Doc. No. 78-1717-03

Cisco 4000 Series Public Network Certification

This publication provides international regulatory and safety compliance information for the Cisco 4000 series of routers. Use this publication with the *Cisco 4000 Series Router Installation Guide* publication.

Note These publications are available on the Cisco Connection Documentation, Enterprise Series CD, on the World Wide Web URL http://www.cisco.com, or printed copies can be ordered.

This document contains the following sections:

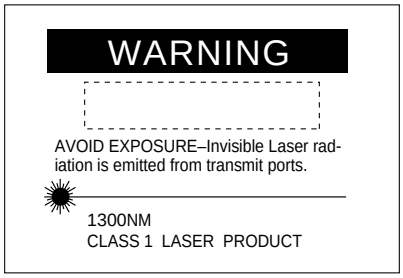
- Safety Information
- Channelized T1/ISDN PRI Regulatory Compliance
- ISDN Safety and Compliance Conditions
- Cisco Dual Port Serial Network Processor Module (2T-NIM) Independent of Host
- Cisco Four Port Serial Network Processor Module (4T-NIM) Independent of Host
- Operating Conditions for Canada
- Operating Conditions for the United Kingdom
- Operating Conditions for the European Community
- Agency Approvals
- Cisco Connection Online

Safety Information

The following statements are warnings or safety guidelines. A warning means danger. You are in a situation that could cause bodily injury. Before working on equipment, be aware of the hazards involved with electrical circuitry and standard safety practices to prevent accidents.

- Before working on equipment that is connected to power lines, remove jewelry (including rings, necklaces, and watches). Metal objects will heat up when connected to power and ground and can cause serious burns or weld the metal object to the terminals.

- This equipment is intended to be grounded. Ensure that the host is connected to earth ground during normal use.
- Do not work on the system or connect or disconnect cables during periods of lightning activity.
- The device is designed to work with TN power systems.
- Do not touch the power supply when the power cord is connected. For systems with a power switch, line voltages are present within the power supply even when the power switch is off and the power cord is connected. For systems without a power switch, line voltages are present within the power supply when the power cord is connected.
- Ultimate disposal of this product should be handled according to all national laws and regulations.
- Before opening the chassis, disconnect the telephone-network cables to avoid contact with telephone-network voltages.
- Before working on a chassis or working near power supplies, unplug the power cord on AC units; disconnect the power at the circuit breaker on DC units.
- The ports labeled “Ethernet,” “10BaseT,” “Token Ring,” “Console,” and “AUX” are safety extra-low voltage (SELV) circuits. SELV circuits should only be connected to other SELV circuits. Because the BRI circuits are treated like telephone-network voltage, avoid connecting the SELV circuit to the telephone network voltage (TNV) circuits.
- Invisible laser radiation may be emitted from the aperture ports of the single-mode FDDI card when no cable is connected. *Avoid exposure and do not stare into open apertures.* Following is an example of the warning label that appears on the product:



- Network hazardous voltages are present in the BRI cable. If you detach the BRI cable, detach the end away from the router first to avoid possible electric shock. Network hazardous voltages also are present on the system card in the area of the BRI port (RJ-45 connector), regardless of when power is turned off.
- To prevent problems with the E1 interface and to reduce the potential for injury, jumper J2 should be configured by trained service personnel only. For either impedance option, a jumper installed at J2 bypasses the AC-decoupling capacitor to ground, thereby coupling the interface directly to AC. This setting could pose a risk of severe injury. By default and for safety, J2 is configured with no ground.
- Before performing any of the following procedures, ensure that power is removed from the DC circuit. To ensure that all power is OFF, locate the circuit breaker on the panel board that services the DC circuit, switch the circuit breaker to the OFF position, and tape the switch handle of the circuit breaker in the OFF position.

