on the system card in the area of the BRI port (RJ-45 connector), even when power is turned OFF.

Serial Cable Assemblies and Pinouts

The following illustrations and tables provide assembly drawings and pinouts for the EIA-530 DCE, and EIA/TIA-232, EIA/TIA-449, V.35, and X.21 DTE and DCE cables.

Note All serial cables have a DB-60 connector on the router end. The following pinouts represent only the router ends of the cables. Because of the small pins on the DB-60 connector, manufacturing and soldering these cables yourself might be very difficult and is not recommended.

EIA-530

Figure A-1 shows the EIA-530 serial cable assembly, and Table A-4 lists the pinouts. Arrows indicate signal direction. A right arrow (→) indicates DTE to DCE, and a left arrow (←) indicates DCE to DTE.

Figure A-1 EIA-530 Serial Cable Assembly

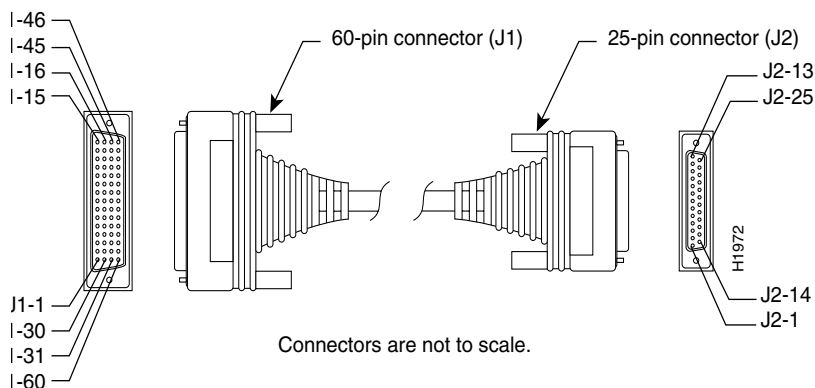


Table A-4 EIA-530 DTE Cable Pinouts (DB-60 to DB-25)

60 Pin ¹	Signal	25 Pin	Signal	Direction		60 Pin	Signal	25 Pin	Signal	Direction	
				DTE	DCE ²					DTE	DCE
J1-11	TxD/RxD+	J2-2	BA(A), TxD+	→		J1-5	DCD/DCD+	J2-8	CF(A), DCD+	←	
J1-12	TxD/RxD-	J2-14	BA(B), TxD-	→		J1-6	DCD/DCD-	J2-10	CF(B), DCD-	←	
J1-28	RxD/TxD+	J2-3	BB(A), RxD+	←		J1-24	TxC/RxC+	J2-15	DB(A), TxC+	←	
J1-27	RxD/TxD-	J2-16	BB(B), RxD-	←		J1-23	TxC/RxC-	J2-12	DB(B), TxC-	←	
J1-9	RTS/CTS+	J2-4	CA(A), RTS+	→		J1-26	RxC/TxCE+	J2-17	DD(A), RxC+	←	
J1-10	RTS/CTS-	J2-19	CA(B), RTS-	→		J1-25	RxC/TxCE-	J2-9	DD(B), RxC-	←	
J1-1	CTS/RTS+	J2-5	CB(A), CTS+	←		J1-44	LL/DCD	J2-18	LL	→	
J1-2	CTS/RTS-	J2-13	CB(B), CTS-	←		J1-45	Circuit_GND	J2-7	Circuit_GND	-	
J1-3	DSR/DTR+	J2-6	CC(A), DSR+	←		J1-7	DTR/DSR+	J2-20	CD(A), DTR+	→	
J1-4	DSR/DTR-	J2-22	CC(B), DSR-	←		J1-8	DTR/DSR-	J2-23	CD(B), DTR-	→	
J1-46	Shield_GND	J2-1	Shield		Shorted	J1-13	TxCE/TxC+	J2-24	DA(A), TxCE+	→	
J1-47	MODE_2	-	-			J1-14	TxCE/TxC-	J2-11	DA(B), TxCE-	→	
J1-48	GND	-	-		Shorted	J1-51	GND	-	-		Shorted
J1-49	MODE_1	-	-			J1-52	MODE_DCE	-	-		

1. Any pin not referenced is not connected.

2. The EIA-530 interface cannot be operated in DCE mode. A DCE cable is not available for the EIA-530 interface.

EIA/TIA-232

Figure A-2 shows the EIA/TIA-232 cable assembly; Table A-5 lists the DTE pinouts; and Table A-6 lists the DCE pinouts. Arrows indicate signal direction. A right arrow (→) indicates DTE to DCE, and a left arrow (←) indicates DCE to DTE.

