



# SIU32S Rugged COTS System

## 3U OpenVPX Sensor Interface Unit - SIU32S

### MOSA/SOSA™-aligned Multiprocessing, Video, I/O and Communication System

The SIU32S is a configurable Modular Open Systems Approach (MOSA) rugged system ideally suited to support a wide range of Mil-Aero applications that require processing, Video, high-density I/O, communications and Ethernet switching. The SIU32S leverages NAI's Configurable Open Systems Architecture™ (COSA®) 3U OpenVPX SOSA™-aligned boards, XMC's and smart function modules 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

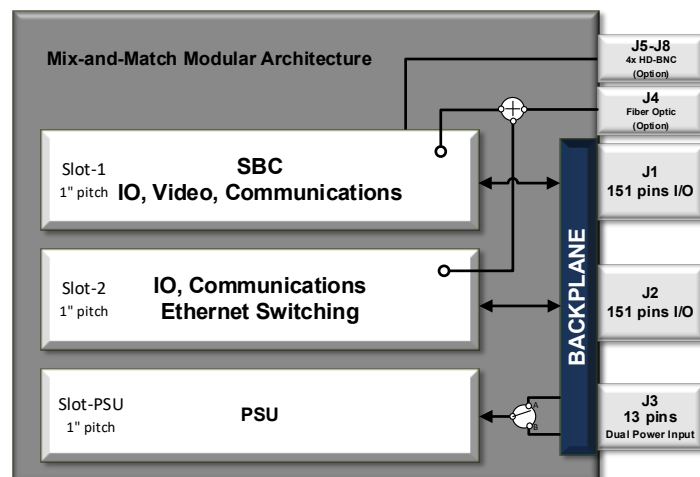
Including: Mission Computing, Vehicle Management System (VMS), Actuator Interface Unit (AIU), IO Adapter (IOA), Data Acquisition (DAQ), Fire Control & Targeting System (FCTS), Remote Data Concentrator (RDC), Data Concentrator Unit (DCU), Remote Interface Unit (RIU), Health and Usage Monitoring System (HUMS), Aircraft Interface Unit (AIU).



Conduction Cooled (SIU32S)



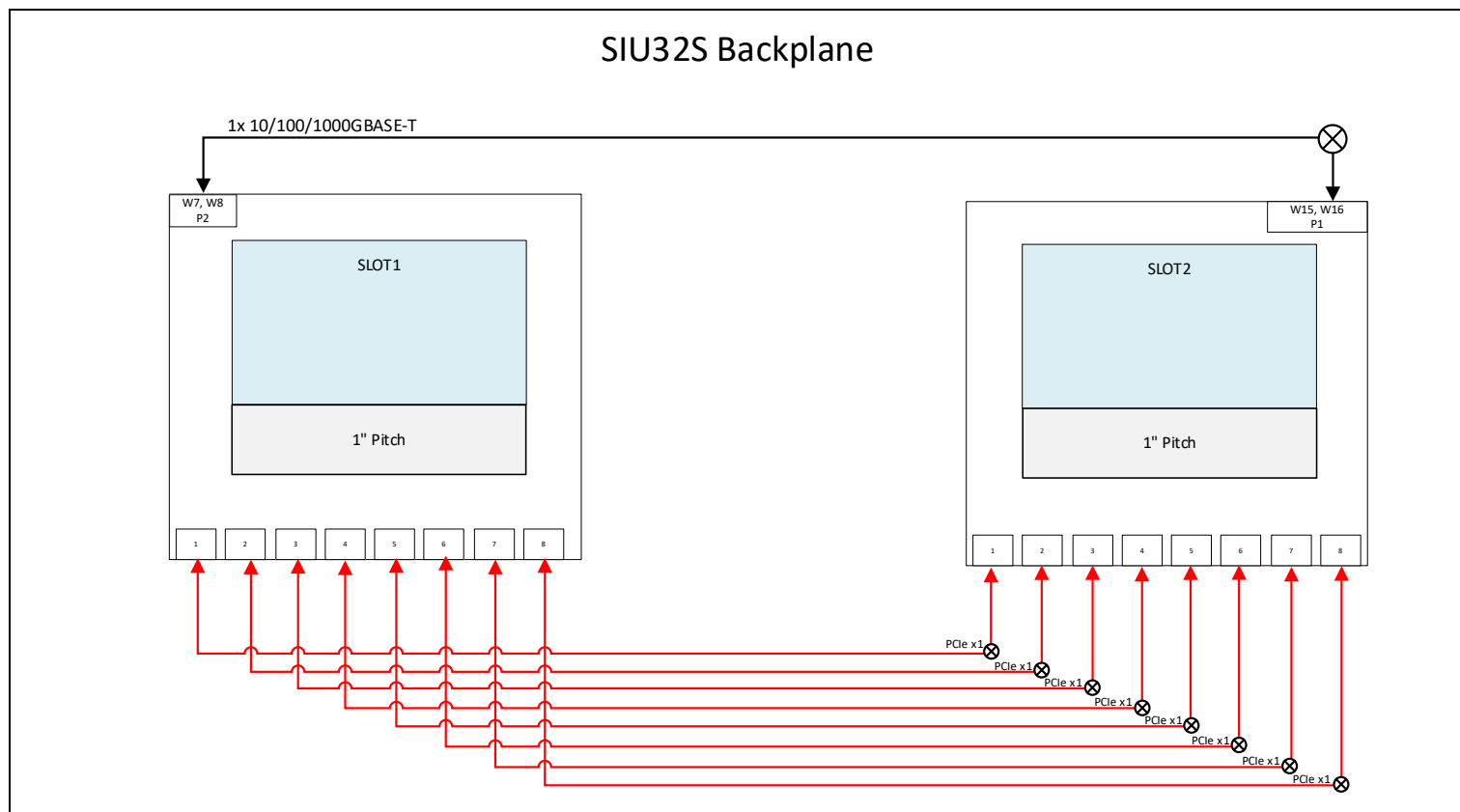
Air/Convection Cooled (SIU32SA)



