



Liquid Crystal Display Television Service Manual

Chassis: MST6E16GS

Product Type: LCD19W57ACA

LCD22V68AM

Ver 1.0

Hisense Electric Co., Ltd.

February, 2009

Contents

Contents	- 2 -
Service Manual	- 3 -
1. Precautions and notices.....	- 3 -
1.1 WARNING	- 4 -
1.2 NOTES	- 7 -
2. Product Function Specifications.....	- 10 -
3. LCD Panel Spec.....	- 12 -
3.1 LCD19W57ACA	- 12 -
Model: V185B1-L01JK\ROH SN: 1057991.....	- 12 -
3.1.1 General Description	- 12 -
3.1.2 General Features	- 12 -
3.2 LCD22V68AM.....	- 13 -
Model: V216B1-L01JK\ROH SN: 1056327.....	- 13 -
3.2.1 General Description	- 13 -
3.2.2 General Features	- 13 -
4. Chassis Layout and Overall Wiring Diagrams	- 14 -
4.1 Chassis Layout.....	- 14 -
4.2 Wires and Cables Overall Wiring Diagrams	- 15 -
5. Factory/Service OSD Menu and Adjustment.....	- 16 -
5.1 To enter the Factory OSD Menu	- 16 -
5.2 Factory OSD Menu.....	- 16 -
6. Software Upgrading.....	- 20 -
6.1 Get ready for upgrading.....	- 20 -
6.2 Upgrading with the ISP_TOOL4.0.9	- 29 -
7. Troubleshooting.....	- 34 -
7.1 Troubleshooting for Remote Control	- 34 -
7.2 Troubleshooting for Function Key.....	- 35 -
7.3 TV won't Power On.....	- 36 -
7.4 Troubleshooting for Audio.....	- 37 -
7.5 Troubleshooting for TV/VGA/HDMI input.....	- 38 -
7.6 Troubleshooting for YPbPr input.....	- 39 -
7.7 Troubleshooting for Video/S-Video input.....	- 40 -
8. Explode View.....	- 41 -
9. Schematic circuit diagram	- 41 -

Service Manual

1. Precautions and notices

BEFORE SERVICING THE LCD TV, READ THE SAFETY PRECAUTIONS IN THIS MANUAL.

WHEN REPLACEMENT PARTS ARE REQUIRED, BE SURE TO USE REPLACEMENT PARTS SPECIFIED BY THE MANUFACTURER.

Proper service and repair is important to the safe, reliable operation of all Hisense Electric Co., Ltd Equipment. The service procedures recommended by Hisense and described in this Service Guide are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Hisense could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Hisense has

not undertaken any such broad evaluation. Accordingly, a serviceman that uses a service procedure or tools, which are not recommended by Hisense, must first satisfy himself thoroughly that neither his safety nor the safe of the equipment will be jeopardized by the service method selected.

Hereafter throughout this manual, Hisense Electric Co., Ltd will be referred to as Hisense.

1.1 WARNING

1.1.1

Critical components having special safety characteristics are identified with a ▲ by the Ref. No. in the parts list. Use of substitute replacement parts, which do not have the same specified safety characteristics, may create shock, fire, or other hazards. Under no circumstances should the original design be modified or altered without written permission from Hisense. Hisense assumes no liability, express or implied, arising out of any unauthorized modification of design. Serviceman assumes all liability.

DANGERCAUTION CAUTION

TO ENSURE THE CONTINUED RELIABILITY OF THIS PRODUCT, USE ONLY ORIGINAL MANUFACTURER'S REPLACEMENT PARTS, WHICH ARE LISTED WITH THEIR PART NUMBERS IN THE PARTS LIST SECTION OF THIS SERVICE GUIDE.

1.1.2.

All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the set by a wristband with resistance. Keep components and tools also at this same potential.

1. Never replace modules or other components while the unit is switched on.
2. When making settings, use plastic rather than metal tools. This will prevent any short circuits and the danger of a circuit becoming unstable.

1.1.3

To prevent electrical shock, do not use this polarized ac plug with an extension cord, receptacle, or the outlet unless the blades can be fully inserted to prevent blade exposure.

To prevent electrical shock, match wide blade or plug to wide slot, fully insert.

1.1.4

When replacement parts are required, be sure to use replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

1.1.5

Safety regulations require that after a repair the set must be returned in its original condition. In particular attention should be paid to the following points.

-Note: The wire trees should be routed correctly and fixed with the mounted

cable clamps.

-The insulation of the mains lead should be checked for external damage.

1.1.6

(1) Do not touch Signal and Power Connector while this product operates. Do not touch EMI ground part and Heat Sink of Film Filter.

(2) Do not supply a voltage higher than that specified to this product. This may damage the product and may cause a fire.

(3) Do not use this product in locations where the humidity is extremely high, where it may be splashed with water, or where flammable materials surround it. Do not install or use the product in a location that does not satisfy the specified environmental conditions. This may damage the product and may cause a fire.

(4) If a foreign substance (such as water, metal, or liquid) gets inside the panel module, immediately turn off the power. Continuing to use the product may cause fire or electric shock.

(5) If the product emits smoke, and abnormal smell, or makes an abnormal sound, immediately turn off the power. Continuing to use the product, it may cause fire or electric shock.

(6) Do not disconnect or connect the connector while power to the product is on. It takes some time for the voltage to drop to a sufficiently low level after the power has been turned off. Confirm that the voltage has dropped to a safe level before disconnecting or connecting the connector.

(7) Do not pull out or insert the power cable from/to an outlet with wet hands. It may cause electric shock.

(8) Do not damage or modify the power cable. It may cause fire or electric shock.

(9) If the power cable is damaged, or if the connector is loose, do not use the product: otherwise, this can lead to fire or electric shock.

(10) If the power connector or the connector of the power cable becomes dirty or dusty, wipe it with a dry cloth. Otherwise, this can lead to fire.

(11) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

1.2 NOTES

Notes on Safe Handling of the LCD panel and during service

The work procedures shown with the Note indication are important for ensuring the safety of the product and the servicing work. Be sure to follow these instructions.

- Before starting the work, secure a sufficient working space.
- At all times other than when adjusting and checking the product, be sure to turn OFF the POWER Button and disconnect the power cable from the power source of the TV during servicing.
- To prevent electric shock and breakage of PC board, start the servicing work at least 30 seconds after the main power has been turned off. Especially when installing and removing the power board, start servicing at least 2 minutes after the main power has

been turned off.

- While the main power is on, do not touch any parts or circuits other than the ones specified. If any connection other than the one specified is made between the measuring equipment and the high voltage power supply block, it can result in electric shock or activation of the leakage-detection circuit breaker.
- When installing the LCD module in, and removing it from the packing carton, be sure to have at least two persons perform the work.
- When the surface of the panel comes into contact with the cushioning materials, be sure to confirm that there is no foreign matter on top of the cushioning materials before the surface of the panel comes into contact with the cushioning materials. Failure to observe this precaution may result in, the surface of the panel being scratched by foreign matter.
- When handling the circuit board, be sure to remove static electricity from your body before handling the circuit board.
- Be sure to handle the circuit board by holding the large parts as the heat sink or transformer. Failure to observe this precaution may result in the occurrence of an abnormality in the soldered areas.
- Do not stack the circuit boards. Failure to observe this precaution may result in problems resulting from scratches on the parts, the deformation of parts, and short-circuits due to residual electric charge.
- Routing of the wires and fixing them in position must be done in accordance with

the original routing and fixing configuration when servicing is completed. All the wires are routed far away from the areas that become hot (such as the heat sink).

These wires are fixed in position with the wire clamps so that the wires do not move, thereby ensuring that they are not damaged and their materials do not deteriorate over long periods of time. Therefore, route the cables and fix the cables to the original position and states using the wire clamps.

- Perform a safety check when servicing is completed. Verify that the peripherals of the serviced points have not undergone any deterioration during servicing. Also verify that the screws, parts and cables removed for servicing purposes have all been returned to their proper locations in accordance with the original setup.



The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated

dangerous voltage within the products enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance

(servicing) instructions in the literature accompanying the set.

2. Product Function Specifications

Specifications

LCD19W57ACA

Model		LCD19W57ACA	
Product dimension W×H×D (inch)	not including base	18.4X13.2X2.9	(466.4mmX334mmX72.4mm)
	including base	18.4x15x7	(466.4mmX381mmX180mm)
Product weight(lb)	not including base	9.3	(4.2 kg)
	including base	10.1	(4.6 kg)
Display screen min size of diagonal of visual pictures (inch)		18.5	(47cm)
Display screen Resolution		1366X768	
Unit power consumption		Refer to the rating label	
Sound-matching power		2W+2W	
Power (input)		120v 60hz	
Receiving system	RF	NTSC(M)	
	AV	NTSC	
Environmental conditions		Operating temperature:5℃~35℃ (41°F~95°F) Operating humidity : 20%~80%RH Atmospheric pressure: 86kPa-106kPa	

Interface storage battery features:

Interface name	Interface type	Terminal(jack)	Storage battery	Impedance
Video input	Compound video	Video	1.0Vp-p	75 Ω
S-VIDEO	Brightness and colour separation video	Y	1.0Vp-p	75 Ω
		C	0.286Vp-p	75 Ω
Component input	Analog component video	Y	1.0Vp-p	75 Ω
		Pb,Pr	0.7Vp-p	75 Ω
VGA	VGA	R,G,B	0.7Vp-p	75 Ω
		HD.VD	TTL	High impedance
Audio input	Analog audio	Left,right	1Vrms	More than 10k Ω

Video signal format with component input:

60HZ 480i,480p,720p,1080p.

PC signal format with VGA interface:

60HZ 640×480,800×600,1024×768,1280×1024.

Video signal format with HDMI input:

RGB 60HZ 640×480,800×600,1024×768,1280×1024;

YUV 60HZ 480p,720p,1080i,1080p.

LCD TV Service Manual

LCD22V68AM

Model		22DX850
Product dimension (W × H × D)(mm)	not including base	537x354x69.5
	including base	537x396 x180
Product weight (kg)	not including base	4.5
	including base	5
Display screen min size of diagonal of visual pictures(cm)		55
Display screen Resolution		1366X768
Unit power consumption		Refer to the rating label
Sound-matching power		2W+2W
Power (input)		Refer to the rating label
Receiving system	RF	NTSC
	AV	NTSC
Environmental conditions		Operating temperature 5℃~35℃/41℉~95℉ Operating humidity : 20%-80%RH Atmospheric pressure: 86kPa-106kPa

Interface storage battery features:

Interface name	Interface type	Terminal(jack)	Storage battery	Impedance
Video input	Compound video	Video	1.0Vp-p	75 Ω
S-VIDEO	Brightness and colour separation video	Y	1.0Vp-p	75 Ω
		C	0.286Vp-p	75 Ω
Component input	Analog component video	Y	1.0Vp-p	75 Ω
		PB,PR	0.7Vp-p	75 Ω
VGA	VGA	R.G.B	0.7Vp-p	75 Ω
		HD.VD	TTL	High impedance
Audio input	Analog audio	Left,right	1Vrms	More than 10k Ω

Video signal format with component input:

50HZ 576i,576p,720p,1080i;
60HZ 480i,480p,720p,1080i,1080p.

PC signal format with VGA interface:

60HZ 640×480,800×600,1024×768,1280x1024.

Video signal format with HDMI input:

RGB 60HZ 640×480,800×600,1024×768,
YUV 50HZ 576p,720p,1080i;
YUV 60HZ 480p,720p,1080i,1080p.

3. LCD Panel Spec

3.1 LCD19W57ACA

Model: V185B1-L01\JK\ROH **SN:** 1057991

3.1.1 General Description

1.1 OVERVIEW

V185B1-L01 model is a 18.5 inch wide TFT-LCD module with a 4-CCFL Backlight Unit and a 30-pin 1ch-LVDS interface. This module supports 1366 x 768 (16:9 wide screen) mode and displays up to 16.7M colors (6-bit+Hi-FRC colors). The inverter module for the Backlight Unit is not built in.

