



Prism Sound Orpheus

There has been a flurry of FireWire I-O boxes recently as manufacturers grasp the opportunity that the interface offers. However, many have also been plagued by the foibles of FireWire in audio. **ROB JAMES** spends some quality time with the long awaited contender from Prism.

Marketing and general hype would have us believe that technology is progressing at an alarming rate of knots. In many areas this is obviously true, such as storage, but in others a seemingly promising technology can take an unconscionable amount of time to become stable and useable. FireWire (IEEE 1394, iLink) was first unleashed on an expectant world in 1995 and has been developed continuously since that time. Apple was the principle driving force behind it although Sony and others quickly jumped on the bandwagon. Originally intended as a SCSI replacement, you might imagine it would have been designed from the ground up with robustness in mind and indeed, properly implemented, this is the case. However, a number of problems have arisen in real-world use. Because FireWire can, and often does, carry power there is a danger of blowing chips when hot-plugging and this has happened to a great many video cameras. Some chipsets have proved to be less than compatible with others and a variety of problems arose when people attempted to use FireWire for real-time audio applications.

Given its somewhat flaky reputation in professional audio circles it may come as a surprise to discover that the 800 version, 1394b, has applications in military aircraft and the space shuttle. One very interesting recent development, 1394c, includes the capability of using gigabit Ethernet cabling and connectors. So far, and to the best of my knowledge, no manufacturer has released audio products employing this, which is a shame.

I have always been somewhat sceptical about the notion of using FireWire as a real-time audio interface and many previous articles have not changed that view. However, when it works, it works and I cannot deny the utility and convenience of a single cable connection between the computer and audio interface. I believe the more problematic examples suffer from trying to cram too many channels down the pipe and attempting to compete in the 'features' arms race.

Over the last few years FireWire audio interfaces have been characterised by increasing channel counts and features lists, declining prices, long development cycles and lots of problems. It is refreshing to find one from a legendary convertor manufacturer that is reassuringly expensive and with a relatively modest number of channels.

The UK£2745 (+ VAT) Orpheus arrives in a huge package, most of which is full of fresh air. Once the colourful outer sleeve is removed and the box opened Orpheus is revealed as a 1U box with a silver grey alloy front panel. The box itself is steel and rattles a little when tapped, of no consequence when rack-mounted but not so impressive when used on a desk. Eight analogue inputs and outputs

plus ten concurrent digital inputs and outputs, two independent headphone outputs and four mic pres provide the headlines.

Although I can, of course, see where Prism is coming from with the name there are some very unsavoury aspects to the Orpheus myths that have nothing to do with music. Let's hope the Prism Orpheus isn't similarly tainted.

Apart from bi-directional conversion and acting as a computer sound card the unit offers a number of carefully considered extras. Channels 1 & 2 have three alternative inputs — Mic, Line and high Z Instrument. Channels 3 & 4 can be Mic or Line and there is individually switched 48V phantom power on each of the first four channels along with a high-pass filter -3dB at 80Hz, 40dB/decade (12dB/octave). A sample rate convertor is available for patching into the 2-track digital input or output.

I was delighted to discover that vinyl is catered for since the Orpheus is equipped with an RIAA de-emphasis filter on input channels 1 & 2. RIAA is presented as an option in the high-pass filter dialog. Selectable MS matrices on channels 1 & 2 and 3 & 4 are the icing on the cake and MIDI I-O is also provided. Although there is no dedicated MS width control the desired result can be achieved by varying the analogue mic gains. If you want to use the MS matrices with line inputs then width control can only be achieved if the source has suitable gain controls. The master volume control on the main unit can address any or all of the analogue or digital outputs. Thus it can be used as a monitor level control for surround formats up to 7.1 or to control any of the outputs you might wish.

Installation is simple enough, although there is the annoyance of having to patch the Mac OS on V10.4.11. Orpheus is compatible with Windows XP and Vista. ASIO and WDM drivers are supplied. As usual, the Windows drivers have not been submitted for testing (read: paid the Microsoft tax) and this may catch out the unwary.

Like most FireWire interfaces this one uses a small application for routing, mixing and metering. All settings are also made in this Orpheus Control Panel applet. Once set up, Orpheus can also be used standalone with no computer in sight, since settings are retained with the power off. Multiple units can be connected by daisy-chaining the FireWire and are controlled through a single iteration of the applet. The fixed size window has Unit and Global settings at the top and a modern tabbed interface below that presents all the necessary information and controls clearly and concisely. I particularly liked the 'diagram' page which provides an instant aide memoire of what goes where. Annoyingly though, on both Mac and PC, the window does not remember its last position on screen.

All settings can be saved to disk and reloaded.

The built-in mixer is also controlled from here. Every output has its own independent mixer, ideal for providing multiple individual foldback feeds with a mix of workstation outputs and all or any of the inputs. The virtual mixer strips can be stereo or mono and have pan/balance, mute and solo controls. When Stereo is selected per pair of channels they are controlled by a single fader, mute and solo buttons. Each strip can be fed from DAW returns or Orpheus inputs. Mic amp gain is controllable in 1dB steps and more than 60dB of gain is available.

