

深圳力先电子有限公司

液晶显示模块使用手册

型号：LX12864P1 系列

版本：2.0

客户确认			
客户确认：		盖章	
客户建议：			

编制		
拟制	确认	批准

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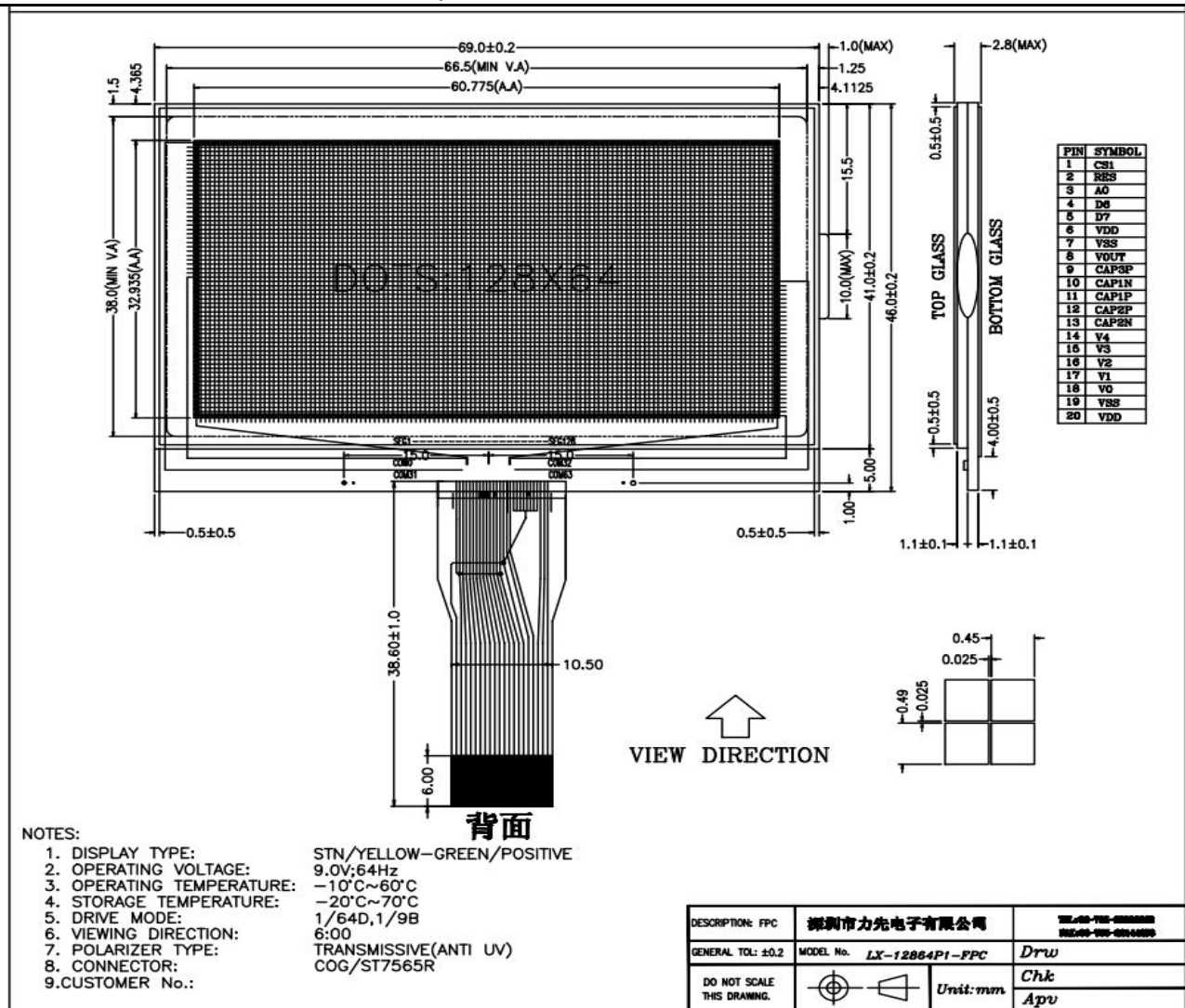
RECORD OF REVISION

Version	Revision Date	Contents	Editor
2.0	2015-01-12	New Release	YOU

1. PHYSICAL DATA

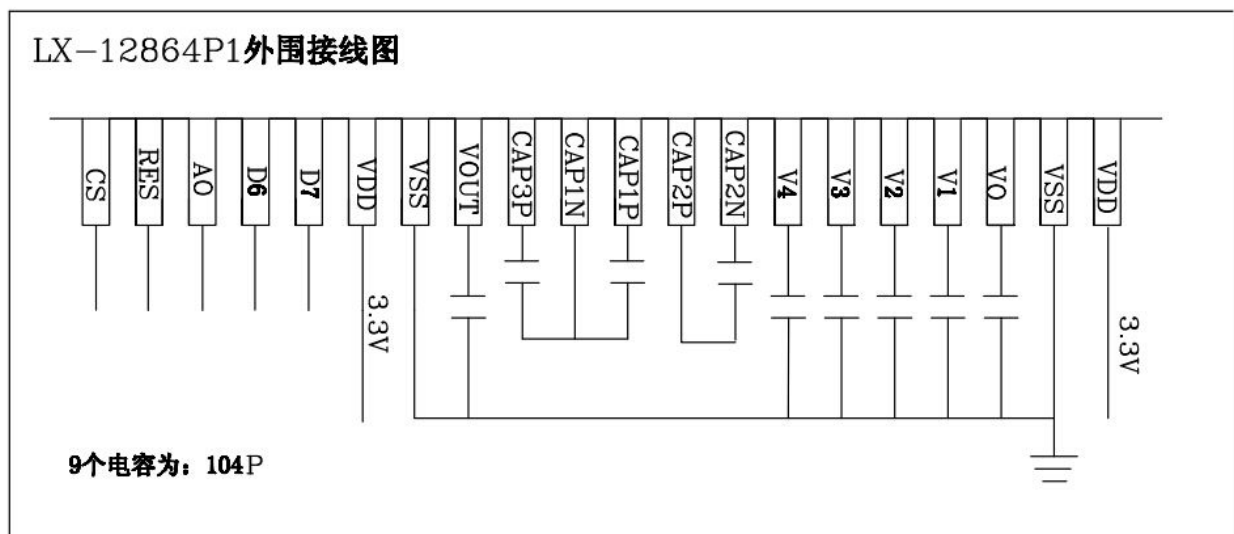
Item	Contents	Unit
LCD type	STN/黄绿/正显	---
LCD duty	1/64	---
LCD bias	1/9	---
Viewing direction	6	o'clock
Module size (W×H×T)	69×48×2.8	mm
Number of dots(W×H)	128 × 64	dots
Dot Size(W×H))	0.45×0.49	mm
Dot Pitch(W×H))	0.025×0.025	mm
液晶屏工作温度	-10 至+60 度	
液晶屏储存温度	-20 至+70 度	