1.2 FEATURES

- Excellent Brightness: 300nits
- Contrast Ratio: 800:1
- Fast Response Time: 5ms
- Color Saturation: NTSC 72%
- WXGA (1366 x 768 pixels) Resolution
- DE (Data Enable) Only Mode
- LVDS (Low Voltage Differential Signaling) Interface
- Viewing Angle: 170(H)/160(V) (CR>10) TN Technology
- Color Reproduction (Nature Color)

3.1.2 General Features

Item	Specification	Unit	Note
Active Area	409.8(H) x 230.4(V)	mm	
Bezel Opening Area	413.4(H) x 234(V)	mm	
Driver Element	a-si TFT active matrix	-	
Pixel Number	1366 x R.G.B. x 768	pixel	
Pixel Pitch (Sub Pixel)	0.100 (H) x 0.300 (V)	mm	
Pixel Arrangement	RGB vertical stripe	-	
Display Colors	16.7 millions	color	
Display Operation Mode	Transmissive mode / Normally White	-	
Surface Treatment	Anti-Glare Coating (Haze 25%) Hard Coating (3H)	-	

3.2 LCD22V68AM

Model: V216B1-L01\JK\ROH **SN:** 1056327

3.2.1 General Description

1.1 OVERVIEW

The V216B1-L01 model is a 21.6 inch wide TFT-LCD module with a 4-CCFL Backlight Unit and a 30-pin 1ch-LVDS interface. This module supports 1366 x 768 (16:9 wide screen) mode and displays up to 16.7 (6-bit+Hi-FRC colors) millions colors. The inverter module for the Backlight Unit is not built in.

1.2 FEATURES

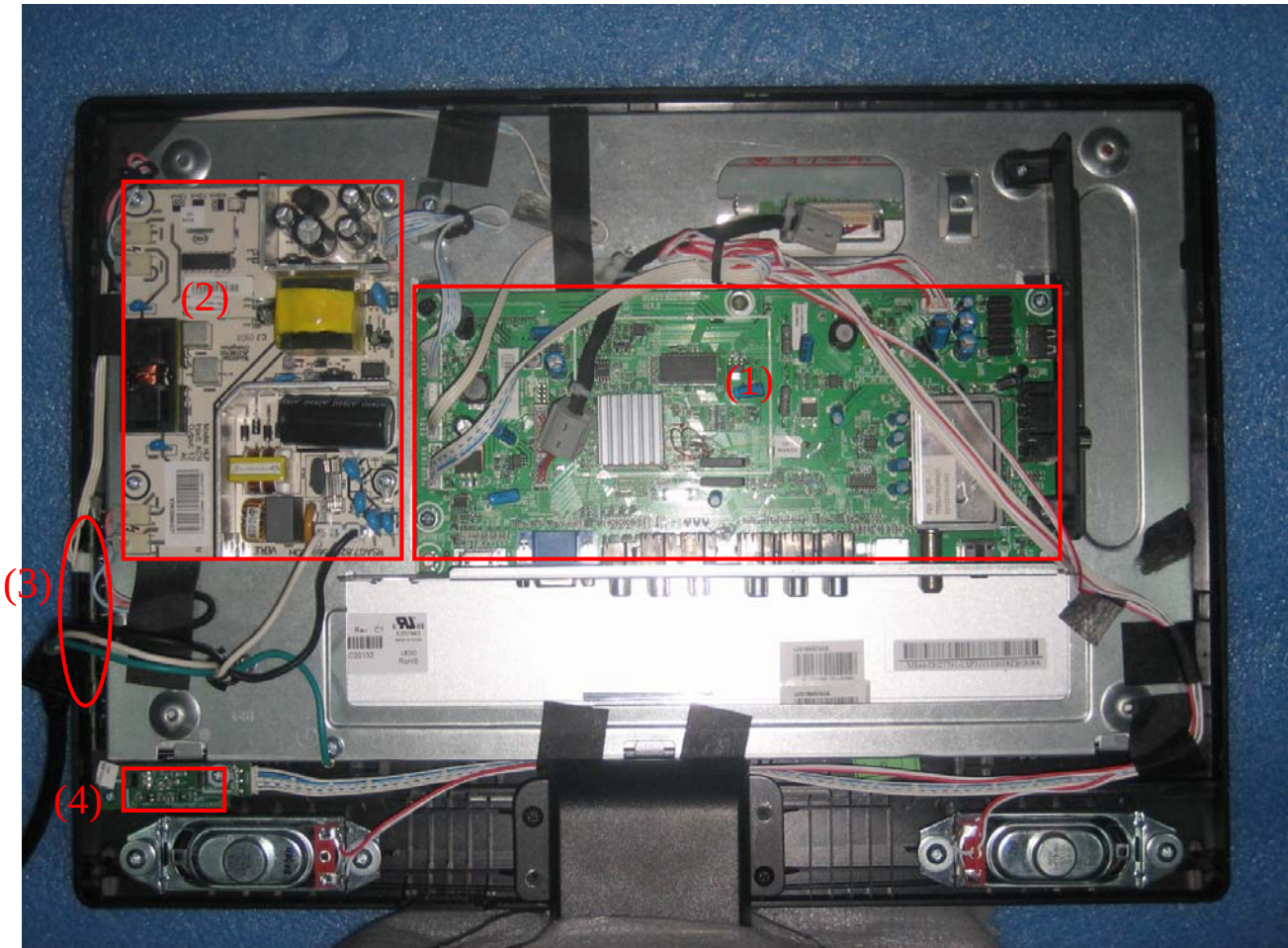
- Excellent Brightness: 400nits
- Contrast Ratio: 800:1
- Fast Response Time: 5ms
- Color Saturation: NTSC 72%
- WXGA (1366 x 768 pixels) Resolution
- DE (Data Enable) Only Mode
- LVDS (Low Voltage Differential Signaling) Interface
- Viewing Angle: 170(H)/160(V) (CR>10) TN Technology
- Color Reproduction (Nature Color)

3.2.2 General Features

Item	Specification	Unit	Note
Active Area	477.417 (H) x 268.416 (V) (21.6" diagonal)	mm	
Bezel Opening Area	481.5 (H) x 272.5 (V)	mm	
Driver Element	a-si TFT active matrix	-	
Pixel Number	1366 x R.G.B. x 768	pixel	
Pixel Pitch (Sub Pixel)	0.1165 (H) x 0.3495 (V)	mm	
Pixel Arrangement	RGB vertical stripe	-	
Display Colors	16.7 millions	color	
Display Operation Mode	Transmissive mode / Normally White	-	
Surface Treatment	Hard coating (3H), AG (Haze 25%)	-	

4. Chassis Layout and Overall Wiring Diagrams

4.1 Chassis Layout



LCD19W57ACA

No	Description	Part No.	Type/Model	PCB/ Model
(1)	Main Board	120130	RSAG2.908.1544-1\ROH	3RSAG7.820.1701\VER.B\ROH
(2)	Power Board	117925	RSAG2.908.1453\ROH	RSAG7.820.1569\VER.D\ROH
(3)	Keypad PCA	114552	RSAG2.908.1168-2\ROH	20RSAG7.820.1214\VER.A\ROH
(4)	IR Board	114175	RSAG2.908.1169\ROH	40RSAG7.820.1213\VER.A\ROH

LCD TV Service Manual

LCD22V68AM

No	Description	Part No.	Type/Model	PCB/ Model
(1)	Main	119987	RSAG2.908.1486-4\ROH	RSAG7.820.1701\VERB\ROH
(2)	Power	117925	RSAG2.908.1453\ROH	RSAG7.820.1569\VER.D\ROH
(3)	Keypad	114552	RSAG2.908.1168-2\ROH	RSAG7.820.1214\VER.A\ROH
(4)	IR board	114175	RSAG2.908.1169\ROH	RSAG7.820.1213\VER.A\ROH

4.2 Wires and Cables Overall Wiring Diagrams



5. Factory/Service OSD Menu and Adjustment

5.1 To enter the Factory OSD Menu

a. With factory RC (remote control)

1. Press “M” button and enter factory mode.
2. Press “Menu” button and enter factory OSD menu.
3. Press “CH+”/“CH-” button select the function menu, press “VOL+”/“VOL-” enter the selected function menu. Press “VOL+”/“VOL-” button adjust values in the menu.
4. Press “M” button exit factory mode in the factory OSD menu.

When TV outgoing factory, user can not enter factory OSD menu with Factory Remote

b. With user's RC

1. Power TV On
2. Press Menu button and call up User OSD Menu
3. Select Sound-> Balance
4. When Balance value is “0”, Enter 0->5->3 ->2 in sequence.
Note: If necessary, re-do number keys.
5. Factory OSD appears.
6. Press the standby button then AC turn off and restart the TV, which can exit factory OSD menu.

5.2 Factory OSD Menu

The Factory OSD Menu comprises Factory Menu and Design Menu .

5.2.1、 Factory Menu

Factory Menu

White Balance

Auto Test

Auto Calibration

LOGO

OSD Language

Country

Option

Factory Init

Test Pattern

Version:

White Balance

R DRV	8
G DRV	10
B DRV	10
R CUT	136
G CUT	130
B CUT	121
BRIGHT_H	80
CONTRAST_H	80
BRIGHT_L	40
CONTRAST_L	40

Auto Calibration

Auto Color

Color Temp.	Standard
RED COLOR	136
GREEN COLOR	130
BLUE COLOR	121

LOGO

NULL

HISENSE

WELCOME

EGYPT OFF

Option

SOURCE	TV
BRIGHT 0	10
BRIGHT 50	100
BRIGHT 100	150
CONTRAST 0	60
CONTRAST 50	100
CONTRAST 100	150
TOFAC	M
HDMI Cable	Standard
DQS PHASE	3

Factory Init

QingDao

HuangDao

Guiyang

shunde

Hungary

France

Australia

CLEAR PROTECTLY

CLEAR UNPROTECTLY

Turkey

Test Pattern

BLUE

Version

Version:

Panel Type:

FLASH :

5.2.2、 Design Menu

Design Menu

Picture Mode

Sound Mode

Sound Settings

Power Save

PIP Option

EMI

MOVESHARPNESS

LipSync

Picture Mode

Standard	Brightness	50
	Contrast	50
	Colour	50
Bright	Brightness	60
	Contrast	60
	Colour	55
Soft	Brightness	45
	Contrast	45
	Colour	45

Sound Mode

Standard	120Hz	12
	500Hz	10
	1.5KHz	11
	5KHz	8
Music	10KHz	15
	120Hz	19
	500Hz	11
	1.5KHz	12
Speech	5KHz	14
	10KHz	20
	120Hz	4
	500Hz	10
	1.5KHz	12
	5KHz	7
	10KHz	5

Sound Settings

VOLUME 0	128
VOLUME 1	79
VOLUME 20	27
VOLUME 40	23
VOLUME 100	8
TVPRE SCALER	6
VOLUME SCALER	0

Note:

The above “Factory/Service OSD Menu” are reference only, please refer to the actual units to determine the appearances.

