The Midas XL8

Midas goes digital with this highly awaited console

by Richard Roark

Until very recently, the list of truly high-end digital consoles was short by one highly regarded manufacturer. The XL8 live performance system (launched at the 2006 Musikmesse Pro Light + Sound in Frankfurt, Germany) has put Midas on the A list in a big way. In keeping with the name, the XL8 live performance system is a full system, encompassing virtually all needed components for monitor or FOH utilization.

Reliability, redundancy, and modularity were key benchmarks integral to the XL8 team during its three-year development cycle. As such, duplicated cabling runs, multiple dedicated processors for each section of the console, and an optimized Linux platform (no Blaster or Zotob worms to worry about) ensure that no single processor or cabling failure can bring down the console. According to Midas engineers, the XL8 will continue to pass audio even under the most drastic system failures, during which time the system may be operated via laptop, and subsequently rebooted without sonic interruption.

Also setting the XL8 apart from other consoles in its class are the contributions of design engineer Alex Cooper, responsible for other Midas console designs like the XL4. Current users of the company's analog consoles will likely feel at home navigating the XL8's control center surface, as it is laid out in typical Midas fashion. Other than the multiple 15" daylight viewable monitors that provide metering and other status information, there really aren't that many other clues that the XL8 is a digital console, at least compared to other designs in the marketplace.

Engineers will also be pleased by the microphone preamps, which are of the same high headroom (and graceful overload) design as previous Midas consoles. Latency is stated at no more than two milliseconds end to end, and the console is phase- and sample-synchronous, eliminating comb-filtering effects.

Midas has licensed Sony Oxford's AES50 (SuperMAC) digital transfer protocol, which provides much faster and denser communications compared to standard Ethernet connectivity, although the XL8 uses standard (ubiquitous) Ethercon connectors and CAT 6 (or fiber) to link the various components of the system together. Each CAT 6 (or fiber) link can carry up to 384 channels, and each network link is physically duplicated for reasons of fault tolerance.

Recognizing the rarefied strata at which the XL8 will reside, Midas has set up a dedicated XL8 support group operating around the clock with locations in North America, Europe, and the Pacific Rim. Technicians have XL8s onsite, to duplicate configuration or other issues in real time while working with users.

Let's take a look at the components that make up the XL8 system. The standard configuration is 96 input channels at 96 kHz/24 bit data width.

The XL8 control center: XL8 systems are typically supplied in a standard configuration consisting of five discrete bays. The bays include three input modules, one mix module, and one output module. Each of the console bays is a discrete unit, with its own redundant power supplies, processors, and integrated displays. As alluded to earlier, this approach ensures that a system fault in one area of the console cannot result in a total system failure.

Motorized faders, rotary encoders, daylight-visible LCD DVI screens, and flexible metering, as well as unique features such as user-assignable grouping and color scheming, KVM (keyboard, video, mouse) switching (allowing the console to control remote PCs and Macs and display their output on the display of the control center) are just some of the XL8's attractions. In fact, the XL8's screens can be configured to display any video source, which is great for catching up on the latest episode of *Entourage* before sound check (just kidding!). Other niceties include white LED lighting, 63 discrete 20-segment LED meters, a slide-out keyboard, and dual trackballs.

The input modules of the XL8 include three discrete microphone preamps (all with individually settable gain) per channel, simplifying routing audio to multiple destinations such as monitor, front-of-house, and remote broadcast utilization. Each of the 96 input channels also includes a four-band parametric equalizer with four selectable filter types on the high and low EQ sections, high- and low-pass filters with two selectable filter

types, a frequency-dependent compressor with four compression types, and a frequency-dependent noise gate with sidechain, routing to 32 auxes or 48 foldback mixes for monitor usage, phase reverse, phantom power, insert points, input delay, pan pot, and routing to mono busses.

In addition to the display screen and associated faders, the mix module of the XL8 features 12 VCA groups, eight population groups, and 32 mix busses, which include: a six-band parametric equalizer (or, optionally, a 31-band graphic equalizer), subgroup, auxiliary, or mix-minus modes, dual mono or stereo modes, frequency-dependent compressor with five compression styles, insert points, direct input, and routing to the 16 matrix busses.

The output module of the XL8 offers 16 matrix busses, each with capabilities similar to the 32 mix busses detailed in the mix module section. As well, dual trackballs, a slide-out keyboard, communications panel, and associated display screens, and KVM switches are included in this section of the console.

Other components of the XL8 system include:

DL-431 audio system input splitter: The XL8 system includes four of these input splitters, which each contain 24 mic/line inputs with three microphone preamps, analog mic splits, integrated power supply, and AES50, Ethernet, and USB connections.

DL-451 audio system modular I/O: Five user-configurable 24-channel units are included in the XL8 system. They may be configured in banks of eight channels as analog mic/line inputs, analog outputs, or digital inputs or outputs.

DL-461 audio system signal router: XL8 systems include 3U rack-mounted units which provide connection between the control center and various other modules.

DL-471 audio system signal processor: Standard XL8 systems include ten of these 1U rack-mounted DSP modules. While only nine modules are required for operation, a tenth is included for back-up.

Klark Teknik DN9331 Helix Rapide: A motorized 31-fader graphic equalization controller for the XL8's onboard graphic EQs, which can be rack-mounted or freestanding.

Operation

From the user's point of view, the controls are positioned according to convention, in that the channel strips mimic the typical arrangement of other (Midas) consoles. The displays provide secondary feedback, rather than being the primary mode of interface with the console, as can be the case with some digital consoles.

Each of the input bays includes a master control strip on the right hand side of the module, which allows for full and detailed control of any selected channel. This expanded channel strip section is in addition to (not in lieu of) functionality on the channel strips themselves, which allow for control of essentials like EQ, dynamics, VCA groups, mute groups, and, of course, panning and level.

Effects racks can be custom-configured on a project basis, and much of the console can be color-coded as per the operator's preferences. Equalization and compression models were developed through careful analysis of previous Midas consoles, as well as Klark Teknik and other manufacturers' gear.

Sonics

Perhaps the XL8 starts out with an unfair advantage due to the design of the analog stages cribbed from other Midas designs but, to my ears, the XL8 has the punch and clarity that users have come to expect from Midas. The equalization is very much in the vein of previous Midas consoles, and has been optimized according to Midas engineers to mimic the audio/tactile response of analog filters in their sweep. In addition, it is a simple matter to copy settings from one XL8 system to another, allowing engineers to "carry" settings, rather than hardware. In the live music demonstration of the XL8 system, there was no evidence of digital harshness or graininess.

Summing up

It's apparent that Midas has done a wise thing in taking a wait-and-see approach towards entering the high-end digital console marketplace. The XL8 system's integrated, redundant, and fault-tolerant approach indicate that Midas is serious about operational reliability. Midas' commitment to support of the XL8 system, indicated by the establishment of a dedicated 24/7 multi-continental group, should put prospective purchasers' minds at ease. The XL8 system deserves a place at the top of the list for anyone contemplating the purchase of a high-end live sound console.