Cisco 700 Series ISDN Access Routers

Cisco 700 series Integrated Services Digital Network (ISDN) access routers offer affordable, fast, access to the Internet for every PC in very small and home offices (with up to five employees). These offices can consolidate multiple modems or terminal adapters (TAs) and multiple telephone lines with a Cisco 700 series ISDN router to reduce monthly telephone and/or Internet service provider (ISP) charges. With a Cisco 700 series router and ISDN connection, users can connect to the Internet and download files at speeds five times faster than with traditional analog modem connections.

What Can You Do Using a Cisco 700 Series Router?

- Fast Internet Access—the Cisco 700 series router transparently connects you to the Internet—fast. Connections are faster than with an analog modem, with maximum bandwidth rates of up to twice that of a 56-kbps modem, and up to five times faster than a 28.8-kbps modem.
- E-mail—Send and receive electronic mail messages and file attachments faster than with a modem to increase communication among employees, vendors, and suppliers.
- File and print sharing—the all-in-one design has a built-in Ethernet hub to connect your servers, PCs, and printers that enable employees to easily access and share files and printers to increase productivity.

Cisco 700 Series Hardware

The Cisco 700 series hardware consists of eight models and a choice of two software feature sets. All models provide ISDN and Ethernet connections. The Cisco 760 series models provide a single ISDN port, a single Ethernet port. The Cisco 770 series models include all the same features as the Cisco 760 series models, but also features an integrated four-port Ethernet hub.

The Cisco 700 series models (765/775, 766/776), with two analog telephone interfaces, allow standard telephones, fax machines, and modems to share the ISDN Basic Rate Interface (BRI) line, eliminating the need for multiple telephone lines or expensive ISDN telephones. These models also support supplementary telephone services such as call waiting, call retrieve, call hold, three-way conferencing, call transfer, and cancel call hold.

Cisco 700 Series Software

Each Cisco 700 series model offers two software feature sets (See Table 1). The base Internet Ready (IR) software feature set supports IP routing for up to 30 PCs. The remote office (RO) feature set supports IP and IPX routing for up to 1500 PCs. Both software feature sets support STAC compression to reduce usage costs.

<table>
<thead>
<tr>
<th>Feature Set</th>
<th>Routed Protocols</th>
<th>LAN Devices</th>
<th>Data Compression</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet Ready</td>
<td>IP</td>
<td>30</td>
<td>Yes</td>
</tr>
<tr>
<td>Remote Office</td>
<td>IP, IPX</td>
<td>1500</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Benefits

When you own a Cisco 700 series access router, you have a product that eases your day-to-day management concerns. Designed to keep your costs down and work “behind the scenes” once it is configured, the Cisco 700 series router automatically does its job—so you can get on with yours.
**It's Affordable**
Keep your ISDN transmission charges low. The Cisco 700 series access router automatically opens a connection only when you need it, and hangs up the line when you don’t, keeping line use and charges to a minimum. For example, special software features such as compression keep actual transmission time low. Certain models include analog telephone ports so you can place calls over the ISDN line, eliminating the need for a costly second analog telephone line.

**It's Fast**
The Cisco 700 series router’s many features enhance performance so you can enjoy speedy service. ISDN gives you performance up to five times as fast as a traditional analog modem and up to twice as fast as a standard 56-kbps modem; you see instant improvement in how fast you can send and receive files from the Internet.

**It’s Shared Access**
With a built-in Ethernet connection or an integrated four-port Ethernet hub, you can hook up your Cisco 700 series access router to your Ethernet LAN in no time. Cisco 760 series routers include a built-in, four-port hub for easy network consolidation and management, while the Cisco 770 routers have one Ethernet port for compact networks in very small and home offices.

**It’s Easy to Install**
Each Cisco 700 series router includes Cisco Fast Step installation software and a match-the-colors cabling design to get you connected quickly. Now users with no technical experience can install and test the Cisco 700 series routers in less than 30 minutes. Fast Step also has a monitor utility which provides instant status and connection times.

