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March 2011 Volume 18 No. 3

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## Anthem Makes a Statement WITH THE NEW MRX 700 AV RECEIVER



**SPECIAL  
BLU-RAY ISSUE**

BUYER'S GUIDE TO OVER 65 LATEST  
BLU-RAY PLAYERS, PLUS EDITOR'S TOP PICKS

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## Arcam FMJ BDP100 Blu-ray Player

**PRICE:** \$1,500 **AT A GLANCE:** Crisp, vivid imagery • Superb audio playback • Limited features

## Back to Basics

**T**he fundamental purpose of an optical digital disc player is to play back optical digital discs.

While that may be self-evidently redundant, there's a wide selection of players on the market that offer a numbing range of additional, gee-whiz features. These include such things as SACD and DVD-Audio playback, streaming and downloading of movies and other Internet content (sometimes wirelessly), and of course, today's top banana, 3D.

Arcam's new BDP100, which headlines the British company's premier FMJ line, doesn't aim for the gee-whiz. Its stated mission is to squeeze the best performance possible out of the major optical disc formats—including CD, Blu-ray Disc, and DVD—plus a limited range of other options. Available in either black or Arcam's traditional silver, the BDP100 can play discs of the Blu-ray, DVD, CD, CD-R, and CD-RW varieties. It also does MP3 up to 320 kilobits per second, Windows Media Audio up to 48 kilohertz at 192 kbps, Windows Media Video and AVI up to 1920 by 1080 at 30 frames per second, and JPEG stills at up to 4272 by 2848. You may also play back some of these files from a USB storage device plugged into the player's USB port.

**Under the Hood**

The BDP100's two-channel analog outputs give the player a genuine high-end audio pedigree. The player upconverts CDs to 192 kHz via Burr-Brown devices before it passes them on to Wolfson's well-regarded WM8741 digital-to-analog converters. These are followed by linear phase Bessel output filters. The player also

incorporates a unique RF filtering technique that Arcam calls its Mask of Silence, as well as a precision re-clocking system. Finally, the drive and the audio and DAC boards feature discretely regulated power supplies.

There's also full support for Blu-ray's advanced lossless audio formats, including DTS-HD Master Audio and Dolby TrueHD. The Arcam can output them over HDMI in either bitstream or PCM form. The BDP100 plays back 96-kHz two-channel PCM music recordings (not common, but available) at full resolution from its S/PDIF optical and coaxial digital outputs.

You can't download the Arcam's firmware updates directly from the Internet. Rather, you'll install them from a flash drive into the same USB port that your BD-Live storage device normally occupies. Your Arcam dealer should keep you apprised on the availability of such updates.

Although it connects to the Internet from its wired LAN terminal for BD-Live features (you must provide the external USB storage), the BDP100 doesn't stream. SACD and DVD-Audio discs also need not apply. The Arcam has no multichannel analog outputs, so if your A/V receiver lacks HDMI inputs with onboard HDMI audio support, high-resolution soundtracks are out.

There's no 3D here, either. At least not for now. According to Arcam, a 3D upgrade is expected in 2011. At press time, it was still an open question whether this will be available as a retrofit to existing BDP100s, and if so, when it will roll out and how much it will be.

The BDP100 offers a full selection of SD and HD output resolutions, with onboard Broadcom video processing. But the Arcam doesn't have a source direct option as many players do. Source direct outputs a disc's content as is, with no upconversion and/or deinterlacing. To access the setup menus, including the output resolution, you have to stop the player.

There are 36- and 30-bit Deep Color options, in addition to the normal 24-bit standard. But no true Deep Color sources are available to consumers at present, and none are anticipated. I can't say that I saw any improvements when I selected 30- or 36-bit playback for today's 24-bit video sources, but theoretically some such improvement is possible.

