

# Cisco 760 Series

---

This chapter provides information on the Cisco 760 series routers. The information is organized into the following sections:

- Product Overview
- Standard Features
- Cisco 760 Series Models
- Software Options

---

**Note** Documentation for the Cisco 760 series is available in two forms: on a CD-ROM called Cisco Connection Documentation, Enterprise Series and printed books. A CD and hard-copy installation documentation ship with each chassis, and a configuration note ships with each component ordered. All configuration notes are available on the CD. Additional CDs and a subscription CD update service are also available.

You can also access Cisco technical documentation on the World Wide Web URL <http://www.cisco.com>. For more information, see the chapter “Documentation” at the end of the catalog.

---

## Product Overview

The Cisco 760 series is the next generation of low-cost and easy-to-manage multiprotocol ISDN access routers. These devices provide professional offices, small offices, and individuals with high speed remote access to enterprise networks and the Internet. The Cisco 760 series includes the following models: Cisco 761, Cisco 762, Cisco 765, and Cisco 766.

The Cisco 760 series offers the following features:

- Low cost of ownership
- Dial-on-demand routing
- Bandwidth optimization
- Ease of use
- Personal network profiles

- Interoperability
- Transparent access for telecommuters

## Low Cost of Ownership

The Cisco 760 series reduces the total cost of ownership in the areas of acquisition costs, support costs, and WAN costs.

The Cisco 760 series represents the lowest cost entry point to the Cisco access product family. The optional integrated NT1 and analog telephone interfaces eliminate the need to purchase separate telephone services and equipment to support these functions.

Because the Cisco 760 series supports remote management using SNMP and Telnet, all common monitoring functions can be performed by a network management team at the central site. Flash memory and TFTP downloading eliminate the expense of recalling units or sending a technician to the remote site to perform software upgrades.

Support for bandwidth-on-demand using Multilink PPP and 4:1 data compression enable cost efficient WAN connections. In addition, dial-on-demand (DDR) ensures that connections will not be inadvertently kept up when they are not in use, which keeps WAN charges to a minimum.

## Dial-on-Demand Routing

Cisco's dial-on-demand feature allows WAN connections to occur only when the router senses traffic that has been defined as "interesting" by the user or network administrator. With two ISDN BRI B channels, the Cisco 760 series can support simultaneous sessions with two sites and offload network traffic from one channel to the other. For example, as bandwidth needs increase—such as when a large file transfer is initiated—the second B channel is brought up automatically to carry the additional traffic.

## Bandwidth Optimization

Multilink PPP and 4:1 data compression ensure that WAN bandwidth is used efficiently and connect time charges are minimized. Access lists prevent broadcast traffic on the LAN from bringing up the WAN connection unnecessarily.

## Ease of Use

The Cisco 760 series is designed to minimize the complexity of configuring and operating multiprotocol routers. While personal network profiles make the process of connecting and disconnecting multiple sites transparent to the user, the Cisco ConnectPro software for Microsoft Windows provides an intuitive graphical user interface for installing, configuring, and monitoring Cisco 760 series routers. The Web-based application ClickStart is used for initial configuration.

## Personal Network Profiles

Personal network profiles enable Cisco 760 users to create customized sets of configuration parameters, such as filters, demand thresholds, and passwords for each remote site that is dialed. Personal network profiles allow on-demand calls to be made to different telephone numbers based on demand filters that are tailored for each remote site.

## Interoperability

The Cisco 760 series is fully interoperable with Cisco Internetwork Operating System (Cisco IOS)-based routers such as the Cisco 2500, Cisco 4000, and Cisco 7000 series using Multilink PPP for IP or IPX routing.

## Transparent Access for Telecommuters

The Cisco 760 series provides people who work from their homes with transparent access to the resources available on their companies' internetworks. IP and IPX routing support the most common LAN protocols found on today's enterprise networks. The Cisco 760 series dramatically lowers the initial and recurring costs associated with telecommuting initiatives.

