



Connectors and Cable Specifications

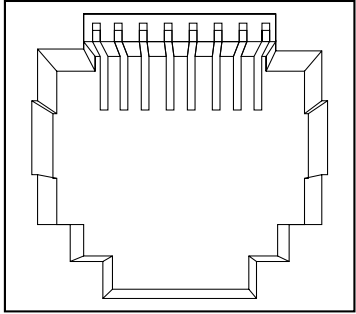
This appendix describes the Catalyst 2900 XL switch ports and the cables and adapters that you use to connect the switch to other devices.

Connector Specifications

10/100 Ports

The 10/100 Ethernet ports use standard RJ-45 connectors and Ethernet pinouts with internal crossovers, as shown by an X in the port name. These ports have their transmit (TD) and receive (RD) signals internally crossed so that a straight-through cable and an adapter can be attached to the port. [Figure B-1](#) shows the pinouts.

Figure B-1 10/100 Port Pinouts

Pin	Label	1 2 3 4 5 6 7 8
1	RD+	
2	RD-	
3	TD+	
4	NC	
5	NC	
6	TD-	
7	NC	
8	NC	

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When connecting the 10/100 ports to compatible workstations, servers, routers, and Cisco IP Phones, you must use a straight-through cable wired for 10BASE-T and 100BASE-TX. (Figure B-4 shows the straight-through cable schematics.)

When connecting to other switches or repeaters, you must use a crossover cable. (Figure B-5 shows the crossover cable schematics.)

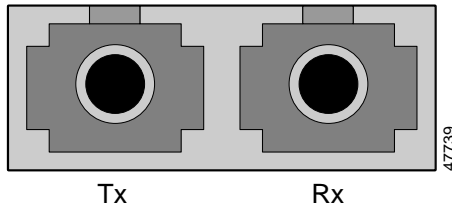
**Note**

Use a straight-through cable to connect two ports when one of the ports is designated with an **X**. Use a crossover cable to connect two ports when both connectors and cables are designated with an **X** or when both ports do not have an **X**.

100BASE-FX Ports

100BASE-FX ports use duplex SC connectors, as shown in Figure B-2. These ports use 10/125- or 62.5/125-micron multimode fiber-optic cabling.

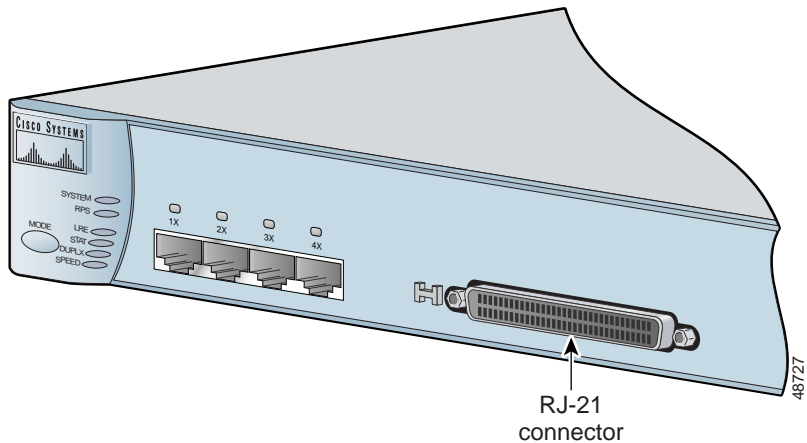
Figure B-2 100BASE-FX SC Connector



LRE Ports

The LRE ports use a single RJ-21 connector, as shown in [Figure B-3](#).

Figure B-3 RJ-21 Connector



Console Port

The console port uses an 8-pin RJ-45 connector, described in [Table B-2](#) and [Table B-3](#). The supplied RJ-45-to-RJ-45 rollover cable and DB-9 adapter are used to connect the console port of the switch to a console PC. You need to provide a RJ-45-to-DB-25 female DTE adapter if you want to connect the switch console

port to a terminal. You can order a kit (part number ACS-DSBUASYN=) containing that adapter from Cisco. For console port and adapter pinout information, see [Table B-2](#) and [Table B-3](#).

Cable and Adapter Specifications

Crossover and Straight-Through Cable Pinouts

The schematics of crossover and straight-through cables are shown in [Figure B-4](#) and [Figure B-5](#).

Figure B-4 Straight-Through Cable Schematic

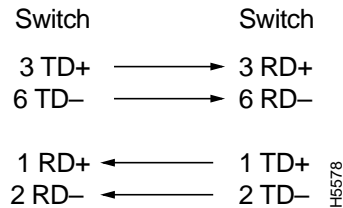
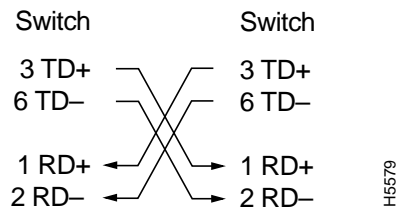


