



Accelerate artificial intelligence, automation, and autonomous projects

Put advanced projects on the fast track to market with Crystal Group RIA™ — Rugged Intelligence and Autonomy — designed specifically to reduce development time and streamline systems integration.

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 can cause traditional systems to fail. Available in custom or off-the-shelf configurations, these 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.

Jump-start your autonomous, automated, unmanned, or AI project today with Crystal Group RIA.

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 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 global network provide fast and effective support around the clock and around the globe.

FEATURES

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

A clear advantage.

**CRYSTAL™****RIA™**

Crystal Group RIA™ AVC0161 AI & Autonomy Solution

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
 Intel® Xeon® Scalable Processors

Expansion

Up to six PCI-E; configuration motherboard dependent

External Bay

Standard: Three removable 7 or 9.5mm SATA 2.5" bays
 Optional: Two 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 Advantech

Environmental Standards

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

Cooling

System liquid cooled; two 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**

Certification reports for select products are available on Crystalrugged.com. Crystal Group designs all products 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 Group program manager for test data on desired requirements.

**Metromatics**

For further information or pricing, please contact us:

Melbourne 03 9872 4592 Sydney 02 9460 4355
 Brisbane 07 3868 4255 Adelaide 08 8343 8516

sales@metromatics.com.au
www.metromatics.com.au



Technology
 Provider
 Platinum 2020

5 Metzger Drive, Hiawatha, IA 52233 USA | crystalrugged.com

pective owners. Design and specifications are subject to change.
 stal Group, Inc. All rights reserved.