Systems By Design

ACT TECHNICO

Model T3300b Fast and Gigabit Ethernet VME Switch For Air or Conduction Cooled Applications

T3300b is a highly integrated Layer 2+ Ethernet switch providing 24 10/100TX Ethernet ports and 6 Gigabit ports

Key features of the T3300b:

- 24 Fast Ethernet and 6 Gigabit Ethernet Channels
- Conduction and Convection Cooled versions

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
- Prevents packet loss with back pressure and IEEE 802.3x flow control
- QoS layer 2/3 using four priority ques 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 reliablity

Management Flexibility:

- Windows PC, browser or console interface
- Ful 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

Twenty four Fast Ethernet channels are routed via P2. Four Gigabit Ethernet channels are available via P0. Two other Gigabit Ethernet ports are available on the front panel with copper (RJ45) or fiber (MTRJ) interfaces. In the dual configuration, the Gigabit transceivers automatically select the media (copper or fiber) with activity. According to the selected Fiber transceiver, the T3300b provides a SX or LX interface.

T3300b is available in both air and conduction-cooled formats.

Auto-crossover, auto-polarity, auto-negotiation and automatic MAC address management make the T3300b a true Plug&Play layer2 switch.

This switch is fully upward compatible with T3300. It provides more Gigabit Ethernet ports and adds some L2 enhanced functions such as port aggregation, traffic rate shaping, etc.

Managed capabilities

T3300b products are end-user switches with **SwitchWare** embedded software. The T3300b acts as a full Layer 2/3 managed switch. It can be operated from a browser, PC Windows application or SNMP as an option. All functions can be easily managed and monitored. Software updates can be downloaded and stored in Flash memory.

The Enhanced Switchware package provides additional Layer 3 routing functions, allowing local IP forwarding (IPv4/ IPv6), static and dynamic protocols (RIP, OSPF) routing, proxy- ARP and DHCP-relay. These L3 functions are usable through a CLI interface. **T3300b** combines layer 2+ switch and a layer 3 router capabilities.

Main features

Twenty four auto-crossover 10/100BT on P2 and four 10/100/1000BT ports available on P0.
Two Gigabit ports, 1000BT or Fiber. The 1000BT ports are available on the front panel. In the dual configuration the selection between fiber or copper is automatic.
The 1000SX or LX 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 ACT)

Front panel LEDs

Power supply and CPU Status
Switched ports : activity/link

5VDC Power supply

Up to 18 watts according to the port configuration
Rear Transition module routes ports to the rear panel
Please refer to ordering information.

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 get lots of information in real time on the switch status in particular the local temperature.
MIB and RMON counters and private information are reachable fromSNMP agent, HTTP web-browser via Ethernet.

Switchware resides 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 - 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 full compliant with 802.1Q standard and per-VLAN forwarding databases

QoS

Layer2 : Tagged frames according to 802.1p (Tagged or untagged frames supported on each port)
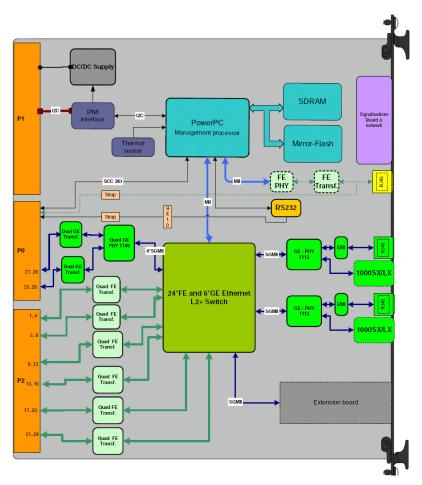Layer3 : IPv4 TOS/DS, IP V6 TC, priority override

Port Mirroring

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

Virtual cable tester

Possible problems that can be diagnosed include opens, shorts, cable and termination impedance mismatches, bad connectors, etc.

Standard Conformance
Emissions EN55022
Immunity CEI 6000-4-2 (ESD), 61000-4-3
(Electric field), 61000-4-4 (fast transient), 61000-4-5 (Surge), 61000-4-6 (Electric conduction)
MTBF TBD

Environment specifications :
Please refer to ordering information below.

Criterion	Standard Grade	Extended Grade	Rugged Grade	CC Grade
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:

All Extended Grade, Rugged Grade and Conduction Cooled boards below are conformal coated

Model #	Description	Grade
T3341-740	24 ports_FM : 4HP wide - 24*10/100Mbs to the backplane (R-P2) or through RTM	Standard
T3341-760	24 ports_FM : 4HP wide - 24*10/100Mbs to the backplane (R-P2) or through RTM	Extended
T3341-795	24 ports_FM : 4HP wide - 24*10/100Mbs to the backplane (R-P2) or through RTM	Conduction Cooled
T3342-740	28 ports_FM : 4HP wide - 24*10/100Mbs to the backplane (R-P2) or through RTM - 4*10/100/1000Mbs to the backplane (R-P0) or through RTM	Standard
T3342-760	28 ports_FM : 4HP wide - 24*10/100Mbs to the backplane (R-P2) or through RTM - 4*10/100/1000Mbs to the backplane (R-P0) or through RTM	Extended
T3342-795	28 ports_FM : 4HP wide - 24*10/100Mbs to the backplane (R-P2) or through RTM - 4*10/100/1000Mbs to the backplane (R-P0) or through RTM	Conduction Cooled
T3343-740	30 ports_FM : 4HP wide - 24*10/100Mbs to the backplane (R-P2) or through RTM - 4*10/100/1000Mbs to the backplane (R-P0) or through RTM - 2*GE SX/TX_auto (FP)	Standard
T3343-760	30 ports_FM : 4HP wide - 24*10/100Mbs to the backplane (R-P2) or through RTM - 4*10/100/1000Mbs to the backplane (R-P0) or through RTM - 2*GE SX/TX_auto (FP)	Extended
RTM07_100/1K_28	28 ports : 8HP wide - EMI protection (P2&P0) - 24*RJ45 (10/100TX) - 4*RJ45 (10/100/1000BT)	Extended