- When stranded wiring is required, use approved wiring terminations, such as closed-loop or spade-type with upturned lugs. These terminations should be the appropriate size for the wires and should clamp both the insulation and conductor.
- The DC unit is intended for installation in restricted access areas. A restricted access area is where access can only be gained by service personnel through the use of a special tool, lock, and key, or other means of security, and is controlled by the authority responsible for the location.
- Only trained and qualified personnel should be allowed to install or replace this equipment.
- Read the installation instructions before you connect the system to its power source.
- When installing the unit, the ground connection must always be made first and disconnected last.
- The illustration shows the DC power supply terminal block. Wire the DC power supply using the appropriate lugs at the wiring end, as illustrated. The proper wiring sequence is ground to ground, positive to positive (line to L), and negative to negative (neutral to N). Note that the ground wire should always be connected first and disconnected last.
- After wiring the DC power supply, remove the tape from the circuit breaker switch handle and reinstate power by moving the handle of the circuit breaker to the ON position.
- This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that a fuse or circuit breaker no larger than 120 VAC, 15A U.S. (240 VAC, 10A international) is used on the phase conductors (all current-carrying conductors).
- There is the danger of explosion if the battery is replaced incorrectly. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.
- The ISDN connection is regarded as a source of voltage that should be inaccessible to user contact. Do not attempt to tamper with or open any public telephone operator (PTO)-provided equipment or connection hardware. Any hardwired connection (other than by nonremovable, connect-one-time-only lug) must be made only by PTO staff or suitably trained engineers.

Channelized T1/ISDN PRI Regulatory Compliance

The following text is required to comply with regulatory agencies.

FCC

This equipment complies with Part 68 of the FCC rules. On the side of this network module interface card is a label that contains, among other information, the FCC registration number. If requested, this information must be provided to the telephone company.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice is not practical, the telephone company will notify customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facility, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications that maintain uninterrupted service.

If trouble is experienced with this equipment, please contact the following address:

Cisco System, Inc.
RMA Receiving
1135 Walsh Avenue
Santa Clara, California 95050
USA

For warrenty information contact Cisco's Technical Assitance Center (see the section "Cisco Connection Online").If the trouble is causing harm to the telephone network, the telephone company may request you remove the equipment from the network until the problem is resolved.

It is recommended that the customer install an AC surge arrestor in the AC outlet to which this device is connected to avoid damage to equipment caused by local lightning strikes and other electrical surges.

The CT1/PRI network processor module for Cisco 4000 series routers has the 6.0F service order cable.

The CT1/PRI module has the following facility interface codes: 04DU9-BN, 04DU9-DN, 04DU9-KN, 04DU9-1SN.

ISDN Safety and Compliance Conditions

This section contains safety and agency compliance information.

BRI Network Processor Module Independent of Host

The Basic Rate Interface (BRI) network processor module for the Cisco 4000 series is a processor/interface card assembly for use within a range of data communication (gateway and router) chassis supplied by Cisco Systems throughout Europe. The BRI module is a self-contained product that provides all of the hardware necessary to allow connection of the Cisco 4000 series chassis to four or eight Basic Access Integrated Services Digital Networks (ISDNs) each at the S-reference point. The ISDN usage is restricted to point-to-point mode only.

The BRI network processor module must have a dedicated S-bus connection for each of its ISDN ports. The BRI module cannot share any of its S-bus connections with other terminal equipment; therefore, no other terminals should be connected to the same S-bus as a BRI module connection.

The four or eight ISDN connections must be made to network connection points that are provided by one network vendor or public telecom operator (PTO) to ensure that common network timing exists between the ISDN ports used. Failure to observe this point may result in lost (nonrecoverable) data packets because of timing slips.

The BRI network processor module is fully transportable between compatible host chassis. The choice of each compatible chassis has no impact on the capabilities, functionality, or performance of the BRI network processor module.

The BRI network processor module consists of the following subassemblies:

- BRI network processor module mother card (part number 73-1219)
- 1 BRI adapter interface card (part number 73-1220)
- BRI-ISDN (point-to-point use) Software Version 1.0

The BRI network processor module provides users of compatible host router or bridge chassis with a high-speed throughput, point-to-point connection that can be set up over the digital telecommunication network ISDN.

