



## RSS M-380

The front end accompaniment to the Digital Snake has been enhanced with the introduction of a more compact desk. **JON THORNTON** gets a good look and likes what he sees.

One of the advantages of being a relative latecomer to a particular sector is being able to learn from the mistakes of others. On the flip-side, if your competitors end up making very few mistakes then making inroads into market share and user acceptance can be something of an uphill struggle.

Roland's RSS group's entry into the digital mixing market has been to some extent the logical progression of its Digital Snake product range. This has been around for a couple of years now, offering point-to-point connectivity in analogue and digital forms over Cat5 cables using the proprietary REAC format. The Digital Snake is a simple, rugged and well-engineered solution, but really only replaced an analogue multicore and stagebox. Back at FOH or monitor world, you still had to connect from a breakout box to the console using individual analogue or AES3 connectors. It was a no-brainer to remove this step, and build a digital console with REAC connectivity embedded in it.

The M-400 was the first offering, giving a total of 48 channels controlled by a bank of 24 faders. At first glance, it seems that the M-380 is a cut down version of the M-400. Physically it is — the M-380 is dimensioned to allow it to be rack-mountable for installation purposes, and this form factor also means that you lose the rear up-stand section of the M-400 that tilts the screen and many of the controls up at a nice angle. But in terms of total channel count, I-O capability, routing and busing options, and overall processing clout it's actually near identical to its larger sibling. Obviously, the reduced width means that only 16 faders (plus a master fader) are available on the control surface, but that's really the only major difference.

The rear panel of the M-380 is extremely uncluttered for such a capable mixer — largely because there are only eight balanced analogue inputs provided here. These appear on XLRs and feed a preamplifier before going through an onboard A-D stage. A pad allows them to operate with line

and microphone level signals, and they can all carry phantom power (individually selectable). Another eight XLRs give balanced line level outputs, and there is also a stereo digital out (SPDIF) available on coaxial or lightpipe, an unbalanced stereo input on phono, and a dedicated talkback microphone input on XLR. This relative sparseness of I-O is explained by the inclusion of three REAC ports. Using Cat5, these allow the connection of various peripherals (of which more later) that vastly expand the I-O options available.

The main user interface of the M-380 is very straightforward, and helped no end by the use of a large, clear and bright colour display. The main fader bank includes illuminated Cut, Solo and Select switches, together with a small, but useful LED signal meter. A dedicated row of buttons by the master fader toggles these faders between banks. Operation follows the usual 'select a channel and then adjust parameter' method — and there are dedicated controls for the most common functions. At first I was a little thrown by the absence of a dedicated rotary encoder on each channel that could be toggled between pan, aux send level, etc. — instead there are dedicated pan and auxiliary send encoders, both of which alter these parameters on the selected channel. In the case of the aux send encoder, it controls the level of whichever auxiliary is selected by dedicated keys to the left of the fader block. It takes a little getting used to if you're familiar with Yamaha consoles, for example, but after a while becomes very quick in practice. The top left of the console features dedicated encoders and switches for functions such as channel gain, EQ and some dedicated keys to access broad functional areas of the console. I particularly like the dedicated key that enables or disables the touch sensor select function on the faders — no more diving through layers of menus to find this.

In terms of general architecture, the M-380 has 48 input channels, 16 auxiliary buses, a main output bus that can be configured as LR or LCR, and eight matrix outputs that can be sourced from different balances of the auxiliary and main buses.

Mapping specific inputs to channels and signals to outputs is accomplished by some intuitive patchbay grids on the screen — with these parameters being set by using a combination of cursor keys, data wheel and data entry keys on the right hand side of the screen. Options here include all of the inputs and outputs available on the rear channel, but can be added to by plugging in and configuring a REAC peripheral. The faders toggle between banks to control the 48 input channels, aux masters and matrix outputs. They can also be set to act as DCA group masters for up to eight freely assignable DCA groups.

The M-380 also features onboard dynamics and effects. A gate and/or compressor can be assigned to any of the 48 input channels, and a limiter assigned to the main output and auxiliary buses. There is one catch here, in that only 24 compressors and 24 gates can be assigned at any one time. While this might not be problematic in most applications, it does seem a little mean in this day and age. Accessing the parameters for these is quite smart — dedicated 'pop-up' keys for the compressor and gate are provided, which bring up the parameters for these on-screen for the selected channel. The rotary encoders normally used for EQ can be used to set the parameters. This works much better than you might expect due to the on-screen parameters being arranged in the same configuration as the physical encoders, together with some clever changing of the LED colours for switches and encoders, which clearly shows what mode you are in. It's little things like that that make operation that much speedier.

