

客户名称/CUSTOMER :

客户代码/CUSTOMER CODE :



承 认 书

PRODUCT SPECIFICATION

Multi-Purpose LCD TV Control Board

产品名称/DESCRIPTION : MSD3393 V3.0

客户型号/CUSTOMER MODEL : _____

承制方型号/MANUFACTURER MODEL : MSD3393 V3.0

日 期/DATE : 2013/04/18

客户确认/CUSTOMER APPROVED

承制方确认/MANUFACTURER

采购部 PURCHING	品管部 QC	研发部 RD	签章

拟制 DRAWNG	审核 CHECHED	批准 RATIFY	签章

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CONTENTS (目录)

TITLE (标题)	PAGE (页码)
CONTENTS (目录).....	page 1 of 10
RECORD OF REVISIONS (修改记录).....	page 1 of 10
GENERAL DESCRIPTION (整体概述).....	page 2 of 10
FUNCTION LAYOUT (产品外观图).....	page 2 of 10
FEATURES (产品特性).....	page 3 of 10
INTERFACE DEFINITION (接口定义).....	page 6 of 10
CONTROLLER DIMENSIONS (板卡结构图).....	page 10 of 10
KEY & IR BOARD SYSTEM SCHEMATIC (按键和遥控系统原理图).....	page 10 of 10
OPERATION REQUIREMENT (操作要求).....	page 10 of 10

RECORD OF REVISIONS (修改记录)

REVISION NO.	DATE	PAGE	DESCRIPTION

1. GENERAL DESCRIPTION (整体概述)

MSD3393 V3.0 is a multi-purpose LCD controller, it is suitable for America & Korea market. It is designed to support FULL HD LCD panel.

(**MSD3393 V3.0** 是一个多功能的 LCD 驱动板，适用于美国和韩国市场。可支持全高清液晶显示屏幕。)

MSD3393 V3.0 can support ATSC, ATV, Expansion HDMI (Option), HDMI(1.4), MHL(2.0), AV, YPBPR, USB, VGA signal input. It can also support SPDIF and Earphone output. Ever more, HDMI2 Interface support the function of MHL .

(**MSD3393 V3.0** 支持 ATSC, ATV, Expansion HDMI (可选), HDMI, MHL, AV, YPBPR, USB, VGA signal 输入。也支持光纤/同轴和耳机输出。HDMI2 接口支持 MHL 的功能。)

The HDMI 1 support ARC function.

Note: The specification of the board includes the description of all functions. Therefore, our clients can select the functions which they require to produce the board. But the specification can be introduced universally.

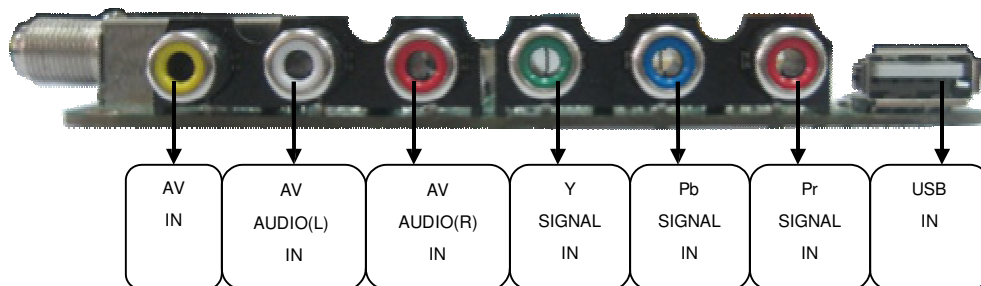
(注: 此规格书为板卡全功能规格书, 客户可以根据需要选择性的生产。此规格书具有通用性。)

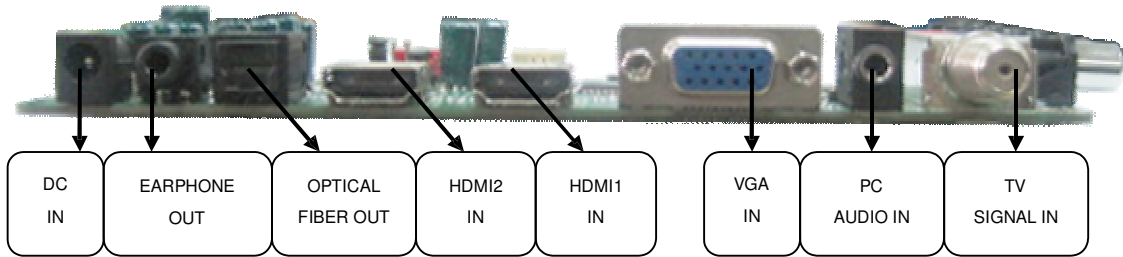
2. FUNCTION LAYOUT (产品外观图)

All of pictures below are only for reference. Please take the actual objects as a standard.