The Arcam's IR remote can control seven other devices apart from the player. It's beautifully crafted but ergonomically challenged. The battery door owes a debt to a Chinese puzzle box (the player was designed in the U.K. but manufactured in China). There are 43 small, identically sized buttons. The Drawer Open control, which is normally located

ARCAM FMJ BDP100 BLU-RAY PLAYER  
**PERFORMANCE** ★★★★★  
**FEATURES** ★★★★★  
**ERGONOMICS** ★★★★★  
**VALUE** ★★★★★

at the top of most remotes, is buried in a crowd at the bottom. Some operations also require that you hit the Shift button first. To be fair, the most frequently used controls only require a single click, and most remotes have a learning curve. When you do need to enter a two-button command, the dozens of identically sized buttons can be a challenge to use in a darkened home theater room, even with the remote's dim blue backlighting.

The remote that came with our player also failed during my tests. A replacement arrived in time for me to complete the review.

**The System**

For this review, I used a JVC DLA-RS1 LCOS projector together with an iScan Duo video processor and, alternately, a 60-inch Pioneer Elite KURO PRO-141FD plasma. I also added a new Sony VPL-VW90ES 3D projector (used in 2D here) to the



SPECS

ARCAM FMJ BDP100 BLU-RAY PLAYER

**BD-LIVE:** Yes (external storage required)  
**BONUSVIEW:** Yes  
**FIRMWARE VERSION:** IPL029B092  
**AUDIO DECODING:**  
 Dolby TrueHD, DTS-HD Master Audio, Dolby Digital Plus, Dolby Digital, DTS  
**HDMI VIDEO RESOLUTIONS:**  
 1080p/24, 1080p, 1080i, 720p, 480p, 480i  
**COMPATIBLE PLAYBACK FORMATS:**  
 BD-Video, DVD, DVD-R/-RW, CD, CD-R/-RW, MP3/WMA/WMV, AVI/JPEG  
**DIMENSIONS (W X H X D, INCHES):**  
 17.1 x 3.9 x 15.7  
**WEIGHT (POUNDS):** 13.7  
**PRICE:** \$1,500

repeatable volume steps of 0.1 to 0.2 decibels. It can also memorize different volume settings for different inputs and switch between them on the fly from its remote control. This facilitates nearly instantaneous, level-matched A/B analog comparisons.

**Dancing in the Dark**

My first sessions with the BDP100 went exceptionally well. The Arcam handled two new movies, *The Sorcerer's Apprentice* and *Scott Pilgrim vs. the World*, without a hiccup. The video quality was outstanding—at least as far as I can discern viewing such unfamiliar material—and ditto for the dynamic audio on both discs.

I also sampled a wide range of familiar two-channel music selections, with the player's coaxial digital output routed directly to a digital input on the Integra surround processor. While I can't say that what I heard in this early listening exceeded the sound from other fine Blu-ray players I've used—or even some fine CD playback gear—it certainly more than held its own.

In mid-2010, I evaluated seven different 2D Blu-ray players over several installments in my *Ultimate AV* blog (available at [ultimateAVmag.com](http://ultimateAVmag.com)). As I noted then, modern disc players of reasonable quality are difficult to evaluate in isolation. Head-to-head comparisons can more clearly reveal both the character and degree of their differences.

display mix, although it came in too late for more than a few hours of use. (A full review of the VPL-VW90ES is under way for a future issue.)

I did most of my audio listening in my home theater room (approximately 15.5 by 25 by 8 feet). The speaker setup consisted of my reference floorstanding Energy Veritas v2.8s (left and right), the Revel C12 center and S12 surrounds, and a HSU Research VTF-15H subwoofer.

The remainder of the system included an Integra DTC-9.8 surround processor, a Parasound Halo A51 5.1-channel amplifier, and 1990s vintage cables from Monster Cable, Cardas, TARA Labs, and Kimber Kable. For my two-channel analog testing, I substituted a Jeff Rowland Design Group Consummate preamp for the Integra surround processor. The Consummate offers



• The BDP100 is available in sleek black or Arcam's signature silver finish.

