

8-SLOT FlexVNX+ DEVELOPMENT PLATFORM

Aligned to SOSA and VITA 90 Standards

DESCRIPTION

Elma's 8-Slot FlexVNX+ Development Chassis gives Engineers a larger test and validation platform for VNX+ plug-in cards (PICs) aligned to SOSA™ and VITA-90 standards. With a 7+1 backplane, the chassis provides six payload slots (mix of 400-pin and 320-pin), one switch slot, and one balanced power supply slot, making it ideal for more complex system integration and evaluation.

The chassis incorporates a VITA 46.11 chassis manager, integrated maintenance port aggregator, and extensive front-panel I/O, along with an angled card cage for improved accessibility. Airflow-directed cooling and support for modules with or without enclosures ensure flexible development and debug options.

Supporting 10GBASE-KX / 40GBASE-KX4 Ethernet and PCI Express Gen4, the 8-Slot platform delivers the performance, visibility, and expandability required to accelerate deployment of robust VNX+ solutions across aerospace and defense programs.



FEATURES

- 8 Slot Backplane
 - 6x Payload slots
 - 2x VNX.PL-1-HH.400-7.2.1.1-<General Payload>
 - 4x VNX.PL-1-HH.320-7.2.2.1-<General Payload> with half-sized aperture
 - 1x Switch slot (VNX.SW-1-HH.400-7.4.1.1-<7DP/8CP Switch>)
 - 1x Power Supply slot (Balanced)
- Backplane supports up to
 - 10GBASE-KX/40GBASE-KX4 Ethernet
 - PCI Express Gen4
- Full SOSA aligned V46.11 chassis manager
- Maintenance port aggregator from all slots. Accessible via USB front panel port
- 1000BASE-T switch connecting all slots with S0 Utility Segment
 - 1000BASE-T MDI ports and a link to the Control Plane
- Multiple Test points and LEDs
- Full I/O from one 400-pin slot and one 320-pin slot via a custom VPX form factor IO front board fitted with industry standard connectors
- Angled card cage, provides easier access to the module hardware
- Each slot provides airflow directed at the module top surface to provide cooling without conduction cooling thermal paths
- Supports modules with or without their metal enclosures
 - Enables board bring-up and debug
- Locking retainers to secure modules in their slots against the blind-mate connector spring forces
 - Works with or without metal enclosures
- Ergonomic handles for easy transport
- Power switchable from either a VITA 90.3 PS module
 - Internal 110/200V PSU
- Supports 19mm or 39mm modules, with and without wedgelocks

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BENEFITS OF VNX+

- Compact Size: Ideal for space-constrained applications in autonomous vehicles (air, ground, sea, or space)
- Modularity and Scalability: Allows for flexible system design and easy upgrades
- Ruggedness: Naturally rugged design suitable for harsh environments without additional hardening
- High-Speed Communications: Supports data rates up to 25Gbps between modules per lane
- Standardization: Adoption by SOSA (Sensor Open Systems Architecture) promotes interoperability and a robust ecosystem of compatible products
- Versatility: Suitable for various applications from small UAVs to larger autonomous systems
- Built-in I/O Capabilities: Includes Unique External I/O (UEIO) for direct device control without additional mezzanine cards
- Thermal Management: Conduction-cooled design simplifies system cooling requirements

KEY CONCEPTS OF VNX+

- A modular, scalable computing architecture developed by the VME International Trade Association (VITA)
- Designed as a small form factor (SFF) standard, significantly smaller than 3U VPX, offering about 70% reduction in per-slot size
- Features a well-defined Utility Segment, Communications Segment, and new Overlay Segment
- Supports blind-mate optical and coax connections
- Includes power supply module definitions
- Offers well-defined slot profiles for payload modules, switches, PNT/Radial Clock modules, and space payloads

APPLICATIONS

VNX+ / SOSA and CMOSS aligned development systems help to speed time to deployment for critical defense applications including but not limited to:

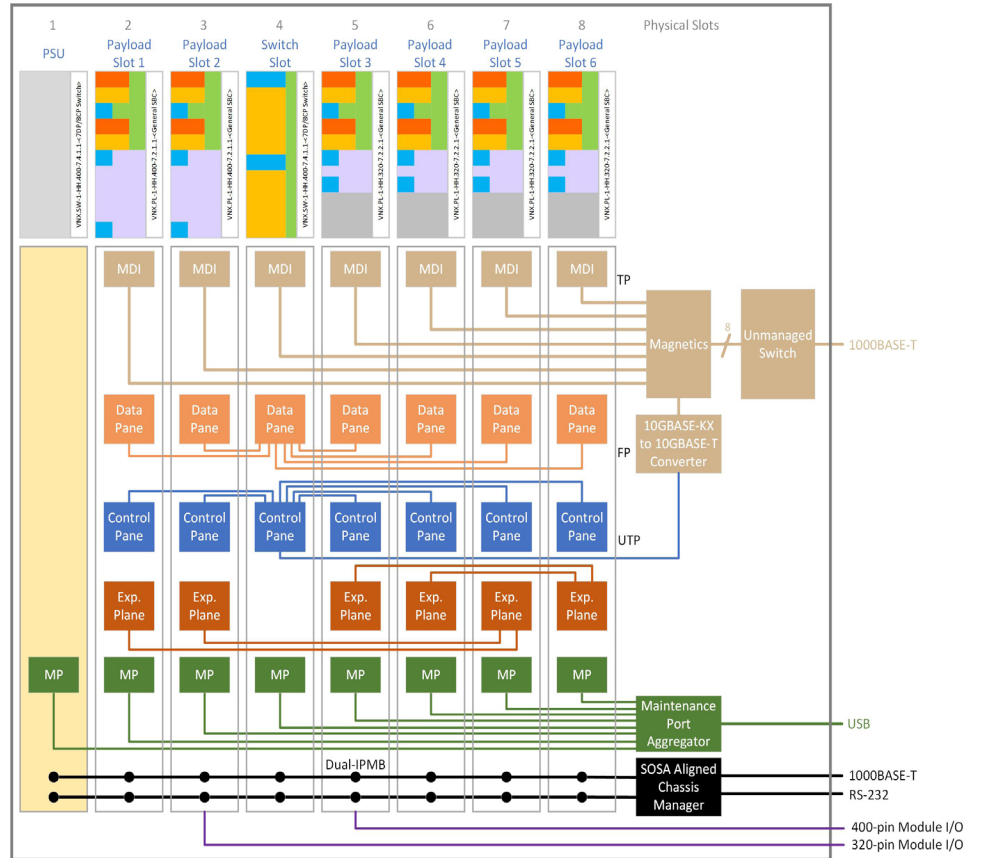
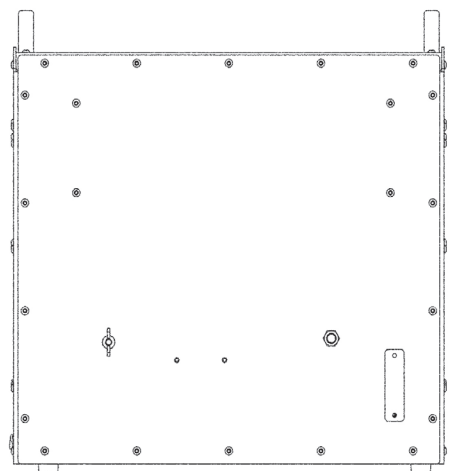
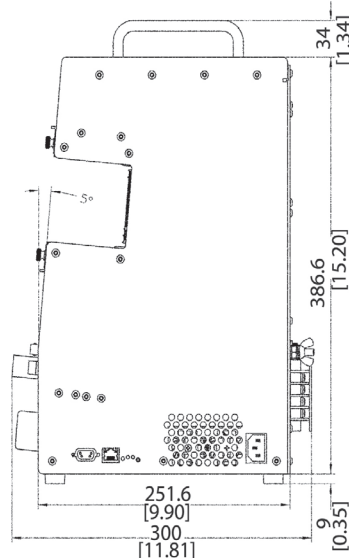
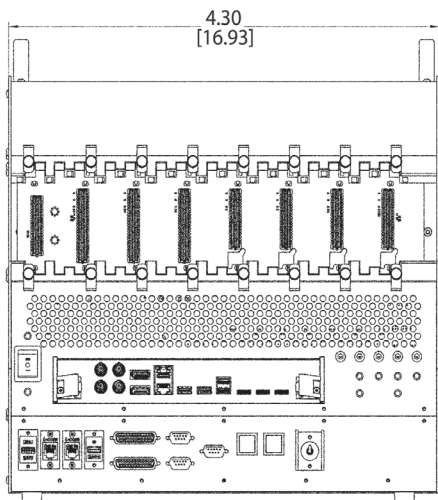
- › Mission control
- › Secure communications
- › Surveillance
- › Data and image processing
- › Weapons control
- › Target tracking and display
- › Navigational Control
- › Threat detection
- › Process monitoring

