CRYSTAL SPECS

RS112
Rugged Crystal Servers

Field tested, failsafe and long life performance in extreme conditions. As processing performance continues to improve, Crystal Group is dedicated to minimize the SWaP envelope of the RS112. High-end computing performance in a 1U chassis with a depth under 20" (50.8 cm) fits most any rack space.

Crystal Group Rugged Servers provide high-performance computing and high-capacity data storage in a rugged, all-aluminum package able to withstand the roughest terrains and toughest applications. Crystal Group's highly customizable Rugged Servers are used by the U.S. Armed Forces, Foreign Military, Power Distribution, Autonomous Vehicles, Oil & Gas, and others for everything from communications and networking to weapons control, sensor and surveillance, and unmanned aircraft systems.

Innovative solutions. Crystal Group's portfolio of rugged and industrial computing products are engineered and tested to withstand challenging environments, meet and exceed military and industrial standards, and provide the latest COTS technologies and benefits, such as cost, availability, upgradability, and flexibility.

Dependable services. When a computing application requires a custom solution, Crystal Group delivers – on time and on budget – with professional services, including product design and development, testing, systems engineering and integration, mechanical and electrical engineering, configuration management, and product lifecycle planning.

Dedicated support. Crystal Group's expert staff and global network provide fast and effective product support when and where it is needed, whether in-house or in the field. Count on Crystal Group for fast response times, quick turnarounds, 5+ year warranties, and quality service around the clock and around the globe.

FEATURES

- Light weight aluminum construction – 15-21 lbs.
- Easily mounted – Delrin glides, fixed mount, or Jonathan® rails
- Up to 512 GB of memory
- Rugged 1U, rack mounted 20" depth
- Versatility with two (2) removable 3.5" drives or four (4) removable 2.5" drive bays
- Expandable with one (1) full-height, 3/4 length slot
- Leading edge Intel® Sandy Bridge, Ivy Bridge, Haswell or Broadwell CPU options

A clear advantage.

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Specifications

Mechanical 1U
- Height: 1.75" (4.45 cm)
- Width: 17.5" (44.45 cm) [accepts Crystal Slides and Jonathan Rails] EIA-310 Rack Compliant
- Depth: 20" (50.8 cm)
- Weight: 15-21 lbs. (6.80-9.52 kg)
- RTCA DO-160 Section 21, Category M

CPU
Intel® CPU architecture options from Intel embedded long-life roadmap
- Option 1: Sandy Bridge or Ivy Bridge LGA1155, X9SAE-V
- Option 2: Haswell or Broadwell LGA2011, X10SRL-F, X10DRL-I or X10DRL-CT
- Up to 18 core options per socket (dependent on motherboard)

Expansion
- One (1) PCIe or PCI slot; combination is configuration dependent

External Bay
- Option 1: Two (2) removable SATA or SAS 2.5" or 3.5" HDD
- Option 2: Four (4) 2.5" SATA or SAS HDDs
- Option 3: (can be combined with HDD option): One (1) CD/DVD/BD (R/W)

Memory
- 16-512 GB DDR3 or DDR4 (motherboard dependent)

Mounting
- Option 1: Mounted on Delrin glides
- Option 2: Fixed mount, front and rear
- Option 3: Jonathan rails

Power Supply
- Option 1: 460W 120/240VAC 50/60Hz w/PFC, 115VAC 400Hz
- Option 2: 425W 18-36VDC

System Board
- Option 1: X9SAE-V, Single LGA1155, Xeon®, i3/5/7, ATX, 2LAN1000, VGA, 2XHDMI, AUDIO, 1 PCI, 2 PCI-E X1, 1 PCI-E X4, 1 PCI-E X8, 2 PCI-E X16, SATAX4, SATA3X2
- Option 2: X10DRL-I, Dual LGA2011 R3 Xeon®, ATX, 2LAN1000, VGA, 5 PCI-E X8, 1 PCI-E X16, IPMI, IPKVM, SATA3X10
- Option 3: X10SRL-F, Single LGA2011 R3 Xeon®, ATX, 2LAN1000, VGA, 2 PCI-E X16, 5 PCI-E X8, IPMI, IPKVM, SATA3X10
- Option 4: X10DRL-CT, Dual LGA2011 R3 Xeon®, ATX, 2LAN1000, 2 10GBASE-T, VGA, 2 PCI-E X8, 1 PCI-E X16, IPMI, IPKVM, SATA3X10

Environmental Standards
- MIL-STD-810, Operational Temperature, Method 501/502 Procedure I/II: -15°C to +50°C, -40°C operational with temperature kit and SSD[1]
- MIL-STD-810, Storage, Method 501, Procedure I/II: -55°C to +85°C[1]
- MIL-STD-810, Humidity, Method 507, Procedure II: 240 hours with humidity kit[1]
- MIL-STD-810, Altitude, Method 500: 12,500ft operation, 40,000ft transport[2]
- MIL-STD-810, Vibration, Method 514, Procedure I: 4.63 GRMS, 5-2000Hz, 60 min/axis with solid state drives + vibration kits[1]
- MIL-STD-810, Shock, Method 516, Procedures I/V: 20g, 11msec--functional shock; 40g, 11msec crash hazard shock[1]
- MIL-S-901, Grade B[2]
- MIL-S-901, Grade A: With solid state drives + shock kits[1]

Electromagnetic Compatibility Standards
- Some standards may require an internal kit
- 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]

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

Cooling
- High speed, high volume fans (6) CPU temperature controlled

Software Compatibility
- Accepts Windows 10®, Windows Server 2012®, VMware®, or Linux®

Metromatics

For further information or pricing, please contact Metromatics

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1 - Test report available
2 - Designed to meet standard

Certification reports for select products are available on Crystalrugged.com. Crystal Group designs all servers to meet or exceed the specifications listed herein. Due to the sheer number of models and combinations of components (memory, CPU, peripheral cards, hard drives), it is not practical to test every combination of servers offered. Please ask your Crystal Business Development Manager for data on qualification testing for configurations similar to the desired configuration for your application.

AS9100C:2009 and ISO 9001:2008 Certified QMS

intel Technology Provider Platinum 2017

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Custom solutions. Superior performance.

Contact Crystal Group:
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