8U ATCA Horizontal Shelf, 6-Slot

PXS0800 NEBS-Ready

Preliminary Datasheet

PXS0800 KEY FEATURES

- ATCA System Platform compliant to PICMG 3.0 Rev 3.0
- 19” x 8U x 14” deep, RoHS compliant
- 40G Dual Star 6-slot backplane, 10G Replicated Mesh or Dual Star versions optional
- Superior cooling configuration for airflow with empty slots per NEBS
- NEBS-ready front-to-rear airflow, testing confirms 350W/slot cooling performance
- 40G backplane based on design principles of IEEE 802.3ba-2010, 10GBASE-KR
- Combined switch/shelf manager allows a full 6 Node Slots
- Full redundancy with dual shelf manager, dual cooling units, dual switches and dual power modules
- 2 x 70 Amp DC PEM, front and rear ESD jacks
- Redundant FRU information devices
- Telco alarm

The PXS0800 is a Telco-grade ATCA shelf ideal for Telecom, Enterprise, Industrial and Defense environments. Enhanced ruggedization options are available for Defense applications. Pixus Technologies leverages over 20 years of superior cooling and backplane innovation with proven Kaparel/Rittal base platforms.

The PXS0800 uniquely combines the density of a horizontal mount configuration with a NEBS-ready front-to-rear airflow path offering a proven 350 Watts/slot cooling in an 8U high shelf. The central cooling design also provides superior cooling when slots are empty -- per NEBS requirements.

With a redundant shelf manager integrated with the switch fabric, the feature saves the two slots that are usually dedicated switch fabric slots in the ATCA shelf. The two extra slots are utilized as standard payload slots, increasing computing capacity by 50%.

The PXS0800 has configuration options that allow redundant power modules, cooling units, shelf managers and switches for High Availability. Telco alarm functionality is standard with fully redundant FRU information devices.

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

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Specifications

Architecture		
Physical	Dimensions	Height 8U
		Width: 19”
		Depth 15” without the handles and 17” with the handles
Type	ATCA shelf	6 ATCA node slots
Standards		
PICMG	Type	PICMG 3.0 Rev 3.0
Configuration		
Power	PXS0800	2800W DC
		Dual redundant 70A PEMS
Environmental	Temperature	Operating temperature: 0° to 55°C
		Storage temperature: -40° to +70°C
	Altitude	10,000ft operating
		40,000ft. non-operating
	Relative humidity	5 to 95 percent, non-condensing
Conformal coating		Upon request (See page 6 selection “J” for available options)
Other		
MTBF	MIL Handbook 217-F @ TBD Hrs.	
Certifications	Designed to meet FCC, CE and EN/UL/TUV certifications where applicable	
Compliance	RoHS and NEBS	
Warranty	Two years	
Trademarks and logos	The Pixus Logo is a registered trademark of Pixus Technologies Inc. other registered trademarks are the property of their respective owners. Specs. subject to change without notice.	

Power Supply

The PXS0800 has 2 X 70 Amp DC Power Entry Module (PEM). Input is DC –40.5V to –72V.

Cooling and Temperature Sensors

The PXS0800 has three intelligent cooling units. This redundancy allows fail-safe operation in case one of the cooling units becomes non-operational. The cooling airflow is from front to back. The removable air filters have monitoring functions that detect whether they are fully engaged inside the shelf or not working properly.

There are a total of 6 temperature sensors in the shelf that monitor the airflow and temperature throughout the chassis.

Telco Alarm

The PXS0800 provides Telco alarm functionality to alert any anomaly within the shelf. Telco alarm is provided via a micro DB-9 connector as well as LED's at the front of the shelf.

FRU Information

The PXS0800 has dual redundant FRU information.

