

# **4K Bar Screen Splicing Board Specification**

**Product Model: ST5843**

**Issue date: 2024.3.7**

型号: ST5843

*The information in the specification is subject to change without notice.*

## 1. Product Overview

ST5843 board is a comprehensive and high-performance bar screen splicing display driver board. It incorporates powerful video processing capabilities, capable of outputting high-quality images. It supports HDMI input, supports input to HDMI output conversion, supports high-definition signal input and output up to 3840 × 2160@30HZ (HDMI signal), supports dual-channel 8-bit LVDS screen driver display, provides better effects and offers high-definition video display line by line, and supports high-quality power amplifier audio output. The board also integrates convenient features such as automatic temperature control, LED indicators, buttons, and remote control.

## 2. Product Features

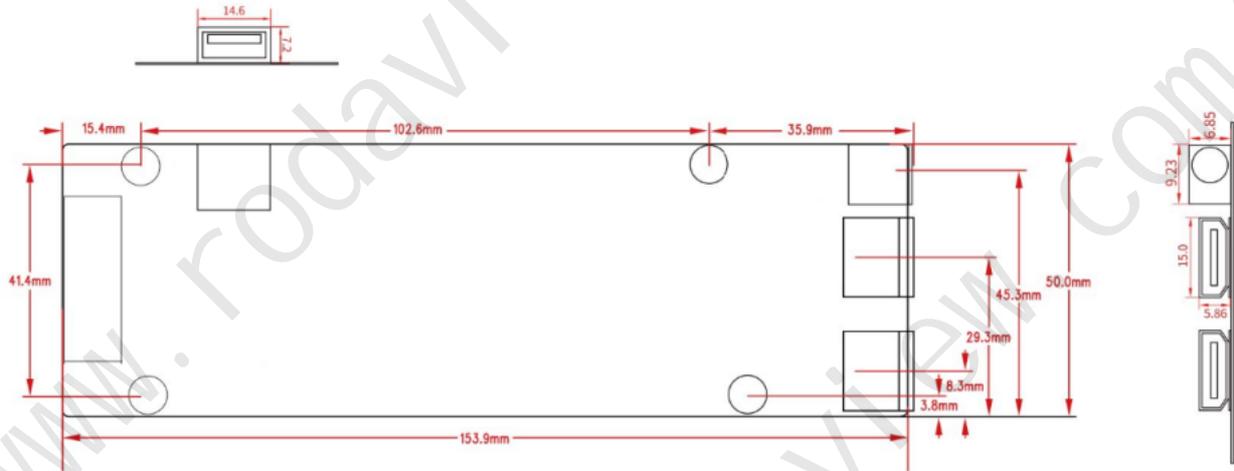
- (1) Supports 4K30 (up to 3840x2160@30) HDMI input and 4K30 HDMI output.
- (2) Support display of input signals in 0-degree and 180-degree directions.
- (3) Supports both button and remote control operations.
- (4) Supports single/dual 8-bit LVDS screen drive display, and supports PWM backlight modulation.
- (5) Supports driving of various non-standard resolution strip screens, such as (1920x540, 1920x270, etc.).
- (6) Supports high-quality power amplifier audio output (supports up to 10W high-power speaker).
- (7) DC 12V power supply and built-in 4Pin DC 12V power supply.

- (8) Supports arbitrary splicing display within a maximum size of 16x16 both horizontally and vertically, and supports serial port expansion for host computer control.
- (9) Support for machine code (address code), with row and column addresses, simply fill in the control software and you're done Don't bother with calculating binary numbers.
- (10) An external serial port control board can achieve cascading control of serial ports to splicing boards.
- (11) Supports USB quick upgrade.

### 3. Product feature description

Support signal	HDMI IN/ HDMI OUT	colour	24bit
		Synchronization range of rows	30-80KHZ
		Field synchronization range	50-75HZ
interface	input	HDMI x 1	HDMI-19 pin
	output	LVDS interface	51Pin LVDS Interface
		HDMI x 1	HDMI-19 pin
Power Supply	Input power supply	DC24V/12V/5V	
	Screen driving voltage	10V/12V	
	power operation	Normal working mode, power-saving working mode	
other	OSD language	Chinese, English and other multiple languages (other languages can be customized and added upon request)	

