

Communication
protocol definition
(first draft)

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1 agreement overview

Serial port: 9600,8,N,1

2 large screen protocol commands

2.1.1 Big screen agreement

Example: source1 to TV 1, 1 to 2, 1 to 3, 1 to 4

(1) Large screen switching protocol (I*O%)

write: 31 2A 31 25 31 2A 32 25 31 2A 33 25 31 2A 34 25

2.1.2 Plan

Save (SAVEX) : 53 41 56 45 31

Read (CALLX) : 43 41 4C 4C 31

3 matrix protocol command format

NO	Data content	Data meaning	Byte length	Description
1	#@	Frame header	2	The beginning of the data, #@ ASC Code value
2	1	Target type	1	Type of receiving device
3	1	Target address	1	Receive data device address, hexadecimal, reference ID assignment
4	x	Main command word	1	send command
5	X	Subcommand word	1	
6	1	Package number	1	Current package number
7	N	Data length	1	Keep consistent with the number of valid data bytes. Specific length reference protocol analysis of different commands
8	X...X	valid data	N	The specific content refers to the protocol analysis of different devices.
9	Ck	check	1	From the frame header to the sum check of valid data
10	!\$%	End of frame	3	End of data, !\$% ASC Code value

3.1.1 Rx Status 0x0D

read: 23 40 12 00 0D 02 01 01 FF 85 21 24 25

Answer: 23 40 12 00 0D 42 01 04 Status1...Status4 Sum 21 24 25

3.1.2 Matrix Switching

Example: In 1 to Out 1, In 1 to Out 2, In 1 to Out 3, In 1 to Out 4

(1) Matrix protocol 0x11

write: 23 40 FF 00 11 81 01 08 00 00 00 01 00 02 00 03 03 21 24 25

3.2 Protocol procedure

```
typedef struct TprotoNow
```

```
{
```

```
    unsigned char Head1;
    unsigned char Head2;
    unsigned char Type;
    unsigned char Addr;
    unsigned char Com_main;
    unsigned char Com_sub;
    unsigned char Frame;
    unsigned char Length;
    unsigned char Data[100];
    unsigned char Sum;
    unsigned char Tail1;
    unsigned char Tail2;
    unsigned char Tail3;
```

```
}PROTONOW;
```

```
PROTONOW pro_rx;
```

```
unsigned char cal_check(unsigned char *ptr,unsigned short length)
```

```
{
```

```
    unsigned char check_val=0;
    while(length>0)
    {
        check_val=check_val+*ptr;
        ptr++;
        length--;
    }
    return check_val;
```

```
}
```

```
void Make_Data_Pro(unsigned char Com,unsigned char SubCom,unsigned char *data,unsigned char length)
```

```
{
```

```
    unsigned char pos=0;
    pro_rx.Head1='#';
    pos++;
    pro_rx.Head2='@';
    pos++;
    pro_rx.Type=0x12;
    pos++;
    pro_rx.Addr=0x00;
    pos++;
    pro_rx.Com_main=Com;
    pos++;
    pro_rx.Com_sub=SubCom;
    pos++;
    pro_rx.Frame=1;
    pos++;
    pro_rx.Length=length;
    pos++;
    memcpy(&pro_rx.Data[0],data,length);
    pos=pos+length;
    pro_rx[0].Sum=cal_check((unsigned char *)&pro_rx,pos);
    pro_rx.Tail1='!';
    pro_rx.Tail2='$';
    pro_rx.Tail3='%';
}
```