T4340a - 6U VPX Ethernet Switch

Gigabit & 10 Gb with L3+ IP Router

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Embedded Computing Solutions by Elma

The T4340 VPX switch features twenty four (24) Gigabit Ethernet ports & up to four (4) 10Gigabit Ethernet ports with full wire speed switching capacity of 125 Mpps.

Description

T4340a is built on the latest generation of Gigabit switch engine and PHY transceiver. Its highly integrated chip a full layer 3 router with optimized power consumption.

T4340a supports full-wire speed L2 bridging and L3 IPV4/V6 Unicast and Multicast routing with L2-L4 advanced traffic classification, filtering and prioritization. For instance, it can provide strict priority traffic and filtering needed for delay-sensitive or critical applications.

T4340a complies with **VITA 46.2**0 standard, with the following configuration:

• **Twenty four 1000KX** compliant ports are routed on rear I/O (P2 & P3
• **Two 10-GKX4** ports are available on P1 rear connector
• **Two 10-Gigabit** ports are available on the front panel (XAUI/10GB-CX4)

Alternatively, up to **sixteen 1000KX** ports (modulo 4) can be configured in **1000BT** mode and routed on P5 & P6. Four 1Gb rear ports can be made available on the front panel (**four 1000SX/LX** fiber channels or **four 1000BT** copper ports).

Management Capabilities :

The **T4340a** can be monitored from a browser, a CLI or SNMP. The whole system can be easily managed and handled. A comprehensive Built-in Test makes the maintenance of this switch easy. Many additional functions are provided on this fully managed switch:

• Configuration of all the PHY and switch parameters, ports monitoring, static MAC address, QoS policy, Multicast and VLAN control, STP/RSTP protocols, MAC security
• Monitoring of all statistical counters and an extensive list of RMON counters

The T4340a Ethernet switch is available in standard to conduction-cooled temperature grades.
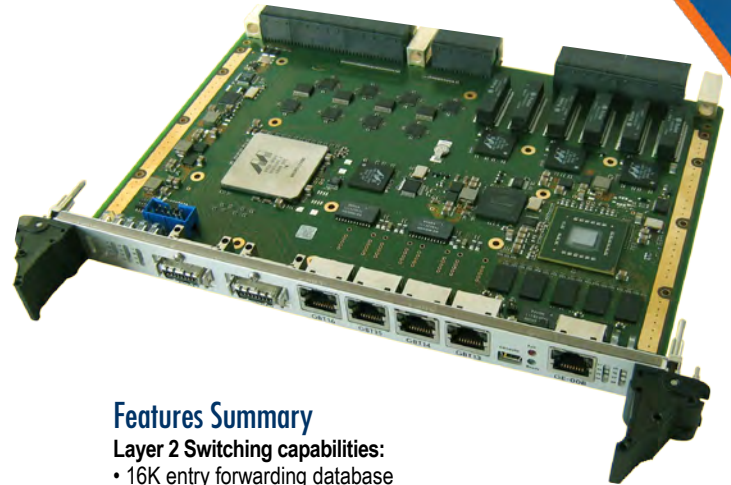
Features Summary

Layer 2 Switching capabilities:
• 16K entry forwarding database
• Port and MAC access control
• 10 KB Jumbo Frame
• IGMPv3 & MLDv2 snooping
• Rapid Reconfiguration 802.1w

Layer 3+ Switching capabilities:
• Unicast and Multicast routing engine RIPV2, OSPF V2 Routing proxy-ARP, DHCP relay

Bandwidth Management:
• Egress rate shaping with rate ranging port from 64K to 1Gbs
• Minimal bandwidth guarantee per traffic Class

Quality of Service (QoS):
• Quality of Service engine with 8 priority queues per port
• Flexible bandwidth management with hierarchical shaping

VLAN services:
• 4K active VLANs
• 4K Bridge multicast groups
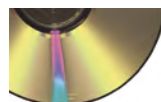
IPv6 capable

Security features:
• 802.1X Port authentication
• Multicast/Broadcast limiting
• STP/RSTP protocol
• Virtual cable tester On-Line

