

Cisco Model DPC3827 8x4 DOCSIS 3.0 Wireless Residential Gateway with MoCA

The Cisco® Model DPC3827 8x4 DOCSIS 3.0 Wireless Residential Gateway (DPC3827) with MoCA is a high-performance home gateway that combines a cable modem, router, wireless access point, and MoCA™ in a single device providing a cost-effective voice and networking solution for both the home and small office. The DPC3827 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 DPC3827 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 DPC3827 8x4 DOCSIS 3.0 Wireless Residential Gateway (image may vary from actual product and specification)



Designed for the active digital home or office, the DPC3827 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.

Integrated MoCA 1.1 home networking allows the users to provide Internet access and transfer multimedia content over the coaxial cable in the home, connecting devices like IP or hybrid set-tops to the Internet and to each other.

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.

Features

DOCSIS

- Eight bonded downstream channels with a total throughput in excess of 300 Mbps
- Compliant with DOCSIS 3.0, 2.0, 1.1, and 1.0 standards to deliver high-end performance and reliability
- Enhanced packet processing technology to maximize performance

Connections

- MoCA 1.1 networking over coaxial cable in the home
- 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 (optional)

Design and Function

- Simplified self-install using intuitive webpage design for user-friendly setup and management
- DOCSIS-5 compliant LED labeling and behavior with dual-color LEDs provides a user- and technician-friendly method to check operational status and act as a troubleshooting tool
- TR-068 compliant color-coded interface ports and corresponding cables simplify installation and setup
- Attractive, compact design and versatile orientation to stand vertically, lie flat on the desktop or shelf, or mount easily on a wall

Management

- TR-069 (optional) along with XML schema and/or SNMP Provisioning and Management of the WAN interface and gateway functionality
- 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
- DOCSIS-compliant secure software downloads

Software and Documentation

- CD-ROM containing user guide

Figure 2. Cisco Model DPC3827 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, MoCA
Color	Black, black lens, silver text
Branding	Cisco and model number

Figure 3. Cisco Model DPC3827 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 shipping to the EU)
MAC ADDRESS LABEL	Displays the MAC address of the cable modem
USB (optional) 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 and provides the connection for MoCA networking in the home
RESET	Dual-function switch can be used to power cycle the cable modem or return settings to factory defaults
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
Residential Gateway	
Gateway Configuration Management	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 Flooding, • IP Address, Port Number, MAC address filtering • TCP flags, ICMP types fragmentation • Connection Creation and Teardown • Timestamps and Payload Modification
Parental Controls	<ul style="list-style-type: none"> • Per-User Policies • Keyword blocking • Domain name blocking • Time of day filters • MAC Address Filtering
Advanced Event Logging	<ul style="list-style-type: none"> • Filtering Activity • Session Tracking • User Notification via E-mail Alert and SNMP Traps
Routing Features	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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)

Specification	Value				
MoCA					
MoCA 1.1	<ul style="list-style-type: none">Frequency Band D, Eight 50 MHz channels in 1125 – 1525 MHz band.Adaptive Constellation Multi-tone: 256 sub-carriers, BPSK, QPSK, 8QAM, 16QAM, 32QAM, 64QAM, 128QAM, 256QAM.Power level 48.8 dBmV nominal. -4/+8dB tolerance30 dB power control range.Up to 8 Nodes supported				
RF Downstream					
Operating Frequency Range	88 to 1002 MHz or 108 to 1002 MHz				
Tuner Frequency Range	88 to 1002 MHz or 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 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	<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	<u>Modulation</u>	<u>One Channel</u>	<u>2 Channels</u>	<u>3 or 4 Channels</u>	
	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)	~14 Watts				

Specification	Value
Data Ports	GigE (Auto-negotiate with Auto-MDIX): RJ-45 Ethernet (4) USB 2.0: USB Type A host connector (1)
RF	Female F-Type
Output Impedance	75 ohms
Mechanical	
Dimensions (W x D x H)	Not including F-Type connector: 6.9 in. x 5.7 in. x 1.8 in. (17.6 cm x 14.5 cm x 4.5 cm)
Weight	14.1 oz. (0.4 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, WMM Power Save MoCA 1.1
Regulatory Compliance	
Regulatory and Safety Approvals	As required per country where the DPC3827 will be used

Ordering Information

Table 4. Ordering Information

Description	Part Number
5-42/88-1002 MHz Diplex Filter	
DPC3827 DOCSIS 3.0 8x4 Wireless Residential Gateway includes: <ul style="list-style-type: none"> • 802.11n Wireless Access Point, Single Band, 2x2, 2.4 GHz • MoCA 1.1 Home Networking Over Coaxial Cable • USB 2.0 host port • 100-240 VAC / 50-60 Hz, 15 VDC/ 1.5 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	4039760
DPC3827 DOCSIS 3.0 8x4 Wireless Residential Gateway includes: <ul style="list-style-type: none"> • 802.11n Wireless Access Point, Single Band, 2x2, 2.4 GHz • MoCA 1.1 Home Networking Over Coaxial Cable • USB 2.0 host port • 100-240 VAC / 50-60 Hz, 15 VDC/ 1.5 A Desktop style 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)	4039761

Replacement Components

Table 5. Replacement Components

Description	Part Number
Power Supply	
<i>Class 2 Switching Regulated</i>	
100-120 VAC/50-60 Hz, 15 VDC / 1.5 A desktop 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
Data Cable	
Ethernet cable, 1.2 meters	740580
CD-ROM	
CD-ROM with User Guides	4042844

Disclaimer

The maximum performance for wireless is derived from IEEE Standard 802.11 specifications. Actual performance can vary, including lower wireless network capacity, data throughput rate, range and coverage. Performance depends on many factors, conditions and variables, including distance from the access point, volume of network traffic, building materials and construction, operating system used, mix of wireless products used, interference and other adverse conditions.



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