ARRIS XD CAM

CABLE ACCESS MODULE (CAM) FOR
24 EURODOCSIS OR 32 DOCSIS DOWNSTREAM CHANNELS

The ARRIS eXtended Downstream (XD) Cable Access Module (CAM) supports 32 DOCSIS or 24 EuroDOCSIS 3.0 downstream channels. These channels are grouped onto four upconverters. With 32 DOCSIS Annex B downstream channels, each upconverter supports 8 of the channels.

With 24 EuroDOCSIS Annex A downstream channels, two of the upconverters each support eight of the channels and the other two upconverters each support four of the channels.

The Physical Interface Card (PIC) of the XD CAM is the same as for the 16D CAM and has four F-connectors with each F-connector connected to the output of one of the upconverters. Each downstream channel on the same upconverter/F-connector must have a unique center frequency, but the channels are not required to be contiguous.

The downstream channels on a single F-connector can span up to 78 MHz (Annex B) or 80 MHz (Annex A) of spectrum, allowing an MSO flexibility in choosing DOCSIS downstream frequencies.

Flexible Upstream-to-Downstream Channel Mapping
Each downstream channel on the XD CAM can be associated with any upstream channel on a 12U CAM in the chassis. This allows the operator to "right size" the upstream-to-downstream ratio for each service group.

XD Field Software Upgrade
16D CAMs deployed in a C4 CMTS with system software Release 7.4 can be field software upgraded to XD operation with the purchase of a license key. This allows operators to increase the number of downstream channels without purchasing new hardware.

- Significant increase in density without cabling changes
- DOCSIS® 3.0 downstream channel bonding
- Legendary C4 CMTS integrated "hitless" RF sparing
- Hot Swappable
- Supported in all C4 and C4c CMTS chassis
- XD Field Software Upgrade for deployed 16D CAMs via software license key

SPECIFICATIONS

RF DOWNSTREAM	
Frequency Range (MHz)	91 to 999 (DOCSIS® 3.0); 112 to 99
Modulation (QAM)	64, 256
Data Rate (Mbps) (Max.)	30.34 to 55.62 per channel
RF Output Level (dBmV)	41 to 60
Typical Modulation Error Ratio (MER) (dB)	47
Symbol Rate (Msym/sec)	5.361 (DOCSIS); 6.952 (EuroDOCSI
Bandwidth (MHz)	6 (DOCSIS), 8 (EuroDOCSIS)
Output (load) impedance (ohms)	75
PHYSICAL	
Power	-48 VDC (-44 to -72 VDC)
Power Consumption: Classic Rev G Optimized	139 W max at -48 VDC, 77°F (25°C) 136 W max at -48 VDC, 77°F (25°C)
Operating Temperature: Short Term °F (°C) Long Term °F (°C)	+23 to +131 (-5 to +55) +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)	15.8 x 0.8 x 15.0 (40.0 x 1.9 x 38.1)
Weight lbs. (kg)	approx 4 (1.8)
SUPPORT WITH SOFTWARE RELEASE 7.4	
16D CAM (Annex A or Annex B)	PIM-SSM, IGMPv2, and static multicast
4-4-4-4 Channels per F Connector	RIPv2 (RFC 1723), OSPFv2 (RFC 2328)
IPv6 Phase 3	IS-IS, BGPv4
Cable Source Verify with DHCP Lease Query	PacketCable™ Multimedia Support
Route Injection (RI) for DHCPv6 Prefix Delegation	Dynamic Cable Modem Load Balancing
OSPFv3	SII Lawful Intercept (RFC 3924)
DOCSIS 3.0 Multicast IP Video Support (via IGMPv3 Control)	In-chassis Mixed Annex A & Annex B support
Policy-Based Routing	802.1Q VLAN tagging
Cross-MAC Domain Dynamic Load Balancing	Extended ACLs & Named ACLs
Additional Classifier Support (for MGPI applications)	Secure Shell v2 (SSHv2)
DOCSIS 3.0 Eight Channel Bonding (Downstream)	DOCSIS Ping
DOCSIS 3.0 Four Channel Bonding (Upstream)	ARP Abuse Counts
BSoD L2 VPN	DHCP Relay Agent (Option 82)
BPI+ Enforce	DNS Client
IPDR/SP	TFTP Enforce and Dynamic MIC
Integrated Upstream Agility	

PART NUMBER	DESCRIPTION
16D CAM Kits	
722928	Classic 16D DOCSIS/EuroDOCSIS CAM Kit (Active): 1 x 16D CAM, PIC, and SW for C4 CMTS
789513	Classic 16D DOCSIS/EuroDOCSIS CAM Kit (Spare): 1 x 16D CAM, PIC, and SW for C4 CMTS
794040	Optimized 16D DOCSIS/EuroDOCSIS CAM Kit (Active): 1 x 16D CAM, PIC, and SW for C4 CMTS
794043	Optimized 16D DOCSIS/EuroDOCSIS CAM Kit (Spare): 1 x 16D CAM, PIC, and SW for C4 CMTS
790540	Classic 16D DOCSIS/EuroDOCSIS CAM Kit (Active): 1 x 16D CAM, PIC, and SW for C4c CMTS
794046	
XD Field Software Upgrade	
793929	Upgrade 16D to 24D EuroDOCSIS CAM – License Key for C4 CMTS Field Upgrade
793930	Upgrade 16D to 32D DOCSIS CAM – License Key for C4 CMTS Field Upgrade
793979	Upgrade 16D to 24D EuroDOCSIS CAM – License Key for C4c CMTS Field Upgrade
793980	Upgrade 16D to 32D DOCSIS CAM – License Key for C4c CMTS Field Upgrade
Maintenance Plan (required)	
708387	Software Maintenance – Phone Plus Gold