



LCD&LED TV Control Board Specification

Module: **HK-T.RENEC8V02X**

Version 1.0.0

Part No.: **9. TRENEC8V02XXX**
(DVD+AV+YPBPR+COAX SIGNAL TERMINAL)

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Approved:

Spec	Item in This Document	Checked By
Software information	General Description, Features,	彭小强
	Preset Mode for VGA、HDMI and YUV inputs	
Hardware information	Function layout, Schematic & Configuration	梁前周
	Interface definition, Key & IR schematic	
Prepared By: 赖丹丹 Approved: 杨卫国		

1. GENERAL DESCRIPTION

HK-T.RENEC8V02 is a control board which can compatible with LED and LCD cabinet which is suitable for North America and Korea market. It is designed to apply the LVDS (Low Voltage Differential Signaling) as the interface. Now it can match all most factories panels but more than 26", such as SAMSUNG, CMO, AU, LGP, CPT etc. The resolution of it can up to 1920x1080.

HK-T.RENEC8V02 can support the NTSC/ATSC、CC、Advanced V-CHIP CVBS、PC-RGB、YPBPR、HDMI、Video and Audio signal input and output. And includes an audio amplifier which can support 2x10W (8Ω) speaker output, also supports earphone output. As well as inter DVD Player module, can support various factory's DVD loader in the market.

2. FEATURE

Chipset	R8A66983BG		
Market	North American; Korea		
Panel	Type	TFT-LCD/LED	
	Resolution	Max. 1920*1080	
	Interface	Single/Double LVDS	
Input Signal	TV	Tuner Receiving Range	CH2~CH69 AIR CH1~CH135 CABLE
		Input impedance	75Ω
		NTSC System	Video System : NTSC Sound System :M/N MTS CC:608CC
		ATSC System	Input level:-83~-8dBm (8VSB) -62~-30dBm (256QAM) C/N: ≤16dB (Air) ≤28dB (Cable) Channel bandwidth: 6MHZ Modulation: 8VSB 64QAM 256QAM(J.83B) Video system: MPEG- 2MP@HL Sound system: AC 3 Basic function: EPG, 708CC, EAS,V-CHIP,

2. FEATURE

Input Signal	AV	CVBS	Color system: PAL NTSC Video: 1.0Vp-p +/-5%
		SVIDEO	Color system: PAL NTSC S-Y: 0.714Vp-p +/-5% S-C: 0.286Vp-p +/-5%
	PC- RGB	Mode	Max. 1920*1080@60Hz
		Signal	0.7Vp-p@75ohm
		H-Frequency	30—80KHz
		V-Frequency	56—75Hz
	HDMI	Version	1.3
		HDCP	HDCP 1.1 compliant receiver
		Format	480i,480P,576i,576p,720p,1080i,1080p
	YUV	Signal	Y : 1Vp-p@75ohm UV : 0.7Vp-p@75ohm
		Format	480i,480P,576i,576p,720p,1080i,1080p
Output Signal	Frequency response	100Hz-15KHz @±3dB (1KHz 0dB reference signal)	
	Max Output power	2x10W(8Ω) THD+N<10% @1KHz (Supply Voltage: 24V, Audio input: 0.5 Vrms)	
Power	Input	12V, 5V, 5VSB SUPPLY	
	Operate	Normal and Low power mode	
	Manage	Standby<0.5W	
	Panel Voltage	3.3V、5V、12V	
Picture	Video decoder	3D COMB Filter	
	De-interlace	3D	
	Reduction	Noise Reduction	
	Enhance	Weak Signal Enhancement	
Other	Amplifier	2 X10W (8Ω),	
	OSD language	Option1:English, French, Spanish, Option2:English, Korean,	
	Key definition	VOL-、VOL+、CH-、CH+、MENU、SOURCE、POWER	
	Expanded	DVD,DPF;	

