Focusrite IEEE 1394 (FireWire)  
Device Compatibility

In many situations users will not experience any problems using their Focusrite FireWire product with their current setup, however if you are experiencing difficulties with connection and stability, one thing to take into consideration while troubleshooting is your FireWire bus. Some of the main concerns are explained in more detail below.

Connecting Multiple FireWire Devices

Most computers will generally be equipped with one FireWire bus. You may have multiple FireWire ports on your computer, but these are all connected to one physical chip, which controls the bus. The FireWire chip is limited in the amount of data bandwidth it can handle, so the more FireWire devices connected to the FireWire bus, the greater chance there is of having more data than can be dealt with.

Whether it is possible to run multiple devices on the same FireWire bus will depend on what other FireWire devices are connected, and what they are doing. When more data is being streamed than the FireWire chip can handle, audio dropouts and/or connection instability will be experienced. Under these circumstances, we would recommend using multiple FireWire buses by installing a PCI/PCIe card (desktop), or a PCMCIA/ExpressCard (laptop).

FireWire Port Incompatibilities

We have had no reports of incompatibilities between our FireWire devices and the built-in FireWire ports on any Apple Mac computers. Problems usually stem from either connecting multiple FireWire devices to the same bus (see above), or from a FireWire port that has physically been damaged in some way.

However, as there are a wide range of PC manufacturers, a wide range of FireWire hardware is used, and there are some incompatibilities to be aware of.

Chipset Incompatibilities: The FireWire chip controls all data being streamed to and from the FireWire port, and certain chips have been known to cause problems with connectivity. We would recommend using either a Texas Instruments or a VIA FireWire chipset to avoid any such issues.

To check your FireWire chipset:

1 – Navigate to your Device Manager  
(Win XP: Start>Control Panel>System>Hardware>Device Manager  
Win Vista: Start>Control Panel>System>Device Manager  
Win 7: Start>Control Panel>Device Manager)

2 – Locate your “IEEE Bus Host Controllers” tab, and click on the “+” to expand it

The device name is usually in the form **FireWire chipset** 1394 OHCI Compliant Host Controller. If you have more than one FireWire bus, you will see more than one entry in this list.

NB: On Windows 7, if using the Windows Legacy FireWire driver this will read 1394 OHCI Compliant Host Controller (Legacy), and will give no indication of the FireWire chipset.

If you are unsure about the compatibility of your FireWire chipset, please download the OHCI scanner from the link below; http://d3se566zfvnmhf.cloudfront.net/sites/default/files/answerbase/Focusrite_IEEE_1394_Compatibility_article.pdf  
Run the OHCItool.exe. then, click 'scan'. If the end result reads "Compatible, no known issues", then the FireWire chipset will work. If it reads "This controller is not compatible with DICE drivers" or "Compatibility Unknown", then you'll need to replace your FireWire card with a compatible one.
Types of FireWire Ports

All our FireWire units connect and run over FireWire 400 (6 Pin), though if your computer or laptop has a different connection this isn’t always a problem as all FireWire standards are backwards compatible. However there are a few cases where problems can be caused;

4-pin FireWire 400 Ports: The problem with the smaller, 4-pin FireWire ports (on some Sony laptops this is called i.LINK) is that the FireWire cables use the connector shell for the ground connection between the computer and the device. The shell connection can be easily interrupted if the cable is moved even slightly, causing the FireWire device to disconnect momentarily from the computer. Although Focusrite FireWire products will work with 4-pin FireWire ports, if experiencing the problems described above, it could be worth using a FireWire expansion card with 6-pin FireWire ports. Please note that also 4-pin FireWire 400 does not carry power, (this is what the extra two pins are for on 6-pin FireWire 400) so if you are only using 4-pin FireWire 400 you won’t be able to bus power any of our units and you will need to use the power supply that comes with them.

9 Pin FireWire 800 Ports on Mac and PC Systems: We have seen poor connectivity and audio performance caused by certain Firewire 400 – 800 adapters and cables. We have tested the Sonnet Firewire adapter, and know that it works well with our products:

http://www.sonnettech.com/product/fw_adapter.html

Before Buying A New FireWire Card

Performance problems can stem from a number of different causes, and can normally be resolved with simple steps such as increasing buffer sizes, or tweaking the operating system to make it run more efficiently. There are articles on the Focusrite Answerbase (http://www.focusrite.com/answerbase) that can be referred to for more information on this.

However, once you have exhausted all other possibilities or after narrowing down the cause of the problem to the FireWire card, it should be considered as an option to try a different card or controller. Below is a list of our recommendations, as well as some specific cards that have been used either successfully or unsuccessfully with our FireWire products.

Which Card Port Do I Have?

On most desktop computers you will probably have space for either a PCIe or a PCI card, the picture below shows what each port looks like so you know which one to get. Please note, a PCIe card will fit
into a slot of its own size or larger, so a PCIe x1 can be connected into a PCIe x16 port.

If you needed an external FireWire card for your laptop, you will need to purchase an ExpressCard (PCMCIA). Most ExpressCard ports on laptops will be for N ExpressCard 34, where the width of the port is 34mm. Though it could also be an ExpressCard 54 and on older laptops it could be for a CardBus. The dimension for each of these can be seen below.

**Recommended IEEE 1394 (FireWire) Chipsets**

- Texas Instruments (TSB43AB22, TSB43AB23 and XIO2200A)
- VIA (VT6306, VT6308 and VT6315)

Please note that other chipsets may work with our FireWire devices, however we have seen the best results with the chipsets detailed above.

**Recommended IEEE 1394 (FireWire) PCI/PCIe/PCMCIA/ExpressCard Manufacturers**

- Belkin (http://www.belkin.com/)
- Lacie (http://www.lacie.com)
- SIIG (http://www.siig.com/)
- StarTech (http://www.startech.com/)

Cards from other manufacturers have been seen to work, providing that they are FireWire 400 only and use an approved chipset. However, in our experience it is worth paying more for a well-known manufacturer, as cheaper FireWire cards often result in poor audio performance.
Known Compatible Cards

Here is a list of cards of which we have either tested in house, or have confirmation from customers and beta testers that they work. **Please check with the manufacturer that a card is compatible with your operating system before purchasing.**

<table>
<thead>
<tr>
<th>PCI cards</th>
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<tbody>
<tr>
<td>SIIG 3-port 1394 PCI adapter</td>
<td>Part #: NN-400012-S8</td>
<td><a href="http://www.siig.com/it-products/firewire/firewire-400/pci/firewire-3-port-pci.html">Image</a></td>
</tr>
<tr>
<td>SIIG FireWire 3-Port PCI I/O</td>
<td>Part #: NN-30012-S6</td>
<td><a href="http://www.siig.com/it-products/firewire/firewire-400/pci/firewire-3-port-pci-i-o.html">Image</a></td>
</tr>
<tr>
<td>StarTech 4 Port PCI 1394a FireWire Adapter Card</td>
<td>StarTech.com ID: PCI1394_4</td>
<td><a href="http://www.startech.com/item/pci1394_4">Image</a></td>
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<tr>
<th>PCIe cards</th>
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<tr>
<td>SIIG FireWire 2-Port PCIe (FireWire 400)</td>
<td>Part #: NN-E2012-S2</td>
<td><a href="http://www.siig.com/it-products/firewire/firewire-400/pcie/dp-firewire-2-port-pcie.html">Image</a></td>
</tr>
<tr>
<td>SIIG DP FireWire 800 PCIe</td>
<td>Part #: NN-FW0012-S1</td>
<td><a href="http://www.siig.com/it-products/firewire/firewire-800/pcie/dp-firewire-800-pcie.html">Image</a></td>
</tr>
<tr>
<td>Note: In general FireWire 400 only cards are recommended but this has been tested for use with a FireWire 800 to 400 cable.</td>
<td></td>
<td><a href="http://www.siig.com/it-products/firewire/firewire-800/pcie/dp-firewire-800-pcie.html">http://www.siig.com/it-products/firewire/firewire-800/pcie/dp-firewire-800-pcie.html</a></td>
</tr>
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</table>
ExpressCard 34

SIIG 2-Port ExpressCard
Part #: NN-EC2012-S2

Syba 2-Port FireWire 1394A ExpressCard
http://www.amazon.co.uk/2-Port-Firewire-ExpressCard-VT6315-Chipset/dp/B003GAM68U

Known Incompatibilities

- Most FireWire 400/800 and FireWire/USB “Combo Cards”
  We have seen undesirable behaviour with “Combo Cards”, and as such recommend using cards with only FireWire 400 ports.

- Motherboards using NVIDIA nForce4 chipsets
  It has been well documented (for example here: http://www.soundonsound.com/sos/sep05/articles/pccnotes.htm) that the above chipset can cause very poor audio performance, especially when connecting via the computer’s built-in FireWire port. Installing a FireWire PCIe card can yield improvements, but won’t completely eliminate the problem.

- Ultra ULT31342 ExpressCard Firewire Kron chipset Texas Instruments (with Pro 40/24/56, possibly not with the older Saffire units).

- Lycom PE-101 2 Port Firewire 1394a (400) PCI-E Controller Low/Hi Profile

- FireWire controllers with JMicron chipsets

FireWire ‘Hot-Plugging’ Safety

It is possible for any FireWire device to be damaged by ‘hot plugging’ the device (plugging it in when the computer is on). All Focusrite FireWire devices adhere to the IEEE1394 (FireWire) standard, however it may be the case that the FireWire port on your computer motherboard or FireWire card does not.

Connection and disconnection from a FireWire port that does not adhere to the IEEE1394 standard may result in permanent damage to both the device and your computer. To help prevent damage, it is recommended that in all cases you follow the instructions below when connecting and disconnecting FireWire devices:

When connecting your unit(s)
Ensure that the Computer is Turned OFF
Ensure that the Saffire is Turned OFF
Connect your Saffire
Turn ON your Saffire
Turn ON your Computer
Turn ON your Monitor Speakers

**When disconnecting your unit(s)**
shutdown Saffire Mix Control
Turn OFF your Monitor Speakers
Turn OFF your Saffire
Disconnect your Saffire