实验7：A/D 转换器的使用

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实验内容

1. 构建 ADC0809 与 CPU 总线间的接口电路.
2. 用查询法和定时法分别采集 8 个通道的 A/D 转换读数（又称采样值）,并转换成对应的电压,将结果显示出来.(各通道的输入电压自定义,可接地或者 Vcc)
3. 选取若干个数进行 D/A 转换,再通过 ADC0809 的某个通道进行循环采集和转换,并将结果显示出来.

程序代码

```
//2-1.c
#include <stdio.h>
#include <stdlib.h>
#include <conio.h>
#include <bios.h>
#include <ctype.h>
#include <process.h>

void key(void);
void delay(int time);

//****************根据查看配置信息修改下列符号值*******************
#define  IOY0       0x3000
//*****************************************************************
#define  AD0809     IOY0 + 0x00*2
int i;
char a[] = {"AD0809 IN0: "};

void main()
{
    int data;
    int datas[8];
    while(1)
    {
        //printf("%s", a);
        for(i=0;i<8;i++){
        outp(AD0809, 0x00+i);//
        delay(0x700);
        datas[i] = inp(AD0809);//AD0809读这个地址的值

        }
        for(i=0;i<8;i++){
    //  printf("%02X\r\n", datas[i]);
    printf("AD0809 IN%d: %d\n", i,datas[i]);
        }
        key();
    }
}

void key(void)
```

```
{
    if (bioskey(1) != 0)
    {
        exit(0);
    }
}

void delay(int time)
{
    int i;
    int j;
    for(i=0;i<=time;i++)
    {
        for(j=0;j<=0x7000;j++)
        {   }
    }
    return;
}
```

```
//2-2.c
#include <stdio.h>
#include <stdlib.h>
#include <conio.h>
#include <bios.h>
#include <ctype.h>
#include <process.h>

void key(void);
void delay(int time);

//*********************************************************************
#define  AD0809     0x3070  //0111 0000

#define  MY8255_A     0x30b0  //1011 0000
#define  MY8255_B     MY8255_A + 2
#define  MY8255_C     MY8255_A + 4
#define  MY8255_CMD   MY8255_A + 6
int i;
char a[] = {"AD0809 IN0: "};

void main()
{
    int data,eoc;
    int datas[8];
    outportb(MY8255_CMD,0x91);//A低四位输入
    while(1)
    {
        //printf("%s", a);
        for(i=0;i<8;i++){
            outp(AD0809, 0x00+i);
            //delay(0x700);
            //datas[i] = inp(AD0809);

            while(1){
                eoc=inp(MY8255_A);

                eoc=eoc&0x01;
```

