

manufacturer:	DVDO
model:	iScan VP30 Video Processor
category:	Video (Projectors, Processors...)
review date:	September 2006
reviewed by:	Kevin Miller



Powered by **ABT**

DVDO iScan VP30 Video Processor

Introduction

DVDO burst onto the home theater scene in the late 1990s with a 480p video processor, shocking manufacturers and consumers alike with a \$599 list price point. The surprise was not so much the low price, but the fact that it produced awesome pictures for so little money. Only a few years before that, good 480p video processing, or what we used to call “line doubling,” from Faroudja’s venerable LD-100 carried a list price of \$15,000. Since then, the company has continued to put out head-turning video processing products that remain the best bang for the buck in the home theater industry. Enter the VP30 with a list price of \$1,999, with a virtual plethora of useful features and near state-of-the-art video performance.



Many of you might be wondering why I would need a video processor anyway. There are a number of different reasons you might want a product like the DVDO VP30. One is obviously to improve video performance over what your HDTV display can do. Superior video processing that produces a cleaner and smoother, more artifact-free picture is one area a good processor will improve your display’s performance, and good color decoding is another. Many TVs and projectors today have inaccurate color decoding that accentuate or “push” red, for example. A video processor like the DVDO overrides the TV’s color decoding, and if it is superior to your TV, then you will get richer, deeper color saturation as a result. Also, a good external video processor will help clean up noisy standard-definition sources from cable and/or satellite TV.

Another added benefit of a good video processor is source-switching, which gives you control over the picture for each input individually. So if you have a multitude of video sources, you simply route them all through the processor. One video cable connects the processor to the display. A good processor like the DVDO will give you control over contrast, brightness, color, tint, sharpness and possibly grayscale for each source separately, so you can get the most accurate picture from all of your video sources.

Design

The VP30 is a standard one-rack-high A/V component with an all-black anodized finish. The remote control is a well-designed unit, with much of the functionality of the device accessible via direct access keys, including all inputs, aspect ratios and scan rate outputs, to mention just a



few. While all the keys glow in the dark, I would have preferred a real back-light feature that more fully illuminates the remote, especially considering that this product will often be used in a darkened home theater environment. The internal menu system or GUI (Graphical User Interface) is a vertically arrayed design, relatively easy and intuitive to navigate.

Looking at the back of the unit, it is clear that the VP30 offers extremely comprehensive connectivity. There are no less than four HDMI inputs, which is more than any HDTV on the market will give you. Two component video inputs, two S-Video and two composite video inputs help round out the most important connections. A set of RGBHV inputs (all BNC connectors) can also double as a third component video input. A number of inputs for digital audio, both coaxial and optical, are also on board. You then have the choice of a digital output to the display via HDMI or an analog output via component video. DVDO's generous connectivity options ensure that even the most sophisticated home theater systems with a multitude of HD and SD video sources will be accommodated.

Features

Not too many video processors give you the set-up flexibility that the feature-packed VP30 does. An AV Lip-sync feature addresses an industry-wide problem with lip sync errors. This is a particularly acute problem from Satellite and Cable HD set-top boxes, especially when using the digital HDMI outputs. In fact, there are now lip sync delay boxes on the market, ranging from about \$250 to \$350, to solve this problem. A Y/C delay feature gives you the ability to adjust the video signal so that color and black and white signals reach the screen at the same time. A plethora of different scan rates or resolutions are on tap, with the VP30 starting with 480p and moving on up to 1080p. A variety of Active Aspect ratios including: 1.33:1, 1.66: 1, 1.85:1, and 2.35:1 are available, so you can address the actual aspect ratio of a movie. For example, "Training Day" is a 2:35 aspect ratio film, and of course the VP 30 has a 2:35 setting. It also has a Custom setting that allows you to create an aspect ratio ranging from 1:01:1 to 3:00:1 for the occasional odd aspect ratio on DVD like "Ben Hur," which is Cinemascope 2:66:1 ratio. An overscan feature allows you to overscan the picture to eliminate compression lines from cable or satellite boxes.

During the course of my review, I upgraded my review sample with the new de-interlacer board and software. This added a couple of items to the already massive features list of the processor. A slew of new test patterns were added, including full color fields for all the primary and secondary colors, which is a useful addition for tweekers like me. Different gamma curve choices were also added that might help you address poor gamma on a given display. I would like to see DVDO actually give us grayscale controls, so that a professional could fine-tune the grayscale of a display with the processor's controls. A company representative did confirm that RGB grayscale controls will be added to the next generation of the VP30 and its step-up model, the VP50, which will be available shortly. The upgrade also changed the video processing algorithm from the Silicon Image 504 to the ABT 102, which looks at five fields simultaneously, has improved 2:3 pull-down and does a better job with bad film edits. A Border feature allows you to adjust the black bars at the top and bottom of a widescreen movie to gray in a variety of shades. This can be a useful feature to reduce or eliminate image retention on plasma TVs. This is just a sampling of the most important features of the VP30.