6. Software Upgrading

The software is upgraded by a burning tool- ISP_TOOL4.0.9, which can burn the program file “*. bin” to the main board of the unit

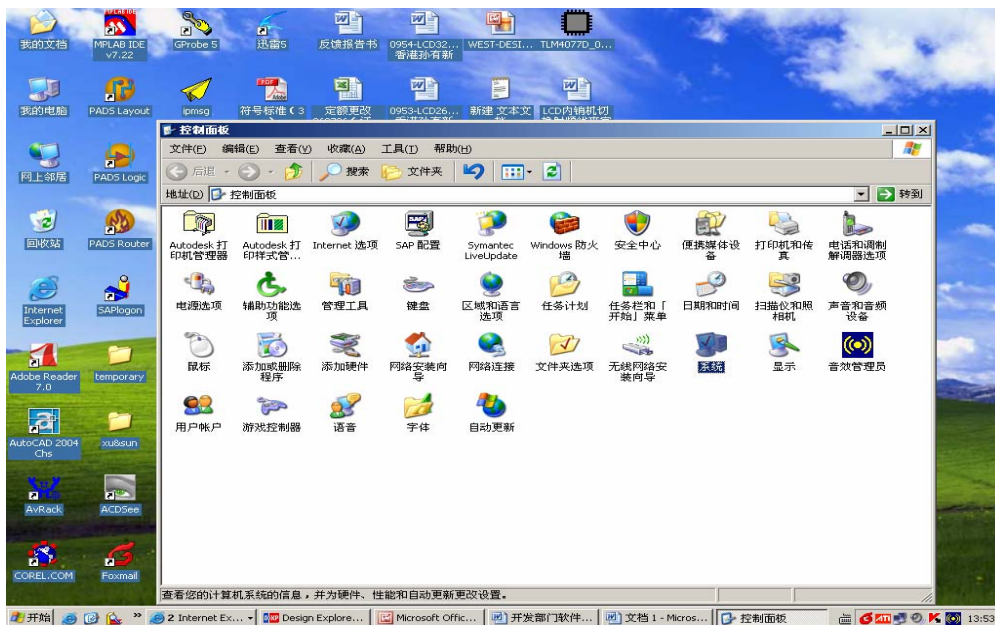
6.1 Get ready for upgrading

6.1.1 Install the ISP_TOOL4.0.9-----only for the first time update.

1、 Port Setting:



Choose “system” option from the “control panel”



LCD TV Service Manual

Click the “system” icon as the following

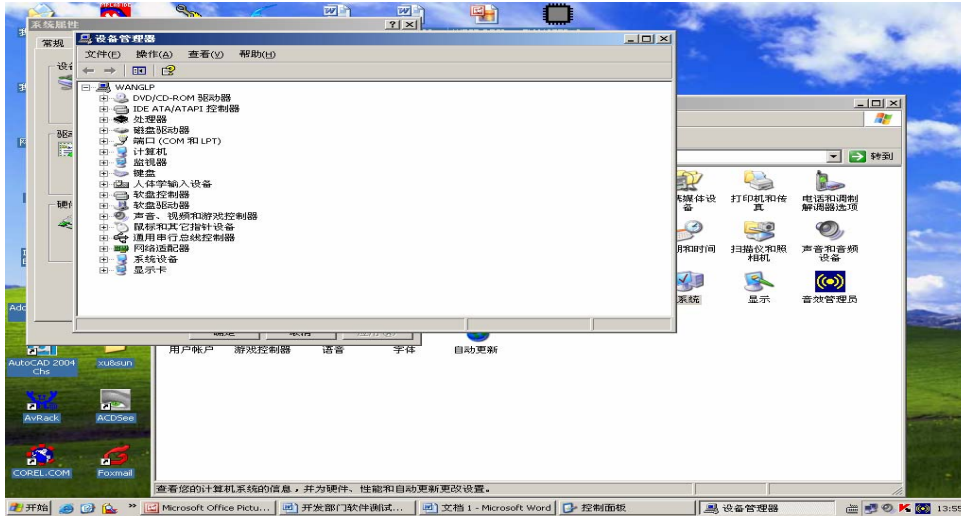


Choose the “hardware” option from the dialog window

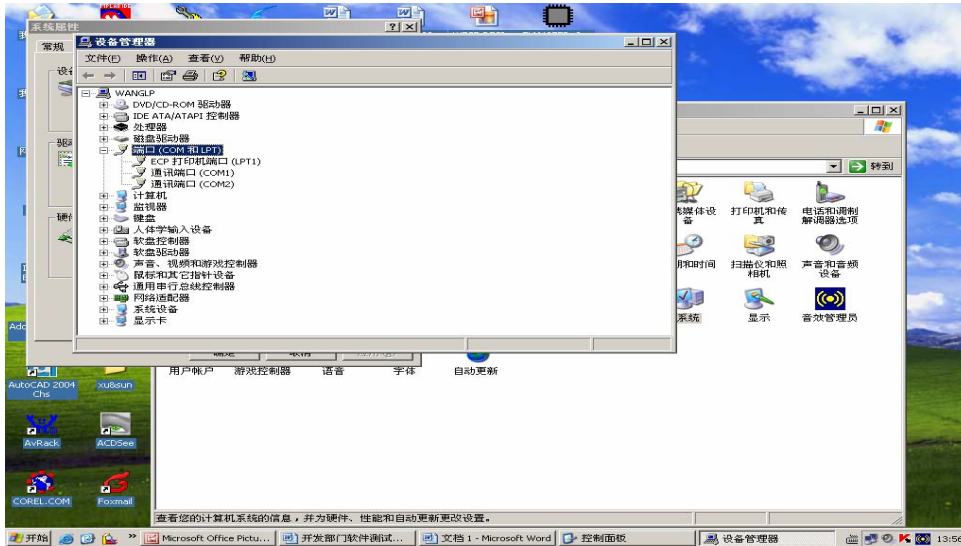


LCD TV Service Manual

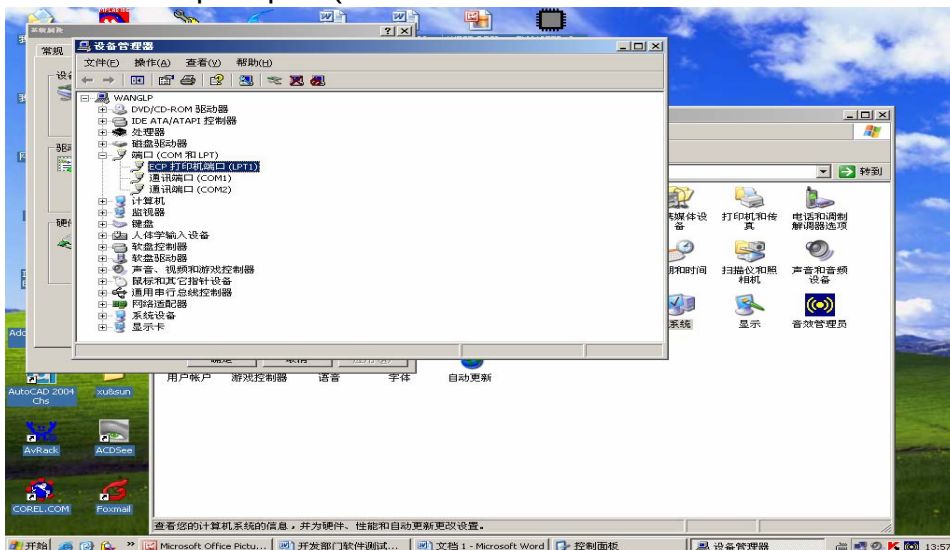
Click “device management” icon as the following



Choose the port (COM and LPT1)



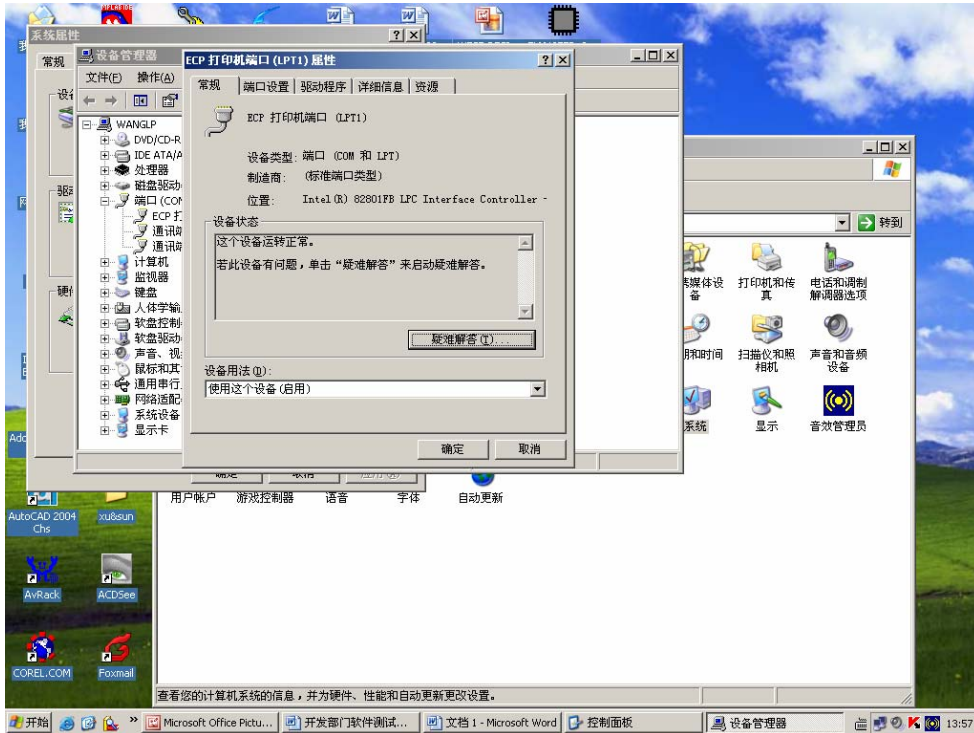
Choose the ECP print port (LPT1)



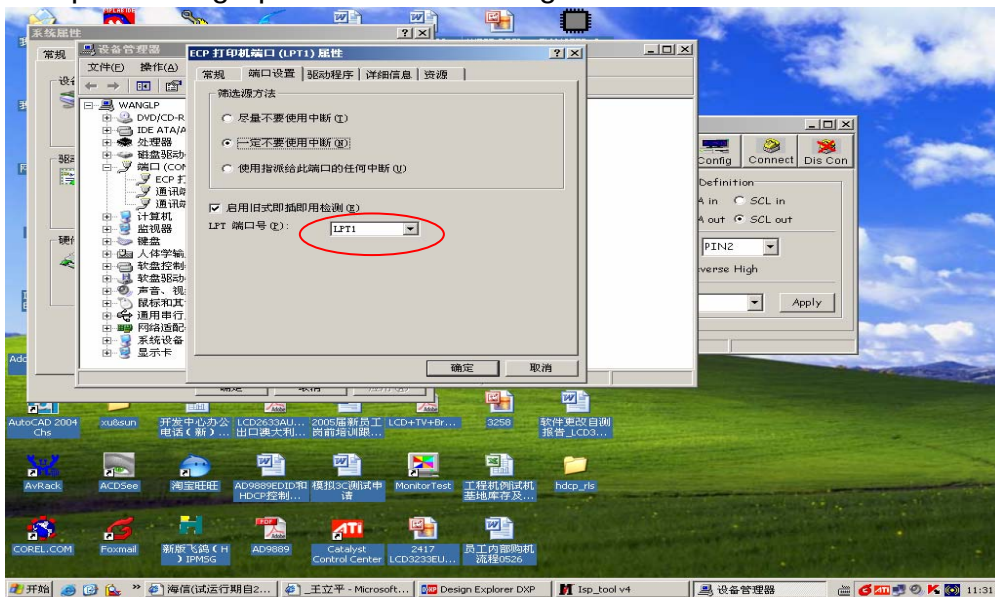
Hisense Confidential

LCD TV Service Manual

Click the port of print (LPT1) as the following

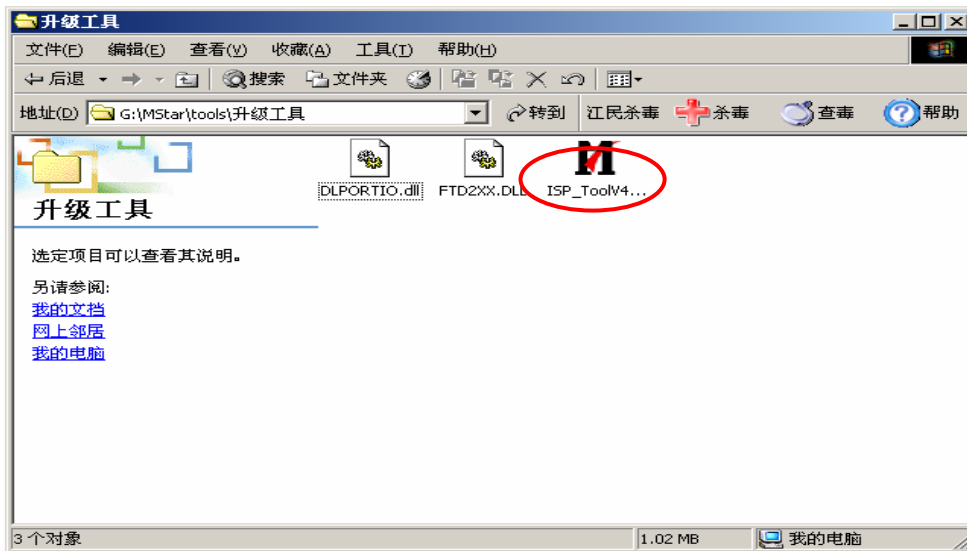


Choose “port setting” option as the following

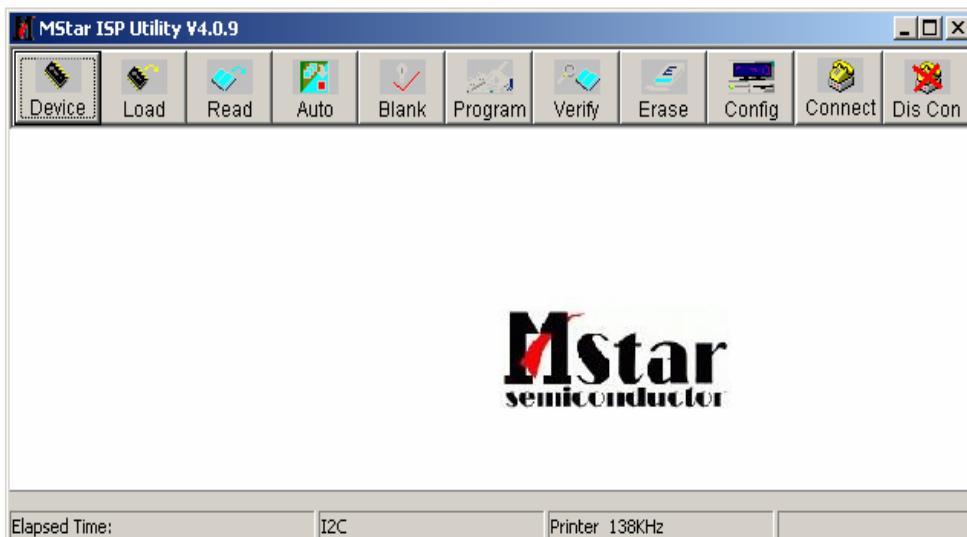


LCD TV Service Manual

- Find the folder where the ISP_TOOL4.0.9 lies in.
There are three folders/files in this folder together.
DLPORTIO.dll and FTD2XX.DLL must be in the same folder



Double click the ISP_TOOL4.0.9 icon, and then a dialog window will show as below.



