

# G4DSP-XD3

## Quad Freescale™ MPC7448 VME Multiprocessor with StarFabric

### Features

- Four Freescale™ MPC7448 processors
- 4 banks DDR SDRAM, up to 2 GBytes total
- Two StarFabric ports to P0
- PCI-X to all nodes and both PMC sites
- Gigabit Ethernet to all nodes
- Four serial ports
- Two PMC-X sites
- Central communications resource FPGA
- Rugged 6U VME form factor for air and conduction cooled systems

### Software

- AXIS Advanced Multiprocessor Integrated Software
- GE Built-In-Test (BIT) for Power Architecture
- BSPs for LynxOS 5.0 & VxWorks 6.6
- Linux Software Development Kit (SDK)

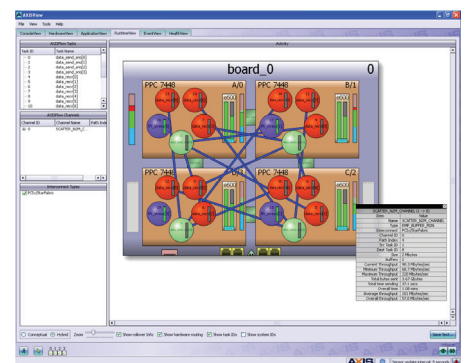
G4DSP-XD3 is the latest rugged, 6U VME Power Architecture multiprocessor in a product family that has been shipping since 2003. Aimed at defense and aerospace applications and available in air and conduction cooled builds, G4DSP-XD3 supports any node to any node data over the onboard PCI-X ring with bandwidths of up to 500 MBytes/s peak.

Multi-board systems are supported through the StarFabric data plane on P0 with additional control and data planes via Gigabit Ethernet and VME. Systems can be scaled up with combinations of G4DSP-XD3s, PPCM2 SBCs and our StarSwitch2 and PMCStarlite switch nodes to meet a range of processing requirements for demanding real-time DSP applications.

AXIS Advanced Multiprocessor Integrated Software provides a suite of fully integrated modules for system development, visualization and deployment including example applications such as a distributed corner turn and stress tests providing a quick start for application development and system evaluation.

AXISView provides the developer an intuitive GUI for system visualization and productivity tools that greatly reduce development time.

RuntimeView shows an AXIS Quick Start example application to assist with algorithm development and system characterization.



System integrators can benchmark their application to scope performance, size, weight and power (SwAP) requirements for the deployed platform.

AXIS VS IPL and RSPL optimized DSP, math and function libraries provide a wide range of optimized functions for the Power Architecture e600/Altivec platform.

AXISFlow supports high throughput, low latency, inter processor communication (IPC) across all system nodes to maximize system performance, and increase flexibility in the design of the most demanding signal and data processing applications.



# G4DSP-XD3 Quad Freescale MPC7448 VME multiprocessor with StarFabric

## Specifications

### Form factor

- 6U VME

### Processors

- Four MPC7448 at up to 1.4 GHz

### Memory

- Four banks PC266 DDR SDRAM
  - 256 MBytes per node (standard)
  - 512 MBytes per node (optional)
- 64 MByte FLASH per node (256 MByte total)

### Bridged Fabric Architecture

- StarFabric
  - Two StarFabric ports to P0
  - Bridged to internal PCI-X ring

### Network

- 4 Gigabit Ethernet ports
  - One port to each Disco3 bridge

### Node Management Controller

- Inter-node and inter-board
  - Time stamp, synchronization
  - Mail boxes, semaphores

### Serial

- 4 RS232 ports to P2 connector

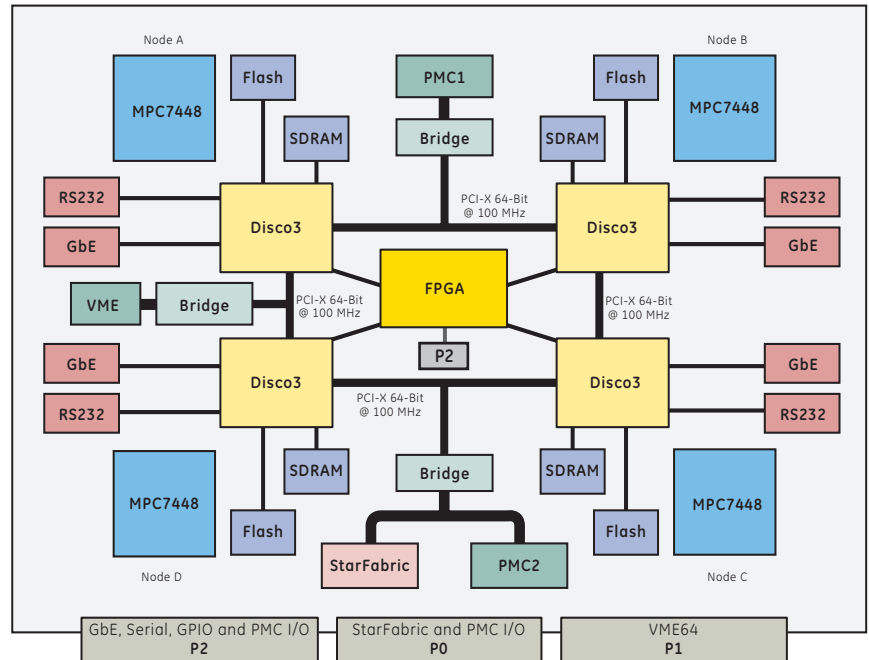
### Ruggedization

- Levels 1 to 5

### Software

- AXIS Advanced Multiprocessor Integrated Software
- Built-In-Test (BIT) for Power Architecture
- BSPs for LynxOS, VxWorks 6.x & Integrity

## Block Diagram



## Ordering Information

### G4DSPXD3 - 1 1 B 4

- 4 = BIT & VxWorks 5.5 BootROM
- 8 = BIT & VxWorks 6.x BootROM
- B = Type B PO connector fitted
- 1 = Quad 7448 @ 1GHz & 1GByte SDRAM
- 4 = Quad 7448 @ 1GHz & 2GByte SDRAM
- Build levels 1, 2 or 3 convection cooled
- Build levels 4 or 5 conduction cooled

## AXIS Multicomputer

Open Architecture, COTS Multiprocessor Solutions

Customer Application
AXIS Advanced Multiprocessor Integrated Software
Universal Interface Layer (UIL)
Board Support Package (BSP)
Built-in-Test (configurable POST)
I/O, SBCs, Multiprocessors, Fabric switches

## About GE Intelligent Platforms

GE Intelligent Platforms, a General Electric Company (NYSE: GE), is an experienced high-performance technology company and a global provider of hardware, software, services, and expertise in automation and embedded computing. We offer a unique foundation of agile, advanced and ultra-reliable technology that provides customers a sustainable advantage in the industries they serve, including energy, water, consumer packaged goods, government and defense, and telecommunications. GE Intelligent Platforms is a worldwide company headquartered in Charlottesville, VA and is part of GE Home and Business Solutions. For more information, visit [www.ge-ip.com](http://www.ge-ip.com).

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**AXIS™**  
Enabled Hardware

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