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Cisco 750 Series and Cisco 760 Series Public Network Certification

This publication provides international regulatory and safety compliance information for the Cisco 750 series and Cisco 760 series routers. Use this publication with the *Cisco 750 Series and Cisco 760 Series User Guide* publication that you received with your router and as an addendum to the *Cisco 750 Series and Cisco 760 Series Command Reference*. These publications are available on a CD-ROM called Cisco Connection Documentation, Enterprise Series, or printed copies can be ordered.

Note The Cisco Connection Documentation, Enterprise Series CD was previously called UniverCD.

This document contains the following sections:

- Safety Information
- EMC Information
- Operating Conditions for Canada
- Operating Conditions for the European Community
- ISDN Line Cable Specifications
- Operating Conditions for the United Kingdom
- Agency Approvals for the Cisco 750 Series and Cisco 760 Series Routers
- Agency Approvals for the Cisco 750 Series and Cisco 760 Series Routers
- Cisco Connection Online

Safety Information

All of 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.

- Use an appropriate cable to connect the system directly to the Integrated Services Digital Network (ISDN) through the NT1. The common carrier will provide the NT1 connection worldwide, except in North America, where the NT1 is customer provided.
- Network hazardous voltages are accessible 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 accessible on the system card in the area of the BRI port (RJ-45 connector), whether or not power is turned off.
- The ports labeled “10BaseT,” “Console,” and “10Base2,” 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.
- An ISDN connection is regarded as a source of voltage that should be inaccessible to user contact. No attempt should be made by users to tamper with or open any public telephone operator (PTO)-provided equipment or connection hardware. Any hardwired connection (other than by nonremoveable, connect-one-time-only plug) must be made only by PTO staff or suitably trained engineers.
- Before opening the chassis, disconnect the telephone-network cables to avoid contact with telephone-network voltages.
- Do not work on the system or connect or disconnect cables during periods of lightning activity.
- Refer to the user guide instructions before you connect the system to its power source.
- 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).
- The device is designed to work with TN power systems.
- Ultimate disposal of this product should be handled according to all national laws and regulations.
- 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 contains a ring signal generator (ringer), which is a source of hazardous voltage. Do not touch the RJ-11 telephone port wires (conductors), the conductors of a cable connected to the RJ-11 port, or the associated circuit-board when the ringer is active. The ringer is activated (indicated by a clicking sound) by an incoming analog call.

EMC Information

The Cisco 750 series and Cisco 760 series routers conform to the requirements of EMC Directive 89/336/EEC.

This product range falls within the scope of the Telecommunications Terminal Equipment (TTE) Regulations 1992 (Statutory Instrument No. 2423/1992).

However, there is currently no common technical regulation (CTR) in force that covers this particular category of equipment. Therefore the TTE regulations do not apply as specified in clauses 2(1), 4(3), and 6(1).

Accordingly, this product range conforms to the requirements of the national standards for connection to the network in accordance with section 22 of the 1984 Telecommunications act.

The installation and maintenance procedures in the user guide must be followed to ensure compliance with these regulations.

EN55022B Statement

Section 3 classification of ITE, EN55022:1987

Note This equipment has been tested and found to comply with the limits for a Class B equipment pursuant of EN55022. Class B equipment is information technology equipment which satisfies the Class B interference limits. Such equipment should not be subject to restrictions on its sale and is generally not subject to restrictions on its use.

Note The limits for Class B equipment are derived for typical commercial establishments for which a 10 m protection distance is used.

Operating Conditions for Canada

In addition to the warnings and safety guidelines listed in the section “Safety Information,” the information in this section applies to Cisco 750 series and Cisco 760 series routers used in Canada.

Canadian Department of Communications Notice

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.

Note The load number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to the telephone loop used by the device to prevent overloading. The termination on a loop may consist of any combination of devices subject to the requirement that the total of the load numbers of all the devices does not exceed 100.

Canadian DOC Statement

DOC Compliance Notice

This digital apparatus does not exceed the Class B limits for radio noise emissions for digital apparatus as set in the Radio Interference Regulations of the Canadian Department of Communications.

DOC Avis de Conformation

Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limits applicables aux appareils numeriques de class B prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

Operating Conditions for the European Community

The warnings and safety guidelines listed in the section "Safety Information" apply to Cisco 750 series and Cisco 760 series routers used in the European Community.

The Cisco 750 series and Cisco 760 series routers conform to the following directives:

- Safety Directive 73/23/EEC
- EMC Directive 89/336/EEC
- TTE Directive 91/263/EEC

ISDN Line Cable Specifications

This section describes the ISDN line cable specifications for use with the Cisco 750 series and Cisco 760 series routers. These specifications may be enforced when using the routers in the European Community. In countries outside of the European Community, use these specifications as recommendations for maintaining optimal signal quality.

