

LED TV CONTROL BOARD SPECIFICATION

MODEL : E182VG-Y0-B0

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1. GENERAL DESCRIPTION

This product is analogue TV board, can receive the PAL+SECAM analogue television. Supports multimedia play .It can connect with accessory modules to support extended functions such as DVD.

- Supports USB 2.0 multimedia play, support audio and video play; support txt and picture browse.
- Supports USB update.
- Analogue and digital HD port input signal largest support 1080P.
- Supports resolution up to HDTV(1080p) and SDTV
- The largest support various TFT-LCD 1920x1080 resolutions module.
- The HDMI supports 1.4, the HDCP supports 1.1.
- The 3-D video decoding and Chroma separation.
- 3-D motion adaptive video de-interlaces with edge-oriented adaptive algorithm for smooth low-angle edges.
- 3-D video noise reduction.
- Supports analogue 1000 Pages Teletext.
- Max storage 200 channels.
- Supports A2/NICAM/B/G/D/K/I/L/L'/M/N demodulation in PAL/SECAM/NTSC.
- MStar 5rd Generation Advanced Color Engine (MStarACE-5) automatic picture enhancement.
- Reliable EMC and ESD handle.
- Standby<0.5W (depend on AC power supply), economize energy.

2. FEATURES

PANEL	Type Resolution Interface Voltage	TFT-LCD Max. 1920X1080 Single/ Double LVDS 5V, 12V
RGB	Sync Signal MODE	H: 30-75KHz V: 56-75Hz 0.7Vp-p@75ohm Max 1920×1200@60Hz
ATV	Receiving	44.25MHz – 863.25MHz
	Input	75Ω
	Video System	PAL,SECAM,NTSC
	Sound System	BG, DK, I,MN NICAM/A2/BTSC
AV	Color system Video Audio	PAL/SECAM/NTSC 1Vp-p@75ohm 500mVrms
HDMI	Video Format	Standard TMDS 480i, 480p, 576i, 576p, 720p, 1080i, 1080p Max. 1080P
Keyboard		POWER/RIGHT/LEFT/SOURCE/UP/DOWN//MENU
OSD		Channel/Picture/Sound/Time/Option/LOCK
OSD Language		English, Russian
Amplifier (optional)		2 X2.5W @ 4ohm THD<10%
	Class D	2 X7W @ 8ohm THD<10%
Power input		12V/3A,
Standby		< 0.3W(Main Board Only)

3. PRESET MODE FOR USB, VGA, HDMI

VGA FORMAT MODE

Resolution	Refresh	Rate
1920 X1200	60HZ	74KHZ
	60HZ	74.6KHZ
1680X1050	60HZ	64.7KHZ
	60HZ	65.3KHZ
1440X900	60HZ	55.5KHZ
	60HZ	59.9KHZ
1280X1024	60HZ	63.5KHZ
1024X768	60HZ	48.4KHZ
	70HZ	56.5KHZ
	75HZ	60.0KHZ
800X600	60HZ	37.9KHZ
	70HZ	47.2KHZ
	75HZ	46.9KHZ
640X480	60HZ	31.5KHZ
	70HZ	37.9KHZ
	75HZ	37.5KHZ
720X400	70HZ	31.5KHZ

