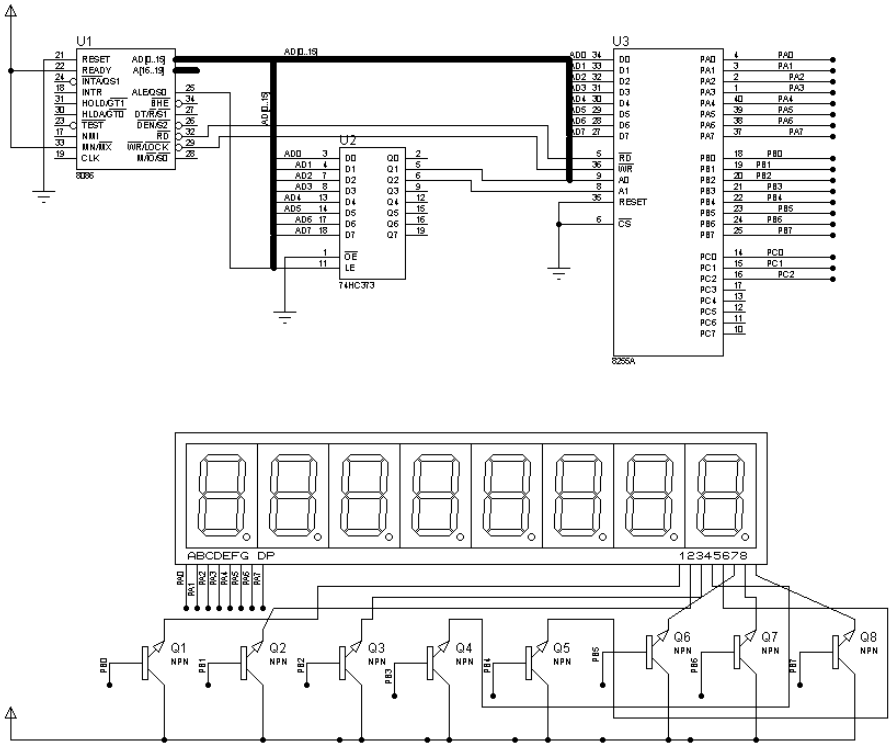
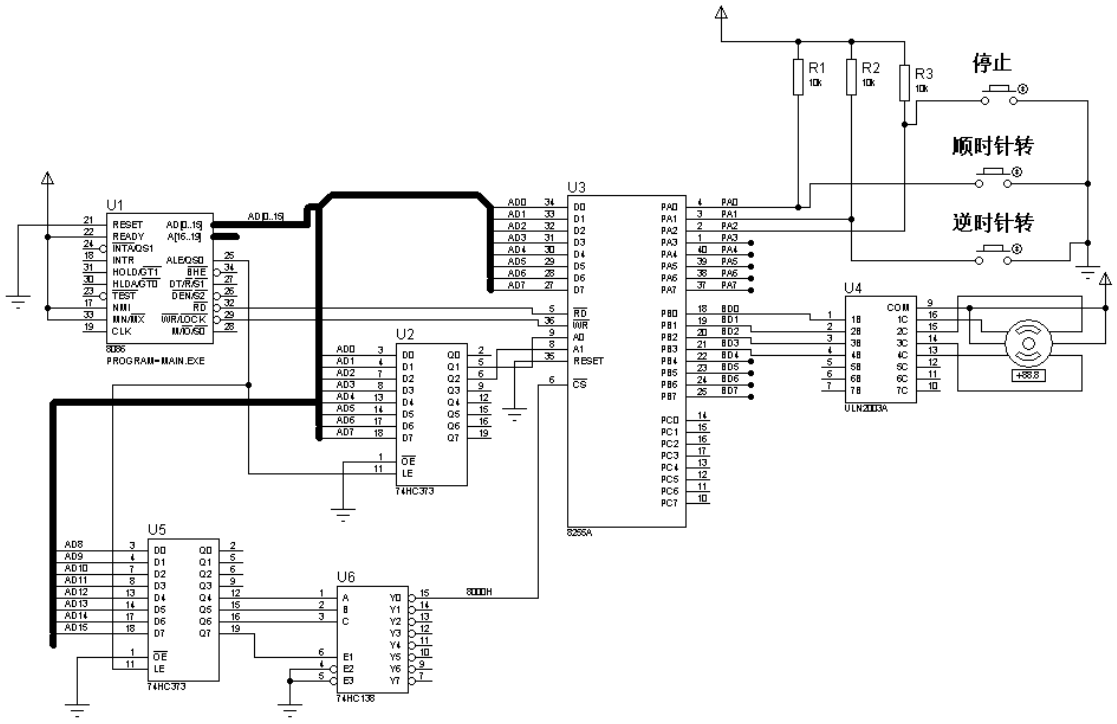
数码管显示 0-7

```
 #define IOA 9800H
 #define IOB 9002H
 #define IOCON 9006H
unsigned char table[10]={0xc0,0xf9,0xa4,0xb0,0x99,0x92,0x82,0xf8,0x80,0x90};
void outp(unsigned int addr, char data)
// Write a byte to the specified I/O port
 { __asm
     { mov dx, addr
       mov al, data
       out dx, al
     }
 }

void delay()
 {
     for(int t=0;t<100;t++)
     {
      }
 }

void main(void)
 {

    // Write your code here
     unsigned char i,j;
     outp(IOCON,0b10000000);
    while (1)
    {
        i=0x01;
        for(j=0;j<8;j++)
        {
        outp(IOA,table[j]);
        outp(IOB,i);
        delay();
        outp(IOA,0xFF);
        i<<=1;
        }
    }
 }
```

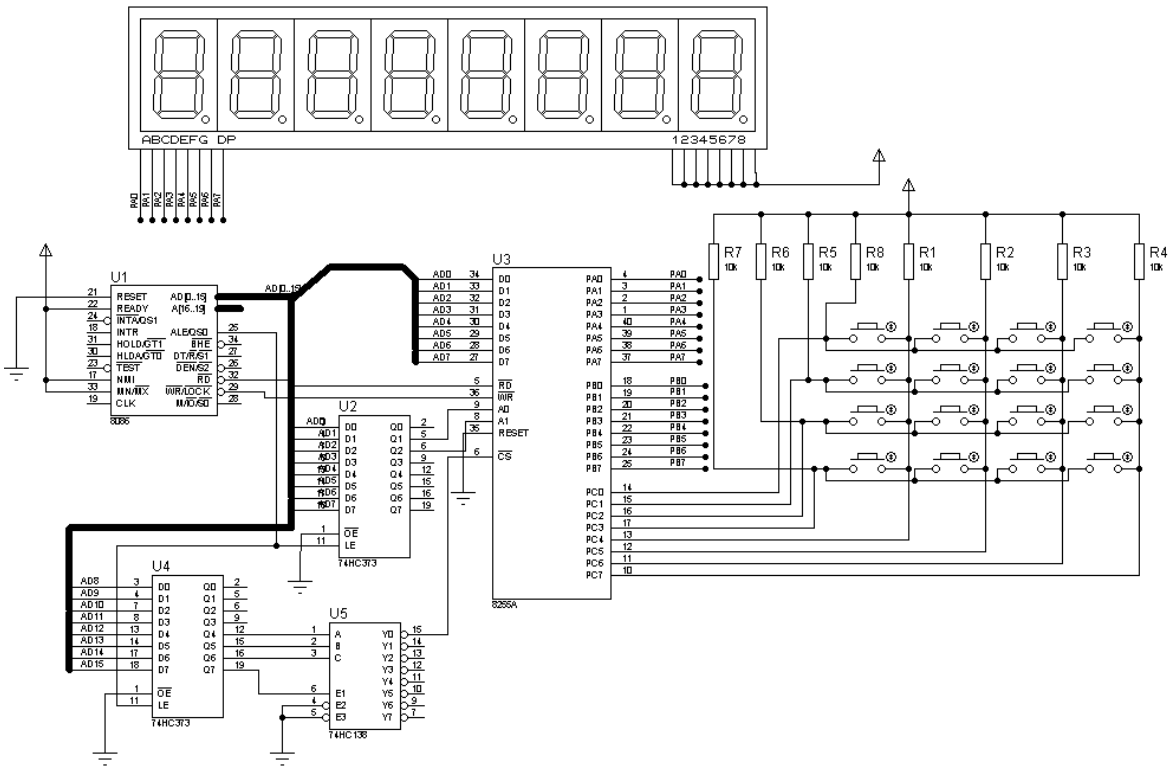

U1
8086
U2
74HC373
U3
8255A
ABCDEFG DP
12345678
Q1 NPN
Q2 NPN
Q3 NPN
Q4 NPN
Q5 NPN
Q6 NPN
Q7 NPN
Q8 NPN

步进电机


R1 10k
R2 10k
R3 10k
停止
顺时针转
逆时针转
U1
8086
PROGRAM=MAIN.EXE
U2
74HC373
U3
8255A
U4
ULN2003A
U5
74HC373
U6
74HC138
8000H

```
#define IOCON    8006H
#define IOA      8000H
#define IOB      8002H
#define IOC      8004H

unsigned char table1[8]={0x02,0x06,0x04,0x0c,0x08,0x09,0x01,0x03};
unsigned char table2[8]={0x03,0x01,0x09,0x08,0x0c,0x04,0x06,0x02};

void outp(unsigned int addr, char data)
// Write a byte to the specified I/O port
 { __asm
     { mov dx, addr
       mov al, data
       out dx, al
     }
 }
char inp(unsigned int addr)
// Read a byte from the specified I/O port