2. EXTERNAL DIMENSIONS

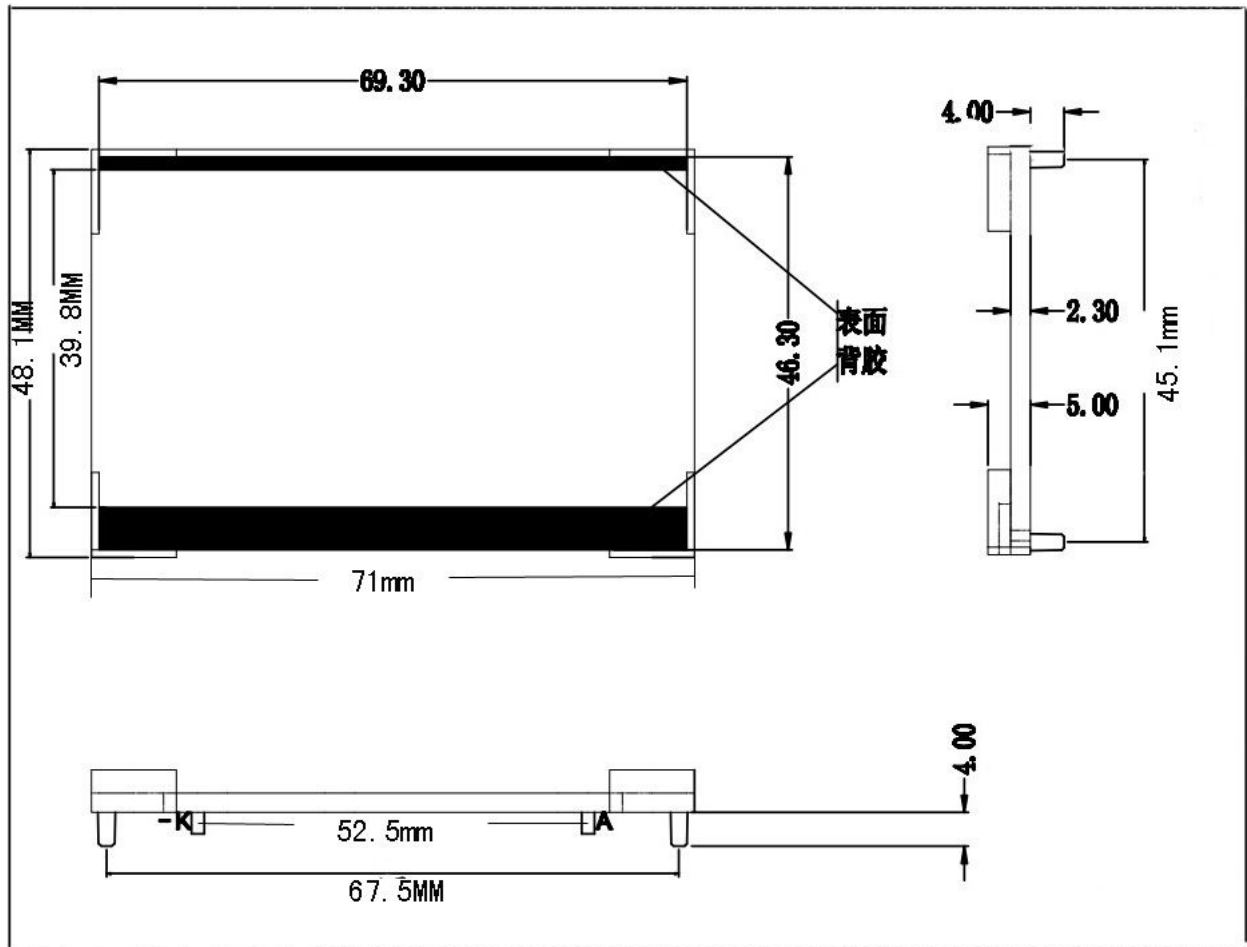


以上液晶图是插座式，20 并 0.5mm 间距，下接触。为串口。按图右边是第一脚（CS）

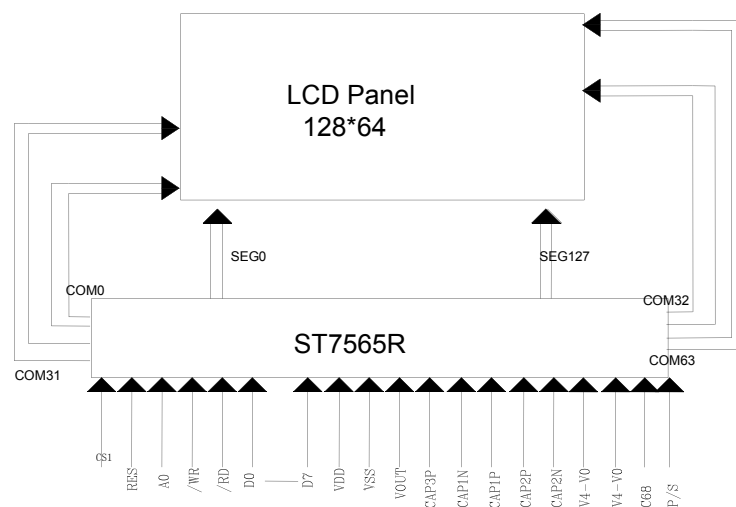
3. BLOCK DIAGRAM



背光平面图(背光供电=3V, 电流=45Ma)



IC 芯片逻辑



PIN NO.	Symbol	Level	Description
1	CS	H/L	Chip select.
2	RES	H/L	Reset pin.
3	A0	H/L	A0="H": data. A0="L": Instruction command.
4	DB6 (SCL)		-----
5	DB7 (SI)		
6	VDD	---	Power supply.
7	VSS	---	Ground.
8	VOOUT	---	Negative power for LCD.
9	C3+	---	DC/DC voltage converter. Connect a capacitor between this terminal and the CAP2N terminal.
10	C1+	---	DC/DC voltage converter. Connect a capacitor between this terminal and the CAP1N terminal.
11	C1-		DC/DC voltage converter. Connect a capacitor between this terminal and the CAP1P terminal.
12	C2+		DC/DC voltage converter. Connect a capacitor between this terminal and the CAP1N terminal. Reset signal.
13	C2-		DC/DC voltage converter. Connect a capacitor between this terminal and the CAP2N terminal.
14~17	V1~V4	---	This is a multi-level power supply for the liquid crystal drive.
18	V0	---	Contrast adjustment input.
29	VSS		Ground.
20	VDD		Power supply.

4. ABSOLUTE MAXIMUM RATINGS

(1)Electrical Absolute Ratings

Item	Symbol	Min.	Max.	Unit	Note
Power Supply for Logic	V _{DD} -V _{SS}	0	3.47	Volt	Note 1
Power Supply for LCD	V _{LCD}	0	13.0	Volt	
Input Voltage	V _I	0	V _{DD}	Volt	

Note 1 : Operator should be grounded during handling LCM

(2) Environmental Absolute Maximum Ratings

Item	Normal Temperature				Wide Temperature			
	Operating		Storage		Operating		Storage	
	Min.	Max,	Min.	Max,	Min.	Max,	Min.	Max,
Ambient Temperature	0℃	+50℃	-10℃	+60℃	-20℃	+70℃	-30℃	+80℃
Humidity(without condensation)	Note 2,4		Note 3,5		Note 4,5		Note 4,6	

Note 2 $T_a \leq 50^\circ\text{C}$: 80% RH max

$T_a > 50^\circ\text{C}$: Absolute humidity must be lower than the humidity of 85%RH at 50°C

Note 3 T_a at -20°C will be <48hrs at 70°C will be <120hrs when humidity is higher than 75%.

Note 4 Background color changes slightly depending on ambient temperature. This phenomenon is reversible.

Note 5 $T_a \leq 70^\circ\text{C}$: 75RH max

$T_a > 70^\circ\text{C}$: absolute humidity must be lower than the humidity of 75%RH at 70°C

Note 6 T_a at -20°C will be <48hrs, at 80°C will be <120hrs when humidity is higher than 75%.

5. ELECTRICAL CHARACTERISTICS

DC Characteristics

(VDD=3.3V; VSS=0V; $T_a = -20 \sim 70^\circ\text{C}$)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Power Supply for Logic	$V_{DD}-V_{SS}$	---	3.14	3.3	3.47	Volt
Input Voltage	V_{IL}	---	VSS	---	$0.2V_{DD}$	Volt
	V_{IH}	---	$0.8V_{DD}$	---	V_{DD}	Volt
Output Voltage	V_{OH}	$I_{OL} = -0.5\text{mA}$	$0.8V_{DD}$	---	V_{DD}	Volt
	V_{OL}	$I_{OL} = +0.5\text{mA}$	VSS	---	$0.2V_{DD}$	Volt
LCM Recommend LCD Module Driving Voltage	V_{LCD}	$T_a = 0^\circ\text{C}$	---	---	---	Volt
		$T_a = 25^\circ\text{C}$	9.15	9.35	9.6	
		$T_a = 50^\circ\text{C}$	---	---	---	
Power Supply Current for LCM	$I_{DD}(\text{B/L OFF})$	---	---	---	TBD	mA

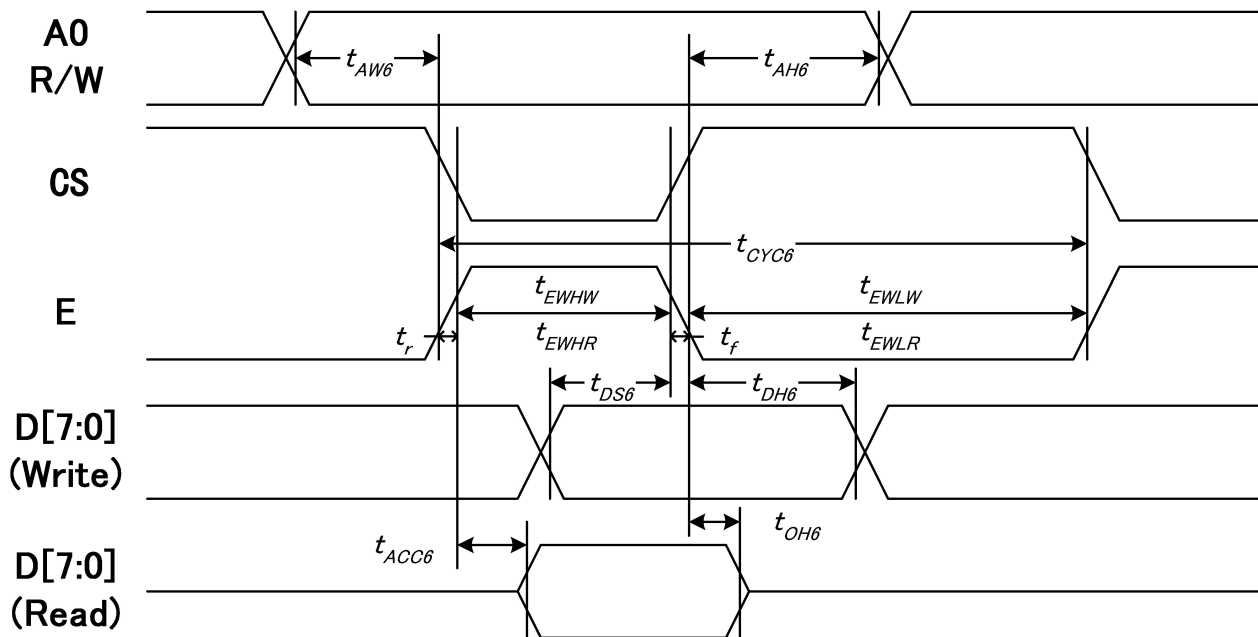
AC Characteristics

System Bus Timing for 6800 Series MPU

(VDD=3.3V, $T_a = 25^\circ\text{C}$)

