

joevennix's House of the Incredible

A blog containing my ramblings and inventions after long days of school.

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1.18.2006

Juicebox Digital Picture Frame How-To

Well, you guys wanted a how-to, so here's one for ya:

Joevennix's Juicebox Digital Picture Frame How-To



Materials:

- 1x Juicebox, any version
 - 1x SD card*
 - 1x SD Slot, unless you want to solder directly to the SD card*
 - 1x 4.5V Power Adapter
 - 1x Nice picture frame
 - 1x Custom matte, with the correctly sized opening for the Juicebox LCD
- Tools: Soldering iron, solder, thin wire, electrical tape, hot glue, super glue, etc.

*If you buy the Juicebox Mp3 kit, it simplifies this project so much, as you don't have to solder the SD slot into the cartridge connector.



About me

I'm **joevennix**

From **H-Town, Texas, United States**

I'm just a kid leave me alone

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Okay, first things first, let's open the Juicebox. This thing has screws everywhere! Make sure you get the ones hidden on the motherboard. Take your time and save the screws, or go all out and throw them away. Also, when taking off the buttons, save the rubber padding underneath: you will need it later.



Got it open? Good. Now Carefully cut the red and black wires leading away from battery enclosure, and the black and white wires leading to the speaker. Save the speaker for a better project. Also, take off all the wires with lugs attached to them (the wires attached to screws).

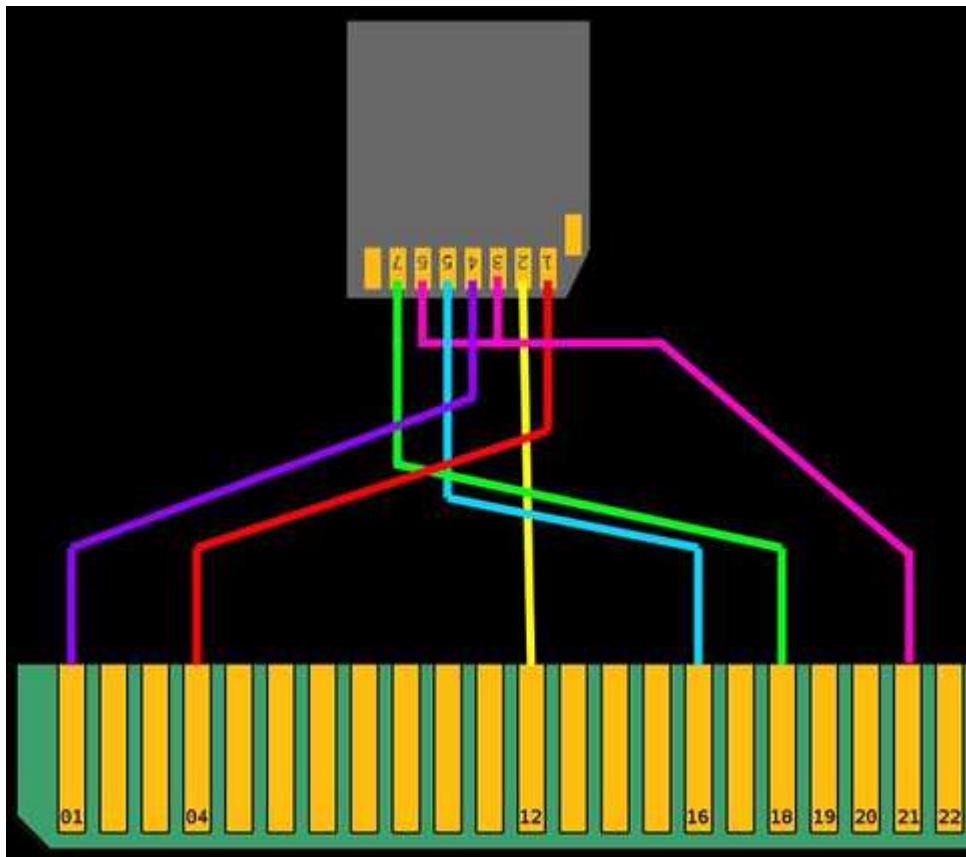
Okay, now carefully lift the LCD and motherboard completely out of the case. Cover the LCD in gauze or something like it, just to make sure it does not get scratched.



