

## Cisco 860 Series Integrated Services Routers

### Product Overview

The Cisco® 860 Series Integrated Services Routers combine Internet access, security, and wireless services onto a single, secure device that is simple to use and manage for small businesses. Cisco 860 Series delivers features, including firewall, IPSec VPNs, and WLANs, at broadband speeds to small offices. Easy deployment and centralized management features enable the Cisco 860 Series to be deployed by service providers in small businesses.

Cisco 860 Series Integrated Services Routers are fixed-configuration routers that provide business solutions for secure voice and data communication to small businesses. The Cisco 860 Series offer secure broadband services over Fast Ethernet and ADSL2/2+ WAN links. 802.11n offers LAN mobility and increased productivity (Figures 1 and 2). Cisco 860 Series provide the performance required for concurrent services, including firewall, and encryption for VPNs; optional 802.11g/n for mobility; and quality of service (QoS) features for multiple applications. In addition, the Cisco Configuration Professional (CCP) is a Web-based configuration tool that simplifies setup and deployment (Figure 3). Centralized management capabilities give network managers visibility and control of the network configurations at the remote site.

Cisco 860 Series Integrated Services Routers offer:

- Concurrent broadband services for small offices, and remote sites
- Secure connectivity with Stateful Inspection Firewall and IP Security (IPSec) VPN support for small offices
- Security features including:
  - Stateful Inspection Firewall
  - IP Security (IPSec) VPNs (Triple Data Encryption Standard [3DES] or Advanced Encryption Standard [AES])
- 4-port 10/100 Fast Ethernet managed switch with VLAN support
- CON/AUX Port for console or external modem
- Secure 802.11g/n access point option based on IEEE802.11n draft 2.0 standard
- Easy setup, deployment, and remote management capabilities through Web-based tools and Cisco IOS® Software

**Figure 1.** Cisco 861 Integrated Services Router with Integrated 802.11n Access Point

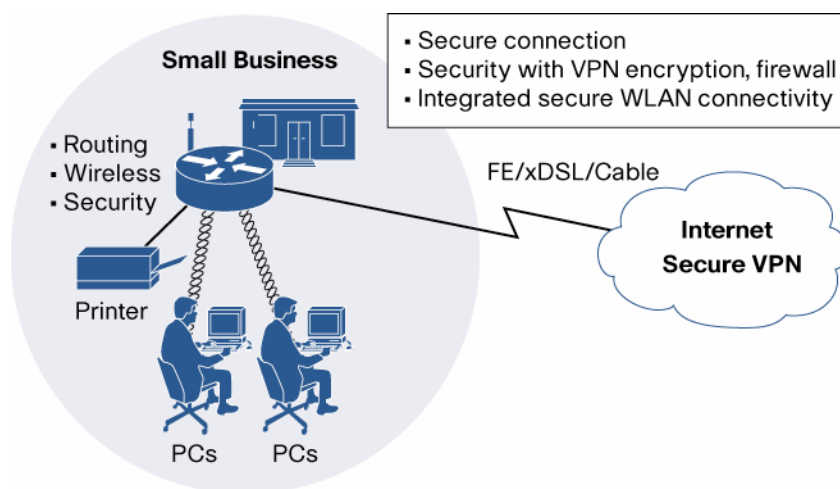


Table 1 lists the routers that currently make up the Cisco 860 Series.

**Table 1.** Cisco 860 Series Models

Models	WAN Interface	LAN Interfaces	802.11g/n Option
Cisco 861	10/100 Mbps Fast Ethernet	4-port 10/100 FE managed switch	No
Cisco 861W	10/100 Mbps Fast Ethernet	4-port 10/100 FE managed switch	Yes
Cisco 867	ADSL2/2+ over POTS (Annex A)	4-port 10/100 FE managed switch	No
Cisco 867W	ADSL2/2+ over POTS (Annex A)	4-port 10/100 FE managed switch	Yes

**Figure 2.** Deployment Scenarios



## Applications

Cisco 860 Series routers are designed for small office and remote office deployments. IT managers can centrally manage the remote site to quickly troubleshoot any network issues. Optional integrated secure WLAN connectivity simplifies the number of devices that need to be managed at the remote site.

The Cisco 860 Series can be deployed in managed services. Service providers and value-added resellers can use the series as a platform to offer differentiated services and business-class WLANs for small business customers.

## Features and Benefits

Table 2 lists the features and benefits of the Cisco 860 Series Integrated Services Routers.