Item	Signal	Symbol	Condition	Min.	Max.	Unit
Address setup time	A0	tAW6		0	—	ns

Address hold time		tAH6		0	—
System cycle time	E	tCYC6		240	—
Enable L pulse width (WRITE)		tEWLW		80	—
Enable H pulse width (WRITE)		tEWHW		80	—
Enable L pulse width (READ)		tEWLR		80	—
Enable H pulse width (READ)		tEWHR		80	
Write data setup time	D[7:0]	tDS6		30	—
Write data hold time		tDH6		10	—
Read data access time		tACC6	CL = 100 pF	—	70
Read data output disable time		tOH6	CL = 100 pF	10	50

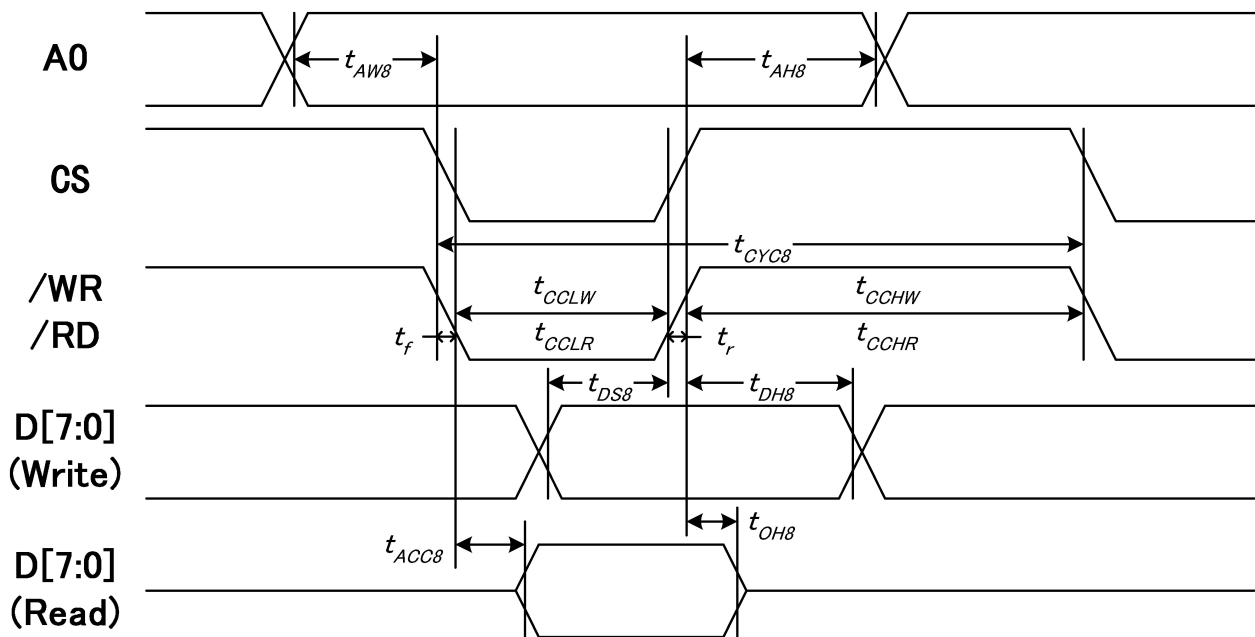


System Bus Timing for 8080 Series MPU

(VDD=3.3V, Ta=25°C)

Item	Signal	Symbol	Condition	Min.	Max.	Unit
Address setup time	A0	tAW8		0	—	ns

Address hold time		t_{AH8}		0	—
System cycle time	/WR	t_{CYC8}		240	—
/WR L pulse width (WRITE)		t_{CCLW}		80	—
/WR H pulse width (WRITE)		t_{CCHW}		80	—
/RD L pulse width (READ)	RD	t_{CCLR}		80	—
/RD H pulse width (READ)		t_{CCHR}		80	
WRITE Data setup time	D[7:0]	t_{DS8}		30	—
WRITE Data hold time		t_{DH8}		10	—
READ access time		t_{ACC8}	CL = 100pF	—	70
READ Output disable time		t_{OH8}	CL = 100pF	5	50

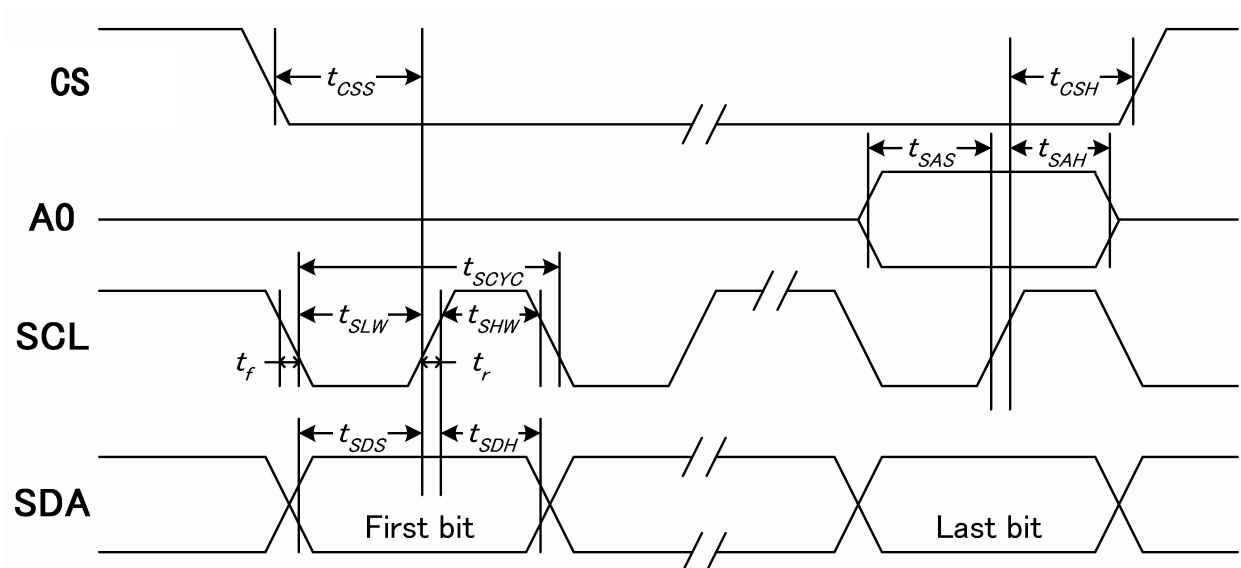


System Bus Timing for 4-Line Serial Interface

(VDD=3.3V, Ta=25°C)

Item	Signal	Symbol	Condition	Min.	Max.	Unit
------	--------	--------	-----------	------	------	------

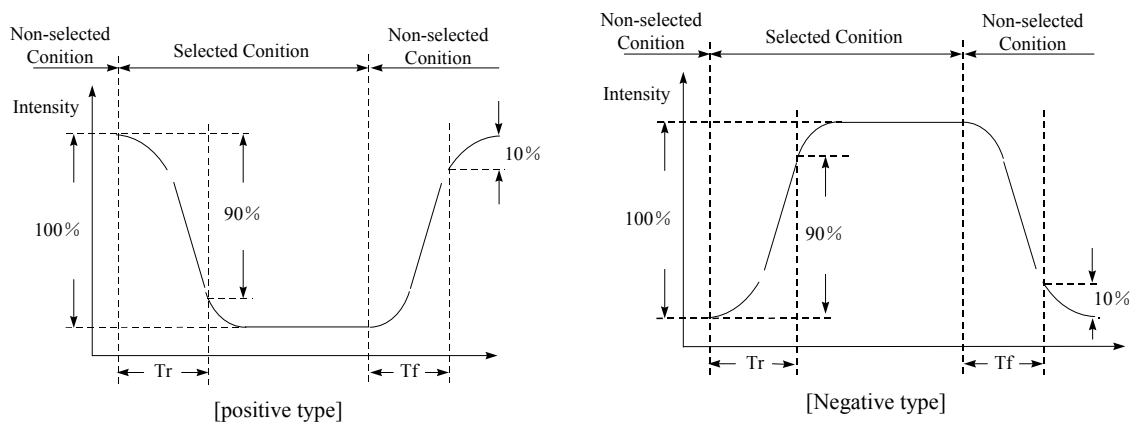
Serial clock period	SCLK	tSCYC		50	---	ns
SCLK “H” pulse width		tSHW		25	---	
SCLK “L” pulse width		tSLW		25	---	
Address setup time	A0	tSAS		20	---	
Address hold time		tSAH		10	---	
Data setup time	SDA	tSDS		20	---	
Data hold time		tSDH		10	---	
CS-SCLK time	CS	tCSS		20	---	
CS-SCLK time		tCSH		40	---	



6. ELECTRO-OPTICAL CHARACTERISTICS

Item	Symbol	Condition	Min.	Typ.	Max.	Unit	note
Viewing angle range	θ_f (12 o'clock)	When $Cr \geq 2$	35	---	---	Degree	Note 2 Note 3 Note 4
	θ_b (6 o'clock)		30	---	---		
	θ_l (9 o'clock)		30	---	---		
	θ_r (3 o'clock)		30	35	---		
Rise Time	T_r	$V_{DD}-V_0=8.7V$ $T_a=25^\circ C$		112		mS	Note 1
Fall Time	T_f			250			
Contrast	Cr		---	5.4	---		

[Note 1] Definition of Response Time (T_r , T_f)

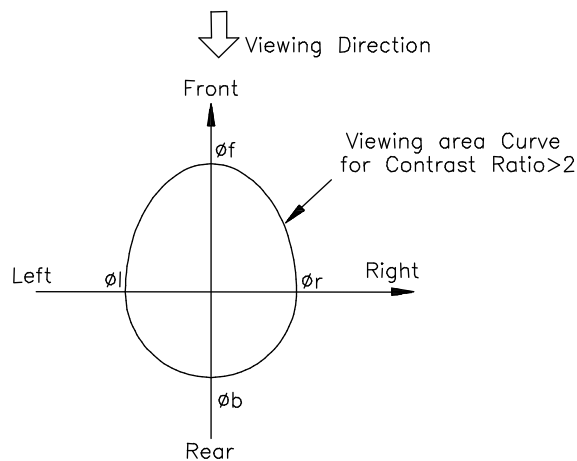


Conditions:

