

# AMC217

## 10 Port Managed Layer 2 GbE Switch, AMC



AMC217

### Key Features

- AMC.2 compliant
- Managed Layer two switch
- Octal 10/100/1000BaseT Ethernet via RJ-45 ports on front panel
- Dual GbE routed to the rear
- Support up to 8K MAC address
- Support for IEEE802.1Q VLANs
- VLAN-based packet filtering
- Packet classification using IEEE802.1p QoS
- 9K Jumbo frames
- Spanning tree
- Mirroring
- QoS
- SNMP and RMON
- OS support for: OS independent

### Benefits

- Layer 2 switch with 8 front panel RJ-45 ports
- 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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# AMC217

The AMC217 is a single module, full-size AdvancedMC (AMC) based on the AMC.2 specification. The AMC217 provide 8 front panel 10/100/1000 Ethernet ports via RJ-45. It has two additional GbE ports that are routed to the rear per the AMC.2 specification.

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

VadaTech can modify this product to meet special customer requirements without NRE (minimum order placement is required).



Figure 1: AMC217

# 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

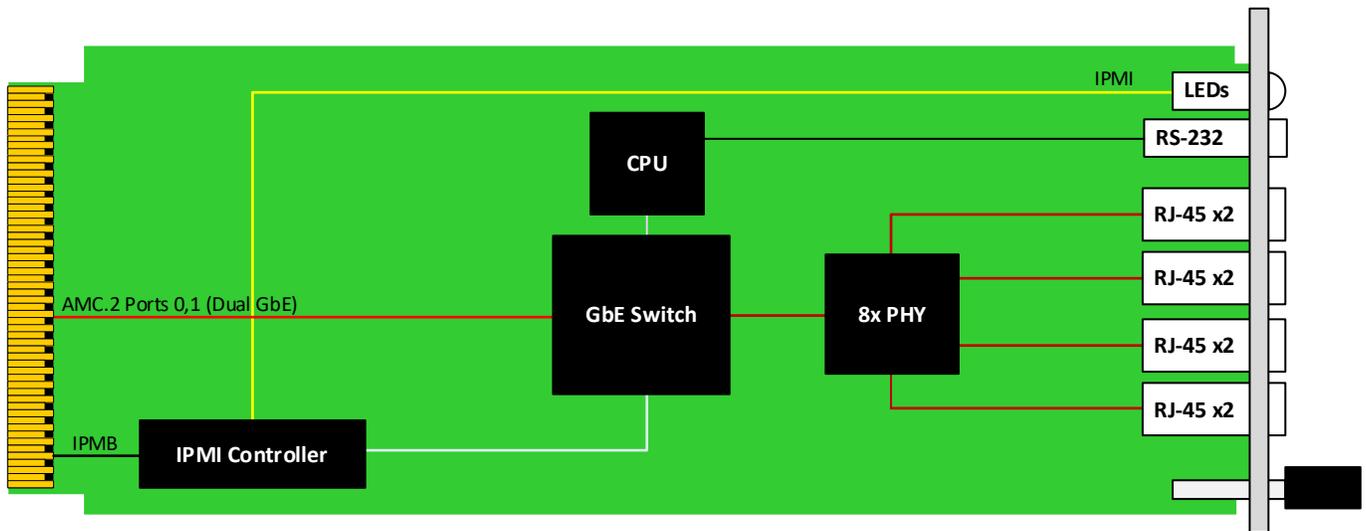


Figure 2: AMC217 Functional Block Diagram

# Front Panel

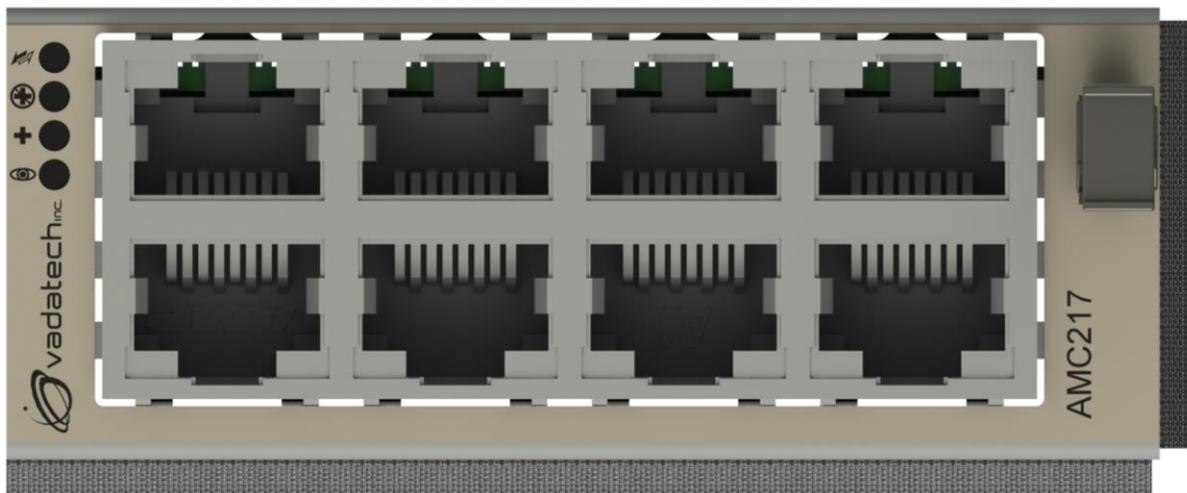


Figure 3: AMC217 Front Panel

# Specifications

Architecture	
<b>Physical</b>	<b>Dimensions</b> Single module, full-size Width: 2.89" (73.5 mm) Depth 7.11" (180.6 mm)
<b>Type</b>	<b>AMC Ethernet</b> GbE Switch, 10 Ports (2 of GbE, 8 of 10/100/1000)
Standards	
<b>AMC</b>	<b>Type</b> AMC.2
<b>Module Management</b>	<b>IPMI</b> IPMI v2.0
<b>1000Base-BX</b>	<b>Ports</b> 0 and 1
Configuration	
<b>Power</b>	<b>AMC217</b> 8W
<b>Environmental</b>	<b>Temperature</b> See <a href="#">Ordering Options</a> and <a href="#">Environmental Spec Sheet</a> Storage Temperature: -40° to +90°C
	<b>Vibration</b> Operating 9.8 m/s <sup>2</sup> (1G), 5 to 500 Hz