**Product Features**
Tables 2 and 3 compare the features of the Cisco 700 series models.

**Table 2  Overview of the Cisco 760 Series Model**

<table>
<thead>
<tr>
<th></th>
<th>Cisco 761</th>
<th>Cisco 762</th>
<th>Cisco 765</th>
<th>Cisco 766</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Market</strong></td>
<td>Worldwide</td>
<td>North America</td>
<td>Worldwide</td>
<td>North America</td>
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<tr>
<td><strong>Ethernet</strong></td>
<td>One 10-M B 10BaseT Ethernet port (Cisco 761M)</td>
<td>One 10-M B 10BaseT Ethernet port (Cisco 762M)</td>
<td>One 10-M B 10BaseT Ethernet port (Cisco 765M)</td>
<td>One 10-M B 10BaseT Ethernet port (Cisco 766M)</td>
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<tr>
<td><strong>ISDN Interface</strong></td>
<td>S/T</td>
<td>S/T and U</td>
<td>S/T</td>
<td>S/T and U</td>
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<tr>
<td><strong>Analog Telephone Ports</strong></td>
<td>None</td>
<td>None</td>
<td>Two RJ -11</td>
<td>Two RJ -11</td>
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<tr>
<td><strong>Processor</strong></td>
<td>386</td>
<td>386</td>
<td>386</td>
<td>386</td>
</tr>
<tr>
<td><strong>Speed</strong></td>
<td>25 MHz</td>
<td>25 MHz</td>
<td>25 MHz</td>
<td>25 MHz</td>
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<tr>
<td><strong>Standard DRAM</strong></td>
<td>1.5 MB</td>
<td>1.5 MB</td>
<td>1.5 MB</td>
<td>1.5 MB</td>
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<tr>
<td><strong>NVRAM</strong></td>
<td>16 KB</td>
<td>16 KB</td>
<td>16 KB</td>
<td>16 KB</td>
</tr>
<tr>
<td><strong>Flash</strong></td>
<td>1.0 MB</td>
<td>1.0 MB</td>
<td>1.0 MB</td>
<td>1.0 MB</td>
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<td><strong>Console</strong></td>
<td>DB-9F</td>
<td>DB-9F</td>
<td>DB-9F</td>
<td>DB-9F</td>
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<tr>
<td><strong>Ring Power</strong></td>
<td>—</td>
<td>—</td>
<td>4.7 REN</td>
<td>4.7 REN</td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>AC external switching</td>
<td>AC external switching</td>
<td>AC external switching</td>
<td>AC external switching</td>
</tr>
</tbody>
</table>
Key Features

**Affordable**
- Two analog telephone interfaces for sharing the ISDN BRI line with devices such as standard telephones, fax machines, and modems
- Supports fee pulse mode or permanent ISDN connections
- Dial on demand routing (DDR) transparently dials the ISDN line only when needed and then automatically terminates the connection
- Bandwidth-on-demand (BOD) with Bandwidth Allocation Protocol (BAP)
- Multilink PPP (MP) for standards-based B-channel aggregation (RFC 1717)
- Filters to ensure that a link is brought up only for “interesting” traffic
- Cisco Snapshot routing for IP and IPX, which prevents the ISDN line from being dialed only to exchange periodic routing updates
- Supports always-on Dynamic ISDN (AO/DI) and X.25 over the D channel to use all available capacity in your ISDN service
- Time-of-day and call duration controls

**Fast**
- One ISDN BRI port for connections of up to five times faster than a traditional analog modem
- Faster connect time to ISPs than with an analog modem
- STAC software compression keeps usage costs low

**Shared**
- Simultaneously connects multiple users to the Internet
  - One Ethernet ports with 10BaseT (RJ-45) connectors (Cisco 760 series)
  - Integrated four-port Ethernet hub with 10BaseT (RJ-45) connectors (Cisco 770 series)
Easy to Install and Connect
• Cisco Fast Step software, which provides a Windows 95 graphical user interface (GUI) that walks a novice user through initial router setup
• Color-coded cables and ports
• DHCP relay agent and server, which automatically assigns IP addresses to PCs on the LAN
• Auto service profile identifier (SPID) and auto switch detection
• Remote management and monitoring via Simple Network Management Protocol (SNMP), Telnet, and console port
• Trivial File Transfer Protocol (TFTP) server and client for software upgrades over the network or ISDN line
• Auto configuration from BOOTP

Connectivity
• Split B channels for support of simultaneous sessions
• IP and IPX routing with concurrent transparent bridging
• Routing Information Protocol (RIP) version 2 and Triggered RIP
• IPX spoofing

