LCD TV Main Board Specification

(PT 551F)

Date：15/02/2006 QB060215004

Content

1、Summary

This A/D board is designed for TFT-LCD PANEL. It can reappearance TV signal for multi-TV system, and store as much as 200 channels by automatically searching. And it can achieve the reappearance of analog RGB input signal under the resolution up to SXGA. It can support the real color to 64 bit. The Horizontal Frequency of the input signal is from 30KHz to 75 KHz, the Vertical Frequency is from 56 Hz to 75 Hz. De-composite sync mode is supported. Further more, CVBS and S-video are supported.

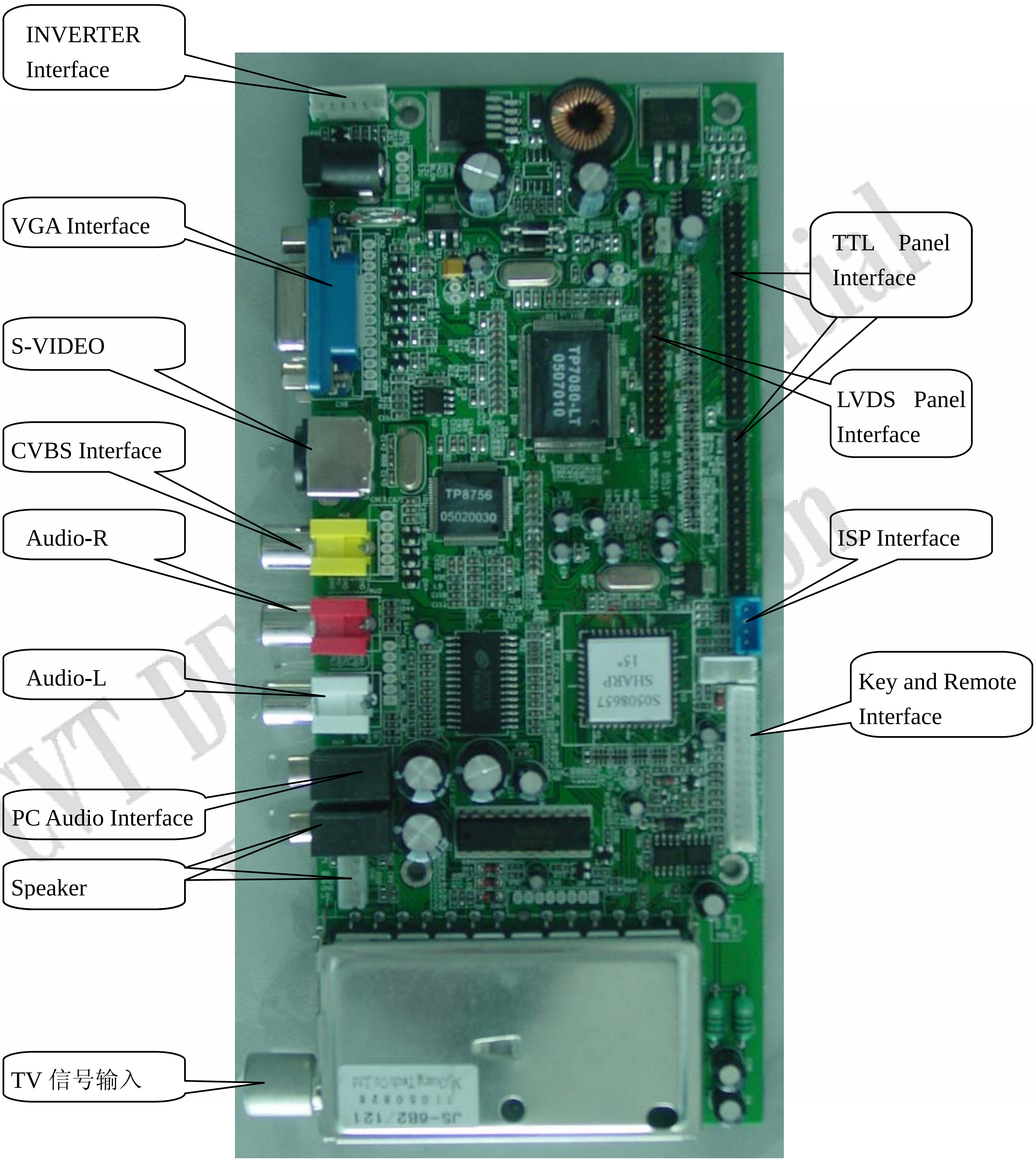
This product have an audio amplifier, which can support 2×6W speaker output. And it will select the audio channel according to the input signal.

