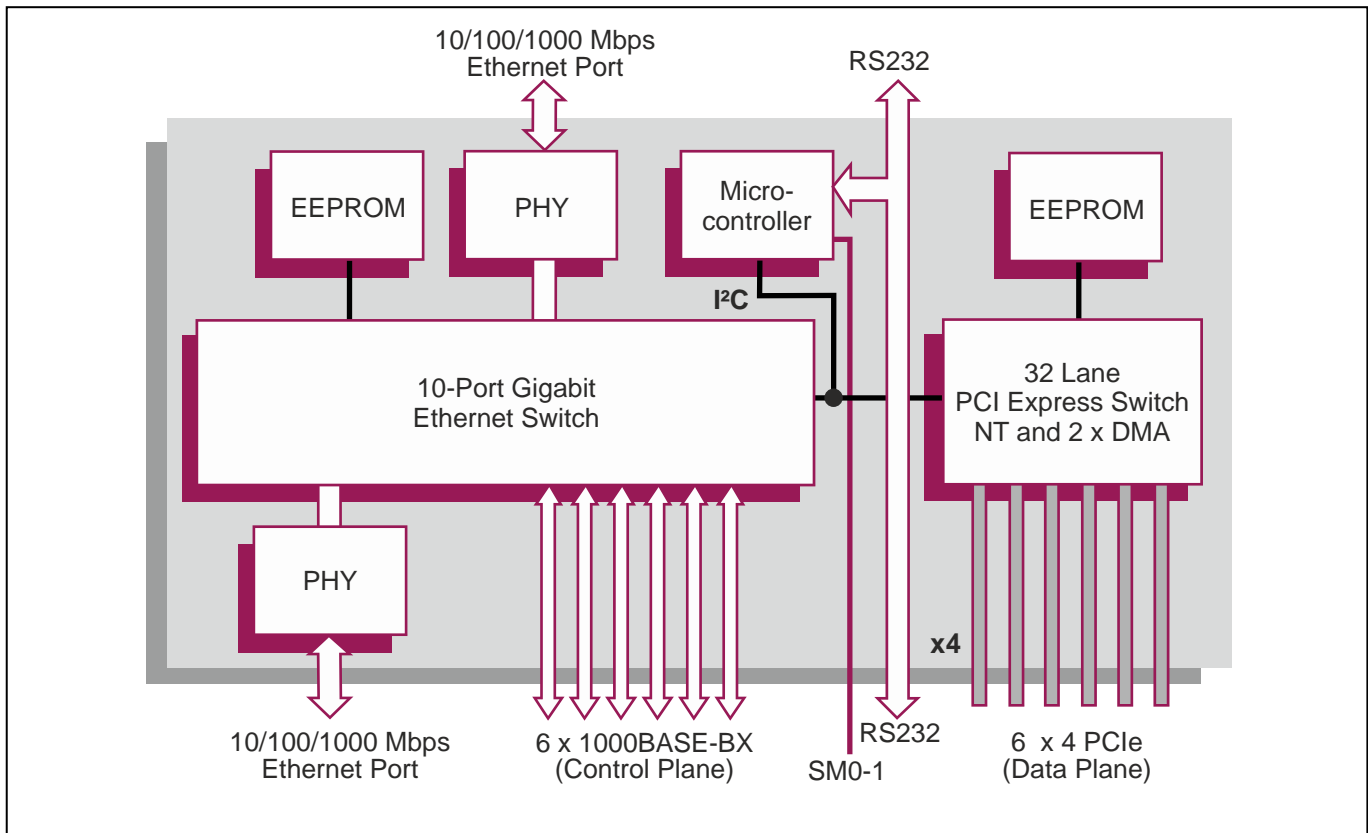# 3U VPX Fabric Switch Board

Key Features

The 331/x06 is a 3U OpenVPX™ fabric switch board with an x4 PCI Express® data plane and a 1000BASE-BX control plane per payload board, which is capable of supporting six payload boards.