2. FEATURE

Interface	Input	TV	1 F-Connector 75Ω
		CVBS	1 RCA terminal (yellow)
		YUV	1X 3 RCA terminal (green,blue,red)
		HDMI	3 HDMI terminals
		PC-RGB	1 D-SUB terminal
		CVBS Audio	2 RCA terminals (write red)
		YUV Audio	1X 2 RCA terminals (write red)
		PC Audio	1 Earphone terminal
		Multimedia Card	1 Multimedia Card(Built-In)
		USB Slot	1 USB Slot
	output	COAX (option)	1 RCA terminal(orange)
		SPDIF(option)	1 SPDIF

Media Player Format

Media	File Ext.	Codec		Remark
		Video	Audio	
Music	.mp3	MPEG1 Audio Layer III ((Not corresponding MP3 Pro))		Sampling Frequency [KHz] : 32/ 44.1/ 48 Bit Rate [kbit/s]: 32/40/48/56/64/80/96/112/128/160/192/224/256/320/VBR
Photo	.jpg	Baseline		Horizontal Min: less than 50000 Vertical Max: less than 5000 Horizontal Min: greater than 8 Vertical Min: greater than 8

3. PRESET MODE FOR VGA、HDMI AND YUV INPUTS

3.1 ANALOG RGB FORMAT TABLE

Resolution	Refresh Rate	Horizontal Frequency	Standard
1920X1080	60HZ	67.5KHZ	
1680X1050	60HZ	64.7KHZ	CVT RED. Blanking
	60HZ	65.3KHZ	CVT
1440X900	60HZ	55.5KHZ	CVT RED. Blanking
	60HZ	59.9KHZ	CVT
1280X1024	60HZ	63.5KHZ	VESA
1024X768	60HZ	48.4KHZ	VESA
	70HZ	56.5KHZ	
	75HZ	60.0KHZ	
800X600	60HZ	37.9KHZ	VESA
	70HZ	47.2KHZ	
	75HZ	46.9KHZ	
640X480	60HZ	31.5KHZ	VESA
	70HZ	37.9KHZ	
	75HZ	37.5KHZ	
720X400	70HZ	31.5KHZ	VESA

3.2 HDMI AND YUV FORMAT TABLE

Format	Resolution	Hor. Freq(KHz)	Vert. Freq.(Hz)
480i	480	15.734	60.00
480p	480	31.469	59.94
		31.500	60.00
576i	576	15.625	50.00
		15.734	60.00
576p	576	31.250	50.00
720p	720	44.955	60.00
1080i	1080	28.125	50.00
		33.750	60.00
1080p	1080	56.250	50.00
		67.500	60.00

