Product Specification
AD-0182-XX

■ **Preliminary Specifications**

☐ **Final Specifications**

Module	LCD Controller Board (AD Board) For LCD Display
Model Name	AD-0182-XX
Document Version	Rev.V0

Customer _____ Approved by Date _____ _____
Notice : This Specification is subject to change without notice.

Approved By	Prepared By
Tony Chiu 2024/03/19	Frank Kuo 2024/03/19

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Revision History

Version	Date	Revised Content/Summary	Page	Remark
0	2024/03/19	First Edition	All	
1	2024/04/01	Add description 2. Specification AD Board Power Input DC 12V	4	
		Update Photo 6. LCD Controller Board Dimension	10	
2	2024/05/28	Add USER HOLD Size. 6. LCD Controller Board Dimension	10	

1. General Function

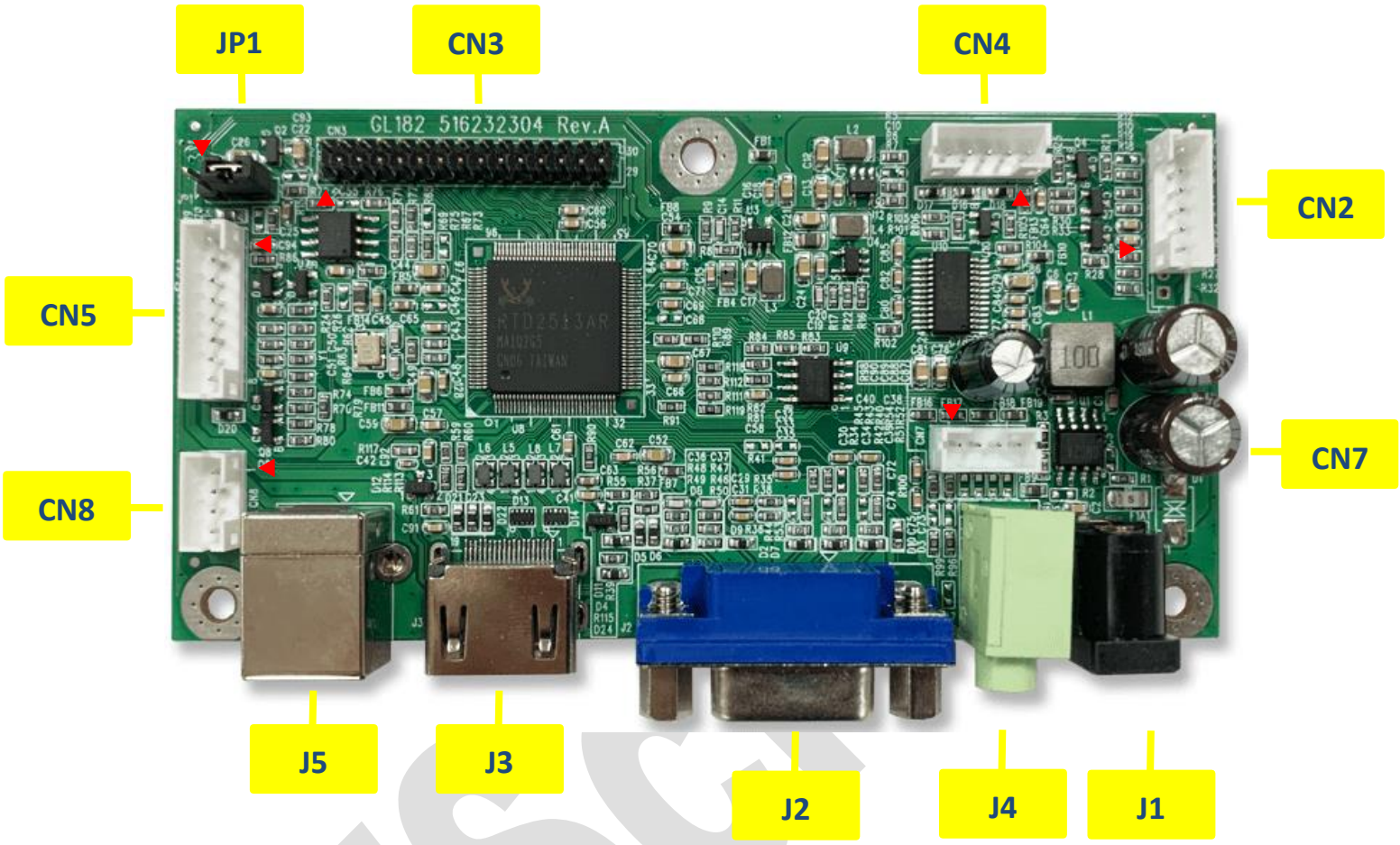
A. TFT-LCD MODULE DRIVE BOARD
B. RESOLUTION UP TO 1920 x 1200 @ 60Hz
C. 15 PIN D-SUB VGA CONNECTOR INPUT
D. HDMI Connector Input
E. DUAL PORT 8 Bit LVDS INTERFACE OUTPUT TO PANEL
F. OSD (On Screen Display) CONTROL MENU
G. USB Type B (for USB TOUCH signal through)
H. SUPPORTING HDCP PROTOCOL (OPTIONAL)
I. SUPPORTING DDC/CI PROTOCOL)
J. AUDIO INPUT AND AUDIO OUTPUT 1.4W x 2 at 8ohm SPEAKER

