

128240c_d series sample program

```

//LCD CONTROLLER: ST7529*1
#include <ctype.h>
#include <reg51.h>
#include <stdio.h>
#include <string.h>
//#include <intrins.h>
//#include "f:\test\font\ch12864.c"
//#include "D:\LCD_PRO\CHAR1\icon.c"
#define dataport P0
sbit RS=P1^0;
sbit RW=P1^1;
sbit E_RD=P1^2;
sbit RES=P1^3;
sbit CS1=P1^4;
sbit key=P2^0;

typedef unsigned char uchar;
typedef unsigned int uint;
static uchar d;
uchar code clear[]={0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00};
uchar code Map1[]={0xff,0x00,0xff,0x00,0xff,0x00,0xff,0x00};
uchar code Map2[]={0xaa,0xaa,0xaa,0xaa,0xaa,0xaa,0xaa,0xaa};
uchar code Map3[]={0xf0,0xf0,0xf0,0xf0,0xf0,0xf0,0xf0,0xf0};
uchar code Map4[]={0xf0,0x3f,0xf0,0x3f,0xf0,0x3f,0xf0,0x3f};
uchar code Map5[]={0x80,0x40,0x20,0x10,0x08,0x04,0x02,0x01};
uchar code Map6[]={0xff,0xff,0xff,0xff,0xff,0xff,0xff,0xff};
uchar code pic1[]={
0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,
0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,
0X0F,0XFC,0X1F,0X8E,0X4F,0XF8,0XFC,0X00,0X10,0X3F,0X8F,0XFF,0XFF,0XFF,0X81,0XF2,
0XFC,0X7E,0X00,0X00,0X00,0XFC,0X0F,0XFF,0XFF,0XC0,0X00,0X00,0X00,0X00,0X03,0X07,
0X06,0X19,0XC3,0X0C,0X30,0X00,0X30,0X0E,0X02,0X63,0X19,0X81,0X83,0X0E,0X30,0X18,
0X00,0X00,0X00,0X30,0X0C,0X63,0X30,0X70,0X00,0X00,0X00,0X00,0X03,0X03,0X86,0X30,
0XC3,0X06,0X30,0X00,0X38,0X06,0X04,0X43,0X09,0X80,0X84,0X06,0X30,0X18,0X00,0X00,
0X00,0X30,0X08,0X61,0X30,0X38,0X00,0X00,0X00,0X00,0X03,0X01,0X86,0X30,0X43,0X06,
0X30,0X00,0X58,0X03,0X04,0X03,0X01,0X80,0X0C,0X06,0X30,0X18,0X00,0X00,0X00,0X30,
0X00,0X60,0X30,0X18,0X00,0X00,0X00,0X03,0X00,0XC6,0X38,0X43,0X06,0X30,0X00,
0X4C,0X01,0X88,0X03,0X01,0X82,0X18,0X02,0X30,0X18,0X00,0X00,0X00,0X30,0X00,0X60,
0X30,0X0C,0X00,0X00,0X00,0X03,0X00,0XC6,0X1C,0X03,0X06,0X30,0X00,0X4C,0X01,
0X90,0X03,0X01,0X82,0X18,0X00,0X30,0X18,0X00,0X00,0X00,0X30,0X00,0X60,0X30,0X0C,
0X00,0X00,0X00,0X00,0X03,0X00,0XC6,0X0F,0X03,0X0C,0X30,0X00,0X8C,0X00,0XD0,0X03,
0X01,0XFE,0X18,0X00,0X3F,0XF8,0X00,0X00,0X30,0X00,0X60,0X30,0X0C,0X00,0X00,0X00,
0X00,0X00,0X03,0X00,0XC6,0X03,0X83,0XF8,0X30,0X00,0X86,0X00,0X60,0X03,0X01,0X82,
0X18,0X00,0X30,0X18,0X00,0X00,0X00,0X30,0X00,0X60,0X30,0X0C,0X00,0X00,0X00,0X00,
0X03,0X00,0XC6,0X01,0XC3,0X00,0X30,0X01,0XFE,0X00,0X60,0X03,0X01,0X82,0X18,0X00,
0X30,0X18,0X00,0X00,0X00,0X30,0X00,0X60,0X30,0X0C,0X00,0X00,0X00,0X03,0X00,
0XC6,0X20,0XE3,0X00,0X30,0X01,0X06,0X00,0X60,0X03,0X01,0X80,0X18,0X00,0X30,0X18,
0X00,0X00,0X00,0X30,0X00,0X60,0X30,0X0C,0X00,0X00,0X00,0X00,0X03,0X01,0X86,0X20,
0X63,0X00,0X30,0X12,0X03,0X00,0X60,0X03,0X01,0X80,0X4C,0X02,0X30,0X18,0X00,0X00,
0X00,0X30,0X10,0X60,0X30,0X18,0X00,0X00,0X00,0X00,0X03,0X03,0X06,0X30,0X63,0X00,
0X30,0X32,0X03,0X00,0X60,0X03,0X01,0X80,0X8C,0X04,0X30,0X18,0X00,0X00,0X00,0X30,
0X30,0X60,0X30,0X30,0X00,0X00,0X00,0X03,0X06,0X06,0X38,0XC3,0X00,0X30,0X66,
0X03,0X80,0X60,0X03,0X01,0X81,0X87,0X08,0X30,0X18,0X00,0X00,0X30,0X60,0X60,
0X30,0X60,0X00,0X00,0X00,0X0F,0XFC,0X1F,0XA7,0X8F,0XCO,0XFF,0XEF,0X07,0XC1,