Backplane

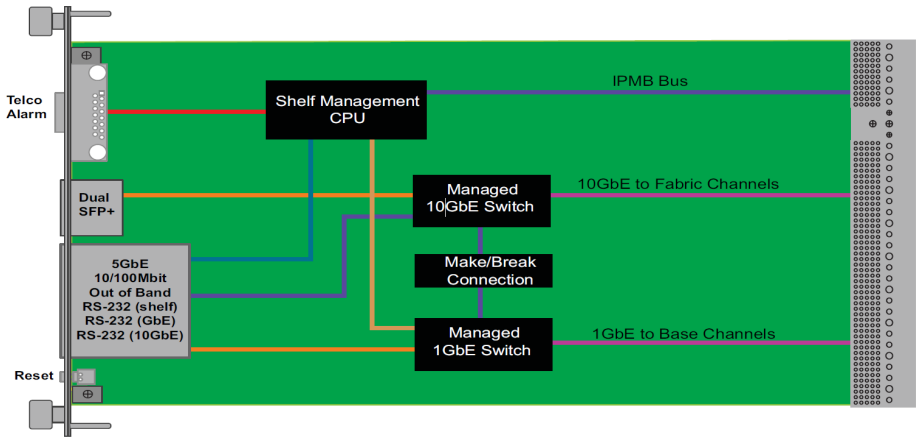
The 40G Dual Star 6-slot backplane is compliant to PICMG 3.0 Rev 3.0 specifications and based on design principles of IEEE 802.3ba-2010, 10GBASE-KR. The PEMs and shelf managers are pluggable into the backplane. A 10G Replicated Mesh or 10G Dual Star versions are also available.

HASS (Horizontal AdvancedTCA Shelf Manager and Switch)

The PXS0800 6U shelf combines the shelf management slots with the Hub providing 50% more payload slots on the same form factor. The HASS offers the following options.

- Layer 2 1GbE, 10GbE, and 40GbE
- Layer 3 1GbE, 10GbE, and 40GbE
- Vadatech VT003 ShMM
- Pigeon Point 500 and 700 ShMM

The VT030 shelf manager with the unique integration of 10GbE and 1GbE layer two managed switch on the same module. This saves two slots in the system for the payload vs. having dedicated switches in the system. With two VT030 in the system there is a full redundancy and failover both on the switch side as well as on the Shelf manager side. The VT030 can also run as a protocol analyzer to monitor, inject, capture and validate I2C traffic on the Intelligent Platform Management Bus (IPMB). A Graphical User Interface (GUI) validates and displays the IPMI packets or schedules IPMI messages for injection into the shelf. The GUI application communicates with the VT030 through the Ethernet port. The VT030 is fully hot-swappable to minimize service down time.



HASS Key Software Features

- ❖ Linux 2.6 embedded OS
- ❖ IPMI version 2.0
- ❖ Interface to Sensor Data Record repositories, System Event logs, FRU inventory storage devices
- ❖ Monitors temperature, voltage and current sensors
- ❖ Shelf cooling policy
- ❖ Shelf activation and power management
- ❖ Alarm controls
- ❖ Event notification and flexible alerting policies
- ❖ E-Keying
- ❖ CLI, SNMP, RMCP+, HTTP IPMI 1.5 compatibility

IPMI 1.5 Compatibility

- ✦ IPMI device global
- ✦ Watchdog timer
- ✦ Session management
- ✦ Event management
- ✦ PEF and alerting
- ✦ Sensor device
- ✦ FRU device access and update
- ✦ SDR device access and update
- ✦ SEL device access and management
- ✦ LAN device configuration

IPMI 2.0 Extension

- ✦ Enhanced encryption
- ✦ Firmware firewall
- ✦ Enhanced authentication

HASS 10 GbE Layer 2 Managed Switch

The 10GbE switch fabric is layer two managed and each of the slots receives a 10GbE to its fabric port. Further, there is a dual uplink port on the front SFP+ connector for expansion. This allows expansion to another shelf or uplink to an external switch. The switch has the richest set of features that would cover the span of the layer two.

