

## Features

### General Features:

- 10x Gigabit Ethernet
- 1x Serial & 1x 10/100 Ethernet Console Ports
- Fiber and Copper Media Capable
- Designed to Meet MIL-STD-810F
- Operating temperature: -40 to +85C
- For Use as Standalone Network Switch or in Embedded System Supporting a PC/104 or PC/104-Plus Bus

### PORTS:

- Ethernet - 10x Gigabit Ethernet (up to 4 Selectable for Fiber)
- Console - 1x 10/100 Ethernet & 1x RS-232 Serial for Configuration Management

**VLAN:** Up to 4096 Active Virtual Local-Area Networks

**QoS/CoS:** 802.1P Class of Service (CoS)/Quality of Service (QoS) Traffic Prioritization Determined by Port, 802.1p Tagged Frames, IPv4 TOS/Diff-Serv, IPv6 TC, 802.1Q VLAN ID, MAC – Roadmapped (Q1 2010)

### REDUNDANCY / FAULT TOLERANCE:

- Rapid Spanning Tree Protocol (RSTP), Spanning Tree Protocol (STP) – Roadmapped (Q1 2010)

### MANAGEMENT:

- Onboard Microcontroller (No External CPU Required)
- Link Speed, Duplex Mode, Flow Control on Per-Port Basis
- RS-232 Console w/ Command Line Interface (CLI)
- Web Browser GUI, SNMP – Roadmapped (Q1 2010)

### SECURITY:

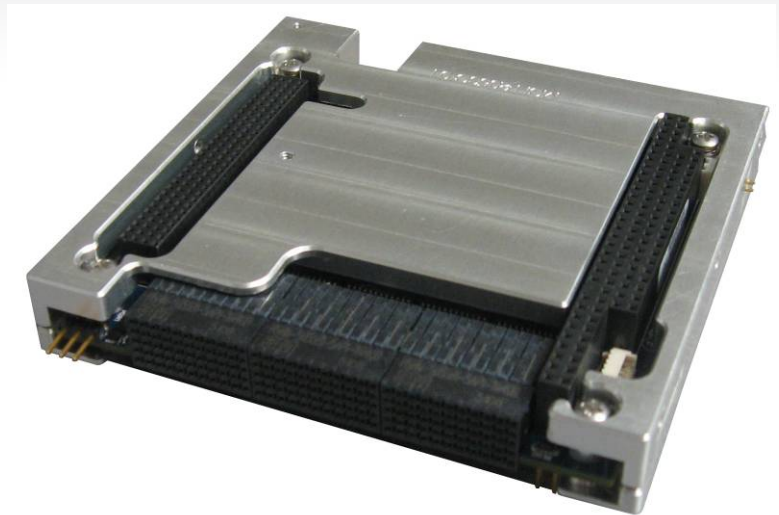
- Zeroization / Declassification Support

**RUGGED HIGH SPEED CONNECTOR:** 3M HSHM Series Connector to Ensure Gigabit Ethernet Data Integrity under Mechanical Stress and Extended Temperature Operation (No onboard RJ-45)

**SIMPLE NETWORK INSTALLATION:** Auto-MDI/MDIX, Auto-Negotiation and Speed Auto-Sensing

**BUS OR EXTERNAL POWERING:** Can be Powered via PC/104 (ISA) bus, PC/104-Plus (PCI) bus or 2-Pin Molex Power Header for External Power Connections

**STATUS INDICATION:** Activity, Link and Speed Indicator



### Applications:

- Civil / Military In-Vehicle Networking
- 24/28V Vehicle / Aircraft Installations
- C4ISR Network-Centric Operations / Situational Awareness
- Layer 2 Switching in Local Area Network (LAN)

The COM-1268 is a rugged PC/104+ Gigabit Ethernet switch card equipped with ten (10) triple-speed 10/100/1000Mbps ports for connecting IPv4 and IPv6 compatible computing devices in demanding embedded systems LAN applications. This small form factor layer 2+ switch features an onboard microprocessor for local/remote control and monitoring, as well as roadmapped support for Quality of Service (QoS) traffic prioritization, Virtual Local-Area Network (VLAN) trunking, Simple Network Management (SNMP), and Rapid Spanning Tree (RSP) redundancy\*.