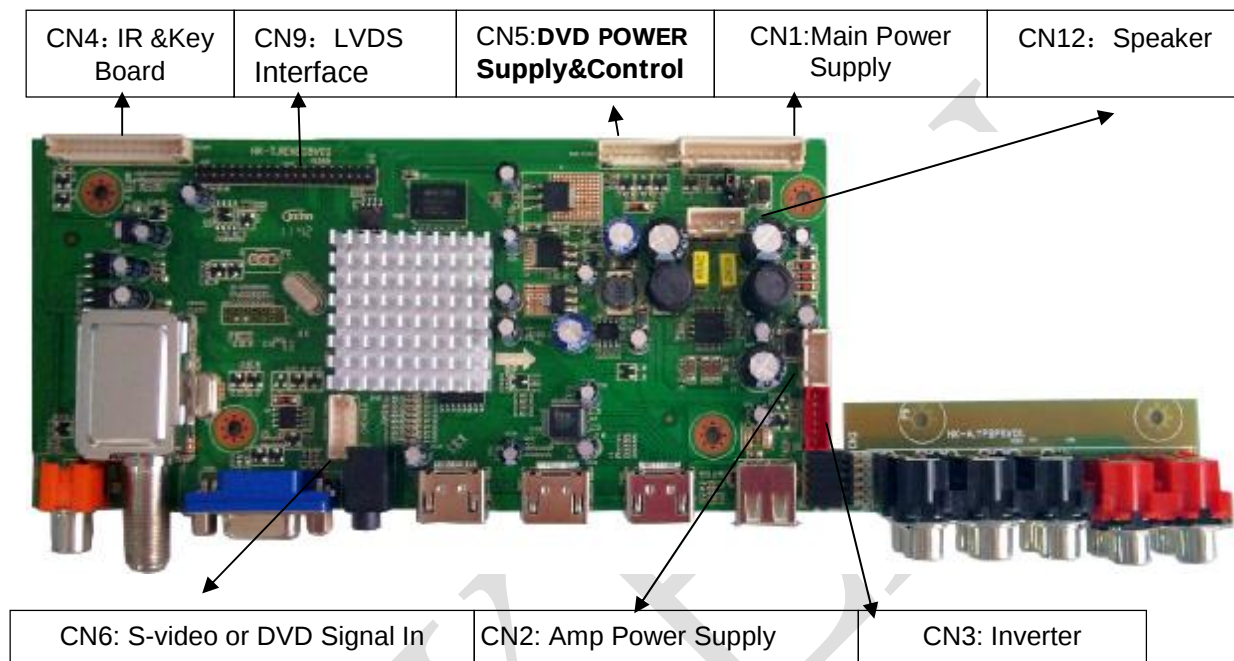
Note: Preset mode of this module is different according to the panel.

4. FUNCTION LAYOUT

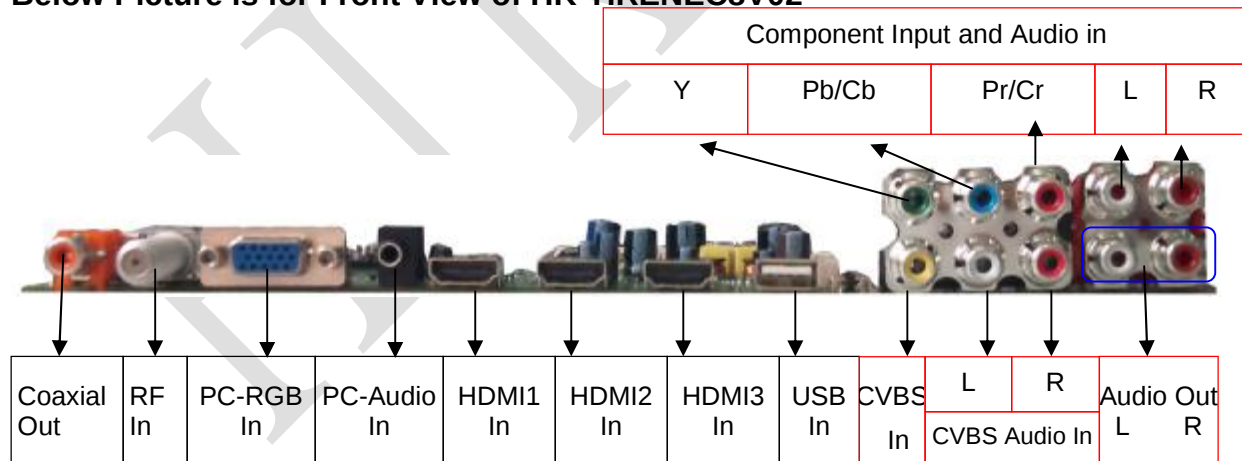
The picture is for a reference only; the actual item is the standard.

