

# Re: eSATA support

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- *From:* Techmanblues <[Techmanblues@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:Techmanblues@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx)>
  - *Date:* Sun, 4 Dec 2005 12:04:02 -0800
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Thank you for such a detailed reply post. Has anyone actually used one of these eSATA ports to connect to a SATA drive whether in a naked configuration (just plug in the SATA drive without any enclosure that has a SATA to eSATA adapter)? I guess I am looking for people who have actually done it. Reading about specs is all and fine, but does it work in the real world is all that matters.

Basically there are several ways you can connect a SATA drive to the computer externally.

1) The most basic way is a SATA drive connects to a SATA connector on the motherboard. This is no different than having the drive inside the chasis. The data cable simply runs through one of the expansion slits. XP will recognize this drive as an internal drive. Even though the SATA spec says SATA drives are hot pluggable, I have not worked up the courage to turn off the drive and turn the power to the drive on again while XP is running. But a friend of mine told me that one time, he accidentally unplugged the power to the drive while the computer (XP) is on, and XP failed to re-associate with the drive. I believe that SATA (at least SATA 150), is not 100% hot pluggable.

2) Quasi-external connection. I found in a computer store this device that creates a SATA interface on one of the adapter card slit on the case. It's pretty simple actually. You would mount this adapter to one of the slits. The internal-face would connect to one of the SATA connectors on the motherboard and the outward facing side would be a regular SATA connector. Basically it's an extension cord for the SATA connector on the motherboard. Physically it looks nice and tidy, but logically, it's no different than the first scenario. XP will treat this connection as an internal SATA drive connection and therefore it will inherit all the quasi-hotpluggable characteristics.

Vantec sells a PCI SATA controller card that has one internal SATA connector and one external SATA connector. The external one acts like the dumb extension cord mentioned above, except with this PCI card, you do not consume a SATA connector on the motherboard.

3) Half and half. Let's say there is a PCI adapter that has a bunch of internal SATA connectors on the card and one eSATA connector on the outside. When you plug a SATA drive into this eSATA connector, I assume it will work

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and XP will recognize the external drive. But my question is: will XP recognize the external drive in this half-and-half configuration as a true external drive like it were connected through a USB/Firewire enclosure and the little green arrow icon shows up in the System Tray? If this is the case, then the external SATA drive will be 100% hotpluggable from the perspective of XP.

4) Full eSATA compliance. Now imagine the 3rd scenario, but now the SATA drive is inside an enclosure that has eSATA on the outside. In this scenario, the contact points between the external drive and the computer is pure eSATA. I am sure that this will be 100% hotpluggable even when the SATA drive in the enclosure is not SATA 300 AND the SATA connector inside the computer on the motherboard is also SATA 150. Basically the SATA to eSATA adapter acts like middleware to make sure that the connection to the external drive is 100% hotpluggable.

I have read extensively on the eSATA spec. I am surprised however, so little info is available on the hotpluggability issue. It seems like the people who create the SATA technology places hotpluggability of SATA drives as a non-priority. But in practice as you can imagine, think of the possibilities if a SATA drive that can transfer data at 300MB/sec and is hotpluggable? Think of all those hours people spend backing up data to external drives using USB and firewire? Or tape?

Working as a technician, I have spent so much time waiting to backup people's data to an USB external drive before reformatting their old drive to re-install Windows that I pray for a faster transfer. Almost all the computers that I have worked on have tons of iTunes stuff in the gigabyte range. It's ridiculous that I have to wait 30 minutes to transfer these music files to a safe place before I start working on the system. I charge people by the hour so I am sure some people think I simply dishonestly stretch the clock while the transfer is taking place.

If eSATA is backward compatible with SATA, then shouldn't all SATA drives from now on should have the "non-L shape" eSATA connector on it? This way, if this drive is connected to a SATA connector on the motherboard, the BIOS and XP will treat it as an internal drive. But if you plug this drive to an eSATA connector like the one found on my ASUS motherboard, then XP will treat it as a 100% hotpluggable external drive. In other words, by equipping all SATA harddrives with an eSATA interface, you have the flexibility of internalize or externalize the drive without the need for all these clumsy SATA-to-eSATA adapters. I think all drive and motherboard manufacturers should get together and agree on this.

"Anna" wrote:

> "Techmanblues" <Techmanblues@xxxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote in message  
> [news:021D89D6-F976-493A-B17D-631E4764E2DD@xxxxxxxxxxxxxxxxxxxx](mailto:news:021D89D6-F976-493A-B17D-631E4764E2DD@xxxxxxxxxxxxxxxxxxxx)  
> >I just bought a new high end motherboard from Asus, the one that has the

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>>955  
>> chipset. It has an eSATA port in the back. I have been doing some  
>> searching and was surprised to find so little info on this. From what I  
>> have uncovered eSATA is 100% hot pluggable. That means if I can connect to  
>> this port an eSATA external enclosure with a SATA drive inside, while the  
>> PC is on, I can turn off the external harddrive like I would with USB and  
>> Firewire external drives. However, I cannot find any info on how does XP  
>> handle eSATA external enclosures. In fact, I cannot even find an eSATA  
>> external harddrive enclosure on the Web shopping sites. Does XP treat an  
>> eSATA drive as external USB/Firewire drives in terms of hot pluggability?  
>> That is, there will be an icon with the green arrow in the System Tray  
>> when I plug in an eSATA drive through which I can use to tell XP that I  
>> am about to unplug the eSATA drive from the motherboard?  
>  
>  
> Techmanblues:  
> The eSATA ("e" for external) port is a wonderful feature on your ASUS  
> motherboard. By connecting an ordinary SATA HD to this port (but note the  
> eSATA port needs a special eSATA connector on the signal/data cable that  
> will be connected to it – see below) you now have an "external" device  
> that's treated as an \*internal\* device by the system.  
>  
> Think of the advantages of this. For the first time in an XP environment,  
> you will be able to directly install the XP OS onto an "external" SATA drive  
> and that drive will be bootable. The more common scenario is that you'll be  
> able to clone the contents of your internal day-to-day working HD (PATA or  
> SATA) – using a disk imaging program, e.g., Ghost and the drive will be  
> bootable – a capability that has eluded us with USB/Firewire external hard  
> drives up to now. What better backup system could we hope for?  
>  
> Another advantage of using an "external" SATA HD is its speed. It will  
> operate substantially at the same speed as an internal SATA HD and thus be  
> considerably faster than a USB/Firewire EHD.  
>  
> AFAIK, the eSATA port does allow for "hot-swapping" of connected devices  
> assuming the device itself has no problem with this capability. Again,  
> AFAIK, SATA II hard drives meeting the 3 Gb/sec specification will support  
> hot-swapping as long as the motherboard provides this capability.  
>  
> Still another advantage of the eSATA port is that it supports the latest  
> SATA 3 Gb/sec specification.  
>  
> So you could connect a normal SATA HD to the eSATA port without the absolute  
> necessity of containing that drive in any special enclosure. Theoretically  
> you could plop it in a cigar box or even run the SATA data/signal cable  
> directly to a bare drive. Not the most desirable thing to do for the average  
> user, but it can be done. We generally set up our desktop computers with  
> mobile racks (2) to contain our removable hard drives. It's a hardware  
> arrangement that we strongly recommend for many desktop computer users. So  
> we usually contain the "external" SATA drive in one of the removable trays  
> that are also used in the mobile racks.

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- > Now, what about the power to that SATA "external" drive? You simply use the
- > power from your computer's power supply. There's absolutely no need for an
- > external power supply. So that's another advantage of this eSATA device,
- > yes? Unfortunately the rub here is that ASUS did not provide an external
- > power connector alongside the eSATA port. Why they didn't do so is a
- > complete mystery to us. Actually it's simple enough for a user to run a
- > power cable from your PS to the external SATA drive, but it does mean that
- > you have to snake it out probably through one of the slots on the backplane
- > of the computer's case.
- >
- > BTW, there's another device we came across that users may be interested in
- > to connect an external SATA HD. It's called the SATAPOWPLAT1, manufactured
- > or distributed by StarTech. It's available from <http://www.cwol.com> for
- > about \$19 (incl shipping) – at least the last time I looked. buy.com shows
- > it for much cheaper, but it's never in stock. I assume the device is also
- > available from other online vendors.
- >
- > This device is simply attached to the I/O bracket on the computer case's
- > backplane. It comes with two external connectors – the SATA data connector
- > and the 15-pin SATA power connector. Internally (the other side of its slot
- > plate) is, of course, the SATA data connector and the normal 4-pin Molex
- > power plug. So it's a simple matter to connect the device to one of the
- > power leads of your PS. Why ASUS didn't use the same simple configuration
- > with its eSATA connector is beyond me. Note that the SATA data connector on
- > this SATAPOWPLAT1 device is a standard SATA data connector; it is not an
- > eSATA connector.
- >
- > As I previously mentioned, the eSATA port connects to a eSATA data connector
- > cable. One of the sources for this type of cable (comes in 1 meter and 2
- > meter lengths) is <http://www.macgurus.com/productpages/sata/SATACables.php>
- > Item MC39EX-AB
- > I guess it's also available from other sources. Unfortunately it's quite
- > expensive for a SATA data cable (although it is shielded) – about \$25 for
- > the 1 meter cable.
- >
- > I'm not aware of any motherboard manufacturer aside from ASUS that has
- > equipped their latest motherboards with the eSATA port. If anyone has
- > information about this I would like to hear about it. And I'm similarly not
- > aware of any laptop/notebook computers that are equipped with this feature.
- > And it would seem a most desirable feature to be incorporated in those
- > latter machines, would it not?
- >
- > It seems to me the eSATA port is the "wave of the future" that's here right
- > now since it has the tremendous advantages of treating an "external" device
- > as a normal internal device together with providing superior performance
- > when compared with USB/Firewire external hard drives. I would think that
- > more & more motherboards will come equipped with the eSATA port (as well as
- > an external power connector port which the present ASUS motherboard lacks as
- > noted above).
- >

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- > I trust this information will be useful to you and others who might be
  - > contemplating this type of device.
  - > Anna
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- ***Follow-Ups:***

- ◆ ***Re: eSATA support***  
◇ *From: Anna*

- ***References:***

- ◆ ***Re: eSATA support***  
◇ *From: Anna*

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