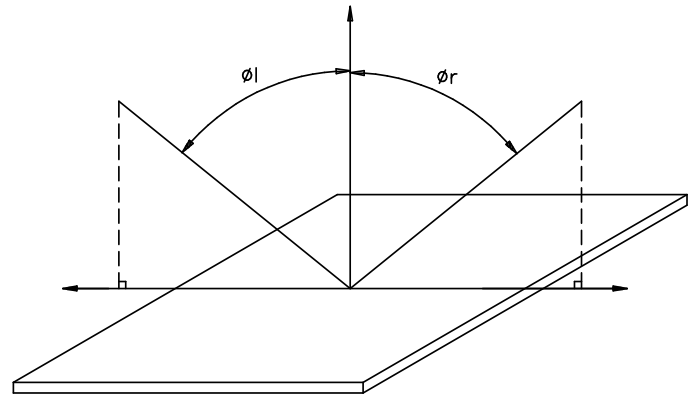
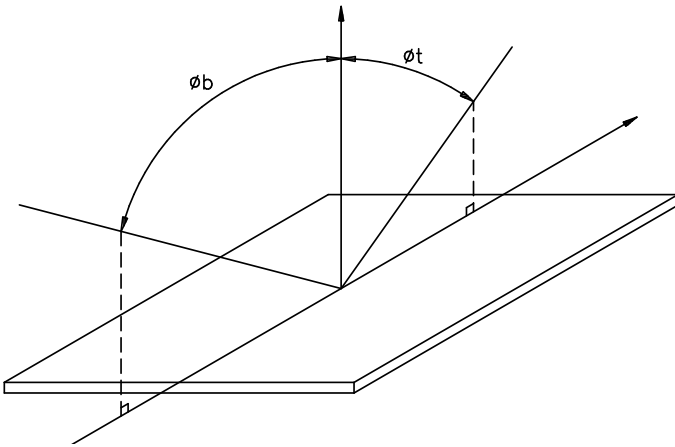
Operating Voltage : V_{op}
Frame Frequency : 64 Hz

Viewing Angle(θ , φ): 0° , 0°
Driving Wave form : 1/N duty, 1/a bias

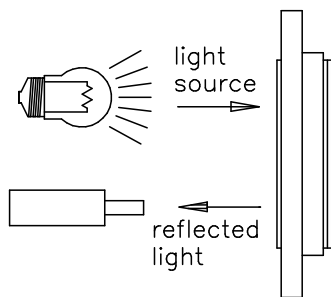
[Note 2] Definition of Viewing Direction



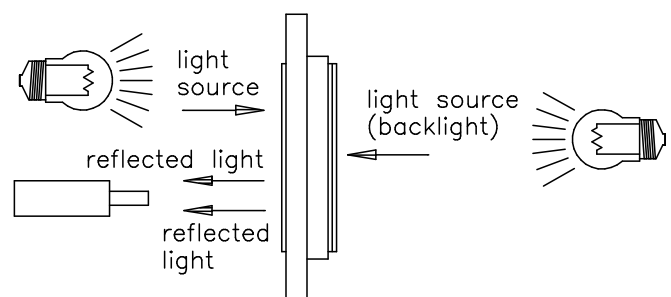
[Note 3] Definition of viewing angle



[Note 4] Description of Measuring Equipment



Reflective type



Transflective type

7. OPERATING PRINCIPLES & METHODS

INSTRUCTION	A0	R/W	COMMAND BYTE								DESCRIPTION
			D7	D6	D5	D4	D3	D2	D1	D0	
(1) Display ON/OFF	0	0	1	0	1	0	1	1	1	D	D=1, display ON D=0, display OFF
(2) Set Start Line	0	0	0	1	S5	S4	S3	S2	S1	S0	Set display start line
(3) Set Page Address	0	0	1	0	1	1	Y3	Y2	Y1	Y0	Set page address
(4) Set Column Address	0	0	0	0	0	1	X7	X6	X5	X4	Set column address (MSB)
	0	0	0	0	0	0	X3	X2	X1	X0	Set column address (LSB)
(5) Read Status	0	1	0	MX	D	RST	0	0	0	0	Read IC Status
(6) Write Data	1	0	D7	D6	D5	D4	D3	D2	D1	D0	Write display data to RAM
(7) Read Data	1	1	D7	D6	D5	D4	D3	D2	D1	D0	Read display data from RAM
(8) SEG Direction	0	0	1	0	1	0	0	0	0	MX	Set scan direction of SEG MX=1, reverse direction MX=0, normal direction
(9) Inverse Display	0	0	1	0	1	0	0	1	1	INV	INV =1, inverse display INV =0, normal display
(10) All Pixel ON	0	0	1	0	1	0	0	1	0	AP	AP=1, set all pixel ON AP=0, normal display
(11) Bias Select	0	0	1	0	1	0	0	0	1	BS	Select bias setting 0=1/9; 1=1/7

LCD Module Specification

Lx-12864P1

(12) Read-modify-Write	0	0	1	1	1	0	0	0	0	0	Column address increment: Read:+0 , Write:+1
(13) END	0	0	1	1	1	0	1	1	1	0	Exit Read-modify-Write mode
(14) RESET	0	0	1	1	1	0	0	0	1	0	Internal reset
(15) COM Direction	0	0	1	1	0	0	MY	-	-	-	Set output direction of COM MY=1, reverse direction MY=0, normal direction
(16) Power Control	0	0	0	0	1	0	1	VB	VR	VF	Control built-in power circuit ON/OFF
(17) Regulation Ratio	0	0	0	0	1	0	0	RR2	RR1	RR0	Select regulation resistor ratio
(18) Electronic volume mode set Electronic volume register set	0	0	1	0	0	0	0	0	0	1	Set the V0 output voltage electronic volume register
	0	0	0	0	EV5	EV4	EV3	EV2	EV1	EV0	
(19) Static indicator ON/OFF Static indicator Register set	0	0	1	0	1	0	1	1	0	0/1	0: OFF, 1: ON
	0	0	0	0	0	0	0	0	0	Mode	Set the flashing mode
(20) Page Blink Page selection	0	0	1	1	0	1	0	1	0	1	P7 - 0: 1 - blinking page 0 - no blinking, normal display
	0	0	P7	P6	P5	P4	P3	P2	P1	P0	
(21). Driving Mode Set Mode selection	0	0	1	1	0	1	0	0	1	0	Set the driving mode register
	0	0	0	0	0	0	0	0	0	D0	Driving capability (D0): (1)>(0)
(22) Power Save	0	0	Compound Command								Display OFF + All Pixel ON
(23) NOP	0	0	1	1	1	0	0	0	1	1	No operation
(24) Test	0	0	1	1	1	1	-	-	-	-	Do NOT use. Reserved for testing.
	0	0	1	1	0	1	0	1	0	0	
(25) Oscillator Frequency selection	0	0	1	1	1	0	0	1	0	0/1	20KHz/33KHz (Default) 16.4KHz/ 27.06KHz

8. RELIABILITY

Environmental Test				
No.	Test Item	Content of Test	Test Condition	Applicable Standard
1	High temperature storage	Endurance test applying the high storage temperature for a long time.	80 °C 200 hrs	-----
2	Low temperature storage	Endurance test applying the low storage temperature for a long time.	-30 °C 200 hrs	-----
3	High temperature operation	Endurance test applying the electric stress (Voltage & Current) and the thermal stress to the element for a long time.	70 °C 200 hrs	-----
4	Low temperature operation	Endurance test applying the electric stress under low temperature for a long time.	-20 °C 200 hrs	-----
5	High temperature / Humidity storage	Endurance test applying the high temperature and high humidity storage for a long time.	70 °C , 90 %RH 96 hrs	MIL-202E-103B JIS-C5023
6	High temperature / Humidity operation	Endurance test applying the electric stress (Voltage & Current) and temperature /	50 °C , 90 %RH 96 hrs	MIL-202E-103B JIS-C5023