The Red frame means optional, just depends on your board basic

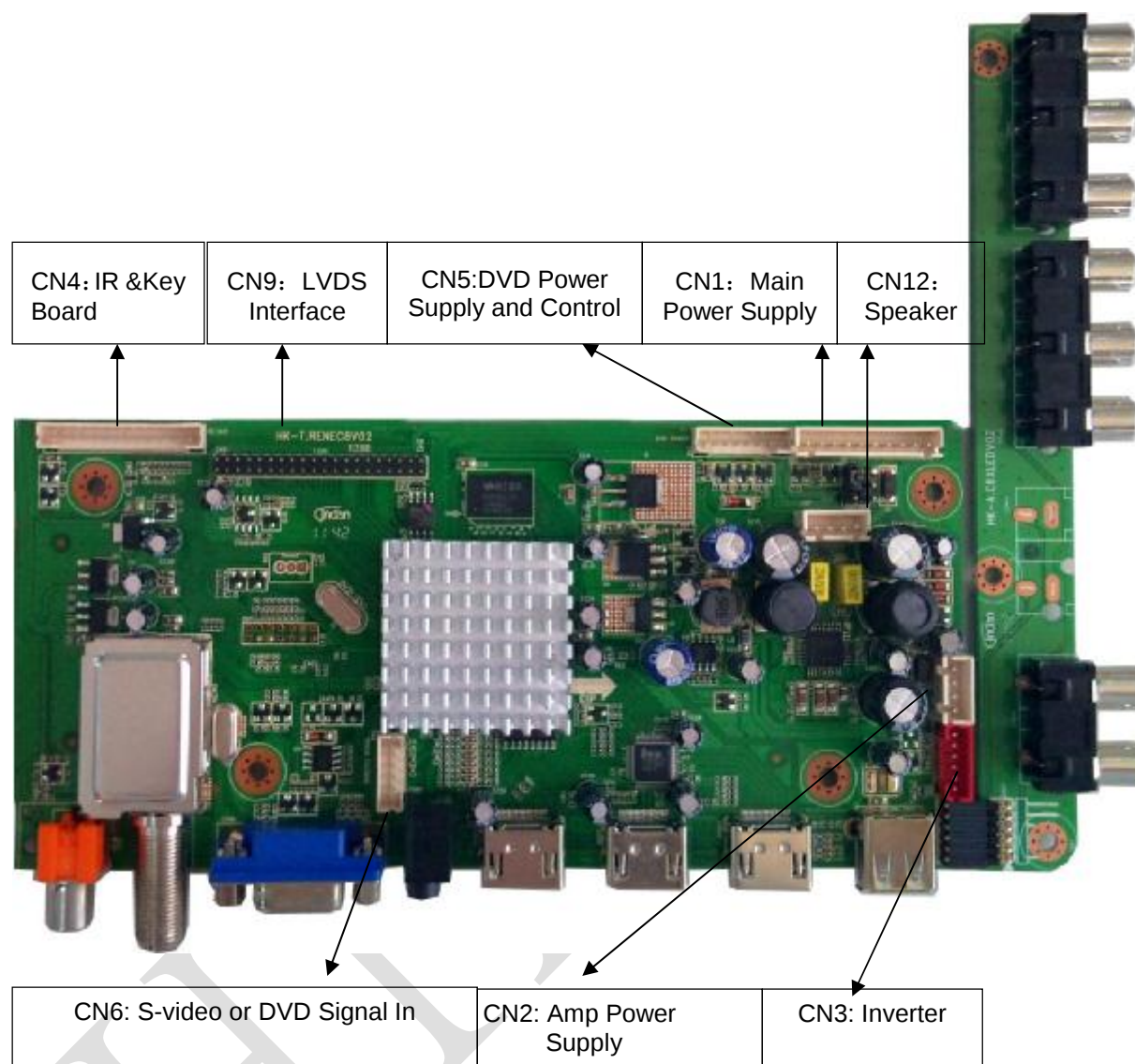
THE PICTURE FOR **LCD** CONTROL BOARD OF



