LCD Control board specification

Product number： ***MT6820*** *V3.0*

DOCUMENT NUMBER:	**M20130401**
VERSION INFORMATION:	**Ver3.0**
EDITOR:	**Video cheng**
PUBLISHED DATE:	**2013-04-01**

Address: Shenzhen shekou industrial six ways ,xinhua industrial building of 7CD,5 floors

Tell：0755-26888896 fax ：0755-26888894

Content

REVISION HISTORY

VERSION	DATE	PAGE	DESCRIPTION
3.0	**2013 , 04 ,01**	ALL	To update PCB first issue

1 PRODUCT SUMMARIZE

"The board is mainly used for matching TFT LCD Panel, comed true LCD display or advertising, digital photo frame, drive resolution UXGA screen (1920X1200), at the same time supports up to UXGA (1920X1200) input point to point display, ,LVDS output support 1920x1080 Full HD panel , the input signal to analog VGA the R, G and B input,, the color reproduction can support up to 24-bit. Line frequency from 30 to 94.5KHzthe frequency within the range of 56 to 75 Hz signal, you can synchronize automatically detect. The synchronously way was recommended to adopt horizontal and vertical sync signal separation, and also support composite sync signal (hardware need to correspond to adjust)

Built-in LED backlight driver, jumper cap to take an drive the backlight total current(optional) 133、200、266、333、400mA panel ,Compatible with the market most of the 9 to 23 inch screen

VGA port socket could be 90 degrees socket or 180 degrees vertical to match up the back-up or under-cabinet on the market.

Reserved remote extension input port

Audio power amplify (optional), output power 2W × 2, To adjust the volume by button .

2 Feature

feature	specification
Input signal：	Analogy RGB(0.7Vp-p)， Horizontal and vertical sync separation(TTL)
Support model：	DOS, VGA, SVGA, XGA, SXGA+, UXGA, WXGA, WXGA+, WSXGA, WSXGA+, WUXGA Etc
Colour ：	24bit
Line sync range：	30-94.5KHz
Vertical sync range:	56-75Hz
Output signal ：	Single/dual8bit、LVDS Single/dual standard
Audio output rate：	8欧2W×2
控制按键：	POWER、BRI+、BRI-、AUTO、NENU、LED_R、LED_G
OSD Menu：	Brightness, contrast, auto-correction, phase, clock, horizontal and vertical position, feature set, reset
OSD language(optional)：	Simplified Chinese, Traditional Chinese, English, French, German, Italian, Spanish, Portuguese, Dutch, Turkish, Korean, Japanese, Arabic, Persian, Russian, Thai, Vietnamese, Bahasa Indonesia
Power supply input ：	12 V（+/-0.6V）（DC）when without amplifier，could be changed to 5V input
Plug and Play function：	support
power supply management ：	standby power consumption＜1W

PC-RGB Support mode table

This part have listed some products supported mode of PC-RGB, Which includes field frequency , horizontal frequency and resolution .

