



Product Overview

The Cisco 836 router and the Cisco SOHO 96 router are asymmetric digital subscriber line (ADSL)-over-integrated service digital network (ISDN) routing devices. These routers have an integrated 4-port Ethernet switch for the LAN and an ADSL physical interface for the WAN, and ISDN basic rate interface (BRI) WAN connectivity. This ISDN BRI interface can be used for normal WAN connections or can be configured as a backup connection for the ADSL WAN interface. These features allow the routers to connect a corporate telecommuter or a small office to a central office or an Internet service provider (ISP) over an ADSL interface.

The routers support high-speed encryption, a 10/100BASE-T switch, and dial backup functionality via the ISDN port. The autosensing function in these routers eliminates the need for a crossover cable and allows the router to detect medium dependent interface in normal mode (MDI) or medium dependent interface in crossover mode (MDIX) in any other PC or hub with a straight-through cable or a crossover cable. The routers are capable of bridging and multiprotocol routing between the LAN and WAN ports.

The dial backup feature allows the user to connect the ISDN port to the ISDN service provider as a backup link to the WAN in case the ADSL service goes down. This feature gives the Cisco 836 and Cisco SOHO 96 routers a high level of performance and security.

The Cisco 836 router is designed with both hardware-based and software-based encryption, while the Cisco SOHO 96 supports only the software-based encryption. The Cisco 836 router supports the addition of Flash or SDRAM memory, as either a factory upgrade or a field-installed option. The Cisco SOHO 96 router has a fixed memory configuration.

Features

Table 1-1 summarizes the features of the Cisco 836 and Cisco SOHO 96 routers.

Table 1-1 Summary of Cisco 836 and Cisco SOHO 96 Routers Features

Feature	Description
10BASE-T/100BASE-T Ethernet switch	Provides connection to 10BASE-T (10 Mbps) or 100BASE-T (100 Mbps) Ethernet networks. Compatible with 10/100-Mbps devices.
ADSL over ISDN (ADSLoISDN) port	Provides connection to an ADSL over ISDN network. Does not support auto-switch function.
Flash memory	8 MB of Flash memory, with up to 16 MB of expandable Flash memory on the Flash module.
ISDN S/T port	Provides connection to ISDN service provider by using the dial backup and the remote management functions for the router when main ADSL link goes down.
Synchronous dynamic RAM (SDRAM)	32 MB of SDRAM on board.
Ease of installation	Color-coded ports and cables reduce the chance of error.
Cisco IOS software	Supports standard Cisco IOS software.
Cisco Router Web Setup	Provides a web-based software tool for basic router configuration.
LAN interface	Fully compliant with IEEE 802.3 and IEEE 802.3u. Automatic MDI/MDIX crossover function eliminates the need for crossover cables.
Console port	Provides connection to a terminal or PC for troubleshooting and for software configuration using a command-line interface (CLI). This port is configured as a data communication equipment (DCE) port with a hardware handshake.
Dying gasp	Provides dying gasp function. If the router is going to lose power, this function detects the situation and sends a signal to warn digital subscriber line access multiplexers (DSLAMs) of the line drops.

Table 1-1 Summary of Cisco 836 and Cisco SOHO 96 Routers Features (continued)

Feature	Description
IPSec hardware accelerator	Only the Cisco 836 router supports this feature. The Hifn 7902 security processor implements symmetric key encryption, public key encryption, authentication, and data compression in hardware. Algorithms implemented by the processor include Data Encryption Standard (DES) and Triple DES (3DES); Secure Hash Algorithm 1 (SHA-1), Message Digest 5 (MD5), Hash-based Message Authentication Code (HMAC); and Lempel-Ziv-Stac (LZS) compression and Microsoft Point-to-Point Compression (MPPC).
Wall-mounting brackets	Mount the router on a wall or other vertical surface.

Router Overview

The following section shows the front and back panels of the Cisco 836 router and the Cisco SOHO 96 router. The Cisco 836 router and the Cisco SOHO 96 router each have four Ethernet ports.

Front Panels

[Figure 1-1](#) and [Figure 1-2](#) show the front panels of Cisco 836 router and the Cisco SOHO 96 router, respectively.

