DATA SHEET

Converged Cable Access Platform (CCAP)

C100G

FEATURES

- Proven True CCAP: DOCSIS® PHY and MAC, Edge QAM video, routing and MPLS, and subscriber and traffic management control in one chassis. Delivers video and data over a single port in commercial deployments
- Full Spectrum DOCSIS 3.1 Support: Full 192 MHz OFDM/96 MHz OFDMA spectrum block support with existing hardware
- Future proof: Full support for DOCSIS 3.0, DOCSIS 3.1, and DOCSIS 3.1*E*
- Scalability: Full 1.2 GHz spectrum support per service group; High-split capable line cards
- Reliability: 99.999% availability, full redundancy
- Density: 13RU, 14 slot chassis
- Low Power Consumption: 3.6 kW per fully loaded chassis

Winning and keeping residential and enterprise video and Internet services customers has never been tougher. Service providers face a range of competition in a business that requires rapid response but is still capital intensive. They need partners who are fast enough to get them ahead of their competition and committed to keeping them there, which is why more and more, leading providers depend on CommScope.

CommScope has consistently designed today's products with tomorrow in mind and has proven to be the most reliable partner in the industry in delivering high-performance solutions at each technology shift in cable access networks. Designed from the beginning to deliver gigabit+ services from a true CCAP platform, the CommScope® C100G enables a smooth transition from DOCSIS® 3.0 to 3.1 and 3.1*E*.

The CommScope C100G was selected as the cable industry's best new product in its debut year, 2013*. Since its launch, the C100G has achieved a remarkable number of firsts:

- First and only CCAP to attain full DOCSIS 3.0 certification.
- First and only CCAP that has proven the service convergence envisioned by the industry in the CCAP standard, delivering converged video and data to millions of subscribers.
- First CCAP to support full DOCSIS 3.1 spectrum in 2015—supports full 192 MHz OFDM and 96 MHz OFDMA with no field upgrades and no new hardware required.

Service providers who choose the C100G obtain competitive advantages today, including the ability to deliver faster high-speed data rates, lower OPEX, and improve subscriber Quality of Experience. More importantly, the C100G delivers strategic benefits for the long term—including lower lifetime TCO, and investment protection as networks evolve.

Deployed by some of the world's leading service providers, the C100G is a proven platform for current and future CCAP capabilities.

* The C100G was awarded "Best New Cable Product of the Year" in 2013 by Light Reading's Leading Lights, "Best Cable and Video Architecture" and "Best in Show - Green Installation" in 2015 by Fierce Innovation.

FEATURES AND BENEFITS

Density and Scalability	
13RU, 14 slot chassis (12 subscriber slots, 2 management modules)	Industry leading density in a small footprint, proven to reduce OPEX significantly over legacy Solutions.
Downstream (DS) Capacity	Available today with DOCSIS 3.1, full 1.2 GHz spectrum support. DOCSIS 3.1*E* support being added with up to four (4) OFDM blocks along with multiple SC-QAM channels per port.
Upstream (US) Capacity	Available today with DOCSIS 3.1. Up to two (2) 96 MHz upstream OFDMA blocks along with multiple ATDMA channels per port.
1+ Terabit Backplane	End user speeds can be constrained at various points. Adequate bandwidth between the switch card and line card assures higher throughput.
Affordability	
Low Power Consumption	Reduce costs and energy consumption with a fully loaded 13RU chassis that consumes < 4.0 kW.
Reliability	
Product Reliability	99.999% availability and hitless failover assure services are consistently delivered to subscribers.
Vendor Reliability	CommScope's track record proves a reliable history of bringing new technologies to market first, at each generational shift. Our winning design, vision of the future, freedom from reliance on third-party silicon providers, and passion to be first with the best solution all create value for our customers. Service providers who want faster time to revenue, lower lifetime TCO, and gigabit+ speeds today choose CommScope.
Road to the Future	
Investment Protection	Future engineered design enables transition to DOCSIS 3.1 and DOCSIS 3.1*E* with no new hardware required. Service providers' investments in the C100G are protected as networks evolve toward a more distributed future.
Clear Roadmap	CommScope's roadmap from today's C100G capabilities through DOCSIS 3.1*E* is clearly defined and takes advantage of a winning design that keeps our customers ahead of their competitors.

SPECIFICATIONS

Characteristics	Specification
System	
	2x600 Gbps switching capacity MPEG switching from any port to any port 12 slots per system for line cards plus 2 switch and management modules supported
Management	
	RS232 serial port (RJ45) 10/100BASE-T management port Command line interface (CLI) Telnet SSH SNMPv1, v2 & v3 Standard DOCSIS & IETF MIBs IPDR MIBs Event logging through Syslog Electronic mail notification Resource usage reporting TACACS+ and RADIUS Electronic mail notification Resource usage reporting TACACS+ and RADIUS
DOCSIS Features	
	Full DOCSIS 3.0, DOCSIS 3.1, DOCSIS 3.1*E* compliance and channel bonding Full EuroDOCSIS 3.0 compliance DOCSIS 3.0 upstream channel bonding up to 8 Channels DOCSIS 3.0 AES encryption/decryption DOCSIS 3.0 IPv6 DOCSIS 3.0 Multicast Complete DOCSIS/EuroDOCSIS 1.1 features DOCSIS/EuroDOCSIS 2.0 A-TDMA (standard) PacketCable 2.0 compliant PacketCable MultiMedia (PCMM) I06 DSG BSoD L2VPN TaFDM
IP Features	
	OSPF v2 and OSPF v3 IS-IS (IPv4 & IPv6) RIPv2 and RIPng 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 L2 MPLS L3 MPLS L2VPN VLAN Tagging IPFIX
Video Features	
	Table based VOD SDV session-based VOD Linear Broadcast VOD encryption: PME, PKE, DVB Simulcrypt Broadcast encryption: DVB Simulcrypt