 { char result;
   __asm
     { mov dx, addr
       in al, dx
       mov result, al
     }
   return result;
 }
void delay()
{
     int i,j;
     for(i=10;i>0;i--)
     for(j=0;j<1;j++){}
}
void main(void)
{
     unsigned char i,tmp;
     outp(IOCON,0x90);
     i=0;
     while(1){
          i=inp(IOA);
          if(i==0xfd)   //逆时针
          while(1){
              for(tmp=0;tmp<8;tmp++)
                              {
               outp(IOB,table2[tmp]);
               i=inp(IOA);
               if(i==0xfe||i==0xfb)break;
               delay();
              }
              if(i==0xfe||i==0xfb)break;
       }
       if(i==0xfe)    //顺时针
       while(1){
              for(tmp=0;tmp<8;tmp++){
               outp(IOB,table1[tmp]);
               i=inp(IOA);
               if(i==0xfd||i==0xfb)break;
               delay();
              }
              if(i==0xfd||i==0xfb)break;
         }
        if(i==0xfb)outp(IOB,0xf0);    //停止
     }
}
```

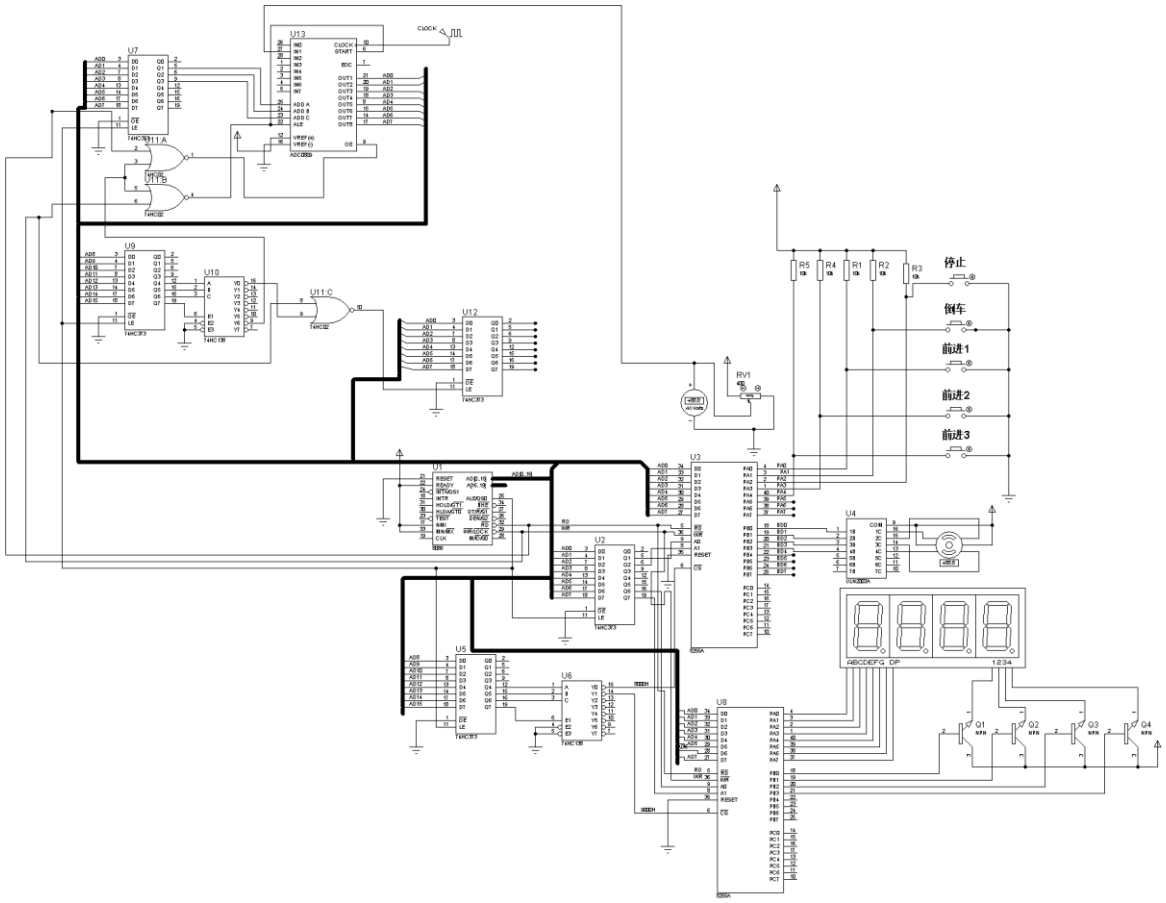
4*4 键盘




```
#define IOCON    8006H
#define IOA      8000H
#define IOB      8002H
#define IOC      8004H
unsigned char table[16]={0xc0,0xf9,0xa4,0xb0,0x99,0x92,0x82,0xf8,0x80,0x90,0x88,0x83,0xc6,0xa1,0x86,0x8e};
void outp(unsigned int addr, char data)
// Write a byte to the specified I/O port
 { __asm
     { mov dx, addr
       mov al, data
       out dx, al
     }
 }
char inp(unsigned int addr)
// Read a byte from the specified I/O port
 { char result;
