



Artison Portrait Speaker System, Velodyne DD-12 Subwoofer, and Fujitsu P55XHA30WS Plasma HD Monitor

Choosing the perfect plasma is hard enough. Finding a complementary speaker system is an even greater challenge. Let Artison, Velodyne, and Fujitsu take some of the guesswork out of your purchasing decision.

A. Just tell Artison which plasma you have—in our case, Fujitsu's 55-inch model—and they'll build your Portrait LCRs to fit.

B. Velodyne has designed the DD-12 to blend seamlessly with the Artison speakers.

Artison Portrait Speaker System and Velodyne DD-12 Subwoofer

A voice for plasmas everywhere.

by Chris Lewis

I hear a lot of talk about plasma speakers these days. So far, it appears that the definition is being loosely applied. Sometimes the billing makes more sense, as

with flat-panel speakers that you can also mount on the wall. Sometimes it can be a stretch, like any speaker that happens to be silver, small, or aesthetically pleasing. What I haven't seen, until now, are speakers specifically designed for use with a plasma screen, so much so that the set becomes an integral part of their logistics. Unless we want to return to something akin to the Hill Plasmatronic speakers of the 1970s (which produced sound with a form of plasma technology itself), Artison's new Portrait Series probably deserves the plasma-speaker moniker more than any other speaker system out there at the moment.

The Portrait Series is the newly founded company's first offering, but don't think that this is another fly-by-night company attempting to capitalize on a fad. Artison is the latest effort of seasoned speaker designer Cary Christie, who (among other things) cofounded Infinity Systems and was their principal designer for 25 years. He also designed Acoustic Research's successful



Phantom Series a few years back. Artison's Portrait speakers set themselves apart

by attaching directly to either side of a plasma's frame, via brackets and a custom grille kit that is specifically designed for each display model. Once mounted, these speakers are almost as seamless a part of the plasma as the \$0.50 paper drivers in most CRT sets. The spatial and aesthetic benefits of this approach are obvious, but don't underestimate the major logistical benefits of not having to cut holes in your walls or install brackets just to have convenient speakers—and then doing it all over again when you move the display. Convenience and aesthetics don't often work hand in hand, but they clearly do here.

The Portrait Series currently consists of two models: an LCR and a surround. The LCR (\$1,500/pair) is particularly interesting in its handling of the center channel, which is usually a major logistical headache in a plasma system. Rather than forcing an awkward mounting above or below the screen, Artison has eliminated the physical center-speaker cabinet altogether and incorporated a dual-mono center-channel design into the LCR models. This means



Screen image courtesy of Universal



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that each LCR has two independent driver complements, each of which consists of a 4.5-inch Kevlar midbass driver and a 1-inch soft-

dome Vifa tweeter. One driver complement handles front-channel duties, while the other handles center-channel duties. Each has its own binding posts and requires

its own input. Supplied cables link the center-channel posts on the two LCRs so that only one

center-channel signal is required from the amp.

Each LCR has a side-mounted tweeter that's designed to expand the soundstage beyond the speakers' physical location (which is obviously somewhat close together), as well as a center-channel presence control that allows you to adjust its output based on the room's relative reflectivity. Rear-panel switches control both. The LCR's aluminum cabinet measures a svelte 24 inches high by 6 wide by 3.5 deep. Optional stands to mount the LCRs as tower speakers are available.

The LRS surround (\$500/pair) uses one 4.5-inch midbass driver and two 1-inch Vifa tweeters in a hybrid monopole/dipole design. Above 3 kilohertz, the speaker operates as a dipole for better diffusion of easily localized high-frequency elements. Under 3 kHz, it acts as a monopole. The surround is easily wall-mounted, comes in a black or white finish, and measures 9 inches high by 9.5 wide by 3 deep.

