

Marantz VP-12S4 High-Definition DLP Projector
Reviewed by Brian Kahn, Audio Video Revolution
December 2005

Is the Marantz VP-12S4 the best single-chip DLP projector on the market? It is a question that has been asked many times before in many showrooms and many online home theater forums. The VP-12S4 at \$14,499 is the latest and most expensive in Marantz's line of VP-12 DLP projectors. The S4 builds upon the proven platform that has utilized the Texas Instruments HD2+ DLP chipset. The S4 uses the latest iteration, the DarkChip 3, which increases the fill factor by reducing the space between pixels. This chipset also features improved contrast and faster operating speed over the prior chipset (the DC2). Other major changes between the S3 and the S4 include the addition of a new lens option and a change from Faroudja to Gennum video processing.



The VP-12S4 is a full-featured projector. In addition to the above described features, the S4 has three Konica-Minolta lens options to fit nearly every possible throw range, vertical lens shift of up to 80 percent of screen height above the screen, O.R.C.A. (Optically Reproducing Color Accurately) filter, 4500:1 contrast ratio, 700 ANSI lumens, 200-watt SHP lamp, seven-segment color wheel, adjustable iris, sealed optical path, double-sealed cabinet to prevent light leakage and insure low noise, vertical keystone correction, auto color temperature calibration system, black level selection and more.



The cabinet is a pearlescent off-white, with a dark gray bezel that surrounds the large lens assembly which is offset just to the left of center. The overall design is quite stylish and, for those who do not want an off-white projector, Marantz now offers black cabinets as an option. The cabinet top features the lens shift, status lights and other flush-mounted controls and the back panel has a lit input/output panel that features two HDMI terminals, two multi-scan component video terminals, two DV trigger outputs, IEC power cord, D-Bus 3.5mm connection, composite video, S-Video, RGB/HD (via D-Sub 15 pin), and lastly an RS-232C port. The entire cabinet measures approximately 16 inches wide, 18.5 inches deep and just over five inches tall without the adjustable leveling feet. The S4 weighs in at 28.6 pounds, a lot more than many other similarly-sized projectors. My guess is most of the additional weight is due to the high-quality lens system.

The projector's physical light engine is only half of the package. Without good video processing, even a topnotch light engine can be rendered nearly unwatchable. The new S4 Marantz comes with the Gennum GF9350 processor. According to Marantz's video product guru Dan Miller, this was the only processor available that would provide both the level of performance and flexibility that Marantz demanded. The Gennum processor has many features, such as true 10-bit processing, 4:4:4 processing, true motion adaptive deinterlacing of all non-progressive sources, noise reduction, image enhancement, adaptive edge correction and more. The Gennum chip also provides flexibility to allow many user adjustments and, of particular note, user upgrades.

Set-up

I placed the projector on a high stand between my two couches that brought it to the level of the screen bottom, slightly behind and between the viewing positions. The projector has no noticeable light spill and, while not the quietest projector on the market, it is pretty close. Even with the projector in the brighter of the two lamp modes, the noise was not objectionable and, on the dimmer setting, barely noticeable.

The S4 sample that I reviewed featured the new medium throw lens, which meant that in my relatively small room (approximately 10.5 feet of throw from lens to screen), the largest picture I could obtain was 84 inches; with the short throw lens, I would have been able to obtain a 100-inch image at the same distance.

I continued to use the screen that Stewart Filmscreen was kind enough to lend me. The screen I chose was their new GreyHawk Reference, which has a gain of .95 (the higher the gain, the brighter the screen, with 1.0 being neutral). This screen material has a neutral gray material, which helps with reproducing darker images, a traditional problem area for DLP projectors. As I have mentioned in my other projector reviews, proper screen selection is critical in obtaining optimal picture quality. Make sure that you pick a screen that is properly matched to both your projector and room. If you do not, you will never be able to obtain the best possible picture, no matter how much you time and money you spend on tweaks and high-resolution sources.

I connected the projector directly to a Marantz DV-9500 and DirecTV high-definition TiVo unit via HDMI cables and then I connected to my Krell HTS 7.1 via component video cables, which allowed me to compare digital and analog signals. The VP-12S4 had a wide range of vertical lens shift, which provided a lot of flexibility in positioning. The focus control is manual, so you either need two people or you need to go back and forth between the projector and screen while you get the focus dialed in.