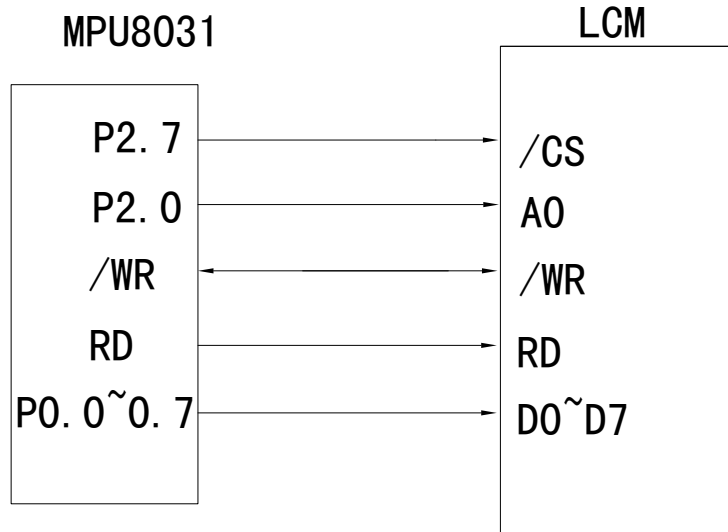
		humidity stress to the element for a long time.		
7	Temperature cycle	Endurance test applying the low and high temperature cycle. $\begin{array}{ccccc} -10^{\circ}\text{C} & & 25^{\circ}\text{C} & & 60^{\circ}\text{C} \\ 30\text{min} & \rightleftharpoons & 5\text{min.} & \rightleftharpoons & 30\text{min} \\ \leftarrow & & 1 \text{ cycle} & & \rightarrow \end{array}$	-10°C / 60°C 10 cycles	-----
Mechanical Test				
8	Vibration test	Endurance test applying the vibration during transportation and using.	10~22Hz → 1.5mmp-p 22~500Hz → 1.5G Total 0.5hrs	MIL-202E-201A JIS-C5025 JIS-C7022-A-10
9	Shock test	Constructional and mechanical endurance test applying the shock during transportation.	50G half sign wave 11 msdc 3 times of each direction	MIL-202E-213B
10	Atmospheric pressure test	Endurance test applying the atmospheric pressure during transportation by air.	115 mbar 40 hrs	MIL-202E-105C
Others				
11	Static electricity test	Endurance test applying the electric stress to the terminal.	VS=800V , RS=1.5 kΩ CS=100 pF 10 time	MIL-883B-3015.1
Inspection after test: Inspection after 2~4 hours storage at room temperature ,the sample shall be free from defects: 1. Air bubble in the LCD. 2. Sealleak 3. Non-display. 4. Missing segments. 5. Glass crack. 6. Current Idd is twice higher than initial value.				

9. QUALITY GUARANTEE

No	Item	Criteria		
1	inclusions (black spot, white spot, dust)	(1)round type diameter mm(a*) no of defect* $a \leq 0.20$ neglect $0.20 < a \leq 0.35$ 5max $0.35 < a$ none (2)linear type length mm(l) width mm(W) no. of defect na $W \leq 0.03$ neglect $l \leq 3$ $0.03 < W \leq 0.08$ 6 $3 < l$ $0.08 < W$ none		
2	scratch	1.scratch on protective film is permitted. 2.scratch on polarizer shall be as follow: (1)round type diameter mm(a*) no of defect $a \leq 0.15$ neglect $0.15 < a \leq 0.20$ 2 max $0.20 < a$ none (2)linear type be judged by 1.-(2) linear type		
3	dent	diameter < 1.5mm		
4	bubble	not exceeding 0.5mm average diameter is acceptable between glass and polarizing film		
5	pin hole	$(a+b)/2 \leq 0.15\text{mm}$ maximum number: ignored $0.15 < (a+b)/2 \leq 0.20\text{mm}$ maximum number:10		
6	dot width	design width $\pm 15\%$		
7	dot defect	$(a+b)/2 \leq 0.20\text{mm}$ maximum number: ignored $0.20 < (a+b)/2 \leq 0.30\text{mm}$ maximum number:5 x=width		
8	contrast irregularity(spot)	diameter spec no of defect $a \leq 0.50\text{mm}$ neglect $0.50 < a \leq 0.75$ 5 $0.75 < a \leq 1.00$ 3 $1.00 < a$ none		
9	color tone and uniformity	obvious uneven color is not permitted		

10. Interface circuit and driving programme on LCM of dots matrix series .

(1) Interface circuit:



串口测试程序

```

//*****
//连线表: CPU=W78E54B
//CS=P3.0 SID=P3.1 SCK=P3.2 RS=P3.3 Fosc=12Mhz RST=P3.5
//*****
#include <reg52.h>
#include <intrins.h>

#define LcmXPixel 128 //横向宽度
#define LcmYPixel 64 //纵向高度
#define MIN(A,B) ((A)<(B)?(A):(B))
#define Uchar unsigned char
#define Uint unsigned int

sbit CS = P3^0; //片选
sbit SID = P3^1; //数据
sbit SCK = P3^2; //Clock 信号
sbit RS = P3^3; //数据指令选择
sbit Key = P3^4; //测试架锁定按键(测试架专用)
sbit RES = P3^5; //测试架复位是板载 RC 复位, 可以不需要 IO 口操作

Uchar code ASCIIchardot[];
Uchar code bmp1[];
Uchar code bmp2[];
Uchar code bmp3[];
Uchar code ComTable[]={3,2,1,0,7,6,5,4,};

//串口模式下只能写不能读, 也不能查忙, 因此用户要控制好速度不要太快
void WriteCommand( Uchar CommandByte )
{
    Uchar i;
    CS=0;
    RS=0; //Command
    for(i=0;i<8;i++)
    {
        SCK=1;
        SID=((CommandByte>>(7-i)) &0x01);
        SCK=0;
        _nop_();
        SCK=1;
    }
}

void WriteData( Uchar DataByte )
{
    Uchar i;
    CS=0;
    RS=1; //Data
    for(i=0;i<8;i++)
    {
        SCK=1;
        SID=((DataByte>>(7-i)) &0x01);
        SCK=0;
        _nop_();
        SCK=1;
    }
}

void DelayMS(unsigned int MS)
{
    unsigned char us,un;
    while(MS!=0)
    {

```

```

        usn = 2;          //For 12M
        while(usn!=0)
        {
            us=0xf6;
            while (us!=0) {us--;};
            usn--;
        }
        MS--;
    }
}

void DelayKey(unsigned int Second , unsigned int MS100)
{
    unsigned int i;
    for(i=0;i<Second*100+MS100*10;i++)
    {
        if(Key==0)
        {
            DelayMS(20);
            while (Key==0) {DelayMS(20);}
            break;
        }
        else DelayMS(10);
    }
}

void LcmClear( Uchar FillData )
{
    Uint i,j;
    for(i=0;i<8;i++)
    {
        WriteCommand(0xB0|ComTable[i]);    //Set Page Address
        WriteCommand(0x10);    //Set Column Address = 0
        WriteCommand(0x01);    //Colum from S1 -> S128 auto add
        for(j=0;j<128;j++)
        {
            WriteData( FillData );
        }
    }
}

void LcmInit( void )
{
    WriteCommand(0xAE);    //Display OFF
    WriteCommand(0xA2);    //1/64 Duty 1/9 Bias
    WriteCommand(0xA0);    //ADC select S0->S131(玻璃设计用 S1-S128)
    WriteCommand(0xC0);    //com1 -> com64
    WriteCommand(0x24);    //对某些模块没用, 用的外部 Rb/Ra
    WriteCommand(0x81);    //Sets V0
    WriteCommand(48);    //内部电位器调节对比度
    WriteCommand(0x2F);    //voltage follower ON regulator ON booster ON
    WriteCommand(0xA6);    //Normal Display (not reverse display)
    WriteCommand(0xA4);    //Entire Display Disable
    WriteCommand(0x40);    //Set Display Start Line = com0
    WriteCommand(0xB0);    //Set Page Address = 0
    WriteCommand(0x10);    //Set Column Address 4 higher bits = 0
    WriteCommand(0x01);    //Set Column Address 4 lower bits = 1 , from IC SEG1 -> SEG128
    LcmClear(0);
    WriteCommand(0xAF);    //Display ON
}

//显示 ASICC 字符的函数
void LcmPutChar(Uchar col,Uchar page,Uchar Order)
{
    Uchar i;
    Uint x;
    x = (Order-0x20)*0x10;    //ASICC 字符从 0x20 开始, 每个 16 byte
    WriteCommand(ComTable[page&0x07]|0xB0);    //Set Page Address
    WriteCommand( ((col+1)>>4) | 0x10);    //Set Column Address High Byte
    WriteCommand( (col+1)&0x0F );    //Low Byte Colum from S128 -> S1 auto add

    for(i=0;i<8;i++)
    {
        WriteData( ASCIIchardot[x] );
        x++;
    }
    page++;    //下半字符 page+1

    WriteCommand(ComTable[page&0x07]|0xB0);    //Set Page Address
    WriteCommand( ((col+1)>>4) | 0x10);    //Set Column Address High Byte
    WriteCommand( (col+1)&0x0F );    //Low Byte Colum from S128 -> S1 auto add

    for(i=0;i<8;i++)
    {
        WriteData( ASCIIchardot[x] );
        x++;
    }
    page--;    //写完一个字符 page 还原
}

//显示字符串的函数
void LcmPutStr(Uchar col,Uchar page,Uchar *puts)
{
    while(*puts != '\0')    //判断字符串时候显示完毕
    {
        if(col>(LcmXPixel-8))    //判断行末空间是否足够放一个字符, 自动换行
        {
            page=page+2;
            col=0;
        }
    }
}