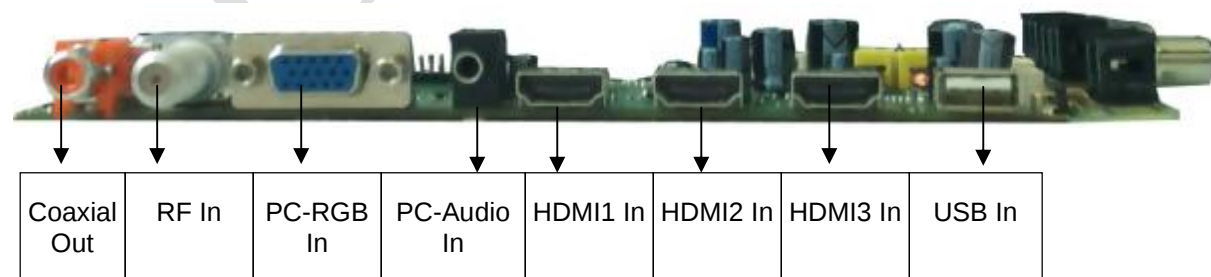
Below Picture is for Front View of HK-T.RENEC8V02



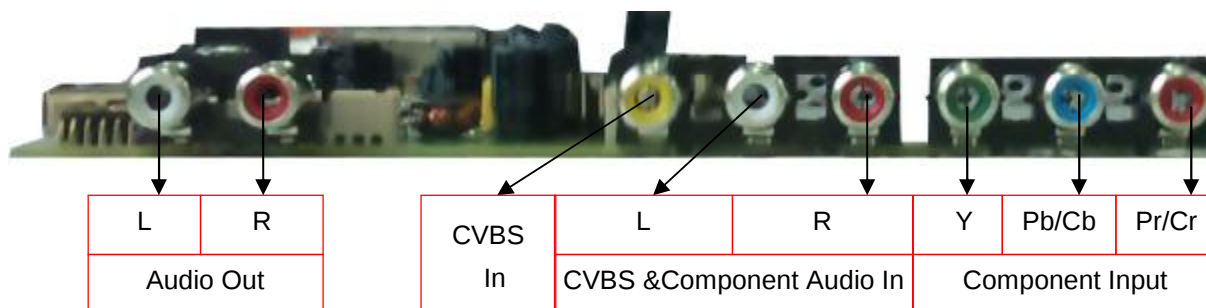
4.2 THE PICTURE FOR **LED** CONTROL BOARD OF HK-T.RENEC8V02



Below Picture is for Front View of HK-T.RENEC8V02



Below Picture is for Side View of HK-T.RENEC8V02



5. PCB DIMENSION AND CONFIGURABLE

5.1 CONFIGURABLE

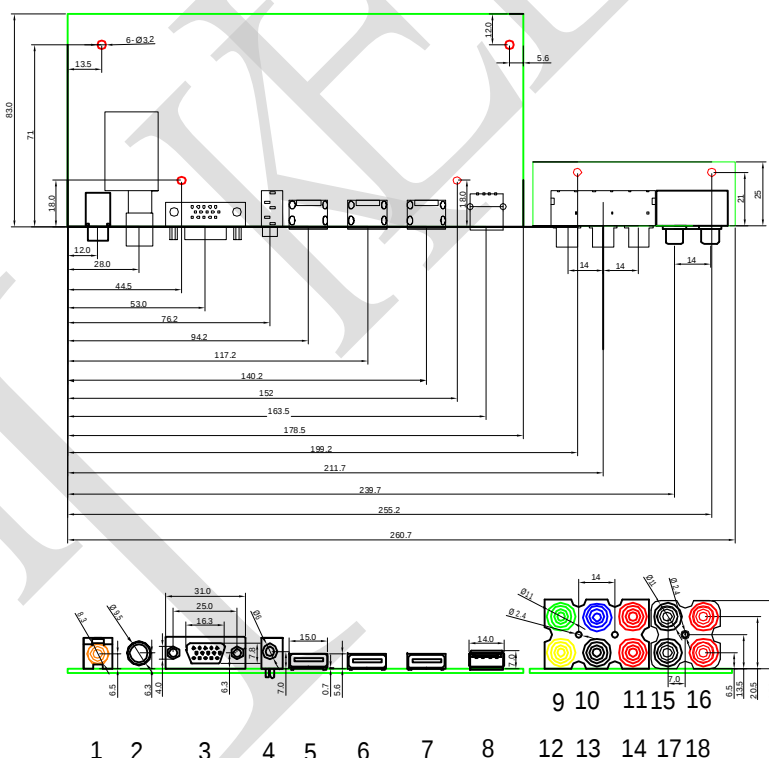
The structure chart is for a reference only; the actual item is the standard.

