

RME Fireface 400

RME makes rock-solid PCI cards, interfaces and convertors so a FireWire box from the company is worthy of attention. **ROB JAMES** overcomes his prejudices.

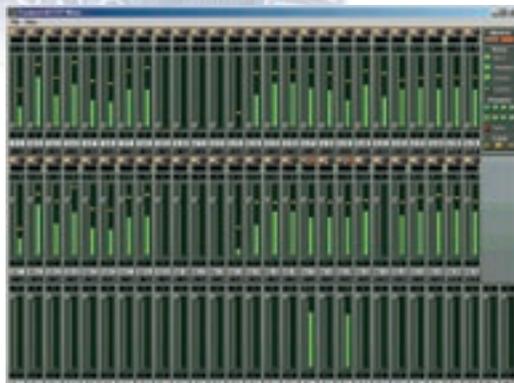


HITHERTO, I HAVE BEEN less than keen on FireWire audio interfaces. Some work well enough with Macs but when it comes to PCs I have always had problems with drivers and not entirely trustworthy performance. Curiously, I've never had any bother with FireWire DSP accelerators.

Physically, the Fireface 400 is a 1U half-width rack box attractively finished in the RME house colours of blue and silver. Included in the pack are some rubber feet (*That'll put a spring in your step. Ed*), an in-line power supply (the unit can also be powered from a 6-pin FireWire host), a MIDI breakout cable, optical cable and a decent length (4.5m) FireWire cable.

The feature set is promising: 8 channels of analogue I-O with two digitally controlled mic amp inputs plus two balanced instrument/line inputs on the front panel; ADAT optical and coaxial SPDIF usable simultaneously in Enhanced Mix Mode; and TotalMix mixer in hardware with 42-bit internal resolution and 32 channels of high-speed MIDI. Fireface 400 can also be used as a standalone A-D/D-A convertor with settings retained in flash memory and levels adjustable using the front panel rotary encoder. Remote control is also possible via MIDI and any control surface supporting the Mackie Control protocol.

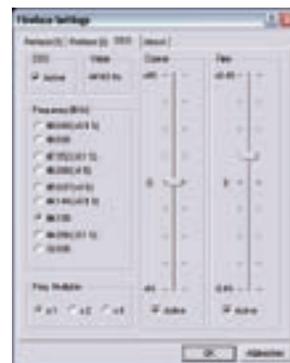
Installation is very smooth. Connect the Fireface to the computer (with the power Off — although FireWire is supposed to be a hot-plug interface, more devices die during hot-plugging than at any other



time), power it up and insert the driver CD. Windows finds the driver without any help and, after a re-boot, two new icons, Mixer and Settings, appear in the task bar. No doubt Mac installation is equally painless. I also updated the firmware and driver to the latest versions, downloaded from RME.

With Wavelab fired up I checked out ASIO, WME and MME. All worked immediately without any buffer fiddling. Wavelab can be difficult with some ASIO drivers so this is encouraging. You can use the Fireface 400 as a simple interface, largely ignoring the TotalMix application, but you would miss out on some elegant and very powerful features. The DSP-based TotalMix mixer offers fully independent routing and

mixing of all 18 input and output channels to all 18 physical outputs with up to 9 independent stereo sub-mixes. Routings, ganging and group-based operation of faders can all be copied and pasted and there is an alternative Matrix view of the mixer that is arguably easier to operate.



RMS and Peak level metering for all audio channels are calculated in DSP hardware with minimal CPU overhead.

The mic pres were a nice surprise, perfectly decent with ample gain to deal with insensitive mics. All the analogue circuits are commendably quiet. The Settings dialogue applet is installed with the driver. This is where you will find sync reference settings and tallies along with analogue hardware gain settings and such like. It is also where settings can be saved or read from the unit's flash memory. Among the expected items is a drop-down labelled 'Limit Bandwidth'. This allows the amount of data carried across FireWire to be reduced in the interests of improved stability by disabling certain channels. RME makes the point that FireWire necessarily involves greater CPU and system overhead than its PCI cards and that any lost data packets will affect all channels rather than just the last ones. RME designed its own FireWire interface with hardware-based data packet check and drop-out correction to combat this.

RME's sync and clock technology, SteadyClock, also features and can be used as the master sync reference for the studio. SteadyClock also refreshes clock signals and reduces jitter and offers pull-ups and pull-downs. The Settings dialog offers a choice of the most common sample rates or two faders can be used to set the sample rate in real-time, within the range of +/-4% and +/-0.4%.

At UK£552 (+ VAT) this would be a tempting proposition but not earth-shattering. However, the fact that it can be used standalone changes that. Thanks to the internal flash memory, all settings including the mixer are recalled during boot. Therefore it can be used as an instrument or microphone preamplifier, submixer, A-D and D-A-convertor, headphone mixer, format convertor or monitoring mixer, among other things. This extra functionality lifts it into a class of its own.

With a total of 18 I-Os at normal rates and 8 analogue and two digital inputs and outputs directly available even at the highest sample rate, this is a very useful box. Despite my misgivings about FireWire as an audio interface I am suitably convinced by RME's implementation. Fireface 400 has a lot going for it. ■

The package

Two balanced XLR/jack Neutrik combo connectors feed a digitally controlled analogue input stage and 48V phantom power is individually switchable. LEDs indicate phantom, signal present and clip. Preamp gain of up to 65dB is available adjustable in steps of 1dB over a 55dB range. Inputs 3 and 4 are balanced jack with signal present and clip LEDs and have a choice of Line (10kohm) or Instrument (470kohm) impedance and are equipped with preamps to provide up to 18dB of gain in 0.5dB steps.

Below the bright green two-digit display the rotary encoder incorporates a switch. A short press toggles between channel selection and I-O level adjustment while a longer press toggles stereo pairing on/off. Eight LEDs show valid input of Word clock SPDIF and ADAT. Host lights red when FireWire is disconnected or if there is a problem. Four yellow LEDs indicate MIDI activity and the stereo headphone jack takes outputs 7 and 8. On the rear, the coaxial power socket has a cable retainer and a switch to select external or FireWire power. Two 6-pin FireWire sockets connect to the host and provide hub functionality to connect a further device. A mini DIN socket provides two MIDI inputs and outputs when used with the breakout cable. Word clock I-O BNCs are accompanied by a neat little 75ohm termination switch.

ADAT Toslink I-O sockets are the shuttered type; no blanking plugs to lose. Phono coaxial SPDIF I-O is fully AES-EBU compatible and works at up to 192kHz. SPDIF can also be accessed through the optical I-O, which also works up to 192k — RME claims this is a world exclusive feature. Balanced line inputs 5-8 and balanced line outputs 1-6 are jacks. All are switchable between -10dBV, +4dBu and LoGain(inputs)/HiGain(outputs) equivalent to +2dBV, +13dBu and +19dBu for 0dBFS.

PROS

RME pedigree; convincing performance; versatility thanks to MIDI remote and standalone capabilities; convenience, especially for laptops.

CONS

Any real problems are likely to be due to the host computer's PCI bus segmentation, FireWire interface, etc; runs rather warm, particularly the PSU; no separate headphone volume pot.

Contact

RME, GERMANY:
Website: www.rme-audio.de