

# Owner's Manual

**Granite**  
D•I•G•I•T•A•L



## **USB 2.0 to SATA / IDE Bridge Adapter**

**Win, Mac, Linux**

**Universal USB to SATA / IDE Drive Bridge Adapter and Kit**

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## Included in the Kit

The Granite USB to SATA / IDE Bridge Adapter Complete Kit includes the items listed below. The Bridge Adapter and Power Supply can also be purchased separately.

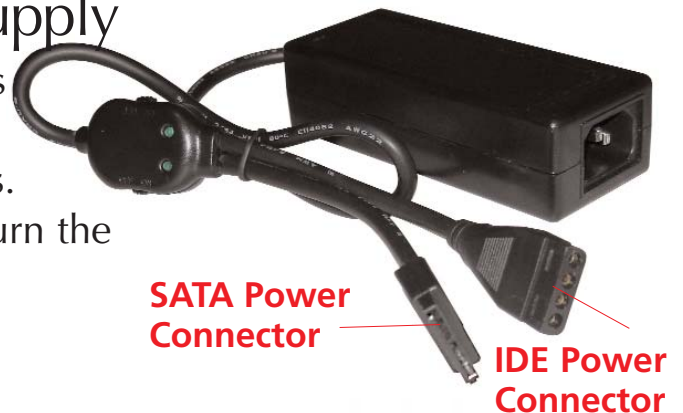
### USB to SATA / IDE Bridge Adapter

The Bridge Adapter is powered from the USB bus. It can connect to three different types of drive mechanisms. SATA drives connect to the small SATA patch cable. This cable can be replaced with a longer cable should it be required. IDE drives connect through the 2.5" connector or the 3.5", 5.25" connector.



### Dual Output Drive Power Supply

The Dual Output Power Supply provides standard 4 Pin power output and new SATA power output switched connectors. Plug the drive mechanism in and then turn the switched power connector on.



### AC Power Cable

Uses standard IDC Connector (like computers) to connect to AC outlet. Generic international cables can be substituted for 220v operation.



### Auxiliary Power For Floppy Drives

The Auxiliary Power Cable provides power to small 4 pin powered devices like Floppy Drives. This cable also provides additional 4 pin pass through power for bridge boards or other devices.



## Bridge Features

The USB Universal Bridge Adapter provides three different drive connectors. The 7 pin connector allows any SATA mechanism to be used. The 2.5" IDE connector works with all small laptop mechanisms. The 3.5" or 5.25" large IDE connector provides connectivity to all IDE / ATA Atapi type mechanisms. These mechanisms should be set to (master without a slave) in order to function properly. The USB 2.0 connector is backwards compatible with slower version 1.1.



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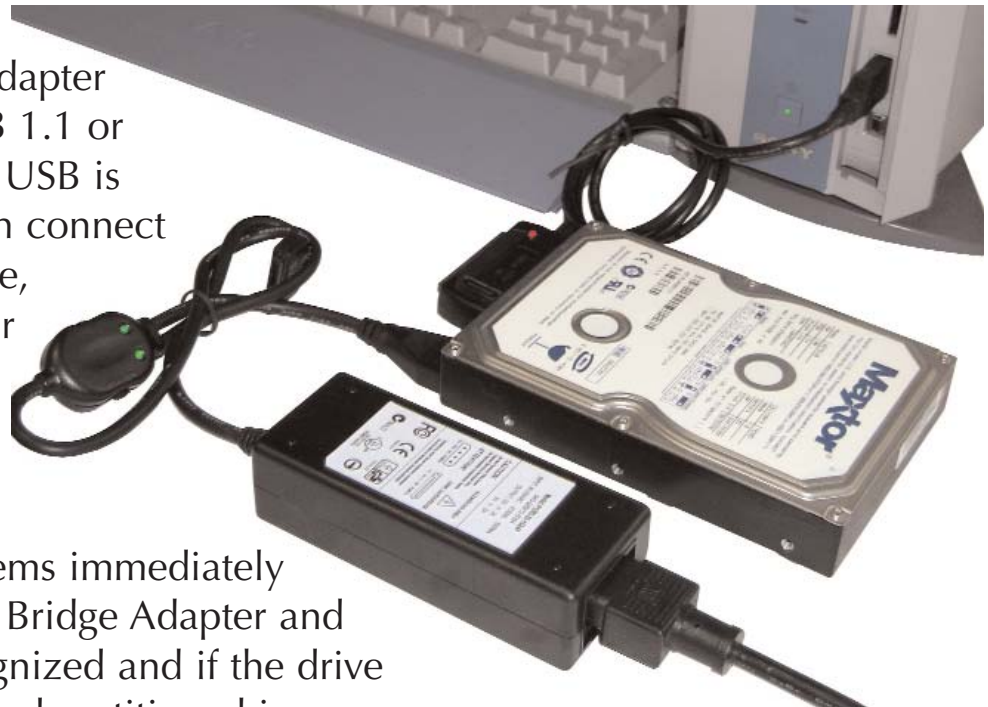
## Power Supply Features



