****

**Main**

/\* ========================================

Quinton Cline

Mini Scope

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#include "project.h"

#include <stdio.h>

int xPos=0;

int main(void)

{

int joyX=0;

int freqRaw=50;

int freqPeriod=50;

const int freqMin=50;

const int freqMax=300;

char mystring[4];

GLCD\_Start();

//A\_Interrupt\_ClearPending();

Backlight\_Write(1);

GLCD\_Clear(GLCD\_BLACK);

ADCInput\_Start();

ADCInput\_StartConvert(); //Starts the ADC

Timer\_1\_Start();

Timer\_1\_WriteCounter(0);

A\_Interrupt\_Start();

B\_LED\_Write(1);

G\_LED\_Write(1);

R\_LED\_Write(1);

sprintf(mystring, "Rate: %4d Hz ",freqRaw);

GLCD\_PrintString(mystring,110 , 10, GLCD\_WHITE, GLCD\_BLUE);

CyGlobalIntEnable; /\* Enable global interrupts. \*/

while(1)

{

// CyGlobalIntDisable;

if(xPos>=131) //If at the right of the screen clear screen and reset position xpos to 0

{

xPos=0;

sprintf(mystring, "Rate: %4d Hz ",freqRaw); //Print freq to screen

CyGlobalIntDisable; //Disable interupts

GLCD\_Clear(GLCD\_BLACK);//Clear screen

GLCD\_PrintString(mystring,110 , 10, GLCD\_WHITE, GLCD\_BLUE);////Print

CyGlobalIntEnable;//Enable interupts

}

//For getting the X

if(ADCInput\_IsEndConversion(ADCInput\_RETURN\_STATUS))

{

joyX= ADCInput\_GetResult16(0); //Sample ADCInput channel 0 for X

//If pused to the left

if(joyX<100 &&freqRaw>freqMin)

{

freqRaw--; //Decrement freq

freqPeriod=(1000/freqRaw)-1; //Map freq to period

Timer\_1\_WritePeriod(freqPeriod); //Write period

sprintf(mystring, "Rate: %4d Hz ",freqRaw); //format freq

CyGlobalIntDisable; //Disable interupts

GLCD\_PrintString(mystring,110 , 10, GLCD\_WHITE, GLCD\_BLUE); //print

CyGlobalIntEnable; //Enabe interupts

Timer\_1\_WriteCounter(0); //Reset counter

}

//if pushed to the right

else if(joyX>1900 &&freqRaw<freqMax)

{

freqRaw++; //Increment the freq

freqPeriod=(1000/freqRaw)-1; //map freq to period

Timer\_1\_WritePeriod(freqPeriod); //Set period

sprintf(mystring, "Rate: %4d Hz ",freqRaw); //Format string

CyGlobalIntDisable; //Disable interupt

GLCD\_PrintString(mystring,110 , 10, GLCD\_WHITE, GLCD\_BLUE);

CyGlobalIntEnable; //enable interupt

Timer\_1\_WriteCounter(0); //Reset counter

}

}

}

}

/\* [] END OF FILE \*/

**Interupt**

**Header**

#include "project.h"

extern int xPos;

**Code**

if(ADCInput\_IsEndConversion(ADCInput\_RETURN\_STATUS))

{

GLCD\_Pixel(((ADCInput\_GetResult16(1)\*-0.044)+100),xPos,GLCD\_BLUE); //Print the pixel to the screen

xPos++; //Increment the xposition

}

Timer\_1\_ClearInterrupt(Timer\_1\_INTR\_MASK\_TC);