BRI Module Installation Requirements—Special Considerations

Observe the following considerations during the installation of a Cisco 4000 series router with ISDN interfaces.

ISDN, Type of Connection

Where your PTO has provided you with ISDN modular sockets, the BRI module can be plugged in to make the connection. Connections should only be made to a BRI module properly installed within the host chassis.

In certain countries, the BRI network processor module must be hardwired permanently to the S-reference connection point. This is accommodated for by the use of a connect one-time-only, nonremovable plug (an RJ-45 with the latch tab removed).

ISDN Connection, Safety Warning

Warning The ISDN connection is regarded as a source of voltage that should be inaccessible to user contact. Do not attempt to tamper with or open any public telephone operator (PTO)–provided equipment or connection hardware. Any hardwired connection (other than by nonremovable, connect-one-time-only lug) must be made only by PTO staff or suitably trained engineers.

The BRI network processor module is approved only for installation in a host chassis and with host attachments, which are either type approved for such apparatus, or covered by a general approval.

Maintaining Safe Installation Distances

Except at the edge connector that plugs into the host chassis expansion slot, clearance and creepage distances of X millimeters (mm) and Y mm as listed in Table 1 must be maintained between the cards and other parts of the host including any other expansion cards fitted.

Table 1 Creepage and Clearance Distances Based on Voltage

Voltage[1] (Vrms or VDC)[2]	Creepage (Y mm)[3]	Clearance (X mm)
Up to 50	2.4 (3.8)	2.0
Up to 125	3.0 (4.8)	2.6
Up to 250	5.0 (8.0)	4.0
Up to 300	6.4 (10.0)	4.0

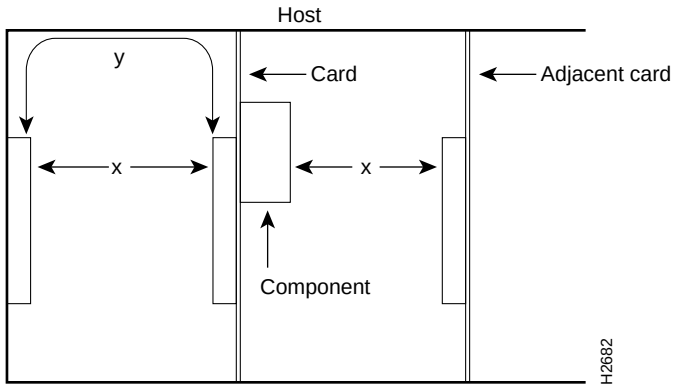
1. Refers to the voltage used or generated by other parts of the host or expansion card.
2. Vrms = root mean square voltage; VDC = volts direct current.
3. The creepage distances not in parentheses apply when the equipment is installed in a normal office environment. The larger dimensions, in parentheses, must be applied when the equipment is installed in an environment in which dust and other types of pollution could conduct electricity because of the effects of dampness and condensation. This applies to locations subject to high humidity.

Note the following points in Table 1:

- Clearance distances are defined as the minimum distance measured in air between two points (i.e., line of sight)
- Creepage distances are defined as the minimum distance measured across the surface of an insulator between two points (i.e., following the contour of the insulator)

Creepage and clearance distances are measured between adjacent parts as shown in Figure 1.

Figure 1 Creepage and Clearance Distances between BRI Module and Components



Note that in Figure 1 x indicates the clearance distances between cards and adjacent cards and components, and y shows the creepage path across the surface of an insulator and between the two points indicated by x.

Host Power Supply Requirements

The power requirements of the BRI network processor module are as follows:

- +5 VDC/2.5 mA
- +12 VDC/100 mA
- –12 VDC/100 mA

Ensure that the power drawn by the apparatus together with the power drawn by any auxiliary apparatus lies within the rating of the host chassis power supply.