The Switched Dual Output Power Supply provides two switched power connectors. The first is SATA Power for any SATA drive mechanism. The second is 4 Pin IDE Power which is used on all 3.5" and 5.25" drive mechanisms. Simply plug the connector into the drive mechanism and turn the power on. The green LED indicates that the power is being supplied to the drive. The IEC Power Cable provides easy connection to any AC outlet.



The Universal USB to SATA IDE Bridge Adapter connects to most USB 1.1 or USB 2.0 Ports. Since USB is hot-pluggable you can connect to any port at any time, computer power on or power off makes no difference in the operation.



Many Operating Systems immediately indicate that the USB Bridge Adapter and drive have been recognized and if the drive is already formatted and partitioned in a compatible file structure the drive will automatically mount itself. That being said, this is not true for all Operating Systems and a good knowledge of how your OS works is needed. In some systems a drive utility is needed to format or partition the mechanism and or mount the drive. New mechanisms all need to go through the format and partition routine in order to be used. Also note that drives from different computers, i.e. (Macintosh to/from Windows) will not be recognized unless a third party utility is used. Without such a utility the OS may think that the drive has no data on it and ask to be re-formatted. This of course would destroy all the data on it.



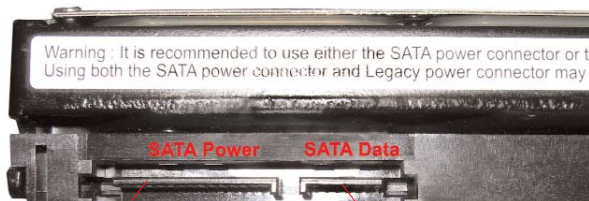
See page 12 & 13 for additional information.

## 3.5" SATA Mechanisms

The 3.5" SATA drive has two connectors on the rear. The first and larger connector is SATA Power while the second smaller connector is for SATA Data.

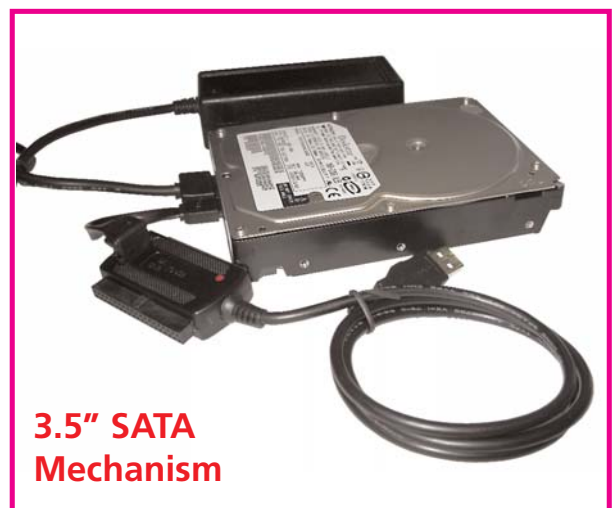
First connect the Power Supply to the drive mechanism using the large SATA Power Connector. The connector has an "L" shape to it that needs to be installed in the correct direction. Make sure the power switches are in the off position and that the LED's in the switch box are not illuminated.

Next install the smaller SATA Data cable to the "L" shaped smaller connector. The USB to SATA IDE Bridge Adapter comes with a very short SATA Cable that can be replaced with a longer one should additional cable length be necessary. Granite has a variety of longer length cables available. The type of connection is SATA "L" type. This is the generic connector and not the shielded external eSATA "I" type used on many external SATA storage systems. Lastly, connect the USB Cable to the computer and turn the switch on.