Performance

After playing with a number of different scan rate options, I settled on 1080p via the HDMI output, since the resolution of the new Sony KD-L46XBR2 LCD panel I tested with the VP30 has a native resolution of 1920 x 1080 pixels. Video performance for standard-definition sources like cable TV, satellite and DVD is nothing short of outstanding. Color decoding is dead-on

accurate, and you can select the correct decoding scheme depending on what source you are looking at: RGB, component or HDMI. I did some comparisons of the Sony's internal DRC (Digital Reality Creation) video processing with their Cinemotion feature, which is supposed to be the 2:3 pull-down circuit necessary for the elimination of motion artifacts with film-based video material, namely DVD movies. Sony has long been notorious in our industry for inferior video processing, and my findings bore that out. The 2:3 pull-down in the Cinemotion scheme is noisy and actually quite poor. Two good tests for this are the HQV test DVD in the Film section of the single tests, which features a race car on a track driving by an empty set of bleachers. When 2:3 is not engaged or present, the individual seats are riddled with artifacts, which is what it looked like on the Sony without the DVDO hooked up. Some processing schemes will catch it a little bit slowly so you can see the artifacts initially, but then it suddenly cleans up right before your eyes, which means the 2:3 detection is slow. Not so with the DVDO. When I hooked up the DVDO and set levels for the DVD input, this sequence was rendered quite cleanly. It detected the presence of film-based material extremely quickly with no lag time whatsoever.

Another piece of program material that is an excellent test for 2:3, or the lack thereof, is the opening sequence of Star Trek: Insurrection. In this scene, you need to look at the railing on the bridge, the canoes near the garden and finally the rooftops. On the Sony, straight without processor, there were some visible motion artifacts throughout this scene. With the DVDO in line, it was rendered absolutely pristinely.

With component 480i running from my older Panasonic RP91 DVD player, the DVDO's transcoding from component video to HDMI was quite good, unlike what you will find on a lot of the new upper-end A/V receivers. Some external video processors can deliver soft pictures. Not so with the DVDO. Chapter four of the excellent transfer of Training Day on DVD, in the sequence where the cops shake down the kids in the VW Bug, looked incredibly crisp, with great detail and awesome color saturation. A variety of scenes from Star Wars: Chapter Five – The Empire Strikes Back also looked excellent. Skin tones were exceptionally natural. All the images were rendered extremely smoothly and cleanly, with few if any visible artifacts. In short, DVD looked awesome on this system.

Many HDTVs today employ a similar processing scheme to that of the DVDO, called bobbing, which doesn't properly de-interlace 1080i HDTV, thereby robbing the picture of resolution and detail. In fact, fully 50 percent of the HDTVs on the market today do not process 1080i HD signals properly. Initially, I thought HD material looked a bit soft on the DVDO, but I quickly realized this was due more to the broadcast than the DVDO's field scaling technique of processing 1080i HD signals. I started off watching the Discovery HD channel, which is normally a good reference-quality channel on my New York Time Warner Cable system. Not so on this viewing. Apparently the program on at that particular time was not produced very well. Anyway, flipping over to INHD to watch some World Team Tennis, I quickly changed my mind, as the picture looked pretty sharp. It is known that the VP30's field scaling isn't the best way of processing 1080i interlaced HDTV signals, and that you lose resolution in the process. Nonetheless, I was pretty impressed at how sharp the picture was. HDNET, another reference-quality channel on my system, also looked pretty impressive, with really good detail and excellent color saturation. DVDO is definitely doing a better job than most in scaling 1080i HD, as HD pictures are not soft the way they are on many high-resolution consumer HDTVs. Still, I would route my HD content directly to the display in order to preserve all of the resolution in the signal, especially if it is a 1920 x 1080 resolution display.

The Downside

One slight drawback to the iScan VP30 video processor is that it uses a field interpolation function called "field scaling" to handle 1080i interlaced HDTV signals instead of performing true weave based 3:2 pulldown 1080i deinterlacing. While, field scaling is far better than the traditional bob method (which actually throws away resolution), it is not quite as good as 2:3 reverse pulldown which fully assembles the two fields into one whole frame without interpolation. The upcoming iScan VP50 does perform 2:3 reverse pulldown on 1080i, and the difference will be noticeable on 1080p displays, but the VP30's field-scaling also does a very good job and can often fool the eye. In all fairness to the VP30, it does this better than most other video processing schemes I have seen employing similar methods. If you have a display that features built-in 1080i deinterlacing and wanted to use that for your 1080i feeds, you could always turn the VP30 to Pass-Through mode (which will be available soon as a free download on their website.)

Another drawback is that in it's current form, the VP30 lacks grayscale controls, which if implemented properly could actually give it the ability to shape gamma curves and improve the grayscale tracking performance, therefore enhancing the overall color accuracy of many displays. As stated earlier, the company has told me they will be adding this to both the VP30, and the upcoming VP50 in the near future, and since both products are field upgradeable and the update software is a free download from their website, this is not a pressing concern.

Conclusion

DVDO's iScan VP30 overall is an impressive video processor, particularly for standard-definition sources like cable TV, Satellite TV and standard-definition DVD. It will scale up to the highest resolution we have today of 1080p for the new crop of high-resolution HDTVs and projectors. The DVDO can be particularly useful with front-projection systems that have a wide variety of video sources, as it helps keep to a minimum the amount of wires running to the projector from your equipment rack. It also has an extremely comprehensive feature package for set-up, several of which address some valid problems like lip sync issues and Y/C delay, and the connectivity options are as generous as it gets. At a list price of \$1,999, the iScan VP30 compares very favorably with many high-end video processors costing two to three times its price.



reference software:	Star Trek: Insurrection (DVD) • Star Wars: Empire Strikes Back (DVD) • Training Day (DVD)
manufacturer:	DVDO
address:	300 Orchard City Drive Mailstop 131 Campbell, CA 95008
phone:	866.423.3836
website:	http://www.dvdo.com