

YAMAHA 01X

Sun,01 Aug 2004

By *Phil O'Keefe*

When I first saw Yamaha's 01X, I thought it was just another DAW control surface with audio/MIDI interface. Turns out I was only partially correct: While the 01X is certainly those things, there's a *lot* more under the surface.

The 01X connects to your computer via a single FireWire cable — install, configure the software, and you're good to go. The main controls (aside from the motorized faders) include a scrub wheel, transport controls, and various selection switches. All of the switches are generously sized and have a solid feel; many also have an LED that indicates the currently active mode.

Eight continuously variable, detented rotary controls (they click slightly when turned) also have built-in push switches that control several functions. For example, there are no "yes/no" type buttons; instead, the LCD lists those options, and the rotary knob switches act as select buttons — pretty neat. I was a bit concerned about pressing down on knobs, because the knobs themselves wiggle slightly. But in practice, they worked without any problems.

In general, I liked the mic pres; for general duty with dynamic and condenser mics, they have plenty of gain and sound fine. I'd place them somewhere between those on the Yamaha AW series standalone DAWs and the 01V96 mixer. They're fairly neutral, which is exactly what I prefer. As something of a torture test, I plugged in a Beyer M160 ribbon mic, which has a fairly low output, and recorded my Taylor 510 acoustic at a distance of around 8" from the 14th fret. While the Taylor isn't a particularly loud guitar, there was enough gain available for a useful recording, but just barely. I'd recommend an outboard preamp for low output ribbon mics, as the 01X preamps can get a little hissy at extreme gain settings.

The monitor and headphone outs share a common volume control. I would have preferred separate controls, but as most 01X users likely won't have separate control and tracking rooms, it won't be much of an issue.

CONTROL SURFACE OR MIXER?

The 01X is also a digital mixer with dynamics control and 4-band EQ. I could route unprocessed tracks directly out of Sonar into the 01X for processing; this meant fewer plug-ins needed with Sonar, reducing the load on the computer's CPU.

The S/PDIF I/O is flexible: You can assign it to any of the eight main input channels, or even to aux sends for use with hardware processors.

There are also four aux sends (pre- or post-fader), and two onboard effects processors with dedicated stereo returns. These stereo return channels also have 4-band EQ, but no dynamics processors.

Overall the effects are usable, sound better than many plug in effects, and their inclusion allows taking even more of the "load" off your DAW's computer. Standouts are the early reflection and room reverb presets. The dual pitch effect is also great for adding detuning to, say, background vocals. With libraries for EQ, dynamics, effects, and scenes included, you can use the 01X *sans* computer as a digital mixer for small group live gigs.

mLAN

You can expand I/O via mLAN, a powerful open source interface standard that uses standard FireWire cables to carry audio, MIDI, and word clock data among devices in the system (see the "mLAN Primer" article in the 5/04 *EQ*). You can even "cascade" two 01X units together via FireWire for more faders and I/O. The 01X mixer accepts up to 16 channels of mLAN audio ins (8 at the 88.2/96kHz sample rates), and each channel has the same EQ and dynamics processing as the analog ins. Speaking of sample rates, apparently the 88.2kHz option only works with Macs, although a PC runs at the 96kHz sample rate just fine.

i88X

As this was my first in-depth mLAN experience, I was glad Yamaha also sent an i88X audio/MIDI interface.

It has eight analog ins (two with mic pres and inserts), eight analog outs, Toslink stereo/ADAT lightpipe, coax S/PDIF digital I/O, and MIDI I/O connectors. The lightpipe connector handles high sample rates, and worked fine with my 01V96 mixer. However, at about 14" deep, the i88X might not fit easily in some racks.

With the exception of the first two mic/line ins (on combo Neutrik connectors), all connectors are on the rear panel, while all switches and controls are on the front. It's great that you don't have to reach around the back to, for example, turn the phantom power on or off.

Connecting the i88X to the 01X was simple — a single FireWire cable. You configure the setup with Yamaha's mLAN Manager applet, which makes it easy to adjust the settings for the audio, MIDI, and word clock routing with a graphic patchbay. Click on the source, click on the destination — done.

That's a big reason why mLAN so cool: by simply connecting two FireWire cables between three devices — computer, 01X and i88X — all three could talk to each other in any direction. There's no plugging and unplugging dozens of cables behind your rack, and a major reduction in the overall amount and types of cables needed.

