



# Telum™ 1204-03

## Intelligent High Performance Multi-Service 4-Port OC-3/STM1 AdvancedMC™ Module

### Features

#### Interface Support

- Up to 4 ports of OC-3/STM1 (155 Mb/s) or up to 2 ports of OC-3/STM1 and 2 ports of 1000BaseT Gigabit Ethernet to the front panel
- Interworking capabilities from any port to any port
- IP over ATM Routing & Forwarding
- ATM AAL0, AAL2, AAL5
- Traffic Management TM v4.1: CBR, VBR, GFR and UBR
- WinPath™ network processor
- Automatic Protection Switching

#### AdvancedMC Compliance

- AMC.0 R2.0
- AMC.1 Type 1 with one lane of PCI Express in fat pipes region
- AMC.2 Type E2 with two lanes of Gigabit Ethernet in common options region
- AMC.0 MMC
- Module hot swap
- IPMI v1.5

#### Software Support

- Support available for Carrier Grade Linux

#### Applications

- 3G RNC, MSC, SGSN
- VoIP gateways
- Video streaming
- ATM to IP gateways
- DSLAMs

#### Product Reliability

- High MTBF
- Technical support for OEM customers and resellers

Telum™ 1204-03 is the industry's first intelligent high performance, cost effective, AdvancedMC module designed for high availability Telecom edge access applications. This module supports multiple front panel configuration options, including:

- 4 ports of ATM OC-3/STM1 or
- 2 ports of ATM OC-3/STM1 and 2 ports of 1000BaseT Gigabit Ethernet or
- 3 ports of ATM OC-3/STM1 and 1 port of 1000BaseT Gigabit Ethernet

The Telum 1204-03 offers high-end ATM and IP services based on a state-of-the-art Wintegra™ WinPath network processor. It provides termination, switching and interworking capabilities from any port to any port.

This AdvancedMC includes two lanes of Gigabit Ethernet (AMC.2 Type E2) to the common options region, and one lane of PCI Express (AMC.1 Type 1) to the fat pipes region for high-speed communications. Front panel configurations will determine how each can be configured.

The Telum 1204-03 can terminate traffic for ATM (AAL0, AAL2 and AAL5) and Gigabit Ethernet. ATM features include: Traffic Management TM v4.1 (CBR, VBR, GFR and UBR), UNI 3.1 and per VC queuing.

### Intelligent Platform Management Interface (IPMI) & Hot Swap Compliance

An AMC.0 Module Management Controller (MMC) subsystem that is IPMI v1.5 compliant initializes board level parameters, monitors board voltage and temperature conditions, maintains system status, and manages hot swap operation. A microcontroller is used as the IPMI intelligence and connects to the AdvancedMC management bus. This module is hot swap capable and is field replaceable in accordance with AMC.0. The module also provides support for Automatic Protection Switching (APS).

### Software

To simplify system integration, the Telum 1204-03 employs a comprehensive set of software drivers that support carrier grade Linux operating systems.



# Telum 1204-O3 Intelligent High Performance Multi-Service 4-Port OC-3/STM1 AdvancedMC™ Module

## Specifications

### Bus Connect

- x1 PCI Express
- x2 Gigabit Ethernet
- AMC.1 Type 1, AMC.2 Type E2 compliant

### On-Board Resources

- Network processor
- Quad OC-3 Framer/PHY with APS
- Gigabit Ethernet switch
- PCI Express bridge
- AMC.0 compliant MMC

### Power Requirements

- +12.0V @ 1.25A (15 watts)

### Form Factor

- AMC.0 R2.0

### Weight

- 0.40 lbs (181.44 grams)

