NRDC-3000 – Nano Remote Data Concentrator

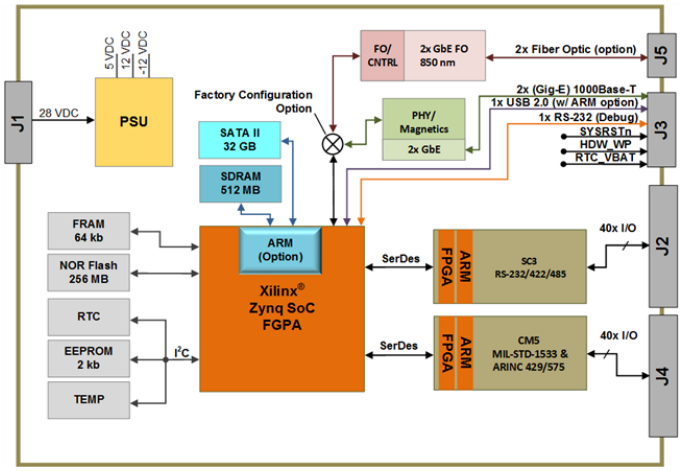
Off-the-shelf, Application Ready SWaP Optimized Remote Data Concentrator

Configure to Customize

NAI designs Remote Data Concentrators (RDC) around core COTS technology building blocks, offering our customers readily available, interoperable, field-proven systems (or subsystems) designed to withstand the rigors of harsh, SWaP-constrained environments. The NRDC-3000 is a preconfigured rugged system using a high-performance, low power Dual Core ARM® Cortex®-A9 processor with Xilinx® PetaLinux OS, Wind River® VxWorks® 6.9 or DDC-I Deos™ support.

It is ideally suited to support a multitude of data concentration applications that require high-density, multichannel, programmable communications consisting of: eight (8) programmable RS-232/422/485 serial channels, Dual-Channel Dual-Redundant MIL-STD-1553 BC, RT & MT and eight (8) ARINC 429/575 interface channels, individually programmable for either Tx or Rx.

The NRDC-3000 delivers an off-the-shelf, configured hardware solution that accelerates deployment of SWaP-optimized systems in harsh air, land and sea environments. With an extremely small footprint of 7.0" x 3.0" x 2.5" and weighing less than 3 lbs. these small, low-power units deliver off-the-shelf solutions that accelerate deployment of SWaP-optimized systems – in less time, with NO NRE.



Features

- **Minimized SWaP Footprint**
  - ~7.0" x 3.0" x 2.5" (incl. connectors)
  - ~2.75 lbs (1.25 kg)
  - 28 VDC input @ ~0.18 A + Module Power 5-25 W typ. operating, depending on configuration & application
- **Optional ARM Processing**
  - ARM® Cortex®-A9 Dual Core Processor
  - 8000 MHz
  - 512 MB DDR3L SDRAM
  - 32 GB SATA II NAND Flash
  - Xilinx® PetaLinux OS support
  - Wind River® VxWorks® (option)
  - Other OS (contact factory)
- **Ethernet Connectivity**
  - 2x 10/100/1000Base-T (GbE)
  - 2x 1 Gb Fiber Optic (option) 850 nm
- **Continuous Background BIT** (module dependent)
- **VICTORY Interface Services** (contact Factory)
- **Rugged Applications**
  - MIL-STD-810
  - MIL-STD-461
  - MIL-STD-704
  - Operating temp:-40°C to 71°C
  - Conduction-cooled and Convection/Air-cooled options (contact factory)

110 Wilbur Place, Bohemia NY 11716
Tel: 631.567.1100
www.naii.com

North Atlantic Industries

NRDC-3000
Nano Remote Data Concentrator

Architecture

NAI's Configurable Open System Architecture™ (COSA®) offers a choice of over 70 smart I/O, communications, or Ethernet switch functions, providing the highest packaging density and greatest flexibility of any multifunction I/O board in the industry. Preexisting, fully-tested functions can be combined in an unlimited number of ways quickly and easily.

Applications

Designed to consolidate inputs from a military aircraft's systems and sensors and distribute them via a full duplex switched Ethernet network, NAI's Remote Data Concentrators (RDC) serve as the "central nervous system" of a military aircraft. Additionally, these systems host the avionics and utilities functions, eliminating several boxes and hundreds of pounds of cable. NAI's RDUs perform with a high level of stability and accuracy on military vehicles operating in hostile environments and are a perfect fit for a number of avionics applications including fixed-wing, rotorcraft and unmanned aerial vehicle (UAV) platforms where compact, low-power systems are required.

Software Support

Software Support Kits (SSKs) for multiple operating systems are supplied free of charge, with source code and board-specific library I/O APIs, to facilitate system integration. Each I/O function has dedicated processing, unburdening the system SBC from unnecessary data management overhead.

Background Built-In-Test (BIT)

BIT continuously monitors the status of all I/O during normal operations and is totally transparent to the user. SBC resources are not consumed while executing BIT routines. This simplifies maintenance, assures operational readiness, reduces life-cycle costs and– *keeps your systems mission ready.*

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 in the U.S. and optimized for high-mix/low volume production runs and extended lifecycle support.

Product Lifecycle Management

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