

How-To: Build a Video Projector

Mix big screen home theater dreams with a skimpy budget and you have the makings of a fantastic do-it-yourself project. Just think of how impressed all your friends will be watching blockbuster movies on a video projector you made with your own 2 hands. It was just these motivations that landed me in front of my web browser digging for information for this project. There are a lot of cheesy websites that promise the moon and sell you a plastic magnifying lense and the instructions to stick a television into a box and put this lens on the front. You will get an image, but it will look like you made it yourself. - dark, and blurry. Is there any way to make this work? The short answer is yes. A video projector is essentially a high resolution LCD video screen with a really bright light shining through it and a projector lense enlarging onto the screen. New portable models use very tiny, and expensive, LCDs along with sophisticated light sources and high quality lenses. If you are willing to end up with a projector that isn't quite so tiny, you can scavenge the parts you need from an LCD computer monitor and add some electronic components and relatively inexpensive lenses. For 200- 500 you should be able to create a high resolution bright projector that will really impress your friends.

The parts you need are:

High resolution LCD computer monitor

Projector lens (and possibly 2 fresnel lenses depending on the plans you use)

Cooling fan(s) - bright lights get hot when you shove them in a box

Bright lightsource (one approach to the project is to use an old overhead projector)

Electrical power supply

There are dozens of websites with step-by-step plans for free or for sale. Some sell parts that you'll need. Two that I've found to be excellent are LumenLab and the DIY Projector Company. They both sell parts and parts kits. LumenLab sells a very nicely produced PDF instruction guide with detailed plans. DIY offers plans free, but expects that you'll buy one of their kits to actually make the projector. They both use the LCD in a box with a lamp approach.

InventGeek has a great article explaining the whole process in depth including the theory behind projectors. I recommend you check it out. The DenGuru website shows another approach to the project. They use an old overhead projector for both the lightsource and lens. You strip the LCD panel out of its frame and lay it on the projector like a transparency. Ugly, but it works! Check out their tutorial.

Break out your toolkit and get busy - and let's be safe out there people!

Short note about the author

Andrew Seltz is a Go-To Guy! His wide range of interests and experiences have made him a walking search engine for his friends and colleagues. His passion for film and video production have made him particularly interested in Big Screen Televisions and Home Theaters. Visit his site: www.AndrewSeltz.com

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