

RHINO BOX®

Environmentally Controlled Equipment Enclosures



RHINO BOX®

INTEGRATED TRANSPORT AND EQUIPMENT SHELTER

READY TO GO: ANYTIME, ANYWHERE

The Rhino Box® shelter is an all-weather environmentally controlled equipment enclosure designed to support the transport and safe operation of Commercial-Off-The-Shelf (COTS) electronic equipment in harsh environments.

Built around the rugged, field-proven Hardigg® MAC Rack transportable enclosure, MSC adds its 20+ years of expertise in designing, manufacturing, and deploying mission critical communications systems to provide you with an economical and rugged all-weather deployment platform for electronic and communications equipment.

Use the Rhino Box® shelter to pre-stage standalone system solutions and rapidly respond to critical deployment requirements anytime, anywhere.



Above: 14U 110/220 VAC and 12 VDC Rhino Box®

STANDARD FEATURES

- Durable **Hardigg® MAC rack mil-spec quality shelter** with proven ruggedness in extremes of rain, sand, wind, shock, temperature, and internal load
- **Heavy duty thermal management system** (-30° F to 160°F, or -34°C to 71°C)
- Ultra-efficient **Aerogel internal insulation** sub-system
- **Rugged external communications interfaces** (USB, Ethernet, serial, and RF)
- **Network-ready** full TCP/IP connectivity for local and remote site monitoring control and alarm status
- Standard AC **GFI safety protection system** protects people and equipment
- **Rugged external AC (110-240 VAC) and DC (12 or 24 VDC) electrical power interfaces**
- **Multiple AC and/or DC supply and backup options**
- **Integrated 600 or 1000 Watt pure sine wave AC inverter options**
- **Internal case illumination system** options (white, red, or blue)
- **RF/antenna panel option** supports up to **four (4) HF-to-microwave** external RF connectors
- Available in **9U, 11U, 12U, 14U, and 19U** versions
- Free **case color selection** (ten options available)
- **Supports up to 200 lbs. internal equipment load**

MAJOR BENEFITS

- **Provides safe operation of high-value electronics equipment** in harsh weather
- **Reduces logistics costs and resources** in staging deployment and operations
- **Provides flexibility to rapidly and successfully respond** to external operational requirements

CUSTOMER APPLICATIONS



DATRON WORLD COMMUNICATIONS, INC.

Networked ground-to-air UHF and high powered HF integrated system. (Cover removed to show internal equipment.)



UNITED STATES DEPARTMENT OF HOMELAND SECURITY/CUSTOMS AND BORDER PATROL

Wide-area TCP/IP land mobile radio (LMR) AC with DC solar backup includes 100 Watt VHF transceiver, diplexer, and auto-cutover pure sine wave AC inverter. (Cover removed to show internal equipment.)



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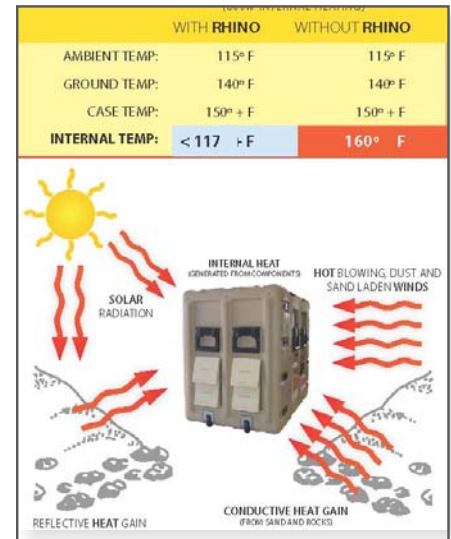
THE CHALLENGE

Remote operation of sophisticated electronics and medical equipment is now the norm. Keeping this equipment safe, clean, and reliably operating is the challenge.

THE SOLUTION

HOW DOES THE RHINO BOX® WORK IN HOT AND COLD?

1. The Rhino exterior uses a highly reflective thermal barrier paint which reflects up to 90% of the sun's solar energy.
2. Internally, space qualified Aerogel insulation blocks and reflects heat energy conducted through the Rhino's durable polyurethane skin.
3. The Rhino's environmental controller monitors internal and external temperatures to control a powerful suite of high capacity intake/exhaust fan assemblies to dynamically stabilize internal temperature.
4. For cold environments, (down to -30° F or -34° C) the system is reversed, and the environmental processor controls the recirculation of internally generated equipment heat to maintain a safe internal operating range.



ABOVE: EXTERNAL HEAT SOURCES

PHYSICAL SPECIFICATIONS

SHELTER INFORMATION

Standard Enclosure Sizes:	9U, 11U, 12U, 14U, and 19U
External Operating Temperature	-30° F (-34° C) to 160° F (71° C)
Operating Humidity	100%
Maximum Operating Altitude	30,000 ft (9,144 m)
Rainfall	MIL-STD-810F - 4 inches (10 cm) per hour per side
Solar Radiation	Free standing at any latitude
System Response Time	< 5 minutes @ 1200 watt equipment load internal temperature is reduced to within 5 degrees of ambient intake air temperature
Total System Intake/Exhaust	1,098 CPM or 31.1 m ³ /hour total air mass transfer capacity
Control Options	Automatic loop or manual user control
Internal Air Filters	User accessible and cleanable
Network Access	Via side mounted USB port

SYSTEM POWER OPTIONS

110 VAC 60 Hz @ 15 and 30 amp
120 - 24 VAC @ 30 amp
12 VDC @ 75 amp
24 VDC @ 50 amp

INTERNAL INVERTER AC POWER OPTIONS

600 Watt/1 KW 12 VDC to 110 VAC 60 Hz
600 Watt/1 KW 24 VDC to 220 VAC 60 Hz
600 Watt/1 KW 12 VDC to 110 VAC 60 Hz
600 Watt/1 KW 24 VDC to 220 VAC 60 Hz .

NOTE: All inverters are pure sine wave.



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