Figure A-2 EIA/TIA-232 Cable Assembly

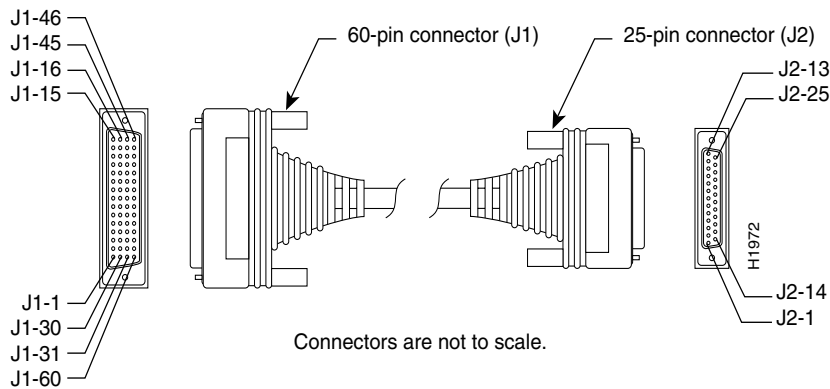


Table A-5 EIA/TIA-232 DTE Cable Pinouts (DB-60 to DB-25)

60 Pin ¹	Signal	Description	Direction	25 Pin	Signal
J1-50	MODE_0	Shorting Group	—	—	—
J1-51	GND				
J1-52	MODE_DCE				
J1-46	Shield GND	Single	—	J2-1	Shield GND
J1-41	TxD/RxD	Twisted pair no. 5	→	J2-2	TxD
Shield	—		—	Shield	—
J1-36	RxD/TxD	Twisted pair no. 9	←	J2-3	RxD
Shield	—		—	Shield	—
J1-42	RTS/CTS	Twisted pair no. 4	→	J2-4	RTS
Shield	—		—	Shield	—
J1-35	CTS/RTS	Twisted pair no. 10	←	J2-5	CTS
Shield	—		—	Shield	—
J1-34	DSR/DTR	Twisted pair no. 11	←	J2-6	DSR
Shield	—		—	Shield	—
J1-45	Circuit GND	Twisted pair no. 1	—	J2-7	Circuit GND
Shield	—		—	Shield	—
J1-33	DCD/LL	Twisted pair no. 12	←	J2-8	DCD
Shield	—		—	Shield	—
J1-37	TxC/NIL	Twisted pair no. 8	←	J2-15	TxC
Shield	—		—	Shield	—
J1-38	RxC/TxCE	Twisted pair no. 7	←	J2-17	RxC
Shield	—		—	Shield	—
J1-44	LL/DCD	Twisted pair no. 2	→	J2-18	LTST
Shield	—		—	Shield	—

60 Pin ¹	Signal	Description	Direction	25 Pin	Signal
J1-43 Shield	DTR/DSR -	Twisted pair no. 3	—> -	J2-20 Shield	DTR -
J1-39 Shield	TxCE/TxC -	Twisted pair no. 6	—> -	J2-24 Shield	TxCE -

1. Any pin not referenced is not connected.

Table A-6 EIA/TIA-232 DCE Cable Pinouts (DB-60 to DB-25)

60 Pin ¹	Signal	Description	Direction	25 Pin	Signal
J1-50 J1-51	MODE_0 GND	Shorting Group	-	-	-
J1-46	Shield GND	Single	-	J2-1	Shield GND
J1-36 Shield	RxD/TxD -	Twisted pair no. 9	<— -	J2-2 Shield	TxD -
J1-41 Shield	TxD/RxD -	Twisted pair no. 5	—> -	J2-3 Shield	RxD -
J1-35 Shield	CTS/RTS -	Twisted pair no. 10	<— -	J2-4 Shield	RTS -
J1-42 Shield	RTS/CTS -	Twisted pair no. 4	—> -	J2-5 Shield	CTS -
J1-43 Shield	DTR/DSR -	Twisted pair no. 3	—> -	J2-6 Shield	DSR -
J1-45 Shield	Circuit GND -	Twisted pair no. 1	-	J2-7 Shield	Circuit GND
J1-44 Shield	LL/DCD -	Twisted pair no. 2	—> -	J2-8 Shield	DCD -
J1-39 Shield	TxCE/TxC -	Twisted pair no. 7	—> -	J2-15 Shield	TxC -
J1-40 Shield	NIL/RxC -	Twisted pair no. 6	—> -	J2-17 Shield	RxC -
J1-33 Shield	DCD/LL -	Twisted pair no. 12	<— -	J2-18 Shield	LTST -
J1-34 Shield	DSR/DTR -	Twisted pair no. 11	<— -	J2-20 Shield	DTR -
J1-38 Shield	RxC/TxCE -	Twisted pair no. 8	<— -	J2-24 Shield	TxCE -

1. Any pin not referenced is not connected.

EIA/TIA-449

Figure A-3 shows the EIA/TIA-449 cable assembly; Table A-7 lists the DTE pinouts; Table A-8 lists the DCE pinouts. Arrows indicate signal direction. A right arrow (→) indicates DTE to DCE, and a left arrow (←) indicates DCE to DTE.

