

User's Guide

for Qio™ MR Professional Universal Media Reader & Writer for PCs



SxS



P2



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Chapter 1 – Introduction and Package Contents

Introduction

Qio MR is a universal media reader & writer, eSATA host controller, and expansion chassis for ExpressCard®/34 adapter cards. Included with Qio MR is the Sonnet Internal Express Bus Extender PCIe adapter card (for desktop computers), and a PCIe interface cable to connect the card to the chassis.

Featuring two slots each for SxS™, P2, and CompactFlash® memory cards, Qio MR enables you to transfer data between cards, between cards and computer, and between cards and attached drives; you can even transfer data from two or more cards at the same time. With an ExpressCard/34 adapter (sold separately) the Qio reads from and writes to Memory Stick™, MMC, SD, and xD-Picture Card™, and works in either of the SxS slots.

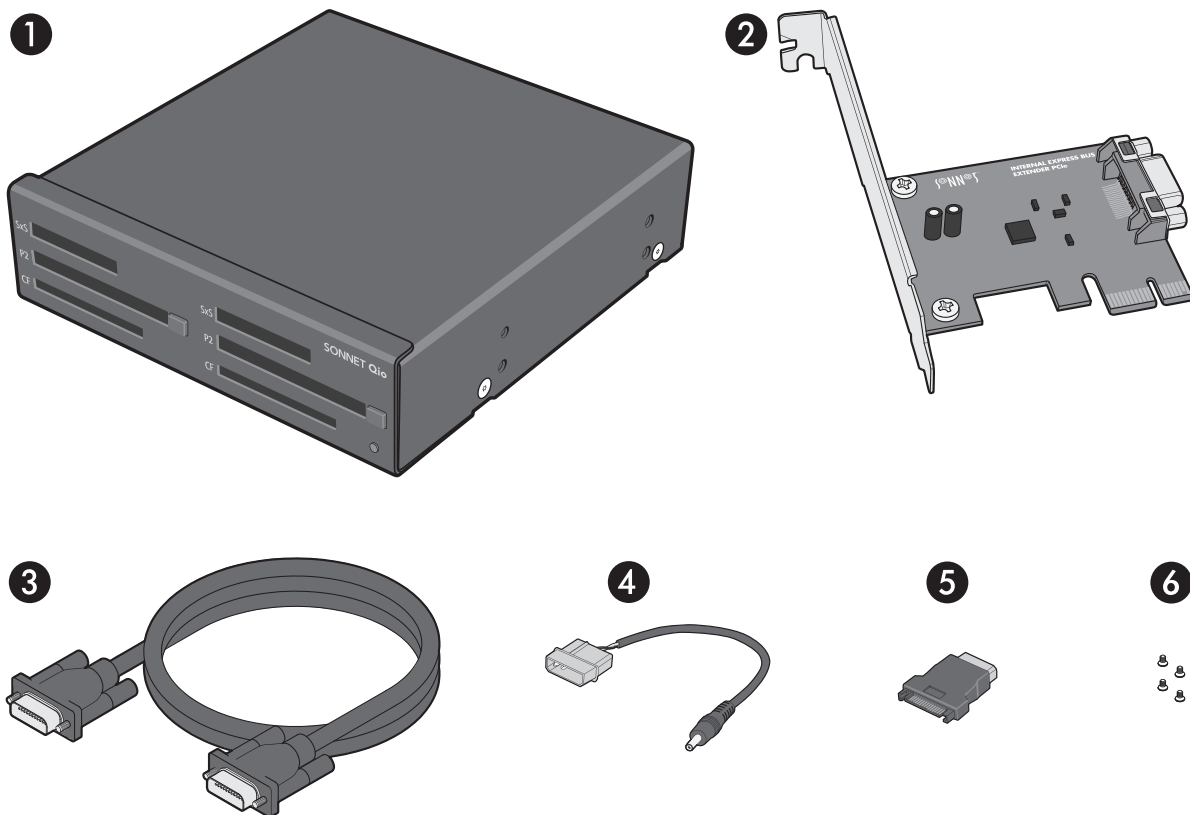
Qio MR's eSATA controller is based on Sonnet's Tempo™ SATA E4P host controller, sharing the same functionality and drivers. Qio MR is compatible with drive enclosures with an eSATA interface and bare SATA drives (using adapter cables). Support for port multipliers and hardware RAID controllers enable Qio MR to control up to 16 drives (in four drive enclosures).