**SATA Power**

**SATA Data**



**3.5" SATA  
Mechanism**



## 3.5" IDE Mechanisms

IDE Drive jumpers should be set to **Cable Select** or **Master**.  
If the drive doesn't show up try the both setting.



The 3.5" IDE drive has two connectors on the rear. The larger, 40 pin connector is IDE DATA while the smaller, 4 pin connector is for Drive Power. Plug in the DrivePower connector. This connector has cut corners and must be installed with the correct orientation. Make sure the power switches are in the off position and that the LED's in the switch box are not illuminated.

Next plug in the larger IDE Data connector located on the Bridge Adapter. This 40 pin connector is keyed and can only be inserted in one direction. Plug the USB Connector into the computer and turn the power switch on.



**3.5" IDE  
Mechanism**

5.25" IDE  
CD / DVD  
Mechanisms



The 5.25" IDE CD/DVD drive has two connectors on the rear. The larger, 40 pin connector is IDE DATA while the smaller, 4 pin connector is for Drive Power. Plug in the DrivePower connector. This connector has cut corners and must be installed with the correct orientation. Make sure the power switches are in the off position and that the LED's in the switch box are not illuminated.

Next plug in the larger IDE Data connector located on the Bridge Adapter. This 40 pin connector is keyed and can only be inserted in one direction. Plug the USB Connector into the computer and turn the power switch on.