**Table 226 Cisco 760 Series Summary of Features**

Description	Features			
	Cisco 761	Cisco 762	Cisco 765	Cisco 766
Dimensions (HxWxD)	1.6 x 8.3 x 9.6" (4.1 x 21.1 x 24.4 cm)	1.6 x 8.3 x 9.6" (4.1 x 21.1 x 24.4 cm)	1.6 x 8.3 x 9.6" (4.1 x 21.1 x 24.4 cm)	1.6 x 8.3 x 9.6" (4.1 x 21.1 x 24.4 cm)
Weight	1.4 lbs. (0.6 kg)	1.5 lbs. (0.7 kg)	1.7 lbs (.75 kg)	1.7 lbs (.75 kg)
Processor	25-MHz 80386	25-MHz 80386	25-MHz 80386	25-MHz 80386
Memory	1.5 MB standard DRAM 2.0 MB maximum DRAM .5 MB Flash memory 16 KB NVRAM	1.5 MBstandard DRAM 2.0 MB maximum DRAM .5 MB Flash memory 16 KB NVRAM	1.5 MBstandard DRAM 2.0 MB maximum DRAM .5 MB Flash memory 16 KB NVRAM1.5	1.5 MBstandard DRAM 2.0 MB maximum DRAM .5 MB Flash memory 16 KB NVRAM
Network Interface Options	1 Ethernet 1 BRI S/T	1 Ethernet 1 BRI S/T 1 BRI U	1 Ethernet (AUI or 10Base2) 1 BRI S/T 2 POTS	1 Ethernet (AUI or 10Base2) 1 BRI S/T 1 BRI U 2 POTS
Ethernet interface	Ethernet 10BaseT (RJ-45)	Ethernet 10BaseT (RJ-45)	Ethernet 10BaseT (RJ-45)	Ethernet 10BaseT (RJ-45)
ISDN BRI interface	ISDN S/T (RJ-45)	ISDN S/T (RJ-45) ISDN U (RJ-45)	ISDN S/T (RJ-45)	ISDN S/T (RJ-45) ISDN U (RJ-45)
Basic telephone service interfaces	—	—	2 POTS (RJ-11)	2 POTS (RJ-11)
Console port	DB-9F (9-pin female)	DB-9F (9-pin female)	DB-9F (9-pin female)	DB-9F (9-pin female)
Market availability	Worldwide	North America	Worldwide	North America
Number of users	4 or 1500	4 or 1500	4 or 1500	4 or 1500

Description	Features			
	Cisco 761	Cisco 762	Cisco 765	Cisco 766
Compression	STAC software upgrade	STAC software upgrade	STAC software upgrade	STAC software upgrade
Built-in NTI	No	Yes	No	Yes

**Table 227 Cisco 760 Series Environmental Specifications**

Description	Specification
Power supply Voltage	External table-top power supply US: 110 VAC; UK and Singapore: 240 VAC; Continental Europe: 220 VAC; Japan: 100 VAC
Frequency	US: 60 Hz; UK, Singapore, and Continental Europe: 50 Hz; Japan: 50 to 60 Hz
Operating temperature	32–120° F (0–50° C)
Storage temperature	–30 to 160° F (–35 to 70° C)
Operating humidity	20% through 95%, noncondensing



## Standard Features

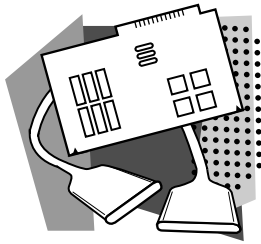
The Cisco 760 series offers two optional external analog telephone interfaces to enable devices such as standard telephones, fax machines, and modems to share an ISDN BRI line. This eliminates the need for multiple telephone lines or expensive ISDN telephones. The Cisco 760 models support two POTS lines and supplemental telephone services over ISDN. Supplemental telephone services supported include call waiting, cancel call waiting, call hold, and call retrieve.