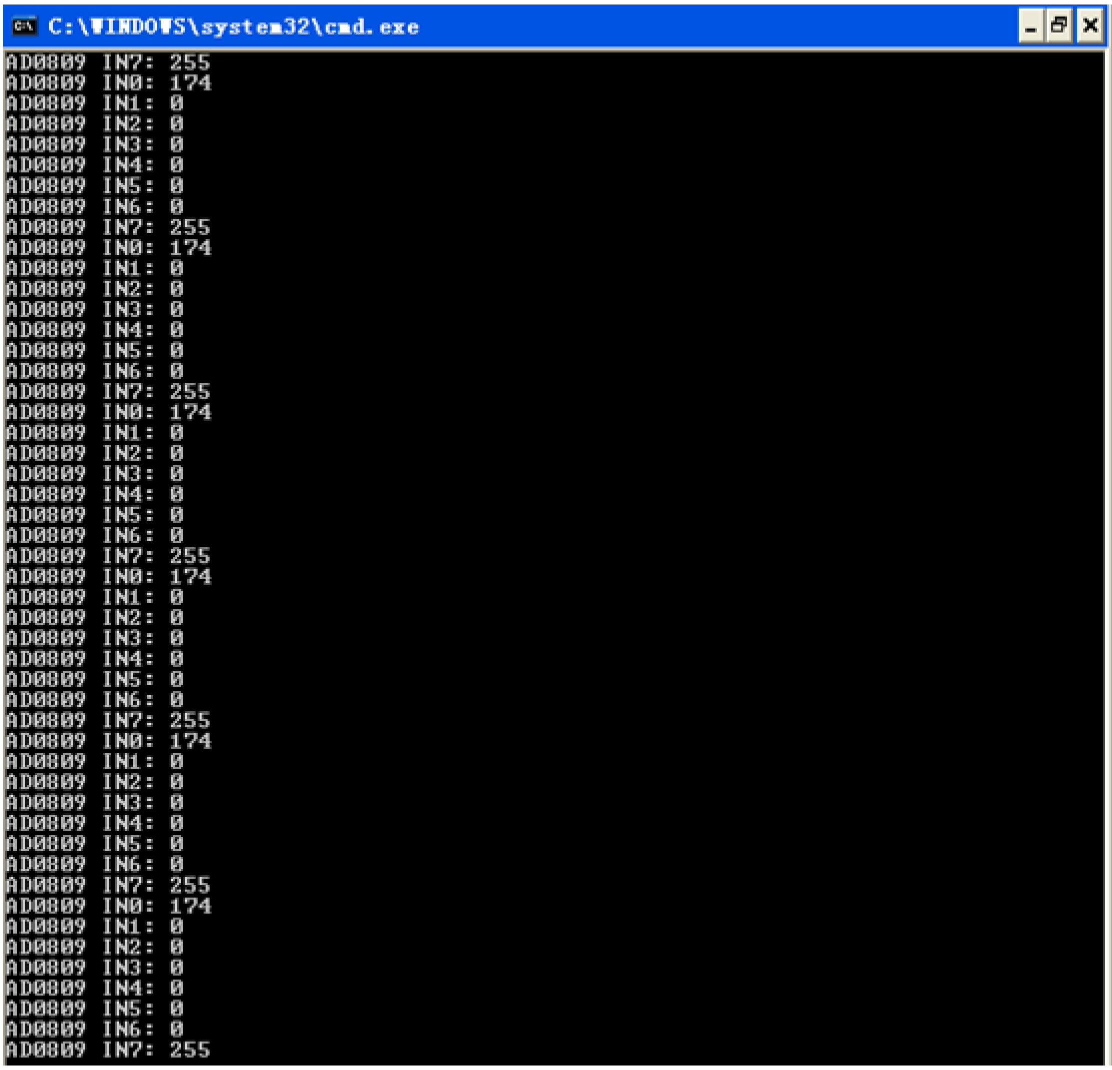
```
                //printf("eoc:%d\n",eoc);
                if(eoc==0x01)
                {
                    datas[i] = inp(AD0809);//AD0809读这个地址的值
                    break;
                }
            }//while
        }//for
        for(i=0;i<8;i++){
            printf("AD0809 IN%d: %d\n", i,datas[i]);
        }
        key();
    }
}

void key(void)
{
    if (bioskey(1) != 0)
    {
        exit(0);
    }
}

void delay(int time)
{
    int i;
    int j;
    for(i=0;i<=time;i++)
    {
        for(j=0;j<=0x7000;j++)
        {   }
    }
    return;
}
```

```
//3.c
#include <stdio.h>
#include <stdlib.h>
#include <conio.h>
#include <bios.h>
#include <ctype.h>
#include <process.h>

void key(void);
void delay(int time);

//*********************************************************************
#define  AD0809     0x3070  //0111 0000
#define  DA    0x30d0 //1101 0000
#define  MY8255_A     0x30b0  //1011 0000
#define  MY8255_B     MY8255_A + 2
#define  MY8255_C     MY8255_A + 4
#define  MY8255_CMD   MY8255_A + 6
int i;
char a[] = {"AD0809 IN0: "};

void main()
```

