

## Cisco Model EPC3825 8x4 EuroDOCSIS 3.0 Wireless Residential Gateway

The Cisco® Model EPC3825 8x4 EuroDOCSIS 3.0 Wireless Residential Gateway (EPC3825) is a high-performance home gateway that combines a cable modem, router and wireless access point in a single device providing a cost-effective networking solution for both the home and small office. The EPC3825 provides a faster connection to the Internet by incorporating eight bonded downstream channels along with four bonded upstream channels. These bonded channels can deliver downstream data rates in excess of 440 Mbps and upstream data rates in excess of 120 Mbps. That's up to eight times faster downloads than conventional single-channel EuroDOCSIS™ 2.0 cable modems.

The EPC3825 is designed to meet EuroDOCSIS 3.0 specifications, as well as offering backward compatibility for operation in EuroDOCSIS 2.0, 1.1, and 1.0 networks.

**Figure 1.** Cisco Model EPC3825 8x4 EuroDOCSIS 3.0 Wireless Residential Gateway (image may vary from actual product and specification)



Designed for the active digital home or office, the EPC3825 integrated router features a Dynamic Host Configuration Protocol (DHCP) server, Network Address and Port Translation (NAT/NAPT) and a Stateful Packet Inspection (SPI) firewall. These features allow the user to share a single high-speed public Internet connection as well as share files and folders between devices within the home network by attaching multiple wired and wireless devices in your home or office to the wireless residential gateway.

Consumer-friendly features like Wireless Protected Setup (WPS) and user-configured Parental Control can protect the home network from unwelcome intruders and family members from access to undesirable websites.

## Features

### EuroDOCSIS

- Compliant with EuroDOCSIS 3.0, 2.0, 1.1, and 1.0 standards along with specifications to deliver high-end performance and reliability

### Connections

- Four 1000/100/10BASE-T Ethernet ports to provide wired connectivity
- High-performance broadband Internet connectivity to energize your online experience
- 2x2 802.11n, Wireless Access Point (WAP) with four Service Set Identifiers (SSIDs)
- WPS, including a push-button switch to activate WPS for simplified and secure wireless setup
- USB 2.0 Type 1 host port (option)

### Design and Function

- User-friendly web GUI with simplified navigation and quick setup feature
- Context-sensitive pop-up Help for each configuration page
- Dual color front panel LEDs provide visual feedback of real-time operational status
- Attractive, compact design and versatile orientation to stand vertically, lie flat on the desktop or shelf, or mount easily on a wall
- TR-068 compliant color-coded interface ports and corresponding cables simplify installation and setup

### Management

- Allows automatic software upgrades by your service provider
- Provisionable via DOCSIS, SNMP, XML, and/or TR-069

### Security

- User-configurable Parental Control blocks access to undesirable Internet sites
- Advanced firewall technology deters hackers and protects the home network from unauthorized access

### Software and Documentation

- CD-ROM containing user guide

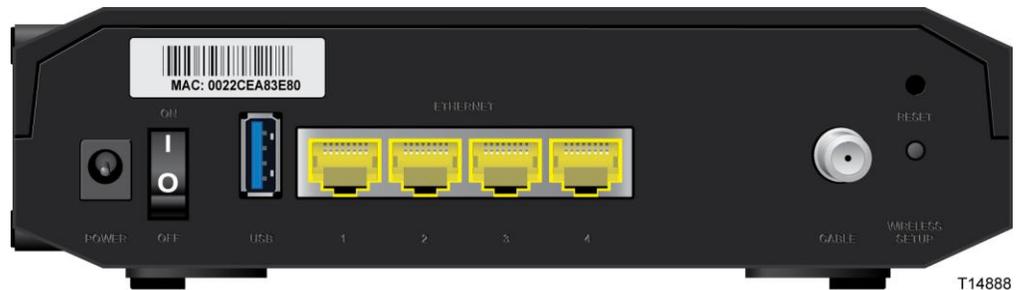
**Figure 2.** Cisco Model EPC3825 Front Panel (image may vary from actual product and specification)