#### 4. Product PCB size and structure



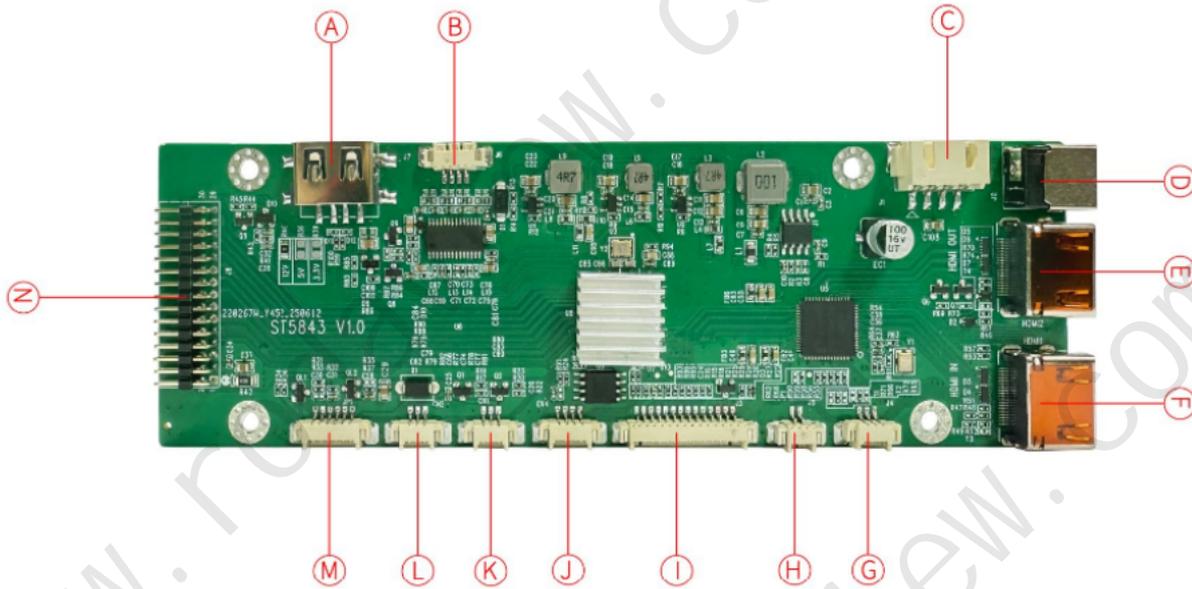
\*PCB size description: The size is for reference only. Please measure according to the actual PCB when making the shell.

\*PCB length: 154.0mm

\*PCB width: 41.4mm

\*PCB screw hole diameter: 3.5mm

## 5. Main Interface Definition Description



NO	Description	NO	Description
A	<u>USB</u>	B	4Pin LR audio output
C	4Pin DC12V IN	D	<u>DC 12V IN</u>
E	HDMI IN	F	HDMI OUT
G	<u>LT I2C</u>	H	LT_UART
I	Button+remote control+indicator light interface	J	<u>4Pin UART 接口</u>
K	<u>FAN 1</u>	L	FAN 2
M	Backlight control interface	N	<u>15Pin LVDS</u> screen driver interface

***JP1 (6PIN/1.25) INVERTER interface***

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Foot number	definition	describe
1	GND	grounds
2	GND	grounds
3	ADJ (PWM Control)	Brightness adjustment
4	BL_ON	Inverter switch control (high level active)
5	12V	DC power supply
6	12V	DC power supply

### ***CN4 (4PIN/1.25) UART interface***

Foot number	definition	describe
1	+5V	5V
2	RX	URAT RX
3	TX	URAT TX
4	GND	GND

### ***J4 (3PIN/1.25) I2C interface***

Foot number	definition	describe
1	SDA	I2C SDA
2	SCL	I2C SCL
3	GND	Ground

### ***J3 (14PIN/1.25) button+IR+indicator light interface***

Foot number	definition	describe
1	GND	GND
2	NC	NC
3	KEY0	POWER
4	KEY1	MENU

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5	KEY2	LEFT
6	KEY3	RIGHT
7	KEY4	UP
8	KEY5	DOWN
9	KEY6	INPUT(OK)
10	DGND	GND
11	IR_IN	IR_IN
12	LED_G	LED_G
13	LED_R	LED_R
14	+5V	5V

#### ***J6 (4PIN/1.25) audio output interface***

Foot number	definition	describe
1	L_OUT	Left channel output
2	L_OUT	Left channel output
3	R_OUT	Right channel output
4	R_OUT	Right channel output

