

Quick Reference CATALYST 8510 AND LIGHTSTREAM 1010 HARDWARE INFORMATION



Chassis Installation



WARNING: Before you install, operate or service the system, read the *Site Preparation and Safety Guide*. This guide contains important safety information you should know before working with the system.

Attaching Brackets and Guides



Installing a Chassis in a Rack



WARNING: Two people are required to lift the chassis. To prevent damage to the chassis and components, never attempt to lift the chassis by the handles on the power supplies or on the interface modules.

Ports and Cabling

ROUTE PROCESSOR PORTS

Management port

Console port

CABLE CONNECTORS

RJ-45

EIA/TIA-232

PORT ADAPTER/ INTERFACE MODULE PORTS

10/100BaseT, T1/E1,
CES, CE1 Frame Relay

100BaseFX

155 Mbps, 622 Mbps

Gigabit Ethernet

E1, CES, DS3/E3, CDS3

25 Mbps

CABLE CONNECTORS

RJ-45, RJ-48c

MT-RJ fiber

SC-type fiber

BNC

96-pin Molex

Replacing Components

Securing an ESD Strap



WARNING: Always connect the ESD wrist strap to the ESD strap connection at the top left side of the chassis before removing any component.

Inserting and Removing Flash PC Cards

Inserting an Interface Module

Inserting a New Fan

Inserting a Port Adapter

Changing a Power Supply



WARNING: Always turn off the power supply unit before removing it. While holding the AC or DC power supply handle with one hand, place your other hand underneath to support the bottom of the supply.

LEDs and Troubleshooting

Distance and Pinout Information

Maximum Transmission Distances

Transceiver Speed	Cable Type	Max. Distance Between Stations
10/100-Mbps Ethernet	Category 5 UTP	328 feet (100 m)
100-Mbps Ethernet	Multimode fiber	1640 feet (500 m)
1000-Mbps Ethernet	Multimode fiber	1640 feet (500 m)
1000-Mbps Ethernet	Single-mode fiber	16404 feet (5 km)
25-Mbps ATM	Category 5 UTP	328 feet (100 m)
155-Mbps ATM	Single-mode fiber	9 miles (15 km)
155-Mbps ATM	Single-mode fiber, long reach	18 miles (30 km)
155-Mbps ATM	Multimode fiber	1.2 miles (2 km)
622-Mbps ATM	Single-mode fiber	9 miles (15 km)
622-Mbps ATM	Single-mode fiber, long reach	25 miles (40 km) ¹
622-Mbps ATM	Multimode fiber	1640 feet (500 m)
T1, 1.544-Mbps ATM	Category 5 twisted-pair	650 feet (198 m)
E1, 2.048-Mbps ATM	Category 5 twisted-pair and FTP (120 ohm)	650 feet (198 m)
E1, 2.048-Mbps ATM	Coaxial cable (75 ohm)	650 feet (198 m)
CDS3, 45-Mbps	Coaxial cable	450 feet (137 m)
CE1, 2.048-Mbps ATM	Category 5 twisted-pair	650 feet (198 m)
CES T1	Category 5 twisted-pair and FTP	650 feet (198 m)
CES E1	Category 5 twisted-pair and FTP (120 ohm)	820 feet (248.5 m)
CES E1	Coaxial cable (75 ohm)	650 feet (198 m)
DS3, 45-Mbps	Coaxial cable	450 feet (137 m)
E3, 34-Mbps	Coaxial cable	1299 feet (396 m)

1. If you are attaching a short cable to the 622-Mbps long-reach port adapter, you must add 10 dB of attenuation to the cable or the transmitter might overdrive the receiver and introduce data errors.

Pinouts to RJ-45 Connectors

The 10/100 Mbps Ethernet interface module with unshielded twisted-pair (UTP) ports supports RJ-45 connectors.

