



# MACKIE ONYX 400F

BY PAUL VNUK

The Onyx 400F is Mackie's newest multichannel audio recording interface. It features ten channels of I/O, supports audio up to 24-bit/192 kHz over FireWire 400, and includes four of Mackie's premium Onyx mic pres. Mackie has also included a healthy selection of additional features such as MIDI, word clock, four channel inserts, dual headphone outputs, Hi-Z instrument inputs, a software mixer interface and more, all crammed impressively into a single rack space.

## Details

The 400F is laid out cleanly and efficiently. Its brushed silver face has, from left to right, the power switch, followed by LED indicators for clock source, FireWire activity, and MIDI activity. Next are a series of volume knobs for the control room and headphone outputs (of which there are two, each with its own 1/4" TRS stereo output jack). Then there is a single 48V phantom power button followed by controls for the four microphone channels. Each channel has its own gain knob as well as a 4-stage signal/clip LED. Additionally, channels 1 and 2 contain a Hi-Z instrument switch and a 1/4" input jack (unbalanced).

The rear of the 400F, from left to right, has four Neutrik Combo jacks for

either microphone or line input. Next to these are two rows of 1/4" balanced female TRS jacks (18 total). First are the channel inserts (available for channels 1-4), followed by line inputs for channels 5-8, line outs for channels 1-8, and finally a pair of stereo control room outs. Next to these are a pair of 75 ohm BNC connectors for word clock I/O, two FireWire 400 ports, MIDI In and Out jacks, and a pair of RCA S/PDIF

Mackie's web site states that 400F uses the same converters as the Mackie dXb digital mixer—mastering-grade 24-bit/192 kHz AKM 5385 and 4358 audio converters.

The 400F requires its own software panel to access functions beyond the few that can be controlled from the front panel. It's been updated since I began this review, and users should check Mackie's website to download the latest version. It runs on both

## High-speed computer connectivity meets world-class preamplification

jacks for digital I/O. A standard 3-prong AC cable supplies power.

From the chassis to the smooth sturdy knobs to the LEDs, the build quality is quite rugged. Mackie didn't skimp on the input jacks; they have metal washer screws instead of the usual plastic ones found on many similarly priced units.

## Digital details

The 400F is fixed at 24-bit resolution, but can be set to a sample rate of 44.1, 48, 88.2, 96, 176.4, or 192 kHz, either internally or responding to incoming Word or S/PDIF clock.

Windows XP and Mac OS X machines, and it gives you control over sample rate selection, clock source, latency buffer size, S/PDIF format (consumer/pro), control room/headphone output selection, and the DSP mixer. Speaking of which...

## Mixing and routing

The zero-latency DSP mixer allows you to send any of the ten inputs to any of the ten outputs, thus allowing for up to five sets of custom mixes (great for use with external headphone, in-ear and speaker distribution systems). It appears just like a



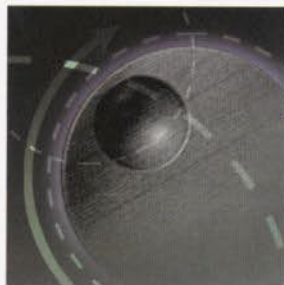
traditional mixer with virtual channel strips that include faders, panning, mute, and solo functions. There is even the obligatory Mackie Rude Solo Light.

The main purpose of the DSP mixer is to allow users with older computers to use the 400F's horsepower to create monitor mixes without bogging down the DAW. When the DSP mixer is switched off, the 400F becomes a straight 10x10 router controlled by your DAW's own channel/bus routing, which does make 5.1 mixing possible.

The ten channels of I/O for your DAW are "hardwired" to their respective channels. In other words, hardware channel 2 will always be routed to software channel 2 and these cannot be rerouted or submixed; this is something that's easy enough to do on the DAW side, though.