Without other remarks the product follows the Specification.

2、Features

Input Signal:	Analog RGB(0.7Vp-p), H/V SYNC Signal CVBS (1.0Vp-p +/-5%) S-video (S-Y: 0.714Vp-p +/-5%; S-C: 0.286Vp-p +/-5%;) Two channels for Audio out (PC and AV)
Video System	PAL; NTSC; SECAM;
TV Frequency Band	49.75 MHz -863.25 MHz
Format:	DOS,VGA,SVGA,XGA, SXGA, UXGA
Color:	24bit
H Frequency:	30-75KHz
V Frequency:	56-75Hz
Output Signal:	TTL、LVDS
Audio-output power:	2×6W
Key:	AUTO/EXIT, VOL-, VOL+, POWER, CH-, CH+, MENU
Power:	12 V (+/-0.6V) (DC)
Power Mode:	Normal working mode, Low power loss mode
Power Loss:	5W(without loads)
Size:	193mm(L)×82mm(W)×16mm(H)
P&P Function:	supported
Power Management:	Sleep mode<5W

3、the Board Diagram



4、Interface definition and Electric Specification

1. Remote control: NEC Remote Protocol is supported;
2. Key operation: 7keys, Matrix scanning way;
3. INVERTER interface: Back light control;

Appendix 1

5、Structure & Size

(1) height=16.00 mm
(2) length= 193.00 mm
(3) width= 82.00 mm

Appendix 2

6、Format table

Format	Horizontal Freq(KHz)	Vertical Freq (Hz)
SXGA 1280*1024	63.5 80.0	60 75
XGA 1024*768	48.4 56.5 60.0	60 70 75
SVGA 800*600	37.9 47.2 46.9	60 72 75
VGA 640*480	31.5 37.9 37.5	60 72 75
640*400	31.5	70
720*400	31.5	70

7、Transport、Storage、Operation Specification

1. Do not be pressed and distorted
2. Keep away from Static
3. Relative Humidity: s≤80%
4. Storage Temperature: -10～+60℃
5. Operation Temperature:0～+40℃

8、Appendix

Appendix1: Interface Definition

CN7(6PIN/2.0): INVERTER

PIN	SYMBOL	DESCRIPTION
1	12V	Inverter Power
2	12V	Inverter Power
3	BL_ON	Inverter Control
4	ADJ	Brightness Adjust
5	GND	Ground
6	GND	Ground

CN1 (4PIN/2.0): Audio Output Interface

PIN	SYMBOL	DESCRIPTION
1	LSPK	Audio-L
2	GND	Ground
3	GND	Ground
4	RSPK	Audio-R

CN4 (14PIN/2.0): Key and Remote Control

PIN	SYMBOL	DESCRIPTION
1	+5V	5V power
2	IR	Remote receive
3	GND	Ground
4	K0	Key Interface0
5	LED-R	Red Indicator
6	LED-G	Green Indicator
7	GND	Ground
8	K1	Key Interface 1
9	K2	Key Interface 2
10	K3	Key Interface 3
11	K4	Key Interface 4
12	K5	Key Interface 5
13	K6	Key Interface 6
14	K7	Key Interface 7

CN15、CN11:(TTL PANEL Interface)

