

from the
test bench

SPOTLIGHT SYSTEM

\$\$\$ – \$\$\$\$

12686

Vienna Acoustics Beethoven Baby Grand Speaker System, REL R-305 Subwoofer, and Optoma HD72 DLP Projector

Where there's a will, there's a way.



reasonable approach, you might split the system budget down the middle with half on the video and half on the audio. For audio-oriented guys like me, though, even that seemingly sensible route is painful to contemplate. (Hey, we all have our biases.)

Although I don't claim to be able to communicate with the dearly departed, I think Great-Aunt Edna had in mind something eerily similar to the Spotlight System for this month. It has a full-bore audio system built around Vienna Acoustics speakers, an REL Sub-Bass System, and a Primare

BY DARRYL WILKINSON

Say your Great-Aunt Edna died and left you \$10,000 or so in her will with the stipulation that you had to spend it on a home theater system (that's why she always was your favorite great-aunt). You and I could while away the better part

of an evening arguing the particulars of what gear to buy—and especially how the money should be divided between the audio and video parts of the system.

Like a lot of people, you might (sadly) lean toward pairing the largest, most expensive plasma TV with the cheapest, most basic home-theater-in-a-box. In a more

processor/integrated amp. The lean, mean video package includes an Optoma DLP front projector and a Primare DVD player.

I reviewed the Primare gear as part of the Spotlight System in our October 2005 issue, so I'm not going to dwell on it in depth, other than a brief recap. Primare's SPA21 is a five-channel (100 watts each)

Cordero Studios

integrated amp with a seriously sweet-sounding onboard processor. Its strong points are extremely musical and exquisitely detailed sound processing, loads of standard inputs, and exceptional ease of use. Its weak points are a minimal remote control and limited HD switching (two component inputs only—no HDMI or DVI). Primare's DVD26 is a top-notch progressive-scan DVD player that, alas, isn't compatible with DVD-Audio or SACD. These two pieces of Danish gear make a high-end electronics combo that's long on performance but short on glitz.

Requiem

Several years ago, I had the chance to live with a set of Vienna Acoustics speakers and fell in love with their open, airy character, as well as their gorgeous aesthetics. Vienna Acoustics has the habit of naming their speakers after famous Austrian and German composers. It sounds a little presumptuous, I know. But the company is actually located in Vienna—imagine that—and is steeped in the city's musical sensibilities. (Just be glad they didn't decide to name the speakers after varieties of sausage.)

Vienna Acoustics has since reworked the models I was familiar with—"outstanding" wasn't good enough praise, I guess. To both acknowledge their heritage and yet distinguish the new versions, the company has attached the "Grand" surname to the composers' names. For this month's system, Sumiko, the North American importer for Vienna Acoustics, sent me a pair of Beethoven Baby Grands, a Maestro Grand center-channel speaker, and a pair of Bach Grands for the surround channels. (So "Maestro" wasn't a specific composer. Get over

