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SeriTek™ /2eEN4

Four Bay Hot-Swap External Serial ATA Enclosure

User Manual

FirmTek, LLC
www.firmtek.com

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Before installing SeriTek/2eEN4 or any other hardware or software, you are responsible for backing up data contained on any storage devices. After hardware or software installation, you are responsible for backing up data on any storage devices at frequent intervals. FirmTek, LLC is not liable for any loss of data or damage to equipment resulting from the use of FirmTek products.

External Shielded Serial ATA Cables

SeriTek/1VE4, & SeriTek/1eVE4 host bus adapters use specially shielded external Serial ATA cables to ensure integrity during data transfers. These cables are not designed for heavy duty use. Use caution and handle the cables carefully. When inserting and removing the cable, hold the connector at the ends (not the cable) when inserting and removing the cable from the SeriTek/1VE4, or SeriTek/1eVE4 and external Serial ATA enclosure.

Note: *The SeriTek/1VE4 & the SeriTek/1eVE4 require newer style Serial ATA cables and connectors: This is because of a new external SATA cable/connector specification from the ATA Committee that defines a new "external" SATA connector, called eSATA. See "Connecting the Shielded Data Cables" section of this document for more details.*

If you will be using the SeriTek/2eEN4 with a Macintosh computer, please note that Macintosh computers require unique external shielded Serial ATA cables for maximum reliability. FirmTek Serial ATA cables were specially designed to be compatible with both PC and Macintosh computers. Please use only FirmTek external shielded Serial ATA cables with the SeriTek/2eEN4.

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I. Introduction

Welcome

Congratulations and thank you for purchasing the SeriTek/2eEN4 Serial ATA four bay hot-swap Serial ATA PCI-X external enclosure. This product is yet another innovative solution from the innovative folks at FirmTek.

About This User Manual

This user manual will introduce you to the SeriTek/2eEN4 enclosure. Please read it carefully and familiarize yourself with the proper operation of SeriTek/2eEN4.

About Serial ATA Technology

An evolutionary replacement for the Parallel ATA storage interface, Serial ATA (Advanced Technology Architecture) provides greater speed, simpler upgrades and easier configuration. Serial ATA is fully compliant with the ATA protocol and offers up to 300MB/sec performance compared to a maximum of 133MB/sec for Parallel ATA. Serial ATA devices can be hot-swapped (with most operating systems), something that is not normally possible with Parallel ATA devices. Serial ATA uses insulated cables that are thinner and longer with smaller 7-pin connectors.

About the SeriTek/2eEN4

The SeriTek/2eEN4 is a rugged, four-bay Serial ATA (SATA) external hard drive enclosure. It provides versatile hot-swap capabilities with virtually unlimited storage possibilities in a small form-factor package. Built from the ground-up as a true Serial ATA solution, SeriTek/2eEN4 features a case made of aluminum for maximum durability and heat dissipation.









SeriTek/2eEN4 extends Serial ATA's storage capabilities outside of the computer chassis with flexibility on par with USB 2.0 or FireWire 800 but with much higher 3.0 Gbps transfer rates. Serial ATA Hard drives can be swapped in and out of the SeriTek/2eEN4 enclosure within seconds.

Allowing for true end-to-end Serial ATA capabilities, SeriTek/2eEN4 is compatible with external PCI to Serial ATA host adapters such as SeriTek/1VE4 (using SATA I to eSATA external shielded data cable), or SeriTek/1eVE4 (using eSATA to eSATA data cables). The SeriTek/1VE4 and SeriTek/1eVE4 four-port host adapters, like the SeriTek/2eEN4 enclosure, are custom designed with four shielded Serial ATA ports which meet regulatory requirements for electrostatic discharge (ESD), electromagnetic interference (EMI) emissions, and susceptibility. This ensures that a good ground path between the cables and the connectors exists to prevent any ESD discharge during cable insertion or removal.


In contrast to competing solutions, the SeriTek/2eEN4 is designed with an innovative internal Serial ATA backplane that makes the installation and removal of disk drives very easy and provides maximum signal/data transfer quality.

Package Contents

Part number **SATA-2eEN4** includes:

One Four-Bay external Serial ATA chassis	
Four removable hard drive trays (pre-inserted)	
Two keys	
Sixteen hard drive countersink-style mounting screws	
Four clear rubber feet (Pre-installed)	
Four external shielded Serial ATA data cables eSATA, 1-meter each	
One power cord	
One CD-ROM containing the SeriTek/2eEN4 User's Manual	

Part number **SATA-2eVEN4** also includes:

One SeriTek/1eVE4 four-port external Serial ATA host adapter	
--	--

SeriTek/2eEN4 Highlights

- .. Expand storage without overloading the computer's power supply or increasing heat within its chassis
- .. A true native Serial ATA solution, no master/slave settings
- .. Integrated with a specially-designed Serial ATA backplane, no need for internal cabling
- .. Cross-platform, PC and Macintosh compatible, operating system independent
- .. Perfect for both storage-hungry and speed-sensitive applications
- .. Enough performance to handle multiple projects simultaneously
- .. Aluminum body for maximum durability and heat dissipation
- .. Choice of hard drive brands and capacities
- .. Easy to set up: Only 3 steps to integrate each hard drive
- .. Easy to operate: Simply unlock and move latch to add or remove drives
- .. Easy to transport: Compact, portable, sturdy

