Universal Audio UAD-1

Talk of plug-ins invariably leads most minds towards soft solutions but hardware-oriented alternatives do exist for good reason. Take some dedicated DSP, a splash of outstanding reverb, add modelling of some of the most desirable classic outboard ever and you arrive at the UAD-1.

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AFICIONADOS OF **VINTAGE** analogue outboard will recognise the name of Bill Putnam. The UREI 1176LN compressor/limiter and 565 Little Dipper filter set are legendary in music and film. Today, Universal Audio is run by Putnam's sons and produces faithful recreations of the 1176LN, the Teletronix LA-2A levelling amplifier, and several mic amps (see *Resolution* V1.3). If anybody is qualified to produce plug-in equivalents of these seminal processors it must be Universal Audio.

Rather than simply produce native plug-ins UA sensibly went several steps further by buying technology and expertise to do the job properly. The UAD-1 DSP technology was developed by Hyperactive Audio Systems' Avery Wang and Joe Bryan. Universal Audio bought the UAD-1 and Bryan went with it. UA has also bought Kind Of Loud Technologies, developers of the highly regarded RealVerb-Pro.

Whatever the proponents of native processing would have you believe, an effects heavy mix still needs dedicated DSP. Several cards have appeared aimed at plugging (Oh dear. Ed) this gap. Although the plug-ins appear in applications as completely normal VST, this is not a two way street. Plug-ins have to be written in a special format for the UAD-1, dubbed, 'Powered Plug-Ins'. All current DSP add-on cards share
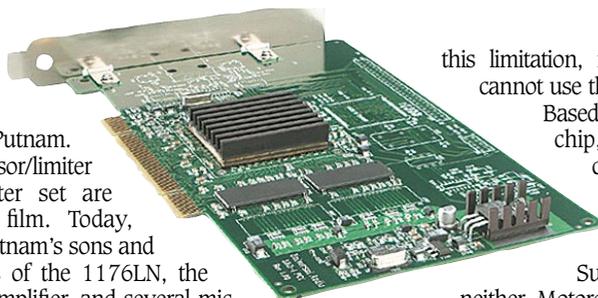
this limitation, native VST plug-ins cannot use the extra power.

Based around a single DSP chip, the UAD-1 is a compact PCI card. UA is highly reticent about what the DSP actually is. Suffice to say it is neither Motorola 56k nor SHARC but it is undeniably powerful.

Installation is easy; the card is fully PCI 2.1 compliant. UA recommends installing the drivers first, then the card. The PC finds the card after rebooting and that's it. Mac Drivers are available and there is a MAS version for MOTU's Digital Performer.

I used a P4 Win2k machine running Wavelab 3.0 as a convenient host. Immediately noticeable is the absence of zipper noise when changing parameters. This enables artifact free real-time changes under automation control and makes using plug-ins more pleasurable. All parameters of all plug-ins can be fully automated. Graphics are, predictably, a mixture of screen representations of original vintage hardware front panels, while the RealVerb-Pro and others, sport contemporary sliders and displays.

A performance meter application allows you to keep an eye on the available resources. This is also where buffer configuration is set.

The benefits of the UAD-1 are easy to see. A huge increase in DSP horsepower, a killer reverb and excellent representations of some seriously costly and desirable vintage kit together with a handful of highly useable extras.

The downside is exactly the same as all similar solutions: the usual latency issues (twice the buffer size of the host) and general fragility of computer based audio systems. I had the odd inexplicable crash, which didn't happen with Wavelab before installing the UAD-1. I'm not blaming the card since in my experience the same thing usually happens whenever an extra layer of complexity is added.

UA includes a delay compensator plug to mitigate the latency issue. Simply insert into tracks with no effects, select the number of plug-ins to compensate, and it automatically adds the appropriate delay. 96kHz is possible but predictably halves the number of simultaneous plug-ins. I would like to see surround versions of the plug-ins especially RealVerb 5.1.

Is it worth the expense and hassle? Unequivocally yes. In the absence of any third-party support, now or planned, you have to judge the UAD-1 as a package. Think of it as a standalone effects processor. If it does what you need and now, the decision is self-evident. If vintage effects do it for you, this is the most cost-effective way of getting the closest approximation to the real thing. Even if they don't, being able to comfortably run eight or more iterations of RealVerb-Pro easily justifies the UAD-1's existence. ■

The plug-ins

CS-1 Channel Strip is three modules in one. EX-1 equaliser/compressor 5-band parametric EQ with maximum 18dB boost and cut and Q from 0.03 to 32. Compressor with ratios from 1 to infinity, Attack from 0.05ms to 100ms, release from 25ms to 2.5s. The analogue VU meter can be switched between input, output, gain reduction, and off. DM-1 delay modulator provides the usual delay based effects, flange, ping-pong chorus, and 2400ms maximum delay per channel. RS-1 Reflector Reflection Engine is a cut down reverb but still no slouch.

Nigel is a collection of modules for guitar. Gate and compressor does what it says. Preflex is the processor amp and cab simulator with Bent and Color controls, pre and post low, mid and high EQ, and amp type and cab type menus. There's real-time morphing between any two amp types.

Phasor gives a really rich effect with little effort. Mod Filter does wah-wah and envelope follower effects. Trem Fade has Classic, Shimmer and VariTrem modes and can also do fades for swells and reverse tape effects. This module can be synced with the Modulated Delay module for highly original sounds.

Vintage compressors are the 1176LN and the Teletronix LA-2A. The 11766LN is modelled on the black-face version D and E with ratios of 4:1, 8:1, 12:1, and 20:1 plus All Buttons mode. Attack is 20 microseconds to 800 microseconds and release 50ms to 1100ms. The Teletronix gives 0 to 40dB of gain reduction in compress or limit modes. Were the originals really this good?

The third vintage component is the Pultec EQP-1A equaliser. If this is even close to the real thing I'm beginning to see what all the fuss is about.

RealVerb-Pro is a revelation. I can only think of two or three plug-in reverbs that come anywhere near the top-end hardware units. RealVerb-Pro is definitely one. Tails run smoothly into silence with little or no grain and reverb disappears into the mix very naturally. You can morph in real-time between two settings. Great for post where this trick would normally use up two reverb units and still not give quite the same effect as morphing parameters. Room size goes from 1 to 99 metres with 15 room shapes and 36 surface materials.

PROS	Great reverb; convincing emulations of classic outboard; cost effective
CONS	Some unexplained crashes; no surround effects; no third party support now or planned
EXTRAS	UA's 2108 mic and instrument preamp uses discreet, solid state Class A circuitry based on the amplifier in the 1176LN compressor/limiter. Many users

of the 1176LN like the tone of the amplifier circuit so much that they often run signals through the device with no compression setting. This gave birth to the initial product concept for the 2108. UA added features like switchable input impedance, transformer coupled inputs and outputs, hi-z instrument inputs, phantom power, switchable input and output metering via a 3-stage lamp on the front panel, and phase reverse.

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