Data Sheet

Cisco SOHO 77H ADSL Router
Affordable Secure ADSL Router with the Power of Cisco IOS® Manageability and Reliability

The Cisco SOHO 77H Router provides an affordable, secure, multiuser digital subscriber line (DSL) access solution to small office/home office customers while reducing deployment and operational costs for service providers. Through the power of Cisco IOS® software technology, the Cisco SOHO 77H ADSL router provides superior manageability and reliability.

SOHO customers need affordable, multiuser access on a single asymmetric DSL (ADSL) line as well as business class firewall security and reliability. Services providers need to deploy and manage intelligent customer premise equipment (CPE) that supports SOHO customer's needs while keeping operational costs low.

The Cisco SOHO 77H router is ideal for small offices or home offices and allows users to share a single DSL line and single IP address, providing:

- Affordable, multiuser access with 4 port Ethernet Hub
- Business Class Security with Stateful Inspection Firewall
- Easy set up and deployment with Web-based configuration

Because the Cisco SOHO 77H router is based on Cisco IOS technology, service providers can leverage their training and investments in Cisco IOS software to reduce overall costs of doing business. With key management and troubleshooting features, service providers can cost-effectively deploy and remotely manage the Cisco SOHO 77H Router with the following advantages:

- Cisco IOS manageability, including interactive diagnostics/debug features
- Familiar Cisco IOS command-line interface (CLI)
- Proven reliability and industry leading support

Figure 1
The Cisco SOHO 77H ADSL Router

Benefits of Cisco SOHO 77H ADSL Router

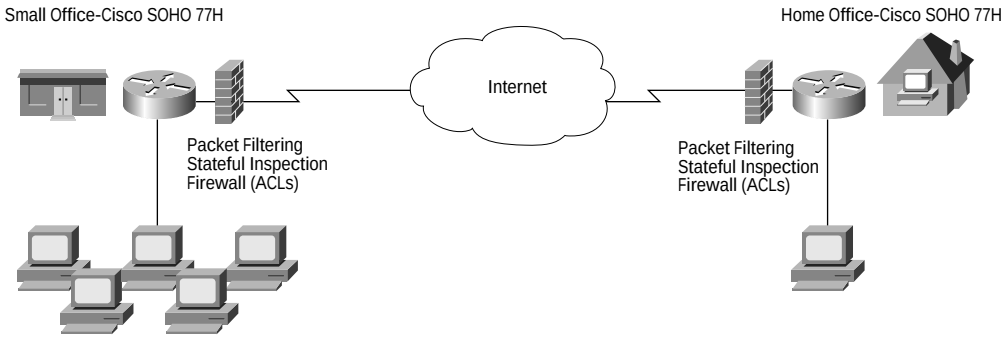
Affordable, Multiuser Access with a Single DSL Line

The Cisco SOHO 77H ADSL router enables service providers or businesses to deploy an affordable, multiuser router that is ideal for sites that need fast, reliable access to the Internet. Network Address Translation (NAT) allows multiple users to share one DSL line with a single IP address, and NAT eliminates the need to readdress all PCs

with private network addresses. Unlike a DSL modem, which allows only a single PC to connect to the Internet at a time, the Cisco SOHO 77H ADSL routere allows multiple PCs to connect to the Internet simultaneously. The SOHO 77H router includes an integrated four port Ethernet hub to allow up to four devices to connect directly to the router.

Figure 2
Cisco SOHO 77H Rear View

Figure 3
The Cisco SOHO 77H ADSL router is ideal for small office/home office environment, providing basic secure and reliable access to the Internet.



Business Class Security with Stateful Inspection Firewall

With DSL's always-on connection network security is essential. The Cisco SOHO 77H ADSL router enables service providers to offer true business class security with a stateful inspection firewall that helps protect users from unauthorized access from hackers allowing friendly traffic to pass through while stopping unwanted traffic at the firewall. A stateful firewall denies or permits WAN traffic based on a session's state, so requests from users behind the firewall can be received, while preventing unauthorized access.

If an intruder attempts to gain access to the network through the SOHO 77H Router and is rejected the firewall tracks the user through an audit trail. This audit trail can then help identify an attack in progress and locate an intruder to prevent future attempts. In addition, the firewall uses NAT to hide internal IP addresses from the outside world to further keep the network secure.

Easy Set Up and Deployment

The Cisco SOHO 77H Router includes the Cisco Router Web Set up tool (CRWS), a web based configuration tool that allows users to quickly self-install the router without knowledge of Cisco IOS software. Because CRWS is web based, no additional software needs to be installed on a user's PC. They simply point a browser to the router and follow a few simple sets to quickly get the router up and running.

Cisco Configuration Express allows service providers to order pre-configured SOHO 77H routers and have them shipped directly to the customer site. End users simply enter user name and password to complete the installation.