SeriTek/2eEN4 Applications

- .. Graphics arts
- .. Digital photography
- .. Computer Animation
- .. High-performance workstations
- .. File sharing over high-speed networks
- .. Digital audio/music composition, recording, editing, storage and playback
- .. Personal and professional high-definition digital video creation and editing

SeriTek/2eEN4 Features

- .. Provides physical tray lock and key security for each disk drive
- .. Kensington Security Slot
- .. Power and activity LEDs for each hard drive
- .. High-performance storage data transfer up to SATA 3.0Gbps (300MB/sec) per drive
- .. Faster than USB2.0, and FireWire 800
- .. Four hot-swappable 3.5" Serial ATA drive bay enclosure with removable trays
- .. Additional trays are available separately for virtually unlimited storage possibilities
- .. Built-in quiet exhaust fans for cool-running hard drives
- .. Surpasses rotational vibration and heat dissipation requirements of high RPM drives
- .. Fully RAID capable: Compatible with Operating System and host adapter based RAID solutions
- .. RAID arrays can span across multiple enclosures
- .. Works with PC and Macintosh computers with shielded Serial ATA ports running OS 8, OS 9, OSX, Windows 98/SE/ME/2000/XP/2003 and Linux

SeriTek/2eEN4 Specifications

General System Hardware Requirements	<ul style="list-style-type: none"> Compatible with external PCI, PCI-X to Serial ATA host adapters: SeriTek/1VE4, or SeriTek/1eVE4 RAID or non-RAID configurations
Operating Systems Supported	<ul style="list-style-type: none"> Operating system independent Cross-platform, PC and Macintosh compatible
Enclosure Capacity	<ul style="list-style-type: none"> Four 3.5" drive bays hot-swappable
External Connectors	<ul style="list-style-type: none"> 4-port shielded eSATA Serial ATA receptacles
Cables Supported	<ul style="list-style-type: none"> 7-pin shielded Serial ATA data cable, up to 1 meter in length
Hard Drive Types Supported	<ul style="list-style-type: none"> 3.5" Serial ATA hard drive Any capacity
Data Transfer Rates	<ul style="list-style-type: none"> Up to 300 MBytes/second or 3 Gbits/second burst data transfer rate per port
Advanced Data Features	<ul style="list-style-type: none"> Fully compliant with Serial ATA 3.0Gbps specification Four independent data channels allows for separate device timings Individual drive data transfers RAID-capable: Compatible with most operating system and host adapter based RAID solutions RAID arrays can span across multiple enclosures
Warranty	<ul style="list-style-type: none"> One year limited parts & labor
Enclosure Dimensions	<ul style="list-style-type: none"> 23.15 cm(L) x 18.28 cm(H) x 15.68 cm(W)
Enclosure Weight	<ul style="list-style-type: none"> Enclosure: 4.125 Kg (without hard drives)
Color	<ul style="list-style-type: none"> Anodized Aluminum – Silver Grey
Built in Heat Management System	<ul style="list-style-type: none"> Aluminum body for maximum durability and heat dissipation Two quiet exhaust fans 60x60x10mm FAN & TEMP status with LEDs & Audible alarm when faulty fan or internal temperature over 55°C Mute-able Alarm Green LED or no Audible alarm Red LED or Audible alarm
Power On Self Test Beeps & FAN LED	<ul style="list-style-type: none"> When you first turn the SeriTek/2eEN4 power switch on, you will hear several short beeps & the FAN LED will turn Red for an moment: Don't Worry this is Normal, the system is performing a Self Test
Other Status LEDs	<ul style="list-style-type: none"> Enclosure Power on PWR – White Disk drive Power on LED on each tray – White Disk drive activity LED on each tray – Blue (Disk activity LED not supported on all disk drives)
Power Input: Enclosure	<ul style="list-style-type: none"> 90 – 230 VAC 50 – 60 Hz 150 W
Environmental	<ul style="list-style-type: none"> Temperature: +5°C to internal temperature of +55°C. Internal enclosure TEMP Fault at 55°C
EMC Compliance	<ul style="list-style-type: none"> EN55022/1998, EN55024/1998 (European Community) FCC Part 15 Class B (US)

SeriTek/2eEN4 System Requirements

Hardware Requirements

- SeriTek/1VE4, or SeriTek/1eVE4 four-port external host adapter or other external Serial ATA adapter with shielded Serial ATA receptacles
- 3.5" Serial ATA hard drive
- RAID or non-RAID configurations
- Available 90-230VAC, 50-60Hz power

