BRIAN DAMKROGER

Primare CD32

CD PLAYER

Audiophiles spend a lot of time thinking about the law of diminishing returns. We'd all agree that spending $1000 to replace an iPhone and generic earbuds with one of Stephen Mejias's "Entry Level" systems is in the early, steep part of the curve: a huge jump in performance for relatively small investment. We'd also agree, or at least suspect, that after you've spent that $1000, the curve gets a lot flatter. What we don't agree on is the shape of the curve between these points. The ideal situation is to find the knee: the point at which the curve's slope changes dramatically. At the knee, we've gotten most of what we want, and the next increment of performance improvement is disproportionally expensive.

For me, the knee of the CD-player curve has, over the past decade, coincided with models from the Swedish company Primare. In 2004, in the CD30.2 ($2250), Primare did a really nice job of combining and tweaking mostly OEM components. The CD30.2 had its shortcomings, but it impressed me with its excellent, well-balanced sound. In 2007, Primare upped the ante with the CD31 ($2295), which included more proprietary parts and significantly improved on the CD30.2's sound. It still gave away some sound quality to cost-no-object models, but again, its price was near the knee of the curve—close enough that I adopted it as my reference for listening to music and writing reviews.

And now, the CD32 . . .

Finding the knee of the curve requires a designer to make careful trade-offs and decisions, and for the $2850 CD32, Primare made ones very different from the design choices made for earlier models. The CD32's physical layout is completely new, with circuits partitioned differently among more and smaller boards. The circuits themselves also significantly differ from the CD31's.

One big change is that Primare has abandoned the CD31's fully balanced differential architecture. The CD32

SPECIFICATIONS

Description Single-box CD player. Analog outputs: 1 pair unbalanced (RCA), 1 pair balanced (XLR). Digital outputs: 75 ohm S/PDIF (RCA), 110 ohm AES/EBU (XLR), optical (TosLink). Inputs: USB, RS-232, IR input (3.5mm), trigger in/out (3.5mm). Maximum output level (fixed): 2.1V unbalanced, 4.1V balanced. THD+noise: <0.01%, 20Hz–20kHz. Output impedance: 390 ohms unbalanced, 47 ohms balanced. Frequency response: 20Hz–20kHz, +0/–0.5dB. Signal/noise ratio (20Hz–20kHz): 100dB, unweighted. Power consumption: 0.5W standby, 25V operation.

Dimensions 17" (430mm) W by 4.25" (106mm) H by 14.75" (375mm) D. Weight: 23 lbs (10.4kg).
Finishes Black, Titanium.
Serial number of unit reviewed 290-313.
Price $2850. Approximate number of dealers: 50.
Warranty: 3 years, non-transferable.

Manufacturer Primare AB, Renvägen 1, SE-35245 Växjö, Sweden. Tel: (46) 470-729215. Web: www.primare.net. US distributor: VANA Ltd., 778 Third Street, Unit C, Mukilteo, WA 98275. Tel: (425) 610-4532. Fax: (425) 645-7985. Web: www.vanaltd.com.

has only one Burr-Brown PCM1704 24-bit/96kHz digital-to-analog converter per channel and a single DF1704 digital filter; the CD31 doubled that complement. On the other hand, the CD32 has an SRC4392 sample-rate converter ahead of the DACs, which does the upsampling and provides jitter reduction. Downstream, the CD32's analog section uses hand-matched, discrete components instead of op-amps and, at the outputs, an active DC-offset circuit instead of capacitors.

The transport and laser assemblies move further from OEM, with an Asatech 8210.B01-02 transport and Sanyo SF-P101N laser assembly replacing the CD30.2's DVS DLS-710A. The CD32's power supply is much more sophisticated and complex as well. For example, the CD32 has a digital switching supply that in standby mode, drops its power consumption from 34W to just 0.5W, to meet EC regulations.

