Cary CD 306 CD/SACD Player

Not another "me-too" player, but one that adds some interesting twists

Robert Harley

Cary Audio made a name for itself with vacuum-tube power amplifiers, primarily the single-ended triode variety. Indeed, it was a passion for SET amplifiers that inspired Dennis Had to found Cary Audio Design in 1989. The company now makes a wide range of tubed and solid-state power amplifiers and preamplifiers, including multichannel units.

With this background rooted in a nearly 100-year-old technology, it comes as a surprise that Cary Audio has joined the digital party with an extremely interesting and sophisticated new CD/SACD player—the CD 306 reviewed here.

The CD 306 is no ordinary CD player. Rather than a "me-too" unit based on conventional parts, techniques, and feature sets, the CD 306 adds some interesting twists. The machine plays SACDs (two-channel), has digital inputs and outputs, can be used as a digital upsampling device or as a digital-to-analog converter for external sources, and even lets the user select the upsampling rate. If that weren't enough, the transport mechanism is a gorgeous piece of engineering created from scratch by Cary. Throw in a slew of purist design techniques and high-end parts and you've got the makings of one fascinating player (see sidebar for technical details).

I'll start with the 306's CD performance. The player was musically seductive, yet I find it difficult to describe why. The player didn't sound overtly spectacular in any one area, but exhibited a fundamental musical rightness of the kind that results in listening sessions extending well into the night. There was an ease to the presentation reminiscent of a great tubed amplifier, although the CD 306 was anything but "tubey." The ease was not the result of an overly romanticized interpretation or of a soft sound that puts smoothness ahead of resolution, but rather the result of a tube-like rendering of midrange timbres, warm and full bass, and spacious soundstaging.

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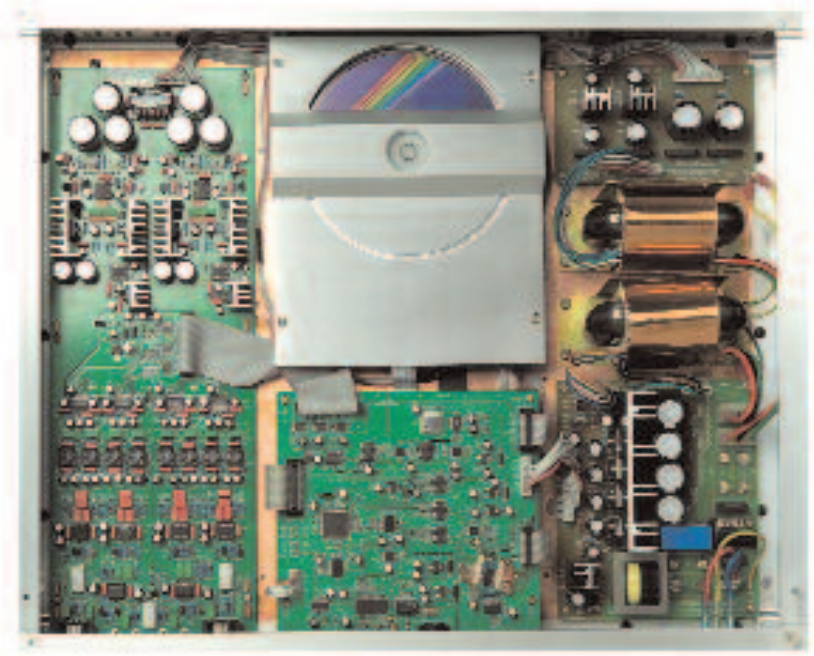
Much of the CD 306's appeal, I think, stems from its gorgeous presentation of the lowermost four octaves. The entire bottom end had a weight, warmth, and lushness that served as the foundation of the player's overall excellence. Acoustic bass had a wonderful round and resonant quality that conveyed the instrument's size and construction. Listen to Edgar Myer's bass on the disc *Skip, Hop & Wobble* [Sugar Hill] with Jerry Douglas and Russ Barenberg. Through the CD 306, the instrument was richly textured, harmonically nuanced, and reproduced with a full measure of weight and depth. Despite the CD 306's tilt toward a warm and rich bottom end, it was articulate, detailed, quick, and clean. This wasn't a big, sloppy bass that emphasizes weight at the expense of detail. The 306's combination of tremendous bottom-end heft and fullness with precise pitch definition and dynamics was addictive. These qualities of the 306 were exploited to



