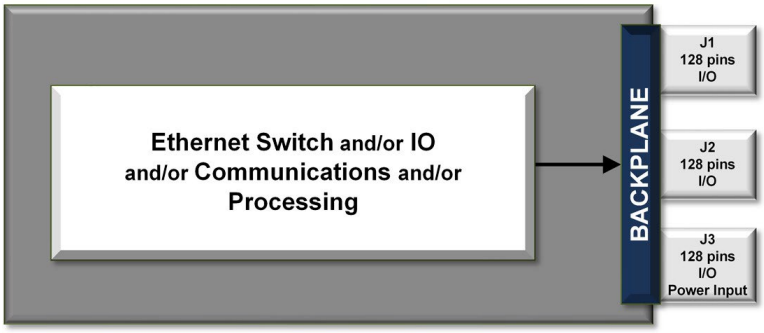
SIU31 Rugged COTS Systems

3U cPCI Sensor Interface Unit

Configure with up to three I/O and communication function modules—
Over 100 different modules to choose from

The SIU31 is a highly configurable Rugged COTS System or subsystem ideally suited for military, industrial, and commercial applications that require high-density I/O, communications, Ethernet switching, and processing. The SIU31 uses one NAI field-proven, 3U cPCI board to deliver off-the-shelf, SWaP-optimized COTS solutions that Accelerate Your-Time-to-Mission™.

Mix-and-Match Modular Architecture



Features

- **COSA® Architecture**
- **1x 3U cPCI or OpenVPX™ Card Slot**
  - Supports up to 3 I/O and/or Communication smart functions
  - 100+ modules to choose from
- **SBC-less stand-alone operation supported via Ethernet connection to your mission computer**
- **Processor Options: Freescale PowerPC™ QorIQ® P2041, Intel® Core™ i7 or ARM® Cortex®-A9**
- **COTS/NDI Sense & Response system**
- **Fast Boot Capability**
- **Customer Configurable I/O, Communications and Processing**
- **Reduced SWaP Footprint**
  - Conduction-Cooled (CC):
    - 4.7" (W) x 2.4" (H) x 8.7" (D)
    - ~3.15 lbs. (unpopulated)
  - 3U cPCI CA Weight
    - 1.4 lbs for PSU
    - 1.25 lbs. SBC or I/O CCA
  - 28 VDC input
- **Wind River® Linux, VxWorks®, Xilinx® PetaLinux and Windows® Embedded Standard 7 OS support**
- **Continuous Background Built-In-Test (BIT)**
- **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 3 independent functions for your application with up to 1 card slot

I/O Boards and Single Board Computers

Type	Model	Description
Single Board Computers	75ARM1	3U cPCI ARM Cortex-A9 Based Single Board Computer
	75INT2	3U cPCI Intel i7 Based Single Board Computer
	75INT6	3U cPCI SBC with NAI-COSA Module
	75PPC1	3U cPCI PPC 2041 Based Single Board Computer
Multifunction I/O Boards	75C3	cPCI-3U Multifunction I/O Board
	75C5	cPCI-3U Multifunction I/O Board
Multifunction I/O Boards	75D4	cPCI-3U Multifunction I/O with Integrated High Speed Serial (RS-232/422/423/485) and Discrete I/O
	75G5	3U cPCI MFIO Board
Single Function I/O Boards	75DL1	cPCI-3U Digital-to-LVDT Simulation Motherboard
	75DS1	cPCI-3U Digital-to-Synchro/Resolver Simulation Motherboard
	75DS2	cPCI-3U Digital-to-Synchro/Resolver/LVDT Simulation Motherboard
Rugged Power Supplies	75PS4	Power Supply Unit, 3U cPCI

Smart Function Module

Type	Module Category
Combination Modules	A-to-D & D-to-A
	MIL-STD-1553B & ARINC-429/575
	MIL-STD-1553B & Prog. Discrete IO
	Serial Communications & Digital I/O - Differential Transceiver
Measurement & Simulation Modules	AC Reference
	IRIG Timecode Receiver and Generator
	LVDT RVDT Measurement and Simulation
	Pulse Timer Receiver and Generator
	Strain Gauge Measurement
	Synchro Resolver Measurement and Simulation
	Thermocouple and RTD Measurement
Communication Modules	ARINC Communications
	CANBus Communications
	Ethernet NIC Interface
	Ethernet Switch
	IEEE 1394 (FireWire)
Communication Modules	MIL-STD-1553B
	MIL-STD-1760
	Serial Communications
	Time Sensitive Networking
	Time-Triggered Ethernet
I/O Modules	Analog-to-Digital
	Chip Detector and Fuzz Bum
	Digital IO - Differential Transceiver
	Digital IO - TTL/CMOS
	Digital-to-Analog
	Discrete IO - Multichannel, Programmable
	Relay
	Variable Reluctance
Chassis Management (ChM)	Chassis Management
Storage	SATA Solid State Drive (SSD)

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.

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