ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

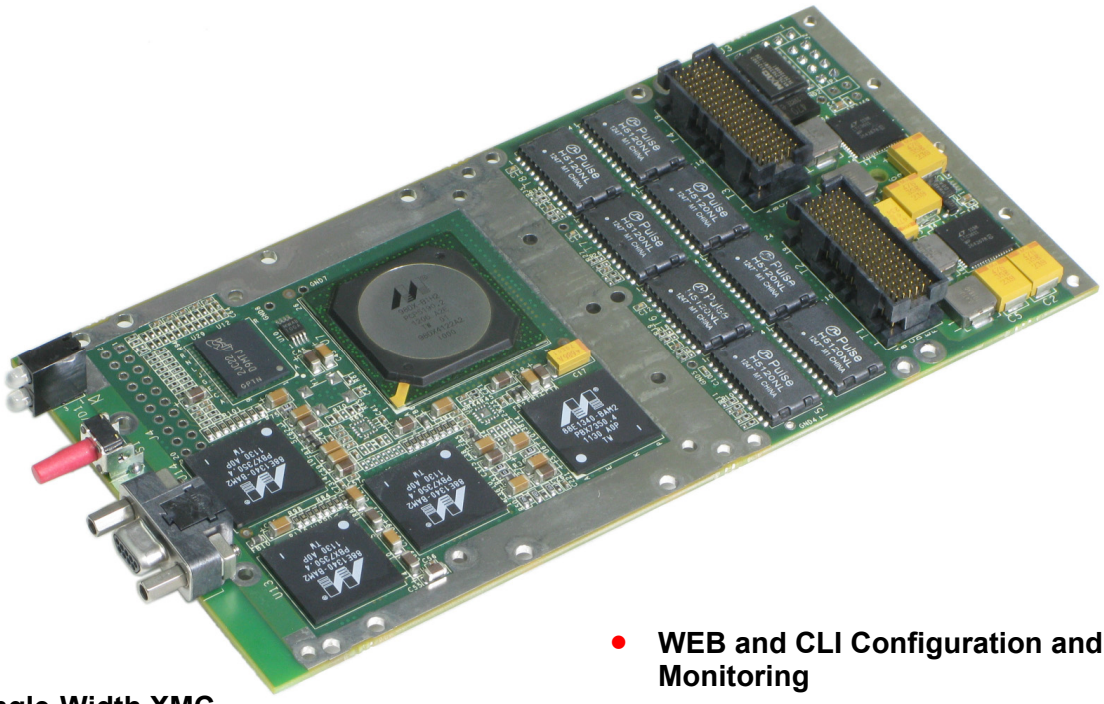
- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Aitech Defense Systems M620* at our website: *Click HERE*