LCD TV Service Manual

Click the **Config** button. And then a dialog window will show as below.

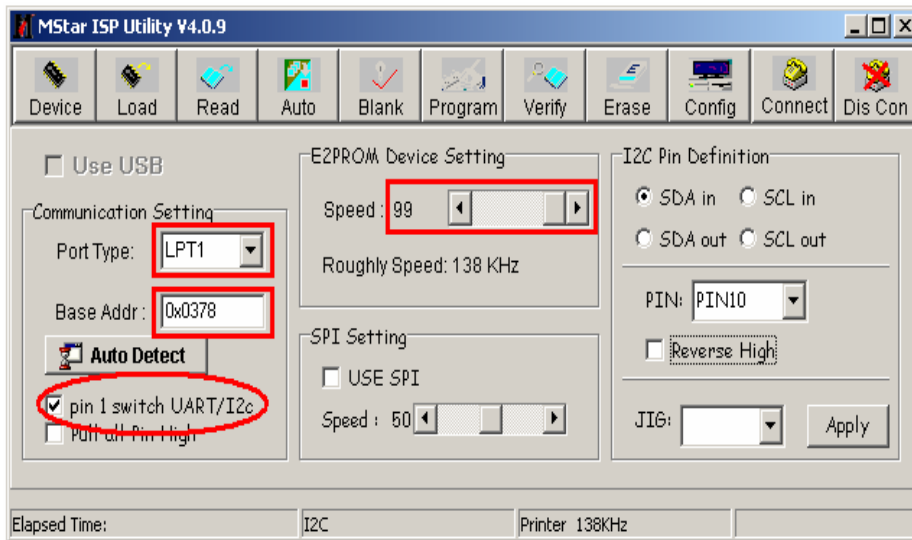
Port Type setting is LPT1

Base Addr setting is 0x378

Draw ☒ on the front of “pin 1 switch UART/I2c”

Speed setting is 99

As following

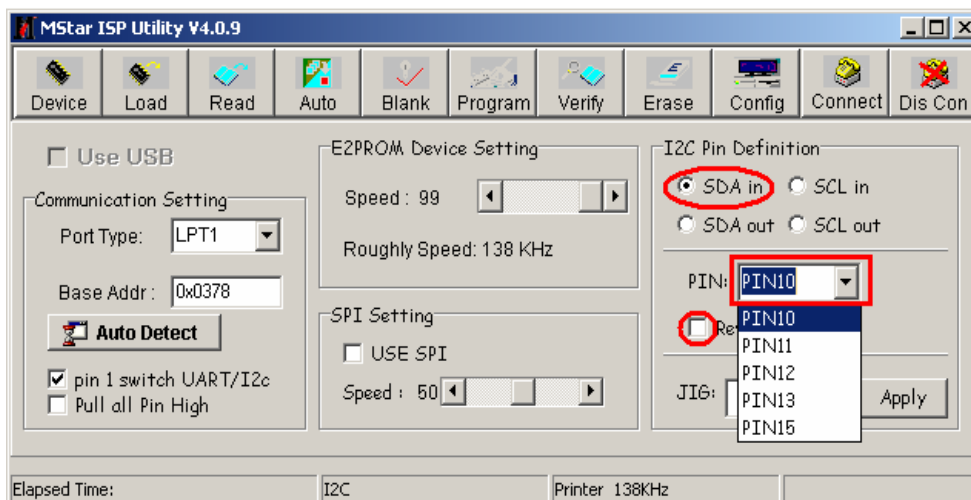


Choose “SDA in” and setting “PIN” is “PIN10”.

Notes:

Do not draw ☒ on the front of “Reverse High”.

As following



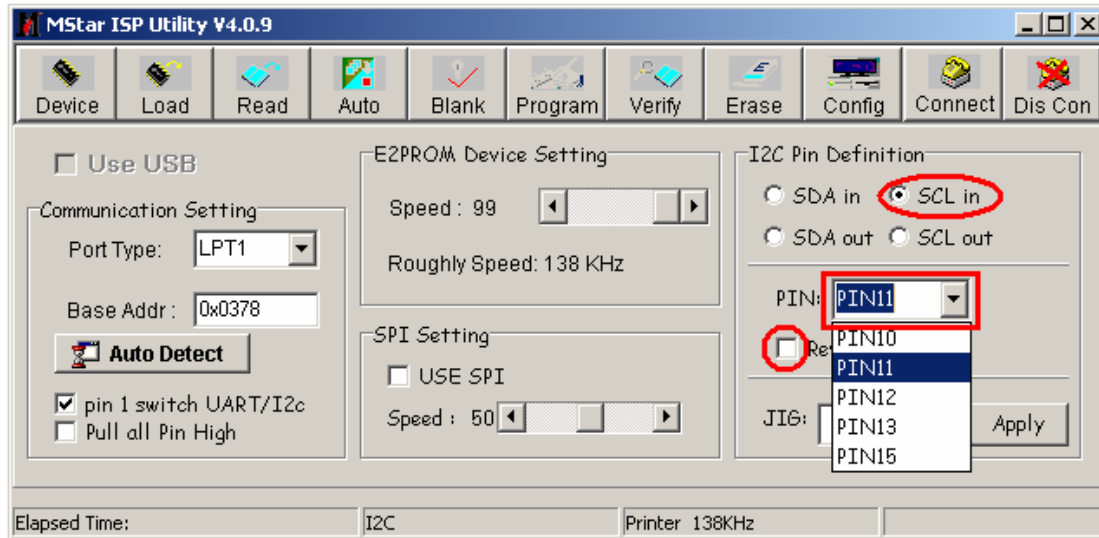
LCD TV Service Manual

Choose “SCL in” and setting “PIN” is “PIN11”.

Notes:

Do not draw ☒ on the front of “Reverse High”.

As following

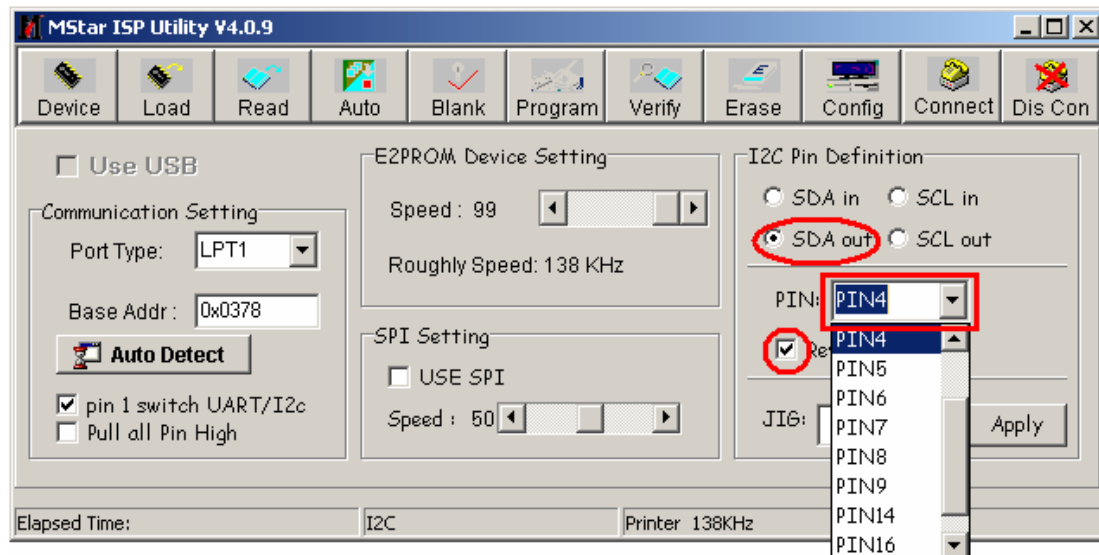


Choose “SDA out” and setting “PIN” is “PIN4”.

Notes:

Draw ☒ on the front of “Reverse High”.

As following.



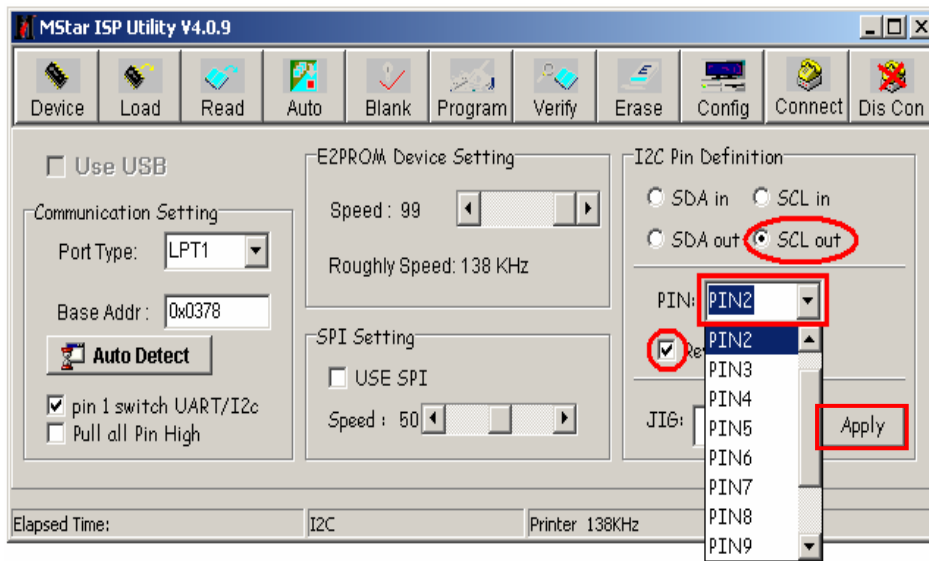
Choose “SCL out” and setting “PIN” is “PIN2”.

Notes:

Draw ☒ on the front of “Reverse High”.

