

# Make Your Own Video Projected Head

BY JEFF DAVIS

I had always wanted to reproduce the effect of the singing busts from The Disneyland Haunted Mansion in my own haunt. After some Google research I found that the original effect was done with a simple 16mm projection on an oversized caricature bust. However, in a recent retrofit one of the parks replaced the film with a laser disc and video projector. After reading

they had gone to laser discs for their effect I got the idea that the same effect could be done with a DVD and an LCD projector. Knowing that LCD projectors and DVD players are available on eBay at an affordable price I decided to give it a try. Many DVD players have an auto-repeat feature and if you video tape someone speaking and then put that on a DVD and project it

onto a blank head with an LCD projector it should create the same effect the Disney Imagineers created.

The first thing I needed to find was an LCD projector, and there are a couple of things I learned along the way. The most expensive part of an LCD projector is the bulb. You can buy a very new LCD



## Equipment and Materials

Sharp XV-100 .....	\$135 eBay
CyberHome mini DVD Player .....	\$30 eBay
Realistic SA-150 Amplifier .....	\$30 eBay
Acoustics Outdoor Rock Speakers .....	\$68 eBay
Scrap 3/4" Plywood, 2 Hinges, Handle, and Latch .....	\$25
Black Nylon Balaclava.....	\$17 eBay
Pinnacle Studio Plus v10.5 .....	\$20 eBay
Sony Digital Handycam DCR-TRV19.....	Existing Inventory

**Total \$325**

*Note: If you are not using eBay to purchase items for your Halloween effects then you are missing out on a huge savings. I could not do half the things I do without it. I cannot say enough about how much it has helped make some of my projects possible by allowing me to stretch the budget and obtain items that would normally be out of my price range.*





projector very cheap without a working bulb but that will not save you any money when the bulbs are hundreds of dollars. The higher the ANSI Lumens rating of a projector the higher the cost. Lumens are a fancy way of rating how bright the projector is. The brighter the projector the more it will show up even with ambient lighting.

Today's expensive projectors have ANSI Lumens ratings of over 2000. The older projectors have ratings of 100 to 300. If you are going to be using the projector in the dark then higher Lumens ratings are

not as important. Another rating of LCD projectors is resolution. If you are going to be displaying a standard Broadcast TV signal which is 544 x 372 resolution, then 640 x 480 is more than enough. Most modern projectors have resolutions of 1280 x 1024 which makes them more expensive. One more thing, home theater LCD projectors are less expensive than computer monitor projectors.

I searched on eBay under "Home Theater Projectors/LCD Projectors" with a price range of \$0-\$200. At the time **Sharp** had the

most projectors listed in this price range. I decided to limit my search to the Sharp brand and made sure I checked that the units were in working order and had been tested. I also checked to be sure that the bulb hours weren't very high which would indicate a bulb is about to go out.

One model that showed up was the Sharp XV-100. This is an old projector with only composite video inputs and a resolution of just 640x480 and a 150 ANSI Lumens bulb. My only complaint about the unit is that it is bulky and weighs over 30 lbs. It does have a good focused lens that will create a wide picture in a very short throw distance. I purchased two of these and we watched movies outdoors on a 4' x 8' white two inch foam sheet from about ten feet away for several weekends in the summer.

Recently I have purchased a Zoombox by Hasbro with built in DVD player and a Torpedo with no DVD. Both use low cost bulbs with low ANSI Lumens and a 557x234 resolution. One of the more recent popular used LCD projector brands is Infocus. I just purchased a Infocus LitePro-725 for the same price as the Sharp I bought 3 years ago with 750 ANIS Lumens and 1024x768 resolution. All of these make great haunt projectors.



Fig. 1



Fig. 2





The next search was for a DVD player. I wanted a compact chassis single disc player and used eBay again to search for a "mini DVD player" under Single-Disc DVD Players. One of the most common brands is **Cyberhome**. I was able to purchase two of them for less than \$20 each. I confirmed they were in working order and came with remote controls.

