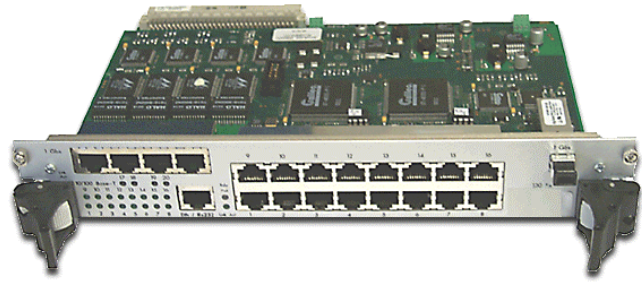*Systems By Design*　　ACT/TECHNICO

Models 5730 through 5736
6U VME Full Managed Ethernet Switches
10/100/1000BT, SX, LX High Density VME and Stand-alone

**573X Single Slot
Conduction cooled**

573X w/ Mezzanine Expansion

The 5730-5736 Series of 6U VME full managed Ethernet switches enable multi-channel Ethernet connectivity and the ability to operate with all existing Ethernet, Fast Ethernet and Gigabit Ethernet equipment and cabling, leveraging existing network investment. Extra mezzanine modules extend base Panel switching capabilities.

Two base versions:
- 8*10/100TX ports - 4 configurable to 100FX
- 16*10/100TX - 4 configurable to 100FX
- Mezzanine expansion allows for increased port count including GigE

Key features of the 5730-5736 Series of Ethernet switches:

- High speed non-blocking and store and forward switching
- Auto negotiation provided by fast Ethernet ports for speed and duplex mode selection
- Store and forward with low-last-bit-in to first-bit-out delay switching method
- Packet loss prevention via back pressure and IEEE802.3x flow control
- SNMP, Web management and Telnet via out of band port
- Local and VME data structure(MIB II and private functions)
- Port mirroring and monitoring
- Supports VLANs based on ports and / or MAC addresses to simplify network management
- Port trunking up to 800 Mbs of aggregated bandwidth
- STP algorithm for more reliable network communications
- LED and thermal sensor for easy network monitoring
- Rugged versions available
- Stand-alone versions without VME

Mezzanine modules support 10/100TX, 100FX and 1000BT/SX/LX modes with configurations from 8 to 21 ports. Beyond a 21-port configuration (16*10/100TX + 5*1000Mbs), please consult ACT.

The 5730-5736 Series of products support Advanced QoS with DiffServ priority and flow classifications. They also provide layer 2 Class of Service with 802.1Q tagged packet management and IP precedence owing to ToS IP header layer3.

Intelligent recognition and self-learning capabilities enable a forwarding rate at full wire-speed. This capability can be combined with locked port mode.

Switches are targeted as end-user switches with SwitchWare embedded software and as open switching platforms based on LINUX or VxWorks.

The switch range provides the technology required to simplify and accelerate IEEE802.2ab compliant Gigabit deployment. The 1000Base-TX standard defines 1000Mbs data transmission over copper media defined for Fast Ethernet at 100Mb/s – Category 5 Unshielded Twisted Pair ((UTP) cable.

SwitchWare System Management
Systems can be easily managed and monitored via SNMP/MIB protocol using network management software or a common browser interface. Switches are also manageable through VME data structure.

Flexible configurations
Numerous configurations are available for standard or rugged environments, VME or stand alone applications, with or without management. Please contact ACT for further details. Please contact ACT regarding conduction cooled and rugged requirements.

Functional Specifications
Physical features
Base Panel ports: 8/16*auto-sensing 10/100Mbs ports, RJ45 connectors for UTP or STP cable (network length 10BT/185m, 100TX/100m) optionally 1 to 4*100FX transceivers (MTRJ or LC) selected by jumpers 1*auto-sensing 10/100Mbs out-of-band port (network management)1*RS232 Console management port (RJ45)

Front panel LEDs: Power supply and CPU Status
Out-of-Band Ethernet Port : activity/link & medium speed 10/100Mbs
Switched ports : activity/link & medium speed 10/100Mbs

Mezzanine Panels :
Mezz. 10/100TX+1000iX 8*10/100base-TX (RJ45) + 1*1000SX/LX
Mezz. 4 Gbs + 1 Gbs 4*10/100/1000Base-T (RJ45) + 1*1000SX/LX

VME: D8/D16 short I/O access and Interrupter capability

Power supply: 8*10/100TX base Panel Pmax=15W/5VDC, 16*10/100TX base Panel Pmax=18W/5VDC
VME config. : through P1 connector
Stand-alone config. : through a 3 pin screw connector on the rear face of the Panel

Filtering/Forwarding Rate Full line speed

Switching Method: Store-and-Forward with low last-bit-in to first-bit-out delay

MAC level: 8000 MAC unicast address with automatic aging, self-learning mechanism, Tag extraction and insertion (802.1p), locked port mode.