(以下图片仅供参考。请以实物为准。)

Side Elevation of MSD3393 V3.0(侧视图)





3. FEATURES (产品特性)

Below you will find the detailed feature. (以下是详细特性)

CHIPSET (芯片)	MSD3393LU		
MARKET AREA (市场区域)	America & Korea (美国&韩国)		
OSD LANGUAGE (菜单语言)	English (Korean, French, Spanish) (英语, 韩语, 法语, 西班牙语)		
VIDEO INPUT (视频输入)	TV (analog)	VIDEO SYSTEM (视频制式)	NTSC
		SOUND SYSTEM (声音制式)	M,MTS
		RECEIVE CHANNEL (可接收频道)	Air:2-69;Cable:1-135
		BASIC FUNCTION (基本功能)	Closed Caption & V-chip
	ATSC	MODULATION (调制)	Air:8-VSB;Cable:64QAM, 256QAM
		VIDEO SYSTEM	MPEG-2 MP@ML
		AUDIO SYSTEM (音频制式)	AC-3,MPEG1/2 Layer I and II
		RECEIVE CHANNEL	Air:2-69;Cable:1-135
	CVBS	1.0Vp-p +/-5%	
	YPbPr / YCbCr	480i、480p、576i、576p、720p、1080i、1080p	
	PC-RGB	Format	Up to 1920*1080@60HZ
		Color	16bit, 24bit, 32bit
HDMI	480i、480p、576i、576p、720p、1080i、1080p		
	HDMI2 Support the function of MHL		
POWER (功率)	Build-in Power Supply(Optional) (内置电源)	5V,5VS,12V or 5V, 12V	
	Adaptor	12V	

	To panel (驱屏电压)	5V,12V,3.3V	
	Management (电源管理)	Low power consumable mode: standby \leq 0.5W	
AUDIO INPUT (音频输入)	CVBS and YPBPR	YES	
	PC-RGB	YES	
EXPANSION FUNCTION (扩展功能)	External HDMI	YES	
PANEL RESOLUTIONS (屏分辨率)	Support up to 8-bit dual LVDS FULL HD panel interface (最高可支持 8 位双 LVDS 全高清屏接口)		
KEY FUNCTIONS (按键功能)	CH-,CH+,MENU,VOL-,VOL+, SOURCE, ON/OFF 频道-, 频道+, 菜单, 音量-, 音量+, 信号源, 电源		
AUDIO OUTPUT (音频输出)	2*3 W @ 4 Ω , 2*2 W @ 8 Ω (Option)		
COMB FILTER (梳状滤波功能)	3D		
DE-INTERLACE (解交织功能)	3D		
WEAK SIGNAL ENHANCEMENT (弱信号增强)		YES	
NOISE REDUCTION (降噪)		3D	
A2, BTSC (立体声)		YES	
TERMINALS (端子)	Input	TV Input	1 IEC 75 Ω (1 IEC 型高频头)
		PC-RGB Input	1 D-SUB 15PIN terminal blue color (1 D-SUB 端子, 15PIN, 蓝色)
		HDMI Input	HDMI 1 for HDMI Signal in HDMI 2 for HDMI Signal or MHL in
		USB Input	1 USB terminal (1 USB 端子)
		CVBS Input	1 RCA terminal yellow color (1 RCA 端子, 黄色)
		YPBPR Input	3 RCA terminal green color, blue color, red color (3 RCA 端子, 绿色, 蓝色, 红色)
		AV Audio Input	2 RCA terminal white color, red color (2 RCA 端子, 白色, 红色)
	Output	To Panel	Double LVDS 30PIN/2.0 jack 双 LVDS 30PIN
		Earphone	1 Earphone terminal black color

	Output	(1 耳机端子, 黑色)
	Digital Audio	Optical Fiber (光纤)

USB MULTIMEDIA PLAYBACK FORMAT (USB 多媒体支持格式)

