

NETernity SWE540A

Fully Managed 6U VPX 40/10GigE Data Plane Ethernet Switch

The NETernity™ SWE540A is a fully managed (Layer 2/3) 6U VPX Ethernet switch designed to meet the most demanding requirements for network switching in tactical applications. The SWE540A, with its configuration options of up to 20 data plane ports and OpenWare™ switch management software, is designed to support high performance embedded computing (HPEC) applications.

The switch is available in both air-cooled and conduction-cooled versions, providing multiple OpenVPX configurations supporting a mix of dataplane and control plane ports. In addition, there is an available option to support four QSFP+ and two 1000BaseT ports. ECC protection on the management processor memory offers higher reliability in harsh environments.

Abaco's patent pending technology for thermal management provides improved product reliability and thermal performance for the SWE540A in a low weight solution.

The SWE540A delivers data switching and routing at fabric speed that can be fully managed and easily deployed. Proven, high-performance architecture and a multilayer switching fabric provide a rich feature set, broad functionality, scalability, and product longevity.

Based on a PowerPC management processor and a leading high-performance switch fabric, the SWE540A has integrated Layer 2/3 switching capabilities as well as the ability to support higher Layer 4-7 functionality when required.

The switch management environment for the SWE540A is Abaco's in-house developed and supported OpenWare. OpenWare offers comprehensive management features for Layer 2/3 switching and routing, and provides support for a wide range of network protocols and MIBs with extensive capabilities for multicast, Quality of Service, VLANs, and differentiated services.

OpenWare can be modified to meet particular customer requirements, and provides a number of ways to manage the switch via serial console, SNMP, Telnet, SSH or web interface. In addition, OpenWare provides a number of security features including denial of service attack prevention, user password mechanisms with multiple levels of security and authorization schemes including 802.1X and sanitization.

The SWE540A provides a migration path for Abaco's GBX460 Ethernet switch. The configuration of the SWE540A with 20 40GBASE-KR4/10GBASE-KX4 and 16 1000BASE-KX ports offers the same hardware pinouts as the GBX460.

FEATURES:

- 6U VPX form factor
- VITA 65 OpenVPX Compatible
- OpenVPX profiles: MOD6-SWH-16U20F, MOD6-SWH-20U19F and MOD6-SWH-16U16F
- Four QSFP+ and two 1000BaseT ports on front panel available for air-cooled models
- 720Gbps overall bandwidth
- Serial Console
- OpenWare™ Switch Management Software
- Data switching and routing at fabric speed including IPv6
- Multicast support: IGMP Snooping Querier and MLD Snooping Querier
- Allows up to 4,096 VLANs
- L-3 protocol support including OSPF, RIP and VRRP
- Precision Time Protocol 1588v2 Transparent Clock Support
- Air-cooled and conduction-cooled
- Rugged levels 1 to 3 and 5 available
- Built-in Test
- Denial-of-service attack prevention
- Sanitization capability
- IPMI Controller
- Spanning Tree and Link Aggregation
- Remote management via Telnet, SSH and SNMP
- Support for Jumbo Frames up to 9KB
- ECC protection management processor memory

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Key Specifications:

- IEEE 802.3-2005
- IPMI 2.0
- IEEE 802.1D (Prioritization)
- IEEE 802.3ad (Link Aggregation)
- IEEE 802.1Q (VLAN tagging)
- IEEE 802.1Q-2005 (Multiple Spanning Tree)
- IEEE 802.1X (Port Authentication)
- IEEE 802.3az (Energy Efficient Ethernet)
- IETF RFC 4541 (IGMP & MLD Snooping)
- IEEE 802.1Q-2014 (Data Center Bridging)
- RoHS 2011/65/EC compliant
- ANSI/VITA 46.0-2007
- ANSI/VITA 46.7-2012
- VITA 48.2 (REDI)

