Cisco Model DPC3825 8x4 DOCSIS 3.0 Wireless Residential Gateway

The Cisco® Model DPC3825 8x4 DOCSIS 3.0 Wireless Residential Gateway (DPC3825) is a high-performance home gateway that combines a cable modem, router, and wireless access point in a single device providing a cost-effective voice and networking solution for both the home and small office. The DPC3825 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 340 Mbps and upstream data rates in excess of 120 Mbps. That's up to eight times faster downloads than conventional single-channel DOCSIS® 2.0 cable modems.

The DPC3825 is designed to meet DOCSIS 3.0 specifications, as well as offering backward compatibility for operation in DOCSIS 2.0, 1.1, and 1.0 networks.

Figure 1. Cisco Model DPC3825 8x4 DOCSIS 3.0 Wireless Residential Gateway (image may vary from actual product and specification)

Designed for the active digital home or office, the DPC3825 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 such as 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.

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Features

DOCSIS

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

Connections

- Four 10/100/1000BASE-T Ethernet ports to provide wired connectivity
- High-performance broadband Internet connectivity to energize your online experience
- 802.11n, Single Band 2.4 GHz 2x2 Wireless Access Point (WAP) with four Service Set Identifiers (SSIDs) or optional Dual-Band non-concurrent radio
- WPS, including a push-button switch to activate WPS for simplified and secure wireless setup
- USB host port

Design and Function

- Attractive, compact design and versatile orientation to stand vertically, lie flat on the desktop or shelf, or mount easily on a wall
- Dual color LED status indicators on the front-panel provide an informative and easy-to-understand display that indicates the cable modem operational status
- TR-068 compliant color-coded interface ports and corresponding cables simplify installation and setup

Management

- User-configurable Parental Control blocks access to undesirable Internet sites
- Advanced firewall technology deters hackers and protects the home network from unauthorized access
- Allows automatic software upgrades by your service provider

Software and Documentation

- CD-ROM containing user guide

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Figure 2. Cisco Model DPC3825 Front Panel (image may vary from actual product and specification)

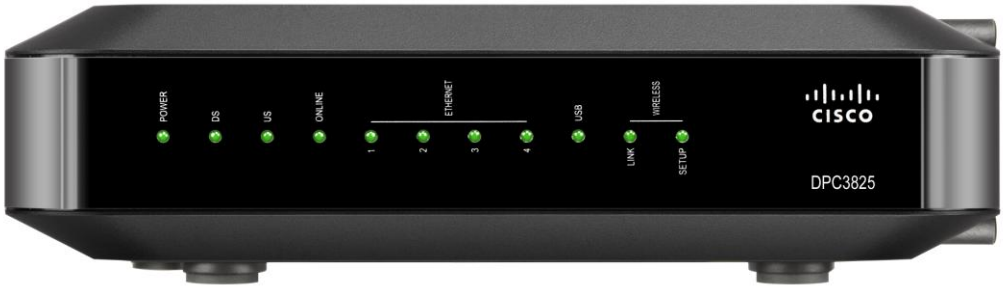

Table 1. Front Panel Features

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 DPC3825 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 (Not Shown)	Turns power ON and OFF (available only on products carrying the CE mark)
MAC ADDRESS LABEL	Displays the MAC address of the cable modem
USB Color: Blue	Type 2 USB 2.0 port connects to a USB port on select devices
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	Power cycles 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

