Presonus Firebox

Firewire Interface For Windows & Mac OS X

Derek Johnson

Providing six audio inputs and eight outputs for £350, with the bonus of high-quality mic preamps, Presonus's Firebox sounds almost too good to be true. Is it?

Firewire audio interfaces are now becoming available at prices that might tempt the more aspirational desktop audio enthusiast away from USB-based devices. Potential users have a decent choice, and finding the words 'affordable' and 'Firewire' in close proximity is now unremarkable in terms of desktop music. I'll quickly jump in and say that there's not anything wrong with well-designed USB audio interfaces — there are any number of options that perform really well, and I regularly use one myself. But there's something about the much greater bandwidth of a Firewire connection that's both attractive and reassuring for audio applications.

What Have We Here?

Presonus have already shown what they can do with Firewire, not only with the rackmounting Firepod, reviewed in February of this year, but with the now-discontinued Fire Station. The latter interface, reviewed in February 2003, was an early adopter of Yamaha's Firewire-based mLAN standard, but the company's latest interfaces use a proprietary driver instead.

The Firepod is quite a well-equipped device, with 10 ins and 10 outs altogether, eight top-notch mic preamps, insert points, digital I/O and MIDI I/O. Carve a chunk out of that spec and bung it into a little package a third of a rack unit wide, and you have the Firebox. But smaller doesn't necessarily mean lacking in features: the interface still manages a total of six audio inputs (with 24-bit 96kHz converters on the four analogue ins) and eight audio outs, alongside a single MIDI In/Out pair. Such a specification doesn't really push the Firewire protocol all that much, but any USB 1.1 interface would have difficulty matching this performance.

Presonus have also ensured that you can get recording as soon as the interface is out of its box: Steinberg's *Cubase LE*, offering 48 tracks of audio recording alongside MIDI sequencing, is included in the overall bundle. Also in the Firebox packaging is a full paper manual — it's small, but it tells you pretty much everything you need to know.

The Box Itself

A lot has been packed into the solidly built little brick that is the Firebox — it weighs a lot for its size — yet some clever design means it doesn't feel cramped. There are no compromises with components, either. For example, the first two inputs are on the front panel, in the shape of a pair of Neutrik combo jacks offering balanced XLR and instrument or line-level jack inputs in one handy connector. Some choice Presonus

SOUND ON SOUND

Presonus Firebox £325

pros
- Very compact.
- Excellent feature set for the price.
- Brilliant zero-latency monitoring, via included software.
- You can start recording instantly with bundled *Cubase LE*.
- High headphone output level.

cons
- Breakout cable is a little inconvenient.
- No rubber feet supplied.

summary
Great sound, surprising mixing power under the hood, and excellent build quality. The list price is more than fair, yet shop around and the Firebox becomes a bargain. So shop around!

Rack It Up

Presonus produce a number of competitively priced third-rack-width processors, including the Tube Pre tube-equipped preamp, Comp 16 compressor, EQ3B parametric EQ and HP4 headphone distribution amp. All these devices, and the Firebox, are designed to fit in Presonus's Max Rac compact vertical racking system. Up to six units can be mounted in the Max Rac, allowing them to all be easily patched into your digital recording system.

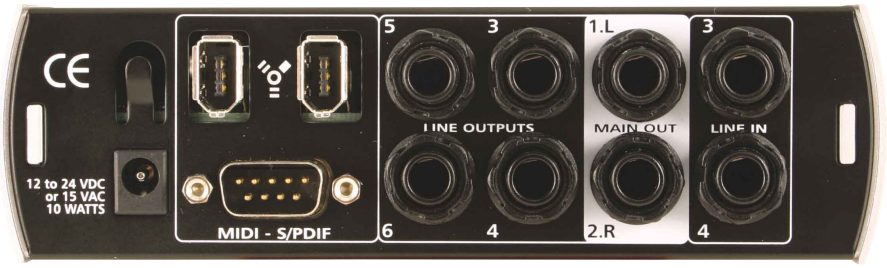
low-noise high-headroom preamp circuitry lurks behind the sockets, and phantom power for mics that need it is switched in via a front-panel button. Input level gain, which is wide enough to accommodate line, instrument and mic signals, is controlled by a pair of chromed blue knobs — you'll spot them on other Presonus products, and they're finely stepped in their travel to allow accurate setting of levels. Metering is minimal, but apart from your ears (and whatever your host audio application has to offer), all you really need are the built-in clip LEDs.

A further two stepped knobs at the front independently control headphone and monitor output levels. And be warned that the gain range of these two controls is rather wide: I can't remember when I heard a headphone mix go this loud! All that's left on the front is the headphone socket and a Firewire lock LED: it's blue when all's well, red when it's not, and flashes between the two when there might some uncertainty.

The Firebox Mixer application, as it appears on the Mac — the PC version is graphically identical. Looks great, and easy to understand. With input monitoring disabled on your host audio application, this is how the Mixer would look for zero-latency monitoring.

The rest of the action is, or starts, around the back. Two more, balanced, line inputs can be found here, alongside the main stereo output and four further line outputs, all of which are also balanced. Though arranged as stereo pairs, these outs are freely configurable as individual mono feeds, and (software allowing) could be configured as part of a 5.1 surround monitoring setup. The two Firewire sockets are also rear-mounted, and under most circumstances, the Firebox can be powered via this connection. If, however, your computer has a four-pin Firewire socket — the type usually found on PC laptops, which doesn't carry power — you'll need to deploy the supplied 16V wall wart. Interestingly, if you were to lose this PSU, finding a replacement won't be as much of a problem as it might be in similar situations with other products: the power socket can accommodate supplies providing 12-24V DC or 15V AC.

Last of all, there's a nine-pin connector back here. Plug the supplied breakout cable into this socket and the Firebox gains access to digital I/O (as two coaxial S/PDIF connectors) and MIDI I/O. This is not the most elegant solution to the problem of providing this extra connectivity — the cable flops around, offering a target for potential accidental damage, and becomes inconvenient to access when the Firebox is stacked with other units (as might be the case with the 'Max Rac' described in the box, opposite). But it was perhaps the only way Presonus could provide the extra facilities considering this unit's size. I'd certainly rather have them than not. All in all, that's pretty good going for a piece of hardware this compact.



The Firebox's digital and MIDI I/O are available on a separate breakout cable.

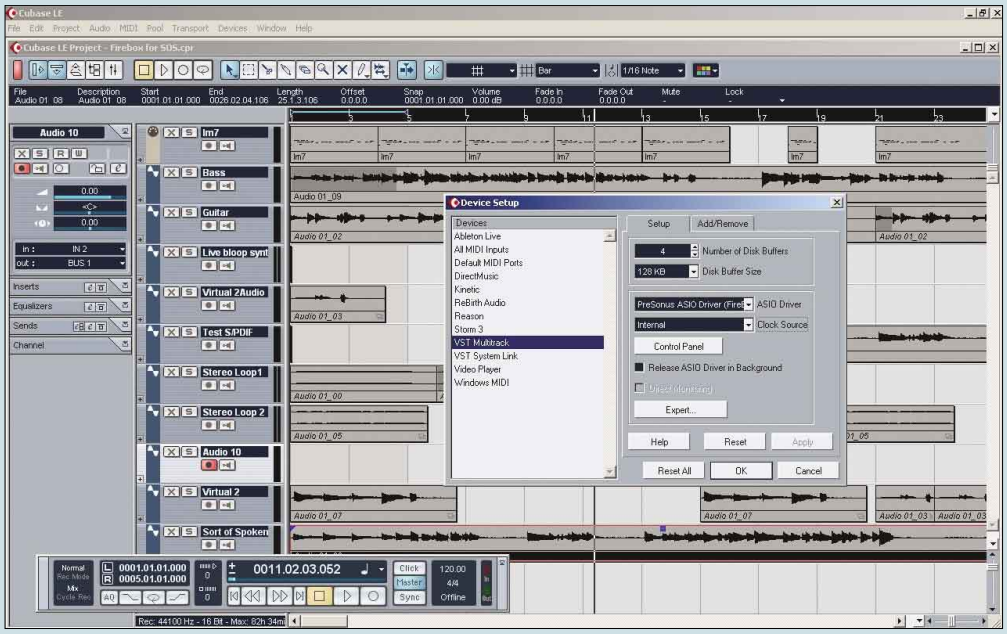
There's More

In common with many such computer audio interfaces, the Firebox is equipped with an internal DSP-based mixer. This can be accessed only via the supplied Firebox Mixer application, but doing so provides the user with quite detailed control over the signal path. The software is loaded onto your PC automatically as part of the standard driver installation routine, along with the Firebox Control panel. Mac OS X doesn't require drivers, since the Firebox integrates immediately with Core Audio, for both MIDI and audio: the interface is truly plug and play. Mac users have to go to the effort of manually dragging the Mixer and Control apps off the installer CD! Incidentally, the Firebox is only compatible with Mac OS 10.3.7 or over, and it's Windows XP only for PC users. However, although Presonus quote an Apple G4 running at 800MHz as the minimum supported spec, I obtained satisfactory results on my older 450MHz machine.

The Firebox Mixer is quite a comprehensive level-control and routing tool, allowing you to configure the inputs before they're routed to your host audio software, and decide how the audio coming back from the software will be handled by the interface. If you use this handy application for one thing only, it will be to remove all latency issues from recording and overdubbing. There is no 'zero latency monitoring' switch on the box itself, but by setting up the internal mixer correctly, and disabling input monitoring in your audio software, such latency as you might experience when recording and overdubbing audio is removed.

Graphically, the mixer shows a lot more sophistication than you'd expect: the six input channels and the stereo return from ▶

Touching *Cubase*



Cubase LE, here running on a PC, showing how the Firebox appears in the VST Multitrack window of the Device Setup box.

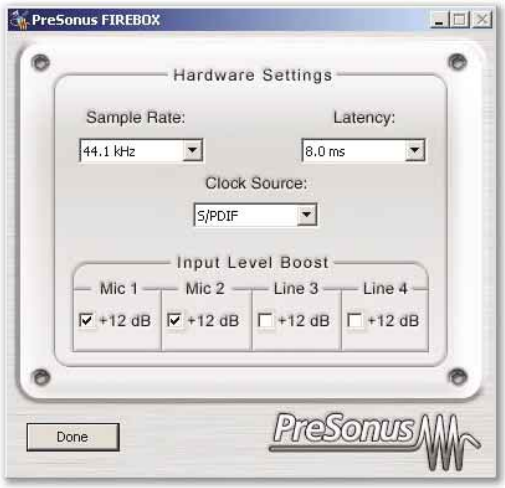
As noted in the main body of this review, the Firebox comes supplied with a copy of Steinberg's *Cubase LE*, for both Mac and PC. This is a superb freebie: it might lag a version or two behind the flagship *Cubase SX*, but still offers everything you'll need to work with MIDI, audio and plug-ins. The software is capable of handling up to 48 mono tracks of audio, at the Firebox's top sampling and bit rates if desired, plus virtually unlimited MIDI tracks. The number that you can use will depend on the sophistication of your MIDI interface (not very in the case of the single I/O of the Firebox) or how many virtual instruments you'd like to run.

A small but useful collection of plug-ins is provided, including the *Universal Sound Module*, *LM7* drum module and *VB1* bass guitar/synth instruments bass sound module and a basic complement of effects plug-ins. The good news is that any other VST effect or instrument plug-ins that you might want to use — and don't forget that the Internet is host to dozens of freebies for both Mac and PC — can be hosted in this package. You really can buy the Firebox and not have to spend any more money, at least in terms of software. But if you do get an itchy wallet, *LE* will of course host commercial plug-ins as well. If there's a down side here, it's that you're limited to eight virtual instruments, two insert effects per audio channel, four send/return effects and two mastering effects. But, given the price of the software, that's a pretty fair complement. You can always make the most of what's available by printing effected audio, or virtual instrument parts, to their own audio tracks. Likewise, think about bouncing tracks down if you find 48 is too restricting for you!

The facilities on offer are familiarly *Cubase*, with all most of the editing and organisational options you might expect. All the MIDI options, including the drum and score editors, are present, as are Steinberg's excellent audio manipulation tools. You can record stereo tracks, but one stereo track removes two tracks of audio from your total of 48. Mixing is well specified, with great automation and bussing options, too. Even if you have experience of other sequencing platforms, *LE* won't feel like cut-down software. But should you get an urge to upgrade to *Cubase SX* (with which the Firebox works splendidly), you'll be in completely familiar territory. There will also be an option to upgrade on preferential terms.

▶ the host each have a fader and a pan pot, mute and solo buttons. Each input pair also has a stereo link switch: enable this and the faders are instantly ganged and the pan pots jump hard left and right. Oddly, the mute and solo buttons still operate individually. It was strange to not see any metering in the on-screen mixer, too. Perhaps an update will fix this?

The master section offers a level fader, plus global solo and mute clear switches allowing you to unmute several muted channels with one switch. Finally, a bank of switches lets you route various audio streams to the mix or headphone output. Configurations can even be saved. Incidentally, though it can't be directly addressed from within the host software, the headphone socket is revealed as an independent audio stream from inside the mixer, making Firebox more of a six-in/10-out interface. In practice, being able to choose which stream can be monitored on 'phones will be very handy for on-stage musicians or DJs, allowing you to audition one track whilst another one is playing out — as well as for setting up an independent monitor mix during a recording session.

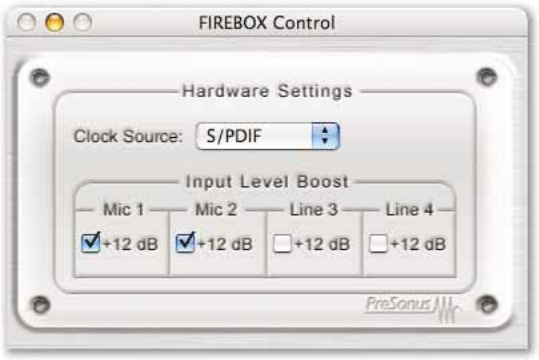


The Firebox Control utility, in its PC guise: note latency and sample-rate pop-ups.

Firebox Control is a strange tool in that it's not simply integrated into the mixer application. Basically, it provides a clock source switch (internal or S/PDIF) and 12dB boost switches for each of the analogue inputs. This makes up for the difference in level when you're connecting unbalanced devices with -10dBV outputs, and allows you to up the level while recording any quiet sources. The PC control panel also offers a sample rate switch and a comprehensive latency pop-up. The Mac panel lacks these two latter options, though the manual does mention 'right clicking' the control panel icon to choose between three computer optimisation settings. My main mouse doesn't have a right click, and all the button combinations I tried produced no result. In

Test Spec

- Presonus Firebox driver v1.2.
- Pentium 4 PC with 3.06GHz CPU and 1.25GB RAM, running Windows XP.
- Apple G4 450MHz Power Mac with 896MB RAM, running Mac OS 10.3.9.



The Mac version of the Firebox Control utility.

any case, latency/processor load and sample-rate settings were adequately dealt with from inside *Cubase SX* or the supplied *Cubase LE*.

In The Real World

As well as using the supplied *Cubase LE* software (check out the 'Touching *Cubase*' box for a little more on this excellent freebie), I had a go using the Firebox with my usual collection of familiar software — the full version of *Cubase SX* on both platforms, Cakewalk's *Sonar 4* on the PC, i3's *DSP Quattro*, my favourite audio editor on the Mac, and Propellerhead *Reason* 3.0 and Ableton *Live*, again on both platforms. The results were great across the board. Those applications that could record integrated well, and I appreciated the zero-latency monitoring options offered by the Mixer application. In all cases, I was able to record healthy numbers of audio tracks without clicks or dropouts.

The latency that becomes audible when playing virtual instruments from an external MIDI controller was more of an problem on my older Mac, where I found I had to adjust playback settings that resulted in unacceptable key-on to note sounding delays, but as I've already noted, this machine is well below Presonus's minimum recommended spec. The same problem also arose on my PC, but to a much lesser extent, and I found I was able to achieve a good result simply by playing with settings while recording MIDI-driven virtual instrument performances.

Moving past the issue of getting audio into and out of the computer, we come to the audio performance of the Firebox, and this is impeccable. In fact, *Reason* had more depth and 'oomph' than I've heard with my current audio hardware. The front-panel preamps are very forgiving, with great noise performance. It didn't matter whether it was my passive bass, a stereo out from a hardware synth or a mic: in each case the inputs extracted excellent, noise-free results. The sound coming back from software is also commendable, and I was impressed by the level that the monitor and headphone outputs are capable of. The 24-bit, 96kHz converters also have a clarity that's worth hearing; and as I just noted, the analogue circuitry really makes the most of the converters. Such excellent audio quality is a real bonus for a device that's so affordable.

Final Thoughts

All in all, the Firebox is good value for money and some street prices I've noticed make that great value. I can't think of much I'd fault here — the sound would be great on a much more expensive unit, and it operates at the high bit depths and sample rates many of us are working with. It offers plenty of input and output channels for home and portable applications.

I will note that the interface does run hot, even when powered from the Firewire buss. This needn't be a problem, though it might have an effect on where the unit is placed in a stack of gear (as might be the case with Presonus's Max Rac system mentioned earlier). The package I received also lacked rubber feet. Not a big issue, perhaps, but the Firebox's sturdy case does have some sharp edges that would play havoc with a varnished desktop! Still, a retailer such as Maplin should be able to sell you something useful for not much money.

You can see the lengths you need to go to in order to find fault with this unit. It's even an all-in-one recording system, with the inclusion of *Cubase LE* — just add your computer. Without even entering the USB vs Firewire debate, this is as fine a compact, portable audio interface as it's possible to find. Give the Firebox a listen — you won't be disappointed. SOS

information

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