AMC216

10 Port AMC Managed Layer 2 Switch

AMC216

Key Features

- Managed Layer two switch
- Eight GbE Ethernet ports via front panel SFP
- Compatible for any combination of Fiber/Copper
- Two GbE routed to the rear
- Supports up to 8K MAC address
- 4K IEEE 802.1Q VLANs

Benefits

- Design utilizes proven VadaTech subcomponents and engineering techniques
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company

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AMC216

The AMC216 is a single-width, full-height Advanced MC™ based on the AMC.2 specification. The AMC216 provide 8 front panel GbE Ethernet ports via SFP. It has two additional ports which are routed to ports 0 and 1 per the AMC.2 specification.

The AMC216 allows a mix of SFP interface (Fiber media such as SX or LX transceivers) and/or copper interface on a single module.

The switch is managed via http and supports a rich set of features such as VLAN, Spanning tree, QoS, Mirroring, etc.

Figure 1: AMC216

AMC216 – 10 Port AMC Managed Layer 2 Switch

Managed Layer 2 GBE

The GbE layer two managed switch fabric routes eight GbE to front panel and two to the rear.

Configuration
- Ethernet/IEEE 802.3 Packet size (64 bytes to 1522 bytes)
- Jumbo packets up to 9216 bytes

L2 Switching
- Supports up to 8K MAC address
- Line rate switching for all packet sizes
- Independent VLAN learning
- VLAN flooding for broadcast and DLF packets
- Hardware-based address learning
- Six CPU Managed Learning (CML) modes per port
- Hardware-and-software-based aging
- Software insertion/deletion/lookups of the L2 table
- Same port bridging supported
- Station movement control

L2 Multicast
- 4K VLANs
- Protocol-based VLANs
- IEEE 802.1p
- IEEE 802.1Q
- Independent VLAN learning (IVL)
- Ingress filtering for IEEE 802.1Q VLAN security
- VLAN-based packet filtering
- MAC-based VLAN

Source Port Filtering
- Egress port block masks
- Trunk group blocking masks

Storm Control Per-Port
- Unknown unicast packet rate control
- Broadcast packet rate control
- Multicast packet rate control

Spanning Tree
- IEEE 802.1D spanning tree protocol (single spanning tree per port)
- IEEE 802.1s for multi spanning trees
- IEEE 802.1w rapid spanning tree protocol-delete and/or replace per:
  - Port
  - VLAN
  - Port, per VLAN
- Spanning tree protocol packets detected and sent to the CPU

DoS Prevention
- Denial of Service detection/prevention

Double-Tagging
- Unqualified learning/forwarding
- IEEE 802.1 Q-in-Q

Mirroring
- Ingress/egress mirroring support
- Mirror-to-port receives the unmodified packet for ingress mirroring
- Mirror-to-port receives the modified packet for egress mirroring

Content Aware Filter Processing
- Intelligent Protocol Aware processor with backward-compatible, byte-based classification option
- Parses up to 128 bytes per packet
  - 512 ACL rules support
- Multiple matches and actions per packet
- ACL-based policing
- Ingress/egress port-based filtering
- MAC destination address remarking
- Traffic class definition based on the filter
- Programmable meters allow policing of flows
- Metering granularity from 64 Kbps to 1 Gbps
- Multiple look-ups per packet
- Metering support on ingress ports and CPU queues

QOS Features
- Four QoS queues per port
- Per-port, per QoS drop profiles
- Port level shaping
- Traffic shaping available on CPU queues
- Programmable priority to QoS queue mapping
- Provides two levels of drop precedence per queue
- Strict Priority (SP), Weighted Round Robin (WRR), and Deficit Round Robin (DRR) mechanisms for shaped queue selection

DSCP
- DSCP-based prioritization
- Back pressure metering
- DSCP to IEEE 802.1p mapping

Port Security
- Per port blocking
- Supports IEEE 802.1x
- MAC address blocking

Management Information Base
- SMON MIB, IETF RFC 2613
- RMON statistics group, IETF RFC 2819
- SNMP interface group, IETF RFC 1213, 2836
- Ethernet-like MIB, IETF RFC 1643
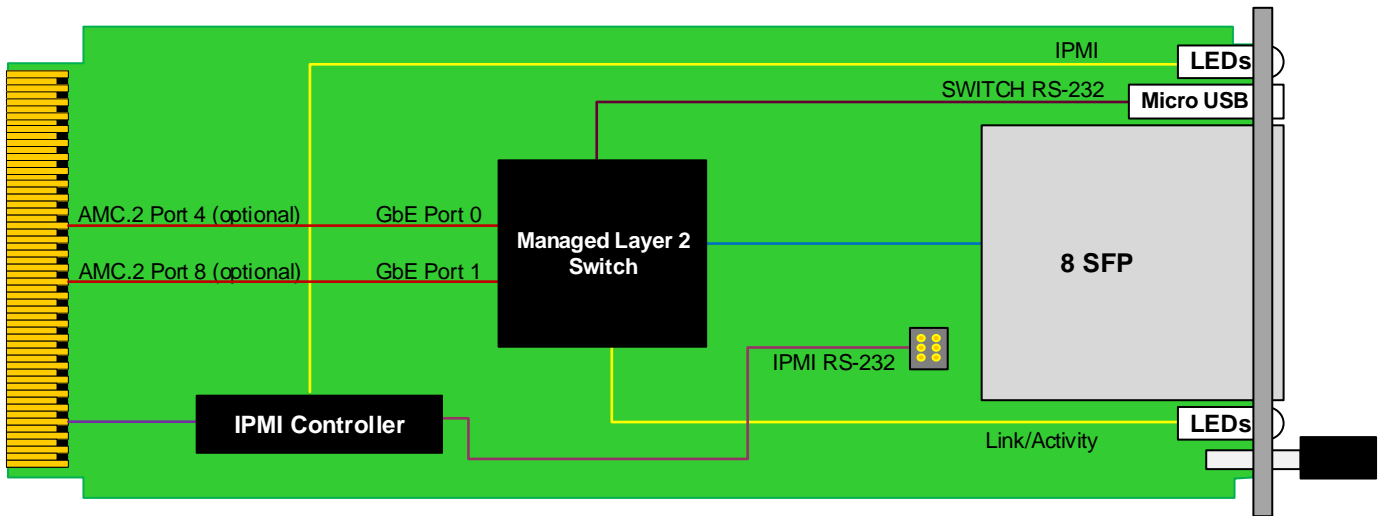- Ethernet MIB, IEEE 802.3u
- Bridge MIB, IETF RFC 1493