The CD32's basic functions are pretty standard, and are accessed via its remote control. A nondescript but functional remote, the C23, is standard, but I was treated to the optional C33, a gorgeous metal remote that looks as if it jumped off the pages of Architectural Digest. There are balanced and unbalanced analog outputs, and S/PDIF, AES/EBU, and optical digital outputs. An RS-232 input allows firmware updates, and the CD32 supports a few different communication protocols.

The CD32 includes some new functions. One is a USB

MEASUREMENTS

I looked at the Primare CD32's measured performance using *Stereophile*'s loan sample of the top-of-the-line Audio Precision SYS2722 system (see www.ap.com and the January 2008 "As We See It," http://tinyurl.com/4ffpve4). For some tests, I also used my vintage Audio Precision System One Dual Domain. Unless otherwise mentioned, the measured results refer to the player used with its upsampling turned off and were taken from the balanced outputs. I tested the Primare's behavior only with test signals on CD; the CD32 didn't recognize uncompressed files stored on a flash drive plugged into its rear-panel USB port, only MP3s.

Error correction was superb, the CD32 not suffering from glitches in its output with the *Pierre Verany Digital Test CD* until the gaps in the data spiral reached 2.5mm in length. (The CD standard specifies only that a player cope with gaps of up to 0.2mm.) The maximum output level at 1kHz was 4.16V from the balanced jacks, 2.07V from the single-ended jacks, and both sets of outputs preserved absolute polarity (*ie*, were non-inverting). (The XLR jacks are wired with pin 2 hot.) The balanced output impedance was a low 94 ohms at all audio frequencies. Peculiarly, it was higher from the single-ended jacks, at 370 ohms at 20Hz and 1kHz, and 362 ohms at 20kHz—but this is still low in absolute terms.

The CD32's impulse response (fig.1) indicates that the digital reconstruction filter, a Burr-Brown DF1706, is a conventional linear-phase type, with symmetrical ringing before and after the single-sample impulse mapping the FIR filter coefficients. This

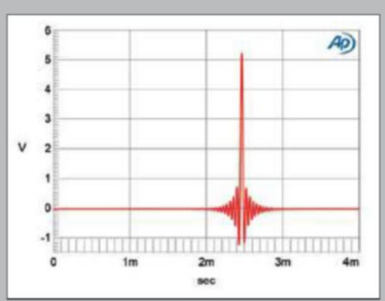

Fig.1 Primare CD32, no upsampling, impulse response with CD data (4ms time window).

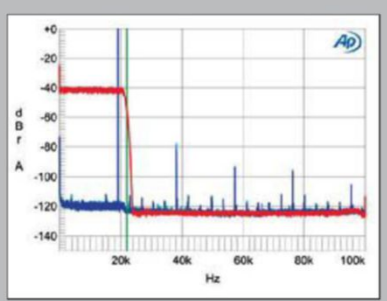

Fig.2 Primare CD32, wideband spectrum of white noise at –4dBFS (left channel cyan, right red) and 19.1kHz tone at 0dBFS (left blue, right magenta), with data sampled at 44.1kHz but upsampled to 96kHz (20dB/vertical div.).

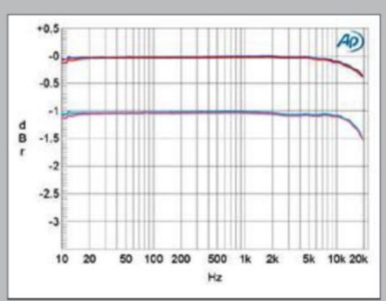

Fig.3 Primare CD32, frequency response at –12dBFS into 100k ohms with normal data (left channel blue, right red) and with pre-emphasized data (left cyan, right magenta) (0.5dB/vertical div.).

interface that allows it to play MP3 files—though Kevin Wolff, of Primare's US distributor, VANA Ltd., stressed that this is a convenience feature, not a high-end interface. The other new wrinkle is the ability to select among three upsampling modes ahead of D/A conversion: the original 16-bit/44.1kHz signal, or the same datastream upsampled to 48kHz or to 96kHz.