```



```

    }
    if (page > (LcmYPixel/8-2)) //到了屏幕最下角, 自动返回左上角
    {
        page=0;
        col=0;
    }
    LcmPutChar(col, page, *puts);
    puts++;
    col=col+8; //下一个字符 8 列之后
}

//显示 3 位数的数值(0-255)
void LcmPutNum(Uchar col, Uchar page, Uchar Num)
{
    Uchar a, b, c;
    a=Num/100;
    b=(Num%100)/10;
    c=Num%10;
    if (a==0) : //也不写空格, 直接跳过去//PutChar(col, page, 0x20);
        else LcmPutChar(col, page, a+0x30);

    if (a==0 && b==0) : //也不写空格, 直接跳过去//LcmPutChar(col, page, 0x20);
        else LcmPutChar(col+8, page, b+0x30);

    LcmPutChar(col+16, page, c+0x30);
}

void LcmPutBmp( Uchar *puts )
{
    Uchar i, j;
    Uint X=0;
    for (i=0; i<(LcmYPixel/8); i++)
    {
        WriteCommand(0xB0|ComTable[i]); //Set Page Address
        WriteCommand(0x10); //Set Column Address = 0
        WriteCommand(0x01); //Column from S1 -> S128 auto add
        for (j=0; j<LcmXPixel; j++)
        {
            WriteData( puts[X] );
            X++;
        }
    }
}

void main( void )
{
    Uchar i;
    Uchar contrast=48; //对比度=48(根据我们常用的外部电阻参数来的)
    DelayMS(10);
    RES = 0;
    DelayMS(200);
    RES = 1;
    DelayMS(50);
    LcmInit();
    while(1)
    {
        LcmPutBmp(bmp1);
        DelayKey(1, 0);

        for (i=(contrast-5); i<(contrast+5); i++)
        {
            WriteCommand(0x81); //Sets V0
            WriteCommand(0x3F&i); //内部电位器调节对比度
            LcmPutNum(10, 2, i);
            DelayKey(0, 1);
        }

        WriteCommand(0x81); //Sets V0
        WriteCommand(contrast); //恢复对比度
        LcmPutNum(10, 2, contrast);

        LcmClear(0xff);
        DelayKey(1, 0);

        LcmClear(0);
        LcmPutStr(0, 0, "CA12864I2 Program");
        LcmPutStr(0, 2, "SunSon ELEC-TECH");
        LcmPutStr(0, 4, "TEL:755-29970110");
        LcmPutStr(0, 6, "By LJ 2009.04.08");
        DelayKey(1, 0);
    }
}

/* ASIC 字库代码 8x16 点阵 */
unsigned char code ASCIIchardot[16*96] = {
/*-- 文字: --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
/*-- 文字: ! --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x00, 0x0E, 0x1F, 0x0E, 0x00, 0x00, 0x00, 0x00, 0xB0, 0xB0, 0x00, 0x00, 0x00, 0x00, 0x00,
/*-- 文字: " --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x1C, 0x1C, 0x00, 0x00, 0x1C, 0x1C, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,
/*-- 文字: # --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

```

0x00, 0x04, 0x1F, 0x1F, 0x04, 0x1F, 0x1F, 0x04, 0x00, 0x40, 0xF0, 0xF0, 0x40, 0xF0, 0xF0, 0x40,

/*-- 文字: \$ --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x0C, 0x1E, 0x73, 0x71, 0x18, 0x08, 0x00, 0x00, 0x20, 0x30, 0x1C, 0x9C, 0xF0, 0x60, 0x00,

/*-- 文字: % --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x18, 0x3C, 0x24, 0x3D, 0x1B, 0x06, 0x0C, 0x00, 0x00, 0x60, 0xC0, 0xB0, 0x78, 0x48, 0x78, 0x30,

/*-- 文字: & --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x0D, 0x1F, 0x12, 0x1E, 0x0C, 0x00, 0x00, 0x00, 0xE0, 0xF0, 0x10, 0x90, 0xE0, 0xF0, 0x90,

/*-- 文字: ' --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x00, 0x00, 0x1C, 0x1C, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,

/*-- 文字: (--*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x00, 0x03, 0x0F, 0x1C, 0x10, 0x00, 0x00, 0x00, 0x00, 0xE0, 0xF8, 0x1C, 0x04, 0x00, 0x00,

/*-- 文字:) --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x00, 0x10, 0x1C, 0x0F, 0x03, 0x00, 0x00, 0x00, 0x00, 0x04, 0x1C, 0xF8, 0xE0, 0x00, 0x00,

/*-- 文字: * --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x01, 0x05, 0x07, 0x03, 0x07, 0x05, 0x01, 0x00, 0x00, 0x40, 0xC0, 0x80, 0xC0, 0x40, 0x00,

/*-- 文字: + --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x01, 0x01, 0x07, 0x07, 0x01, 0x01, 0x00, 0x00, 0x00, 0xC0, 0xC0, 0x00, 0x00, 0x00, 0x00,

/*-- 文字: , --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x34, 0x38, 0x00, 0x00,

/*-- 文字: - --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x01, 0x01, 0x01, 0x01, 0x01, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,

/*-- 文字: . --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x30, 0x30, 0x30, 0x00, 0x00,

/*-- 文字: / --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x00, 0x00, 0x01, 0x07, 0x1E, 0x18, 0x00, 0x00, 0x18, 0x78, 0xE0, 0x80, 0x00, 0x00, 0x00,

/*-- 文字: 0 --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x00, 0x0F, 0x1F, 0x10, 0x16, 0x1F, 0x0F, 0x00, 0x00, 0xE0, 0xF0, 0xD0, 0x10, 0xF0, 0xE0,

/*-- 文字: 1 --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x04, 0x04, 0x0C, 0x1F, 0x1F, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0xF0, 0xF0, 0x00, 0x00,

/*-- 文字: 2 --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x0C, 0x1C, 0x10, 0x11, 0x1F, 0x0E, 0x00, 0x00, 0x30, 0x70, 0xD0, 0x90, 0x10, 0x10, 0x00,

/*-- 文字: 3 --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x0C, 0x1C, 0x11, 0x11, 0x1F, 0x0E, 0x00, 0x00, 0x60, 0x70, 0x10, 0x10, 0xF0, 0xE0, 0x00,

/*-- 文字: 4 --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x00, 0x1F, 0x1F, 0x00, 0x07, 0x07, 0x00, 0x00, 0xC0, 0xC0, 0x40, 0x40, 0xF0, 0xF0, 0x40,

/*-- 文字: 5 --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x1F, 0x1F, 0x11, 0x11, 0x10, 0x00, 0x00, 0x10, 0x10, 0x10, 0x30, 0xE0, 0xC0, 0x00,

/*-- 文字: 6 --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x03, 0x07, 0x1E, 0x1A, 0x13, 0x01, 0x00, 0x00, 0xE0, 0xF0, 0x10, 0x10, 0xF0, 0xE0, 0x00,

/*-- 文字: 7 --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x10, 0x10, 0x11, 0x17, 0x1E, 0x18, 0x00, 0x00, 0x00, 0x70, 0xF0, 0x80, 0x00, 0x00, 0x00,

/*-- 文字: 8 --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x0E, 0x1F, 0x13, 0x11, 0x1F, 0x0E, 0x00, 0x00, 0xE0, 0xF0, 0x10, 0x90, 0xF0, 0xE0, 0x00,

/*-- 文字: 9 --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x0F, 0x1F, 0x10, 0x10, 0x1F, 0x0F, 0x00, 0x00, 0x00, 0x90, 0xB0, 0xF0, 0xC0, 0x80, 0x00,

/*-- 文字: : --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x00, 0x00, 0x06, 0x06, 0x06, 0x00, 0x00, 0x00, 0x00, 0x00, 0x30, 0x30, 0x30, 0x00, 0x00,

/*-- 文字: ; --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x00, 0x00, 0x06, 0x06, 0x06, 0x00, 0x00, 0x00, 0x00, 0x00, 0x34, 0x38, 0x00, 0x00,

/*-- 文字: < --*/

/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/

0x00, 0x01, 0x03, 0x06, 0x0C, 0x18, 0x10, 0x00, 0x00, 0x00, 0x80, 0xC0, 0x60, 0x30, 0x10, 0x00,

/*-- 文字: = --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x02, 0x02, 0x02, 0x02, 0x02, 0x00, 0x00, 0x80, 0x80, 0x80, 0x80, 0x80, 0x00,

/*-- 文字: > --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x10, 0x18, 0x0C, 0x06, 0x03, 0x01, 0x00, 0x00, 0x10, 0x30, 0x60, 0xC0, 0x80, 0x00, 0x00,

/*-- 文字: ? --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x0C, 0x1C, 0x11, 0x13, 0x1E, 0x0C, 0x00, 0x00, 0x00, 0xB0, 0xB0, 0x00, 0x00, 0x00,

/*-- 文字: @ --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x0F, 0x1F, 0x10, 0x11, 0x13, 0x12, 0x1F, 0x0F, 0xE0, 0xF0, 0x10, 0x90, 0xD0, 0x50, 0xD0, 0xD0,

/*-- 文字: A --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x07, 0x0F, 0x18, 0x18, 0x0F, 0x07, 0x00, 0x00, 0xF0, 0xF0, 0x80, 0x80, 0xF0, 0xF0, 0x00,

/*-- 文字: B --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x1F, 0x1F, 0x11, 0x11, 0x1F, 0x0E, 0x00, 0x00, 0xF0, 0xF0, 0x10, 0x10, 0xF0, 0xE0, 0x00,

/*-- 文字: C --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x0F, 0x1F, 0x10, 0x10, 0x1C, 0x0C, 0x00, 0x00, 0xE0, 0xF0, 0x10, 0x10, 0x70, 0x60, 0x00,

/*-- 文字: D --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x1F, 0x1F, 0x10, 0x18, 0x0F, 0x07, 0x00, 0x00, 0xF0, 0xF0, 0x10, 0x30, 0xE0, 0xC0, 0x00,

/*-- 文字: E --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x1F, 0x1F, 0x11, 0x11, 0x10, 0x00, 0x00, 0xF0, 0xF0, 0x10, 0x10, 0x10, 0x10, 0x00,

/*-- 文字: F --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x1F, 0x1F, 0x11, 0x11, 0x10, 0x00, 0x00, 0xF0, 0xF0, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,

/*-- 文字: G --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x0F, 0x1F, 0x10, 0x10, 0x1C, 0x0C, 0x00, 0x00, 0xE0, 0xF0, 0x10, 0x90, 0xF0, 0xF0, 0x00,