MEDIA (媒体)	FILE EXTENSION (文件扩展名)	
Picture	JPEG、BMP、PNG	.jpg、.bmp、.png
Movie	MPEG1、MPEG2、MPEG4、 H264、RM、RMVB、MOV、 MJPEG、VC1、Divx、FLV	.avi、.mpg、.dat、.vob、.div、.mov、.mkv .rm、.rmvb、.mp4、.mjpeg、.ts、.trp、 .wmv、.asf、.flv
Music	WMA、MP3、M4A、AAC	.wma、.mp3、.m4a

FILE TYPE/THE RELEVANT PARAMETERS (文件类型/相关参数)	RESOLUTION (分辨率)	COMPRESSION OPTION (编码解码格式)	SUPPORT BOUNDARIES (支持范围)
JPEG	15360*8640	Progressive JPEG	Resolution Only Support 1024*768
		Baseline("standard")	Support
		Baseline Optimized	Support
BMP	9600*6400	homochromatism	Support
		16color	Support
		256color	Support
		16bit	Support
		24bit	Support
		32bit	Support
PNG	9600*6400	No interlacing	Support

***Realize that only when you gain the copyright of the corresponding USB functions, can the above-mentioned USB functions be used.**

(*请注意只有获得相应的USB功能版权时,才可以使用上述USB功能。)

4. INTERFACE DEFINITION (接口定义)

CN1 (9PIN/2.0) MAIN POWER SUPPLY INTERFACE(主电源接口)

NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)	ELECTRIC CHARACTER (电气特性)
1	12V	+12V DC Power supply	2A+Panel Electric Current+electric Current of extended module
2	12V		
3	GND	Ground	---
4	GND		
5	GND		
6	STB_5V	+5V standby	1A
7	PSON	ON/OFF	
8	5V	+5V DC Power supply	2A+Panel Electric Current+electric Current of extended module
9	5V	+5V DC Power supply	

CN3 (6PIN/2.0) INVERTER INTERFACE (背光接口)

NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)	ELECTRIC CHARACTER (电气特性)
1	GND	Ground (地)	---
2	GND		
3	ADJ	Brightness adjustment (亮度调节)	0-5V adjustable (0-5V 调节)
4	ON/OFF	Back-light ON/OFF control (背光开关控制)	5V , 1K ohm output impedance (5V, 1000 欧输出阻抗)
5	12V	+12V DC Power supply (+12V 直流供电)	Inverter Power Supply (背光供电)
6	12V		

CN4(13PIN/2.0) KEY & IR BOARD INTERFACE (按键和遥控接口)

NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	CH-	CH- Key (频道-)
2	CH+	CH+ Key (频道+)
3	MENU	MENU Key (菜单)
4	SOURCE	SOURCE Key (信号源)
5	VOL-	VOL- Key (音量-)
6	VOL+	VOL+ Key (音量+)
7	GND	Ground (地)
8	LED_G	Green indicator (绿色指示器)

9	LED_R	Red indicator (红色指示器)
10	ON/OFF	ON/OFF key (开/关)
10	GND	Ground (地)
12	IR_IN	Remote receiver (遥控信号输入端)
13	IR_VCC	+5V DC power supply (+5V 直流供电)

CN5 (2*15PIN/2.0) LVDS PANEL INTERFACE (LVDS 接口)

NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	VCC	Power for panel
2	CT	mode pin for panel
3	VCC	Power for panel
4	GND	Ground
5	GND	
6	GND	
7	RX00-	LVDS ODD 0- Signal
8	RX00+	LVDS ODD 0+ Signal
9	RX01-	LVDS ODD 1- Signal
10	RX01+	LVDS ODD 1+ Signal
10	RX02-	LVDS ODD 2- Signal
12	RX02+	LVDS ODD 2+ Signal
13	GND	Ground
14	GND	
15	RXOC-	LVDS ODD Clock- Signal
16	RXOC+	LVDS ODD Clock+ Signal
17	RX03-	LVDS ODD 3- Signal
18	RX03+	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	
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(8PIN/2.0) DVD POWER & IR INTERFACE(DVD 电源和遥控接口)

NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	DVD_12V	+12V DVD power supply (12V DVD 电源供电)
2	GND	Ground(地)
3	GND	
4	DVD_5V	+5V DVD power supply (5V DVD 电源供电)
5	DVD_5V	
6	NC	---
7	NC	---
8	DVD_IR	DVD remote receiver (DVD 遥控信号输出端)

