

HD DVD AND BLU-RAY HIT THE SHELVES!

NEW  
TECH  
REVEALS



www.hometheatermag.com • July 2006

# HOME Theater

## HT EDITORS TELL YOU:

- ❖ What to Buy
- ❖ How to Get Better Video
- ❖ Easy Steps for Marital HT Bliss

Naomi Watts  
stars in *King Kong*.  
See our review  
inside.



SUMMER'S  
HOTTEST  
NEW GEAR  
INSIDE

# Meridian DSP3100 Speaker System and G91A Controller

Is pure digital architecture the future of audio?



BY MARK FLEISCHMANN

**This month's Meridian Spotlight System** consists of four DSP3100 monitors, a DSP3100HC center speaker, an SW1600 sub, and a G91A DVD-Audio/video player, controller, and tuner. If you want to know what happened to the amps, you'll just have to read on.

Meridian was arguably the first high-end audio company to reinvent itself for the age of digital audio technology. Their MCD, circa 1984,

was the first truly high-end CD player. When high-end two-channel digital-to-analog converters were in vogue in the early 1990s, Meridian's were up there with the best. Also on the company's resume is Meridian Lossless Packing, which enables DVD-Audio titles to efficiently deliver high-rez surround without altering the signal or resorting to psychoacoustic trickery.

Meridian is one of very few manufacturers to market a loudspeaker with completely digital processing—and certainly the only

one to have been successfully doing so since 1990, with the introduction of the DSP6000. This month's Spotlight System continues a 16-year train of thought.

In the world according to Meridian, feeding a high-current signal to loudspeakers is old-fashioned and crude. Meridian's digital speakers have built-in amps matched to each driver. They accept digital signals—for audio and control purposes—and take full advantage of advanced processing power to finesse issues like crossover, driver and system EQ, and driver protection. Added bonuses include built-in volume and tone controls.

My first experience with DSP speakers came more than a decade ago when I used to review stereo systems en masse for *Rolling Stone*. I remember the two towers respectfully, both for their sterling sound and their gut-busting weight. The DSP3100 is more my style. It's monitor sized, like my Paradigm Reference Studio/20, and, at just 28 pounds, an effete, urban non-weightlifter can easily handle it.

## Inside the Enclosure

Even if they weren't digital and powered, Meridian speakers would

be remarkable for their enclosures alone. Black-lacquered tops and aluminum side panels give them a unique look. What's underneath is just as noteworthy.

If you were to buzz-saw a DSP3100 in half—please don't try this at home—you'd see a lot more than chambers of particle-board filled with air, drivers, and the odd filter. These enclosures are made of an outer 0.2-inch aluminum skin bonded to an inner 0.75-inch layer of particleboard with bitumen (tar) damping.

Buying a Meridian system means you never need to worry about amplifiers. They're built into the speakers, each driver fed separately by a 75-watt amp precisely matched to its thermal and tonal requirements. Your buzz saw would make an especially loud noise when it got to the large toroidal power transformer in each speaker.

A digitally controlled loudspeaker is not necessarily a less complicated one. The back panels of the DSP3100 and DSP3100HC are busy with mouths to feed. There are two coaxial digital inputs and one output. Meridian provides the proprietary Comms (communications) input and two types of outputs: DIN (a sturdy five-pin plug that vaguely resembles S-video on steroids) and BNC (a locking connector that some installers prefer). Comms connections keep the speakers in sync and couple them to a control unit, in this case, the G91A. When you hit the master volume control, the Comms links enable all speakers to raise or lower volume in unison—both audibly and visibly, as each speaker has a front-panel green LED display. For software upgrades and integration with computer-based control systems, there's also an RS-232 jack.

## Wires, Wires, and Still More Wires

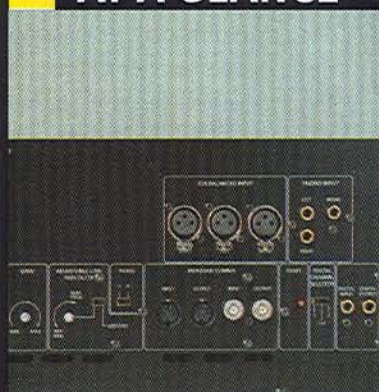
Each speaker requires a digital audio feed, a Comms feed, and a power connection, and each of these connects in a different pattern.

