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Find the *Abaco Systems / Radstone GBX8-100B1* at our website: *Click HERE*

# GBX8
## Gigabit Ethernet Switch

RADSTONE SWITCHING



- Embedded Gigabit Ethernet Switch
- Eight 10/100/1000 Megabits per second (Mbps) ports routed to VME P0
- PowerPC Management Processor
- 16 Gigabits per second (Gbps) non-blocking switch with full wire speed performance
- Store and forward switching architecture
- 8000 MAC address table
- User controllable Built-In-Test (BIT)
- Auto power saving modes
- Conduction-Cooled Ruggedization Levels
- 6U VMEbus form factor

## Product Overview

GBX8 is a rugged 8-port Gigabit Ethernet switch designed specifically for embedded systems in air and conduction-cooled environments. It has been engineered to provide high reliability core switching ready for deployment in mission critical systems, where optimum performance must be ensured even in the most extreme environmental conditions. Typical applications for GBX8 include next generation vetronics systems, UAVs, naval weapon platforms, surveillance systems, airborne digital mapping and distributed data fusion systems.

### Connectivity

All eight Gigabit Ethernet ports are routed to the P0 connector to ensure the highest possible signal integrity for backplane-based interconnects. This connection arrangement supports both shielded (STP) and unshielded (UTP) cabling up to 100 metres. It is also suitable for use with ARINC 600/664 Quadrax and other arrangements using 100-ohm differential signaling. Each port may be configured for 10/100 Megabits per second (Mbps) operation, enabling GBX8 to function as a 10/100 Ethernet Switch as required. Two Gigabit ports may optionally be specified as 1000 BASE-SX or 1000 BASE-LX optical ports. This is ideal for external links, offering connection distances up to 10Km.

Two RS232 serial ports and a 10/100 Mbps Management Ethernet port are routed to the VME P2 connector. No VMEbus signaling is required, other than power and ground rails.

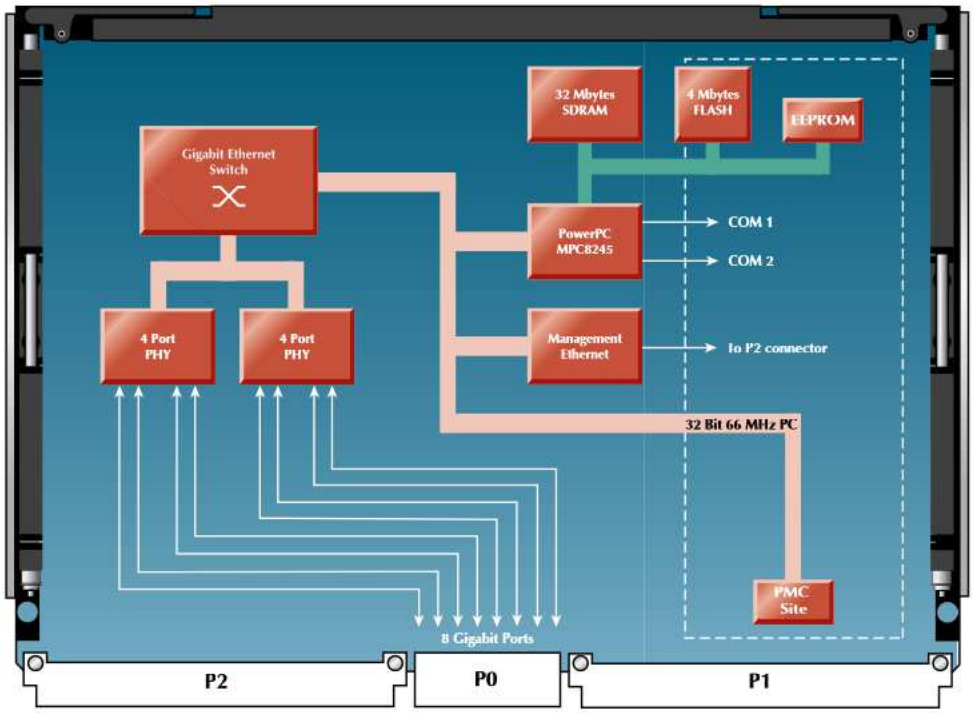
### Management Processor

On-board Built-In-Test (BIT) firmware ensures the GBX8 switch can be easily linked with other Radstone VMEbus boards to provide integrated system-level health monitoring and diagnostics. In addition to diagnostics, the local PowerPC processor may be used to configure the switch for specific requirements such as VLANs or traffic prioritization.

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## Specification

| | |
|---|---|
| **Ethernet** | IEEE 10 BASE-T, 100 BASE-TX & 1000 BASE-T<br>Auto MDI/MDI-X crossover |
| **Compliance** | IEEE 802.3-2000<br>• Auto-negotiation. • Full & half-duplex flow control |
| **Architecture** | Store-and-forward |
| **Auto Learning** | 8000 MAC addresses |
| **Copper Ports** | Eight 1000 BASE-T ports (Six ports if fibre required)<br>UTP CAT 5 or EIA/TIA-568 100-ohm screened twisted pair cabling (up to 100 metres) |
| **Fibre Ports** | Two ports (LC type connector)<br>Up to 10 km with 1000 BASE-LX<br>Up to 500 metres with 1000 BASE-SX |
| **On-board CPU** | Motorola PowerPC™ processor (300 MHz)<br>32 Mbytes (MB) SDRAM<br>4 MB FLASH<br>PCI Mezzanine (PMC) Expansion slot (66 MHz, 32-bit, 3.3V only) |
| **Dimensions** | 160mm x 233mm |
| **Power** | 5.0 VDC less than 30 Watts |
| **Environment** | Ruggedization levels 1-5. See Radstone's ruggedization data sheet (RT184) |

## Standard Ordering Information

| Sales Code | Description (Specify n = ruggedization level) |
|---|---|
| **GBX8-n00B1** | Embedded Gigabit Switch, 8 copper ports, ruggedization level 1 to 5 |
| **GBX8-nS0B1** | Embedded Gigabit Switch, 6 plus 2 1000 BASE-SX ports, ruggedization level 1 to 3 |
| **GBX8-nL0B1** | Embedded Gigabit Switch, 6 plus 2 1000 BASE-LX ports, ruggedization level 1 to 3 |
| **GBX8PIO-11** | Combined P0 & P2 paddle card for GBX8 development |

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