



MIDAS XL8

LIVE PERFORMANCE SYSTEM

Some assumed Midas had a little catching up to do. Has it finally come out in the lead?

PAUL MAC previews the new XL8.

In amongst the digital live console launches of late there has been an obvious one missing. Surely Midas must go digital sometime? Finally, the answer is here, accompanied by the typically bold sell: "Digital Goes Midas." Inside that clever cliché reversal is an important statement, emphatically backed up by the decision to replace the XL4 analogue with the XL8 digital – Midas claims it has got the new flagship so right that it doesn't need the old one.

The first thing to note is that 'XL8' is the name of a complete system, not just a board and a hunk of DSP – open the box and find everything that you need to rig an FOH or monitor position from stage to stereo.

The standard package includes four DL431 System Input splitters – each with 24 mic/line inputs. Each of those inputs has three mic pre-amps. The two variable gain amps feed two sets of ADCs and two sets of rear panel balanced analogue splits and three splits, while the set of fixed gain amps supply a broadcast/record split on the front panel.

Then there are five DL451 modular I/O boxes – each capable of 24 input and output channels depending on how they're loaded. Other standard features here include MIDI and GPIO.

System connections are all taken care of with cable or fibre. While the details of the network are too detailed for this article, a couple of things stand out. First, all connections are dual-redundant at the system's 96kHz sampling rate. The DL451 system router (two supplied for each system), for example, features ten fully redundant AES 50 connections for local I/O.

Second, the decision to go with AES 50, and specifically the Sony SuperMac and HyperMac standards is wrapped up with ambitious requirements for capacity, latency, timing, data tunnelling, and more. Latency is listed as 70µs per link, and the specified total latency, including A/D (often the weak point) is 2ms – which for SR monkeys everywhere, is peanuts. In addition, Midas says it has the whole system phase and sample synchronous. If

you want a comb filter you'll have to use the EQ.

Even the DSP rack in this system is modular and includes 'n+1' redundancy (you only need nine DL471 DSP Engine modules, but you get ten... just in case). In a conversation with Midas it turns out that to lose a DSP module would be the worst failure as recovery for the affected channels can take around 20 seconds. Losing >

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> a power supply or the computer in any of the five mixer bays does not cause a problem for the audio and you can run the entire system from any one bay if necessary.

Another standard part of the system is the Klark Teknik DN9331 Helix Rapide. In this case it provides control for the XL8's graphic EQs via its 31 motorised faders. Indeed, when during the preview experience I asked if the graphic EQ plug-ins could be controlled from the faders, the answer was no: "Our VCA faders are VCA faders and nothing else; our output faders are output faders." You get the picture. The console screens, however, can do anything you want them to.

So what does all this hardware buy you in terms of channels and busses? Well, as you'd expect we have to separate connections from capability. The mic splitters give 96 mic/line inputs and three lots of 96 channel mic splits. The five local I/O units each house three I/O modules, each with eight analogue channels or 16 digital channels (eight in, eight out). Therefore a standard system has 504 XLR connections, which can be expanded to 720 with extra DL541 I/O modules.

Internally, capability starts with a full compliment of 96 input channels, 16 auxiliary inputs, 32 auxiliary mix busses, 16 matrix busses, and 12 VCA groups (as these are 'virtual' Midas has re-designated the acronym as 'Variable Control association'. The complicated middle ground is filled by those aspects which use I/O resources depending on your specific needs, such as insert sends and returns, effect sidechains, direct outputs, and direct inputs.

Getting Around

It's worth stopping here to examine the Midas philosophy on console navigation. In short, you can get around by channel numbering if you want to, but because colouring scribble strips and grouping instruments is generally more intuitive – that's the way the navigation system works. First, 'layers' are a thing of the past. It's a small distinction, but the basic way of dealing with more input channels than faders is to scroll the channels across the console.



The DL431 system splitter - Three mic amps per input for three splits.

Frankfurt ProLight + Sound exhibition visitors were not surprised to hear that Midas had already got orders on its books for the new XL8, but they were surprised by the nature of the first sales.

Seven major UK rental companies (Britannia Row Productions, Canegreen, Capital Sound, Concert Sound, Skan PA Hire, SSE Audio Group, and Wigwam Acoustics) jointly announced the formation of a new rental company: M7 Audio Ltd. The company has been formed after the seven members reached "a shared consensus that joint ownership was the best way to launch the XL8 into the UK rental market."

M7 has already placed orders for an initial eight systems, worth over one million pounds. The idea is to create a rental structure that will maximise the use of the systems and offer all UK rental companies and end users the option to rent from any of the individual M7 partners, as well as providing in-house training and service facilities for the new console. www.m7audio.co.uk

Next is the channel grouping idea – in Midas terms, the 'population group'. This is basically a surface assignment of channels with its own population group button. Hit the previously user-assigned 'drums' button and a bevy of red drums channels appear in front of you. And, good gracious, there's a red VCA channel that just happens to group the drums. In practice, that drums button might bring the bass up on a channel nearby (coloured blue?), and maybe stick the brass section (yellow?) right down one end where they can't do any harm to anybody but themselves. Another population group might configure a set-piece mix beneath your fingers, or spread the vocals and acoustic parts across the physical channels – all neatly colour-coded and labelled in cahoots with the VCAs.

As you can tell, if you put the effort in at set-up, the gig should be pretty straightforward.