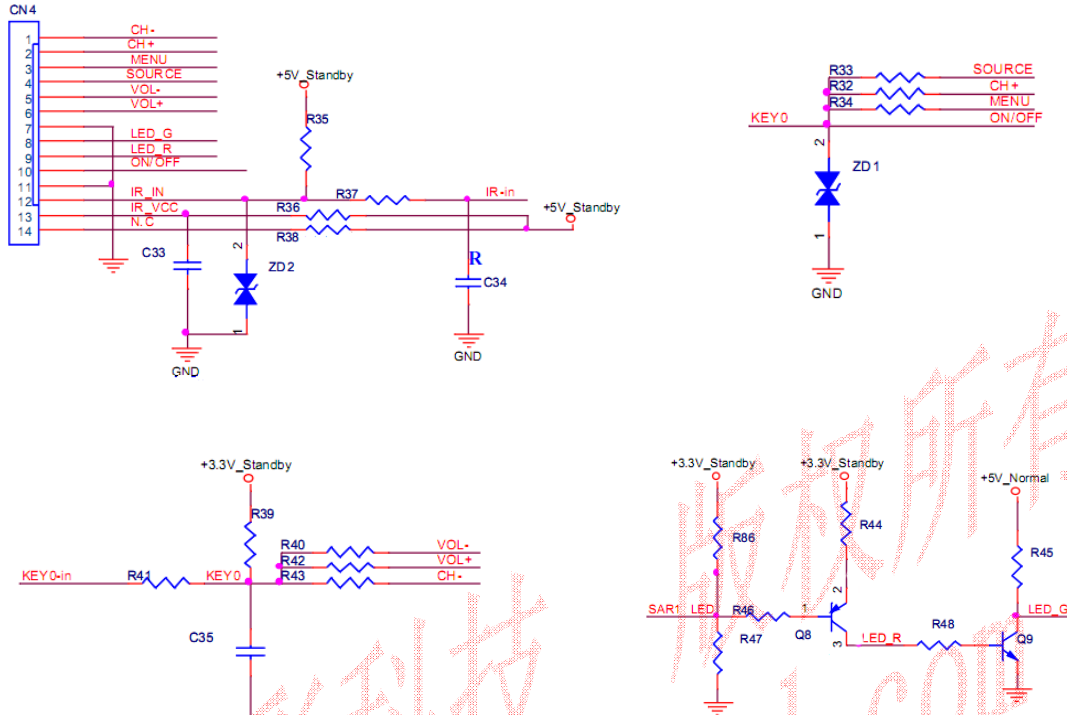
CN11 (4PIN/2.0) USB INTERFACE (USB 接口)

NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	USB_5V	+5V DC Power supply
2	USB_D-	USB data-
3	USB_D+	USB data+
4	GND	Ground

CN15 (2*10PIN/2.0) INSIDE HDMI INTERFACE (内置 HDMI 接口)

NO. (管脚)	SYMBOL (板上丝印)	DESCRIPTION (描述)
1	RX2P	HDMI Data 2+
2	RX2N	HDMI Data 2-
3	RX1P	HDMI Data 1+
4	RX1N	HDMI Data 1-
5	RX0P	HDMI Data 0+
6	RX0N	HDMI Data 0-
7	CKP	HDMI Clock+
8	CKN	HDMI Clock-
9	HSCL	DDC_SCL
10	HSDA	DDC_SDA
10	NC	-----
12	NC	-----
13	GND	Ground
14	CEC	CEC
15	HPD	HDMI HOTPLUG control signal
16	H5V	+5V POWER
17	GND	Ground
18	GND	
19	NC	-----

6. KEY&IR BOARD SYSTEM SCHEMATIC (按键和遥控系统原理图)



7. OPERATION REQUIREMENT (操作要求)

- Do not pressed and distorted. (禁止挤压和弯曲)
- Keep away from static and water. (远离静电和水)
- Relative humidity : $\leq 80\%$ (相对湿度: $\leq 80\%$)
- Storage temperature: $-10\sim +60^{\circ}\text{C}$ (储存温度: $-10\sim +60^{\circ}\text{C}$)
- Operation temperature: $0\sim +40^{\circ}\text{C}$ (操作温度: $0\sim +40^{\circ}\text{C}$)