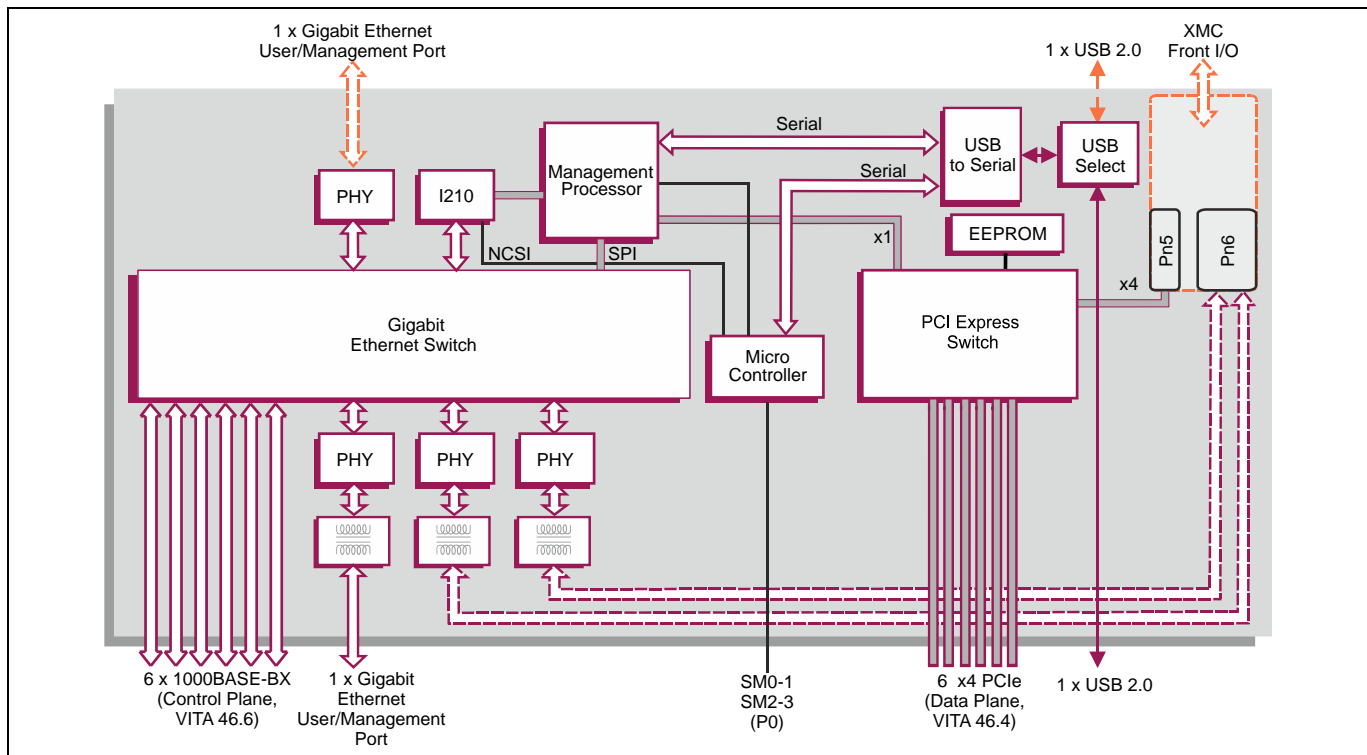


## 3U VPX™ Fabric Switch Board: PCI Express® and Gigabit Ethernet

### Key Features

FR 342/x06 is a PCI Express® and Ethernet switch for use in 3U VPX™ systems with simple command line configuration options.

- 3U VPX format supporting six payload boards
- PCI Express® Gen 3 data plane
- Gigabit Ethernet control plane
- Optional XMC site for storage and offload engines
- Extended temperature and rugged conduction-cooled versions available
- Form, fit and function compatibility with the popular FR 341/x06 family



## VPX Fabric Switch Board

- air-cooled 3U VPX fabric switch board:
  - supports 6 payload boards
  - x4 PCI Express® (PCIe®) data plane (VITA 46.4), up to Gen 3
  - 1000BASE-BX control plane (VITA 46.6)
  - user configurable setup via a USB port or Ethernet port
- OpenVPX™ (VITA 65) backplane profiles supported:
  - BKP3-CEN07-15.2.3-1 (PCIe Gen 1)
  - BKP3-CEN07-15.2.3-2 (PCIe Gen 2)
- OpenVPX module profiles supported:
  - MOD3-SWH-6F6U-16.4.1-2 (PCIe Gen 1)
  - MOD3-SWH-6F6U-16.4.1-3 (PCIe Gen 2)
  - MOD3-SWH-6F6U-16.4.1-10 (PCIe Gen 3)
- OpenVPX slot profile supported:
  - SLT3-SWH-6F6U-14.4.1