   __asm
     { mov dx, addr
       in al, dx
       mov result, al
     }
   return result;
 }
void display(int i)
{
     outp(IOA,table[i]);
}
void main(void)
{
```

```
    unsigned char i,j,k,tmp;
    outp(IOCON,0x88);
    outp(IOA,0xFF);
    while(1){
        j=0x0e;
        for(k=0;k<4;k++){
            j-=k;
            if(j==0x08)
             j=0x07;
          outp(IOC,j);
            i=inp(IOC);i=inp(IOC);i=inp(IOC);//多读几次
            i|=0x0f;
            switch(i){
           case 0xef:display(4*k);break;
           case 0xdf:display(4*k+1);break;
           case 0xbf:display(4*k+2);break;
           case 0x7f:display(4*k+3);break;
            }
        }
    }
}
```

课设




```
// 第一片 用于读开关
#define IOCON 8006H
#define IOA       8000H
#define IOB       8002H
```

```
// 第二片 用于显示数码管
#define IOCON2   90C0H
#define IOA2     9000H
#define IOB2     9040H


#define AD08090E000H

// 档位
#define   STOP      0xfb
#define   BACK      0xfd
#define   SLOW      0xfe
#define   MID       0xf7
#define   FAST      0xef

unsigned char tableNum[10]={0xc0,0xf9,0xa4,0xb0,0x99,0x92,0x82,0xf8,0x80,0x90};

unsigned char table1[8]={0x02,0x06,0x04,0x0c,0x08,0x09,0x01,0x03}; // 单双八拍
unsigned char table2[8]={0x03,0x01,0x09,0x08,0x0c,0x04,0x06,0x02};

void outp(unsigned int addr, char data)
// Write a byte to the specified I/O port
 {
     __asm
     { mov dx, addr
        mov al, data
        out dx, al
     }
 }

char inp(unsigned int addr)
// Read a byte from the specified I/O port
