

by Craig Anderton

Mackie Onyx 1640

Split personality, or master of disguise?

Type: Analog mixer with optional digital FireWire interface

Platforms: Windows XP, Mac OS X.3.5 for digital I/O

List price: \$1,539 (optional FireWire card \$499)

Contact: www.mackie.com

Inputs (all 1/4" phone jacks except as noted; all references to stereo use two mono jacks, one left and one right): 16 XLR mic ins with phantom power, paralleled by two instrument jacks and 14 balanced line ins; 16 TRS inserts, XLR talkback mic for internal/external talkback system; four stereo aux returns; two RCA tape inputs

Preamp: 60dB gain

Low cut filter: -18dB/octave rolloff starting at 75Hz

EQ: Four bands for all 16 input channels, all with ± 15 dB boost/cut controls. Low shelf (80Hz), sweepable low mid (100Hz - 2kHz), sweepable high mid (400Hz - 8kHz), high shelf (12kHz)

Aux buses: Six mono buses

Other channel strip controls:

Phantom power switch, solo button, mute button, panpot, 60mm fader, four signal level indicators, three assignment buttons (submix 1-2, submix 3-4, or main mix)

Outputs (all 1/4" phone jacks except as noted; all references to stereo use two mono jacks, one left and one right): XLR main outs (with mic/+4dB output switch and main insert jacks), stereo outs, mono out (with level trim), six mono aux outs, two stereo sub outs, stereo control room outs, RCA tape outs

Digital connectivity: Optional FireWire board for mixer

FireWire board resolution: 24 bits, 44.1/48/88.2/96kHz

Supported hosts: Windows XP (ASIO/WDM) or Mac OS X.3.5 Core Audio hosts

Bundled software: Drivers for Windows XP, cross-platform Traktion DAW software

Tested with: Apple dual G5 Mac

The Onyx 1640 is an analog mixer that fulfills traditional mixer functions, whether for studio or live use. No! Wait! It's not really a mixer, but an audio interface for your computer with a whole lot of inputs, EQ, sends, and mic pres. Okay, it's both . . . or is it?

The traditional mixer is at a crossroads. With all the talk about a mixerless studio, it seems that mixers are an endangered species. But for live use, trying doing *anything* without a mixer — and that goes for recording, where if you're, say, miking a drum kit, you need multiple ins and preamps you can send to different channels. And for those who like to record "live in the studio," a mixer is not an option, but a necessity.

In a parallel development, audio interfaces are getting more complex. Initially just seen as card to get a few channels of audio in and out of a computer, today's multichannel audio

interfaces often communicate with your computer via USB or FireWire. They've been sprouting lots of I/O, displays, and even controls.

ENTER THE ONYX

The Onyx lives in the mixer *and* interface worlds, thanks to an optional FireWire card that installs in the mixer and talks to your PC or Mac. With the Mac, you don't need drivers; with the PC, use the drivers supplied on CD-ROM (as compensation, you can run more than one FireWire-equipped Onyx with PCs; Mac users will have to wait for OS X.4). There's no discernible latency, as the drivers go down to 64 samples.

When using the 1640 as a computer front end, FireWire carries direct outs from the 16 channels as well as pre-master fader left/right outs. Mackie thoughtfully provides a hardware gain trim control for the master out,

making it independent of your house mix fader. There's also a stereo return to the mixer for monitoring the computer out. Remember that this can be happening while you're mixing in the DAW with minimal latency, which is impressive.

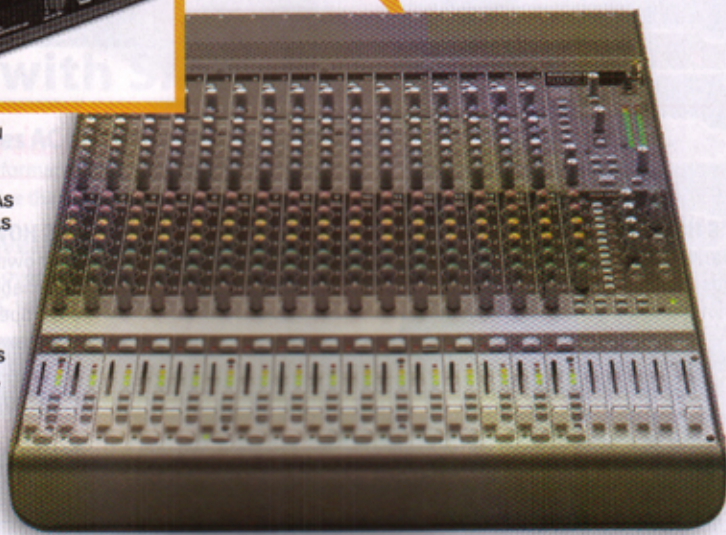
However, you can't route DAW track outputs into the Onyx. As someone who doesn't like mixing with a mouse, I want to be able to feed DAW tracks into a Real Mixer and move Real Faders. But that's not what Onyx is about; it's a front end for your DAW, not a control surface for mixing tracks.

Where a FireWire-savvy Onyx really shines is for live performance, when teamed with a laptop or stand-alone hard disk recorder. Being able to record a complete performance, separated into individual tracks, into a computer while mixing a band's set is pretty appealing. Take the recorder back to the studio, do some judicious editing, mix it down, and *voilà* — concert CD. ▶



INSTALL THE FIREWIRE OPTION IN THE 1640, AND YOU CAN SEND AUDIO VIA FIREWIRE INTO YOUR MAC OR WINDOWS COMPUTER, AS WELL AS RECEIVE TWO CHANNELS BACK FOR MONITORING.

