

# **Technical Reference Specification**

**MULTI INTERFACE CONTROLLER  
FOR TFT LCD**

## Version Recorder

<b>Ver. No.</b>	<b>Date</b>	<b>Pages</b>	<b>Version</b>
<b>1.0</b>	<b>Oct 21, 2014</b>	All	First Version

## **General Description**

This Board is used for TFT LCD Panel applied for LCD Monitor, or Advertising Machine, Or Digital photo frame, support resolution up to WUXGA 1920x1200; WUXGA(1920X1200) dot to dot display, LVDS max output Full HD 1920X1200, Input Analog Signal: R G B for VGA and DVI, display color up to 24bit. Synchronous automatic detection happens when Line frequency is between 30 and 94.5HZ, Field frequency 56HZ to 75HZ. Synchronous mode requires the Synchronous signal of line-field separation.

It is with audio power amplifying function, output 2Wx2, volume can be adjusted by Pressing key. Also with LED backlight driver, it can drive LED panel not larger than 32inch.

## Product Specification

Item	Specification
Signal Input	VGA: Analog RGB(0.7Vp-p) (TTL)
	DVI:TMDS
	Display Port V1.2 16 bits deep color mode
	HDMI V1.4 Adobe color space
Support Mode	DOS, VGA, SVGA, XGA, SXGA+, UXGA, WXGA, WXGA+, WSXGA, WSXGA+, WUXGA ETC.
Color	24bit
Horizontal Frequency	30-94.5KHz
Field Frequency	56-75Hz
Output	Dual LVDS Standard
Audio Output Power	8ohm 2W×2
Control Key	POWER、BRI+、BRI-、AUTO、NENU、LED_R、LED_G
OSD Menu	Brightness, Contrast, Auto, Phase, Clock, Field Position, Function, Reset;
OSD Language(Optional)	Chinese, English, French, Italian, Arabian etc.
Power Input	24V/12V (+/-0.6V) (DC)
Power Operation	Normal Work Mode
Size	155mm(L)x82mm(W)x16mm(H)
Plug & Play	Support
Power Management	Standby Power < 1W

## PC-RGB Support Mode List

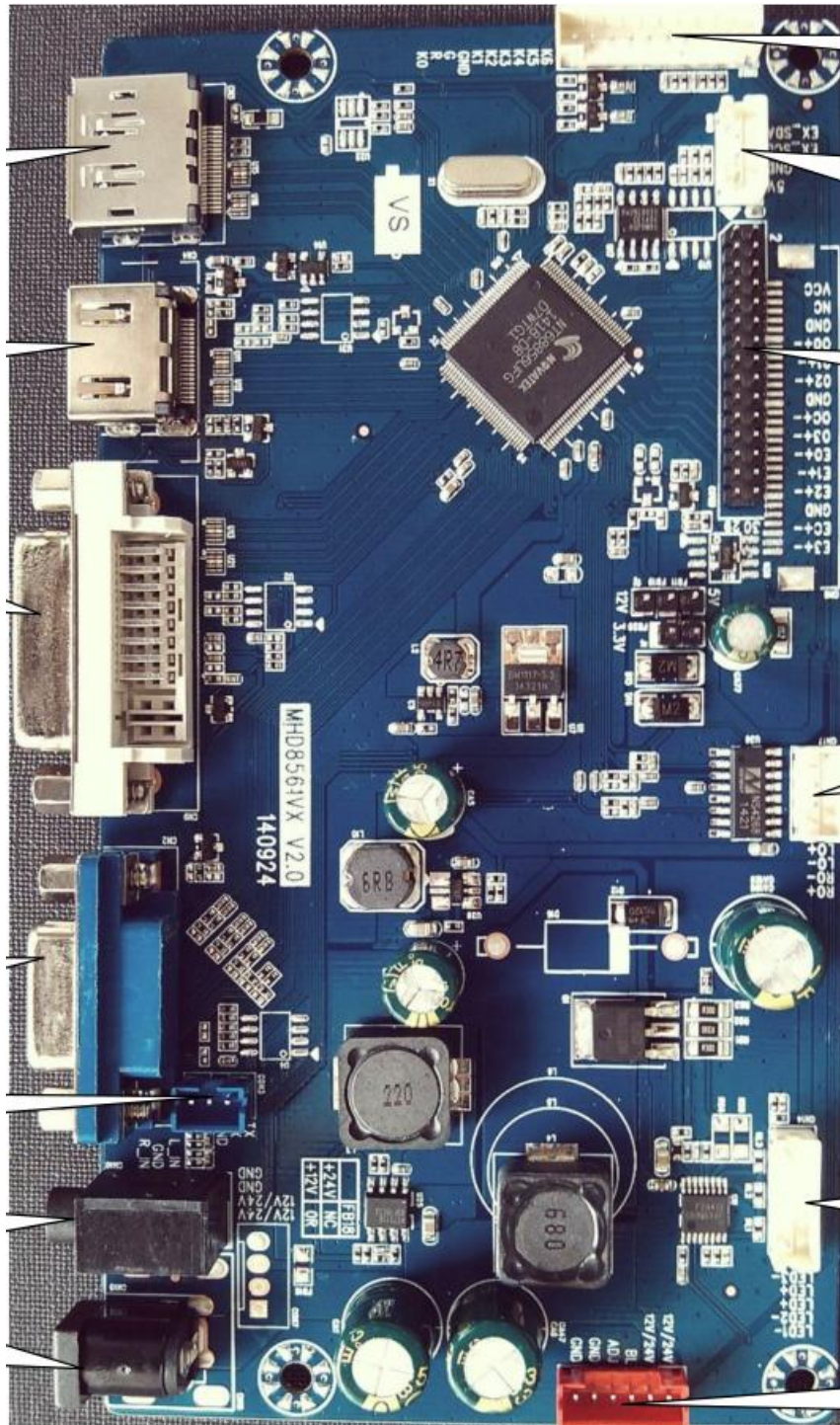
Here lists part of the PC-RGB Mode supported by this Board, including it's field Frequency, Horizontal frequency, and resolution.