Materials Required

- Standard medium-sized Phillips screwdriver

II. Preparing the SeriTek/2eEN4



Caution:

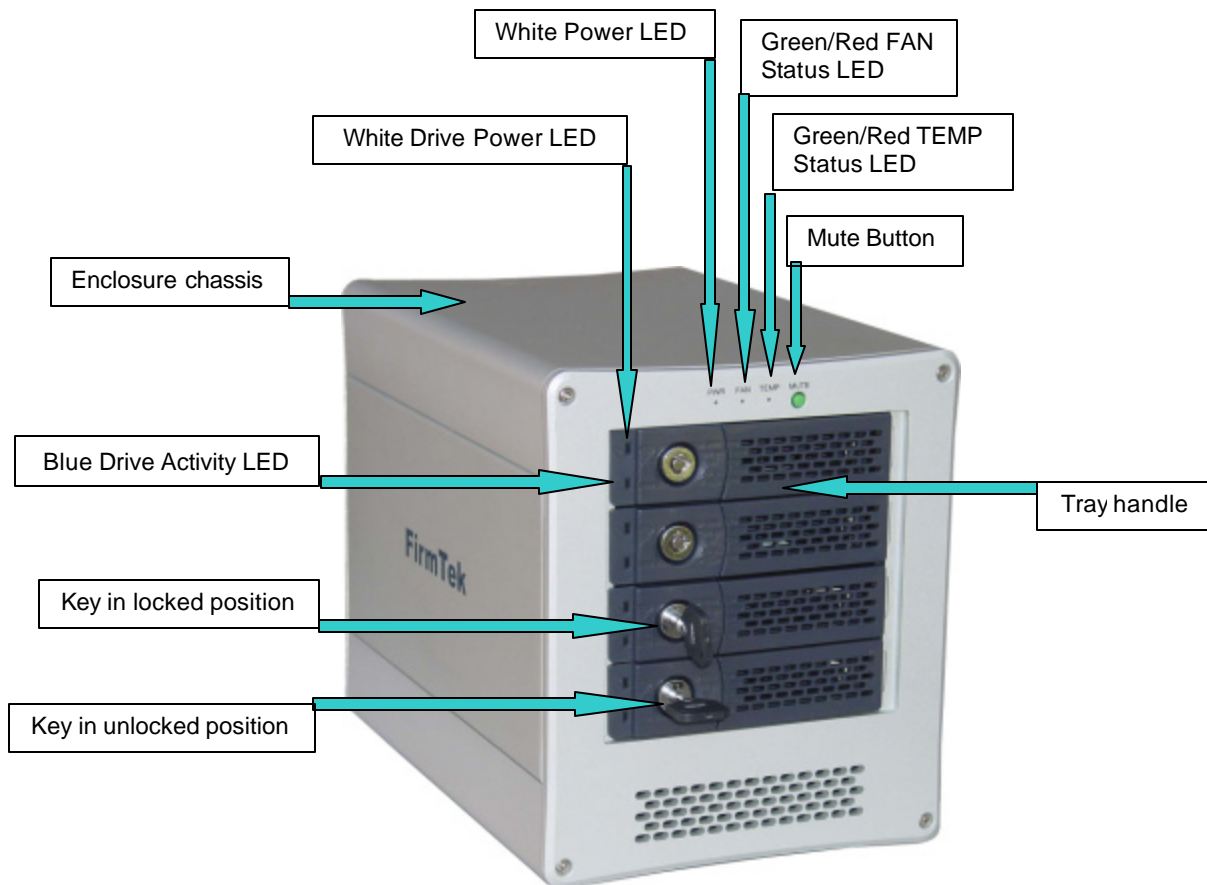
Please make sure your data is backed up before attempting to use the SeriTek/2eEN4 external enclosure.

Your SeriTek/2eEN4 enclosure, hard drive and computer contain sensitive components that can be permanently damaged by Static Electric Discharge. Be sure you're working in an area free of static electricity to prevent them from being damaged. Use a wrist grounding strap if you have one or regularly touch a metal part of the computer chassis such as the power supply case or a port access cover to discharge any built-up static electricity from your body. Make sure to handle your hard drives around its edges to avoid damage by static electricity.