THE ONYX LINE REPRESENTS A NEW CONCEPT IN MIXERS, AS IT COMBINES AN INTERNAL ALL-ANALOG SIGNAL PATH WITH OPTIONAL FIREWIRE I/O.



Mackie Onyx 1640

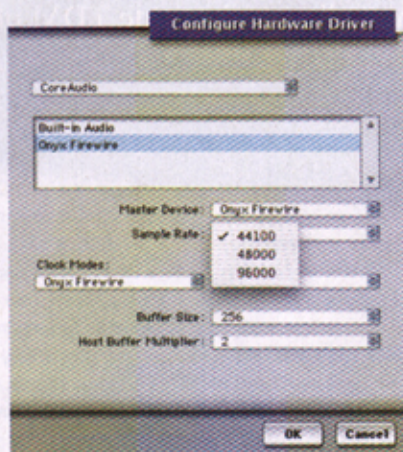
MIXER BASICS

At this price, you might be expecting some cut corners. But the Onyx line is built in China, which takes advantage of low labor costs *and* an ever-escalating build quality. No, the controls aren't held on with nuts; they protrude through holes in the panel. And the faders are 60 instead of 100mm. But overall, the 1640 feels substantial, and is a serious piece of gear.

One nifty hardware aspect is the "rotopod" construction, which allows you to rotate the section with the I/O. The input and output connections can face the rear, face the bottom (ideal for rack mounting, as the unit takes up only 12 rack spaces), or with an optional at-extra-cost bracket, face the top of the mixer so you can do your patching without leaning over. *Very clever.*

GOZINDAS AND GOZOUTAS

So how do they fit all those input and output jacks on such a compact rear panel? They don't. The balanced analog direct outs (which parallel the digital



MOTU'S DIGITAL PERFORMER IS BEING CONFIGURED TO WORK WITH THE ONYX I/O.

FireWire direct outs) terminate in two female DB-25 connectors. Ugh, but there is a mitigating factor: It's easy to patch into a stand-alone hard disk recorder because the pinout is compatible with TASCAM's DB-25 analog connectors for

their DTRS recorders, so you don't have to settle in for an evening of soldering — just buy some off-the-shelf cables if FireWire outs aren't your only mode of operation.

All inputs except for the first two have balanced XLR, balanced 1/4", and TRS insert jacks. The others can switch between XLR mic and instrument (1Meg input impedance).

MINDING YOUR PRES AND EQS

So the Big Questions are: "Are the mic pres any good?" and "How does the EQ sound?" As far as I'm concerned, there are only four kinds of mic preamps: Cheap ones that sound cheap, affordable ones that sound good, affordable ones that sound *really* good (assuming the rest of your gear can reveal these differences). The Onyx pres are of the affordable-that-sound-very-good persuasion, and carry on the Mackie tradition of providing surprisingly good pres in their mixers.

As to the four-band EQ, I was expecting not to like it because I can't imagine

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midrange EQ without a bandwidth control. But the Onyx EQ is gentle, giving a solid lift or cut without the sound getting "constricted." Although this is more common with EQ designs that don't allow a lot of boost/cut, this design provides ± 15 dB of boost/cut.

Although the upper midrange control tops out at 8kHz, due to the mid control's gentle bandwidth, anything over 8kHz can pretty much be handled by the high shelf. There's also an additional low cut filter, which rolls off at 18dB per octave below 75Hz. *Bonus feature:* The hardware bypass switch takes the EQ completely out of the circuit.

IS THIS THE START OF THE NEXT GENERATION . . .

. . . or the end of the old one? Well, I'd say both. As a regular mixer, the Onyx is cost-effective and functional. Six aux buses is cool (given the price, I expected four), and the four crucial components for sound quality — mic pres, EQs, low

MEET THE FAMILY

The 1640 isn't the only member of the Onyx line. The 1220 (\$639) is similar to the 1640 but offers 12 channels, four mic pres, 3-band EQ, two aux sends with pre/post switches, and four stereo line-level inputs. The 1620 (\$919) is a little brother to the 1640 with eight mic pres instead of 16, four aux sends instead of six, and fewer I/O options (no tape in/out, only XLR main outs, and so on).

noise, and high headroom summing — are well-implemented.

For live recording, the ability to send 16 direct feeds (plus stereo master) to a DAW via FireWire is hot. However, I do think that the master out should have been available on SPDIF or AES/EBU for feeding into something like a MasterLink. Sure, analog works, but it is the digital era.

As the centerpiece of a digital studio, the Onyx is halfway there: It gets inputs to your DAW, but can't mix the DAW tracks. Granted, that didn't seem to be the

design goal and would have upped the price big-time, but I'd like the next generation of mixers to double as a control surface/stems mixer for a digital studio *and* do traditional live performance mixer functions.

So, the bottom line is simple. If you're in the market for an analog mixer but want to go beyond the normal analog world into the world of DAWs, think Onyx. If you fit the target audience, nothing else will address your needs this efficiently — especially at this price point. **EQ**

Strengths:

- FireWire connectivity
- Good build quality
- Very smooth-sounding EQ
- Fine mic pres
- Two switchable mic/instrument inputs
- Six aux sends, two dual mono subs

Limitations:

- 60mm faders
- DB-25 connector for analog recording outs