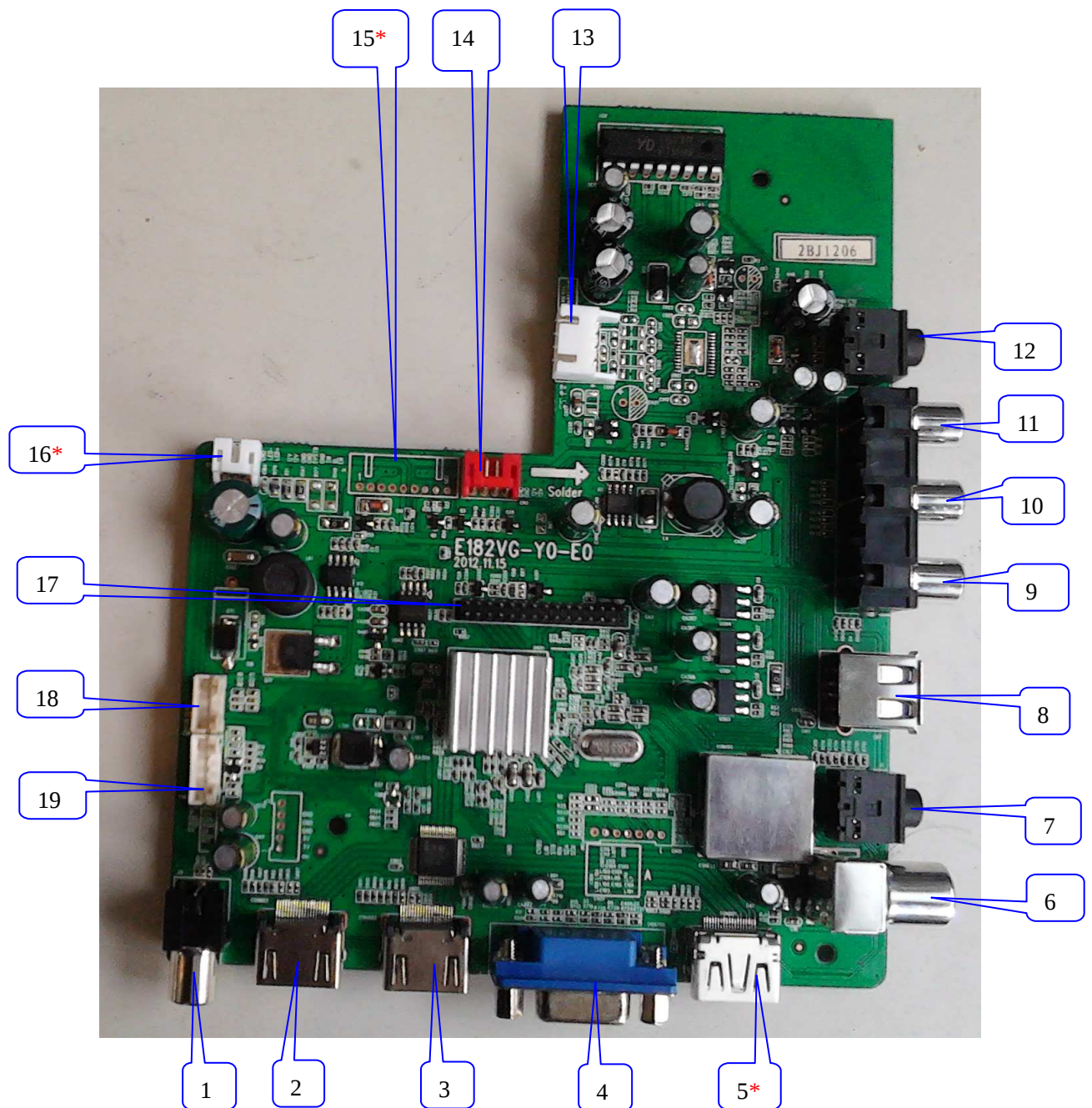
HDMI FORMAT MODE

Format	Resolution	Hor.Freq(KHz)	Vert.Freq(HZ)
480i	480	15.734	60
480p	480	31.465	59.94
		31.500	60
576i	576	15.625	50
		15.734	
576p	576	31.250	50
720p	720	44.955	60
1080i	1080	28.125	50
		33.750	60
1080p	1080	56.250	50
		67.500	60

