**TOP-TECH**

# 承 认 书

# PRODUCT SPECIFICATION
## Multi-Purpose LCD TV Control Board

产品名称/DESCRIPTION：　　　　　MST182VG V1.0

客户型号/CUSTOMER MODEL：
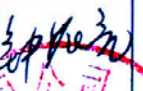
承制方型号/MANUFACTURER MODEL：　　MST182VG V1.0

日　期/DATE：　　　　　　　　　2012/4/12

| 客户确认/CUSTOMER APPROVED | | | |
|---|---|---|---|
| 采购部<br>PURCHING | 品管部<br>QC | 研发部<br>RD | 签章 |
| | | | |

| 承制方确认/MANUFACTURER | | | |
|---|---|---|---|
| 拟制<br>DRAWING | 审核<br>CHECKED | 批准<br>RATIFY | 签章 |
| 2012.4.12 | 2011.4.18 | 2012.31.12 | |

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# RECORD OF REVISIONS

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# 1. GENERAL DESCRIPTION

**MST182VG V1.0** is a multi-purpose LCD controller, it is suitable Asia market.It is designed to support FULL HD LCD panel.

**MST182VG V1.0** can support PC-RGB, HDMI,S-Video, AV, YPBPR,USB, VGA,TV signal input.It can also support Earphone and AV output.

**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.

# 2. FUNCTION LAYOUT

The following all pictures are a reference only. Please take the actual objects as a standard.

## Elevation of MST182VG V1.0



## Side Elevation of MST182VG V1.0

| AV OUT | AV AUDIO(L) OUT | AV AUDIO(R) OUT | Y SIGNAL IN | PR SIGNAL IN | PB SIGNAL IN |

| DC IN | HDMI IN | VGA IN | S-VIDEO IN | PC AUDIO | TV SIGNAL |

| USB IN |

| AV1 IN | AV1 AUDIO(L) IN | AV1 AUDIO(R) IN | AV2 IN | AV2 AUDIO(L) IN | AV2 AUDIO(R) IN | EARPHONE OUT |
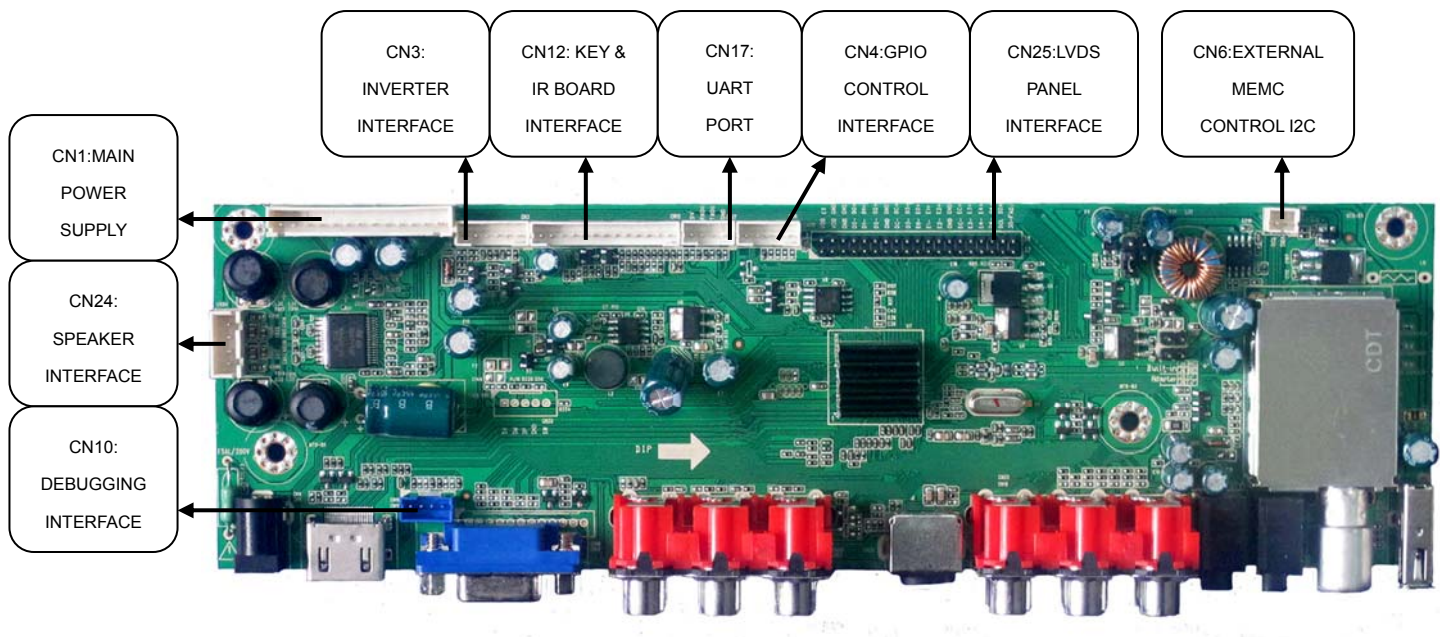
# 3. FEATURES

Below you will find the detailed feature.