Additional Safety Information

The BRI network processor modules contain safety extra-low voltage (SELV) circuitry. Ensure that attachments at the interconnection ports of the apparatus are also SELV circuits. (SELV circuits are so designed and protected that, under both normal conditions and a likely fault condition, the current that can be drawn is not hazardous.)

Always disconnect the host chassis from the power supply before removing any covers.

Always disconnect the host chassis from any analog telephone circuits or Basic Access ISDN (where applicable) before removing any covers.

Failure to install the BRI modules in accordance with these instructions will invalidate any telecommunication terminal equipment type approval(s).

If you have any doubt as to how to safely install a Cisco 4000 series BRI module correctly within a host chassis, seek advice from a qualified telecommunications engineer.

Cisco Dual Port Serial Network Processor Module (2T-NIM) Independent of Host

The Cisco dual port serial network processor module is a processor/interface card assembly for use within a range of data communication (gateway and router) chassis supplied by Cisco Systems Europe. The dual port serial network processor module is a self-contained product which provides all of the hardware necessary to allow connection of Cisco Systems chassis to either Digital leased line circuits (point to point) or to Packet Switched Public Data Networks (PSPDN). The software is down loaded from a separate memory card installed in any Cisco compatible host.

The dual port serial network processor module is fully transportable between compatible “host” chassis. The choice of each compatible chassis has no effect on the capabilities, functionality, or performance of the dual port serial network processor module.

The dual port serial network processor module consists of the following subassemblies:

- Dual port serial network processor module motherboard (part number 73-0900)
- X.25 Software Version 2.0

The dual port serial network processor module is a self-contained data communication device which provides any two out of four possible serial port connections. The four options for leased line connection are X.21, V.24, V.35, and V.36. Each port can provide connection to leased line or packet switched services. The dual port serial network processor module provides all of the hardware necessary for supporting Packet Switched Public Data Network communications. The wide area networking (WAN) operating software (designated as the X.25 Version 2.0) is downloaded from the storage medium by the Cisco compatible host.

The following port configurations are supported:

- X.21 port for connection to leased lines at up to 2048 kbps or X.25 Packet Switched service at up to 64 kbps.
- V.24 port for connection to X.21bis leased lines or X.25 Packet Switched service at up to 19.2 kbps.
- V.35 port for connection to X.21bis leased lines or X.25 Packet Switched service at up to 64 kbps.
- V.36 port for connection to X.25 Packet Switched service at up to 64 kbps.

The final configuration of each serial interface is dependent on the serial port adapter cable used. The dual port serial network processor module incorporates cable sensing circuitry to detect the presence of a specific adapter cable for each service. Adapter cables are supplied with the dual port serial network processor module and are as follows:

- X.21 Adapter Cable: part number 72-0683
- V.24 Adapter Cable: part number 72-0670
- V.35 Adapter Cable: part number 72-0671
- V.36 Adapter Cable: part number 72-0672

X.25 Support

X.25 packet switched support is provided by the operating software resident in the compatible Cisco chassis. This software is designated as the X.25 Version 2.0. This software provides both the link and packet level facilities of the dual port serial network processor module.

The operating software is accessed through a VT100 terminal connected to the console port of the host. The settings of the terminal should be as follows:

- Baud: 9600
- Data bits: 8
- Parity: None
- Stop bits: 1

Dual Port Serial Network Processor Module Installation Requirements

The dual port serial network processor module is approved only for installation in a host and with host attachments, which are either **type approved** for such apparatus, or covered by a **General Approval**.

Maintaining Safe Installation Distances

Except at the edge connector that plugs into the host chassis expansion slot, clearance and creepage distances of X millimeters (mm) and Y mm as listed in Table 2 must be maintained between the cards and other parts of the host including any other expansion cards fitted.

Note that in Table 2:

- Clearance distances are defined as the minimum distance measured in air between two points (i.e., line of sight).
- Creepage distances are defined as the minimum distance measured across the surface of an insulator between two points (i.e., following the contour of the insulator).

