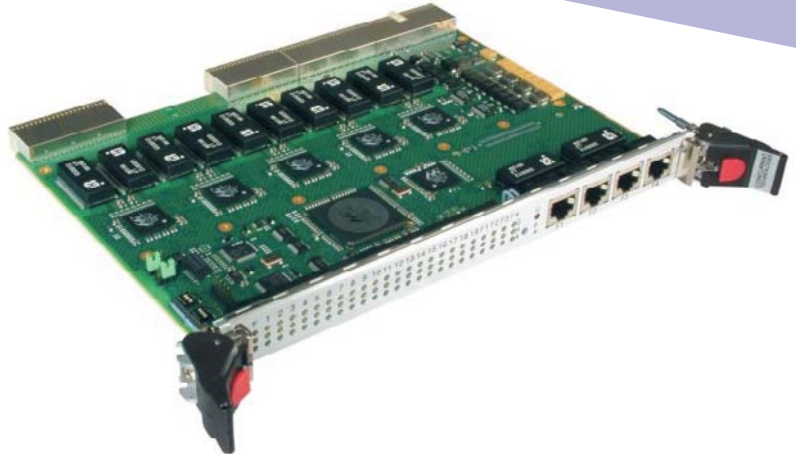


## 10/100/1000 Ethernet Switched Fabric Board



### APPLICATIONS

The FP 110/019 is an entry-level 24-port 10/100/1000Mbps Ethernet Switched Fabric Board for use in CompactPCI® PICMG® 2.16 and VITA 31.1 Packet Switched Backplane environments. It supports up to nineteen node boards, a fabric to fabric link and for user connections, up to four front panel Ethernet interfaces. It offers high speed, full line rate Layer 2 switching fabric on all Ethernet ports. Quality of Service (QoS)

operation is supported with four priority queues and a variety of traffic classes for time-critical and multimedia traffic. System monitoring is provided by the PICMG 2.9 compliant IPMI subsystem, supporting the IPMB0 serial management bus. The FP 110/019 is an excellent choice for cost sensitive applications. Typical applications include networking equipment, voice over IP (VoIP) telephony systems and blade-based servers.

### HIGHLIGHTS

- 24-port 10/100/1000Mbps Ethernet Switched Fabric Board:
  - compatible with PICMG 2.16 Packet Switched Backplane (PSB)
  - 19 PSB Ethernet ports for PSB node boards
  - PSB Ethernet port for fabric board interconnect link
  - supplied with either 4 front panel Ethernet ports via RJ45 connectors or 2 front panel Gigabit Ethernet LC optical fiber connectors
- Low cost, low power, high performance switched fabric:
  - full line rate Layer 2 switching engine
  - supports up to 8K MAC addresses with automatic learning and aging
- Auto-negotiation on all Ethernet ports:
  - 1000Mbps full-duplex
  - 10/100Mbps full-duplex and half-duplex
- Speed and Link/Activity status LEDs on all Ethernet ports
- Non-volatile EEPROM storage for:
  - board configuration data
  - Ethernet switch configuration data
- Hardware support for Quality of Service (QoS):
  - 4 priority queues per port
  - variety of classification services
  - fixed priority or weighed packet streams
- IPMI (Intelligent Platform Management Interface):
  - PICMG 2.9 (System Management Specification)
  - access to network management registers
- Extended temperature versions available:
  - -25°C to +70°C (E-Series)
  - -40°C to +85°C (K-Series)
- 10-port 10/100/1000 Mbps version available:
  - see separate FP 110/008-U datasheet
- Supports hot insertion and removal
- Single slot, 6U CompactPCI form factor

## Ethernet Switched Fabric

- 22-port or 24-port 10/100/1000Mbps Ethernet Switched Fabric board:-
  - for use with PICMG® 2.16 and VITA 31.1 Packet Switched Backplanes (PSB)
  - for use with non-PICMG 2.16 CompactPCI backplanes when used with AD FP1/001 transition module
- high performance Ethernet Switched Fabric:-
  - implemented by Marvell® Prestera® 98DX240 single-chip switch
  - full line rate Layer 2 switching engine
  - 8K MAC address cache with automatic learning and aging
- auto-negotiation on all ports:-
  - 1000Mbps full-duplex
  - 10/100Mbps full-duplex and half-duplex
- EEPROM storage for user configuration data
- 10-port board available:-
  - see separate FP 110/008-U datasheet

## Backplane Interfaces

- compatible with CompactPCI® Packet Switched Backplane (PSB):-
  - conforms to the relevant sections of PICMG 2.16 R1.0
  - support for geographic address (GA) on J2
- compatible with ANSI/VITA 31.1-2003 Gigabit Ethernet on VME64x backplanes
- 19 PSB Ethernet ports for PSB node boards
- Ethernet port for linking with second fabric board:-
  - enables redundant fabric board
- J1, J2, J3 and J5 connectors fitted as standard

## Front Panel Interfaces

- option for Ethernet user ports:-
  - 4 x RJ45 connectors @ 10/100/1000Mbps
  - 2 x SFP LC optical connectors @ 1000Base-SX with multimode optical fiber
- speed and Link/Activity LEDs for all Ethernet ports
- 1 user LED
- reset switch (recessed)