Warm up your soldering iron. Take your 4.5V DC adapter and cut its wire near the end. There should be two wires inside the rubber sheath. One red (positive) and one black (negative). Solder the red wire from the adapter to the red wire that used to lead to the battery enclosure on the Juicebox. Do the same for the black wire. If you want, you can wire a switch in between the red wires to turn the picture frame on and off without having to unplug it. Now that you've got those wires soldered, plug it in. If all goes well, the Juicebox should power up and show a short video clip. Cover the joint with heatshrink tubing/ electrical tape. You are now ready to solder the SD slot.



It is now time to bust out the soldering iron and solder the SD slot to the cartridge connector. If you bought the Mp3 kit, you can skip these steps. This diagram helps a lot:

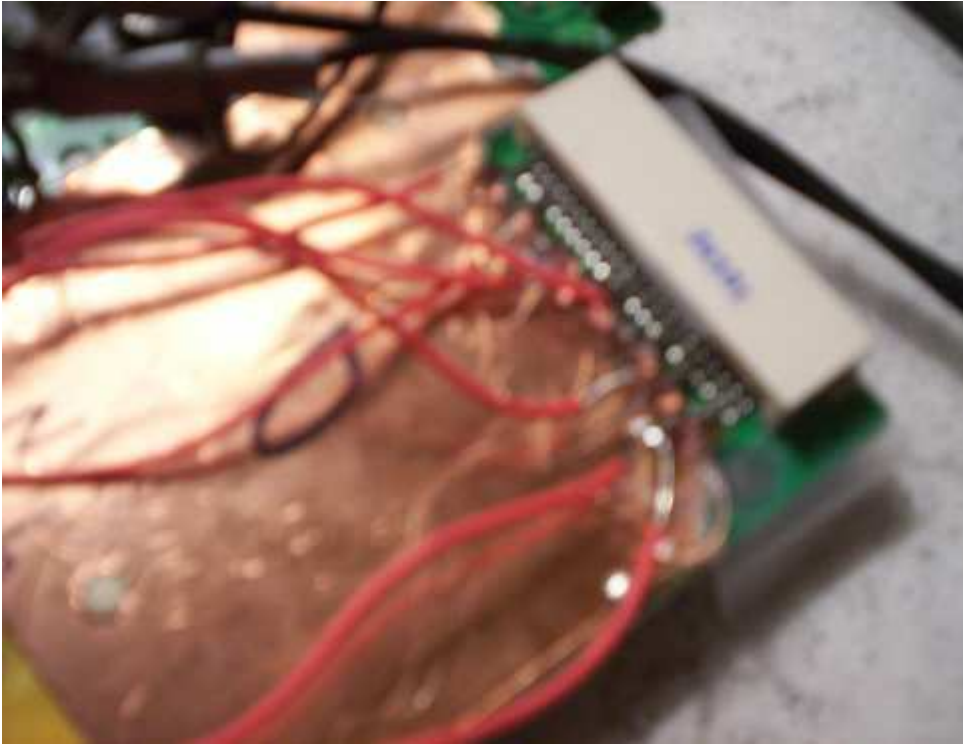


The pins on the Juicebox cartridge slot are numbered so:



Sorry for the blurry picture. The pin at the top is pin 1, the one near the bottom pin 22. Or 23. One of those. You know the rest.

You can desolder the Juicebox cartridge slot, or leave it in and use the base of its pins to solder to, although it is harder. I did this and it took a while, but unless you have a desoldering braid/bulb, it's your only option. To solder: heat up a piece of stripped wire and apply a small blob of solder. Touch the soldered wire to the appropriate pin on the Juicebox cartridge slot, then touch the soldering iron to the stripped wire. If all goes well, the heat will flow from the soldering iron through the wire to the solder on the wire to the solder on the pin and the two should join. Make sure you do not "bridge" any of the pins by blobbing solder in between them and connecting them.



Now that we are done with that, we can focus on getting the pictures on to the card. Let's explain some things first. You can't just dump raw jpg's or gif's on to the Juicebox: you have to compress and convert them first. The Juicebox reads .jbp files, and you need a special converter to do this. If you have the software from the Mp3 kit, you can use that, otherwise you need these more basic tools:

-An image editing program (to resize the images)

-[This](#) java-based jbp converter

Also note: although these pictures may take up a lot of space now, by the time you resize, compress, and convert them, they will take up very little space. I have 36 images stored on a memory stick. They take up only 2 megabytes.

