CRYSTAL SPECS

Crystal Group RIA™ AVC0161 Ai & Autonomy Solution

Accelerate Artificial Intelligence, Automation, and Autonomous Projects

Put advanced projects on the fast track to market with Crystal Group RIA™, the Crystal Group Rugged Intelligence Appliance, designed specifically to reduce development time and streamline systems integration to speed past competitors.

Crystal Group RIA combines impressive compute power, data-handling capabilities, and storage capacity in a compact, rugged solution that can withstand harsh conditions and environments – including potholes, collisions, and extreme temperatures that could cause traditional systems to fail. Available in custom or off-the-shelf configurations, Crystal Group RIA high-performance computers sport the latest Intel® processors, high-capacity DDR4 memory, and sophisticated power and thermal management stabilized in a size, weight, and power (SWaP)-optimized aluminum chassis.

Built for safety and reliability, Crystal Group RIA systems leverage 35 years of experience tailoring high-performance, fail-safe rugged hardware for hundreds of defense missions, challenging industrial and commercial applications, aerospace programs, ground vehicle platforms, and a broad array of power, telecommunications, and critical infrastructure projects.

Jump-start your autonomous, automated, unmanned, or Ai project today with Crystal Group RIA – available off-the-shelf or customized to specific requirements.

Smarter with Intel®. Stronger with Crystal Group.

Solution Benefits

Compact and high performing. Measures just 6.5x14.1x15.6 inches and weighs 30 to 40 pounds. Dual Intel Xeon Scalable Processors, 2TB of DDR4 memory, and PCI Express x16 stabilized in a rugged, aluminum enclosure makes this an autonomous system powerhouse.

Faster time to market. Scalable Crystal Group RIA systems put AV/ADS projects into high gear with off-the-shelf and customizable computer systems, development kits, and integration services for a complete turn-key solution.

Trusted and reliable. Rugged electronics and services from Crystal Group are trusted by military and industry leaders for defense, aerospace, industrial, critical infrastructure, and commercial applications, including AVs for some of the world's largest OEMs.

Proven performance. Tested and proven to perform unparalleled sensor fusion capabilities per watt of power and operate on standard automotive voltages in mobile environments where other systems fail.

Speed, agility, quality, and support. Crystal Group's 5+ year warranty, quick lead time, and expert technical support from 24/7 U.S.-based service professionals support any solution.

FEATURES

- 10-32VDC input power
- Lightweight aluminum construction 30-40 lbs.
- Up to 2 TB DDR4 memory
- Open loop cooling system kit available
- Versatility with two (2) removable 15mm 2.5" drives or three (3) removable 9.5mm drives
- Expandable with six (6) PCI-E slots
- Liquid cooled to maximize compute density
- Intel® Xeon® Scalable Processors

A clear advantage.

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Technical Specifications

Mechanical
Height: 6.5" (16.5 cm)
Width: 14.1" (35.8 cm) EIA-310 rack compliant
Depth: 15.6" (39.6 cm)
Weight: 30-40 lbs. (13.6-18.1 kg) [content dependent]

CPU
Intel® CPU architecture options from Intel embedded long-life roadmap
Dual Skylake Xeon Scalable Processors; LGA3647

Expansion
Up to six (6) PCI-E; configuration motherboard dependent

External Bay
Standard: Three (3) removable 7 or 9.5mm SATA 2.5" bays
Optional: Two (2) removable 7, 9.5 or 15mm SATA 2.5" bays

Memory
Up to 2TB registered DDR4, configuration motherboard dependent

Mounting
Mounting provisions on chassis; we can create custom mounting for your application

Power Supply
Standard: 1500W 10-32VDC, Amphenol PowerLok™ Series 300 connectors

System Board
Multiple motherboard options from Intel, SuperMicro, and Advantech

Environmental Standards
Operational Temperature: -40°C to +55°C. Expanded temperature ranges available.[1]
Storage: -40°C to +85°C [1]
Humidity: 5-95%; 240 hours [1]
Altitude: 12,500ft operation, 40,000ft transport [1]
Shock: 25G 10ms 400 shocks in each direction in each axis 2400 shocks total [1]
Vibration: 2.0Grms 10Hz-1000Hz 13.5 hours in each axis [1]
MIL-STD-810, Shock, Method 516, Procedure I/V: 20 G, 11ms [1]

Cooling
System liquid cooled; two (2) internal low noise fans circulate air through chassis to cool components not directly cooled by liquid
Optional bench top lab cooling kit

Export Compliance
ECCN: 5A992
Classification is dependent on configuration and is subject to change. Please contact your Program Manager to receive the classification for your product.

Customization
Customization of all components and vehicle integration services are available

Compute

Pump


Radiator

1 - Designed to meet standard

Certification reports for select products are available on Crystalrugged.com. Crystal Group designs all embedded computers to meet or exceed the specifications listed herein. Due to the numerous models and component combinations, some configurations are still being tested. Please contact your Crystal Program Manager for test data on desired requirements.

AS9100D CERTIFIED ISO 9001

intel Technology Provider Platinum 2019

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Custom solutions. Superior performance.

Contact Crystal Group:
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