Regarding the mLAN computer drivers, the latency was an amazingly low 1.1ms in Sonar with a 44.1kHz/24-bit song. I have a fast computer, but that's still remarkable. In Sonar (and Cubase SX 2.0, which I also tested), all of the I/O appeared as normal ASIO drivers. I had 16 channels of audio routed out of the 01X into the computer, an additional eight routed out of the computer back into the 01X, and the i88X feeding another eight channels of audio into the 01X's mixer.

That's a lot of audio for just two cables — that it all worked with no pops or clicks at such a low latency setting blew me away. Routing more channels would place greater demands on your system, but with a fairly fast computer you should be able to meet any reasonable real-world demand.

The other really big i88X news is the mic pre quality. Using the Taylor and the Beyer, and then a Soundelux ELUX 251 on a male vocalist, produced some *very* clean and detailed recordings. These aren't "flavored" pres, but they rank with some of the best I've heard for transparency and clarity. The unit is worth the price for the mic pres alone; toss in the extra I/O, nice-sounding converters, and mLAN connectivity, and it's a really good deal.

FADER FINESSE?

The 60mm faders were smooth enough (and moving faders are always welcome anyway), but I've been spoiled by 100mm faders — especially those with 0.1dB resolution. The resolution on the 01X's faders is coarser, and I felt the shorter faders made precise moves more difficult. I also had to adjust the fader timeout settings in Sonar. The first time I tried to do some moves, I pulled the faders down and after a few moments they "jumped" back up to their original values. As you can adjust the time before that occurs in software, it's not a big issue. On the other hand, Cubase SX's "touch tracks" feature works fine with the 01X, and Yamaha is about to release a patch to improve remote capabilities with Sonar.

However, while longer faders would be nice, they would also add to the unit's cost. So would more analog I/O on the 01X, or more mic pres on the i88X. At these price points, I feel Yamaha made the right design decisions.

SOFTWARE AND DOCUMENTATION

The indexed manuals are generally clear, and a DVD offers over two hours of instructional material. Some of the material was out of date, but Yamaha's 01X support site www.01Xray.com has updated setup information for various DAWs, as well as a user forum.

Bundled software includes SQ01, a basic multitrack recording program (it will get you up and running, although most users will want a more full-featured DAW), Yamaha Motif synth editor (edit Motif programs on the 01X control surface), demos of Native Instruments Pro 53 and B4 soft synths, and Yamaha's handy Studio Manager application. This is available for all of Yamaha's current digital mixers, and provides a graphic representation ("virtual onscreen mixer") of all 01X parameters. Control the 01X via the onscreen controls — move a fader in Studio Manager, and the physical fader on the 01X responds — and vice-versa.

Even though the whole point of a hardware control surface is "hands on" control, the software simplifies setting up channel assignments and routing, and displays compression and EQ curves — the 01X's LCD doesn't. Studio Manager is a cool program, and a fine addition.

Of the Yamaha VST plug-ins, my favorite is the 01X Channel Module — a native VST plug-in version of a 01X channel, including compression and EQ. This allows you to set up a mix “in the box” that replicates the mix you have with the 01X. Unlike Antares’ Autotune, the Pitch Fix plug-in has no graphic mode, but pitch can be controlled with MIDI data. However, Pitch Fix preserves formants while shifting, which is important for getting natural sounds. Vocal Rack is a 3-band EQ, highpass filter, and compressor designed for vocal tracks, although I used it on other sources with good results. Final Master is a multiband dynamics processor with soft clipping.

THE VERDICT

After using the 01X for a few months, the coolest aspect is that it blurs the lines between a traditional digital mixer, control surface, and audio/MIDI interface — it’s all three. In conjunction with a DAW and mLAN synth, this becomes a system that allows for much flexibility in how you choose to work. Adding the VST plugs and Studio Manager blurs the software/hardware line even more. Yamaha calls it “total integration,” and that’s not an overstatement. Couple that with the benefits of mLAN connectivity and expansion options, and you have one very powerful package.

Phil O’Keefe is a Southern California-based producer, engineer, and studio owner. In his spare time, he’s recently launched his own microlabel (www.lurkermusic.com), and moderates EQ’s online project studio forum. Contact him at www.philokeefe.com