

Vidikron Vision Model 40 DLP Projector

Possibly the best value in high-resolution one-chip DLP projectors.

by Kevin Miller

DLP projectors have become all the rage in the front-projection home theater arena, thanks in large part to the 1,280-by-720 chips that hit the market a little over two years ago. These chips raised the bar in

detection for film-based material, good color decoding, and a nice features package. It's also competitively priced and, as such, is an excellent value in its category.

The Model 40 has a compact, squarish design with a white finish. It measures 4.75 inches high by 15.75 wide by 13.625 deep and weighs a reasonable 15 pounds. The unit has a very solid feel, which indicates good build quality. The lens is offset slightly from

the center of the projector. Some of the remote's most commonly used buttons are also on the top of the unit, such as power, menu, input, enter, exit, and the arrow keys for navigation within the menu

picture quality for affordable high-end front projection. Vidikron, a front-projection home theater pioneer, was recently purchased by Runco International and has launched a new line of DLP projectors.

The company's Vision Model 40 is a one-chip DLP projector with a native resolution of 1,280 by 720, and it's based on the second-generation HD2 (or Mustang) DMD chip. Compared with the first-generation chip, this one definitely delivers better black-level performance and a higher contrast ratio. The Model 40 has solid video processing with 3:2-pulldown



system for calibrating the gray scale that gives the professional installer and/or video technician unprecedented flexibility in this important setup

area. You also can set the gray scale and all other picture parameters for each input separately. A total of 21 separate memory locations gives you more flexibility than you're likely to ever need in terms of optimizing the picture for all video and computer sources. For added versatility, you can choose either a short-throw lens (1.38:1 to 1.63:1), or, for an additional \$1,000, you can opt for the long-throw lens (1.83:1 to 2.40:1).

The remote control, while not backlit, is fully illuminated by glow-in-the-dark buttons. The remote does offer discrete access to all of the projector's inputs, aspect ratios, and memories, which is very important to a custom installer who's trying to integrate these functions into a Crestron or AMX touchpanel control system.

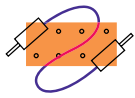
The connectivity suite, which is located on the projector's rear panel, is fairly comprehensive. You get one 480i-only component video input with RCA connections, plus a set of RGB inputs with H and V sync; if you use only the R, G, and B inputs, this connection doubles as a high-bandwidth component video input that's capable of displaying 480i/p, 720p, and 1080i sources. Of course, the obligatory composite and S-video inputs are also here (one of each), as well as a DVI input with HDCP copy protection for use with the new crop of satellite and cable HDTV receivers. Finally, Vidikron provides an RS-232 port for integrated control systems like the above-mentioned Crestron and AMX touchpanel systems.

The Model 40 has few, if any, consumer-type features, but that's to be expected with any front projector. However, it does offer a few notable picture-enhancing features, including a nine-point



A. The Model 40 has a 1,280-by-720 resolution and utilizes the HD2 chip.

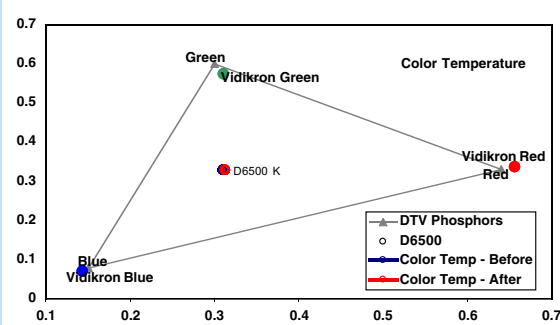
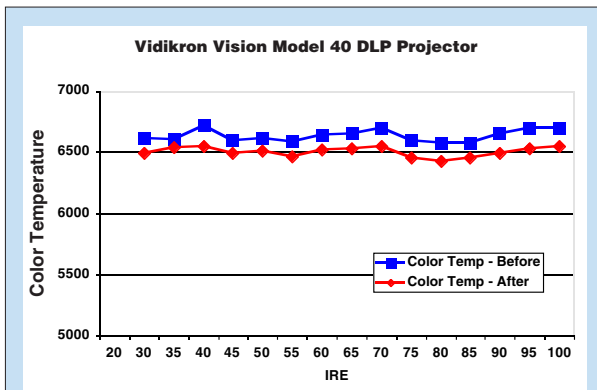
B. Take your pick of connection options, including a DVI input with HDCP.