Security
• Port and Address Translation (PAT), which enables creation of a private network and an additional layer of network security
• Password Authentication Protocol (PAP), Challenge Handshake Authentication Protocol (CHAP), D channel dialback, caller ID, and access lists to protect network resources from unauthorized access
• Token card authentication

Advanced Application Support
• Supplemental telephone features such as call transfer, three-way call conferencing, call hold, call retrieve, call waiting, and cancel call waiting (where available)
• Call priority mode for maximum flexibility when initiating or accepting analog telephone calls over ISDN (Cisco 765, 766, 775, and 776 only)
• IP multicast forwarding
• Distinctive ringing

Technical Specifications

Physical
• Dimensions (H x W x D) and Weight:
  - 1.6 x 8.3 x 9.6 in. (4.1 x 21.1 x 24.4 cm)
  - Cisco 761/771: 1.4 lb (0.6 kg)
  - Cisco 762/772: 1.5 lb (0.65 kg)
  - Cisco 765/775: 1.6 lb (0.7 kg)
  - Cisco 766/776: 1.7 lb (0.75 kg)

Environmental
• Operating temperature: 32-120 F (0-50 C)
• Storage temperature: -30-160 F (-35-70 C)
• Humidity: 20 to 95%

Power Supply
• External tabletop power supply:
  - U.S.: 110 V AC, 60 Hz
  - U.K. and Singapore: 240 V AC, 50 Hz
  - Continental Europe: 220 V AC, 50 Hz
  - Japan: 100 V AC, 50/60 Hz
• Front panel LEDs
  - System: RDY; NT1 (Cisco 762, 766, 772, and 776), LINE
  - Ethernet: LAN, RXD, TXD
  - Channel 1: CH1, RXD, TXD
  - Channel 2: CH2, RXD, TXD
  - Telephone: PH 1 and PH 2 (Cisco 765M, 766M, 775M, and 776M only)
  - Link: Four Ethernet (Cisco 770 series only)

Ethernet Support
• One 10BaseT (RJ-45) with external hub/node switch (Cisco 760 series)
• Four 10BaseT (RJ-45) (Cisco 770 series)

Regulatory Approvals
• CE: IEC 801-2, 801-3, 801-4, 801-5
• CISPRB, CSA, EN 41003, EN 60950
• FCC Part 15 Class B, Part 68
• JATE, ST/PAB/ETR/384, TUV, UL VCCI 2

ISDN BRI Support
• 2 B + D channels: 2 x 64 kbps (precompressed)
• Interoperable Switched 56: 2 x 56 kbps (precompressed)
• Single and multipoint configurations
• Compatible with data or voice B channel
ISDN Switch Types
• Lucent 5ESS
• Nortel DM S-100
• National ISDN-1 (N1-1)
• I-CTR3 (ETSI, N/ET/3)
• VN 3/4/5 (France)
• 1TR6 (Germany)
• IN S, HSD 64 and 128 (Japan)
• TPH (Australia)

Analog Telephone Support (Cisco 765M, 766M, 775M, and 776M)
• Telephones: DTMF only (no pulse)
• Group III facsimile: V.17, V.27 TER, V.29
• Modems: V.22, V.22bis, V.32, V.32bis, V.34
• Dial tone (400 Hz) provided outside of North America
• Ringer equivalence number (REN) = 4.7

Service and Support
Service and support for Cisco 700 series access routers are available on a one-time or annual contract basis. Support ranges from help desk assistance to proactive, onsite consultation. All support contracts include major software updates, full access rights to Cisco Connection Online, and 24-hour-a-day technical assistance. Contact your local sales office for further information.

Availability
All Cisco 700 series routers are available immediately. Chassis with default configurations include: U.S. power cord, universal power supply, cable kit with color-coded cables, and preloaded software image. Odd numbered models have European power cord and Net-3 switch type default IR software, whereas even numbered models have U.S. power cord and switch type default IR software.

For more product information, contact Cisco Systems:
• United States and Canada: 800 553-NETS (6387)
• Europe: 32 2 778 4242
• Australia: 61 2 9935 4107
• Other: 408 526-7209

For your local authorized Cisco reseller:

For your local Cisco sales office:
World Wide Web URL: http://www.cisco.com