These differences tend to be subtle, as they were here. But they are not irrelevant.

Fortunately, I still had those players on hand. I chose two of them to face off against the Arcam: the Marantz BD7004 and the OPPO BDP-83SE. Both players originally sold for \$900 but have now been discontinued in favor of new models (not yet tested here). The Marantz has been selling at heavy discounts and may still be available. It's a superb player but a slow disc loader.

The OPPO is loaded with useful technical features, including analog audio upgrades from the standard BDP-83. It also offers near state-of-the-art load times—for a Blu-ray player. So it was a given that I should compare the OPPO's load times against the Arcam's. *Ratatouille* took about 35 seconds on the OPPO from drawer close to the start of the Disney promos. The Arcam took almost 52 seconds. I recorded a similar loading time, with nearly the same spread between the players on *Baraka*.

Oddly, both players were within 5 seconds of each other (an average of 1 minute, 52 seconds) from drawer close to the main menu on *Avatar* (2D, standard version). Despite the near-tie on *Avatar*, the Arcam can't compete with the OPPO in overall Blu-ray loading speed. Still, it's far from the worst, and it's fine on DVDs and CDs.

**Shadows on the Wall**

While I've been happy with the video performance of Blu-ray players from Marantz, OPPO, and other manufacturers, there was something about the Arcam that made it stand out from the crowd. The image was vivid, highly detailed, and dimensional. Its advantages in these respects over the OPPO and the Marantz weren't dramatic; neither of those other players did anything obviously wrong. Nevertheless, my first reaction was that they couldn't quite match the Arcam's HD video performance.

I gradually became aware of an intermittently edgy quality to the Arcam's picture on some material. It was subtle, but when I did see it, there was no missing its digital-looking sharpening. Once I'd spotted it, and once I knew what to look for, it was hard to miss the next time it reared its head.

I first suspected that the player was adding subtle edge enhancement. But it was also possible that the Arcam was simply revealing anomalies in the source material that other players obscured. Since the effect varied from source to source, and even from scene to scene within a given source, there was some justification for that conclusion.

Audiophiles know this conundrum all too well. Does speaker A sound bright (even when it measures well), or is it merely

3:2 HD	2:2 HD	MA HD	3:2 SD	2:2 SD	MA SD	VIDEO CLIPPING	LUMA RESOLUTION	CHROMA RESOLUTION	SCALING
PASS	FAIL	PASS	PASS	PASS	PASS	FAIL	PASS	PASS	GODD



telling it like it is? Like music, video images are highly dynamic. Stationary tests played on the Arcam didn't show the typical telltale evidence of edge enhancement on any of the three displays—ghost-like white lines around the black lines in a sharpness pattern. This was visible to a small degree on the Pioneer, but it was much less obvious, or missing altogether, on the JVC and the Sony. However, on normal program material, the added sharpness was visible on the JVC in what is normally its best Sharpness control setting and on the Pioneer with its Sharpness on minimum and its Enhancer Mode set to 1 (the optimum setting with other players). The edginess virtually disappeared when I set the Pioneer's Enhancer Mode to 2, and it was noticeably reduced (but not eliminated) on the JVC when I dropped its Sharpness control by a few steps. (The original setting worked fine on other players, including the OPPO.) It was occasionally visible but not at all bothersome on the Sony projector with highly detailed BD sources such as *Pirates of the Caribbean: The Curse of the Black Pearl* and *Baraka*. It was never visible on animated HD fare like *How to Train Your Dragon*.

In fact, when the sharpening wasn't visible, which was most of the time, the Arcam produced the most rewardingly detailed images I've yet seen from a Blu-ray player on all of these displays. The margin wasn't huge, but it was evident.