Figure A-3 EIA/TIA-449 Cable Assembly

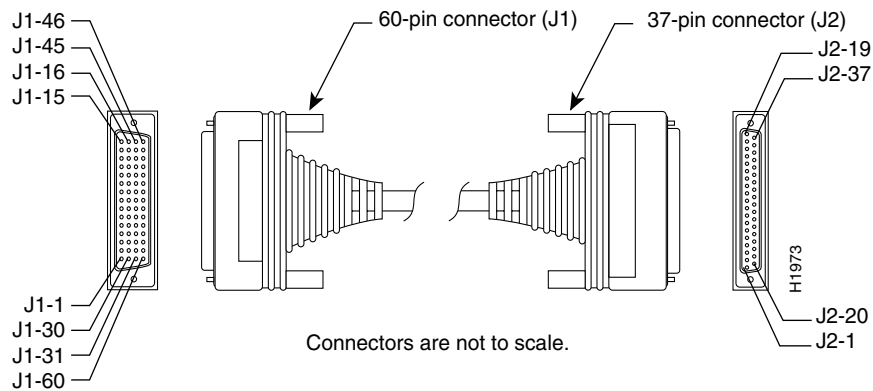


Table A-7 EIA/TIA-449 DTE Cable Pinouts (DB-60 to DB-37)

60 Pin ¹	Signal	Description	Direction	37 Pin	Signal
J1-49	MODE_1	Shorting Group	-	-	-
J1-48	GND				
J1-51	GND	Shorting Group	-	-	-
J1-52	MODE_DCE				
J1-46	Shield_GND	Single	-	J2-1	Shield GND
J1-11	TxD/RxD+	Twisted pair no. 6	→	J2-4	SD+
J1-12	TxD/RxD-		→	J2-22	SD-
J1-24	TxC/RxC+	Twisted pair no. 9	←	J2-5	ST+
J1-23	TxC/RxC-		←	J2-23	ST-
J1-28	RxD/TxD+	Twisted pair no. 11	←	J2-6	RD+
J1-27	RxD/TxD-		←	J2-24	RD-
J1-9	RTS/CTS+	Twisted pair no. 5	→	J2-7	RS+
J1-10	RTS/CTS-		→	J2-25	RS-
J1-26	RxC/TxCE+	Twisted pair no. 10	←	J2-8	RT+
J1-25	RxC/TxCE-		←	J2-26	RT-
J1-1	CTS/RTS+	Twisted pair no. 1	←	J2-9	CS+
J1-2	CTS/RTS-		←	J2-27	CS-
J1-44	LL/DCD	Twisted pair no. 12	→	J2-10	LL
J1-45	Circuit_GND		-	J2-37	SC
J1-3	DSR/DTR+	Twisted pair no. 2	←	J2-11	DM+
J1-4	DSR/DTR-		←	J2-29	DM-
J1-7	DTR/DSR+	Twisted pair no. 4	→	J2-12	TR+
J1-8	DTR/DSR-		→	J2-30	TR-
J1-5	DCD/DCD+	Twisted pair no. 3	←	J2-13	RR+
J1-6	DCD/DCD-		←	J2-31	RR-

Serial Cable Assemblies and Pinouts

60 Pin ¹	Signal	Description	Direction	37 Pin	Signal
J1-13	TxCE/TxC+	Twisted pair no. 7	—>	J2-17	TT+
J1-14	TxCE/TxC-		—>	J2-35	TT-
J1-15	Circuit_GND	Twisted pair no. 9	-	J2-19	SG
J1-16	Circuit_GND		-	J2-20	RC

1. Any pin not referenced is not connected.

Table A-8 EIA/TIA-449 DCE Cable Pinouts (DB-60 to DB-37)

60 Pin ¹	Signal	Description	Direction	37 Pin	Signal
J1-49	MODE_1	Shorting group	-	-	-
J1-48	GND		-	-	-
J1-46	Shield_GND	Single	-	J2-1	Shield GND
J1-28	RxD/TxD+	Twisted pair no. 11	<—	J2-4	SD+
J1-27	RxD/TxD-		<—	J2-22	SD-
J1-13	TxCE/TxC+	Twisted pair no. 7	—>	J2-5	ST+
J1-14	TxCE/TxC-		—>	J2-23	ST-
J1-11	TxD/RxD+	Twisted pair no. 6	—>	J2-6	RD+
J1-12	TxD/RxD-		—>	J2-24	RD-
J1-1	CTS/RTS+	Twisted pair no. 1	<—	J2-7	RS+
J1-2	CTS/RTS-		<—	J2-25	RS-
J1-24	TxC/RxC+	Twisted pair no. 9	—>	J2-8	RT+
J1-23	TxC/RxC-		—>	J2-26	RT-
J1-9	RTS/CTS+	Twisted pair no. 5	—>	J2-9	CS+
J1-10	RTS/CTS-		—>	J2-27	CS-
J1-29	NIL/LL	Twisted pair no. 12	—>	J2-10	LL
J1-30	Circuit_GND		-	J2-37	SC
J1-7	DTR/DSR+	Twisted pair no. 4	—>	J2-11	DM+
J1-8	DTR/DSR-		—>	J2-29	DM-
J1-3	DSR/DTR+	Twisted pair no. 2	<—	J2-12	TR+
J1-4	DSR/DTR-		<—	J2-30	TR-
J1-5	DCD/DCD+	Twisted pair no. 3	—>	J2-13	RR+
J1-6	DCD/DCD-		—>	J2-31	RR-
J1-26	RxC/TxCE+	Twisted pair no. 10	<—	J2-17	TT+
J1-25	RxC/TxCE-		<—	J2-35	TT-
J1-15	Circuit_GND	Twisted pair no. 8	-	J2-19	SG
J1-16	Circuit_GND		-	J2-20	RC

