ELMA
Embedded Computing

T4080a - 3U VPX Gigabit Ethernet Switch and Routing Engine
Base-T and Base-KX Gigabit Ethernet Ports

ELMA
Your Solution Partner

OpenVPX)

Description

The T4080a provides up to 21 Gigabit Ethernet ports. Compliant with the latest VITA 65 release, it offers up to 12 TP (Thin Pipe) 1000 Base-T ports and 8 UTP (Ultra Thin Pipe)1000 Base-KX ports to the backplane.

In embedded systems, the T4080a provides for 1000-KX ports via the backplane to CPUs supporting that interface while also supporting legacy boards and external sensors or systems requiring 1000Base-T interfaces via the backplane.

Like other products in Elma's T40xx family of Ethernet switches and routing engines, the T4080a supports full wire speed L2 bridging and L3 routing with L2-L4 advanced traffic classification, filtering and prioritization with optimized power consumption.

It is fully compatible with all Switchware GUI versions supported in our T40xx family, leveraging the latest developments in Switchware's management features including support for: IPv6 (management and uni-cast routing), RIPng, OSPF v3, VRRP, additional security features (HTTP/SSH client authentications), configurable memory allocation, new status counters and others.

The T4080a also implements optimized PBITs and power-up sequence to ensure a boot-time of less than 10 seconds.
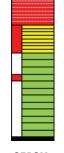
Ethernet interfaces:

- Eight 1000Base-BX ports on P1 (UTP)
- Twelve 1000Base-T ports on P1/P2 (TP)
- One front auto media detect*
  o 10/100/1000 Base-T Copper Ethernet (RJ45)
  o 1000 Base-SX (or LX) optical Ethernet (LC)**
    * air cooled versions

Miscellaneous:

- One RS232 port, front mini-USB or on P1 connector
- Status LED indicators (front)
- One µ-controller for System Management (per VITA 46.11)

Switch Management

The T4080a is a 3U VITA 46 VPX module. It is available in air cooled and conduction cooled versions which are compliant with VITA 47.

8F12U

The T4080a can be monitored from the console port or any of the Ethernet ports via HTTP (or HTTPS), SNMPv2c (or SNMPv3), CONSOLE, TELNET (or SSH). Switchware GUI and configuration files can be updated by FTP (or SFTP) and restoration of the previous release or default factory configuration is possible.

Many additional functions are provided on this fully managed version including:
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.
Set up and configuration of the T40480a is accessed through Switchware, a convenient and easy to use GUI application.

Please consult the Switchware User's Manual for a comprehensive overview of all the product features.

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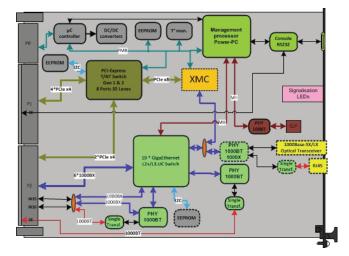**Ethernet   VITA   PICMG**

Main Features

Ethernet Features:

Twenty one 10/100/1000 Ethernet ports with a full-wire speed switching capacity of up to 37Mpps.

- Speed, duplex, auto-negotiation,flow control and power management on all ports
- VLAN support and 802.1Q tagging
- Port mirroring
- Port rights management
- Jumbo frame support
- Static MAC address list
- Static IPM address list
- Port static authentication
- IEEE 802.1X authentication
- Ingress filtering
- Storm prevention
- QoS on all ports
- Ingress access lists
- Rate limiting
- Static / dynamic trunking (LACP)
- STP / RSTP
- IGMP snooping

Quality of Service Engine

- Layer 2 802.1p User Priority tagging
- Layer 3 IP DSCP (Diffserv)
- Access Control Lists (L2, L3, L4)

Multicast:

- IGMPv1, IGMPv2, IGMPv3

Layer 3 Routing:

- ICMP
- Proxy-ARP
- DHCP-relay
- IPv4/IPv6 unicast routing
- IPv4 multicast routing
- Static IP routing (unicast and multicast)
- RIPv1, RIPv2 (IPv4)
- RIPng(IPv6)
- OSPFv2 (IPv4)
- OSPFv3(IPv6)

Flexible management tools:

- PBIT results
- Temperature information
- CPU load Switch state
- Links & Physical interfaces state
- Global / detailed ports statistics
- Bridge egress, ingress and RMON statistics
- Queues and ingress buffer counters
- IGMP snooping state by VLAN and by port
- MAC address table access
- IPM address table access
- STP/RTSP state
- 802.1X authentication statistics
- Logging management

Advanced Switch Features

- For details, please consult the T4080a page at www.elmasystems.com

Power supply

- Estimated Max Power = 20 W

Block Diagram

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

Environmental Specifications

Visit our website at www.elmasystems.com for the environmental specifications of all of our network switching products.

Model Number T4080a Ordering Information

Please contact our sales department at 215-956-1200 or via email at sales@elma.com for specific model configurations

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