

NHT Xd Powered Speaker System

A fresh look at form and function.



BY CHRIS LEWIS

One thing you can't say about

speaker designers and manufacturers is that they haven't been busy over the last 10 to 15 years making drastic changes to the standard speaker form. There may have never been another period like it in the annals of speakerdom. What you can debate, however, is what the driving force for all of this change has been. It strikes me that a good portion of it has been aesthetically and ergonomically motivated, and far less of it has been geared toward making speakers sound better. Now don't get me wrong—I'm not here to trash flat panels, in-walls, wireless speakers, or anything else. Some of these designs can sound very good, despite their inherent compromises, and they are getting better as they mature. They

all have their purposes, and many of them have well served people who may not otherwise be interested in speakers outside of those in their televisions, or those folks who aren't willing to give up floor space to accommodate speakers. But special congratulations must be given to those speaker makers who, either through new technologies and designs or not, are actively trying to improve the sound quality of such designs. This quest is as important now as it has ever been.

NHT's new Xd powered speaker system is living proof that some manufacturers clearly have performance as their top priority while they try some radical new twists on conventional thinking—and NHT is doing a fine job of making the speakers aesthetically and ergonomically pleasing in the process. The Xd system, which consists of two XdS satellite speakers, an XdA DSP/amplifier unit, and an XdW bass module, incorporates a number of interesting designs and technologies. I have no chance of doing full justice to them in the space I have, so I'll direct you to NHT's Website (www.nhthifi.com) for the full rundown, and I'll stick to the system's highlights here.

Primary among those is that the Xd system makes use of DSP-corrected loudspeakers. People have debated the potential drawbacks of passive crossover components for a long time, including the potential of

all of those wires and coils operating at high power levels to cause harmonic distortion, compression, and timing anomalies. There are also the limitations of 12-decibel and 24-dB slopes to consider in optimizing driver output. The Xd's DSP system, designed by DEQX, includes parametric equalization and a digital crossover system that not only allows correction for frequency and phase, but it also rolls off the response from one driver to another at a rate of 110 dB per octave (with the potential for 300 dB per octave). NHT intends for all of this to create, among other things, exceptional resolution; broad, accurate soundstaging with the elimination of sweet spots; and high output in spite of the compact speaker cabinets. And, because the system is digital, you can easily upgrade it via a USB 2.0 port on the rear of the XdA unit.

In addition to the DSP components, each XdA houses four Class D switching amplifiers, designed by PowerPhysics, and each XdA is intended to run two XdSs, biamped, and provide line-level outputs to one or two XdW units. Because of the amps' switching nature, they're small, highly efficient, and cool running. In addition to the two proprietary speaker outlets and two XLR outputs for the XdWs, the XdA's rear panel gives you the choice of two single-ended (RCA) inputs or two balanced (XLR) inputs for the feeds from your pre/pro. There's a mike input (XLR) that you can use

for advanced room correction, in addition to the USB port and a trigger selection switch that allows you to set the XdA for automatic turn-on. The front panel offers a switch that allows you to adjust for the placement of the XdS—in a corner, against the wall, away from the walls, or atop a video monitor.

With the XdAs handling amplification, crossover, and everything else, the XdS cabinets are left with only one job: housing the drivers. They are slick-looking, compact units that use a 5.25-inch midbass driver and a 1-inch dome tweeter. The stands are solidly built and every bit as aesthetically pleasing. The rear of the cabinet offers the banana-plug connections to the XdA amp, which are used via the supplied speaker cable.

The XdW bass unit handles the low frequencies. It is also a sharp-looking cabinet, housing two active, side-firing 10-inch woofers and a 500-watt internal amplifier. Its rear panel supplies a balanced (XLR) input and a gain control labeled “more,” “less,” and “just right” (with tongue firmly planted in cheek). You need to run the XdW from the XdA, so no other inputs are necessary. NHT supplies the cable for this connection, as well.