0XF8,0X0F,0XC7,0XFF,0X81,0XF0,0XFC,0X7E,0X00,0X00,0X00,0XFF,0XE1,0XF8,0XFF,0XCO,
0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,
0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00,0X00};
//uchar code IC[]={0xa0,0x40,0xa3,0xc0};

void delay1(uint t)
{
uint i,j,k;
for(i=0;i<t;i++)
for(j=0;j<5;j++)
{if(key==0)
{
for(k=0;k<25000;k++);
while(key==1);
i=t;
j=5;
//break;
}
else;
}
}
}

void delay3(uint t)
{
uint i,j;

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        for(i=0;i<t;i++)
        for (j=0;j<5;j++);
    }
void delay2(uint t)
{
    uint i,j;
    for(i=0;i<t;i++);
}
void wcom(uchar datal,bit di)
{
    RS=di;
    //CS1=0;
    //RW=0;
    E_RD=1;
    dataport=datall;
    delay2(1);
    RW=0;
    //E_RD=1;
    //delay2(1);
    //E_RD=0;
    RW=1;
    //delay2(1);
}
void wdata(uchar datal)
{
    uchar a,b;
    uint i;
    b=datall;
    //CS1=0;
    E_RD=1;
    //RW=0;
    wcom(0x15,0); //column address set
    wcom(d,1); //start column=5
    wcom(0x50,1); //end column=84
    wcom(0x5c,0); //enter data writing mode
    RS=1;
    for(i=0;i<3;i++)
    {
        a=b;
        a=a&0x80;
        if(a!=0)
            dataport=0xff;
        else
            dataport=0x00;
        RW=0;
        //E_RD=1;
        //delay2(1);
        RW=1;
        //E_RD=0;
        //delay2(1);
        b=b<<1;
    }
    d++;
    //delay2(15);
}
void wdata2(uchar datal)
{
    uchar a,b;
    uint i;
    b=datall;
    RS=1;
    //CS1=0;
    E_RD=1;
    //RW=0;
    for(i=0;i<8;i++)
    {
        a=b;
        a=a&0x80;
        if(a!=0)
            dataport=0xff;
        else
            dataport=0x00;
        RW=0;
        //E_RD=1;
        //delay3(3);
        RW=1;
        //E_RD=0;
        //delay3(1);
    }
}

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        b=b<<1;
    }
    delay2(5);
}
void wdata3(uchar datal)
{
    uchar a,b;
    uint i;
    b=dat1;
    //CS1=0;
    E_RD=1;
    //RW=0;
    wcom(0x15,0); //column address set
    wcom(d,1); //start column=5
    wcom(0x50,1); //end column=84
    wcom(0x5c,0); //enter data writting mdoe
    RS=1;
    for(i=0;i<3;i++)
    {
        a=b;
        a=a&0x80;
        if(a!=0)
            dataport=0xff;
        else
            dataport=0x00;
        RW=0;
        //E_RD=1;
        //delay3(3);
        //E_RD=0;
        RW=1;
        //delay3(1);
        b=b<<1;
    }
    d++;
    //delay2(2);
    wcom(0x15,0); //column address set
    wcom(d,1); //start column=5
    wcom(0x50,1); //end column=84
    wcom(0x5c,0); //enter data writting mdoe
    RS=1;
    for(i=0;i<3;i++)
    {
        a=b;
        a=a&0x80;
        if(a!=0)
            dataport=0xff;
        else
            dataport=0x00;
        RW=0;
        //E_RD=1;
        //delay3(3);
        //E_RD=0;
        RW=1;
        //delay3(1);
        b=b<<1;
    }
    d++;
    //delay2(2);
}

void initial(void)
{
    //uchar i;
    CS1=0;
    delay3(1000);
    RES=0;
    delay3(100);
    RES=1;
    delay3(1000);