As following

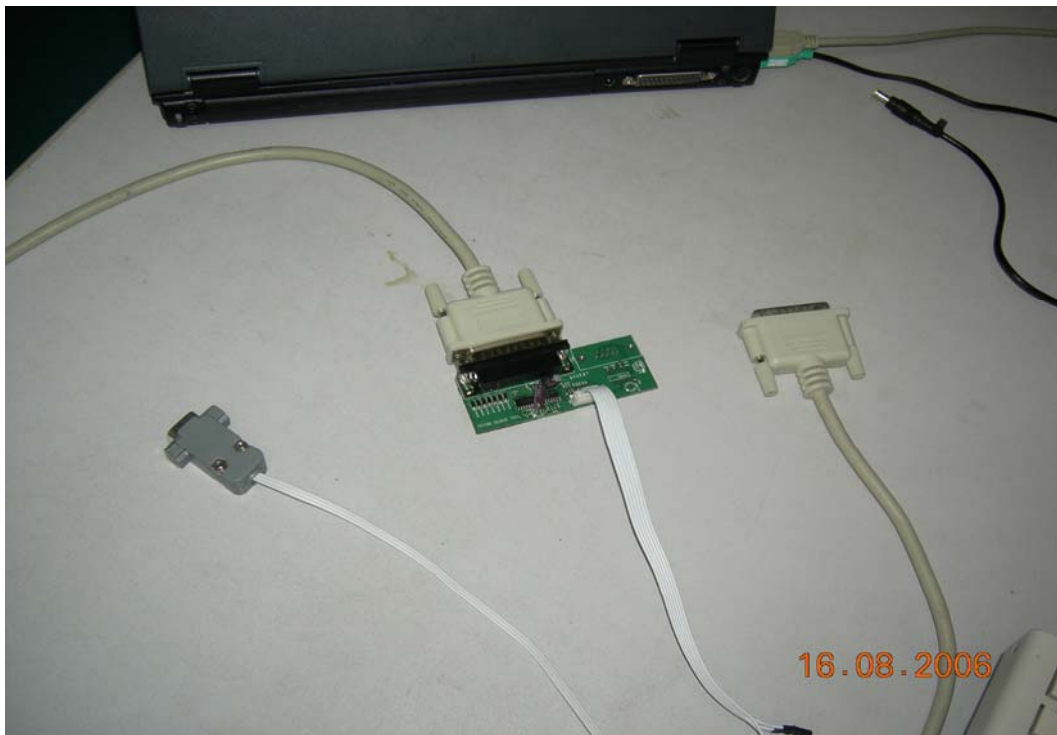
LCD TV Service Manual



After having finished all above, clicking the “Apply ”button to complete the configuration。

6.1.2 Hardware connecting

You can update the software through a special tool (as following)



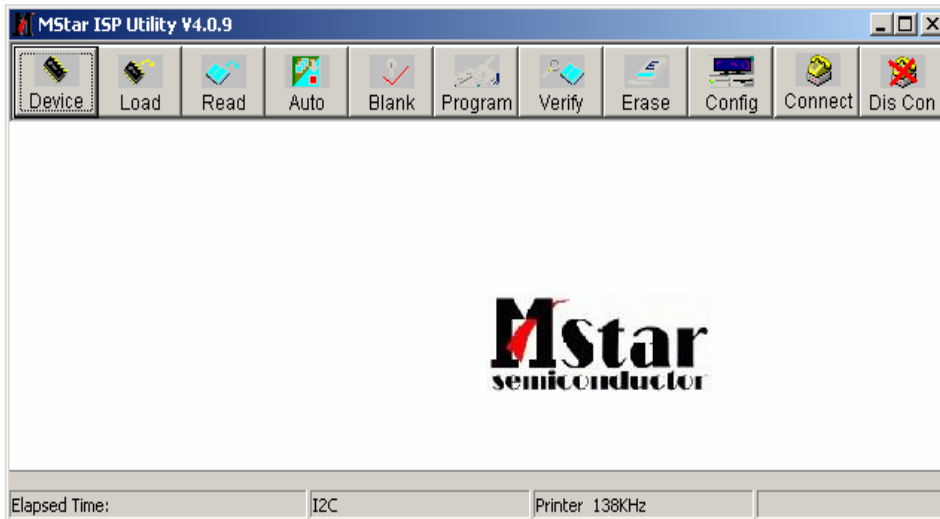
LCD TV Service Manual

Connect the Debug board to the TV use VGA interface, the other parallel port to the computer, just as the following.

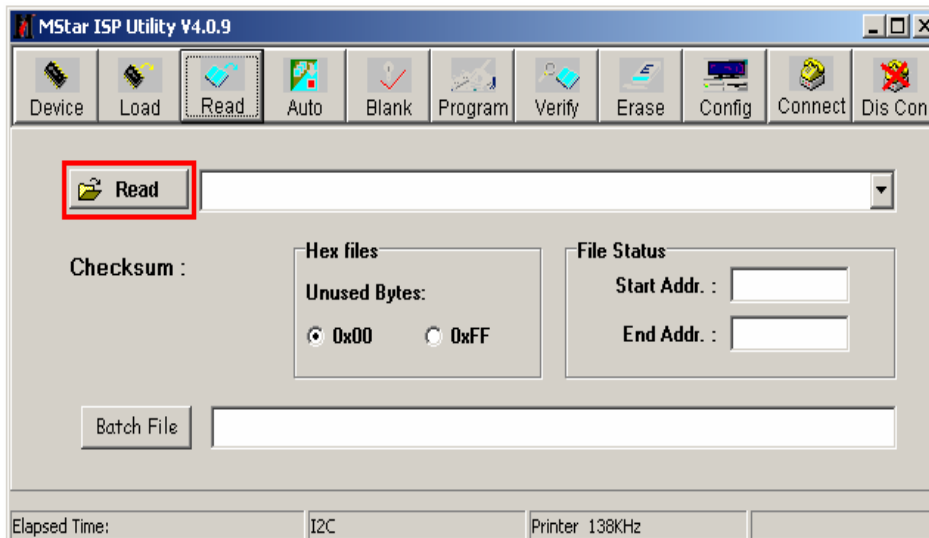


6.2 Upgrading with the ISP_TOOL4.0.9

6.2.1 Double click the ISP_TOOL4.0.9 icon and a dialog window will show as following。

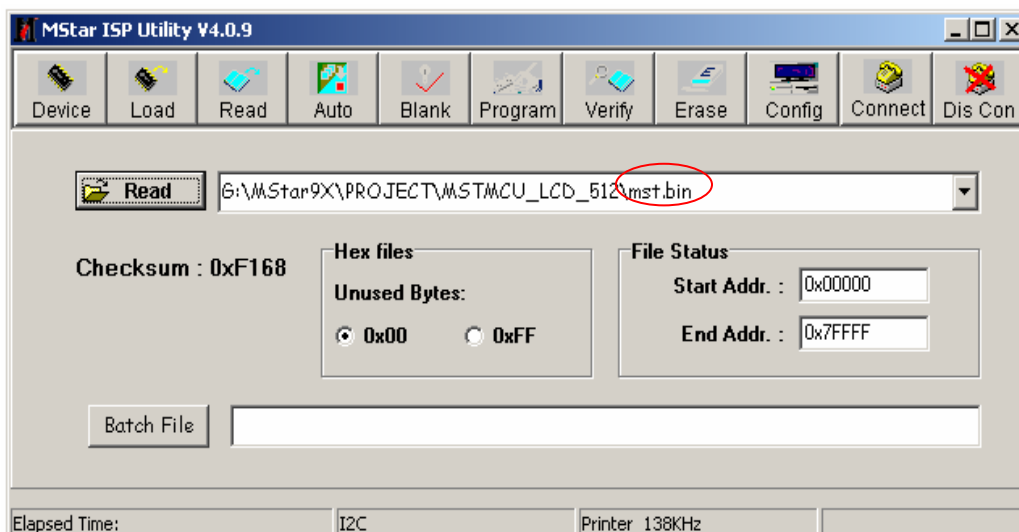
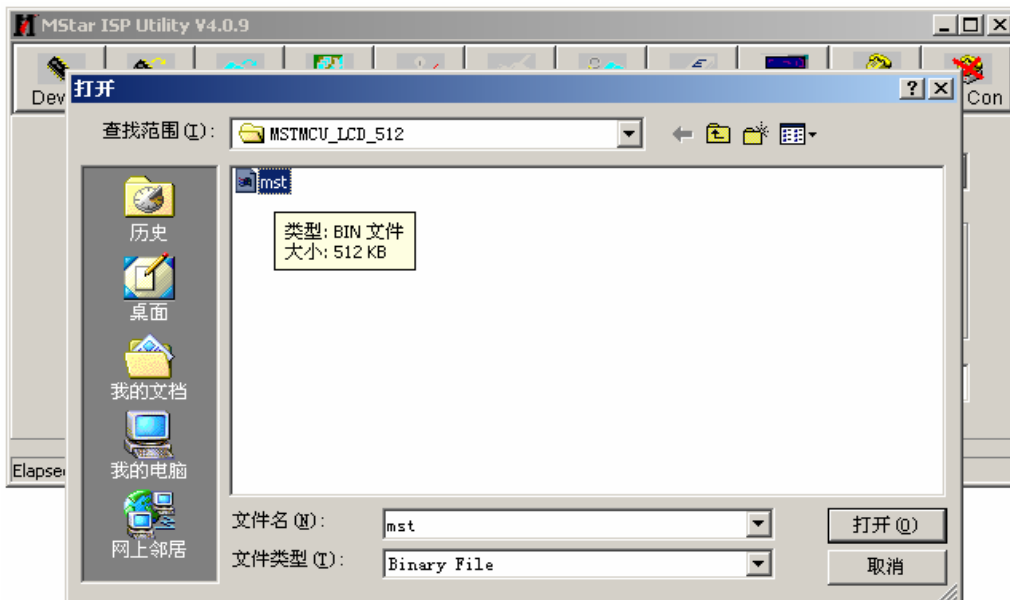
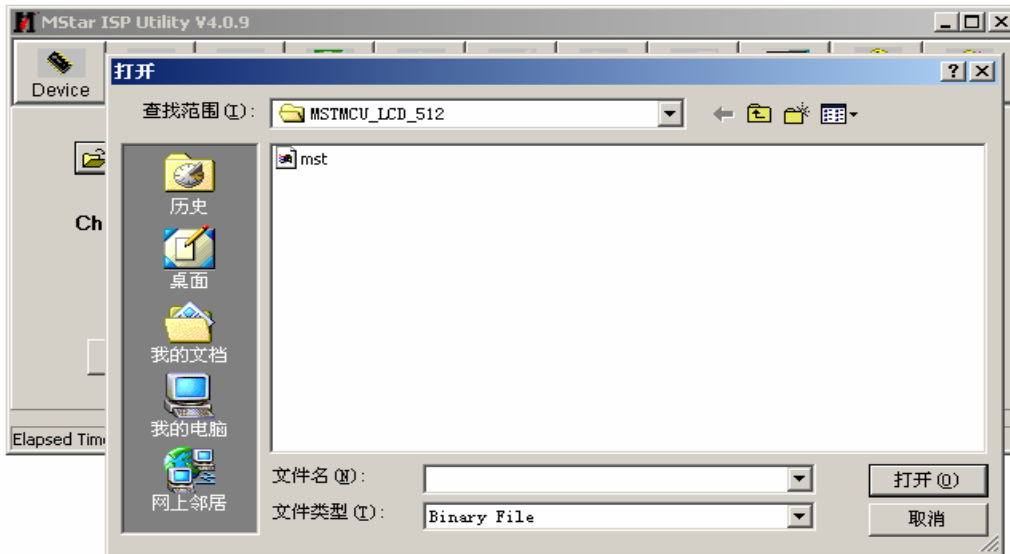


Click the "Read" button.



LCD TV Service Manual

Choose the update file from the folder.