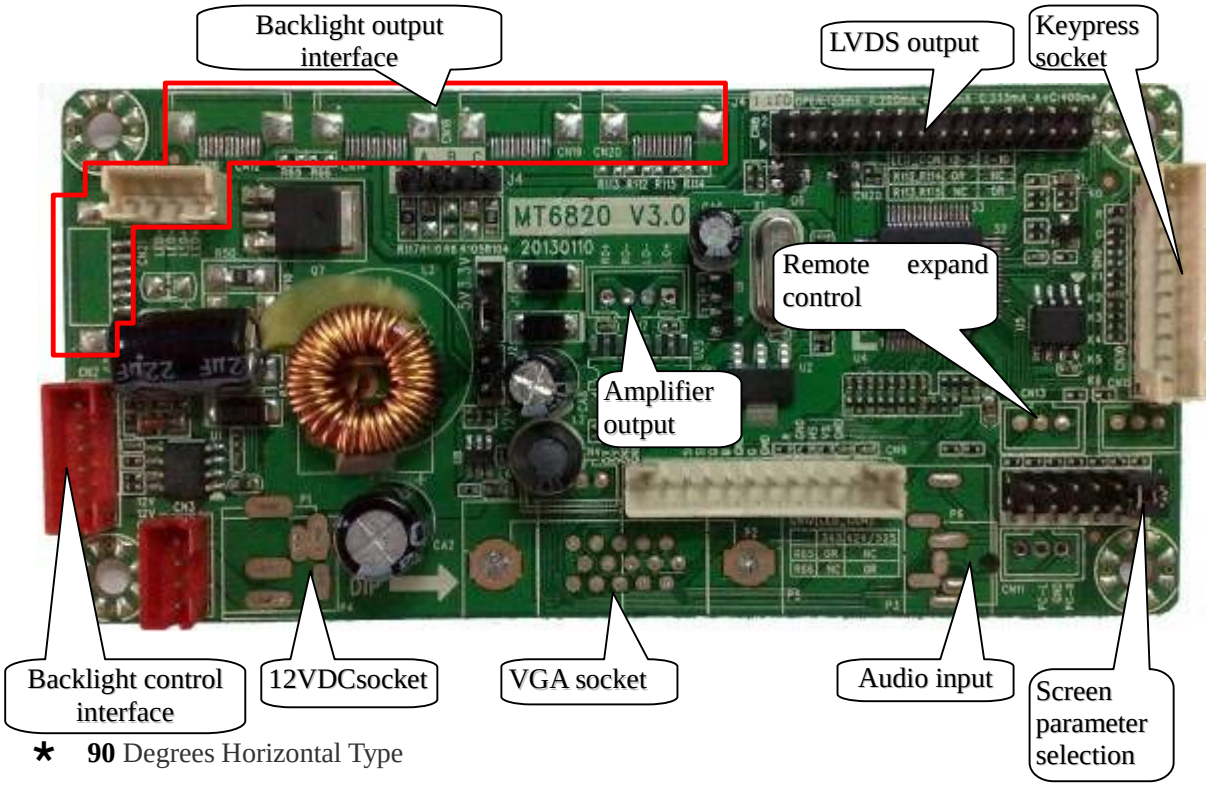
☆ **PC-RGB** mode table(This table is only for reference, due to differences in source output ,it may be difference with data in the table)

Mode	Resolution	Horizontal frequency (KHz)	Field frequency (Hz)	Standard
WUXGA	1920X1080	74.5	60	
		94.0	75	
UXGA	1600X1200	74.5	60	VESA
		94.0	75	
WSXGA+	1680X1050	65.2	60	
		82.2	75	
WXGA+	1440X900	55.9	60	--
		70.5	75	
WXGA	1280X800	49.7	60	--
		62.6	75	
SXGA+	1400X1050	65.2	60	--
		82.2	75	
SXGA	1280X1024	63.6	60	VESA
		80.2	75	
XGA	1024X768	47.7	60	VESA
		56.0	70	
		60.1	75	
SVGA	800X600	37.3	60	VESA
		43.8	70	
		47.3	75	
VGA	640X480	29.8	60	VESA
		35.0	70	
		37.7	75	
DOS	640X480	29.8	60	VESA
	720X400	29.2	70	

