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Description

T3200b is a range of highly integrated Layer 2/3 Ethernet switches. The switching capability provides up to sixteen 10/100BT and eight 10/100/1000BT front Ethernet ports.

Eight Fast and four Gigabit Ethernet ports via an expansion mode. The two slots wide version provides 16 Fast and 4 Gigabit Ethernet ports via an expansion board. A set of four Gigabit Ethernet ports and/or 8 Fast Ethernet Ports can be added with specific mezzanines.

A standard expansion is available with 4 small pluggable transceivers slots. This flexible interface capability allows for the addition of several types of optical or 1000BT transceivers on the switch.

T3200b is compatible with both VME or cPCI 6U systems. This switch is fully upward compatible with the Model T3200 while providing additional Gig E ports and adding some layer 2 and layer 3 enhanced functions such as port aggregation, traffic rate shaping, etc.

Its ultra low-power design together with thermal monitoring makes it ideal for integration in extended temperature applications.

Models T3200, T3300b & T5100b, provide for optimized switch solutions for mixed Fast Ethernet and Gigabit Ethernet system configuration requirements.

Management Capabilities

T3200b products are end-user switches with SwitchWare embedded software. T3200b acts as a full Layer 2/3 managed switch. It can be operated from a browser, PC Windows application or SNMP. All functions can be easily managed and monitored with software updates downloaded and stored in Flash memory.

Switchware graphical user interface package provides some software layer 3 functions, allowing local IP forwarding (IPv4/ IPv6), static and dynamic protocols (RIP, OSPF) routing, proxy-ARP and DHCP-relay. L3 functions are managed through a CLI interface. The T3200b is a combination of layer 2+ Ethernet switch and IP router in one single or dual slot 6U form factor depending on the required port count.

Key Features

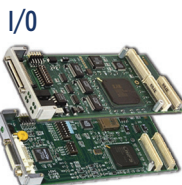
- Provides 16 Fast and 8 Gigabit Ethernet ports with expansion capabilities

High speed non-blocking layer 2 switch with:

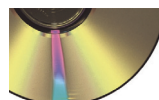
- Store and forward
- 8000 MAC addresses
- Static or automatic MAC address management
- Broadcast filtering
- Trunking
- Auto negotiation and auto crossover for true plug and play operation
- Prevents packet loss with back pressure and IEEE 802.3x flow control
- QoS layer 2/3 using four priority queues with advanced congestion management
- Supports VLANs based on ports and or MAC addresses to simplify network management
- Multicast flow management with IGMP snooping, IGMP v2
- RSTP/STP protocol for more network reliability

Management Flexibility:

- Windows PC, browser or console interface
- Full MIB and RMON counters
- Optional SNMP agent
- Thermal monitoring
- Comprehensive built in test
- Front panel LEDs
- On line virtual cable tester
- Layer 3 software routing functions



Design & Documentation



Chassis



Modular Storage



ACT/Technico™ brand of Embedded Computing Products

T3200b

Main Features

Base unit

- Auto-sensing 10/100BT ports IEEE 802.3 compliant
- Auto-sensing 10/100/1000BT ports IEEE 802.3 compliant with 2-pair downshift feature
- Auto-negotiation IEEE802.3u compliant
- Automatic polarity correction

Front panel LEDs

Power supply and CPU status
Switched ports: activity & link

3.3VDC or 5VDC Power supply

Up to 18 Watts according to the configuration.

Expansion board with front port connections.

4 Small Form Pluggable slots available in the one or two slots versions.

The 1000SX or LX transceiver characteristics are:

VCSEL (850nm) or FP laser (1300nm) model:

- 850nm > 220m with MMF 62.5/125µm or 500m with MMF 50/125µm
- 1300nm > 550m with MMF 62,5 or 50/125µm and 10 Km with SMF 9/125µm
- 1550nm (consult us)

Consult Elma for other configurations.

