# Alta dt
data technologies

NLINE-EA429™   In-Line ARINC to Ethernet Converter

- 10/100/1000 Ethernet <-> 1-8 ARINC Channels
  - 4 Channels RX or TX; 4 RX Only Channels
- 3 Simultaneous RX Modes, and
  Advanced TX Label Scheduling
- FPGA Thin-Server, Real-Time UDP Ethernet
- Auto RX Mode for ARINC->Ethernet Bridging
- Ideal for Lab, Sims or Rugged Deployed
- IRIG-B RX Decode, Triggers
- Works with Almost Any OS. Standard Sockets.

Full Featured Interface. Small, Rugged, Real-Time In-Line ARINC to Ethernet Converter. No OS or IP Stack, No Viruses.

Over-Molded RJ45 Ethernet

Female DB26 ARINC Signals

USB Type A Power Only
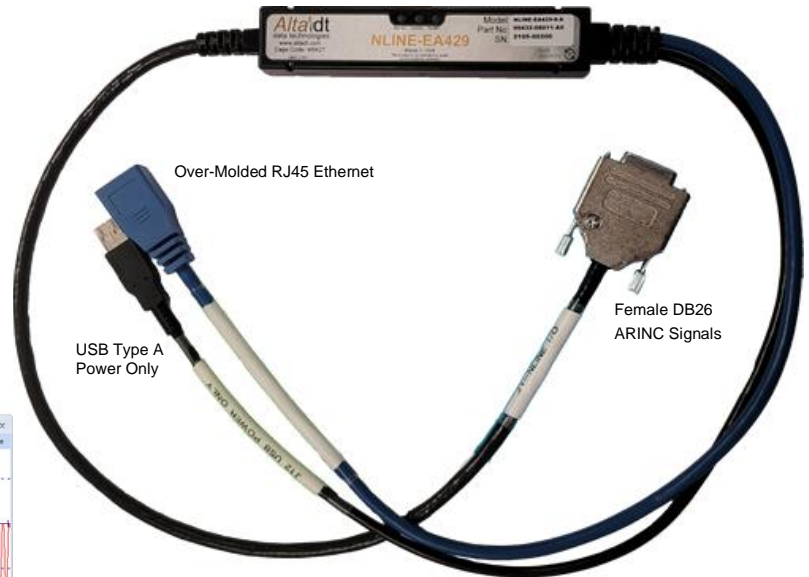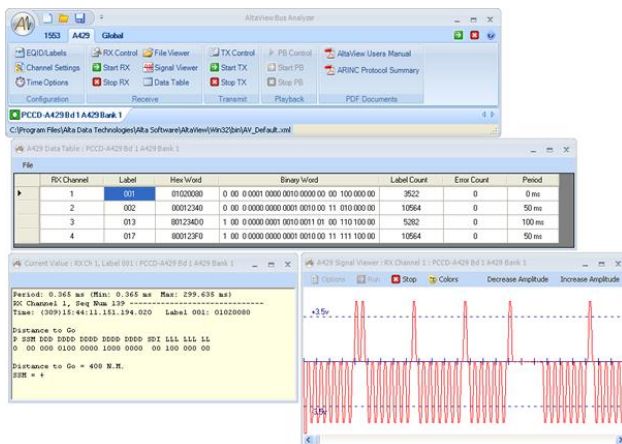
Optional AltaView Windows GUI. Full Label Decode/Encode.
Signal Capture on First 2 RX Channels!!

NLINE-EA429™ is an innovative product that provides "remoting" of ARINC operations on 10/100/1000 Ethernet IP/UDP local area networks (LAN). NLINE-E429 is a small, low-power, rugged device that provides connectivity for 1-8 ARINC 429/575/573/717 Channels - Ideal for remoting ARINC connections for in-field applications or point-point lab usage.

Alta has combined the industry's most advanced 32-bit ARINC FPGA protocol engine, *AltaCore*™, with a real-time IP/UDP thin server. The customer can implement their application with the same feature-rich application programming interface, *AltaAPI*™, as used with standard cards – often without even recompiling - the ultimate in code portability.