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Product Specifications

Table 3. Product Specifications

Specification	Value
Residential Gateway	
Gateway Configuration Management	• TR-069 and subset of TR-098 data model (optional) • Extensive custom SNMP MIB for the Gateway • Provisioning with XML and/or with SNMP • HNAP server 1.2+
ICSA (Independent Computer Security Association) Firewall Compliant	• Web filtering: Pop-ups, Cookies, Java & ActiveX scripts • Intrusion detection/prevention: WAN ping blocking, IP fragment blocking, Port scan detection, TCP Port Probe, UDP Port Probe • DoS Protection: inbound, outbound, WAN interface, LAN interface, SYN flood, Ping of Death, Smurf, Bonk, Jolt, Land, Nestea, Newtear, Syndrop, Teardrop, WinNuke/OOBNuke (Invalid TCP urgent pointer), x1234, Saihyousen , Oshare, ARP flood, TCP Hijacking, Christmas Tree, SYN/FIN (jackal), BackOffice (UDP 32337), NetBus, ICMP Flowding, • IP Address, Port Number, MAC address filtering • TCP flags, ICMP types fragmentation • Connection Creation and Teardown • Timestamps and Payload Modification
Parental Controls	• Per-User Policies • Keyword blocking • Domain name blocking • Time of day filters • MAC Address Filtering
Advanced Event Logging	• Filtering Activity • Session Tracking • User Notification via E-mail Alert and SNMP Traps
Routing Features	• NAPT, NAT, and Pass-through (layer 2) Operational Modes • RFC3489 (STUN) "Port-restricted cone NAT" behavior • RIP v1/v2, with MD5 • Static Routes • Port Forwarding • Port Triggering • UPnP IGD 1.0 • IPSec Pass-through • L2TP Pass-through • PPTP Pass-through • ALG support: mIRC, PIRCH, MS NetMeeting, Net2phone, AOL and MSN Messenger, Yahoo Messenger, Go2Call, Hotline Server, Visual IRC, CuSeeme, AT&T Instant, Messenger Anywhere, Active Worlds, Buddy Phone Calista IP Phone, Delta Three PC to Phone, Dial Pad, Dwyco Video Conferencing, OrbitRC, Xircon, Netscape Chat, FTP, H.323, ICQ
Wireless Access Point	
802.11 b/g/n	• 2x2 2.4 GHz or optional 2x2 2.4 GHz/5 GHz Dual-Band, non-concurrent, wireless access point • (2) Internal Antennas • Wi-Fi Compliant Security (WPA2-Enterprise, WPA2-PSK, WPA-Enterprise, WPA-PSK, WEP) • WMM-QoS (Wireless Multi Media - Quality of Service) • WMM Power Save • WPS • Wireless Bridging - WDS (Wireless Distribution System) – allows connection to “Range Extender Products” • RADIUS Authentication (Client, EAP-TLS, EAP-TTLS, EAP-PEAP, EAP-MD5) • MBSSID (4 SSIDs with unique NAT scopes) • Wi-Fi "Hot Spot" support (Static DHCP IP Scope over tunnel)

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Specification	Value
RF Downstream	
Operating Frequency Range	88 to 1002 MHz
Tuner Frequency Range	88 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 6 MHz channel: 42.88 Mbps for 256 QAM and 30.34 Mbps for 64 QAM
Bandwidth	6 or 8 MHz
Operating Level Range	-15 to +15 dBmV
Input Impedance	75 ohms
RF Upstream	
Operating Frequency Range	5 to 42 MHz, 5 to 65 MHz or 5 to 85 MHz
Transmitter Frequency Range	5 to 42 MHz, 5 to 65 MHz or 5 to 85 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	Modulation / Channel Bandwidth (MHz) / Raw Data Rate (Mbps) 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	Modulation / One Channel / 2 Channels / 3 or 4 Channels TDMA QPSK / +61 dBmV / +58 dBmV / +55 dBmV 8 QAM / +58 dBmV / +55 dBmV / +52 dBmV 16 QAM / +58 dBmV / +55 dBmV / +52 dBmV 32 QAM / +57 dBmV / +54 dBmV / +51 dBmV 64 QAM / +57 dBmV / +54 dBmV / +51 dBmV SCDMA QPSK / +56 dBmV / +53 dBmV / +53 dBmV 8 QAM / +56 dBmV / +53 dBmV / +53 dBmV 16 QAM / +56 dBmV / +53 dBmV / +53 dBmV 32 QAM / +56 dBmV / +53 dBmV / +53 dBmV 64 QAM / +56 dBmV / +53 dBmV / +53 dBmV 128 QAM / +56 dBmV / +53 dBmV / +53 dBmV
Electrical	
Input Voltage	15 VDC
Power Consumption (DC)	~12 Watts
Data Ports	GigE (Auto-negotiate with Auto-MDIX): RJ-45 Ethernet (4) USB 2.0: USB Type 2 (1)
RF	Female F-Type
Output Impedance	75 ohms

