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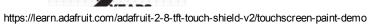
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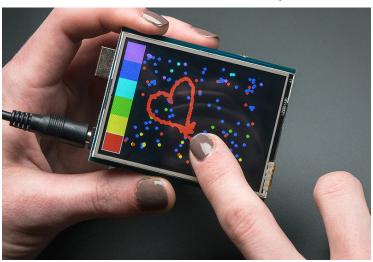
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BOOMBOX BEACH BAG WITH AUDIO AMP AND SPEAKERS

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ADAFRUIT PRODUCTS



Adafruit 2.8" TFT Touch Shield v2 -Capacitive or Resistive

Spice up your Arduino project with a beautiful large touchscreen display shield with built in microSD card connection.

- Overview
- Connecting
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 Adafruit GFX library
- Resistive Touchscreen Paint Demo Capacitive Touchscreen
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Contributors

lady ada Feedback? Corrections?

Resistive Touchscreen Paint Demo



This page is for the Resistive Touch Screen version of the Shield!

The LCD has a 2.8" 4-wire resistive touch screen glued onto it. You can use this for detecting finger-presses, stylus', etc. Normally, you'll need 4 pins to talk to the touch panel but we decided to go all snazzy and put a dedicated touch screen driver onto the shield. The driver shares the SPI pins with the TFT and SD card, so only one extra pin is needed (digital #8) This allows you to query the controller when you're ready to read touchscreen data, and saves 3 pins.

To control the touchscreen you'll need one more library - the STMPE610 controller library which does all the low level chatting with the STMPE610 driver chip. Click below to download and then install it as before.

Download the STMPE610 Library

Once you have the library installed, restart the IDE. Now from the examples->Adafruit_IL19341 menu select touchpaint and upload it to your Arduino.



The touch screen is made of a thin glass sheet, and its very fragile - a small crack or break will make the entire touch screen unusable. Don't drop or roughly handle the TFT and be especially careful of the corners and edges. When pressing on the touchscreen, sometimes people can use the tip of their fingers, or a fingernail. If you don't find the touchscreen responds well to your fingers, you can use a rounded stylus which will certainly work. Do not press harder and harder until the screen cracks! Getting data from the touchscreen is fairly straight forward. Start by creating the touchscreen object with

AGRICUL_ST MITEOTO IS = AGRICUL_ST MITEOTO(ST MITE_CS);

We're using hardware SPI so the clock, mosi and miso pins are not defined here. For the shield, CS is #8 always. Then you can start the touchscreen with

Check to make sure this returns a True value, which means the driver was found. If it wasn't, make sure you have the hardware SPI jumpers set up right: for Leonardo/Mega the ICSP jumpers get closed.

if (! ts.bufferEmpty())

to check if there's any data in the buffer. The touchscreen driver will store touchpoints at all times. When you're ready to get the data, just check if there's any data in the buffer. If there is, you can call

TS Point p = ts.getPoint():

To get the oldest point from the buffer. TS_Point has .x .y and .z data points. The x and y points range from 0 to 4095. The STMPE610 does not store any calibration data in it and it doesn't know about rotation. So if you want to rotate the screen you'll need to manually rotate the x/y points! The z point is 'pressure' and ranges from 0 to 255, we don't use it here but you can experiment with it on your own, the harder you press, the lower the number.

Since data from the STMPE610 comes in 0-4095 but our screen is 320 pixels by 240 pixels, we can use map to convert 0-4095 to 0-320 or 0-240. Something like

```
p.x = map(p.x, 0, 4095, 0, tft.width());
p.y = map(p.y, 0, 4095, 0, tft.height());
```

However, the touchscreen is a bit bigger than the screen, so we actually need to ignore presses beyond the touchscreen itself. We found that these numbers reflected the

#define TS_MINX 150 #define TS_MINY 130 #define TS_MAXX 3800 #define TS_MAXY 4000

```
\begin{split} p.x &= map(p.x, TS\_MINX, TS\_MAXX, 0, tft.width()); \\ p.y &= map(p.y, TS\_MINY, TS\_MAXY, 0, tft.height()); \end{split}
```

One last point (pun intended!) since the touchscreen driver stores points in a buffer, you may want to ask the driver "is the touchscreen being pressed RIGHT NOW?" You can do that with

if (ts.touched())

ADAFRUIT GFX LIBRARY CAPACITIVE TOUCHSCREEN PAINT DEMO Last updated on 2015-05-04 at 04.27.56 PM Published on 2014-01-03 at 12.34.44 PM



2.8" TFT Touch Shield for Arduino with Resistive Touch Screen ADD TO CART



\$24.95 Arduino Uno R3 (Atmega328 - assembled) OUT OF STOCK (NOTIFY ME)

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Resistive Touch Screen Controller - STMPE610 ADD TO CART ADD ALL TO CART

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Adafruit VS1053 MP3/AAC/Ogg/MIDI/WAV Codec Breakout Tutorial

Records and plays a variety of audio formats

This breakout board is the ultimate companion for the VLSI VS1053B DSP codec chip. The VS1053 can decode a wide variety of audio formats such as MP3, AAC, Ogg Vorbis, WMA, MIDI, FLAC, WAV (PCM and ADPCM). It can also be used to record audio in both PCM (WAV) and compressed Ogg Vorbis. You can do all sorts of stuff with the audio as well such as adjusting bass, treble, and volume digitally. There are also 8 GPIO pins that can be used for lighting up small LEDs or reading



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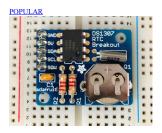


Adafruit Proto Shield for Arduino

Arduino Prototyping
This is a design for an open-source prototyping shield for Arduino NG/Diecimila. It has tons of cool features, to make prototyping on your Arduino easy.



ADAFRUIT PRODUCTS

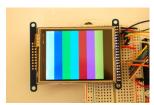


DS1307 Real Time Clock Breakout Board Kit

Real time clock mini-breakout board

This is a great battery-backed real time clock (RTC) that allows your microcontroller project to keep track of time even if it is reprogrammed, or if the power is lost. Perfect for datalogging, clock-building, time stamping, timers and alarms, etc. The DS1307 is the most popular RTC, and works best with 5V-based chips such as the

LCDS & DISPLAYS



2.8" TFT Touchscreen

320x240 pixels in 16 bit color with a touchscreen
Add some jazz & pizazz to your project with a color touchscreen LCD. This TFT display is big (2.8" diagonal) bright (4 white-LED backlight) and colorful (16-bit
262,000 different shades)! 240x320 pixels with individual pixel control, this has way more resolution than a black and white 128x64 display. As a bonus, this display has
a resistive touchscreen attached to it already, so you can detect finger presses anywhere on the screen. Learn how to use this LCD with an Arduino.



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ENGINEERED IN NYC Adafruit ®
"You can't see it if you don't look at it" - Dan McKenn