Qio MR's SxS slots support ExpressCard/34 adapter cards; compatible adapter types include eSATA, FireWire®, Gigabit Ethernet, SmartCard reader, TV tuner, USB, WiFi, and WWAN modem, and others. You may use adapter cards at the same time as memory cards, however, performance may be limited by the total bandwidth available from your computer's PCI Express® bus.

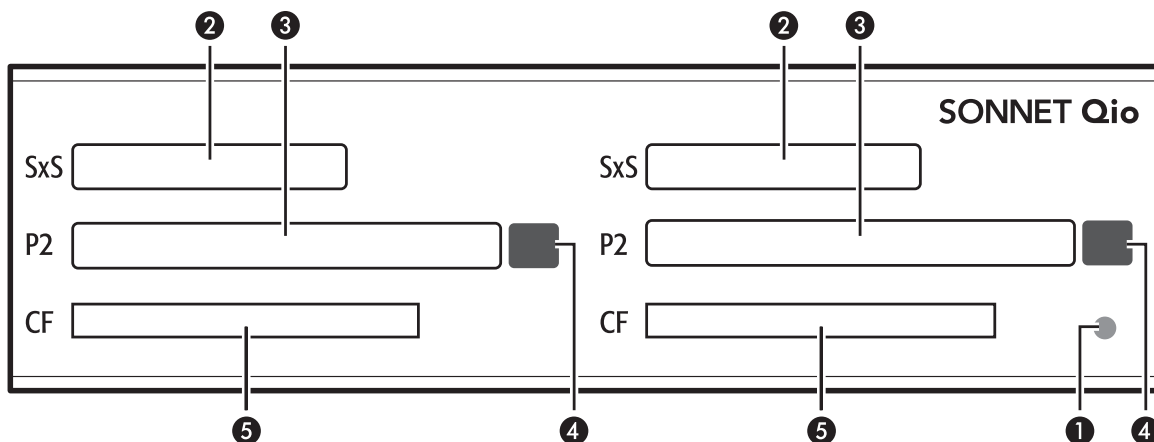
Please take a few minutes to read this user's guide before using your Qio MR; you will save time in the long run.

Package Contents

- 1 – Qio MR professional universal media reader/writer (chassis)
- 2 – Sonnet Internal Express Bus Extender PCIe card
- 3 – 1-meter PCIe x1 interface cable
- 4 – Power cable
- 5 – SATA drive power adapter
- 6 – Mounting screws



Chapter 2 – Qio MR Chassis Description



1 – Power Indicator LED

This indicator lights when Qio MR is powered, the Internal Express Bus Extender PCIe card is installed properly in its slot, and the PCIe cable between the two is plugged in properly.

2 – SxS Media Slots

These slots accept both SxS memory cards and ExpressCard/34 adapter cards. Use an ExpressCard/34 memory card adapter (sold separately) in these slots to work with Memory Stick, SDXC, SDHC, SD, MMC, and xD-Picture memory cards.

