

Product Specifications

Product Model: LRX_2H2DP2VBO_EDP95_E_V2.0

Product Code: A00774

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Drafting	Review	Approval
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1. Product Overview.

The LRX_2H2DP2VBO_EDP95_E_V2.0 is a multi-functional display driver board with 2 HDMI 2.0 and 2 DP 1.2 inputs, 8-channel VB1 or 8-channel eDP outputs, supporting resolutions up to 4096x2160@60Hz. It also features headphone output and a 3-watt dual-channel audio amplifier output. The driver board integrates a backlight driver, supporting a maximum output of 30 watts (please do not exceed the power limit).

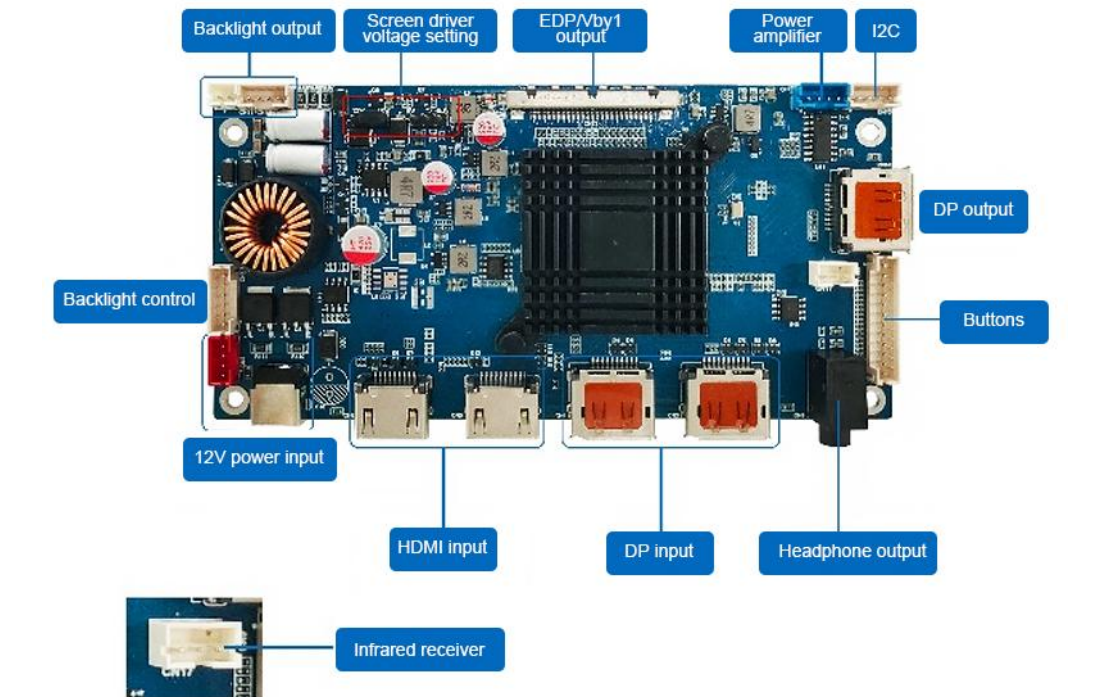
2. Product features.

Functions	Description
Power supply	12V power input
Signal	2 x HDMI, 2 x DP inputs
Interface	4-lane eDP (HBR2) output
Output	8-lane eDP (HBR) 4096×2160@60Hz output
Audio	8-lane V-by-One 4096x2160@60Hz output
Other	2 x DP outputs

