**DAC INTERFACING**

**TRIANGULAR WAVEFORM:**

#include <LPC17xx.H>

#include "GLCD.H"

#define \_\_FI 1 /\* Font index 16x24 \*/

void delay(void) /\* Delay Routine \*/

{

unsigned char i;

for(i=0;i<100;i++);

}

main()

{

unsigned int i,j;

LPC\_SC->PCONP |= (1 << 15); /\* enable power to GPIO \*/

LPC\_GPIO0->FIODIR |= 0x007F8000; /\* PortA and PortB as outputs\*/

LPC\_GPIO1->FIODIR |= 0x07F80000;

#ifdef \_\_USE\_LCD

GLCD\_Init(); /\* Initialize graphical LCD \*/

GLCD\_Clear(White); /\* Clear graphical LCD display \*/

GLCD\_SetBackColor(Blue);

GLCD\_SetTextColor(White);

GLCD\_DisplayString(0, 0, \_\_FI, " ESA ");

GLCD\_DisplayString(1, 0, \_\_FI, " Bangalore ");

GLCD\_DisplayString(2, 0, \_\_FI, " www.esaindia.com ");

GLCD\_SetBackColor(White);

GLCD\_SetTextColor(Blue);

GLCD\_DisplayString(5, 0, \_\_FI, " Dual DAC ");

GLCD\_DisplayString(6, 0, \_\_FI, " Triangular Wave ");

#endif

while(1)

{

for(i=0; i<0x0FF; i++)

{

LPC\_GPIO0->FIOPIN =(LPC\_GPIO0->FIOPIN & 0xFF807FFF) | i << 15; //send Positive pulse on PortA

LPC\_GPIO1->FIOPIN = (LPC\_GPIO1->FIOPIN & 0xF807FFFF) | i << 19; //send Positive pulse on PortB

delay();

}

for(j=0xFF; j>0; j--)

{

LPC\_GPIO0->FIOPIN =(LPC\_GPIO0->FIOPIN & 0xFF807FFF) | j << 15; //send Negative pulse on PortA

LPC\_GPIO1->FIOPIN = (LPC\_GPIO1->FIOPIN & 0xF807FFFF) | j << 19; //send Negative pulse on PortB

delay();

}

}

}

**SQUARE WAVEFORM:**

#include <LPC17xx.H>

#include "GLCD.H"

#define \_\_FI 1 /\* Font index 16x24 \*/

void delay(void) /\* Delay Routine \*/

{

unsigned char i;

for(i=0;i<100;i++);

}

main()

{

unsigned int i,j;

LPC\_SC->PCONP |= (1 << 15); /\* enable power to GPIO & IOCON \*/

LPC\_GPIO0->FIODIR |= 0x007F8000; /\* PortA and PortB as outputs \*/

LPC\_GPIO1->FIODIR |= 0x07F80000;

#ifdef \_\_USE\_LCD

GLCD\_Init(); /\* Initialize graphical LCD \*/

GLCD\_Clear(White); /\* Clear graphical LCD display \*/

GLCD\_SetBackColor(Blue);

GLCD\_SetTextColor(White);

GLCD\_DisplayString(0, 0, \_\_FI, " ESA ");

GLCD\_DisplayString(1, 0, \_\_FI, " Bangalore ");

GLCD\_DisplayString(2, 0, \_\_FI, " www.esaindia.com ");

GLCD\_SetBackColor(White);

GLCD\_SetTextColor(Blue);

GLCD\_DisplayString(5, 0, \_\_FI, " Dual DAC ");

GLCD\_DisplayString(6, 0, \_\_FI, " Square Wave ");

#endif

while(1)

{

for(i=0; i<0x0FF; i++)

{

LPC\_GPIO0->FIOPIN =(LPC\_GPIO0->FIOPIN & 0xFF807FFF) | 0x007F8000; //send High on PortA

LPC\_GPIO1->FIOPIN = (LPC\_GPIO1->FIOPIN & 0xF807FFFF) | 0x07F80000; //send High on PortB

delay();

}

for(j=0xFF; j>0; j--)