Queue Buffer: Two levels of priority queuing and 160 packet buffers for the eight transmission link.

Flow Control: Back pressure for half duplex, IEEE802.3x for full duplex.

Broadcast Suppression: Discards broadcasts above a critical threshold.

Network Management
System configuration: Supervision management software provides a wide range of configuration functions on any port : transmission speed/mode, lock, mirroring, etc. MIBII counters and private information are reachable from SNMP agent, HTTP web-browser or VME data structure. All software stored on Panel can be updated through Ethernet via the Bootp or DHCP capabilities.

RMON: TBD

Spanning Tree Algorithm: IEEE 802.1d provides redundant link support and Fast port capabilities.

VLANs: Up to 4000 (30 for basic software) Virtual LANs full compliant with 802.1Q standard and per-VLAN forwarding databases.

QoS: Level2—Tagged frames according to 802.1p (Tagged or untagged frames supported on each port) Level3—Tag based priority Mapping IPv4 Type-Of-Service (TOS) six bits to internal priority queue (DiffServ Standard).

Port Trunking: One channel with a maximum of 8*10/100base-N ports. Support - 802.3ad compliant.

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

Standard Conformance
Emissions: EN55022 Class A
Immunity: CEI 6000-4-2 (ESD), 6000-4-3 (Electric field), 6000-4-4 (Burst), 6000-4-5 (Surge),
Security: EN60950
Environmental:
Temperature 0°C to 65°C and –20°C to 71°C in operating
Humidity 5% to 90% HR non condensing
Sinusoidal Vibration 2G [20..2000]Hz
Random Vibration 0.002g²/Hz ; [10..2000]Hz
Shock 20G
Altitude 3000m
Standards: IEEE802.3 (Ethernet), IEEE802.3u (Fast Ethernet), IEEE802.3z (Gigabit Ethernet), IEEE 802.1d (STP), IEEE 802.3x (full-duplex flow control)

Extended Environment with Conformal Coating
- Operating Temperature -20°C to 65°C
- Recommended Airflow 0.8m/s
- Humidity 5% to 95% HR non condensing
- Storage Temperature -45°C to 85°C
- Sinusoidal Vibration 2G [20..2000]Hz
- Random Vibration 0.002g²/Hz [10..2000]Hz
- Shock 1/2 Sin 11ms 20G

Order Information

All Extended Grade, Rugged Grade and Conduction Cooled boards below are conformal coated
S= standard grade (0-+55C), X= ext grade (-20-+65C), R = rugged grade (-40 - +75C), cc = cond cooled (-40 - +75C)

Model Number	FM = Full Managed switch (FP) = Front Panel - (R) = Rear I/O	Temp
5730-S	8 ports_FM : 8*10/100TX ports (FP) - 4HP	0 to +65°C
5731-S	8 ports_FM : 4*10/100TX ports (FP) + 4*100FX ports (only 2 of th on FP) - 4HP - Stand alone	0 to +65°C
5732-S	8 ports_FM : 6*10/100TX ports (FP) + 2*100FX (FP) - 4HP	0 to +65°C
5733-S	16 ports_FM : 16*10/100TX ports (FP) - 8HP	0 to +65°C
5734-S	16 ports_FM : 14*10/100TX ports (FP) + 2*100FX (FP) - 8HP	0 to +65°C
5735-S	16 ports_FM : 12*10/100TX ports (FP) + 4*100FX ports (only 2 of them on FP) - 8HP	0 to +65°C
5736-S	16 ports_FM : 12*10/100TX ports (FP) + 4*100FX ports on (FP) - 8HP Note : the 2 internal 100FX ports are connected via a FO link to a Front Panel MTRJ / MTRJ adapter	0 to +65°C

Switch / Mezzanines Combination Models

Model Number		Temp
5730 –MEZZ-1	12 ports : 8*10/100TX (FP) + 4*10/100/1000BT (FP) - 8HP	0 to +65°C
5730 –MEZZ-4	13 ports : 8*10/100TX (FP) + 4*10/100/1000BT (FP) + 1*1000SX (FP) - 8HP	0 to +65°C
5732 –MEZZ-2	9 ports : 6*10/100TX (FP) + 2*100FX (FP) + 1*1000SX (FP) - 8HP	0 to +65°C
5733 – MEZZ-1	20 ports : 16*10/100TX (FP) + 4*10/100/1000BT (FP) - 8HP	0 to +65°C
5733 – MEZZ-4	21 ports : 16*10/100TX (FP) + 4*10/100/1000BT (FP) + 1*1000SX (FP) - 8HP	0 to +65°C

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