AT A GLANCE

VIENNA ACOUSTICS BEETHOVEN BABY GRAND SPEAKER SYSTEM AND REL R-305 SUBWOOFER



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

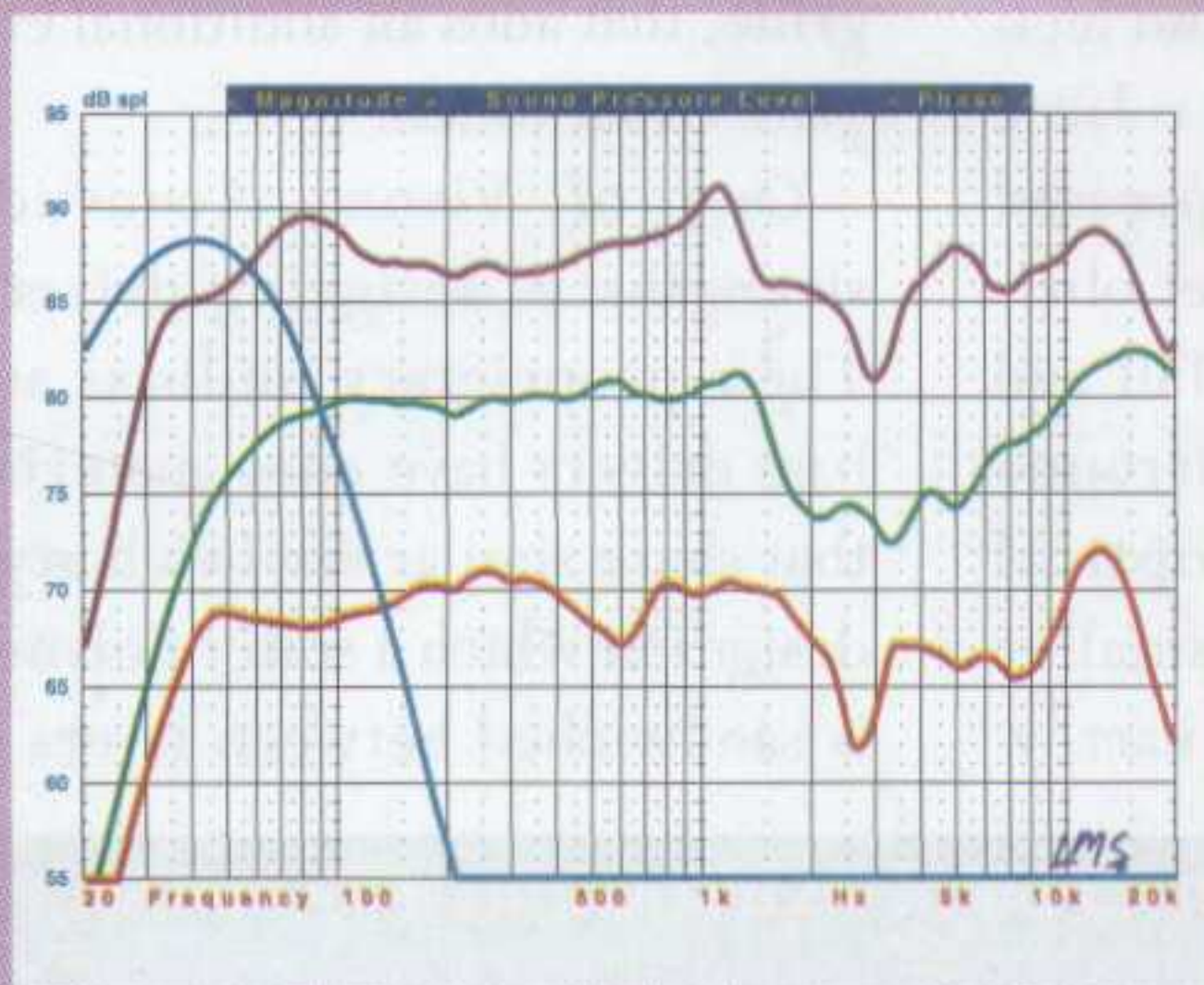
SUBWOOFER: REL R-305

Connections:	Speaker-level, line-level, and LFE inputs
Enclosure Type:	Sealed
Woofer (size in inches, type):	10, paper-cone cast frame
Power Rating (watts):	300
Crossover Bypass:	Yes
Available Finishes:	Hand-rubbed Piano Black
Dimensions (H x W x D, inches):	14.25 x 12.5 x 13.5
Weight (pounds):	41
Price:	\$1,595

SPEAKER

	Beethoven Baby Grand	Maestro Grand	Bach Grand
Type:	Three-way, tower	Two-way, center	Two-way, monitor
Tweeter (size in inches, type):	1.1, silk dome	1, silk dome	1, silk dome
Midrange (size in inches, type):	6, X3P cone		
Woofer (size in inches, type):	6, XPP cone (2)	6, XPP cone (2)	7, X3P cone
Nominal Impedance (ohms):	4	4	4
Recommended Amp Power (watts):	40–250	30–200	30–200
Available Finishes:	Maple, Cherry, Piano Black, Rosewood (extra)	Maple, Cherry, Piano Black, Rosewood (extra)	Maple, Cherry, Piano Black, Rosewood (extra)
Dimensions (H x W x D, inches):	38.9 x 6.7 x 12.9	6.77 x 23.2 x 11.45	34.6 x 7.4 x 9.8
Weight (pounds):	65	30	40
Price:	\$3,500/pair	\$1,195	\$1,995/pair