## System Management

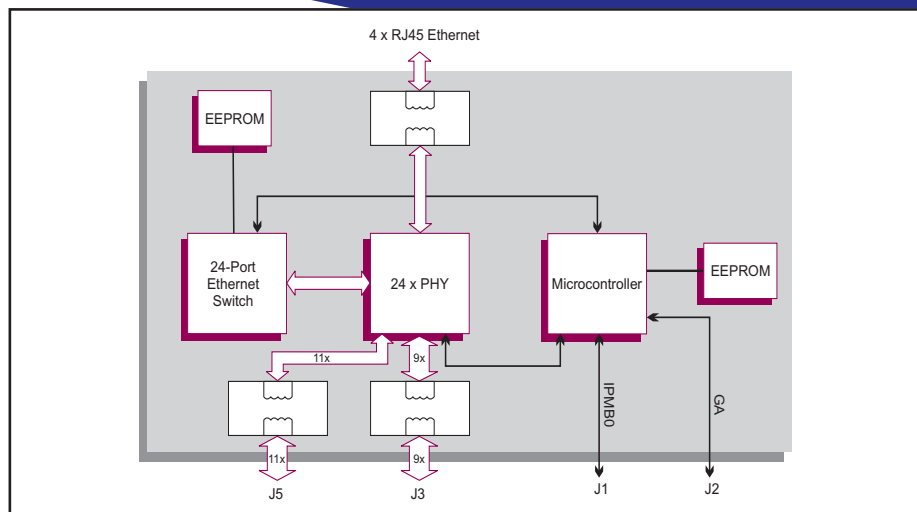
- board health and status management:-
  - conforms to PICMG® 2.9 R1.0 (System Management Specification)
  - implements the IPMB0 interface on J1
  - microcontroller-based Peripheral Management Controller
  - EEPROM for Field Replaceable Unit (FRU) and Sensor Data Record (SDR) storage
- hot swap insertion and removal

## Quality of Service (QoS)

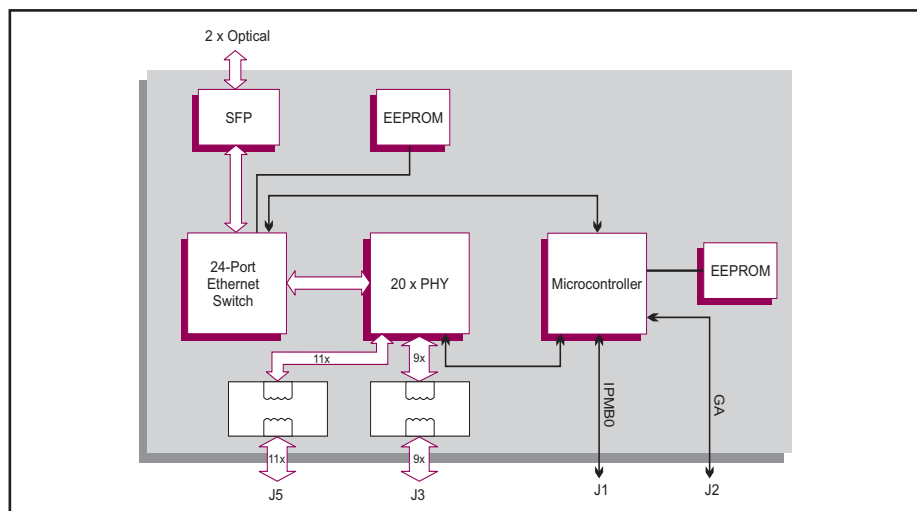
- supports prioritized packet streams for management of voice, video and data
- 4 hardware priority queues per port
- fixed priority or weighted fair queuing
- QoS traffic classification, determined by:-
  - port ID
  - IEEE 802.1p multimedia traffic tags
  - IPv6 Traffic Class

## Electrical Specification

- +5V (+5%/-3%) @ 3.8A (typical, with 4 x RJ45 front panel connectors)
- +12V (+5%/-5%) @ 0.01A (maximum)
- +3.3V and -12V supplies are not required



FP 110/019 with 4 x 'copper' RJ45 front panel connectors



FP 110/019 with 2 x fiber LC front panel connectors

## Safety

- PCB (PWB) manufactured with flammability rating of 94V-0

## Environmental Specification

- operating temperature:-
  - 0°C to +55°C (N-Series)
  - 25°C to +70°C (E-Series)
  - 40°C to +85°C (K-Series)
- 10% to 90% Relative Humidity, non-condensing (operating):-
  - K-Series includes humidity sealant
- 40°C to +85°C (storage)
- 10% to 90% Relative Humidity, non-condensing (storage)

## Mechanical Specification

- 6U form factor: 9.2 inches x 6.3 inches (233mm x 160mm)
- single slot: 0.8 inches (20.3mm)
- connectors: IEC 60917 and IEC-61076-4-101 (PICMG 2.0 R3.0 S2.2) for J1, J2, J3 and J5
- shock:
  - 20g, 11ms, ½ sine (operating);
  - 30g, 11ms, ½ sine (non-operating)
- vibration:
  - 5Hz-2000Hz at 2g, 0.38mm peak displacement (operating);
  - 5Hz-2000Hz at 5g, 0.76mm peak displacement (non-operating)

## ORDERING INFORMATION

### Order Number Product Description (Hardware)

FP 110/019-00 24-port 10/100/1000 Ethernet Switched Fabric Board (19 PSB Ethernet node ports) with 4 'copper' RJ45 front panel connectors  
 FP 110/019-10 22-port 10/100/1000 Ethernet Switched Fabric Board (19 PSB Ethernet node ports) with 2 fiber 1000 Base-SX SFP LC front panel connectors

AD FP1/001-12 CompactPCI Single Slot Ethernet RTM, 12 RJ45 ports  
 AD FP1/001-24 CompactPCI Dual Slot Ethernet RTM, 19 RJ45 ports

For extended temperature, E or K-Series, or for front panel fiber optical connection, please contact your local sales office