THE BOTTOM LINE®
PERFORMANCE TESTING BY TOM MULHERN & ASSOCIATES, CAMPBELL, CA (408) 374-1353

Fishman Dual Parametric D.I.

AT A GLANCE: Fishman's Dual Parametric D.I. combines an active direct box and two bands of parametric equalization in a single enclosure, making it the perfect choice for interfacing instruments and mixing consoles, plus practically any other application that demands precise control over sound-shaping and extremely high fidelity.

By Tom Mulhern

Almost everyone knows what graphic equalizers are—they're on stereos, car audio systems, and even a few guitars. They offer some control and can be useful in many applications. However, if ultimate control over your sound is your goal, then a *parametric* equalizer is what you really want. If you're unfamiliar with parametrics, it's probably because they're usually expensive rack-mounted gear that's most often found in professional recording studios. Fishman's Dual Parametric D.I. changes that by placing two bands of parametric equalization in a compact box that's neither cumbersome nor expensive. No corners have been cut—except in the size of the unit—so it's studio-quality, studio-clean. In addition, it's also a direct box with a fantastic amount of headroom, making it the perfect interface for bassists, keyboardists, and just about anyone else who wants to plug their instrument into a recording or P.A. mixing console.

Unlike a graphic equalizer, the Fishman Dual Parametric D.I. lets you select not only the amount of boost and cut for a given frequency band, but the exact location of the frequency band itself. In addition, you can adjust how wide that band is—from .07 octaves to 2 octaves wide. The Dual Parametric D.I.'s precision is akin to a scalpel, whereas a graphic EQ can be more like an axe. Therefore, you can adjust sound with surgical precision or bull-in-a-china-shop fashion, or anywhere in between.

The two bands of the Fishman Dual Parametric D.I. are identical; both are outfitted with the following controls: an Out/In switch for turning the band on or off, a boost/cut knob (range: -20dB to +15dB), a bandwidth control (labeled Octave, adjustable from .07 to 2 octaves), and a frequency knob (20 Hz to 200 Hz, with a switch that multiplies the frequencies by 1, 10, or 100). If it all sounds complicated, well, it is and it isn't. For about 10 minutes you'll be scratching your head, wondering if you're adjusting the right thing. After that, though, you'll be completely at home with the controls and dive headlong into trying all sorts of things with the Dual Parametric D.I.

If you've worked with other equalizers and direct boxes, you'll be extremely impressed by the wide boost-and-cut range and huge amount of headroom that the Dual Parametric D.I. provides. This is because of a proprietary voltage-doubling circuit that Fishman builds in. If you've ever overloaded a direct box with slap-style bass, or found an equalizer that just couldn't give you enough boost and cut when you needed it, this one will get you pretty excited.

The ins and outs. You can power the Dual Parametric D.I. with a 9-volt alkaline battery or an optional AC adapter—your choice. A standard 1/4" input jack accepts the signal from just about anything with an electronic signal. (The input has a 10 Megohm impedance—so high that the Dual Parametric D.I. makes a perfect preamp for unbuffered piezo pickups.) You get a choice of outputs: The 1/4" output is a good choice for plugging into most personal studio equipment, amplifiers, and other signal processors, whereas the XLR output mates well with studio-quality gear, including mixers, P.A. systems, etc. A ground-lift switch for the XLR output is handy, especially if you're feeding a signal to the Dual Parametric D.I. from something that's plugged into the wall, which could create a ground loop—and its accompanying hum—once you plugged the Dual Parametric D.I.'s output into another grounded device. Using both outputs lets you send one signal to your monitor amp (if you have one) and a second one to a P.A. or recording mixer.

The front panel. At the front panel's midsection is a volume control, a Clip/Lo Batt (short for "clipping/low battery") LED, and a Phase switch. The volume control is for setting the right input level entering the Dual Parametric D.I.; the LED glows if you're sending too much signal into the circuitry, causing clipping, a harsh, unmusical distortion. To accommodate both high- and low-level signals, the Volume knob lets you boost or cut the signal's intensity. Setting the knob at about 2 o'clock puts it at 0dB—no boost or cut. The LED also tells you when a battery is low by glowing continuously when the voltage in the battery drops below 7 volts, telling you that you have at least an hour to change it (and maybe even more time, depending on how much boost and cut you're using). You also get an indication of the battery's health each time you plug into the input; a good battery is indicated by the LED blinking once. You'll likely find the final control in this section extremely useful: The Phase switch inverts the signal's phase, which can sometimes cure feedback. If you're using the Dual Parametric D.I. to treat an acoustic instrument's built-in pickup before sending

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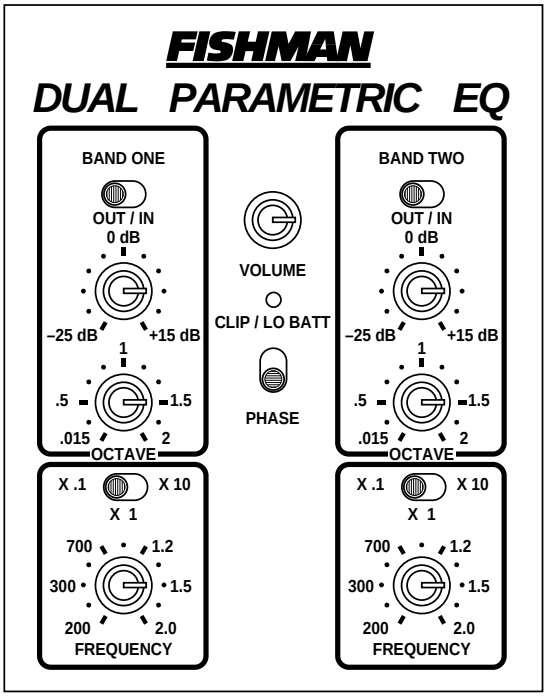
it to the same P.A. or amp where a microphone is also plugged in, switching the phase can make the sound less "honky" and even more solid. All that from one switch!