HT Labs Measures: Vienna Acoustics Beethoven Baby Grand Speaker System and REL R-305 Subwoofer



••• L/R Sensitivity:
88.0 dB from 500 Hz to 2 kHz

••• Center Sensitivity:
89.5 dB from 500 Hz to 2 kHz

••• Surround Sensitivity:
86.5 dB from 500 Hz to 2 kHz

This graph shows the quasi-anechoic (employing close-miking of all woofers) frequency response of the Beethoven Baby Grand L/R (purple trace), REL R-305 subwoofer (blue trace), Maestro Grand center channel (green trace), and Bach Grand surround (red trace). All passive loudspeakers were measured with grilles

at a distance of 1 meter with a 2.83-volt input and scaled for display purposes.

The Beethoven Baby Grand's listening-window response (a five-point average of axial and +/-15-degree horizontal and vertical responses) measures +3.19/-6.97 decibels from 200 hertz to 10 kilohertz. The -3-dB point is at 36 Hz, and the -6-dB point is at 30 Hz. Impedance reaches a minimum of 2.98 ohms at 94 Hz and a phase angle of -33.95 degrees at 4.6 kHz.

The Maestro Grand's listening-window response measures +1.73/-7.04 dB from 200 Hz to 10 kHz. An average of axial and +/-15-degree horizontal responses measures +2.26/-6.88 dB from 200 Hz to 10 kHz. The -3-dB point is at 53 Hz, and the -6-dB point is at 42 Hz. Impedance reaches a minimum of 4.29 ohms at 197 Hz and a phase angle of -42.93 degrees at 3.7 kHz.

The Bach Grand's listening-window response measures +1.53/-7.67 dB from 200 Hz to 10 kHz. The -3-dB point is at 39 Hz, and the -6-dB point is at 34 Hz. Impedance reaches a minimum of 4.94 ohms at 148 Hz and a phase angle of -49.85 degrees at 3.6 kHz.

The REL R-305's close-miked response, normalized to the level at 40 Hz, indicates that the lower -3-dB point is at 25 Hz and the -6-dB point is at 20 Hz. The upper -3-dB point is at 66 Hz with the LFE input. Note that, due to the incorrect high-frequency rolloff using the LFE input, I was unable to reference the frequency response to our usual 80 Hz as the response is already -7 dB at that point. —MJP



A Darryl loved the Optoma HD72's bright, colorful image. Hopefully, he didn't do any permanent damage to his vision here.

front baffles, with their curved edges, have the added sonic benefit of minimizing early reflections and diffraction effects—perhaps that's part of why they sound so open and natural.

The sophisticated design of the speakers' thin, sturdy grilles has both auditory and visual benefits, too. The aluminum grille frame contains a V-shaped phase diffuser down the center that helps control disper-

sion. Vienna Acoustics says, as a result of the unique design, you can leave the grilles on for everything but the most critical listening by the most finicky listeners. The V-shaped diffuser creates a groove, visible on the front of the grille, that adds an additional elegant visual touch.

One of Vienna Acoustics' strengths is designing drivers. Their proprietary midbass and bass drivers have cone materials that share similar sandwich-style designs in which a softer polymer is sandwiched between layers of

it.) Sumiko also sent a new REL R-305 Sub-Bass System.

The first thing I noticed about the new speakers was that Vienna Acoustics has upped the ante on the fit and finish. These speakers are even more refined, with an heirloom-furniture look and feel. Unless you have a wood-related phobia, you'll be hard pressed not to find their subtle yet obvious beauty irresistible. Tall and slender, the front and surround speakers create the optical illusion of appearing smaller than they really are. The narrow

HIGHLIGHTS

Vienna Acoustics Beethoven Baby Grand Speaker System and REL R-305 Subwoofer:

- Finishes and appearance nicer than most fine furniture
- Sub provides a foundation of bass for the speakers to build upon

harder polymers (configurations referred to as XPP and X3P). The process creates an especially stiff cone that's self-damped and resists breakup. The Beethoven Baby Grand and the Maestro Grand include bass drivers with additional spider-web-like ribbing that's claimed to provide extra rigidity. For tweeters, Vienna Acoustics uses hand-coated silk domes specifically tailored for each model.