Designed for robust performance under high shock/vibe and thermal conditions in space-constrained military / civil applications, the COM-1268 serves as an ideal Commercial-Off-the-Shelf (COTS) solution to enhance situational awareness and IP network centrality. The product is available as a standalone board or integrated into a military-hardened enclosed switch subsystem (DuraNET 1268), mobile router subsystem (DuraMAR 3230), or mission computer platform (DuraCOR 810-Duo). No additional processor is required to operate the board, and power can be drawn through either the ISA/PCI buses or 2-pin Molex connector (for non-PC104 systems).

The COM-1268 is designed with extended temperature components and comes with thermal heatsink plates to simplify systems integration and conductive cooling. A rugged, impedance-matched backplane-style connector brings out high-speed Gigabit Ethernet signals, along with an RS-232 serial console for CLI management, status LEDs, and zeroization. An out-of-band 10/100 Ethernet port is also available for Web GUI management of port settings. Up to four of the board's switch ports can support fiber optic connections. If additional port density is desired, any of the GigE ports can serve as a link for cascading multiple switch modules, while an onboard infrared interface supports recognition and management of two stacked COM-1268 boards under the same console interface.

\* Note: Some firmware features are currently still under development/in validation

# COM-1268

## Specifications

 <p>Top View without Thermal Plates</p>	<p><b>SWITCHING ARCHITECTURE</b></p>	<ul style="list-style-type: none"> <li>• Chipset: Marvel 88E6185</li> <li>• Non-Blocking OSI Data Layer 2+, Low-Latency</li> <li>• Ten Fully Independent 802.3 Media Access Controllers (MACs)</li> <li>• High-Speed Four Traffic Class QoS Switch Fabric</li> <li>• 8K MAC Address Look-Up Engine w/Integrated 1MB Frame Buffer Memory</li> <li>• Back-Pressure and Pause Frame-Based Flow Control</li> </ul>
 <p>Bottom View without Thermal Plates</p>	<p><b>STANDARDS COMPLIANCE</b> (Note: Support for some protocols/management features still under development/in validation)</p>	<ul style="list-style-type: none"> <li>• IEEE 802.3 10 Mbps 10BASE-T (Ethernet)</li> <li>• IEEE 802.3u 100BASE-TX 100 Mbps (Fast Ethernet)</li> <li>• IEEE 802.3ab 1000BASE-T 1000 Mbps (Gigabit Ethernet)</li> <li>• IEEE 802.1d Spanning Tree (Bridging)</li> <li>• IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)</li> <li>• IEEE 802.1p LAN Layer 2 QoS/CoS Protocol for Traffic Prioritization</li> <li>• IEEE 802.1Q Tagged VLANs / VLAN Trunking</li> <li>• RFC 2460 IP Protocol Support for IPv4 and IPv6 addressing</li> <li>• SNMPv1 (Simple Network Management Protocol)</li> </ul>
 <p>COM-1268 RJ-45 Adaptor</p>	<p><b>PORT FEATURES</b></p>	<ul style="list-style-type: none"> <li>• Expansion: Any port can serve as link port for cascading multiple switches; Onboard IrDA interface supports recognition and management of two stacked COM-1268 boards under same console interface.</li> <li>• Data Transfer: 10 Mbits/sec, 100 Mbits/sec, or 1000Mbps</li> <li>• Duplex: Each Port Works at 10 Mbps or 100 Mbps, full or half-duplex mode; or 1000Mbps full-duplex mode</li> <li>• Auto-MDI/MDIX, Auto-Negotiation, Auto-Detect; Speed Auto-Sensing, Auto-Crossover; Port Mirroring</li> </ul>