USB FORMAT MODE

MOVIE	AVI	MJPEG	MP3, WMA, AAC MP2, PCM	Supports maximum resolution up to 1080p@30fps Max Data Rate: 10 Mbps
		MPEG-4		The Max Resolution And Frame Rate:1080p@30fps Max Data Rate: 20 Mbps ITU-T H.264, ISO/IEC 14496-10 video decoding
		MPEG-2		
		XVID		
	MP4	MPEG-2		
		MPEG-4		
	TS/TRP	MPEG-2		
	MPG	MPEG-1		
		MPEG-2		
	DAT	MPEG-1	MP2	The MaxResolution:352×288 Max Data Rate: 20 Mbps
	VOB	MPEG-2		The MaxResolution:720×576 Max Data Rate: 20 Mbps
	RM/RMVB	RV8,RV9, RV10	COOK	The Max Resolution And Frame Rate:1080p@30fps Max Data Rate: 10 Mbps
PHOTO	JPG	Progressive JPEG		Max Resolution: 1024×768
	JPEG	Baseline JPEG		Max Resolution: 15360×8640
	BMP	----		Max Resolution: 9600×6400 Pixel Depth: 1/4/8/16/24/32 bpp
	PNG	Non-Interlaced		Max Resolution: 9600×6400
		Interlaced		Max Resolution: 1200×800
MUSIC	MP3	---	MP3	Sample Rate: 32K~48KHz Bit Rate: 32K~320Kbps Channel: Mono/Stereo
	WMA	---	WMA	Channel: Mono/Stereo
	MP4A/AAC	----	AAC	Sample Rate: 8K~48KHz Bit Rate: 24K~384Kbps Channel: Mono/Stereo
Special Note: 1) Support hard disk, the maximum storage capacity is 400G 2) Folder in support of the greatest depth is 30 3) Each folder in support of the largest number of documents is a 5000				

4. PICTURE (Marked with red * is optional)



5. Interface Description

NO	Ref	Description	Remark
1	J3	COAX Output	
2	CON803	HDMI Input	
3	CON802	HDMI Input	
4	COM702	VGA Input	
5*	CON801	HDMI Input	Only used for 29"
6	J11	RF Input	
7	J1	PC Audio Input	
8	CN7	USB Input	
9	CN2	Video Input	
10	CN2	Left Input	
11	CN2	Right Input	
12	J2	Earphone Output	
13	CON1	Speaker Output	
14*	CN3	12V Power Input	Used for 18.5" 21.5" 23.0" 29"
15*	J4	Power Input (5V 12V)	Only used for 32"
16*	CN4	LED Driver Output	Used for 18.5" 21.5" 23.0" 29"
17	CON4	LVDS Output	
18	CN9	Key Input	
19	CN6	IR Input	

6. Interface Description and Pin Function

★CN4:LED Driver jack

NO.	Definition	Description
1	LED+	LED Driver Current +
2	LED-	LED Driver Current -
3	GND	GND

★CON1: Speaker jack

NO.	Definition	Description
1	R+	Right+ Speaker Output
2	R-	Right- Speaker Output
3	L-	Left- Speaker Output
4	L+	Left+ Speaker Output

★ CN9: Key jack

NO.	Definition	Description
1	K1	Key 1 (ADC Input)
2	GND	GND
3	K2	Key 2 (ADC Input)
4	STB5V	POWER STB5V

★CN6: IR&LED jack

NO.	Definition	Description
1	GND	GND
2	IR	Remote Receiver
3	LED-G	Green Indicator
4	LED-R	Red Indicator
5	5V	Power Supply