    wcom(0x30,0); //ext=0
    wcom(0x94,0); //sleep cancel
    wcom(0xd1,0); //osc on
    wcom(0x20,0); //power control
    wcom(0x08,1); //vb on
    delay3(500);
    wcom(0x20,0); //power control
    wcom(0x0b,1); //vb,vf,vr on
    wcom(0x81,0); //electronic volumn set
}

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wcom(0x18,1);
wcom(0x04,1);
wcom(0xca,0); //display control
wcom(0x00,1); //cld=0
wcom(0x23,1); //set duty=1/144
wcom(0x00,1); //set fr value
wcom(0xa7,0); //normal display
wcom(0xbb,0); //common scan
wcom(0x02,1); //com79~com0,com80~com159
wcom(0xbc,0); //data scan direction
wcom(0x00,1); //seg254~seg0,com160~con0
wcom(0x00,1); //rgb arrangement
wcom(0x04,1); //32gray scale 3b3p dither mode
wcom(0x75,0); //line address set
wcom(0x00,1); //start line=0
wcom(0x9f,1); //end line=159
wcom(0x15,0); //column address set
wcom(0x15,1); //start column=21
wcom(0x54,1); //end column=84
wcom(0xa9,0); //partial out
wcom(0x31,0); //ext=1
wcom(0x32,0); //analog circuit set
wcom(0x01,1); //osc frequency set
wcom(0x00,1); //booster efficiency=00
wcom(0x02,1); //bias=1/12
wcom(0x34,0); //dithering off
wcom(0x20,0); //gray 1 set
wcom(0x00,1); //lv0
wcom(0x02,1); //lv0
wcom(0x04,1); //lv0
wcom(0x06,1); //lv0
wcom(0x08,1); //lv0
wcom(0x0a,1); //lv0
wcom(0x0c,1); //lv0
wcom(0x0e,1); //lv0
wcom(0x10,1); //lv0
wcom(0x12,1); //lv0
wcom(0x14,1); //lv0
wcom(0x16,1); //lv0
wcom(0x18,1); //lv0
wcom(0x1a,1); //lv0
wcom(0x1c,1); //lv0
wcom(0x1f,1); //lv0
wcom(0x21,0); //gray 2 set
wcom(0x00,1); //lv0
wcom(0x02,1); //lv0
wcom(0x04,1); //lv0
wcom(0x06,1); //lv0
wcom(0x08,1); //lv0
wcom(0x0a,1); //lv0
wcom(0x0c,1); //lv0
wcom(0x0e,1); //lv0
wcom(0x10,1); //lv0
wcom(0x12,1); //lv0
wcom(0x14,1); //lv0
wcom(0x16,1); //lv0
wcom(0x18,1); //lv0
wcom(0x1a,1); //lv0
wcom(0x1c,1); //lv0
wcom(0x1f,1); //lv0
wcom(0x30,0); //ext=0
wcom(0xaf,0); //display on
delay3(100);
}

```

```

void displine(uchar array[])
{
    uint i,j,k;
    uchar c=0x10;
    d=0x00;
    wcom(0x75,0); //line address set
    wcom(0x10,1); //start line=0
    wcom(0x10,1); //end line=0
    for(i=0;i<64;i++)
    {
        for(j=0;j<1;j++)
        {

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```

        for(k=0;k<40;k++)
            wdata3(array[j]);
    c++;
    d=0x00;
    wcom(0x75,0); //line address set
    wcom(c,1); //start line=16
    wcom(c,1); //end line=143
    }
}
c=0x50;
d=0x00;
wcom(0x75,0); //line address set
wcom(0x50,1); //start line=64
wcom(0x50,1); //end line=64
for(i=0;i<64;i++)
    {
        for(j=0;j<1;j++)
            {
                for(k=0;k<40;k++)
                    wdata3(array[j]);
            }
        c++;
        d=0x00;
        wcom(0x75,0); //line address set
        wcom(c,1); //start line=c
        wcom(c,1); //end line=143
    }
}
void dispsquare(void)
{
    uint i,j;
    uchar c=0x10;
    d=0x00;
    wcom(0x75,0); //line address set
    wcom(c,1); //start line=16
    wcom(c,1); //end line=144
    for(i=0;i<80;i++)
        {