1. Any pin not referenced is not connected.

V.35

Figure A-4 shows the V.35 cable assembly; Table A-9 lists the DTE pinouts; Table A-10 lists the DCE pinouts. Arrows indicate signal direction. A right arrow (→) indicates DTE to DCE, and a left arrow (←) indicates DCE to DTE.

Figure A-4 V.35 Cable Assembly

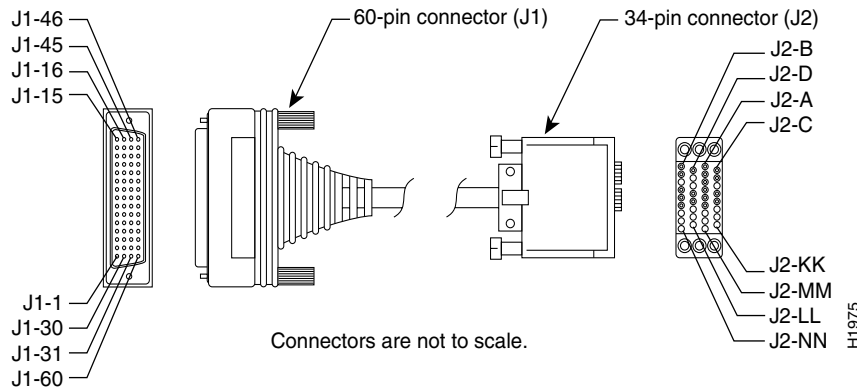


Table A-9 V.35 DTE Cable Pinouts (DB-60 to 34-Pin)

60 Pin ¹	Signal	Description	Direction	34 Pin	Signal
J1-49 J1-48	MODE_1 GND	Shorting Group	—	—	—
J1-50 J1-51 J1-52	MODE_0 GND MODE_DCE	Shorting Group	—	—	—
J1-53 J1-54 J1-55 J1-56	TxC/NIL RxC_TxCE RxD/TxD GND	Shorting Group	—	—	—
J1-46	Shield_GND	Single	—	J2-A	Frame GND
J1-45 Shield	Circuit_GND —	Twisted pair no. 12	—	J2-B Shield	Circuit GND —
J1-42 Shield	RTS/CTS —	Twisted pair no. 9	→	J2-C Shield	RTS —
J1-35 Shield	CTS/RTS —	Twisted pair no. 8	←	J2-D Shield	CTS —
J1-34 Shield	DSR/DTR —	Twisted pair no. 7	←	J2-E Shield	DSR —
J1-33 Shield	DCD/LL —	Twisted pair no. 6	←	J2-F Shield	RLSD —
J1-43 Shield	DTR/DSR —	Twisted pair no. 10	→	J2-H Shield	DTR —
J1-44 Shield	LL/DCD —	Twisted pair no. 11	→	J2-K Shield	LT —

60 Pin ¹	Signal	Description	Direction	34 Pin	Signal
J1-18	TxD/RxD+	Twisted pair no. 1	—>	J2-P	SD+
J1-17	TxD/RxD-		—>	J2-S	SD-
J1-28	RxD/TxD+	Twisted pair no. 5	<—	J2-R	RD+
J1-27	RxD/TxD-		<—	J2-T	RD-
J1-20	TxCE/TxC+	Twisted pair no. 2	—>	J2-U	SCTE+
J1-19	TxCE/TxC-		—>	J2-W	SCTE-
J1-26	RxC/TxCE+	Twisted pair no. 4	<—	J2-V	SCR+
J1-25	RxC/TxCE-		<—	J2-X	SCR-
J1-24	TxC/RxC+	Twisted pair no. 3	<—	J2-Y	SCT+
J1-23	TxC/RxC-		<—	J2-AA	SCT-

1. Any pin not referenced is not connected.

Table A-10 V.35 DCE Cable Pinouts (DB-60 to 34-Pin)