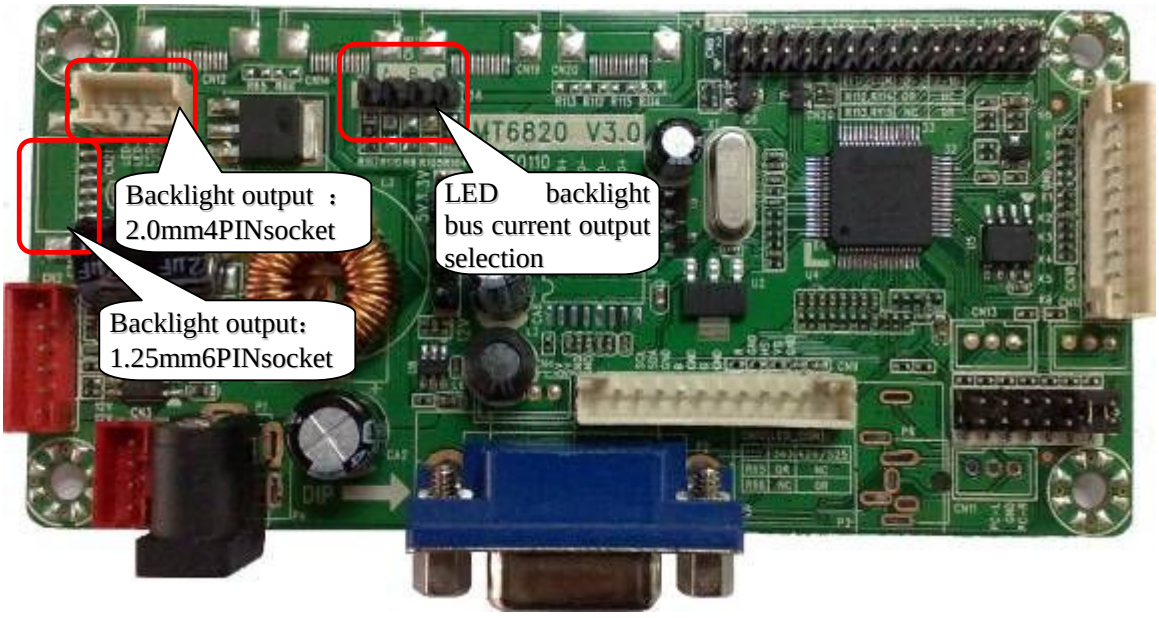
4 product layout specification

detail interface function reference to the seventh point .