## 2.5" IDE Mechanisms

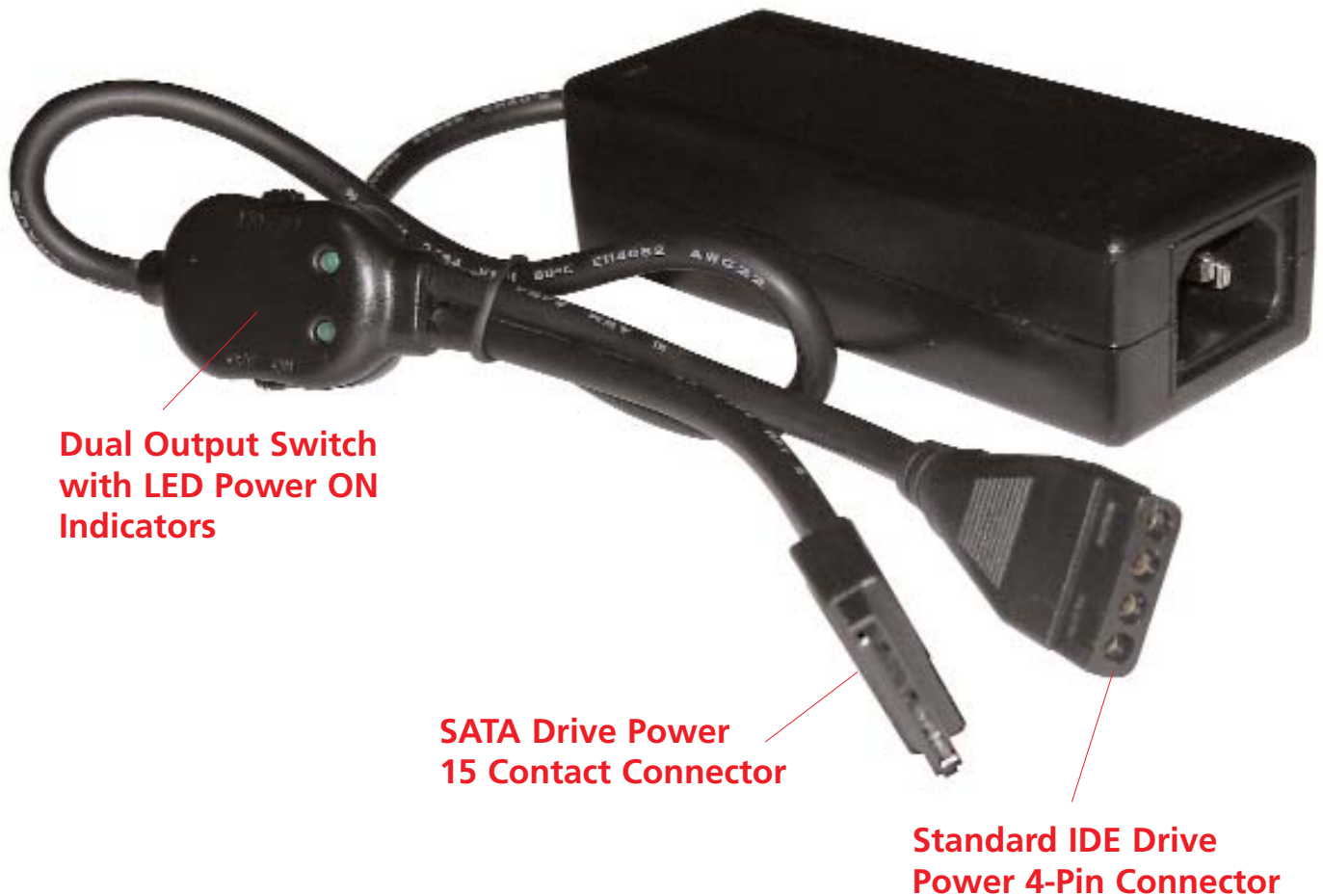


The 2.5" IDE Drive has one connector on the rear. This 44 pin connector is IDE DATA and IDE Power combined. This connector has a blocked socket and must be installed in the correct orientation. Match the blocked socket with the missing pin on the drive mechanism.

2.5" IDE Drive Mechanisms get their power from the USB port. In this case, the Universal Power Supply is not needed.



**Laptop  
NoteBook  
2.5" Mechanism**



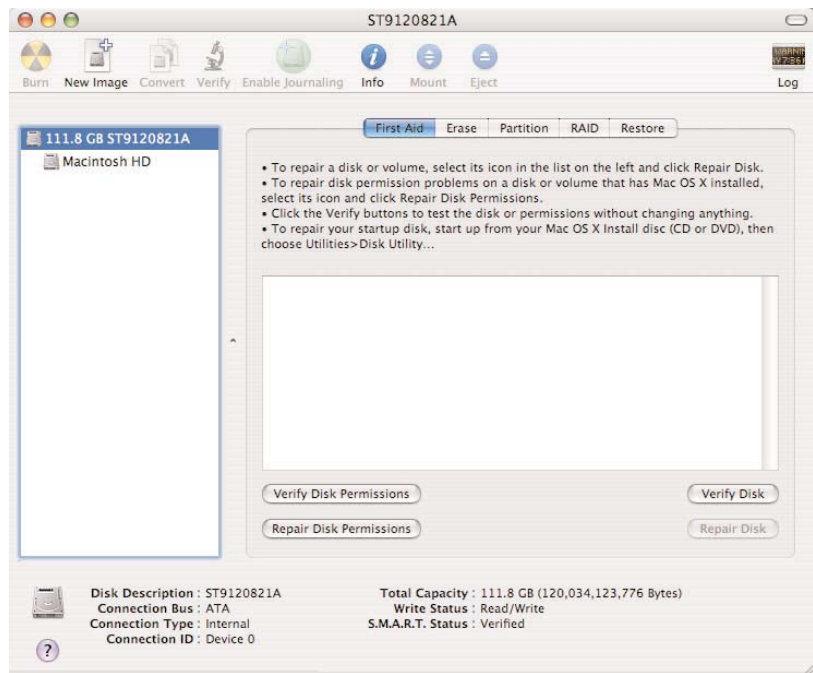
The Dual Output Power Supply is capable of supplying power to all types of drives. When used with the included Auxiliary Power Cable, IDE, SATA, and Floppy Drives can all be connected to the power supply.

The SATA Drive Power connector plugs into any SATA Drive Mechanism. The “L” type connector must be oriented correctly before it is plugged in. Power should only be supplied to the SATA Drive Mechanism after all the cables have been connected including the SATA Data Cable from the Bridge Adapter.

The IDE Drive Power connector plugs into any standard IDE, ATAPI, ATA, or SCSI type of drive mechanism. Power should only be supplied to the Drive Mechanism after the Data Cable has been connected to the Bridge Adapter.

## Formatting & Partitioning

After the Bridge Adapter and drivers have been plugged in the next step is to format and partition your drive mechanism. This procedure is different with every operating system. The screen on the right is an example of what the Macintosh uses... it is called "Disk Utility". On a PC running windows it is called "Disk Management".



No matter which operating system you are running the basics are still the same. The drives will need to be formatted and partitioned before they can be used.

After you finish this initialization process the drives will then be ready to use. Again, every system is slightly different especially when it comes to RAID and RAID levels. Read the documentation carefully before putting important data on your system.

Most operating systems include the necessary USB drivers that support hard drives, CD, DVD, and Floppy Drives. These drivers must be installed for the Bridge Adapter to work properly. If they are not installed use the original installation disks to install the needed USB drivers. If you are using USB 1.1 expect slow performance because of the limited speed of this bus.



## 1- THE DRIVE DOESN'T MOUNT:

**Macintosh OS 9:** The USB bus on the older Macintosh computers and the older OS versions is USB 1.1. Expect very slow performance and limited compatibility when using this operating system.

**Macintosh OS X:** When you install a new drive mechanism using OSX, the Application “Disk Utility” is what you use to Partition, Format, RAID, Test, or Erase the drive. Disk Utility is located in the Applications / Utility folder.

### Windows:

New drive mechanisms that are plugged into the Windows operating systems will need to be partitioned and formatted before they will show up as a new drive letter. Check the Microsoft website for details on how to use Fdisk and Format (98SE or ME) and how to use Disk Management Utility (2000 and XP). Formatting and partitioning a SATA drive is exactly the same as any other Microsoft supported drive.

### Linux:

New drive mechanisms that are plugged into the Windows operating systems will need to be partitioned and formatted before they will show up as a new drive letter. Check with the operating system manufacturer for details on how to partition and format a drive mechanism.

## 2- COPIED FILES ARE MUCH BIGGER THAN ORIGINAL:

This problem is specific to the Macintosh. If you initialize a drive using Standard HFS partition, the files will appear very large. The solution is to reinitialize the drive using “Extended HFS+ Partitioning”.

### 3- THE DRIVE DOES NOT RUN AS FAST AS IT SHOULD:

USB bus speed is determined by four things:

1- The drive performance level. Faster drives (10,000rpm) have higher data transfer rates and make a difference in speed. A larger buffer size also improves drive performance.

2- The USB 1.1 vs. 2.0 technology. Older USB installations run at a much slower speed. We recommend that the Bridge Adapter be used with USB version 2.0.

3- The computer itself is slow. The faster the computer the faster its USB performance. The USB bus uses CPU overhead and the faster the CPU performance the faster the bus will operate.

4- The Operating System. Older Mac and PC OS versions do not perform as well as newer ones. Using the most advanced and recent OS will offer a dramatic improvement in speed.

### 4- IDE DRIVE DOES NOT SHOW UP:

Drives use either the CABLE SELECT or MASTER setting. If the drive doesn't show up try the other setting.

## Warranty and Service

Granite Digital warrants your USB to SATA / IDE Bridge Adapter and Power Supply against any defects in material and workmanship, under normal use, for a period of one year following its date of purchase. In the event this product is found to be defective within the warranty period, Granite Digital will, at its option, repair or replace the defective unit.

This warranty is void: a) if the unit is operated or stored under abnormal use and maintenance conditions; b) if the unit is repaired, modified or altered, unless such repair, modification or alteration is expressly authorized in writing by Granite Digital; c) if the unit is subjected to abuse, neglect, lightning strike, electrical fault, improper packaging, or accident; d) if the unit is installed improperly; e) if the serial number of the unit is defaced or missing.

Granite Digital will not, under any circumstances, be liable for direct, special, or consequential damages such as, but not limited to, damage or loss of property or equipment, loss of profits or revenues, cost of replacement goods, or expense or inconvenience caused by service interruptions. Under no circumstances will any person be entitled to any sum greater than the purchase price paid for the unit.

To obtain warranty service, you must contact Granite Digital's Technical Support Department by calling 510-471-6442. They will attempt to diagnose and correct your problem by phone. If the unit does not function properly, they will issue a Return Material Authorization (RMA) number. You may be asked to furnish proof of purchase to confirm that the unit is still under warranty. Also have the serial number available.

All enclosures returned to Granite Digital must be securely packaged and shipped postage prepaid. All the product returns must be authorized in advance by Granite Digital's Technical Support Department. Authorization is confirmed by issuance of the RMA number, which must be written prominently on the outside of the box in which the defective unit is returned to Granite Digital.



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