**Table 1.** Front Panel Features

Feature	Description
Indicators	Power, DS, US, Online, Ethernet, USB, Wireless Link, Wireless Setup
Color	Black, black lens, silver text
Branding	Cisco and model number

**Figure 3.** Cisco Model EPC3825 Back Panel (image may vary from actual product and specification)



**Table 2.** Back Panel Features

Feature	Description
POWER Connector Color: Black	Connects the wireless home gateway to the DC output of the AC power adapter
POWER SWITCH	Turns power on and off to the device (power switch provided on all products carrying the CE mark)
MAC ADDRESS LABEL	Displays the MAC address of the cable modem
ON/OFF	Power switch turns the modem on and off
USB Color: Blue	USB 2.0 Type 1 port (factory-option)
ETHERNET (1 – 4) Connector Color: Yellow	Four RJ-45 Ethernet ports connect to the Ethernet port on your PC or your home network
CABLE Connector Color: White	F-connector connects to an active cable signal from your service provider
RESET	Resets the cable modem
WIRELESS SETUP	Activates WPS, which allows you to add wireless devices to the wireless network of the residential gateway
ANTENNA (internal)	(2) internal antennas provide a communication connection for the built-in 802.11n wireless

## Product Specifications

**Table 3.** Product Specifications

Specification	Value
<b>Residential Gateway</b>	
ICSA (Independent Computer Security Association) Firewall Compliant	<ul style="list-style-type: none"> <li>• IP Address and Port Number</li> <li>• TCP flags, ICMP types, fragmentation</li> <li>• Connection Creation and Teardown</li> <li>• Timestamps</li> <li>• Payload Modification</li> </ul>
Parental Controls	<ul style="list-style-type: none"> <li>• Content Filtering with Per-User Policies</li> <li>• Domain Block/Deny</li> <li>• Keyword Blocking</li> <li>• Java X Applet Blocking</li> <li>• Per-User MAC Address Filtering</li> </ul>
Advanced Event Logging	<ul style="list-style-type: none"> <li>• Filtering Activity</li> <li>• Session Tracking</li> <li>• User Notification via E-mail Alert and SNMP Traps</li> </ul>
DOS attack protection	<ul style="list-style-type: none"> <li>• Replay Attack Protection</li> <li>• Malformed Packet Protection</li> <li>• SYN Flooding</li> <li>• TCP Hijacking</li> <li>• LAND Attack</li> <li>• WinNuke/OOBNuke (Invalid TCP urgent pointer)</li> <li>• Christmas Tree</li> <li>• SYN/FIN (jackal)</li> <li>• BackOffice (UDP 32337)</li> <li>• NetBus</li> <li>• Smurf</li> <li>• Tear Drop</li> <li>• ICMP Flooding</li> <li>• Ping of Death</li> <li>• TCP Port Probe</li> <li>• UDP Port Probe</li> <li>• New Tear</li> <li>• Nestea</li> <li>• SYNdrop</li> <li>• Jolt</li> <li>• Boink</li> <li>• Bonk</li> </ul>
Routing Features	<ul style="list-style-type: none"> <li>• NAPT, NAT, and Pass-through (layer 2) Operational Modes</li> <li>• RIP v1/v2</li> <li>• Static Routes</li> <li>• Port Forwarding</li> <li>• Port Triggering</li> <li>• UPnP IGD 1.0</li> </ul>

