

PRO AUDIO REVIEW

GRACE DESIGN MODEL 801 EIGHT-CHANNEL MICROPHONE PREAMP

By TOM JUNG

The Grace Design Model 801 microphone preamp doesn't look anything like a piece of pro gear. I hate to be harsh on pro audio manufacturers, but when you put a piece of equipment like the 801 alongside almost any piece of pro gear, you'll see what I mean. Just because a piece of gear looks good, doesn't necessarily mean it's going to sound good, but when you pop the cover and peek inside you realize the quality of construction is almost art. In this case, the look totally translates to the way it sounds.

Designer Michael Grace has been working on this project for about six years, and it's clear to me that it has been a labor of love. No short cuts, compromises or cheap parts here. Michael designed and built this preamp to last. Unlike digital gear that changes quickly and is almost disposable, a good basic piece of analog equipment like this can be used for years.

Features

The 801 is a fully-balanced and transformerless 2U high eight-channel preamplifier with a separate 1U half-rack PSU. The input stage uses an ultra low noise instrumentation amplifier with current feedback error correction. Current feedback or transimpedance amplifiers have a characteristically neutral, transparent sound without the hard metallic edge often associated with solid-state designs. The signal path is direct coupled with DC servo control except for phantom power decoupling capacitors that are metalized film caps; there are no electrolytic caps in the signal path. The output stage is a precision pair of wide-bandwidth transimpedance amplifiers that provide high-output current capability for driving long capacitive cable runs and load impedances down to 150 ohms.

Each preamp channel has its own circuit board, dedicated voltage regulators and a discrete power supply ground connection. The gain controls are 24-position gold contact rotary switches with precision metal film resistors. The gain range is 18 to 64 dB in 2 dB steps with a 20 dB constant impedance attenuator for high-level signals. All switches are illuminated to indicate status, and the +48V indicator monitors actual phantom voltage at the

input. Phase reverse and attenuator switching is done with sealed gold contact relays — eliminating any signal wiring to front-panel switches. A two-color LED peak indicator, which monitors the output signal, turns green at -14 dB and turns red at +16; it is internally adjustable.

The chassis is constructed from T-6 aluminum for maximum RF protection. Michael Grace tells me aluminum provides better shielding than steel at higher frequencies where digital clock radiation can be a problem with sensitive low-level, wide-bandwidth circuitry. While 60 Hz hum is a drag, it's relatively easy to detect and eliminate. RF interference, however, manifests itself in more subtle ways causing a loss of detail, resolution and noise that might not be noticed until after the recording session.

The power supply also is high quality. It is housed in a separate chassis to minimize any interaction with the low-level preamplifier circuitry and comes with a 10-foot DC cable. The PSU can accommodate 100V, 120V, 220V, and 240V AC at 50-60 Hz.



AT-A-GLANCE

Application: Recording studios, MDM studios.

Key Features: Eight-channel transformerless preamp, current feedback amplifier, precision parts, separate power supply.

CONTACT: GRACE DESIGN AT
303-443-7454.

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In use

The first time I used the 801 was on location in a small church in central Connecticut. I was working on a SurroundSound test disc with the great flutist Rhonda Larson. I built a five-channel point source microphone array out of five hot-rodded matched Shure SM-81s. The output of the Grace preamp fed the 20-bit A/D converters — which in turn fed my Yamaha 20-bit, eight channel recorder. The goal was to record Larson with all the great ambiance of this church, trying to put the listener in the recording space. The Grace preamp was about as natural as anything I've heard, and quiet. The only noise I heard was the breeze blowing outside. When I close my eyes and listen to the 20-bit tape in my studio, I am in that church. The monitor speakers disappear, and the sonic footprint of that little church is superimposed on my studio. Next we tried acoustic guitar; same thing totally natural.

Onward to a percussion session with the same recording setup but at Ambient Recording in Stamford, Conn. This studio is extremely quiet with lots of space and nice early reflections. The playback reveals a level of ambient detail (no pun intended) that I haven't experienced before.

One of my recent projects was with the big band of Bob Mintzer in the same studio. In that session, the 801 was used on all the horns, two Sony C-800s on trumpets, two Beyer 834s on trombones and three SM-81s on saxophones. So far, I haven't found anything on which the Grace doesn't sound excellent. Actually, I should rephrase that. The Grace preamp doesn't really have a sound; it simply makes microphones hotter.

Summary

There is something about the way a piece of equipment looks and feels that makes it a pleasure to use. And when it performs as well, it's a home run in my opinion. With the infusion of MDM's an ultra high quality multichannel mic preamp like the Grace makes a lot of sense. When you consider the cost at \$560 per channel, it's even cost effective.

This preamp is not a coloration box. It does not impart any sound of its own. In my experience, that is what a preamp is supposed to do. The Grace Design Model 801 is a class act, and I am simply going to have to buy at least one for my own audio tool kit.

Tom Jung is producer/recording engineer for Digital Music Products (dmp), and a contributor and consultant to Pro Audio Review.