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# Theta Dreadnaught II

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**T**he Dreadnaught (reviewed in our October 2000 issue) was the first power amplifier from Theta Digital, a company previously known for its D/A converters, CD and DVD transports, and surround processors. But it wasn't to be the last. The Dreadnaught II is now a member of a growing family of Theta amplifiers—the premier multichannel design in a line that also includes high-end monoblocks.

Cosmetically identical to the original Dreadnaught, the II includes sonic upgrades, an upgraded power supply providing a small increase in maximum available power, and options that include the ability to equip the amplifier to drive as many as 10 channels. The design provides slots for up to five amplifier plug-in modules. Theta now offers two of these plug-ins for the Dreadnaught II: a high-powered mono module rated at 225W into 8Ω, and a lower-powered, 2-channel module. At 100Wpc into 8Ω, the latter takes up only a single card slot for two channels.

You can use any combination of these modules. Our test sample was equipped for five 225W channels, but we could as easily have ordered three 225W mono modules for the front channels and two mid-powered 2-

channel modules to power four surrounds in a 7-channel system. Another possible option would be four high-powered modules to biamp a conventional stereo system. Or you could select five mid-power modules to drive a 10-channel system, biamp all the channels of a 5-channel system, or biamp the three front channels and single-amp four surrounds in a 7-channel setup. The mind boggles. And the Dreadnaught's modular design means the

amp's configuration can be easily changed in the field at any time. I didn't test the 100Wpc modules, but I'd be surprised if they weren't based on the technology used for Theta's similarly powered 5-channel, nonmodular Intrepid amp.

Owners of the original Dreadnaught can upgrade their amp with the new modules, with no other change required. But the new amp also has an upgraded power supply with dual

### SPECIFICATIONS

**Dreadnaught II** multichannel power amplifier

**No. of channels:** 2–10 (5 as tested)

**Power rating:** 225Wpc into 8Ω  
(as tested; see text)

**THD+noise:** <1%

**Signal/noise:** >100dB, unweighted

**Frequency response:** 0.3Hz–250kHz (–3dB  
points @ full power)

**Inputs:** single-ended, balanced

**Gain:** 31.5dB balanced, 25.5dB single-ended

**Dimensions:** 17.7" × 8.5" × 23.5" (W×H×D)

**Weight:** 98 lbs

**Prices:** \$6750 as tested (225W×5); \$2250 basic chassis, plus: 225W channel module, \$850 each; 100Wpc 2-channel module, \$1000 each; aluminum top, \$250

#### Manufacturer

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toroidal transformers. Putting the new modules in the older amp therefore limits their power output: in the case of the high-power modules, they'll be limited to the original amp's 200Wpc, not the 225Wpc of a completely new Dreadnaught II.

Via a rear-panel selector switch, each channel can be designated as either surround or stereo. Pressing the front-panel Surround button activates all channels. Disengage the button, and only those channels designated as stereo are fully powered; the rest are left in Standby, which mutes those channels and reduces the bias on their output devices to approximately 10% of normal. This feature will appeal to audiophiles, who might assume that

it will improve the sound in 2-channel mode. However, even with all channels fully biased but only two actually operating, the power drawn by the silent channels, and any audible degradation that might cause, will likely be minimal. I did all of my auditioning in the Surround setting, even when I was playing 2-channel material.

The Dreadnaught II's basic internal features are much as in the earlier design: no-holds-barred, heavy-duty construction; no global feedback (local feedback around single gain stages only); and a fully balanced differential circuit design. The quality of construction is obvious the minute you unpack the amp—or, rather, *try* to unpack it. The Dreadnaught is a

beautiful but massive design. Don't be fooled by its specified weight of 98 pounds—it feels heavier!

The virtues of no global feedback have always been controversial. Eliminating global feedback generally results in slightly poorer performance on standard bench tests, but proponents of this type of design—Theta included—argue that the timing issues inherent in feeding a portion of the output back to the input result in myriad complex distortions. While these distortions don't register in conventional measurements, the argument goes, they're more destructive to the sound than those eliminated by standard feedback techniques. Designers have disagreed about this for



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more than 20 years; we're not likely to settle the matter here.

