

SPECIFICATION FOR **APPROVAL**

Product: BTP-LC-RTD2513V1.3 Main Board

JUGE Part No.	Customer Part No.	Description
BTP-LC-RTD251 3V1.3		

Ver 1.0	Issued By	Checked By	Approved By

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1. Production Introduction

1.1 Function introduction

This driver board adopts FHD display and LVDS output ports, the maximum resolution is 1920*1080@60HZ.

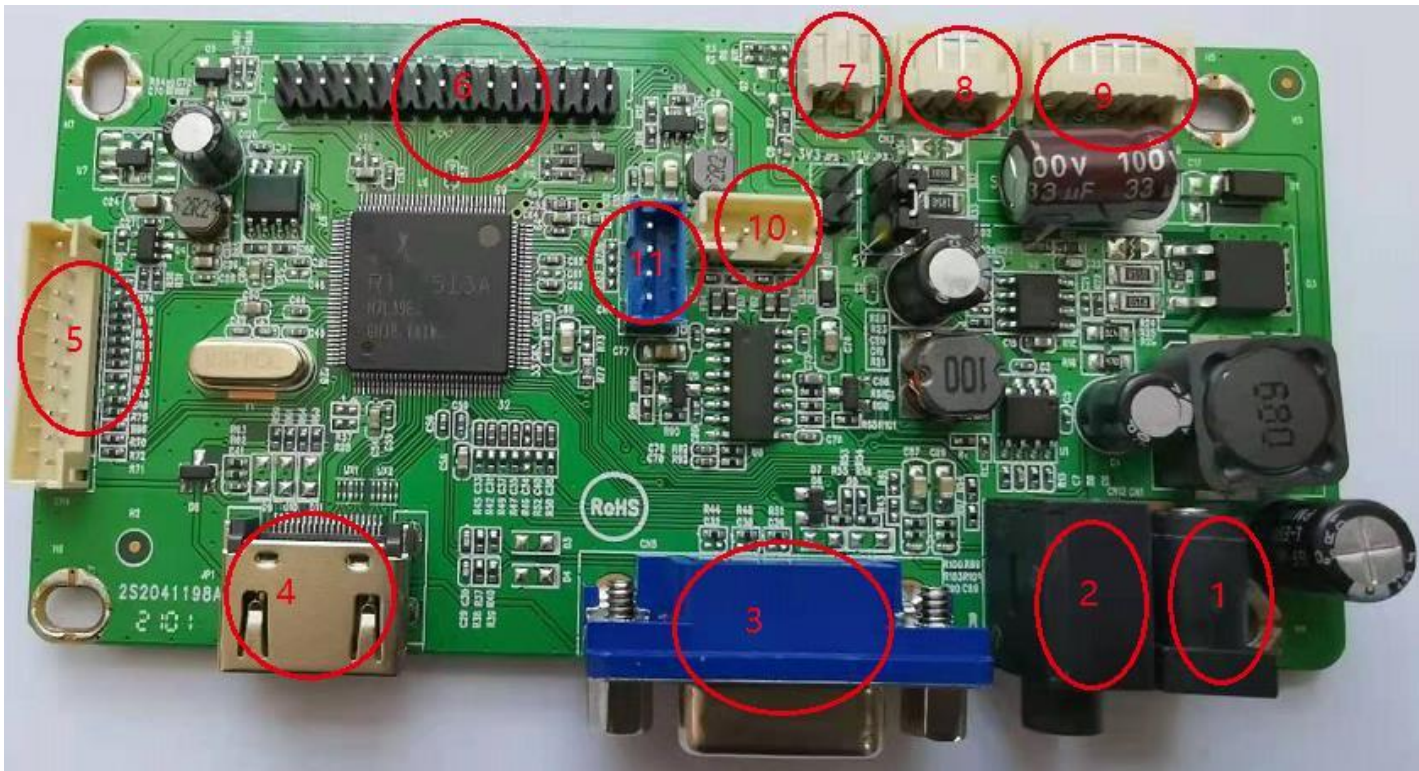
- * Support LVDS signal output ports.
- * A wide selection of OSD languages.
- * Support VGA&HDMI signal video input.
- * Supports speaker & earphone output.
- * Match with step-up constant current (backlight parameters are set according to the screen).
- * Support HDMI1.4,HDCP1.4 versions.