Artison has teamed up with Velodyne to offer a sub that's tailor-made for the Portrait speakers. The DD-12 sub (\$2,999) uses a 12-inch driver backed by a massive 1,250 watts of RMS power. RS-232 ports are supplied, as are balanced, single-ended, and speaker-level inputs and single-ended outputs. The DD-12 is from Velodyne's Digital Drive Series, which stands out not only for being the first

microprocessor-controlled, high-gain servo subwoofer system but also for offering a built-in equalization system complete with its own onscreen interface and calibration microphone. Visit Velodyne's Website for the full rundown, as I can hardly do it justice here. Trust me, though, it's impressive. The interface makes flattening in-room response as easy as adjusting a real-time frequency-response curve onscreen, and several presets and custom modes allow you considerable flexibility in adjusting parameters like low-pass crossover frequency and slope, subsonic frequency and slope, phase, polarity, and gain. A supplied remote navigates the onscreen system and makes quick adjustments a snap while listening. The system is highly intuitive—and highly effective.

With music, I immediately liked the blend I heard between

Portrait LCR Speaker	\$1,500/pair
Portrait LRS Surround Speaker	\$500/pair
Portrait LCR Mounting/Grille Kit	\$150
Artison (775) 833-4344 www.artisonusa.com Dealer Locator Code ART	
DD-12 Subwoofer	\$2,999
Velodyne Acoustics (408) 465-2800 www.velodyne.com Dealer Locator Code VEL	

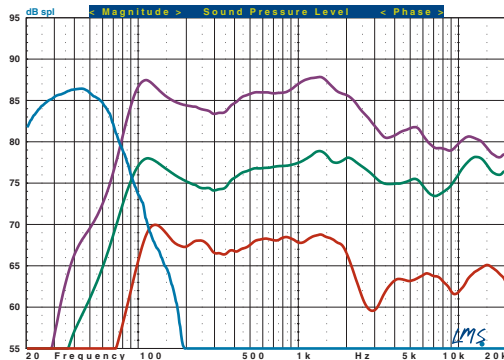
the Velodyne sub and Portrait satellites. Clearly, two manufacturers have designed a system

HIGHLIGHTS

Artison / Velodyne Combo:

- Performance beyond their size and price
- Velodyne DD-12 is top-shelf in terms of performance and features

Artison Portrait Speaker System / Velodyne DD-12 Subwoofer



HT Labs Measures: Artison Portrait Speaker System / Velodyne DD-12 Subwoofer

This graph shows the quasi-anechoic (employing close-miking of all woofers) frequency response of the Portrait LCR L/R (purple trace), DD-12 subwoofer (blue trace), Portrait LCR center channel (green trace), and Portrait LRS surround (red trace). All passive loudspeakers were measured at a distance of 1 meter with a 2.83-volt input and scaled for display purposes.

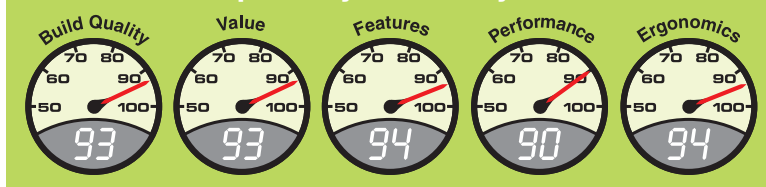
The Portrait LCR's listening-window response (a five-point average of axial and +/-15-degree horizontal and vertical responses) measures +1.31/-7.60 decibels from 200 hertz to 10 kilohertz. The -3dB point is at 88 Hz, and the -6dB point is at 80 Hz. Impedance reaches a minimum of 3.47 ohms at 330 Hz and a phase angle of -59.40 degrees at 59 Hz. Sensitivity averages 86.5 dB from 500 Hz to 2 kHz.

The Portrait LCR center's listening-window response measures +1.34/-4.10 dB from 200 Hz to 10 kHz. An average of axial and +/-15-degree horizontal responses measures +1.66/-3.57 dB from 200 Hz to 10 kHz. The -3dB point is at 87 Hz, and the -6dB point is at 77 Hz. Impedance for the pair in parallel reaches a minimum of 3.15 ohms at 318 Hz and a phase angle of -46.47 degrees at 139 Hz. Sensitivity for the pair in parallel averages 88.5 dB from 500 Hz to 2 kHz.

