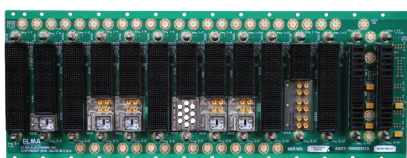


# SOSA / CMOSS Development Environment

## 3U VPX SOSA Module Testing and System Integration



Type 39 E-frame Test Chassis



12-Slot CMOSS / SOSA Backplane



TR C4x SBC



4590a Ethernet Switch



VPX3-1258 SBC

Network timing card  
to be identified



VPXtra500 PSU

## Description

This 3U OpenVPX system is a complete test environment platform intended to support application development efforts where conformance with the hardware convergence requirements of the DoD's CMOSS (C4ISR/EW Modular Open Suite of Standards) initiative is the goal. At the heart of the system is Elma's 12 slot (12 payload and 2 power supply slots) CMOSS backplane with support for VPX / SOSA (Sensor Open Standards Architecture) module slot profiles. The backplane features high speed RF and optical I/O connectivity and VPX slot profiles as developed in conjunction with CERDEC (the Army Communications, Electronics, Research, Development and Engineering Center), the ONR (Office of Naval Research) and AFRL (the Air Force Research Lab).

The platform optionally includes a set of OpenVPX computer, networking and network timing modules to streamline your development efforts and shorten your time to deployment.

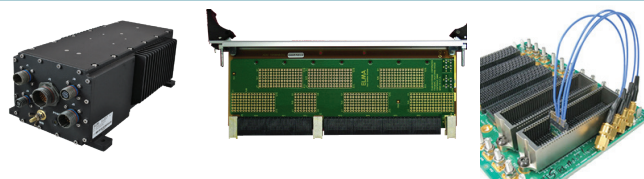
## Features

- Elma's 12-Slot CMOSS / SOSA backplane
- TR C4x Concurrent Technologies 3U VPX high performance SBC featuring an Intel® Xeon® Processor
- VPX3-1258 Curtiss-Wright Defense Solutions high performance Single Board Computer (SBC) featuring the 4th Gen Intel Core i7 (Haswell) processor.
- 4590a Elma / Interface Concept GigE, 10GigE and 40GigE Ethernet switch with copper and fiber ports
- Network timing card with radial support for IEEE 1588 precision timing and synchronization
- Dual high wattage 3U VPX pluggable power supply modules
- Elma type 39 E-Frame chassis providing open access for test and troubleshooting in air and conduction cooled configuration