All three models are ported designs. The three-way Beethoven Baby Grand is actually a hybrid; only the ultralow-frequency driver is mounted in a ported chamber. But the port design in the Bach Grand is even more interesting. Not only is the smaller of the two floorstanding speakers ported in the front and

VIENNA ACOUSTICS BEETHOVEN BABY GRAND SPEAKER SYSTEM AND REL R-305 SUBWOOFER

OVERALL RATING

Build Quality	Value	Features	Performance	Ergonomics
<ul style="list-style-type: none"> ◆ Gold-and-silver-alloy terminals directly connect to crossovers ◆ Heirloom-furniture-quality finish 	<ul style="list-style-type: none"> ◆ These are great-sounding and great-looking speakers—a two-for-one deal ◆ Who can put a price on sound this good? 	<ul style="list-style-type: none"> ◆ Beethoven Baby Grands include ultra-stable aluminum-spike assembly ◆ Subwoofer has inputs for low and high level that you can simultaneously adjust and operate 	<ul style="list-style-type: none"> ◆ Holographic sound with height, width, and depth ◆ Extreme low bass extension without boom 	<ul style="list-style-type: none"> ◆ The speakers are beautiful but should be out from the wall for best performance ◆ You can remotely locate the REL sub's control box
97	90	90	97	89

93

This system is pleasing on so many levels. It's exceptional for music, movies, and simply as part of your living room.

General information

Beethoven Baby Grand Loudspeaker, \$3,500/pair; Maestro Grand Center-Channel Speaker, \$1,195; Bach Grand Loudspeaker, \$1,995/pair
R-305 Subwoofer, \$1,595 → Sumiko, (510) 843-4500, www.sumikoaudio.net → Dealer Locator Code SUM

the back—a design Vienna Acoustics claims stabilizes the cone's movement at the frequency where the driver and porting interact—but the tweeter is mounted on a wedge assembly

AT A GLANCE OPTOMA HD72 DLP PROJECTOR



CONNECTIONS

Inputs:
 Video: HDMI (1), DVI-I w/HDCP (1), S-video (1), component video (1), composite video (1)
 Audio: None

Outputs:
 Video: None
 Audio: None

Additional: RS-232 (1), IR receiver (2), 12-volt trigger relay (1)

FEATURES

Type: DLP
 Native Resolution / Aspect Ratio: 1,280 by 768 / 16:10 (and 16:9)
 Lamp Life: 3,000 hours
 Different Lenses Available? No
 Dimensions (H x W x D, inches): 3.72 x 13.56 x 9.67
 Weight (pounds): 7
 Price: \$1,999

