SIU36 Rugged COTS Systems

3U OpenVPX Sensor Interface Unit - SIU36

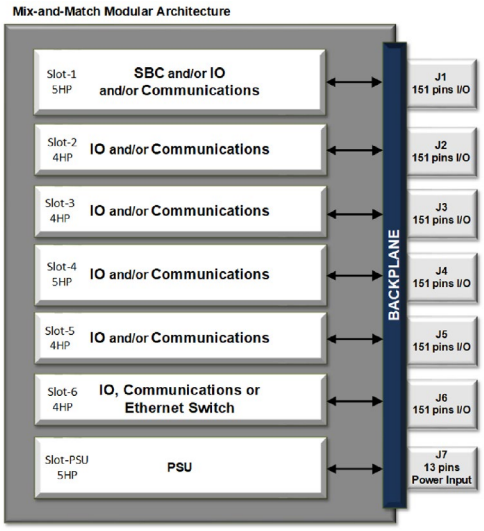
Configure with up to 18 I/O and Communication Function Modules

The SIU36 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 SIU36 leverages NAI's 3U 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)

Conduction-Cooled (SIU36)

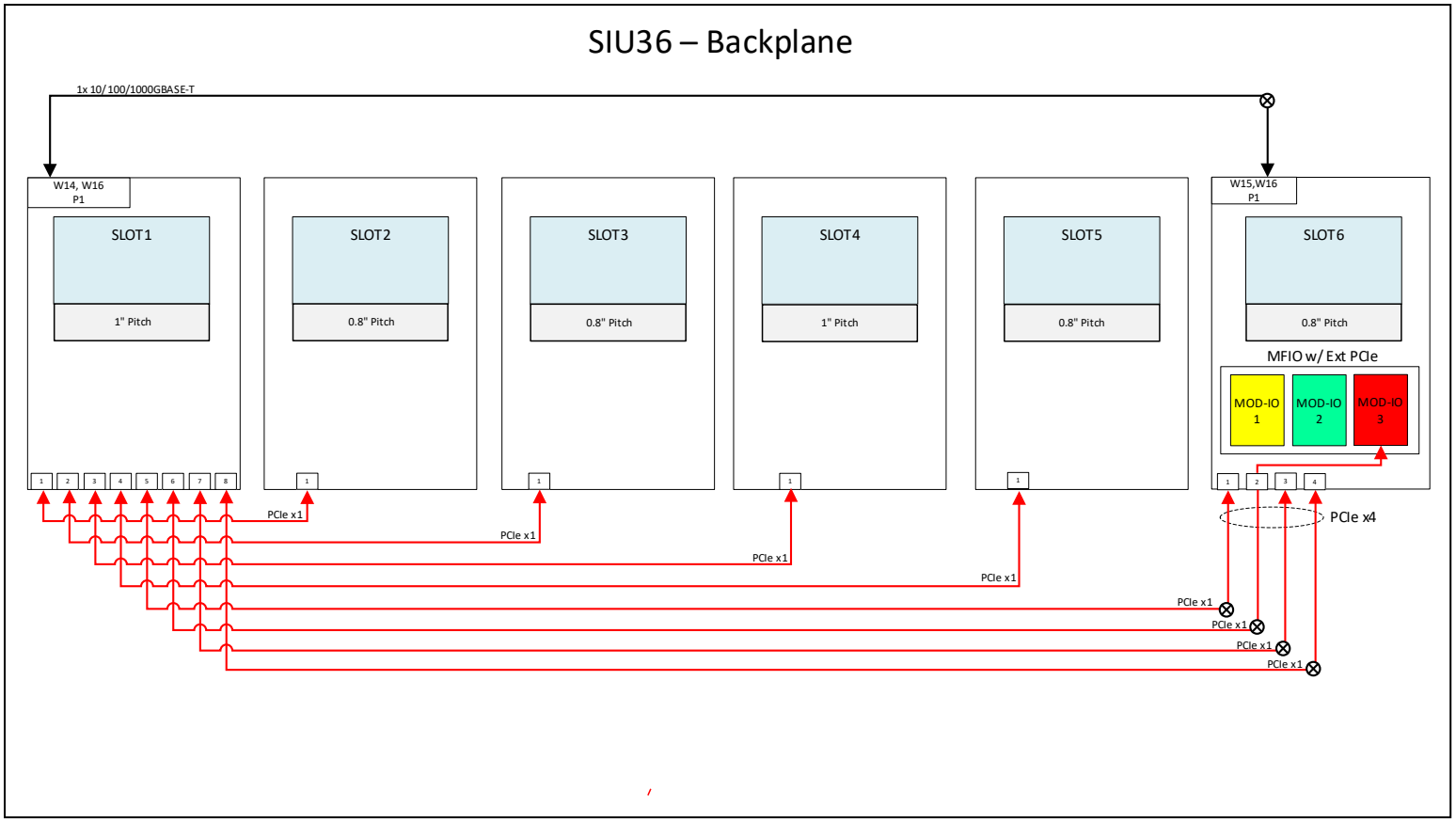
Air/Convection-Cooled (SIU36A)



Features

- **6x 3U OpenVPX™ Card Slots**
  - Supports up to 18 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**
  - Conduction-Cooled (CC)
    9.0" (W) x 5.0" (H) x 9.5" (D)
    ~13.2 lbs. (unpopulated)
  - Air/Convection-Cooled (AC)
    9.0" (W) x 6.4" (H) x 9.5" (D)
    ~14.4 lbs. (unpopulated)
  - 3U VPX CCA Weight
    2.2 lbs. for PSU and
    1.35 lbs. SBC or IO CCA
- **28 VDC input**
  (Power is configuration dependent)
  - 50 W typ. (up to 150 W capable)
  - 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®
- **Continuous Background Built-In-Test (BIT) (board/function supported as applicable)**
- **Environmental and EMI/EMC Specifications**
  - Operating temp: -40°C to +71°C @ thermal interface, conduction cooled
  - Air/convection-cooled version
  - MIL-STD-461*
  - MIL-STD-810
  - MIL-STD-1275
  - MIL-STD-704

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



SIU36 Accessories

Part Number	Description
SIU36-CONN-KIT	Mating Connector Kit (connector and associated pins only). Includes a set of HD38999 151-pin I/O Connectors (for J1-J6) and Power Connector (for J7).
SIU36-XXXXXX-CBL-KIT	Mating Cable Kit; unique and defined for a specific SIU36S 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 SIU36S-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.