The sleek exterior design that is now standard for all Primare models has been carried over to the CD32, including a few changes that enhance usability. One that I really appreciate is the switch to an OLED display, with big, bright characters that I can read from across the room. Another nice change is that the RCA jacks are now spaced wide enough apart to accept cables with oversized connectors. The transport drawer is now offset to the left instead of centered, and the front panel has only three buttons: Power, Stop/Drawer Open, and Play/Track Advance. Like the CD31, the CD32 is always on when plugged in; the Power button actually toggles between Standby and Operate modes.

Listening

The first few passages of the Philharmonia Baroque Orchestra's wonderful recording of Brahms's *Serenades*, conducted by Nicholas McGegan (CD, Philharmonia Baroque BPB-05), reminded me why I've liked Primare players so much. Like its predecessors, the CD32's sonic attributes stepped away from the music. In just a few moments, any thoughts I had about the equipment or its sound had vanished, and I was drawn into the music.

The most immediate connection for me was the synergy between Brahms's musical conversations and the unique characteristics of this ensemble's authentic mid-19th-century instruments. In audiospeak, the CD32 did a great job of re-creating the instruments' timbres—*ie*, the balance and structure of their fundamental tones and harmonics—in a consistent way across the full range of frequencies and volumes. What made the connection, and probably registered in my subconscious, was that the instruments sounded "right": Double basses sounded like basses, cellos like cellos, violins like violins, and so forth. Even the ambience—the space between and surrounding the instruments—fit into this seamless, coherent sonic portrait of real instruments played in a real space.

The violins sounded articulate and especially captivating. Each bow's resinous leading edge cut through the space to present the note, just as it does in a live performance, and the sound then evolving until it had surrounded itself with the warm resonance of the instrument's body. The slightly different and more varied voices of the period instruments also gave rise to a wonderfully complex choral nature, which was almost mesmerizing.

The CD32 also drew me in with its portrayal of the orchestra's sound in the recording venue, Berkeley's First Congregational Church. This, too, felt completely natural, with nothing standing out to disrupt the illusion. All of the spatial cues that defined the sizes and locations of the instruments were consistent among themselves and relative to my listening perspective, which sounded like the middle of a

measurements, continued

impulse response was not affected by upsampling to 48 or 96kHz, and neither was the filter's ultrasonic rolloff (fig.2, red trace). This graph was taken with upsampling to 96kHz turned on; the ultrasonic noise floor was a little cleaner than with no upsampling, or with upsampling to 48kHz. Though the rolloff begins just above 20kHz, the output is suppressed by 20dB at the Nyquist frequency of 22.05kHz (half the sample rate), shown by the vertical green line in fig.2. Nevertheless, the image at 25kHz of a full-scale tone at 19.1kHz (fig.2, blue trace) is suppressed by 115dB. Distortion harmonics of this tone can be seen; the second, at 38.2kHz, is the highest in level, at –78dB (0.012%).

Looking at the audioband frequency response in more detail (fig.3, blue and red traces), the output is down by just 0.3dB at 20kHz, but some small ripples can be seen in the top two octaves. With pre-emphasized data (cyan and magenta traces, offset by 1dB for clarity), the CD32 applies the correct de-emphasis, with just a tiny (–0.05dB) plateau visible in the mid-treble. Channel separation (not shown) was superb, at >120dB in both directions between 200Hz and 4kHz, and still 115dB at the top of the audioband.

A problem in measuring a CD player that lacks a digital input that can handle data with a bit depth greater than 16 is that it becomes impossible to test the player's intrinsic performance. This is shown by figs. 4 and 5: respectively, a 1/3-octave spectral analysis and a narrowband FFT spectral analysis of the player's output as it decoded data representing a dithered 1kHz tone at –90dBFS. In both graphs, the noise floor above 300Hz is actually the

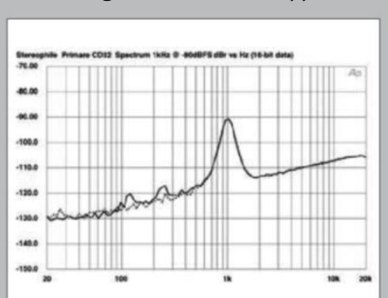

Fig.4 Primare CD32, 1/3-octave spectrum with noise and spuriae of dithered 1kHz tone at –90dBFS with 16-bit CD data (right channel dashed).

