

F/C	SAS	iSCSI	SCSI
Host Type			

F/C	SATA	SAS	SCSI
Drive Type			

COTS Rugged RAID

RR Series

Ruggedized Dothill 2U Storage Systems at COTS Prices Supports 2.5" & 3.5" Disks - 4 or 8 Gb Fibre Channel, SAS & iSCSI

Winchester Systems has ruggedized ten of Dothill's MIL-STD 810F and NEBS certified RAID arrays with COTS rugged technology field proven in thousands of disk arrays used by the US Army worldwide. The RR Series is designed to protect data from environmental perils - at COTS prices - and are far less expensive than fully rugged systems. The RR Series 2.5" disk models support 24 disks per shelf and expands to six shelves and 144 disks. The 3.5" disk models support 12 disks per shelf and expand to eight shelves and 96 disks.



RR Series disk arrays with single or redundant controllers are ideal for mobile field and airborne applications and provide significant field reliability and data protection at COTS prices.

The RR Series 2U shelves support (24) 2.5" or (12) 3.5" disk drives in the base and expansion units for up to 144 disks of tiered SAS and SATA mission-critical storage. It supports 4 Gb and 8 Gb Fibre Channel, SAS and iSCSI hosts - and hybrid hosts.

The RR Series protects against dust, moisture, shock and vibration not offered on standard commercial units. The US Army approved similar COTS units for field use and has deployed thousands of them worldwide in HUMVEE communication trailers in harsh environments. The front door is milled from one-inch thick aluminum that provides rigidity and structural integrity. It also houses a heavy-duty dust filter and provides a moisture shield to protect internal components. Optionally, the US Army mounts the unit to a chassis using five bolts secured, in a triangulated pattern for strength, to a rugged heavy-duty base plate. The RR Series offers single and redundant controllers and supports 4 or 8 Gb Fibre Channel, SAS and iSCSI hosts. RAID 6 dual parity protects against two drive failures and to help ensure that critical disk rebuilds after a drive failure are successful - key in mobile usage.

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FlashDisk RR Series

Rugged Features

- Sturdy milled removable aluminum door
- Easy to operate, aircraft-grade, thumbscrew door locks
- Heavy-duty dust filters - easy to replace

Reliability & Serviceability

- RAID 6 dual parity data protection
- Hot-swappable drives, power supplies, fans, AC inlets, optional controllers
- Hot spares with automatic drive rebuilds
- Supports drive path failover
- No single point of failure configurations

Storage Service Options

- AssuredRemote - remote replication
- AssuredSnap - 1000 snapshots
- AssuredCopy - 512 volume copies

Storage Volumes

- 32 Virtual disks per system
- 256 Volumes per virtual disk
- 256 Volumes per system

Compatibility

- Supports any open O/S
- No host software or drivers needed
- Cluster: Windows, Novell, UNIX, Linux . . .

Compliance

- NEBS Level 3, MIL-STD 810F
- European Telco, RoHS-6, WEEE

Centralized & Remote Management

- Automatic event and alert notification
- FlashAlert 24-hour "call-home" service

RR Model	2322/2332	2522/2532	2722/2732	3720/3730	3920/3930
Controllers	Single or Dual	Single or Dual	Single or Dual	Single or Dual	Single or Dual
Host Interface	iSCSI	SAS	4 Gb FC	8 Gb FC	8 Gb FC/iSCSI
Host Ports	2 or 4 iSCSI	2 or 4 SAS	2 or 4 FC	2 or 4 FC	2 FC & 2 iSCSI
Expansion Shelves	5 / 7	5 / 7	5 / 7	5 / 7	5 / 7
Total Disks (2.5"/3.5")	144 / 96	144 / 96	144 / 96	144 / 96	144 / 96

2U RAID Base Unit Controller RAID levels supported Host interfaces Expansion shelf interface Number of drives/Total capacity On-line capacity expansion Cache memory capacity Non-volatile cache Maximum LUNs Host ports Maximum number of servers LUN mapping/filtering Power supplies and AC inlets	Supports expansion shelves Single/Dual redundant 64-bit RAID controller 0, 1, 3, 5, 6, 10, 50 4 Gb or 8 Gb Fibre Channel, 3 Gb SAS, 1 GbE ports 4 Gb or 8 Gb Fibre Channel, 3 Gb SAS, 1 GbE 24/12 drives per shelf; 144/96 total Automatically adds new drives to existing array 2 GB per controller Battery free cache protection - backup to flash memory 256 total, 64 per host ID 4 Fibre Channel or 2 Fibre Channel & 2 iSCSI 64 Configurable per logical partition Dual hot-swap redundant 436 W; dual AC inlets
General Uninterruptible power supply Redundant AC/DC power Power Consumption RAID unit dimensions RAID unit weight Operating temperature	Required when using write-back cache Dual 100-260 VAC Inlet, 50-60 Hz or dual 36-72 VDC 1,488 BTU/hour 3.5"h x 17.6"w x 21.3"d (2.5") or 23.7"d (3.5") Approximately 60 lbs. fully loaded with drives 5° to 40° C
Warranty & Service Standard Warranty Installation and service	One year, next day on-site and toll-free hotline On-site installation; 24x7 service available
SAS/SATA Disk Drives 3.5" disk drives 2.5" disk drives	Enterprise Class SAS/SATA Disk Drives SATA and SAS to 2 TB SATA and SAS to 600 GB; SSD to 160 GB