



MERCURY ELITE PRO QX2

Assembly Manual & User Guide



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Introduction

1.1 Minimum System Requirements

1.1.1 Apple Mac Requirements

- eSATA (3.0Gb/s): OS X 10.3 or later
- FireWire 800: OS X 10.2 or later
- USB 3.1 Gen 1 (backwards compatible to USB 2.0): OS X 10.6 or later

1.1.2 PC Requirements

- eSATA (3.0Gb/s): Windows® XP or later
- FireWire 800: Windows XP or later
- USB 3.1 Gen 1 (backwards compatible to USB 2.0): Windows XP or later

1.1.3 Supported Hard Drives

- Up to four 3.5" SATA drives (1.5Gb/s, 3.0Gb/s, or 6.0Gb/s).
- Drives of identical model and capacity are required for RAID 0, 1, and 5.
- For an updated list of supported hard drives, please visit the product page online.

1.2 Package Contents



Mercury Elite Pro Qx2



USB 3.1 Gen 1 cable
(Standard-A to Standard-B)



FireWire 800 (1394b)
9-9 pin cable



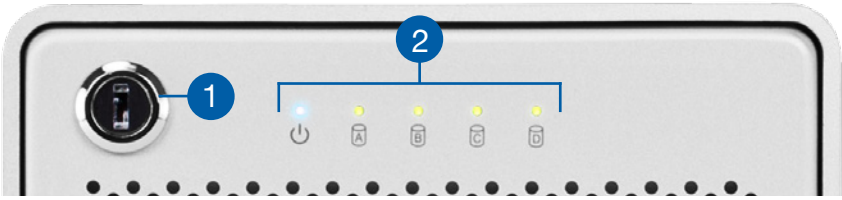
eSATA (3.0Gb/s) cable

Not Pictured: screw packet, keys, power cable.

1.3 About This Manual

The images and descriptions may vary slightly between this manual and the unit shipped. Functions and features may change depending on the firmware version. Please visit the product web page for the most recent product specifications.

1.4 Front View

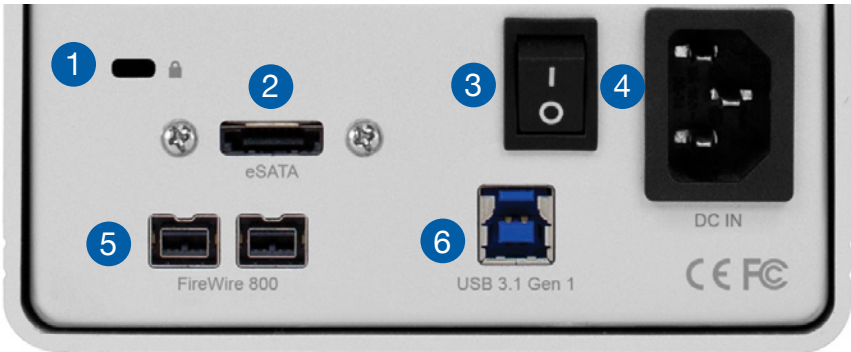


1.4.1 Front Features

1. Locking faceplate — Use the included keys to lock the faceplate for security, or remove the faceplate to gain access to the drive bays and configure the RAID mode.
2. LED indicators — See the chart below for information on the Qx2's LEDs.

LED	Color	Qx2 ON	Qx2 Sleeping	Drive Activity	Drive Bad/ Bay Empty	Drive Rebuild
Power	Blue	Solid blue	Off	Solid blue	N/A	N/A
Drive (A, B, C, D)	Green/ Orange	Solid green (all four)	Off (all four)	Flashing green	Off	Flashing orange

1.5 Rear view



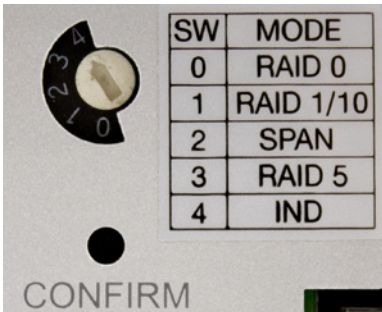
1.5.1 Rear Features

1. Kensington® Security Slot — Connect a security tether here.
2. eSATA (3.0Gb/s) port — Attach an eSATA cable here.
3. ON/OFF switch — Power the Qx2 on and off here.
4. DC IN — Connect the included power cable here.
5. FireWire 800 ports — Attach the included FireWire 800 cable to one of these ports and to your computer. Use the second port to daisy chain other FireWire 800 devices.
6. USB 3.1 Gen 1 port — Attach the included USB 3.1 Gen 1 (Standard-A to Standard-B) cable here.