Features and Operation

The 306 incorporates a host of features that blur the line between conventional product categories. In addition to playing CD and SACD (two-channel only), the 306 offers digital inputs for decoding external digital sources. The 306 can thus function as a digital-to-analog converter for up to four digital sources. Signals connected to these digital inputs can alternately be routed to one of the three digital-output jacks, with the 306 performing upsampling in user-selectable increments. Put in 44.1kHz at the input and get 44.1kHz, 96kHz, or 192kHz at the output for decoding by an external digital-to-analog converter. In addition to the standard digital inputs (AES/EBU, coaxial, TosLink), the 306 has an i.LINK input for connection to an SACD machine with i.LINK output (i.LINK is Sony's implementation of FireWire [IEEE1394], which in this case is used to transmit high-resolution digital audio from an SACD player to the CD 306).

The 306's upsampling circuit will, however, most often be used when simply using the CD 306 as a CD player. You can select upsampling rates of 96kHz, 192kHz, 384kHz, 512kHz, or 768kHz (in addition to no upsampling) from the front panel or remote control. Upsampling is used only for CDs, not SACDs.

I didn't understand the front-panel button marked "2-Ch/Multi-Ch." As a two-channel-only player, the button seemed superfluous. The SACD format mandates that multichannel discs also contain a two-channel mix; one would expect a two-channel player to default to the two-channel version. (By contrast, many DVD-As are multichannel only, with a two-channel mix created on the fly in the player based on control codes contained on the disc.)

The CD 306 is also unusual in that it incorporates decoding of High-Definition Compatible Digital (HDCD) discs. In my view, HDCD is a worthwhile technology that should be incorporated in more players.

A large and comprehensive front-panel display shows all the usual information, as well as the oversampling rate and whether the disc is a CD, SACD, or HDCD-encoded CD. Output is on balanced XLR jacks and unbalanced RCAs. **RH**

the fullest by the BAT VK-600SE monoblocks and Wilson MAXX 2 loudspeakers, products with stunning bass presentation in their own right.

It's also hard to describe the 306's sound because it changed with the upsampling. I found myself using different upsampling ratios depending on the recording.

The CD 306's HDCD decoding was a welcome touch. Decoding HDCD titles brings out a greater sense of space and low-level detail. This is particularly true of Keith Johnson's recordings on the Reference Recordings label. There are a surprising number of HDCD-encoded discs available because the Pacific Microsonics Model 1 and Model 2 professional HDCD encoders are also regarded by many mastering studios as the state-of-the-art in analog-to-digital conversion.

As great as the 306 sounded on CD, the player was absolutely spectacular on SACD. All the qualities I enjoyed about the 306 with CD were taken to another level when playing the best-sounding discs the SACD format has to offer. I'm invariably disappointed with the SACD sections of CD/SACD players because I've lived with what is considered by general consensus to be the state-of-the-art in two-channel SACD playback: the EMM Labs/Meitner DCC2 processor and CDSD transport, linked by a proprietary interface and separate clock lines. The Cary machine was clearly in a different league compared with other SACD machines, and sounded much closer to what I hear from the EMM gear. Compared with the excellent and beautifully built $3000 Sony SCD-XA9000ES multichannel player, the CD 306 was considerably smoother in its rendering of instrumental timbre and more spacious, and had more satisfying bass weight and definition and greater overall clarity. The SCD-XA9000ES is, however, multichannel and half the price of the Cary.

The EMM Labs gear was a different story. In my past experience, SACD playback quality fell into two categories: the EMM products and everything else. Ed Meitner's SACD products were simply better.

In a head-to-head comparison of the EMM Labs and CD 306 playing very high-quality SACDs (the TAS/Telarc sampler, and discs from Chesky and DMP), I found that the Cary was the first player in the same company as the EMM Labs. The EMM had a smoother and softer treble with a greater sense of overall ease, but the Cary's bass was warmer, fuller, and more musical. I also thought the Cary surpassed the EMM on orchestral fortes; the Cary maintained its composure and refinement during big dynamic swings, while the EMM tended to harden textures on loud and complex passages. Significantly, the CD 306 is the first SACD playback I've heard in my system to challenge the EMM Labs' gear.

Under the 306's Hood

Cary Audio is one of only six true SACD licensees in the world. This allows them to buy the dual CD/SACD laser assembly from Sony and build the transport mechanism from scratch. The transport appears to be quite a piece of work, at least looking at it from the top through the top panel's round glass window that proudly showcases the gleaming machined-aluminum transport. The sled, drawer, and other parts are all custom-machined with what appears to be fine precision.