3 – P2 Media Slots

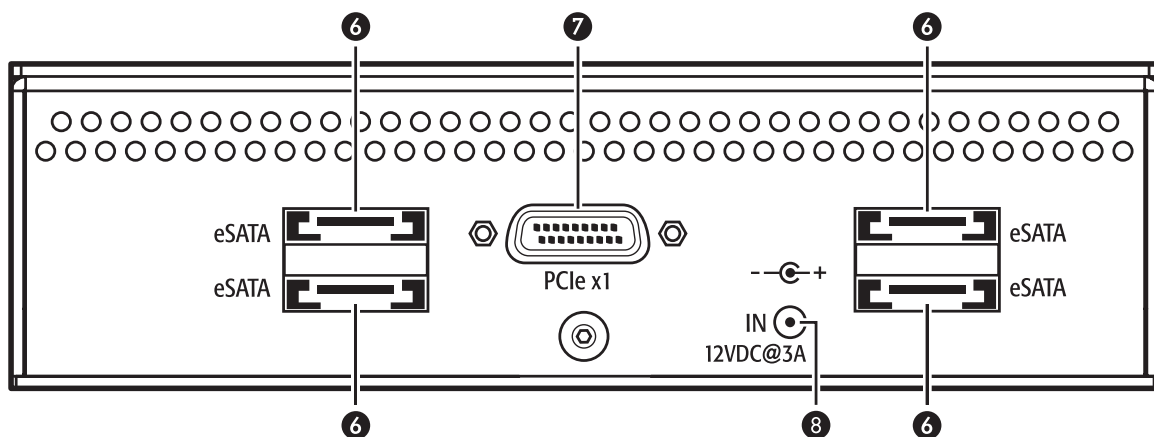
These slots accept P2 memory cards.

4 – Eject Buttons for P2 Media Slots

Press these buttons to eject cards from the P2 slots.

5 – CF (CompactFlash) Card Slots

These slots accept Type I CF memory cards. *Qio MR is not compatible with Type II (Microdrive, etc.; 5mm thick) CF cards.*



6 – eSATA Ports

These connect eSATA data cables. Each port supports individual drives, or up to four SATA hard disk drives (or SSDs) in chassis with an eSATA interface, and a port multiplier or hardware RAID controller.

8 – 12VDC Input Socket

This connects the included power cable.

7 – PCIe x1 Connector

This connects the included PCIe interface cable. Connect the other end of the cable to the included Internal PCIe Bus Extender card in your computer.

Chapter 3 – Hardware/Software Installation Steps



WARNING: When handling computer products, take care to prevent components from being damaged by static electricity; avoid working in carpeted areas. Handle expansion cards only by their edges and avoid touching connector traces and component pins. Also, avoid touching the logic board and any of its components.

A – Qio MR Chassis and Internal Express Bus Extender PCIe Card Installation

1. Shut down your computer, and then touch an expansion card access cover on the back of the computer to discharge any potentially damaging static electricity.
 2. Disconnect the power cord and any remaining cables for powered devices (monitor, printer, etc.) from the computer.
 3. Open the computer to access the expansion card area (PCI Express slots) and drive bays; refer to your computer's user manual for specific information.
-
- Support Note:** To avoid generating a static charge in your body, do not walk around the room until after you finish installing the Qio MR and close the computer.
4. Remove an empty 5.25" drive bay's cover.
 5. Insert the Qio MR chassis into the drive bay through the front of the slot.
 6. Locate the power connector plugged into your computer's optical drive; you should find at least one extra power connector near the existing drive.
 7. Connect the included power cable, and if necessary, the SATA drive power adapter, between the Qio MR chassis' 12VDC socket and a power connector in the computer.
 8. Connect one end of the included PCIe cable to the PCIe connector on the Qio MR chassis; **make sure the connector is firmly secured, turning the screws until tight.** Optionally, connect any SATA data cables between the eSATA ports and drives.
 9. Line up the Qio MR chassis' screw holes with the holes in the drive bay's frame. Secure the Qio MR chassis in the drive bay with the screws provided.
 10. Locate an available PCI Express slot and remove its access cover.
 11. Remove the Sonnet card from its packaging, and then install it into the slot; **make sure the card is firmly seated and secured.**

12. Route the PCIe cable to Sonnet card you just installed; avoid the processor's heat sink and make sure the cable will not get crushed or pinched by any part of the case when the computer's case is closed.
13. Connect the PCIe cable to the Sonnet card; **make sure the connectors are firmly secured, turning the screws until tight.**
14. Close your computer.
15. Reconnect the power cord and peripheral cables to the computer.