Onboard effects are also provided, with four stereo effects units available. Each of these can also be switched to act as a 31-band graphic EQ instead and, if desired, the graphic bands can be controlled by the main fader bank. The effects on offer are all of good quality and as well as the standard fare of reverb, delays and modulation effects they also include emulations of some classic Roland outboard, such as the RE201 Space Echo and Dimension D chorus.

For review purposes, the M-380 was supplied with a S-1608 stage unit. This is a compact, powered box that provides 16 channels of remotely controllable preamp and eight analogue outputs. A single Cat5 crossover cable (Roland can supply a suitable 100m cable on a drum, terminated with Neutrik EtherCon connectors) gets these signals to and from the console in digital form with minimal (320 microseconds) latency. All of those A-D and D-A converters are kept cool by a small fan that is thankfully much, much quieter than the fan on the larger S4000-S digital snake. What impresses here are two things. The first is the quality of the preamplifiers on offer in the digital snake and the eight available on the desk itself. It's refreshing to realise that they aren't an afterthought bolted on to the digital gubbins, but instead are quiet, open and don't have the lack of depth and thin sounding quality that some other digital consoles in this price range seem to have. The second thing is just how tightly the digital snake integrates with the desk's user interface. Once configured and assigned to input channels, you really aren't aware that the remote preamps are not an integral part of the desk.

The differing permutations of the REAC system does take a bit of understanding to fully appreciate the flexibility being offered. A single REAC port can support up to 40 channels of digital audio, and the M-380 has two main ports (A and B). Each REAC device is set to one of three modes — master, slave or split. The master/slave settings are easiest to grasp; with a digital snake connected to a REAC port the desk is set as the master and the snake set as a slave.



Because REAC works over Cat5, the signal can be easily split by simply using an Ethernet switch. In this case, devices picking up the split signal are set to 'split' mode, and listen to the available signals. The M-380 is equipped with its own REAC split output, which is associated with the first REAC port (A). This can work as a redundant backup link for the device connected to REAC A or provide a REAC signal for a device in split mode. The clever bit is that this output can fill up the available 40 channels from signals generated from devices connected to both of the console's REAC ports. So with a 1608 snake unit connected to ports A and B, the split output will mirror the eight channels of output sent from the desk to the first snake, the 16 channels of input from the second snake. There are obvious uses for this if using another REAC-enabled desk to provide a broadcast feed, or for FOH and monitor desk applications. But with the appropriate driver installed on a PC, these signals can also be recorded using the Sonar DAW via a single Cat5 connection.

As if these permutations of REAC consoles, digital snakes and PCs weren't enough, RSS has introduced another REAC peripheral in the form of the M-48 live personal mixer. This allows up to 40 audio channels to be delivered to multiple M-48 units, which have their own onboard mixer. The neat bit is that the onboard mixer for each unit is set up remotely from the main mixer, in terms of balance of sources and assigning sources to up to 16 groups. The musician

then has control of the level, EQ and reverb send of each of these groups from stage. I didn't have access to a unit to try it, but suffice to say that this function also seems very neatly tied together with the M-380's user interface.

It's hard to know where to place the M-380 in the grand scheme of things. It's not a full-on digital FOH/Monitor board in the same vein as the Yamaha MC7L or Soundcraft Si series, but neither is it a hardcore general purpose digital console like the Yamaha DM series. The extensive MIDI/RS232 remote control capabilities together with scene and setup recalls, configurable levels of user access and small foot

print make it appealing for installations, but the lack of features like individual input and output delay settings might limit its application here slightly. There's no doubting the capability and power of the REAC system though and it's no surprise that the system has already found favour with the BBC, for example. But therein lies the rub; to get the most out of it you have to fully commit to the whole REAC infrastructure and peripherals — there are no other interfacing options such as those provided by Yamaha for its consoles. If you're happy to make that leap of faith, though, it's a tremendously powerful, flexible and easy to use system. ■

**PROS** Intuitive, flexible user interface; compact size; great sounding preamplifiers; immense flexibility with REAC signal distribution and peripherals; impressive feature set.

**CONS** No option to use any other I-O expansion other than REAC peripherals; 16 faders makes running large live gigs tricky at times; more output processing options would be nice; REAC signal distribution and topology has a fairly steep learning curve.

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