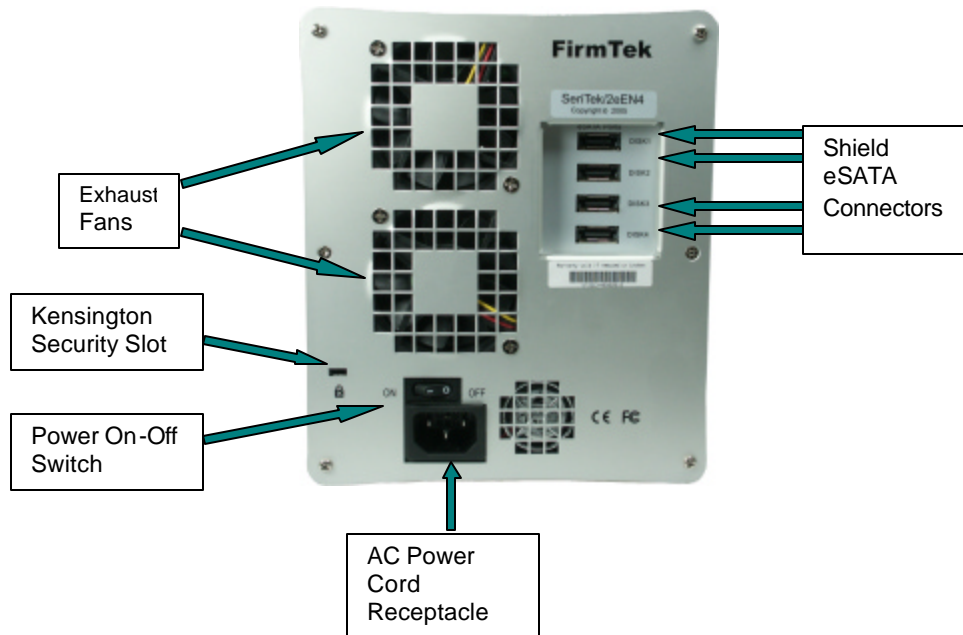
Introduction

This section describes the proper method of preparing your SeriTek/2eEN4 for use. Please review this section and familiarize yourself with the SeriTek/2eEN4 enclosure before installing hard drives and connecting it to your computer.

Front view of the SeriTek/2eEN4 enclosure:



Rear view of the SeriTek/2eEN4 enclosure:

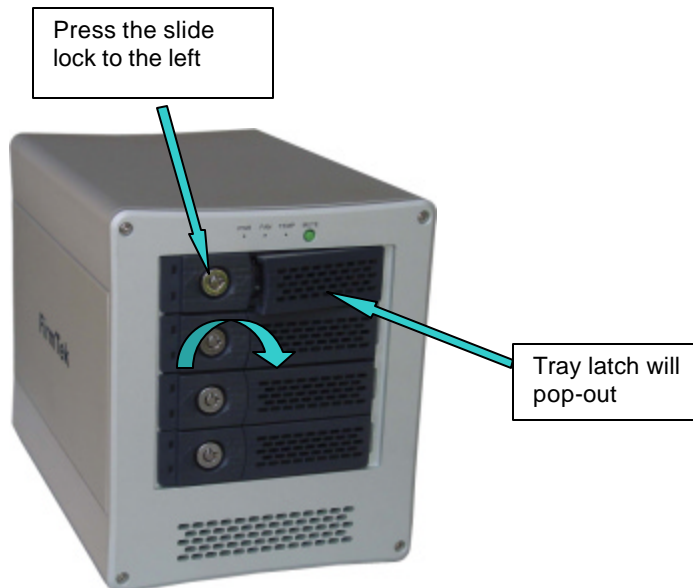


Hard Drive Installation

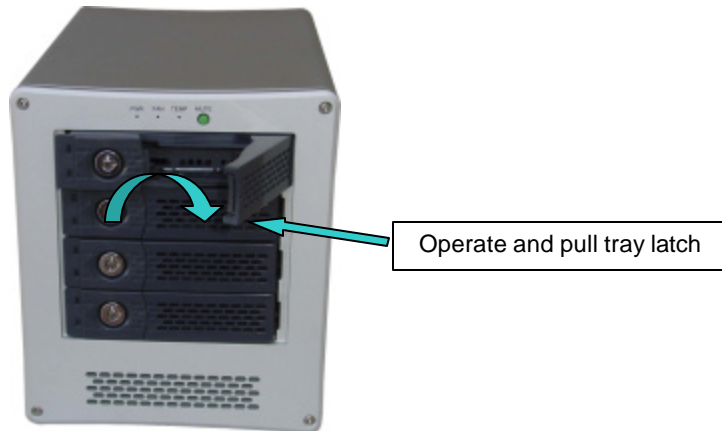
There are three steps to install a hard drive.

1. Remove a tray from the enclosure

- On the front side of the tray, press the slide lock to the left (on the left side, where the key hole is) to release the tray latch:

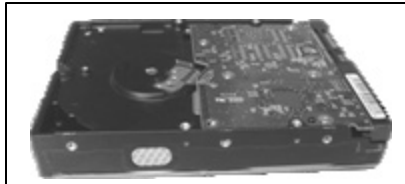


- .. Pull the tray latch forward, then pull out the tray:



2. Attach the hard drive to the tray

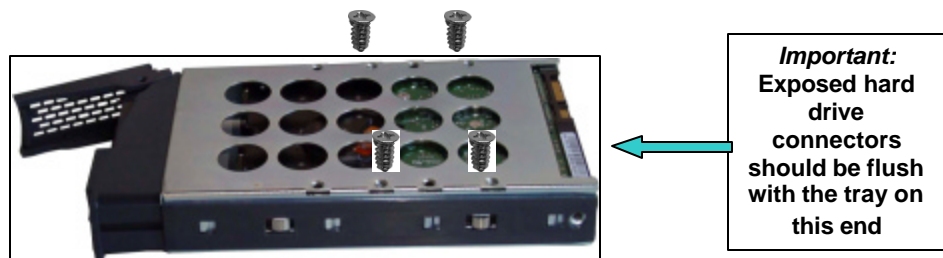
- .. Place your hard drive on a flat surface with the printed circuit board/circuitry facing up:



- .. Position the tray over the hard drive and align the four screw holes on the drive to the countersunk screw holes on the tray. The connectors on the back of the hard drive must be aligned with the back of the tray (to the right in the picture below):

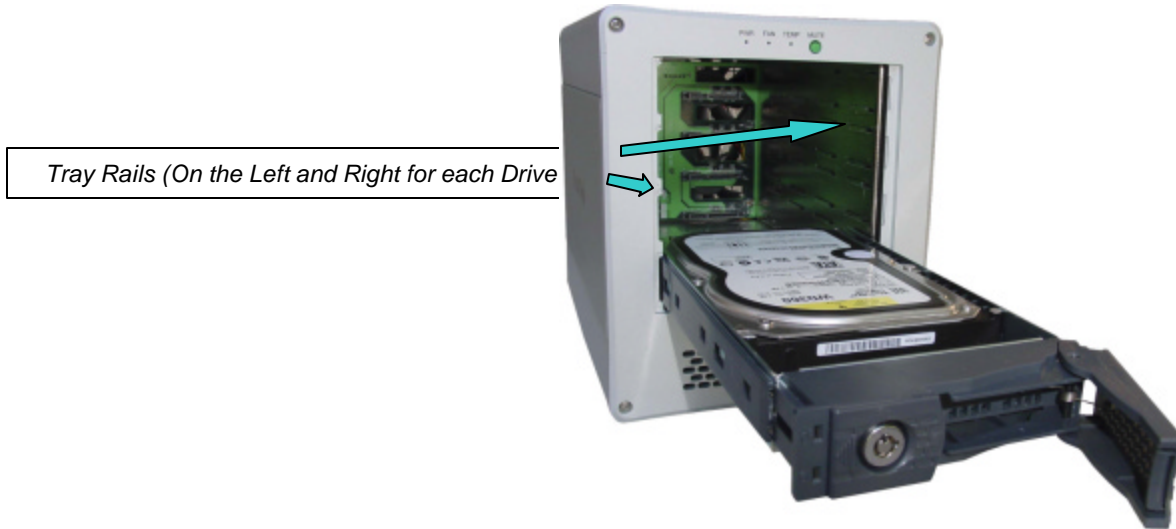


- .. Attach the hard drive to the tray with the four supplied countersink-type screws (do not over tighten):

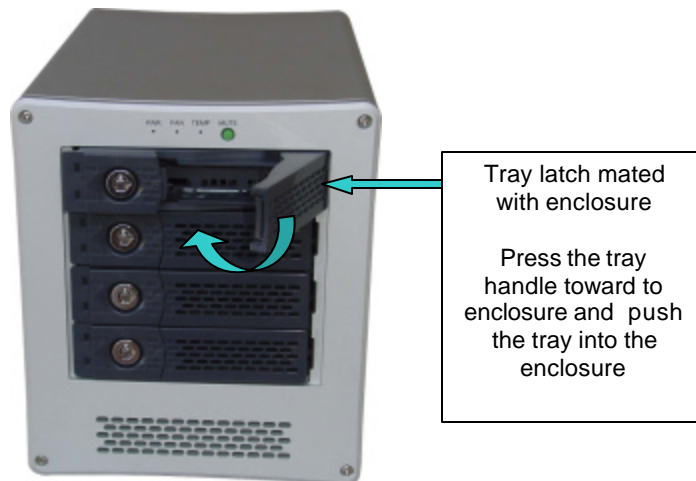


3. Insert the drive tray into the enclosure

- There are four sets of tray rails inside the SeriTek/2eEN4 enclosure, on the left and right sides of each of the four slots: 1 (top), 2 (second from the top), 3 (third from the top), and 4 (the bottom slot).
- Position the tray with the hard drive between the tray rails and carefully slide it into the enclosure:



- Holding the handle out, press the tray into position. The tray is ready to be secured and locked into position:

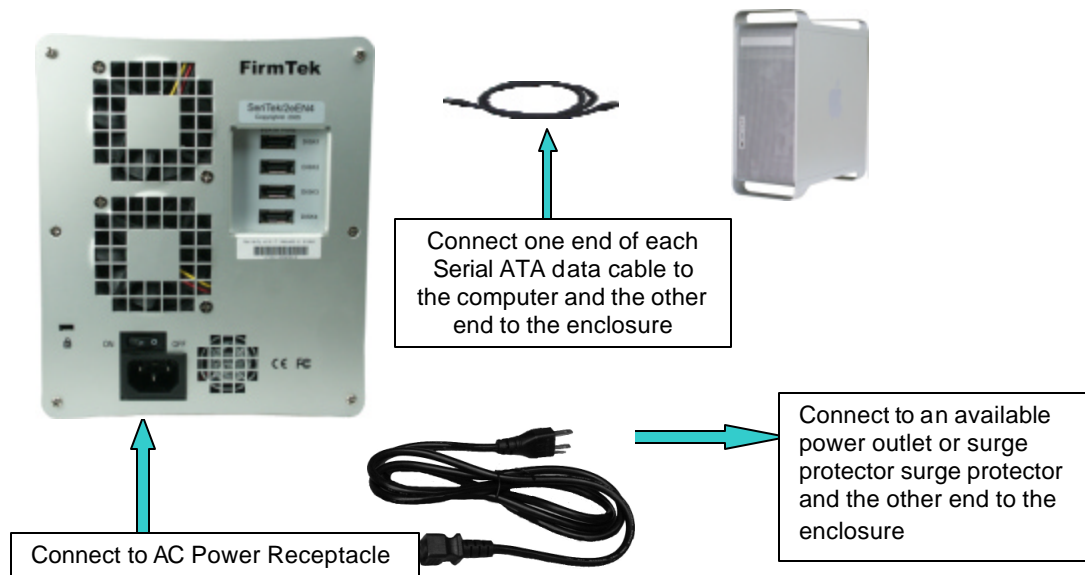


- Carefully push the tray into the enclosure while pressing the tray latch in. This will lock the tray and hard drive into position. **Note:** *This is a critical step. If there is any resistance, ensure the tray is positioned properly as shown in the previous step, and that the hard drive was properly attached to the tray. Damage can occur to the hard drive and enclosure if they are not installed properly.*

Repeat the same procedure to install additional hard drives

If fewer than four drives are to be installed, keep the empty trays inserted in the enclosure to ensure proper airflow.

Connecting the Shielded Data Cables and Power Adapter



Note: Macintosh computers require unique external shielded Serial ATA cables for maximum reliability. FirmTek Serial ATA cables were specially designed to be compatible with both PC and Macintosh computers. Please use FirmTek external shielded Serial ATA cables with the SeriTek/1VE4 or SeriTek/1eVE4



Caution:

- Using SeriTek/1VE4 with SeriTek/2eEN4: Requires SATA I “**L shaped**” **connector** to eSATA “**I shaped**” **connector** external shielded data cable. Just like the 2 connectors shown in below Figure 2
- Using SeriTek/e1VE4 with SeriTek/2eEN4: Requires eSATA “**I shaped**” **connector** to eSATA “**I shaped**” **connector** external shielded data cable. Just like the 2 connectors shown in below Figure 3

Note:

- The original Serial ATA (Type A SATA) connectors have an L shaped opening, See Figure 2A.
- The newer “eSATA” connectors have a rectangular opening, See Figure 2B..

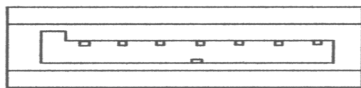


Figure 2A: “L shaped” connector

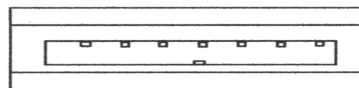



Figure 2B: “I shaped” eSATA connector

Figure 2: Serial ATA Connector Types: “L shaped” & “I shaped” eSATA



Figure 3: Serial ATA Cable Connectors Shipped with the SeriTek/2eEN4, both ends of the cable have eSATA connector types

Making the SATA Connections:

 **Caution:** Be sure to connect the cable using the proper orientation to your SeriTek host adapter and external enclosure. It should easily snap into place. Please do not force the cable connector onto the host adapter and hard drive or peripheral interface.

Remember that male and female connectors must be of the same type for them to fit: L-shaped female to L-shaped male or eSATA female to eSATA male.

- First check that you are connecting the correct type of connectors to each other
- If your connectors still do not fit, rotate the cable and try again

Front Panel Status LEDs

Power-On Self Test, Test/Fault Beeper, & Mute Button

On the front of the SeriTek/2eEN4 Four-Bay Enclosure there are 3 status lights (PWR, FAN, & TEMP), and a MUTE button. There are also status lights on each disk drive tray: a white light (top) and a blue light (bottom). Look at Table 1, the Status Light & Test/Fault Beeper Function Table on what these lights mean:

PWR	FAN	TEMP	Beeper	Top White Tray Light	Bottom Blue Tray Light
White = On	Green = OK	Green = OK		On = Drive Powered On	Flashing = Drive Access
	Flashes Red Briefly during Power-On Self Test		Beeps quickly during Power-On Self Test		OFF = Disk Drive does not support activity light
	Constant Red = Fan Not Spinning	Red = Temperature Over 55°C	Constant Sound = Fault		

Table 1: Status Light & Test/Fault Beeper Function Table

Immediately after powering on, your SeriTek/2eEN4 Four-Bay Enclosure performs a Power-On Self Test. During this self test the Test/Fault Beeper will beep several short beeps & the FAN LED will turn red for a moment: Don't worry this is Normal, it is how the self test was designed.

