

## 液晶控制板规格书

LCD CONTROLLER BOARD SPECIFICATION

产品型号Model number: JHTX-RTD2796

文件编号: RM20160314001

版本信息: Ver 1.0

编制: 张赞

审核:

复审:

批准:

# NJY TECHNOLOGY CO., LTD

## 1. 产品特性 Product Characteristics

产品型号 Model number	JHTX-RTD2796	
屏幕面板 Screen panel	驱屏接口 Panel interface	
	EDP	2-Lane EDP接口/4-Lane EDP接口 支持3840*2160@60Hz eDP (2 Lanes) or eDP (4 Lanes) Support 3840*2160@60Hz
	LVDS	单口6位LVDS、单口8位LVDS 支持1366*768@60Hz LVDS(1ch, 6-bit)/LVDS(1ch, 8-bit) Support 1366*768@60Hz
		双口8位LVDS、双口10位LVDS 支持1920*1200@60Hz LVDS(2ch, 8-bit)/LVDS(2ch, 10-bit) Support 1920*1200@60Hz
		四口10位LVDS接口 支持2560*1536@60Hz LVDS(4ch, 10-bit) Support 2560*1536@60Hz
V-BY-ONE	8-Lane V-BY-ONE接口	

# NJY TECHNOLOGY CO., LTD

		支持4096*2160@60Hz V-BY-ONE (8 Lanes) Support 4096*2160@60Hz
输入 Input	信号接口 Signal interface	
	VGA	Up To 1920*1200@60Hz
	DP	Up To 4096*2160@60Hz Display Port1.2 (5.4Ghz, HBR2)
	HDMI1	Up To 4096*2160@60Hz HDMI2.0 Version (6GHz) MHL2.1 (3GHz) HDCP (1.4)
	HDMI2	Up To 4096*2160@30Hz HDMI1.4 Version (3GHz) MHL2.1 (3GHz) HDCP (1.4)
	HDMI3	Up To 4096*2160@30Hz HDMI1.4 Version (3GHz) MHL2.1 (3GHz) HDCP (1.4)
	DVI	Up To 4096*2160@30Hz HDMI1.4 Version (3GHz)

# NJY TECHNOLOGY CO., LTD

音频输出 Audio output		MHL2.1 (3GHz) HDCP (1.4)
	Max Out Power	2×10W (8Ω) THD+N<10%@1KHz (Power Supply: 12V, Audio Input: 0.5VRMS)
	Frequency response	100Hz-15KHz@±dB (1KHz 0dB reference signal)
图像 (可选) Image (optional)	画面功能 Image Function	画中画、画外画、两画面、四画面 Picture in Picture, Picture out Picture, 2 Pictures, 4 Pictures
	反转功能 Reverse function	0度、90度、180度、270度 0°, 90°, 180°, 270°
	镜像功能 Mirroring	上下左右镜像 Up Down Left Right
	环出 Loop Output	EDP信号环出 eDP signal Loop Output
电源 Power	工作电压 Operation Voltage	12V or 24V
	驱屏电压 Panel	3.3V or 5V or 12V

# NJY TECHNOLOGY CO., LTD

	Voltage	
	电源模式	支持低功耗模式，待机模式
	Power Mode	Support low power mode, standby mode
	待机功耗	<1W
	Standby Power	
OSD 语言 OSD Language	英语，中文 English, Chinese	
按键功能 Key Function	POWER, MENU, +/-, AUTO/EXIT	

## 2. 接口定义说明 Interface Definition Descriptions

### 一：按键板与指示灯接口定义 OSD Keypad Interface

序号Seq.	接口定义Def.	序号Seq.	接口定义Def.
1	+3.3V	8	K1
2	IR	9	K2
3	GND	10	K3
4	K0	11	K4
5	LED-R	12	K5
6	LED-G	13	K6
7	GND	14	K7

# NJY TECHNOLOGY CO., LTD

## 二：背光接口定义 Backlight Interface Definition

序号Seq.	接口定义Def.	序号Seq.	接口定义Def.
1	GND	4	EN
2	GND	5	12V
3	ADL	6	12V

## 三：喇叭输出接口定义 Speaker Output Interface

序号Seq.	接口定义Def.	序号Seq.	接口定义Def.
1	L Out+	3	R Out-
2	L Out-	4	R Out+

## 四：双口 LVDS 接口定义 LVDS (2ch) Interface Definition

序号Seq.	接口定义Def.	序号Seq.	接口定义Def.
1	VCC	18	TXC_3P
2	VCC	19	TXD_ON
3	VCC	20	TXD_OP
4	GND	21	TXD_1N
5	GND	22	TXD_1P
6	GND	23	TXD_2N
7	TXC_ON	24	TXD_2P
8	TXC_OP	25	GND

