

## **Five Screens For Under \$500**

Bill Livolsi, May 2, 2008

[ProjectorCentral.com](http://ProjectorCentral.com)

We always give a lot of attention to the projector, which is the heart of the video system. However, screens are the other half of the projection experience and they can have a real impact on the picture. With high quality video projectors now dipping below \$1,000, a lot of people are looking for good, cost effective screens that fit the same budget. So we went out looking for screen products that you can get in a rigid, fixed frame, at a size of 100" diagonal 16:9 format, for under \$500.

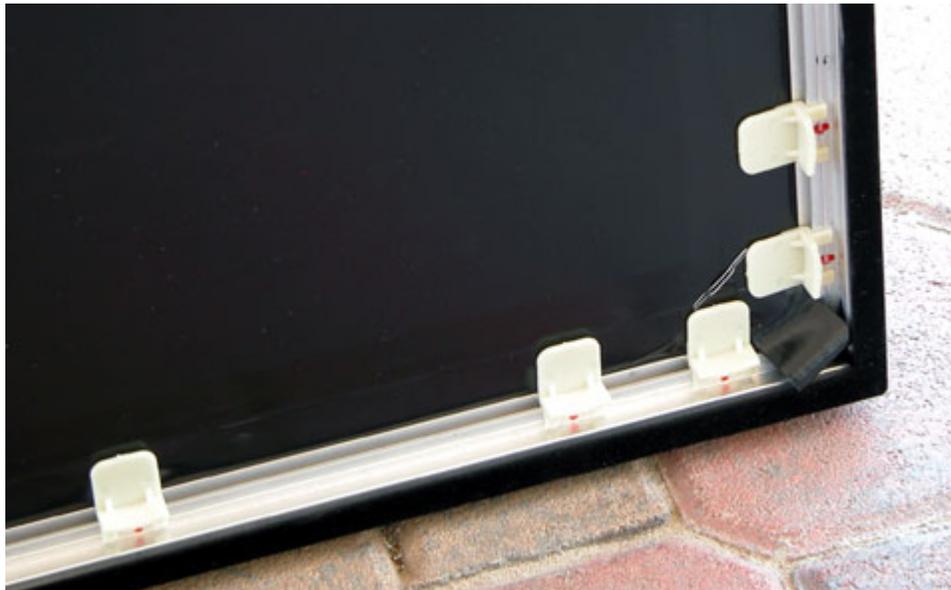
We found several models that fit this criteria: Two screens from [Elite](#), one from [Saaria](#), one from [Grandview](#), and the [Goo Systems](#) paint-on screen. Using a [JVC DLA-RS2](#) as our projector for this review, we compared each of these products to our reference **Stewart** screens (a **Studiotek 130** for white screens and a **Grayhawk RS** for gray screens) and to each other. We were looking for differences in color balance and light reflection, as well as other details such as ease of assembly and aesthetic appeal.

Our evaluations of these products, in alphabetical order, are as follows:

### **Elite EZ-Frame White**

Elite is a well known name in screens, with a reputation for quality products and reasonable prices. Our test samples included two 100" fixed frame screens, with one in white and one in gray. They came in smaller boxes than expected - it turns out that the long horizontal crossbar is actually two pieces which join in the middle. Unpacking was simple, so we started the clock and got to work.

**Construction.** Our first screen of the day, the first Elite took 52 minutes for one person working alone to assemble completely, with most of that time being spent on attaching the screen to the frame. The Elite screens attach to their frames with a series of plastic tabs, as shown below, which must be inserted by hand. These are evenly spaced around the perimeter, with extra emphasis on the corners. After finishing one side of the screen, your thumbs will start to sting.



**The Elite screen attachment system.**

The instructions are very clear, and there's no need to worry about getting lost or confused if you actually read them. If you are handy with tools or have assembled a screen before, you can probably knock 15 to 20 minutes off of that time - our second Elite took only 37 minutes. The Elite screen was more difficult to assemble than the Grandview and Saaria, but this one-time effort pays off in terms of build quality.

**Build Quality/Screen Tension.** In exchange for your hard work, you get a screen that is exceptionally well built, with an evenly tensioned smooth surface. There was not a wrinkle or flaw to be seen anywhere on the screen's surface. Aesthetically, the seam in the horizontal frame bars where the two pieces join is less than ideal, and the 2.44" velvet border looks too thin for a screen of this size, but these are minor complaints. Overall, the Elite EZ-Frame looks and feels like a solidly built piece of equipment.