Table 1 lists the ISDN cable specifications.

Table 1 ISDN Cable Specifications

Requirement	C[1]	Z[2]	CL[3]	R[4]	D[5]
Value	350 pF[6]	>75 [7]	>60 dB[8]	3	<0.5%
Tolerance	+0% –10%	NA	NA	+10% –10%	NA

1. C = Capacitance of pairs for transmit and receive functions.
2. Z = Characteristic impedance of pairs used for transmit and receive functions with a termination of 100 ohms.
3. CL = Crosstalk loss at 96 kHz between any pair and a pair used for transmit and receive functions of 100 ohms.
4. R = Resistance of an individual conductor.
5. D = Percentage of ohmic resistance.
6. pF = picofarad
7. = ohms
8. dB = decibels

Note The length of the ISDN cable depends on the combination of the cable requirements shown in Table 1. In most cases, the preferred length is 23 feet (7 meters) and should not exceed 32.8 feet (10 meters).

Standard ISDN Basic TE Cable

This section is based on ETS 300 012, Annex A, subclause A.8.9.

A connection cable for use with TE systems designed for connection with a standard ISDN basic access cable has a maximum length of 32.8 feet (10 meters) and conforms to the following requirements:

- For cables 23 feet (7 meters) or shorter, the maximum capacitance of pairs for transmit and receive functions is less than 300 pF. For cables between 23 feet (7 meters) and 32.8 feet (10 meters), the maximum capacitance is up to 300 pF.
- The characteristic impedance of pairs used for transmit and receive functions is greater than 75 at 96 kHz.
- The crosstalk loss, at 96 kHz, between any pair and a pair to be used for transmit or receive functions is greater than 60 dB with terminations of 100 .
- The resistance of an individual conductor (R) does not exceed 3 . The difference in the resistance of the conductors of a pair does not exceed 60 m + 0.04 R.
- The cable is terminated at both ends with identical 8-contact connectors of the type specified in EN 28877[4] and EN 41001[5], and individual conductors are connected to the same contact in the plug at each end.

Operating Conditions for the United Kingdom

In addition to the warnings and safety guidelines listed in the section “Safety Information,” the following warnings apply to Cisco 750 series and Cisco 760 series routers used in the United Kingdom:

- The Cisco 750 series and Cisco 760 series routers are designed to meet the requirements of interim CTR3 for Basic Rate Access.

- 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 BRI connector must be hardwired permanently to the S-reference connection point by using a connect one-time-only, nonremovable plug (RJ-45 with the latch tab removed).
- The ports marked "10BaseT," "Console," and "ISDN," have a safety warning applied to them as follows:

  "These ports do not provide isolation sufficient to satisfy the requirement of EN41003; apparatus connected to these ports should either have been approved to EN41003 or have previously been evaluated against B5E301 British Telecommunications plc (Post Office) Technical Guides 2 or 26 and given permission to attach; any that other usage will invalidate any approval given to this apparatus."

  Other usage will invalidate any approval given to this apparatus if as a result it ceases to comply with EN41003:1993.
- This apparatus must be connected to a main socket outlet with a protective earth contact.
- Connection of power supply: The Cisco 750 series and Cisco 760 series routers are intended for use when supplied with power from a supply providing 220-240 VAC, 50/60 Hz up to 5A.

Agency Approvals for the Cisco 750 Series and Cisco 760 Series Routers

Table 2 lists the various agency approvals for the Cisco CPA750 series and CPA760 series routers.

Note Agency approval is indicated by a check ( ). A blank space indicates that the product does not have agency approval.

Table 2 Agency Approvals—CiscoPro CPA750 Series and CPA760 Series

Agency Approval	Cisco 750 Series	Cisco 760 Series
Safety Approvals		
UL 1950		
CSA 22.2 No. 950		
EN60950:1992		
EN300 047		
EN41003		
EMC[1] Approvals		
FCC Class B	(Certified)	(Verified)
Canadian DOC Class B		
EN55022 Class B (CISPR22 B)		
EN50082		
VCCI Class 2		

Agency Approval	Cisco 750 Series	Cisco 760 Series
PTT[2] Approvals		
Canadian CS-03		
CE168 (Pan-European approval)		
Germany National ISDN—1TR6		
French Delta NET3		
Australia TS013		
Hong Kong—Permission to Connect, CR22		
New Zealand TNA 134		

1. EMC = Electromagnetic Compliance
2. PTT = Postal Telephone and Telegraph

CE Marking Directive

The CE 168X signifies that the product meets the European Directive 91/263/EEC.

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 (called "CCO Classic") 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 750 Series and Cisco 760 Series User Guide* publication.