

# Granite Storage Newsletter

Letter from the President

LCD Hot-Swap

Volume 14 Winter 2008

2008 looks like it's going to be a fantastic year for technology related products. Storage is continuing its pace for larger, faster, bigger, and more affordable solutions. With the recent introduction of the 1 Terabyte Drive Mechanisms, drives have never been a better value. It's really affordable to make as multiple backups of your critical data and store them on hard drives. This guarantees your data will be safe, redundant, sharable, shippable, and available when you need it.

Our full line of SATA Hot-Swap Systems offers the unique feature of being able to make as many copies as wanted, when it's wanted, without turning the computer off or interrupting other things the computer is doing. With the use of the OS or a simple backup program making copies and then removing and storing them is quick and easy.

For those customers who are looking for a simple way to upgrade their internal drive, our USB to SATA or IDE Bridge Adapter Kit is the perfect solution. It's an affordable, \$39.95 kit, that provides everything needed to duplicate any drive... laptop or workstation. In emergencies it will plug into any computer and allow for the retrieval of important data from the drive mechanism. It can also work with many DVD and CD-ROM mechanisms providing even greater solutions when emergencies arise.

Call our new toll free number to order any of our products, 888-819-2190.

**Granite**  
**D•I•G•I•T•A•L**  
Providing Data Storage Integrity

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**Full 4000 Gigabytes and Hot-Swap!**



This RAID or JBOD System offers Hot-Swap Drive Bays which can be removed and replaced with the computer powered and running.

Additional Trays provide unlimited storage capabilities. Just swap in new drives when they are needed.

LCD monitors Drive Temperature and Fan RPM. Built-in alarm guarantees that the drives will not get damaged.

## Our SATA LCD Hot-Swap RAID 5 is very fast, affordable, offers reliability and versatility

RAID compatibility, unlimited storage, and data protection is what these SATA Hot-Swap 4-Bay Systems offer. Now inexpensive SATA (Serial ATA) drives can be used in our SATA Hot-Swap Trays and as much storage as is required can be dedicated for backup, DV, AV, database application, and all other types of storage needs. To add more drives simply buy extra trays as needed. The trays are inexpensive and offer the best solution for large storage needs. These systems can also be configured for RAID using the OS's RAID capabilities.

The heart of these SATA Hot-Swap Systems is our unique Aluminum Tray technology that allows SATA drives to be inserted or removed while the computer is running and the power is on. The system operates very much like a floppy drive with the exception that the amount of storage is thousands of times larger. We support true

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## LCD Hot-Swap

ATA-6 specifications giving us compatibility with all the new larger drive mechanisms.

Making additional copies of important data can easily be accomplished by simply inserting two drives and copying from one to the other. This allows for duplicates that can be transported anywhere in the world. This is the most logical way of moving Gigabytes of data from one location to another.

These units come complete with everything needed including two 3' shielded SATA cables and a power cable (no software needed for Macintosh, Win 98SE, ME, 2000, and XP). \*\*\* Note, not all host adapters support the Hot-Swap functionality.



SATA Aluminum Drive Tray

The heart of these Hot-Swap Systems is the LCD Tray... extras are only \$29.95

### SATA LCD Hot-Swap Product Line



Part #	Description	Each
2110	SATA 4 Drive Hot-Swap Case Kit (just add the drive)	578.00
8720	Additional Hot-Swap Tray	29.95
2360	Padded Carrying Case for Tray	9.95

## Emergency Copy USB to IDE or SATA Adapter

### Working with drive mechanisms has never been easier... Emergency Copy to the rescue



Power Supply connects to both SATA and IDE Power.

Just \$39!

Emergency Copy plugs into any USB port on virtually all computers.

The Granite USB to SATA / IDE Bridge Adapter is the perfect tool for quickly duplicating, copying, or transferring large amounts of data to or from any SATA or IDE drive mechanism. The built-in USB 2.0 port connects to any computer and quickly (480Mbps) moves data to or from any Win, Mac, or Linux system.

The Complete Kit includes everything needed to connect 2.5", 3.5", or 5.25" mechanisms and are small, lightweight, and easy to take anywhere. The Switched Power Supply has dual outputs for both IDE and SATA Drives. The Auxiliary Power Cable supports all Floppy and other storage devices.

The Complete Kit includes everything needed to connect 2.5", 3.5", or 5.25" mechanisms and are

### Standard USB to SATA IDE Kit Components



Bridge Adapter



SATA & IDE Power Switched Outputs



### Deluxe Dual USB to SATA IDE Kit Components

(everything needed to duplicate drives quickly and easily)



Two Bridge Adapters



Auxiliary Power Cable



Two Power Supplies



USB 2.0 4 Port Hub



Padded Carrying Case

Part #	Description	Each
8240	USB Bridge Adapter Standard Kit	39.95
5690	USB Bridge Adapter Deluxe Kit	99.95

## Extending FireWire Cables using Hub / Repeaters



There really isn't a mystery associated with making FireWire go a long distance if you stick to some simple techniques and rules. With the use of our Triple Shielded Gold Cables and Powered HUB / Repeaters, creating long cable runs is quite easy.

Let's start this by talking about some general limitations of FireWire. In theory the cable limit of a FireWire bus is 16'... this figure comes from the IEEE 1394 specification which

Granite manufacturers all of it's cables to provide this superior quality. Along with extra shielding we incorporate gold connectors, ferrite beads (for noise suppressions) and extra heavy duty construction. The product line includes cables up to 32' long in a variety of connector configurations.



What happens when 32' just isn't long enough? Hub / Repeaters can double the cable length, even triple it in some cases. These devices bring in the signals from the cable and regenerate them and ship them back out again. This repeater action allows for longer cable lengths.