Support Note: Due to limited PCI I/O space, you will be instructed in the section below to disable at least one option ROM in the computer's BIOS. It may be necessary to disable at least one additional option ROM to support all of the Qio MR's features. If necessary, you can re-enable option ROMs in the BIOS.

B – BIOS Settings Change

1. Turn on your computer and boot immediately into the computer's BIOS (or setup) menu. Please refer to the computer's user's guide for specific instructions on how to perform the step.
2. Locate and disable the *S errors* (SERR#) option, if available.
3. Save the changes and exit; the computer will restart. If the computer boots normally, proceed to C – Software Download. Otherwise, go to the next step. *Please note that Windows will take longer than usual to run normally the first time after you install the Qio MR and its PCIe card; the Device Manager takes extra time to discover all the Qio MR devices and installs device drivers. Subsequent operation should be normal.*
4. Shut down the computer, disconnect the power cord and any remaining cables for powered devices (monitor, printer, etc.), and then open it to access the expansion card area.
5. Remove the Sonnet card from its current slot and move it into another PCIe slot; if necessary, swap positions between the Sonnet card and another (except the graphics card). **Make sure the card is firmly seated and secured.**
6. Close your computer and reconnect the power cord and peripheral cables.
7. Turn on your computer. If it boots normally, proceed to C – Software Download. Otherwise, repeat steps 4–6 using any remaining available slots. After trying all the available slots, if your computer still freezes with the Sonnet card installed, move the card back to a slot you tried previously.

(continued on next page)

Chapter 3 – Hardware/Software Installation Steps

B – BIOS Settings Change (continued)

8. Turn on your computer and boot immediately into the computer's BIOS (or setup) menu.
9. Locate and disable an available, unused option ROM; the logic board's LSI RAID controller may be good option.
10. Save the changes and exit; the computer will restart. If the computer boots normally, proceed to C – Software Download. Otherwise, shut down the computer and repeat steps 8 and 9, disabling another available, unused option ROM.



Support Note: If your computer fails to operate with the Qio MR installed, remove the PCIe card and contact Sonnet support; refer to Contacting Sonnet Customer Support at the end of this manual. For further info, check the Qio MR FAQs at www.sonnettech.com/support/kb/kb.php

C – Software Download

1. Log onto the Internet.
2. Go to <http://www.sonnettech.com/support/kb/kb.php>, click on the Pro Media Readers link, and then click on the appropriate Qio link.
3. Locate and click the Driver link, then click the Qio MR System Installer (Windows) link, and then click the Download Now button; depending on how your computer is configured, a new window may appear asking you what to do with the file; click Open. If another window appears asking for permission to open the file, click Allow.
4. When the window showing the contents of the .zip file appears, locate and click the Extract Files button.
5. When the *Extract Compressed (Zipped) Folders* window appears, click Browse.
6. When *Select a destination* window appears, click to choose a destination, and then click Make New Folder. Name the folder *Qio Installers*, and then click Extract.

D – SxS Drivers Installation

1. Open the *Qio Installers* folder, and then double-click the *SxS_Driver_Installer_xxx* file; when the *Open File – Security Warning* window appears, click Run.
2. When the *SxS device driver InstallShield Wizard* window appears, click Next.
3. When the next window appears, click Install; the drivers are installed.
4. When the *Install Wizard Complete* window appears, click Finish.



Support Note: Installation of the drivers to support Panasonic P2 media requires that a P2 memory card be inserted into one of the Qio MR's P2 slots at the time the installer is run. Otherwise, the installer will not work. If you don't have a P2 card, you may run this installer at a later time.