Usage Notes:

- Only one data connection (USB 3.1 Gen 1, eSATA, FireWire 800) at a time can be used.
- Although the ON/OFF switch controls power to the device, the Qx2 requires a data signal in order to turn on. As long as the ON/OFF switch is in the 'ON' position, the Qx2 will power on when it receives a signal through the data cable (FireWire 800, USB 3.1 Gen 1, or eSATA). If there is no data cable connected, or if the computer is off or in a sleep or hibernation mode, the Qx2 will power off.
- For the safe removal of your drive and to ensure that no data is lost, always eject or unmount the drive from your operating system before powering off.
- In order for the computer to access volumes larger than 2TB, the operating system needs to support large volumes (e.g., Windows Vista or OS X 10.4 and above).

1.5.2 RAID Selector Dial



To adjust your RAID settings, there is a dial on the front panel of the Qx2, behind the locking faceplate.

Use the silk-screened chart as a guide when adjusting the dial to the desired operating mode. Proceed to **Section 2.3** for instructions on changing the RAID levels on the Qx2.

2.1 Hard Drive Installation

If you purchased the Mercury Elite Pro Qx2 with drives, they will be installed prior to shipment. If you purchased drives for the Qx2 separately, follow the steps below to install the drives into the Qx2, or to replace existing drives. Repeat steps 1 through 8 as necessary for the number of drives you are installing.



1. Insert one of the included keys into the lock on the top left of the faceplate.
2. Turn the key clockwise, then pull it towards you. The faceplate will swing open.
3. Once the faceplate has swung open as far as it will go, pull up to remove it.
4. To remove a drive tray, turn the thumbscrew counter-clockwise until you no longer feel resistance, then hold onto the thumbscrew and pull the drive tray out.
5. Set the drive tray as shown on your work surface. If you are replacing an existing hard drive, unscrew it from the drive tray at this time. If your Qx2 was purchased without drives, each drive tray will have a plastic bar to help the drive tray keep its shape during shipping. Unscrew the plastic bar and discard it before proceeding.
6. Place your hard drive inside the drive tray as shown. The label should face up and the SATA connectors should be on the far rear corner of the drive.
7. Fasten the drive into the drive tray using six of the included screws.
8. Slide the drive tray back into the rails in the Qx2 and push until it is seated fully. Then, push in on the thumbscrew and turn it clockwise until it stops moving.

NOTE: Be careful when sliding the drive tray back into the Qx2. If you encounter resistance, do not force the drive tray. Remove it, check to make sure there are no obstructions and that the drive tray is lined up correctly, then slide it in again.

2.2 Quick Start

If you purchased the OWC Mercury Elite Pro Qx2 with drives, they have been pre-configured as a RAID 5 array and the OWC Drive Guide formatting utility has been pre-installed to assist with the formatting process. Follow the steps below to format your Qx2 for Mac (OS X 10.4 and later) or Windows (XP and later).

1. Plug in your Qx2, then connect it to your computer using the proper cable. If you prefer to use a different formatting utility, do so at this time and skip to **Section 2.3**.
2. Your drive will show up as “OWC SETUP”. Open your drive to view its contents.
3. Double-click the OWC Drive Guide application.
4. Follow the simple on-screen instructions to complete the formatting process.
5. Once the formatting is finished the drive is ready to use.

NOTE: If you purchased the Qx2 without drives and are adding your own pre-formatted drives, be aware that the default mode is set to RAID 5. This means the Qx2 will erase any pre-existing data or formatting on the drives that you install in the Qx2. This is true of all modes except Independent Drive Mode. See **Section 2.3.2** for more information.

2.3 RAID Settings

2.3.1 Setting the RAID Mode

IMPORTANT NOTE: Drives of identical model and capacity are required for all RAID types other than independent drive mode and span mode.



WARNING: Changing the RAID mode will create a new array and destroy all data on the drives. Changing the RAID mode will also require you to reformat the array afterward.