The controller has three (not five) digital outputs, one for the two front speakers, one for the two surrounds, and one for the center and sub. The front left/right output connects in a daisy chain from the controller to the left front speaker to the right front speaker. The surround left/right

output follows a similar pattern from the controller to the left surround to the right surround. The center/sub output goes to the center and the sub.

The Comms connections follow a different path. The controller has three Comms outputs, but you only need one for a 5.1-channel system. It goes from the controller to the center speaker to a five-way patch box that splits the signal, in this case, two ways. One output goes from the patch box to the left front to the right front.

### AT A GLANCE MERIDIAN DSP3100 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.

#### SUBWOOFER: SW1600

**Inputs:** L/R/mono analog (RCA), L/R/mono analog (XLR), coaxial digital (1) up to 96 kHz  
**Outputs:** Coaxial digital (1)  
**Additional:** Meridian Comms, DIN-type, inputs (2), outputs (2)  
**Enclosure Type:** Sealed  
**Woofer**  
 (size in inches, type): 12, composite cone  
**Power Rating (watts):** 150, RMS, Class G  
**DSP:** Freescale 56367 at 150 MHz  
**Audio D/A Converter:** Dual 24-bit/96-kHz  
**Crossover Bypass:** Yes  
**Available Finishes:** Gloss Black, glass top  
**Dimensions**  
 (H x W x D, inches): 16.5 x 16.4 x 16.3  
**Weight (pounds):** 78  
**Price:** \$3,945

#### SPEAKER:

**Type:**  
**Inputs:**  
**Outputs:**  
**Additional connections:**  
**Tweeter (size in inches, type):**  
**Woofer (size in inches, type):**  
**Power Rating (watts, per driver):**  
**DSP:**  
**Audio D/A Converter:**  
**Available Finishes:**  
**Dimensions (H x W x D, inches):**  
**Weight (pounds):**  
**Price:**

#### DSP3100

Two-way, monitor  
 Coaxial digital (2)  
 Coaxial digital (1)  
 Meridian Comms, DIN & BNC types, input (1), output (1); RS-232  
 1, doped fabric dome  
 6.5, doped carbon-fiber cone  
 75 above 2.6 kHz + 75 below 2.6 Hz  
 Freescale 56367 at 150MHz  
 Dual 24-bit/192-kHz  
 Gloss Black/Matte Silver  
 15.2 x 7.65 x 10  
 28  
 \$4,795/pair

#### DSP3100HC

Two-way, center  
 Coaxial digital (2)  
 Coaxial digital (1)  
 1, doped fabric dome  
 5.25, doped carbon-fiber cone (2)  
 75 above 2.6 kHz + 75 below 2.6 Hz  
 Freescale 56367 at 150 MHz  
 Dual 24-bit/192-kHz  
 Gloss Black/Matte Silver  
 6.8 x 18.5 x 10  
 35  
 \$2,895

### HT Labs Measures: Meridian DSP3100 Speaker System

Due to flooding at our test facility, we are unable to bring you the measurements for this month's audio gear. For measurements, check out [www.hometheatermag.com](http://www.hometheatermag.com).

**NEED A DISPLAY?**

We recommend the following displays to mate with this Meridian system:

**Sony VPL-VW100 LCOS Projector, \$10,000**

Resolution: 1,920 by 1,080

Best video connection: DVI

Weight: 41.8 pounds

**Yamaha DPX-1300 DLP Projector, \$12,500**

Resolution: 1,280 by 720

Best video connection: DVI

Weight: 30.9 pounds



The second output goes from the patch box to the left surround to the right surround.

There are also master and slave Comms cables that are distinguished by labeling, as well as a subtle difference in the arc of the five DIN-plug pins. A master cable feeds the master Comms speaker, while the slave cables follow the rest of the route. The cables appear slender and delicate but are actually silver-core cables sourced from Van den Hul.

While an exceptionally astute and patient DIY type might get the system running—I did, although with difficulty—this is one

case where it's smarter to leave the job to a dealer. And not just any dealer will do. You'll need one with plenty of experience installing Meridian systems. To say that I fumbled a connection or two would be an understatement. Even if you got all the connections right, you'd still need a dealer to terminate the proprietary cables, and the triple feed for each speaker cries out for a serious cable-concealment strategy.