★CN3: Internal power supply jack for small size TV

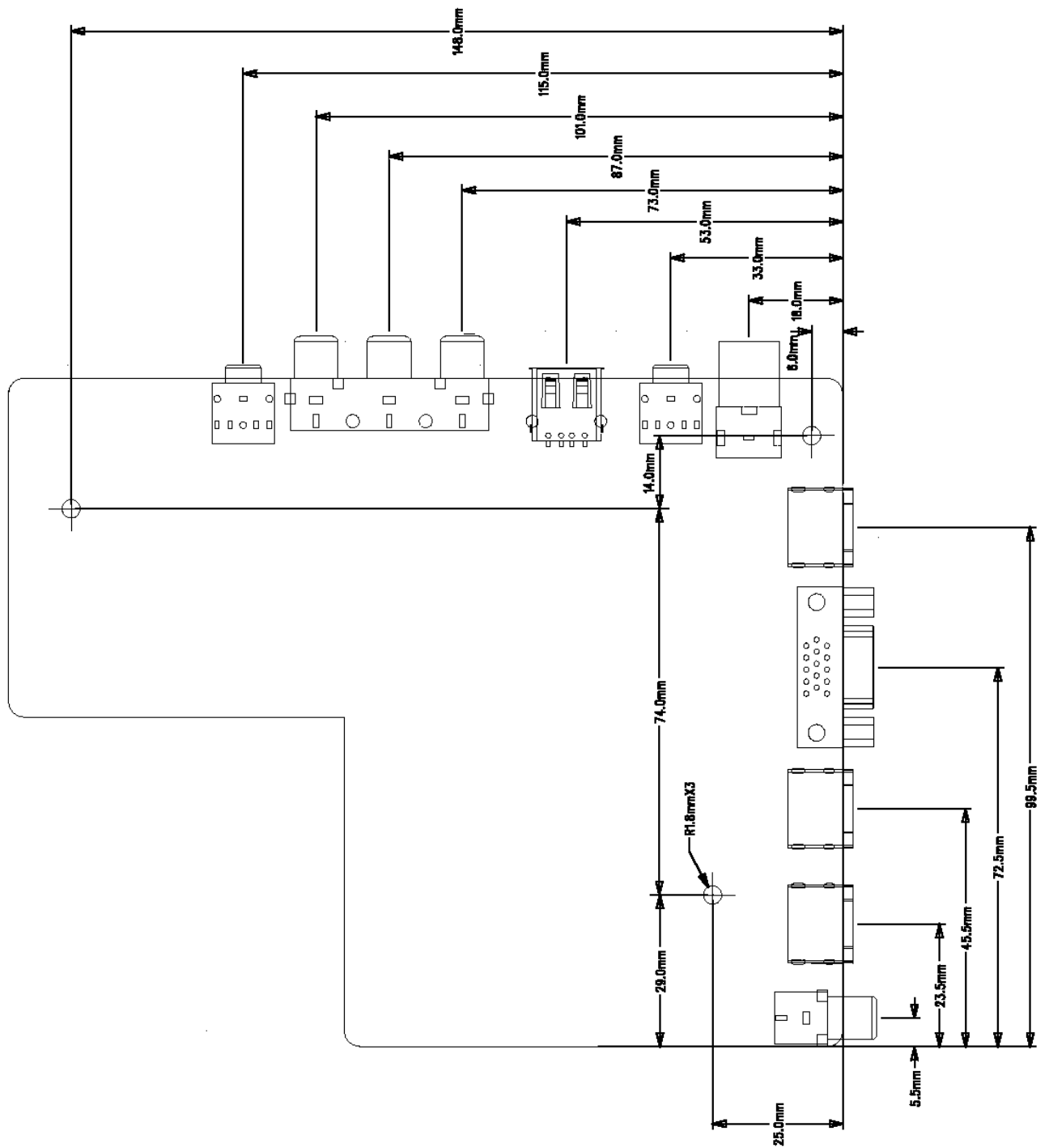
NO.	Definition	Description
1	12v	Internal 12V Power Supply
2	12v	Internal 12V Power Supply
3	GND	GND
4	GND	GND

★CN4: LVDS Interface

NO.	Definition	Description
1	LCD-VDD	Power for Panel
2	LCD-VDD	Power for Panel
3	LCD-VDD	Power for Panel
4	GND	GND
5	GND	GND
6	GND	GND
7	GND	GND
8	GND	GND
9	EDA3+	LVDS EVEN3+ Signal
10	EDA3-	LVDS EVEN3+ Signal
11	ECK+	LVDS EVEN Clock + Signal
12	ECK-	LVDS EVEN Clock - Signal
13	EDA2+	LVDS EVEN2 + Signal
14	EDA2-	LVDS EVEN2 - Signal
15	EDA1+	LVDS EVEN1 + Signal
16	EDA1-	LVDS EVEN1 - Signal
17	EDA0+	LVDS EVEN0 + Signal
18	EDA0-	LVDS EVEN0 - Signal
19	GND	GND
20	GND	GND
21	ODA3+	LVDS ODD3 + Signal