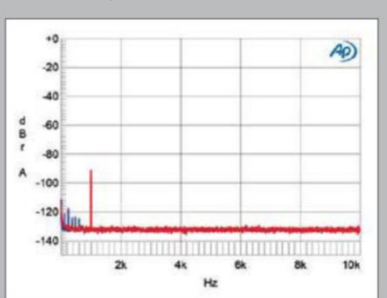

Fig.5 Primare CD32, spectrum with noise and spuriae of dithered 1kHz tone at –90dBFS with 16-bit CD data (left channel blue, right red) (20dB/vertical div.).

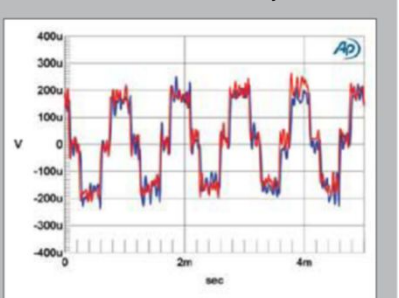

Fig.6 Primare CD32, waveform of undithered 1kHz sinewave at –90.31dBFS, 16-bit CD data (left channel blue, right red).

small hall. It all came together to create a feeling of being in the space, rather than looking at it from outside.

Another, very different disc that had me thinking "I could definitely live with this" was Lucinda Williams's *Car Wheels on a Gravel Road* (CD, Mercury 314 558 338-2). The album's sound is close-up, with sharply bounded, widely spaced images to spotlight the main elements—principally, the singer's voice. The CD32 meshed perfectly with this sound. Although neither the perspective nor the level differed from what I'm used to hearing from this album, I was struck by the power of that voice. Its tonal colors and textures seemed particularly vivid, and I was much more aware of subtle dynamic transients. An example of how the CD32 seemed to accentuate this vivid nature was how brightly rang the guitar chords in "Right in Time," and how distinctly their echoes trailed behind the initial chop.

With *Three for All*, by the Bucky Pizzarelli Trio (CD, Chesky JD362), my connection with and immersion in the performance were again immediate. The CD32's portrait of the three acoustic guitars, in particular John Pizzarelli's, had the solidity and presence of the real thing, in part because of the Primare's superbly defined transients. Unlike most CD players, the CD32 allowed the guitars to pressurize the space around them in just the way an acoustic guitar—even an amplified one—will in concert. No matter how carefully I matched levels, whenever I switched from another player to the CD32, I was taken aback by how much louder it sounded. More than once, I found myself reflexively reaching for the remote to turn it down before I'd relax, recalibrate, and realize it really wasn't any louder than before—the dynamic swings were just larger.

Sibling Rivalry

When I reviewed the Primare CD31, in the July 2007 issue,[1] I loved its sound and the way it quickly pulled me into the music. I was always aware of its slightly warm character and that its focus was a little soft, but that sonic signature never got in the way. The CD32's signature was similar but much less obvious—I was aware of it only when I listened for it, and even then, only when I compared the Primare to the very best players.

When I did direct comparisons of the CD31 and CD32, the differences were more dramatic. The CD32 improved on all the areas where the CD31 was strong, and addressed the areas where it wasn't. Most obvious was that the CD32's dynamic transients were better defined and much more precise than the CD31's, and its focus much sharper. Every disc I played had more life and energy through the CD32. The new player also resolved more low-level detail, better conveying the subtleties of voices and instruments. Its improved focus and resolution also made it sound more transparent. Images were clearer and more sharply bounded, and the space around them clearer and more consistent.