{

LPC\_GPIO0->FIOPIN =(LPC\_GPIO0->FIOPIN & 0xFF807FFF); //send Low on PortA

LPC\_GPIO1->FIOPIN = (LPC\_GPIO1->FIOPIN & 0xF807FFFF); //send Low on PortB

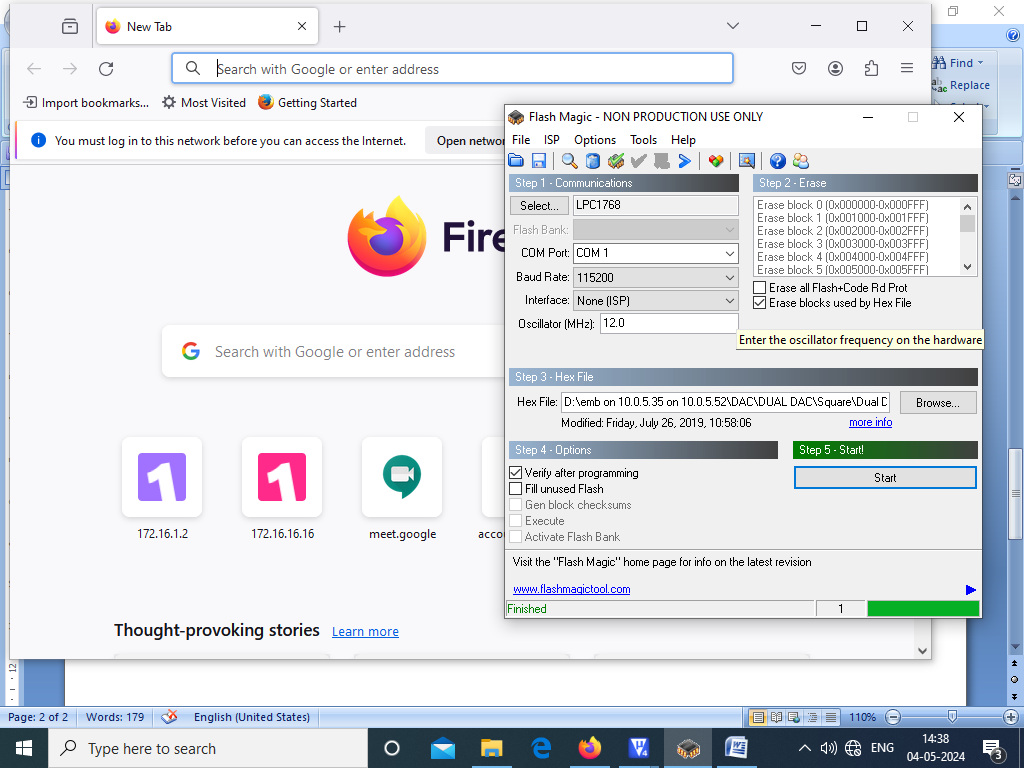
delay();

