#include "fix\_fft.h"

#include <Wire.h>

#include <Adafruit\_GFX.h>

#include "ssd1306.h"

 //------------------------------------------

 //------------------------------------------

 char im[128], data[128]; char x = 0, ylim = 60; int i = 0, val;

 //==============================================================

 void setup()

 {

 Serial.begin(9600);

 display.begin(SSD1306\_SWITCHCAPVCC,0x3C);

 display.setTextSize(1);

 display.setTextColor(WHITE);

 display.clearDisplay();

 analogReference(DEFAULT);

 }

 //==============================================================

 void loop()

 {

 int min=1024, max=0;

 for (i=0; i <128; i++) //take 128 samples

 {

 val = analogRead(A0);

 data[i] = val/4 - 128;

 im[i] = 0;

 if(val>max) max=val; //store max & min sample

 if(val<min) min=val;

 }

 //------------------------------------------

 fix\_fft(data, im, 7, 0); //FFT on data

 //------------------------------------------

 display.clearDisplay();

 for (i=1; i<64; i++) //bar graph sketch on OLED display

 {

 int dat = sqrt(data[i] \* data[i] + im[i] \* im[i]);

 display.drawLine(i\*2 + x, ylim, i\*2 + x, ylim - dat, WHITE);

 }

 display.setCursor(0,0); display.print(" Spectrum Analyzer");

 display.display();

}

#include "ssd1306.h"

void setup()

{

 /\* Replace the line below with ssd1306\_128x32\_i2c\_init() if you need to use 128x32 display \*/

 ssd1306\_128x64\_i2c\_init();

 ssd1306\_fillScreen(0x00);

 ssd1306\_setFixedFont(ssd1306xled\_font6x8);

}

int progress = 0;

void loop()

{

 ssd1306\_drawProgressBar( progress );

 progress++;

 if ( progress > 100 )

 {

 progress = 0;

 delay( 2000 );

 }

 else

 {

 delay( 50 );

 }

}