



A new standard for ISR. Crystal Group's rugged ISR encoder module uses the Haivision Makito X1 encoder to deliver real-time streaming of MISB-compliant full motion video capabilities required for demanding intelligence, surveillance and reconnaissance (ISR) applications.

The fully integrated system combines a Makito X1, eight-port switch, six 2.5" SSD storage drives and dual Intel® Xeon® scalable processors into our RS1104 1U server to optimize performance and SWaP. At just under 22 pounds, this ultra-compact rugged server tackles the workload of three separate 1U units, including two simultaneous compression functions via two separate encode engines. This provides a high-quality video stream for machine learning applications running on the RS1104 and a low-bitrate video stream to reach remote users over constrained network links. The system also delivers efficient, high-performance mission computing, storage, layer 2+ switching, and encoding capability.

With our Crystal Group FORCE™ server as the foundation, the RS1104 is engineered to meet strict MIL standards, accelerate compute-intensive workloads, and provide advanced thermal management. This ensures seamless operation in the most demanding, unpredictable situations.

FEATURES...

- Network adaptive H.265/ HEVC encoding
- Interoperable video and metadata
- Built-in management interface
- Ultra-low latency
- Intel® Xeon® Scalable CPU
- Supports 802.1Q VLAN switch with 8K MACs, 4K VLAN and link aggregation (IEEE 802.3ad)
- 8 or 16 external switch ports
- Rugged, lightweight 17-22 lbs. chassis
- Rack mounted 19" depth
- Easily mounted – Fixed mount or Jonathan® rails

A clear advantage.

Specifications

Mechanical 1U Height: 1.75" (4.45 cm) Width: 16.93" (44.45 cm) Depth: 19" (48.26 cm) Weight: 20 lbs. (9.07 kg)	Environmental Standards MIL-STD-810, Operational Temperature, Method 501, Procedure I/II: -10°C to +50°C, -40°C operational with SSD MIL-STD-810, Storage, Method 501, Procedure I/II: -30°C to +75°C MIL-STD-810, Humidity, Method 507, Procedure II: 240 hours with humidity kit MIL-STD-810, Altitude, Method 500: 10,000ft operation, 20,000ft transport MIL-STD-810, Vibration, Method 514, Procedure I: 1.5 GRMS, 5-2,000Hz, 75 min/axis MIL-STD-810, Shock, Method 516, Procedures I/V: 20g, 11msec; 3 axes, each direction
CPU Intel® CPU architecture options from Intel embedded long-life roadmap Intel® Xeon® Scalable processor	Electromagnetic Compatibility Standards AC, FCC Compliant ² AC, MIL-STD-461, RE102, CE102 compliant ¹ DC, MIL-STD-461, RE102, CE102 compliant ² RTCA DO-160 Section 21, Category M ²
Expansion One low-profile or full-height PCIe x16 slot	Cooling Six high-speed, high-volume fans; CPU temperature controlled
External Bay Two modular drive bay openings for storage or other functions	Software Compatibility Supports Windows 10®, Windows Server 2019®, Windows Server 2016®, VMware®, or Linux®
Memory 16GB to 2TB DDR4 Reg ECC	Power Supply MIL-STD-704 28 VDC or 120/240 VAC
Mounting Fixed or rail, EIA310 19" rackmount	
System Board Option 1: X11SPi-TF, ATX, 2nd Gen Intel® Xeon® Scalable processors Option 2: X11DPL-i, ATX, 2nd Gen Intel® Xeon® Scalable processors Option 3: X11DPI-NT, eATX, 2nd Gen Intel® Xeon® Scalable processors	

OPTIONAL FEATURES

- MIL-CIRC power connector
- EMI filter
- Humidity protection
- Dust filter
- Data-at-rest
- Sanitization
- Tamper evident seals
- Tamper proof coatings
- Chassis intrusion indicator
- USB 3.0 headers

1 - Test report available
2 - Designed to meet standard

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