A429-USB-NT 4Tx/8Rx
Intelligent ARINC 429 USB Device

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mastering
integration
complexity

■ 4 Tx and 8 Rx channels

■ Avionics Discretes 6 In/6 Out

■ Automatic receive data time-stamping and transmit data scheduling

■ Software support for Windows and Linux operating systems

■ General purpose ARINC 429 Bus Analyzer & Simulator available

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Application Area

Avionics maintenance, testing, integration, and troubleshooting in both mobile and stationary environments require handy and easy-to-use equipment that offers both highest performance and large-scale flexibility in very small dimensions.

Combined with a comprehensive ARINC 429 interface, the widespread USB standard establishes the most efficient platform for standard analyzing and simulation tools as well as specific ARINC 429 applications. By utilizing standard notebook PCs maximum mobility and flexibility can be achieved. The demanding realtime requirements of ARINC 429 protocol communications and the increasing amount of information and data exchanged via ARINC 429 are handled by local on-card processing power.

Features

The A429-USB NT is an intelligent ARINC 429 USB card with an onboard FPGA. It is based on USB standard 2.0 and supports USB high speed operation. It is in fact a complete computing engine in USB form factor, equipped with 4 Tx channels and 8 Rx channels. Each of the Tx channels is connected to a dedicated loopback receiver.

Additionally, Discrete I/O lines are provided: 6 GND/OPEN In and 6 28V/OPEN or GND/OPEN Out.

A429-USB Firmware/Software

The firmware can be upgraded in-system via the USB interface. The software interface (driver and DLL) is available for Windows and Linux.

Mechanical Outline

The A429-USB NT device is embedded in an aluminum case with a high retention high speed USB-B connector and a 50-pin D-sub connector for the I/O.

Technical Data

ARINC 429 Interface
- 4 Tx and 8 Rx channels
- 4 additional loopback receivers
- Speed (HS/LS) individually programmable
- Standard ARINC 429 transceivers and line drivers
- 50-pin D-sub I/O interface
- Dynamic update of Tx data (Tx functions: sine, ramp, step)
- Data replay and data manipulation
- 256 definable ARINC 429 transmit labels per transmitter each with independent update rate support
- Autonomous cyclic transmit scheduling, combinable with block transfer
- Label data update sustains transmit schedule

USB/Power Interface
- USB 2.0 High Speed
- Bus-powered

Resources
- Discrete I/O channels (6 GND/OPEN In, 6 28V/OPEN or GND/OPEN Out)
- IRIG-B input (optional)

Software
- Driver and API (PN 202153) for
  - Windows 64 bit
  - Linux 64 bit

Available Applications
- A429-BAST Bus Analyzer & Simulation Tool (PN 202001)
- A615-3 PDL Frontend (PN 202115)
- A739A MCDU simulation (PN 202157)
- CMCA3xx CFDS/OMS simulation (PN 202004)
- CIDS simulations (PN 202007, 202010, 202011, 202012)

Available Variants
- 4 Tx / 8 Rx / 6 Discretes In/Out
- Other variants on request

Physical Dimensions
- Device box: 125 mm x 105 mm x 30 mm
- Weight: 300 g

Operating Environment
- Operating temperature: 0 °C to 55 °C
- Storage temperature: -40 °C to 85 °C
- Humidity: < 95% non-condensing

Power Consumption
- +5 V: max. 500 mA

Part Number
- 403568

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