

3U VPX 14-Slot CMOSS Backplane

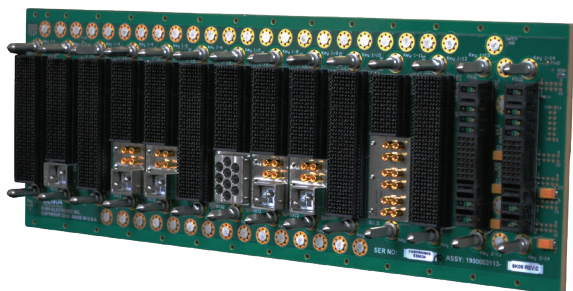
C4ISR Convergence BKP3-TIM12-15.3.6-n

Description

This 14 slot 3U OpenVPX backplane (12 payload +2 power supply slots) supports the defense industry's h/w and s/w convergence initiatives for modular architecture. It is an integration platform for modules addressing the DoD's CMOSS (C4ISR Modular Open Suite of Standards) providing the foundation for the creation of systems optimized for performance, reduced SWaP and lower lifecycle costs for rapid technology insertion. It enables the development of complex, high speed signal processing systems with the latest fiber and RF connectivity as well as precision radial network timing plus slot profiles for SBCs, switches, radial clock(s) and expansion.

The backplane supports high speed signals on all data paths plus has leading edge VITA67.3 modular connectors compatible with legacy VITA 67.1 and VITA 66.4 RF and optical I/O connectors. It is the first backplane to support IEEE 1588 precision timing protocol with a radial clock card slot and seven supporting slots for precision timing and synchronization in systems requiring sub-microsecond precision.

It enables short development cycles and fast time to market for even the most complex systems. Developers can deploy the backplane in its entirety or in part by working with Elma to identify your optimal configuration.



Benefits

- Supports the DoD's Hardware/Software Convergence initiative
- Supports current and emerging Ethernet, PCI Express, Serial RapidIO standards
- Enables the development of a common, modular architecture across critical C4ISR and EW systems ght
- Contributes to optimized SWaP requirements and lower life-cycle costs for rapid technology insertion
- Extensible, modular design enables a wide range of slot count and connection configurations

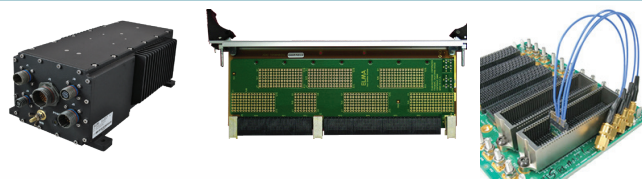
Features

- Slot profiles in accordance with the basic design principles as defined in MOSA, VICTORY, MORA, VITA 49, VITA 65, HOST, FACE, SOSA and RedHawk Linux
- Support IEEE 1588 precision timing protocol with a radial clock card slot and seven supporting slots
- VITA 67.3 combination optical and RF connectors
- Supports 1000BASE-BX, 1000BASE-KX, 10GBASE-KX4, 10GBASE-KR, or 40GBASE-KR4 connectivity
- RF modules addressing C4ISR/EW CMOSS standards
- Supports 10 GBase-KR UTP data & control plane connections
- Rear transition module slots
- Slots 13 and 14 for two VITA 62 power supplies. Cabled, chassis mount PSU may also be used.

Applications and Related Products

OpenVPX backplanes in embedded computing systems enable high speed data communication in critical defense and industrial applications including but not limited to:

- Mission control
- Secure communications
- Surveillance
- Data and image processing
- Weapons control
- Target tracking and display
- Navigational control
- Threat detection
- Process monitoring
- Environmental monitoring



- Convection or conduction cooled load boards
- Rear Transition Modules for I/O
- Intel & Freescale Single Board Computers
- Blade level networking boards (Ethernet, PCI Express)
- Rackmount, desktop, and ATR chassis platforms
- Ruggedization programs

