FCT-35CP0D - Fire Control & Targeting System

Made in the USA
Certified Small Business

Off-the-shelf, 5-slot chassis designed for remote rugged environment operation
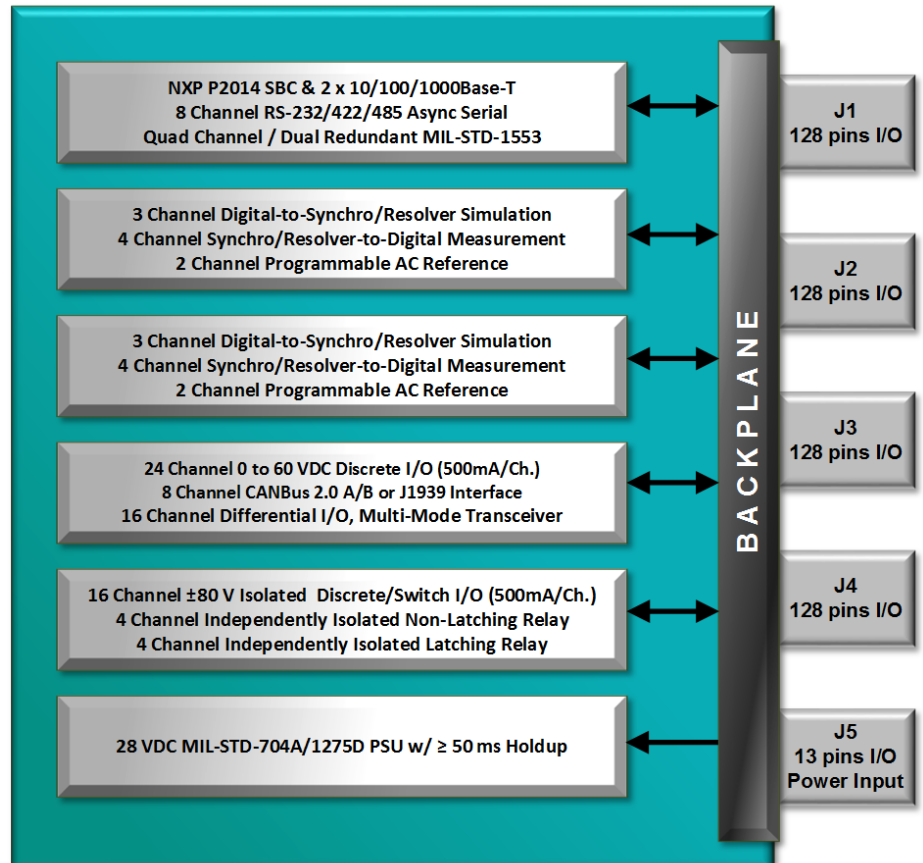
NAI designs Fire Control & Targeting systems (FCT) around core COTS technology building blocks, offering our customers readily available, interoperable, field-proven (systems or subsytems) designed to withstand the rigors of harsh, SWaP-constrained environments. The FCT-35CP0D is a pre-configured, rugged system with a PowerPC™ NXP® P2041 processor. It is ideally suited to support a multitude of military/aerospace applications that require 3-axis precision, dual-speed synchro drive and measurement with RS-422/423/485 Serial Communications; Dual-Redundant, Quad Channel MIL-STD-1553B; Digital-to-Synchro Simulation, Synchro-to-Digital Measurement; AC Reference; Discrete I/O; CANBus (CAN 2.0 A&B or J1939); Differential Transceiver; Latching Relays and Dual-Port Gig-E Ethernet.

The FCT-35CP0D delivers an off-the-shelf, preconfigured hardware solution that accelerates deployment of SWaP-optimized systems in rugged air, land and sea applications. Pairing the FCT-35CP0D hardware with your application will accelerate your time to mission!

Features

- Meets or exceeds MIL-STD-461F and MIL-STD-810G requirements
- VxWorks OS
- <15 lbs. typical
- Built-in-Test (BIT)
- COSA® architecture
- Conduction cooled SWaP
- 28 VDC power @ 75 W, typical

NXP P2014 SBC & 2 x 10/100/1000Base-T
8 Channel RS-232/422/485 Async Serial
Quad Channel / Dual Redundant MIL-STD-1553

3 Channel Digital-to-Synchro/Resolver Simulation
4 Channel Synchro/Resolver-to-Digital Measurement
2 Channel Programmable AC Reference

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24 Channel 0 to 60 VDC Discrete I/O (500mA/Ch.)
8 Channel CANBus 2.0 A/B or J1939 Interface
16 Channel Differential I/O, Multi-Mode Transceiver

16 Channel ±80 V Isolated Discrete/Switch I/O (500mA/Ch.)
4 Channel Independently Isolated Non-Latching Relay
4 Channel Independently Isolated Latching Relay

28 VDC MIL-STD-704A/1275D PSU w/ ≥ 50 ms Holdup

BACKPLANE

J1
128 pins I/O

J2
128 pins I/O

J3
128 pins I/O

J4
128 pins I/O

J5
13 pins I/O
Power Input

FCT-35CP0D Data Sheet Rev. C1

Architecture

With our exclusive, modular, interoperable Custom on Standard Architecture™ (COSA®), NAI's fire control & targeting systems seamlessly integrate with our high-density, intelligent multifunction I/O boards, containing highest packaging density and greatest flexibility of any multifunction I/O board in the industry, and can be deployed rapidly with no NRE.

Applications

An FCT from NAI provides rugged dependability, precise threat evaluation and other advantages during critical, tactical air, land and sea missions where compact size, low weight and low-power systems are required. Dynamic, high performance, FCT systems from NAI can be applied to a broad spectrum of applications to control a multitude of sensor and command interfaces, such as, pitch, roll and yaw inputs, which need to be maintained to ensure steady "on target" aim and control in "on-the-move" air, land or sea gunships. Other critical applications include targeting of "line-of-sight" communications, radar, and laser guidance.

Continuous Background Built-In-Test (BIT)

BIT 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, and reduces life-cycle costs and keeps your system mission-ready.

Single-Source Efficiency

Eliminate man-months of integration with a configured, field-proven system from NAI. Requirements review through 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.

Software

Software support includes Wind River® VxWorks®. All I/O and communications library Software Support Kits (SSKs) are supplied free of charge.

Target Environment

All products are designed to operate under extreme temperature, shock, vibration and EMI environments. NAI's systems are designed to meet or exceed MIL-STD-461F and MIL-STD-810G requirements.