The Portrait LRS's three-face averaged response measures +0.78/-8.44 dB from 200 Hz to 10 kHz. The -3dB point is at 98 Hz, and the -6dB point is at 90 Hz. Impedance reaches a minimum of 3.45 ohms at 330 Hz and a phase angle of -64.97 degrees at 59 Hz. Sensitivity averages 85 dB from 500 Hz to 2 kHz.

The DD-12's close-miked response indicates that the lower -3dB point is at 23 Hz and the -6dB point is at 19 Hz. The upper -3dB point is at 66 Hz in the EQ Defeat mode.—MJP

Artison Portrait Speaker System / Velodyne DD-12 Subwoofer





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together here, rather than just slapping one together. Something like Pink Floyd's "Another Brick in the Wall" from the second Burmester collection tested the range from top to bottom. I heard clean, crisp highs from the Portraits

and strong, controlled bass from the DD-12, and I couldn't hear any real gaps at the crossover point (stated as 70 hertz).

Both two-channel and multichannel music demonstrated that the Portraits can produce a much larger soundstage than you'd think. They filled our mid-sized room with a stable, well-defined stage that displayed a surprising amount of depth and separation. High-resolution material only helped this cause. High-frequency details like the harmonica work in Muddy Waters' *Folk Singer* (MCA, SACD) or the clarinet that dominates Bucky Pizzarelli's *Swing Live* (Chesky, DVD-Audio) were expectedly smoother and more natural in high resolution, and midrange performance remained solid throughout. The DD-12 did a nice job of

control you have over it, you can make it a real asset for music in this system—something you can't say about many subwoofers.

The DD-12 knows its way around a movie soundtrack, where it delivered deeply extended and powerful bass that shakes your gut without any real hint of distortion or monotone boom. Again, the control it provides strongly impacts its in-room performance, but even those who get lazy and dump it into a corner without making a single adjustment will be able to get away with it more than usual, thanks to the DD-12's quality design and execution.

Speaking of quality design and execution, the LCRs' center-channel system is just that. Not only is it effective in creating a stable, sizable center image (especially for listeners who aren't sitting too far off-center), but it more effectively creates the illusion that voices are coming directly from the mouths onscreen than most speakers mounted above or below the screen. The Portraits were again able to deliver consid-

erably more stage presence than I expected from a system with no separate center, two fronts parked closer together than I'd normally

recommend, and two small surrounds. This comes from good design—not smoke and mirrors or processing tricks—and the Portraits were successful with a wide range of soundtrack formats.

Even in the crowded and cut-throat waters of the speaker market, success can be as simple as having a quality product in the right place at the right time. Artison obviously knows this, and the Portraits are the result. This is the best solution I've seen so far for maintaining a plasma system's convenience and aesthetics in the speaker department. The Portrait ensemble provides significantly more performance than a system of this size, displacement, and even price would be expected to, and its logistical and ergonomic advantages make it truly deserving of the plasma-speaker badge.

Fujitsu P55XHA30WS Plasma HD Monitor

Just when you thought it was safe to go plasma shopping.

by Geoffrey Morrison

Until recently, all seemed to be stable in the world of plasma. The 42-inch screen was a well-established size. Sure, there were a few 43- and 37-inchers out there, but everyone knew 42 for many reasons (not the least of which is because it's the meaning of life, but that's a different story). There was confusion in the 60s, as you could find 60-, 61-, and 63-inch screens, but at least there was the steady stalwart: 50 inches. Most companies make 50-inchers, as they're a good size and are offered at a saner price than the insane posse of 60s.

HIGHLIGHTS

Fujitsu Plasma:

- That much bigger than a 50-incher
- Lots of detail

- C.** In addition to a DVI (with HDCP) connection, Fujitsu was kind enough to provide two component video inputs.
- D.** The chrome-ish remote lacks backlighting but has direct input access.



filling out the bottom end of *Swing Live* (although there is no separate LFE track). The Portraits can handle more bass than many satellites, but you have to be realistic about what you can expect from a smallish woofer in a smaller cabinet. The DD-12 clearly has significant musical abilities; with the





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There was no confusion, but there was also a big difference in screen size between the 50 and any of the 60s. Fujitsu has now filled that gap with the 55-inch P55XHA30WS.

