Connector and Cable Specifications

This appendix contains these topics:

Connector Specifications

10/100/1000 Ports (Including PoE)

All 10/100/1000 ports use standard RJ-45 connectors and Ethernet pinouts.

Figure 1: 10/100/1000 Port Pinouts

SFP Module Connectors

Figure 2: Duplex LC Cable Connector

Figure 3: Simplex LC Cable Connector
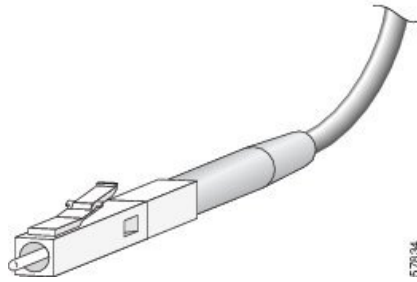
Figure 4: Copper SFP Module LC Connector

Pin	Label	1 2 3 4 5 6 7 8
1	TP0+	
2	TP0-	
3	TP1+	
4	TP2+	
5	TP2-	
6	TP1-	
7	TP3+	
8	TP3-	

Cables and Adapters

SFP Module Cables

For cabling specifications, refer to the following notes:

Cisco SFP Transceiver Module Installation Notes

Each port must match the wavelength specifications on the other end of the cable, and the cable must not exceed the stipulated cable length. Copper 1000BASE-T SFP module transceivers use standard four twisted-pair, Category 5 cable at lengths up to 328 feet (100 meters).

Cable Pinouts

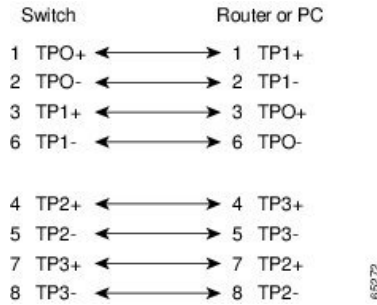*Figure 5: Four Twisted-Pair Straight-Through Cable Schematic*

```
Switch              Router or PC

1  TPO+  ◄────────►  1  TP1+
2  TPO-  ◄────────►  2  TP1-
3  TP1+  ◄────────►  3  TPO+
6  TP1-  ◄────────►  6  TPO-

4  TP2+  ◄────────►  4  TP3+
5  TP2-  ◄────────►  5  TP3-
7  TP3+  ◄────────►  7  TP2+
8  TP3-  ◄────────►  8  TP2-
```

Figure 6: Four Twisted-Pair Semi-Cross Cable Schematic

```
Switch              Switch

1  TP0+  ◄──┐  ┌──►  1  TP0+
2  TP0-  ◄──┤  ├──►  2  TP0-
3  TP1+  ◄──┘  └──►  3  TP1+
6  TP1-  ◄─────────►  6  TP1-

4  TP2+  ◄────────►  4  TP2+
5  TP2-  ◄────────►  5  TP2-
7  TP3+  ◄────────►  7  TP3+
8  TP3-  ◄────────►  8  TP3-
```
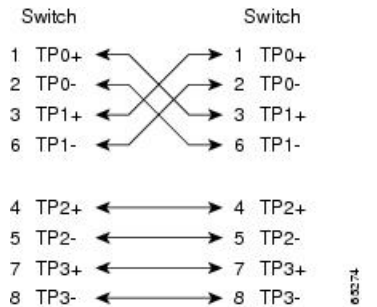
Figure 7: Two Twisted-Pair Straight-Through Cable Schematic

```
Switch         Router or PC

3 TD+  ─────────►  3 RD+
6 TD-  ─────────►  6 RD-

1 RD+  ◄─────────  1 TD+
2 RD-  ◄─────────  2 TD-
```
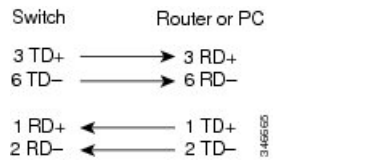
Figure 8: Two Twisted-Pair Crossover Cable Schematic

```
Switch          Switch

3 TD+  ──┐  ┌──  3 TD+
6 TD-  ──┤  ├──  6 TD-

1 RD+  ◄─┘  └─►  1 RD+
2 RD-  ◄────►  2 RD-
```
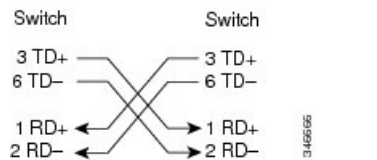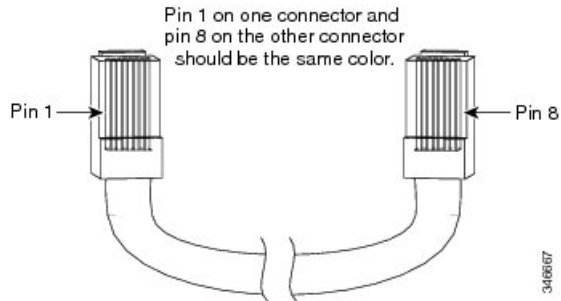
Identifying a Crossover Cable

To identify a crossover cable, compare 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 a different color from the wire connected to the pin on the inside of the right plug.

Figure 9: Identifying a Crossover Cable

Console Port Adapter Pinouts

The RS-232 console port uses an 8-pin RJ-45 connector. Use an RJ-45-to-DB-9 adapter cable to connect the switch console port to a console PC. You need to provide a RJ-45-to-DB-25 female DTE adapter to connect the switch console port to a terminal.

Table 1: Console Port Signaling with a DB-9 Adapter

Switch Console Port (DTE)	RJ-45-to-DB-9 Terminal Adapter	Console Device
Signal	DB-9 Pin	Signal
RTS	8	CTS
DTR	6	DSR
TxD	2	RxD
GND	5	GND
GND	5	GND
RxD	3	TxD
DSR	4	DTR
CTS	7	RTS

Table 2: Console Port Signaling with a DB-25 Adapter

Switch Console Port (DTE)	RJ-45-to-DB-25 Terminal Adapter	Console Device
Signal	DB-25 Pin	Signal
RTS	5	CTS
DTR	6	DSR
TxD	3	RxD

Switch Console Port (DTE)	RJ-45-to-DB-25 Terminal Adapter	Console Device
Signal	**DB-25 Pin**	**Signal**
GND	7	GND
GND	7	GND
RxD	2	TxD
DSR	20	DTR
CTS	4	RTS