VPX

3U VPX 14-Slot CMOSS Backplane

C4ISR Convergence BKP3-TIM12-15.3.6-n



VPX

Backplanes

Board Specifications

- 28 layers
- ½ oz power and ground layers
- PCB Megtron 6
- PCB 0.212" thick

Mechanical Specifications

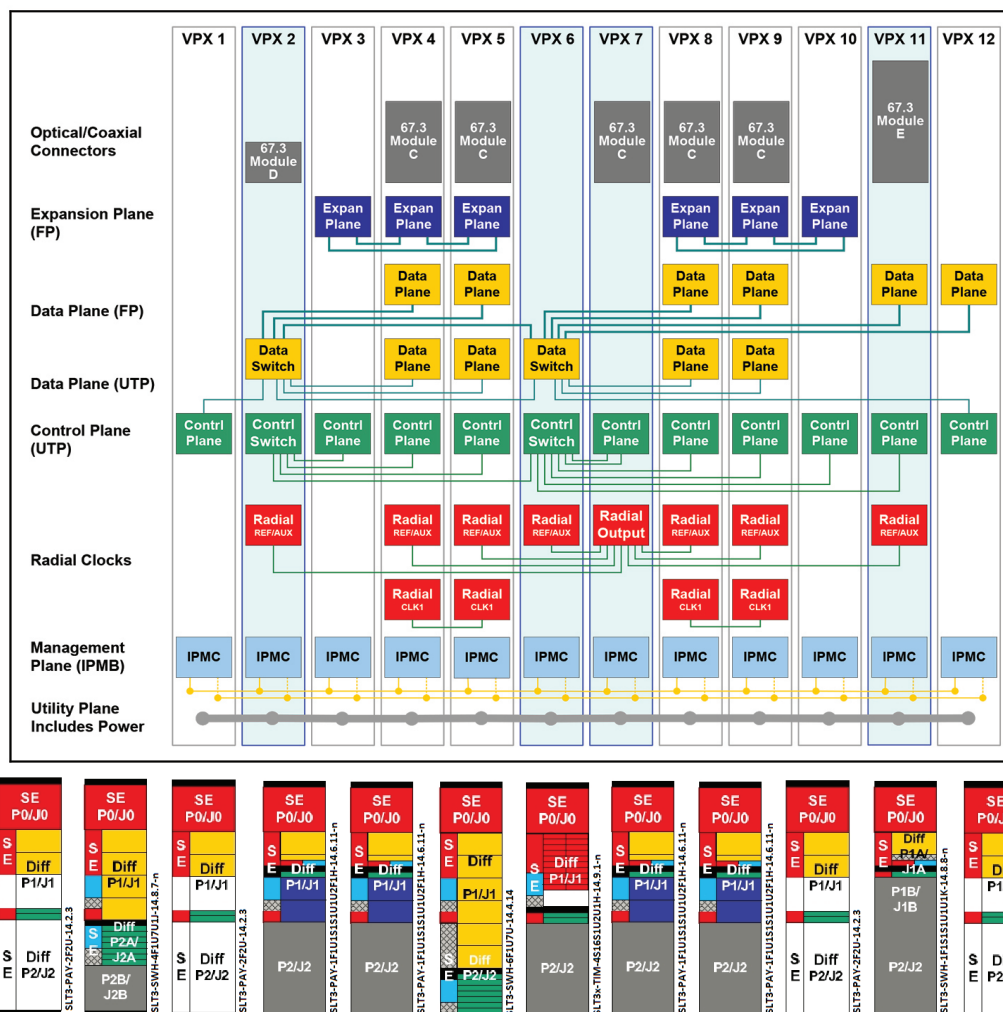
- 3U height
- 12 payload + 2 power supply slots
- 5.067" tall X 14.200" wide

Backplane Topology

This full featured backplane has cutting edge interconnect technology and a range of OpenVPX slot profiles accordance with the basic design principles as defined in MOSA, VICTORY, MORA, VITA 49, VITA 65, HOST, FACE, SOSA and RedHawk Linux

Slot profiles include:

Slots 1,3,10 and 12:	SLT3-PAY-2F2U-14.2.3
Slots 4,5,8 and 9:	1F1U1S1S1U1U2F1H-14.6.11-0
Slot 2:	SLT3x-SWH-4F1U7U1J-14.8.7-0
Slot 6:	SLT3x-SWH-6F1U7U-14.4.14
Slot 7:	SLT3x-TIM-4S16S1U2U1H-14.9.1-0
Slot 11:	SLT3x-SWH-1F1S1S1U1U1K-14.8.8-0