# NJY TECHNOLOGY CO., LTD

9	TXC_1N	26	GND
10	TXC_1P	27	TXD_CLKN
11	TXC_2N	28	TXD_CLKP
12	TXC_2P	29	TSD_3N
13	GND	30	TSD_3P
14	GND	31	TSD_4N
15	TXC_CLKN	32	TXD_4P
16	TXC_CLKP	33	TXC_4N
17	TXC_3N	34	TXC_4P

## 五：四口 LVDS 接口定义 LVDS (4ch) Interface Definition

序号Seq.	接口定义Def.	序号Seq.	接口定义Def.
1	VCC	21	TXF_1N
2	VCC	22	TXF_1P
3	VCC	23	TXF_2N
4	GND	24	TXF_2P
5	GND	25	GND
6	GND	26	GND
7	TEX_0N	27	TXF_CLKN
8	TEX_0P	28	TXF_CLKP
9	TEX_1N	29	TXF_3N

# NJY TECHNOLOGY CO., LTD

10	TEX_1P	30	TXF_3P
11	TEX_2N	31	TXF_4N
12	TEX_2P	32	TXF_4P
13	GND	33	TXE_4N
14	GND	34	TXE_4P
15	TXE_CLKN	35	GND
16	TXE_CLKP	36	GND
17	TXE_3N	37	LVDS_IO_3
18	TXE_3P	38	LVDS_IO_1
19	TXF_0N	39	LVDS_IO_2
20	TXF_0P	40	LVDS_IO_0

## 六：V-BY-ONE 接口定义 V-BY-ONE Interface Definition

序号Seq.	接口定义Def.	序号Seq.	接口定义Def.
1	Vin	27	GND
2	Vin	28	RX0N
3	Vin	29	RX0P
4	Vin	30	GND
5	Vin	31	RX1N
6	Vin	32	RX1P
7	Vin	33	GND



# NJY TECHNOLOGY CO., LTD

8	V <sub>in</sub>	34	RX2N
9	N. C.	35	RX2P
10	GND	36	GND
11	GND	37	RX3N
12	GND	38	RX3P
13	GND	39	GND
14	GND	40	RX4N
15	L/R_0	41	RX4P
16	L/R	42	GND
17	2D/3D	43	RX5N
18	SDA	44	RX5P
19	SCL	45	GND
20	N. C.	46	RX6N
21	N. C.	47	RX6P
22	LD_EN	48	GND
23	N. C.	49	RX7N
24	N. C.	50	RX7P
25	HTPDN	51	GND
26	LOCKN		

# NJY TECHNOLOGY CO., LTD

## 七: EDP 接口定义 eDP Interface Definition

序号Seq.	接口定义Def.	序号Seq.	接口定义Def.
1	VCC	16	DP_HPD
2	VCC	17	BL_PWM
3	GND	18	BL_EN
4	GND	19	GND
5	LANE0N	20	BL_VCC
6	LANE0P	21	GND
7	LANE1N	22	BL_VCC
8	LANE1P	23	DP_SCL
9	LANE2N	24	DP_SDA
10	LANE2P	25	GND
11	LANE3N	26	DP_IO_2
12	LANE3P	27	GND
13	AUXP	28	GND
14	AUXN	29	P_VCC
15	DP_IO_1	30	P_VCC

# NJY TECHNOLOGY CO., LTD

## 八：串口通信接口定义 Serial Communication Interface

序号Seq.	接口定义Def.	序号Seq.	接口定义Def.
1	+5V	3	UART_TX
2	UART_RX	4	GND

## 九：I2C 通信接口定义 I2C Communication Interface

序号Seq.	接口定义Def.	序号Seq.	接口定义Def.
1	GND	3	I2C_SDA
2	I2C_SCL	4	+3.3V

## 十：PWM 接口定义 PWM Interface Definition

序号Seq.	接口定义Def.	序号Seq.	接口定义Def.
1	GND	3	PWM2/GPIO
2	PWM3/GPIO	4	PWM1/GPIO

## 十一：内置 12V 电源接口 Build-in 12V Power Interface

序号Seq.	接口定义Def.	序号Seq.	接口定义Def.
1	STANDBY	6	+5V
2	GND	7	GND
3	GND	8	GND
4	STV-5V	9	+12V
5	+5V	10	+12V

# NJY TECHNOLOGY CO., LTD

## 十二：内置 24V 电源接口 Build-in 24V Power Interface

序号Seq.	接口定义Def.	序号Seq.	接口定义Def.
1	VIN	5	GND
2	VIN	6	GND
3	VIN	7	GND
4	VIN	8	GND

## 十三：内置 12V 电源接口 Build-in 12V Power Interface

序号Seq.	接口定义Def.	序号Seq.	接口定义Def.
1	+12V	3	GND
2	+12V	4	GND