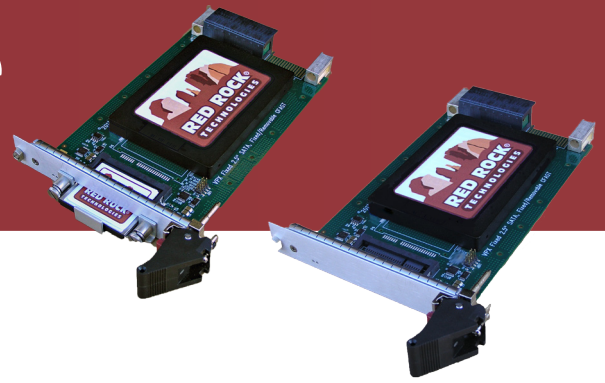# 3U VPX SATA Drive Module

RRT-3UVPX-SATA

The 3U VPX SATA drive module provides storage using COTS 2.5" Hard Disk Drives (HDDs) or Solid State Drives (SSDs) with a range of capacity, speed, environmental, security and cost options.

Optional front panel CFast™ port for removable CFast™ is the same form factor as Compact Flash but has a SATA interface for faster speeds.

Options for discrete controlled secure erase, destroy and write protect.

FEATURES INCLUDE

- SATA interface to VPX backplane
- OpenVPX Ultra Thin Pipe (UTP) storage module profile MOD3-STO-1U-16.5.1-1, 2 or 3
- 3U VPX Storage VITA 46, 47, 48, 65
- Provides boot disk and/or disk storage
- Conduction or air cooled versions
- Uses COTS 2.5" SATA drives for wide range of options
- Option support for removable CFast™ card secured by a rugged retainer clip (air cooled)
- Options for discrete controlled secure erase, drive destroy and write protect
- Robust design for extreme temperature, shock and vibration environments
- SATA interface per OpenVpx storage module profile, MOD3-STO-1U-16.5.1-x or optional rear transition module
- High performance SATA2 (SATA300) transfer rates. Compatible with SATA1
- Compatible with all CPU's with a SATA controller
- Current limited
- No additional software required
- Power supplied from VPX backplane

Security Options

ERASE/DESTROY OPTIONS INVOKED BY COMMAND OR BY DISCRETE INPUT

Fast Erase Sets all locations to set value

NSA/CSS Manual 9-12 Erase Erases all locations, including bad blocks, then sets all locations to 0x55, then internal verification is performed reading 1% of capacity confirming data pattern

RCC-TG IRIG 106-07 Chapter 10 Erase Erases all locations, including bad blocks, then sets all locations to 0x55, then sets all locations to 0xAA, and finally erased

Drive Destroy Performs erase of all NAND flash including internal SSD firmware, file system, and tables which makes the drive unusable and unreadable

Ordering Information

RRT-3UVPX-SATA - A1 - SLC – 480GB - 1 - FE - R - UR - X

Requirements

Cooling
C = Conduction Cooled
A1 = Air Cooled, 0.8" pitch
A2 = Air Cooled, 0.85" pitch
A3 = Air Cooled, 1.0" pitch

SATA Drive Type
HDD = Hard Disk Drive
SLC   = Single Level Cell SSD
MLC = Multi Level Cell SSD

Capacity
Any capacity up to 2TB

Speed Grade
1= >100MB/S, 2 = >200MB/S,

Options May be left blank

Erase Types
FE   = Fast Erase
SE1 = NSA/CSS Manual 9-12 Erase
SE2 = RCC-TG IRIG 106-07 Chapter 10 Erase
DD = Drive Destroy

CFast™ Front Panel Port
R = Optional Front Panel
(available in air cooled only)

Conformal Coating
UR = polyurethane
AR = acrylic

Extended Temperature Range
X   = -40ºC to 85ºC

Example: RRT-3UVPX-SATA-A1-HDD-500GB
Example: RRT-3UVPX-SATA-A2-SLC-120GB-1

3U VPX SATA DRIVE MODULE SPECIFICATIONS

Performance				
Version	HDD	SSD-SLC	SSD-MLC	SSD-Secure Erase
Capacities (1)	Up to 2TB	Up to 480GB	Up to 2TB	Up to 480GB
FLASH Type	NA	SLC	MLC	SLC
Interface (2)	SATA2 (SATA300)			
Sustained Throughput	130 MB/S	220 MB/S	220 MB/S	220 MB/S
Sector Size	512			
Reliability				
MTBF-Drive (hours)	500,000	3 million	1 million	1.2 million
MTBF-Drive Module (6)	3 million hours			
CFast Connector Mating Cycles	10,000			
Power				
Voltage	5 V+/- 5%, +3.3V +/- 5%			
Watts-Idle	1	1.2	1.2	1
Watts-active	2.5	2.5	2.5	2
Environmental				
Temperature – operating (3), VITA 47 Class	0 to 60C, CC1, AC1	-40 to 85C, CC4, AC3 for –X option 0 to 60C, CC1, AC1 for Standard SSD		
Temperature – storage	-40 to 70C	-40 to 85C		
Relative Humidity	5% to 95%			
Altitude	10,000 ft. 3000 meters	80,000 ft. 24,000 meters		
Shock (4), VITA 47 Class	20g, OS1	40g, OS2		
Vibration (5), VITA 47 Class	0.04 g^2/Hz,V2	0.01 g^2/Hz,V2		
Physical				
Form Factor	3U VPX			
Weight	10 oz. max			
Pitch	0.8", 0.85" and 1.0" options			

(1) Larger capacities available as new COTS 2.5" drives released
(2) Interface connected via compatible slot profile SLT3-STO-2U-14.5x or rear transition module
(3) Thermal qualification per MIL-STD-810, Method 501, Procedure II, and MIL-STD-810, Method 502, Procedure II
(4) Shock qualification per MIL-STD-810F, Method 516, Procedure I
(5) Vibration qualification per MIL-STD-810F, Method 514, Procedure 1
(6) Telcordia SR-322, Issue 3, operating temp (40C), electrical stress (50%), environmental factor (1.0)

206 West Julie Drive - Suite 2, Tempe, AZ 85283 | United States of America
Tel: 480-483-3777 | Toll Free: 1-800-808-7837
www.redrocktech.com | info@redrocktech.com
© Copyright 2016 Red Rock Technologies, Inc.

RED ROCK
TECHNOLOGIES®