HIGHLIGHTS

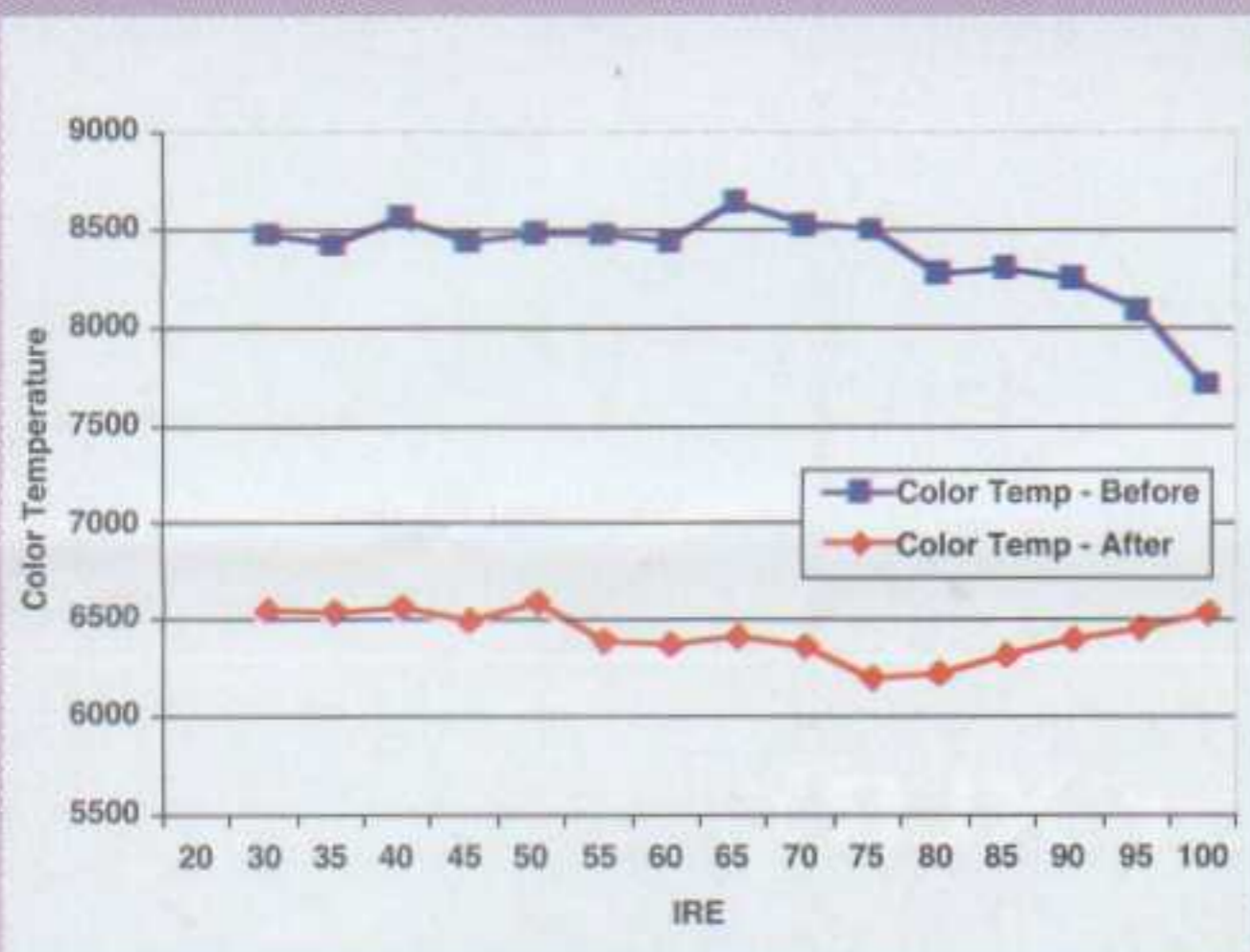
Optoma HD72 DLP Projector:

- Its performance is unbeatable for \$1,999
- Uses a DarkChip2 DLP chip and TI's BrilliantColor technology
- Has a native resolution of 1,280 by 768 and is plenty bright and sharp

located directly over the front port. As with past Vienna Acoustics models, rake—the tilt of the speaker—is very important. It takes a little extra effort to get the angle just right, but it's worth it for the additional transparency and focus you'll hear.

Focus is the number-one characteristic you'll discover when you listen to the system. The tweeters exhibit exceptional resolution and can produce frequencies lower than what you'd find with a more typical tweeter. This lets it blend better with the midbass driver for a smoother overall tonal balance. This is especially evident with a high-resolution recording such as you'll find on Bucky Pizzarelli's *Swing Live* multichannel SACD (Chesky). The openness and transparency in the upper frequency range allowed the smallest details of room ambiance and the subtlest audience noises present in this live recording to come through clearly, locked into a three-dimensional space. Larry Chernicoff's "created" spatial envelope on his *October* multichannel SACD showed off the ability of the Bach Grands to blend with the Beethoven Baby Grands and the Maestro Grand to create a swirl of sound around the listener. Those Beethoven Baby Grands, by