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C. The remote offers discrete input and aspect-ratio buttons that glow in the dark.

The Model 40 has five color-temperature settings: 0, 1, 2, 3, and 4. Of course, it also offers several aspect ratios: 4:3, letter-box, anamorphic, and Intelliwide. Vidikron designed the Intelliwide setting specifically for blowing up 4:3 material to fill a 16:9 screen, and it does so with a minimum amount of picture distortion, unlike many other similar implementations of this sort.



HT Labs Measures: Vidikron Vision Model 40 DLP Projector

The top chart shows the Model 40'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 2 color-temperature mode, measures slightly blue across the gray-scale range. After making adjustments using the Photo Research PR-650, the gray scale measures extremely well, within 80 Kelvin of D6500, the accurate color temperature, across the entire range. This is a slight improvement compared with the already-good performance before calibration. The bottom 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. Green ($x=0.311$, $y=0.574$), red ($x=0.656$, $y=0.338$), and blue ($x=0.144$, $y=0.070$) are slightly off those specified by SMPTE. Green is somewhat undersaturated, while red and blue are slightly oversaturated. This means that the display will reproduce most of the colors available in the system. The light output was approximately 13 foot-lamberts (on a 6-foot-wide Studiotek 130 screen). A brighter image is possible at the expense of gray-scale accuracy. The display has excellent DC restoration and a good color decoder. The Model 40 displays approximately 480 lines (per picture height) with NTSC sources and, using our Leader LT-446 HD generator, is capable of resolving DTV signals out to the limits of the 1,280-by-720 chip.—GM

I evaluated the Model 40 using a Panasonic DVD-RP91 progressive-scan DVD player in interlaced mode and Dish Network's HD satellite feed on a 72-inch-wide Stewart Studiotek 130 screen. I obtained maximum contrast at a setting of +18, which is about two-thirds of the way across the menu's sliding bar, before clipping or white crush set in. This produced an amply bright picture (see the measurements box for our measurements using the Photo Research PR650).

Prior to calibrating the gray scale, I measured 6,150 Kelvin at 30 IRE and 5,975 K at 80 IRE. This is quite close to the broadcast-standard color temperature of D6500. The top end of the gray scale had a distinct magenta hue that I was able to completely eliminate with gray-scale calibration. Post-calibration, the Model 40 measured a very impressive 6,500 K ($x=0.313$ and $y=0.328$) at 30 IRE and 6,450 K ($x=0.314$ and $y=0.327$) at 80 IRE. It's clear that Vidikron made a serious effort to calibrate this projector's gray scale, but I should note that your screen size and material will play a key role in achieving a linear, accurate gray scale. Your service technician will need to calibrate the whole system, which includes using your DVD player for the best results.

The Model 40's color decoder is pretty accurate. After I set the color and tint with SMPTE color bars, I reduced the color level four clicks (from 34 to 30), as skin

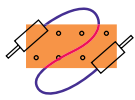
tones looked a little too red on the "Montage of Images" section from the *Video Essentials* test DVD. The Model 40's video processing is quite good. As I looked at the opening sequence of *Star Trek: Insurrection*, 3:2 pulldown was clearly evident, as the projector rendered the bridge railing, canoes, and rooftops pristinely. The bouncing ball in *Video Essentials'* Snell & Wilcox Zone Test Plate test pattern was also exceptionally clean.



My review sample's short-throw lens had some minor chromatic aberrations. Red was out by approximately one pixel, mostly in the horizontal direction. The lens also appeared to have a slight barrel distortion at the top of the picture, which shows up as a very slight horizontal pincushion error. This was only visible on 2.35:1 material like *Training Day*. That said, the lenses on all of the latest-generation one-

chip DLP projectors exhibit some chromatic aberrations, and the Model 40's are certainly not the worst I've seen. In fact, with regular DVD and HDTV sources, I was hard-pressed to see these issues from my viewing position, which is roughly 10 feet from the screen. I also commend Vidikron for offering both a long- and short-throw lens option for added flexibility. In my room, I would have no choice but to opt for a short-throw lens, even with my relatively small 72-inch-wide screen.