To switch RAID modes, follow these three steps (continued on next page):

1. With the Mercury Elite Pro Qx2 turned off, adjust the RAID dial so that the arrow is pointing to the desired RAID level (see section 1.5.2, RAID Selector Dial).
2. While using a paperclip or small screwdriver to hold down the ‘Confirm’ button, turn on the Qx2. The Qx2 will build the newly selected RAID, during which time the LEDs will flash. This process will take 20-30 seconds. When the LEDs stop flashing, release the ‘Confirm’ button. The Qx2 will show up on your computer as an unformatted volume (or individual disks if you selected independent drive mode).
3. Format the new volume. Formatting instructions can be found at: www.owcdigital.com/format

2.3.2 RAID Modes

IMPORTANT NOTE: Drives of identical model and capacity are required for all RAID types other than independent drive mode and span mode.



WARNING: Changing the RAID mode will create a new array and destroy all data on the drives. Changing the RAID mode will also require you to reformat the array afterward.



Dial position 4: Independent Drive Mode (1-4 drives installed)

Each drive will appear as a single volume. If you intend to use hard drives of differing capacities and/or differing models, this is the mode to use. To swap or replace drives, first unmount all drives and turn off the Mercury Elite Pro Qx2.

Dial position 2: Span Mode (2-4 drives installed)

The drives show up as a single volume. The total size will depend on the drives installed; you can use drives of different capacities. A span is an array (but not a RAID) in which the data is written sequentially across the drives. This combines the capacities of the drives but does not provide performance or redundancy benefits.

Dial position 0: RAID 0 (2-4 'Striped Drives' installed)

The drives show up as one large volume with a size equal to the combined capacities of all the drives used. RAID 0 is used when speed is the main objective; it does not provide data redundancy. Data is written across two or more drives and is read without pausing to check parity information. This greatly improves the speed but if one drive fails the whole array can become corrupted and data will be lost. **Always maintain a backup of your data!**

Dial position 1: RAID 1 (2-4 'Mirrored Drives' installed)

The drives show up as one volume with a size equal to the capacity of one of the two drives used in the array. RAID 1 copies (or "mirrors") the data from the first drive to the second drive. This is useful when reliability and redundancy are more important than capacity. When one drive fails, it can be replaced and the data will be rebuilt automatically.

Dial position 1: RAID 10 (4 drives installed as a 'Mirrored Stripe')

The drives show up as one volume with a size equal to the combined capacities of half of the drives used in the array. RAID 10 creates a 'striped pair' for speed but also creates a mirror copy of that pair for redundancy. When one drive fails, it can be replaced and the data will be rebuilt automatically.

Dial position 3: RAID 5 'Drive Striping with Parity' (3-4 Drives Installed)

The drives show up as one volume with a size equal to the combined capacities of all the drives in the array, minus one drive. RAID 5 uses block-level striping with parity data distributed across all disks. It provides a balance between performance and data integrity. When one drive fails, it can be replaced and the data will be rebuilt automatically.

2.4 Changing Drives

2.4.1 Adding and Removing Drives in Independent Mode

When the Mercury Elite Pro Qx2 is set to independent mode, you can add or remove any drive without needing to create a new RAID set.

IMPORTANT: To avoid data corruption it is essential to unmount all drives and turn off the Qx2 before removing or adding a new drive. If you physically remove a drive from the Qx2 without powering it off first, any mounted drives will improperly unmount from the computer.

2.4.2 Adding Drives to an Existing RAID Set

It is not possible to add more drives to an existing RAID set. In order to add drives, a new RAID set must be created, which will destroy the data on the existing RAID set. If you wish to add more drives, shut off the Qx2, then add the drives. Once all of the drives that you wish to use are installed, go through the steps in section 2.3.1 to create the new RAID set.

2.4.3 Replacing Drives

When one of the drives fails, the corresponding LED will turn off. If only one drive has failed and the RAID mode is set to RAID 1, RAID 10, or RAID 5, the data on the RAID set will still be accessible, but it is strongly suggested that you replace the failed drive immediately with another drive of identical model and capacity to ensure the continued safety of your data.

If more than one drive fails at the same time, or if one drive fails and the RAID mode is set to RAID 0 or span, the data is lost (in span mode, only the data stored on the failed drive is lost) and the volume cannot be accessed again until the failed drives are replaced and a new RAID set is created.