Jack configuration can be adjusted according to your jack terminal, it just depends on your board basic, and the final bracket Configuration is determined by the practical sample.

(档板结构根据所选输入输出端口不同可以做出调整, 最终结构请以送样实物为准。)

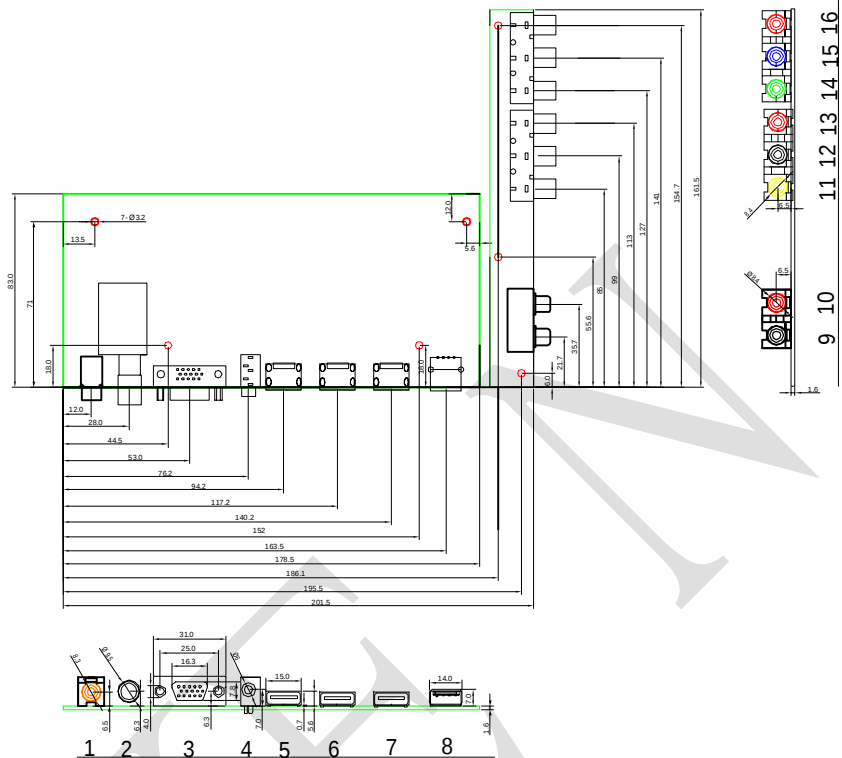
5.1.1 THE STRUCTURE CHART FOR **LCD** CONTROL BOARD OF HK-T.RENEC8V02X

NO.	DESCRIPTION
1	COAX OUT
2	RF IN
3	VGA
4	PC AUDIO
5	HDMI 1
6	HDMI 2
7	HDMI 3
8	USB
9	YPBPR-Y
10	YPBPR-PB
11	YPBPR-PR
12	AV
13	AV-L
14	AV-R
15	YPBPR-L
16	YPBPR-R
17	L IN-OUT-L
18	L IN-OUT-R