	<p><b>MEDIA SUPPORT:</b></p>	<ul style="list-style-type: none"> <li>• Copper and Fiber Optic Capable: Up to 10 Ports Copper, Up to 4 Ports Fiber (1.25-GHz high-speed differential)</li> <li>• Fiber Detect Signal Switches Off Associated Copper Channel as Fiber Ports are Utilized</li> </ul>
	<p><b>POWER</b></p>	<ul style="list-style-type: none"> <li>• Power Input: +5V Only (via ISA bus / PCI bus / Molex 2-pin connector)</li> <li>• Power Consumption: Approx. 18 Watts</li> </ul>
	<p><b>PHYSICAL</b></p>	<ul style="list-style-type: none"> <li>• Form Factor: PC/104-Plus</li> <li>• Dimensions (L x W): 3.550" x 3.775" (90x96 mm); 3.91" x 4.14" (99.31x105.16mm) w/thermal plates, excluding interface connector extension</li> <li>• Passive Thermal Management: Integrated Clam-Shell Heatsink Thermal Plates for Conductive Cooling to Optimize/Ease Integration with System Thermal Interface</li> <li>• Connectors: Stack-through PC104 and PC/104+ Buses (Power only); 3M HSHM Series Connectors (Ethernet, RS-232, Zeroize, Reset, LEDs); Molex 2-pin right angle (Power); 12-pin (Fiber); Molex 4-pin (Fast Ethernet Mgmt)</li> </ul>
	<p><b>ENVIRONMENTAL</b></p>	<p>Designed to Meet MIL-STD-810F:</p> <ul style="list-style-type: none"> <li>• Operating temperature: -40 to +85C (-40°F to +185°F) with proper thermal management</li> <li>• Storage Temperature: -50 to +85C (-58°F to +185°F)</li> <li>• Humidity: Up to 95% RH, Non-Condensing</li> </ul>
	<p><b>WARRANTY</b></p>	<ul style="list-style-type: none"> <li>• 1 Year RTF Warranty (Extended Service Contracts Available)</li> </ul>
 <p>Adaptor Board Shown Installed</p>	<p><b>RELIABILITY:</b></p>	<ul style="list-style-type: none"> <li>• No Moving Parts</li> <li>• MTBF TBD (per MIL-HDBK-217F @ 40°C, GB)</li> <li>• Assembled to IPC-A-610 Class III Workmanship</li> <li>• Industrial Temperature Grade Components</li> </ul>
	<p><b>ZEROIZATION:</b></p>	<ul style="list-style-type: none"> <li>• Recoverable Declassification (Erase Function Returns Board to Basic Unmanaged State)</li> </ul>
	<p><b>SPECIAL ORDER / CUSTOM OPTIONS:</b></p>	<ul style="list-style-type: none"> <li>• PRV-1336-02: Stacking PC104 Breakout Board Set (Mates 3M HSHM Connectors to RJ-45 for Testing/Configuration of COM-1268 in Lab Environments)</li> <li>• Custom Heatsink / Thermal Interface</li> <li>• Conformal Coating</li> <li>• 3.3V Power Input on PCI Bus; Removal of PCI / ISA Bus</li> </ul>
	<p><b>SPECIAL ORDER / CUSTOM OPTIONS:</b></p>	<ul style="list-style-type: none"> <li>• Integration of COM-1268 Functionality into <b>DuraCOR 810-Duo</b> Mission Computer Platform</li> <li>• Fully Enclosed MIL-Qualified Switch Subsystem: See <b>DuraNET 1268</b> Datasheet</li> <li>• Full Enclosed MIL-Qualified Cisco Mobile Router with Integrated Switch Subsystem: See <b>DuraMAR 3230</b> Datasheet</li> </ul>

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