(1) CN15 40PIN/2.0
(2) CN11 30PIN/2.0

(1) CN15 40PIN/2.0

PIN	SYMBOL	DESCRIPTION
1	LVDS-VDD	Power for LVDS (+3.3V)
2	LCD-VDD	Power for Panel (+3.3V)
3	LCD-VDD	Power for Panel (+3.3V)
4	LCD-VDD	Power for Panel (+3.3V)
5	GND	---
6	GND	---
7	D-VSYNC	Display Vertical Sync for Panel
8	GND	---
9	D-HSYNC	Display Horizontal Sync for Panel
10	GND	---
11	D-DE	Display Data Enable for Panel
12	GND	---
13	RA0	Display Port A Red Output Bit 0
14	RA1	Display Port A Red Output Bit 1
15	RA2	Display Port A Red Output Bit 2
16	RA3	Display Port A Red Output Bit 3
17	RA4	Display Port A Red Output Bit 4
18	RA5	Display Port A Red Output Bit 5
19	RA6	Display Port A Red Output Bit 6
20	RA7	Display Port A Red Output Bit 7
21	GND	---
22	GA0	Display Port A Green Output Bit 0
23	GA1	Display Port A Green Output Bit 1
24	GA2	Display Port A Green Output Bit 2
25	GA3	Display Port A Green Output Bit 3
26	GA4	Display Port A Green Output Bit 4
27	GA5	Display Port A Green Output Bit 5
28	GA6	Display Port A Green Output Bit 6
29	GA7	Display Port A Green Output Bit 7
30	GND	---
31	GA0	Display Port A Blue Output Bit 0
32	GA1	Display Port A Blue Output Bit 1
33	GA2	Display Port A Blue Output Bit 2
34	GA3	Display Port A Blue Output Bit 3
35	GA4	Display Port A Blue Output Bit 4
36	GA5	Display Port A Blue Output Bit 5

37	GA6	Display Port A Blue Output Bit 6
38	GA7	Display Port A Blue Output Bit 7
39	GND	---
40	D-SHCLK	Display Clock for Panel

(2) CN11 30PIN/2.0		
PIN	SYMBOL	DESCRIPTION
1	GND	---
2	GND	---
3	D-SHCLK	Display Clock for Panel
4	GND	---
5	RB0	Display Port B Red Output Bit 0
6	RB1	Display Port B Red Output Bit 1
7	RB2	Display Port B Red Output Bit 2
8	RB3	Display Port B Red Output Bit 3
9	RB4	Display Port B Red Output Bit 4
10	RB5	Display Port B Red Output Bit 5
11	RB6	Display Port B Red Output Bit 6
12	RB7	Display Port B Red Output Bit 7
13	GND	---
14	GB0	Display Port B Green Output Bit 0
15	GB1	Display Port B Green Output Bit 1
16	GB2	Display Port B Green Output Bit 2
17	GB3	Display Port B Green Output Bit 3
18	GB4	Display Port B Green Output Bit 4
19	GB5	Display Port B Green Output Bit 5
20	GB6	Display Port B Green Output Bit 6
21	GB7	Display Port B Green Output Bit 7
22	GND	---
23	GB0	Display Port B Blue Output Bit 0
24	GB1	Display Port B Blue Output Bit 1
25	GB2	Display Port B Blue Output Bit 2
26	GB3	Display Port B Blue Output Bit 3
27	GB4	Display Port B Blue Output Bit 4
28	GB5	Display Port B Blue Output Bit 5
29	GB6	Display Port B Blue Output Bit 6
30	GB7	Display Port B Blue Output Bit 7

CN10 (30PIN/2.0) TTL PANEL Interface

PIN	SYMBOL	DESCRIPTION
1	LCD-VDD	Power for Panel
2	LCD-VDD	Power for Panel
3	LCD-VDD	Power for Panel
4	GND	---
5	GND	---
6	GND	---
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	---
14	GND	---
15	RXOC-	LVDS ODD Clock - Signal
16	RXOC+	LVDS ODD Clock + Signal
17	RXO3-	LVDS EVEN 3 - Signal
18	RXO3+	LVDS EVEN 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	---
26	GND	---
27	RXEC-	LVDS EVEN Clock - Signal
28	RXEC+	LVDS EVEN Clock + Signal
29	RXE3-	LVDS EVEN 3 - Signal
30	RXE3+	LVDS EVEN 3 + Signal

Appendix 2：**Structure and Size**