While the lack of DAW submixing may seem limiting at first, the 400F is a great tracking device and line mixer. The control room outs and the headphone mix can be fed by the software audio streams 1 and 2, or 7 and 8, as you wish. This does not allow two musicians to track with headphones, while the control room engineer listens to a completely different mix; for that, you'd want to add a separate monitor controller like Mackie's Big Knob (reviewed January 2005). The control room outs and both of the headphone outs share the same mix and the two headphone outs have a common level control; separate mix capability for these three output sets would have been nice but would have added considerably to the unit's cost.

All settings in the DSP mixer can be saved and stored internally to the



## review

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400F; it will remember its last settings even when disconnected from your computer. This allows the 400F to act as a standalone mixer for keyboards, summing or even simple PA installations. Simply create your mix, save it, unplug and go. You can also use the 400F in this mode as a 4-channel Onyx preamp, a nice extra capability.

just fine. There's no separate volume control for the line outs, which might be a problem in certain studios where you'd like to control the gain from those outputs. For my taste the headphone outs could have been a little louder, and I found 2-3 o'clock to be the best position for playback and tracking. I did find this surprising, as Mackie has had very loud headphone outs in its mixers for years.

The only "glitch" I encountered was a zipping sound when adjusting the DAW output channels in the DSP mixer using the mouse. This isn't something I ever heard in the main or

no comparison—the 400F just sounded better.

### Want more?

Of course, we all like little bonuses and Mackie includes some nice ones with the 400F.

First and most impressively there is a full version of Mackie's Tracktion 2.0 DAW software, complete with plug-ins. This is no lite-upgradeable version, but the real deal, and once again users should check the Mackie website—the 2.1 update, free to all 400F owners, will be accessible there. Second, Mackie includes a 6-pin



### In my room

I tested the 400F at my studio and pitted it against my own current FireWire device as well as my 5-year-old digital mixer. Installation took less than three minutes, with no hiccups whatsoever. The manual (written in Mackie's now-famous witty yet straight-ahead style) was read more for fun than for serious help, as the 400F is quite intuitive, even regarding its software mixer.

Whether tracking or on playback the 400F worked great. There is ample gain and headroom on the mic pres and Hi-Z inputs and I rarely had to turn the gain knob past one o'clock for desired input levels. The four line inputs are just that, "line level", so what you put in is what you get, and while they do have less gain than the mic/line channels, you should have no problems driving them with most modern synths and effects devices.

While not as loud as those on my digital mixer, both the control room outs (with handy and desirable volume knob) and the line outs were able to drive my powered KRK speakers

channel outs, and you wouldn't normally run into it during actual tracking or playback in a session.

### The sound of success

The burning question about any AD/DA—mic pre is its sound. Here the 400F is a total winner. I still stand by my review of the Onyx mic pre in our March 2005 issue; quite frankly there are few, if any, built-in mic pres in this price range that sound this good.

I tried the converters at all sample rates but 192 kHz (nothing in my system would handle it). The converters in the 400F are very detailed and have a modern crispness to them. As with most converters in this price range, I would not call them superior to those in my usual FireWire box, but different. While the 400F was definitely more detailed in the high end, it did not have the same forward midrange of my box. It really was a taste issue and I could easily work with either.

Compared to my older digital mixer, however, especially in conjunction with the Onyx preamps there was

FireWire cable. Okay, so do most manufacturers, but unlike the usual 3-6 foot freebies, this one is quite long—about 15 feet! Since my PC is in a separate machine closet, this was a most welcome bonus.

### Sooo...

I like this unit, especially for its price. Without the Onyx pres, it is a very nice and capable 10-channel I/O box that does its job splendidly. With the Onyx pres, this thing just rocks! There are few other 10-channel audio interfaces that can sonically touch it, and you may have to spend up to double the cash for the privilege. ☺

**Price:** \$899.99

**More from:** Mackie, 16220 Wood-Red Road NE, Woodinville, WA 98072. 425/487-4333, [www.mackie.com](http://www.mackie.com).

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