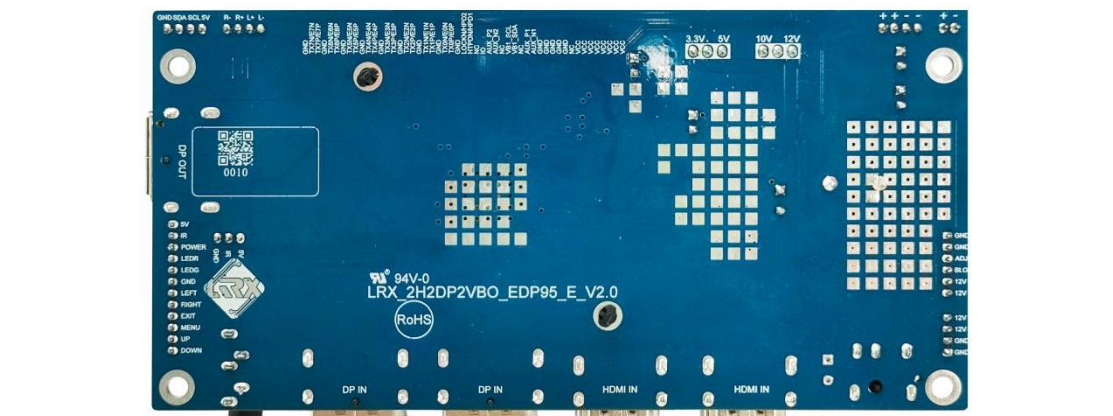
3. Interface function description.

Seat number	Describe
CN1 / CN2	12V power input
CN3 / CN4	DP input
CN5 / CN6	HDMI input
CN7	3W amplifier output
CN8	3.5mm headphone output
CN9	Buttons
CN10 / CN11	Backlight output
CN12	Backlight control
CN13	VB1 or eDP output
CN14	DP clone output
CN16	I ² C interface
CN17	Infrared receiver interface
J1 / J2	Screen driver voltage setting (3.3V, 5V, 10V, 12V selectable)

Top view (interface description)

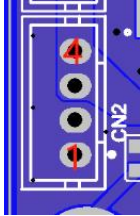


Bottom view

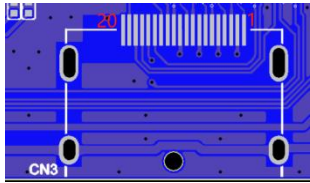
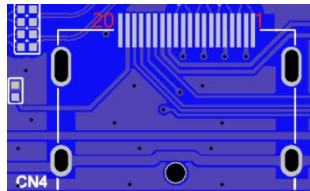
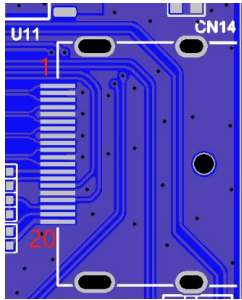


4. Interface definition.

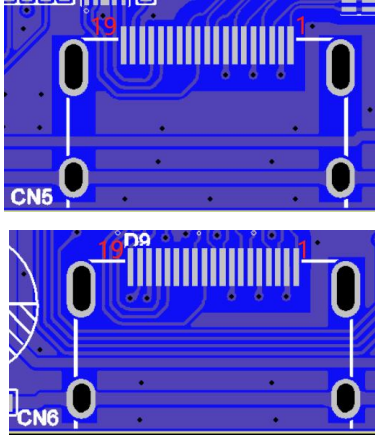
4.1 CN2: 12V Power input (interface model: PH2.0mm-4Pin)

Pin	Pin marking	Describe
1	GND	
2	GND	
3	12V	
4	12V	

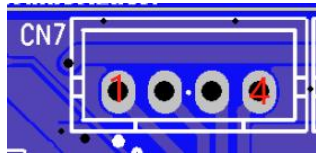
4.2 CN3/CN4/CN14: DP input/output (Interface model: HYC16-DP20-178)

Pin	Pin marking	Describe
1	ML_LANE3N	  
2	GND	
3	ML_LANE3P	
4	ML_LANE2N	
5	GND	
6	ML_LANE2P	
7	ML_LANE1N	
8	GND	
9	ML_LANE1P	
10	ML_LANE0N	
11	GND	
12	ML_LANE0P	
13	GND	
14	GND	
15	AUX_CHP	
16	GND	
17	AUX_CHN	
18	HOT_PLUG	
19	RETURN	
20	DP_PWR	

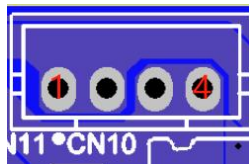
4.3 CN5 / CN6: HDMI input (Interface model: HYC10-HDMI19-600B)

Pin	Pin marking	Describe
1	DATA2+	
2	DATA2 SHIELD	
3	DATA2-	
4	DATA1+	
5	DATA1 SHIELD	
6	DATA1-	
7	DATA0+	
8	DATA0 SHIELD	
9	DATA0-	
10	CLK+	
11	CLK SHIELD	
12	CLK-	
13	CEC	
14	NC	
15	SCL	
16	SDA	
17	GND	
18	+5V POWER	
19	HOT PLUG	

