



Model 5468

### FEATURES

- 8 port non-blocking hybrid switch
- 2 ports routed Gigabit PCI-X MAC
- 2 ports routed to backplane
- Switch function in hardware
- Wire-speed performance

### POWER AND OPERATING TEMPERATURE

- Power supply: Uses single 5V supply rail (optional 3.3V)  
Onboard step-down regulators for core voltages
- Power Consumption: 6.4W total board power
- Temperature: 0-55C ambient, -30C to 70C extended

### DRIVER AND FIRMWARE SUPPORT

- Tornado 2.2 / VxWorks 5.5
- Linux versions 2.4. 2.6
- Embedded Linux
- Management features include performance statistics and status

### EMBEDDED APPLICATIONS

- Digital video transmission
- Packet voice, VoIP
- Network security and monitoring
- Network test equipment
- Servers and data centers
- Switches and edge routers
- Military and medical systems
- Digital imaging products

### PRODUCT DESCRIPTION

#### GIGPMC SWITCH SERIES - COMPACT PMC SWITCH CARD

The model 5468 is a hybrid 8-port wire-speed non-blocking layer-2 hardware switch on a highly integrated, compact PMC card form factor. The model 5468 features an innovative "4+2+2" switching design that is both unique and highly functional and can be used to provide add-on Gigabit Ethernet switching capabilities in a compact space. It has an integrated 8-port layer-2 device as the central switching function, a 2-port PCI-X Gigabit MAC host interface, an onboard control FPGA and transceivers for the interconnect. The total of 8-ports are routed as follows — four ports to RJ-45's on the PMC bezel, two ports to the host via the Gigabit MAC's PCI/PCI-X bus interface and the remaining two ports routed as 1-gigabit Serdes to the I/O pins on the PMC "JN4" connector.

The Model 5468 can be used as a standalone or simple managed multiport switch or front-end network processor and is fully IEEE 802.3 compliant. As daughter card, it can be used to add-on scalable-switched networking capabilities to any embedded system design with PMC sites. It is packaged in a 64-bit IEEE 1386 PMC mezzanine form factor suitable for embedded enclosures and operates in PCI-X and 64-bit, 66 MHz PCI modes. It has a recessed quad-port shielded RJ-45 connector for connecting directly to CAT5 twisted pair cabling and has four multifunction Link/Activity LEDs. It uses advanced combined hybrid technology — a Broadcom BCM5388 integrated 8-port layer-2 switch and an Intel 82546 dual port integrated PCI-X MAC-PHY and is capable of running all ports at wire-speed. In addition to the switch and MAC functions, a 4-port Gigabit Ethernet Serdes transceiver from PMC-Sierra and a Lattice FPGA are used to provide interconnect and control functions. The combination of the switching performance, MAC's, onboard routing and control functions provide a very high-level of performance, functionality and integration using a low amount of power in a compact space.

Features supported in the switch include port-based and 802.1Q VLAN's, trunking, link-aggregation, port mirroring, fail-over and QOS/priority. In addition, unicast and multicast addresses not found in the switching tables can be forwarded to the host processor via the PCI bus for additional processing. Using this host interface coupled with the onboard FPGA allows more dynamic control for switching and front end filtering / forwarding capabilities.

The Model 5468 offers excellent performance, functionality and value and allows gigabit switched networks to be built into existing embedded systems as needed. Additional cards can be added as necessary and used to scale the network connections and capacity. Both Linux and VxWorks drivers are available for the host interface and optimized for high throughput and high frame rate applications. Conformal coating is also available for a more rugged design in harsh environments.

The Model 5468 8-port Gigabit PMC switch is targeted for OEMs and Systems Integrators for use in data and telecommunications and is well suited for a variety of embedded Military, Aerospace, Telecom and Industrial applications. This product is available with an OEM Developers Kit containing Linux and VxWorks device drivers, library functions, frame generators, loopback tests, benchmark programs, statistics and management utilities and documentation.

# GIGPMC-SWITCH MODEL 5468

GIGPMC SWITCH SERIES -  
COMPACT PMC SWITCH CARD

## PRODUCT DATASHEET

### SPECIFICATIONS

- IEEE 1386 64-bit PMC Mezzanine Card
- IEEE 802.3 compliant & PCI Rev 2.2 compliant
- Supports 10/100/1000 Base T auto negotiation (copper)
- 133/100/66/33 MHZ, 64-bit PCI-X bus interface
- 4-ports routed to onboard recessed CAT5e ganged RJ-45 connector
- 2-port routed to host via onboard Intel 82546 MAC
- Remaining 2-ports routed to PMC's "JN4" connector for backplane I/O
- Four multi-function Link/Activity LEDs
- Supports 5V or 3.3V bus power
- I/O signaling is 3.3V/5V tolerant
- Low power @6.4W (all ports gigabit mode)
- Onboard EEPROM for standalone switch operation
- Jumbo frames to 9.7K
- Certifications: FCC Class 15; Part B, EN5502 (pending)

### PERFORMANCE AND SWITCHING CAPABILITIES

- Line speed layer-2 switching on all 8-ports
- Performance category: 16 million packets-per-second/16Gb line rate switching
- 4096-entry ARL MAC address table (L2 table), automatic learning
- Port trunking, aggregation and mirroring support
- Integrated 1.5Mb packet memory
- Extended temperature models available
- VLAN 802.1D, 802.1Q support (4000 VLANs)
- 802.1P and MAC-based QOS support
- Advanced flow-control and head-of-line blocking prevention, packet aging
- Support broadcast storm suppression
- Allows for protected ports

### MANAGEMENT FEATURES

- Can be operated in unmanaged or simple-managed mode
- External management mode via PCI host bus interface
- Onboard management provided by FPGA firmware
- Configuration and management for switch and transceivers
- Configuration, status, statistics, diagnostics and healthy status

### HARDWARE SPECIFICATIONS

- Broadcom BCM5388 8-port non-blocking layer-2 switch
- PMC-Sierra PM8363 4-port gigabit transceivers with Serdes
- Lattice ispXPGA FPGA for management and control functions
- Intel 82546 2-port PCI-X Gigabit Ethernet MAC for host interface
- 133/100/66 MHZ, 64-bit PCI-X bus interface
- Serial EEPROM for switch configuration parameters
- Four multi-function Link/Activity LEDs



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### PARTNERS



DSS Networks is  
a member of the  
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