## VPX Data Plane Switch, PCI Express

- 6-port VITA 46.4 data plane switch:
  - for use with PCI Express Fabric VITA 46.4 backplanes
- high performance PCI Express switch:
  - implemented by PCI Express 32-lane single-chip switch
  - x4 PCI Express links
  - support for Gen 1, Gen 2 and Gen 3
  - transparent mode and virtual switch mode
- EEPROM storage for switch configuration data

## VPX Control Plane Switch, Ethernet

- 6-port VITA 46.6 control plane switch:
  - for use with 1000BASE-BX VITA 46.6 backplanes
- high performance IEEE 802.1 Ethernet switch:
  - implemented by single-chip device
  - full line rate Layer 2 switching engine

## Board Configuration Setup

- front (build option) or rear user interfaces provide configuration for both the PCI Express switch and Ethernet switch:
  - implemented by management processor
- serial console, command line interface via USB port:
  - on-board USB to serial device provides serial port to configure the two switches and other board setup options
  - 1 x USB 2.0 port is available via either the front panel or via the P1 connector (user switch selectable)
- SSH command line interface via Ethernet port:
  - 2 x Gigabit Ethernet ports are available, one via the front panel and the other via the P2 connector

## XMC Site Interface or Front Panel I/O

- 1 x XMC site, in a single VPX slot (build option):
  - XMC (Switched Mezzanine Card) interface
  - 1 x4 PCI Express Gen 2 (VITA 42.3)
  - supports PCIe endpoint only
  - front panel I/O: XMC site I/O aperture
  - rear panel I/O via backplane: none
  - build option for 2 x Gigabit Ethernet interfaces via XMC Pn6, routed to the on-board Ethernet switch
  - +5V VPWR
- alternatively, two front panel I/O connectors (build option):
  - 1 x USB 2.0 port
  - 1 x Gigabit Ethernet port

## LED Status Indicators

- LED status indicators are available with the Front Panel I/O connector build option (not the XMC site)
- front panel LED status indicators:
  - Link/Activity LEDs for all VPX backplane 1000BASE-BX ports
  - LinkUp/Active status LEDs for all PCIe ports

## System Management Interface

- System Management interface:
  - implements SM0-3 hardware
- on-board microcontroller
- supports VITA 46.11 management:
  - Tier 2 IPMC
  - Tier 1 Chassis Manager

## Electrical Specification (Estimated)

- typical current figures (PCIe Gen 3, with six payload boards, without XMC module):
  - +5V @ 2.8A, voltage +5% / -2.5%
  - +3.3V @ 1.5A, voltage +5% / -2%

## Environmental Specification

- operating temperature:
  - VITA 47 Class AC1, 0°C to +55°C (N-Series)
- option for extended operating temperature:
  - -25°C to +70°C (E-Series)
- non-operating temperature:
  - VITA 47 Class C1, -40°C to +85°C
- operating altitude:
  - 0 to 15,000 feet (0 to 4,572 meters)
- relative humidity:
  - 5% to 95%, non-condensing
- option for VPX-REDI rugged conduction-cooled version:
  - see FR 342/306-RCx datasheet

## Mechanical Specification

- 3U VPX form-factor (VITA 46.0, VITA 48.0)
- 3.9 inches x 6.3 inches (100mm x 160mm)
- slot width (N-Series, E-Series):
  - 0.8-inch (VITA 46.0)
  - 1.0-inch (IEEE 1101.10 as per VITA 46.0)
  - 1.0-inch (VITA 48.1 as per VITA 65)
- connectors to VITA 46.0, P0, P1 and P2
- operating mechanical:
  - shock - VITA 47 Class OS1, 20g
  - random vibration - 0.002g<sup>2</sup>/Hz

## Safety

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

## Concurrent Technologies CPU Support

- FR 342/x06 operates with a range of Concurrent Technologies VPX processor boards
- contact your local sales office for further details

## Legacy Board Compatibility

- form, fit and function compatibility with the popular FR 341/x06 family