3U VPX 14-Slot CMOSS Backplane

C4ISR Convergence BKP3-TIM12-15.3.6-n



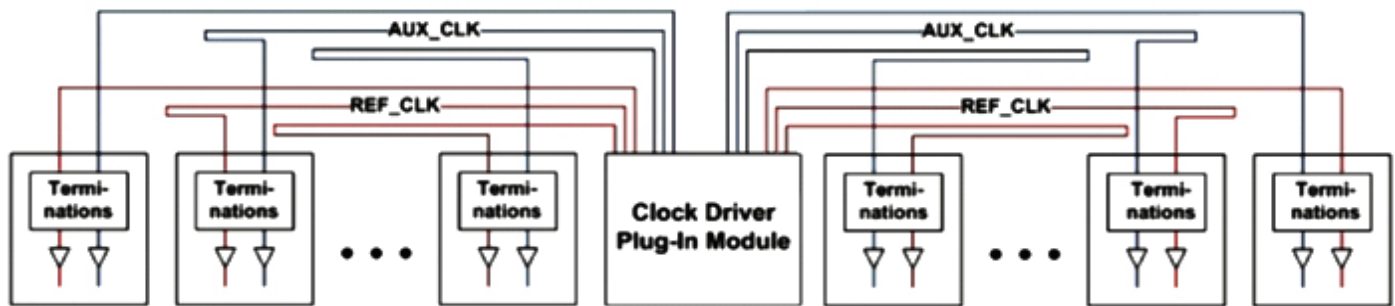
VPX



Backplanes

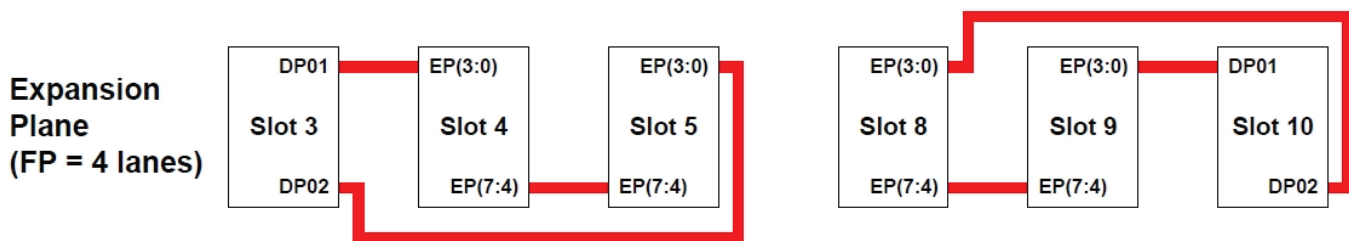
Precise Network Timing

The backplane supports a radial slot card for IEEE 1588 precision timing and synchronization. The 7 slot implementation receives radial clock signals (Aux Clk and Ref Clk) driven independently from a radial clock timing card while the remaining 5 slots receive standard VPX bussed Aux_Clk and Ref_Clk signals.

