ARRIS

C3[™] CMTS

Cable Modem Termination System

- Versatile Design to Deliver IP Services Worldwide
- Superior RF Performance Overcomes Challenging HFC Plant Applications
- Advanced Technology Maximizes Subscriber Service Penetration



Overview

The ARRIS C3[™] Cable Modem Termination System is 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 headend facility. This small size allows operators to successfully deploy IP services in both new and existing cable networks in any size market worldwide.

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 via an integrated upconverter, 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 ARRIS 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 ARRIS 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 16QAM 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 ARRIS C3 CMTS's Layer 2 mode of operation. Additionally, the ARRIS C3 CMTS offers static routing and an optional choice of RIPv2 or OSPFv2 Layer 3 routing protocols. With the option of up to 250 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.

Bandwidth on Demand

Boosted data rates for ultra-high-speed applications is a premium service which provides an additional source of revenue for cable operators. This is supported through a PacketCable[™] Multimedia (PCMM) interface for Common Open Policy Service (COPS) Dynamic Quality of Service (DQoS) with a Policy Server.

Scalable and Reliable VoIP

Up to 1,000 voice lines may be provisioned on one ARRIS C3 CMTS. For E-MTA's, NCS and SIP are supported using DOCSIS Dynamic Service QoS and PCMM COPS DQoS. 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.

Commercial Services Solutions

The ARRIS C3 CMTS enables end-to-end VLANs using 802.1Q tagging. Optional downstream broadcast privacy allows each VLAN to operate as a secure and private network for VPN-like service.

Wireless Access Solutions

The C3 CMTS is a key component of the ARRIS Rapid Launch Hot Zone System[™] which enables MSO's to quickly expand their own WI-FI footprints or sell service to businesses for increased commercial market share. The integrated Rapid Launch solution includes pole, strand-mounted or indoor Wireless Access Points and centralized management from the headend.

The ARRIS C3 CMTS is also used as part of a Wireless DOCSIS (WiDOX) solution which comprises a base station to send and receive signals to/from subscriber sites equipped with antennae and transceivers connected to DOCSIS-based subscriber devices. A wide range of wireless frequencies are supported making this solution especially useful in extending high-speed data and voice service to rural areas not reached by the HFC plant.

See www.arriswireless.com for additional details.

Specifications BE Downstream

Frequency Range (MHz) 88-860 Modulation 64 or 256 QAM, QPSK, 16 QAM for wireless applications BT Output Level (dBmV) 445 to 1-61 RF Uppt Level (dBmV) 542 (DOCSIS), 5-55, 5-65 (Euro-DOCSIS) Modulation QPSK, 8, 16, 32, 64 QAM, 128 QAM with Trellis Code Modulation Data Rate (Mkps) (max) 31 per upstream RF Receive Level (dBmV) -20 to +26 Installation Environment File RF Interfaces External FF type connector Network.Interface Dual RU-45 Ethernet connections Network.Interfaces 10/100/1000 BaseT Ethernet Power Dual RU-45 Ethernet Connector Network.Side Interfaces 100-240 VAc, 2A, 47-63 Hz DC Powering 100-240 VAc, 2A, 47-63 Hz DC Powering 40 to -60V, 4A Power Consumption 87 Watts max. Physical 09-040 trans.82 WAtts typical Operating Femperature FF (°C) 40-167 (-40-75) Operating Humidity (min -max) 10940 trans.80 Watts typical Dimensions (HxWxD) in. (cm) 1.75 x 19 x 18.3, (4 x x 8.3 x 46.5) 1 rack unit (RU) high Weight Ibs (kg) 20 to -60V.	Frequency Range (MHz)88-860Modulation64 or 256 QAM, QPSK, 16 QAM for wireless applicationsData Rate (Mbps) (max.)30 (6MHz, 64QAM) - 56 (8MHz, 256QAM)RF Output Level (dBmV)+45 to +61 RF Upstream Frequency Range (MHz)5-42 (DOCSIS), 5-55; 5-65 (Euro-DOCSIS)ModulationQPSK, 8, 16, 32, 64 QAM, 128 QAM with Trellis Code Model	dulation	
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Payload Header Suppression (PHS) Scalable and Reliable VoIP (NCS or SIP) – up to 1000 provisioned lines			

C3™ CMTS Cable Modem Termination System

Ordering Information	
Part Number	Description
2 Upstream Ports	
720920A	Australian AC Cord
720920E	European AC Cord
720920J	Japanese AC Cord
720920N	North American AC Cord
720920U	United Kingdom AC Cord
4 Upstream Ports	
720921A	Australian AC Cord
720921E	European AC Cord
720921J	Japanese AC Cord
720921N	North American AC Cord
720921U	United Kingdom AC Cord
714914	DC Cord
6 Upstream Ports	
720922A	Australian AC Cord
720922E	European AC Cord
720922J	Japanese AC Cord
720922N	North American AC Cord
720922U	United Kingdom AC Cord
714917	DC Cord
Software for each CMTS:	
719483	Software Rel. 4.4 Kit (base 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:	
721136	2 Upstream Ports
721137	4 Upstream Ports
721138	6 Upstream Ports
Maintenance Plan (required):	
710645	Software Maintenance - Phone Plus Silver
Optional Items & Spares:	
710626	Compact DC Power Module
710625	Compact AC Power Module
721982	Dual Upstream Receiver Module
721983	Digital Receiver Module (2 upstream Ports)
721984	Digital Receiver Module (4 upstream Ports)
721985	Digital Receiver Module (6 upstream Ports)

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