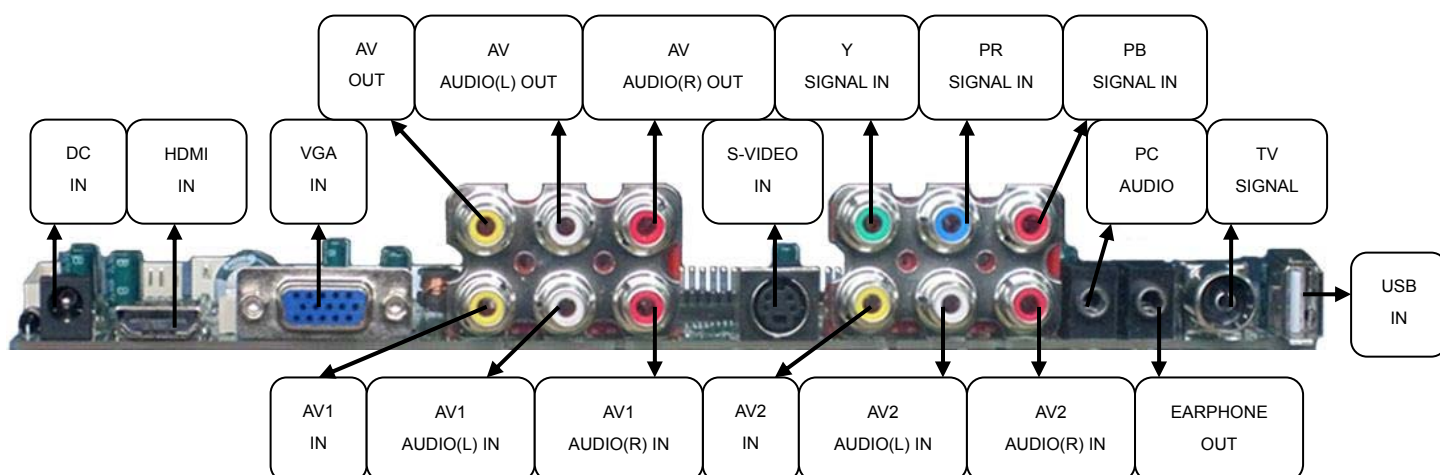| CHIPSET | MST6M182VG | | |
|---|---|---|---|
| MARKET AREA | Asia | | |
| OSD LANGUAGE | English,Chinese,(French,Spanish,Polish,Portuguese,Italian,German,Dutch,Russian)(Option ) | | |
| **VIDEO INPUT** | TV | VIDEO SYSTEM | PAL/SECAM,NTSC(Option) |
| | | SOUND SYSTEM | BG ,DK ,I, M |
| | | RECEIVE CHANNEL | ATV:200 |
| | 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 | |
| **POWER** | Build-in power supply | 5V,5VS,12V or only 12V（Option） | |
| | To panel | 3.3V,5V,12V | |
| | DC Adapter | 12V Input | |
| | Manage | Low power consumable mode: standby≤0.5W | |
| **AUDIO INPUT** | CVBS | Left and right audio input | |
| | PC-RGB | YES | |
| | AV Audio Input | YES | |
| EXPANSION FUNCTION | USB | YES | |
| PANEL RESOLUTIONS | Support up to 10-bit dual LVDS FULL HD panel interface | | |

| KEY FUNCTIONS | CH-,CH+,MENU,VOL-,VOL+,SOURCE,ON/OFF | |
|---|---|---|
| AUDIO OUTPUT | 2*8W @ 8 Ω | |
| COMB FILTER | 3D | |
| DE-INTERLACE | 3D | |
| WEAK SIGNAL ENHANCEMENT | | YES |
| NOISE REDUCTION | | 3D |
| NICAM/A2, TELETEXT,BTSC,CC,VCHIP | | YES |
| TERMINALS | Input | TV Input | 1 IEC 75 Ω |
| | | PC-RGB Input | 1D-SUB 15PIN terminal blue color |
| | | HDMI Input | 1HDMI terminal |
| | | CVBS Input | 2*1RCA terminal yellow color |
| | | YPbPr Input | 3RCA terminal green color,blue color and red color |
| | | YPbPr Audio Input | 2*2RCA terminal white color, red color |
| | | CVBS Audio Input | |
| | | USB | 1 USB terminal |
| | Output | To Panel | Double LVDS 34PIN/2.0 jack |
| | | Earphone Out | 1earphone terminal black color |