Testing the Dual Parametric D.I. One of the best applications for a parametric equalizer is feedback control. I plugged my bridge-pickup-equipped acoustic into the Dual Parametric D.I., and the EQ into my mixer. I turned one EQ band off and set the other's boost/cut to 0dB and its octave knob to .5. Then I bravely raised the level of my mixer until the speakers squealed. Backing off a little bit, just below the feedback point, I then raised the EQ's boost about halfway and slowly turned the Frequency knob up until the squeal reared its ugly head. Wham-o! I changed the knob from boosting to cutting, and sliced out the feedback. Raising the volume a bit more, I started to hear a little ringing, so I adjusted the octave knob to a tighter range, closer to .07, and cut a little bit more. That did it. This can be especially useful if your monitor system is separate from your P.A.'s main output, because you can cut out only the offending feedback frequency, rather than messing with your overall tone.

For bass guitar, the Dual Parametric D.I. is a life-saver. To start with, electric bass is very often plugged directly into a mixing console for recording (to get the most solid sound). This requires a direct box, a link between the bass' high impedance and the mixer's desire for low impedance. The Dual Parametric D.I. provides that, with its XLR output. But once your bass is plugged in, some kinks in the bass' sound always need to be worked out. For example, many basses suffer from what's called a "dead spot," a place on the neck where the note you play is just plain anemic. I found mine, and when I did, I set the Octave control between .07 and .5, boosted the level by about 10dB, and then turned the Frequency knob slowly while playing that weak note. When the Frequency knob was swept to the point of that weak note, it pumped up the note. I played a few adjacent notes and set the level so that the formerly weak note wouldn't overpower its neighbors, and then I tightened up on the Octave setting. You can use the same approach to subdue "wolf tones," notes that are too loud on an instrument due to its resonance. Instead of boosting the frequency, though, you cut it by a few dB.

Another good bass trick you can accomplish with the Fishman Dual Parametric D.I. is "scooping out" the midrange frequencies for a solid bottom and bright top when slapping and popping. Set the boost/cut knob to cut by 10 or 15dB, and the Octave knob to 1 or 1.5. Then adjust the Frequency control until you've scooped out the band you want de-emphasized. If you want, you can use the second band to boost a separate range, such as the bottom end, or use it to control a dead spot independently.

Electric guitar can benefit from the Dual Parametric D.I., too. A lot of guitarists like the nasal sound that a wah-wah pedal gives a guitar, when the pedal is set at one place. I was able to duplicate the sound by setting one band's controls like this: Frequency at about 1.3kHz, the octave control midway between at about .75, and boost at +15. This gave me lots of that nasal tone. (For a deeper effect, you can duplicate the settings on Band Two.) Going beyond what a mere wah-wah can do, I widened the octave setting to 1.5 octaves and selected a frequency center of around 3.5kHz. That added some much-needed cutting power: Lots of honk but with brightness that emphasized the pick at the same time. The bonus that comes from using the Dual Parametric D.I. for an application like this is that any settings you come up with are easy to duplicate, and it's virtually noise-free (wah-wah pedals are notoriously hissy).



I tried the Dual Parametric D.I. in several other applications, like adjusting tones for sampling, cutting out 60-cycle hum, reducing thump in acoustic guitars, and combining it with a compressor for de-essing. I even patched it into the insert loop on one channel of my mixer to add more precise control over an instrument's tone than the mixer's EQ controls could ever provide. There's so much you can do with the Fishman Dual Parametric D.I., chances are you'll never run out of ideas.

The bottom line. All told, Fishman's Dual Parametric D.I. is sort of like a Swiss Army Knife for sound. You can use it to kill feedback in amplified acoustic guitars and miked vocals, make a bass sound more solid or more funky, create exquisite samples, give an electric guitar a cutting edge, fix the tone of a recorded track (or straighten out a sound *before* it reaches tape), and about a million other things. In addition to being a precision equalizer, the Dual Parametric D.I. is also a top-flight direct box that's perfect for guitar, keyboard, and bass onstage and in the studio. It's small enough to take anywhere, built like a tank, easy to use yet extremely precise, and reasonably priced. If you want the ultimate in control over your sound, the Fishman Dual Parametric D.I. is exactly what you need.

Inside Fishman's Dual Parametric D.I.

Type of processor: Two-band parametric equalizer with built-in direct box

Features: Compact size, extremely high-fidelity sound, each band can be switched in or out separately, unit can be powered by AC adapter or 9-volt battery

Top panel (L-R): Band One Out/In switch, Boost/Cut knob (-20dB to +15dB), Octave/bandwidth knob (.07 to 2 octaves), frequency range switch (x1, x10, x100), Frequency knob (20 Hz to 200 Hz, multiplied by range selected by frequency range switch); Volume knob, Clip/Lo Batt LED, Phase switch; Band Two Out/In switch, Boost/Cut knob (-20dB to +15dB), Octave/bandwidth knob (.07 to 2 octaves), frequency range switch (x1, x10, x100), Frequency knob (20 Hz to 200 Hz, multiplied by range selected by frequency range switch)

Back panel (L-R): 1/4" Input jack, 1/4" Output jack, Ground Lift switch, XLR Output (low-impedance, balanced), 9-Volt AC adapter jack (battery compartment is locate on the bottom of the unit)

Weight: 18 oz.

Dimensions: 4⅜" x 5½" x 2½"

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