M620
XMC Gigabit Ethernet Switch



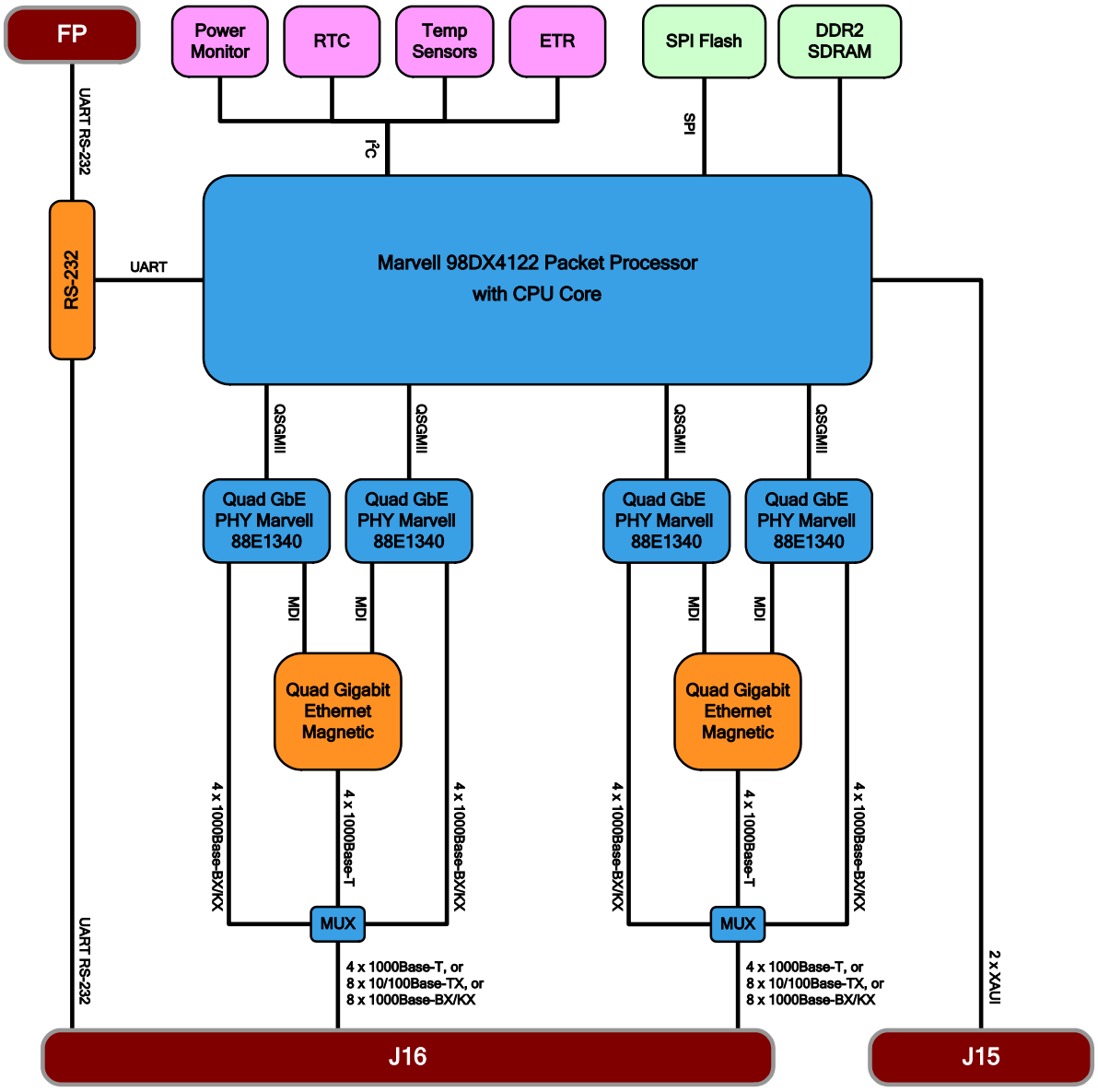
- Single-Width XMC
- Compatible with VITA 42
- Layer 2 and Layer 3 Management
- Up to 16 Fast/Gigabit Ethernet Ports, Three Standard Configurations
  - 8 x 10/100/1000Base-T Ports
  - 16 x 1000Base-BX/KX Ports
  - 16 x 10/100Base-TX Ports
- Two 10-Gigabit Ethernet XAUI Ports, VITA 42.6 compliant (optional)
- Full Wire-speed Non-blocking Forwarding
- IP Routing Functionality
- Advanced Spanning Tree Algorithms (RSTP, MSTP)
- Access Control List (ACL) Support
- QoS Management
- IPv4/v6 Differentiated Services (DiffServ)/DSCP Traffic Prioritization
- WEB and CLI Configuration and Monitoring
- 802.1Q-based VLAN Support
- Port-level Security via 802.1X Authentication
- SNMP v1, v2c, v3
- Supports OSPF v3, PIM
- 4/8/16 Group LAG Support with Protocol (LACP)
- All types of Storm Control
- Port Mirroring for Noninvasive Monitoring of Switch Traffic
- Jumbo Frame Support (10 kB)
- IPMI Support
- Elapsed Time Recorder
- Temperature Sensors
- Conduction and Air-Cooled Versions
- Vibration and Shock Resistant

Aitech Defense Systems, Inc.
A member of the Aitech Rugged Group
19756 Prairie Street, Chatsworth, CA 91311
Tel: (888) Aitech-8 (248-3248) Fax: (818) 407-1502 e-mail: sales@rugged.com web: www.rugged.com

Managed Gigabit Ethernet XMC Switch

Aitech's M620 XMC is a high-performance Gigabit Ethernet Switch for embedded and harsh environment applications. The M620 is based on the Marvell® Prestera® 98DX4122 Gigabit Ethernet Switch Controller and Marvell's Routing OS. The M620 includes an embedded web server, providing HTML pages that allow the user to manage the switch. The simplified browser-based user interface is an intuitive management tool, enabling convenient use of the switch's comprehensive feature set for a better-optimized network. Command line administration is also supported over network and RS-232 connections.

M620 mechanical and electrical design guarantees reliable operation over the full range of rugged application environments. It is available in industry standard conduction-cooled and air-cooled form factors.



M620 Block Diagram

Functional Description

System Architecture

Aitech's M620 is based on the Marvell Prestera 98DX4122 Multi-Layer Gigabit Ethernet Switch packet processor. The Prestera is able to perform Layer 2 and Layer 3 routing and switching for up to16 Fast/Gigabit Ethernet Ports and up to two 10-Gigabit Ethernet ports. An integrated high performance, low power ARM compatible Sheeva™ CPU core operating at 800 MHz functions as a Service Processor and interfaces to a high speed DDRII-320 MHz memory controller.

