



Technical Specifications

This appendix provides the technical specifications for the Cisco 6260 system. The appendix contains the following sections:

- [Hardware Specifications, page A-1](#)
- [Software Specifications, page A-12](#)

A.1 Hardware Specifications

This section details the specifications for the following hardware components:

- Cisco 6260 chassis
- Quad-port DMT ATU-C line card (4xDMT)
- Quad-port DMT over ISDN line card (4xDMT over ISDN)
- Quad-port flexi ATU-C line card (4xflexi)
- Quad-port STU-C line card (4xSDSL)
- Octal-port DMT ATU-C line card (8xDMT)
- Octal-Port DMT ATU-C over ISDN line card (8xDMT over ISDN)
- Octal-Port G.SHDSL SHTU-C line card (8xG.SHDSL)
- DS3/2DS3 NI-2 card
- DS3+T1/E1 IMA NI-2 card
- OC-3c/OC-3c NI-2 card
- I/O module (E3, E1, or OC-3c)
- Power entry module (PEM)
- Fan Tray

A.1.1 Cisco 6260 Chassis

Table A-1 lists the hardware specifications of the Cisco 6260 system.

Table A-1 Cisco 6260 Hardware Specifications

| Specification | | Description |
|---|--------------------|--|
| Dimensions | | 13.43 RUs—23.5 in. x 17.5 in. x 11.0 in. (59.7 cm x 44.5 cm x 28.0 cm) |
| Weight | | Empty—Approximately 37.5 lb (17.0 kg) Loaded—Approximately 80 lb (36.3 kg) |
| Network interface | | ATM OC-3c (single- or multimode fiber), ATM E3, ATM E1 Note When the DS3/2DS3 NI-2 card is installed in the Cisco 6260 chassis, it assumes E3 functionality. |
| ADSL interface | | DMT—Up to 8.032 Mbps downstream/864 kbps upstream G.lite—Up to 1.536 Mbps downstream/512 kbps upstream |
| SDSL interface | | 2B1Q—Up to 1168 kbps upstream and downstream |
| SHDSL interface | | TC-PAM ¹ |
| Craft interface | | Console terminal connection on the NI-2 card |
| Management access | | <ul style="list-style-type: none"> • RJ-45 interface for craft alarm discovery • RJ-45 Ethernet • ATM in-band management |
| External alarm contacts | | Single dry contact alarm input (NO) |
| Power requirements | | <ul style="list-style-type: none"> • -40.5 VDC to -75 VDC Note See Chapter 2, “Preparing for Installation,” for detailed power requirements. |
| CO operating requirements | Temperature | 41° to 104°F (5° to 40°C)—Operating 23° to 131°F (-5° to 55°C)—Short-term operating |
| | Altitude | 0 to 10,000 feet (0 to 3048 meters)—Operating 0 to 30,000 feet (0 to 9144 meters)—Nonoperating |
| | Humidity | 5 to 95% (noncondensing) |
| | Operating shock | 5 to 500 Hz, 0.5 gravity (0.1 octave per minute) |
| | Nonoperating shock | 5 to 100 Hz, 1 gravity (0.1 octave per minute); 100 to 500 Hz, 1.5 gravities (0.2 octave per minute); 500 to 1000 Hz, 1.5 gravities (0.2 octave per minute) |
| Maximum heat dissipation for a fully loaded chassis | | 4097 BTUs/hour |

Table A-1 Cisco 6260 Hardware Specifications (continued)

| Specification | Description |
|----------------|--|
| Acoustic noise | 60 dB at normal fan speed |
| Subtending | <ul style="list-style-type: none"> One OC-3c connection on the OC-3c/OC-3c NI-2 card Two E3 connections on the E3 I/O module when used in conjunction with the DS3/2DS3 NI-2 card Up to seven E1 connections on the E1 I/O module when used in conjunction with the DS3+T1/E1 IMA NI-2 card |

1. TC-PAM = trellis coded pulse amplitude modulation

A.1.2 Quad-Port DMT ATU-C Line Card

Table A-2 lists the specifications for the 4xDMT.