**Performance.** With the Elite white screen placed next to the Stewart Studiotek 130, two things become immediately apparent. First, the Elite White does not reflect as much light as the Studiotek, which measured 17% brighter. Second, the Elite White is slightly colder than the Studiotek. This can be corrected by altering the color balance of your projector, but there is a good chance that one would not even notice the shift without doing a side-by-side test. In the screen shot below, you can see the difference in brightness, and also the color shift--the sky on the left is bluer, and the surface of the building is a darker shade.



Elite White

Stewart Studiotek 130

Now, keep in mind that the Stewart Studiotek 130 is about four times the price of the Elite White. When putting the Elite up against another screen in the same price range, it competes quite well. When viewed side by side with the Grandview White, there was no difference in brightness. However, there was a noticeable color temperature difference, with the Grandview appearing a bit colder than the Elite. The difference between the two was subtle, and difficult to discern in the following screen shot. Nevertheless, the Elite White is the warmer of the two screens.



Elite White

Grandview White

**Overall.** The Elite EZ-Frame White is a great value. Color balance is among the best in the group, and it performs fairly well against the Studiotek in terms of brightness for one-fourth the price. It's 2.44" wide frame is adequate for a 100" screen, but a 3.0" or 3.25" width would be ideal. However, Elite's 100" 16:9 EZ-Frame sells for roughly \$420 through Elite's dealers, so you can't beat it for value.

### Elite EZ-Frame Gray

The Elite EZ-Frame Gray is structurally identical to the EZ-Frame White, so the Construction and Build Quality sections will be skipped. Elite's Gray screen will marginally enhance contrast on projectors that suffer from weak blacks or low contrast ratios (for high contrast projectors, Elite recommends the White). However, the image is not as bright. Notice that the Elite Gray screen, shown on the right, is darker than the Elite White on the left.



Elite White

Elite Gray

**Performance.** The Elite Gray screen was tested against the Stewart Grayhawk RS, a gray screen designed to enhance black levels and color saturation. Against this screen, the Elite Gray showed similar results as the comparison between the Elite White and the Studiotek - the Gray was not quite as bright, and slightly colder, than the Grayhawk. This time, the difference in brightness was 22%, and the color shift towards blue was slightly more pronounced.



Elite Gray

Stewart Grayhawk

**Overall.** Elite EZ-Frame Gray can be had for the same \$420 as the EZ-Frame White. The bottom line here is that the Gray fabric will knock brightness down significantly, and whites will appear less brilliant while blacks will appear more solid. If you have a very bright projector that needs a contrast boost, the Elite Gray has what you need.

## Goo Systems CRT White

Goo Systems is the most widely-known specialized paint product for home theater, and for good reason. Those on a budget or serious do-it-yourselfers can use Goo Systems' paint to create an excellent screen for very little money.

**Construction.** Goo Systems' "installation" is perhaps better called "application." It does not involve turning a wrench, but instead turning a paint roller. A complete application involves four coats of paint; two base coats and then two top coats after the base has cured for at least two hours. Goo can be applied directly to a wall, or to a rigid board or substrate. If applying the product to a wall, you must first sand the surface smooth to ensure perfectly flat screen. One must be meticulous in the application - a complete how-to can be found [here](#). If this sounds daunting, you can contact Goo about having the product applied by a contractor. After a wall has been painted, you may then create a black border by using a 2" wide roll of black felt tape which is supplied in the screen kit.

Goo's installation is certainly the most involved of all the products featured - it takes several hours to create a Goo screen. As such, it is not for those who want instant gratification. Realistically, you might want to devote a full day to this project.