22	ODA3-	LVDS ODD3 + Signal
23	OCK+	LVDS ODD Clock + Signal
24	OCK-	LVDS ODD Clock - Signal
25	ODA2+	LVDS ODD2 + Signal
26	ODA2-	LVDS ODD2 - Signal
27	ODA1+	LVDS ODD1 + Signal
28	ODA1-	LVDS ODD1 - Signal
29	ODA0+	LVDS ODD0 + Signal
30	ODA0-	LVDS ODD0 - Signal

7. PCB layout and dimension



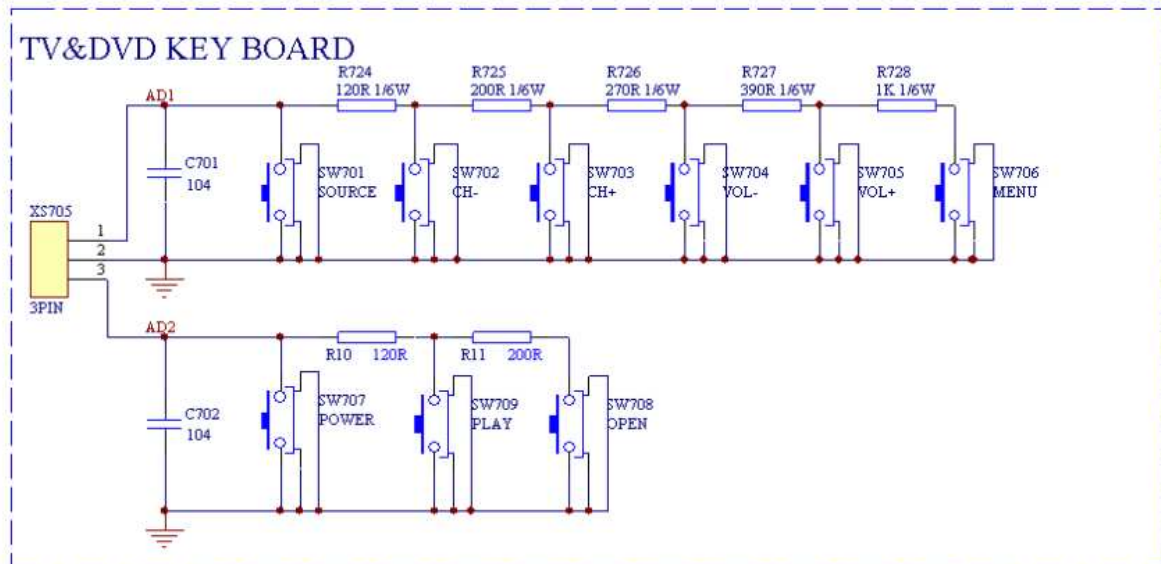
8. APPLICATION REQUIREMENT

- Relative humidity $\leq 80\%$
- Store temperature $-10\sim+60\text{ }^{\circ}\text{C}$
- Use temperature $0\sim+40\text{ }^{\circ}\text{C}$
- The procedure of the whole machine assembles and transports need to attend ESD transaction.
- When the whole set assemble, it can down pack or side pack, but don't make the board transform or distort, don't be subjected to heavy pressure.
- The hole of each port does not be opened too small, especially the HDMI port hole, avoid the whole set morphing to cause the extrusion of port when installing.
- The hole of RGB socket is recommended the situation of not using the screw stationary on the RGB socket to fix on the structure board.
- The connected wire which between the other boards and this board can't be leaded too long, or affect performance and image quality.
- The whole set inner wires matching reasonable, each connected wire try to not directly cross the PCB board, especially cross over from the main IC, avoid affect the whole set EMC performance.
- In order to obtain better EMC effect of the whole set, we suggest the LVDS twisted pair wire between the main board and panel must be tied up well and try to use shielding wire. If it's possible, try to put on the magnetic belt ring on the wire which near the board terminal.
- The HDMI and HDCP on the main board are all passed the related certifications, but we just provide testing certification of the inner usage standard. If you need to use legal HDMI and HDCP, please apply related association as formal member by yourself
- There is ROHS identification on the board and package, the board match ROHS standard.

9. EXCURSUS

Keyboard and remote definition

TV&DVD KEY BOARD SCHEMATICS



IR BOARD SCHEMATICS