Four multiplexed multi-rate QSGMII ports, connected to four quad PHY controllers, support up to 16 Fast/Gigabit Ethernet ports. Optionally, two XAUI links can be routed to the XMC P15 connector per VITA 42.6, providing two 10-Gigabit Ethernet ports.

Board management devices include power controller, elapsed time recorder, temperature sensors, and RTC residing on the Prestera's I^2C bus.

Port Description

The M620 is offered in three standard variants, offering a choice of the following Ethernet port configurations:

- 8 x 10/100/1000Base-T Gigabit Ethernet Ports
- 16 x 1000Base-BX/KX SERDES Ports
- 16 x 10/100Base-TX Fast Ethernet Ports

The M620 is also offered with the optional addition of two 10-Gigabit Ethernet XAUI ports.

All configurations are performed at the factory per customer order. Additional configurations are available by customer request.

Port Features

- Auto Negotiation Supported
- Auto MDI/MDIX Supported
- Head of Line (HOL) Blocking Prevention Supported
- Flow Control (IEEE 802.3X) Support
- Back Pressure Support
- Jumbo Frames Support
- Cable Analysis
- Manual Port Control and Identification Supported

Mirroring

- Port Mirroring Supported
- VLAN Mirroring Supported

MAC Address Support

- VLAN-Aware MAC-based Switching Supported
- MAC Address Aging Supported
- Up to 16K MAC Entries
- Static MAC Entries Supported

VLAN Support

- Up to 4094 VLANs Supported
- Predefined Default VLAN
- Protected Ports Supported
- Private VLAN Edge Supported
- GVRP & GARP Supported
- Protocol-based VLANs Supported
- Port-based VLANs Supported
- Subnet-based VLANs Supported
- MAC-based VLANs Supported
- Nested VLANs (QinQ) Supported
- Multicast VLAN Registration (MVR) Support
- Multicast TV VLAN Support
- Auto Voice VLAN Support

Multicast

- Static Multicast Groups (256 Groups Supported)
- IGMP Snooping Supported (IGMP v1, v2, & v3)
- MLD Snooping Supported (MLD v1 & v2)
- Unregistered Multicast Filtering Supported
- IGMP Querier Supported

Spanning Tree

- Per-device Spanning Tree (IEEE 802.1D)
- Rapid Spanning Tree – RSTP (IEEE 802.1W)
- Multiple Spanning Tree – MSTP (IEEE 802.1S)
- Spanning Tree Fast Link Option
- STP Root Guard Supported
- STP BPDU Guard Supported
- BPDU Flooding/Filtering Supported (when STP is disabled on the switch or on the port)
- Loopback Detection Supported

Link Aggregation

- Up to 8 LAGs Supported, each with up to 8 port members
- LACP Support
- LAG Balancing Algorithm Support

Access Control Lists

- Up to 2k ACLs Supported
- MAC ACL Condition Supported
- IP ACL Condition Supported
- Time-based ACL Supported

Supported ACL Actions

- Forward Packet
- Drop Packet
- Drop Packet and Disable Ingress Port

QoS/CoS and Rate Limiting

- QoS Basic Mode Supported
- QoS Advanced Mode Supported
- Trust Configuration in Basic Mode
- Port Based Priority Supported
- Queue Mapping for 8 and 4 Queue Devices
- QoS Policy Customization
- QoS Statistics
- Ingress Rate Limiting Accurate Mechanism
- Egress Rate Limiting (Shaping)
- Rate Limiting Action in ACL
- Packet Storm Control

System IP Address Management

- Static Assignment of up to 32 IP Addresses
- Management VLAN
- DNS Client
- IPv6 Host
- DHCP Server
- DHCP Relay Option 82

IP Routing

- Up to 128 Static Routes
- Up to 1024 ARP Entries
- Proxy ARP Supported
- L3 DHCP Relay Supported
- UDP Relay Supported
- RIP v2 Supported

Security

- MAC-based Port Security Supported
- IEEE 802.1X Support
- Guest VLAN Support
- Unauthenticated VLAN Support
- Dynamic VLAN Assignment Supported
- Dynamic ACL (DACL) for Ingress Supported
- Remote Authorization and Authentication (RADIUS) Support (8 servers)
- Radius Accounting Supported
- TACACS+ Support (8 servers)
- Local Authentication Support
- Authentication Method Configuration & Priority
- DHCP Snooping Supported
- IP Source Guard Supported
- Dynamic ARP Inspection Supported