Table A-2 Quad-Port DMT ATU-C Line Card Specifications

| Specification | Description |
|---|--|
| Standards supported | ITU G.dmt ITU G.lite ANSI T1.413 Issue 2 |
| External interfaces | 4 (no connectors on card) |
| Data rates (per port) | Upstream: Up to 864 kbps Downstream: Up to 8.032 Mbps |
| Internal hardware | <ul style="list-style-type: none"> 18 MHz AM186ESLV.2 CPU AD20msp918 DMT modem chipset 128 KB SRAM 256 K x 16 boot flash 2 KB serial EEPROM |
| Dimensions | Height: 6.07 in. (15.42 cm) Depth: 8.50 in. (21.59 cm) Width: 0.88 in. (2.24 cm) |
| Weight | 0.875 lb (0.4 kg) |
| Power consumption | 16.5W |
| Minimum software and network management requirement | Cisco IOS—Release 12.0(5)DA CDM ¹ —Release 3.0 (optional) |

1. CDM = Cisco DSL Manager

A.1.3 Quad-Port DMT over ISDN Line Card

Table A-3 lists the specifications for the 4xDMT over ISDN.

Table A-3 Quad-Port DMT Over ISDN Line Card Specifications

| Specification | Description |
|---|--|
| Data rates (per port) | Upstream: 32 to 864 kbps in increments of 32 kbps Downstream: 32 to 8032 kbps in increments of 32 kbps Symmetrical: Matches upstream and downstream rates |
| Internal hardware | <ul style="list-style-type: none"> • 18 MHz AM186ESLV.2 CPU • AD20msp918 DMT modem chipset • 128 KB SRAM • 256 K x 16 boot flash • 2 KB serial EEPROM |
| Dimensions | Height: 6.07 in. (15.42 cm) Depth: 8.50 in. (21.59 cm) Width: 0.88 in. (2.24 cm) |
| Weight | 0.875 lb (0.4 kg) |
| Power consumption | 16.5W |
| Minimum software and network management requirement | Cisco IOS—Release 12.1(3)DA CDM—Release 3.2 (optional) |

A.1.4 Quad-Port Flexi ATU-C Line Card

Table A-4 lists the specifications for the 4xflexi.

Table A-4 Quad-Port Flexi ATU-C Line Card Specifications

| Specification | Description |
|-----------------------|--|
| Standards supported | ITU G.dmt (G.992.1) ANSI T1.413 |
| Power consumption | 17.5W |
| Data rates (per port) | Downstream: 8.032 Mbps Upstream: 864 kbps |

Table A-4 Quad-Port Flexi ATU-C Line Card Specifications (continued)

| Specification | Description |
|---|--|
| External interfaces | 4 (no connectors on card) |
| Internal hardware | AMD 186-based 3.3V 18-MHz CPU 128 KB SRAM 512 K flash |
| Dimensions | Height: 6.07 in. (15.42 cm) Depth: 8.50 in. (21.59 cm) Width: 0.88 in. (2.24 cm) |
| Weight | 0.875 lb (0.4 kg) |
| Minimum software and network management requirement | Cisco IOS—Release 12.1(4)DA CDM—Release 3.2 (optional) |

A.1.5 Quad-Port STU-C Line Card

[Table A-5](#) lists the specifications for the 4xSDSL.

Table A-5 Quad-Port STU-C Line Card Specifications

| Specification | Description |
|---|--|
| Standards supported | ITU G.991.1 |
| External interfaces | 4 (no connectors on card) |
| Data rates (per port) | Downstream: 1168 kbps Upstream: 1168 kbps |
| Line encoding | 2B1Q |
| Internal hardware | AMD 186-based 3.3V 18-MHz CPU 128 KB SRAM 512 K flash |
| Dimensions | Height: 6.07 in. (15.42 cm) Depth: 8.50 in. (21.59 cm) Width: 0.88 in. (2.24 cm) |
| Weight | 0.875 lb (0.4 kg) |
| Power consumption | 9W |
| Minimum software and network management requirement | Cisco IOS—Release 12.1(4)DA CDM—Release 3.0 (optional) |

A.1.6 Octal-Port DMT ATU-C Line Card

Table A-6 lists the specifications for the 8xDMT.

Table A-6 Octal-Port DMT ATU-C Line Card Specifications

| Specification | Description |
|---|--|
| Standards supported | <ul style="list-style-type: none"> • ANSI T1.413-Issue 2, Category 1 only • ANSI T1.413-Issue 2, Annex F (Reduced NEXT) • Universal Test & Operations PHY for ATM, Level 2; A standard for transport of ATM cells over a 16-bit parallel data bus. Refer to the ATM Forum document af-phy-0039.000. • ITU G.992.1, Annex A (G.dmt) • ITU G.992.2. (G.lite) • ITU G.994.1. (G.hs) |
| External interfaces | 8 (no connectors on card) |
| Data rates (per port) | Upstream: Up to 1024 kbps Downstream: Up to 8.064 Mbps |
| Internal hardware | <ul style="list-style-type: none"> • 40 MHz Motorola MPC850 microprocessor • 8 MB SDRAM • 1 Mb boot flash • 1 KB serial EEPROM |
| Dimensions | Height: 6.07 in. (15.42 cm) Depth: 8.50 in. (21.59 cm) Width: 0.88 in. (2.24 cm) |
| Weight | 0.875 lb (0.4 kg) |
| Power consumption | 24W |
| Minimum software and network management requirement | Cisco IOS—Release 12.1(6)DA CDM—Release 3.3(2) |

A.1.7 Octal-Port DMT ATU-C Over ISDN Line Card

Table A-7 lists the specifications for the 8xDMT over ISDN.

Table A-7 Octal-Port DMT ATU-C Over ISDN Line Card Specifications

| Specification | Description |
|---|---|
| Standards supported | <ul style="list-style-type: none"> • Universal Test & Operations PHY for ATM, Level 2; a standard for transport of ATM cells over a 16-bit parallel data bus. Refer to the ATM Forum document af-phy-0039.000. • ITU G.992.1 (G.dmt), Annex B/ETSI • ITU G.994.1 (G.hs) • ETSI TS 101 388 V.1.1.1/(draft) TM6(98)12 • TS102 080 v1.3.2 -Support for 2B1Q and 4B3T ISDN |
| External interfaces | 8 (no connectors on card) |
| Data rates (per port) | Upstream: Up to 1024 kbps Downstream: Up to 7.616 Mbps |
| Framing modes | Overhead Framing Mode 3 supported |
| Internal hardware | <ul style="list-style-type: none"> • 40 MHz Motorola MPC850 microprocessor • 8 MB SDRAM • 8 Mb boot flash • 1 KB serial EEPROM |
| Dimensions | Height: 6.07 in. (15.42 cm) Depth: 8.62 in. (21.89 cm) Width: 0.88 in. (2.24 cm) |
| Weight | 0.875 lb (0.4 kg) |
| Power consumption | 24W |
| Minimum software and network management requirement | Cisco IOS—Release 12.2(5) DA |

A.1.8 Octal-Port G.SHDSL SHTU-C Line Card

Table A-8 lists the specifications for the 8xG.SHDSL.

Table A-8 Octal-port G.SHDSL SHTU-C Line Card Specifications

| Specification | Description |
|---------------------|---|
| Standards supported | TC-PAM without OPTIS ETSI SDSL, TM6(00)10 |
| Power consumption | 11.3W at 136 kbps 15.0W at 1.554 Mbps 16.5W at 2.312 Mbps |

Table A-8 Octal-port G.SHDSL SHTU-C Line Card Specifications (continued)

| Specification | Description |
|---|---|
| Maximum data rates (per port) | 2.312 Mbps |
| Maximum data rate (per card) | 18.5 Mbps downstream 5.0 Mbps for odd ports upstream 5.0 Mbps for even ports upstream |
| External interfaces | 8 (no connectors on card) |
| Internal hardware | MPC850 3.3V power 40-MHz CPU |
| Dimensions | Height: 6.07 in. (15.42 cm) Depth: 8.50 in. (21.59 cm) Width: 0.88 in. (2.24 cm) |
| Weight | 0.70 lb (0.32 kg) |
| Minimum software and network management requirement | Cisco IOS 12.1.(7) DA CDM 3.3(3) (optional) |

A.1.9 DS3/2DS3 NI-2 Card

[Table A-9](#) lists the specifications for the DS3/2DS3 NI-2 card.

Table A-9 DS3/2DS3 NI-2 Card Specifications

| Specification | Description |
|---------------------|--|
| Internal hardware | 150 MHz RC64475 CPU Galileo GT64120 system controller 1 M x 32 bootflash 4 M x 32 flash 512 KB boot EEPROM |
| Dimensions | Height: 12.38 in. (31.45 cm) Depth: 8.50 in. (21.59 cm) Width: 1.80 in. (4.57 cm) |
| Weight | 3.0 lb (1.36 kg) |
| Layer 2 protocol | ATM |
| External interfaces | Three DS3/E3 (44.736 Mbps) coaxial ports |
| Connector type | BNC ¹ |
| Impedance | 75 ohms (nominal) |
| Line encoding | B3ZS |
| Framing | C-bit parity, optionally PLCP with M23, otherwise add/drop multiplexer (ADM) |

Table A-9 DS3/2DS3 NI-2 Card Specifications (continued)

| Specification | Description |
|---|---|
| Power consumption | 33.5W |
| Minimum software and network management requirement | Cisco IOS—Release 12.1(5)DA ² CDM—Release 3.3(1) (optional) |

1. The Bayonet-Neill-Concelman (BNC) connectors are located on the E3 I/O module.
2. The minimum Cisco IOS software requirement for a redundant NI-2 card configuration is 12.1(7)DA.

A.1.10 DS3+T1/E1 IMA NI-2 Card

[Table A-10](#) lists the specifications for the DS3+T1/E1 IMA NI-2 card.

Table A-10 DS3+T1/E1 IMA NI-2 Card Specifications

| Specification | Description |
|----------------------------------|--|
| Internal hardware | 150 MHz RC64475 CPU Galileo GT64120 system controller 1Mx32 bootflash (4 MB) 4Mx32 flash (16 MB) 512 KB boot EPROM |
| Dimensions | Height: 12.38 in. (31.45 cm) Depth: 8.50 in. (21.59 cm) Width: 1.80 in. (4.57 cm) |
| Weight | 3.0 lb (1.36 kg) |
| External interfaces ¹ | Eight T1(1.544 Mbps)/E1 (2.048 Mbps) RJ-48 ports |
| Connector types ² | E1/T1—RJ-48 |
| Impedance | E1—120 ohms (nominal) |
| Line encoding | E1—AMI or HDB3 |
| Framing | E1—PCM30 or CRC4 |

Table A-10 DS3+T1/E1 IMA NI-2 Card Specifications (continued)

| Specification | Description |
|---|--|
| Transmission distance | E1—Short haul: 0 to 655 feet (0 to 199.64 meters), long haul: > 655 feet (199.64 meters) no span power |
| Power consumption | 32.5W |
| Minimum software and network management requirement | Cisco IOS—Release 12.1(7)DA CDM—Release 3.3(3) (optional) |

1. All external interfaces for the DS3+T1/E1 IMA NI-2 card are located on the I/O module.
2. All trunk and subtend connectors for the DS3+T1/E1 IMA NI-2 card are located on the I/O module.

A.1.11 OC-3c/OC-3c NI-2 Card

[Table A-11](#) lists the specifications of the single-mode and multimode versions of the OC-3c/OC-3c NI-2 card.