Key features:

- Spanning Tree Protocol (STP)
- Rapid Spanning Tree Protocol (RSTP)
- Virtual LANs (VLANs)
- Generic Multicast Registration Protocol (GMRP)
- Generic VLAN Registration Protocol (GVRP)

IPMI Trace Viewer Example

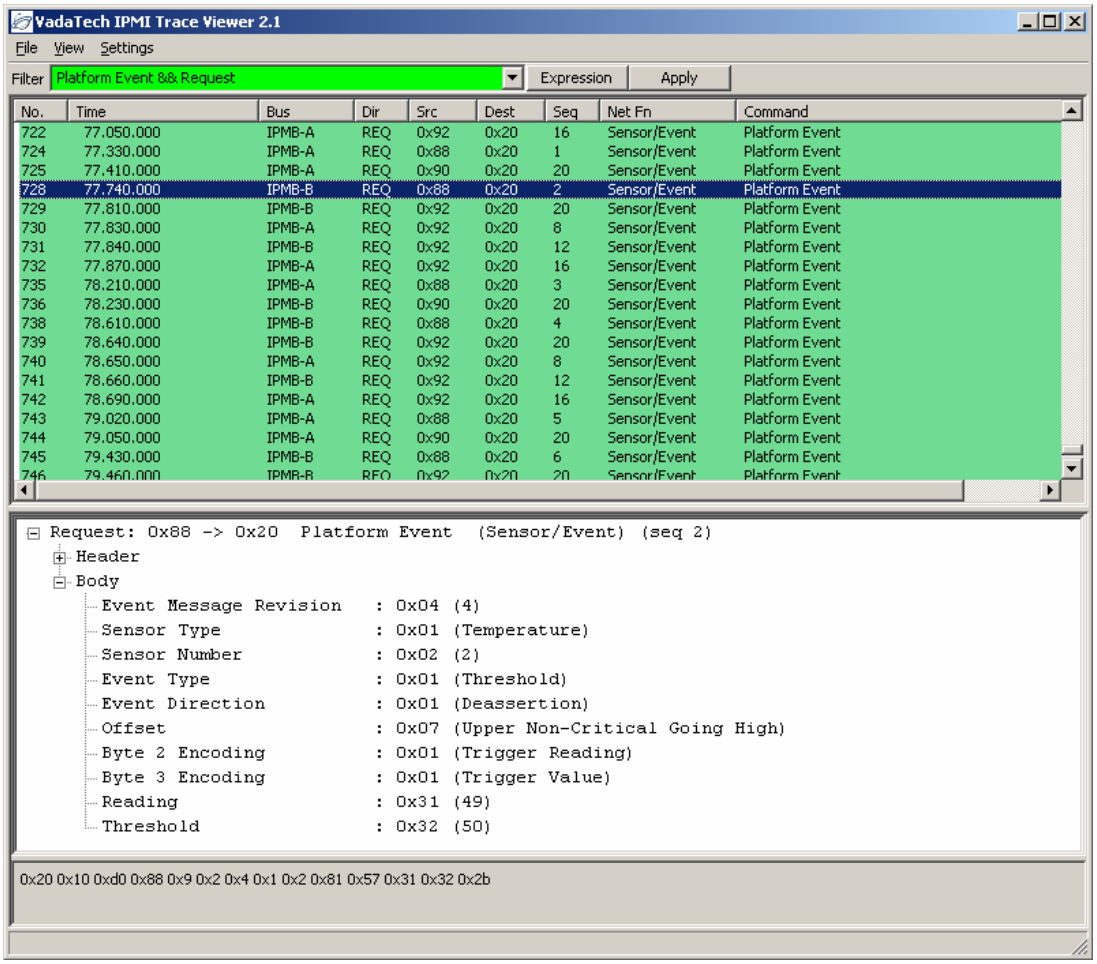
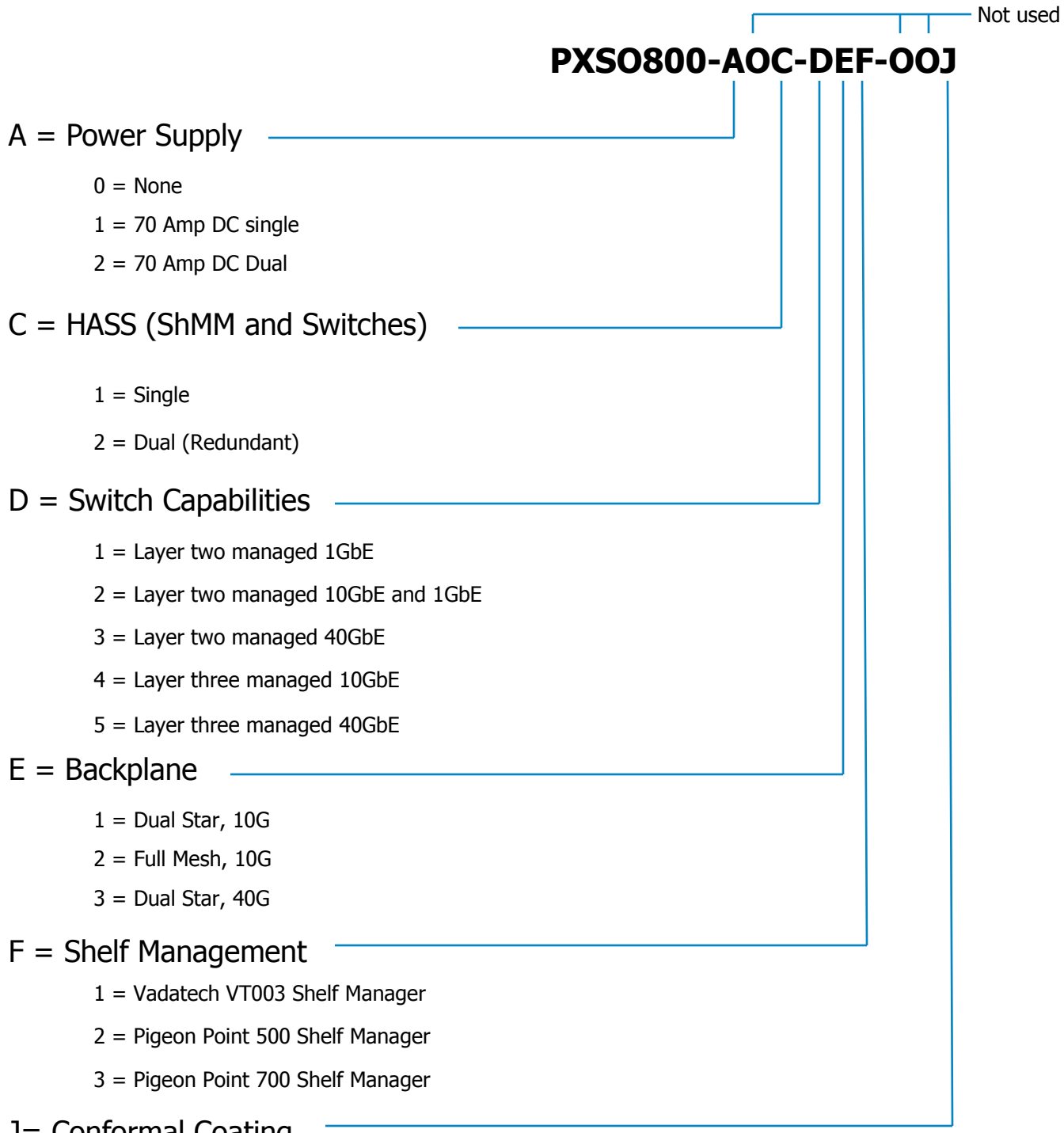


FIGURE 1: Viewing a captured trace while running the VT030 as an IPMI Protocol Analyzer

Ordering Options



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