There is a limitation however and it depends on the speed and sensitivity of the devices that are being connected to the Hub / Repeater. This is because the Hub / Repeater, while rejuvenating the signals, adds a small delay. If this delay is beyond the capability of the connected devices the system will simply not operate. Unfortunately this is more a trial and error type exercise than a precise science. In other words, you have to test the solution and possibly try different methods in order to achieve success and in some cases realize that what you are trying to do is impossible with this technology.

Our experience is most camera's and digital capture equipment graciously accept these delays and one or two Hub / Repeaters can be used. Hard Drives and RAID Systems often do not work with multiple Hub / Repeaters. This is because they transfer sustained data at a higher rate



Auxiliary Power Source

This FireWire 800 1394B HUB allows connections of up to 6 devices. They can also be wired together to offer unlimited capabilities. Power Supply guarantees proper operation of many devices at the same time and rejuvenates the lines.

and the delay can stop that rate from being achieved.

To test a potential system set-up first start by trying to achieve the desired length by using a cable only. If the length of the set-up is longer then pick two cables and one Hub / Repeater to do the job. If two Hub / Repeaters are needed use as close to equal cable lengths. This is a trial and error test, each device is different and there are no guarantees.



Part #	Description	Each
1135	6 Port 1394A FW 400 Hub w/ PS	69.00
2381	6 Port 1394B FW 800 9 pin w PS	99.00
1230	4 Pin to 4 Pin no LED .....16'	59.00
1275	4 Pin to 4 Pin no LED .....32'	89.00
1820	4 Pin to 6 Pin w/ LED .....16'	59.00
1830	4 Pin to 6 Pin w/ LED .....32'	89.00
2140	6 Pin to 6 Pin w/ LED .....16'	59.00
2320	6 Pin to 6 Pin w/ LED .....32'	89.00
2491	4 Pin to 9 Pin 1394 B .....16'	69.95
2420	4 Pin to 9 Pin 1394 B .....32'	89.95
1154	6 Pin to 9 Pin 1394 B .....16'	69.95
1276	6 Pin to 9 Pin 1394 B .....32'	89.95
5872	9 Pin to 9 Pin 1394 B .....16'	89.95
5560	9 Pin to 9 Pin 1394 B .....32'	99.95



This FireWire 400 1394A HUB / Repeaters allows connections of up to 6 devices. The perfect solution for longer cable needs...simply plug in one of our units and double your cable length. They can also be wired together to offer unlimited capabilities. Power Supply guarantees proper operation of many devices at the same time and rejuvenates the lines.

standardizes on simple shielded cables that do not provide a super high degree of noise suppression or shielding from EMI and RFI noise. That being said, a better cable can double that distance... 32' can be used with total reliability as long as the cable materials and manufacturing uses superior components and design techniques.

## Drive Shields



Working with unprotected drive mechanisms is anything but safe. These mechanisms were designed to be installed into computers or external storage systems that protect them from short circuits, static electricity, and shock. But if you intend to use them externally without this type of protection something is needed to make sure they don't fail. Our Drive Shields are made of non-conduction silicon rubber. Simply slide the drive mechanism into the Drive Shield and it can then safely be used or transported.

We have designed an opening for all connectors and jumpers which allows a power connectors, data cables, and jumper setting to be changed without having to remove the Drive Shield.



Drive Shields silicon rubber design makes it easy to slide a drive into them. The opening provide enough clearance for cables, power connectors, and jumper settings.

- Durable
- Reusable
- Anti-Static
- Light Weight
- Non-Conductive
- Impact Resistant
- Protects Circuitry
- Safely Transports Drive Mechanisms



Drive Shields come two to a package, 1 for 2.5" drive mechanisms and 1 for 3.5" drive mechanisms.

Part #	Description	Each
4205	Drive Shields, 2.5" & 3.5" Kit	9.95

## SATA Hot-Swap Backup Systems

There has been a lot of mention lately, on radio, TV, and in magazines on the importance of backing up. Recently many companies provide internet services allowing what they call quick and easy backups on the internet. They talk about the importance of backing up your data and how they are the solution that you need. I agree and disagree with the statements being made and here is why.

First off making backups is important, it is something everyone should do and it is something that can be made to be quick and easy. I can't tell you how many customers we have



talked to in our years of doing business that simply lost all their data because then didn't back it up. Most of the time it was because the process seemed complicated or took too much time. But today, with the incorporation of backup programs and the design of products like our Hot-Swap drives, backing up data is quick and simple.

The argument I have with the companies that provide backup on the internet is what they don't tell you. The amount of time to download or upload a companies data can be hours or days depending on the amount of

data stored. When data is lost, time is the most important thing there is... you need to restore the system and get it up and running in the least amount of time. The way to do this is by using a backup system like ours. You have all your data on duplicate copies of hard drives that transfer it back to your computer in minutes... not hours or days. These services do not offer the speed, versatility, or security that you have by doing local backups.

The success of our SATA Hot-Swap Backup Systems is due to the fact that they are easy to use, easy to install, and affordable while giving our customers complete control of their data.

The heart of these SATA Hot-Swap Systems is our unique Aluminum Tray technology that allows SATA drives to be inserted or removed while the computer is running and the power is on. These Trays are also so efficient they provide enough cooling that fans are not needed. This eliminates the problems associated with overheating when fans stop working. The system operates very much like a floppy drive with the exception that the amount of storage is thousands of times larger. We support true ATA-6 specifications giving us compatibility with all the new larger drive mechanisms.

Making additional copies of important data can easily be accomplished by simply inserting two drives and copying from one to the other. This allows for duplicates that can be transported anywhere in the world. This is the most logical way of moving Gigabytes of data from one location to another.



SATA Aluminum Drive Tray

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