- The modules switch configuration uses serial port via front and rear panels are used alongside the Fabric Switch Configuration software tool

- We offer a range of 3U VPX processor cards that are verified to inter-operate with FR 331/x06:
  - → dramatically speeding up development times

- Conduction cooled variants of FR 331/x06 are available for rugged deployments

VPX Fabric Switch Board

- 3U VPX fabric switch board:
  - → x4 PCI Express® (Gen 1 or Gen 2) data plane (VITA 46.4)
  - → 1000BASE-BX control plane (VITA 46.6)
  - → air-cooled
- compatible with OpenVPX (VITA 65) module profiles
- for rugged VPX-REDI (RCx-Series) versions:
  - → conduction-cooled to VITA 48.2
  - → -40°C to +85°C at card edge
  - → conformally coated
  - → see FR 331/306-RCx datasheet

VPX Data Plane Switch

- 6-port VITA 46.4 data plane switch:
  - → for use with PCI Express® Fabric VITA 46.4 backplanes
  - → option to configure setup via RS232 port
- high performance PCI Express® switch:
  - → implemented by PCI Express 32-lane single-chip switch
  - → x4 PCI Express® links
  - → support for Gen 1 or Gen 2
  - → transparent and non-transparent bridge functionality on each port
  - → provides two DMA engines for two ports
- EEPROM storage for switch configuration data

VPX Control Plane Switch

- 6-port VITA 46.6 control plane switch:
  - → for use with 1000BASE-BX VITA 46.6 backplanes
  - → unmanaged Ethernet switch
  - → option to configure setup via RS232 port
- high performance IEEE 802.1 switch:
  - → implemented by 10-port single-chip switch
  - → full line rate Layer 2 switching engine
  - → 8K MAC address cache with automatic learning and aging
- EEPROM storage for switch configuration data

Switch Configuration Setup

- RS232 serial port providing PCI Express® switch and Ethernet switch configuration setup:
  - → EEPROM for storing PCI Express® switch setup
  - → EEPROM for storing Ethernet switch setup
  - → implemented by microcontroller
- 1 x RS232 serial port via front and via VPX P1 connector
- Fabric Switch Configuration software:
  - → see separate SW FSC/001 datasheet

LED Status Indicators

- front panel LED status indicators:
  - → Link/Activity LEDs for all VPX backplane 1000 BASE-BX ports
  - → LinkUp/Active status LEDs for all PCI Express® ports

System Management Interface

- System Management interface:
  - → implements SM0-1 hardware
- on-board System Management Controller
  - → supports 8 Kbytes of non-volatile memory

Ethernet Interfaces

- 2 x Gigabit Ethernet ports:
  - → one via front panel
  - → one via VPX P2 connector

Processor Boards Supported

- FR 331/x06 is compatible with a range of Concurrent Technologies computing boards
- contact your local sales office for further details

Electrical Specification

- typical current figures:
  - → +5V@ 1.5A, voltage +5% / -2.5%
  - → +3.3V@ 1.8A, voltage +5% / -2%

Safety

- PCB (PWB) manufactured with flammability rating of UL94V-0

Environmental Specification

- operating temperature (N-Series):
  - → VITA 47 Class AC1, 0°C to +55°C
- extended operating temperature (E-Series):
  - → -25°C to +70°C
- air-cooled
- non-operating temperature:
  - → VITA 47 Class C1, -40°C to +85°C
- operating altitude:
  0 to 15,000 feet (0 to 4,572 meters)
- 5% to 95% Relative Humidity, non condensing

Mechanical Specification

- 3U VPX form-factor (VITA 46.0, VITA 48.0): 3.9 inches x 6.3 inches (100mm x 160mm)
- optional slot widths :
  - → 0.8-inch (VITA 46.0)
  - → 1.0-inch (IEEE 1101.10 as per VITA 46.0)
  - → 1.0-inch (VITA 48.0 as per VITA 65)
- connectors to VITA 46.0, P0, P1 and P2
- operating mechanical:
  - → shock - VITA 47 Class OS1, 20g
  - → random vibration - 0.002g²/Hz

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Please contact your local Concurrent Technologies sales office for further details on board build options and accessories.