E – P2 Drivers Installation

1. Open the *Qio Installers* folder, and then open the *P2Winx64* folder if you are using a 64-bit version of Windows; otherwise, open the *P2Winx32* folder.
2. Double-click Setup.exe to launch the installer.
3. When the *Open File – Security Warning* window appears, click Run.
4. When the *Panasonic P2 Drivers InstallShield Wizard* window appears, click Next.
5. When the *License Agreement* window appears, read the agreement, select "I accept the terms in the license agreement", and then click Next.
6. When the *Destination Folder* window appears, either accept the default location or choose a new one, and then click Next.
7. When the *Ready to Install the Program* window appears, click Install.
8. When the *Panasonic P2 Installation Window* appears, select the "P2 card CardBus driver (2 slot(s))" checkbox, and then click OK.
9. When a prompt appears instructing you to insert P2 cards, insert a P2 card into either of the Qio MR's P2 slots, and then click Install (if *Windows Security* windows appear, click Install); the drivers are installed.
10. When the *Install Wizard Completed* window appears, click Finish.
11. When the *Panasonic P2 Drivers Installer Information* window appears, click Yes to restart your computer.

F – SATA Drivers Installation

1. Open the *Qio Installers* folder, and then open the *Tempo SATA Installer* folder.
2. If you are using a 64-bit version of Windows, double-click *Tempo SATA Installer 64*; otherwise, double-click *Tempo SATA Installer*.
3. When the *Open File – Security Warning* window appears, click Run.

Chapter 3 – Hardware/Software Installation Steps

F – SATA Drivers Installation (continued)

4. When the *Tempo SATA Installer* window appears, click Next.
5. When the *End User License Agreement* window appears, read the agreement, select “I accept this EULA”, and then click Next.
6. When the next window appears click Finish. If a window appears stating the driver installation failed, click OK; *please note this is normal and will be “fixed” in the following steps.*
7. Restart the computer.
8. Click Start > Control Panel. In the *Control Panel* window, click Device Manager. If you haven’t disabled User Account Control (UAC), a UAC window will appear; click Continue.
9. When the *Device Manager* window appears, click the arrow next to Storage Controllers to expand the list. If “Sonnet Tempo SATA QIO PCI Express Adapter” appears in the list, your installation is complete and the Qio MR is ready to use. Otherwise, go to the next step.
10. Click the arrow next to IDE ATA/ATAPI controllers to expand the list. If there is only one “Standard Dual Channel PCI IDE Controller” listed, double-click it and then skip to step 14. Otherwise, go to the next step.
11. Select the first “Standard Dual Channel PCI IDE Controller” listed, right-click and then select Properties.
12. When the *Standard Dual Channel PCI IDE Controller Properties* window appears, select the Details tab, and then click on the Property drop-down menu and select Hardware id.
13. Verify the ID listed is PCI/Ven_11ab&Dev_7042... If the ID matches, go to the next step; otherwise, repeat steps 11–13, substituting the next “Standard Dual Channel PCI IDE Controller” in the list until you find the one with the matching hardware ID.
14. Click the Driver tab and then select Update Driver.
15. When the *Update Driver Software* window appears, click “Browse my computer for driver software”.
16. When the *Browse your computer for driver software* window appears, click “Let me pick from a list of device drivers on my computer”.
17. When the *Select device driver you want to install for this hardware* window appears, select “Standard Dual Channel PCI IDE Controller”, and then click Have Disk.
18. When the *Install from Disk* window appears, click Browse.
19. When the *Locate File* window appears, navigate to the Tempo SATA Installer folder. If you are using a 64-bit version of Windows, double-click the *amd64* folder; otherwise, double-click the *i386* folder. Select “mvsata”, and then click open.
20. Back in the *Install from Disk* window, click OK.
21. Back in the *Select device driver you want to install for this hardware* window, the model will have changed to read “Sonnet Tempo SATA QIO PCI Express Adapter”. Click Next; a *Windows Security* window may appear. Click Install; the drivers are installed.
22. When the *Windows has successfully updated your driver software* window appears, click Close; you may now format any drives attached to the Qio MR. Refer to Chapter 5 – Formatting Drives Connected to the Qio MR.
23. Restart the computer; the Qio MR is ready for use.



Support Note: After its drivers have been updated, Device Manager identifies Qio MR’s SATA controller as a Storage Controller.