When a drive fails, follow these steps:

1. Identify the failed drive and replace it (see section 2.1 for instructions). The LED that is off indicates the failed drive. You do not need to turn off the Mercury Elite Pro Qx2 to do this.
2. For RAID 1, RAID 10, and RAID 5, the RAID set will rebuild automatically. During the rebuild process, the LED of the drive being rebuilt will flash orange. Depending on the capacity of the drives being used, the rebuild process will last from several hours to a few days. Once the rebuild is complete, the drive LED will turn green and flash with activity as normal.
3. For RAID 0 and span, the drive LED will turn green, showing that the failed drive has been replaced and the new drive is ready to be used. You will need to go through the steps in section 2.3.1 to create a new RAID set before the Qx2 can be used again.

NOTE: We recommend that you do not power off the Qx2 during the rebuild process, but if power is interrupted, the data will continue rebuilding from where it left off as soon as power is restored. If the Qx2 enters sleep or hibernation mode, this will also suspend the rebuild process. We recommend that you use the operating system's power management controls to ensure that this does not happen.

3.1 Troubleshooting

Begin your troubleshooting by verifying that the power cable is connected to the Mercury Elite Pro Qx2 and to a power source. If the power cable is connected to a power strip or surge protector, make sure its power switch is in the 'ON' position.

Next, verify that both ends of your cables are properly plugged into the computer and the Qx2. If the Qx2 is still not working properly, try connecting to another interface such as the USB connection and see if the device works properly. You can also connect the Qx2 to a different computer to eliminate the possibility that the problem is with the computer and not the drive or cables. If you are still experiencing problems, see **Section 3.4** to contact Technical Support.

3.2 About Data Backup

To ensure that your files are protected and to prevent data loss, we strongly suggest that you keep two copies of your data: one copy on your Mercury Elite Pro Qx2 and a second copy on your internal drive or another storage medium, such as an optical backup, or on a second external storage unit. Any data loss or corruption while using the Mercury Elite Pro Qx2 is the sole responsibility of the user, and under no circumstances may OWC, its parent, partners, affiliates, officers, employees, or agents be held liable for loss of the use of data including compensation of any kind or recovery of the data.

3.3 Online Resources

You can find additional information about the Qx2 in our online collection of frequently asked questions: www.owcdigital.com/support/faq

Additionally, you can learn about our recommended process for migrating system at: www.owcdigital.com/support/data-transfer

3.4 Contacting Technical Support

Hours:

8am – 5pm (CT) Monday - Friday

Telephone:

(866)-692-7100 (North America)
+1 (815) 338-4751 (International)

Live Chat:

www.owcdigital.com/support

Email:

www.owcdigital.com/support

Changes:

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FCC Statement:

Warning! Modifications not authorized by the manufacturer may void the user's authority to operate this device.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference with radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.

Health And Safety Precautions:

- Use proper anti-static precautions while performing the installation of your hard drives into this drive enclosure. Failure to do so can cause damage to your drive mechanisms and/or the hard drive enclosure.
- Read this user guide carefully and follow the correct procedures when setting up the device.
- Do not attempt to disassemble or modify the device. To avoid any risk of electrical shock, fire, short-circuiting or dangerous emissions, never insert any metallic object into the device. If it appears to be malfunctioning, contact OWC technical support.
- Never expose your device to rain, or use it near water or in damp or wet conditions. Never place objects containing liquids on the drive, as they may spill into its openings. Doing so increases the risk of electrical shock, short-circuiting, fire or personal injury.

General Use Precautions:

- Please see the product web page specifications for operating and non-operating temperature ranges. Do not exceed these.
- Always unplug the device from the electrical outlet if there is a risk of lightning or if it will be unused for an extended period of time. Otherwise, there is an increased risk of electrical shock, short-circuiting or fire.
- Do not use the device near other electrical appliances such as televisions, radios or speakers. Doing so may cause interference which will adversely affect the operation of the other products.
- Do not place the device near sources of magnetic interference, such as computer displays, televisions or speakers. Magnetic interference can affect the operation and stability of hard drives.
- Do not place heavy objects on top of the device.
- Protect your device from excessive exposure to dust during use or storage. Dust can build up inside the device, increasing the risk of damage or malfunction.
- Do not block any ventilation openings on the device. These help to keep the device cool during operation. Blocking the ventilation openings may cause damage to the device and cause an increased risk of short-circuiting or fire.
- For up-to-date product and warranty information, please visit the product web page.

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