The Dreadnaught II's fully balanced design cancels out internal discontinuities that arise in the course of amplification. Both balanced and single-ended inputs are available for all channels. Single-ended inputs are "cloned" at the input to produce an inverted signal that the amplifier then handles as it would a balanced source.

## REVIEW SYSTEM

### Sources

Integra DPS-8.3 DVD player

Proceed PMDT DVD player

### Surround Processor

TAG McLaren AV192R

### Surround Speaker Systems

Sonus Faber Cremona

Mirage Omni 250

### Cables

Digital: Kimber Kable AGDL

Interconnect: Madrigal CZ-Gel, Monster M-1500

Speaker: Monster M2.2 & THX, XLO VDO

I did much of my listening to the amp with single-ended inputs; the comments on the sound that follow are applicable to that configuration. Nevertheless, if you have balanced connections, you might get even better performance. I say "might" because in my case the improvement was subtle enough that they could well have been due as much to cable differences as to any inherent advantage in the balanced connection. But keeping that possibility in mind, I did hear a bit more openness and air in balanced mode—a sense of listening deeper into and around the soundstage, or what audiophiles sometimes describe as more black space between the notes. To hammer further on a video analogy, the dynamic contrasts sounded a little more lifelike in balanced operation.

Of course, the major advantage to balanced connections, in general, is cancellation of any noise picked up over long cable runs. I used only 3 meters, so that was not really an issue. But if your pre-pro and amp are far apart, opting for balanced operation—if your equipment can accommodate it—is never a bad decision.

Other features include trigger inputs that allow remote selection of the Standby and Surround modes, LED indicators for Standby and Surround, and an optional RS-232 port for full remote control and analysis of the amplifier's operating status.

## Sounds I

I listened to the Dreadnaught II through a variety of surround speaker systems in my home theater. If you've read my *SGHT* reviews of the Sonus Faber Cremona (November 2003) and Mirage Omni 250 (December 2003) speaker systems, you've already had a sneak preview of this review. I also spent considerable time listening to the Theta driving my longtime reference 2-channel speakers, the Energy Veritas v2.8s.

With DVD soundtracks, the Theta was impossible to fault. In concert with the Cremona speakers, no detail seemed neglected or overemphasized. The sound was both dynamic and forgiving. While the Dreadnaught II stopped short of the rich, lush sound craved by tube lovers, it was in no way lean or thin. Instruments and voices had a natural warmth



through the midbass and a natural presence in the midrange.

The Dreadnaught II's treble was convincingly detailed, turning edgy or grainy only when the program material included such irritations. Even then, the Theta's naturally forgiving nature didn't make matters worse. In fact, the Dreadnaught II's top end was the region I found most improved from the Dreadnaught I. The I had sounded a little dry; the II did not. The original amp also sounded a little cool in the midbass and lower midrange. The II sounded warmer and, perhaps, a bit more forward and immediate. I hasten to add that these observations are based on remarks from my October 2000 *SGHT* review of the original amp, which was not on hand for this review. Nevertheless, I consider the Dreadnaught II to be a worthwhile improvement on its predecessor, which for two years was one of the top-rated amplifiers in our annual March/April "Recommended Components" issue.

Whether I listened to subtle, ambience- and dialog-heavy soundtracks such as *Solaris*; movies in which the background music plays a significant part, such as *Holes* or *Casper*; or explosive sonic blockbusters such as *Final Fantasy* or *The Lord of the Rings: The Two Towers*, the Dreadnaught II took everything I could throw at it in stride. Its balance was flawless, and it seems unlikely that there's more

soundstage depth, precision, or detail in most Dolby Digital or DTS soundtracks than the Theta could easily reproduce.

In fact, my only reservation about the sound of the Dreadnaught II playing multichannel

soundtracks is a philosophical one. When you direct most of the power-grabbing bass below 80Hz to a subwoofer driven by its own internal amplifier, do you really need 225W per channel? It all depends, of course, on the

## MEASUREMENTS

The frequency response of the Theta Dreadnaught II measured  $-0.08\text{dB}$  at 10Hz,  $-0.03\text{dB}$  at 20Hz,  $-0.12\text{dB}$  at 20kHz, and  $-0.74\text{dB}$  at 50kHz. The amplifier's gain measured 25dB. Its signal/noise ratio at 1W into  $8\Omega$  (10Hz–24kHz) was  $-112.5\text{dB}$ , A-weighted. All of the above apply to balanced operation, but the single-ended results were only marginally different. The balanced THD+noise at 1W into  $8\Omega$  measured 0.038% (0.112% at 2W into 4 $\Omega$ ) at 20Hz, 0.035% (0.097% at 2W into 4 $\Omega$ ) at 1kHz, and 0.003% (0.006% at 2W into 4 $\Omega$ ) at 20kHz.