The Power of Cisco IOS Software

Remote Management

The Cisco SOHO 77H Router incorporates the same Cisco IOS technologies used by service providers and enterprises, allowing service providers to use existing knowledge of Cisco IOS software to reduce training costs when configuring, installing, and deploying Cisco SOHO 77H ADSL routers.

Additionally, Cisco IOS software provides many debug features that allow a service provider to remotely diagnose network problems. For example, the ADSL loop analysis feature provides information gathered remotely to analyze line quality and data transfer rates, including train speeds for upstream and downstream, bit error rate, margin, chipset status, as well bits per frequency bin.

The Cisco SOHO 77H Series routers support centralized administration and management via Simple Network Management Protocol (SNMP), HTTP, Telnet, or local management through the router console port. In addition, the world-class support offered by the Cisco Technical Assistance Center (TAC) provides unparalleled support services.

Managed Network Services with Cisco IOS Software

Service providers can offer small business and enterprise telecommuters managed network or Internet access with the Cisco SOHO 77H Router, providing service level agreement (SLAs) and guaranteed response times. SLAs can be a critical requirement in serving the business market that is accustomed to uninterrupted service with traditional WAN services such as T1 lines or Frame Relay. When deploying business services with multiple Cisco SOHO 77H Routers, service providers can use tools to provision and monitor these services. The Cisco SOHO 77H Router supports the SA Agent feature in Cisco IOS Software that enables the monitoring of SLAs all the way to the customer site.

Proven Reliability

Because Cisco SOHO 77H ADSL router is based on the same proven Cisco IOS technology used on 80 percent of the Internet and because Cisco IOS software is the industry standard application for mission-critical enterprise networks, SOHO customers can depend on them well into the future.

Table 1 Key Product Features and Benefits

Key Features	Benefits
Affordable, Multiuser Access	
NAT/PAT	• Allows multiple users to share a single DSL line and one IP address • Lets businesses and service providers conserve valuable IP address space • Reduces time and costs by reducing IP address management
Integrated four port Ethernet Hub	• Allows up to four devices to be connected directly to the router
Business Class Security	
Statfeul Inspection Firewall	• Offers internal users secure, per-application dynamic access control (stateful inspection) for all traffic across perimeters • Defends and protects router resources against denial-of-service attacks • Checks packet headers, dropping suspicious packets • Details transactions for reporting on a per-application, per-feature basis

Table 1 Key Product Features and Benefits (Continued)

Key Features	Benefits
NAT/PAT	• Hides internal IP addresses from external networks • Prevents certain denial-of-service attacks from outside networks on internal hosts
Easy Set Up and Deployment	
Cisco Router Web Set Up tool (CRWS)	• Provides an easy to set up configuration wizard that allows users to easily set up the router in minutes
Web-Based Configuration	• Provides an easy to set up configuration wizard that allows users to easily set up the router in minutes
Configuration Express	• Allows service providers to order pre-configured CPE and have it shipped directly to the customer site
Color Coded Ports and Cables and Quick-Start Reference Guide	• Help users make proper connections • Provides easy-to-follow installation instructions
Cisco IOS Management and Proven Reliability	
Cisco IOS Interactive Debug Features	• Allows service providers to remotely or locally diagnose network problems in detail (for example, via Telnet or terminal connection into the router)
Cisco IOS CLI	• Allows customers to use existing knowledge of Cisco IOS CLI for easier installation and manageability without additional training
Cisco IOS Service Assurance Agent (SAA)	• Provides a way to measure statistics used in analyzing Service Level Agreements (SLAs)
Cisco IOS Easy IP	• Enables true mobility-client IP addresses to be transparently configured via the Cisco IOS Dynamic Host Configuration Protocol (DHCP) server each time a client powers up
SNMP	• Enables remote management and monitoring via SNMP, Telnet, or HTTP and local management via console port
Proven Technology	• Offers technology that is used throughout the backbone of the Internet and in most enterprise networks
World-Class Support	• Helps customers keep their Cisco SOHO 77H series routers running

Table 2 Model Matrix

Hardware Specifications	
Processor	MPC 855T RISC
Processor Speed	50 MHz
DRAM Memory	16 MB
Flash Memory	8 MB
Ethernet	4 port 10 Mbps Hub
Console	RJ-45

Table 2 Model Matrix (Continued)

Hardware Specifications	
LEDs	7
Support for Kensington-Style Physical Lock	Yes
Crossover Hub Switch	Yes
Power Supply	Universal 100 - 240 VAC

Table 3 Cisco SOHO 77H Router Software Feature Set

Software Feature Sets—Basic Protocols/Features	IP/FW Image
LAN	
Transparent Bridging	X
IP	X
Routing	
RIP, RIPv2	X
PAP, CHAP, Local Password	X
Security	
Stateful Inspection Firewall	X
Ease of Use and Deployment	
Web based Configuration	X
Easy IP Phase I and II	X
Management	
Web based management tool	X
SNMP, Telnet, Console Port	X
Service Assurance Agent	X
TFTP Client and Server	X
QoS	
CBR, UBR, VBR-nrt, Per VC Shaping	X
Address Conservation	
NAT Many to One (PAT)	X
IPCP Address Negotiation	X
DHCP Client Address Negotiation	X

Note: Ordinary circuit-switched telephone service can be supported on the same copper pair as ADSL by using micro filters or plain old telephone service (POTS) splitter connected between the line and phones, fax machines, or modems, to provide filtering of the high-frequency ADSL signal to avoid interference between the voice and the ADSL service.