{
    char result;
    __asm
     { mov dx, addr
        in al, dx
        mov result, al
     }
    return result;
}


unsigned int func(unsigned char gear, unsigned char number)
{
    unsigned int acc = (unsigned int)number;
    unsigned int speed = 0;
    if(gear==SLOW)
    {
        if(acc < 64)
       speed=4;
        else if(acc < 128)
       speed=3;
        else if(acc < 192)
       speed=2;
        else
       speed=1;
    }

    if(gear==MID)
    {
        if(acc < 64)
```

```
            speed=7;
            else if(acc < 128)
            speed=6;
            else if(acc < 192)
            speed=5;
            else
            speed=4;
        }
        if(gear==FAST)
        {
            if(acc < 64 )
            speed=9;
            else if(acc < 128)
            speed=8;
            else if(acc < 192)
            speed=7;
            else
            speed=6;
        }
        if(gear==BACK)
        {       speed=4;   }

        return speed;
}

void print(unsigned int speed)
{
        outp(IOA2, tableNum[speed]);
        outp(IOB2, 0x08);   //只写最后一个
}

void delay( int x)
{
        for(int i=0;i<x;i++)
        {
        }
}

void main(void)
{
        unsigned char gear,number;
        unsigned int speed;
        outp(IOCON,0x90);
        outp(IOCON2, 0x80);
          tmp=0xff;
        outp(IOC,tmp);
        while(1)
        {
            gear=inp(IOA);

            ////////////////////////////////////////////////////
