PODCAST

PODCAST: C4ISR tech trends, RF innovation

Today the U.S. military and its allies face adversaries who are much more sophisticated in electronic warfare, signals intelligence (SIGINT), radar jamming, and other areas. To counter these threats designers of U.S. command and control, communication, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems are adding more innovation in C4ISR designs through RF and embedded computing technology. In this podcast with Sean D’Arcy, Director, Aerospace & Defense, Analog Devices, he discusses these challenges, the push toward spectrum dominance, innovation in RF and microwave technology, and how open standards initiatives are enabling the U.S. to maintain its superiority in C4ISR technology across multiple domains.

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SPECIAL REPORT

ISR signal processing at the edge

Military users of signal processors seemingly want it all: parts that can process more data but be less detectable to the enemy, transmit data more quickly but don’t heat up from the effort, and operate at extremely powerful levels but are lightweight and ideally palm-sized. These requirements present an obvious challenge for engineers designing these processors for intelligence, surveillance, and reconnaissance (ISR) applications. The various solutions to these ISR demands involve artificial intelligence, machine learning, classification algorithms, and sensor fusion.

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Serial FPDP Extreme 1/2 ATR Recorder Optimized for SWaP

The Talon RTX 2596 is fully-deployable and ideal for capturing digitized sensor data from radar systems and RF downconverters that use the lightweight VITA 17.1 sFPDP protocol. It supports baud rates to 4.25 GBaud and has options for multi-mode or single-mode optical interfaces. The VITA 17.1 specification is fully implemented, providing standard sFPDP features such as Flow Control, Copy/Loop Mode and CRC error checking. The Talon RTX 2596 also provides playback capabilities, allowing users to operate the system as either a receiver or a transmitter.

The Talon RTX 2596 SFF recorder weighs just 18 pounds and is designed for extreme operating
TOP STORY

Hypersonic glide body prototypes to be manufactured by General Atomics

General Atomics Electromagnetic Systems (GA-EMS) announced that it won a contract from Dynetics Technical Solutions (DTS) for the manufacture and production of subassemblies for the Common Hypersonic Glide Body (C-HGB).

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TOP STORY

Covering open standards

This headline pretty much sums of much of what we cover and have covered since our first issue. We've focused on how open standards have driven open architectures in military systems, whether they are using commercial off-the-shelf (COTS) products or not.

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TOP STORY

RAVEN Countermeasure system introduced by BAE Systems

BAE Systems unveiled its RAVEN Countermeasure system for combat vehicles as part of its integrated vehicle protection system (VPS) suite of products. RAVEN is a directable infrared countermeasure intended to defeat anti-tank guided missiles, protect ground vehicles and their crews, and improve mission effectiveness without the use of kinetic countermeasures.

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BLOG

AUSA and the week full of firsts

This is my first job out of journalism school, sans a bar gig here and there. But as far as pantsuit-wearing, desk-sitting, degree-utilizing jobs go? Associate Editor for Military Embedded Systems is the first title I've ever held.

TOP STORY

SOSA Consortium members join forces to deliver C4ISR demonstrator system at AUSA 2019

Pentek, Herrick Technology Laboratories, and Kontron have developed products aligned with the Sensor Open Systems Architecture (SOSA) Technical Standard that are used in a new 3U VPX demonstrator system designed to illustrate the capabilities of open systems architectures.
Raytheon Company delivered the first high-energy laser, counter-unmanned aerial system (UAS) to the U.S. Air Force earlier this month. The system will be deployed overseas as part of a year-long Air Force experiment to train operators and test the system's effectiveness in real-world conditions.

C4ISR trends at DoD leaning toward modernization, R&D, study says

U.S. Department of Defense (DoD) budget spend requests in the area of C4ISR [command, control, communications, computers, intelligence, surveillance, and reconnaissance] reveal a trend toward modernization, with less procurement for additional current platforms and more research for long-term replacements, according to a recent analysis from Frost & Sullivan, "US DoD C4ISR Market, Forecast to 2024."

Deployment of a long-range hypersonic weapon system by the U.S. Army is expected by 2023, the Association of the United States Army (AUSA) was told at its annual convention. Robert Strider, deputy director of Army hypersonic programs told attendees of the convention that an experimental prototype, "with residual combat capability," will be fielded by 2023, as announced by the Army last month.

