

Feature Highlights

DOCSIS 3.0 Compliant
Multi-channel DRFI RF for Annex A, B & C, downstream channel bonding up to 8 channels, upstream channel bonding up to 8 channels, AES encryption/decryption, multicast QoS, bonded channel multicast, full DOCSIS 3.0 MIBs and IPDR

Extremely Compact
38.1 cm x 22.2cm x 1RU
(15 in x 8.75 in x 1.75 in)

Cost Effectiveness
Industries lowest cost per DOCSIS 3.0 channel for this class of product, delivering an economical solution for high bandwidth multimedia applications

Easily Upgraded
Add channels remotely by adding SW license keys

Best Multi-Channel RF Performance
Exceeds DOCSIS DRFI specification

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



Overview

The Casa Systems C1G Cable Modem Termination System (CMTS) is a new class of cable edge device that implements all of the DOCSIS 3.0 features enabling service providers to cost effectively offer highly scalable broadband services such as IPTV, video-over-IP, interactive gaming, as well as traditional broadband access and VoIP services.

Due to its extremely compact size (15 in x 8.75 in x 1RU), the C1G can be easily deployed in locations such as Multi-Dwelling Units (MDU), hotels and motels (hospitality), and small hubs.

The C1G supports 1 downstream QAM port, 2 DOCSIS upstream ports and 2 GbE (SFP) network ports. Configurations for the C1G range from 2DS x 2US up to 8DS x 8US. Additional features supported include upstream and downstream channel bonding, AES encryption/decryption, Quality of Service (QoS) and a rich IP feature set.

The C1G's revolutionary compact size and cost per bit of DOCSIS bandwidth provides an unprecedented opportunity for service providers to cost-effectively provision highly scalable broadband services to locations that were thought to be cost ineffective.

Casa Systems C1G CMTS



DOCSIS 1.1 & 2.0 Features
Complete DOCSIS/EuroDOCSIS 1.1 & 2.0 feature sets, PacketCable & PCMM support, L2VPN & DSG

Rich Operational Features
Rich operational features such as show cable modem, flap list, spectral management and IP bundling ready for deployment

Compact Architecture

The C1G CMTS comes in a compact 38.1cm x 22.2cm x 1RU (15 in x 8.75 in x 1RU) chassis that provides operators the maximum flexibility in deploying cost-effective solutions. The C1G is a complete CMTS solution with 1 downstream QAM port, 2 DOCSIS upstream ports and 2 GbE (SFP) network ports.

The C1G can scale from a 2DS x 2US to an 8DS x 8US configuration as your subscriber base grows. Channels can be added remotely by simply activating license keys.

In the downstream direction for Annex A, the C1G provides from 100 Mbps to 400 Mbps of bandwidth.

When using Annex B, the C1G delivers from 80 Mbps to 320 Mbps of bandwidth in the downstream direction. On the upstream link, the C1G supports up to 2 logical channels per physical channel.

Rich Operational Features

The C1G supports industry standard Command Line Interface (CLI) and SNMP for configuration and management. Operational features such as show cable modem, spectral management, CPU and memory resource reporting and user privilege management are available. It also comes with factory-installed basic configuration to bring up GigE ports and CLI on boot-up.

The C1G functions as a Layer 3 routing device. It supports static as well as dynamic routing protocols. For route redundancy, multiple default routes can be configured. Layer 2 bridging, VLAN, RIP, BGP, OSPF, IS-IS, PIM-SM and L2VPNs are supported.

Extensive IP features such as DHCP Relay and option 82, multiple DHCP servers, proxy ARP, IGMP snooping, IGMP v2 and v3 are available.

Applications

The C1G enables the delivery of DOCSIS-based IP applications, such as broadband access, VoIP, IPTV and video-over-IP to the MDU, hospitality and rural markets.

Casa Systems C1G CMTS



System

- 2x1 Gbps network interfaces
- 1 downstream interface per system
- 2 upstream interfaces per system

DOCSIS Features

- Full DOCSIS 3.0 compliant
- Full EuroDOCSIS 3.0 compliant
- DOCSIS 3.0 downstream channel bonding from 2 to 8 channels
- DOCSIS 3.0 upstream channel bonding from 2 to 8 channels
- DOCSIS 3.0 AES encryption/decryption
- DOCSIS 3.0 Multicast
- Complete DOCSIS/EuroDOCSIS 1.1 features
- DOCSIS/EuroDOCSIS 2.0 A-TDMA
- PacketCable 1.5 compliant
- PacketCable MultiMedia
- DSG
- L2VPN

IP Features

- DHCP Relay & option 82
- Multiple DHCP servers
- Proxy ARP
- IP subnet bundling
- Static IP routing
- Multiple default routes
- IGMP snooping
- IGMP v2 & v3
- Access control list
- RIPv2, OSPFv2
- PIM-SM
- L2VPN VLAN tagging

GigE Interfaces

- Dual SFP fiber/copper 1GigE
- CWDM
- Full line-rate support

Management

- RS232 Serial port (RJ45)
- Command line interface (CLI)
- Telnet & SSH
- SNMPv1, v2 & v3
- Standard DOCSIS & IETF MIBs
- IPDR
- Casa Systems Enterprise MIBs
- Event logging through syslog
- Electronic mail notification
- Resource usage reporting
- TACACS+ & RADIUS

DOCSIS QAM Interface

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|----------------------------------|---|
| Number of ports | 1 port per system |
| Number of channels | 2-8 channels per port |
| QAM modulation | Annex A, B or C |
| QAM constellations | 64, 128 & 256 QAM |
| 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 (center) | 48 to 999 MHz (standard) |
| Frequency accuracy | +/- 5 ppm |
| 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 |

Casa Systems C1G CMTS



Additional Features

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

DOCSIS Upstream Interface

Number of ports	2 ports per system
Number of channels	1-4 channels per port
Logical channels	2 logical per physical channel
Modulation	QPSK, 8, 16, 32 & 64 QAM
Data rate per channel	0.32 - 30.72 Mbps
Input frequency range	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. / 4.4 cm
Width	8.75 in. / 22.2 cm
Depth	15 in. / 38.1 cm
Weight	6 lbs / 2.72 kg
Mounting	19 in., 1 rack unit high
Front Panel LED	Power, alarm

Environmental

Operating Temperature	0° to 50° C
Storage Temperature	-40° to 70° C
Operating Humidity	5% to 95%, non-cond.
Power Supply	90 to 264 VAC
AC operating range	(Dual external)
Power consumption	< 80 W (max)

Regulatory Compliance

Safety: UL/CSA/EN60950-1
EMC: FCC Part 15, Subpart B
EN55022
EN55024