SPECIFICATIONS

Characteristics	Specification
DOCSIS Downstream Modules	
	The C100G can be flexibly equipped with any of the following downstream modules.
DS8x192	Delivers DOCSIS 3.1 and 3.1*E* modem capabilities of up to 3 OFDM (192 MHz) channels per port along with multiple SC-QAM channels
BDM2M	Bidirectional, high-split capable module that delivers DOCSIS 3.1 and 3.1*E* modem capabilities of up to 4 OFDM (192 MHz) channels per port along with multiple SC-QAM channels. In addition, 2 OFDMA channels plus 6 ATDMA channels per US port are supported.
	Please refer to the respective Data Sheets for each of the above modules for details regarding QAM modulations, QAM constellations, Data Rates, Frequency Ranges, Channel Widths, and other technical specifications.
DOCSIS Upstream Modules	
	The C100G can be flexibly equipped with any of the following upstream modules.
US16x8	8 ATDMA per port (DOCSIS 3.0) 1 OFDMA (96 MHz) + 4 ATDMA per port
BDM2M	See above
	Please refer to the respective Data Sheets for each of the above modules for details regarding QAM modulations, QAM constellations, Data Rates, Frequency Ranges, Channel Widths, and other technical specifications.
Switch and Management Modules (SMM)	
SMM300GM	Two 100GE interfaces (QSFP28) Ten 10GE interfaces (SFP+) SyncE and 1588 Precision Timing GigE copper or fiber SFP Full line-rate support
	Please refer to the respective Data Sheets for each of the above modules for details.
RF I/O Downstream Module (RFD)	
Number of Ports	8 per DS8X192 module; 6 per BDM2M module
Connector	F-type, 75 Ω (DS8X192); MCX (BDM2M)
RF I/O Upstream Module (RFU)	
Number of ports	16 ports per US16X8 module; 12 per BDM2M module
Connector	16 port F-type, 75 Ω (US16X8 module) 12 port MCX (BDM2M module)
Additional Features	
	Dynamic upstream and downstream load balancing Spectrum Management Software-defined MAC domains Software channel licensing Ingress cancellation filtering

Characteristics	Specification
Mechanical	
Form Factor	13RU
Height	22.75 in. (578 mm)
Width	19 in. (482 mm)
Depth	16 in. (406 mm)
Weight	120 lbs (54.4 kg) (fully loaded)
Mounting	19 inch, 13 rack unit high
Front Panel LED	Power and alarm
Environmental	
Operating Temperature	0° to 50°C
Storage Temperature	-40° to 70°C
Operating Humidity	5% to 95%, non-condensing
Power Requirements (DC)	-40.5 to -60 V (dual)
Power Consumption	< 4000 W (nominal)
Regulatory Compliance	
	Designed to NEBS level 3 requirements Safety: EN/UL/IEC/CAN/CSA/C22.2 60950-1 EMC: FCC Part 15 Class A & CISPR Class A Immunity: EN61000-4

ORDERING INFORMATION

Model Name	Description
C100G-CHASSIS	C100G Chassis for DC Power
BDM6-12-RD11-KIT2	Redundancy Kit for BDM2/BDM2M chassis
BDM2M-W	204 MHz-capable Bi-Directional module (BDM2m) - Open
BDM2M-N	204 MHz-capable Bi-Directional module (BDM2m) - No Licenses
BDM6-12-IO2	BDM2/2M IO card 204 MHz-capable, supporting 6 DS and 12 US ports
SMM-300-GM	SMM300Gm w/10x10G Ports + 2x100G Ports
DS-LC-1D	License for one 3.0 DS channel
US-LC-1A	License for one D3.0 ATDMA US channel
DS-LC-1B	License for adding 1 Broadcast QAM channel (replicated on whole Module)
DS-LC-1E	VOD License for 1 D3.0 DS Channel
DS-LC-1C	VOD Encryption License for 1 D3.0 DS Channel
DS-LC-1W	License for 1 MHz Downstream OFDM D3.1
US-LC-1W	License for 1 MHz Upstream OFDMA D3.1
DS-LC-1D-CONV-8W	Convert 1 downstream D3.0 channel to 8 MHz of OFDM spectrum
DS-LC-1D-CONV-6W	Convert 1 downstream D3.0 channel to 6 MHz of OFDM spectrum
US-LC-1A-CONV-6.4W	Convert 1 upstream DOCSIS 3.0 ATDMA channel to 6.4 MHz of OFDMA spectrum
CXG-LC-SG	C40G and C100G, per SG License for DOCSIS 3.1
CXG-LC-SG-D3.1E	C40G and C100G License for > 2 OFDM Channel Bonding for a D3.1 Serving Group

Contact CommScope for the full list.

RELATED PRODUCTS

C40G Converged Cable Access Platform (CCAP)	E6000® Converged Edge Router (CER)

Contact Customer Care for product information and sales:

- United States: 888-944-4357
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Note: Specifications are subject to change without notice.

C100G_DS_RevA