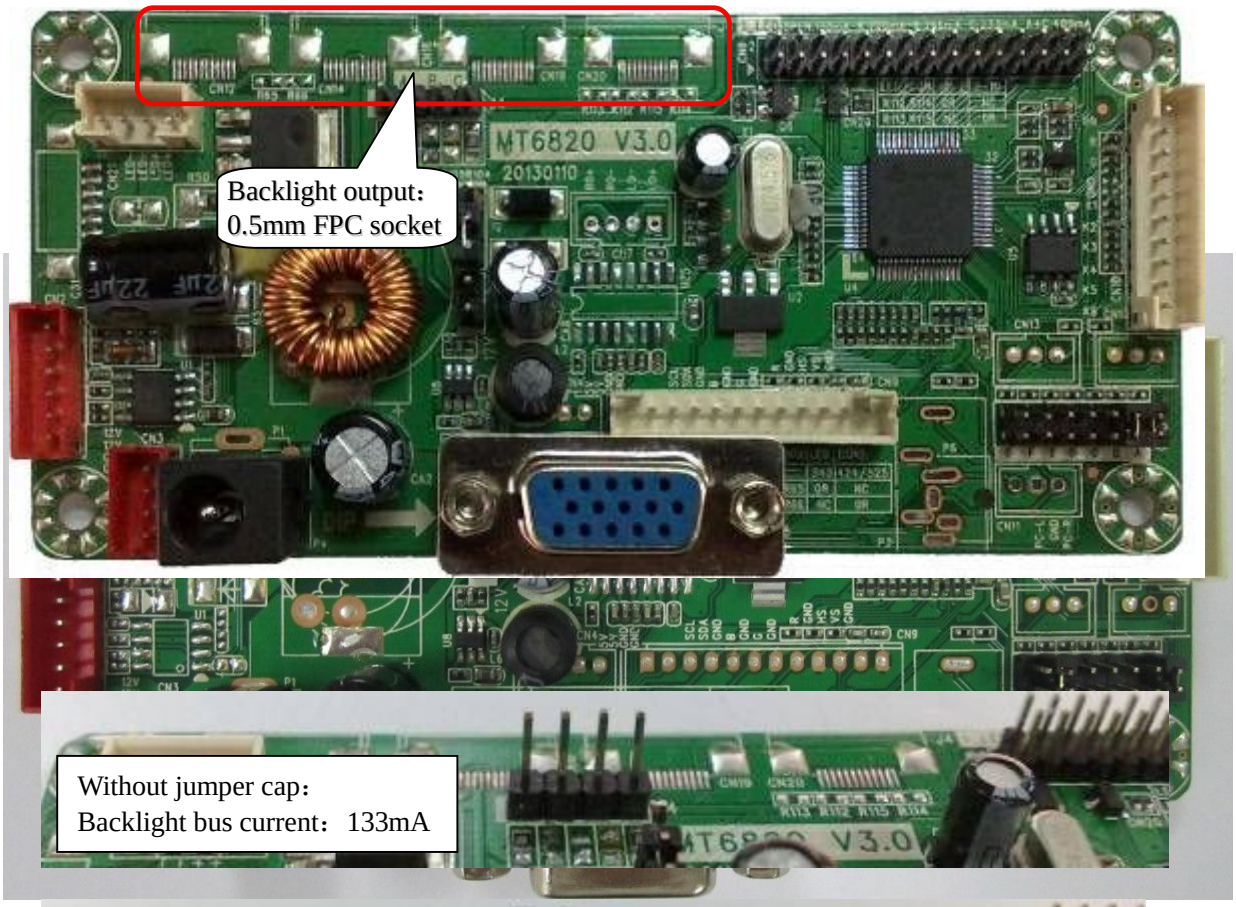
★ **All Pin socket layout**



★ **90** Degrees Horizontal Type



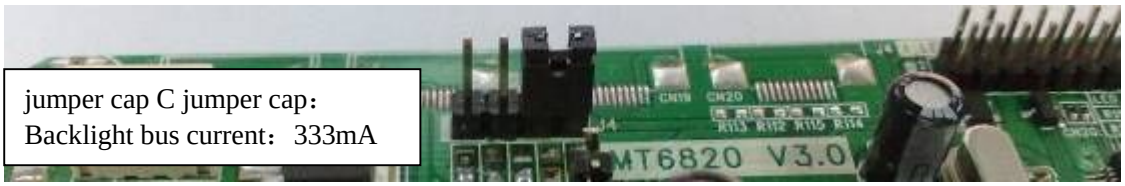
★ 180 Degree Vertical Type



Without jumper cap:
Backlight bus current: 133mA

jumper cap A state:
Backlight bus current: 200mA

jumper cap B state:
Backlight bus current: 266mA



jumper cap C jumper cap:
Backlight bus current: 333mA

jumper cap A+Cjumper cap:
Backlight bus current: 400mA

Product key interface description（The first foot from the face of the left side of the outlet gap direction）

★ **CN3(4PIN/2.0 mm Red)**：+12Vsupply socket

Pin NO	Definition	Description
1	+12V	+12Vinput
2	+12V	+12V input
3	GND	Ground
4	GND	Ground

★ **CN2(6PIN/2.0mm red)**：**INVERTER** socket

Pin NO	Definition	Description
1	12V	power
2	12V	power
3	BL_ON	INVERTER switch control
4	ADJ	Bright adjust
5	GND	Ground
6	GND	Ground

★ **CN21(6PIN/1.25 mm beige)**：backlight output socket

Pin NO	Definition	Description
1	LED-	LED output negative
2	LED-	LED output negative
3	LED+	LED output positive
4	LED+	LED output positive
5	LED-	LED output negative
6	LED-	LED output negative

★ **CN5(4PIN/2.0 mm beige)**：backlight output socket

Pin NO	Definition	Description
1	LED+	LED output positive
2	LED+	LED output positive
3	LED-	LED output negative
4	LED-	LED output negative

★ **CN7(4PIN/2.0 mm beige)**：loudspeaker output socket

Pin NO	Definition	Description
1	LO+	Left channel speaker positive output

2	LO-	Left channel speaker negative output
3	RO-	Left channel speaker negative output
4	RO+	Left channel speaker positive output

★ **CN13(3PIN/2.0 mm beige)**: expand control socket

Pin NO	Definition	Description
1	+5V	+5V receiver power supplier
2	IRin	Remote control input
3	GND	Ground

★ **CON9（2 X 15PIN/2.0）LVDS interface**

Pin NO	Definition	Description
1	LCD-VDD	Power for Panel
2	LCD-VDD	Power for Panel
3	LCD-VDD	Power for Panel
4	GND	Ground
5	GND	Ground
6	GND	Ground
7	RXO0-	LVDS ODD 0 - Signal
8	RXO0+	LVDS ODD 0 + Signal
9	RXO1-	LVDS ODD 1 - Signal
10	RXO1+	LVDS ODD 1 + Signal
11	RXO2-	LVDS ODD 2 - Signal
12	RXO2+	LVDS ODD 2 + Signal
13	GND	Ground
14	GND	Ground
15	RXOC-	LVDS ODD Clock - Signal
16	RXOC+	LVDS ODD Clock + Signal
17	RXO3-	LVDS ODD 3 - Signal
18	RXO3+	LVDS ODD 3 + Signal
19	RXE0-	LVDS EVEN 0 - Signal
20	RXE0+	LVDS EVEN 0 + Signal
21	RXE1-	LVDS EVEN 1 - Signal
22	RXE1+	LVDS EVEN 1 + Signal
23	RXE2-	LVDS EVEN 2 - Signal
24	RXE2+	LVDS EVEN 2 + Signal
25	GND	Ground
26	GND	Ground
27	RXEC-	LVDS EVEN Clock - Signal
28	RXEC+	LVDS EVEN Clock + Signal
29	RXE3-	LVDS EVEN 3 - Signal
30	RXE3+	LVDS EVEN 3 + Signal