Chapter 4 – Memory Card and Adapter Card Use

Inserting and Removing Cards

All Card Types

- Insert cards straight into the slots.
- Do not force a card into a slot, as you may damage the card or the slot connector.
- Do not remove memory cards from Qio MR while data is being written or read; otherwise data on the memory card may be corrupted.

Inserting/Removing SxS Media and ExpressCard/34 Adapters

- To insert a card, push it into the slot until it “clicks” into place.
- Before removing any SxS memory card, be sure to “eject” it first by clicking it in the taskbar and selecting Safely Remove Hardware > Safely remove Sony SxS...; otherwise, data on the memory card may be corrupted.
- Before removing any ExpressCard/34 adapter, be sure to “eject” it first by clicking it in the taskbar and selecting Safely Remove Hardware.
- To remove a card, push it further into the slot until it “clicks” again; the card will be ejected.
- Do not pull out a card without first pushing it in; the next card you insert into the slot will be ejected immediately and may cause a problem.
- If you are using an ExpressCard adapter to which you connect cables, always connect the cables to the adapter card before inserting it into the Qio MR chassis’ slot.

Inserting/Removing P2 Media

- To insert a card, push it into the slot until it stops; the eject button next to the slot will pop out.
- Before physically removing a P2 memory card, be sure to “eject” it first by clicking it in the taskbar and selecting Safely Remove Hardware > Safely remove Panasonic P2 Card; otherwise, data on the memory card may be corrupted.
- To remove a P2 card, push in the eject button next to the slot.

Inserting/Removing CF (CompactFlash) Cards

- To insert a card, push it into the slot until it stops.
- *In order for your computer to recognize CF cards after insertion into the Qio MR, you must open Device Manager (click Start, and then right-click Computer > Manage. In the left-hand pane, click Device Manager) and then from the menu select Action > Rescan Disks.*

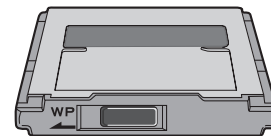


WARNING: Do not “eject” CF cards (selecting Safely remove... from the taskbar); otherwise, the Qio MR may become disabled. Some CF cards are seen as non-removable disks. Ejecting these cards by this method will cause the entire Qio MR (and any cards inserted or drives attached) to eject. If you did eject a CF card by choosing Safely remove from the taskbar, restart your computer to restore functionality to the Qio MR.

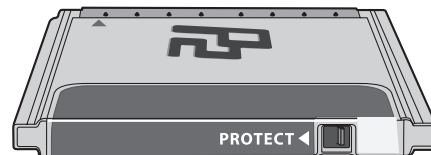
- To remove a CF card, pull it straight out of the slot.
- After removing a CF card, open Device Manager and select Action > Rescan Disks to refresh the system’s inventory of disks.

SxS and P2 Memory Card Write Protect Switches

SxS and P2 memory cards have write protect switches. When set to the “WP” or “PROTECT” position, saving, editing and deleting data are disabled. Do not change the switch positions on SxS or P2 cards when they are in the Qio MR. If you need to change the switch position, follow the instructions on card removal as previously described, pull the card out of its slot, change the card’s switch position, and then reinsert the card into its slot.



Only change the write protect switch position when the card is not inserted into the Qio MR



Chapter 5 – Formatting Drives Connected to the Qio MR

Drive Formatting Overview

If you intend to format drives connected to the Qio MR using Windows drive formatting tools, you may find much more information by using “format volume” as the search item in Windows Help. The procedure listed below describes the process of formatting and configuring drives under Windows Vista; steps for formatting under Windows 7 are very similar.

