

ALTA DATA TECHNOLOGIES RELEASES INDUSTRY'S FIRST IN-LINE MULTI-PROTOCOL MIL-STD-1553 & ARINC AVIONICS ETHERNET CONVERTER

Innovative NLINE™ Packaging Embeds Full ENET-EMA4™ Capabilities Directly into Ultra-Rugged Cable Assemblies

RIO RANCHO, NM, UNITED STATES, August 17, 2026 /EINPresswire.com/ -- Alta Data Technologies LLC (Alta) has announced its latest network innovation, the [NLINE-EMA4™](#). This groundbreaking product integrates the full multi-protocol MIL-STD-[1553](#) and ARINC capabilities of Alta's highly successful [ENET-MA4™](#) bridge into a ruggedized, over-molded cable harness, turning the Ethernet connection into an intelligent endpoint.



Innovation 1553 & ARINC Ethernet Converter in a Rugged, In-Line Cable Package

The NLINE-EMA4 provides real-time Ethernet conversion of one or two dual-redundant 1553 networks and up to four ARINC-429 channels, delivering secure, real-time UDP connectivity to the system LAN. By integrating the electronics directly into the cable assembly, the NLINE-EMA4 eliminates the need for separate appliance boxes or internal computer card slots, offering aerospace engineers unprecedented deployment flexibility and critical space savings.

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Harry Wild, VP of Sales

Critical Design Advantage

Traditional Ethernet converters on the market rely on processor-based architectures with insecure operating-system IP stacks that severely delay communication. Like the original ENET-MA4, the NLINE-EMA4 uses a hardware-

centric FPGA thin server without a processor or IP stack, achieving real-time packet turnaround times under 20 microseconds. This eliminates vulnerabilities to viruses or internal hacking and ensures low-latency communication.

The NLINE-EMA4 features a fast auto-boot sequence and an Automatic Data Bridge Mode that automatically transmits PPS, IRIG, or IEEE-1588 time-stamped UDP packets without host programming. It also includes built-in Signal Capture capabilities (an integrated oscilloscope function), enabling engineers to capture raw bus signals remotely for electrical and protocol troubleshooting.

The multi-layer AltaAPI™ Software Development Kit (SDK) fully supports the product, ensuring complete code portability. Applications written for Alta's card-based or appliance products run seamlessly on the NLINE-EMA4. Supported operating systems include MS Windows, Linux, NI LabVIEW, VxWorks, and Green Hills Integrity. As with all premium Alta hardware, the NLINE-EMA4 is backed by an industry-leading 5-year limited warranty.

"The NLINE-EMA4 marks a major packaging evolution for our multi-protocol product family," states Harry Wild, Vice President of Sales for Alta. "Almost every modern avionics topology relies on Switched Ethernet. Now, customers can add comprehensive 1553 and ARINC controls directly within the cable harness. This simplifies wiring, eliminates concerns about hardware or OS version changes on host computers, and opens new system architecture possibilities for both fielded platforms and flightline testing."

Jake Haddock, Alta CTO, adds, "Our engineering team undertook extensive R&D to over-mold the advanced EMA4 electronics with multiple protective layers and copper sheeting for superior EMC performance. The NLINE-EMA4 implements the same design fundamentals as its cousin, NLINE-E1553, which passes rigorous MIL-STD-810G shock/vibe, MIL-STD-461F EMC, and 60,000-foot altitude testing, and it features full operational water-immersion capability. It's a fully optimized, zero-footprint bridge that can be manufactured rapidly with custom cable and connector configurations to meet strict program schedules."

About Alta Data Technologies

Alta is a rapidly growing private company that provides industry-leading COTS avionics interface solutions, with over 75,000 items shipped worldwide. Alta's extensive portfolio includes real-time Ethernet converters, USB/Thunderbolt™ appliances, and high-density interface cards for PCI Express, PMC, XMC (MOSA/SOSA), VPX, and Mini PCI Express form factors. Learn more at www.altadt.com

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