

# Selecting High Performance Firewire Cards for FlexRadio Transceivers

**Content provided by:** FlexRadio Systems Engineering

If you are considering using a non-motherboard Firewire host adapters for the FLEX-5000, FLEX-3000 or the SDR-1000 using a Firewire based sound card, look at "high end" DV certified Firewire host adapters. These will provide the best performance and compatibility. Many, but not all motherboard integrated Firewire host adapters are not well suited for real-time audio applications because they share IRQs with many other integrated devices, such as USB ports. Sharing IRQs with other devices induces unwanted latency and has been known to cause audio drop outs.

**NOTE:** A lot of poor performance and audio drop outs and freeze up problems have been resolved by switching from using the motherboard Firewire interface to one that is installed in the computers peripheral bus (PCI, PCI-E, PCMCIA or ExpressCard)

**Cautionary Statement:** It has come to the attention of FlexRadio Systems' Support that Firewire card manufacturers are changing chipsets without notice. Some of these chipset substitutions are ones that are not fully compatible with the FLEX Firewire driver. While we try to keep this list accurate ad up to date, it is in the buyer's best interest to verify the chipset utilized in a particular card before purchasing it.

## Helpful Hints:

- Use a card that is specifically "approved" for DV editing packages. These cards have better stability (free of jitter) and performance than other Firewire cards.
- It is recommended that the card you get is using an up to date TI or Lucent AGERE FW323 chipset. Some manufacturers are starting to change to VIA for cost reasons. Other chip sets, such as VIA may work fine, but the TI and Lucent products seem to be the most compatible.
- For one of these cards, you are going to pay between \$15 to \$80 (USD) depending on the bus type.
- Do not use a Firewire card that also has USB or any other interface ports integrated on the same card (aka a "combo" card). These are not designed to be high throughput devices are are not best suited for using with FlexRadio Systems' FireWire based transceivers.
- Do not use Firewire cards that are combo 1394a and 1394b host controllers unless you are using Windows 7. The 1394b host bus adapters do not have native support under

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Windows XP and Vista.

- If your motherboard has a specialized PCI slot for communications (usually it is orange), install your Firewire adapter in that slot. These slots usually do not share IRQ (system interrupts) with other motherboard peripherals.
- If your motherboard has a PCI Express 1x slot, this is the best bus type for a Firewire host controller since it does not share interrupts with other motherboard peripherals.
- Use high quality Firewire cables with multiple shields and gold connectors. Also use the shortest cable possible.
- If you have an existing Firewire port on your computer, try it out first before buying a different Firewire controller.
- Buy your Firewire card at a local retailer. If it doesn't work you can easily return it.

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### Firewire Cards Reported \*not\* to work well with FlexRadio Transceivers:

1. Adaptec FireConnect 4300 card
2. Any Adaptec PCMCIA based cards
3. SYBA-PCI-Express 1x 1394A model SD-PEX-NEC4F
4. StarTech PCI-1394B\_3
5. StarTech PEX-1394A2 PCI-Express Card
6. Best Connectivity / Syba SD-PEX30009 & PEX30016 (in newer i5 and i7 PCs)
7. Bytecc BT-PE1394 PCIe

**NOTE: There have been numerous reports of laptop Firewire ExpressCards not working with Windows. The FLEX Firewire drivers appears to load correctly and is recognized by the software, but does not properly send data between the FLEX hardware and the laptop. This problem is most common on Vista operating systems, but has been reported on XP too.**

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### Firewire Cards Reported to work well with FlexRadio Transceivers:

**DISCLAIMER: The Firewire cards listed below are ones used by FlexRadio owners successfully with Firewire based sound cards (SDR-1000) and native Firewire SDRs such as the FLEX-5000A and FLEX-3000. These cards may no longer be available from their respective manufacturers nor are they qualified or endorsed component by FlexRadio Systems. FlexRadio makes no claim to their compatibility**

**with your specific system (PC) and the cards are not directly supported by FlexRadio Systems. Caveat**

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## **Syba** (<http://www.syba.com/>)

Model or Description: Firewire 1394a 3+1 controller

Bus Type: PCI

Recommended for the FLEX-5000A/3000 - Uses the Lucent AGERE FW323 chipset

- Confirmed to work with FLEX-5000 on Windows XP-Professional

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## **Best Connectivity - A division of Syba Technologies, Ltd.** (<http://www.syba.com/>)

Model or Description: Express Card

Bus Type: ExpressCard (34 mm)

- Confirmed to work with the FLEX-5000 on Windows XP-Professional

Model or Description: PCI 1394a/b Firewire card

Bus Type: PCI

- Confirmed to work with the FLEX-5000 and FLEX-3000 on Windows7

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## **ADS Pyro** (<http://www.adstech.com/>)

Model or Description: PCI 64R2 or ADS Pyro PCI 64

Bus Type: PCI (64-bit)

Note: The ADS PYRO PCI 64R2 has replaced the ADS Pyro PCI 64

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- Confirmed to work with FLEX-5000 on Windows XP-Professional
- Confirmed to work with FA-66 on Windows XP-Professional

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### SIIG (<http://www.siig.com/>)

Model or Description: PCI 1394a Firewire card

Bus Type: PCI

Many of their FireWire host controllers use the TI chipset. Below is a representative picture of a 1394a PCI host controller.

- Confirmed to work with FLEX-5000 on Windows XP-Professional

Model or Description: PCI-E 1394a Firewire card

Bus Type: PCI-E

- Confirmed to work with FLEX-5000 on Windows XP-Professional

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### Sonnet (<http://www.sonnettech.com/>)

Model or Description: Allegro Express FW400 (FW400-E)

Bus Type: PCI-E

- Confirmed to work with FLEX-5000 on Windows XP-Professional and Vista

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### Inland Products(<http://inlandproduct.com/>)

Model or Description: Pro PCI-E

Bus Type: PCI-E 1x

- Confirmed to work with FLEX-5000 & FLEX-3000 on Windows 7
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## Dynex (<http://www.dynexproducts.com/>)

Model or Description: PCI-E 1394a/b Firewire Card

Bus Type: PCI-E

- Confirmed to work with FLEX-5000 & FLEX-3000 on Windows 7
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## SUNIX (<http://www.sunix.com.tw/>)

Model or Description: PCI 1394a Firewire card

Bus Type: PCI (64-bit)

These cards are DV qualified and known to use the TI chip set.

- Confirmed to work with FLEX-5000 on Windows XP-Professional
  - Confirmed to work with FA-66 on Windows XP-Professional
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## Micro Innovations (<http://www.mi-products.com/>)

Model or Description: PCI 1394a Firewire card

Bus Type: PCI

- Confirmed to work with FLEX-5000 on Windows XP-Professional
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## Belkin (<http://www.belkin.com/>)

Model or Description: FireWire 1394a ExpressCard

Bus Type: ExpressCard (34 mm)

- Confirmed to work with the FLEX-5000/3000 on Windows XP-Professional
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An Adobe Acrobat Reader may be required to open the file. You can download Adobe Acrobat from here.

### **KB Source Document(s):**

None Referenced

FlexRadio Systems Knowledge Center

<http://kc.flex-radio.com/KnowledgebaseArticle50179.aspx>