The chassis is simply stunning. The rounded faceplate merges with the side and top panels, with no screws visible from anywhere on the chassis front, sides, bottom, or back. This structure sits on four machined isolation cones. The machine exudes taste and class.

The player has two separate decoding chains, one for CD and one for SACD. Unlike many players that convert SACD's Direct Stream Digital (DSD) bitstream into pulse-code modulation (PCM) for conversion to analog by PCM DACs, the DSD bitstream has its own dedicated electronics and DACs. When playing original DSD recordings through the 306, the signal never undergoes PCM conversion. This is how the SACD format should be judged and compared with CD.

The digital signal processing for the upsampling is performed by an Analog Devices ADSP. This chip is used in conjunction with a Pacific Microsonics PMD200 HDCD decoder.

Each of the two signal paths (PCM and DSD) employs four DACs for fully differential operation. The digital bitstream for each channel is split into a balanced signal, and then converted to analog with two DACs per channel. This differential operation creates a truly balanced output at the XLR jacks. In CD players without differential DACs, the single DAC's output is split into a balanced signal in the analog domain, adding an additional active stage to the signal path. An additional advantage of differential DACs is that any noise or distortion com-

mon to the DACs will cancel when the signal are eventually summed. This means the CD 306 has a whopping eight digital-to-analog converters: left +, left –, right +, right – for the PCM signal path, and an identical configuration of different DACs for the SACD signal path.

The CD 306 also has eight analog output stages, all of them discrete (no op-amps, save for the mandatory current-to-voltage converter in the PCM signal path). The analog circuits are direct coupled (no capacitors in the signal path).

The power supply is also impressive. It features two large transformers and all-discrete regulation for the digital and analog circuits (IC regulation is used on the supplies to the control electronics).

As a result of all this circuitry—two separate signal paths, differential DACs, eight analog output stages, lots of discrete power-supply regulation—the CD 306 runs very hot. In fact, this is the warmest-running CD player or digital product I've encountered. The entire chassis acts as a heat sink and is warm to the touch. Power consumption is 65W.

Given the extremely high build-quality, custom transport mechanism, gorgeous metalwork, tweaky design and implementation (the eight DACs, for example), I would have expected the CD 306 to cost much more than $6000. **RH**

Conclusion

It was hard to put my finger on exactly why I found the CD 306 so musical, but about its fundamental musicality there was no doubt. It's easier to describe what the Cary CD 306 *isn't*: dry, thin, hard, cold. Find your own antonyms to those descriptors and that's what the CD 306 is. In addition, the 306 is the Swiss army knife of CD players: It upsamples for output on its analog audio jacks and upsamples for conversion by an outboard processor, acts as a digital-to-analog converter for other digital sources, and decodes HDCD discs. The player is also gorgeous to look at and use, with metalwork that would be at home in much more expensive products. Finally, the attention to detail in the circuit design is exemplary. The fact that Cary went to the trouble and expense of eight DACs and analog output stages so that they could provide separate and optimized signal paths for CD and SACD, as well as fully differential DACs for both formats, says much about the designer's commitment to sound quality.

In short, the Cary 306 is highly recommended not just for its sound quality, features, and build, but also because in today's world $6000 for a machine of this caliber is a stone-cold bargain.

SPECIFICATIONS

Type: Two-channel CD and SACD player
Analog outputs: Balanced on XLR jacks, unbalanced on RCA jacks
Digital inputs: Coaxial (RCA jack), AES/EBU (XLR jack), TosLink optical, i.LINK (FireWire)
Digital outputs: Coaxial (RCA jack), AES/EBU (XLR jack), TosLink optical
Control port: RS232 remote-configuration interface
Dimensions: 17.75" x 4.5" x 14.5"
Weight: 37 lbs.
Price: $6000

ASSOCIATED COMPONENTS

Loudspeakers: Wilson Audio MAXX 2; Amplification: Balanced Audio Technologies VK-600SE monoblocks; Mark Levinson No.326S preamp; Cables and interconnects: Nordost Valhalla, MIT Oracle. Power conditioning: Shunyata Research Hydra-8, Hydra-2, Anaconda and Python power cords; room by Acoustic Room Systems

MANUFACTURER INFORMATION

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