DirectOut Andiamo.MC

MADI has reached critical mass as a convenient and proven high density I-O.
JON THORNTON investigates a box that is so much more than a mic pre.

MADI has been knocking around as a standard for more than 20 years, yet it's undergone something of a recent renaissance. That this has happened shouldn't really be that surprising — as the requirement to pipe around multiple channels of digital has moved beyond large-scale broadcast and into sound reinforcement and studio installations, the adoption of an existing, proven and resilient standard is something of a no-brainer. MADI has always been championed by manufacturers such as SSL, RME and Digico but you can now add German outfit DirectOut Technologies to this list. Although relative newcomers (established in 2008) its product range is firmly focused around professional audio solutions employing MADI.

The most recent addition is the Andiamo.MC, and it's quite a tantalising proposition. Shoe-horned into a 2u rackmount are 32 channels of microphone preamp, 32 channels of analogue output and a fully featured MADI interface and routing matrix. As you

might expect, this makes for fairly densely populated front and rear panels. Analogue I-Os appear in banks of eight on 25-pin D-Sub connectors on the rear — the analogue inputs have a very wide range of sensitivities so there is no distinction between microphone and line level inputs as a result. DirectOut also makes rackmountable break out boxes to XLR M/F if required.

MADI connectivity on the rear comes in two different flavours and two sets of MADI I-Os are provided — purchasers can specify these to be all optical (SC connector) or to have one set optical and the other set on BNC coax connectors. An additional pair of BNC connectors gives Word clock I-O, and a USB connection allows remote control of various settings from a PC (more on this later). Four Mosfet switched outputs appear on a single 9-pin D-Sub for use as general-purpose outputs for control of recording or cue lights, etc. Finally, there are two separate power supplies, each with their own IEC connector and switch. While the unit will operate perfectly happily

with only one of these powered up, providing power to both ensures uninterrupted operation in the event of one failing.

The front panel is almost entirely taken up with an array of green, yellow, blue and red LEDs — a look that's only broken up by four momentary action pushbuttons and some rather funky looking handles. Each of the 32 input channels has a three LED metering system. The points at which these indicate are uniformly referenced to dBFS — with the red LED indicating an analogue input signal that would correspond to more than -0.5dBFS, and the yellow and green LEDs lighting up softly and reaching full brightness in the ranges -18 to -6dBFS and -80 to -18dBFS respectively.

This uniform reference to full-scale, and the fact that the preamps are passed directly to the A-D convertors, means that DirectOut prefers to use the term 'sensitivity' rather than 'gain' for the inputs — in other words the signal level in dBu that will result in a 0dBFS output. Each input can have its sensitivity altered in 1dB steps from -55dBu to 0dBu. An additional 30dB pad gives an effective range of -55dBu to +30dBu. Phantom power can also be applied individually to any of the inputs and two additional LEDs for each input indicate whether the pad or phantom power has been applied to that channel. The analogue outputs make do with a single green signal present LED for each output at the very bottom of the unit but basic as it is it proves very useful to see those outputs when playing with some of the more advanced routing functions.

The Andiamo.MC operates in two main modes referred to as Standard Bank Routing and Matrix Mode. Standard Bank Routing is the most straightforward, and simply allows the unit to route its 32 input channels to the first or second block of the MADI

interfaces' 64 channels. At higher (>48kHz) sample rates the MADI standard only allows for 32 channels in which case there is no need to select one bank or the other. Similarly, this mode sets which bank of channels will be 'listened' to on the MADI inputs and converted to appear on the 32 analogue outputs.

This all works very well and with the Andiamo.MC connected via fibre to an SSL DeltaLink MADI HD running into a Pro Tools HD system, 32 channels of line level I-O was up and running in short order. And if that was all you ever wanted to do, that would probably be the end of it. But trust me, if you want to go much further than this then using the PC-based remote software is more essential than desirable. While it is perfectly possible to use the front panel controls to set clocking options and MADI modes, trying to set input sensitivity (or 'gain' if that makes you feel more comfortable) for each channel involves tortuous permutations of multiple and single button pushes and the decoding of flashing, dimmed and fully lit LEDs to indicate various parameters. Maybe with several weeks of intensive practice it might become second nature, but even DirectOut gave up with making the more advanced Matrix Mode programmable from the front panel.

Thankfully, installation of the drivers and remote software on a PC running Windows XP proved relatively painless (apparently an OSX version is under development, but not yet available). Connection to the unit in this case is via USB, although two other methods are possible — RS422 or MIDI over MADI. Both of these require an additional hardware embedder to add the control data to the MADI stream, so weren't tested here but would be useful in situations where the Andiamo.MC was in a physically remote position relative to the DAW/mixing desk receiving the data.

The Andiamo Remote software is mercifully straightforward in use. Input sensitivities for each channel are set with a virtual fader, toggling the pad and phantom power is literally point and click territory and all 32 channels are visible on a single screen. And simply as mic preamps, the channels are impressively

quiet and open. Not, as you'd expect, dripping with character but it's clear at first listen that there haven't been any corners cut on the analogue side.

System settings such as clock source and bank select are also available in a separate screen, as are some parameters (such as fine tuning the speed and activation temperatures of the fan and setting GPO conditions) that aren't accessible anywhere on the front panel. But the real power and flexibility of the unit is revealed when using the remote software to access Matrix Mode.

Put simply, this allows the patching of any system input (any analogue input, or any of the 64 channels on MADI inputs 1 and 2) to any output (any analogue output, or any of the 64 channels on MADI outputs 1 and 2). A single input can be routed to multiple outputs, but not vice-versa, and this is achieved using a simple graphical cross-patch with tabs to select which inputs and outputs are being viewed across the two axes. And simple as this sounds, it makes an already impressive unit that much more flexible. For example, it's quite easy to envisage a situation where the Andiamo.MC was sitting remotely on a stage at a live recording, taking mic level inputs from a stage split while simultaneously generating a 1:1 additional split on its outputs for broadcast. Or carrying comms and foldback on its outputs from one MADI stream while delivering 32 channels of high quality mic preamplification to another.

Everything about the Andiamo.MC can be summed up in one word — reassuring. It's reassuringly weighty, its sound is reassuringly uncompromising, and it's full of little touches like the dual PSU that reassure you that its designers take their job and yours seriously. It's also, in the words of a certain European lager, reassuring in another way — as a brief look at the price list reveals (UK£6850 + VAT). But you do have to put this in the context of what you get here — that price puts each channel of mic pre alone at an entirely reasonable UK£200. And what makes this box so good is that it is so very much greater than the sum of its parts. Which makes it seem like a bit of a bargain, really… ◾

PROS An enormous amount of capability in a very compact space; high-quality mic pres; flexible routing options.

CONS Front panel editing a little tricky; no OSX software yet; reassuringly expensive.

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