On to the conversion! Open your image editing program, it would be better if you could get one that could do batch conversions so you wouldn't have to open up each file and convert it. GraphicConverter is a good example if you're using a Mac. Photoshop also does batch conversions. Anyways, set the program to resize each image to 240x160 px. Vertical images will not work in this setting, unless you turn them sideways.

Once they are all resized, it is time to run them through the jbp converter. Open it up, and browse through your directory until you find the right files. Unfortunately you have to convert them one by one but once you get going you can blow through it really fast.

Now gather all the converted .jbp files and put them on the root directory of the SD card. Unplug the SD card from your computer.



Now solder the pins from the Juicebox cartridge slot to the corresponding

Now, solder the pins from the Juicebox cartridge slot to the corresponding pins on the SD card or slot.



Turn on the Juicebox, insert the SD card if necessary, and wait. If all went well, a screen will appear that has a list of filenames of the pictures. Get out the rubber pads that were found under the Juicebox buttons and that I had told you to save a while ago. Place them on top of the buttons, then press down on the play button. A slideshow should begin playing.

If the card does not show up, check your connections: make sure no pins are bridged by solder. Also, check and make sure that the bare wires are not touching the copper shielding on the back of the mother board. I would recommend putting hot glue over all the pins.

Now that you have all the electronics set up and running, lets turn to the picture frame part of things.



First of all, you need a frame: 4x6 and 5x7 frames work great. I prefer dark colors so you can see the Juicebox better.

Secondly, you need a mat. I would HIGHLY recommend getting this professionally cut at a framing store, as it is cheap (~\$2) and looks MUCH

better than trying to do it yourself. Here's what mine looks like:



Now, build an enclosure around the back of the frame for the Juicebox guts to sit in. I used cardboard spray-painted black, and it looks good to me. A much better idea would be to use thin but sturdy balsa that you can get at a hobby store and cut with an exacto knife. Much better. Here's what mine looked like:

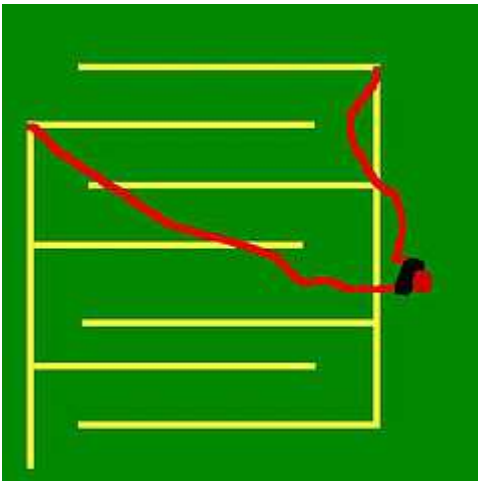


Now you have to line up the Juicebox LCD with the opening of the matte. Make sure you get it perfectly aligned, otherwise you may have some of the white LCD holder showing, like in mine:



Once you have it positioned, tape it into place temporarily. You must now find a means to support the motherboard and LCD. I used tape, but i would recommend fixing them to the enclosure, not the mat. The mat will eventually fall apart when place under strain like this.

Finally, plug in the Juicebox to see if it still works. When you have confirmed this, press play again to start the slideshow, then pull the enclosure over it and stand it up. NOTE: In order to start the slideshow, you will always have to be able to press play, so don't be unplugging the thing every second, as it will be hard to start it back up. To get around this, you could install an exterior button by lengthening the original button's leads, like so:



Anyway, now that you've got your picture frame up and running, you can step back and admire it. It looks great right?

Whew that was an intense how-to.

More projects later.

Peace, Jovennix.

9:55 PM | [Permalink](#)

nice blog great idea

Posted by [Dave](#) | [5:47 AM](#)

thanks for the Jave script to convert jpgs to jbp! Chihuahua Man

Posted by Anonymous | 10:11 PM

learn how to use the macro setting on your camera and you'll be able to take good close ups, great hack though

Posted by Anonymous | 9:20 AM

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