Specification	Value
<b>Residential Gateway (continued)</b>	
ALG Support	<ul style="list-style-type: none"> <li>• FTP</li> <li>• Real Audio</li> <li>• H.323</li> <li>• ICQ</li> <li>• IPSec Pass-through</li> <li>• L2TP Pass-through</li> <li>• PPTP Pass-through</li> <li>• TFTP</li> <li>• mIRC</li> <li>• PIRCH</li> <li>• MS NetMeeting</li> <li>• Net2phone</li> <li>• AOL and MSN Messenger</li> <li>• Yahoo Messenger</li> <li>• Go2Call</li> <li>• Hotline Server</li> <li>• Visual IRC</li> <li>• CuSeeme</li> <li>• AT&amp;T Instant Messenger Anywhere</li> <li>• Active Worlds</li> <li>• Buddy Phone Calista IP Phone</li> <li>• Delta Three PC to Phone</li> <li>• Dial Pad</li> <li>• Dwyco Video Conferencing</li> <li>• OrbitRC</li> <li>• Xircon</li> <li>• Netscape Chat</li> </ul>
<b>Wireless Access Point</b>	
Frequency Range	2x2 2.4 GHz or 2x2 2.4/5 GHz Dual Band non-concurrent (factory option)
Modulation	PSK/CCK, DQPSK, DBPSK, OFDM
Data Rate	54, 48, 36, 24, 18, 12, 9, 6, 11, 5.5, 2, 1 20 MHz Bandwidth: 150, 130, 117, 104, 78 * 40 MHz Bandwidth: 300, 270, 243, 216, 162, 108 * <i>* Many other data rates are supported by the product. The information above specifies only the higher rates for each bandwidth.</i>
Transmit Power	2.4 GHz: 16 dBm, 5 GHz: 14 dBm with internal power amplifiers
802.11n	<ul style="list-style-type: none"> <li>• (2) Internal Antennas</li> <li>• Wi-Fi Compliant</li> <li>• Wi-Fi Security (WPA2, WPA2-PSK, WPA, WPA-PSK, WEP)</li> <li>• WMM-QoS (Wireless Multi Media - Quality of Service)</li> <li>• WMM Power Save</li> <li>• WPS</li> <li>• Wireless Bridging - WDS (Wireless Distribution System) – allows connection to “Range Extender Products”</li> <li>• RADIUS Authentication (Client, EAP-TLS, EAP-TTLS, EAP-PEAP, EAP-MD5)</li> <li>• MBSSID (4 SSIDs with unique NAT scopes)</li> </ul>

Specification	Value					
<b>RF Downstream</b>						
Operating Frequency Range	108 to 1002 MHz					
Tuner Frequency Range	108 to 1002 MHz					
Tuner	(2) Frequency agile block tuners, 32 MHz bandpass each					
Demodulation	8 demodulators, 4 per tuner, each demodulator; 64 QAM or 256 QAM					
Maximum Data Rate	8 downstream channels, each 8 MHz channel: 55.62 Mbps for 256 QAM and 41.71 Mbps for 64 QAM					
Bandwidth	8 or 6 MHz					
Operating Level Range	+43 to +73 dBμV for 64 QAM +47 to +77 dBμV for 256 QAM					
Input Impedance	75 ohms					
<b>RF Upstream</b>						
Operating Frequency Range	5 to 65 MHz					
Transmitter Frequency Range	5 to 65 MHz					
Upstream Transmission	4 upstream channels					
Modulation	QPSK, 8 QAM, 16 QAM, 32 QAM, 64 QAM / ATDMA, 128 QAM / SCDMA					
Maximum Data Rate per channel	<u>Modulation</u>	<u>Channel Bandwidth (MHz)</u>	<u>Raw Data Rate (Mbps)</u>			
	QPSK	1.6	2.56			
	16 QAM	1.6	5.12			
	QPSK	3.2	5.12			
	16 QAM	3.2	10.2			
	32 QAM	3.2	12.8			
	64 QAM	3.2	15.4			
	16 QAM	6.4	20.5			
	32 QAM	6.4	25.6			
	64 QAM	6.4	30.7			
Bandwidth	200 kHz to 6.4 MHz					
Maximum Operating Level	TDMA	<u>Modulation</u>	<u>One Channel</u>	<u>2 Channels</u>	<u>3 or 4 Channels</u>	
		QPSK	+121 dBμV	+118 dBμV	+115 dBμV	
		8 QAM	+118 dBμV	+115 dBμV	+112 dBμV	
		16 QAM	+118 dBμV	+115 dBμV	+112 dBμV	
		32 QAM	+117 dBμV	+114 dBμV	+111 dBμV	
	SCDMA	QPSK	+116 dBμV	+113 dBμV	+113 dBμV	
		8 QAM	+116 dBμV	+113 dBμV	+113 dBμV	
		16 QAM	+116 dBμV	+113 dBμV	+113 dBμV	
		32 QAM	+116 dBμV	+113 dBμV	+113 dBμV	
		64 QAM	+116 dBμV	+113 dBμV	+113 dBμV	
		128 QAM	+116 dBμV	+113 dBμV	+113 dBμV	
		<b>Electrical</b>				
		Input Voltage	15 VDC			
		Power Consumption (modem module)	~ 11 Watts Online			
Data Ports	1000/100/10BASE-T (Auto-negotiate with Auto-MDIX): RJ-45 Ethernet (4) USB 2.0: USB Type 1 (1)					
RF	Female F-Type					
Output Impedance	75 ohms					