Note：No FRC Function

2. Specification

Model	AD-0182-XX
Panel Interface	Single/Dual (10” to 27” Panel)
Maximum Resolution	Up to WUXGA 1920x1200 8 bits per color , total 16.7M colors
Vertical Refresh Rate	VGA，SVGA，XGA，UXGA VESA Standard up to 75Hz WUXGA up to 60Hz
Input Source	VGA Analog (15pin D-Sub) HDMI 1.4a (HDCP 1.4) Audio in
Audio Output	1.4W+1.4W at 8 Ohm speaker
Dot Clock Maximum (Pixel clock)	165 MHz
User Controls	Power On/Off OSD Menu Adjust － Adjust ＋ Exit
Board Dimension	110 x 56 x 14.5 mm
AD Board Power Input	DC 12V
Voltage for LCD Panel	3.3V，5V DC (Jump Select)
Storage Temperature Limits	Temperature –40C~70C
Operation Temperature Limits	Temperature -20C~70C Humidity：Less than 85%

3. Interface



3-1. JP1 : Panel Voltage Select
3-2. J1 : Power Input (DC 12V)
3-3. J2 : VGA Connect (VGA Signal Input)
3-4. J3 : HDMI Connect (HDMI Signal Input)
3-5. J4 : Audio Signal Input (Phone Jack) for VGA Mode Only
3-6. J5 : USB Output (by passed TOUCH signal – CN8 to J5)
3-7. CN2 : Backlight Control
3-8. CN3 : LVDS Signal Output
3-9. CN4 : 5V Output & Light Sensor & RS232 Control
3-10. CN5 : OSD Key Control Connect
3-11. CN7 : Audio Speaker Signal Output
3-12. CN8 : Input Port (for USB TOUCH signal through)

4. Support PC Timing

NO.	Description	H-Freq. (KHz)	V-Freq. (Hz)
1	VGA640×480	31.649	60
2	VESA 640×480	37.5	75
3	VESA 800×600	37.9	60
4	VESA 800×600	46.875	75
5	VESA 1024×768	48.363	60
6	VESA 1024×768	60.023	75
7	VESA 1280×720	45.0	60
8	VESA 1280×800	49.3	60
9	VESA 1280×1024	63.981	60
10	VESA 1280×1024	79.977	75
11	VESA 1366x768	48.0	60
12	VESA 1440x900	59.9	60
13	VESA 1440x900	75	75
14	VESA 1600x900	60	60
15	VESA 1600x1200	75	60
16	VESA 1680x1050	65.3	60
17	VESA 1920x1080	67.5	60
18	VESA 1920x1200	74	60

Note: depends on panel

5. Signal input connections

5-1 Panel Voltage Selector

Location – JP1 : 2x3pin pitch 2.54mm

Pin1,Pin2 Short Panel Power 3.3V

Pin2,Pin3 Short Panel Power 5V

5-2 Power Input

Location – J1 : DC JACK D=2.0mm 12V DC Input

5-3 VGA Connect (VGA Signal Input)

Location – J2 : 15pin Hi-Density Female D-SUB

Pin Assign and Definition

Pin No.	SYMBOL	Pin No.	SYMBOL	Pin No.	SYMBOL
1	RED IN	6	R-GND	11	NC
2	GREEN IN	7	G-GND	12	SDA DDC
3	BLUE IN	8	B-GND	13	SYNC H
4	NC	9	PC 5V	14	SYNC V
5	NC	10	VGA_Cable_DET	15	SCL DDC