60 Pin ¹	Signal	Description	Direction	34 Pin	Signal
J1-49	MODE_1	Shorting Group	-	-	-
J1-48	GND		-	-	-
J1-50	MODE_0	Shorting Group	-	-	-
J1-51	GND		-	-	-
J1-53	TxC/NIL	Shorting Group	-	-	-
J1-54	RxC_TxCE		-	-	-
J1-55	RxD/TxD		-	-	-
J1-56	GND		-	-	-
J1-46	Shield_GND	Single	-	J2-A	Frame GND
J1-45	Circuit_GND	Twisted pair no. 12	-	J2-B	Circuit GND
Shield	-		-	Shield	-
J1-35	CTS/RTS	Twisted pair no. 8	<—	J2-C	RTS
Shield	-		-	Shield	-
J1-42	RTS/CTS	Twisted pair no. 9	—>	J2-D	CTS
Shield	-		-	Shield	-
J1-43	DTR/DSR	Twisted pair no. 10	—>	J2-E	DSR
Shield	-		-	Shield	-
J1-44	LL/DCD	Twisted pair no. 11	—>	J2-F	RLSD
Shield	-		-	Shield	-
J1-34	DSR/DTR	Twisted pair no. 7	<—	J2-H	DTR
Shield	-		-	Shield	-
J1-33	DCD/LL	Twisted pair no. 6	<—	J2-K	LT
Shield	-		-	Shield	-
J1-28	RxD/TxD+	Twisted pair no. 5	<—	J2-P	SD+
J1-27	RxD/TxD-		<—	J2-S	SD-
J1-18	TxD/RxD+	Twisted pair no. 1	—>	J2-R	RD+
J1-17	TxD/RxD-		—>	J2-T	RD-
J1-26	RxC/TxCE+	Twisted pair no. 4	<—	J2-U	SCTE+
J1-25	RxC/TxCE-		<—	J2-W	SCTE-
J1-22	NIL/RxC+	Twisted pair no. 3	—>	J2-V	SCR+
J1-21	NIL/RxC-		—>	J2-X	SCR-

60 Pin ¹	Signal	Description	Direction	34 Pin	Signal
J1-20	TxCE/TxC+	Twisted pair no. 2	—>	J2-Y	SCT+
J1-19	TxCE/TxC-		—>	J2-AA	SCT-

1. Any pin not referenced is not connected.

X.21

Figure A-5 shows the X.21 cable assembly; Table A-11 lists the DTE pinouts; Table A-12 lists the DCE pinouts. Arrows indicate signal direction. A right arrow (—>) indicates DTE to DCE, and a left arrow (<—) indicates DCE to DTE.

Figure A-5 X.21 Cable Assembly

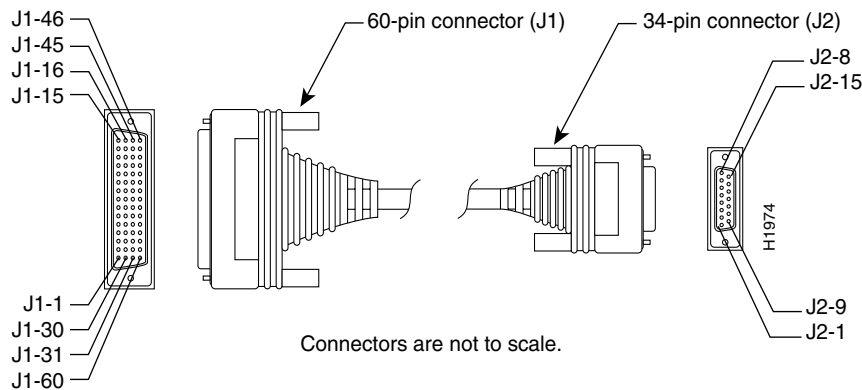


Table A-11 X.21 DTE Cable Pinouts (DB-60 to DB-15)

60 Pin ¹	Signal	Description	Direction	15 Pin	Signal
J1-48	GND	Shorting Group	-	-	-
J1-47	MODE_2				
J1-51	GND	Shorting Group	-	-	-
J1-52	MODE_DCE				
J1-46	Shield_GND	Single	-	J2-1	Shield GND
J1-11	TxD/RxD+	Twisted pair no. 3	—>	J2-2	Transmit+
J1-12	TxD/RxD-		—>	J2-9	Transmit-
J1-9	RTS/CTS+	Twisted pair no. 2	—>	J2-3	Control+
J1-10	RTS/CTS-		—>	J2-10	Control-
J1-28	RxD/TxD+	Twisted pair no. 6	<—	J2-4	Receive+
J1-27	RxD/TxD-		<—	J2-11	Receive-
J1-1	CTS/RTS+	Twisted pair no. 1	<—	J2-5	Indication+
J1-2	CTS/RTS-		<—	J2-12	Indication-
J1-26	RxC/TxCE+	Twisted pair no. 5	<—	J2-6	Timing+
J1-25	RxC/TxCE-		<—	J2-13	Timing-
J1-15	Control_GND	Twisted pair no. 4	-	J2-8	Control GND
Shield	-		-	Shield	-

1. Any pin not referenced is not connected.

Table A-12 X.21 DCE Cable Pinouts (DB-60 to DB-15)

