

Merging Technologies Sphynx 2

If you're in the market for a standalone convertor box then you're going to appreciate the widest possible choice of format options. **ROB JAMES** decides that it's versatility and performance that rings his bell.

YOU MIGHT BE forgiven for thinking there is a lot of choice when it comes to convertors. To some extent this is true, if all you want or need is 'conventional' sampling rates and formats up to 96kHz. However, once there is a requirement for the DSD conversion necessary for SACD production options become limited.

Sony has acknowledged a new recording and editing format developed by Philips and Merging Technologies called Digital eXtreme Definition (DXD). DXD is designed to enable multitrack recording and editing for SACD at high quality. If DSD and DXD are on the agenda, the choice of convertors available is vanishingly small.

Sphynx 2 is a joint development between Merging Technologies and Digital Audio Denmark combining the two company's MADI, DSD/DXD and convertor skills. A DAD version of this unit is known as the Axion. A unique, to my knowledge, technology lies at the heart of the Sphynx 2. Analogue audio is initially sampled at an amazing 5-bit 128 FS (5-bit at 5.6832MHz) resolution, provided by the A-D chip used, and is subsequently decimated to any of the standard PCM, DXD and DSD rates.

Leaving the more esoteric aspects aside for a moment, Sphynx 2 has a number of features that will benefit many recording and production applications. In its most basic form, Sphynx 2 offers 8 channels of A-D conversion. Seven option slots can be populated with one or two four-channel D-A modules and a variety of digital I-O modules. These are available in AES-EBU, TDIF, Pro Tools Mixplus, SDIF3 and MADI formats. This modular design helps keep the cost down. Rather than fitting every interface format known to man you can specify exactly what is required.

The basic unit is UK£4000. Digital modules are UK£546, MADI is UK£800 and four-channel D-A modules are UK£940 each (all plus VAT). MADI is a powerful bi-directional interface that can handle all PCM sample rates up to 192kHz as well as DSD 64fs and 128fs and DXD (352.8kHz). Further units may be attached in a daisy chain for more channels. Each MADI interface and convertor unit can be set to access any block of 8 consecutive MADI channels. A single MADI link can connect 8 channels of DXD I-O or up to 24 channels of DSD I-O

A smart sculpted alloy panel resplendent in the new Merging house style, matching turnkey Pyramid workstation systems, fronts the 2U rackmounting enclosure. The front panel is devoid of obvious



controls. In fact there is just one. The left-hand segment of the internally illuminated Merging pyramid logo is also the soft power switch. For security, this must be pressed and held for at least three seconds before the unit enters standby. Stacked sets of indicator LEDs for each analogue channel show input overload, signal presence and carrier and signal presence for the digital inputs to the D-A convertors. A vertical stack of 8 LEDs indicate the current sampling rate, three more the sync source, and a further two signify Sync Alarm and D-A Unlocked. Sync Alarm shows when an external sync source is unavailable or out of range and D-A Unlocked lights when the selected digital input sampling rate differs from the sync source. Finally, a two character alpha display shows the Unit ID with a LED below confirming serial communication.

The unit is controlled over RS422 by the DAD DADman Windows application. A single iteration can control several Sphynx 2s and/or any of the other DAD convertors. DADman enables you to set Unit IDs where multiple convertors are present and to set the coarse analogue input gain between two ranges. Fine adjustment is carried out with multiturn trim pots on the rear of the unit and D-A modules. DADman also controls parameters such as sync source, sample rate and type, etc. Analogue inputs can be muted and phase reversed.

It is no function of a convertor to impart any

character of its own to the sound. However, in absolute terms every convertor changes the sound in some way, just as every other recording and reproduction process does. Once you get above a certain level, arguments about which convertor is 'best' take on an almost theological slant.

The conditions necessary to perform objective convertor evaluation and comparison are difficult and expensive to arrange and well beyond the scope of this review. But even on first hearing it was obvious that this is a very special device. Switching back to my console's convertors was revealing. In comparisons at conventional sampling rates there is a natural, relaxed quality to the Sphynx 2 sound, reminiscent of the most satisfying analogue systems I've ever heard. The same comments are equally applicable to DXD and DSD conversion. If you need this technology now then Sphynx 2 is a no-brainer. Even if you don't, isn't it comforting to know you won't need to replace your convertors to get into the SACD game? Without double blind testing I consider this to be as transparent in both directions as any convertor I've heard. Suffice to say that in my not-so-humble opinion the Sphynx 2 is a worthy entrant into the rarefied atmosphere of high-end conversion at a far from stratospheric price.

On PCM performance alone Sphynx 2 jumps straight into the 'must audition' list for anyone in the market for an 8-channel convertor solution. ■

SACD, DSD & DXD

On a SACD disc, the audio is represented by a one-bit signal sampled at 64 times the CD rate of 44.1kHz. This is known as DSD 64 and produces a data rate of 2.8224Mbit/s. However, this is just the delivery format. Although original recordings can be made in this format there are snags when it comes to multitrack use due to build up of out-of-band noise. Also, any mixing or processing necessarily results in more bits, which must be reduced back to one bit for delivery. The alternative of using double the sample rate (DSD 128) still suffers this drawback. DXD recording uses a 24-bit signal sampled at 352.8kHz. The data rate is 8467.2Mb/s — i.e. three times that of a DSD64 signal. The DXD signal can be directly edited, mixed and processed directly. One benefit is significantly lower out-of-band noise levels. Since the DXD sample rate is 8 times 44.1kHz, the signal can easily be up-sampled to DSD and/or decimated to any existing PCM rate for consumer format release with minimal degradation.

PROS The sound; versatility; cost effective bi-directional DSD.

CONS Control software a bit clunky; needs RS422 so a convertor may be required.

Contact

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