Graphical Switch Management Interface

- Embedded Web Server provides HTML Pages for Switch Management from Web Browser Interface
- HTTP/HTTPS (SSL v3) Supported

CLI Switch Management

- Multi-Session Telnet Connections Supported
- SSH Connections Supported
- RS-232 Console Port Connection Supported

Management Features

- Inactivity Timer for Management Sessions
- Password Security Supported
- Cryptography Supported
- Certificate Expiration Support
- Event Logging Supported
- Multiple User Support
- Soft Reset Supported
- SNTP (Simple Network Time Protocol) Support
- Ping Facility Supported
- Traceroute Supported
- LLDP (IEEE 802.1AB) + LLDP MED Supported
- Switch Auditing Supported

Configuration Management

- Configuration File Handling
- Clearing and Deleting
- HTTP/S Down/Upload of Configuration Files
- Auto Configuration Backup

SNMP

- SNMP v1, v2c, and v3 Supported
- MIB File Support
- Other MIB Placing
- OID Placing

Monitoring

- CPU Utilization
- Port/Link Utilization
- TCAM Utilization
- RMON Support
- sFlow (flow monitoring) Support
- Power Supply Status
- Temperature Status

Extended L3 Features

- Dual IP Stack Support
- RIP v6 Support
- OSPF v3 Support
- Routing Table Management and Route Redistribution
- Route Maps Supported
- PIM Support

M620
XMC Gigabit Ethernet Switch

Front Panel Connectors and Switches

The air-cooled version of the board is provided with a front panel, including the following:

- Two Power and System Status bicolor LEDs
- One RS-232 Debug Connector
- Reset Pushbutton

Mechanical Features

Form Factor and Dimensions

The air-cooled and conduction-cooled variants of the M620 are compliant with the mechanical and dimensional requirements of ANSI/VITA 42.0-2008, enabling them to be used in conjunction with IEEE 1101.1 (air-cooled) and IEEE 1101.2 (conduction-cooled) compliant carrier boards with XMC connectors.

The mechanical/thermal design of the M620 ensures effective thermal paths for cooling of high power components. The resulting optimal heat distribution allows operation of the M620 at extreme environmental conditions.

Weight

Air-cooled:	< 250 g (0.55 lbs)
Conduction-cooled:	< 300 g (0.66 lbs)

Thermal Management

Careful mechanical design, including custom heatsinks combined with a metal frame, allow for optimal heat dissipation and relief of the board. The M620 is also equipped with three temperature sensors, located at temperature-critical locations, to monitor board temperature and provide temperature data to the user.

Power Requirements

The M620 is powered by +3.3 Vdc and VPWR (+5 V/+12 V are both supported seamlessly) supplied by the host/carrier board.

All other power sources required by M620 resources are generated on board.

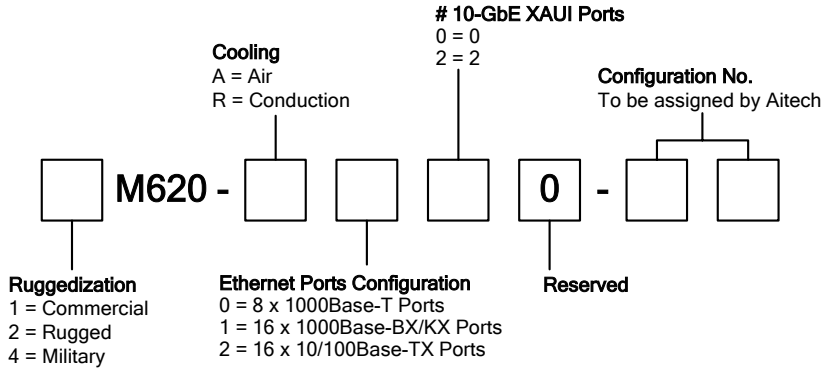
Power consumption of the M620 is 15 W, as follows:

+3.3 V	0.7 A
+5.0 V	2.5 A

Environmental Features

Please refer to the Aitech Ruggedization datasheet.

Ordering Information



Example: 4M620-R120-00

For more information about the M620 or any Aitech product, please contact Aitech Defense Systems sales department at (888) Aitech-8 (248-3248).

All names, products, and/or services mentioned are trademarks or registered trademarks of their respective holders.
All information contained herein is subject to change without notice.

Aitech Defense Systems, Inc.
A member of the Aitech Rugged Group
19756 Prairie Street, Chatsworth, CA 91311
Tel: (888) Aitech-8 (248-3248) Fax: (818) 407-1502 e-mail: sales@rugged.com web: www.rugged.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP