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Presonus Firestudio : December 2007

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## Presonus Firestudio

Firewire Audio Interface [Mac/PC]

Reviews : [Computer Recording System](#)

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**What does it take to make a Firewire audio interface stand out from the crowd these days? How about eight mic preamps, 26 channels of I/O at 24-bit/96kHz and some heavy-duty routing functionality...**

John Walden

As most potential purchasers will have noticed, there is now a bewildering array of audio and MIDI interfaces from which to choose. While so much choice can leave new users somewhat confused, it is probably true to say that there has never been a better time to buy an audio interface. Not only is there an excellent range of feature sets and prices to suit almost any need and budget, but it is now rare to find sub-standard audio quality on all but the cheapest of units. With audio over Firewire now very mature as a technology, such devices are also becoming very reliable.



Photos: Mike Cameron

Presonus have built a good reputation in this competitive marketplace and their latest offering is the Firestudio. This 1U-high rack unit shares its styling with earlier Presonus products such as the Firepod interface (now labelled the FP10) and the Digimax FS mic preamp and A-D converter, which were reviewed in the February 2005 and March 2007 issues of SOS respectively.

In selecting a suitable audio interface, perhaps the most fundamental question concerns the number of inputs and outputs required. Multiple outputs offer the advantage of support for alternative pairs of monitor speakers, surround sound or, in some cases, for creating different monitor mixes for multiple musicians in a recording session. Multiple inputs provide a means of capturing several sound sources during the recording process and, while interfaces offering eight analogue inputs have been around for a long time, relatively few have featured eight mic preamps with phantom power. They more usually feature a mix of two or four mic preamps with phantom power, plus a series of instrument/line-level inputs. A higher count of good-quality mic pre-amps makes it more realistic to operate a studio without a separate hardware mixer, even when capturing a full band performance.

The Firestudio features eight class-A mic preamps and 10 balanced line outputs. However, further I/O is available via the digital connectivity and, with the addition of something like the Digimax FS, up to 26 channels of simultaneous I/O of audio is available at 24-bit/96kHz. The optional Monitor Station Remote (MSR — see the 'More Speakers Required' box for details) can be added to provide easy re-routing of audio signals if you use multiple speaker configurations in your studio, while the Firestudio also features an impressive software bundle (see the 'Hot Package' box) alongside the main Control Console that is used to mix and re-route audio through the Firestudio.

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### Firestarter

As well as the Firestudio itself, I was provided with the optional MSR unit. Also inside the box was a well-written printed User manual, a suitable Firewire cable, the external PSU (the unit can not be bus powered) and a number of CDs, including both the installation and driver CD and the collection of software freebies mentioned above. As explained in the manual, installation of the drivers needs to be completed before you connect the Firestudio to your host system. This process took me just a few minutes and proceeded without a hitch. Including a quick flick through the manual, I had the Firestudio up and running within a few minutes of opening the box.

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### Burning Down Both Sides

The front-panel layout of the Firestudio is similar to both the Firepod and Digimax FS. The eight mic inputs all feature Neutrik combi connectors, with inputs 1 and 2 able to accept instrument-level signals (guitar, bass, and so on) while inputs 3-8 accept line level signals. On the far left, two buttons engage phantom power to the inputs in two banks of four (inputs 1-4 and 5-8). Gain controls for all eight inputs are arranged in a staggered pattern on the right-hand side. These provide up to 55dB of gain and include a clip LED to indicate when the signal is getting too hot. The far right of the front panel features a headphone jack plus gain controls for the headphones and main outputs. A power switch and Firewire LED complete the front-panel controls.

The rear panel is somewhat busier. On the left is the power connector. This has a screw fitting and I can imagine it would be very useful if the Firestudio were being used in a live environment, to ensure power didn't suddenly disappear if the cable were accidentally tugged. Next in line are two Firewire ports (Firestudios can be chained together if required) and standard MIDI I/O. The central section provides the various digital connectivity. This includes BNC Wordclock, dual SMUX Optical ADAT (for example, allowing two Digimax FS units to be connected, which would yield 24 analogue inputs with phantom power — enough for even a complex recording configuration), SPDIF I/O on the usual RCA connectors, and RCA and Cat 5 connectors for use with the optional MSR.

**Presonus Firestudio**  
**£552**

**pros**

- Excellent audio quality, especially given the price and number of channels.
- The ability to create different monitor mixes is very useful.
- Very reliable during testing.
- Very good value for money, particularly bearing in mind the excellent bundled software.

**cons**

- Limited front-panel level monitoring if used without a computer.
- External PSU less convenient for mobile use.

**summary**

Multiple mic preamps and comprehensive audio routing possibilities are offered by the Firestudio — and its audio performance and reliability gain high marks too. Well worth auditioning.

**information**

- £ Firestudio £552.34; Monitor Station Remote £135.32. Prices include VAT.
- T HHB Communications +44 (0)208 962 5000.
- E [Click here to email](#)
- W [www.hhb.co.uk](http://www.hhb.co.uk)
- W [www.presonus.com](http://www.presonus.com)

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The right-hand side of the rear panel is dominated by the analogue outputs. This includes the Main L/R outputs and eight further outputs, all on TRS quarter-inch balanced jacks. At the far right are two send-return jack pairs. These are associated with input channels 1 and 2 and provide a means of routing a signal from either of these channels to an external hardware processor and then back to the Firestudio. This routing is all done in the analogue domain, prior to the analogue-to-digital conversion — great if you want to patch in a hardware compressor or EQ while tracking.

**▲top More Speakers Required**

The Monitor Station Remote (MSR) is an optional extra for use with the Firestudio, and connects to the main unit via a standard Ethernet-style cable (supplied). As its name implies, the MSR is intended to provide convenient switching between multiple monitoring systems connected to the Firestudio's various outputs. Typically, this might provide switching between the main stereo monitors and either alternate stereo monitors or a surround system. The supplied PDF manual provides some useful example configurations and, with my main stereo monitors connected to the Main Outs and my surround monitors connected to analogue outputs 1-6, I was easily able to switch between them via the MSR.



Other useful features include two additional headphone outputs (each with its own gain control), a large knob for output volume and mute, dim and mono buttons for the selected output (the ability to check mono compatibility so easily is very useful). The MSR also provides a talkback function, either via a built-in mic or via an external mic that can be connected to the rear-panel XLR. For those who only work with a single stereo monitor system, the MSR would not really offer any significant advantages. However, for those with multiple monitoring systems the ability to easily switch between them without any re-patching would be well worth the additional expense. The only down side is that multiple monitoring systems would probably tie up the Firestudio's various analogue outputs, so monitor speaker switching and provision of multiple headphone monitor mixes (as described in the main text) are probably not things you could do at the same time.

**▲top Fire Control**

Given the multitude of I/O options and the somewhat basic (!) front-panel input metering, the Firestudio clearly needs a decent software application to control it. Fortunately, it has just that in the Control Console. This includes the Hardware Settings page, which allows the sample rate to be set (up to 96kHz), as well as the buffer size. Additional settings appear here if the optional MSR is connected.

If you want to simply monitor your inputs and output from your DAW via the Firestudio's main stereo outputs, or via the headphone output, the Control Console's default settings require little adjustment. In such a situation, perhaps the main use of the software would be for checking input levels via the top panel of the mixer screen, as these provide more detailed metering than the single clip LED for each analogue input mounted on the hardware. However, things get more interesting — if also a little more complex — when you want to use the various hardware outputs to supply different mixes to the various musicians in the recording session. The Control Console software provides an extremely flexible environment for this task and it makes the Firestudio a serious proposition for setups where recording multiple performers (such as a full band) is a common task.

Nine 'Mix' tabs are arranged along the base of the Mixer window and different mixer settings for both the inputs (along the top of the screen) and different channels from your DAW (along the bottom half of the screen) can be configured for each of these nine mixes. Each mix can also be assigned to a hardware output via the Output section of the Mixer window (located bottom right). Nine stereo outputs are available, although this is limited to the four analogue pairs plus the S/PDIF out, unless you have an additional ADAT device hooked up to the FireStudio. However, even having just the four analogue output pairs allows four separate mixes to be sent out and, if these are connected to suitable headphone preamps, means that your various musicians can pick a mix that is most suitable for their own needs; the drummer can get more drums while the bass player can get more bass, and so forth.



If you use submixes in your DAW (such as the Group Channels in Cubase) for each of your main instrument groups (drums, vocals, guitars, bass, keyboards, and so on), each of these pre-recorded groups can be assigned to one of the nine virtual stereo outputs provided by the Firestudio. The balance between these different instrument groups can then also be adjusted for each of the Firestudio's nine mixes — and, again, this gives excellent flexibility when your musicians require different monitor mixes while recording. Usefully, any of the nine custom mixes can be selected to also appear at the Firestudio's main analogue outputs or headphone output. This is achieved via the Outputs/Routing screen, and these outputs would usually be the ones used for monitoring in the studio control room.

There is plenty to explore in the Control Console and, while it does take a little experimentation to get to grips with it all, for creating multiple monitor mixes the Firestudio has considerable potential. A 'one mix fits all' approach can work when recording multiple musicians, but if you budget for a suitable number of headphone amps the monitor mix capabilities of the Firestudio could make life considerably easier for all concerned.

**▲top Hot Package**

The Control Console utility aside, Presonus provide an excellent software bundle with the Firestudio. The highlight is probably Cubase LE but the package also includes Reason Adapted, Amplitude LE, BFD Lite, Wave Arts MasterVerb LE, Drumagog LE, a series of Cycling '74 plug-ins, some Keyfax MIDI drum loops and the Discrete Drums sampler with over 2GB of drum loops and samples. Yes, the majority of these products are the cut-down 'lite' versions but, for someone developing a computer-based recording system from scratch, there is plenty of interest here and it does mean that you can get creative straight out of the box.

▲...

## Fireworks

Used at its most basic level — simply as a means of getting multiple channels of audio in and out of your DAW — the Firestudio is both very easy to use and, if my test system is anything to go by, extremely solid in performance. In testing with Cubase, Sound Forge, Wavelab and Acid Pro, I didn't encounter any problems, and even with a fairly complex project running under Cubase 4, I was able to operate at a comfortable buffer size of 128 samples without any glitching or a sense of sluggish performance. In summary, the Firestudio just gets on with the job — which is exactly what you want in an audio and MIDI interface.

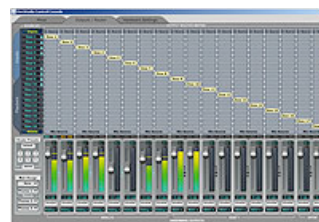
I have nothing but positive things to say about the unit's sonic performance and, as I suspect the Firestudio shares similar (if not identical) A-D/D-A and mic preamp technology with the Digimax FS that Paul White reviewed in the March issue of SOS, one should expect a similarly competent level of audio performance. In some basic listening tests using a range of commercial recordings from classical through to rock, the Firestudio sounded very good indeed. The stereo imaging seemed good and there was plenty of detail to the sound. If I had to identify one characteristic of the sound, it would be 'warm', and while I'm sure these sorts of descriptive and subjective terms are difficult to quantify, I felt the Firestudio sounded a little more pleasant (perhaps a little less harsh at the top end?) for extended listening than some other audio interfaces I've used.

Basic recording tasks produced equally pleasing results, and my usual tests based around vocals and acoustic guitars suggest that the Firestudio is more than up to the needs of all but the most demanding audiophile. If you regularly record a full drum kit, the eight mic preamps are going to help make that task easier — even without an external hardware mixer. In short, provided that you're feeding the Firestudio with a decent audio signal in the first place, there is nothing here to stop you making some excellent audio recordings — and if I found myself with a Firestudio permanently housed in my own rack, I'd have no qualms about putting it to use in my own commercial projects.



The rear panel of the Firestudio is jam-packed with connections for Firewire, MIDI, BNC word clock and analogue and digital audio. The RJ45 port on the centre-right is for the optional Monitor Station Remote.

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Incidentally, the Firestudio can be used as a stand-alone device without a computer. It might, for example, be used in a live recording situation, where the mic inputs are routed to the various analogue or digital outputs, which can then feed a 'non-computer' recording system, although care would obviously be needed in setting input levels, given the limited front-panel level monitoring. When the unit is used like this, the last settings made in the Control Console are retained in flash memory.

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## All Burnt Out

When it comes to audio and MIDI interfaces, there is a huge amount of choice available. For the home and project studio market, the Firestudio is certainly amongst the best in terms of audio quality. Whether the unit should be near the top of your purchase list will, however, probably depend upon two factors: do you need those eight mic preamps and do you need the audio routing flexibility provided by the Control Console and the Firestudio's eight analogue outputs? The multiple preamps would allow either a small band or full drum-kit to be recorded without a hardware mixer, while the multiple outs — as well as allowing surround sound mixing to be undertaken — also provide considerable flexibility for creating multiple monitor mixes via the Control Console. Given its ADAT expandability and the ability to daisy-chain a second unit, with 16 or 24 phantom-powered inputs, the Firestudio could easily sit at the heart of a very ambitious project studio environment — and I'm sure it would be up to the task. [SOS](#)

### [top](#) Alternatives

If you need eight inputs featuring mic preamps but can live without the ADAT interfacing, Presonus' own new Firestudio Project or the original Firepod both provide less expensive alternatives to the Firestudio. Equally, the Focusrite 26 I/O and 10 I/O (with or without ADAT respectively) would also be worth a serious look. Amongst a number of others, honourable mentions ought to go to the Alesis IO26 and MOTU 8PRE, both of which provide eight mic preamps. Of course, the devil is in the detail, and each of these alternative products offers a specific feature set — so do trawl your SOS back issues before you make up your mind!

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PROFESSIONALS ARE MADE, NOT BORN



# PreSonus FIRESTUDIO

**MusicTech**  
**RECOMMENDED**  
★★★★★★★★

Based on the popular Firepod, the new FireStudio audio interface boasts 26 ins and 26 outs as well as flexible control console routing. **Keith Gemmell** gets fired up...

## KEY FEATURES

- 26 inputs and outputs
- 8 Class A mic preamps
- 8 line Inputs, 2 Instrument Inputs
- 16 channels of optical ADAT I/O
- S/PDIF I/O, MIDI I/O
- DSP full-matrix mixer/router
- Bundled copies of Cubase LE and Reason Adapted

## FIRESTUDIO

Manufacturer **PreSonus**

Price **£649**

Contact **Source Distribution**

**020 8962 5080**

Web **www.presonus.com**

For some time now the term 'music technology' has mainly been associated with electronica, samples, loops, MIDI keyboards and one-man project studios. There's nothing wrong with that, but at long last we're seeing a resurgence of rock bands, real instruments, guitars and drums. And encouragingly, the gig circuit is getting healthier, too. Naturally enough, these bands want to make records, but many of today's 'mixer-less' DAW-based project studios lack the basic features needed to successfully record even the smallest rock band – you need plenty of inputs and outputs, as well as the facility to set up a headphone mix for each individual member of the band.

Various manufacturers are addressing these needs (Focusrite is one example, with its new Saffire Pro 26 I/O), but with eight preamps on the front, a full complement of analogue and digital connections at the back, a flexible software control panel for

creating multiple monitor mixes all topped off with a reasonable price tag, it looks like the new PreSonus FireStudio is ahead of the game.

## Straight 8

Arguably the most visually striking feature of the FireStudio – like its baby brother, the Firepod – are the eight combo-style inputs (1/4-inch and XLR) on the front panel, which are ideal for band-recording scenarios. All eight can be used for microphones with or

single headphone output with a dedicated level control complete the front-panel controls.

Obviously, different bands will have different needs, but if you're willing to settle for a four-mic drum recording setup (kick, snare and two overheads), you're still left with enough inputs for two guitars, bass and a possible guide vocal. Record the vocal and one of the guitars later as overdubs and you've got space for more drum mics.

## THE FIRESTUDIO IS A SUPERB AUDIO INTERFACE FOR BOTH LARGE AND SMALL STUDIOS ALIKE.

without phantom power, which can be applied to groups of four as required (preamps 1–4 and 5–8). On channels 1 and 2 the 1/4-inch connectors can be used for DI'ing electric guitars and basses; on channels 3–8 they accept line-level signals.

Each input has its own gain/trim control, but the FireStudio doesn't have any metering facilities, only a red clip light. Neither are there any phase-inversion or pad-attenuation facilities. A main level control, sync LED and a

The real clincher for such a reasonably priced unit, though, are the two ADAT/SMUX optical Lightpipe connectors located on the rear panel. Press these into service and you can connect a digital mixer or a suitable digital preamp for extra mic inputs. For example, connect a PreSonus DigiMax FS to the FireStudio and straight away you've got another eight preamp inputs (if you're using sample rates of 88.2kHz or 96kHz, that is). If you were to record with a sample rate setting of 44.1kHz

# Measuring Up

Another 26x26 I/O FireWire device worthy of consideration is the Foscurite Saffire Pro (£499). With very similar hardware specifications, it too features control software for custom mixes and monitoring as well as having the added bonus of built-in talkback facilities. Also with talkback built-in to its Cue Mix software is the MOTU 896HD – an excellent, although pricier, alternative (£759). Among its features are eight preamps, AES/EBU I/O, eight channels of ADAT, eight XLR balanced outputs, SMPTE generation and a fully working copy of MOTU's AudioDesk software. The 896HD may have been around a while, but it's a top-class unit that's worth the higher price tag. On balance, though, for band recording the FireStudio represents great value for money, giving you high-quality audio and professional studio connectivity, but lacking some of the frills beloved by professional engineers.

## METHOD SPOT

A useful FireStudio feature is its standalone operation. Computer failure is always a concern when tracking a live show with a DAW, but FireStudio provides a simple and fail-safe solution. Using the Control Console software you can route all your inputs to their corresponding outputs (analogue or digital) to feed a hard-disk recorder or something similar as a backup. If for some reason your computer packs up, your backup recording will be unaffected because all the routing will be stored in the FireStudio's Flash memory. This eliminates the need for a more complex live recording setup involving splitter snakes and so on.

or 48kHz, you could even connect two DigiMax units and get 16 extra channels. But that's not all: you can also expand your inputs with a couple of channel strips using the SPDIF I/O.

And what about inserts for processing incoming signals? There are two, but they're found only on channels 1 and 2 and they're located on the rear panel along with their respective line inputs, balanced main outs and eight general-purpose outputs (four stereo). Also at the back is what amounts to a comprehensive array of professional connectivity: MIDI I/O, BNC word clock I/O, RCA input and a CAT-5 connector for the optional Monitor Station Remote (see below).

## Look to your routes

Most audio interfaces come with some kind of console application, but it has to be said that with both a mixer and a matrix outputs/router page, the FireStudio's Control Console is among the best we've encountered.

Depending on how you record, you may never use the Control Console, but it does provide the means to create up to nine separate stereo monitor mixes of all your inputs and playback streams. In other words, you can send custom monitor mixes to each member of the band: the drummer might need a click track and more bass in his or her headphones; the guitarist might need more vocals and no click track. It's a very flexible system and it can also be used to create sends and returns for external processors, send several mixes to different outputs for monitoring comparisons, or assign all your inputs their own hardware output for incorporating into a larger console.

Unlike some FireWire interfaces, this unit will not draw power from your computer – you need to use the

The rear panel of the FireStudio boasts an impressive array of connectivity options.



The FireStudio's Control Console software, with the Mixer page open.

included power supply – but it is primarily intended for racked professional or project studio use. Nevertheless, it's light enough to carry around and there are two live-recording setup scenarios explained in detail in the manual. It's also possible to operate the FireStudio in standalone mode, but only with prior configuration in the Control Console software. The settings you make there are stored in Flash memory on the FireStudio itself.

It's worth mentioning here that for an extra £150 you can add the optional MSR (Monitor Station Remote) to the FireStudio – well worth the extra cash, we reckon, for the improved workflow this will provide. It's an all-in-one surround/stereo speaker manager, input switcher and talkback communication system. Connection is via a standard Cat-5 Ethernet cable. Dim, mute and mono buttons along with two extra headphone outputs are also present. It also sports a chunky master volume control, similar to the one on Mackie's Big Knob.

All in all, we're very impressed with the FireStudio. The preamps proved to be every ounce as good as their reputation, providing clean signals with plenty of headroom. The front-panel input system is very easy to understand and use, although phase-invert switches would have been welcome (maybe in the control panel software à la MOTU's Cue Mix). And if you're used to having one, the lack of a pad attenuation button could prove a minor niggle. The Control Console software itself, though, is remarkably flexible, enabling direct routing of any input to any output – digital or analogue (36x36x18) – with zero latency.

## Extra, extra

Even without the Monitor Station Remote the FireStudio represents superb value for money. However, the icing on the cake is the bundled software suite, which includes lots of plug-ins, virtual instruments and stacks of drum loops and samples. Just some of what's included are Cubase LE, Reason Adapted, AmpliTube LE, BFD Lite, TrackPlug LE and MasterVerb.

Of all the freebies, Cubase LE is the most relevant because it enables you to get up and running with a fully functioning audio and MIDI sequencer without shelling out extra cash first – 48 audio tracks, 64 MIDI tracks, VST instruments and effects plus ReWire are at your disposal from the outset. A setup tutorial is included in the accompanying manual to ensure that initially setting up the FireStudio is as painless as possible. With all this, how could we possibly award the FireStudio fewer than nine stars? **MTM**

## SUMMARY

### WHY BUY

- High-quality preamps
- Flexible Control Console software
- Comprehensive connectivity
- Lots of bundled software

### WALK ON BY

- No pad attenuation
- No phase-invert switch
- No front-panel metering
- Remote device needed for talkback

## VERDICT

The FireStudio is a superb audio interface for both large and small studios alike. It's easy to use, has flexible routing and monitoring, quality preamps and connections aplenty.



BUY THIS PRODUCT AT [WWW.MUSICTECHMAG.CO.UK/STORE](http://WWW.MUSICTECHMAG.CO.UK/STORE)