1.2 Main characteristics

Video input	VGA	1920*1080	
		D-SUB	
	HDMI	1920*1080	
		HDCP Version	1.4
Working power	DC12V input		
Stand-by power consumption	< 0.3W		
	Type of panel	TFT LCD	

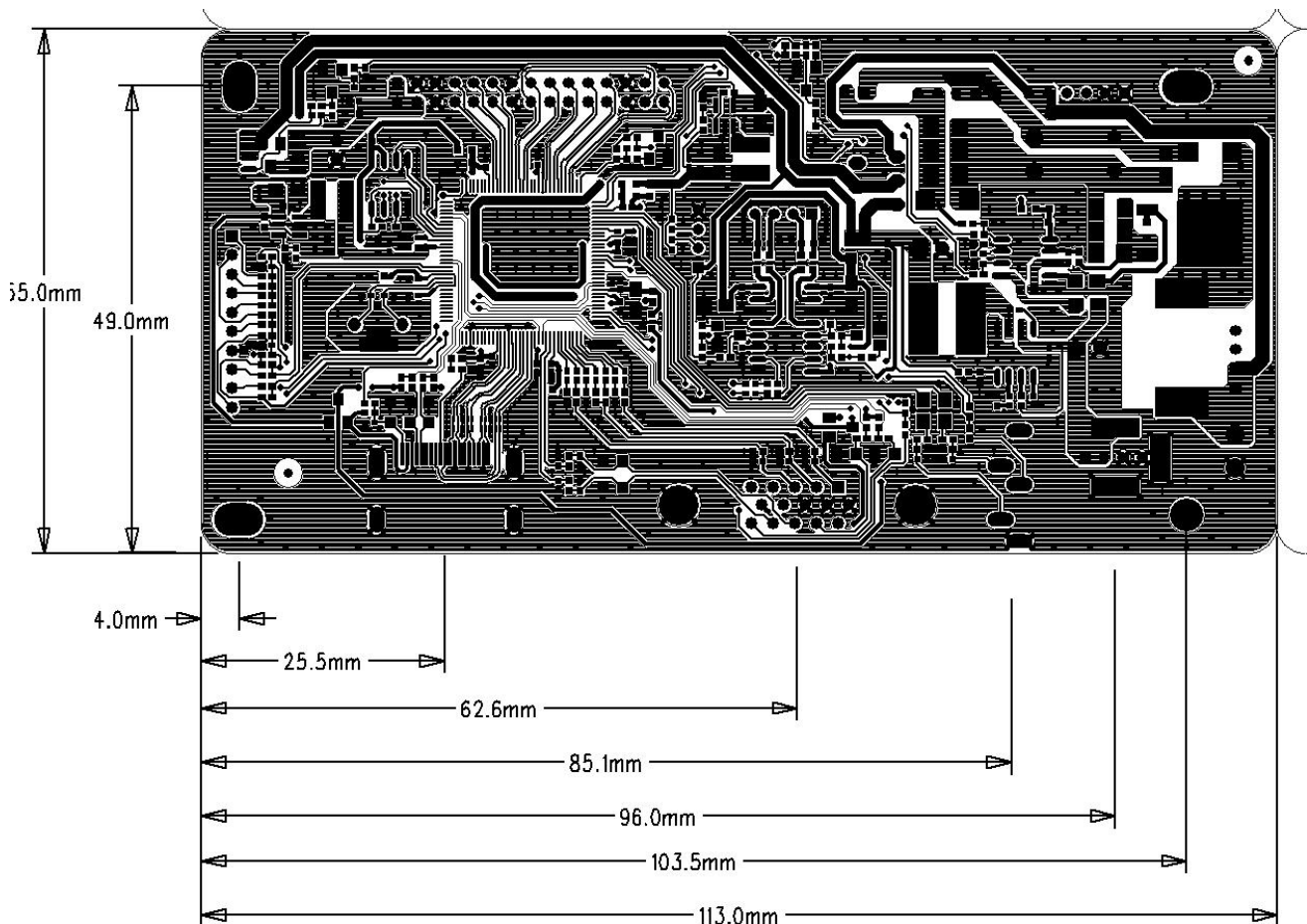
PANEL	Port of panel	LVDS
	Max resolution	1920*1080@60HZ
	Screen-driven voltage	3.3/5V/12V optional
Earphone output	> 150mW(32 Ω /0dB)	
Loudspeaker output	2*2W (4 Ω) THD+N < 10%1KHZ	
LED Driver	Dimming	DC
	Max output current	260mA
	Max output voltage	54V
	VODP	65V
	Max power	18W
Key	POWER. LEFT.RIGHT.AUTO.MENU optional	
OSD languages	Chinese, English, French, German, Italian, Spanish, Russian, Korean, Japanese, etc.	

1.3 Outline view of the driver board



Note: the above picture is for reference only, the specific subject is the real object.