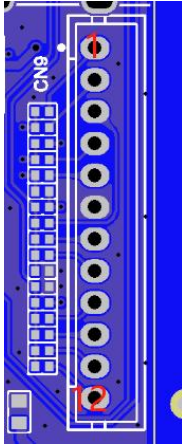
4.4 CN7: 3W power amplifier output (interface model: PH2.0mm-4Pin)

Pin	Pin marking	Describe
1	L-	
2	L+	
3	R+	
4	R-	

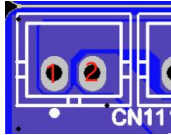
4.5 CN10: Backlight output (Interface model: PH2.0mm-4Pin)

Pin	Pin marking	Describe
1	-	
2	-	
3	+	
4	+	

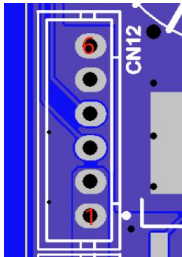
4.6 Buttons (Interface model: PH2.0mm-12Pin)

Pin	Pin marking	Describe
1	5V	
2	IR	
3	K0	
4	R	
5	G	
6	GND	
7	K1	
8	K2	
9	K3	
10	K4	
11	K5	
12	K6	

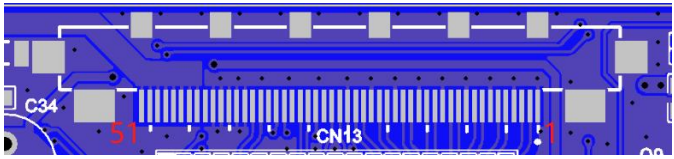
4.7 CN11: Backlight output (Interface model: PH2.0mm-2Pin)

Pin	Pin marking	Describe
1	-	
2	+	

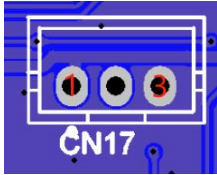
4.8 CN12: Backlight control (Interface model: PH2.0mm-6Pin)

Pin	Pin marking	Describe
1	12V	
2	12V	
3	BLO	
4	ADJ	
5	GND	
6	GND	

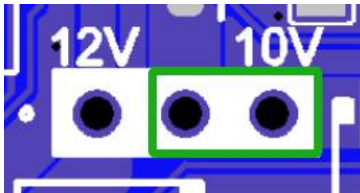
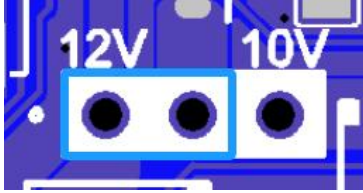
4.9 CN13: VB1 or eDP output (Interface model: HYCW69-LVDS51-375B)

Pin	Pin marking	Describe
1	GND	
2	VBO7P / E7N	
3	VBO7N / E7P	
4	GND	
5	VBO6P / E6N	
6	VBO6N / E6P	
7	GND	
8	VBO5P / E5N	
9	VBO5N / E5P	
10	GND	
11	VBO4P / E4N	
12	VBO4N / E4P	
13	GND	
14	VBO3P / E3N	
15	VBO3N / E3P	
16	GND	
17	VBO2P / E2N	
18	VBO2N / E2P	
19	GND	
20	VBO1P / E1N	
21	VBO1N / E1P	
22	GND	
23	VBO0P / E0N	
24	VBO0N / E0P	
25	GND	
26	LOCKN / HPD2	
27	HTPDN / HPD1	
28	NC	
29	IO	
30	NC / AUX_P2	
31	NC / AUX_N2	
32	NC	
33	SCL / NC	
34	SDA / NC	
35	NC	
36	NC / AUX_P1	
37	NC / AUX_N1	
38-42	GND	
43	NC	
44-51	VCC	

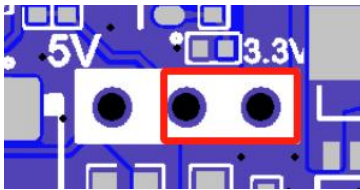
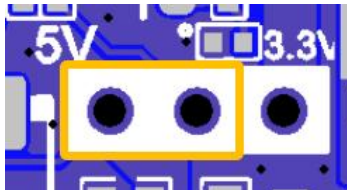
4.10 CN17: Infrared receiver (Interface model: PH2.0mm-3Pin)