★ **CN11(3PIN/2.0 mm beige)**：audio input socket

Pin NO	Definition	Description
1	PC-L	Computer audio left channel input
2	GND	Ground
3	PC-R	Computer audio right channel input

★ **CN11 (2X7PIN 2.0MM pin)**： screen parameters selected by jumper cap

No	Resolution	A	B	C	D	E	F	G	
1	1920X1080-8-1	■ ■	■ ■	□ □	□ □	□ □	□ □	□ □	■ ■ **Express jumper cap short-circuit**
2	1920X1080-6-2	■ ■	□ □	■ ■	□ □	□ □	□ □	□ □	
3	1680X1050-8-1	■ ■	□ □	□ □	■ ■	□ □	□ □	□ □	
4	1440X900-8-1	■ ■	□ □	□ □	□ □	■ ■	□ □	□ □	
5	1280X1024-8-1	■ ■	□ □	□ □	□ □	□ □	■ ■	□ □	
6	1366X768-8-1	□ □	■ ■	□ □	□ □	□ □	□ □	□ □	
7	1366X768-6-2	□ □	□ □	■ ■	□ □	□ □	□ □	□ □	□ □ **Express without jumper cap**
8	1024X768-8-1	□ □	□ □	□ □	■ ■	□ □	□ □	□ □	
9	1024X768-6-2	□ □	□ □	□ □	□ □	■ ■	□ □	□ □	
10	800X600-8-1	□ □	□ □	□ □	□ □	□ □	■ ■	□ □	
11	1024X600-6-2	■ ■	□ □	□ □	□ □	□ □	□ □	□ □	
12	1920X1200-6-2	■ ■	■ ■	□ □	□ □	□ □	□ □	■ ■	
13	1920X1080-8-2	■ ■	□ □	■ ■	□ □	□ □	□ □	■ ■	
14	1680X1050-6-2	■ ■	□ □	□ □	■ ■	□ □	□ □	■ ■	
15	1600X1200-8-1	■ ■	□ □	□ □	□ □	■ ■	□ □	■ ■	
16	1600X900-8-1	■ ■	□ □	□ □	□ □	□ □	■ ■	■ ■	
17	1600X900-6-2	□ □	■ ■	□ □	□ □	□ □	□ □	■ ■	
18	1440X900-6-2	□ □	□ □	■ ■	□ □	□ □	□ □	■ ■	
19	1400X1050-6-2	□ □	□ □	□ □	■ ■	□ □	□ □	■ ■	
20	1280X1024-8-2	□ □	□ □	□ □	□ □	■ ■	□ □	■ ■	
21	1280X800-6-2	□ □	□ □	□ □	□ □	□ □	■ ■	■ ■	

22	**1024X768-8-2**	■ ■	□ □	□ □	□ □	□ □	□ □	■ ■	
23	**1024X768-6X2-1**	□ □	□ □	□ □	□ □	□ □	□ □	■ ■	

注：-1、-2 screen parameters IT model, not single dual LVDS

★ **CN9(12PIN/2.0 mm beige)**：VGA input socket

Pin NO	Definition	Description
1	SCL	SCL bus
2	SDA	SDA bus
3	GND	Ground
4	B	Computer blue signal
5	GND	Ground
6	G	Computer green signal
7	GND	Ground
8	R	Computer red signal
9	GND	Ground
10	HS	Line synchronization
11	VS	Vertical sync
12	GND	Ground

★ **CN10(10PIN/2.0 mm beige)**：keypress socket

Pin NO	Definition	Description
1	POWER	Standby keypress
2	R	indicator (red)
3	G	indicator (green)
4	GND	地
5	UP	Analog plus ,if has amplifier, will be volume plus
6	DOWN	Analog minus ,if has amplifier, will be volume minus
7	AUTO	Auto adjust /exit
8	MENU	Menu
9	EXIT	Exit
10	NC	Reserved

5 Product PCB size and structure specification

5.1

5.1 **PCB** size specification

☆ **PCB** thickness +highest parts highness = 16.0mm

☆screw hole dimension**:** diameter 3.6mm detail refer to the constructional drawing

5.2 constructional picture (next page)

requirement of transportation, storage, operation

Do not put weight or deform twist on the PCB during assembling

☆anti-static and water

☆relative humidity：≤80%

☆storage temperature：－20～+60℃

☆usage temperature：－10～+40℃