I set up my 6.2-channel Xd system according to NHT’s recommendations. The front speakers essentially acted as one subsystem, with two XdSs, an XdA, and an XdW, and the two side speakers acted as another subsystem, with another XdA and XdW. The last two XdSs served as the front and rear center channels, fed by a third XdA. I placed all of the XdSs on stands, except for the front center channel, which rested comfortably on top of my TV. I set the front speakers about 3 feet out from the side and rear

walls, while the side speakers sat slightly above ear level at an angle of roughly 120 degrees to the listening position. I placed the rear center speaker about 5 feet behind the main

seating area, directly in the middle. The accompaniment was top shelf, in the form of a Lexicon MC-12 pre/pro and a Simaudio MOON Orbiter universal player.

AT A GLANCE NHT Xd POWERED SPEAKER SYSTEM



These listings are based on the manufacturer’s stated specs; the HT Labs box below indicates the gear’s performance on our test bench.

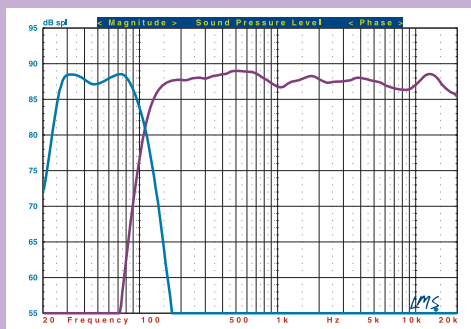
◆ BASS MODULE: XdW

Connections:	Line-level, balanced (XLR) input
Enclosure Type:	Sealed
Woofer (size in inches, type):	10 (2), aluminum
Power Rating (watts):	500
Crossover Bypass:	N/A
Available Finishes:	Maroon/Cream Gloss
Dimensions (H x W x D, inches):	22.1 x 11.2 x 13
Weight (pounds):	57

◆ SPEAKER: XdS

Type:	Two-way satellite
Tweeter (size in inches, type):	1, aluminum
Midrange (size in inches, type):	5.25, magnesium
Woofer (size in inches, type):	N/A
Nominal Impedance (ohms):	8
Recommended Amp Power (watts):	N/A
Available Finishes:	Maroon/Cream Gloss
Dimensions (H x W x D, inches):	10.5 x 6.5 x 8.5
Weight (pounds):	13

HT Labs Measures: NHT Xd Powered Speaker System



◆ Satellite Sensitivity:
87.5 dB from 500 Hz to 2 kHz with 0.1-V input

This graph shows the quasi-anechoic (employing close-miking of all woofers) frequency response of

the XdS satellite (purple trace) and XdW bass module (blue trace). The powered satellite was measured with its grille at a distance of 1 meter with a 0.1-volt input to the XdA amplifier, which was set to free-space mode.

The XdS’s listening-window response (a five-point average of axial and +/-15-degree horizontal and vertical responses) measures +1.47/-1.18 decibels from 200 hertz to 10 kilohertz. An average of axial and +/-15-degree horizontal responses measures +1.61/-1.04 dB from 200 Hz to 10 kHz. The -3-dB point is at 123 Hz, and the -6-dB point is at 111 Hz. Impedance was not measured, as this is a self-powered system.

The XdW’s close-miked response, normalized to the level at 80 Hz, indicates that the lower -3-dB point is at 26 Hz and the -6-dB point is at 24 Hz. The upper -3-dB point is at 95 Hz. —MJP

AT A GLANCE XdA DSP AMPLIFIER



◆ CONNECTIONS

Inputs:	Balanced XLR (2), RCA (2)
Outputs:	Biamp speaker outputs (2), line-level balanced XLR (2)
Additional:	microphone, USB 2.0

◆ FEATURES

Number of Channels:	2
Power Rating (watts per channel):	150, into 8 ohms
Frequency Response:	28Hz-30kHz +/- 1dB (entire system)
Dimensions (H x W x D, inches):	2.8 x 17 x 15.7
Weight (pounds):	12.5