Pin	Pin marking	Describe
1	5V	
2	IR	
3	GND	

4.11 J1: Display driver voltage setting (Interface type: 2.54mm-3Pin)

10V	12V	
		Set according to "screen voltage"

4.12 J2: Screen drive voltage setting (Interface type: 2.54mm-3Pin)

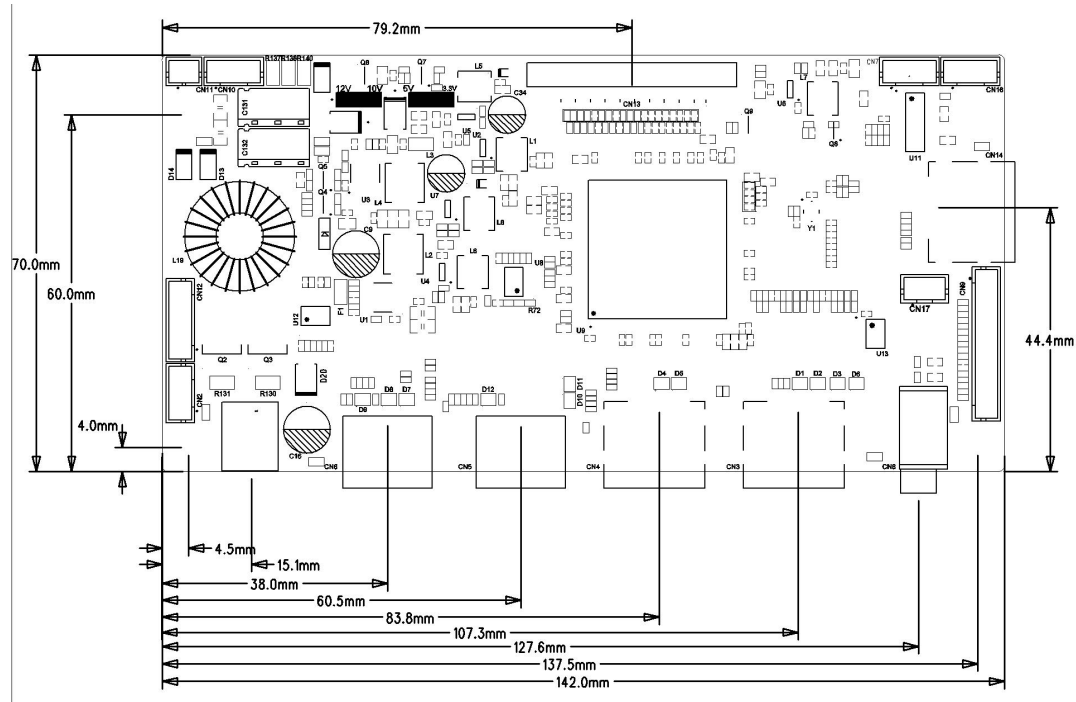
3.3V	5V	
		Set according to "screen voltage"

5. Product dimensions.

PCB Mechanical Dimensions

Unit: mm

Tolerance: $\pm 0.3\text{mm}$



6. Usage environment.

- Relative humidity (non-condensing): $\leq 80\%$
- Storage conditions: Temperature $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$; Relative humidity 5-85%
- Operating conditions: Temperature $-20^{\circ}\text{C} \sim +85^{\circ}\text{C}$; Relative humidity 20-80%

7. Precautions.

- Keep the circuit board away from strong static electricity.
- Ensure you use a suitable power adapter; overvoltage or undervoltage may cause abnormal operation or even damage.
- Before powering on, carefully check the direction of the connecting cables and ensure the screen voltage is correct; otherwise, the LCD module may be damaged.
- Avoid dropping metal objects onto the circuit board while it is operating.
- Do not plug or unplug connectors while the circuit board is operating.
- Do not disassemble the module.
- If the mainboard surface is dirty, please clean it with a soft cloth (not a wet cloth).

8. Version update.

Version Number	Update Date	Remarks
V1.0	2024-09-29	
V2.0	2025-05-14	
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