Creepage and clearance distances are measured between adjacent parts as shown in Figure 1. Note that X indicates the clearance distances between cards and adjacent cards and components, and Y shows the creepage path across the surface of an insulator and between the two points indicated by X.

Table 2 Creepage and Clearance Distances Based on Voltage

Voltage Used or Generated by Other Parts of the Host or Expansion Card (Vrms[1] or VDC[2])	Creepage (Y mm)[3]	Clearance (X mm)
Up to 50	2.4 (3.8)	2.0
Up to 125	3.0 (4.8)	2.6
Up to 250	5.0 (8.0)	4.0
Up to 300	6.4 (10.0)	4.0

1. Vrms = voltage root mean square .
2. VDC= volts direct current.
3. The creepage distances not in parentheses apply when the equipment is installed in a normal office environment. The larger dimensions, in parentheses, must be applied when the equipment is installed in an environment in which dust and other types of pollution could conduct electricity because of the effects of dampness and condensation. This applies to locations subject to high humidity.

Creepage and clearance distances are measured between adjacent parts as shown in Figure 1.

Note that in Figure 1 x indicates the clearance distances between cards and adjacent cards and components, and y shows the creepage path across the surface of an insulator and between the two points indicated by x.

Host Power Supply Requirements

The power requirements of the dual port serial network processor module are as follows:

- +5 VDC/2.600A
- +12 VDC/200 mA
- –12 VDC/200 mA

Ensure that the power drawn by the apparatus, together with the power drawn by any auxiliary apparatus, lies within the rating of the host chassis power supply.

Additional Safety Information

The dual port serial network processor module contains Safety Extra-Low Voltage (SELV), circuitry. Ensure that attachments at the interconnection ports of the apparatus are also SELV circuits. (SELV circuits are so designed and protected that, under both normal conditions and a likely fault condition, the current which can be drawn is not hazardous.)

Always disconnect the chassis from the power supply before removing any covers.

Always disconnect the host product chassis from any analogue telephone circuits or Basic Access ISDN (where applicable) before removing any covers.

Failure to install the dual port serial network processor module in accordance with these instructions will invalidate the approval.

If you have any doubt as to how to safely install the Cisco dual port serial network processor module correctly within a host chassis, seek advice from a qualified data communications engineer.

Cisco Four Port Serial Network Processor Module (4T-NIM) Independent of Host

The Cisco four port serial network processor module is a processor/interface card assembly for use within a range of data communication (gateway and router) chassis supplied by Cisco Systems Europe. The four port serial network processor module is a self contained product which provides all of the hardware necessary to allow connection of Cisco Systems' chassis to either Digital leased line circuits (point to point) or to Packet Switched Public Data Networks (PSPDN). The software is down loaded from a separate memory card installed in any Cisco compatible host.

The four port serial network processor module is fully transportable between compatible “host” chassis. The choice of each compatible chassis has no effect on the capabilities, functionality or performance of the four port serial network processor module.

The four port serial network processor module consists of the following subassemblies:

- Four port serial network processor module mother card (part number 73-1186)
- 5 in 1 Serial Port Adapter (part number 73-1194)
- X.25 software Version 2.0

The four port serial network processor module is a self contained data communication device which provides four serial port connections. Each port can provide connection to leased line or packet switched services of the type X.21, V.24, V.35, and V.36. The four port serial network processor module provides all of the hardware necessary for supporting Packet Switched Public Data Network communications. The wide area networking (WAN) operating software (designated as the X.25 Version 2.0), is down loaded from the storage medium by the Cisco compatible host.

Each serial port on the 5 in 1 Serial Port Adapter is presented as a custom 50 way connector. The following port configurations are supported:

- X.21 port for connection to leased lines at up to 2048 kbps or X.25 Packet Switched service at up to 64 kbps.
- V.24 port for connection to X.21bis leased lines or X.25 Packet Switched service at up to 19.2 kbps.
- V.35 port for connection to X.21bis leased lines or X.25 Packet Switched service at up to 64 kbps.
- V.36 port for connection to X.25 Packet Switched service at up to 64 kbps.