The CD32 still added a bit of extra body and warmth, but

1 www.stereophile.com/cdplayers/707pri/index.html

measurements, continued

spectrum of the dither used to encode the signal. The CD's own noise is below that floor, except at low frequencies, where small peaks are evident only in the left channel (fig.4, solid trace; fig.5, blue trace), at the power-supply-related frequencies of 120 and 240Hz. No distortion harmonics can be seen, however.

Linearity error (not shown) was <1dB to –110dBFS, which is superb, and the CD32 correctly decoded undithered data representing a tone at exactly –90.31dBFS (fig.6). The waveform is symmetrical, DC offset is negligible, and the three DC voltage levels describing the data are well defined.

Even into the punishing 600 ohm load, harmonic distortion was relatively low (fig.7), though a series of low-level, high-order harmonics is evident. The second harmonic was higher in the left channel (blue trace) than in the right (red), at –78dB (0.012%) vs –91dB (0.0029%). The left channel also had more difference product evident when tested with an equal mix of 19 and 20kHz tones (fig.8). Finally, playing CD data representing the Miller-Dunn J-Test signal revealed no spectral spreading of the spike that represents the high-level tone at 11.025kHz (fig.9). The odd-order harmonics of the LSB-level, low-frequency squarewave are all close to the correct levels (indicated by the green line), and almost no other sidebands are visible.

The Primare CD32 offers excellent measured performance, but I keep coming back to that superb error correction. After all, a CD player's most fundamental task is to get the data off the disc, no matter how damaged that disc might be.—**John Atkinson**

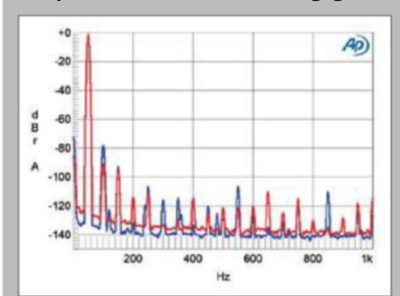

Fig.7 Primare CD32, spectrum of 50Hz sinewave, DC–1kHz, at 0dBFS into 600 ohms (left channel blue, right red; linear frequency scale).

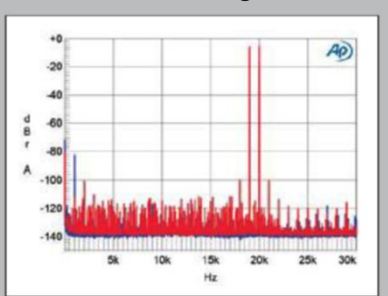

Fig.8 Primare CD32, HF intermodulation spectrum, DC–30kHz, 19+20kHz at 0dBFS into 100k ohms (left channel blue, right red; linear frequency scale).

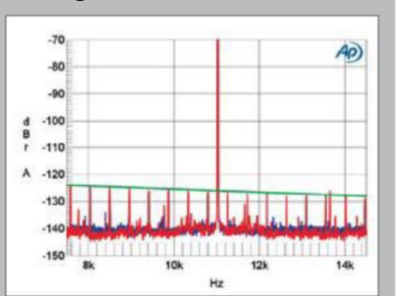

Fig.9 Primare CD32, high-resolution jitter spectrum of analog output signal, 11.025kHz at –6dBFS, sampled at 44.1kHz with LSB toggled at 229Hz: 16-bit CD data (left channel blue, right red). Center frequency of trace, 11.025kHz; frequency range, 43.5kHz.

small hall. It all came together to create a feeling of being in the space, rather than looking at it from outside.

Another, very different disc that had me thinking "I could definitely live with this" was Lucinda Williams's *Car Wheels on a Gravel Road* (CD, Mercury 314 558 338-2). The album's sound is close-up, with sharply bounded, widely spaced images to spotlight the main elements—principally, the singer's voice. The CD32 meshed perfectly with this sound. Although neither the perspective nor the level differed from what I'm used to hearing from this album, I was struck by the power of that voice. Its tonal colors and textures seemed particularly vivid, and I was much more aware of subtle dynamic transients. An example of how the CD32 seemed to accentuate this vivid nature was how brightly rang the guitar chords in "Right in Time," and how distinctly their echoes trailed behind the initial chop.