### I've Seen the DualDisc From Both Sides Now

Once you've hooked up the system, it's not challenging to use. The G91A

A Meridian system, whether surround or stereo, is set up with master and slave speakers (Meridian's terminology, not

mine). The setup process requires you to designate one speaker as master—in this case, the center speaker—and the remainder as slaves. Speakers are individually designated L, C, R, SL, and SR.



**A** The Meridian G91A's chunky remotes features a stand for convenient tabletop use.

## HIGHLIGHTS

- Speakers are amplified, monitor-sized units
- Advanced use of digital technology
- The highest of the high end

controller's front panel includes large transport controls beneath a readable white fluorescent display and a bulbous volume knob at the right. The audio-muting relays make clicking noises when they change surround modes, but the controller behaves normally otherwise.

Operating the broad, wedge-shaped, 52-key remote is a pleasure. While it's a bit of a handful, it is also handsome, and there is some clever color-coding of the backlight, so you'll have no trouble spotting the green play or red volume up/down keys. The menu options are mostly familiar.

I thought the picture was a bit washed out until I found the IRE control and set it from 7.5 to 0. The G91A's Faroudja image processing performed well with both the Faroudja and Silicon Optix test discs. Jaggies were just a memory.

### MERIDIAN DSP3100 SPEAKER SYSTEM AND G91A CONTROLLER

### OVERALL RATING

#### Build Quality

- Bonded aluminum and MDF form tough enclosures
- Heavy toroidal power supply in each speaker
- Superb fit and finish

98

#### Value

- Although there's nothing comparable, this system is still very expensive
- Twenty grand can buy a lot of serious competition

86

#### Features

- Has unique system architecture
- Digital signal routing, control, and crossover
- DVD-Audio but no SACD

95

#### Performance

- Seamless soundstage, matchless realism
- Tight, proportionate bass even without sub
- A new benchmark for the home theater industry

99

#### Ergonomics

- Monitor-sized speakers won't dominate a well-designed room
- Installation requires a well-versed professional
- Simply beautiful

85

94

Top-of-the-heap performance is the result of Meridian's long and patient pursuit of digital nirvana. These speakers are small but deliver enough punch to make a sub unnecessary in some cases. The soundfield they create is almost scary. This system is an unqualified triumph, a challenge to the industry, and a feast for the senses.

### General information

DSP3100 DSP Monitor Speaker, \$4,795/pair; DSP3100HC Center-Channel Speaker, \$2,895; SW1600 Subwoofer, \$3,945; G91A Controller, \$7,695; Optional stands for DSP3100 and DSP3100C, \$595/pair or \$345/each; Meridian, (404) 344-7111, [www.meridian-audio.com](http://www.meridian-audio.com) → Dealer Locator Code MER

Season five of *The Sopranos* has several scenes where low-voiced conversation was conducted in a quiet office adjacent to a nightclub. These juxtaposed ambiances were so perfectly focused that they were disorienting—I had to remind myself that the distant, booming, amplified music was not coming from a neighbor's apartment. The same thing happened with natural distant-thunder effects. For a moment, I thought there was a storm outside my window. Rarely does a system fool me so often, erasing the line between recorded sound and reality. That is what makes a system worth five figures.

## Rock the Line

But what really knocked my socks off, holes and all, was the opening Folsom Prison scene of *Walk the*

*Line*, where Johnny Cash's band is warming up the crowd and the master is backstage ruminating. The rolling song intro builds slowly, and, by the time the camera moves inside the prison walls, the rumble is huge and awe-inspiring. If I hadn't known better, I'd have thought the sub was doing a great job. But it was silent. The speakers were mustering that monster rhythm-section sound. Meridian should use the scene as demo material.

My only reservation about this system is the use of a horizontal center speaker. The industry is so addicted to this acoustically flawed design that even a manufacturer as gutsy as Meridian feels compelled to offer one. I cheated by installing the center on its side, but, if I were buying this system, I'd get five

identical DSP3100s for an even more seamless soundfield.

The Meridian DSP3100 and its assorted companions handily outperformed the receiver and monitors in my reference system. That rarely happens, even with high-end gear. The company's patient development of high-resolution digital surround technology has indisputably paid off. Just as impressive to me was the way this system thrived with just five monitor-sized speakers (although, admittedly, I haven't done justice to the excellent sub). Yes, you will need a dealer's help to get the best out of this system. But the results will be well worth the extra trouble and expense to those who want the last possible increment of performance. This system unnerved the hell out of me. 