The Cisco 760 series includes Cisco ConnectPro software—a Microsoft Windows-based application that simplifies the process of installing, configuring, and managing Cisco 760 series routers. The Cisco 760 series also includes ClickStart—a Web-based configuration tool that assists in the initial configuration of the Cisco 760.

The Cisco 760 series offers the benefits of IP and IPX routing, SNMP management, and multilevel authentication in a modem-sized package. When connecting to other Cisco routers, concurrent bridging is also supported. All Cisco 760 series routers support the Multilink Point-to-Point Protocol (PPP), which provides up to 128 kbps of ISDN bandwidth. The Cisco 760 series basic configuration allows up to four devices on the directly attached LAN. The Remote Office (RO) software option enables up to 1500 devices on the local LAN.

The following list summarizes the key features supported by the Cisco 760 series:

- Two optional RJ-11 analog telephone ports (Cisco 765 and Cisco 766) for sharing the ISDN BRI line with analog devices such as standard telephones, fax machines, and modems
- The Cisco 765 is certified for use in more than 25 countries worldwide
- Supplemental telephone services supported over ISDN include call waiting, cancel call waiting, call hold, and call retrieve
- One ISDN BRI port
- An optional built-in NT1 device
- One external S/T port on models with built-in NT1 for support of additional ISDN devices such as ISDN telephones
- One Ethernet port with an autosensing AUI (ThinNet) or 10BaseT (RJ-45) connector
- External hub or node switch for configuring the Cisco 760 series to work with a single workstation or 10BaseT Ethernet hub connection
- Cisco's call priority mode for maximum flexibility when initiating or accepting analog calls over ISDN
- Flash memory for software upgrades
- Dial-on-demand routing over ISDN lines
- IP and IPX routing with concurrent transparent bridging
- IPX spoofing
- Bandwidth-on-demand
- Multilink PPP for standards based B-channel aggregation
- PPP dial-back security
- Split B channels for support of simultaneous sessions with two sites
- Network management and monitoring using SNMP and Telnet
- 4:1 data compression for throughput of up to 512 kbps
- Multilevel authentication using Challenge Handshake Authentication Protocol (CHAP) and Password Authentication Protocol (PAP)
- Personal network profiles to simplify access control and connections to multiple networks
- Support for all major ISDN central office switches worldwide
- Routing Information Protocol (RIPv2) for routing updates
- Support for Cisco's snapshot routing protocol for IP and IPX
- Configuration using the included Windows-based ConnectPro application or by the Web-based ClickStart application



## Cisco 760 Series Models

The Cisco 760 series includes the following ISDN routers:

- Cisco 761
- Cisco 762
- Cisco 765
- Cisco 766

The Cisco 761 multiprotocol ISDN router provides the series' lowest cost option for connecting small offices or home offices to wide area networks using an ISDN BRI line. The Cisco 761 is the solution of choice for international users and those who prefer to use an external NT1 device for connecting to the ISDN network.

The Cisco 762 router includes a built in NT1 device to provide an all-in-one solution for ISDN users in North America. In addition to the integrated NT1, the Cisco 762 provides an external S/T port to support additional ISDN devices such as ISDN telephones.

The Cisco 765 and Cisco 766 are similar to the Cisco 761 and Cisco 762 (without and with an NT1, respectively); the Cisco 765 and Cisco 766 adds two RJ-11 interfaces for sharing the ISDN BRI line with up to two analog devices such as standard telephones, fax machines, and modems. Using Cisco's call priority feature, the Cisco 765 and Cisco 766 can drop one or both ISDN BRI B channels used for data to accept or initiate analog calls.