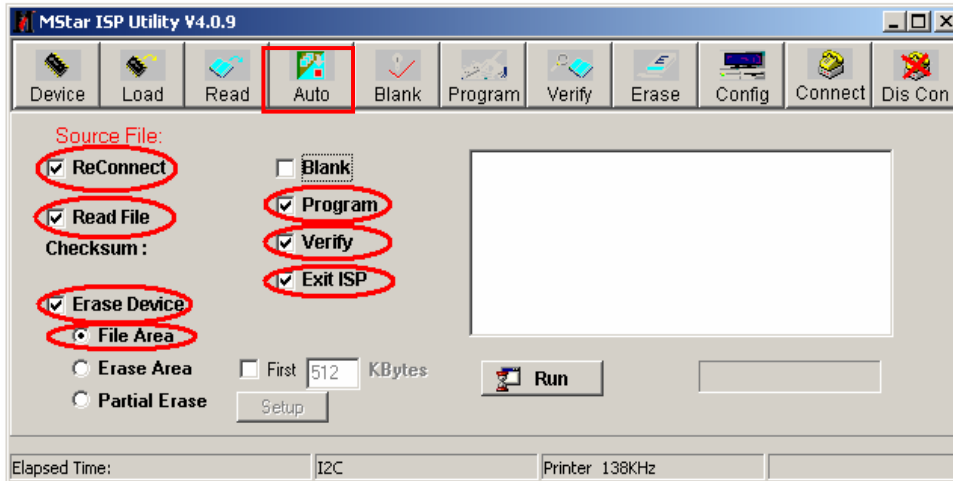


Hisense Confidential

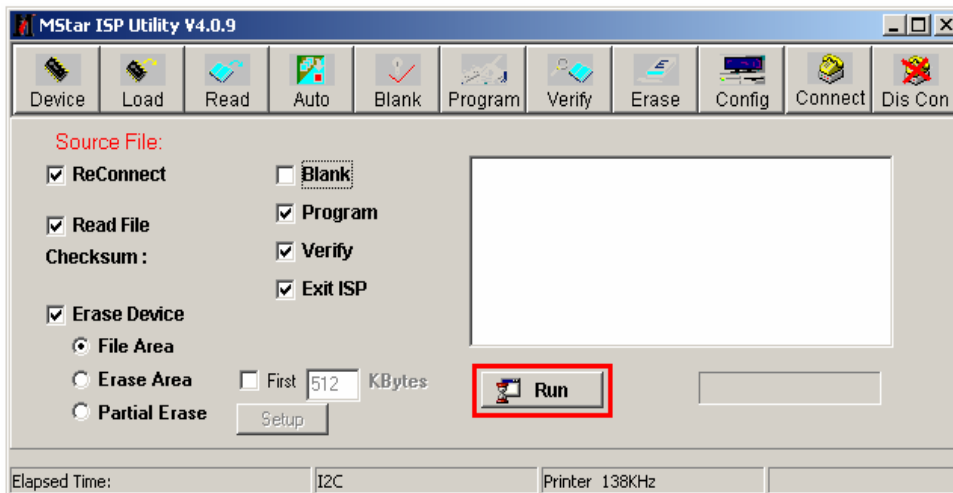
LCD TV Service Manual

The update file has been chosen successfully。

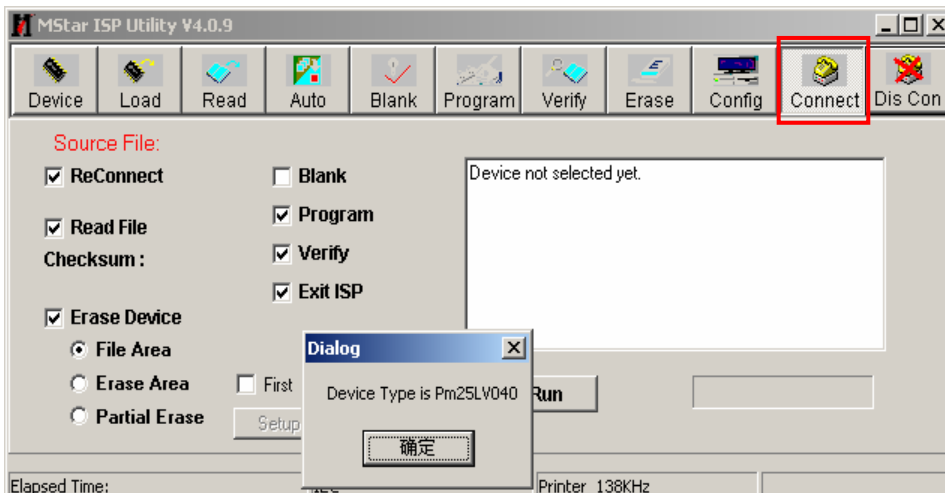
Click the“Auto”button and choose parameters as following。



Click the“Run”button

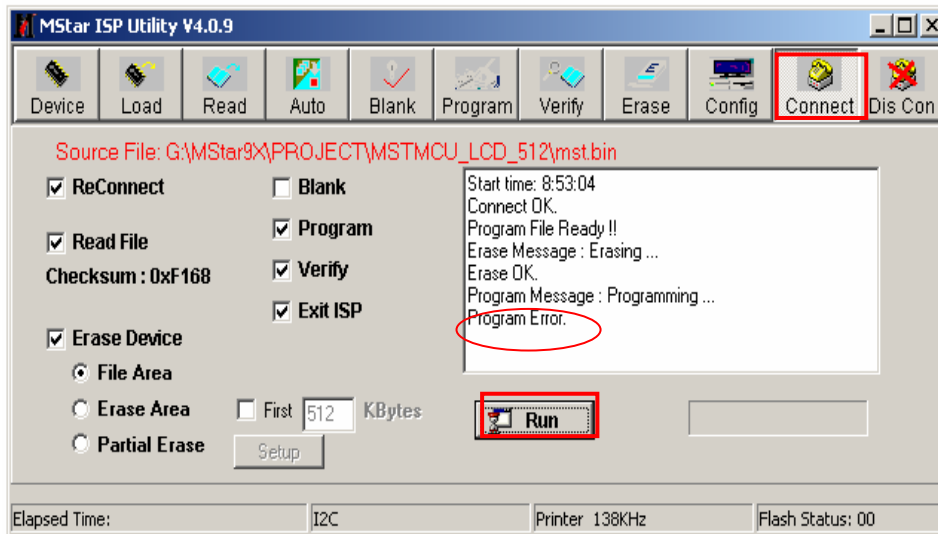


Click the“connect”button,then show a dialog box as following。

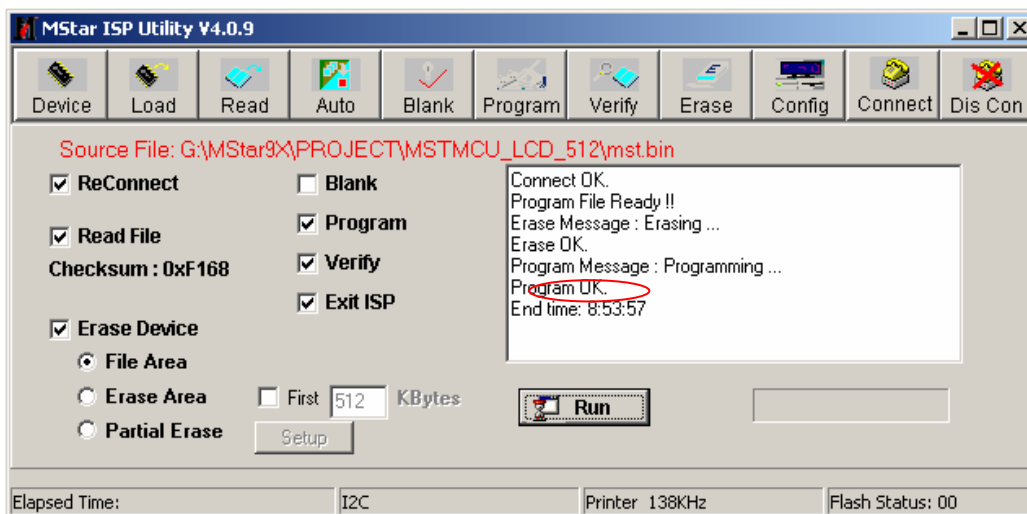
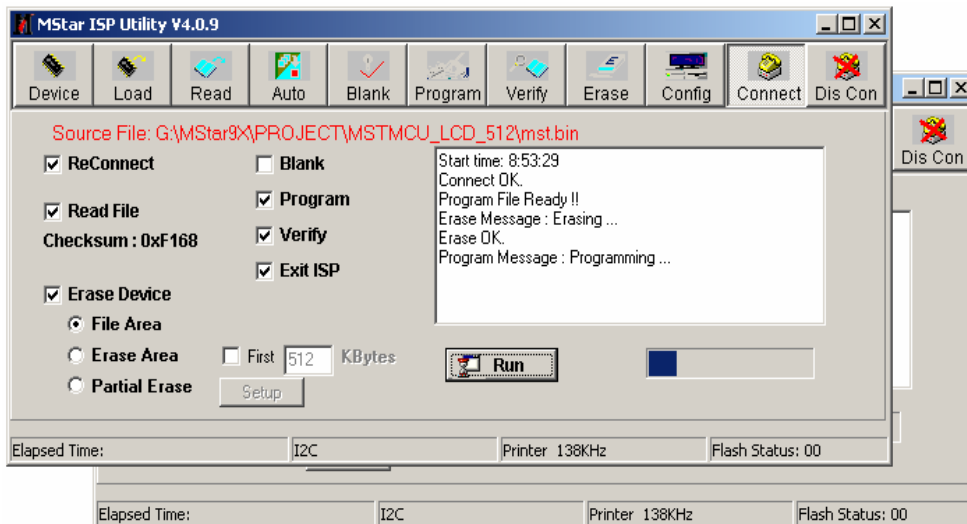


Hisense Confidential

LCD TV Service Manual



If show above then click the “Run” button again and again, till show the following dialog window.



The above appears on the screen-the word "program ok"shows in the information displaying window,indicating upgrading is over.

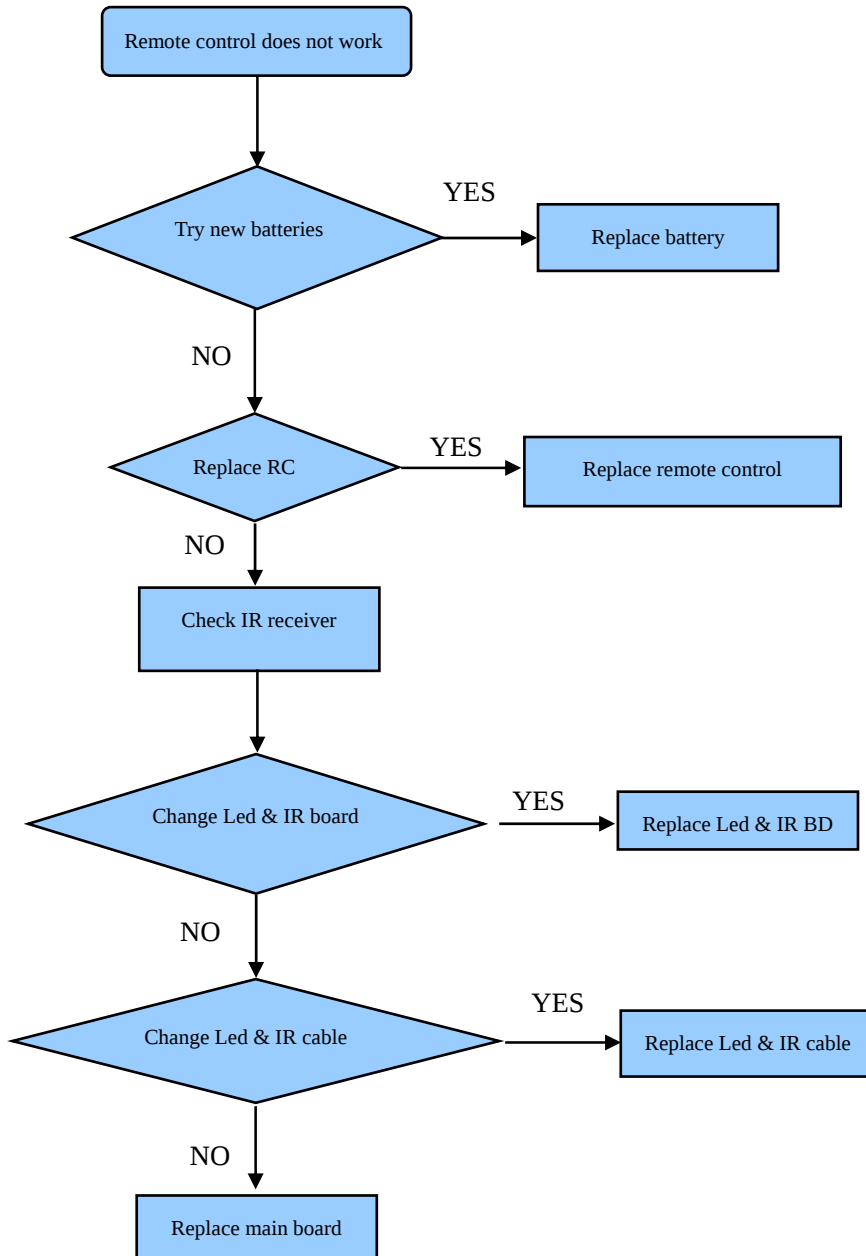
6.2.2 After the update is over. Must Confirm the software Version in the Version Menu.

