Connector and Cable Specifications

This appendix includes specifications for the Cisco 1120 Connected Grid Router connectors, adapters, and compatible cables, and is organized into the following sections:

Connector Specifications

Alarm Port

For detailed information about the alarm ports, see Router Hardware Description, page 11. The alarm port is an 8-way RJ-45 alarm connector.

Table 1 Alarm Port Specification

Pin (8-Way RJ-45 Alarm Connector)	Alarm Signal Description
1	Alarm1_IN
2	Alarm2_IN
3	Normally Closed (NC)
4	Alarm3_IN
5	Alarm4_IN
6	Normally Closed (NC)
7	Alarm_OUT_Common
8	Alarm_IN_Common

Console Port

For detailed information about the console port, see Router Hardware Description, page 11.

Table 2 Console/Auxiliary Port Specification

Pin	Signal Name	Signal Description
1	RTS	Output
2	DTR	Output
3	TXD	Output
4	GND	–
5	GND	–
6	RXD	Input
7	DSR/DCD	Input
8	CTS	Input

Combo Ports

For detailed information about the combination ports, see Router Hardware Description, page 11.

Copper Interface—Combination Port (SFP and GE Ethernet)

Table 3 Combination Port Specification –Copper Interface

Pin	1000Base-T	100Base-TX/10Base-T
1	TX A+	TX DATA+
2	TX A-	TX DATA-
3	RX B+	RX DATA+
4	TX C+	N/C
5	TX C-	N/C
6	RX B-	RX DATA-
7	RX D+	N/C
8	RX D-	N/C

SFP Ports

SFP Interface—Combination Port (SFP and GE Ethernet)

For detailed information about the combination ports, see Router Hardware Description, page 11.

Table 4 SFP Port Specification

Pin	Signal Name	Input/Output	Signal Description
1	VeeT	–	GND
2	TxFault	Output	Connects to GPIO
3	TxDisable	Input	Driven from GPIO
4	MOD-DEF(2)	Bidir	Bidirectional. Connects to I2C data
5	MOD-DEF(1)	Input	Connects to I2C Clock
6	MOD-DEF(0)	Output	Grounded in SFP, indicates SFP is present
7	Rate Select[1]	–	–
8	LOS	Output	Connects to GPIO
9	VeeR	–	GND
10	VeeR	–	GND
11	VeeR	–	GND
12	RD-	Output	Connects to PHY
13	RD+	Output	Connects to PHY
14	VeeR	–	Gnd
15	VccR	–	3.3V
16	VccT	–	3.3V
17	VeeT	–	GND
18	TD+	Input	Driven from PHY
19	TD-	Input	Driven from PHY
20	VeeT	–	GND

[1] Rate Select is an optional SFP input that controls receiver bandwidth when used with Fibre Channel applications. This pin is unconnected.

Serial Port

For detailed information about the combination ports, see Router Hardware Description, page 11.

Table 5 Serial Port Specification

RS-232[1]			
Pin	Signal Description (Abbreviation)	DTE	DCE
1	DCE ready, ring indicator (DSR/RI)	<–	–>
2	Received line signal detector (DCD)	<–	–>
3	DTE ready (DTR)	—>	<–
4	Signal ground (COM)	-	-
5	Received data (RxD)	<–	–>
6	Transmitted data (TxD)	—>	<–

Table 5 Serial Port Specification (continued)

RS-232[1]			
Pin	Signal Description (Abbreviation)	DTE	DCE
7	Clear to send (CTS)	<–	–>
8	Request to send (RTS)	—>	<–
[1] The RS232 pinouts use the EIA-561 standard.			

Power Connectors

For detailed information about the router power supply terminal connectors (AC and DC input terminals), see Router Hardware Description, page 11.

Cable and Adapter Specifications

SFP Cable

For detailed information about the SFP ports, see Router Hardware Description, page 11.

Table 6 SFP Port Cabling Specification

SFP Module	Wavelength (nm)	Cable Type	Core size/ Cladding Size (micron)	Modal Bandwidth (MHz/km)	Cable Distance
1000BASE-SX	850	MMF	62.5/125	160	722 feet (220 m)
			62.5/125	200	902 feet (275 m)
			50/125	400	1640 feet (500 m)
			50/125	500	1804 feet (550 m) 3281 ft (1000 m)
1000BASE-LX/LH	1310	MMF[1]	62.5/125	500	1804 feet (550 m)
			50/125	400	1804 feet (550 m)
			50/125	500	1804 feet (550 m)
		SMF	G.6522	–	32,808 feet (10,000 km)
1000BASE-EX	1310	SMF	–	–	131,234 feet (40,000 km)
1000BASE-ZX	1550	SMF	G.652[2]	–	43.4 to 62 miles (70 to 100 km)[2]
1000BASE-BX-U	1310	SMF	–	–	32,808 ft (10,000 m)
1000BASE-BX-D	1490	SMF	–	–	32,808 ft (10,000 m)

[1] A mode-conditioning patch cord is required. Using an ordinary patch cord with MMF or 1000BASE-LX/LH SFP modules and a short link distance can cause transceiver saturation and an elevated bit error rate (BER). When using the LX/LH SFP module with 62.5-micron diameter MMF, you must also install a mode-conditioning patch cord between the SFP module and the MMF cable on both the sending and receiving ends of the link. The mode-conditioning patch cord is required for link distances greater than 984 feet (300 m).

[2] 1000BASE-ZX SFP modules can send data up to 62 miles (100 km) by using dispersion-shifted SMF or low-attenuation SMF; the distance depends on the fiber quality, the number of splices, and the connectors.