I suspect that the Arcam may provide some subtle

enhancement, perhaps dynamic in nature, which is visible only when it runs into similar enhancement in a source. When combined, the result then exceeds the visibility threshold. When the Arcam is good, which is most of the time, it is very good. But I might argue that this issue would be a good candidate for job one in a future BDP100 update.

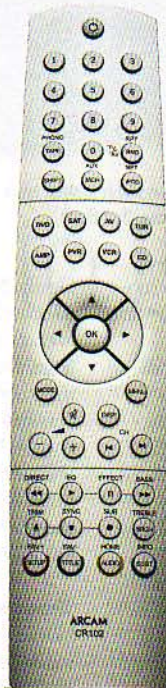
Or perhaps job two. While the Arcam did a good job on most of our Video Test Bench hurdles (see chart), it failed not only HD 2:2 pulldown (a common shortcoming), but it also clipped both above white and below black. The latter is a more serious lapse and one that precludes a Top Pick designation.

### A Little Night Music

On film playback over HDMI, the Arcam initially sounded punchier and more dynamic than the OPPO. It also sounded louder. Sure enough, when I checked the audio output levels on the Integra surround processor's two HDMI inputs, I found that the input I was using for the OPPO was 2 to 2.5 dB lower in level. This shouldn't happen (digital inputs are supposed to be standardized in level).

When I worked around this, I found that the two players sounded nearly identical on high-resolution soundtracks over HDMI. But not quite. The Arcam was still a shade brighter, which will flatter some soundtracks more than others. However, the differences were far from being a deal maker—or a deal breaker.

I moved on to two-channel music, first via a coaxial digital



Tom encountered a significant learning curve with the Arcam's remote.

**CONNECTIONS** OUTPUTS: VIDEO: HDMI 1.3a (1), component video (1), composite video (1) AUDIO: Coaxial digital (1), optical digital (1), stereo analog (2, zones 1 and 2) ADDITIONAL: Ethernet (1), USB (1), RS-232, 12-volt trigger, remote in

link from the players to the Integra. In comparison to the OPPO, the Arcam produced more detailed, dimensional sound, with a faster attack but not excessive brightness. There certainly wasn't anything clearly wrong with the OPPO's sound, but the Arcam was more involving and encouraged prolonged listening.

In the same digital link comparison, the Marantz sounded slightly brighter than the Arcam, with more punch and an even faster attack. The Arcam sounded more natural on closely miked material with frequent hard transients. The Marantz pulled ahead on more distantly recorded classical material, with superior rendition of the recording venue's acoustics. It was a close run, but with an S/PDIF digital connection to the AVR or surround processor, I'd give the gold star for overall performance to the Arcam.

The same was true in my analog output comparisons. The Arcam sounded superlative, with a clean, open treble, deep bass, and a palpable midrange. Imaging and soundstage depth were as good as the playback system and source material allowed. As before, the Marantz was brighter, but within an acceptable range (even in a way that was compelling on some recordings). But overall, on a wide range of music, I continued to prefer the Arcam.

I could live comfortably with either the Marantz or the Arcam as a two-channel analog playback

device—or a digital transport from their S/PDIF coaxial outputs—and not feel I was missing anything. On the other hand, the OPPO sounded just a little too laid-back for me on music, in either playback configuration. But it never did anything obviously wrong, either. These are all good players, each with its own special strengths. But the Arcam stood out in ways that might well be important to the serious audiophile—and perhaps the committed videophile as well.

### Conclusions

There's no question that the Arcam FMJ BDP100 Blu-ray player isn't loaded for bear when it comes to features. But some buyers choose such a player over the kitchen-sink variety for the same reason an audiophile will pay five figures for a bare-bones CD player, or a CD transport and separate D/A converter: performance.

The Arcam has a few issues that keep it just shy of earning a Top Pick, including its black and white clipping and the subtle edge enhancement it appears to add to some source material in some circumstances. But its subjective video performance is nonetheless impressive, and its audio performance is beyond criticism. For many, those qualities will be more than enough. ☞

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