

# FlashDisk® Rugged Removable Canister RR2P™ Series

## Lightweight Rugged Canister RAID with 2.5" SFF Disks Perfect for Airborne, Shipboard and Ground Mobile Data Recorder

Designed as a mobile data recorder for field use aboard planes, ships and ground transport, the RR2P is a lightweight aluminum 2U RAID disk array, weighing 47 pounds fully loaded, featuring two secure, yet easily removable disk canisters. Each canister holds 10 compact 2.5" Small Form Factor (SFF) disk drives with capacity up to 1 TB each and total system capacity to 20 TB. For speed, capacity and economy a variety of SAS and Solid State Disks (SSDs) are available in the 2.5" SFF size to meet varying needs. The RAID controller delivers up to 1,550 MB per second write throughput for rapid data recording and up to 1,800 MB per second for data reading and transfer from SAS disks.



*For rapid field re-deployment of critical surveillance vehicles including planes, ships and Humvees, the RR2P dual canister systems enables recorded data to be removed and replaced immediately with fresh canisters in under two minutes.*



*Pluggable canisters are easy to insert and remove.*

In a typical surveillance application, the post-mission canisters with the critical images are easily removed and plugged into a ground station. Fresh canisters are immediately loaded into the mobile unit for rapid redeployment. All 10 disks in a canister are carried as a single unit by a handle for safe transport. Each canister locks into place with a positive locking lever. Reliable canister connectors are military grade for field usage. For personnel safety during deployment, the canisters are held by secure restraints for crash protection impact to 200G.

The RR2P is a configurable Fibre Channel 8 Gb hosted product, with two ports per canister, that offer options including AC or DC power supplies variety of disk and SSD storage alternatives. It is conveniently only 17" wide to mount with a variety of standard rackmount rails and offers optional base plate mounting screws for secure lockdown to the vehicle.

The RR2P is designed to facilitate rapid data transfer from mobile vehicles to ground stations. Importantly, the RR2P will operate at 40° C and at 10,000 foot pressurized attitudes. Variable speed fans provide cooling on demand while reducing noise and vibration at moderate ambient temperatures. A front-mounted LCD on each canister provides power, activity and status information.

### RR2P Series

#### Pluggable Canister RAID

- Two canisters per 2U rackmount shelf
- Canister holds ten 2.5" SFF disks or SSDs
- Quick insertion/removal
- Positive canister locking mechanism
- Canister restraints for crash protection
- Two 8 Gb Fire Channel ports per canister
- 5° to 40° C operating temperature
- 1,800 MB read/1,550 MB write throughput

#### Connectivity, Capacity & Scalability

- Supports 20 SAS or SSD 2.5" SFF disks
- 17" wide for ease of mounting
- Rackmount rail kits available
- AC or DC power supplies
- Up to 2 GB controller cache

#### Reliability & Serviceability

- RAID 0, 1, 5, 6, 10, 50, 60 data protection

#### Centralized & Remote Management

- Manage via IP, SMTP, SNMP, RS-232, CLI

#### Designed to Meet Military Standards

- MIL-STD-810F - Environmental
- MIL-STD-901D - Shock and Vibration
- MIL-STD-461E - EMI/RFI
- MIL-STD-1686A - ESD

### RR2P Canister Front and Rear Views



*Sturdy lightweight, milled-aluminum canister records up to 10 TB and is designed for quick data transfer to ground stations from mobile vehicles.*

*Rear view of canister shows high speed SAS 6 Gb connectors and four variable speed, high performance cooling fans.*



## RR2P System Status



RR2P monitors status with easy to recognize fault indicators.

## RR2P Logical Drive Status

ID	Status	RAID Level
LD 0	Green checkmark	RAID0
LD 1	Red X with 'Offline'	RAID0
LD 2	Yellow warning with 'Rebuild'	RAID1
LD 3	Green checkmark	RAID1
LD 4	Green checkmark	RAID5
LD 5	Green checkmark	RAID5
LD 6	Green checkmark	RAID5
LD 7	Green checkmark	RAID5

RR2P logical drives displays online, offline and rebuild status.

## 2U RAID Disk Array

RAID Controller  
 Canisters  
 RAID levels supported  
 Host interface  
 Drive interface  
 Number of drives/Total capacity  
 On-line capacity expansion  
 Cache memory capacity  
 Non-volatile cache  
 Maximum LUNs  
 LUN masking  
 Multipathing (MPIO)

Single RAID controller  
 2, each with 10 SFF 2.5" disks  
 0, 1, 5, 6, 10, 50, 60  
 8 Gb Fibre Channel  
 6 Gb SAS  
 20 drives/20 TB maximum capacity  
 Automatically adds new drives to existing array  
 512 MB to 2 GB  
 Battery backup option with 72 hour protection  
 1024 LUNs  
 Configurable for each host LUN  
 MPIO supported for Windows and Linux

## Canisters

Capacity  
 Weight  
 Display  
 Keying  
 Connectors  
 Latch  
 Restraints  
 Cooling fans

10 SAS or SSD disks  
 10 lbs  
 Center mounted LCD with status information  
 Keyed left/right canisters optional  
 Military grade for high field reliability  
 Individual canister latching lever for secure insertion  
 Crash resistant canister restraints for personnel safety  
 4 variable speed cooling fans per canister

## Disk Drives

2.5" SAS disk drives, 15k rpm  
 2.5" SAS disk drives, 10k rpm  
 2.5" SAS disk drives, 7.2k rpm  
 SSD disk drives

73, 146, 300 GB  
 300, 450, 600 GB  
 500 GB, 1 TB  
 50, 100, 200 GB SLC; 100, 200, 400 MLC

## Controls and Indicators

Firmware embedded manager  
 Firmware embedded web browser  
 Firmware embedded CLI  
 Firmware embedded SMTP  
 Firmware embedded SNMP  
 Indicators

Access via RS-232 port  
 Use standard web browser on 10/100 Gb LAN port  
 Command Line Interface for text management  
 Monitor system events via email  
 Monitor system events via SNMP without agent  
 Front panel power and status indicators

## Compatibility

Operating systems  
 Platforms supported  
 Remote monitoring ports

Supports industry standard operating systems  
 Supports Fibre Channel and embedded FPGA hosts  
 RS-232 and 10/100 Ethernet

## Storage Management

Event notification  
 Manage out of band  
 Centralized management

Automatic event and problem alert notification  
 Ethernet  
 Manage from any LAN workstation with web browser  
 and no additional software

## General

AC power  
 Power consumption  
 RAID unit dimensions  
 RAID unit weight  
 Temperature  
 Cooling system  
 Compliance

Single 100-240 VAC Inlet, 47-63 Hz  
 750 Watt rated, 300 Watt maximum draw  
 3.5"h x 17"w x 20"d  
 Approximately 47 lbs. fully loaded with drives  
 5° to 40° C operating; -40° to 60° C non-operating  
 2 high volume cooling fans on rear panel  
 FCC, UL, CE pending

## Warranty

Standard Warranty

One year warranty and toll-free hotline