Application
A CableLabs® DOCSIS® 2.0 Qualified Cable Modem Termination System (CMTS) delivering superior performance for up to 3000 registered cable modems while occupying only one rack unit (1RU) of space (1.75 in) in a cable operator’s head-end facility. This small size allows operators to successfully deploy next generation IP services in both new and existing cable networks in any size market worldwide.

Architectural Overview
The system utilizes a dual RISC processor architecture for supporting high traffic volume with excellent latency control and ample reserve processing resources. Transmit and receive capacity is scalable with a single system supporting one downstream RF channel and up to six upstream RF channels. The two network interfaces support 10/100/1000 BaseT Ethernet.

Flexible Upstream Channel Configurations
With two, four or six physical upstream channels available for the Cadant C3 CMTS, an operator can tailor the number of upstreams in the system to match the anticipated traffic conditions and node sizes in the network. The optimal number of upstreams can be chosen to balance both cost and service growth potential in a given deployment area.

Advanced RF Performance
The Cadant C3 CMTS includes a fully digital receiver supporting TDMA, ATDMA and SCDMA. This allows operators to utilize parts of the upstream below 20 MHz that were previously unusable due to noise conditions. The added benefit is that existing legacy DOCSIS or Euro-DOCSIS 1.x cable modems can operate in 16 QAM mode or use wider channels on existing HFC cable plant.

Operator Selectable Layer 2 or Layer 3 Forwarding
Networks implementing Layer 2 bridging technology can take advantage of the Cadant C3 CMTS’s Layer 2 mode of operation. Additionally the Cadant C3 CMTS offers static routing and an optional choice of RIPv2 or OSPFv2 Layer 3 routing protocols. With the option of up to 64 sub-interfaces per physical interface, operators have the flexibility to provision individual Layer 3 routing protocols or Layer 2 bridging on a per sub-interface basis.

Virtual LAN (VLAN) Service
The Cadant C3 CMTS enables end-to-end VLANs for advanced data applications such as business class services or multiple ISP support. The 802.1Q VLAN protocol stack ensures seamless integration into existing 802.1Q VLAN-based networks. VLANs can be provisioned between the Cadant C3 CMTS and the modems without running client-based software. Optional downstream broadcast privacy allows each VLAN to operate as a secure and private network for VPN-like service.

DS1 Commercial Service
The Cadant C3 CMTS when used with third party devices provides a DOCSIS-based DS1 solution. Subscriber access is via coaxial cable with no fiber drop to the customer site. This is an economical and scalable solution to effectively compete against Local Exchange Carrier T1 service.

Scalable and Reliable VoIP
Up to 1,000 voice lines may be provisioned on one Cadant C3 CMTS. For EMTA’s, NCS and SIP are supported using DOCSIS Dynamic Service QoS. For stand-alone MTA’s, SIP is supported using Dynamic Polling. Voice and data packets can be copied and forwarded to a lawful intercept mediation device.
### Specifications

| RF Downstream: | Frequency Range (MHz) | 88-860 |
|               | Modulation           | QPSK, 16 QAM for wireless applications |
|               | Data Rate (Mbps) (max.) | 30-53.6 |
|               | RF Output Level (dBmV) | +45 to +61 |
| RF Upstream:  | Frequency Range (MHz) | 5-42 (DOCSIS) 5-65, 5-65 (Euro-DOCSIS) |
|               | Modulation           | QPSK, 8, 16, 32, 64 QAM 128 QAM with Trellis Code Modulation |
|               | Data Rate (Mbps) (max.) | 5.12-30.72 |
|               | RF Receive Level (dBmV) | -20 to +26 |

### Physical:

- **Power:**
  - DC Powering: -40 to -60V, 4A
  - AC Powering: 100-240 VAC, 2A, 47-63 Hz
- **Dimensions (HzxWxD):** 32-167 x 24 x 18.3
- **Weight:** lbs (kg): 22 (10)

### Software Support:

- DOCSIS 2.0 Qualified and Euro-DOCSIS 2.0 Based
- 3,000 Registered Cable Mods
- Ingress Noise Cancellation
- DHCP Relay Agent (Option 82)
- Layer 2 Bridging
- PPPoE support in Routing Mode
- DOCSIS MIbs and ARRIS Enterprise MIbs
- Command Line Interface (CLI)
- SNMP v1, v2 and v3
- CLI Configurable SNMP
- Telnet
- Secure Shell 1/2
- TACACS+ Authentication
- In-band or Out-of-band Management
- 30 ACLs with 30 entries per ACL and Subscriber Management Filtering
- Cable Source Verify and Packet Throttling
- Numerical Load Balancing
- Bandwidth Aware Periodic Load Balancing
- Upstream Channel Change (UCC)
- 802.1Q VLANs (basic)
- 802.1Q VLANs (advanced)
- Separate license required
- Static Routing
- RIPv2 (RFC 2453) separate license required
- OSPFv2 (RFC 2328) separate license required
- RIP-OSPF Route Redistribution
- IGMPv2 Proxy
- Payload Header Suppression (PHS)
- Scalable and Reliable VoIP (NCS or SIP) – up to 1000 provisioned lines
- Lawful Intercept
- DS1 Commercial Service
- Wireless DOCSIS

### Regulatory:

- EMC: FCC Part 15 Class A, CE
- UL

### C3™ Cable Modem Termination System

**Software for each CMTS:**

- #719336K*: Software Rel. 4.3 Kit (base license, SCDMA license, software & Documentation CD)
  - #713868 .................. RIPv2 Routing License (optional keyed feature)
  - #713869 .................. VLAN/Bridge Group License (optional keyed feature)
  - #713870 .................. RIPv2 & VLAN/Bridge Group License (optional keyed feature)
  - #714827 .................. OSPFv2 Routing License (optional keyed feature)
  - #714828 .................. OSPFv2 Routing License & VLAN/Bridge Group License (optional keyed feature)

### Upgrade Kits:

- #719343K ................. 2 Upstream Ports
- #719344K ................. 4 Upstream Ports
- #719345K ................. 6 Upstream Ports

### Maintenance Plan (required):

- #710645 ... Software Maintenance - Phone Plus Silver
- #710646 ... Software Maintenance - Phone Plus Gold

### Optional Items & Spares:

- #710626 .................. Compact DC Power Module
- #710625 .................. Compact AC Power Module
- #713842 .................. Dual Upstream Receiver Module
- #713843 .................. Wideband Digital Receiver Module (2 upstream Ports)
- #713844 .................. Wideband Digital Receiver Module (4 upstream Ports)
- #713845 .................. Wideband Digital Receiver Module (6 upstream Ports)

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