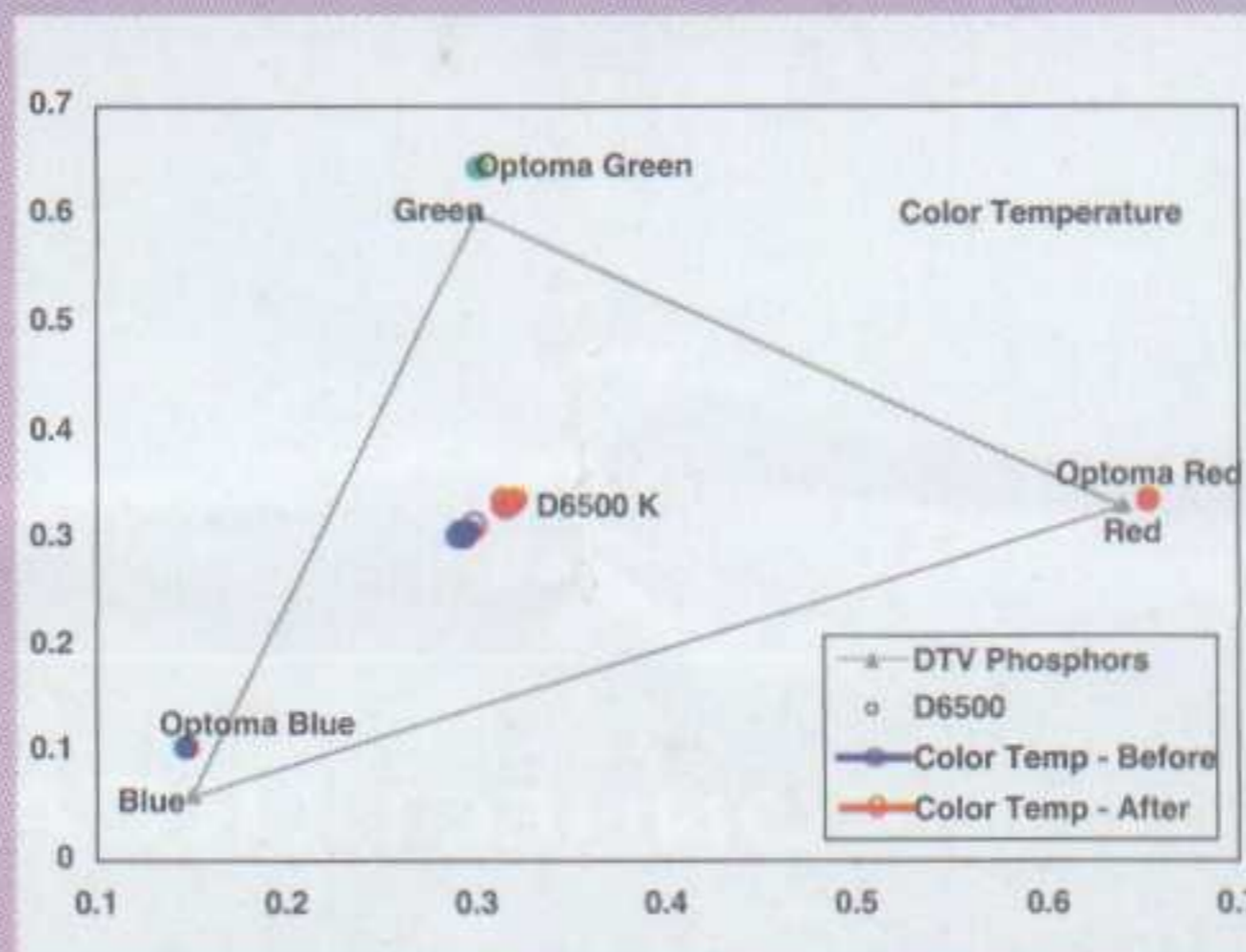
HT Labs Measures: Optoma HD72 DLP Projector



0.012 9.855

- Full-On/Full-Off Contrast Ratio—821:1; ANS Contrast Ratio—395:1
- Measured Resolution with the Leader LT-446: 480: 480 (per picture height) 720p/1080i: Out to the limits of the 1,280-by-768 chip
- DC Restoration (poor, average, good, excellent): Excellent
- Color Decoder (poor, average, good, excellent): Average
- Measured Color Points:
 Red Color Point: x=0.650, y=0.335
 Green Color Point: x=0.299, y=0.641
 Blue Color Point: x=0.145, y=0.104

The left chart shows the HD72's gray scale relative to its color temperature at various levels of intensity, or brightness (20 IRE is dark gray; 100 IRE is bright white). The gray scale as set by the factory, in the



o color-temperature mode and the Cinema gamma mode, measures cool with dark images. It gets warmer but is still rather cool with brighter images. After making adjustments using the Photo Research PR-650, the gray scale measures within 310 Kelvin of D6500, the accurate color temperature, across the entire range. The 20 IRE was too dark to measure but looked somewhat cool.

