



C2200
DOCSIS 3.0 CMTS

Casa Systems C2200 Series

Casa Systems manufactures the industry's only DOCSIS 3.0 Cable Modem Termination Systems (CMTSs) that have earned full gold-level DOCSIS 3.0 specification from Cable-Labs and comply with the full DOCSIS 3.0 feature set.

The C2200 - DOCSIS 3.0 CMTS is a cost-effective solution for handling high-bandwidth applications that today's subscribers demand and is also EuroDOCSIS 2.0 qualified.



casa systems

Casa Systems C2200 CMTS



Feature Highlights

Full DOCSIS 3.0 Qualified
Multi-channel DRFI RF for Annex A, B, & C, downstream channel bonding up to 16 channels, upstream channel bonding up to 16 channels, AES encryption/decryption, multicast QoS, bonded channel multicast, full DOCSIS 3.0 MIBs, and IPDR

Separate Downstream and Upstream Modules

Unlike traditional CMTSs with fixed downstream to upstream ratios, Casa's CMTS has separate downstream modules and upstream modules that provide flexible downstream to upstream ratios

Cost Effectiveness

The lowest cost per DOCSIS channel in the industry. The only economical solution for high bandwidth multimedia IP applications

Flexible Configurations

Offering the highest channel density in the industry, ranging from 4DSx4US up to a 32DSx32US in a symmetrical configuration

Overview

The Casa Systems C2200 is a compact, 1 RU DOCSIS 3.0 Cable Modem Termination System (CMTS). As a third generation CMTS, the C2200 has several unique capabilities in addition to its complete DOCSIS 3.0 features.

The C2200 supports complete separation of downstream channel capacity from upstream channel capacity in a single physical chassis providing a flexible downstream to upstream channel ratio. This flexibility allows cable operators to add downstream channels and upstream channels completely independently within the same chassis allowing them to address specific end user requirements. For example, business users typically require a symmetrical downstream to upstream traffic ratio while residential users require a more asymmetric ratio. For IPTV or video-over-IP applications, significantly more downstream traffic is required than the upstream traffic.

The C2200 has significantly higher channel density than second generation CMTSs. The extremely high downstream channel density makes it economical to provide video-over-IP service today.

In addition to channel density, the C2200 goes beyond the DOCSIS 3.0 specification by delivering dynamic channel bonding capability in both the downstream (up to 16) and the upstream (up to 16) directions.

The C2200 provides an unprecedented opportunity for cable operators to cost-effectively provision high-bandwidth IP services such as IPTV, interactive gaming, traditional broadband access and Voice over IP (VoIP) services.

Modular and Flexible Architecture

The C2200 CMTS comes in a compact 1RU chassis and consists of a base system with a built-in L2/L3 switch, 4 GbE (SFP) ports, and four slots for DOCSIS interface modules (downstream modules or upstream modules).

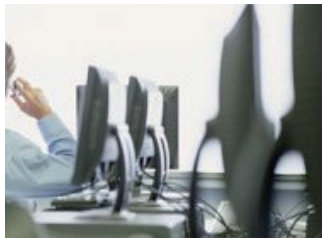
Any combination of downstream modules and upstream modules are supported by the platform. This enables flexible downstream to upstream channel ratios. The DOCSIS QAM Module (DQM) is a complete DOCSIS downstream unit that includes DOCSIS packet processing, QoS, DOCSIS downstream MAC, PHY, and RF up-conversion.

Rich Operational Features

The C2200 supports industry standard Command Line Interface (CLI) and SNMP for configuration and management. Some of the operational features supported are; static and dynamic load balancing for single or bonded channels, extensive show cable modem commands, spectral management, system resource reporting, and user privilege management

Acting as a Layer 3 routing device, the C2200 supports static as well as dynamic routing protocols such as BGP, RIP, OSPF, IS-IS, and PIM-IM.