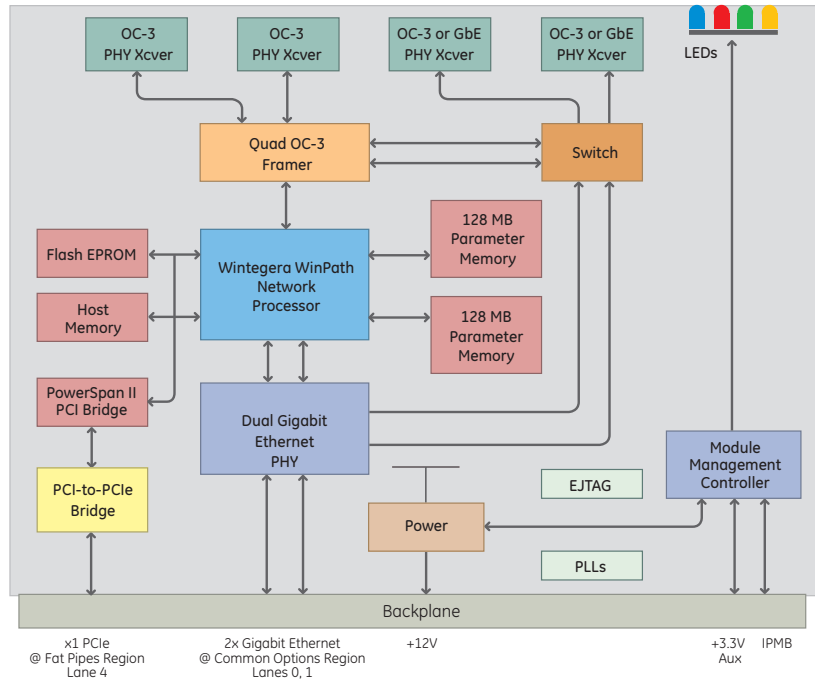
### Environment

- Operating temperature: 0°C to +55°C
- Storage temperature: -40°C to +85°C
- Relative humidity: 5%-90% (non-condensing)

### Regulatory Compliance

- Emissions
  - FCC 47 CFR Part 15 Class A (USA)
  - EN 55022:1998, A1:2000, A2:2003 Class A ITE(EU)
  - CES -003 Issue 3 Class A (Canada)
  - AS/NZ CISPR 22:2002
  - VCCI Class A ITE
  - Class A (Aus. New Zealand)
- Immunity
  - EN55024:1998/A1:2001/ A2:2003 (EU)
- Safety
  - UL60950-1 (USA)
  - CSA 22.1 No. 60950-1-03 (Canada)
  - EN 60950-1 (EU)
  - CE MARK

## Block Diagram



## Ordering Information

- 23024-320:** Telum 1204-O3MSR1 4 ports of OC-3/STM1, multimode; mid-size front panel
- 23024-321:** Telum 1204-O3SIR1 4 ports of OC-3/STM1, single mode; mid-size front panel
- 23024-322:** Telum 1204-O33M1GET 3 ports OC-3/STM1 multimode, 1 port 1000BaseT; mid-size front panel
- 23024-323:** Telum 1204-O33S1GET 3 ports OC-3/STM1 single mode, 1 port 1000BaseT; mid-size front panel
- 23024-324:** Telum 1204-O32M2GET 2 ports OC-3/STM1 multimode, 2 ports 1000BaseT; mid-size front panel
- 23024-325:** Telum 1204-O32S2GET 2 ports OC-3/STM1 single mode, 2 ports 1000BaseT; mid-size front panel
- 23024-326:** Telum 1204-O3MSR1 4 ports of OC-3/STM1, multimode; full-size front panel
- 23024-327:** Telum 1204-O3SIR1 4 ports of OC-3/STM1, single mode; full-size front panel
- 23024-328:** Telum 1204-O33M1GET 3 ports OC-3/STM1 multimode, 1 port 1000BaseT; full-size front panel
- 23024-329:** Telum 1204-O33S1GET 3 ports OC-3/STM1 single mode, 1 port 1000BaseT; full-size front panel
- 23024-330:** Telum 1204-O32M2GET 2 ports OC-3/STM1 multimode, 2 ports 1000BaseT; full size front panel
- 23024-331:** Telum 1204-O32S2GET 2 ports OC-3/STM1 single mode, 2 ports 1000BaseT; full-size front panel

## About GE Fanuc Intelligent Platforms

GE Fanuc Intelligent Platforms is a leading global provider of embedded computing solutions for a wide range of industries and applications. Our comprehensive product offering includes many types of I/O, single board computers, high performance signal processors, fully integrated, rugged systems including flat panel displays, plus high speed networking and communications products. The company is headquartered in the U.S. and has design, manufacturing and support offices throughout the world. Whether you're looking for one of our standard products or a fully custom solution, GE Fanuc Intelligent Platforms has the breadth, experience and 24/7 support to deliver what you need. For more information, visit [www.gefanuc.com](http://www.gefanuc.com).

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## Additional Resources

For more information, please visit the GE Fanuc Intelligent Platforms web site at:

[www.gefanuc.com](http://www.gefanuc.com)