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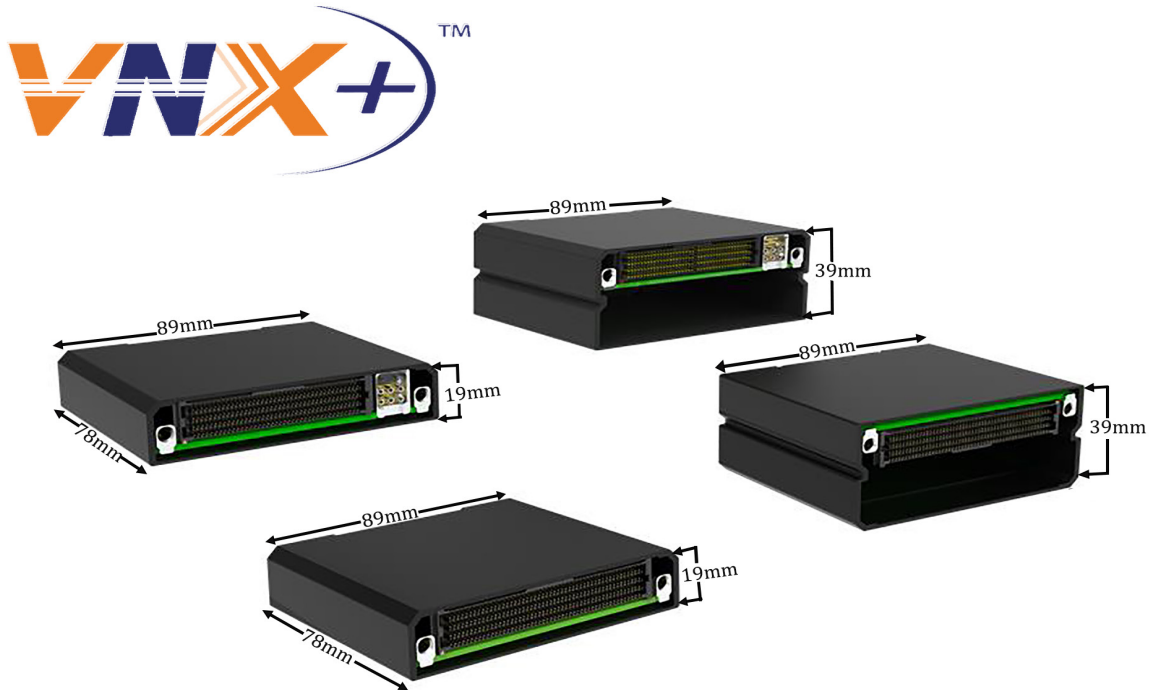
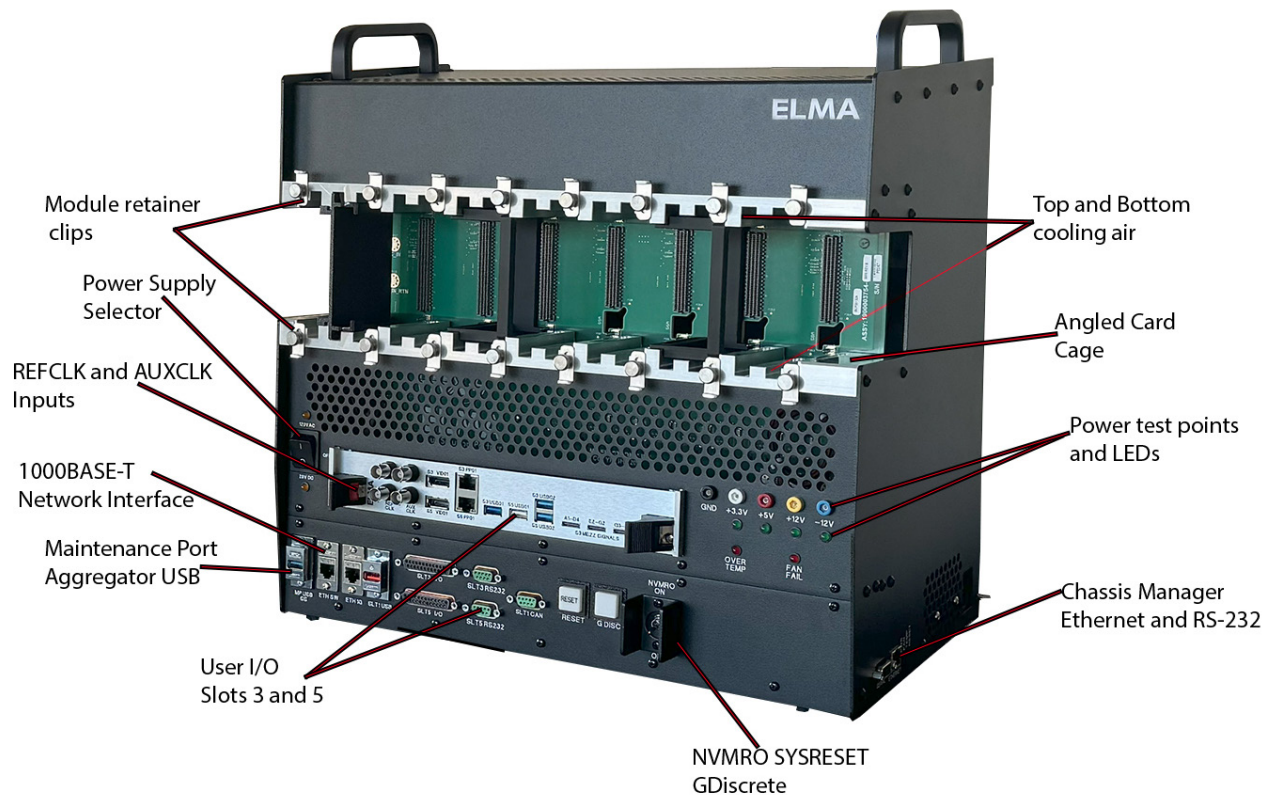
BACKPLANE PROFILE