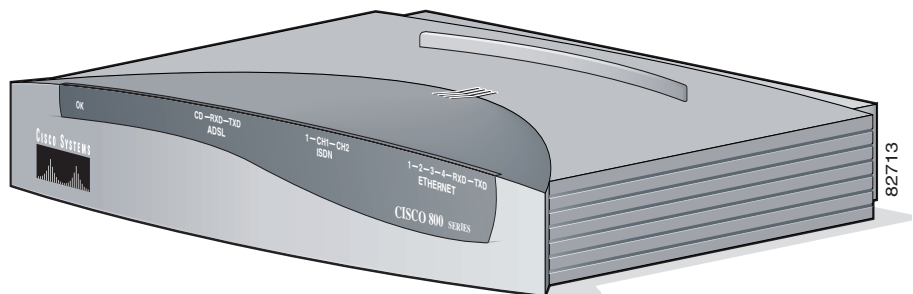
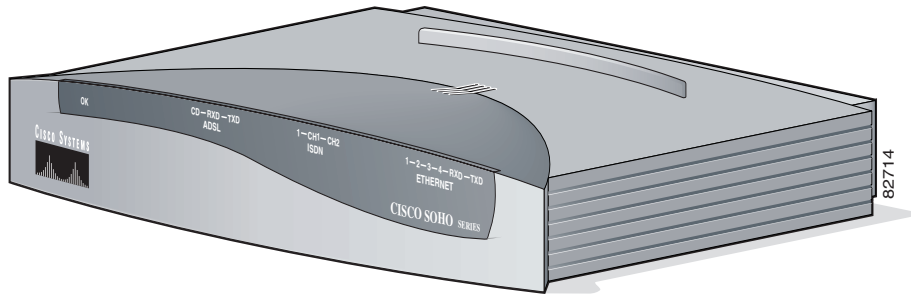
Figure 1-1 Cisco 836 Front Panel

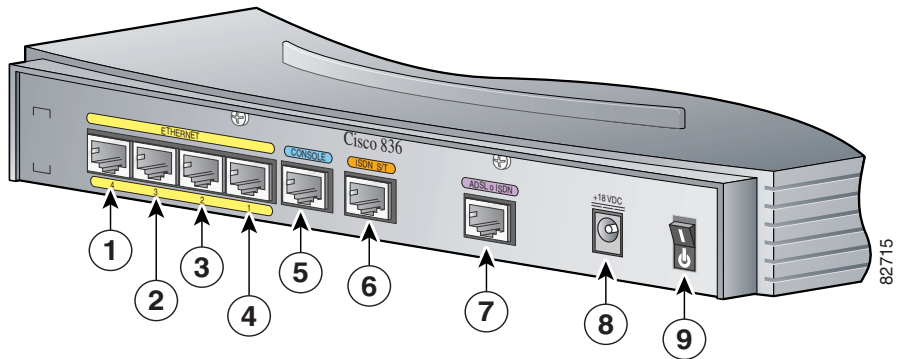
Figure 1-2 Cisco SOHO 96 Front Panel



Back Panel

Figure 1-3 shows the back panel of the Cisco 836 router. The back panel of the Cisco SOHO 96 router is nearly identical to the back panel of the Cisco 836 router. Only the labels are different—the Cisco SOHO 96 router’s label reads “Cisco SOHO 96.” All the physical ports are the same.

Figure 1-3 Cisco 836 Back Panel



1	Ethernet port 4 connects to Ethernet network device	6	ISDN S/T port connects to ISDN service provider
2	Ethernet port 3 connects to Ethernet network device	7	ADSLoISDN port connects to external wall jack
3	Ethernet port 2 connects to Ethernet network device	8	Input jack connects to desktop power supply
4	Ethernet port 1 connects to Ethernet network device	9	Power on/off button
5	Console port connects to PC or terminal		

LED Functions

Table 1-2 summarizes the functions of the LEDs on the Cisco 836 router and the Cisco SOHO 96 router.

Table 1-2 Functions of LEDs on the Cisco 836 Router and the Cisco SOHO 96 Router

LED	Color	Function
PWR_OK	Green	On when DC power is being supplied to the router. The light blinks if an error occurs during boot-up.
ADSL_CD	Green	On when the ADSL carrier detects status and connects to the DSLAM successfully.
ADSL_RXD	Green	On when the ADSLoISDN port receives data. Off when no data is being downloaded.
ADSL_TXD	Green	On when the ADSLoISDN port sends data. Off when no data is being uploaded.
ISDN_1	Green	On when ISDN D channel connects successfully.
ISDN_CH1	Orange	On when ISDN B1 channel connects successfully. Blinks when the B1 channel receives or sends data, or when data passes through ISDN channel 1.

Table 1-2 Functions of LEDs on the Cisco 836 Router and the Cisco SOHO 96 Router (continued)

LED	Color	Function
ISDN_CH2	Orange	On when ISDN B2 channel connects successfully. Blinks when the B2 channel receives or sends data, or when data passes through ISDN channel 2.
E1 Status	Green	On when Ethernet 1 connects to the Ethernet interface successfully. Blinks when Ethernet 1 receives or sends data, or when data passes through Ethernet 1.
E2 Status	Green	On when Ethernet 2 connects to the Ethernet interface successfully. Blinks when Ethernet 1 receives or sends data, or when data passes through Ethernet 2.
E3 Status	Green	On when Ethernet 3 connects to the Ethernet interface successfully. Blinks when Ethernet 1 receives or sends data, or when data passes through Ethernet 3.
E4 Status	Green	On when Ethernet 4 connects to the Ethernet interface successfully. Blinks when Ethernet 1 receives or sends data, or when data passes through Ethernet 4.