            wdata(0xff);
        }
    c++;
    for(i=0;i<63;i++)
        {
            wcom(0x75,0); //line address set
            wcom(c,1); //start line=0
            wcom(c,1); //end line=0
            d=0x00;
            wdata(0x80);
            for(j=0;j<78;j++)
                {
                    wdata(0x00);
                }
            wdata(0x20);
            c++;
        }
    c=0x50;
    for(i=0;i<63;i++)
        {
            wcom(0x75,0); //line address set
            wcom(c,1); //start line=0
            wcom(c,1); //end line=159
            d=0x00;
            wdata(0x80);
            for(j=0;j<78;j++)
                {
                    wdata(0x00);
                }
            wdata(0x20);
            c++;
        }
    wcom(0x75,0); //line address set
    wcom(c,1); //start line=0
    wcom(c,1); //end line=159
    d=0x00;
    for(i=0;i<80;i++)
        {
            wdata(0xff);
        }
}

```

```

}
void dispgraphic(uchar graphic[])
{
    uint i,j,k,l,m;
    uchar c=0x10;
    k=0;
    for (l=0;l<4;l++)
    {
        k=0;
        for (i=0;i<16;i++)
        {
            wcom(0x75,0); //line address set
            wcom(c,1); //start line=0
            wcom(c,1); //end line=159
            wcom(0x15,0); //column address set
            wcom(0x00,1); //start column=0
            wcom(0x50,1); //end column=79
            wcom(0x5c,0); //enter data writting mdoe
            for (j=0;j<30;j++)
            {
                wdata2(graphic[k]);
                k++;
            }
            c++;
        }
        c=0x50;
    }
    for (l=0;l<4;l++)
    {
        k=0;
        for (i=0;i<16;i++)
        {
            wcom(0x75,0); //line address set
            wcom(c,1); //start line=0
            wcom(c,1); //end line=159
            wcom(0x15,0); //column address set
            wcom(0x00,1); //start column=0
            wcom(0x50,1); //end column=79
            wcom(0x5c,0); //enter data writting mdoe
            for (j=0;j<30;j++)
            {
                wdata2(graphic[k]);
                k++;
            }
            c++;
        }
    }
}
void main(void)
{
    initial();
    while(1)
    {
        initial();
        //wcom(0xa7,0);
        //delay1(25000);
        //displine(Map6);
        displine (clear);
        displine(Map6); //all
        delay3(5000);
        delay1(15000);
        // waitkey ();

        dispsquare(); //square
        delay3(5000);
        delay1(15000);

        //displine(Map2);
        displine(Map2); //column
        delay3(5000);
        delay1(15000);
        //waitkey ();

        //displine(clear);
    }
}

```

```
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//displine(Map4); //checker
//delay3(5000);
//delay1(15000);
//waitkey ();
//dispgraphic(pic1);
//wcom(0x81,0); //electronic volumn set
//wcom(0x27,1);
//wcom(0x04,1);
dispgraphic(pic1); //photo
delay3(5000);
delay1(25000);

//displine (clear); //blank
//delay3(5000);
//waitkey ();
}
}
```