**Figure 126 Cisco 760 Series Front Panel—All Models**

**Figure 127 Cisco 765 Rear Panel**

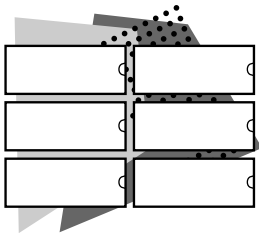
**Figure 128 Cisco 766 Rear Panel**

The Cisco 760 series routers ship with all necessary software and hardware, including power supplies and cables. Table 228 lists the product numbers you can use to order Cisco 760 series routers and spare power supplies and cables. If a product number ends with an equal sign (=), the item can be ordered only as a spare. If a product number does not end with an equal sign, the item can be ordered as a spare or as a configurable part of a system order.

**Table 228 Cisco 760 Series Product Numbers**

<b>Description</b>	<b>Product Number</b>
<b>Model</b>	
Cisco 761 Ethernet, ISDN BRI, and IP/IPX (North America)	CISCO761-US
Cisco 761 Ethernet, ISDN BRI, IP/IPX router (Net-3, Euro-ISDN, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Liechtenstein, Luxembourg, Monaco, Norway, Portugal, Spain, Sweden, and Switzerland)	CISCO761-CE
Cisco 761 Ethernet, ISDN BRI, IP/IPX (UK and Hong Kong)	CISCO761-UK
Cisco 761 Ethernet, ISDN BRI, and IP/IPX (Italy)	CISCO761-IT
Cisco 761 Ethernet, ISDN BRI, and IP/IPX (Singapore)	CISCO761-SG
Cisco 761 Ethernet, ISDN BRI, and IP/IPX (Australia)	CISCO761-AU
Cisco 761 Ethernet, ISDN BRI, and IP/IPX (Japan)	CISCO761-JP
Cisco 761 Ethernet, ISDN BRI, and IP/IPX (New Zealand)	CISCO761-NZ
Cisco 761 Ethernet, ISDN BRI, and IP/IPX (Taiwan)	CISCO761-TW
Cisco 762 Ethernet, ISDN NT1, and IP/IPX (North America)	CISCO762
Cisco 765 Ethernet/ISDN BRI IP/IPX 2 POTS router (US and Mexico)	CISCO765-US
Cisco 765 Ethernet/ISDN BRI IP/IPX 2 POTS router (Canada)	CISCO765-CA
Cisco 765 Ethernet/ISDN BRI IP/IPX 2 POTS router (NET-3, Euro-ISDN, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Liechtenstein, Luxembourg, Monaco, Norway, Portugal, Spain, Sweden, and Switzerland)	CISCO765-CE
Cisco 765 Ethernet/ISDN BRI IP/IPX 2 POTS router (Netherlands and Korea)	CISCO765-NL
Cisco 765 Ethernet/ISDN BRI IP/IPX 2 POTS router (UK, Ireland, Scotland, and Hong Kong)	CISCO765-UK
Cisco 765 Ethernet/ISDN BRI IP/IPX 2 POTS router (Italy)	CISCO765-IT

Description	Product Number
Cisco 765 Ethernet/ISDN BRI IP/IPX 2 POTS router (Singapore)	CISCO765-SG
Cisco 765 Ethernet/ISDN BRI IP/IPX 2 POTS router (Japan)	CISCO765-JP
Cisco 765 Ethernet/ISDN BRI IP/IPX 2 POTS router (New Zealand)	CISCO765-NZ
Cisco 765 Ethernet/ISDN BRI IP/IPX 2 POTS router (Taiwan)	CISCO765-TW
Cisco 765 Ethernet/ISDN BRI IP/IPX 2 POTS router (Australia)	CISCO765-AU
Cisco 766 Ethernet/ISDN BRI IP/IPX 2 POTS router (US)	CISCO766-US
Cisco 766 Ethernet/ISDN BRI IP/IPX 2 POTS router (Canada)	CISCO766-CA
<b>Power Supplies</b>	
Cisco 760 series AC power supply	PWR-760=
<b>Cables</b>	
Cisco 760 series console cable	CAB-760-CON=
<b>Management Software</b>	
Cisco ConnectPro software	SW-CT750-1.1=
<b>Memory Upgrade</b>	
760 memory upgrade to 512 kbps DRAM	MEM760-512D=



