

DYNACORD L1800FD

Evaluating a sophisticated new DSP/amplifier platform.

by Craig Leerman



The new Dynacord L1800D DSP/amplifier.

Dynacord's recently introduced L-Series 2-channel power amplifiers with high-end digital signal processing are designed for live sound reinforcement applications. Four models are available, specified as capable of delivering total output power ranging from 1,300 to 3,600 watts at 4 ohms. The company also states that the series is engineered for constant stability in driving 2-ohm loads.

All models are equipped with sophisticated protection circuitry for both the amplifiers and connected loudspeakers, along with stringent voltage handling and DSP, which includes multiband parametric equalization (PEQ), crossovers, limiters and delay per channel. Advanced FIR (finite impulse response) drive is also provided for optimizing original factory loudspeaker settings onboard the amplifiers. Users can also create their own custom loudspeaker settings using the onboard DSP.

Proprietary Multi Amplifier Remote Control (MARC) software facilitates the design, control and supervision of systems driven by L-Series (and C-Series) amplifiers in an intuitive workflow. Up to eight amplifiers (16 channels) can be configured, controlled and supervised in a single project file using USB plug-n-play.

Further, up to 16 control groups can be created that can contain one or multiple channels for quick, flexible control of a system. Each control group offers VU

metering, level and mute, and can include one or multiple of the control group function blocks: 5-band PEQ, 31-band graphic equalizer (GEQ), and output delay of up to 650 milliseconds (ms) that allows grouping with "master" functions like EQ for all, while still providing access to individual PEQ, levels and delays.

Each system setting can be stored in one of 50 user presets and recalled via the System Scene Manager. The supervision page shows all amplifiers that are online, with VU metering for inputs and outputs, including clipping and limiting. Health status of each amplifier, including real-time impedance measurements that display warning flags for open and short circuits, are visible as well.

The L-Series also works with the IRIS-Net integrated software platform for remote control of systems incorporating both Dynacord and Electro-Voice products. The platform fosters configuration,

supervision and control of systems with a multitude of similar or different devices from a single user interface. It supports Ethernet, CobraNet, CAN-bus and USB, and is open for future implementations.

WHAT IT'S GOT

For this evaluation, Dynacord provided a model L1800FD amplifier, which has a Class AB design and is stated to deliver up to 450 watts at 8 ohms, 850 watts at 4 ohms and 1,400 watts at 2 ohms, with both channels driven. Additional specs offered by the company include frequency response of 10 Hz to 21 kHz (± 1 dB), signal-to-noise ratio of >105 dB (A-weighted), and crosstalk between channels of < -80 dB (1 kHz at 100 watts/4 ohms). Total harmonic distortion (THD) is listed as < 0.05 percent. The L1800FD measures 19 inches wide, 2RU high and 18.2 inches deep, and weighs 33.5 pounds.

It's a very attractive unit. I prefer



Clean and functional back panel facilities.

gear with subdued color schemes, and the L1800FD offers an all-black faceplate highlighted by a thin strip of silver across the face, above the fan vents. Controls on the front panel include a recessed screen flanked by a single input knob and a power switch.

On the back, there are XLR inputs and outputs for both channels, dual NL4 Speakon outputs, IEC connector for power, ground lift switch, USB connector for networking, and two fans behind grilles.

After taking the unit out of the box, I placed it on my test bench and connected it to a high-quality full-range loudspeaker and digital mixer. The onboard menu is easy to navigate, and while not as simple as using the computer software (and a mouse) to configure, I had no problems quickly setting a few parameters. The inputs can easily be mapped to either channel or both channels. EQ and delay are available and, with a few pushes and turns of the input knob, can be easily adjusted.

Next I downloaded the MARC software on a Windows 10 laptop, connected the amplifier via the included USB cable, and the software immediately recognized the amplifier. Using the software, I configured all parameters and could monitor the settings. During this process I pictured a multi-purpose amp rack in my company's inventory loaded with L-Series amps that could be configured onsite by recalling onboard settings or by hooking up a laptop and changing the settings while monitoring the system in real time.

I also discovered a couple of onboard features that I really like, including a load monitor that provides the impedance of the loudspeaker circuit right at the amp's display. In addition, there's a factory default reset that puts all DSP settings back to flat, which eliminates the need to scroll through every parameter make to make sure everything is flat. Satisfied that the amp was operating properly, it was time to head out to a few gigs.

PLEASANT CHANGE

Our first stop was a corporate show served by a pair of full-range loudspeakers (15-



Screenshot of MARC software providing a deep set of design, control and supervision capabilities.

inch) on stands. Normally our passive loudspeakers for these applications are driven by older amplifiers joined by an outboard DSP in the rack, so it was a very pleasant change to simply carry a single amp with built-in, comprehensive DSP.

I'd already set up this specific system at the shop to tweak the amp parameters to better match the loudspeakers. It was a straightforward matter to save the settings and then recall them at the show. (Note: there's also a setting in the menu that allows the user to choose if the amp boots up with the previous settings or in factory default mode, another handy feature.) Suffice to say that the L1800D performed flawlessly throughout the event.

Next up, we integrated the amp into a passive PA with two full-range tops, each accompanied by a sub. The L1800D made our rack much lighter, joined by two bridged amplifiers for the subs and a processor. At just a shade over 30 pounds, a rack of L-Series amps would result in significantly lighter racks than we currently use in these applications, with the added benefits of enhanced DSP and remote control and monitoring. In this application, the L1800D drove both full-range loudspeakers at 4 ohms, and the system has never sounded better.

Finally, we deployed the amp for a corporate meeting, where it drove a pair of 10-inch coaxial main loudspeakers selected for their smaller footprint. We reset the amplifier back to the original flat setting and then tweaked the DSP to optimize these particular loudspeakers. Performance was rock-solid, and again, my thinking turned to how much of an advantage it would be to have racks incorporating an L1800FD for driving mains, front fills, monitors or delays as needed per gig.

While my company's inventory does include some active loudspeakers, all of our stage monitors and many of the "speakers on sticks" are passive. Our preference is to locate an amp rack near AC power in a venue and simply run cables along the wall to the loudspeakers.

In short, the Dynacord L1800FD is a superior product, delivering plenty of audio power joined by full-featured DSP and computer control. Anyone in the market for new amplifiers should put it on the short list of candidates.

U.S. MSRP: \$935 LSI

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