This plasma is not, however, 55 inches wide. Why would I think such a thing? Because the box told me so. It says "55" Wide Plasma Screen." Do they mean "55-inch widescreen plasma," or are they trying to say, "55-inch-wide plasma screen"? I'm confident

it's poor translation and not marketing deception, but I measured to be sure. Even with the bezel, the plasma is only 54 inches wide, but the screen measures 55 inches diagonally, which gives the P55XHA30WS a 10 percent leg up in screen diagonal and a whopping 21 percent more screen area than a 50-inch plasma. I'm sure you find this fascinating. I'll move on.

Aesthetically, the P55XHA30WS appears almost identical to the P50XHA10US that I reviewed in the November 2003 issue. At the time, that plasma was quite a looker; in the amazingly fast world of plasma design, though, it has now lost some of its luster. Don't get me wrong, it's still attractive; it just doesn't stand out from the crowd. Thankfully, the P55XHA30WS doesn't have a glossy finish, as many of the new flat panels do. If you don't see why glossy fascias are a bad idea, try watching a glossy-finished display with the lights on. You'll be able to watch yourself watching TV.

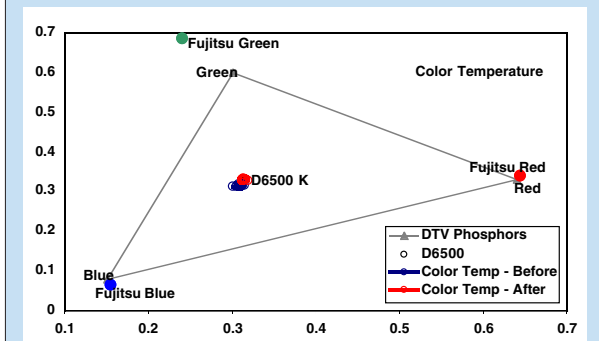
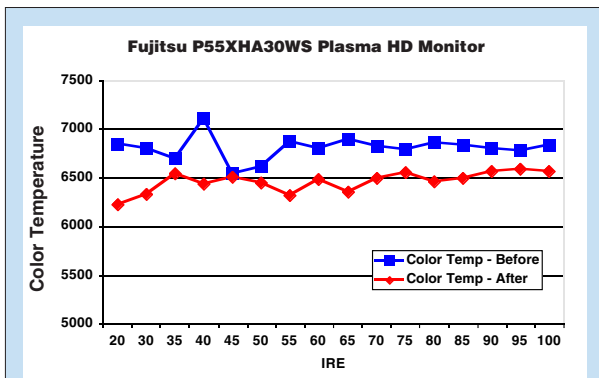
The available tabletop stand is beefy—and it's one of the more-attractive stands on the market. Too bad most people will mount this plasma on a wall. On the back panel, you'll find one input each for S-video, composite, RGB, and DVI with HDCP, as well as two component video ins. At the appropriate seating distance, you won't be able to hear the plasma; however, up close, its mechanical whirring is a little louder than a few of the plasmas we've had in recently.

The remote is more attractive than many plasma remotes, mostly due to the chrome plating. OK, so it's not real chrome; it's still

shiny. I like shiny. I don't like that the remote isn't backlit, but it has direct input access and dedicated buttons to switch between the different wide modes, picture presets, and picture memories. A word of caution: Only the fine and still picture modes don't float the black level. If that kind of electronic meddling bothers you, keep the plasma in one of these modes.

First up, I fed the P55XHA30WS our usual barrage of test patterns. For a high-end product, 3:2 pickup was about average. In terms of speed, this process was a mixed bag; but, when the display did figure out how the image should look, it processed it well. For example, in chapter 2 of *Armageddon* (which is a nonanamorphic 2.35:1 image), the Fujitsu picked up the 3:2 sequence quickly and made the building look perfect. When I expanded the image to fill the width of the screen within the proper aspect ratio, the Fujitsu took a jagged-edge-filled second to correct the image, but it did correct it. In most normal situations, you wouldn't notice this second. Naturally, I figured the results would be similar when I used the third DTS Demo Disc, our torture disc. Here, the P55XHA30WS adjusted the image quickly and created an almost completely artifact-free image. This is impressive for a display, as its performance was almost as good as the best progressive-scan DVD players.