1.4 Structure view of the driver board



Note: PCB thickness + height of the highest part $\leq 14.5\text{mm}$

1.5 Function of the ports

No.	Tag no.	Function
1	CN1	DC 12V input (chip is 2.0mm)
2	CN9	Earphone output socket (3.5mm)
3	CN5	D-SUB video signal input socket
4	JP1	HDMI signal input port
5	CN6	Key socket port
6	CN7	LVDS screen-driven socket port
7	H1	Backlight output port(2PIN)
8	CN3	Backlight output port(4PIN)
9	CN4	External power & step-up board port
10	CN8	Loudspeaker output port
11	CN11	5V output socket port (serial port)

2. Definitions of main ports

2.1 CN7 15*2-30PIN-2.0mm vertical type screen port

1	PANEL_VCC	LCD logic and driver power(3.3V/5V/12V)
2	PANEL_VCC	LCD logic and driver power(3.3V/5V/12V)
3	PANEL_VCC	LCD logic and driver power(3.3V/5V/12V)
4	GND	Power Ground
5	GND	Power Ground
6	GND	Power Ground
7	RX00-	Negative Transmission data of Pixel 0 (ODD)
8	RX00+	Positive Transmission data of Pixel 0 (ODD)
9	RX01-	Negative Transmission data of Pixel 1 (ODD)
10	RX01+	Positive Transmission data of Pixel 1 (ODD)
11	RX02-	Negative Transmission data of Pixel 2 (ODD)
12	RX02+	Positive Transmission data of Pixel 2 (ODD)
13	GND	Power Ground
14	GND	Power Ground
15	RXOC-	Negative Transmission Clock (ODD)
16	RXOC+	Positive Transmission Clock (ODD)
17	RX03-	Negative Transmission data of Pixel 3 (ODD)
18	RX03+	Positive Transmission data of Pixel 3 (ODD)
19	RXE0-	Negative Transmission data of Pixel 0 (EVEN)
20	RXE0+	Positive Transmission data of Pixel 0 (EVEN)
21	RXE1-	Negative Transmission data of Pixel 1 (EVEN)

22	RXE1+	Positive Transmission data of Pixel 1 (EVEN)
23	RXE2-	Negative Transmission data of Pixel 2 (EVEN)
24	RXE2+	Positive Transmission data of Pixel 2 (EVEN)
25	GND	Power Ground
26	GND	Power Ground
27	RXEC-	Negative Transmission Clock (EVEN)
28	RCEC+	Positive Transmission Clock (EVEN)
29	RXE3-	Negative Transmission data of Pixel 3 (EVEN)
30	RXE3+	Positive Transmission data of Pixel 3 (EVEN)

2.2 CN6 PH2.0mm 10PIN vertical type key port

1	POWER	Power switch
2	LEDR	Light is red
3	LEDG	Light is green
4	GND	ground
5	LEFT	left
6	RIGFT	right
7	AUTO	automatic adjustment
8	MENU	OSD menu
9	UP	up
10	DOWN	down

2.3 CN11 PH2.0mm 4PIN (blue) vertical type key port

1	5V	/
2	5V	/
3	GND	/
4	GND	/

2.4 H1 PH2.0mm 2PIN horizontal type backlight port

1	LED+	/
2	LED-	240mA

2.5 CN3 PH2.0mm 4PIN horizontal type backlight port

1	LED+	/
2	LED+	/
3	LED-	120mA
4	LED-	120mA

2.6 CN16 PH2.0mm 6PIN horizontal type backlight port

1	GND	ground
2	GND	ground
3	ADJ	dimming
4	EN	switch
5	12V	power supply
6	12V	power supply

2.7 CN8 PH2.0mm 4PIN vertical type backlight port

1	OUTR+	Loudspeaker right track+
2	OUTR-	Loudspeaker right track-
3	OUTL+	Loudspeaker left track+
4	OUTL-	Loudspeaker left track-

3. Transportation,storage and using requirements

In order to ensure the positive use of this product and prevent electric shock, fire and other accidents, please read and understand all the requirements and operating procedures before using this product. And please strictly comply with the following requirements:

- 1.The DC power supply required by this product is generated by the AC/DC power adapter, and the AC/DC power adapter should be far away from the heat source and placed in the good ventilation.
- 2.AC power socket and cord should be connected to ground well and can withstand sufficient current demand.
- 3.This product needs DC power input voltage is +12V, the error is not greater than +/-0.5V, the electric current is based on the selected LED screen and the power of the machine.
- 4.Pay attention to good ventilation and heat dissipation, can not be placed in a closed shell or box without heat conduction;Do not allow direct sunlight or other heat sources.
- 5.Be careful to avoid too much moisture and dust, so as not to cause circuit

corrosion.

6. During assembly, keep certain N/A interval to provide heat dissipation by N/A air convection on the surface, and prevent short circuit between the conductor and the components on the board.

7. When assembling, pay attention to prevent the drive board from deforming due to extra pressure.

8. During assembly, pay attention to the correct electrical connection of the drive board, LED screen, key board and other parts. Select right working voltage of LED (too low will show abnormally; too high may burn out the LED screen). Power can be turned on after checking.

9. The program on the driver board should be matched with the corresponding LED screen.

10. Attention should be paid to the electrostatic protection during the assembly of the board card to avoid short circuit and electrostatic damage.

11. All I/O ports should be operated under power failure (pull out and plug connector connectors).

12. This product is suitable for general commercial and household use with the ambient temperature from -10°C to 40°C and relative humidity less than or equal to 80%.

13. Please unplug the power when not in use for a long time.