5-4 HDMI Connect (HDMI Signal Input)

Location – J3 : 19pin HDMI Connector

Pin Assign and Definition

Pin No.	SYMBOL	Pin No.	SYMBOL	Pin No.	SYMBOL
1	HDMI_DATA2+	8	GND	15	HDMI_SCL
2	GND	9	HDMI_DATA0-	16	HDMI_SDA
3	HDMI_DATA2-	10	HDMI_CLK+	17	GND
4	HDMI_DATA1+	11	HDMI_Cable_DET	18	HDMI_5V
5	GND	12	HDMI_CLK-	19	HDMI_HPD
6	HDMI_DATA1-	13	NC	------	----------
7	HDMI_DATA0+	14	NC	------	----------

5-5 Audio Signal Input (Phone Jack)

Location – J4 : SCJ368R0NXS0G04G 3P Green or equivalent

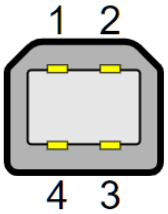
Audio Signal Input 1Vp-p Max. For VGA Mode Only

5-6 USB Output (by passed TOUCH signal – CN8 to J5)

Location – J5 : USB B TYPE

Pin Assign and Definition

Pin No.	SYMBOL
1	USB 5V
2	USB D-
3	USB D+
4	GND



5-7 Backlight Control

Location – CN2 : 6pin wafer pitch 2.0mm STM M24266 or equivalent

Pin Assign and Definition

Pin No.	SYMBOL	Pin No.	SYMBOL
1	GND	4	Backlight Enable
2	GND	5	+12V
3	Dimming control	6	+12V

5-7A Dimming : PWM Ratio 100% (LED Current Max) to PWM Ratio 20% (LED Current Min)

5-7B Backlight Enable : 5V (ON) or 0V (OFF)

5-8 LVDS Signal Output

Location – CN3 : 2x15pin DuPont pitch 2.0mm

Pin Assign and Definition

Pin No.	SYMBOL	Pin No.	SYMBOL	Pin No.	SYMBOL
1	VLCD for panel	11	LVDS RXE 2-	21	LVDS RXO 1-
2	VLCD for panel	12	LVDS RXE 2+	22	LVDS RXO 1+
3	VLCD for panel	13	GND	23	LVDS RXO 2-
4	NC	14	GND	24	LVDS RXO 2+
5	GND	15	LVDS RXE CLK-	25	GND
6	GND	16	LVDS RXE CLK+	26	GND
7	LVDS RXE 0-	17	LVDS RXE 3-	27	LVDS RXO CLK-
8	LVDS RXE 0+	18	LVDS RXE 3+	28	LVDS RXO CLK+
9	LVDS RXE 1-	19	LVDS RXO 0-	29	LVDS RXO 3-
10	LVDS RXE 1+	20	LVDS RXO 0+	30	LVDS RXO3+

5-9 5V Output & Light Sensor & RS232 Control

Location – CN4 : 5pin wafer pitch 2.0mm STM M24265 or equivalent

Pin assign and definition

Pin No.	SYMBOL
1	+5V
2	LS Signal
3	GND
4	Rx
5	Tx

5-10 OSD Key Control Connect

Location – CN5 : 8pin wafer pitch 2.0mm STM M24268 or equivalent

All Key Active Low Level , All LED Active HI Level , Output Current 10mA MAX

Pin assign and definition

Pin No.	SYMBOL	Pin No.	SYMBOL	Pin No.	SYMBOL
1	MENU KEY	4	UP KEY	7	LED_O
2	EXIT KEY	5	GND	8	POWER KEY
3	DOWN KEY	6	LED_G	---	----------

5-11 Audio Speaker Signal Output

Location – CN7 : 4pin wafer pitch 2.0mm STM M24264 or equivalent

Audio Speaker Signal Output 1.4W + 1.4W at 8 Ohm

Pin assign and definition

Pin No.	Signal
1	R -
2	R +
3	L +
4	L -

5-12 Input Port (for USB TOUCH signal through)

Location – CN8 : 4pin wafer pitch 2.0mm STM M24264 or equivalent

Pin assign and definition

Pin No.	Signal
1	USB 5V
2	USB D-
3	USD D+
4	GND

6. LCD Controller Board Dimension

UNIT：mm

USER HOLD：3.2mm x3