The right chart shows the gray scale (or color temperature) relative to the color points of the display's red, green, and blue color-filter-wheel segments. These are off those specified by SMPTE. Red and green are slightly oversaturated. Blue is very slightly oversaturated and very greenish-blue.

After calibration, and using a full-field 100-IRE white (9.855 foot-lamberts) and a full-field 0-IRE black (0.012 ft-L), the contrast ratio was 821:1. Using a 16-box checkerboard pattern (ANSI contrast), the contrast ratio was 395:1. The best contrast ratio was achieved with the Image AI on. The best black level was achieved with the Image AI and Bright Mode off. In this mode, the HD72 produced 6.928 ft-L with a 100-IRE field and 0.009 ft-L on a 0-IRE field. This comes to a contrast ratio of 770:1 (as measured on an 87-inch-wide, 1.0-gain Da-Lite Da-Mat screen). —GM



A The Optoma's clean, uncluttered back panel still offers connections aplenty, including HDMI and DVI inputs.

the way, are capable of extreme delicacy, as with McCoy Tyner's "Miss Bea" from the *New York Reunion* SACD (Chesky).

Six Feet Under

The Vienna Acoustics floorstanding speakers are quite good at creating bass on their own. Depending on your musical sensibilities, you could easily get by without a subwoofer. But, for movies, really, who can live without one?

REL's new R-305 definitely isn't one of those "more boom for your room" subwoofers. This British company makes Sub-Bass Systems—a type of speaker engineered to provide a foundation of bass for your main speakers to build upon. As such, the R-305 creates a perfect substructure for the Vienna Acoustics system

that extends already-good bass down to "Damn, I didn't know that was in the recording" performance. A good example is in Sara K.'s acoustic rendition of "Brick House" (*Hobo*, Chesky), during which the R-305 brought out the barest dynamics of her foot tapping out the beat during the otherwise quiet moments of the song.

Visually, the R-305 is a stunner. It's a black box, yes, but with a hand-rubbed piano-black lacquer finish (with no less than eight layers), an offset grille, and machined lines on the lacquered surface. Mounted underneath the cabinet behind a frosted-glass security panel is the sub's control box, which you can locate remotely if desired. As with all REL Sub-Bass Systems, you can adjust the high- and low-level inputs independently and operate them simultaneously.

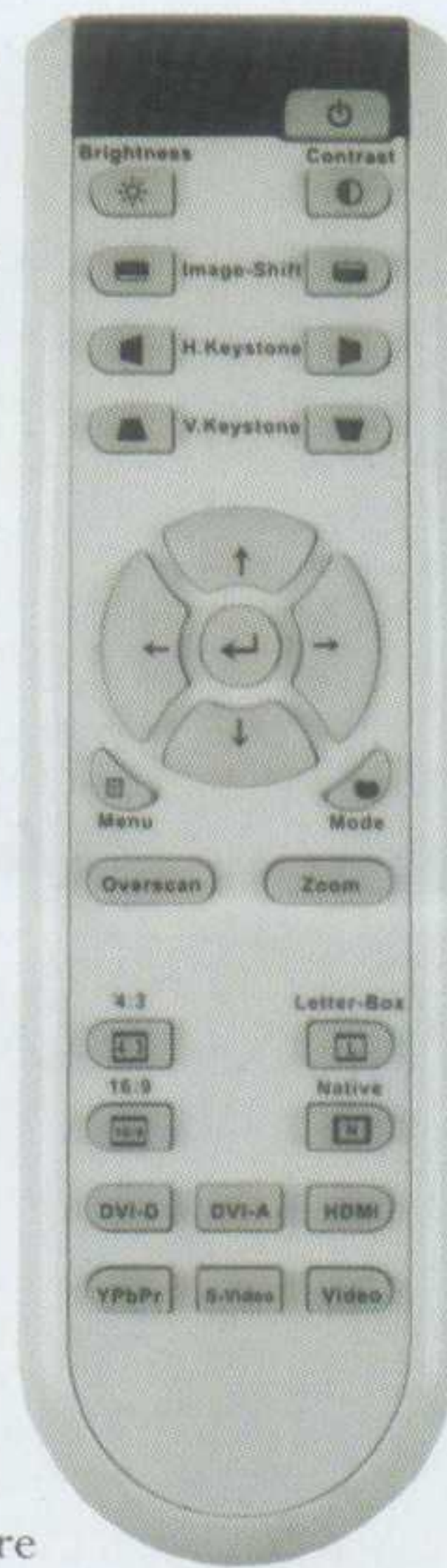
I'm not sure what I expected to hear with Telarc's *Tchaikovsky 1812 Overture* multichannel SACD, but what I got were