With *Three for All*, by the Bucky Pizzarelli Trio (CD, Chesky JD362), my connection with and immersion in the performance were again immediate. The CD32's portrait of the three acoustic guitars, in particular John Pizzarelli's, had the solidity and presence of the real thing, in part because of the Primare's superbly defined transients. Unlike most CD players, the CD32 allowed the guitars to pressurize the space around them in just the way an acoustic guitar—even an amplified one—will in concert. No matter how carefully I matched levels, whenever I switched from another player to the CD32, I was taken aback by how much louder it sounded. More than once, I found myself reflexively reaching for the remote to turn it down before I'd relax, recalibrate, and realize it really wasn't any louder than before—the dynamic swings were just larger.

Sibling Rivalry

When I reviewed the Primare CD31, in the July 2007 issue,[1] I loved its sound and the way it quickly pulled me into the music. I was always aware of its slightly warm character and that its focus was a little soft, but that sonic signature never got in the way. The CD32's signature was similar but much less obvious—I was aware of it only when I listened for it, and even then, only when I compared the Primare to the very best players.

When I did direct comparisons of the CD31 and CD32, the differences were more dramatic. The CD32 improved on all the areas where the CD31 was strong, and addressed the areas where it wasn't. Most obvious was that the CD32's dynamic transients were better defined and much more precise than the CD31's, and its focus much sharper. Every disc I played had more life and energy through the CD32. The new player also resolved more low-level detail, better conveying the subtleties of voices and instruments. Its improved focus and resolution also made it sound more transparent. Images were clearer and more sharply bounded, and the space around them clearer and more consistent.

The CD32 still added a bit of extra body and warmth, but

1 www.stereophile.com/cdplayers/707pri/index.html

measurements, continued

spectrum of the dither used to encode the signal. The CD's own noise is below that floor, except at low frequencies, where small peaks are evident only in the left channel (fig.4, solid trace; fig.5, blue trace), at the power-supply-related frequencies of 120 and 240Hz. No distortion harmonics can be seen, however.

Linearity error (not shown) was <1dB to –110dBFS, which is superb, and the CD32 correctly decoded undithered data representing a tone at exactly –90.31dBFS (fig.6). The waveform is symmetrical, DC offset is negligible, and the three DC voltage levels describing the data are well defined.

Even into the punishing 600 ohm load, harmonic distortion was relatively low (fig.7), though a series of low-level, high-order harmonics is evident. The second harmonic was higher in the left channel (blue trace) than in the right (red), at –78dB (0.012%) vs –91dB (0.0029%). The left channel also had more difference product evident when tested with an equal mix of 19 and 20kHz tones (fig.8). Finally, playing CD data representing the Miller-Dunn J-Test signal revealed no spectral spreading of the spike that represents the high-level tone at 11.025kHz (fig.9). The odd-order harmonics of the LSB-level, low-frequency squarewave are all close to the correct levels (indicated by the green line), and almost no other sidebands are visible.

The Primare CD32 offers excellent measured performance, but I keep coming back to that superb error correction. After all, a CD player's most fundamental task is to get the data off the disc, no matter how damaged that disc might be.—**John Atkinson**

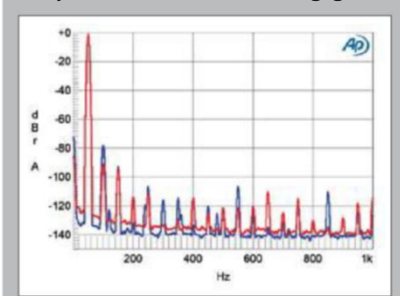

Fig.7 Primare CD32, spectrum of 50Hz sinewave, DC–1kHz, at 0dBFS into 600 ohms (left channel blue, right red; linear frequency scale).

