BSTV

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Instruction Set 1

This style is probably the quickest to make and would not be as stable as others. By stable I mean that the focusing board is hard to get and keep straight when trying to focus and if you were an impatient person I wouldn't recommend this one. It works well for a quick way to test the whole "Movie projector" thing to get a general idea. You can use a magnifying lens; I used a round magnifying lens about 2 inches in diameter that magnifies x10. I am still experimenting with this lens; it gives a pretty good picture but has to be closer to the wall than I would like. To get a screen size of around 5-ft the projector need only be 5ft from my wall. Here is a picture of this projector made.

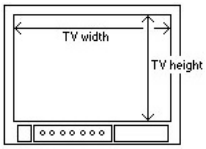
NOTE: To get the best picture you really need a "Fresnel lens".

Materials List

1. Thick Corrugated Cardboard (cardboard can be replaced with anything sturdy and not too heavy eg. thin fibreboard/wood paneling etc.)
2. Magnifying Glass (a Fresnel Lens is recommended)
3. Black paint
4. Duct Tape
5. Satiny knife or Sharp knife
6. Ruler
7. Pencil or Texta

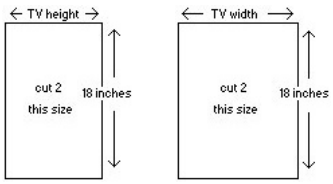
Step 1.

First measure the height and width of your TV screen. Make sure to measure just the screen and not the box around it.



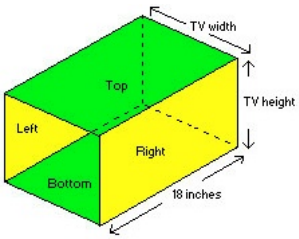
Step 2.

Then on the cardboard/wood etc. mark out your measurements for the screen height and width and set the depth to 18 inches. Cut 2 of each with your satiny knife. (Where I have written "TV height" and "TV width" I am referring to screen size.)



Step 3.

You will then have 4 individual pieces that will form the sides of the cube, top, bottom, left and right. When we put it together it will look like this. I have coloured the diagram only to help you visualise the box better.



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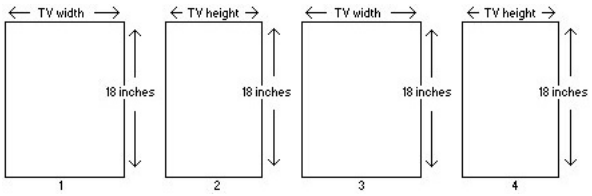
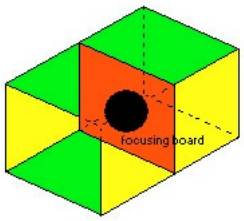
Step 4.

So here we are with 4 individual pieces that make up the outside of the box. Don't put them together just yet.

Step 5.

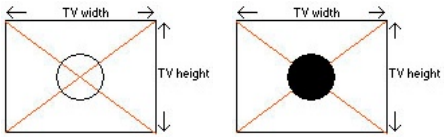


We now have to cut the inside part.... The "focusing board". This is basically the screen height and width. It will sit inside the box as shown below

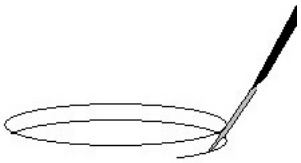


Step 6.

Start by marking out the measurements on the cardboard/wood with a ruler and then cut out the focusing board. Create a straight line from one corner to the opposite corner to form a cross on the focusing board, centre the magnifying lens with help from the cross. Now trace around the magnifying lens so that you have a drawn circle on the focusing board and now cut out the circle. NOTE: The magnifying lens must fit snugly into the hole.

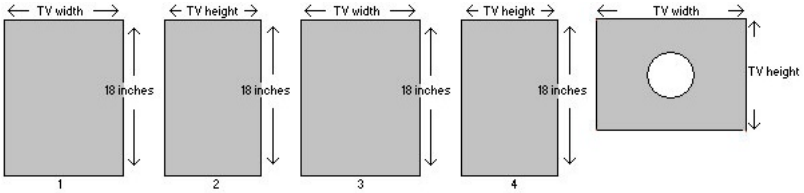


Note: If you are making this from cardboard, you can angle the Stanley knife when cutting the circle so that the hole in back side of the cardboard is slightly larger than the front. I have tried to demonstrate this in the picture below.



Step 7.

Take all five pieces paint them black. Both sides if you wish but painting the insides only is essential for a good picture. The Blacker the better. Make sure you use flat or matt black paint.



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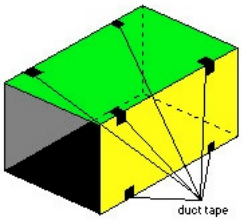
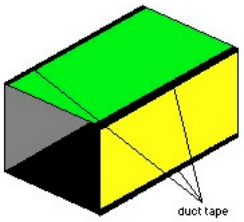
Step 8.

Once the pieces are dry, its time to stick them together. Using small pieces of duct tape, form the sides of the box (black on the inside) and stick the small pieces of duct tape on so it holds its shape.



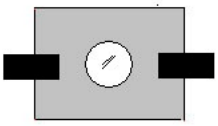
Step 9.

Now that the box is held in place reinforce and close the gaps by running a strip of duct tape down each join.



Step 10.

Now take the focusing board and insert the magnifying lens in it. Attach two pieces of duct tape on each side to act as handles to help hold the focussing board when trying to focus the image.



Step 11.

Turn your TV upside down. (It won't do any major damage, if you don't want to do this there is an alternative). With duct tape attach the box to the screen of your TV making sure to close any gaps so that no light will escape. Then insert the focussing board inside the box. You are now ready to use your projector.

Step 12.

Sometimes it is difficult to predict what the best position for the TV and focusing board should be to get a picture. I always start by lining up the outside end of the box about 2 inches from the wall, the picture is very small but at least you know its working. Then slowly move the TV and projector away from the wall until the desired screen size is achieved. Then use the focusing board to focus the image. It will take a little fiddling around with but you'll get it.

Don't want to turn your TV upside down? Here are the alternatives.

The first alternative is to put your TV on its back with the projector on facing the ceiling. This will then project the image into the ceiling. You could lay back and watch the movie on the ceiling our place a mirror at a 45 degree angle at the end of the projector. The image will then be projected onto the mirror and bounce off onto the wall reversing the image top to bottom.

The only other alternative is to watch the screen upside down. Adding another magnifying lens will not turn the image around the right way.