## USB MULTIMEDIA PLAYBACK FORMAT

| MEDIA | FILE EXTENSION | |
|---|---|---|
| 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 | RESOLUTION | COMPRESSION OPTION | SUPPORT BOUNDARIES |
|---|---|---|---|
| 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 |
| | | Interlaced | Resolution Only Support 1200*800 |

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

## 4. INTERFACE DEFINITION

## CN1（13PIN/2.0）MAIN POWER SUPPLY

| NO. | SYMBOL | DESCRIPTION | ELECTRIC  CHARACTER |
|---|---|---|---|
| 1 | 12VA | +12V DC Power supply | 2A+Panel Electric Current +electric Current of extended module |
| 2 | 12VA | | |
| 3 | GND | Ground | --- |
| 4 | GND | | |
| 5 | GND | | |
| 6 | 5V | +5V DC Power supply | 2A+Panel Electric Current + electric Current of extended module |
| 7 | 5V | | |
| 8 | 5VS | +5V DC Power standby | 1A |
| 9 | PW | ON/OFF | --- |
| 10 | 5V | +5V DC Power supply | 2A+Panel Electric Current + electric Current of extended module |
| 11 | 5V | | |
| 12 | GND | Ground | --- |
| 13 | GND | | |

## CN3( 6PIN/2.0 ) INVERTER INTERFACE

| NO. | SYMBOL | DESCRIPTION | ELECTRIC  CHARACTER |
|---|---|---|---|
| 1 | GND | Ground | --- |
| 2 | GND | Ground | --- |

| 3 | ADJUST | Brightness adjustment | 0-5V adjustable |
| 4 | ON/OFF | Back-light ON/OFF control | 5V，1K ohm output impedance |
| 5 | 12VA | +12V DC Power supply | INVERTER Power Supply |
| 6 | 12VA | +12V DC Power supply | INVERTER Power Supply |

## CN4 (5PIN/2.0) GPIO CONTROL INTERFACE

| NO. | SYMBOL | DESCRIPTION |
|---|---|---|
| 1 | DVD_IR | DVD IR |
| 2 | DVD_RX | DVD Receiver |
| 3 | GPIO4 | GPIO4 |
| 4 | GPIO5 | GPIO5 |
| 5 | GND | Ground |

## CN6 (2PIN/2.0) EXTERNAL MEMC CONTROL I2C

| NO. | SYMBOL | DESCRIPTION |
|---|---|---|
| 1 | SDA | I2C Master bus for SDA |
| 2 | SCL | I2C Master bus for SCL |

## CN10 (4PIN/2.0) DEBUGGING INTERFACE

| NO. | SYMBOL | DESCRIPTION |
|---|---|---|
| 1 | GND | Ground |
| 2 | ISP-TXD | Transmit data |
| 3 | ISP-RXD | Receiver data |
| 4 | 5V | +5V Power supply |

## CN12 (13PIN/2.0) KEY & IR BOARD INTERFACE

| NO. | SYMBOL | DESCRIPTION |
|---|---|---|
| 1 | CH- | CH- key |
| 2 | CH+ | CH+ Key |
| 3 | MENU | MENU Key |
| 4 | SOURCE | SOURCE Key |
| 5 | VOL- | VOL- Key |
| 6 | VOL+ | VOL+ Key |
| 7 | GND | Ground |
| 8 | LED_G | Green indicator |
| 9 | LED_R | Red indicator |
| 10 | ON/OFF | ON/OFF key |
| 11 | GND | Ground |
| 12 | IR_IN | Remote receiver |

| 13 | IR_VCC | +5V DC power supply |
|----|--------|---------------------|

## CN17 (4PIN/2.0) UART PORT

| NO. | SYMBOL | DESCRIPTION |
|-----|--------|-------------|
| 1 | GND | Ground |
| 2 | TXD0 | Transmit data |
| 3 | RXD0 | Receiver data |
| 4 | 5V | +5V Power supply |