If one of the two fans in your SeriTek/2eEN4 fails (or spins slowly) the FAN status light will turn Red & the Beeper Alarm will stay on continuously. **FirmTek recommends if a fan fails, replace it as soon as possible.** At this time pressing the Mute button will turn the Beeper off, if however the second fan fails the Beeper Alarm will stay off.

If the temperature within the enclosure rises above 55°C, the TEMP LED will turn Red and the Beeper Alarm will sound continuously, indicating an over-temperature FAULT.

Note: If the Beeper Alarm was turned off (muted) after a fan failure & the enclosure temperature then increased above 55°C, the Beeper Alarm will turn again sound continuously & the TEMP LED will turn Red indicating an over-temperature FAULT.

Note: The Beeper Alarm can also be turned off by pressing the Mute button; FirmTek, however recommends that the SeriTek/2eEN4 not be used when there is an over-temp condition: In such a case, shutdown your SeriTek/2eEN4 until the over-temp condition is resolved.

III. Hot-Swapping Hard Drives

Introduction

The SeriTek/2eEN4 external enclosure extends Serial ATA's storage capabilities outside of the computer chassis. Serial ATA Hard drives can be swapped in and out of the SeriTek/2eEN4 enclosure within seconds.

While hard drives may be easily inserted and removed, some operating systems do not support the removal and addition of hard drives while the computer is running. Hot-swapping hard drives on the Macintosh computer is only supported when utilizing FirmTek's SeriTek/1VE4, or SeriTek/1eVE4 external host adapters that include advanced hot-swap capabilities. Windows 2000, Windows XP, and Windows 2003 hot swapping is supported when a special procedure is followed (described below under "Windows Hot-Swap Procedure").

General Hot-Swap Guidelines

- .. Do not disconnect or remove hard drives while transferring data.
- .. Save your work and close associated applications before removing the external hard drive (applications need to be closed since they may keep temporary working files open on the external hard drive).
- .. Always unmount the volumes (eject, disable, or drag the volumes to trash) associated with an external hard drive before removing it.
- .. As a general rule, power down the SeriTek/2eEN4 external enclosure after powering down the computer. Power on the external enclosure before powering on the computer.
- .. If RAID volumes span internal and external hard drives, do not attempt to remove and insert external hard drives that partially support the RAID volume or data loss may occur. An example is a RAID volume that spans hard drives located within the computer chassis and the SeriTek/2eEN4 external enclosure.

Macintosh Hot-Swap Procedure with the SeriTek/1VE4, or SeriTek/1eVE4 External Four-Port Host Adapter

The hot-swap procedure is the same for both Macintosh OS 9.XX and 10.1.5 and later.

Connecting External Hard Drive(s)

If your Macintosh computer is not yet powered on, power on the external enclosure then power on the computer. If the Macintosh computer is already powered on, you may power on the external enclosure and insert the hard drives. When you connect the first hard drive, you will see a "SATA Configuration Changed" window. If this is the only hard drive you connect, you may select "OK" in the dialog box. If you have an additional hard drive to connect, connect it and then select "OK" in the dialog box.

Removing External Hard Drive(s)



Caution: To prevent loss of data, save your work and close associated applications before removing the external hard drive (applications need to be closed since they may keep temporary working files open on the external hard drive). Always unmount the volumes (eject or drag the volumes to trash) associated with an external hard drive before removing it.

Eject or drag all of the volumes associated with the hard drive(s) before disconnecting or removing them. When removing a hard drive you will see a "SATA Configuration Changed" window. If this is the only hard drive you remove, you may select "OK" in the dialog box. If you have an additional hard drive to remove, remove it and then select "OK" in the dialog box.

Windows Hot-Swap Procedure

Hard drives may be hot-swapped under Windows 2000, Windows XP, and Windows 2003.

Note: Hot-swap functionality is not available for Windows 98/98SE/ME; please shut down the system before adding or removing hard drives when using these operating systems.



Caution: To prevent loss of data, save your work and close associated applications and directory folders before removing the external hard drive (applications need to be closed since they may keep temporary working files open on the external hard drive).

Hot-Swap Procedure

- .. Bring up the Windows Device Manager: Right-click on *My Computer*, click *Manage*, and then click *Device Manager*.
- .. Go to *Disk Drives* and find the disk you want to remove.
- .. Right click on the desired disk drive and select *Remove/Disable*.
- .. After performing this operation, you can remove the hard drive without risk of losing any data that is currently stored in cache memory.
- .. To reconnect the external hard drive, reconnect it and Windows will automatically detect it.
- .. If you are re-attaching a hard drive after the remove/disable operation as explained above, you must make sure that the hard drive is power cycled before reconnecting it (Removing, waiting a few seconds, and reinserting the hard drive into the SeriTek/2eEN4 external enclosure will effectively power-cycle the drive. If several drives were removed/disabled, then the external enclosure itself may be power-cycled).