Table A-11 OC-3c/OC-3c NI-2 Card Specifications

| Specification | Description | |
|---|---|--|
| Internal hardware | 150 MHz RC64475 CPU Galileo GT64120 system controller 1 M x 32 bootflash ¹ (4 MB) 4 M x 32 Flash 512 KB boot EPROM | |
| Dimensions | Height: 12.38 in. (31.45 cm) Depth: 8.50 in. (21.59 cm) Width: 1.80 in. (4.57 cm) | |
| Weight | 3.0 lb (1.36 kg) | |
| Layer 2 protocol | ATM | |
| Power consumption | 33.5W | |
| Minimum software and network management requirement | Cisco IOS—Release 12.0(5)DA ² CDM—Release 3.0 (optional) | |
| | Single Mode Card | Multimode Card |
| External interfaces | Two OC-3c/STM-1 (155 Mbps) single-mode ports | Two OC-3c/STM-1 (155 Mbps) multimode ports |
| Connector type | SC-PC | SC-PC |
| Fiber type | Intermediate reach single mode | Multimode |
| Average transmitted power | -15 to -8 dBm | -20 to -14 dBm |
| Average received power | -8 dBm | -11 dBm |
| Transmission distance | Up to 20 km (12 miles) | Up to 2 km (1.2 miles) |
| Wavelength | 1310 nm | 1300 nm |

1. The version of the OC-3c/OC-3c NI-2 card with enhanced upstream bandwidth features (NI2-155SM-155SM2 and NI2-155MM-155MM2) has a 2M x 32 bootflash (8 MB).
2. The minimum Cisco IOS software requirement for a redundant NI-2 card configuration is 12.1(7)DA.

A.1.12 I/O Module

Table A-12 lists the specifications for the E3, E1, and OC-3c I/O modules.

Table A-12 I/O Module Specifications

| Specification | E3 | E1 | OC-3c |
|---|--|--|--|
| Dimensions | Height: 2.34 in. (5.94 cm) Depth: 1.19 in. (3.022 cm) Width: 17.0 in. (43.18 cm) | Height: 2.34 in. (5.94 cm) Depth: 1.18 in. (3 cm) Width: 17.0 in. (43.18 cm) | Height: 2.34 in. (5.94 cm) Depth: 0.785 in. (1.99 cm) Width: 17.0 in. (43.18 cm) |
| Weight | 1.75 lb (0.79 kg) | 1.65 lb (0.75 kg) | 1.2 lb (0.54 kg) |
| External interfaces | Three E3 (32.064 Mbps) coaxial ports | Eight E1 (2.048 Mbps) receptacle connectors | Not applicable |
| Connector type | E3—BNC | E1—RJ-48 | Not applicable |
| Power consumption | Not applicable | Not applicable | Not applicable |
| Minimum software and network management requirement | Cisco IOS—Release 12.1(4)DA CDM—Release 3.3 (optional) | Cisco IOS—Release 12.1(7)DA2 CDM—Release 3.3(2) (optional) | Cisco IOS—Release 12.0(5)DA CDM—Release 3.0 (optional) |

A.1.13 PEM

Table A-13 lists the specifications for the PEM.

Table A-13 PEM Specifications

| Specification | PEM |
|---|---|
| Dimensions | Height: 2.45 in. (6.22 cm) Depth: 10.86 in. (27.58 cm) Width: 7.96 in. (20.22 cm) |
| Weight | 5.85 lb (2.65 kg) |
| Power consumption | 50.159W |
| Minimum software and network management requirement | Cisco IOS—Release 12.0(5)DA CDM—Release 3.0 (optional) |

A.1.14 Fan Tray

Table A-14 lists the specifications for the fan tray.

Table A-14 Fan Tray Specifications

| Specification | Description |
|---|--|
| Dimensions | Height: 1.5 in. (3.81 cm) Depth: 8.75 in. (22.23 cm) Width: 8.5 in. (21.59 cm) |
| Weight | 2.6 lb (1.18 kg) |
| Power consumption | 34.5W |
| Minimum software and network management requirement | Cisco IOS—Release 12.1(4)DA CDM—Release 3.2 (optional) |

A.2 Software Specifications

Table A-15 lists Cisco 6260 system software specifications.

Table A-15 Software Specifications

| Specification | Description |
|-------------------------|--|
| Management protocols | IOS software support for SNMP to Cisco EMF ¹ |
| Management applications | <ul style="list-style-type: none"> • Cisco IOS • CDM |
| Management interfaces | In band—ATM VC Out of band—10BaseT Ethernet, console, auxiliary |

1. EMF = Element Management Framework