The final configuration of each serial interface is dependent on the Serial Port Adapter Cable used. The four port serial network processor module incorporates cable sensing circuitry to detect the presence of a specific adapter cable for each service. Further configuration is not necessary. Custom adapter cables are supplied with the apparatus and are as follows.

- X.21 Adapter Cable: part number 72-0790
- V.24 Adapter Cable: part number 72-0793
- V.35 Adapter Cable: part number 72-0791
- V.36 Adapter Cable: part number 72-0795

Each cable provides adaption from a 50 way custom connector to the applicable ISO standard connector.

X.25 Support

X.25 Packet switched support is provided by the operating software resident in the compatible Cisco chassis. This software is designated as the X.25 Version 2.0. This software provides both the link and packet level facilities of the four port serial network processor module.

The operating software is accessed through a VT100 terminal connected to the console port of the host. The settings of the terminal should be as follows:

- Baud: 9600
- Data bits: 8
- Parity: None
- Stop bits: 1

Four Port Serial Network Processor Module Installation Requirements

The four port serial network processor module is approved only for installation in a host and with host attachments, which are either **type approved** for such apparatus, or, covered by a **General Approval.**

Maintaining Safe Installation Distances

Except at the edge connector that plugs into the host chassis expansion slot, clearance and creepage distances of X millimeters (mm) and Y mm as listed in Table 3 must be maintained between the cards and other parts of the host including any other expansion cards fitted.

Note that in Table 3:

- Clearance distances are defined as the minimum distance measured in air between two points (i.e. line of sight).
- Creepage distances are defined as the minimum distance measured across the surface of an insulator, between two points (i.e. following the contour of the insulator).

Table 3 Creepage and Clearance Distances Based on Voltage

Voltage Used or Generated by Other Parts of the Host or Expansion Card (Vrms[1] or VDC[2])	Creepage (Y mm)[3]	Clearance (X mm)
Up to 50	2.4 (3.8)	2.0
Up to 125	3.0 (4.8)	2.6
Up to 250	5.0 (8.0)	4.0
Up to 300	6.4 (10.0)	4.0

1. Vrms = root mean square voltage.
2. VDC=volts direct current
3. The creepage distances not in parentheses apply when the equipment is installed in a normal office environment. The larger dimensions, in parentheses, must be applied when the equipment is installed in an environment in which dust and other types of pollution could conduct electricity due to the effects of dampness and condensation. This applies to locations subject to high humidity.

Creepage and clearance distances are measured between adjacent parts as shown in Figure 1. Note that X indicates the clearance distances between cards and adjacent cards and components, and Y shows the creepage path across the surface of an insulator and between the two points indicated by X.

Host Power Supply Requirements

The power requirements of the four port serial network processor module are as follows:

- +5 VDC/2.100 A
- +12 VDC/200 mA
- –12 VDC/30 mA

Ensure that the power drawn by the apparatus, together with the power drawn by any auxiliary apparatus, lies within the rating of the host chassis power supply.

Additional Safety Information

The four port serial network processor module contains Safety Extra-Low Voltage (SELV), circuitry. Ensure that attachments at the interconnection ports of the apparatus are also SELV circuits. (SELV circuits are so designed and protected that, under both normal conditions and a likely fault condition, the current which can be drawn is not hazardous.

Always disconnect the chassis from the power supply before removing any covers.

Always disconnect the host product chassis from any analogue telephone circuits or Basic Access ISDN (where applicable) before removing any covers.

Failure to install the four port serial network processor module in accordance with these instructions will invalidate the approval.

If you have any doubt as to how to safely install the Cisco four port serial network processor module correctly within a host chassis, seek advice from a qualified data communications engineer.

