

**New Energy & Space Saving MR2020-2S-S2+ Compact-RAID1  
Internal Data Storage Unit for SATA-II 2.5" Drives**

**RAIDON**

Equipped with the same powerful hardware RAID controller as in SR2611-2S-S+, MR2020 Compact disk mirroring unit can provide server level performance with fault-tolerance for data redundancy and disk failure, as well as backup for two SATA-II 2.5" Drives.

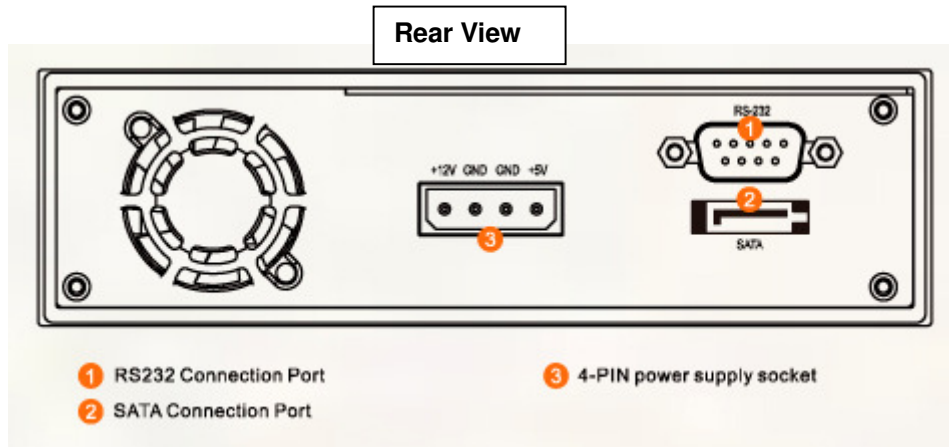


**Features:**

- Real-Time Backup:**  
 Backup data through RAID1 mirroring function to prevent loss of data due to hard drive failure.
- Large Data Backup:**  
 MR2020 supports **1TB** large capacity to save and backup critical data.
- Hot-Swap:**  
 A failed hard drive can be replaced without system power down.
- 5.25" Form factor & Lowest Power Use:**  
 MR2020 use only a 5.25" CD-ROM size slot in PC
- SSD Test:** SLC SDDs with Non-JMicron controllers have been fully tested.
- Maintain Computer Efficiency:**  
 Due to hardware RAID controller utilization, Backup performance is based on HDD size and speed and it will not have little or no effect on computer performance.
- Driver-Free, Easy to Manage:**  
 No driver. Easy to manage and monitor in time with LCD display or via Windows based GUI software.
- Alarm System:**  
 The system will monitor the hard disk, fan and temperature. In case of any failure occurred, it sets the alarm on automatically or sends email via GUI Software.



<b>Model No.</b>	<b>MR2020-2S-S2+</b>
<b>Microprocessor</b>	<b>RAIDON 2045 ASIC SATA-II</b>
<b>Host Interface</b>	<b>SATA-II (300Mb/s)</b>
<b>Burst Transfer Rate</b>	<b>300MB/s</b>
<b>Support Hard Drive</b>	<b>2 x 2.5" SATA-I/II (150/300Mb/s)</b>
<b>Support HDD Capacity</b>	<b>Up to 1TB</b>
<b>RAID Level</b>	<b>RAID 1</b>
<b>Form Factor</b>	<b>Device fit in a single 5.25"/CD-ROM slot</b>
<b>Status Display</b>	<b>LCD Display &amp; Buzzer</b>
<b>RAID Guide Platform</b>	<b>GUI Software for all Windows versions</b>
<b>Operating Systems</b>	<b>OS Independent. No need for driver</b>
<b>Power Requirement</b>	<b>12V/5V</b>
<b>Cooling Fan</b>	<b>3cm ball bearing fan</b>
<b>Enviro-Temperature</b>	<b>0C~55C</b>
<b>Certifications</b>	<b>CE &amp; FCC &amp; BSMI</b>
<b>Dimensions (mm)</b>	<b>148W×172D×42H</b>
<b>Net Weight (Kg)</b>	<b>0.92Kg</b>