Specifications

Physical Interface

- MOD6-SWH-16U20F
20 40 GBASE-KR4/10GBASE-KX4, 16 1000BASE-KX are routed to the VPX backplane along with the Ethernet management port and serial console.
- MOD6-SWH-20U19F
19 40GBASE-KR4/10GBASE-KX4, 20 1000BASE-KX are routed to the VPX backplane along with the Ethernet management port and serial console
- MOD6-SWH-16U16F
16 40GBASE-KR4/10GBASE-KX4, 16 1000BASE-KX are routed to the VPX backplane along with the Ethernet management port and serial console
- Front panel supports up to 4x QSFP+ and two 1000BaseT ports (transceivers ordered separately for QSFP+ ports)
Out-of-Band management port
Serial console port

Form Factor

- 6U OpenVPX
- 6U VITA48 REDI for 2LM

Power Requirements (Typical)

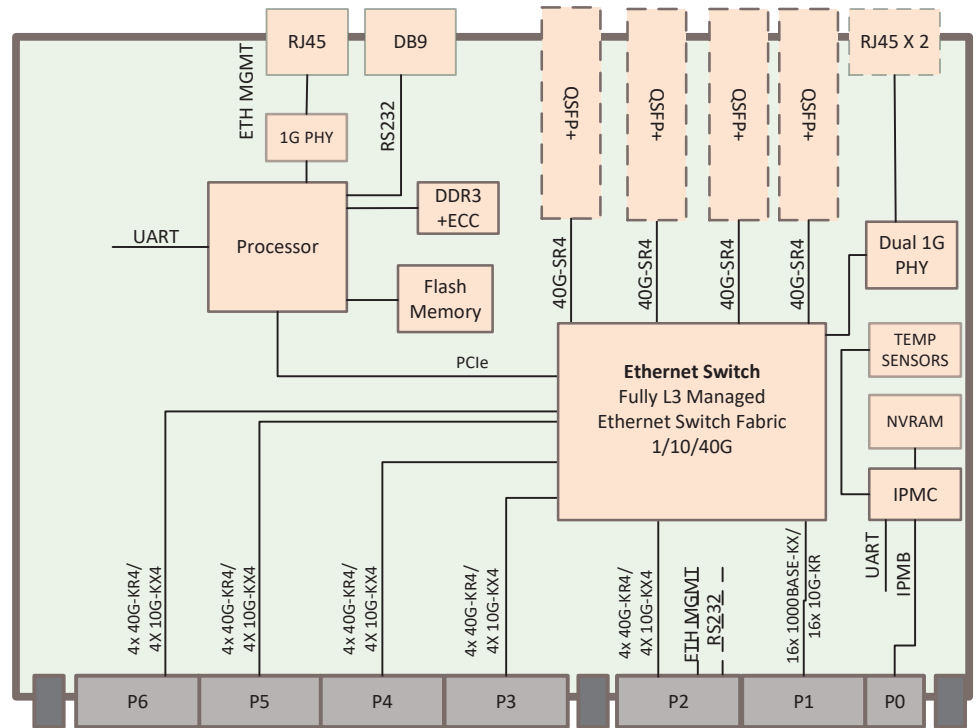
- (20 x 40G +16 x 1G) = 72W - Conduction Cooled
- (20 x 40G +16 x 1G) + front panel ports = 84W - Air Cooled
- (19 x 40G +20 x 1G) = 71W - Conduction Cooled
- (19 x 40G +16 x 1G) + front panel ports = 83W - Air Cooled
- (16 x 40G +16 x 1G) = 66W - Conduction Cooled
- (16 x 40G +16 x 1G) + front panel ports = 78W - Air Cooled

MTBF

- 927,505 hours per Ground Benign, 30°C

There is a patent pending on this product.

Block diagram



PART NUMBER	DESCRIPTION	FEATURES
POPW-SWE540A-01M	First Year of OpenWare software maintenance	• Access to twice yearly version updates of OpenWare
POPW-SWE540A-01A	Renewal of OpenWare software maintenance (renewable yearly)	• Access to technical support for configuration and usage of OpenWare

Note: The rear Control Plane 1000BASE-KX port can be configured to operate in 10GBASE-KR mode.



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Abaco Systems is a business unit of AMETEK, Inc., a leading global manufacturer of electronic instruments and electromechanical devices with 2021 sales of more than \$5.5 billion.