              if(gear==STOP)
           {
                outp(IOB,0xf0);
                print(0);
           }
           ////////////////////////////////////////////////////

            ////////////////////////////////////////////////////
            if(gear==BACK)
            {
            while(1)
            {
```

```
        for(int i=0;i<8;i++)
        {
            delay(50);
            outp(IOB,table2[i]);
            gear=inp(IOA);
              if(gear==SLOW||gear==STOP||gear==MID||gear==FAST)
              break;
         outp(AD0809,0);
         number=inp(AD0809);
         speed = func(BACK, number);
         print(speed);

               tmp=0b11001100;
             outp(IOC,tmp);
        }
        if(gear==SLOW||gear==STOP||gear==MID||gear==FAST)
            break;
    }
     }
     ////////////////////////////////////////////////////////////

     ////////////////////////////////////////////////////////
     if(gear==SLOW)
     {
    while(1)
    {
        for(int i=0;i<8;i++)
        {
            delay(100);
            outp(IOB,table1[i]);
            gear=inp(IOA);
            if(gear==BACK||gear==STOP||gear==MID||gear==FAST)
              break;
            outp(AD0809,0);
         number=inp(AD0809);
         speed = func(SLOW, number);
         print(speed);

        }
        if(gear==BACK||gear==STOP||gear==MID||gear==FAST)
            break;
    }
     }
     ////////////////////////////////////////////////////////////
}
```