If you look at the spec sheet, you'll see that the company claims



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that the Model 40 is capable of 950 ANSI lumens and has a contrast ratio of 1,600:1. Since Vidikron is now owned by Runco, they've adopted Runco's Cinema Standards Measurement System (CSMS) specification standards, which are more realistic in terms of light-output and contrast-ratio ratings.

In film, we measure light in foot-lamberts, so Runco has decided to include foot-lambert measurements in their specifications, as well as real-world ANSI-lumen specifications after proper calibration. This is the first time I've ever

reprinted even a portion of a manufacturer's spec sheet, but it's worth illustrating, as it represents real information that will aid in your home theater's design. If you look closely at the spec sheet, you'll see the CSMS specifications under "Light Output": home theater calibration: 480 ANSI lumens; 17.9 foot-lamberts (ft-L). Under "Contrast Ratio," the CSMS spec is a much more realistic 148:1. The company takes it one step further by recommending a screen size between 72 and 96 inches wide, even though the projector can project images up to 200 inches wide. I have to hand it to Runco/Vidikron for taking this bold step. I've long been frustrated with video-display manufacturers' marketing departments for boasting ridiculous

light-output and contrast-ratio numbers. When you measure these two specifications in an actual home theater environment, it becomes crystal clear that virtually all of these published specifications are totally bogus.

After I'd completed a full ISF-style calibration for both NTSC and HDTV sources, I sat back and watched a variety of DVDs and HDTV material. Chapter 31 of *Charlotte Gray*, still one of my favorite reference DVDs, had great snap and detail, plus very good color saturation. In the beginning of this chapter, a train travels through the French countryside, and there was some visible low-level noise. This noise was more prevalent in darker scenes, such as the love scene between Charlotte and the young British officer in chapter 4. In fairness to Vidikron, I've seen this low-level noise on virtually every one-chip DLP projector, and I attribute it at least in part to DLP technology. Part of the problem could also be in the video processing.

Chapter 4 of *Training Day* looked excellent. Denzel Washington's black car looked really black, which is a testament to the Model 40's excellent black-level performance. DLP still can't do black like a CRT, and it probably never will. However, the new HD2 chip takes DLP performance to another level. I dare say it takes DLP to an acceptable level for 99.9 percent of home theater enthusiasts.

HDTV from my Dish Network satellite feed looked mostly awesome. Bright scenes looked really good, but darker scenes were plagued by low-level-noise problems.

In particular, I watched *Armed and Dangerous* on the HBO HD channel and *Harlan County War* on Showtime HD. I fired up my reference Runco DTV-991 for a quick comparison, and I found the material to look quite clean through this CRT projector. Unfortunately, I was unable to evaluate the Model 40's HDTV performance using its DVI input. However, I've had enough experience in the field calibrating digital displays using both the component video and the DVI inputs, and I don't doubt that the DVI input looks a lot cleaner than an analog component connection on a digital display. I suspect that HD material would have looked a lot better using the Model 40's DVI connection.

Vidikron looks strong again. Their Vision Model 40 is a very respectable player in the 1,280-by-720 one-chip DLP-projector category. Good video processing, black-level performance, and color

HIGHLIGHTS

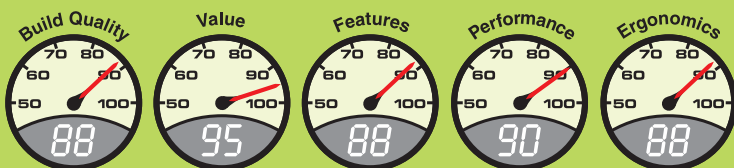
- Good video processing with 3:2-pulldown detection for film-based material
- Excellent flexibility for setup and optimizing picture quality for all sources
- Great value for the dollar

Vidikron Vision Model 40 DLP Projector	\$8,995
With the Long-Throw Lens	\$9,995

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decoding all add up to excellent performance. There's no doubt that the Model 40 does a lot right, and it's a truly impressive DLP projector, especially when you consider its price. At \$8,995 with the short-throw lens and \$9,995 with the long-throw lens, the Model 40 is one of the most reasonably priced DLP projectors in its class, making it one of the best values in its category. 📺

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