The U.S. Army has selected L3Harris Technologies to provide ROVER 6 transceiver equipment upgrades to support the Army's One System Remote Video Terminal program, which is aimed at improving situational awareness for soldiers in the field, according to an announcement by L3 Harris at the AUSA 2019 Annual Meeting & Exposition.
SPECIAL REPORT

RF converters ? a technology enabling wideband radios

One design constraint that faces every military radio designer is the trade-off of designing for signal bandwidth with the highest possible quality versus the power consumption of the radio. The way in which the radio designer meets this constraint determines the size and weight of the radio and fundamentally influences the placement of the radio, which includes buildings, towers, poles, underground vehicles, packs, pockets, ears, or glasses.

TOP STORY

CSfC Technology Day 2019 recap

On October 10, 2019 in Baltimore, Maryland, component suppliers, trusted integrators, the National Security Agency (NSA), the Department of Defense (DoD), defense primes and other companies assembled to discuss cutting-edge data security solutions to protect national security systems (NSS). The second annual Commercial Solutions for Classified (CSfC) Technology Day sponsored by Mercury Systems, with partner and trusted integrator, Tribalco, presented a comprehensive lineup related to the program and significant data security solutions.

MIL TECH TRENDS

Bradley Fighting Vehicle upgrades extended for BAE Systems

The U.S. Army has awarded BAE Systems a contract modification worth up to $269 million for continued production of the Bradley Fighting Vehicle (BFV). The award for an additional 168 upgraded Bradley A4 Infantry Fighting Vehicles is part of the Army’s combat vehicle modernization strategy and helps ensure force readiness of the Armored Brigade Combat Teams (ABCT).

TOP STORY

U.S. Army’s manned ground vehicles will get new navigation system from Collins Aerospace

Collins Aerospace Systems -- a United Technologies unit -- announced that it has been chosen by the U.S. Army to provide a next-generation Mounted Assured Positioning, Navigation and Timing System (MAPS) for manned ground vehicles.

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Military combat-vehicle spending to total $56.25 billion by 2024, study says

Cumulative spending by the U.S. Department of Defense (DoD) on military combat vehicles will reach $56.25 billion by 2024, according to a new study by Frost & Sullivan, "US Military Combat Vehicle Market, Forecast to 2024."

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Hypersonic weapons contract awarded to Lockheed Martin

The U.S. Army awarded Lockheed Martin a contract at an estimated value of $347 million as part of a multi-year hypersonic weapons development in support of the Army's focus in long-range precision strike missiles.

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Best in Show awards selected at AUSA 2019

Scientists at the U.S. Combat Capabilities Development Command Army Research Laboratory developed an approach to improve the communications range and allowing for covert behavior using a team of robots for future U.S. Army multi-domain operations.

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National Veterans Foundation

Each issue, the editorial staff of Military Embedded Systems will highlight a different charitable organization that benefits the military, veterans, and their families. This time we are highlighting the National Veterans Foundation (NVF), a 510(c)(3) foundation that has as its stated mission to serve the crisis-management and information-referral needs of all U.S. veterans and their families through managing and operating the country's only toll-free, vet-to-vet helpline for veterans and their families; to operate public-awareness programs that shine a consistent spotlight on the needs of America's veterans; and to run outreach programs that serve veterans and families in need with food, clothing, transportation, employment, and other essential resources.

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DARPA awards Pit Boss contract to SEAKR for satellite program

SEAKR Engineering, Inc. (SEAKR) has been awarded a Defense Advanced Research Projects Agency

SPONSORED ARTICLE

The New Space Race: an Agile Odyssey

Space is back in style. Literally. From new space suits for the first space tourists, to limited-edition NASA
(DARPA) Pit Boss contract supporting the Blackjack Proliferated Low Earth Orbit Demonstration Program. Key contributors to SEAKR’s Pit Boss effort are Microsoft, Applied Technology Associates (ATA), Advanced Solutions Inc. (ASI), Kythera Space Solutions and NKrypt.

bomber jackets, the space market is seeing a renaissance of interest. And with it comes a new infusion of start-ups revolutionizing space tech.

Designer and manufacturer of high-end processing and Ethernet switch boards for HPEC systems.