If the update is successful, enter Factory Init Menu and select "Clear Unprotectly"

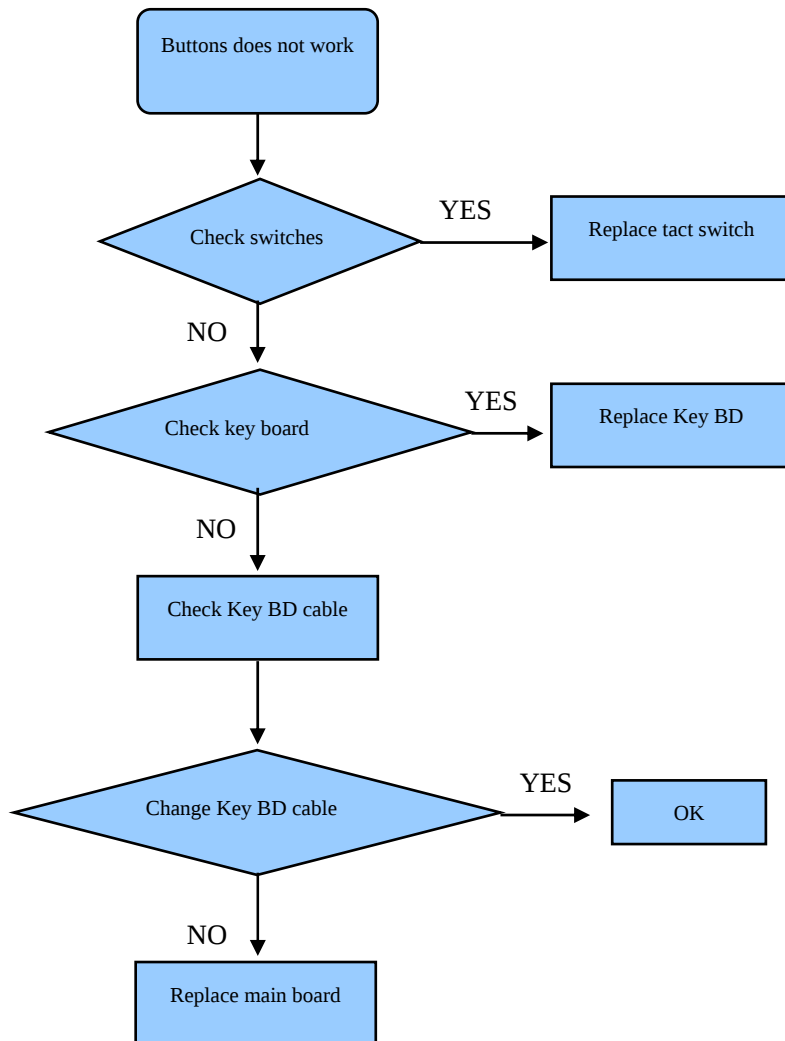
- a. Press VOL+ button to clear the EEPROM data.
- b. When the "Clear Unprotectly " button becomes white, turn off the power.
- c. Restart the TV.