Pin	Signal	Description
1	RXD+	Receive data +
2	RXD-	Receive data -
3	NC	No connection
4	NC	No connection
5	NC	No connection
6	NC	No connection
7	TXD+	Transmit data +
8	TXD-	Transmit data -

Pinouts to RJ-48c Connectors

The T1, E1, CES T1 and CES E1 port adapters support RJ-48c connectors.

Pin	Description
1	Receive ring
2	Receive tip
3	No connection
4	Transmit ring
5	Transmit tip
6	No connection
7	No connection
8	No connection

Specifications and Regulatory Compliance Information

Description	Specifications
Switch and processor capacity	10-Gbps shared memory, nonblocking switch fabric up to 32 KB frames
Dimensions (H x W x D)	Chassis: 10.4 x 17.25 x 18.4 in (26.4 x 43.1 x 46.0 cm) Processor card and carrier module: 1.2 x 14.4 x 16 in (3.0 x 36.6 x 40.6 cm) Port adapter: 1.2 x 6.5 x 10 in (3.0 x 16.5 x 25.4 cm) Power supply: 2.7 x 6.0 x 15.3 in (6.9 x 15.2 x 38.9 cm)
Weight	Empty chassis: 32 lb (15.5 kg) Fully populated chassis: approximately 130 lb (59.09 kg) AC power supply: 11 lb (4.98 kg) DC power supply: 10 lb (4.54 kg)
Airflow	95 cfm through the system fan assembly
Operating temperature	32 to 122°F (0 to 50°C)
Nonoperating temperature	-40 to 167°F (-40 to 75°C)
Humidity	10 to 90%, noncondensing
Altitude	-500 to 10,000 ft (-52 to 3048 m)
Microprocessor	100-Mhz MIPS R4700
AC total output	388W maximum
AC-input voltage	100-240 VAC wide input with power factor correction
AC frequency	Auto sensing limits: 100 to 127/200 to 240 VAC, 8/4A, 47 to 63 Hz
AC current rating	8/4A with the chassis fully populated
Power supply load	376W maximum configuration, 200W typical with max configuration
DC voltages supplied and steady-state maximum current ratings	System: +5V @ 70A +12V @ 2A +24V @ 0.2A Processor: +5V @ 15A +24V @ 25mA +12V @ 500mA

Description	Specifications
Memory	8-MB Flash memory SIMM (upgradable to 16 MB) 64-MB DRAM 256-KB boot EPROM 128-KB SRAM No Flash PC card installed by default (accepts 8-, 16-, or 20-MB Intel Series 2+ Flash PC cards)
Regulatory Compliance	UL 1950 (U.S.A.) CSA 950 (Canada) EN60950 (European Union) IEC 950 (International) AS/NZS 3260 (Australia/New Zealand) TS001:1997 (Australia) 21CFR1040 (Laser - U.S.A.) EN60825 (Laser - European Union) IEC60825 (Laser - International) CE Marking (European Union) FCC Part 15 (CFR 47) Class A (U.S.A.) VCCI Class A with UTP and Class B with FTP cables (Japan) EN55022 Class A with UTP and Class B with FTP cables (European Union) CISPR 22 Class A with UTP and Class B with FTP cables (International) AS/NZS 3548 Class A with UTP and Class B with FTP cables (Australia/New Zealand)



Corporate Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
<http://www.cisco.com>
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

European Headquarters
Cisco Systems Europe
11, Rue Camille Desmoulins
92782 Issy Les Moulineaux Cedex 9
France
<http://www-europe.cisco.com>
Tel: 33 1 58 04 60 00
Fax: 33 1 58 04 61 00

Americas
Headquarters
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
<http://www.cisco.com>
Tel: 408 526-7660
Fax: 408 527-0883

Asia Pacific Headquarters
Cisco Systems Australia, Pty., Ltd
Level 17, 99 Walker Street
North Sydney
NSW 2059 Australia
Tel: +61 2 8448 7100
Fax: +61 2 9957 4350

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