Flexible Management Tools

ACT/Technico™ brand of Embedded Computing Products

SBCs

I/O

Software

Design & Documentation

Chassis

Modular Storage

T4340a - 6U VPX & 10 Gb Ethernet Switch

Main Features

Physical layer
• 24 1000KX ports (rear, P2/P3) (16 of these 24 ports available on P5/P6 in 1000BT mode)
• Two front XAUI/10Gig-CX4 ports
• Two rear XAUI ports (P1)
• (Alternate : 4 fronts ports : Fiber or Copper)
• Auto-Negotiation with Downshift
• Automatic MDI/MDIX crossover for all 3 speeds of operation
• Automatic polarity correction
• Online virtual cable tester
• Optional fast Ethernet out of band management port

Layer 2 switching
• 802.1D/Q Compliant with a full-line rate Ethernet switching engine
• 16000 MAC address database
• Automatic or controlled aging and learning mechanism
• Tag extraction and insertion
• (802.1p), Jumbo frames up to 10KBytes
• Back pressure for half-duplex, IEEE802.3x for full-duplex
• Discard broadcasts above critical threshold
• Link aggregation with static or dynamic LACP (7 trunks of 8 channels
• Enhanced port mirroring
• IGMP v2,v3 & MLD v2 snooping

VLAN
• 802.1Q compliant : supports Layer 2 domain partitioning of up to 4000 active VLANs
• VLAN is flexibly programmed to any value from 1 to 4094 Protocol-based VLAN (802.1v) or Port-based VLAN (802.1v)

Security
• Port and MAC access control compliant with 802.1X authentication

L2/3 QoS
• Eight queues per port
• Minimal and maximal bandwidth per traffic class using weighted round robin and strict priority scheduling
• 128 quality of service (QoS) profiles for traffic class drop precedence

L3+ services
• L3 Hardware Engine for Unicast and Multicast routing
• IGMP V2, V3
• RIP V2, OSPF V2
• UDP relay & DHCP proxy
• STP/RSTP provides redundant link support
• L2 to L7 advanced traffic classification

Switch Management
Onboard firmware is implemented with comprehensive Built-In Test (loop back mode used during diagnostic maintenance functions and network (BootP) updating functions.

Management software provides a wide range of configuration L2/3 functions on any port : transmission speed/mode, VLAN, STP parameters, mirroring, QoS, etc. Supervision get lots of information in real time on the switch. MIB, RMON counters and private informations are accessible from SNMP agent, web-browser or CLI for L3 functions.

This Open Application, named Switchware is carried out by a PowerPC processor.

Front panel LEDs
• Power supply and Switch status
• Switched ports : activity & link

Power supply
• Estimated Pmax = 30W (for 24 1000KX and 4 XAUI) TBC
• 5 VDC only
• 3.3 VDC Aux for optionnal managment controler.

Standards Compliance

Emissions
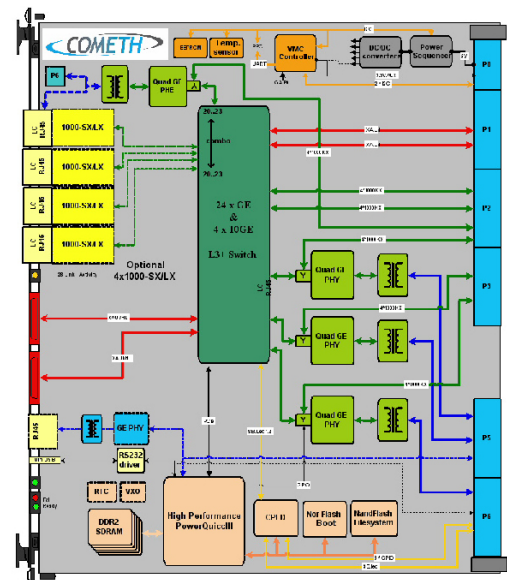• EN55022 Class B

Immunity
• CEI 6000-4-2 (ESD), 6000-4-3 (Electric field), 6000-4-4 (Burst),
• 6000-4-5 (Surge), 6000-4-6.

Security
• EN60950

Rear Transition Module
A rear transition module to bring Ethernet out the backplane is available; please talk to sales for details.

Block diagram of the T4340a

Environmental Specifications
Please consult the **T4340a** page at **www.acttechnico.com**.

Ordering Information
Please contact our sales department at (**215) 956-1200** or via email at **sales@elma.com.**

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