



Cable Modem Termination System

A DOCSIS solution for cable Internet services

The 3Com® Total Control™ Cable Modem Termination System (CMTS) is a high-density, scalable solution for all cable Internet services. Part of 3Com's renowned Total Control platform, 3Com CMTS provides a variety of unique advantages, including support of telephony- and cable-return modems in a single chassis. Built to minimize costs and space requirements, 3Com CMTS is a powerful platform for today's – and tomorrow's – cable networks.



Key Benefits

- Upstream-to-downstream channel ratio is decoupled, providing a highly scalable, modular architecture
- SNMP-based management of all network elements for centralized control
- High-density, rack-mountable chassis conserves space
- Reliable technology proven in ISP installations around the world
- Designed for DOCSIS compliance for interoperability
- Multiple downstream and upstream channels provide security through redundancy

The 3Com Total Control Cable Modem Termination System (CMTS) offers unmatched flexibility and scalability for deploying systems with variable node architectures and traffic profiles. This powerful platform provides a high-speed, modular architecture with a backplane capacity of more than 1 Gbps.

The heart of the system is the Cable Access Router Card Set, which offers feature-rich routing from the Internet or an intranet backbone data network to the RF network. The card set works with the Total Control QAM modulator to provide RF output in one 6 MHz cable data channel. Dual-mode (64/256) QAM modulation enables downstream data rates up to 38 Mbps, and a 10/100BASE-T Ethernet port provides a standard interface to the local network.

With a decoupled design, the system can be configured with any combination of upstream and downstream cards in its 16 available slots. For high-performance functionality, the RF-return Upstream Receiver Card (URC) provides DOCSIS compliant QPSK/16-QAM demodulation. This card features fast burst acquisition and supports variable symbol rates. Upstream channel monitoring and automatic migration allow consistent upstream bandwidth performance.

Customized Scalability

Configure the 3Com CMTS to meet the exact requirements of the cable plant, with multiple card combinations. Integrate dial-up access capability with the HiPer™ Access System. Add an Edgeserver™ card to provide integrated Windows NT-based DHCP and/or RADIUS servers, local content servers or distributed network management function within the chassis.

Combined Cable-return and Telephony-return

3Com Total Control CMTS easily accommodates mixed plant situations and plant upgrades from telephony- to cable-return. Both telephony-return

modems and cable-return upstream cards can be installed and configured to run on a single CMTS chassis — providing maximum flexibility in services offered to home, office and roaming customers. Also, available is the 3Com HomeConnect cable modem TMI. These internal modems are PCI - bus driven cable modems, which are a low-cost solution for PCs and set-top boxes.

Network Management Made Easy

Reliable cable Internet services require proactive management and monitoring of the service delivery infrastructure. 3Com CMTS represents a common convergence point for all data traffic on your network. Its features allow field managers to easily retrieve and assess management information base (MIB) data from cable modems and the CMTS for a detailed view of the service environment.

Extensive network management support is built into the CMTS, along with a full complement of SNMP MIBs, including MIB II, DOCSIS RFI, and DOCSIS TRI MIBs. The system can be managed locally or through a remote RF/dial-up connection to meet your operational requirements.

Built on a Strong Foundation

The CMTS is based upon the 3Com Total Control platform, a powerful data communications platform. Able to support a broad range of applications, the hub offers exceptional features such as:

- Backplane-connected power supplies for increased reliability
- Integrated fan unit with removable tray and modules for improved cooling efficiency
- Most cabling from rear of the chassis
- Multiple power supply options, including AC and DC models
- Complete compatibility with existing Total Control NAC and NIC modules

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CMTS

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Total Quality

Designed for the most demanding around-the-clock applications, the 3Com® Total Control™ platform features components with an MTBF in excess of 75,000 hours and an average platform uptime in excess of 99.98% based upon Total Control installations worldwide.

A Hot-swappable Solution

The platform also has an exceptionally low Mean Time to Repair (MTTR) due to its hot swappable architecture.

Cable Management System (CMS)

An SNMP application with a Windows-based interface, the Cable Management System facilitates the set-up and management of a Cable Access Router Card Set. It offers administrators full SNMP management as well as performance monitoring, software download capability and configuration management.

Specifications**RF Specifications**

- Modulation: 64 QAM/256 QAM
- DeModulation: QPSK/16QAM
- Transport Encoding: MPEG
- FEC: ITU J.83 Annex B (Reed-Solomon, with variable interleaver per DOCSIS-RFI)
- Output Frequency: 36.150 or 44.000 MHz
- Output Level: 22.0 to 42.0 dBmV
- Downstream Channel Bandwidth: 6 MHz
- Output Impedance: 75 ohms
- Return Frequency Range: 5 to 65 MHz

Dimensions**Chassis/Cabinet:**

- Length: 46.9 cm (18.5 in)/49.7 cm (19.6 in)
- Width: 50.5 cm (19.9 in)/49.5 cm (19.5 in)
- Height: 17.7 cm (7.0 in)/22.3 cm (8.8 in)

Chassis Capacity

- 16 application/interface cards
- 1 network management card
- 2 power supply cards

Power Supply

- 325 watts, load sharing
- Fully redundant
- 110/220 VAC or 48 VDC
- AC/DC protection

Standards Compliance

- FCC Approved (Part 15 Class A, EMI/RFI)
- UL listed
- CSA approved

Warranty

- One-year limited warranty
- Full range of services including toll-free technical phone support, product specification assistance, installation services, educational training programs, electronic information services and a variety of repair and service options

See product guides or www.3com.com for more information.

Most repairs can be performed in less than two minutes by simply exchanging cards while the power is on—no need to disrupt service. All CMTS cards are hot swappable. What's more, the Total Control Manager will automatically re-configure a card upon insertion to its assigned configuration.

It all adds up to a highly reliable, flexible solution you can depend on to help build your cable business.

It's easy to configure and monitor 3Com cable modems with the CMS, an SNMP application. Designed with an intuitive graphical interface, the CMS features RF-performance monitoring capabilities such as S/N trends and equalizer status. This remote diagnostic tool assists in effective, proactive issue identification and resolution.

Model Numbers/Part Numbers**8R-002657-xx CMTS Telephony-Return Starter Hub**

Complete system to serve one downstream DOCSIS cable channel.

8R-003678-xx CMTS Cable-Return Hub

Complete system to serve one downstream DOCSIS cable channel and two cable-return upstream channels.

8R-003324-xx CMTS Telco Return Hub

DOCSIS Downstream Card Set with 48 dial ports and an additional HiPer Access Router Card Set.

8R-002658-xx Additional Downstream Channel Capacity

Adds one extra channel to Cable Hub; includes Cable Access Router Card Set and Modulator

8R-002970-xx Additional Upstream Channel Capacity

Adds two extra upstream receiver channels to the Cable Hub

3C08-8440-xx Cable Management System for Windows NT/95/98**3CR08-8810-xx CR500 2-Way CMTS Hub**

Starter bundle with initial support for 500 cable modem users.

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