There are 12 picture modes: Theater, Dynamic, Standard and nine user presets. In addition, there are many fine adjustment menus, including color temperature, aspect ratio, gamma and more. The picture menus allow numerous adjustments that will keep the video tweaker quite busy. I found that I liked to turn up the noise reduction a bit on some of the lower-quality sources, which appeared to be turned off on the standard presets.

Shortly after I received the S4, Marantz announced an upgrade to the video processor. Unlike most other processors that are hardwired, the Genum processor is software upgradeable to take advantage of new developments. I downloaded the software to my computer, which was connected to the projector's control port and followed the instructions. The picture was already good, but the upgrade made noticeable improvements and the open architecture of the Genum makes more future upgrades possible.

The VP-12 is the only projector that I am aware of that includes its own color calibration system. The calibration system looks like an oversized lens cap that is attached to the RS-232 port. The whole process took me just a few minutes and was quite simple.

Viewing the Projector

I started off by watching DirecTV's high-definition channels. I kept the DirecTV TiVo unit set to display the native rate of the channel, 1080i for most and 720p for ESPN-HD. While watching 720p source material, the native resolution of the projector was able to bypass all video processing. It was quite easy to discern the varying degrees of quality of the source material. High-quality sources, such as high-definition NFL games, looked phenomenal on the VP-12S4. Sunday Night Football on ESPN is consistently the best HDTV broadcast of the week, followed closely by HD-NET's NHL hockey programming in HD.



Without scaling and other processing to deal with, I was anxious to see what the limits of the projector's capabilities were. One of the first things I noted was that the S4 did a good job with color rendition and skin tones, and the grass field looked natural. The range of the projector was such that the natural colors were not at the expense of vibrancy when vibrancy is supposed to be there, as with brightly-colored jerseys, graphics or signs. As can be expected with a high-quality source, the detail was excellent on the brightly lit scenes. Some of the shots into the crowd were dimly lit and I found a live, high-definition broadcast of auto racing under an overcast sky. In both of these scenarios, despite the poor lighting, there was a great amount of detail and no visible dithering noise. A slight fringe effect was noted, although it was greatly diminished by the firmware upgrade and less noticeable than in other DarkChip 3-based projector systems.

While watching "CSI: Crime Scene Investigation" in HD via DirecTV's 1080i HDMI output, I found that

Marantz did a great job with scaling 1080i images as well. The range of images ran from the bright lights of Vegas to dim, flashlight-lit crime scenes. The bright images were vibrant and sharp, the dark scenes maintained a good amount of shadow detail and dithering noise was not noticeable. The hues appeared to be accurate, with plenty of saturation. On all images, the gradient transitions were smooth throughout the spectrum. Contrast appeared to be equal to the best digitally projected images I have seen, with the darker images being particularly clean providing an exceptional amount of detail in notably difficult areas for digital projectors.

Regular 480i TV images were not nearly as good and I noted stair-stepping or jagged-edge artifacts, although rarely to the point of distraction. Color saturation was slightly less than on the high-definition channels and of course the resolution was noticeably reduced. Video noise reduction was not as effective on standard definition television as it was on the high-definition broadcasts.

I watched DVDs through both 480i component and 720p HDMI inputs. Unless noted otherwise, my notes below refer to watching DVDs through the HDMI input. Looking at an old favorite, "The Fifth Element" (Columbia TriStar), I was impressed with the projector's high amount of detail while watching the reconstruction of Leeloo (Milla Jovovich). The gold foil walls of the room were clearly detailed and her unnatural hair color was vibrant. When Leeloo is making her escape, she stands on a ledge looking down the side of the building. The image at this point is reminiscent of a properly calibrated nine-inch CRT projector; the perception of depth and distinction between levels was clear. Video noise on this and other DVDs was minimal. DVDs viewed through the component connection were slightly less sharp, as though someone barely nudged the focus knob, and had slightly more noise.



The battle scene in "Master and Commander" (20th Century Fox Home Entertainment) is well known for its dark details, a traditional source of difficulty. I found the S4 to do a great job. The colors seemed to be very realistic and without any unnatural gradations. The amount of details in the darker portions of the scene were at least equal to that of any other single-chip DLP projector I have seen and appeared to be even greater due to the almost nonexistent visible dithering noise.



