



MOUNTAIN SECURE SYSTEMS

RUGGED & WIRELESS SOLUTIONS

RUGGEDIZED ELECTRONICS TO OUTLAST HARSH ENVIRONMENTS



CASCADE
SERIES

RUGGED DATA STORAGE



Rugged, Removable Solid State & Magnetic Hard Drives

Drawing upon decades of ruggedizing expertise, Mountain Secure Systems (MSS) modifies 3.5" commercial drives to meet the rugged demands of military and aerospace applications. The process involves incorporating sealed enclosures, active heaters, forced air cooling, isolation systems, EMI/EMC shielding, extended temperature range control firmware and conformal coating – all to ensure that our rugged drives perform flawlessly and outlast the harshest environments.

By listening to our customers and staying on top of industry developments, MSS provides engineering expertise and COTS storage products that operate from the crushing depths of the oceans to the weightlessness of outer space.

CASCADE SERIES **FEATURES**

- Available in multiple interfaces (SATA, SCSI, FC, SAS)
- Military interfaces also available, including high-insertion, cycle-rated connectors
- Environmentally sealed enclosure to protect against high altitude, rapid decompression, humidity, dust, salt fog, and condensation
- Optional heaters for extended low-temperature operation
- Multiple and customizable isolation system configurations available for extended shock and vibration operation
- Removable for off-site downloading, storage, and quick vehicle turnaround
- Also available in hard-mounted, non-removable configurations
- Optional, non-rugged desktop and rack-mounted docking bays available for downloading

CASCADE SERIES **SPECIFICATIONS**

Mountain Secure Systems leverages the best data storage technologies available on the commercial market. Our expertise is properly ruggedizing, packaging and integrating the memory to meet your program requirements. While we have close relationships with many of the OEMs, we are always open to utilizing your drive choice or recommending the proper drive for your application. Selected drive performance is dependent on OEM specification. **To learn more, call us at 888. 884.9344.**

RUGGED DATA STORAGE

CASCADE SERIES PERFORMANCE

		Magnetic Hard Drive	Solid State Drive
Capacity		Up to 3TB	Up to 256GB (SLC), 1TB (MLC)
Drive Interface		SATA, SAS, SCSI or Fibre Channel	
Voltage		+5 & +12 Vdc (+/-5%)	+5 & +12 Vdc (+/-5%)
Temperature (°C)	Operating	0 to +60	-20 to +55
	Commercial Extended	-40 to +60*	-40 to +85
	Non-Operating	-40 to +60	-55 to +95
Shock (Gs)	MIL-STD-810F	Operating 35 @ 11ms**	50 @ 11ms
	RTCA/DO-160D	Non-Operating 60 @ 11ms**	
Vibration (Gs)	MIL-STD-810F, RTCA/DO-160D	Custom Profiles up to 8 Grms**	16 Grms random 10 to 2,000hz
Humidity		0% to 100%	0% to 100%
Attitude		Any	Any
Altitude (feet)		0 to +85,000	0 to +85,000

*Requires addition of optional heater

**When mounted in appropriate MSS isolation system tuned to your system

CASCADE SERIES PHYSICAL

Dimensions	Drive	1.52"H x 4.2"W x 6.5"D
	Standard Docking Bay	1.625"H x 5.75"W x 7.5"D
	Isolated Docking Bay	Multiple Configurations Available
Weight	Drive	~3.3 lbs.
	Docking Bay	~1.3 lbs. (Depending on Configuration)
Power Requirements*	See Interface Specification	See Interface Specification
	Available Heaters	+12 VDC
	(For Extended Temperature Operation)	+28 VDC

*Power requirements increase with addition of optional heater

CASCADE SERIES AVAILABLE CONFIGURATIONS

- Single-bay, rugged, with multiple and customizable isolation configurations for extended shock and vibration
- Single-bay, non-rugged, standard 5.25" half height form factor
- Desktop unit, including power supply, for off-vehicle downloading
- 19" 5u Rugged 8-bay JBOD/RAID
- 19" 2u rack mountable 2 bay chassis. Both isolated and non-rugged configurations available
- 19" 1u rack mountable 2 bay non-rugged chassis





Nobody understands the critical details of ruggedizing memory better than Mountain Secure Systems (MSS). MSS's rugged drives have a phenomenal track record of withstanding the harshest environments imaginable. Our products perform flawlessly in adverse conditions, where extreme temperature, altitude, humidity and condensation, shock and vibration, explosive decompression, dust and dirt are elements of concern.



©2013 Mountain Secure Systems is a subsidiary of Phillips Service Industries

1350 Kansas Avenue
Longmont, Colorado 80501-6545
888-884-9344

MountainSecureSystems.com    

MADE IN THE USA

CAGE Code: O9FR8
9001:2008
AS9100B | J-STD-001

MSS-12-104 09/30/2011