Block Diagram

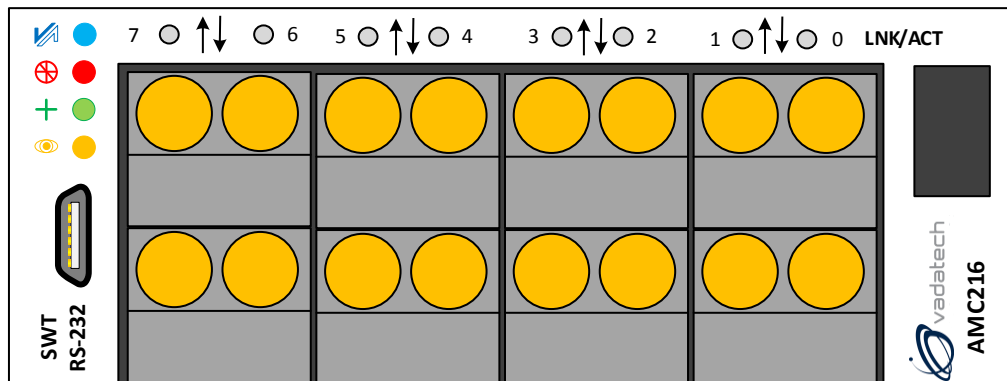*Figure 2: AMC216 Functional Block Diagram*

Front Panel

Figure 3: AMC216 Front Panel

Specifications

Architecture		
Physical	**Dimensions**	Single module, full-size
		Width: 2.89" (73.5 mm)
		Depth 7.11" (180.6 mm)
Type	**AMC Ethernet**	10 Port Managed Layer 2 Switch
Standards		
AMC	**Type**	AMC.2
Module Management	**IPMI**	IPMI v2.0
1000Base-BX	**Ports**	0 and 1
Configuration		
Power	**AMC216**	7 W with all fibre transceivers
Environmental	**Temperature**	Operating Temperature: 0° to 65°C (Air flow requirement is to be greater than 200 LFM) See ordering options and environmental spec sheet
		Storage Temperature: –40° to +90°C
	Vibration	1 G, 5 to 500 Hz each axis
	Shock	30 G each axis
	Relative Humidity	5 to 95% non-condensing
Front Panel	**Interface Connectors**	8x SFP Connectors
		Switch RS-232 via Micro USB
	LEDs	IPMI management control
		Activity/Status LEDs
	Mechanical	Hot swap ejector handle
Software Support	**Operating System**	Independent
Other		
MTBF		MIL Hand book 217-F@ TBD hrs
Certifications		Designed to meet FCC, CE and UL certifications, where applicable
Standards		VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards
Warranty		Two (2) years

INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of OpenVPX, ATCA and MTCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTMs), Power Modules, and more. The company also offers integration services as well as pre-configured Application-Ready Platforms. Please contact VadaTech Sales for more information.

Ordering Options

AMC216 – ABC-DE0-00J

A = Number of Fiber SX TXCVRs*	D = Number of Copper TXCVRs*	
0 = No TXCVRs x = Number of TXCVRs	0 = No TXCVRs x = Number of TXCVRs	
B = Number of Fiber LX TXCVRs*	**E = Ports 4 and 8 to Switch Routing**	**H = Temperature Range**
0 = No TXCVRs x = Number of TXCVRs	0 = Not Routed 1 = Routed	0 = Commercial 1 = Industrial
C = Front Panel		**J = Conformal Coating**
1 = Reserved 2 = Reserved 3 = Full-size 4 = Reserved 5 = Reserved 6 = Reserved 7 = Full-size, MTCA.1 (captive screw) 8 = Reserved		0 = No coating 1 = Humiseal 1A33 Polyurethane 2 = Humiseal 1B31 Acrylic

Notes: *The selected TXCVRs from Options A, B and D must not exceed eight in total.

Related Products

AMC217

- 10 Port Managed Layer 2 Switch
- Eight 10/100/1000 Mbit ethernet ports
- Two GbE routed to the rear

AMC726

- Processor AMC Intel® 4th Generation Core i7-4700EQ with QM87 chipset
- PCIe Gen3 x4 on ports 4-7 and 8-11 or single PCIe x8 on ports 4-11 (AMC.1)
- 8/16 GB of DDR3 memory with ECC

AMC219

- 14 Port Managed Layer 2 Switch
- Twelve 10/100/ Mbit ethernet ports
- Two GbE routed to the rear

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