some of the tightest, most controlled cannon shots I've ever heard from a system. It wasn't one of those "Ooh, that was cool" moments. Instead, it caused a jaw-dropping reaction, due to the overwhelmingly realistic reproduction—from the opening, high-frequency attack of the cannon shot, to the throaty follow-through. It was a tour de force of

system blending and integration. I can say the same for the system's performance with *Master and Commander's* early sneak attack scene, as well as the Shinto-bean-flinging, circle-of-drums scene in *House of Flying Daggers*. I could pick out every piece of shrapnel and every flying bean, even as the room was being flooded with low frequencies.

Mine Eyes Have Seen the Glory

Now that we've blown the bulk of your inheritance on



OPTOMA HD72 DLP PROJECTOR					OVERALL RATING
Build Quality	Value	Features	Performance	Ergonomics	92
<ul style="list-style-type: none"> Small and light-weight Minimal light leakage from chassis 	<ul style="list-style-type: none"> Excellent picture for the money Two-year warranty 	<ul style="list-style-type: none"> Has HDMI and DVI connectivity Plenty of basic and advanced adjustment capabilities Front and rear adjustable feet 	<ul style="list-style-type: none"> Vibrant color; bright display Exceptionally sharp image for the price 	<ul style="list-style-type: none"> Limited throw ratio Backlit remote does not have much range No lens shift but small amount of digital image shift 	
88	96	89	92	88	

General information
 HD72 DLP Projector, \$1,999 → Optoma, (888) 289-6786, www.optomausa.com → Dealer Locator Code OPT

Although it's not too flexible when it comes to physical location and setup in your theater, it's hard to think of a projector that offers a better value for the money in terms of picture quality at this price.

audio gear, we have to scramble to find a cheap TV, right? Fortunately, video-display manufacturers are currently relentless in their pursuit of market share, with each one working toward better performance at lower prices. One of the more aggressive companies is Optoma, and their new HD72 DLP front projector is a force to be reckoned with at its \$1,999 price.

The HD72 uses a single 0.65-inch DarkChip2 DLP chip and a seven-segment color wheel. The chip has a 1,280-by-768 native resolution. The projector also uses TI's BrilliantColor technology. More importantly, I found it to have remarkably bright, vivid colors with an exceptionally sharp picture that was much more than I expected with such a relatively

inexpensive projector. Fan noise was about average, but, when the HD72's Image AI circuit is engaged, the fan speeds up or slows down, depending on how bright the bulb is at that moment. If you're sitting close to the projector, this can become a little distracting. The HD72 isn't quite as flexible in terms of room-placement options as some projectors, but, in my room, the physics worked perfectly with an 80-inch Stewart screen. High-definition sources looked beautiful, and I was also pleasantly surprised to see how good plain old NTSC looked. Overall, I was quite smitten by this little powerhouse of a projector.

If you're an image-quality fanatic, you can certainly find better projectors—although it's

highly doubtful you will for \$1,999. You'll have to spend more on a projector—skimming off the audio budget—and then we'll go back to that evening-long discussion we started with.

When There's a Will...

Thanks in large part to the spectacular affordability of the Optoma HD72, you can put together a system with a great picture and still focus on phenomenal audio performance. I have to say that this setup is about as perfect as an audio-oriented guy can get. You might even say that it's truly a system to die for. Thanks, Edna.

(By the way, to put your mind at rest, no actual Great-Aunt Ednas were harmed during the writing of this review.) 🗨