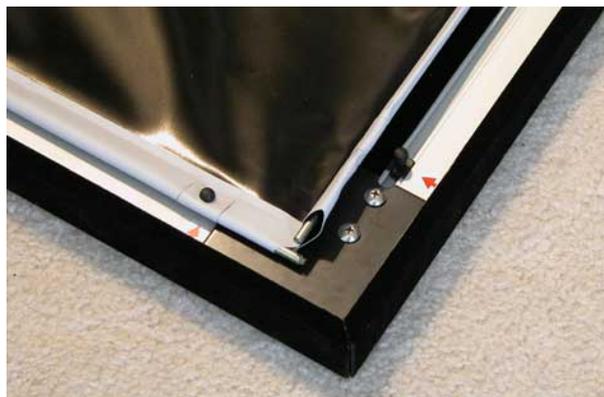
**Performance.** Most impressive about the Goo Systems CRT White screen is its accurate color balance - the colder, slightly bluish bias seen in all other screens in this review is not present on the Goo product. In fact, it nearly perfectly mimics the Stewart Studiotek 130, our reference screen.

**Overall.** Goo Systems paint offers a trade-off: excellent color performance and a lower price in exchange for a significant increase in installation time and effort. With a two-inch felt border attached directly to the wall, you have a very functional screen surface with an adequate visual border, but one that does not look quite as professional as the other screen products in this review with fixed metal frames. If you have the time and inclination, a Goo Systems screen can approximate the performance of much more expensive screens at a mere fraction of the cost; a package deal with enough paint for a 100" screen costs \$230. This \$230 kit actually contains enough paint for a 130" diagonal screen, but the smaller sized kits do not contain enough paint for a 100" diagonal 16:9 screen.

## Grandview Fixed Frame White Screen

Grandview is a relative unknown in the screen business, but that doesn't mean they do not make an excellent product. Their 1.0 gain White screen looks and feels utterly professional. Even the box looks professional - the smaller boxes inside are individually labeled, so there's no confusion about what's what.

**Construction.** Grandview's screen earns the honor of being the easiest to put together of all the screens in this shootout. Despite it being a different tensioning and attachment system than the Elite screens, we had it built and ready to use in 24 minutes flat. If you have someone else available to assist you, it would likely go even faster.



**The button attachment system used on the Grandview and Saaria screens.**

The construction itself was easy, and we did not have to look at the instructions much. Building the frame consists of tightening down four screws. Once the frame is together, you lay the screen out and insert tensioning rods, which are metal with plastic caps on the ends to avoid tearing the screen material. These rods are stretched over plastic buttons on the frame, which pulls the screen tight. It is a very intuitive system.

**Build Quality/Screen Tension.** Grandview's screen looks more expensive than it is. The frame features a 3.2" black velvet border and there is a small manufacturer logo on the bottom horizontal bar. This wide border is visually appealing, particularly on screens of 100" diagonal and larger. Grandview is the only vendor in this group that supplies a frame of this width.

Before stretching, the screen fabric appears to have some wrinkles in it, which we were concerned about. However, after being stretched out on the frame, these were almost unnoticeable; after two more days, they were completely gone. If your screen initially looks wrinkled, just give it time.



**Pre-stretching ripples in screen fabric. These will come out after a few days.**

**Performance.** The Grandview screen has the same outward appearance as the Stewart screen - namely, a thick velvet border. And, considering the price tag, it holds up fairly well against one of the best screens available. The Stewart Studiotek 130 was 18.5% brighter than the Grandview white screen, which means the Grandview White is about the same brightness as the Elite White. Grandview's White was colder than the Elite, enough so that one would probably notice it even without doing a side-by-side test. But, if you wish, you can boost yellow in the calibration of the projector in order to offset the subtle bluish tone of the screen. The color bias of the Grandview White can be best seen in a side by side comparison with the Stewart Studiotek. Note in particular the color difference in the surface of the tower.



**Grandview White**

**Stewart Studiotek 130**

**Overview.** All in all, Grandview's screen fares well. It exhibits performance characteristics similar to Elite's excellent white screen, though it does have more of a color shift than the Elite. The thick black border gives it a very professional appearance, and build quality is rock solid. At \$499, it costs slightly more than some of the other screens in this review, but it is arguably the most solidly built.

### Saaria Gray Magic

Saaria is another relatively small name in the screen industry, but they are beginning to make a name for themselves with inexpensive tab-tensioned electric screens. Their fixed frame screens come in High Contrast White, which was not supplied for review, or "Gray Magic," which we tested.