Figure B-5 Crossover Cable Schematic



RJ-21 Cable Pinouts

Table B-1 RJ-21 Cable Pinouts

Pins	Circuit	Pins	Circuits
1, 26	1, tip/ring	14, 39	14, tip/ring
2, 27	2, tip/ring	15, 40	15, tip/ring
3, 28	3, tip/ring	16, 41	16, tip/ring
4, 29	4, tip/ring	17, 42	17, tip/ring
5, 30	5, tip/ring	18, 43	18, tip/ring
6, 31	6, tip/ring	19, 44	19, tip/ring
7, 32	7, tip/ring	20, 45	20, tip/ring
8, 33	8, tip/ring	21, 46	21, tip/ring
9, 34	9, tip/ring	22, 47	22, tip/ring
10, 35	10, tip/ring	23, 48	23, tip/ring
11, 36	11, tip/ring	24, 49	25, tip/ring
12, 37	12, tip/ring	25, 50	no connect
13, 38	13, tip/ring		



Note

[Table B-1](#) shows the pinouts for the RJ-21 connector on a Catalyst 2924 LRE XL switch. On a Catalyst 2912 LRE XL switch, only circuits 1 to 12 are valid.

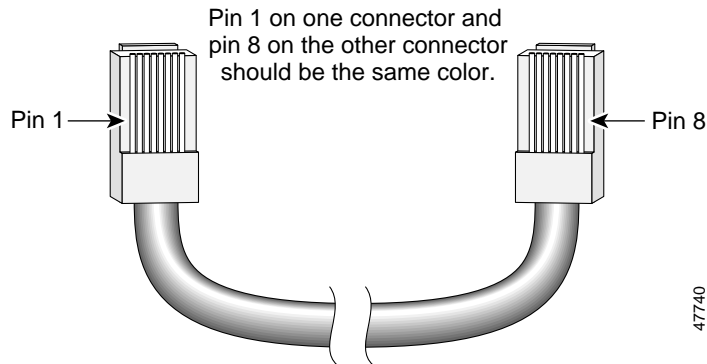
Console Port

The console port uses an 8-pin RJ-45 connector, as shown in [Figure B-7](#) and described in [Table B-2](#). The supplied RJ-45-to-RJ-45 rollover cable and adapters connect the console port of the switch to a console PC or terminal. The following sections describe the rollover cable and adapters for the console port.

Identifying a Rollover Cable

You can identify a rollover cable by comparing the two modular ends of the cable. Hold the cable ends side-by-side, with the tab at the back. The wire connected to the pin on the outside of the left plug should be the same color as the wire connected to the pin on the outside of the right plug (see [Figure B-6](#)).

Figure B-6 Identifying a Rollover Cable



Connecting to a PC

Use the thin, flat, RJ-45-to-RJ-45 rollover cable and RJ-45-to-DB-9 female DTE adapter (both provided) to connect the console port to a PC running terminal-emulation software. [Figure B-7](#) shows how to connect the console port to a PC. [Table B-2](#) lists the pinouts for the console port, the RJ-45-to-RJ-45 rollover cable, and the RJ-45-to-DB-9 female DTE adapter.

Figure B-7 Connecting the Console Port to a PC

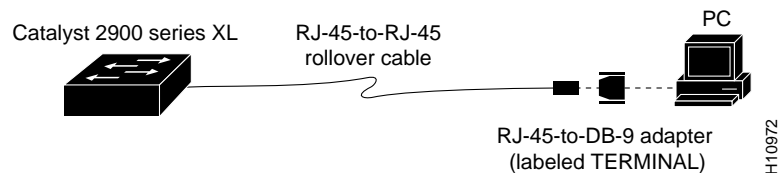


Table B-2 Console Port Signaling and Cabling Using a DB-9 Adapter

Console Port (DTE)	RJ-45-to-RJ-45 Rollover Cable		RJ-45-to-DB-9 Terminal Adapter	Console Device
	RJ-45 Pin	RJ-45 Pin	DB-9 Pin	
Signal				Signal
RTS	1	8	8	CTS
Not connected	2	7	6	DSR
TxD	3	6	2	RxD
GND	4	5	5	GND
GND	5	4	5	GND
RxD	6	3	3	TxD
Not connected	7	2	4	DTR
CTS	8	1	7	RTS

Connecting to a Terminal

Use the thin, flat, RJ-45-to-RJ-45 rollover cable and RJ-45-to-DB-25 female DTE adapter to connect the console port to a terminal. [Table B-3](#) lists the pinouts for the console port, the RJ-45-to-RJ-45 rollover cable, and the RJ-45-to-DB-25 female DTE adapter.



Note

The RJ-45-to-DB-25 female DTE adapter is not supplied with the switch. You can order a kit (part number ACS-DSBUASYN=) containing this adapter from Cisco.

Table B-3 Console Port Signaling and Cabling Using a DB-25 Adapter

Console Port (DTE)	RJ-45-to-RJ-45 Rollover Cable		RJ-45-to-DB-25 Terminal Adapter	Console Device
Signal	RJ-45 Pin	RJ-45 Pin	DB-25 Pin	Signal
RTS	1	8	5	CTS
Not connected	2	7	6	DSR
TxD	3	6	3	RxD
GND	4	5	7	GND
GND	5	4	7	GND
RxD	6	3	2	TxD
Not connected	7	2	20	DTR
CTS	8	1	4	RTS