The first thing to grab me with two-channel music was the considerable disconnect between what my eyes saw and my ears heard. My eyes saw small, unobtrusive, and rather pleasing-looking satellites and relatively compact subs. But my ears heard a full, well-defined soundstage with remarkable accuracy and unmistakable depth and dimension. Now, don't expect miracles from these speakers—they won't pick you up and toss you around like large, properly designed towers do. But you simply won't find many speakers at this size that will deliver the kind of presence that the XdS do, and they do this without ever becoming overly aggressive or forward. The XdSs were consistently warm, natural, and tonally balanced. The blend between the sub and the main speakers was as seamless as I've heard from a sub/sat system in a long time. Even older material with less-than-pristine recording values didn't shake the speakers from their easygoing demeanor. Early Stanley Brothers material was as full-bodied and smooth as the recording would allow it to be, and even some of the cuts from Muddy Waters' *Chess* repertoire—which I had to re-record from vinyl using a mike—came off cleanly and crisply.

Dense material, such as the DVD-Audio and SACD barrages of Respighi's *Pines of Rome* (AIX Records) or Tchaikovsky's *1812*

Overture (Telarc), opened up the Xd system even more. It was as alive here as I've ever heard a smaller system sound, short of legendary satellites like the Revel Gems or the Wilson Watt Puppies. I was truly impressed by how well a single midbass driver per speaker resolved all of the upper-bass and midrange elements of the huge climax of *Pines of Rome* so accurately and distinctly. The surround and center channels chipped in nicely, especially when I used some of the in-the-orchestra perspectives that many of the AIX recordings offer. Vocals, regardless of the perspective of the recording, were effortless and pure, with a full body for female voices and male vocals that were neither chesty nor lean on any occasion.

The same quality handling of voices was evident with movie dialogue, as well. This little Xd center channel did an exceptional job of sorting out dialogue, effects, music, and everything else that's crammed into the center channel. It can get crowded, as most any center channel can, but any sense of crowding is subtle and highly temporary. Voices remained rich and full, and the wide, deep dispersion that this little speaker put out was remarkable.

The fronts, surrounds, and bass modules anted up strongly with movie effects and music, too, particularly with large events like explosions, footsteps of Middle-earth mammoths, and so on. It

HIGHLIGHTS

- DSP-corrected loudspeakers
- Small speakers and subwoofers whose sound will make you do a double take

certainly didn't hurt to have six channels firing, but, even with a more standard five-channel execution, the system sounded big, solid, and entirely enveloping. The Xd's crossover system is one of multiple elements that opens up these speakers and allows them to be quite successful as surrounds, even with their direct-radiating nature. Whether I used two or three surrounds, the surround field was large and unmistakably well defined.

It's not always easy to separate hype from substance in the speaker market these days, until you actually get into the listening room. Plenty of hype preceded the NHT Xd system's journey to my listening room—and now I see, and hear, why. NHT has successfully balanced a desire to go off the beaten path with a need to deliver the one thing that will always characterize top-shelf speakers—top-shelf sound. This system sounds excellent, it looks excellent, and, if you're in the market at this price point, it's a system you're going to want to hear. 🎧

NHT Xd POWERED SPEAKER SYSTEM					OVERALL RATING
Build Quality	Value	Features	Performance	Ergonomics	95
<ul style="list-style-type: none"> → Quality drivers and internal components all around → Sturdy, well-built cabinets and stands 	<ul style="list-style-type: none"> → The competition is world-class at this price level, but this system is ready for it → Build quality like this should last a good long time 	<ul style="list-style-type: none"> → DSP-corrected speakers says it all → Single-ended and balanced inputs on XdA 	<ul style="list-style-type: none"> → Your eyes and your ears won't believe one another → Highly accurate with a deep, well-defined stage for movies and music 	<ul style="list-style-type: none"> → Smaller speakers always make life easy → True plug and play 	
96	93	98	95	98	

General information
 XdS Satellite Speaker; XdA DSP/Amplifier; XdW Bass Module → \$6,000 per system, which includes two XdSs, one XdA, one XdW, two stands, and all necessary cables and interconnects → NHT, (800) 648-9993, www.nhthifi.com
 Dealer Locator Code NHT

The Xd powered speaker system isn't just about using new technologies and designs—it's about using new technologies and designs to truly make speakers sound better. Take one listen, and you'll agree that NHT has entirely succeeded at this. The system sounds great, it looks great, and it couldn't be much easier to use.