**PC-RGB** Mode List( this table only for reference, the actual data might be different from them because of different signal output sources.)

Mode	Resolution	Line Frequency (KHz)	Field Frequency (Hz)	Standard
WUXGA	1920X1200	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	

## Board Layout

This Page specified the functions of all the key interface based on physical product. Detailed Function, refer to Point 7.

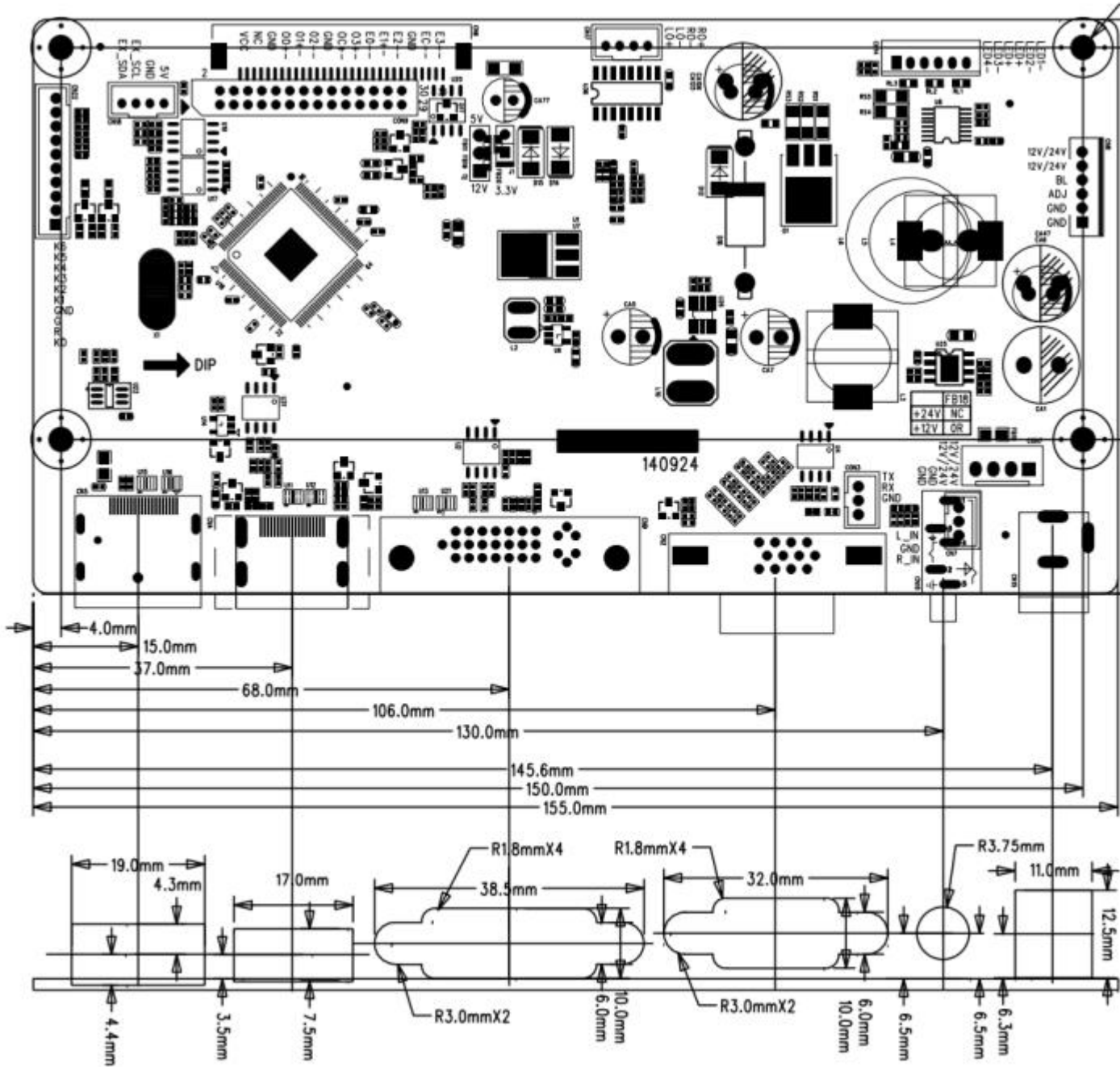


# PCB Size and Structure Specification

## PCB Size

- ☆ PCB Thickness + Height of top parts = 16.0mm
- ☆ Screw Hole Size: Dia 3.6mm

## Structure



## Transport, Storage, Usage

Do not press heavily, bent and transformer

To prevent from Static and water

Relative Humidity:  $\leq 80\%$

Storage Temperature:  $-20 \sim +60^{\circ}\text{C}$

Working Temperature:  $-10 \sim +40^{\circ}\text{C}$

## Key Interfaces Definition and Specification

( Face to indentation of the interface , the 1st Pin is on the left )

☆ **CN14(6PIN/2.0mm Rice Yellow): LED Backlight Output**