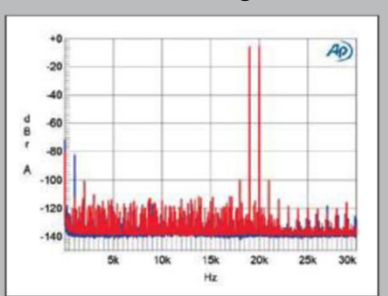

Fig.8 Primare CD32, HF intermodulation spectrum, DC–30kHz, 19+20kHz at 0dBFS into 100k ohms (left channel blue, right red; linear frequency scale).

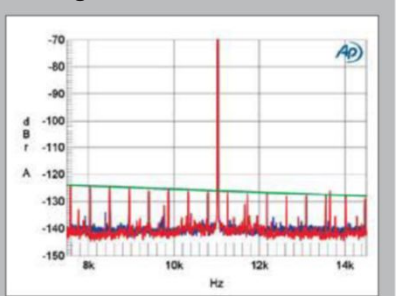

Fig.9 Primare CD32, high-resolution jitter spectrum of analog output signal, 11.025kHz at –6dBFS, sampled at 44.1kHz with LSB toggled at 229Hz: 16-bit CD data (left channel blue, right red). Center frequency of trace, 11.025kHz; frequency range, 43.5kHz.

much less than the CD31. This, too, seemed less a frequency-response variation than a slight difference in the level of focus and clarity. When I listened very carefully, the CD32 was a little more detailed and transparent through the midrange than above or below it. In the Brahms, for example, the violins were right there. They had a stunning amount of inner detail, and their images were sharply bounded in three dimensions. The cellos, in contrast, were gorgeously warm and rich but not quite as detailed.

Again, when I listened very carefully, I noted that flutes, oboes, and clarinets had the stunning clarity I heard in the violins. Guitars, bassoons, and tenor saxes were a little less sharply drawn, favoring the body and resonance of their sounds rather than the sharp spatial and temporal edges. Interestingly, part of the reason the acoustic guitars on the Pizzarelli disc had such realistic presence was this slight emphasis of the sound of their bodies. The CD32 also treated female voices particularly well, maintaining all the articulation of their upper registers while adding a better sense of the chest or body creating the voice.

Getting this level of sound, functionality, and build quality for $2850 reflects brilliant optimization of design and production elements.

Bonus Feature 1

I don't usually listen to MP3s, but I did give the CD32's USB input a try. I used iTunes to compress a few AIFF files

and save them to a thumb drive. When I plugged the drive into the CD32 and selected USB as the input, up popped a menu on the Primare's display listing the songs I'd copied. It was easy to navigate the menu and select songs, and although the sound wasn't great, it was passable for MP3s. This convenience feature is not one I'm likely to use, but it's there, and it does what it's supposed to do.

Bonus Feature 2

I found curious the CD32's assortment of upsampling and conversion modes. Kevin Wolff explained that because some listeners don't upsample, Primare offers the ability to stick with the native bitstream. The differences between native 44.1kHz and the same bitstream upsampled to 96kHz were obvious, but not always an improvement across the board. In many cases—John Pizzarelli's guitar, for example—instruments had more body and slightly better defined transients at 44.1kHz. Upsampled to 96kHz, recordings invariably had more air and detail. Everything sounded too refined at 96 than at 44.1kHz—it reminded me of a video image with the contrast set too high. Overall, I actually preferred the 96kHz setting, but I can understand Primare's decision to give listeners the choice.

The Law of Diminishing Returns

The CD32 is dramatically better than its predecessor, the CD31, but my expectations and performance/price curve have changed since 2007. At the very bottom are the $19.99 players you can buy most anywhere. Spending a few hundred dollars to get something like one of the models listed in Class D of our "Recommended Components" takes you up a pretty steep curve, and that curve is still pretty steep at around $1000, where you'll find players that are listenable and enjoyable but have obvious shortcomings.