IV. Sleeping & Wake-UP Procedures:

When you wish to sleep or shutdown the system & SeriTek/2eEN4:

1. Dismount the volume: On a Mac dragging the volume to the trash causes the trash icon to change; dropping the volume there dismounts the volume.
2. Put the system into Deep Sleep, or shutdown normally.
3. Turn off the SeriTek/2eEN4 enclosure.

When you wish to Wake-Up to Turn-On your System:

1. Turn on your SeriTek/2eEN4 enclosure.
2. Wake-Up or Turn-On your System normally.

At this point your system should automatically load, then discover, and mount your volumes

V. Troubleshooting

- **My hard drive isn't recognized**

Check cables and connections. Ensure the 7-pin Serial ATA cable is properly oriented to the connectors on the computer and the external enclosure. Ensure the enclosure is properly powered.

- **The transfer rate on my Power Macintosh 8500 seems less than the Serial ATA specified maximum of 150Mbytes/sec.**

Early Power Macintosh computers, typically built before the "beige G3" was available, have limited hardware resources. These limited resources severely limit data transfer rates of many storage technologies, including Serial ATA.

- **Does the SeriTek/2eEN4 work with all Power Macintosh computers?**

No, SeriTek/2eEN4 only works with Power Macintosh computers with at least one PCI slot available. If your system lacks PCI slots you cannot use SeriTek/1VE4, or SeriTek/1eVE4.

- **My older Parallel ATA hard drives and peripherals have jumper settings. However I can't find jumper settings on my new Serial ATA hard drive or peripheral. How can I set it to Master or Slave; is there any way to set the SCSI ID?**

Serial ATA hard drives and peripherals are internally configured as Master drives. Only one drive can be attached to each Serial ATA bus/connector. There is no need to change settings on either the drive or the controller.

- **I have an old Parallel ATA drive which I am trying to use with a Parallel ATA to Serial ATA converter, but it doesn't seem to work.**

Some older Parallel ATA drives do not comply with current ATA standards. Parallel ATA to Serial ATA converters cannot recognize such drives.

VI. Product Support

Technical Support

For additional information on how to use SeriTek/2eEN4, download the latest firmware updates, or for technical assistance, please visit us at www.firmtek.com, or email us at support@firmtek.com.

Please provide the following information when contacting us:

- Product model and serial number
- Computer model
- Computer OS type and version (example: Mac OS X, version 10.2; Windows 2000 or Windows XP)
- Hardware and software installed on your system
- Contact information including daytime telephone number and email address
- A detailed description of the question or problem

Return Merchandise Authorization

If FirmTek technical support determines the product needs to be repaired or replaced, a Return Merchandise Authorization (RMA) number and shipping address will be provided. Please pack in the original shipping container all of the original packaging - including the static bag, all hardware, software, cables, and other accessories that came with the original product. You are responsible for shipping and insurance costs, and any damage incurred due to improper packaging or transport.

FirmTek reserves the right to determine whether the product is to be repaired or replaced with new or refurbished parts, or with a new or refurbished product. Standard United States return shipping charges will be paid by FirmTek. Foreign and other shipping methods such as express shipping are available for an additional charge.

Write down the RMA number on the outside of the shipping container, and include the following information with the shipment:

- A description of the problem
- A copy of the original purchase invoice
- Return shipping address
- Contact information including daytime telephone number and email address

FirmTek, LLC reserves the right to refuse shipments missing a valid RMA number.

VII. Product Warranty and Disclaimers

FirmTek warrants to the original buyer only that this product shall be free from defects in material and workmanship for a period of one year from the original date of purchase. This warranty is valid only when the original purchase invoice is provided. This warranty shall not apply to any defects resulting from improper handling, misuse, misapplication, abuse, or unauthorized modification(s) which are performed by end user.

FirmTek, LLC reserves the right to make changes to any products described in this manual at any time without notice. FirmTek, LLC assumes no responsibility for the use or reliability of hardware or software that is not supplied by FirmTek, LLC or its affiliated companies. FirmTek, LLC does not assume any responsibility or liability arising out of the application or use of any product described in this document, except as expressly agreed to in writing by FirmTek, LLC; nor does the purchase or use of a product from FirmTek, LLC convey a license under any patent rights,

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VIII. Regulatory Compliance Statements

Federal Communications Commission Radio Frequency Interference Statement

WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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 instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. However, if this equipment does cause interference to radio or television equipment 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 equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.
- Use a shielded and properly grounded I/O cable and power cable to ensure compliance of this unit to the specified limits of the rules.

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.

CE European Union Compliance Statement

EMC compliance:

Emissions: EN55022: 1998, Class B

Immunity: EN55024: 1998

EN61000-4-2: 1995+A1: 1998

EN61000-4-3: 1995+A1: 1998

EN61000-4-4: 1995

EN61000-4-6: 1996

EN61000-4-8: 1993

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