**Table 2.** Features and Benefits

Feature	Benefit
<b>Increased Performance to Run Concurrent Services</b>	<ul style="list-style-type: none"> <li>The performance in a Cisco 860 Series router allows customers to take advantage of broadband network speeds while running secure, concurrent services</li> </ul>
<b>Stateful Inspection Firewall and IPSec VPN Support</b>	<ul style="list-style-type: none"> <li>Provides secure access when connecting to the Internet or connecting small offices to a central site</li> </ul>
<b>4-Port 10/100 FE Managed Switch</b>	<ul style="list-style-type: none"> <li>Allows multiple devices to be connected in a small office, with the ability to designate a port as network DMZ</li> <li>VLANs allow for secure segmentation of network resources</li> </ul>
<b>Optional 802.11g/n AP</b>	<ul style="list-style-type: none"> <li>Broadband router with secure integrated access point in a single device.</li> <li>Integrated Wi-Fi Access Point with IEEE 802.11n draft 2.0 standard support for mobile access to high-bandwidth data, voice and video applications through the use of multiple-input multiple-output (MIMO) technology that provides increased throughput, reliability and predictability.</li> </ul>

Feature	Benefit
	<ul style="list-style-type: none"> <li>• Support for autonomous mode.</li> </ul>
<b>AUX/CONS Port</b>	<ul style="list-style-type: none"> <li>• Single dual-purpose port provides direct connection to a console or external modem for management or backup</li> </ul>
<b>Cisco Configuration Professional (CCP) and Cisco IOS Software for Remote Management</b>	<ul style="list-style-type: none"> <li>• Cisco Configuration Professional uses smart wizards and task-based tutorials which can be used by resellers and customers to quickly and easily deploy, configure, and monitor a Cisco access router without requiring knowledge of the Cisco IOS® Software command-line interface (CLI)</li> </ul>

## Summary

Cisco 860 Series Integrated Services Routers combine support for Fast Ethernet or ADSL connections, secure connectivity with Stateful Firewall and VPN, and optional 802.11g/n access point for secure WLANs. With easy setup for nontechnical users and central management capabilities, Cisco 860 Series routers are suitable for deployment in small businesses or remote offices by value-added resellers, IT managers, or service providers.

## Product Specifications

Tables 3 and 4 list software and wireless features of Cisco 860 Series routers.

**Table 3.** Cisco IOS Software Features on Cisco 860 Series Routers-Advanced Security Feature Set (Default)

Feature	Description
<b>IP and IP Services Features</b>	<ul style="list-style-type: none"> <li>• Routing Information Protocol (RIPv1 and RIPv2)</li> <li>• Generic routing encapsulation (GRE)/MGRE</li> <li>• Cisco Express Forwarding (CEF)</li> <li>• 802.1d Spanning Tree Protocol (STP)</li> <li>• Layer 2 Tunneling Protocol (L2TP)</li> <li>• Network Address Translation (NAT)</li> <li>• Dynamic Host Control Protocol (DHCP) server/relay/client</li> <li>• Dynamic DNS</li> <li>• DNS Proxy</li> <li>• DNS Spoofing</li> <li>• Access control lists (ACLs)</li> </ul>
<b>Switch Features</b>	<ul style="list-style-type: none"> <li>• Auto MDI-MDX</li> <li>• 2 802.1Q VLANs</li> <li>• Switch Port Analyzer (SPAN)</li> <li>• Storm Control</li> <li>• Smartports</li> </ul>
<b>DSL and ATM features (ADSL models only)</b>	<ul style="list-style-type: none"> <li>• ATM Variable Bit Rate real-time (VBR-rt)</li> <li>• ATM Unspecified Bit Rate (UBR), Constant Bit Rate (CBR), and Variable Bit Rate non-realtime (VBR-nrt)</li> <li>• ATM operations, administration, and maintenance (OA&amp;M) support for F5 Continuity Check; segment and end-to-end loopback; and Integrated Local Management Interface (ILMI) support</li> <li>• Dying gasp support</li> <li>• TX ring adjustment</li> <li>• Virtual-circuit (VC) bundling</li> <li>• Per VC queuing</li> <li>• Per VC traffic shaping</li> <li>• 10 ATM virtual circuits</li> <li>• RFCs 1483 and 2684</li> <li>• Point-to-Point Protocol over ATM (PPPoA)</li> <li>• PPP over Ethernet (PPPoE)</li> </ul>
<b>Security Features</b>	Secure Connectivity <ul style="list-style-type: none"> <li>• IPSec VPN</li> <li>• Hardware-accelerated DES, 3DES, AES128, AES192, AES256</li> <li>• Public Key Infrastructure (PKI) support</li> </ul>