60 Pin ¹	Signal	Description	Direction	15 Pin	Signal
J1-48	GND	Shorting Group	-	-	-
J1-47	MODE_2				
J1-46	Shield_GND	Single	-	J2-1	Shield GND
J1-28	RxD/TxD+	Twisted pair no. 6	<-	J2-2	Transmit+
J1-27	RxD/TxD-		<-	J2-9	Transmit-
J1-1	CTS/RTS+	Twisted pair no. 1	<-	J2-3	Control+
J1-2	CTS/RTS-		<-	J2-10	Control-
J1-11	TxD/RxD+	Twisted pair no. 3	->	J2-4	Receive+
J1-12	TxD/RxD-		->	J2-11	Receive-
J1-9	RTS/CTS+	Twisted pair no. 2	->	J2-5	Indication+
J1-10	RTS/CTS-		->	J2-12	Indication-
J1-24	TxC/RxC+	Twisted pair no. 4	->	J2-6	Timing+
J1-23	TxC/RxC-		->	J2-13	Timing-
J1-15	Control_GND	Twisted pair no. 5	-	J2-8	Control GND
Shield	-		-	Shield	-

1. Any pin not referenced is not connected.

Ethernet Cable Assembly and Pinouts

Figure A-6 shows an Ethernet (AUI) cable assembly, and Table A-13 lists an AUI cable pinouts.

Figure A-6 Ethernet (AUI) Cable Assembly

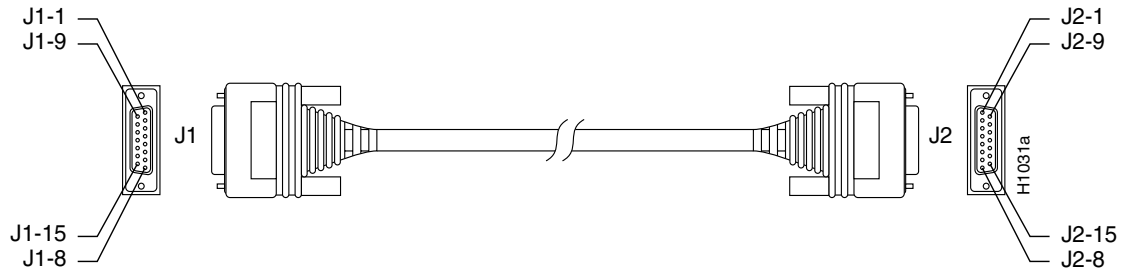


Table A-13 Ethernet (AUI) Cable Pinouts (DB-15)

Pin ¹	Ethernet Circuit	Signal
3	DO-A	Data Out Circuit A
10	DO-B	Data Out Circuit B
11	DO-S	Data Out Circuit Shield
5	DI-A	Data In Circuit A
12	DI-B	Data In Circuit B
4	DI-S	Data In Circuit Shield
2	CI-A	Control In Circuit A
9	CI-B	Control In Circuit B
1	CI-S	Control In Circuit Shield
6	VC	Voltage Common
13	VP	Voltage Plus
14	VS	Voltage Shield (L25 and M25)
Shell	PG	Protective Ground

1. Any pin not referenced is not connected.

Token Ring Pinouts

The pinouts for the Token Ring interface port is in Table A-14.

Table A-14 Token Ring Port Pinouts (DB-9)

9 Pin ¹	Signal
1	Receive
3	+5V ²
5	Transmit
6	Receive
9	Transmit

1. Pins 2, 4, 7, and 8 are ground.
 2. 600 mA maximum.

Asynchronous Serial Ports

Figure A-7 shows the RJ-45 breakout cable with pinouts for the 68-pin SCSI port and the RJ-45 serial port. Table A-15 contains the pinouts for the RJ-45 end, and Table A-16 contains the pinouts for the 68-pin SCSI type connector. Refer to the section “RJ-45 Adapter Pinouts” for cable and adapter configurations that can be used to connect terminals and modems to Cisco 2500 series products.

Figure A-7 Asynchronous Serial Interface Breakout Cable Assembly

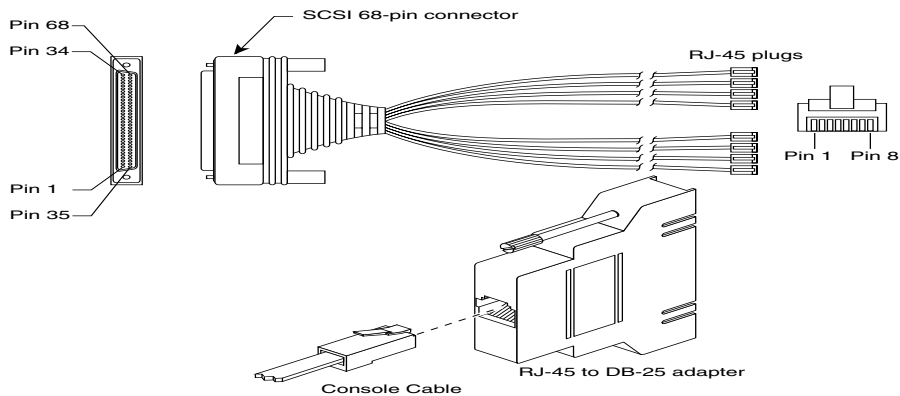


Table A-15 Asynchronous Breakout Cable Pinouts (8-Pin RJ-45)