Casa Systems C2200 CMTS



Best Multi-channel RF Performance
Exceeds DOCSIS DRFI specification

Extended Frequency Range
Downstream frequency range up to 1GHz (48~1002MHz)

DOCSIS 1.1 and 2.0 Features
Complete DOCSIS/EuroDOCSIS 1.1, 2.0, and 3.0 feature sets; PacketCable and PCMM support, L2VPN, and DSG

Rich Operational Features
Some of these features include; static and dynamic load balancing, show cable modem, flap list, spectral management and IP bundling

System

- 8x2 Gbps switching capacity
- Four DOCSIS interface slots per system
- 1~3 Downstream modules per system
- 1~3 Upstream modules per system

DOCSIS Features

- Full DOCSIS 3.0 qualified (May 2008)
- Full Euro-DOCSIS 3.0 compliant
- DOCSIS 3.0 downstream channel bonding up to 16 channels
- DOCSIS 3.0 upstream channel bonding up to 16 channels
- DOCSIS 3.0 AES encryption/decryption
- DOCSIS 3.0 Multicast
- Complete DOCSIS/EuroDOCSIS 1.1 features
- DOCSIS/EuroDOCSIS A-TDMA (standard)
- DOCSIS/EuroDOCSIS S-CDMA (optional)
- PacketCable 1.5 compliant
- PacketCable MultiMedia (PCMM) 1.0
- DSG
- L2VPN

IP Features

- OSPFv2
- IS-IS
- RIPv2
- BGP (IPv4 & IPv6)
- PIM-SM
- IGMP snooping
- IGMP v2 and v3
- Static IP routing
- DHCP Relay and option 82
- DHCPv6
- DHCP prefix delegation
- Multiple DHCP servers
- Proxy ARP
- IP subnet bundling
- Multiple default routes
- Access Control Lists
- L2VPN VLAN tagging

Management

- RS232 Serial port (DB9)
- 10/100BASE-T management port
- Command line interface (CLI)
- Telnet and SSH
- SNMPv1, v2, and v3
- Standard DOCSIS and IETF MIBs
- Casa Systems Enterprise MIBs
- IPDR
- Event logging through syslog
- Resource usage reporting
- TACACS+ and RADIUS

Additional Features

- Dynamic upstream and downstream load balancing
- Spectrum management
- Software defined MAC domains
- Software channel licensing
- Ingress cancellation filtering

GigE Interfaces

- 10/100/1000 Mbps
- 4-port copper or fiber SFP
- CWDM
- Full line-rate support

DOCSIS QAM Module (DQM)

Number of ports	4 ports per module
DQM04	4 channels, 1 pp
DQM08	8 channels, 2 pp
DQM16	16 channels, 4 pp
QAM modulation	Annex A, B or C
QAM constellations	64, 128, & 256QAM
Data rates (DOCSIS)	27 Mbps @ 64 QAM 38 Mbps @ 256 QAM
Data rates (EuroDOCSIS)	36 Mbps @ 64 QAM 51 Mbps @ 256 QAM
Connector	F-type, 75 Ω
Frequency range	48 to 1002 MHz
Frequency accuracy	+/- 5 ppm

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Frequency step size	5 kHz
Channel width	6 to 8 MHz (tunable)
Maximum output power per channel	61 dBmV @ 1-ch/port 57 dBmV @ 2-ch/port 53 dBmV @ 4-ch/port
Output step size	0.1 dB
Return loss	50 ~ 870 MHz, 14 dB 870 ~ 1002 MHz, 10 dB
Modulation error rate	43 dB (equalized)
Wideband noise	-73 dBc

DOCSIS Control and Upstream Module (DCU)

DCU04	4 channels in 4 ports
DCU08	8 channels in 8 ports
DCU16	6 channels in 8 ports
Modulation	QPSK, 8, 16, 32 & 64 QAM
Data rate/channel	0.32 – 30.72 Mbps
Input frequency	5 – 42 MHz (DOCSIS) 5 – 65 MHz (EuroDOCSIS) 5 – 55 MHz (J-DOCSIS)
Connector	F-type, 75 Ω
Input range	-4 to 26 dBmV

Mechanical

Form Factor	1RU
Height	1.75 in. / 44.45 mm
Width	19 in. / 482.6 mm
Depth	23.5 in. / 597 mm
Weight	30 lbs / 13.62 kg
Mounting	19 inch, 1 rack unit high
Front Panel LED	Power, alarm & I/O status

Environmental

Operating temperature	0° to 50°C
Storage temperature	-40° to 70°C
Operating humidity	5% to 95%, non-cond.
Power supply:	
AC operating range	90 to 264 V
(Option) DC	-36 to -60 V (redundant)
Power consumption	< 400 W (nominal)

Regulatory Compliance

Safety: UL/IEC/CSA 60950-1
EMC: FCC Part 15 Class A & CISPR Class A
Immunity: EN61000-4



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