Into an  $8\Omega$  load, with five channels driven, the Dreadnaught II clipped (1% THD+noise) at 192W per channel at 20Hz and at 189Wpc at 1kHz (215Wpc with two channels driven at 1kHz into  $8\Omega$ ). Into a 4 $\Omega$  load, five channels driven, clipping occurred at 228Wpc at 20Hz and at 227Wpc at 1kHz (255Wpc with two channels driven at 1kHz into 4 $\Omega$ ).

With most solid-state amplifiers, particularly those with conventional feedback, distortion is

low up to the point of clipping, but increases so rapidly after that point that the amp has, for all practical purposes, run out of steam. With the Theta, however, the distortion increases gradually as power increases. At 2% distortion, for example, the Dreadnaught II will put out 257Wpc into  $8\Omega$  and 341W at 4 $\Omega$  (two channels driven at 1kHz). The amplifier is able to double its  $8\Omega$  rated power when the load drops to 4 $\Omega$ , but at a distortion level of 7.4% (450Wpc, two channels driven at 1kHz). It should also be noted that the distortion in the Dreadnaught II at very high power levels is higher than we measured for the original Dreadnaught.

Theta would no doubt argue that the Dreadnaught II's distortion characteristics, most certainly due to the low feedback design, pays dividends in better sound at normal listening levels—levels that draw only a fraction of the amp's rated power. Judging from the listening results, it would be hard to challenge this position.—TJN



speakers, listening room, and how loudly you like to listen. I've lived happily with amplifiers putting out roughly half that much power, and so might you.

But the new Dreadnaught has an answer for that, too: You can opt for the big amp modules for the front channels if you think you might need the added power, and the smaller, 2-channel modules for the surrounds—an arrangement I think most listeners would be more than happy with. Even more economically, Theta offers the lower-powered, non-modular, 5-channel Intrepid amp. We haven't evaluated it, but it's built to a design philosophy that's similar to, if less massive than, the Dreadnaught II's.

## Sounds II

I've remarked before that it's easier to hear what's going on with an amplifier with only two channels operating than with five or more. It's also far easier to compare one amp to another when you're required to match levels for only two channels instead of five—or seven! The

only caveat to such a method is that a multi-channel amp is then not working as hard because you're not driving all its channels. But with an amplifier as powerful as the Dreadnaught II, this is hardly a significant concern.

Auditioned in 2-channel mode, with good 2-channel program material and driving the Energy Veritas v2.8 speakers full-range, the Theta didn't disappoint. With powerful bass, warm midrange, detailed but never aggressive highs (given good program material), and first-class soundstage precision and depth, it more than lived up to the reputation of its predecessor.

My current reference amp, the Proceed AMP5, is no longer in production. But it was still in our most recent "Recommended Components" listing (March/April 2003). And as the amp with which I am most familiar, it's certainly worthy of comparison with the Theta. The Dreadnaught II sounded slightly softer and richer. Its bass was fuller and more enveloping. The less powerful AMP5's bass was tighter, if a little less dynamically impres-

sive. The Theta's warmer sound made it a little more attractive on voices; the Proceed's tight, slightly analytical quality sounded cooler and subtly more open and detailed in the midbass and a little crisper in the highs. Which sounds "right" will depend on the room, the system, the program material, and the listener, but I have no doubt that any audiophile who wants to capture both the detail of solid-state sound and the ease and warmth of tubes in a package that's practical for a home theater will love the Theta Dreadnaught II.

## Conclusions

Big, beautiful, and powerful, Theta Digital's Dreadnaught II is ready to provide great sound for the most complex home theater systems. Whether you need five high-powered channels, 10 modestly powered ones, or something in between, it should get the job done in a way that will satisfy the fussiest audiophile, and with everything from 2-channel stereo to the best multichannel sources. 