VME217

12/24 Port VME Managed Layer Two Switch

VME217

Key Features

- VME compliant (only takes power from the VME bus)
- Managed Layer two switch
- 8 ports of 10/100/1000 via RJ-45 and 4 ports 1000BASE-SX or 1000BASE-LX via SFF transceivers on the base board and optional 12 Ports via SFP Ports on expansion board
- 4K IEEE 802.1Q VLANs
- Packet classification using IEEE802.1p QoS

Benefits

- Supports up to 8K MAC address
- VLAN-based packet filtering
- Electrical, mechanical, software, and system-level expertise in house
- AS9100 and ISO9001 certified company
- Full system supply from industry leader

vadatech
THE POWER OF VISION

VME217

The VME217 is a 6U single slot VME module that has 8 ports of 10/100/1GbE via RJ-45 and 4 ports GbE via SFF transceivers on its baseboard and optional 12 Ports via SFP Ports on expansion board (double slot module with the expansion board).

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

The module supports standard +5V power supply from backplane.

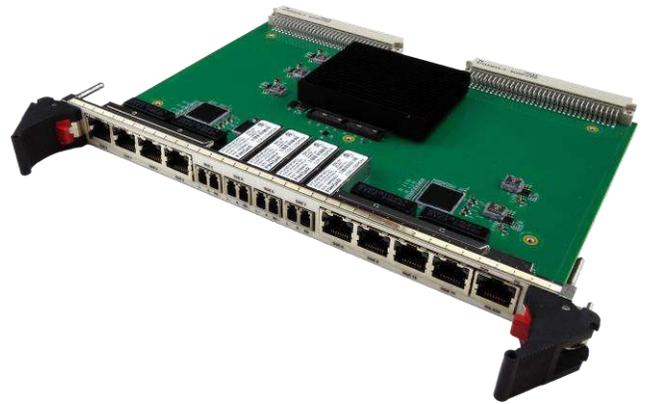The module routes IACKIN to IACKOUT and BusGrantIN[0:3] to BusGrantOUT[0:3] via DIP switches.

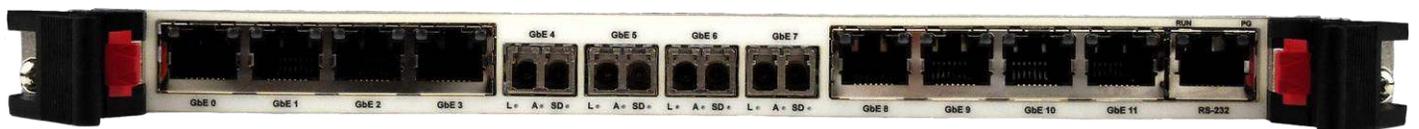*Figure 1: VME217*

Figure 2: VME217 Front View

Figure 3: VME217 Front Panel View
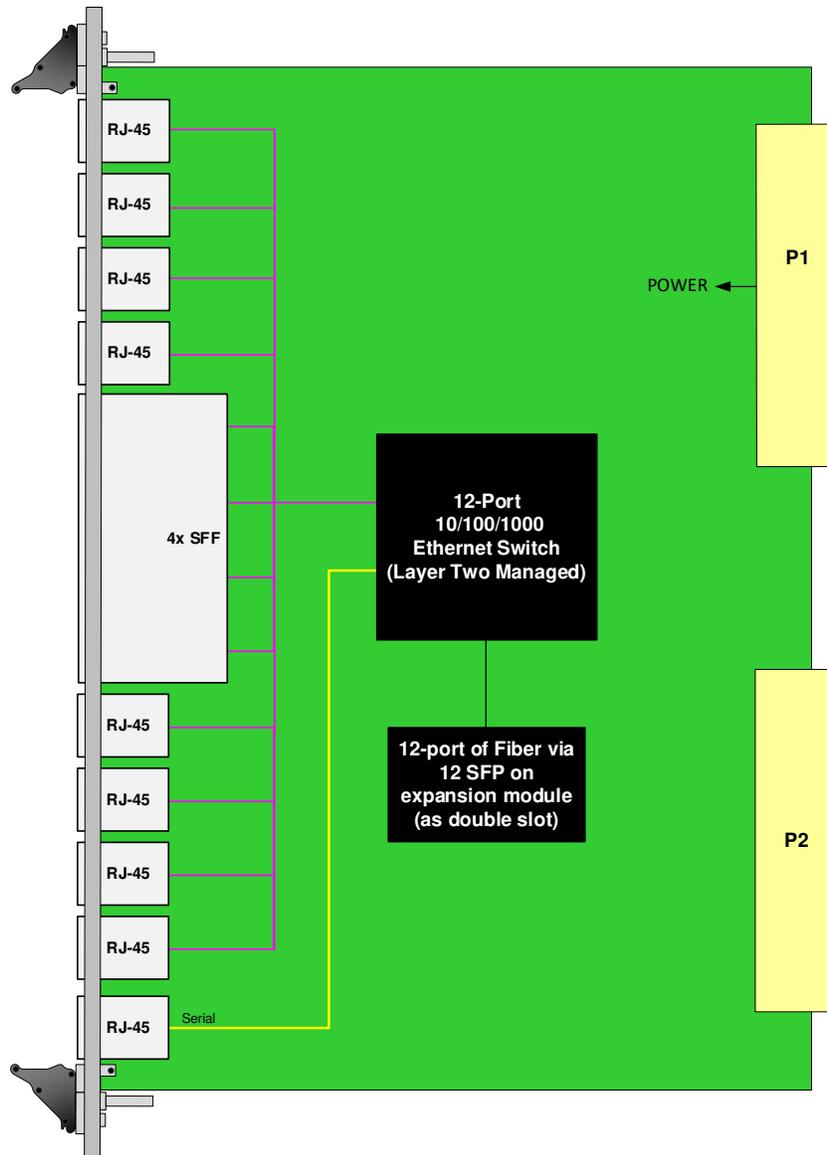
VME217 – 12/24 Port VME Managed Layer Two Switch