1. Turn on your storage system, start Windows, log in, and then click Start > Control Panel.
2. In the *Control Panel* window, double-click Administrative Tools. If you have not disabled User Account Control (UAC), a *UAC* window will appear; click Continue.
3. In the *Administrative Tools* window, double-click Computer Management.
4. In the *Computer Management* window, click Disk Management under Storage to launch the Disk Management application.
5. If an *Initialize Disk* window appears or if disks are described as not initialized, select a partition style for the attached drive(s), and then click OK; the drive will be initialized (**Figure 1**). Repeat as necessary with other drives attached to the Qio MR.
6. Right-click the field next to the name field of one of the attached drives and select the formatting type you wish to use for it. Repeat as necessary with other drives attached to the Qio MR (**Figure 2**).
7. Depending on the formatting type you chose, a New Partition Wizard may appear; follow the onscreen instructions to complete formatting of the drive(s). Once formatting is finished, the drives are ready to use.

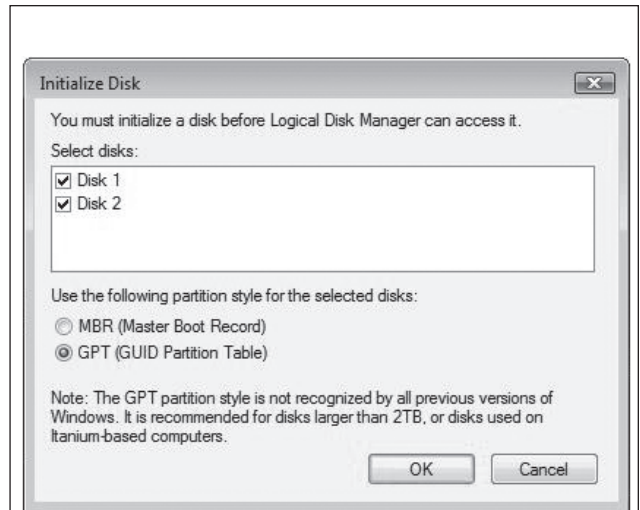


Figure 1

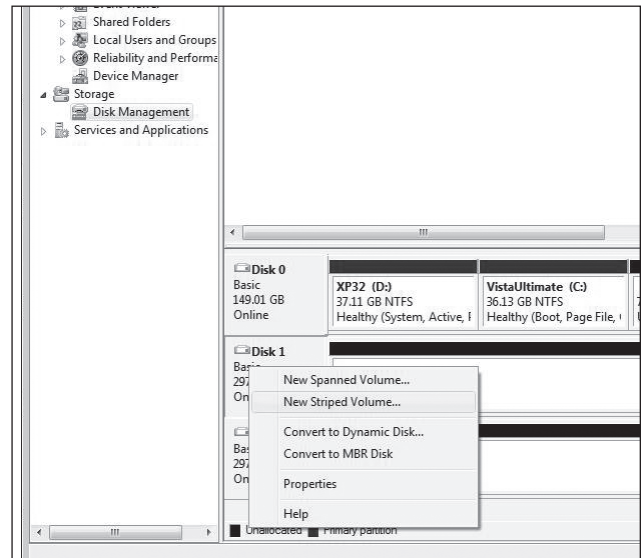


Figure 2

Chapter 6 – Tips and Known Issues

Tips

Memory Card Formatting

For best compatibility, format memory cards in the cameras in which you use them. In some cases, a card formatted in Qio MR will not be recognized and must be reformatted in the camera.

Device Drivers

When using adapter cards, some of them require additional drivers and application software to operate or have full functionality. Software should be included with the device, or available to download from the manufacturer's Website. Check the peripheral's user's manual for information about necessary software.

Powering Devices Connected to Adapter Cards

Although many peripherals may draw power directly through adapter cards plugged into the Qio MR chassis, other devices may draw more power than Qio MR can provide and require an external power source. Remember to use external power supplies when necessary.

Known Issues

Depending on Which Slot You Installed the Sonnet Internal Express Bus Extender PCIe card, CompactFlash (CF) Cards May Appear as Disabled

There is a very limited resource in PCI I/O space in PCs, and depending on the slot you installed the card, there may not be enough I/O space for the CF drivers to start. This can often be fixed by moving the Internal Express Bus Extender PCIe card to a different slot.