I tried to watch some of the same video clips that I watched with other projectors, so I watched the 1,001 robots scene in "I, Robot" (20th Century Fox Home Entertainment) and the scene where Frodo, Sam and Gollum approach the gates in "The Lord Of The Rings: The Return of the King" (New Line Home Entertainment). As before, I found that the S4 did a great job with colors and detail and not only had an impressive contrast ratio, but also maximized its use at the extremes by minimizing video noise.

I spent some time going through the Silicon Optix test DVD with my Marantz DV-9500 hooked up directly to the projector, bypassing my system to provide the cleanest signal path. I placed the DVD player on a stand next to the projector so that I could use short cable runs, employing component and HDMI cables from Accell's Ultra Video line. While this was my first exposure to these cables, they appear to be well-constructed and were carefully packed. Once I got the player hooked directly up to the projector and the test disc in place, I went through the tests with the 480i component input (unless otherwise noted), so that the only video processing was that of the projector. The projector had no problems reproducing the full available 480i resolution and reproduced the color bar test pattern without any flicker. The color and shade gradations were smooth. On the "Jaggies" test, the diagonal filter did okay but not great, doing slightly better with the 720p HDMI signal on through mode than with 480i via component. I noticed significant improvement with a 720p HDMI source and with the projector's video processor engaged. Despite the performance with test patterns, the flag test looked quite good.

On the detail test, the images were sharp and not overly processed to smoothness. The 720p HDMI image was even sharper and more detailed. With respect to noise reduction processing, I preferred a

slightly higher noise reduction setting than the factory presets, which appeared to have the noise reduction setting all the way down. The S4 did a good job on all the cadence tests and mixed video and film signals. The projector's processor passed the film detail test when fed a 480i component signal.

In actual use, I thought that, with both 720p and 1080i film-sourced high-definition signals, the projector portrayed an excellent image with minimal artifacts. When watching video-sourced high-definition signals, I noticed a very slight amount of artifacts, but never to the point of distraction. When watching video-sourced 480i signals, the images ranged from pretty good to awful. As with accurate high-end audio equipment, it is a case of garbage in, garbage out. I think that the projector did a better than average job with these signals, but some were problematic and produced notable jagged edges. While watching DVDs, I thought that the image quality was excellent. Again, the source is important as there was a noticeable improvement with the HDMI input. Everything seemed to be a touch sharper and tighter.

The Downside

The only performance complaint I have is performance with 480i television. With this source, the jagged edges and artifacts could be disturbing. This appeared to be source dependent, as on some programs the problem would be minimal and on others it would be very noticeable. As the processor did a wonderful job with all the other sources, I hope that there are future upgrades to improve this aspect as well. High performance and fidelity in a playback system are a double-edged sword, as they reveal the flaws in the source material that would otherwise go unnoticed.

This is a tough time for high-end 720p projectors, as the 1080p chips are just now coming on the market. Theoretically, the higher resolution should be better, but I would not be surprised if it takes a couple generations of the new 1080p chips until they reach the performance levels of the HD2+ DarkChip 3 in the Marantz VP-12S4. As with all video, it is going to keep getting better over time and it is up to the individual to decide whether he or she wants to enjoy it now or wait until the next great improvement is out.

The VP-12S4 is designed to be a class leader in terms of video performance, but there is more to ownership than that. Optoma has a "no dead pixel" warranty that some criticize Marantz for not implementing. While the difference in written policies is quite significant, in all fairness, I have not heard of any consumer who has had a dead pixel in a VP-12 projector that wasn't fixed by Marantz.

Lastly, in Thomas Garcia's review of the VP-12S3, there was a complaint about accidentally powering off the projector due to button placement. The S4 version has the option of requiring confirmation of the power off command to prevent this from occurring.

Conclusion

There is no doubt that the Marantz VP-12S4 is one of the best single-chip DLP projectors currently on the market. Many participants in the online video forums have expressed concerns about buying any 720p video device at this time. I understand their concerns but disagree. As I stated above, I believe it will take a couple of generations of 1080p DLP chips to get performance up to levels commensurate with the resolution. Second, mainstream 1080p sources are a rarity right now and probably will be a few years to come to market. So why not get the best possible picture you can get now and enjoy it now? That is what I did. I bought the sample projector to use for my reference system.