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THE SAMSUNG SVP-6000 PRESENTS SEVERAL BENEFITS

By Douglas Tougaw

I SPENT MOST OF THIS PAST SUMMER DEVELOPING COMPUTER TECHNOLOGY DESKS FOR CLASSROOMS AT VALPARAISO UNIVERSITY. THE ENGINEERING FACULTY QUESTIONED WHAT TECHNOLOGY WOULD MOST BENEFIT INSTRUCTORS AND VISITING

speakers, but one choice was relatively easy. We knew we wanted to replace the old-fashioned overhead projectors that have been in the classrooms since before most of the students were born.

Of course, removing what has arguably been the second most important visual aid device in the history of teaching (after the chalkboard) required finding a replacement every bit as reliable, powerful, and easy to use. After a great deal of research, we decided on the SVP-6000 from Samsung, and we haven't looked back.

The SVP-6000

The SVP-6000 is one of a new generation of digital devices known as *video presenters* (or document cameras or digital presenters). As Figure 1 shows, the SVP-6000 is essentially a digital video camera carefully positioned at an appropriate distance above a document plate. Front and back lighting is also available to maximize the transmitted image's quality.

To use the video presenter, you simply place a document on the plate and turn on the light source. We connected our SVP through a four-way multiplexer to an NEC MT1050 liquid crystal display projector, which then broadcasts the image that the digital camera

sees. As quickly as you can change documents on the plate, the camera has taken a new picture and is broadcasting the new image. It updates the projected image 7.5 times per second.

It is easy to imagine uses for this device outside the classroom. Medical applications are one possibility, because medicine often involves carefully scrutinizing an image. Automotive design, mechanical and structural failure analysis, meteorology, astronomy, and nearly every other branch of science and engineering could also make great use of video presenters. In a decade, every technical conference you attend will likely be using these devices or their successors.

This device could also benefit brainstorming sessions. The SVP-6000 is especially useful when students work in teams. The students can write their results on a plain piece of paper and then immediately broadcast them to the rest of the class.

Like a point-and-click camera, the SVP-6000 comes with several automatic adjustments that maximize an image's quality without the user having to manually consider every setting. Left on its own, it will adjust the color balance, iris, and focus. However, you can override each of these settings; for

example, it is occasionally helpful to manually adjust the focus when zooming in tightly on a detailed drawing.

Image manipulation and video settings

That's right, I said zoom. Unlike a traditional overhead projector, which is limited to focus and the occasional undesirable keystone effect, the modern video presenter can perform several functions on the image before sending it to the projector. (The keystone effect causes the top of an image to seem wider than the bottom of the image when the projector is too close to the screen.) In particular, the SVP-6000 comes with a 12x zoom lens, so it can blow up a fraction of your original two-inch image to fill the entire projection screen. This is helpful if you want to highlight part of a complex circuit or point out an irregularity in a stress profile or magnetic resonance imaging.

In addition, you can freeze the projected image with the touch of a button. This would be helpful, for example, if you wanted to exchange pages on the document plate while your audience continued to observe the previous document. Try making such a seamless transition between two consecutive documents with an overhead projector!

Furthermore, the SVP-6000 can handle many different types of documents. You can use plain white paper or other opaque objects, lighting them from above using extendable lighting arms, or you can light transparent objects from behind using the backlighting feature. You can even display photographic neg-

atives using the presenter's back-lighting feature and special negative mode.

The video presenter's output is available in four resolutions: VGA (640 × 480), SVGA (800 × 600), XGA (1,024 × 768), and SXGA (1,280 × 1,024). A convenient LED display on the control panel indicates the current resolution.

Flexibility and compatibility

The SVP-6000 offers a variety of video input and output capabilities. As Figure 2 shows, the presenter's rear panel comes with approximately nine different interfaces (depending on how you count them). Of course, the video presenter's most important function is outputting the image that the digital camera sees, and three formats are available for this function. The S-Video and VGA connections deliver the resolution the user chooses, while the composite audio and video output delivers a lower resolution, which is compatible with VCRs and TVs. Hooking the presenter to a VCR and catching a live recording of the presentation can be valuable.

To facilitate audio on this recording requires purchasing an external microphone, which you can plug directly into the presenter. Volume controls on the front panel can amplify this audio source, which is then sent with the video to the



Figure 1. The Samsung SVP-6000 video presenter.

composite A/V output.

An auxiliary VGA video input terminal can connect a computer's video output to this device. When connected in this way, you can route the video from the computer through the presenter to the projector, letting the user switch between the digital presenter video and the computer video. Once mastered, this makes for an effective presentation technique. It also eliminates the need for a two-to-one video multiplexer, which is the only other way to accomplish this interspersed video.

The last two terminals on the back of the digital presenter allow connections to the USB port and a local computer's serial port.