## 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**

# SOSA / CMOSS Development Environment

## 3U VPX SOSA Module Testing and System Integration



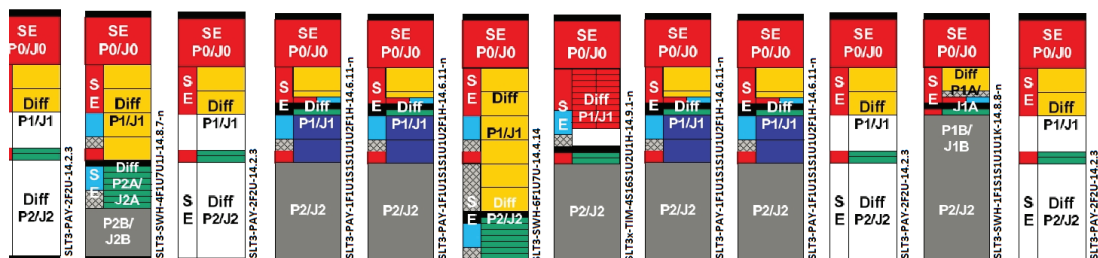
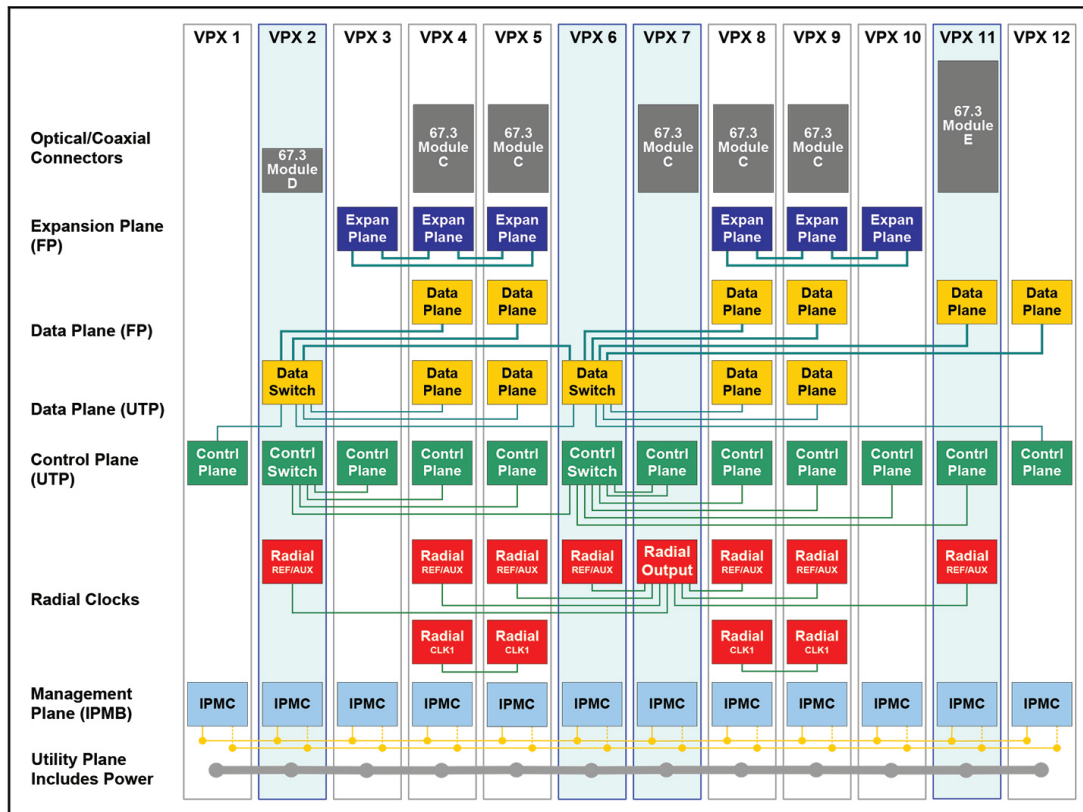
VPX

### Backplane Topology

This full featured backplane has cutting edge interconnect technology and a range of OpenVPX / SOSAslot profiles ready for your application development.

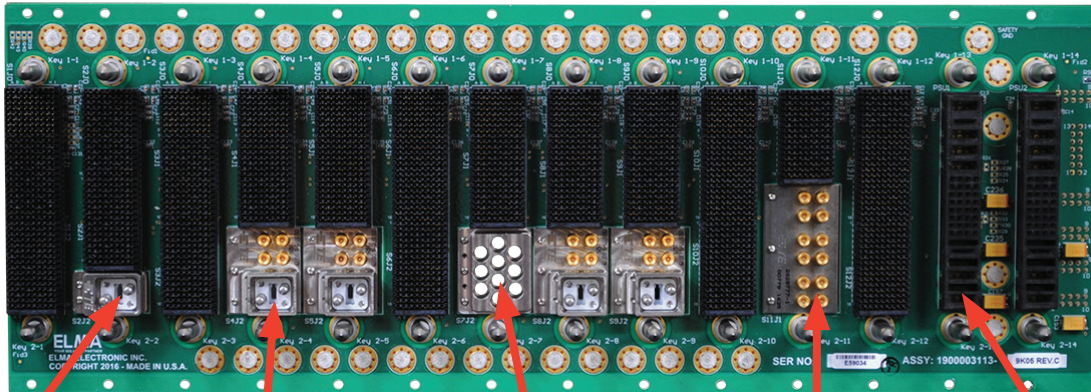
Slot profiles include:

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





### Backplane 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

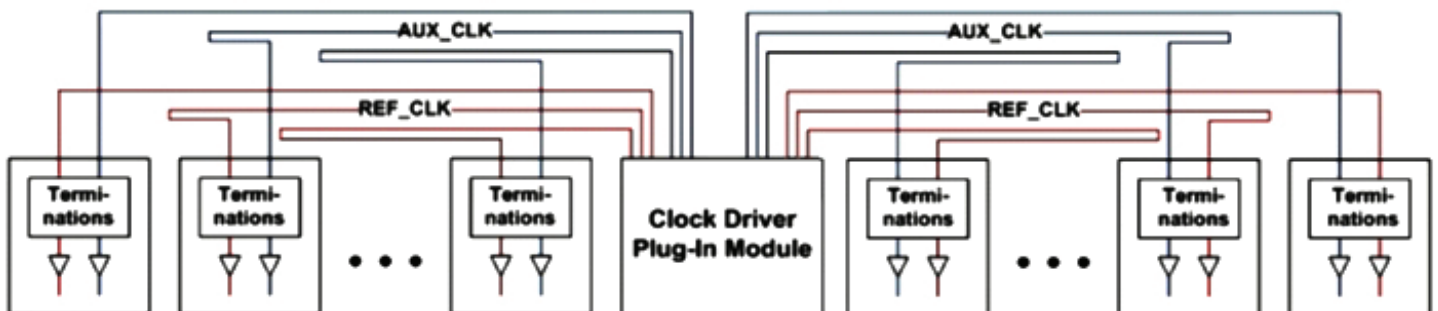
Dual VITA 62 PSU

The backplane architecture provides slot profiles in support of emerging CMOSS related design standards including:

- MOSA (Modular Open Standards Architecture)
- VICTORY (Vehicular Integration for C4ISR Interoperability)
- MORA (Modular Open Radio frequency Architecture)
- VITA 49 and VITA 65
- HOST (Hardware Open Systems Technology)
- FACE (Future Airborne Capability Environment)
- SOSA (Sensor Open Standards Architecture)
- RedHawk Linux

### 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.



# SOSA / CMOSS Development Environment

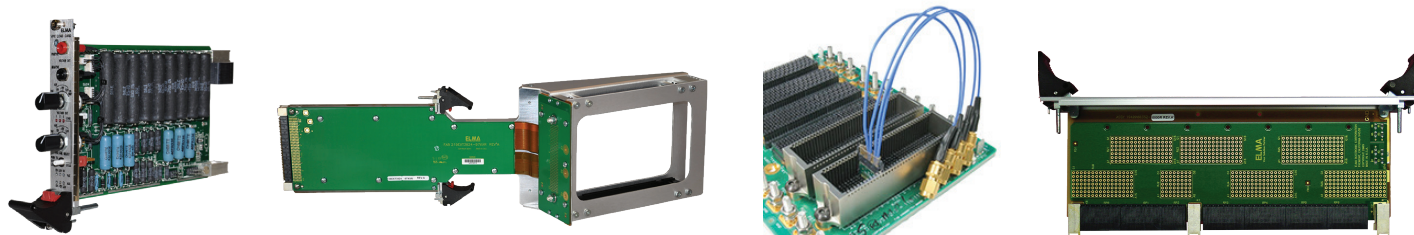
## 3U VPX SOSA Module Testing and System Integration



VPX

### Test Accessories

Optimal System test accessories including load boards, extender boards, slot to slot cable systems and rear transition modules.



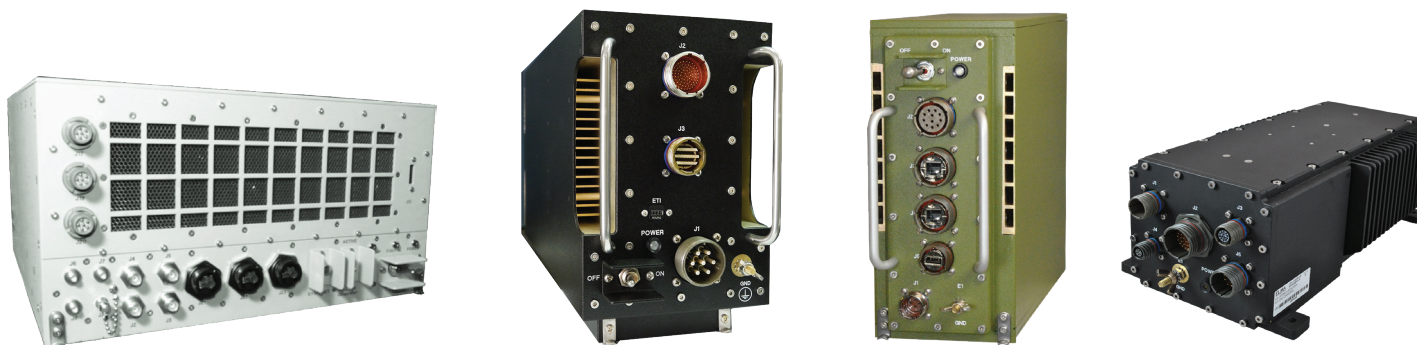
### Open Frame / Desktop Development Platforms

Consider a wide range of table top platforms for your specific development needs.



### Rugged Deployment Ready Chassis

Work with Elma to configure, test and integrate your final deployed chassis.



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