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Specification	Value
Mechanical	
Dimensions (W x D x H)	Not including F-Type connector: 5.7 in. x 6.9 in. x 1.8 in. (14.5 cm x 17.6 cm x 4.5 cm)
Weight	13.76 oz. (0.390 kg)
Operating Temperature	32˚ to 104˚F (-0˚ to 40˚C)
Operating Humidity	0 to 95% RH non-condensing
Storage Temperature	-4˚ to 158˚F (-20˚ to 70˚C)
Standards and Approvals	
Designed to meet with the following standards	DOCSIS 3.0, 2.0, 1.1, and 1.0 IEEE 802.11 b/g/n WEP, WPA, and WPA2 WMM, WPS
Regulatory Compliance	
Regulatory and Safety Approvals	As required per country where the DPC3825 will be used

Ordering Information

Table 4. Ordering Information

Description	Part Number
5-42/88-1002 MHz Diplex Filter **8 MB Flash X 64 MB DRAM Memory Configuration (Standard Configuration)**	
DPC3825 DOCSIS 3.0 8x4 Wireless Residential Gateway includes: • 802.11n 2x2 Wireless Access Point • USB 2.0 host port • 100-240 VAC / 50-60 Hz, 15 VDC/ 1 A Desktop switching-regulated power supply with detachable power cord • Power cord, North America (non-polarized) • Ethernet cable • CD-ROM containing user guide ***North America***	4034138
DPC3825 DOCSIS 3.0 8x4 Wireless Residential Gateway includes: • 802.11n 2x2 Wireless Access Point • USB 2.0 host port • 100-240 VAC / 50-60 Hz, 15 VDC/ 1 A Desktop switching-regulated power supply with detachable power cord • Power cord, North America (non-polarized) • Ethernet cable • CD-ROM containing user guide ***North America (Customer-specific configuration)***	4038277
DPC3825 DOCSIS 3.0 8x4 Wireless Residential Gateway includes: • 802.11n 2x2 Wireless Access Point • USB 2.0 host port • 100-240 VAC / 50-60 Hz, 15 VDC/ 1 A Desktop switching-regulated power supply with detachable power cord • Power cord, North America (non-polarized) • Ethernet cable • CD-ROM containing user guide ***North America (Customer-specific configuration)***	4038465

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Description	Part Number
5-42/88-1002 MHz Diplex Filter **8 MB Flash X 64 MB DRAM Memory Configuration (Standard Configuration)**	
DPC3825 DOCSIS 3.0 8x4 Wireless Residential Gateway includes: • 802.11n 2x2 Wireless Access Point • USB 2.0 host port • 100-240 VAC / 50-60 Hz, 15 VDC/ 1 A Desktop switching-regulated power supply with detachable power cord • Power cord, North America (non-polarized) • Ethernet cable • CD-ROM containing user guide ***North America (Customer-specific configuration)***	4037054
DPC3825 DOCSIS 3.0 8x4 Wireless Residential Gateway includes: • 802.11n 2x2 Wireless Access Point • USB 2.0 host port • 100-240 VAC / 50-60 Hz, 15 VDC/ 1 A Desktop switching-regulated power supply with detachable power cord • Power cord, Europe (non-polarized) • Ethernet cable • CD-ROM containing user guide ***Europe***	4037934
DPC3825 DOCSIS 3.0 8x4 Wireless Residential Gateway includes: • 802.11n 2x2 Wireless Access Point • USB 2.0 host port • 100-240 VAC / 50-60 Hz, 15 VDC/ 1 A Desktop switching-regulated power supply with detachable power cord • Power cord, Argentina (non-polarized) • Ethernet cable • CD-ROM containing user guide ***Argentina***	4037652
DPC3825 DOCSIS 3.0 8x4 Wireless Residential Gateway includes: • 802.11n 2x2 Wireless Access Point • USB 2.0 host port • 100-240 VAC / 50-60 Hz, 15 VDC/ 1 A Desktop switching-regulated power supply with detachable power cord • Power cord, Brazil (non-polarized) • Ethernet cable • CD-ROM containing user guide ***Brazil***	4039447
DPC3825 DOCSIS 3.0 8x4 Wireless Residential Gateway includes: • 802.11n 2x2 Wireless Access Point • USB 2.0 host port • 100-240 VAC / 50-60 Hz, 15 VDC/ 1 A Desktop switching-regulated power supply with detachable power cord • Power cord, North America (non-polarized) • Ethernet cable • CD-ROM containing user guide ***Columbia (Customer-specific configuration)***	4039151