**Construction.** Saaria's screen used the same basic attachment system as Grandview's screen. It took a few extra minutes to put together, however. For one, their metal rods are not capped at the ends, so some caution is needed to make sure you don't rip the screen material. Secondly, their corner L-brackets were not pre-attached like Grandview's screen, so some extra time with a screwdriver is required. Finally, their instruction page would benefit from an improved translation, as sections of it can be difficult to read. Nevertheless, despite these issues, the whole assembly process took a hair under half an hour.

**Build Quality/Screen Tension.** While structurally similar to Grandview's screen, the Saaria Gray Magic screen has a 2.2" frame, which is 1/4 inch thinner than the Elite screens, and a full inch thinner than the Grandview. There were more wrinkles in this screen prior to stretching, but as with the Grandview, these disappeared with time.

We encountered a slight problem with a wrinkle in the fabric, but we discovered it was due to an error we made during construction. After readjusting the posts on the back of the frame, the problem corrected itself.

**Performance.** With the Saaria Gray Magic screen up next to the Stewart Grayhawk, it is visibly apparent that the Grayhawk is much brighter. The light meter indicated the Grayhawk is nearly 30% brighter than the Saaria screen. The Saaria also shows a similar cold/blue shift that every other fabric screen in the review exhibited. The following side by side screen shot of the Saaria Gray Magic with the Stewart Grayhawk illustrates both the difference in brightness and the color shift.



Saaria Gray Magic

Stewart Grayhawk

**Overall.** Saaria's Gray Magic fixed frame screen is rather easy to assemble. However, it is slightly dimmer than the Elite Gray, and quite a bit dimmer than the Grayhawk RS (however, again, keep in mind that the Grayhawk is about four times the price.) It has a typical shift toward blue as do all of the budget fabric screens in this review. And its 2.2" wide frame provides the smallest visual border in the group.

## Conclusions

Each of the screen products in this review offer a different value proposition. The Elite White and Gray screens offer the least blue shift among the budget fabric screens in this review, and only the Goo Systems paint exceeds the Elite in being color neutral. The Elite provides a 2.44" wide frame, which is adequate but we wish it were a bit wider. It has the look and feel of a substantial product, and though it is a bit more work to assemble than either the Grandview or the Saaria, you can do it in less than an hour. And at just \$420, it is the most attractively priced of the snap-together fixed frame screen products.

The Grandview's big pluses are its 3.2" wide frame, and ease of assembly. Its color tone is somewhat colder than that of the Elite White, and you will need to boost yellow on your projector to compensate for it. There is virtually no difference in brightness between the Grandview and the Elite. At \$499 for a 100" 16:9, it just barely met the criteria for being included in our review of 100" screens under \$500.

When Goo Systems came out with its outstanding paint product several years ago, there were no significant competitive alternatives for really good screens under \$500. DIY folks who relish the process of creating their own solutions from scratch were given a great opportunity to produce screens that virtually matched Stewart products in color neutrality for a fraction of the price.

However, with budget competition from Elite and Grandview in particular, the time and effort required to create a Goo screen makes the value proposition somewhat less attractive. Now you can build a quality screen with a rich, black velvet frame in less than an hour, and the end result is a more professional looking screen. While Goo offers the unique advantage of virtual color perfection, it is usually not hard to compensate for the color shifts on the Elite and Grandview screens with calibration adjustments in the projector. Goo Systems paints were and still are great products, however there is not as much money to be saved as there used to be by painting a screen from scratch.

The Saaria Gray Magic is also a well-built product that is easy to assemble. At the right price it could be an attractive alternative. However, it is the least bright of the gray screens in this review, and its 2.2" wide frame gives the least substantial border on the picture. So we were not quite as enthused with this one as we were with the others.

The bottom line ... you don't need to spend thousands of dollars for a top of the line screen to get great performance for the money. Certainly, if you've got an unlimited budget and you are putting in a high performance home theater, the pricier screens do deliver better pictures than you get with the budget alternatives. But as you can see from the screen shots in this review, the differences are not as dramatic as you might imagine. These days, you can get a very impressive, professional looking projection screen for a fraction of the price rich folks pay for their high-end solutions.

**Bookmark:**  [Digg](#)  [del.icio.us](#)  [Reddit](#)  [Google](#)

*(05/06/08 - 12:42 PM PST)*

Copyright © 1999-2008 ProjectorCentral All Rights Reserved.