Switch Management

Onboard firmware is implemented with Power on Built-In Test, maintenance functions and network (BootP/DHCP) updating functions.

Management software provides a wide range of configuration functions on any port: transmission speed/mode, VLAN, RST/STP parameters, mirroring, etc.

Supervision functions gather information in real time on the switch status in particular the local temperature. As an option, management can be performed through an out-of-band Ethernet port. MIB and RMON counters and private information are accessible from SNMP agent, HTTP web browser via Ethernet. Switchware graphical user interface software runs on a PowerPC processor running under LINUX.

Switching

Store-and-Forward with low last-bit-in to first-bit-out delay Full wire-speed on each port even with 64-byte frames Link aggregation (802.3ad) with static or LACP management.

MAC level

8000 MAC unicast address with automatic aging, self-learning mechanism or static configuration

Tag extraction and insertion (802.1p), security with locked port mode, etc.

Queue Buffer

Four levels of priorities queuing per port with fixed or weighted priority.

Flow Control

Back pressure and pause frame-based flow control schemes are included to support zero packet loss under temporary traffic congestion.

Filtering/Forwarding Rate

Ingress storm limiting for instance broadcast discard above a threshold Egress rate shaping.

Spanning Tree Algorithm

STP (802.1D) or RSTP (802.1w) provide redundant link support and Fast port capabilities.

VLANs

Port based VLANs or VLANs fully compliant with 802.1Q standard and per-VLAN forwarding databases.

QoS

Layer 2: Tagged frames according to 802.1p (Tagged or untagged frames supported on each port).

Layer 3: IPv4 TOS/DS, IP V6 TC, priority override.

Port Mirroring

Allows the administrator to mirror traffic from a port to an external network analyzer for in-depth traffic analysis.

Virtual cable tester

Problem diagnosis including opens, shorts, cable and termination impedance mismatches, bad connectors, etc.

Standards Compliance

Emissions

EN55022

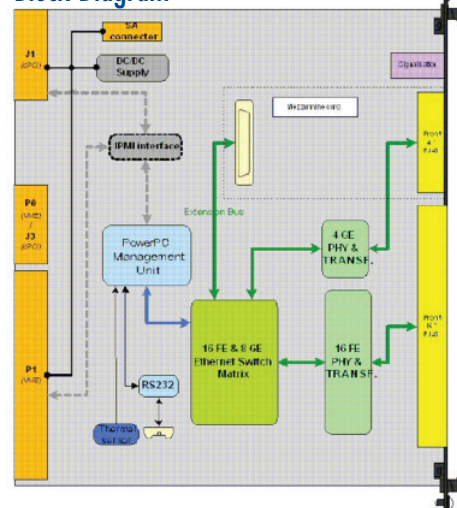
Immunity

CEI 6000-4-2 (ESD), 6000-4-3 (Electric field), 61000-4-4 (fast transient), 61000-4-5 (Surge), 61000-4-6 (Electric conduction)

MTBF

TBD

Block Diagram



Environmental Specifications

Criterion	Standard Grade	Extended Grade	Rugged Grade	CC Grade
Conformal Coating	Optional	Standard	Standard	Standard
Operating Temp.	0 to 55 °C	-20 to 65 °C	-40 to 75 °C	-40 to 75 °C
Humidity - non cond.	5 to 90%	5 to 95%	5 to 95%	5 to 95%
Storage Temp.	-45 to 85 °C	-45 to 85 °C	-45 to 100 °C	-45 to 100 °C
Sinusoidal Vibration	2G [20..2000]Hz	2G [20..2000]Hz	5G [20..2000]Hz	5G [20..2000]Hz
Random Vibration	0.002g²/Hz [10..2000]Hz	0.002g²/Hz [10..2000]Hz	0.05g²/Hz [10..2000]Hz	0.1g²/Hz [10..2000]Hz
Shock 1/2Sin. 11ms	20G	20G	40G	40G

Ordering Information

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



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