



NEWS RELEASE

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Curtiss-Wright Raises the Bar on Ultra-Small Mission Computer Performance with new Teraflop+ Supercomputer-Class ARMv8-based Architecture

Industry's most powerful, compact COTS Mission Computer weighs only 1.5 lb. yet features a 4-core 64-bit ARMv8 processor, 256-core GPU and comprehensive base I/O (including Ethernet, serial, USB, DIO and video ports)

ASHBURN, Va. – November 16, 2016 – [Curtiss-Wright's Defense Solutions division](#) today introduced the industry's most powerful and flexible ultra-small form factor (USFF) mission computer, the new [Parvus® DuraCOR® 312](#). The unit's teraflop performance delivers the highest FLOPS per watt available in a rugged COTS highly scalable system architecture. It enables system designers to rapidly deploy supercomputer-class processing in a proven, high-TRL subsystem that eliminates design risk and NRE costs. Weighing approx. 1.5 lb (< 0.68 kgs) and requiring only 20 W of power, the extremely compact DuraCOR 312 measures approx. 1.4 x 5.2 x 5.4" (3.6 x 13.2 x 13.6 cm). Based on the breakthrough NVIDIA® Jetson™ Tegra® X1 (TX1) "supercomputer-on-a module," the DuraCOR 312 uniquely combines the TX1's quad-core 64-bit ARM® Cortex-A57 (ARMv8) processor and 256 Maxwell/CUDA-core GPU with a comprehensive set of base I/O (including Ethernet, serial, USB, DIO and video ports) as well as multiple I/O and storage expansion options that support additional vetronics/avionics interfaces. The DuraCOR 312 is ideal for use on SWaP-sensitive deployed platforms such as civil and military ground vehicles, fixed and rotary-wing aircraft, and maritime vessels, both autonomous and manned, that require in-vehicle tactical mission processing (server/computer) or C4ISR technology. It delivers high-performance embedded computing (HPEC) and general-purpose graphics processing for compute-intensive applications such as ISR/EW/targeting systems and deep learning.

"It's simple: Many of our customers want to pack as much compute power and high-speed I/O as possible into the smallest and lightest COTS subsystem possible," said Lynn Bamford, Senior Vice President and General Manager, Defense Solutions division. "Our new Parvus DuraCOR 312 mission computer raises the bar for ultra-small factor mission computer design, delivering Teraflop supercomputing-class processing in a lightweight MIL-rugged chassis that's outfitted with unmatched scalable vetronics/avionics I/O and data storage capabilities."

Built Rugged for Harsh Environments

The DuraCOR 312 eliminates design risk with extensive environmental, power, and EMI compliance testing. It is the industry's only NVIDIA TX1-based COTS mission computer pre-qualified for both MIL-STD and DO-160 harsh environments. The miniature rugged chassis, which features MIL-grade connectors, is designed to meet 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 operates over extended temperatures and handles harsh shock and vibration.

Unmatched I/O Flexibility

The DuraCOR 312's combination of removable Flash storage and multiple Mini-PCIe I/O card expansion, including internal M.2, mSATA and microSD card slots, helps to make it the most flexible USFF mission computer available. Standard system I/O interfaces include multiple Gigabit Ethernet, USB 3.0, USB 2.0, HDMI, Audio, GPIO, and serial ports. Like other Parvus DuraCOR models, the DuraCOR 312 supports an ecosystem of rugged COTS Mini-PCIe modules (including MIL-STD-1553, ARINC 429, and CANbus avionics databus interfaces). Optional removable 2.5" SATA SSD storage supports high capacity storage and information assurance requirements.

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 includes 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 7.0, OpenGL® 4.5, and OpenGL ES 3.1.

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

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