

Sydec Mixpander Power Pak

Building on established products and technological principles, Sydec is now offering a leg up for the horsepower hungry native operator. **ROB JAMES** powers up the Power Pak.



THE NEW RANGE of Mixpander Power Pak systems expands Sydec's reach in the native workstation arena. Sydec has had PC add-on cards for several years — the Mixtreme and more recently the Mixtreme 192 brought the benefits of the Soundscape mixer and proprietary plug-ins to a wider audience and at a significantly lower price point than the core Soundscape workstations. However, Mixtreme often seemed somewhat under-powered in the context of 'big gun' sequencer workstations. Sydec also had the Mixpander 5 and 9 cards, used to add considerable DSP horsepower to the Soundscape workstations, and it seemed only a matter of time before the Mixpanders would be offered as standalone products for use with third party, native software.

The Mixpander Power Pak 48 under consideration here is a UK£2199 + VAT bundle. This includes one Mixpander 9 PCI DSP audio card and an iBox 48-TA audio interface box with 24 channels of 96kHz/24-bit balanced analogue I-O plus 24 channels of TDIF I-O. Software is version 4.2 of the Soundscape Mixer in a special edition for Mixpander and Mixtreme.

Also included is the FX1 DSP plug-in bundle of the Soundscape Audio toolbox with compressors, gates, expanders, chorus, flange, phase and digital delay. Soundscape Multi Band EQ, Spin Audio Spin Delay, Spin Audio Room Verb M1 and Acuma Labs Final Mix is also included and there is support for inserting native powered VST plug-in effects into the Soundscape Mixer.

The premise here is that it is desirable to provide the native workstation aficionado with high quality multichannel I-O and enough DSP horsepower to ensure rock solid operation and low latencies. To this is added a range of desirable bundled and optional plug-ins from a wide variety of respected authors.

Installation is reasonably simple but takes a while. The Mixpander 9 is a full length PCI card and this may cause problems in some computers. It wouldn't fit the first one I tried due to overhanging componentry, but went straight into the second. The only physical connection between the Mixpander and the iBox is a proprietary TDM cable. This is only one metre long, something to bear in mind

when planning an installation. Software and drivers didn't create any dramas. WDM/KS, MME and Asio-2 drivers are all included and have full concurrent multiclient capability. Asio-2 is currently limited to 16 channels. At 48kHz (or 44.1kHz) you get 64 bi-directional audio streams between the host application and the Mixpander card, 24 channels of analogue I-O and 24 channels of TDIF. Thirty-six re-assignable internal buses allow for highly creative configurations.

Soundscape's mixer is a floating window with 128 columns or strip slots. It can be viewed with the columns at full or reduced width to see more channels on screen at once. The channel structure is very flexible and largely defined by the user. Different configurations can be created, saved and loaded and the mixer has full recall of all parameters including the settings of any real-time plug-ins. Each channel can have a number of real-time processes running at the same time. The 36 internal buses can be used to distribute or group signals to be sent to internal effects processes or to master faders. Any output or send element can be routed to a bus and the input to a channel can also be a bus.

A bus can be assigned as the input for multiple channels allowing flexible signal distribution. Structurally, all the mixer elements are plug-ins. Ninety-nine fader and solo groups help the mixing process and a number of elements come in 4, 6 and 8 channel types. A degree of user common sense is expected since illogical placements, such as 8 channel inputs feeding into mono elements and vice-versa, are allowed and may give rise to unexpected results. Unfortunately there are no multichannel EQ, dynamics or effects elements.

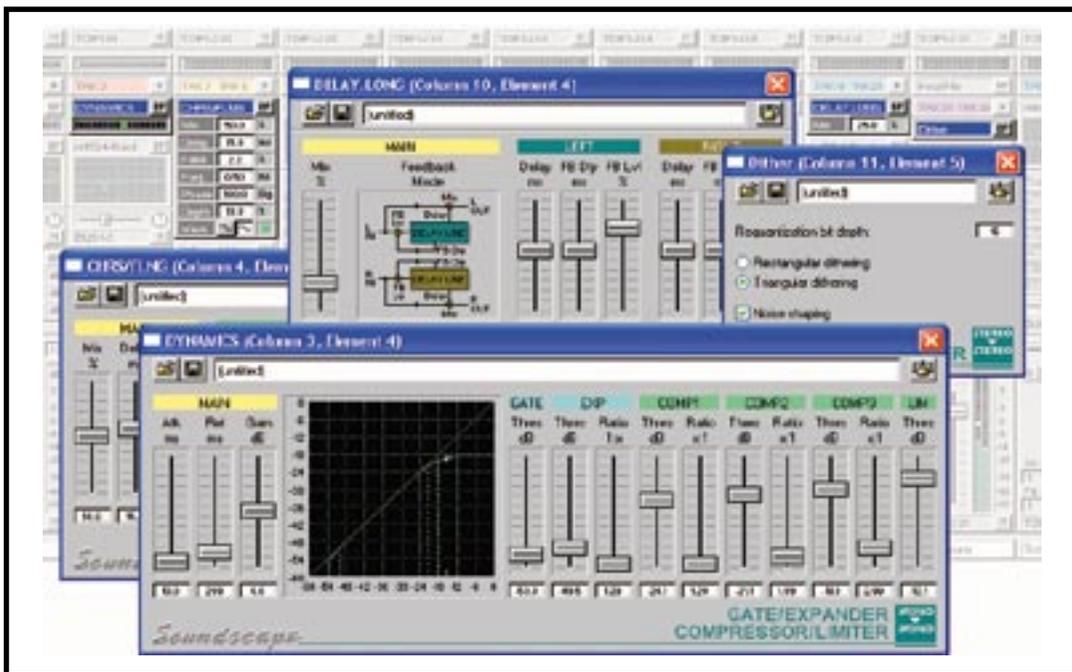
Well-behaved VST plug-ins, including virtual instruments, are catered for, but these use the host computer's CPU just as they would in a native application. A VST or VSTi plug-in or chain of plug-ins also uses up one audio stream per channel.