Table 4 Cisco SOHO and 800 Series—DSLAM Interoperability

DSLAM	Alcatel ASAM 1000	Alcatel 7300		Cisco 6x60/6015			ECI		
Chipset	**AME ADSL**	**AME ADSL**	**GSI G.SHDSL**	**ADI ADSL**	**GSI ADSL**	**GSI G.SHDSL**	**ADI 918 ADSL**	**ADI 930 ADSL**	**Metalink G.SHDSL**
Cisco 826	X	X	–	–	P (ext)	–	P	P	–
Cisco 827H	X	X	–	X*	X	–	P	P	–
Cisco 828	–	–	P	–	–	X	–	–	R
Cisco SOHO 76	X	X	–	–	P (ext)	–	P	P	–
Cisco SOHO 77H	X	X	–	X*	X	–	P	P	–
Cisco SOHO 78	–	–	P	–	–	X	–	–	R

DSLAM	Siemens Xpresslink 2.0		Fujitsu/Westell		Marconi DSLAM AXH600		Lucent Stinger	
Chipset	**TI ADSL**	**GSI G.SHDSL**	**AME ADSL**	**GSI G.SHDSL**	**AME ADSL**	**Metalink G.SHDSL**	**AME ADSL**	**GSI ADSL**
Cisco 826	P		–		–		?	R
Cisco 827H	P	–	P	–	R	–	?	R
Cisco 828	–	R	–	P	–	R	–	–
Cisco SOHO 76	P	–	–	–	–	–	?	R
Cisco SOHO 77H	P	–	P	–	R	–	?	R
Cisco SOHO 78	–	R	–	P	–	R	–	–

Legend	
P	In progress
P (ext)	In progress
X	Supported
R	On roadmap
–	No plan/not supported
*	Needs external attenuator
?	TDB, testing required

Regulatory and Standards Compliance

Supported RFCs

- RFC 2516 Point-to-Point Protocol (PPP) over Ethernet
- RFC 2364 Point-to-Point Protocol (PPP) over ATM PVCs
- RFC 2684 (formerly 1483) Multiprotocol ATM encapsulation
- RFC 1577 Classical IP over ATM
- RFC 1213 MIB II for IP
- RFC 1695 AToM MIB for ATM
- RFC 1058 RIP1, RIP1-compatible
- RFC 1389 RIP2
- RFC 2131, 2132 DHCP server
- RFC 1542, 2132 Bootp and DHCP relay agent
- RFC 2132 DHCP client
- RFC 1974 Data compression of up to 4:1 (STACTMLZS)
- RFC 1144 Van Jacobson TCP header compression
- RFC 1631 Network renumbering
- RFC 1334, 1994 User authentication (PAP/CHAP) with PPP
- RFC 1631, 2663 IP Network Address Translation (NAT)

Safety

- FCC Part 68
- UL 1950/ CSA 950-95, Third Edition
- IEC 950: Second Edition with Amendments 1, 2, 3, and 4
- EN60950: 1992 with Amendments 1, 2, 3, and 4
- CSO3, Canadian Telecom requirements
- AS/NZS 3260: 1996 with Amendments 1, 2, 3, and 4
- ETSI 300-047
- TS 001 with Amendment 1
- EMI
- AS/NRZ 3548:1992 Class B
- CFR 47 Part 15 Class B
- EN60555-2 Class B
- EN55022 Class B
- VCCI Class II
- ICES-003, Issue 2, Class B, April 1997
- IEC 1000-3-2

Immunity

- IEC 1000-4-2 (EN61000-4-2)
- IEC 1000-4-3 (ENV50140)
- IEC 1000-4-4 (EN61000-4-4)

ADSL Specifications

Alcatel DynaMiTe ADSL Chipset

- T1.413 ANSI ADSL DMT issue 2
- G.992.1 TU G.DMT support

Physical Specifications

Dimensions and Weight Specifications

- Dimensions (H x W x D):
  2.0 x 9.7 x 8.5 in. (5.1 x 24.6 x 21.6 cm)
- Weight:
  1.48lb (0.67kg)

Environmental Operating Ranges

- Operating tempurature:
  32 to 104ºF (0 to 40ºC)

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