8-Pin RJ-45	Signal	Direction
1	CTS	<—
2	DSR/DCD	<—
3	RXD	<—
4	GND	-
5	GND	-

8-Pin RJ-45	Signal	Direction
6	TXD	→
7	DTR	→
8	RTS	→

Table A-16 Asynchronous Breakout Cable Pinouts (68-Pin SCSI)

RJ-45 Plug	Pin	Signal	68-Pin SCSI (J1)
1	8	RTS	2
	7	DTR	36
	6	TXD	3
	5	TXD GND	37
	4	RXD GND	4
	3	RXD	38
	2	DSR	5
	1	CTS	39
2	8	RTS	6
	7	DTR	40
	6	TXD	7
	5	TXD GND	41
	4	RXD GND	8
	3	RXD	42
	2	DSR	9
	1	CTS	43
3	8	RTS	10
	7	DTR	44
	6	TXD	11
	5	TXD GND	45
	4	RXD GND	12
	3	RXD	46
	2	DSR	13
	1	CTS	47

Asynchronous Serial Ports

RJ-45 Plug	Pin	Signal	68-Pin SCSI (J1)
4	8	RTS	14
	7	DTR	48
	6	TXD	15
	5	TXD GND	49
	4	RXD GND	16
	3	RXD	50
	2	DSR	17
	1	CTS	51
5	8	RTS	18
	7	DTR	52
	6	TXD	19
	5	TXD GND	53
	4	RXD GND	20
	3	RXD	54
	2	DSR	21
	1	CTS	55
6	8	RTS	22
	7	DTR	56
	6	TXD	23
	5	TXD GND	57
	4	RXD GND	24
	3	RXD	58
	2	DSR	25
	1	CTS	59
7	8	RTS	26
	7	DTR	60
	6	TXD	27
	5	TXD GND	61
	4	RXD GND	28
	3	RXD	62
	2	DSR	29
	1	CTS	63

RJ-45 Plug	Pin	Signal	68-Pin SCSI (J1)
8	8	RTS	30
	7	DTR	64
	6	TXD	31
	5	TXD GND	65
	4	RXD GND	32
	3	RXD	66
	2	DSR	33
	1	CTS	67

Figure A-8 shows the DB-25 breakout cable with pinouts for the 68-pin port and the DB-25 port. Table A-17 lists the pinouts for the DB-25 end, and Table A-18 lists the pinouts for the 68-pin connector end.

Figure A-8 Asynchronous Serial Interface Breakout Cable Assembly (68-Pin to DB-25)

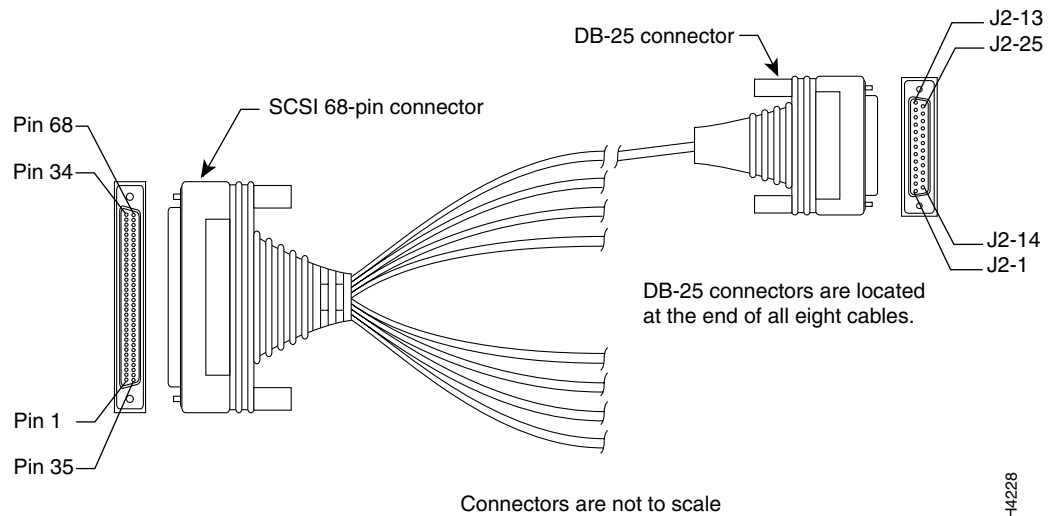


Table A-17 Asynchronous Breakout Cable Pinouts (DB-25)

DB-25 Plug ¹	Signal	Direction
4	RTS	→
20	DTR	→
2	TXD	→
7	TXD GND	—
7	RXD GND	—
3	RXD	←

Asynchronous Serial Ports

DB-25 Plug ¹	Signal	Direction
8	DSR	<—
5	CTS	<—

1. Any pin not referenced is not connected.

Table A-18 Asynchronous Cable Pinouts (68-Pin to DB-25)