The other important processing aspect in a digital display is how well the display takes an analog signal (say, from a DVD player) and converts it to digital. When done poorly, this quantization can create errors that look like discrete steps from light to



HT Labs Measures: Fujitsu P55XHA30WS Plasma HD Monitor

The top chart shows the P55XHA30WS'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 -3000K color-temperature mode and the fine picture preset mode, measures slightly cool across the gray scale. After making adjustments using the Photo Research PR-650, the gray scale measures better, within 276 kelvin of D6500, the accurate color temperature, across the entire range. This is a slight improvement compared with the 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 phosphors. Red (x=0.644, y=0.339), green (x=0.240, y=0.686), and blue (x=0.155, y=0.066) are somewhat close to those specified by SMPTE. Red and blue are close, while green is oversaturated and slightly bluish-green. The light output was approximately 16 foot-lamberts with a full white field and 22 ft-L with a 100 percent IRE window in the fine picture preset (it's normal for a plasma to have less light output on a full field). The display has excellent DC restoration in the fine and still picture presets, poor DC restoration in the conventional preset, and very poor DC restoration in the neutral and effective presets. It does have an excellent color decoder. The P55XHA30WS displays out to the limits of NTSC and 720p sources (using our Leader LT-446 HD generator) and is capable of resolving 1080i out to the limits of its 1,366-by-768 panel.—GM

dark. The best test pattern to check for this is title 18, chapter 6 of *Video Essentials*. It's a smooth gray ramp from bright white on the left side of the screen down to black on the right side. With this test, the P55XHA30WS exhibited some steps, but it was better than most digital displays (although not quite as good as the near-perfect Pioneer Elite PRO-1110HD that I reviewed in the March 2004 issue).

In yet another case of test patterns not telling the whole story, actual video material looked far better on the P55XHA30WS. In chapter 5 of the *Fifth Element* Superbit DVD, Bruce Willis sits upright in an otherwise dark room. The worst digital displays will show steps from Bruce's brightly lit face to the room's dark background. Here, the Fujitsu looked almost as good as the aforementioned Pioneer.

I fed the P55XHA30WS lots of different DVD and HD feeds and came away with one overall impression: It gives you what you give it. If you give it a pristine HD or DVD feed, it will look excellent, with low noise and lots of detail. As the signal gets worse, though, the Fujitsu gets worse, perhaps more so than some other plasmas. Increasing the noise-reduction level helps, but this plasma definitely likes better sources. Still, even with the worst that satellite could offer, at a normal viewing distance (say, five times the picture height) and with the NR on,

the P55XHA30WS looked a lot better than lesser plasmas.

Burn-in is the scourge of all phosphor-based devices. The P55XHA30WS exhibited virtually no phosphor lag, the precursor to burn-in. This doesn't mean it won't burn-in; it just seems a little more resistant to burn-in than other plasmas. As I always say, turn your contrast down.

On the other side of contrast is the characteristic that everyone wants to know about: black level. The P55XHA30WS had a significantly better black level than other high-end plasmas I've reviewed, although it's not quite as dark as the P50XHA10US. It's dark enough that the black bars aren't distracting during a letterboxed movie, but its black level isn't as dark as the darkest plasmas or good CRT displays. A few plasmas have a better black level, but not many.

So here's the ultimate question: Is this the plasma for you? For the same price as a high-end 50-inch plasma, you get 21 percent more

P55XHA30WS Plasma HD Monitor	\$15,000
Fujitsu General America (888) 888-3424 www.plasmavision.com Dealer Locator Code FUJ	

screen in this 55-incher. It has a better black level than most, decent processing, and excellent detail. If you think that 50 inches is just too small, but you don't want to pay the outrageous prices that 60-inchers command, then this is the plasma for you. 📺