}

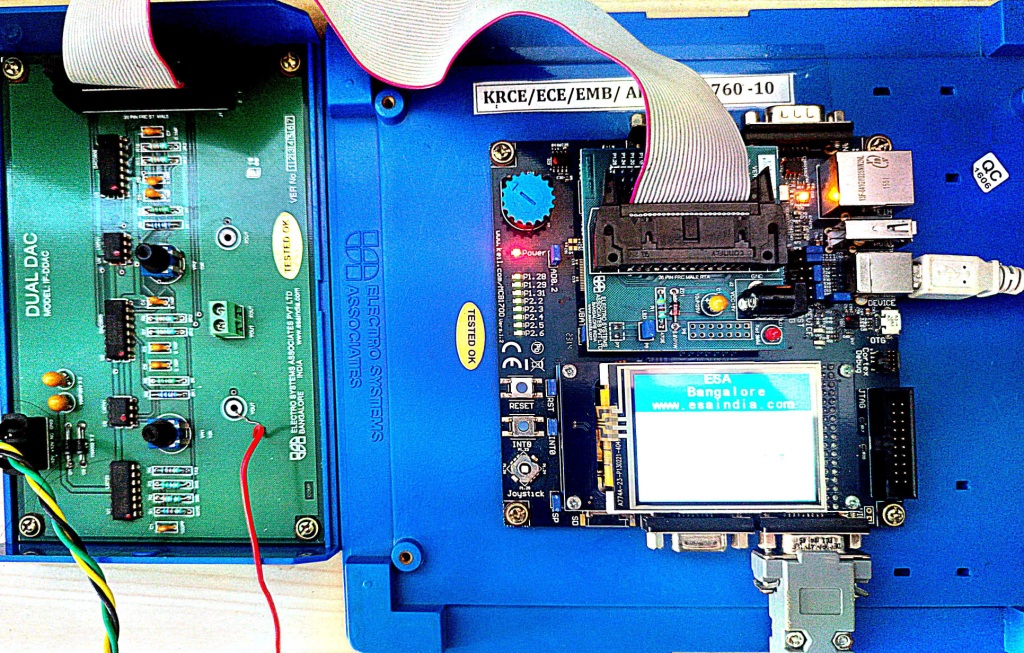
}

}

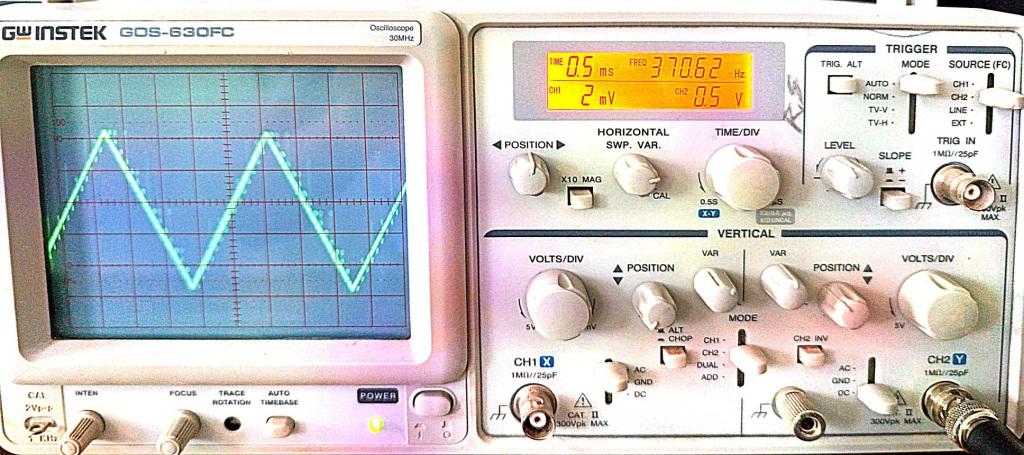
**TRIANGULAR AND SQUARE WAVEFORM – DAC INTERFACING:**

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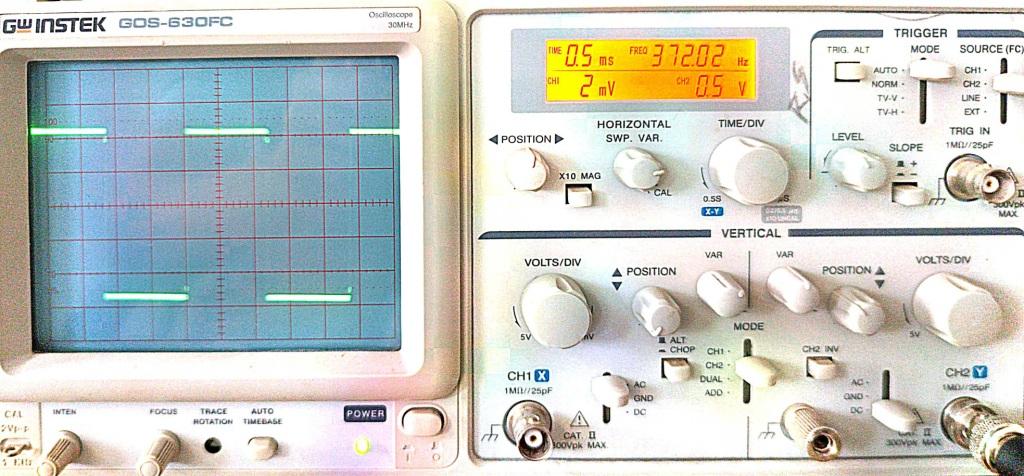
**DUAL DAC INTERFACING:**

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**TRIANGULAR WAVEFORM:**

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**SQUARE WAVEFORM:**

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