At the far end of the curve are the cost-no-object models for which every design decision has been made only to best realize the designer's vision of the ultimate sound quality. Price is irrelevant—the differences between these players are of character, not of absolute quality, of sound. I can't say exactly where the curve flattens out, but I've heard a few players costing between $30,000 and $50,000 that, for me at least, have reached the plateau beyond the point of diminishing returns.

The knee of the curve is somewhere between these two extremes, and is always moving as technology and the marketplace change. For me, the Primare CD31 and Audio Research Corporation's CD8 established two data points. In 2007, I concluded that the CD31 was at about the knee of the curve; *ie*, it would cost disproportionately more to improve on its sound. My perspective changed when I was loaned a CD8 in 2010–2011: The CD8 was enough better than the CD31 to justify its higher price ($9995). Had I been shopping, I'd have bought the ARC.

The CD32 represents a new data point. Much better-sounding than the CD31, it's only slightly more expensive, and so reshapes the performance/price curve and moves the knee sharply upward. The gap between the CD32 and the flat part of the curve is narrower than with the CD31, but it's still there. When I interspersed listening to the CD32 with sessions with cost-no-object players, I found that voices and instruments had more inner detail with the expensive players, as well as more nuanced palettes of tonal colors and

textures. It was hard to fault the CD32's handling of ambient information, but the premium models did better jobs of retrieving the subtlest cues. Their portraits of the recording venues were a bit clearer, most noticeably at the sides and rear of the soundstage, with more of the air and energy one feels at a live performance.

What's it all mean?

Primare's CD32 is a superb CD player—period. Getting this level of sound, functionality, and build quality for $2850 reflects brilliant optimization of design and production elements. With the CD32, Primare has made choices very different from those it made with the CD31—some obvious, some bold, some even a bit risky—and the result succeeds far beyond expectations.

Listening to music through the CD32 is an unqualified joy. Everything I love about a piece of music delights me when I hear it through the CD32. And while the CD32 does retain a hint of the slightly soft, warm character of earlier Primare players, this signature is vanishingly small, and audible only when the sound is dissected and directly compared with the sound of other, usually much more expensive players. But even in such hypercritical comparisons, the CD32's performance is still excellent; it's just a tick below the very best I've heard. Much more important is that, when I simply listen to music, the CD32's performance wants for nothing.

The Primare CD32 is dramatically better than the CD31, and a big step up from even the best players I've heard at or below its price. Looking in the other direction, cost-no-object players do offer better performance, but cost a lot more—typically, spectacularly more. Everyone has a different performance/price curve: If the differences between the CD32 and the superpremium players matter a lot and the money doesn't, the choice is simple. And if there's a less expensive player that gives you everything you want, the choice is also simple. From where I sit, the CD32 looks an awful lot as if it's sitting right on the knee of today's curve. I recommend it highly, and urge anyone to give it a listen, regardless of where his or her curve bends its knee. ■

ASSOCIATED EQUIPMENT

Analog Sources Spiral Groove SG-2, VPI HR-X turntable-tonearm combinations; Lyra Titan *i*, Grado Signature Reference phono cartridges.
Digital Sources Primare CD31 CD player.
Preamplification Sutherland Engineering Phono Blocks & Duo phono preamplifiers; Sutherland Engineering Line Blocks, Simaudio Moon Evolution 850P, Placette Active, Primare Pre32 line stages.
Power Amplifiers Simaudio Moon Evolution 880M monoblocks, Primare A34.2, VTL Ichiban (MB750 Signature) monoblocks.
Loudspeakers Wilson Audio Specialties Sophia 2.
Speaker cables & Interconnects Audience Au24 SE, Nordost Valhalla 2, Stereovox. AC: Audience PowerChords & Au24 SE PowerChords, Synergistic Research Designer's Reference.
Accessories Finite Elemente Reference, MusicTools equipment stands; Audience aR-12Te & aR-2Te power conditioners; Echo Busters room treatments; Disk Dr., Nordost ECO 3 CD-cleaning systems; VPI 16.5 record cleaner.—**Brian Damkroger**