## **MR-2020-2S-S2+ Testing Report**

### **Test Configuration:**

- Supermicro X8SAX motherboard
- Intel Core i7 CPU 920 @2.67GHz
- 2GB DDR2-667 ECC RAM
- Onboard SATA300
- 2x Seagate Constellation 500GB (7200RPM / 32MB Cache)
- Windows XP SP3
- MR-2020-2S-S2+ FIRMWARE V091130.1
- NTFS default 4KB cluster/allocation size

### **Testing Procedure Results:**

#### **Hardware Detection Tests Connection**

BIOS Visibility	Yes
OS Visibility	Yes
NTFS & Linux Format	Yes
Read/Write	Yes
Bootable	Yes
Linux Compatible (Fedora Core 4 tested) & Others	Yes

#### **Rebuild Time**

Idle (No Data Access)	Successful Mirror Hour for 500Gb	Rebuild Time
Primary > Secondary (MR2020-2S-S2+)	2:06 Hour	500GB / 126 min =3.97GB/M
Secondary > Primary (MR2020-2S-S2+)	1:56 Hour	500GB / 116 min = 4.31GB/M

**Data Transfer Rate and I/O Performance Tests**

**Data Access with Single Drive**

<b>64K Transfer Request Size</b>	<b>MR-2020-2S-S2+</b>	
	<b>MB/s</b>	<b>IO/s</b>
<b>100% Sequential Read</b>	<b>84.12</b>	<b>1345.94</b>
<b>100% Sequential Write</b>	<b>59.44</b>	<b>951.12</b>
<b>100% Random Read</b>	<b>8.92</b>	<b>142.80</b>
<b>100% Random Write</b>	<b>17.86</b>	<b>285.74</b>
<b>75% Read &amp; 25% Write with 75% Random &amp; 25% Sequential</b>	<b>10.39</b>	<b>166.30</b>
<b>50% Read &amp; 50% Write with 50% Random &amp; 50% Sequential</b>	<b>12.47</b>	<b>199.54</b>

**Data Access with Dual Drives in Mirroring Mode**

<b>64K Transfer Request Size</b>	<b>MR-2020-2S-S2+</b>	
	<b>MB/s</b>	<b>IO/s</b>
<b>100% Sequential Read</b>	<b>75.36</b>	<b>1205.73</b>
<b>100% Sequential Write</b>	<b>48.29</b>	<b>772.70</b>
<b>100% Random Read</b>	<b>8.77</b>	<b>140.25</b>
<b>100% Random Write</b>	<b>17.07</b>	<b>273.19</b>
<b>75% Read &amp; 25% Write with 75% Random &amp; 25% Sequential</b>	<b>10.10</b>	<b>161.56</b>
<b>50% Read &amp; 50% Write with 50% Random &amp; 50% Sequential</b>	<b>12.35</b>	<b>197.55</b>

**Data Access Dual Drives in Mirrored Mode**

<b>64K Transfer Request Size</b>	<b>MR2020-2S-S2+</b>	
	<b>MB/s</b>	<b>IO/s</b>
<b>100% Sequential Read</b>	<b>177.75</b>	<b>2843.95</b>
<b>100% Sequential Write</b>	<b>60.85</b>	<b>973.61</b>
<b>100% Random Read</b>	<b>9.25</b>	<b>148.00</b>
<b>100% Random Write</b>	<b>17.58</b>	<b>281.33</b>
<b>75% Read &amp; 25% Write with 75% Random &amp; 25% Sequential</b>	<b>10.42</b>	<b>166.70</b>
<b>50% Read &amp; 50% Write with 50% Random &amp; 50% Sequential</b>	<b>12.61</b>	<b>201.69</b>