- 6 Payload Slots + 1 Switch Slot + 1 PSU slot
 - 19mm PSU Slot
 - 2x VNX.PL-1-HH.400-7.2.1.1-
<General SBC> Payload Slots
 - VNX.SW-1-HH.400-7.4.1.1-
<7DP/8CP Switch> Switch Slot
 - 4x VNX.PL-1-HH.320-7.2.2.1-
<General SBC> Payload Slots

**LINE DRAWING**

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PLUG-IN CARD SIZE - VNX+**SYSTEM OVERVIEW**

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ELECTRICAL SPECIFICATIONS

Input Voltage	115 - 240 VAC
Input Current	10.0A - 15.0A max.
Input Frequency	47 - 63 Hz

OUTPUT SPECIFICATIONS

Voltage	+5V	+12V	+3.3V	-12V
Max Load	36.0A	116.0A	31.0A	0.5A
Min Load	1.0A	2.0A	1.0A	0.0A
Peak Load	---	---	---	---
Regulation	±5%	±5%	±5%	±5%
Ripple & Noise	50mV	120mV	50mV	120mV

*Power module total output power of +5V and 3.3V not exceed 210W

*Power module total output power not exceed 1400W for 180~264V

*Power module total output power not exceed 1200W for 103~132V

*Power good signal: ON delay 100ms to 500ms, OFF delay 1ms, HOLD UP time: 17ms minimum at full

*Load & nominal input voltage

Note: Electrical Specification for the internal built-in Chassis Power supply. Specifications for plug-in VITA 62 power supplies used on the backplane are dependent on the power supply.

ORDER INFORMATION

8-Slot FlexVNX+ Test and Development Chassis	Model Number (Part Number)
Elma's 8-Slot FlexVNX+ Development Chassis > Measures 16.9" (430mm) wide x 11.8" (300mm) deep x 16.5" (420mm) high > Wide range builtin power supplies > Top mounted 12VDC fans > AC operation, AC power cord > Front panel On/Off switch, reset switch, voltage / fan LED and voltage test points > Builtin Chassis Manager > Integrated Maintenance Port Aggregator > Completely assembled, wired and tested	39S08VPXZZY2VAND

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