SIU34 Rugged COTS Systems

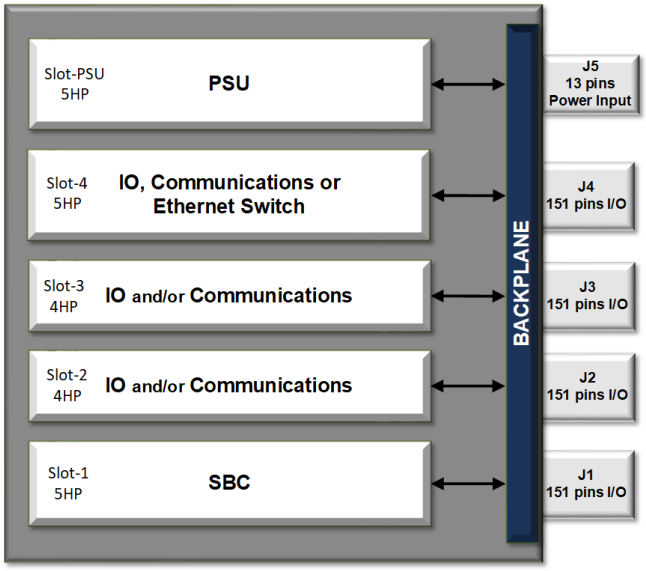
3U OpenVPX Sensor Interface Unit

Configure with up to 12 I/O and Communication Function Modules

The SIU34 is a highly configurable rugged system or subsystem ideally suited to support a multitude of Mil-Aero applications that require high-density I/O, communications, Ethernet switching and processing. The SIU34 leverages NAI's 3U OpenVPX™ boards to deliver off-the-shelf solutions that accelerate deployment of SWaP-optimized systems in air, land and sea applications.

Versatile & Scalable Rugged Architecture for Demanding Embedded System Applications Including: Data Acquisition (DAQ), Fire Control & Targeting System (FCTS), Remote Data Concentrator (RDC), Vehicle Management System (VMS) Data Concentrator Unit (DCU), Remote Interface Unit (RIU), Health and Usage Monitoring System (HUMS), Aircraft Interface Unit (AIU).

Mix-and-Match Modular Architecture



Features

- **4x 3U OpenVPX™ Card Slots**
  - Supports up to 12 I/O and/or Communication smart functions
  - 100+ modules to choose from
- **Local or External SBC Host I/F capable**
  - Processor Options: Freescale PowerPC™ QorIQ® T2080, Intel® Core™ i7, ARM® Cortex® -A9 or ARM® Cortex® -A53
  - SBC-less remote interface supported via Ethernet connection to your mission computer
- **Configurable I/O Communications and Processing**
- **COTS/NDI Sense & Response system**
- **COSA® Architecture**
  - Supports MOSA, OSA, SOSA™ and the FACE™ technical standards
- **Reduced SWaP Footprint**
  - 5.7" x 5.9" x 9.4" (est.) (includes connectors)
  - ~9.7 lbs. incl. ~2.2 lbs. for PSU plus ~1.35 lbs. each additional fully populated board
  - 28 VDC input
  - Power is configuration dependent
    - 50 W typ. (up to 130 W capable)
    - 50 ms (min.) PSU hold-up option
- **Wind River VxWorks®, Xilinx PetaLinux, Microsoft Windows® and DDC-I Deos® OS support**
- **Continuous Background Built-In-Test (BIT) (board/function supported as applicable)**
- **Specifications**
  - Operating temp: -40°C to +71°C @ thermal interface, conduction cooled
  - Environmental/EMI
    - MIL-STD-461*
    - MIL-STD-810
    - MIL-STD-1275
    - MIL-STD-704

*MIL-STD-461F requires properly shielded cables and system grounding practices.

Select up to 12 independent functions for your application with up to 4 card slots

I/O Boards and Single Board Computers					
Type	Model	Description	Type	Model	Description
Single Board Computers	68ARM1	3U OpenVPX ARM® Cortex®-A9 Single Board Computer	High Density I/O Boards	68DT1	3U OpenVPX Multi-channel Discrete I/O Board
	68ARM2	3U OpenVPX, Single Board Computer, Xilinx Zynq UltraScale+	Multifunction I/O Boards	68G5	3U OpenVPX I/O and Communications Board
	68INT4	3U OpenVPX, Single Board Computer, Intel Xeon Quad-core E3-1505LV6 @ 2.2 GHz		68G5E	3U OpenVPX Ethernet Switch and Multifunction I/O Board
	68INT5	3U OpenVPX, Single Board Computer, Intel Xeon six-core E-2276ME @ 2.8 GHz		68G5P	3U OpenVPX Multifunction I/O Board with External PCIe & SATA II I/F
	68PPC2	3U OpenVPX, Single Board Computer, NXP® QorIQ® T2080 Quad-Core e6500 @1.5 GHz	Rugged Power Supplies	VPX68	DC/DC 3U 1.0" Pitch VITA 62 Power Converter meets MIL-STD-704A-F
High Density I/O Boards	68CB6	3U VPX Combination I/O & Communications Board			

Smart Function Module			
Type	Module Category	Type	Module Category
Measurement & Simulation Modules	AC Reference	Communication Modules	Serial Communications
	IRIG Timecode Receiver and Generator		Time-Triggered Ethernet
	LVDT RVDT Measurement and Simulation	I/O Modules	Analog-to-Digital
	Pulse Timer Receiver and Generator		Chip Detector and Fuzz Burn
	Strain Gauge Measurement		Digital IO - Differential Transceiver
	Synchro Resolver Measurement and Simulation		Digital IO - TTL,CMOS
	Thermocouple and RTD Measurement		Digital-to-Analog
Communication Modules	ARINC Communications		Discrete IO - Multichannel,Programmable
	CANBus Communications		Relay
	Ethernet NIC Interface		Variable Reluctance
	Ethernet Switch	Combination Modules	MIL-STD-1553B, Discrete IO - Multichannel,Programmable
	IEEE 1394 (FireWire)		MIL-STD-1553B, ARINC Communications
	MIL-STD-1553B	Storage	SATA Solid State Drive (SSD)
	MIL-STD-1760		

Architected for Versatility

NAI's Configurable Open Systems Architecture™ (COSA®) offers a choice of over 100 smart I/O, communications, or Ethernet switch functions, providing the highest packaging density and greatest flexibility of ruggedized embedded product solutions in the industry. Preexisting, fully-tested functions can be combined in an unlimited number of ways quickly and easily.

One-Source Efficiencies

Eliminate man-months of integration with a configured, field-proven system from NAI. Specification to deployment is a seamless experience as all design, state-of-the-art manufacturing, assembly and test are performed - by one trusted source. All facilities are located within the U.S. and optimized for high-mix/low volume production runs and extended lifecycle support.

Product Lifecycle Management

From design to production and beyond, NAI's product lifecycle management strategy ensures the long-term availability of COTS products through configuration management, technology refresh and obsolescence component purchase and storage.