/*-- 文字: H --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x1F, 0x1F, 0x01, 0x01, 0x1F, 0x1F, 0x00, 0x00, 0xF0, 0xF0, 0x00, 0x00, 0xF0, 0xF0, 0x00,

/*-- 文字: I --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x00, 0x10, 0x1F, 0x1F, 0x10, 0x00, 0x00, 0x00, 0x00, 0xF0, 0xF0, 0x10, 0x00, 0x00, 0x00,

/*-- 文字: J --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x00, 0x00, 0x00, 0x00, 0x1F, 0x1F, 0x00, 0x00, 0x60, 0x70, 0x10, 0x10, 0xF0, 0xE0, 0x00,

/*-- 文字: K --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x1F, 0x1F, 0x01, 0x07, 0x1E, 0x18, 0x00, 0x00, 0xF0, 0xF0, 0x00, 0xC0, 0xF0, 0x30, 0x00,

/*-- 文字: L --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x1F, 0x1F, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0xF0, 0xF0, 0x10, 0x10, 0x10, 0x10, 0x00,

/*-- 文字: M --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x1F, 0x1F, 0x04, 0x03, 0x04, 0x1F, 0x1F, 0x00, 0xF0, 0xF0, 0x00, 0x80, 0x00, 0xF0, 0xF0,

/*-- 文字: N --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x1F, 0x1F, 0x06, 0x03, 0x01, 0x1F, 0x1F, 0x00, 0xF0, 0xF0, 0x00, 0x00, 0x80, 0xF0, 0xF0,

/*-- 文字: O --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x0F, 0x1F, 0x10, 0x10, 0x1F, 0x0F, 0x00, 0x00, 0xE0, 0xF0, 0x10, 0x10, 0xF0, 0xE0, 0x00,

/*-- 文字: P --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x1F, 0x1F, 0x11, 0x11, 0x1F, 0x0E, 0x00, 0x00, 0xF0, 0xF0, 0x00, 0x00, 0x00, 0x00, 0x00,

/*-- 文字: Q --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x0F, 0x1F, 0x10, 0x10, 0x1F, 0x0F, 0x00, 0x00, 0xE0, 0xF0, 0x10, 0x18, 0xFC, 0xE4, 0x00,

/*-- 文字: R --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x1F, 0x1F, 0x11, 0x11, 0x1F, 0x0E, 0x00, 0x00, 0xF0, 0xF0, 0x00, 0x80, 0xF0, 0x70, 0x00,

/*-- 文字: S --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x0C, 0x1E, 0x13, 0x11, 0x18, 0x08, 0x00, 0x00, 0x20, 0x30, 0x10, 0x90, 0xF0, 0x60, 0x00,

/*-- 文字: T --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x10, 0x10, 0x1F, 0x1F, 0x10, 0x10, 0x00, 0x00, 0x00, 0xF0, 0xF0, 0x00, 0x00, 0x00, 0x00,

/*-- 文字: U --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x1F, 0x1F, 0x00, 0x00, 0x1F, 0x1F, 0x00, 0x00, 0xE0, 0xF0, 0x10, 0x10, 0xF0, 0xE0, 0x00,

```
/*-- 文字: V --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x1F, 0x1F, 0x00, 0x00, 0x1F, 0x1F, 0x00, 0x00, 0xC0, 0xE0, 0x30, 0x30, 0xE0, 0xC0, 0x00,

/*-- 文字: W --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x1F, 0x1F, 0x00, 0x03, 0x00, 0x1F, 0x1F, 0x00, 0x80, 0xF0, 0x70, 0x80, 0x70, 0xF0, 0x80,

/*-- 文字: X --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x18, 0x1C, 0x07, 0x03, 0x1C, 0x18, 0x00, 0x00, 0x70, 0xF0, 0x00, 0x80, 0xF0, 0x70, 0x00,

/*-- 文字: Y --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x1E, 0x1F, 0x01, 0x01, 0x1F, 0x1E, 0x00, 0x00, 0x00, 0xF0, 0xF0, 0x00, 0x00, 0x00, 0x00,

/*-- 文字: Z --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x10, 0x10, 0x11, 0x13, 0x1E, 0x1C, 0x00, 0x00, 0x70, 0xF0, 0x90, 0x10, 0x10, 0x10, 0x00,

/*-- 文字: [ --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x00, 0x1F, 0x1F, 0x10, 0x10, 0x00, 0x00, 0x00, 0x00, 0xFE, 0xFE, 0x02, 0x02, 0x00, 0x00,

/*-- 文字: \ --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x18, 0x1E, 0x07, 0x01, 0x00, 0x00, 0x00, 0x00, 0x00, 0x80, 0xE0, 0x78, 0x18, 0x00,

/*-- 文字: ] --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x00, 0x10, 0x10, 0x1F, 0x1F, 0x00, 0x00, 0x00, 0x00, 0x02, 0x02, 0xFE, 0xFE, 0x00, 0x00,

/*-- 文字: ^ --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x10, 0x30, 0x60, 0x60, 0x30, 0x10, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,

/*-- 文字: _ --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x02, 0x02, 0x02, 0x02, 0x02, 0x02, 0x02, 0x02, 0x02,

/*-- 文字: ` --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x00, 0x40, 0x60, 0x70, 0x10, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,

/*-- 文字: a --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x00, 0x04, 0x04, 0x04, 0x07, 0x03, 0x00, 0x00, 0x60, 0xF0, 0x90, 0x90, 0xF0, 0xF0, 0x00,

/*-- 文字: b --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x1F, 0x1F, 0x04, 0x04, 0x07, 0x03, 0x00, 0x00, 0xF0, 0xF0, 0x10, 0x10, 0xF0, 0xE0, 0x00,

/*-- 文字: c --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x03, 0x07, 0x04, 0x04, 0x06, 0x02, 0x00, 0x00, 0xE0, 0xF0, 0x10, 0x10, 0x30, 0x20, 0x00,

/*-- 文字: d --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x03, 0x07, 0x04, 0x04, 0x1F, 0x1F, 0x00, 0x00, 0xE0, 0xF0, 0x10, 0x10, 0xF0, 0xF0, 0x00,

/*-- 文字: e --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x03, 0x07, 0x04, 0x07, 0x03, 0x00, 0x00, 0xE0, 0xF0, 0x90, 0x90, 0x90, 0x80, 0x00,

/*-- 文字: f --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x01, 0x0F, 0x1F, 0x11, 0x11, 0x11, 0x00, 0x00, 0x00, 0xF0, 0xF0, 0x00, 0x00, 0x00, 0x00,

/*-- 文字: g --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x03, 0x07, 0x04, 0x04, 0x07, 0x07, 0x00, 0x00, 0xE2, 0xF2, 0x12, 0x12, 0xFE, 0xFC, 0x00,

/*-- 文字: h --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x1F, 0x1F, 0x04, 0x04, 0x07, 0x03, 0x00, 0x00, 0xF0, 0xF0, 0x00, 0x00, 0xF0, 0xF0, 0x00,

/*-- 文字: i --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x04, 0x04, 0x37, 0x37, 0x00, 0x00, 0x00, 0x00, 0x10, 0x10, 0xF0, 0xF0, 0x10, 0x10, 0x00,

/*-- 文字: j --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x00, 0x04, 0x04, 0x37, 0x37, 0x00, 0x00, 0x00, 0x02, 0x02, 0x02, 0xFE, 0xFC, 0x00, 0x00,

/*-- 文字: k --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x1F, 0x1F, 0x00, 0x01, 0x07, 0x06, 0x00, 0x00, 0xF0, 0xF0, 0x80, 0xC0, 0x70, 0x30, 0x00,

/*-- 文字: l --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x10, 0x10, 0x1F, 0x1F, 0x00, 0x00, 0x00, 0x00, 0x10, 0x10, 0xF0, 0xF0, 0x10, 0x10, 0x00,

/*-- 文字: m --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x07, 0x07, 0x04, 0x07, 0x04, 0x07, 0x03, 0x00, 0xF0, 0xF0, 0x00, 0xE0, 0x00, 0xF0, 0xF0,

/*-- 文字: n --*/
/*-- Fixedsys12: 此字体下对应的点阵为: 宽 x 高=8x16 --*/
0x00, 0x07, 0x07, 0x04, 0x07, 0x03, 0x00, 0x00, 0xF0, 0xF0, 0x00, 0x00, 0xF0, 0xF0, 0x00,

/*-- 文字: o --*/
```

