

Product name/code	ToughTech Duo-QR, ToughTech Duo-3SR
Interface Types & Speeds	eSATA - up to 3.0 Gbps Dual FireWire 800 (400 compatible) - up to 800 Mbps (-QR models only) USB 2.0 - Up to 480 Mbps USB 3.0: up to 5.0 Gbps (-3SR models only)
RAID Levels Supported	RAID 0 (striped) or RAID 1 (mirrored)
Drive Compatibility	All 2.5" SATA hard drives that are no more than 9.5mm high
Power Switch	2 position: on/off
Operating System Requirements	Windows 7, Vista, or XP Mac OS X Linux distributions using kernel version 2.4 or above
Compliance	FCC, CE, RoHS
Product Weight	1.65 pounds with drives, 1.05 pounds without drives (excluding accessories)
Product Dimensions	159mm L x 89mm W x 35 mm D
Warranty	2-year limited warranty. See warranty statement for details and limitations. We don't want anything to go wrong with your CRU product. But if it does, tech support is standing by and ready to help. Contact us at www.cru-dataport.com/technical-support/customer-technical-support.php

ToughTech is a trademark of CRU Acquisitions Group, LLC. Other marks are the property of their respective owners.
© 2010 CRU Acquisitions Group, LLC. All rights reserved.

Product Warranty
CRU warrants this product to be free of significant defects in material and workmanship for a period of two years from the original date of purchase. CRU's warranty is nontransferable and is limited to the original purchaser.

Limitation of Liability
The warranties set forth in this agreement replace all other warranties. CRU expressly disclaims all other warranties, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose and non-infringement of third-party rights with respect to the documentation and hardware. No CRU dealer, agent, or employee is authorized to make any modification, extension, or addition to this warranty. In no event will CRU or its suppliers be liable for any costs of procurement of substitute products or services, lost profits, loss of information or data, computer malfunction, or any other special, indirect, consequential, or incidental damages arising in any way out of the sale of, use of, or inability to use any CRU product or service, even if CRU has been advised of the possibility of such damages. In no case shall CRU's liability exceed the actual money paid for the products at issue. CRU reserves the right to make modifications and additions to this product without notice or taking on additional liability.

FCC Compliance Statement: "This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation."

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 when the equipment is operated in a home or 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 to 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 this own expense.

In the event that you experience Radio Frequency Interference, you should take the following steps to resolve the problem:

1. Ensure that the case of your attached drive is grounded.
2. Use a data cable with RFI reducing ferrites on each end.
3. Use a power supply with an RFI reducing ferrite approximately 5 inches from the DC plug.
4. Reorient or relocate the receiving antenna.



ToughTech™ Duo Quick Start Guide

For the full User Manual and more information about this product, please visit www.cru-dataport.com or www.wiebetech.com/techsupport.php.

Models Covered:
ToughTech Duo-QR
ToughTech Duo-3SR



1. Installation Steps

1.1 Installing Hard Drives

ToughTech Duo is compatible with 2.5-inch SATA hard drives that are no more than 9.5 millimeters in height.

- a. Push the ejection button, the handle will swing open.
- b. Remove the drive sled and swing the side arm out.
- c. Insert the drive with the label up, then close the side arm. Make sure the arm is flush with the drive.
- d. Secure the drive with the provided screws (optional).
- e. Slide the drive sled back into the unit.
- f. Close the handle and ensure that the sled is securely in place.



1.2 Connecting and Powering ToughTech Duo


Both models of ToughTech Duo can connect to your computer in multiple ways. Cables for all data connection types are included for your convenience. Choose one of these connection types to use and plug the corresponding cable into ToughTech Duo.

ToughTech Duo-QR can be bus powered through its FireWire connection. If not using bus power, plug in the power adapter to the unit and to a grounded electrical outlet. Switch the ToughTech Duo on.

2. Setting up a RAID

ToughTech Duo offers two options for RAID configuration, RAID1 and RAID 0, as well as Single-Disk Mode. Stop all data transfers before setting or changing RAID types or rebuilding a

degraded array. Failure to do so can result in the loss of data. To set up or change the RAID type, disconnect all data cables and reboot ToughTech Duo. After the unit has initialized, the LCD will display the drives' mode and status.

-  **2.1 Creating a New RAID** (use the LCD and interface buttons to complete this step)
(Follow these steps for setting up a new RAID if you did not purchase your unit pre-configured.)

WARNING: Any data on the new disk will be destroyed when the drive is added to the RAID.

- Upon insertion of new disks, the LCD will read "RAID Error: not a RAID set."
- Press the Enter button twice.
- The LCD screen will display "MAKE A NEW RAID?"
- Select "YES."
- Select your RAID type (RAID 0 or 1)
- The LCD screen will display "Will erase all data OK?"
- Select "YES." The RAID is now created.

2.2 Changing the RAID Type (use the LCD and interface buttons to complete this step)

- Press the Up button, for the "Change RAID Mode" screen.
- Press the Enter button.
- Press the Down or Up button to select the desired RAID type. The screen will display "Will erase all data OK?" (Ensure all data is backed up before continuing.) If data is backed up press Enter.
- The new configuration will be selected and ToughTech Duo will reboot.
- ToughTech Duo has been configured and is ready for operation.

3. LCD Messages

Hard drive status is reported as OK, No Disk, Unused, or Failing.

- OK – Indicates that the hard drive is in use or ready to use.
- No Disk – Indicates that the hard was removed or not installed.
- Unused – A new drive was installed and not added to the RAID.
- Failing – Indicates the drive is malfunctioning. Possible causes of a failure message include an inability to recognize the drive, a compatibility problem, or damaged sectors.

4. Adding a New Disk

4.1 RAID 1

In the event of a disk failure or removal for a RAID 1, the RAID will continue to function in a degraded state. Add a new disk to ToughTech Duo to rebuild the RAID.

After the new drive has been detected ToughTech Duo will ask to add a new disk. Press the Enter button to select "Yes" to add the disk. The disk will be added to the RAID and the RAID will begin to rebuild. The LCD screen will display the percent complete for the rebuild. Rebuild times vary; a 500GB hard drive takes just over 1.5 hours to rebuild.

4.2 RAID 0

Never remove a drive from a running RAID 0 as this will cause the loss of all data. In the event of a disk failure for a RAID 0, the RAID will be destroyed. Add a drive and then press the Up button to create a new RAID. Follow the display prompts to build a new array.

4.3 Single Disk Mode

In the event of a disk failure in single disk mode, all data will be lost. The single disk mode allows usage of a single hard drive. If a second drive is added later, it cannot be combined with the first disk, nor will it provide the option of two individual disks to be seen by the host computer. It will allow the option to create a new RAID using both disks, though this will destroy any data on both disks.

RAID is not a Backup

Because your ToughTech Duo features a redundant RAID mode which protects against a hard drive mechanical failure, it is an excellent part of any backup strategy. However, a RAID is not, in itself, a backup strategy. Many things besides hard drive failure can compromise your data (e.g. malware, theft, fire, etc.) That's why it's important to have another copy of your data somewhere else. Follow the 3-2-1 backup rule: your data should exist in three different places on two different storage media and at least one of those copies should be maintained offsite.

If you do not have an effective backup strategy, you may not be able to recover your data, or the cost of recovery may be quite expensive. Our warranty does not cover costs associated with data loss (nor do the warranties of other hard drive manufacturers). We know it would be heartbreaking to lose your data, so please plan accordingly!