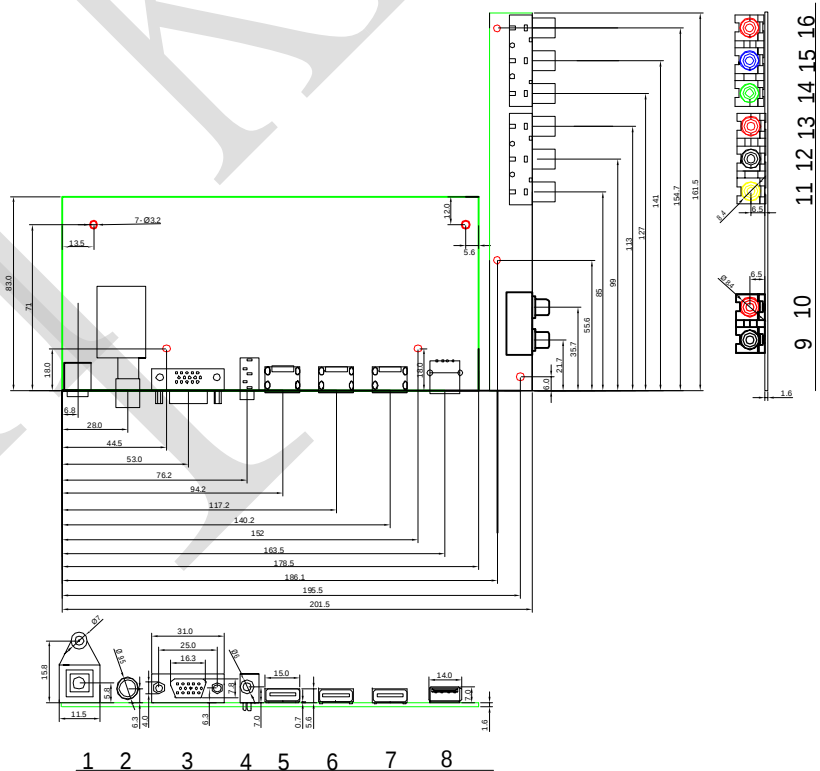
5.1.2 THE STRUCTURE CHART FOR LED CONTROL BOARD OF HK-T.RENEC8V02X

NO.	DESCRIPTION
1	COAX OUT
2	RF IN
3	VGA
4	PC AUDIO IN
5	HDMI 1
6	HDMI 2
7	HDMI 3
8	USB
9	LIN-OUT-L
10	LIN-OUT-R
11	AV
12	AV/YPBPR-L
13	AV/YPBPR-R
14	YPBPR-Y
15	YPBPR-PB
16	YPBPR-PR



THE FOLLOWING STRUCTURE CHART FOR THE BOARD WITH SPDIF

NO.	DESCRIPTION
1	SPDIF
2	RF IN
3	VGA
4	PC AUDIO IN
5	HDMI 1
6	HDMI 2
7	HDMI 3
8	USB
9	LIN-OUT-L
10	LIN-OUT-R
11	AV
12	AV/YPBPR-L
13	AV/YPBPR-R
14	YPBPR-Y
15	YPBPR-PB
16	YPBPR-PR



5.2 PCB DIMENSION

PCB Height=14mm (LCD) &14mm (LED)

PCB Length=260.7mm (LCD) 201.6mm(LED)

PCB Width=83mm(LCD) &161.5mm (LED)

PCB Screw Bore Size: Diameter is 3.2mm

6. INTERFACE DEFINITION

Below, please see the definition and description from left PIN to right PIN or from up PIN to down PIN.

