Military EMBEDDED SYSTEMS

E-Letter
AUGUST 2020

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MIL TECH TRENDS

Leveraging secure commercial routing technology to protect data-in-motion

MIKE SOUTHWORTH, CURTISS-WRIGHT

Protecting a military platform's secret data-in-motion as it's routed over an Ethernet-based IP network has become significantly easier, more affordable, and faster to deploy in recent years, thanks to U.S. National Security Agency (NSA) support of commercial encryption technologies.

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SPECIAL REPORT

Managing the military's big data challenge

EMMA HELFRICH, ASSOCIATE EDITOR

With every second that ticks by, the amount of data gathered by the U.S. military grows, as does the desire and need by the U.S. Department of Defense (DoD) to extract and use this data to form actionable intelligence. This situation directly results in an intense demand for military technology manufacturers to quickly produce both software and hardware capable of first processing

the zettabytes of data that exist on Internet of Things (IoT) devices and then accurately analyzing its value. Successful gathering, processing, and analyzing will effectively change warfare as it is understood today.

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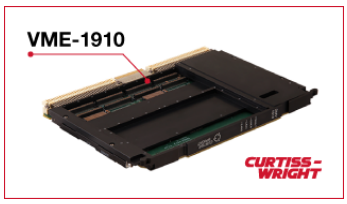

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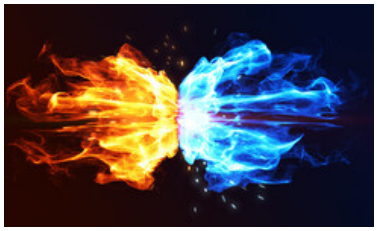

TECHNOLOGY UPDATE

Bridging the cooling gap in high-speed embedded systems

STEVE GUDKNECHT AND JORDAN SUDLOW, LCR EMBEDDED SYSTEMS

In the high-performance world of VPX for defense applications, aggregate payload power calls for creative strategies when addressing cooling at the chassis level as well. New high-performance applications will demand new inventiveness, if not outright new inventions, in applying and adapting established chassis-level cooling techniques while keeping costs down.

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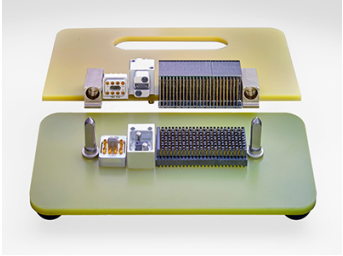

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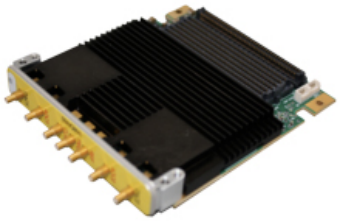

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SPECIAL REPORT

Addressing the data challenges of modern electronic warfare and radar

CHRIS MILLER, KEYSIGHT TECHNOLOGIES

Radar, electronic warfare (EW), and signals-intelligence (SIGINT) systems face new challenges from near-peer threats, requiring multigigahertz bandwidths, nanosecond latencies, and the ability to implement and field new EW techniques – all of them needed to deploy in seconds or minutes, not days or months.

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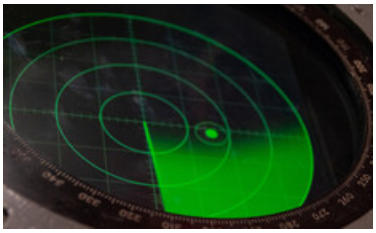

GIVING BACK

Giving Back — Vets In Tech

LISA DAIGLE, ASSISTANT MANAGING EDITOR

Each issue, the editorial staff of Military Embedded Systems will highlight a different charitable organization that benefits the military, veterans, and their families. We are honored to cover the technology that protects those who protect us every day. To back that up, our parent company – OpenSystems Media – will make a donation to every group we showcase on this page.

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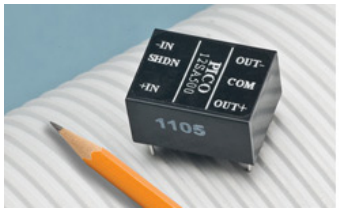

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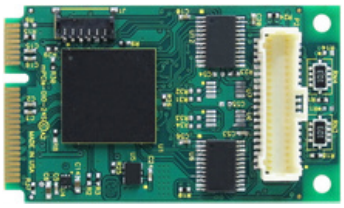

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SPECIAL REPORT

Are satellites a cyberwarfare target?

SALLY COLE, SENIOR EDITOR

Spoiler alert: Yes, they are – as militaries increasingly rely on satellites, especially in the age of guided munitions and hypersonic weapons, it's becoming critical to protect space assets from cyberattacks.

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BLOG

UFOs and the kill web

RAY ALDERMAN, VITA TECHNOLOGIES

In late 2013, Combat Aircraft Monthly magazine published an article about the Iranian military's encounters with UFOs (Unidentified Flying Objects). The article states that in November 2004 and again in January 2012, the Iranian Air Force scrambled their fighter planes to intercept unidentified aircraft flying over their secret nuclear facilities. The pilots reported that the invading aircraft were spherical, emitted a greenish light, executed maneuvers that defied the laws of physics, disabled the electronic systems onboard their fighter planes, and flew away at MACH 10 (7672 MPH).

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Understanding Key Real-Time Spectrum Analyzer Specifications

ANRITSU

Spectrum analyzers are the fundamental instrument used by RF engineers to measure individual signals across a defined frequency band. They capture and display wanted and unwanted signals, enabling a range of measurements including power, frequency, modulation and distortion.

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SPONSORED WHITE PAPER

Technology: insert or preserve?

ABACO SYSTEMS

Safeguarding the future of a defense or aerospace program in terms of its long term viability is typically front and center of the program manager's upfront thinking. How can the length of its deployment be maximized? How will it be designed to respond to changing demands?

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