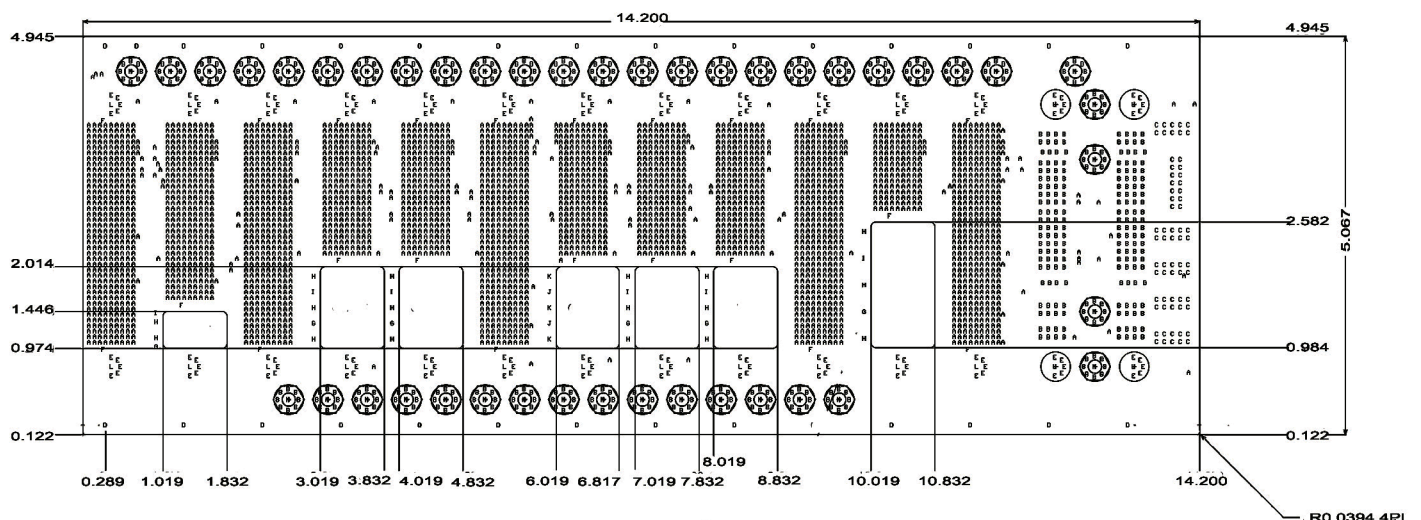


Expansion Plane

Expansion Plane — dedicated to communication between logical controlling system element and a separate, but logically adjunct, system resource (ex : PCIe lanes between multi-core and GPGPU modules). Example diagram only, actual expansion planes consist of two separate group: slots 3,4 and 5 and then slots 8,9 and 10.



Line Drawing



3U VPX 14-Slot CMOSS Backplane

C4ISR Convergence BKP3-TIM12-15.3.6-n

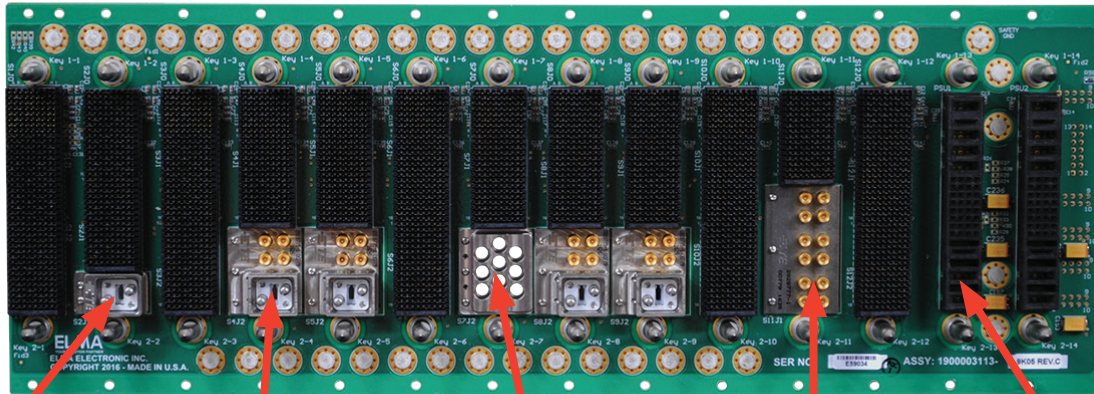


VPX



Backplanes

RF and Optical Connectivity



VITA 67.3d
1 x optical Interface

VITA 67.3c
4 x RF and
1 x optical Interface

VITA 67.3c
10 x RF Interfaces

VITA 67.3e
12 x RF Interfaces

Dual VITA 62 PSU

Order Information

Height	Total Slots	Description	Profile Number	Part Number
3U	14	All VITA 67.3x connectors installed, RTM connectors installed	BKP3-TIM12-15.3.6-3	1OVX312VZK-1X11

Please contact our sales for more details.

China: +86 21 5866 5908
France: +33 437 06 21 10

Germany: +49 7231 97 34 0
Israel: +972 3 930 50 25

Singapore: +65 6479 8552
Switzerland: +41 44 933 41 11

United Kingdom: +44 1234 838 822
United States: +1 510 656 3400

For other countries, please visit our website.

Elma Electronic • www.elma.com

BKP3-TIM12-15.3.6-3 Rev4 - 061417U