It is important to understand the gain structure within the mixer. There is, in effect, no headroom. If you input a 1kHz 0dB signal into an input strip, followed by an equaliser, then boost 1kHz by 0.1dB, the signal will clip in the equaliser unless the input gain is lowered. Similarly, there is no headroom on the internal buses. This need not be a problem; it simply requires a disciplined and slightly different operational approach.

Mixer automation relies on recording the relevant MIDI data via the Console Manager utility into a MIDI sequencer. Automation can be enabled or disabled individually for each automatable parameter of every mixer element although the modus operandi is somewhat cumbersome. The Soundscape mixer can also be controlled by third-party hardware control surfaces via the freely downloadable Soundscape Console Manager program. These aspects have an unfinished feel to them. The manual leaves out more than it tells.

The Mixpander Power Pak is going to appeal to native users who are fed up with the compromises inherent in host-based mixing. Unfortunately for them, there are compromises here too. Whether these are important will depend on the way you work. If automation and maybe hardware control surfaces are integral to your workflow, there are going to be problems to solve. For my working practices, a complete Soundscape editing solution makes a lot more sense with a Mixpander added to increase the DSP power.

The virtue of this solution lies in the effortless



handling of 64 bi-directional streams to and from the native application and the 48 channels of physical I-O talking to the world outside. Couple this with sufficient DSP to cope with some impressive mixer configurations and you can see the attraction. To give some idea of what we are talking about I designed a mixer with 48 mono inputs, all with 4-band EQ, dynamics and two aux sends. I added three 5.1 inputs for monitoring, aux groups with reverbs and master dynamics, all feeding into two 5.1 groups with a master 5.1 monitor output, without getting anywhere near the limits. If you are a total DSP megalomaniac, further cards can be added at reasonable cost.

Sydec's Soundscape products have always been renowned for an unusually high level of solidity and reliability and, albeit on short acquaintance, I see no reason why the Mixpander Power Pak should be any different.

For people working on a large scale, and where this is more important than a one-stop solution with fully integrated automation, Power Pak will make for a far more relaxed working environment without the perpetual worry over running out of native DSP. ■

PROS

Serious DSP horsepower; rock solid; serious, professional kit.

CONS

Gain structure requires care; no multichannel EQ, dynamics or effects; automation depends on sequencer.

Contact

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Hardware

The Mixpander 9 PCI card has one Motorola 56301DSP handling bus mastering and streaming plus eight Motorola 56362s for processing. Two of these have significantly more memory than the rest for processes requiring this. DSP allocation can be manual or automatic. External interfaces connect via a single, proprietary TDM connector.

Each Mixpander/9 can provide 64 inputs and 64 outputs of audio (192 I-O for three cards) when used with a MADI compatible iBox: iBox 64-MADI or iBox 64-MADI-TA.

Although the Mixpander Power Pak comes with the iBox 48-TA, offering 24 channels of balanced analogue I-O at up to 96kHz, 24 channels of TDIF I-O at 48kHz plus the 64 channel expansion port, its sibling variants can be substituted (with a suitable cost adjustment). iBox 64-MADI-TA offers 24 channel analogue balanced I-O at up to 96kHz, 24 channel TDIF I-O at 48kHz, and either 24 inputs and 24 outputs at up to 96kHz (Sydec 'single wire' mode) or 12 inputs and 12 outputs at up to 96kHz (Tascam 'double wire' mode), 64-channel MADI I-O at 48kHz, 32-channel MADI I-O at 96kHz and the 64-channel expansion port.

All the audio connectors are located on the rear panel of the unit, except for the headphone output. The only active control when used with the Mixpander is Meters. This switches 24 tri-colour LEDs indicating -30dBFS (green), -3dBFS (orange) and 0dBFS (red) between A-D and D-A. This section also features an 'XS' LED that indicates various operation or setup modes when used standalone.

Otherwise all settings must be made in the Soundscape mixer. This allows individual channel pair patching rather than the blocks of eight channels available in standalone mode. Also for standalone operation there is a Clock source selector. The source can be internal, external (Word clock or SuperClock) or TDIF. The Sample Rate selection button is used to select a sample rate when the iBox is the Clock Master. An input/output routing matrix is used to set connections between the TDIF, analogue and MADI inputs and outputs and the TDM expansion port. Settings will be reflected by the LEDs on the iBox whether set in software or from the front panel.

ALSO AVAILABLE

- Mixpander Power Pak 96 (UK£3675 + VAT) with two Mixpander 9 cards and two iBox 48-TA providing 48 channels 96khz/24-bit balanced analogue I-O and 48 channels of TDIF I-O, plus the Soundscape Mixer software and FX1 DSP plug-in bundle.
- Mixpander Power Pak 128 (£6250 + VAT) with three Mixpander 9 cards and four iBox 48-TA providing 96 channels 96khz/24-bit balanced analogue I-O + 48 channels of TDIF I-O, plus the Soundscape Mixer software and FX1 DSP plug-in bundle.