Lx-12864P1

```
Uchar code bmp[] = {  
/*-   调入了了一幅图像：E:\Program\MobilePhone22.bmp    -*/  
/*-   宽度 x 高度 = 128x64    -*/  
  
0xFF, 0x80, 0xBF, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0,  
0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0,  
0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0,  
0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0,  
0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0,  
0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0,  
0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0,  
0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0, 0xA0,  
0xFF, 0x00, 0xFF, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x7F, 0x40, 0x5F, 0x4F,  
0x5F, 0x5F, 0x5E, 0x5C, 0x58, 0x58, 0x50, 0x50, 0x50, 0x50, 0x50, 0x50, 0x50, 0x50, 0x58, 0x58,  
0x5C, 0x5E, 0x5F, 0x5F, 0x5F, 0x5F, 0x5F, 0x5F, 0x5F, 0x5F, 0x5F, 0x5F, 0x5F, 0x5F, 0x5F, 0x5F, 0x5F,  
0x4A, 0x55, 0x4A, 0x54, 0x48, 0x53, 0x44, 0x4B, 0x4B, 0x4B, 0x48, 0x47, 0x40, 0x40, 0x40, 0x40, 0x40,  
0x42, 0x42, 0x42, 0x45, 0x49, 0x45, 0x45, 0x45, 0x45, 0x42, 0x40, 0x40, 0x40, 0x40, 0x47, 0x48, 0x47,  
0x47, 0x48, 0x47, 0x4B, 0x45, 0x42, 0x40, 0x40, 0x43, 0x45, 0x45, 0x45, 0x48, 0x4A, 0x4A, 0x45, 0x40,  
0x40, 0x50, 0x4A, 0x55, 0x4A, 0x55, 0x4A, 0x55, 0x4A, 0x55, 0x4A, 0x55, 0x4B, 0x57, 0x4F, 0x53, 0x40, 0x7F,  
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0xFF, 0x00, 0xFF,  
0xFF, 0x00, 0xFF, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0xFF, 0x00, 0xFF, 0xE0,  
0x80, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,  
0x00, 0x00, 0x00, 0x00, 0x80, 0xE0, 0xFF, 0xFF, 0xDF, 0xFF, 0xFF, 0xBF, 0x55, 0xAA, 0x55, 0xAA, 0x55,  
0xAA, 0x55, 0x00, 0x02, 0x05, 0xFA, 0x04, 0x58, 0x52, 0xF2, 0x00, 0xFF, 0x00, 0x00, 0x00, 0x38,  
0xC5, 0xEE, 0x9D, 0x52, 0x06, 0x11, 0xDE, 0x4E, 0x58, 0x2D, 0x20, 0x50, 0xBF, 0x00, 0xFF, 0xA0, 0x55,  
0xA0, 0x18, 0xA4, 0x52, 0x40, 0x88, 0x07, 0x25, 0xDA, 0x57, 0x40, 0x3D, 0xAB, 0xB4, 0xA0, 0x55,  
0x25, 0x05, 0xA2, 0x50, 0xB8, 0x7C, 0x9E, 0x7D, 0xBA, 0x55, 0xAA, 0xD5, 0xEA, 0xF5, 0x00, 0xFF,  
0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0xFF, 0x00, 0xFF,  
0xFF, 0x00, 0xFF, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0xFF, 0x00, 0xFF, 0x1F,  
0x07, 0x03, 0x01, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00, 0x00,  
0x00, 0x01, 0x03, 0x07, 0x1F, 0xFF, 0xFF, 0xFF, 0xFF, 0xFF, 0xFF, 0xFF, 0x7F, 0xBF, 0x5F, 0xAF, 0x57,  
0xAB, 0x55, 0xAA, 0x55, 0x2A, 0x15, 0x2A, 0x15, 0x2A, 0x15, 0xA4, 0x14, 0x08, 0x00, 0x00, 0x00, 0x02,  
0x05, 0x85, 0x0A, 0x1E, 0x20, 0x1D, 0x95, 0xBB, 0x84, 0x00, 0x00, 0x00, 0x00, 0x01, 0x82, 0x0C, 0x12,  
0x0F, 0x02, 0x0D, 0x1E, 0x21, 0x1D, 0x84, 0x03, 0x00, 0x00, 0x00, 0x00, 0x01, 0x05, 0x0A, 0x05, 0x00,
```

Lx-12864P1

```

char code bmp3[] = {
/*-- 调入了 一幅图像: E:\!Program\MobilePhone3. bmp  --*/
/*-- 宽度 x 高度=128x64 --*/
0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,
0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,
0xE7,0xC7,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xE0,0x80,0x00,0x04,0xFD,
0x07,0x3F,0xFC,0xE0,0xC0,0x00,0x40,0xE0,0xF0,0xFC,0x3E,0x0F,0x01,0x01,0x03,0x07,
0x07,0x0F,0x0F,0x0F,0x0F,0xE1,0xE1,0x9C,0x9E,0x9C,0x9C,0xD8,0xD8,0xCC,0xC0,0x80,
0x80,0xC0,0xF0,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xF8,0xC0,0x9C,0x24,0x43,0x40,0x20,0x1C,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x28,0x24,0x22,0x2,
0x26,0x38,0x04,0x18,0xF0,0x17,0x10,0x10,0x14,0x18,0x10,0x00,0x00,0x00,0x00,0xFF,
0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,
0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xF3,0xD1,0xFB,0x79,0x7B,
0x7F,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0x7F,0x7F,0x3F,0x3F,0x3F,
0x9F,0xCF,0x67,0x13,0x13,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x60,0xE0,0xE0,0xE0,0xC1,
0x81,0x83,0x03,0x03,0x03,0x03,0x07,0x06,0x07,0x07,0x0E,0x0C,0x08,0x10,0x00,0x00,
0x00,0x00,0x00,0x00,0xF0,0xF0,0xE0,0x00,0x00,0x0B,0x80,0x70,0x8C,0x08,0x10,0xE0,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x04,0x08,0x32,0xC2,
0xC2,0x34,0x04,0x08,0x30,0xC0,0x60,0x18,0xC0,0x06,0x04,0x00,0x00,0x00,0x00,0x00,
0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,
0xFF,0xFF,0xEB,0xCF,0xFF,0xCC,0xCC,0xFF,0xFE,0x7E,0x7F,0xFF,0xFF,0xFB,0xFD,0xFD,
0xFF,0xFF,0xFF,0xF7,0xF9,0xF0,0xF8,0xF8,0xFC,0xFF,0xFF,0xF7,0xF2,0xF8,0xFC,0xFF,0xFF,
0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0x7C,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
0x40,0x80,0x80,0xC0,0x40,0x40,0xC0,0x80,0x80,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x80,0x40,0x40,0x40,0x40,0x81,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x02,0x82,0x73,0x20,
0x00,0x3F,0x20,0x40,0x40,0x3F,0x20,0x20,0x20,0x3F,0x00,0x00,0x00,0x00,0x00,0x00,
0x03,0x7F,0xFF,0xBF,0x1F,0xFF,0xFC,0x9E,0x9F,0xFF,0xDF,0xEF,0x73,0xF1,0xF8,0xF8,
0xFC,0xFC,0xFC,0xFE,0xFE,0x7E,0x3E,0x1E,0x0E,0x0E,0xC0,0xC0,0x8C,0x8C,0x8B,0xEB,
0x20,0x91,0xC7,0xE8,0x30,0x20,0x20,0x60,0x41,0xC2,0x4C,0x85,0x89,0x9B,0x8B,0x80,
0xE3,0xD7,0x99,0xE1,0x81,0x01,0x01,0x01,0x01,0x01,0x01,0x01,0x00,0x00,0x00,0x00,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x02,0x04,0xF8,0x04,
0x02,0xE2,0x42,0x82,0x02,0xFA,0x02,0x42,0x22,0xC2,0x02,0x00,0x00,0x00,0x00,0x00,
0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0x0F,0x01,0x00,0x00,0x80,0xC0,0xC0,0xE0,0xF1,0xF2,
0x72,0x74,0x74,0x78,0x78,0x30,0x30,0x30,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
0x00,0xC0,0x1C,0x00,0x00,0x40,0x64,0x9E,0x3C,0xF8,0xD0,0xE0,0xE0,0x40,0xC0,0x00,
0x80,0xC0,0xC0,0x00,0xE0,0x30,0x1E,0xFF,0xF7,0xFF,0x9F,0xDF,0x5F,0x1F,0x1F,0x1E,
0x7E,0x3C,0x3C,0x3B,0x30,0x70,0x60,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
0x00,0x00,0x03,0x02,0x04,0x08,0x10,0x20,0x7F,0x80,0x00,0x00,0x00,0x00,0x00,0x00,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x02,0x42,0x22,
0x3A,0x13,0x02,0xFF,0x02,0x03,0x0A,0x72,0x22,0x06,0x02,0x00,0x00,0x00,0x00,0x00,
0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFC,0xFD,0xFD,0x7F,0x1F,0xF0,0x37,0x43,0x81,0x80,0x04,
0x19,0x13,0x27,0x4D,0xE8,0x9C,0xB4,0xB8,0xB8,0x78,0x30,0x10,0x00,0x00,0x00,0x00,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x01,0x03,0x07,0x02,0x00,0x00,0x00,0x00,0x00,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0xC0,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xCF,0xC3,
0xC1,0x81,0x80,0x00,0x00,0x00,0x00,0x00,0x00,0x01,0x03,0x03,0x06,0x09,0x10,0x30,
0x68,0x6E,0x01,0x00,0x00,0x00,0x01,0x3E,0xC0,0x41,0x02,0x04,0xC0,0x10,0x20,0x21,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x01,0x02,0x04,
0x18,0xE0,0x00,0x00,0x00,0xFC,0x02,0x02,0x02,0x02,0x1E,0x00,0x00,0x00,0x00,0x00,
0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0x3F,0x9F,0x8F,0xA7,0xC3,0xE1,0xE9,0xF0,0xC8,0xE5,0x72,
0xE1,0xC0,0x80,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,
0x00,0x00,0x00,0x20,0x60,0x61,0x61,0xE1,0xE3,0xC6,0x8C,0xC0,0x18,0x19,0x33,0x7F,0x00,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x07,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,
0xFF,0xFF,0xFF,0xFF,0xFF,0xFF,0x87,0x80,0x80,0x80,0x00,0x7F,0xE0,0x00,0x80,0xC0,0x30,
0x08,0x03,0x82,0x66,0x08,0x51,0xA2,0x54,0x88,0x10,0x20,0x00,0x01,0x06,0x08,0x80,

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