	<b>Shock</b> 30Gs on each axis
	<b>Relative Humidity</b> 5 to 95% non-condensing
<b>Front Panel</b>	<b>Interface Connectors</b> RJ-45 for 10/100/1000BaseT Ethernet
	<b>LEDs</b> IPMI management control Activity/Link user LEDs
	<b>Mechanical</b> Hot-swap ejector handle
<b>Software Support</b>	<b>Operating System</b> Independent
Other	
<b>MTBF</b>	MIL Hand book 217-F@ TBD hrs
<b>Certifications</b>	Designed to meet FCC, CE and UL certifications, where applicable
<b>Standards</b>	VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards
<b>Warranty</b>	Two (2) years, see <a href="#">VadaTech Terms and Conditions</a>

## 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

## AMC217 – 00C-000-00J

C = Front Panel Size	J = Conformal Coating
1 = Reserved 2 = Reserved 3 = Full-size (6HP) 4 = Extended-Height (8HP)	0 = Commercial (–5° to +55°C), No coating 1 = Commercial (–5° to +55°C), Humiseal 1A33 Polyurethane 2 = Commercial (–5° to +55°C), Humiseal 1B31 Acrylic 3 = Industrial (–20° to +70°C), No coating 4 = Industrial (–20° to +70°C), Humiseal 1A33 Polyurethane 5 = Industrial (–20° to +70°C), Humiseal 1B31 Acrylic 6 = Extended (–40° to +85°C), Humiseal 1A33 Polyurethane* 7 = Extended (–40° to +85°C), Humiseal 1B31 Acrylic*

## Related Products

AMC213



- Converts ports zero and one which are 1000Base-BX for GbE applications to Copper (1000Mbit)
- AMC.2 compliant (1000-BaseBX)
- GbE via RJ-45

AMC735



- Core processors from 8 to 16 and speeds from 800 MHz to 1.2 GHz
- Dual SFP+ socket supporting 10GbE
- PCIe Gen2 x4 or XAUI to Ports 4-7 and XAUI to Ports 8-11

UTC002



- 400 MHz CPU with 64 MB DDR for MCMC (MicroTCA Carrier Management Controller) and Shelf Manager
- Layer 2 managed GbE to each AMC (optional)
- Non-blocking PCIe Gen 3 (x4), to each slot with option for SRIO or 10 GbE (Layer 2 managed)

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