## Software Options

The Cisco 760 series offers the Standard software feature set and the Remote Office software feature set upgrade. Both feature sets support IP and IPX routing and transparent bridging. With the Standard feature set, which comes with your router at no additional cost, you can connect up to four devices on the directly attached Ethernet LAN. For an unlimited number of LAN connections, you can purchase the Remote Office feature set upgrade. (See Table 229 for ordering information.)

All Cisco 760 series routers also come with (at no additional cost) Cisco ConnectPro software—a Microsoft Windows-based application that simplifies the process of installing, configuring, and managing Cisco 760 series routers. Cisco ConnectPro provides a series of interview dialogs with context-sensitive help screens for initial configuration. ISDN-specific parameters, such as directory numbers and SPIDs, can be easily entered using the graphical user interface. Cisco ConnectPro also provides a graphical representation of ISDN B channel activity and traffic throughput performance.

The Cisco 760 series is fully compatible with Cisco IOS-based routers, such as the Cisco 2500, Cisco 4000, and Cisco 7000 series.

Table 229 lists the features and product numbers of the Standard and Remote Office software feature sets.



**Table 229 Standard and Remote Office Software Feature Sets—Cisco 760 Series**

Category	Standard <sup>1</sup>	Remote Office Upgrade <sup>2</sup>
LAN support	IP, transparent bridging, Novell IPX	IP, transparent bridging, Novell IPX
Number of LAN devices supported	4	Unlimited
WAN services	HDLC, PPP <sup>3</sup> , ISDN <sup>4</sup>	HDLC, PPP <sup>3</sup> , ISDN <sup>4</sup>
WAN optimization	Link compression, dial-on-demand, bandwidth-on-demand, access security, IPX spoofing	Link compression, dial-on-demand, bandwidth-on-demand, access security, IPX spoofing
IP routing	RIPv1 <sup>5</sup> , RIPv2	RIPv2 <sup>5</sup> , RIPv1
Other routing	IPX RIP	IPX RIP
Management	SNMP, Telnet	SNMP, Telnet
<b>Software Product Numbers<sup>6, 7, 8, 9</sup></b>		
Cisco 760 series Standard feature set for North America	SW760A-US-x.x=	—
Cisco 760 series Standard feature set for Europe	SW760A-CE-x.x=	—
Cisco 760 series Standard feature set for Germany	SW760A-DE-x.x=	—
Cisco 760 series Standard feature set for Australia	SW760A-AU-x.x=	—
Cisco 760 series Standard feature set for Japan	SW760A-JP-x.x=	SW760A-JP-x.x=
Cisco 760 series Remote Office feature set for North America	—	SW760B-US-x.x=
Cisco 760 series Remote Office feature set for Europe	—	SW760B-CE-x.x=
Cisco 760 series Remote Office feature set for Germany	—	SW760B-DE-x.x=
Cisco 760 series Remote Office feature set for Australia	—	SW760B-AU-x.x=
Cisco 760 series Remote Office feature set for Japan	—	SW760B-JP-x.x=
Cisco ConnectPro software	SWCT750-x.x=	—

1. Cisco ConnectPro software is included with the router.

2. Spares and upgrades are provided on DOS diskette only.

3. PPP includes support for Multilink PPP, RFC 1717, and PAP/CHAP authentication.

4. ISDN support includes BRI, CLI/ANI, subaddressing, and applicable WAN optimization features.

5. RIP includes compatibility mode for use with RIP Version 2.

6. Software installation requires a TFTP client.

7. Substitute the software release number for x.x in the product number.

8. Compression is included in all images.

9. Product numbers with the prefix SW760A add 4 users with compression. Product numbers with the prefix SW760B add 1500 users with compression.