CF Cards Do Not Appear Automatically After Hot-Plugging

CF cards use an IDE hard disk driver that does not expect hot-plugging. As a result, you must open Device Manager and select Scan for New Devices after inserting or pulling a card. Sonnet is developing an update that will allow CF cards to be hot-plugged.

Ethernet connections may not work after the Qio MR is installed

In some cases, Windows assigns new port numbers when the Qio MR is installed, and as a result, any Ethernet-specific settings must be reset in Adapter Settings. Sonnet is investigating this issue.

Chapter 7 – Specifications, Precautions, FCC Compliance, and Support Information

Specifications

Connectors (Qio MR Chassis)	2 x CompactFlash 2 x CardBus (P2) 2 x ExpressCard/34 (SxS) 4 x eSATA External PCIe x1 - 18 1 x 12VDC @ 3A (20VDC MAX) input
Connector (Adapter Card)	External PCIe x1 - 18
Data Transfer Speed	Up to 200 MB/s aggregate
Bus Interface	PCI Express x1
Supported Media, CompactFlash Slots	Type I CompactFlash
Supported Media, P2 Slots	P2, P2 E-series
Supported Media, SxS Slots	SxS, SxS Pro SD, SDHC, SDXC, Memory Stick, MMC, and xD-Picture Card using adapter (sold separately)
Drives Supported	Up to 16*
Drive Types Supported	Serial ATA I & II; III (at II speed)
Firmware	Flash-ROM upgradeable to latest firmware version
Bootability	Not supported
Dimensions (Qio MR Chassis)	WxDxH: 5.75 x 6 x 1.6 in. (14.5 x 15.2 x 4 cm)
Weight (Qio MR Chassis)	1.1 lbs (0.5 kg)
RoHS Compliant	Yes

* Support for up to 16 drives requires the use of drive chassis employing a hardware RAID controller (like Sonnet's Fusion QR).

SAFETY PRECAUTIONS

Please read this section carefully before proceeding. These precautions explain the correct and safe use of this device, thereby helping to prevent injury to you or others, and also help you to minimize the risk of damaging the device.

Warnings

Always follow the basic warnings listed here to avoid the risk of serious injury or death from electrical shock, short-circuiting, fire, and other hazards. These warnings include, but are not limited to:

- With the exception of the user-swappable parts, do not attempt to disassemble or modify the chassis. If this device appears to be malfunctioning, contact your reseller or local distributor.
- Do not drop the chassis or adapter card; dropping or mishandling of the chassis or adapter card may result in a malfunction leaving the product inoperable.

Warnings (continued)

- Do not insert your fingers or foreign objects inside the enclosure.
- Do not expose the device to rain, use it near water or containers that contain liquids which might spill into any openings, or in damp or wet conditions.
- If unusual smells, sounds, or smoke come from the device, or if liquids enter it, switch it off immediately and unplug it from the electrical outlet.
- Follow the instructions in this manual carefully; contact your reseller or local distributor for additional advice not covered in this User's Guide.

FCC Compliance

Internal Express Bus Extender PCIe and Qio MR comply with Part 15 of the FCC Rules. Operation is subject to the following two conditions: This device may not cause harmful interference, AND this device must accept any interference received, including interference that may cause undesired operation.

Contacting Customer Service

The Sonnet Web site located at www.sonnettech.com has the most current support information and technical updates. Before you call Customer Service, please check our Web site for the latest updates and online support files, and check this User's Guide for helpful information.

When you call Customer Service, have the following information available so the customer service staff can better assist you:

- Product name
- Date and place of purchase
- Computer model
- Operating system version
- Software/firmware versions

USA Customers

If further assistance is needed, please contact **Sonnet Customer Service** at:

Tel: 1-949-472-2772

(Monday–Friday, 7 a.m.–4 p.m. Pacific Time)

E-mail: support@sonnettech.com

For Customers Outside the USA

For support on this product, contact your reseller or local distributor.

Visit Our Website

For the most current product information and online support files, visit the Sonnet Website at www.sonnettech.com/support/. Register your product online at <http://registration.sonnettech.com> to be informed of future upgrades and product releases.