## Features

- **2x 3U SOSA™ OpenVPX™ Card Slots**
  - Supports up to 6 Video, I/O and/or communication smart function modules.
  - 100+ smart modules to choose from
  - Frame Grabber XMC (VS2)
- **Local or External SBC Host I/F Capable**
  - Processor Options: Freescale PowerPC™ QorIQ® T2080, Intel® Core™ i7 or Intel® Xeon® W (Tiger Lake), or ARM® Cortex® -A53 or -A72
  - SBC-less remote interface supported via Ethernet connection to your mission computer.
- **Configurable I/O, Communications and Processing Capabilities**
- **COTS/NDI Sense & Response System**
- **COSA Architecture**
  - Supports MOSA, SOSA™ and the FACE™ technical standards.
- **Third Party Board Support** (contact factory)
  - E.g., WOLF NVIDIA RTX™ GPU
- **Reduced SWaP Footprint**
  - Conduction-Cooled (CC)
    - 6.0" (W) x 4.6" (H) x 9.5" (D)
    - ~6.6 lbs. (unpopulated)
  - Air/Convection-Cooled (AC)
    - 6.2" (W) x 4.8" (H) x 9.5" (D)
    - ~6.9 lbs. (unpopulated)
    - Contact factory for application review & availability
  - 3U VPX CCA Weight
    - 2.2 lbs. for PSU
    - 1.35 lbs. SBC or IO CCA
- **Dedicated HD38999 I/O Connectors**
- **1" Pitch Slots for All 3U Modules (Cards)**
- **Dual 28 VDC Input (nominal) PSU** (Power dissipation is configuration dependent)
  - Dual power input within single connector
  - 50 W typ. (up to 90 W capable)
    - Depending on environment
  - 50 ms (min.) PSU hold-up option
- **Supports Multiple Operating Systems (SBC dependent)**
  - Wind River® Helix™ Virtualization Platform, Wind River® Linux, VxWorks®, VxWorks® Cert Edition, DDC-I Deos™ OS, Lynx MOSA.ic, Xilinx PetaLinux, Ubuntu Linux®
- **Enhanced Capabilities Support (options)**
  - 4x HD-BNC connectors for SDI video input/output (VS2)
  - Dedicated Fiber Optic connector (for Ethernet Switch, TSN, etc.)
- **Continuous Background Built-In-Test (BIT)**
  - Supported by SBC & MFIO/smart modules
- **Environmental and EMI/EMC Specifications**
  - Operating temp: -40°C to +71°C at baseplate, conduction cooled.
  - Air/convection-cooled version option
  - MIL-STD-461\*
  - MIL-STD-810
  - MIL-STD-1275
  - MIL-STD-704

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



## SIU32S Accessories

Part Number	Description
SIU32S-CONN-KIT	Mating Connector Kit (connector and associated pins only). Includes a set of HD38999 151-pin I/O Connectors (for J1-J2) and Power Connector (for J3).
250-130	Mating Fiber Optic OM3 Cable Assembly (NIUX, SIU3XS), 48 inches long. MT 38999 11-01 chassis connector to industry standard MPO/MTP®-12 male (option for J4).
07-0148	Mating Cable Assembly, BNC Plug to HD-BNC Plug, 75 Ohm, Belden 4855R, 78.7 inches. Suitable for SDI video (option for J5, J6, J7, or J8).
SIU32S-XXXXXX-CBL-KIT	Mating Cable Kit; unique and defined for a specific SIU32S part number configuration (contact factory: -XXXXXX is TBD). Used with 44PIN-DEVELOPMENT-BD.
44PIN-DEVELOPMENT-BD	Development I/O Module Break-out/Connector Board. Used with SIU32S-XXXXXX-CBL-KIT assembled with NAI Harwin 44-pin receptacles – one Break-out/Connector Board is required for each function module.

## 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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Certified Small Business

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