DB-25 Plug	Pin	Signal	68-Pin (J1)
1	4	RTS	2
	20	DTR	36
	2	TXD	3
	7	TXD GND	37
	7	RXD GND	4
	3	RXD	38
	8	DSR	5
	5	CTS	39
2	4	RTS	6
	20	DTR	40
	2	TXD	7
	7	TXD GND	41
	7	RXD GND	8
	3	RXD	42
	8	DSR	9
	5	CTS	43
3	4	RTS	10
	20	DTR	44
	2	TXD	11
	7	TXD GND	45
	7	RXD GND	12
	3	RXD	46
	8	DSR	13
	5	CTS	47
4	4	RTS	14
	20	DTR	48
	2	TXD	15
	7	TXD GND	49
	7	RXD GND	16
	3	RXD	50
	8	DSR	17
	5	CTS	51

DB-25 Plug	Pin	Signal	68-Pin (J1)
5	4	RTS	18
	20	DTR	52
	2	TXD	19
	7	TXD GND	53
	7	RXD GND	20
	3	RXD	54
	8	DSR	21
	5	CTS	55
6	4	RTS	22
	20	DTR	56
	2	TXD	23
	7	TXD GND	57
	7	RXD GND	24
	3	RXD	58
	8	DSR	25
	5	CTS	59
7	4	RTS	26
	20	DTR	60
	2	TXD	27
	7	TXD GND	61
	7	RXD GND	28
	3	RXD	62
	8	DSR	29
	5	CTS	63
8	4	RTS	30
	20	DTR	64
	2	TXD	31
	7	TXD GND	65
	7	RXD GND	32
	3	RXD	66
	8	DSR	33
	5	CTS	67

RJ-45 Ethernet Pinouts

Table A-19 lists the pinouts for an Ethernet based RJ-45, and Table A-20 lists pinouts for the Ethernet on a model 2505 or model 2507.

Table A-19 Ethernet 10BaseT (RJ-45) Port Pinouts

Pin ¹	Description
1	TX+
2	TX-
3	RX+
4	—
5	—
6	RX-
7	—
8	—

1. Any pin not referenced on a connector is not connected.

Table A-20 Ethernet 10BaseT Port Pinouts (For 2505 and 2507 Models)

Pin	Signal
1	RX+
2	RX-
3	TX+
6	TX-

RJ-45 Adapter Pinouts

Refer to Table A-21 for a list of the pins used on the RJ-45 connector, the male/female DTE adapter, the male/female DCE adapter, and the male modem adapter used to connect terminals and modems to Cisco 2500 series products. The connection of pins between the RJ-45 connector and the end device depends on the type of cable used, either straight or rolled. A straight cable connects pin 1 to pin 1, pin 2 to pin 2, and so on. A rolled cable connects pin 1 to pin 8, pin 2 to pin 7, and so on. Cisco 2500 Series products now ship with a rolled cable. Refer to Table A-22 for the cable and adapter configurations that can be used to connect terminals and modems to Cisco 2500 series products. Table A-23 and Table A-24 list the suggested adapter pinouts.

Table A-21 Pins for the RJ-45, M/F DTE, M/F DCE, and MMOD

Cable RJ-45 Pins	DB-25 Adapters		
	M/F DTE Pins ¹	M/F DCE Pins	MMOD Pins ²
1	4	5	5
2	20	6	8
3	2	3	3
4	7	7	7
5	7	7	7
6	3	2	2
7	6	20	20
8	5	4	4

1. The FDTE adapter that is available through Cisco is labeled "Terminal."

2. The MMOD adapter that is available through Cisco is labeled "Modem."

Table A-22 Connection Configuration

Cisco 2500 Port	RJ-45 Cable Type	DB-25 Adapter	End Device
Console/aux	Rolled ¹	FDTE	Terminal
Console/aux	Straight	FDCE	Terminal
Console/aux	Straight	MDCE ²	Modem
Console/aux	Rolled ¹	MDTE ²	Modem
Aux/console	Rolled ¹	MMOD	Modem

1. An octal cable or RJ-45 breakout cable is equivalent to a rolled cable.

2. Modify the adapter by removing DB-25 pin 6 and placing it into the pin 8 position.

Table A-23 lists suggested DB-25 to DB-9 adapter pinouts.

Table A-23 DB-25 to DB-9 Adapter Pinouts

DB-25 Pin	Signal	DB-9 Pin
2	TXD	3
3	RXD	2
4	RTS	7
5	CTS	8
6	DSR	6
8	DCD	1
20	DTR	4

Table A-24 lists suggested RJ-45-to-DB-9 adapter pinouts.

Table A-24 RJ-45 to DB-9 Adapter Pinouts

RJ-45 Pin	Signal	DB-9 Pin
1	RTS	7
2	DTR	4
3	TXD	3
4	GND	5
5	GND	5
6	RXD	2
7	DSR	6
8	CTS	8