Strip Show

The Midas solution to dealing with extensive channel strip controls is not new: have one detailed Channel Strip per bay that gives comprehensive access to the selected channel, while putting 'essential' controls in line with the physical faders. It's the implementation of this 'assignable' solution that distinguishes one maker from another. In the Midas case its fader strip (the 'Fast Zone') begins with a gain knob. This can be either actual remote pre gain or digital gain, though whichever it is, the Channel Strip will be the other. Next are HP and LP filters, safe switches for automation isolation, and direct output level (plus mute, solo, and source). Single knobs for compressor threshold and noise gate threshold come next, then insert control, EQ navigation buttons, and then onto two auxiliary bus controls. Obviously you simply assign these to be the two most important auxiliaries for that channel, and their colours match the output fader colours.

The Channel Strip on each console bay is a detailed representation of everything available on a console channel. Interestingly, the actual fader

THE SONY STORY

One of the protocols that sits at the heart of the XL8's technology is the audio network – this forms the backbone of any XL8 system. The 'trunk route' for the system is the Sony Oxford Technologies group HyperMAC technology, which can carry up to 384 bi-directional channels, plus 100Mbit/s Ethernet traffic on CAT6 cable, or fibre. The local networking for the system uses the Sony implementation of the AES50 standard (SuperMAC), which carries up to 48 bi-directional channels plus 5Mbit/s of Ethernet traffic.

John Oakley, in a Sony press release, comments: "In live sound applications, we are confident that the AES50 approach has significant advantages over other technologies – in particular, the open standard, exceptionally low latency, and robust error correction which will assure us of the high quality and reliability expected of our products."

www.sonyoxford.co.uk/supermac

NEW M7 HEADS XL8 QUEUE



The UK's SR elite gathered in Frankfurt.



strips are peppered with little round navigation buttons that assign that to the Channel Strip. You don't have to hunt for a select button, for example, when you want to get into the EQ – just press the button where the EQ would normally be and the Channel Strip is at your disposal. The screen for that bay then displays the detail of that control down its right-hand side.

It's worth mentioning the compressor and EQ sections on this console, mostly because Midas has done an incredible amount of work to give options and control to suit the live sound engineer. Take for example, work done on interpolation of the EQ control. Midas says that one difficult aspect of most digital EQs is the ability to 'dial in' the right frequency – sweep the frequency of an analogue EQ and a good engineer will settle in the right place almost immediately. Try that on a standard digital EQ and it will take some twiddling to hone in on your target. Thus by doing analogue-like phase shifting and detailed interpolation Midas claims to have fixed this particular bugbear and make a better EQ in the mean time.

In fact, there are several EQ types available to the user, just as there are a wide selection of

compression types based on RMS, Peak, Linear, and Vintage types. Again, Midas says it has been working on these algorithms almost as long as it's been working on the console in order to provide the best fundamental tools for the XL8 user.

Plug And Play

Also on board you'll find a large array of plug-ins. The list will continue to grow but for now the console has 16 stereo effects processors with a choice of auto-panner, chorus, stereo delay, DN780 reverb, stereo flanger, Midas reverb, and graphic EQs. As mentioned earlier, graphic EQ control is via the Helix Rapide controller.

On the centre section of the console you'll find the 12 VCA group masters, 16 auxiliary masters (and associated 'detail' section), and 16 matrix masters,

as well as the main output controls, monitor, talkback and oscillator controls, dual track balls, and more.

In monitor mode you can bring the auxiliary mixes onto the faders, and lock particular auxiliaries to the two knobs on each channel strip. By assigning your mixes to the first 16 auxiliaries and the 16 matrix outputs you have access to the first 32 mixes right there in front of

you, with only a single button press required to bring the next 16 auxes onto the surface.

The solo section has A and B solo busses, which are exclusive. In other words, if a channel's solo is assigned as a 'B' solo it cannot be an 'A' solo at the same time. This is useful for driving two monitor outputs, or for dual operator use for example. Incidentally, the console does have freely assignable A and B sections for dual operator use or for convenience. Both sections scroll through the channels independently.

The automation on the XL8 is, as you'd expect, pretty comprehensive. The system stores all settings, and can even store parameter isolation settings within each scene, though there is independent isolation available as well. The main feedback centre for this is the centre-section screen, though on the surface itself and large illuminated 'next' button does the obvious, along with Last, Now, Confirm, and Cancel buttons. You can use the jog wheel to navigate through the scene list as well – when the show isn't quite 'linear'.

Incidentally, the two screens that correspond to the centre sections show, by default, colour-coded metering for the entire console, and the plug-in rack.

There's plenty more to talk about, but that will have to wait for another issue. One point of interest may well be the three KVM switches inside the console and data tunnelling over the network. This means you can feed external video in to the console and switch the screens around, you could plug-in your laptop control system and run that from the console controls, or you could even throw TCP/IP and USB data around the auditorium.

For a Sound Reinforcement community becoming ever-more reliant on those kinds of systems, these are nice extras.

Conclusion

The Midas XL8 is not cheap, but it does offer the kind of scale, fail-safes, and completeness that is hard, if not impossible, to find elsewhere. For a company that was exclusively analogue not so long ago to recruit the right people and create such a sophisticated and SR-friendly product as this is an incredible achievement. Will it live up to the legacy left by the outgoing XL4? I have a feeling it will. 🎧

INFORMATION

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