Specification	Value
<b>Mechanical</b>	
Dimensions (W x D x H)	F-Type connector included: 14.5 cm x 18.6 cm x 5 cm (5.6 in. x 7.3 in. x 1.9 in.) F-Type connector not included: 14.5 cm x 17.6 cm x 5 cm (5.6 in. x 6.9 in. x 1.9 in.)
Weight (approximate)	0.390 kg (13.7 oz.)
Operating Temperature	-0° to 40°C (32° to 104°F)
Operating Humidity	0 to 95% RH non-condensing
Storage Temperature	-20° to 70°C (-4° to 158°F)
<b>Standards and Approvals</b>	
Designed to meet with the following standards	EuroDOCSIS 3.0, 2.0, 1.1, 1.0 IEEE 802.11n WEP, WPA, and WPA2 WMM, WPS
<b>Regulatory Compliance</b>	
Regulatory and Safety Approvals	As required per country where the EPC3825 will be used

## Ordering Information

**Table 4.** Ordering Information

Description	Part Number
<b>5-65/88-1002 MHz Diplex Filter</b>	
<b>8 MB Flash x 64 MB DRAM Memory Configuration (Standard Configuration)</b>	
EPC3825 EuroDOCSIS 3.0 8x4 Wireless Residential Gateway. Includes: <ul style="list-style-type: none"> <li>• 802.11n Wireless Access Point, Single Band, 2x2, 2.4 GHz</li> <li>• USB 2.0 port</li> <li>• 230 VAC / 50-60 Hz, 15 VDC / 1.5 A Wall-mount linear-switching power supply</li> <li>• Ethernet cable</li> <li>• CD-ROM containing user guides and USB driver</li> </ul> <b>Europe</b>	4034441
EPC3825 EuroDOCSIS 3.0 8x4 Wireless Residential Gateway. Includes: <ul style="list-style-type: none"> <li>• 802.11n Wireless Access Point, Single Band, 2x2, 2.4 GHz</li> <li>• USB 2.0 port</li> <li>• 230 VAC / 50-60 Hz, 15 VDC / 1.5 A Wall-mount linear-switching power supply</li> <li>• Ethernet cable</li> <li>• CD-ROM containing user guides and USB driver</li> </ul> <b>Europe (Customer-specific configuration)</b>	4038466
<b>5-65/88-1002 MHz Diplex Filter</b>	
<b>32 MB Flash x 128 MB DRAM Memory Configuration</b>	
EPC3825 EuroDOCSIS 3.0 8x4 Wireless Residential Gateway. Includes: <ul style="list-style-type: none"> <li>• 802.11n Wireless Access Point, Single Band, 2x2, 2.4 GHz</li> <li>• USB 2.0 port</li> <li>• 230 VAC / 50-60 Hz, 15 VDC / 1.5 A Wall-mount linear-switching power supply</li> <li>• Ethernet cable</li> <li>• CD-ROM containing user guides and USB driver</li> </ul> <b>Europe (Customer-specific configuration)</b>	4039757

## Replacement Components

**Table 5.** Replacement Components

Description	Part Number
<b>Power Supply - Class 2 Switching Regulated</b>	
100-240 VAC / 50-60 Hz, 15 VDC / 1.5 A wall-mount switching regulated power supply, Europe	4034525
<b>Data Cable</b>	
Ethernet cable, 1.2 meters	740580
<b>CD-ROM</b>	
CD-ROM with user guides and USB driver	4034136



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