Computerized control and image capture

The serial connection between the computer and presenter can provide

electronic control over the presenter's functions. In fact, software included with the presenter could control every aspect of the presenter without the user ever touching its control panel. However, the physical control panel is much more convenient.

A far more valuable feature is the ability to capture an image over your computer's USB port. The software provided can capture the image that the digital camera sees (in either JPEG or bitmap format). It can also save the images at full, 1/4, or 1/16 of the camera's resolution; full-resolution JPEG images were the optimal choice for my applications. You can use such a feature, for example, to take a snapshot of an annotated page. You can then easily post the annotated image to the Internet or email it to your audience.

Technical specifications and accessories

The SVP-6000 is approximately 26 inches wide, 22 inches deep, and 21 inches tall, but it folds to 21 inches wide, 23 inches deep, and just 6 inches tall when in storage. It weighs approximately 25 pounds and uses about 60 watts from a standard wall outlet.

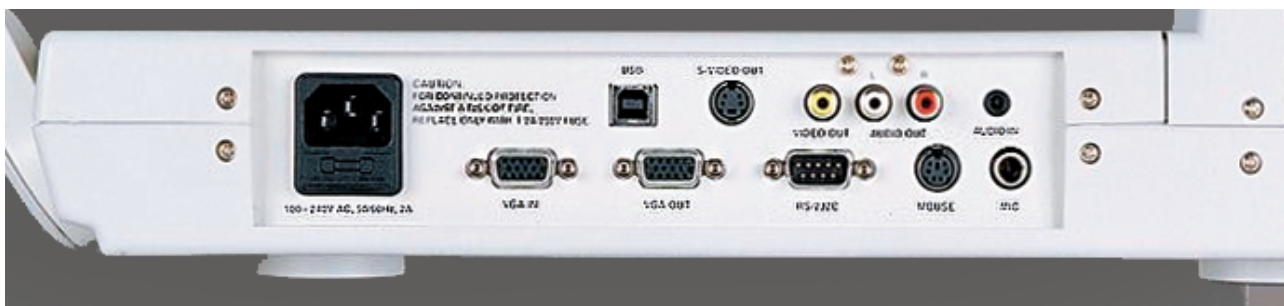


Figure 2. The SVP-6000's rear panel connections.

Pricing and Contact Information

The Samsung SVP-6000's list price is US\$4,995, but you can find substantial discounts online. For more information, contact

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40 Seaview Dr.
Secaucus, NJ 07094
Phone: + 1 800 762 7746
www.samsungtechwin.com/product/presenter/product/SVP-6000.asp

It comes with a spare VGA extension cable, an S-Video cable, a USB cable, a remote control, and a PS-2 compatible mouse. The remote control duplicates the front control panel's functionality, but, like the software controls, I quickly put it in storage in favor of the control panel itself. The mouse can control a pointer on the screen, but this is an unnecessary feature—I always use a laser pointer. Plus, adding the mouse substantially increases the amount of table space devoted to the presenter.

The SVP-6000 also comes with a second camera lens, which you can use to rotate the camera head and take pictures of the audience. This might come in handy when using the device for videoconferencing (although it always made my students nervous). The spare lens is in storage with the mouse and the remote control.

Drawbacks

As with all electronic devices, the digital presenter has a few imperfections. First, it is not very portable. Samsung sells a carrying case, but carrying this device around airports or to conferences would still be challenging. The next generation of this device will likely be smaller, lighter, and more easily carried. Of course, that might require eliminating several of the compatibility features I like so much, so I have mixed feelings about such a change.

The second drawback is the relatively low frame rate. When I am in the audience as one of these devices is being used, I am occasionally distracted by the image's jerkiness when the user moves his or her hand across the screen. I try to eliminate this distraction by extensively

using the freeze button, but it would be preferable if the camera refreshed more often. No doubt, this is limited by the capability of the digital camera or onboard computer processing the video signal and will improve in future models.

Finally, the SVP-6000's relatively large footprint means that it cannot always fit in the same places as a traditional overhead projector. You need a space that is approximately 40 inches wide and 24 inches deep to effectively use it. Considering that the absolute minimum footprint would be 8.5 inches by 11 inches (the size of a regular piece of paper), this seems a bit large, but I'm sure that every cubic millimeter of the base is packed with electronics.

The SVP-6000 is an excellent product. It might be out of your price range (see the "Pricing and Contact Information" sidebar), but its ability to project color images from plain paper also means that costly color transparencies are a thing of the past. Its ability to capture images from the screen is valuable, and the tremendous power of different video resolutions, video formats, and audio amplification make it among the most flexible devices I have ever used. It has substantially improved the functionality, attractiveness, and demand for the classrooms in which it has been placed. Now, the only problem is that nobody wants to teach in the old-fashioned classrooms. ❏

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