In operation Orpheus is a revelation. There is no discernible colour here, just ultra clean conversion in both directions. The mic pres are equally impressive. If you want dirt or colour, you will have to add it elsewhere. The 'Overkiller' circuits on the eight analogue inputs are instantaneous progressive limiters and provide the most unobtrusive clip prevention I can remember hearing. They follow the input gain setting (+4dBu or -10dBV) without requiring any threshold setting and Orpheus is extremely quiet, subjectively.

The way many people work these days, bringing signals out of the DAW to patch in analogue outboard or for analogue summing, means that the excellent D-A convertors are likely to be used for a lot more than monitoring. The two-channel digital output offers the choice of the four Prism Sound SNS noise-shaping curves and includes synchronous sample-rate conversion, enabling outputs to external devices at sampling rates other than the system rate.

To nit-pick a little, the main shaft encoder doesn't feel as secure as the pots, i.e. you can feel some wobble even after tightening up the retaining screw. This would probably not give rise to comment on a sub £1k box but on a professional device at this price it most certainly does. Also, the IP and OP LEDs bleed onto the channel one meter on the front panel. The meters themselves are very pretty and bright ranging from blue through green to orange with red for overload and an Overkiller activity light at the bottom. However, the meters are too small to be informative in a quantitative way. If you need numbers, the meters in the Orpheus Control Panel Applet are much more useful. There is no indication on the box if a digital input is at the wrong sampling rate but there is an indicator for SPDIF in the Orpheus Control Panel applet.

There are ways of confusing Orpheus. On a Mac at least, if the computer is allowed to go to sleep, the unit is not rediscovered when the Mac wakes up again. Similarly, I found that changing ADAT mode requires the unit to reboot and the Control Panel applet then loses communication with the unit (and therefore silence ensues). Communications can be

re-established by closing and re-opening the Applet. However, I did experience a Mac crash during this part of the testing. Prism suggests that the DAW is closed while changing ADAT modes and that ADAT I-O is left switched off when not in use to conserve host computer resources. In the end it was safer to reboot the Mac when changing ADAT modes.

In the interests of completeness I also installed the Applet on a PC running Wavelab. This time changing ADAT modes only caused a momentary loss of Control Panel info, restored when Orpheus had re-booted. However, if you don't close Wavelab when changing modes it loses the Orpheus ASIO connection and reverts to the PC default. In short, you MUST



close the DAW before changing modes.

On the Mac I was using Soundtrack Pro which uses Apple Core Audio and all was clearly not well whenever ADAT Send or Send and Receive modes were activated. After conversations with Prism, a firmware update fixed this problem.

This re-incarnation of Orpheus is indeed highly talented as was its legendary predecessor but, like the mythical minstrel, there are some foibles and irritating habits. Some of these can be avoided by adopting careful working practices.

Leaving aside its undoubted virtues in music production and sound for picture, Orpheus will also lend itself well to vinyl archival duties. In comparison to my in-house 'cooking' converters the sound is just excellent. Without having anything in the same league on hand for comparison purposes, I believe it is up there with the best converters available. It would be interesting to organise a 'golden ears' shoot out. I'm still not totally convinced about the FireWire and software side of things but Orpheus is certainly a great way to get your hands on state-of-the-art Prism converters. ■

Oily bits **Rack ears and an allen key are supplied along with rubber feet already attached for desk mounting.**

Despite the low power consumption (35W) Orpheus can still become pretty warm, hence the recommendation to leave 1U rack space above it. On the left of the front panel lie two 1/4-inch instrument input jacks. The centre is occupied by the display with analogue input source indicators for mic, line and instrument, the main eight analogue input or output channel meters and a further two for the stereo digital inputs or outputs. Meter selection is made in the Orpheus control panel. Further LEDs indicate when the unit is clock master and the chosen sync source is present and at the correct rate, whether SRC is active and if the SPDIF input is unlocked.

To the right is the main volume knob (assignable level control) with annular LED position indicators and the two independent headphone level pots, softly lit by green LEDs, are slightly recessed into the panel. The associated headphone jacks and a standby complete the picture. When in standby, the FireWire interface remains active so the unit is still recognised by the computer despite the fact that the inputs and outputs are inactive.

Orpheus supports sample rates at the standard frequencies between 44.1kHz and 192kHz and a wide variety of sync source options.

The rear panel has a fuse, the usual IEC kettle plug power input socket, two 6-pin FireWire sockets, MIDI in and out/thru DINs, Word clock I-O BNCs (output can be configured to output Superclock), Toslink optical SPDIF/ADAT I-O, coaxial SPDIF/AES3 I-O (software selectable for level, etc.), eight Line out and channels 5-8 line in analogue 1/4-inch A-gauge jacks and four Mic/Line Combo XLR/Jacks for channels 1-4 — Mic on XLR, Line on jack. The analogue outputs are 'bootstrapped' — in other words, level is maintained if one leg is grounded for unbalanced operation. In ADAT mode the optical I-O supports eight channels at standard sampling rates or four channels at high (88.4kHz and 96kHz) rates in ADAT Smux format.

PROS World class converters; thoughtful extras; could be the only interface you will ever need.

CONS Needs more attention to manufacturing detail; hassles with the Control Panel Applet on Mac; no wrong sync indication for ADAT In.

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