Feature	Description
	<ul style="list-style-type: none"> <li>• 5 IPSec Tunnels</li> <li>• Cisco Easy VPN Client and Server</li> <li>• NAT transparency</li> </ul> Zone-Based Policy Firewall <ul style="list-style-type: none"> <li>• Stateful Inspection Routing Firewall</li> <li>• Stateful Inspection Transparent Firewall</li> <li>• Advanced Application Inspection and Control</li> </ul> Secure HTTP (HTTPS), FTP, and Telnet Authentication Proxy
<b>QoS Features</b>	<ul style="list-style-type: none"> <li>• Weighted Fair Queuing (WFQ)</li> <li>• Class-Based WFQ (CBWFQ)</li> <li>• Class-Based QoS MIB</li> </ul>
<b>Management Features</b>	<ul style="list-style-type: none"> <li>• Cisco Configuration Professional</li> <li>• Cisco Configuration Express</li> <li>• Cisco Configuration Engine support</li> <li>• Cisco AutoInstall</li> <li>• IP SLA</li> <li>• Embedded Event Manager (EEM)</li> <li>• CiscoWorks</li> <li>• Cisco Security Manager</li> <li>• Telnet, Simple Network Management Protocol (SNMPv3), SSH, CLI and HTTP management</li> <li>• RADIUS and TACACS+</li> <li>• Out-of-band management with external modem through virtual auxiliary port</li> </ul>
<b>High-Availability Features</b>	<ul style="list-style-type: none"> <li>• Virtual Router Redundancy Protocol (VRRP) (RFC 2338)</li> <li>• Hot Standby Router Protocol (HSRP)</li> <li>• MHSRP</li> <li>• Dial backup with external modem through virtual auxiliary port</li> </ul>
<b>Number of Recommended Users</b>	<ul style="list-style-type: none"> <li>• 5</li> </ul>

**Table 4.** Cisco IOS Software Features on Cisco 860 Series Routers-WLAN Features (Available with Wireless Option)

Feature	Description
<b>WLAN Hardware</b>	<ul style="list-style-type: none"> <li>• IEEE 802.11n draft 2.0 standard based access point with 802.11 b/g compatibility</li> <li>• Automatic rate selection for 802.11g/n</li> <li>• Captive omnidirectional 2dBi gain omni dipole antennas</li> <li>• 2x3 MIMO radio operation</li> <li>• WiFi 802.11n Draft v2.0 certified</li> </ul>
<b>WLAN Software Features</b>	<ul style="list-style-type: none"> <li>• Autonomous Access Point</li> <li>• WCS support for autonomous configurations</li> <li>• Maximize throughput or maximize range option</li> <li>• Software-configurable transmit power</li> <li>• Radio roles include access point, root bridge, non-root bridge, and workgroup bridge</li> <li>• Wireless Multi Media Certification (WMM)</li> <li>• TSPEC Call Admission Control to ensure voice quality is maintained</li> <li>• Unscheduled Automatic Power Save Delivery (UAPSD) to reduce latency</li> </ul>
<b>WLAN Security Features</b>	<ul style="list-style-type: none"> <li>• 802.11i</li> <li>• Wi-Fi Protected Access (WPA) &amp; AES (WPA2)</li> <li>• EAP Authentication: Cisco LEAP, PEAP, EAP-TLS, EAP-FAST, EAP-SIM, EAP-MD5, EAP-TTLS</li> <li>• Static and dynamic Wired Equivalent Privacy (WEP)</li> <li>• Temporal Key Integrity Protocol (TKIP)/SSN [Temporal Key Integrity Protocol/Simple Security Network encryption</li> <li>• MAC authentication/filter</li> <li>• User database for survivable local authentication using LEAP &amp; EAP-FAST</li> <li>• Configurable limit to the number of wireless clients</li> <li>• Configurable RADIUS accounting for wireless clients</li> <li>• PSK (Pre Shared Keys) (WPA-SOHO)</li> </ul>


Feature	Description
Certifications	
SSIDs	<ul style="list-style-type: none"> <li>• 10</li> </ul>
Wireless VLANs	<ul style="list-style-type: none"> <li>• 2</li> </ul>
Encrypted Wireless VLANs	<ul style="list-style-type: none"> <li>• 2</li> </ul>
MBSSIDs	<ul style="list-style-type: none"> <li>• 10</li> </ul>

## System Specifications

Table 5 lists the system specifications for the Cisco 860 Series Routers.