## CN24 (4PIN/2.54) SPEAKER INTERFACE

| NO. | SYMBOL | DESCRIPTION |
|-----|--------|-------------|
| 1 | R+ | Positive right audio channel out |
| 2 | R- | Negative right audio channel out |
| 3 | L- | Negative left audio channel out |
| 4 | L+ | Positive left audio channel out |

## CN25 (2*19PIN/2.0) LVDS PANEL INTERFACE

| NO. | SYMBOL | DESCRIPTION |
|-----|--------|-------------|
| 1 | VDD | Power for panel |
| 2 | CT | mode pin for panel |
| 3 | VDD | Power for panel |
| 4 | GND | Ground |
| 5 | GND | Ground |
| 6 | GND | Ground |
| 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 | Ground |
| 14 | GND | Ground |
| 15 | RXOC- | LVDS ODD Clock- Signal |
| 16 | RXOC+ | LVDS ODD Clock+ Signal |
| 17 | RXO3- | LVDS ODD 3- Signal |
| 18 | RXO3+ | 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 |
| 31 | RXE4- | LVDS EVEN 4- Signal |
| 32 | RXE4+ | LVDS EVEN 4+ Signal |
| 33 | RXO4- | LVDS ODD 4- Signal |
| 34 | RXO4+ | LVDS ODD 4+ Signal |
| 35 | SCL | SCL |
| 36 | SDA | SDA |
| 37 | 3D_FLAG | 3D flag |
| 38 | PB_ADJUST | Back-light brightness adjustment |