#### ***J1(4PIN/2.54) 4P DC12V power supply***

Foot number	definition	describe
1	+12V	12V
2	+12V	12V
3	GND	GND
4	GND	GND

#### ***CN1, CN2 (3PIN/1.25mm) fan interface x2***

Foot number	definition	describe
1	12V	12V power input

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2	NC	empty
3	GND	Ground

### ***J8 (30PIN) LVDS screen interface***

Foot number	definition	describe
1, 2, 3	PANEL_VCC	PANEL_VCC
4, 5, 6, 13, 14, 26, 25	GND	GND
7	RX00-	LVDS 0VEN 0 - Signal
8	RX00+	LVDS 0VEN 0 + Signal
9	RX01-	LVDS 0VEN 1 - Signal
10	RX01+	LVDS 0VEN 1 + Signal
11	RX02-	LVDS 0VEN 2 - Signal
12	RX02+	LVDS 0VEN 2 + Signal
15	RX0C-	LVDS 0VEN Clock - Signal
16	RX0C+	LVDS 0VEN Clock + Signal
17	RXE3-	LVDS 0VEN 3 - Signal
18	RXE3+	LVDS 0VEN 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
27	RXEC-	LVDS EVEN Clock - Signal
28	RXEC+	LVDS EVEN Clock + Signal
29	RXE3-	LVDS EVEN 3 - Signal
30	RXE3+	LVDS EVEN 3 + Signal

## **6. CONFIGURATION & GENERAL PRECAUTIONS**

## Bar Screen AD Board ST5843

Relative Humidity:  $\leq 80\%$

Storage Temperature:  $-10 \sim +60^{\circ}\text{C}$

Operation Temperature:  $0 \sim +40^{\circ}\text{C}$

Protect the board from static electricity in case of damage to the IC

Don't press, distort or disassemble the board

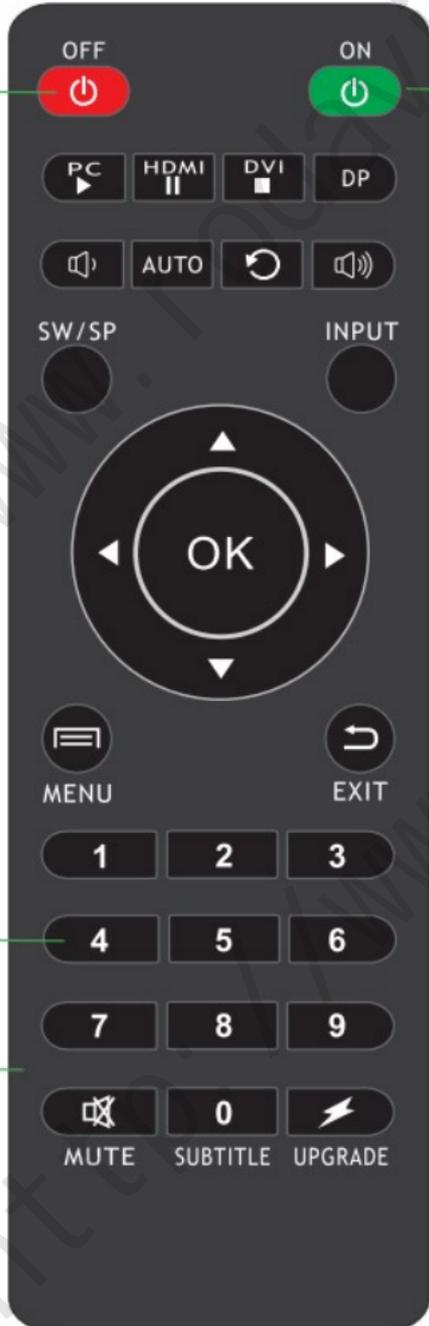
Keep the board away from conductor when it is working

Don't wire in the board to power supply before panel is correctly connected

Don't push or pull the connectors when the board is working.

## 8.Remote control instructions

### Definition of Remote Control



OFF	Power off option
ON	Power on option
VOL-	Volume reduction option
VOL+	Volume up option
UP	Up menu options
DOWN	Downward menu options
LEFT	Left menu options
RIGHT	Right menu options
OK	Acknowledgment Option
MENU	Menu Options
INPUT	Source selection options
EXIT	Exit Options
DP	DP source options
HDMI	HDMI Source Options
MUTE	mute
UPGRADE	

## 9.Physical picture