Block Diagram

Figure 4: VME217 Block Diagram

VME217 – 12/24 Port VME Managed Layer Two Switch

Managed Layer Two GbE

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
- Hardware-and-software-based aging
- Software insertion/deletion/lookups of the L2 table
- Station movement control

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

Storm Control Per-Port
- Support rate control for any traffic (unknown / multicast / broadcast)

Spanning Tree
- IEEE 802.1D spanning tree protocol (single spanning tree per port)
- Spanning tree protocol packets detected and sent to the CPU

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

DoS Prevention
- Denial of Service detection/prevention

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

Specifications

Architecture		
Physical	**Dimensions**	Height: 6U
		6.366 x 9.187 (PCB size)
		Single slot on the base board; double slot with the expansion board
Type	**Ethernet**	GbE Switch
		12/24 Ports
		10/100/1000 per Port
Standards		
VME	**Type**	VME
Configuration		
Power	**VME217**	12 W Base Module
Environmental	**Temperature**	See ordering option J
		Storage Temperature: −40° to +90°C
	Vibration	1 G 5-500 Hz each axis
	Shock	30 Gs each axis
	Relative Humidity	5 to 95% non-condensing
Front Panel	**Interface Connectors**	RJ-45 and SFF PCB mount transceivers on base board; SFP on expansion board
	LEDs	Run/Fail, Link/Activity
	Mechanical	Hot-swap Ejector Handle
Software Support	**Operating Systems**	Independent
Other		
MTBF		MIL Hand book 217-F@ TBD hrs
Certifications		Designed to meet FCC, CE and UL certifications, where applicable; designed to meet UL-60950 where applicable; ESD design to standard specification, as applicable IEEE 1101.10.
Standards		VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards; VadaTech is RoHS Compliant; Fabricated to pass UL94V-0;
Warranty		Per VadaTech T&Cs

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

VME217 – ABB-CCD-DHJ

A = Based Board Transceivers (4 total)	CC = Number of LX Transceivers on Expansion Board (**)	
0 = SFF (SX) 1 = SFF (LX) 2 = Reserved 3 = Reserved 4 = Reserved	0 = None X = Number of Transceivers	
BB = Number of SX Transceivers on Expansion Board (**)		**H = P2**
0 = None X = Number of Transceivers		0 = P2 mounted (*) 1 = None
	DD = Number of Copper Transceivers on Expansion Board (**)	**J = Temperature Range and Coating**
	0 = None X = Number of Transceivers	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

(*) P2 is mounted for fit, there is no electrical signals routed to P2; Power is done through P1 only
(**) Total number of transceivers must not exceed 12; For BB=CC=DD=0 the expansion module is not supplied and the VME217 is delivered as single slot module;
Common Configuration: VME217-000-000-005

Related Products

CP218

- CompactPCI 24 ports managed layer-2 switch
- 12 ports of 10/100/1000 via RJ-45 on the base board
- 12 ports via SFP (daughter module)

AMC217

- 10 ports AMC managed layer 2 switch
- single module, full size AdvancedMCTM (AMC)
- 8 front panel 10/100/1000 Mbit ethernet ports via RJ-45 and two additional GbE ports routed to the rear

VPX005

- 3U OpenVPX Switch, 10/40 GbE, Integrated Health Mngt
- Full Layer 3 managed Ethernet switches
- Dual 100/1000/10G uplink on the front panel

Contact

VadaTech Corporate Office

198 N. Gibson Road, Henderson, NV 89014

Phone: +1 702 896-3337 | Fax: +1 702 896-0332

Asia Pacific Sales Office

7 Floor, No. 2, Wenhu Street, Neihu District, Taipei 114, Taiwan

Phone: +886-2-2627-7655 | Fax: +886-2-2627-7792

VadaTech European Sales Office

VadaTech House, Bulls Copse Road, Southampton, SO40 9LR

Phone: +44 2380 016403

info@vadatech.com | www.vadatech.com

Choose VadaTech

We are technology leaders

- First-to-market silicon
- Constant innovation
- Open systems expertise

We commit to our customers

- Partnerships power innovation
- Collaborative approach
- Mutual success

We deliver complexity

- Complete signal chain
- System management
- Configurable solutions

We manufacture in-house

- Agile production
- Accelerated deployment
- AS9100 accredited

vadatech
THE POWER OF VISION