## 5. CONTROLLER DIMENSIONS

The dimension is identical to the actual objects.But maybe exist the slight error of measures about 1%.It is allowed in design.
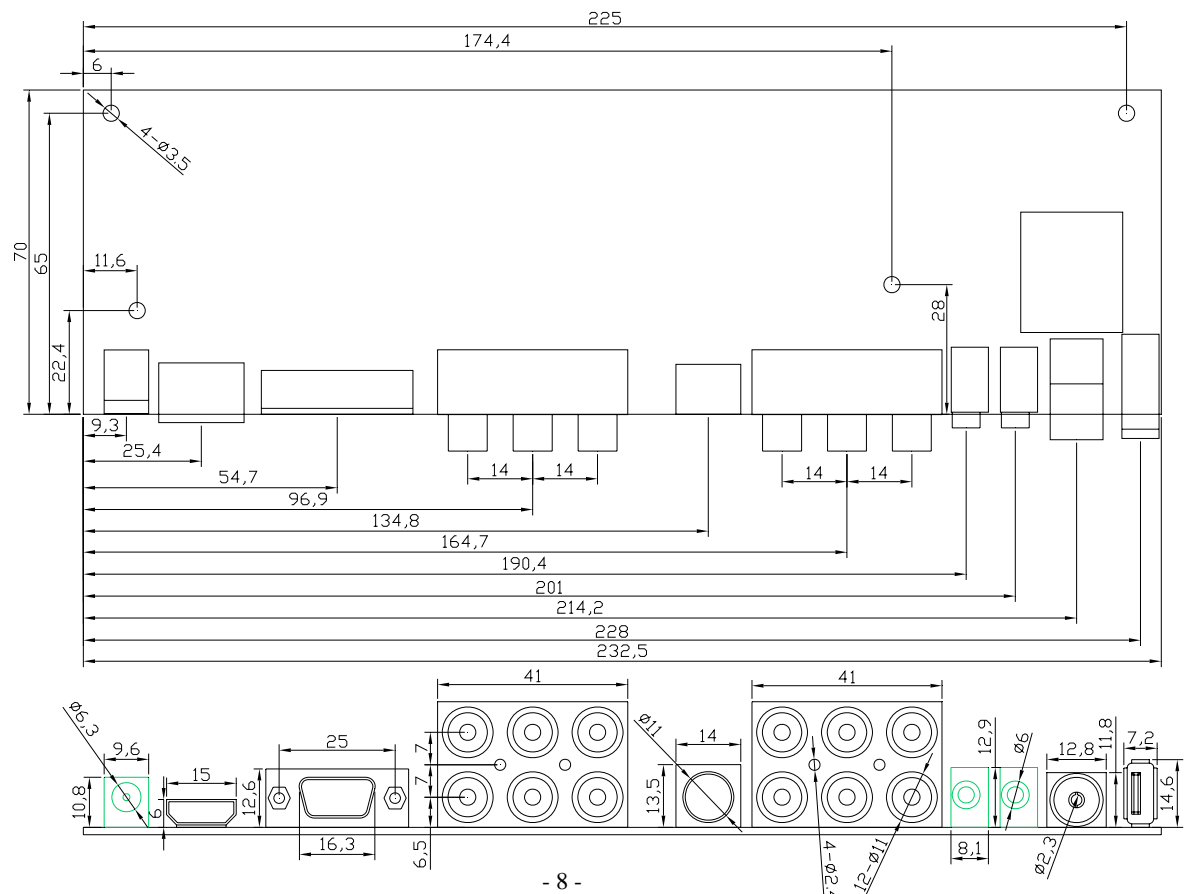
# 6. KEY & IR BOARD SYSTEM SCHEMATIC
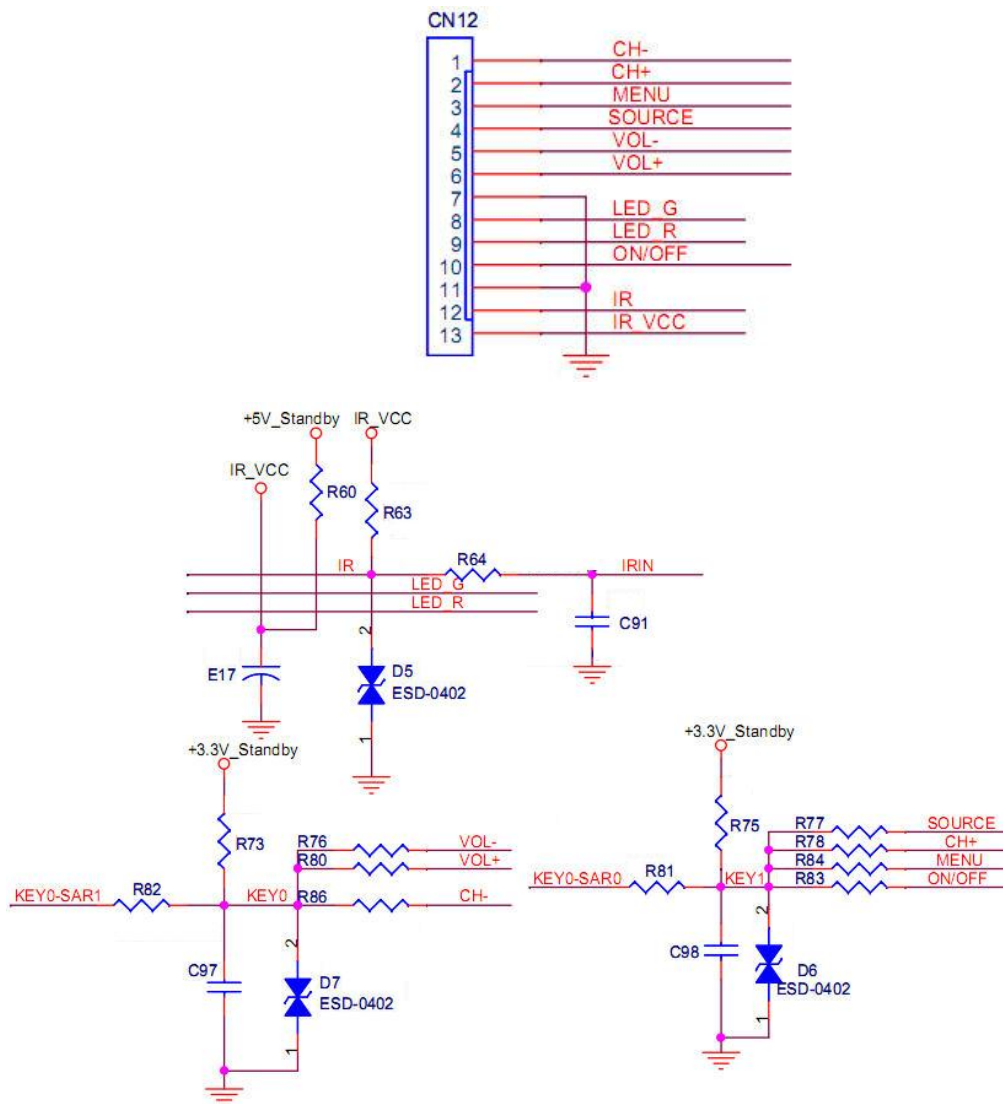


# 7. OPERTION REQUIREMENT

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