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Description	Part Number
5-65/88-1002 MHz Diplex Filter **32 MB Flash x 128 MB DRAM Memory Configuration**	
DPC3825 DOCSIS 3.0 8x4 Wireless Residential Gateway includes: • 802.11n 2x2 Wireless Access Point • USB 2.0 host port • 100-240 VAC / 50-60 Hz, 15 VDC/ 1 A Desktop switching-regulated power supply with detachable power cord • Power cord, North America (non-polarized) • Ethernet cable • CD-ROM containing user guide ***North America***	4039640
DPC3825 DOCSIS 3.0 8x4 Wireless Residential Gateway includes: • 802.11n 2x2 Wireless Access Point • USB 2.0 host port • 100-240 VAC / 50-60 Hz, 15 VDC/ 1 A Desktop switching regulated-power supply with detachable power cord • Power cord, North America (non-polarized) • Ethernet cable • CD-ROM containing user guide ***North America (Customer-specific configuration)***	4039759
5-65/88-1002 MHz Diplex Filter **8 MB Flash x 64 MB DRAM Memory Configuration (Standard Configuration)**	
DPC3825 DOCSIS 3.0 8x4 Wireless Residential Gateway includes: • 802.11n 2x2 Wireless Access Point • USB 2.0 host port • 100-240 VAC / 50-60 Hz, 15 VDC/ 1 A Desktop switching-regulated power supply with detachable power cord • Power cord, Japan (non-polarized) • Ethernet cable • CD-ROM containing user guide ***Japan (Customer-specific configuration)***	4034139
DPC3825 DOCSIS 3.0 8x4 Wireless Residential Gateway includes: • 802.11n 2x2 Wireless Access Point • USB 2.0 host port • 100-240 VAC / 50-60 Hz, 15 VDC/ 1 A Desktop style switching regulated-power supply with detachable power cord • Power cord, Japan (non-polarized) • Ethernet cable • CD-ROM containing user guide ***Japan (Customer-specific configuration)***	4034140

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Replacement Components

Table 5. Replacement Components

Description	Part Number
Power Supply	
Class 2 Switching Regulated	
100-240 VAC/50-60 Hz, 15 VDC / 1.5 A desktop-style switching regulated power supply with detachable power cord (order power cord separately)	4034524
Power Cord	
Power cord, 2 conductors, NEMA 1-15 to C7, North America (polarized)	4026134
Power cord, 2 conductors, Argentina (non-polarized)	4012938
Power cord, 2 conductors, CEE7/16 to C7, INMETRO, Brazil (non-polarized)	4009115
Power cord, 2 conductors, CEE7/16 to C7, Europe (non-polarized)	503414
Data Cable	
Ethernet cable, 1.2 meters	740580
Ethernet cable, 2.0 meters	4018790
CD-ROM	
CD-ROM with user guides and USB driver	4034136

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