**Table 5.** System Specifications

Feature	Specification
Default and Max DRAM	256 MB
Default and Max. Flash Memory	128 MB
WAN	861: Fast Ethernet; 867: ADSL2/2+ over POTS (Annex A)
LAN Switch	Managed 4-port 10/100BASE-T Fast Ethernet with autosensing MDI/MDX (Media Device In/Media Device Cross Over) for autocrossover
802.11g/n AP based on IEEE 802.11n draft 2.0 standard	Optional on all models
Console/Auxiliary Port	RJ-45
External Power Supply	Universal 100 to 240 VAC
<b>Wireless Specifications</b>	
Data Rates Supported	<ul style="list-style-type: none"> <li>• 802.11b: 1, 2, 5.5, 6, 9, 11 Mbps</li> <li>• 802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps</li> <li>• 802.11n: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, 54, m0-m15</li> </ul>
Maximum Transmit Power	<p><b>Note:</b> Maximum power setting subject to changes by channel and by region depending on regulations</p> <ul style="list-style-type: none"> <li>• 802.11b 20 dBm</li> <li>• 802.11g 17 dBm</li> <li>• 802.11n 16 dBm</li> </ul>
Physical Dimensions and Weight	<p><b>Product dimensions:</b></p> <p>Nonwireless models:</p> <ul style="list-style-type: none"> <li>• W X D X H = 12.8" x 9.8" x 1.9" (325mm x 249mm x 48mm) (includes rubber feet)</li> <li>• W X D X H = 12.8" x 9.8" x 1.75" (325mm x 249mm x 44mm) (without rubber feet)</li> </ul> <p>Wireless models:</p> <ul style="list-style-type: none"> <li>• W X D X H = 12.8" x 10.4" x 1.9" (325mm x 264mm x 48mm) (includes rubber feet)</li> <li>• W X D X H = 12.8" x 10.4" x 1.75" [325mm x 264mm x 44mm] (without rubber feet; excludes antennas)</li> <li>• Weight: 5.5 lb (2.5 kg) maximum</li> </ul>
Power	<p><b>Product power specifications:</b></p> <p>AC input voltage: 100 to 240 VAC</p> <ul style="list-style-type: none"> <li>• Frequency: 50 to 60 Hz</li> <li>• Maximum output power: 60W</li> <li>• Output voltages: 12V DC</li> </ul>
Approvals and Compliance	<ul style="list-style-type: none"> <li>• IEC 60950-1:2005, Second Edition, with all country deviations</li> <li>• AS/NZS 60950-1:2003, First Edition</li> <li>• CAN/CSA 22.2 No. 60950-1-05, Second Edition</li> <li>• UL 60950-1, Second Edition, 2005</li> <li>• EN55024</li> <li>• Industry Canada CS-03'</li> <li>• TIA-968-A, Addendum 1, 2, 3, 4, 5</li> </ul>

Feature	Specification
	<ul style="list-style-type: none"> <li>• EMI</li> <li>• VCCI Class II</li> <li>• IEC 1000-3-2</li> <li>• California Energy Commission (CEC) Compliant</li> </ul> Australia and New Zealand: Australia AS/ACIF S031: 2001 Australia AS/ACIF S043.1: 2003 Australia AS/ACIF S043.2: 2006 New Zealand PTC220: 2003
Certifications	
Environmental Operating Range	<ul style="list-style-type: none"> <li>• Nonoperating temperature: -4 to 149F (-20 to 65°C)</li> <li>• Nonoperating humidity: 5 to 95 percent relative humidity (noncondensing)</li> <li>• Nonoperating altitude: 0 to 15,000 ft (0 to 4570m)</li> <li>• Operating temperature: 32 to 104F (0 to 40°C)</li> <li>• Operating humidity: 10 to 85%, relative humidity (noncondensing)</li> <li>• Operating altitude: 0 to 10,000 ft (0 to 3000m)</li> </ul>

## DSL Specifications

Table 6 and 7 list the DSL features specifications and DSLAM interoperability support.