Operating Conditions for Canada

In addition to the warnings and safety guidelines listed in the section "Safety Information," the following warnings apply to models used in Canada:

- The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective operational and safety requirements. The Department does not guarantee the equipment will operate to the user's satisfaction.
- Before installing the equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the company's inside wiring associated with a single line individual service may be extended by means of a certified connector assembly (telephone extension cord). The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.
- Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.
- Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

Operating Conditions for the United Kingdom

Cisco Systems declaration of operating conditions:

The Cisco 4000 series router is designed to meet the requirements of NET1 and NET2.

Warnings

- Interconnection directly, or by way of other apparatus, of ports marked:

  "Safety Warning — See instructions for use"

  with ports marked or not so marked may produce hazardous conditions on the network and that advice should be obtained from a competent engineer before such a connection is made.
- The ports marked "Ethernet," "10BaseT," "Token Ring," "Console," and "AUX" have a safety warning applied to them as follows:

"These ports do not provide isolation sufficient to satisfy the requirement of BS6301; apparatus connected to these ports should either have been approved to BS6301 or have previously been evaluated against British Telecommunications plc (Post Office) Technical Guides 2 or 26 and given permission to attach; any other usage will invalidate any approval given to this apparatus."

- Connection of Power Supply. The Gateway Server is intended for use when supplied with power from a supply providing 220-240 VAC, 50/60 Hz up to 5 Amps.

  Other usage will invalidate any approval given to this apparatus if as a result it ceases to comply with BS6301: 1989.

- The Cisco 4000 router is brought into service by the supplier.

Operating Conditions for the European Community

The following operating conditions are required within the European Community.

- The ports marked "Ethernet," "10BaseT," "Token Ring," and "FDDI," "Console," and "AUX" are SELV circuits.
- SELV circuits should only be connected to other SELV circuits.

Agency Approvals

The following agency approvals apply to the router chassis:

Safety:

- UL 1950 2nd Edition
- CAN/CSA 950-M93
- EN60950 with Amendments 1 and 2
- AS/NZS 3260
- NOM 019

EMI:

- FCC Class A
- Canadian DOC Class A

PTT:

- CS-03
- FCC Part 68

Cisco Connection Online

Cisco Connection Online (CCO), formerly Cisco Information Online (CIO), is Cisco Systems' primary, real-time support channel. Maintenance customers and partners can self-register on CCO to obtain additional content and services.

Available 24 hours a day, 7 days a week, CCO provides a wealth of standard and value-added services to Cisco's customers and business partners. CCO services include product information, software updates, release notes, technical tips, the Bug Navigator, configuration notes, brochures, descriptions of service offerings, and download access to public and authorized files.

CCO serves a wide variety of users through two interfaces that are updated and enhanced simultaneously—a character-based version and a multimedia version that resides on the World Wide Web (WWW). The character-based CCO supports Zmodem, Kermit, Xmodem, FTP, Internet e-mail, and fax download options, and is excellent for quick access to information over lower bandwidths. The WWW version of CCO provides richly formatted documents with photographs, figures, graphics, and video, as well as hyperlinks to related information.

You can access CCO in the following ways:

- WWW: `http://www.cisco.com`.
- Telnet: `cco.cisco.com`.
- Modem: From North America, 408 526-8070; from Europe, 33 1 64 46 40 82. Use the following terminal settings: VT100 emulation; databits: 8; parity: none; stop bits: 1; and baud rates up to 14.4 kbps.

For a copy of CCO's Frequently Asked Questions (FAQ), contact `cco-help@cisco.com`. For additional information, contact `cco-team@cisco.com`.

Note If you are a network administrator and need personal technical assistance with a Cisco product that is under warranty or covered by a maintenance contract, contact Cisco's Technical Assistance Center (TAC) at 800 553-2447, 408 526-7209, or `tac@cisco.com`. To obtain general information about Cisco Systems, Cisco products, or upgrades, contact 800 553-6387, 408 526-7208, or `cs-rep@cisco.com`.

This document is to be used in conjunction with the *Cisco 4000 Series Installation Guide* publication.

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