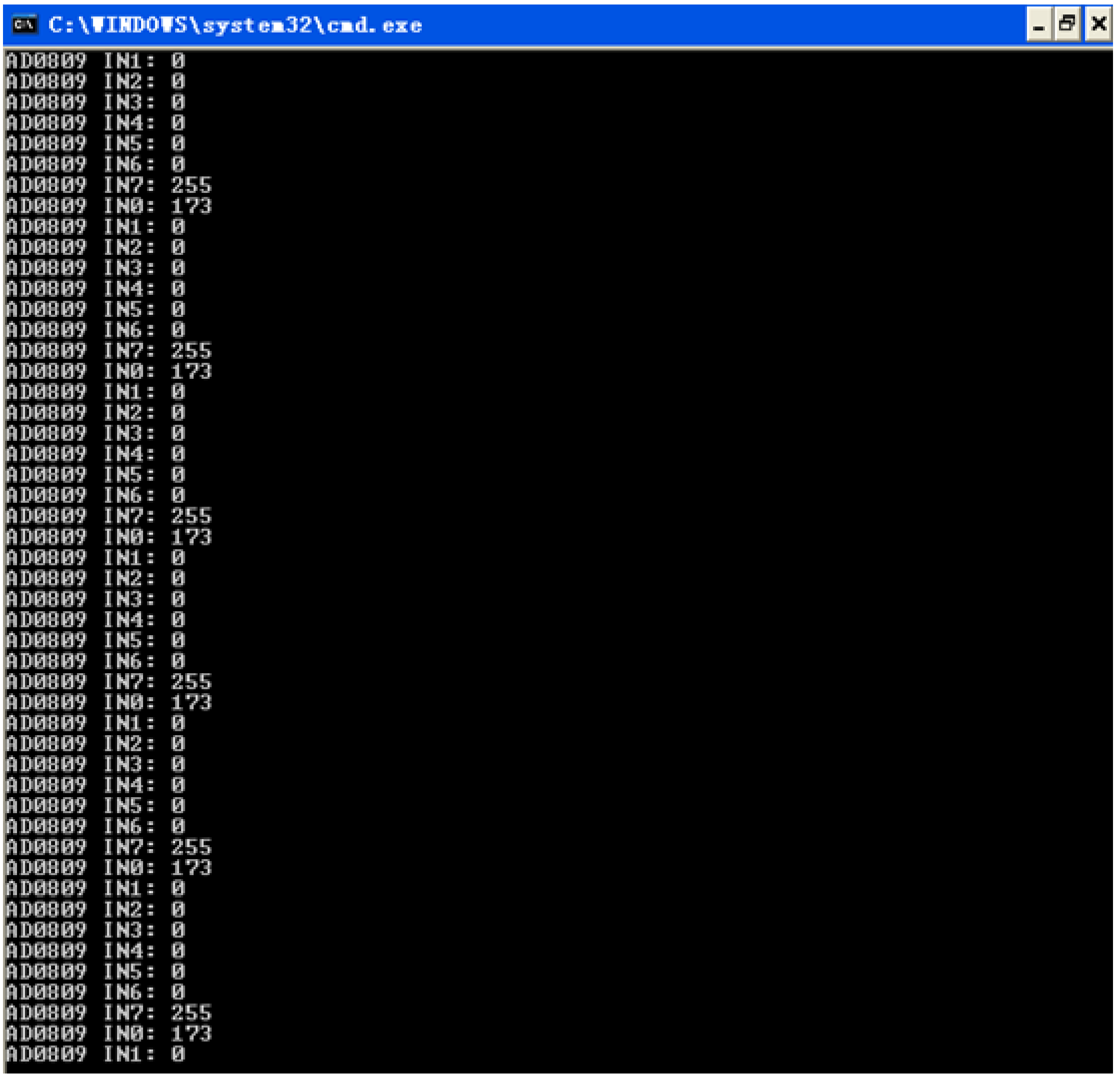
```
{
    int data,eoc;
    outportb(MY8255_CMD,0x93);//A输入,B输入
    while(1)
    {
            outp(AD0809, 0x00);
            while(1){
                eoc=inp(MY8255_A);

                eoc=eoc&0x01;
                if(eoc==0x01)
                {
                    data= inp(AD0809);//AD0809读这个地址的值
                    printf("IN0:%d\n",data);
                    break;
                }
            }//while
        delay(0x700);
        key();
    }

}

void key(void)
{
    if (bioskey(1) != 0)
    {
        exit(0);
    }
}

void delay(int time)
{
    int i;
    int j;
    for(i=0;i<=time;i++)
    {
        for(j=0;j<=0x7000;j++)
        {   }
    }
    return;
}
```

实验连线图

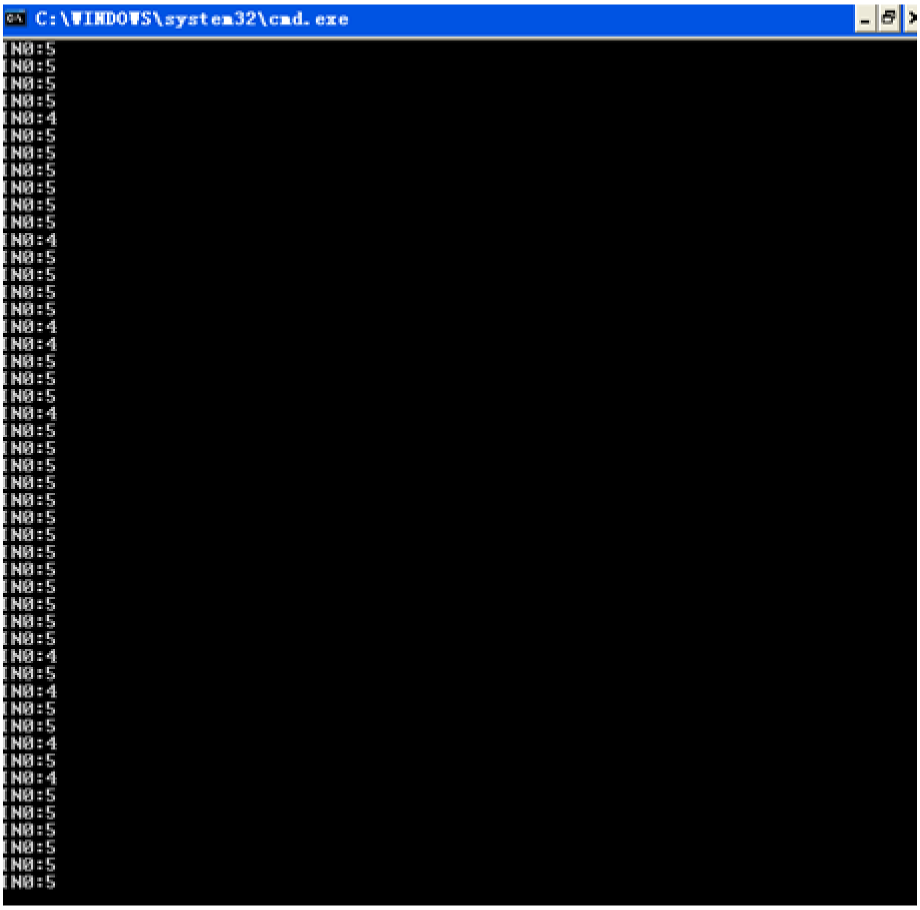
2-1:


C:\WINDOWS\system32\cmd.exe
AD0809 IN7: 255
AD0809 IN0: 174
AD0809 IN1: 0
AD0809 IN2: 0
AD0809 IN3: 0
AD0809 IN4: 0
AD0809 IN5: 0
AD0809 IN6: 0
AD0809 IN7: 255
AD0809 IN0: 174
AD0809 IN1: 0
AD0809 IN2: 0
AD0809 IN3: 0
AD0809 IN4: 0
AD0809 IN5: 0
AD0809 IN6: 0
AD0809 IN7: 255
AD0809 IN0: 174
AD0809 IN1: 0
AD0809 IN2: 0
AD0809 IN3: 0
AD0809 IN4: 0
AD0809 IN5: 0
AD0809 IN6: 0
AD0809 IN7: 255
AD0809 IN0: 174
AD0809 IN1: 0
AD0809 IN2: 0
AD0809 IN3: 0
AD0809 IN4: 0
AD0809 IN5: 0
AD0809 IN6: 0
AD0809 IN7: 255
AD0809 IN0: 174
AD0809 IN1: 0
AD0809 IN2: 0
AD0809 IN3: 0
AD0809 IN4: 0
AD0809 IN5: 0
AD0809 IN6: 0
AD0809 IN7: 255
AD0809 IN0: 174
AD0809 IN1: 0
AD0809 IN2: 0
AD0809 IN3: 0
AD0809 IN4: 0
AD0809 IN5: 0
AD0809 IN6: 0
AD0809 IN7: 255

2-2:


C:\WINDOWS\system32\cmd.exe
AD0809 IN1: 0
AD0809 IN2: 0
AD0809 IN3: 0
AD0809 IN4: 0
AD0809 IN5: 0
AD0809 IN6: 0
AD0809 IN7: 255
AD0809 IN0: 173
AD0809 IN1: 0
AD0809 IN2: 0
AD0809 IN3: 0
AD0809 IN4: 0
AD0809 IN5: 0
AD0809 IN6: 0
AD0809 IN7: 255
AD0809 IN0: 173
AD0809 IN1: 0
AD0809 IN2: 0
AD0809 IN3: 0
AD0809 IN4: 0
AD0809 IN5: 0
AD0809 IN6: 0
AD0809 IN7: 255
AD0809 IN0: 173
AD0809 IN1: 0
AD0809 IN2: 0
AD0809 IN3: 0
AD0809 IN4: 0
AD0809 IN5: 0
AD0809 IN6: 0
AD0809 IN7: 255
AD0809 IN0: 173
AD0809 IN1: 0
AD0809 IN2: 0
AD0809 IN3: 0
AD0809 IN4: 0
AD0809 IN5: 0
AD0809 IN6: 0
AD0809 IN7: 255
AD0809 IN0: 173
AD0809 IN1: 0
AD0809 IN2: 0
AD0809 IN3: 0
AD0809 IN4: 0
AD0809 IN5: 0
AD0809 IN6: 0
AD0809 IN7: 255
AD0809 IN0: 173
AD0809 IN1: 0

3:


C:\WINDOWS\system32\cmd.exe
IN0:5
IN0:5
IN0:5
IN0:5
IN0:4
IN0:5
IN0:5
IN0:5
IN0:5
IN0:5
IN0:5
IN0:4
IN0:5
IN0:5
IN0:5
IN0:5
IN0:4
IN0:4
IN0:5
IN0:5
IN0:5
IN0:4
IN0:5
IN0:5
IN0:5
IN0:5
IN0:5
IN0:5
IN0:5
IN0:5
IN0:5
IN0:5
IN0:5
IN0:5
IN0:5
IN0:4
IN0:5
IN0:4
IN0:5
IN0:5
IN0:4
IN0:5
IN0:4
IN0:5
IN0:5
IN0:5
IN0:5
IN0:5
IN0:5