**NOTE: NLINE-EA429 (server) is a real-time Ethernet/ARINC device, but your computers' (client) IP stack may not be! The NLINE-EA429 device provides real-time UDP receive and transmit requests to ARINC buffers, but the client's IP/UDP stack will induce path delays as compared to backplane cards. For many applications (<100-1000 packets per second), this product will provide unparalleled flexibility in ARINC configurations.   Contact Alta for test results on various OS and computer configurations – your system results may vary.

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General

- 4 or 8 ARINC Channels
  - First 4 RX/TX Selectable
    - Each Shared RX/TX has TX Electrical Load, and RX Drain When Powered-off. RX Only Option (-I) Recommended for Critical Systems.
  - Second Group of 4 RX Only
- Support ARINC-429/575/573/717
- Standard 10/100/1000 Ethernet UDP
- 5-32 VDC Input Accepted
  (USB 5V @ 2 Amp Recommended)
  Power 1000E @ 40% Load: 500 mAmps
  Power 100E @ 40% Load: 400 mAmps
- RJ-45 Ethernet, USB-A Connector (power only), and Female DB26 for ARINC Signals
- Encode or Decode Almost any ARINC-429 Physical Layer Signal (512-200K Baud)
- Signal Capture on First 2 RX Channels
- One Megabyte RAM for Buffering
- Flash Disable Factory Setting for Secure Mem
- Parts Temp (C): -55 to +120 Storage, 0 to +70 Commercial, -40 to + 85 Extended Temp
- LVTTL Trigger In and Out
- Power-Up, Loop-Back and User BIT
- Polling Interrupts
- IRIG-B PAM RX
- IPC Level 3 and ISO 9001:2015 Processes
- IP Fragmentation NOT supported. Static IP

TX Features

- Simple or Detailed Frequency (Hz) Control Per Label/Word List
- ARINC-717 Frame Support
- Full Error Injection

RX Features – Three Buffering Modes

- Channel Level Label/Word Tables
- Channel Level Current Value Tables
- Multi-Channel Data Tables for All Channels
- ARINC 717 Frame Support
- 64-Bit, 20 nsec Time Tags, Interrupts, Trigger
- Full Error Detection

Signal Capture

- 2048, 500 nSec, 8-bit A/D
- Troubleshoot Cabling, and Model Topology for Security Analysis

Playback/Signal Generator (TX)

- Real Hardware Playback from Archive Files
- H/W Playback Timing to 20 usec
- Signal Vector Generation at 1 uSec **INDUSTRY FIRST**
  - Construct Bit Encoding
  - Ideal for Test Validation

Software: *AltaAPI & AltaView*

- Multi-Layer *AltaAPI* Architecture to Support Windows and C Linux, VxWorks, LabVIEW, etc..
  - Contact Factory For RTOS Platforms
- Optional Windows Analyzer: *AltaView*
  - Full Analyzer Integration Tool
  - Multi Language Support
  - "-A" Option at end of Part Number

Part Numbers

- **NLINE-EA429-4**
  - 4 Shared RX/TX
  - 2 RX/2TX ARINC-717 Shared Channels
    - (Each 717 Tx or RX Replaces Two 429 Channels)

- **NLINE-EA429-8**
  - 4 Shared RX/TX; 4 RX Channels
  - 2 RX/2TX ARINC-717 Shared Channels
    - (Each 717 Tx or RX Replaces Two 429 Channels)

(Each Shared RX is an ARINC TX Electrical Load)
Options: Add -E for Ext Temp Parts (-40 to +85C),
-I TX Inhibit, -N Flash Write Inihibit,
Add –A for AltaView Analyzer.
Example: NLINE-EA429-8-AEIN

5 Year Limited Warranty
EU and China RoHS Compliant
Contact Alta for Special Lead Build Configurations
Non-Public Telcom/CE Device

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