◆ CN3 (6 Pin / 2.0): INVERTER CONNECTOR

NO	DEFINITION	DESCRIPTION
1	12V	12V Power Supply
2	12V	12V Power Supply
3	EN	Switch control 1:ON, 0: OFF
4	ADJ	Brightness Adjustment (0-3.3V)
5	GND	Ground
6	GND	Ground

◆ CN8 (3 Pin / 2.0): EXTERNAL I²C CONNECTOR

NO	DEFINITION	DESCRIPTION
1	SDA	I ² C DATA
2	GND	Ground
3	SCL	I ² C Clock

◆ CN4 (14 Pin / 2.0): IR & KEY BOARD CONNECTOR

NO	DEFINITION	DESCRIPTION
1	5V	5V Power Supply
2	R	Red indicator
3	G	Green indicator
4	IR	IR Receiver
5	GND	Ground
6	POWER	POWER key

7	K1	SOURCE key
8	K2	MENU key
9	K3	CHANNEL UP key
10	K4	CHANNEL DOWN key
11	K5	VOICE UP key
12	K6	VOICE DOWN key
13	K7	(Reserved)
14	GND	Ground

◆ CN5 (8 Pin / 2.0): DVD POWER CONNECTOR

NO	DEFINITION	DESCRIPTION
1	5V	5V DVD Power Supply
2	5V	5V DVD Power Supply
3	GND	Ground
4	GND	Ground
5	12V	12V DVD Power Supply
6	DVDIR	DVD IR Receive
7	D_DAT	Data Receiver
8	D_STB	DVD Standby Control

◆ CN6 (6 Pin / 2.0): DVD YC SIGNAL CONNECTOR

NO	DEFINITION	DESCRIPTION
1	AV3-L	DVD L audio input
2	AV3-R	DVD R audio input
3	GND	Ground
4	Y	Y Signal Input
5	GND	Ground
6	C	C Signal Input

◆ CN10 (2X20 Pin / 2.0): LVDS SIGNAL CONNECTOR

NO	DEFINITION	NO	DEFINITION
1	VCC	2	VCC

3	VCC	4	GND
5	GND	6	GND
7	RX00-	8	RX00+
9	RX01-	10	RX01+
11	RX02-	12	RX02+
13	GND	14	GND
15	RX0C-	16	RX0C+
17	RX03-	18	RX03+
19	RXE0-	20	RXE0+
21	RXE1-	22	RXE1+
23	RXE2-	24	RXE2+
25	GND	26	GND
27	RXEC-	28	RXEC+
29	RXE3-	30	RXE3+
31	GND	32	GND
33	CON1	34	CON2
35	SCL	36	SDA
37	RX04-	38	RX04+
39	RXE4-	40	RXE4+

◆ CN12 (4 Pin / 2.54):10X8W SPEAKER CONNECTOR

NO	DEFINITION	DESCRIPTION
1	LOUT	Left Speak Out
2	GND	Ground
3	GND	Ground
4	ROUT	Right Speak Out

◆ CN2 (4 Pin / 2.54):AMP POWER SUPPLY

NO	DEFINITION	DESCRIPTION
1	+24V	Amp Power Supply
2	+24V	Amp Power Supply
3	GND	Ground

4	GND	Ground
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◆ **CN1(10 Pin / 2.54): MAIN POWER CONNECTOR**

NO	DEFINITION	DESCRIPTION
1	STB_5V	5V Standby
2	STB_ON	Power On
3	GND	Ground
4	GND	Ground
5	5V_P	5V Panel Power Supply
6	5V_P	5V Panel Power Supply
7	5V	5V Power Supply
8	5V	5V Power Supply
9	GND	Ground
10	12V	12V Power Supply

◆ **CN13 (3 Pin / 2.54): PANEL POWER CONNECTOR**

NO	DEFINITION	DESCRIPTION
1+2	5V	5V Panel
2+3	3.3V	3.3V Panel

◆ **CN20 (2 Pin / 2.54): PANEL POWER CONNECTOR**

NO	DEFINITION	DESCRIPTION
1+2	12V	12V Panel

7. TRANSPORT、STORAGE、OPERATION DESCRIPTION

- * Do not be pressed and distorted
- * Keep away from static and water
- * Relative Humidity: ≤ 80%
- * Storage Temperature: -10 ~ + 60℃
- * Operation Temperature: 0 ~ +40℃

8. IR, KEY BOARD SCHEMATIC

