#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 );

}

}