Pin No.	Definition	Description
1	LED-	
2	LED-	
3	LED+	
4	LED+	
5	LED-	
6	LED-	

☆ **CN22(10PIN/2.0 mm Rice Yellow): Press Key Board Interface**

Pin No.	Definition	Description
1	POWER	Standby
2	R	Indicator(Red)
3	G	Indicator(Green)
4	GND	Ground
5	UP	+ (Volume, Brightness etc.)
6	DOWN	-(Volume, Brightness etc.)
7	AUTO	Auto Adjust / Exit
8	MENU	Menu
9	EXIT	Exit
10	NC	Reservation

☆ **CN17(4PIN/2.0 mm Rice Yellow): Loudspeaker output Socket**

Pin No.	Definition	Description
1	LO+	Left Channel Loudspeaker Output+
2	LO-	Left Channel Loudspeaker Output-
3	RO-	Right Channel Loudspeaker Output-
4	RO+	Right Channel Loudspeaker Output+



☆ **CON9 (2 X 15PIN/2.0) LVDS Interface**

<b>Pin No.</b>	<b>Definition</b>	<b>Description</b>
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

☆ CN8 (6pin/2.0mm) Backlight Power-control interface

Pin No.	Definition	Description
1	24V/12V	Backlight Power
2	24V/12V	Backlight Power
3	BL	Backlight On/Off Signal
4	ADJ	Backlight Luminance Adjust signal
5	GND	Ground
6	GND	Ground