



NEWS RELEASE

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Curtiss-Wright Enhances Industry-Leading ARMv8-Based Ultra-Small Mission Computer with SEU Resilient, Extended Operating Temp NVIDIA® Jetson™ TX2i®

Ideal for high altitude airborne platforms, the Parvus® DuraCOR® 312 Mission Computer now features latest NVIDIA Jetson TX2i System-on-a-Module (SOM)

AUSA 2018, Washington, D.C. (Booth #1607) – October 9, 2018 – [Curtiss-Wright's Defense Solutions division](#) today announced that it has enhanced the [Parvus DuraCOR 312](#), the industry's most powerful and flexible ultra-small form factor (USFF) mission computer, with the latest version of the [NVIDIA industrial Jetson TX2i module](#), an extended operating temperature system-on-module (SOM). The enhanced Jetson TX2i extends the DuraCOR 312's reliability with a higher MTBF and support for error correcting code (ECC) memory to mitigate against single event upsets (SEU). In addition, NVIDIA has doubled the Jetson TX2i SOM module's availability to 10 years, compared to the original Jetson TX2®. These improved features, performance and extended lifecycle make the DuraCOR 312 an even more compelling solution for high altitude and high reliability applications. What's more, support for the full industrial operating temperature range (-40°C to +85°C) enables the DuraCOR 312 to perform optimally in extreme environmental conditions without requiring active heating or cooling.

"By enhancing our ultra-small DuraCOR 312 mission computer with NVIDIA's latest supercomputer-class system-on-a-chip module, we've taken size, weight, and power-optimized processing to an even higher altitude," said Lynn Bamford, Senior Vice President and General Manager, Defense Solutions division. "Ideal for UAV-deployed applications, this rugged unit's NVIDIA industrial Jetson TX2i processor mitigates soft errors caused by single event upsets, eliminating data loss and system failures less resilient technology can't protect against."

With six power-efficient ARMv8 processor cores and a 256-core CUDA® GPU, the DuraCOR 312 is ideal for use on size, weight, and power (SWaP)-sensitive deployed platforms, both autonomous and manned, such as civil and military ground vehicles, fixed and rotary-wing aircraft, and maritime vessels. Designed to provide in-vehicle tactical mission processing (server/computer) or C4ISR technology, the unit supports high-performance embedded computing (HPEC) applications and general-purpose graphics processing for compute-intensive applications such as ISR/EW/targeting systems and deep learning.

About the Parvus DuraCOR 312

With its support for the new NVIDIA Jetson TX2i, Curtiss-Wright has further enhanced what was already one of the industry's most powerful and flexible USFF mission computers. The rugged, commercial off-the-shelf (COTS) Parvus DuraCOR 312 subsystem is designed for system integrators seeking the most powerful SWaP-optimized mission computer available for use on air, land, and maritime platforms. The mission computer, which delivers 1.5 Teraflops performance, provides system integrators with one of the smallest rugged Jetson TX2i-based modular solution available on the market. The unit's heterogeneous multi-processing (HMP) architecture delivers the highest FLOPS per watt available in a rugged, COTS, highly scalable system. It enables system designers to rapidly deploy supercomputer-class processing in a proven high Technology Readiness Level (TRL) subsystem that eliminates design risk and NRE costs.

Designed for SWaP Optimization

Weighing less than 2.0 lb, and requiring less than 20 W of power, the extremely compact DuraCOR 312 measures just 5.2" x 5.4" x 2.0". Featuring an unparalleled modular and robust system design, the DuraCOR 312 offers unique system features for military and aerospace applications, including expansion slots for an avionics databus and other platform-specific I/O modules. Additional features include 50 ms power hold-up capacitance for MIL-STD-704F aircraft power switch-over requirements, high-speed M.2 internal storage, and removable SATA Flash SSD capabilities.

Thanks to the unit's Pascal GPU architecture (with support for Max-Q and Max-P dynamic energy profiles), larger memory bandwidth, and support for CANbus, the DuraCOR 312 provides up to 2x the performance or power efficiency of Jetson TX1®-based systems. It also offers the most I/O expansion support of any Jetson-based processor system on the market, including up to three Mini-PCIe expansion slots, enabling system I/O to be uniquely tailored for platform-specific interface needs. The DuraCOR 312, like other Parvus DuraCOR models, provides system designers access to an ecosystem of rugged COTS Mini-PCIe modules, which includes MIL-STD-1553 and ARINC 429 avionics databus interfaces among many other I/O options. The mission computer's standard system I/O interfaces include multiple Gigabit Ethernet, USB 3.0, USB 2.0, HDMI, Audio, GPIO, and serial ports. Additional features include high-speed M.2 internal storage, optional removable high capacity 2.5" SATA Flash SSDs, and internal Non-Volatile Memory Express (NVMe) SSD storage.

Built Rugged for Harsh Environments

The DuraCOR 312 eliminates design risk with extensive environmental, power, and EMI compliance testing. Its miniature rugged chassis features MIL-grade connectors and compliance to extremely demanding MIL-STD-810G, MIL-STD-461F, MIL-STD-1275D, MIL-STD-704F and RTCA/DO-160G environmental, power and EMI conditions, including high altitude, wide temperature, humidity, extreme shock and vibration and noisy electrical environments. The unit also provides an aerospace-grade power supply in a fanless IP67-rated mechanical package that handles harsh shock and vibration and operates over extended temperatures without requiring a cold plate or airflow.

If required, Curtiss-Wright's responsive, cost-competitive application engineering services deliver Modified COTS (MCOTS) variants quickly and without a traditional NRE fee.

Initial software support will include pre-loaded NVIDIA Linux® for Tegra (L4T) based on Ubuntu®, which supports common APIs and NVIDIA development tool chain for Deep AI learning. The unit's NVIDIA Maxwell GPU architecture supports NVIDIA CUDA, OpenGL®, and OpenGL ES.

The Parvus Family of Miniature COTS Subsystems

The DuraCOR 312 complements Curtiss-Wright's previously announced [DuraCOR 310 and DuraCOR 311 mission computers](#) and the [DuraNET 20-11 miniature Ethernet Switch](#).

Sales inquiries: Please forward all Sales and reader service inquiries to ds@curtisswright.com.

For more information about Curtiss-Wright's Defense Solutions division, please visit www.curtisswrightds.com.

About Curtiss-Wright Corporation

Curtiss-Wright Corporation is a global innovative company that delivers highly engineered, critical function products and services to the commercial, industrial, defense and energy markets. Building on the heritage of Glenn Curtiss and the Wright brothers, Curtiss-Wright has a long tradition of providing reliable solutions through trusted customer relationships. The company employs approximately 8,600 people worldwide. For more information, visit www.curtisswright.com.

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