**Table 6.** DSL Features Specifications

DSL Specifications	
<b>ADSL Specifications</b>	<ul style="list-style-type: none"> <li>• ST-Microelectronics 20190 Chipset</li> <li>• Supports ADSL over basic telephone service with Annex A ITU G. 992.1 (ADSL), G.992.3 (ADSL2), and G.992.5 (ADSL2+)</li> <li>• G.994.1 ITU G.hs</li> <li>• Supports for Reach-extended ADSL2 (G.922.3) Annex L for increased performance on loop lengths greater than 16,000 feet from Central Office</li> <li>• Complies with T1.413 ANSI ADSL DMT issue 2</li> <li>• DSL Forum TR-067</li> <li>• The chipset does not provide interoperability with carrierless amplitude modulation/phase modulation (CAP)-based ADSL lines.</li> <li>• ADSL (G.992.1) provides downstream data rates of up to 8 Mbps and upstream data rates of up to 0.8 Mbps.</li> <li>• ADSL2 provides higher downstream rates of up to 12 Mbps and upstream data rates of up to 1 Mbps.</li> <li>• The ADSL2+ standard (G.992.5) increases the downstream data rates of up to 24 Mbps and upstream data rates of up to 1.5 Mbps.</li> </ul>

**Table 7.** 867 DSLAM Support

DSLAM	ADSL2/2+ over POTS Line Card Chipset
Alcatel ASAM 7300	Broadcom
Lucent Stinger	Globespan

## Ordering Information

Table 8 and 9 list the product and software ordering information for the Cisco 860 Series. To place an order, visit the [Cisco Ordering Home Page](#).

**Table 8.** Ordering Information

Part Number	Product Name
<b>Ethernet</b>	
CISCO861-K9	Cisco 861 Ethernet Security Router

CISCO861W-GN-A-K9	Cisco 861 Ethernet Security Router with 802.11n FCC Compliant
CISCO861W-GN-E-K9	Cisco 861 Ethernet Security Router with 802.11n ETSI Compliant
CISCO861W-GN-P-K9	Cisco 861 Ethernet Security Router with 802.11n Japan Compliant
<b>ADSL2/2+</b>	
CISCO867-K9	Cisco 867 ADSL2/2+ Annex A Router
CISCO867W-GN-A-K9	Cisco 867 ADSL2/2+ Annex A Router with 802.11n FCC Compliant
CISCO867W-GN-E-K9	Cisco 867 ADSL2/2+ Annex A Router with 802.11n ETSI Compliant
<b>Router Software</b>	
c860-universalk9-mz	Universal image for Cisco 860 ISR Data Router Series
<b>Access Point Software</b>	
ap801-k9w7-tar	Autonomous software image for ap801
<b>Software License for Cisco 860 Data</b>	
SL-860-ADSEC (default)	Cisco 860 Advanced Security Image Feature License

**Table 9.** Cisco IOS Software Images for the Cisco 860 Series Routers

Series	Models	Image	Default Feature License	First IOS Software Release
<b>Router Software</b>				
Cisco 860 Series	Cisco 861	c860-universalk9-mz	SL-860-ADSEC	12.4(15)XZ, 12.4(20)T
	Cisco 867	c860-universalk9-mz	SL-860-ADSEC	12.4(22)YB3
<b>Access Point Software</b>				
ap801	Cisco 861W, Cisco 867W	ap801-k9w7-tar	–	12.4(10b)JA2

## Cisco Services

Leading-edge technology deserves leading-edge support. Cisco offers a wide range of services programs to accelerate customer success. These innovative services programs are delivered through a unique combination of people, processes, tools, and partners, resulting in high levels of customer satisfaction. Cisco services help you protect your network investment, optimize network operations, and prepare your network for new applications to extend network intelligence and the power of your business.

Cisco SMARTnet<sup>®</sup> technical support for the Cisco 860 Series is available on a one-time or annual contract basis. Support options range from help-desk assistance to proactive, onsite consultation.

All support contracts include:

- Major Cisco IOS Software updates in protocol, security, bandwidth, and feature improvements
- Full access rights to Cisco.com technical libraries for technical assistance, electronic commerce, and product information
- 24-hour-a-day access to the industry's largest dedicated technical support staff

For more information about Cisco services, refer to [Cisco Technical Support Services](#) or [Cisco Advanced Services](#).

## For More Information

For more information regarding Cisco 860 Series Integrated Services Routers and options, contact your Cisco representative or go to <http://www.cisco.com/go/800>.

To upgrade the Cisco IOS Software for the Cisco 860 Series Integrated Services Routers, visit the [Cisco Software Center](#).

For more information about Cisco products, contact:

- **United States and Canada:** 800 553-NETS (6387)
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- **Other:** 408 526-7209
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