The last piece of hardware I needed to purchase was an integrated Stereo Amplifier to take the audio output from the DVD player and play it through a set of outdoor speakers loud enough to be heard from a distance. A couple of brands that work well for this are the **Realistic SA-150** and the **RCA SA-155**. Again I did an eBay search and was able to find one for \$10.

In order to create the DVD I used my **Sony Digital Video Camera** mounted on a tripod and video taped a friend sitting against a black backdrop. I purchased a black nylon "balaclava" (a close fitting cap that covers all of the head but the face) through eBay that my friend wore to blend him into the background except for his face. I used a 100W clamp-on flood light to light his face by bouncing it off of the ceiling. As mentioned in the original article about how Disney did their effect, the person being filmed had to hold his head perfectly still. He rehearsed saying the words to the speech while he stayed in frame on the camera. I then taped it several times.

I used a copy of **Pinnacle Studio 8** which I bought on eBay to edit the video. Studio is an easy to use video editing tool. I ended up

purchasing the upgrade to 10 plus on eBay after dealing with some frustrating software issues. I have recently upgraded to version 11.1 which is very stable and I have not had any issues with the software for some time. I chose the best take of the animated face for the project.

I then converted the video to black and white, adjusted the contrast and brightness until the only thing showing in the video was his round face, and then added the audio track and synced it to his lips by moving the starting point until his lips matched what was being said. Because I planned on having this run over and over again I also added a blank 4 minute "title" that faded into the beginning of the video and faded out at the end. This would provide a delay between performances. Once I got this running I shortened the pause to 2 minutes so people didn't have to stand and wait as long to see the effect again. (Fig. 3-6)



I tested the projection by playing the DVD through the projector onto a foam wig head. It was easy to tell that the foam wig head was not going to work as the projection looked too small. Using pink two inch foam sheets cut into sixteen inch squares I glued them together into a large block and had an artist friend use a foam cutter to carve out a faceless oversized wig head. I painted it white and placed it on a pedestal created using a simple wooden frame covered in one inch white foam and painted. When the video was projected on the head it worked pretty well. The face still had a sort of round look to it but for the first year we went with that. (Fig. 7)

Our second year we re-taped the head using a friend who does voice talent and had him read a script we wrote together. We then projected the video on the head. Using sculpting clay we molded a simple nose, lips, eyes, and a brow of his face. We then made a mold in plaster of Paris and cast it in rigid foam. We sanded the back of the new face down and cut last year's foam head flat and glued them together. (Fig. 8, 9)

Now when the video is projected it looks VERY realistic. We used the actual audio of the video tape reading and added Noise Reduction and a Reverb effect. For the video we repeated the Black and White and Lighting Effects. (Fig. 10)

Using 3/4 inch plywood I built a box that would hold the projector, DVD player and amplifier. It had a hinged lid with a handle on top to carry it. I cut a hole for the projector lens to project through and a few round ventilation holes on the sides and back of



Fig. 8



Fig. 9



Fig. 10

the box, covering them with window screen. Finally I drilled a small hole in the back of the box to insert an extension cable. I finished by spray painting the exterior of the plywood box flat black. When dry I inserted the electronic equipment, cabled it together and plugged it in. (Fig. 11)

I placed the wooden box behind a foam tombstone and placed the pedestal with the head on it further behind the tombstone. Using some blocks of wood to tilt the box up I was able to project the face image onto the foam head. I purchased a pair of outdoor speakers that looked like rocks on eBay and connected them to the amplifier in the wooden box, placing the speakers on either side of the tombstone. Using the remote I was able to play the DVD and set the auto-repeat feature on the DVD player. The title would display for 4 minutes and then the animated head would perform its speech and fade to black. Leaving the head form looking like a worn statue. (Fig. 12)

With a little ingenuity and some creative shopping on eBay I was able to pull off the same talking bust head that Disney has in the Haunted Mansion for less than \$400. It was a centerpiece of my Halloween Haunt and I received rave reviews from the people who came to see it.

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Fig. 11



Fig. 12