

COMMSCOPE E6000

CONVERGED EDGE ROUTER (CER)

The E6000 Converged Edge Router (CER) is a next-generation CCAP-ready platform that provides cable operators unprecedented advances in channel density, power efficiency, and cost savings in a redundant, integrated architecture designed from the ground up for high availability. The E6000 CER software is based on that of the C4 CMTS, meaning that the E6000 benefits from over ten years of refinements in stability, hitless failover, and performance at high scale.



- MPLS L2 VPN
- MPLS L3 VPN
- Hitless Bonded Modem Load Balancing via Dynamic Bonding Change (DBC)
- Hitless Bonded Modem Movement via DBC initiated by CLI
- Intelligent TCS Assignment/Balancing
- Intelligent RCS Assignment/Balancing Control
- Upstream Channel Bonding with up to 8 Channels in the Bonding Group
- Five to 85 MHz Upstream Support
- Ability to Assign Upstream Channels Across Connector Groups
- IPv6 Extended ACLs
- IPv4 /31 Subnet Support on NSI
- IPv6 /127 Prefix Support on NSI
- Lawful Intercept with Replication up to three Mediation Devices (MDs)
- TCS Reduction Enhancement
- Flap List Insertions
- Partial Service Enhancement
- SAI/TAI Support for MPLS L2 VPN
- ARP/ND Reduction

FEATURES

RF DOWNSTREAM	
Frequency Range (MHz) Gen 1 DCAM	57 to 999 (DOCSIS 3.0) 90 to 1002 (EuroDOCSIS 3.0)
Frequency Range (MHz) DCAM 2	108 to 1218
RF Output Level (dBmV)	25 to 60 (SC-QAMs)
Typical Modulation Error Ratio (MER) (dB)	47
Modulation (QAM)	64, 256, DOCSIS 3.1
Data Rate (Mbps) (Max.)	30.34 to 55.62 per channel (SC-QAMs)
Output (load) impedance (Ohms)	75
PHYSICAL	
Power (Gen 1)	-48 VDC (40 to 72 VDC)
Power (Gen 2)	-48 VDC (44 to 72 VDC)
Power Consumption (full fill Gen 1 system)	3,800 W nominal at 48 VDC, 77 F (25 C)
Power Consumption (full fill Gen 2 system)	5,800 W nominal at 48 VDC, 77 F (25 C)
Operating Temperature: Short Term F (°C)	+23 to +131 (5 to +50)
Long Term F (°C)	+41 to +104 (+5 to +40)
Storage Temperature F (°C)	-40 to +158 (40 to +70)
Operating Humidity (Min. Max.)	5 to 85% (Non condensing)
Dimensions (H x W x D) in. (cm)	28 x 17.4 x 32.5 (72.0 x 44.2 x 82.6)
Weight lbs. (kg) (full fill system)	Approx. 235 (107)

RF UPSTREAM	
Frequency Range (MHz)	5 to 85 (UCAM) 5 to 204 (UCAM 2)
SC-QAM Modulation	QPSK, 16 QAM, 32 QAM, 64 QAM
Channel Type	OFDMA (UCAM 2), TDMA, ATDMA, TDMA/ATDMA
Data Rate (Mbps) (Max.)	30.72 per channel (ATDMA)
RF Input Level (dBmV)	-16 to +29
Frequency Resolution (kHz)	< 1
Symbol Rate (Ksym/sec)	1280, 2560, 5120
Bandwidth per SC QAM (MHz)	1.6, 3.2, 6.4
MANAGEMENT AND NSI INTERFACES	
Management Interfaces (Gen 1)	10/100/1000 Mbps Ethernet (RJ-45) plus Console (serial port, RJ45)
Management Interfaces (Gen 2)	100/1000 Mbps Ethernet (RJ 45) plus Console (serial port, RJ45)
Network-side Interfaces (Gen 1)	10 Gigabit Ethernet (SFP+) auto baud, eight per card
Network side Interfaces (Gen 2)	100 Gigabit Ethernet (QSFP-28), three per slot; 10 Gigabit Ethernet (SFP+), ten per slot
MANAGEMENT ACCESS	
In band Management with Access Control Lists via any NSI port	
Out of Band Management via dedicated Ethernet port on RPIC and RPIC-2Q	
Console (serial) port on RPIC and RPIC-2Q	

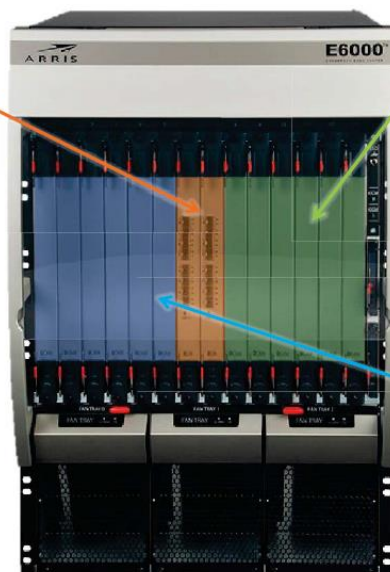
Available Modules:

- Downstream Cable Access Module 1 (DCAM-1)
- Upstream Cable Access Module 1 (UCAM-1)
- Downstream Cable Access Module 2 (DCAM-2)
- Upstream Cable Access Module 2 (UCAM-2)
- Router System Module 2 (RSM-2)
- 10G EPON Fiber Module (EPFM)
- E6000n Remote PHY Device (RPD)

E6000 CER FRONT

Router System Module (RSM-2)

- Network-side interfaces off the front
- Packet switching for all CER traffic
- System control of chassis and user interfaces
- 1:1 redundancy for high availability
- 3 Hundred-Gigabit ports (QSFP) and 10 Ten-Gigabit Ethernet ports (SFP+)



Downstream CAM (DCAM-2)

- 16 DS-SG
- Full spectrum per SG (5x 192MHz) (48 QAMs and 192 MHz OFDM per MCX in R5.0 SW)
- Hitless sparing up to 7+1
- RF output spans from 108 MHz to 1.2 GHz

Upstream CAM (UCAM-2)

- 24 US-SG
- 12 QAM and 2 OFDMA receivers per SG (licensed from min. of 48)
- Each receiver capable of 5-204 MHz operation (5-85 MHz in R5.0)
- Hitless sparing up to 6+1 (5+1 in R5.0 software)

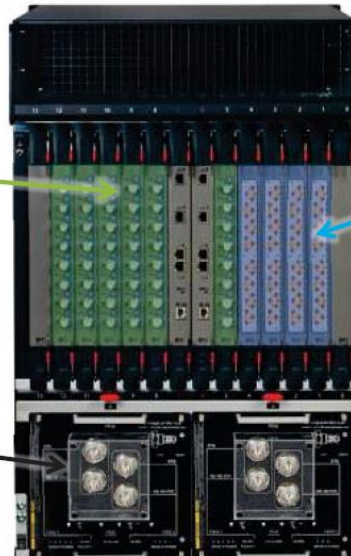
E6000 CER BACK

DCAM-2 Physical Interface Card (PIC)

- 16 MCX-connectors per DCAM (in rear)
- Spare in highest numbered slot

Power Entry Modules (PEMs)

- Two -48V DC feeds per PEM
- Hitless failover between PEMs



UCAM-2 Physical Interface Card PIC

- 24 MCX-Connectors per UCAM (in rear)
- Spare in lowest numbered slot