7. Troubleshooting

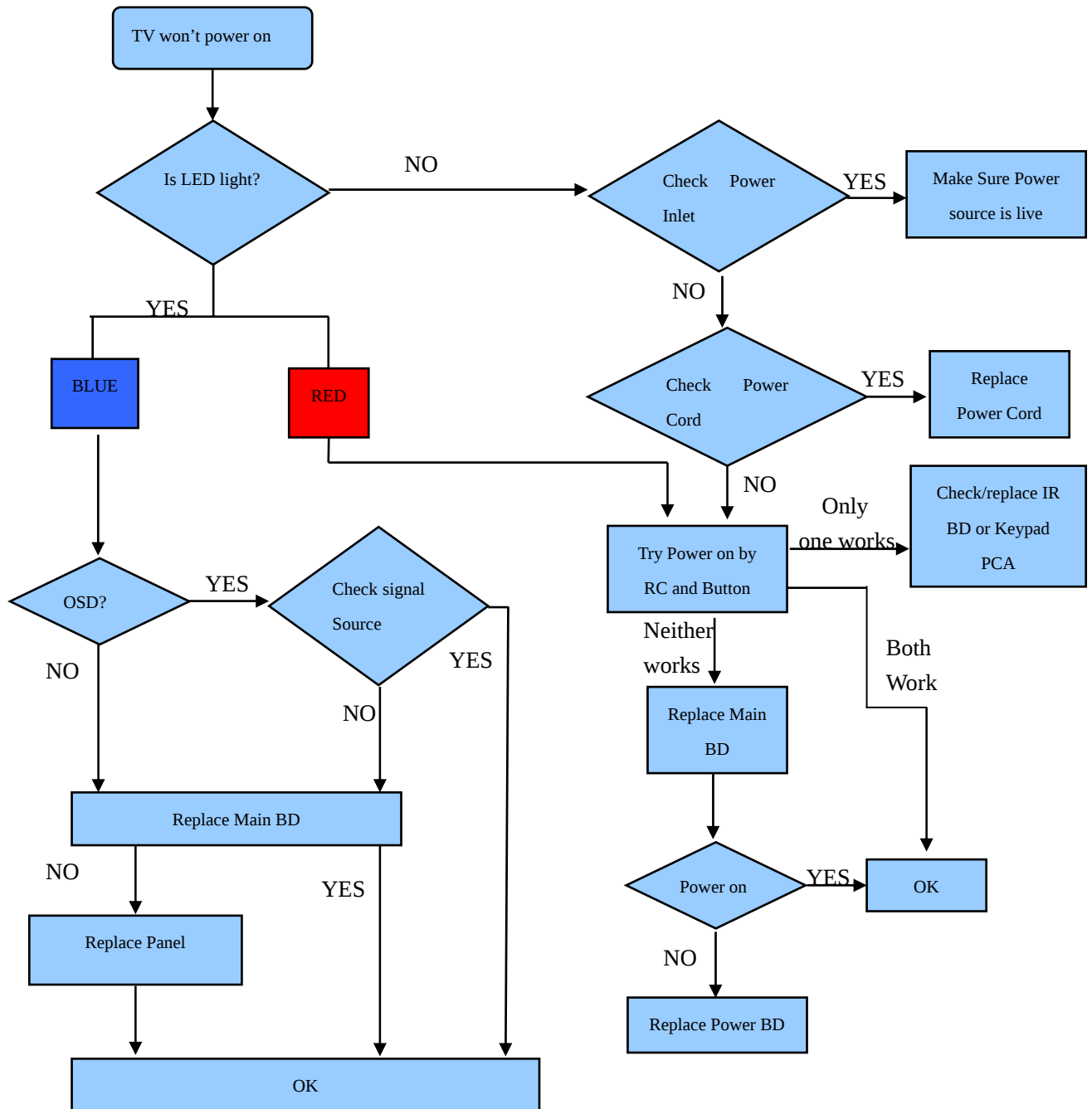
7.1 Troubleshooting for Remote Control



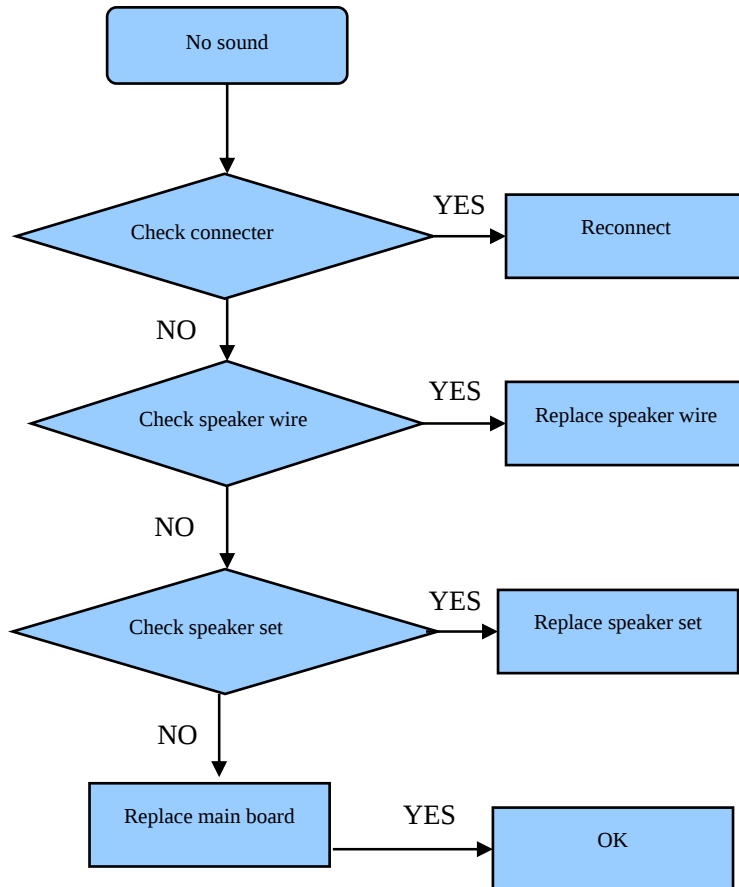
7.2 Troubleshooting for Function Key



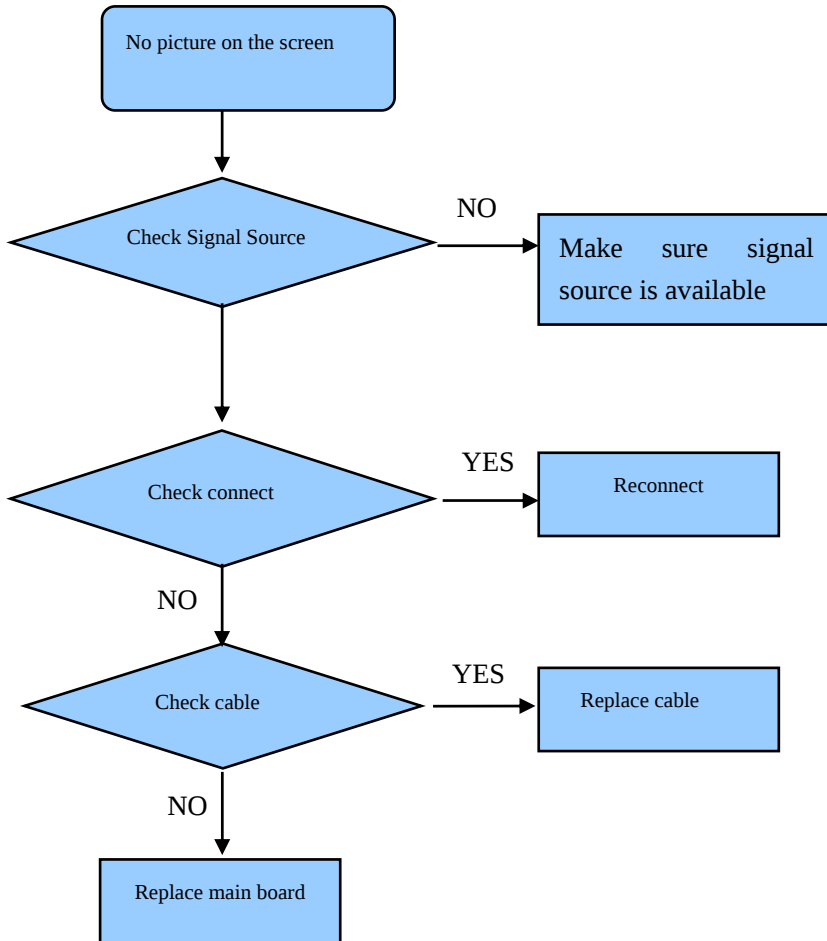
7.3 TV won't Power On



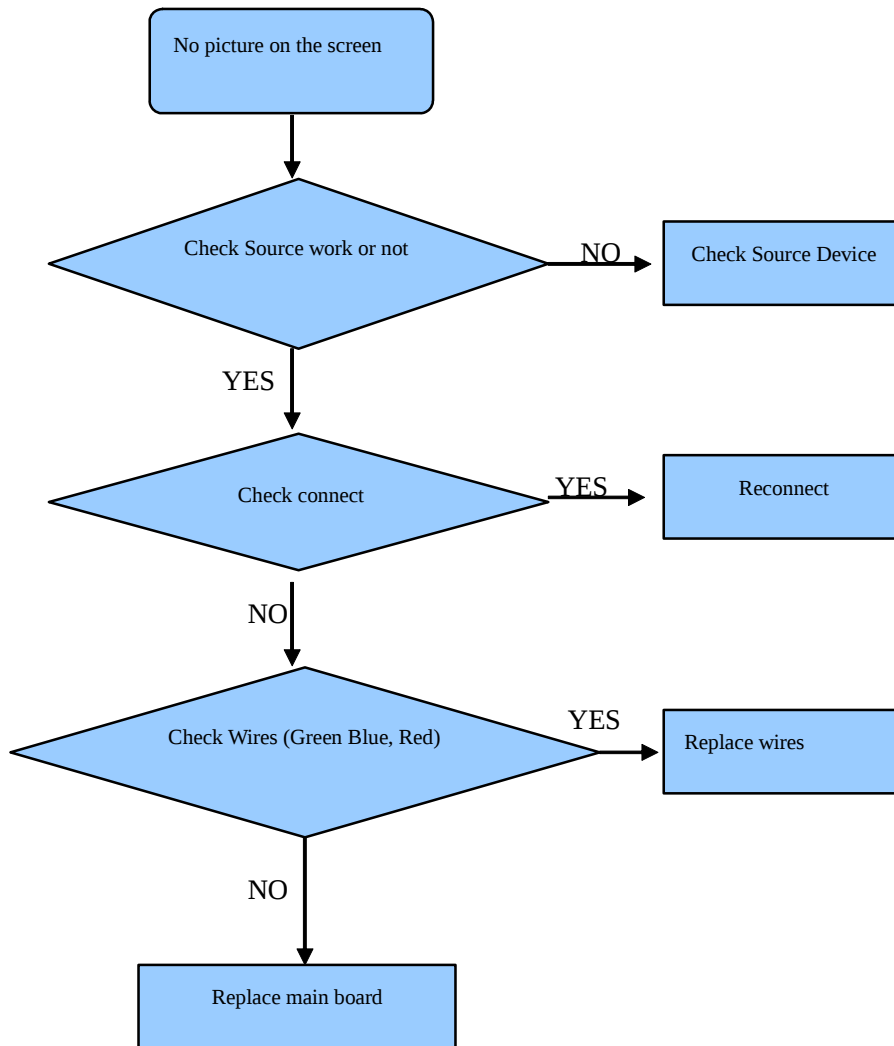
7.4 Troubleshooting for Audio



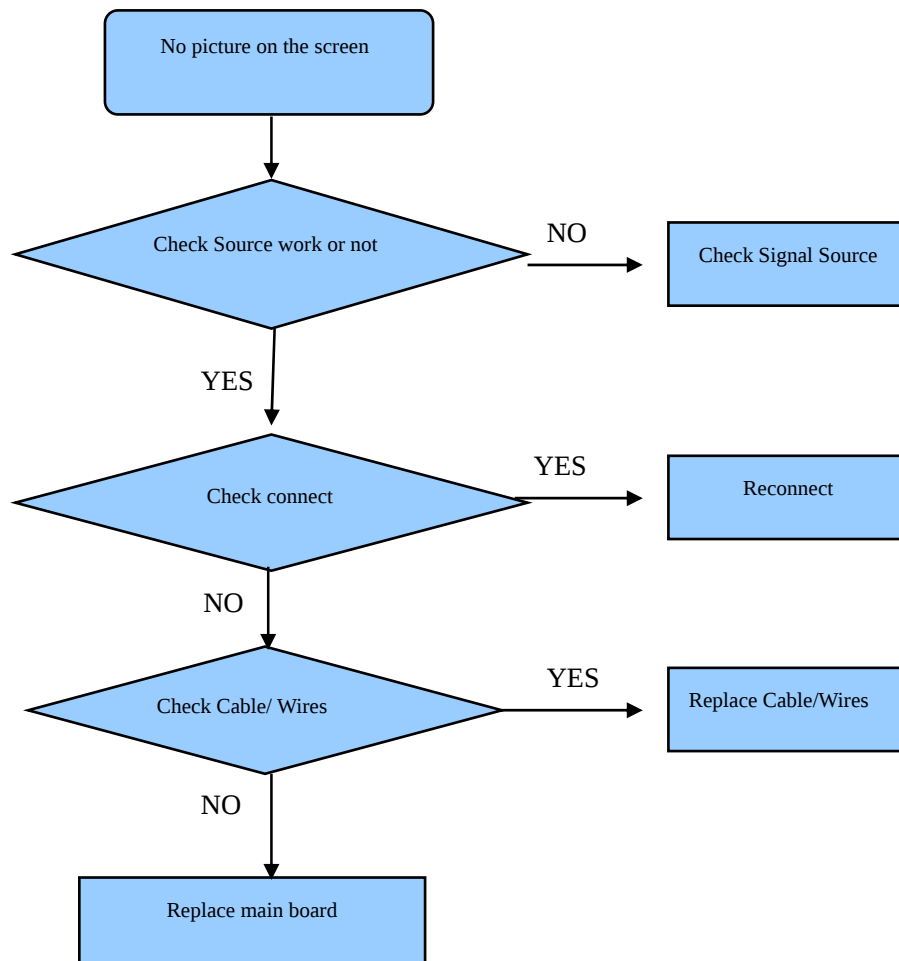
7.5 Troubleshooting for TV/VGA/HDMI input



7.6 Troubleshooting for YPbPr input



7.7 Troubleshooting for Video/S-Video input

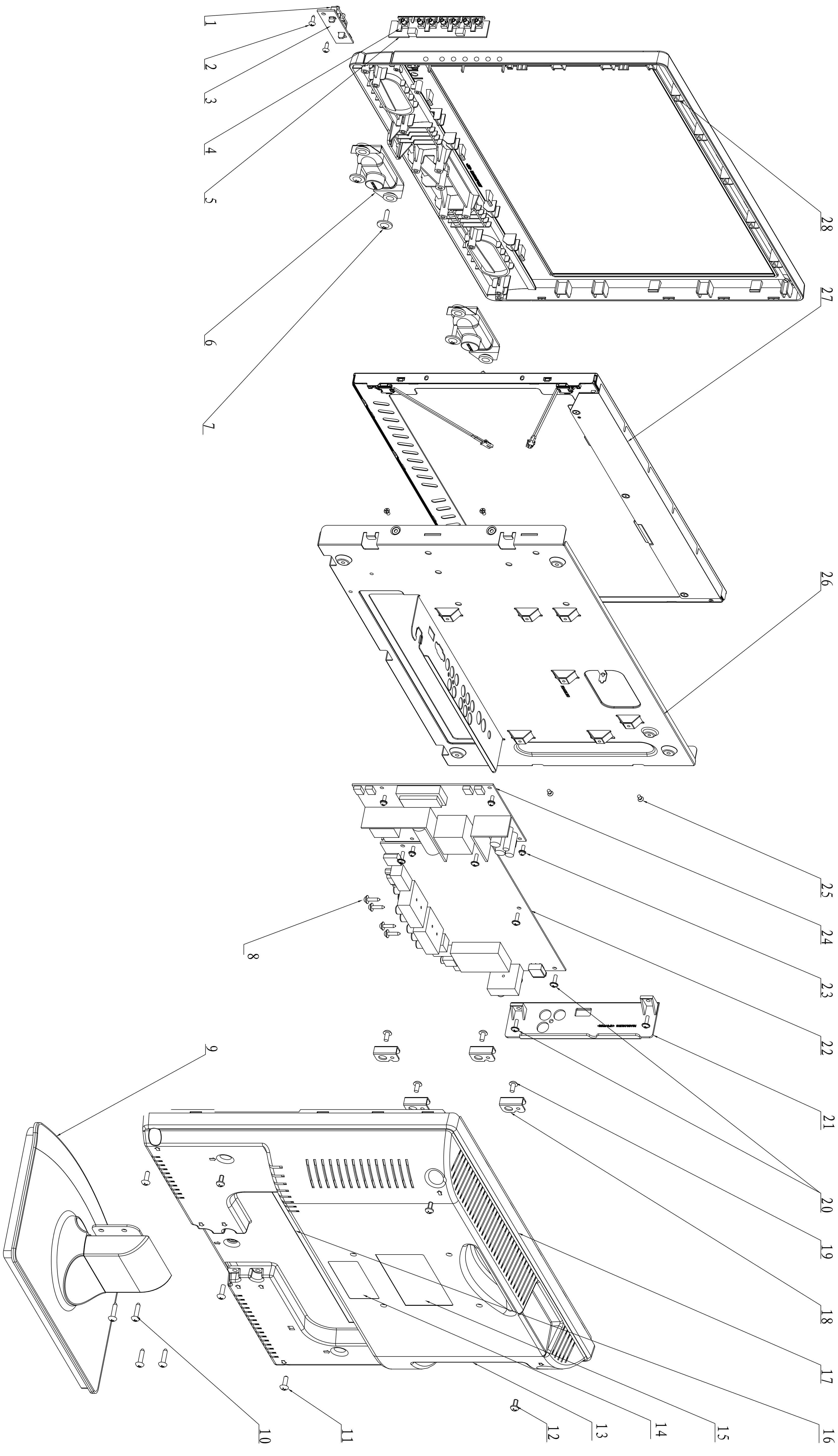


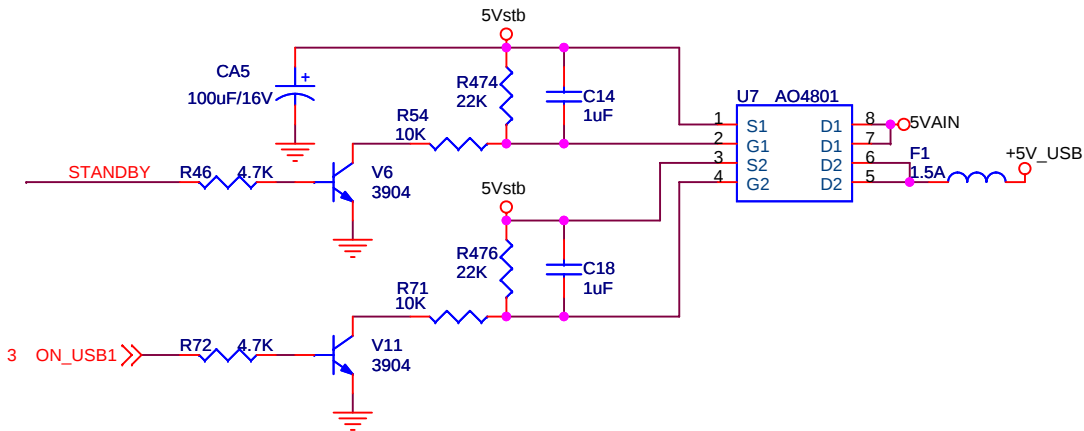
8. Explode View

9. Schematic circuit diagram

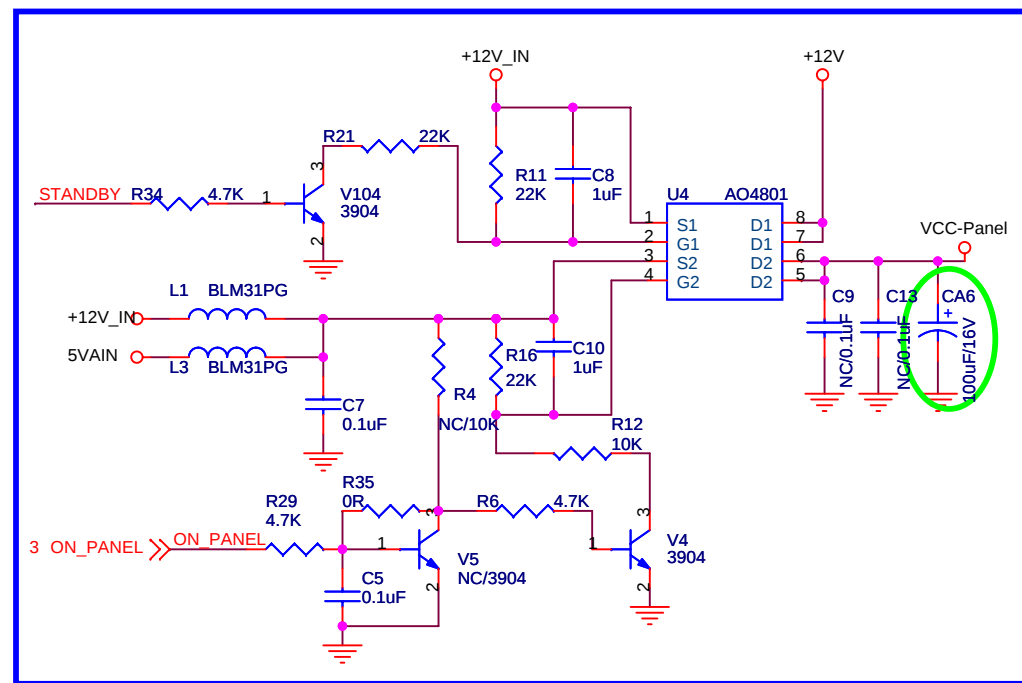
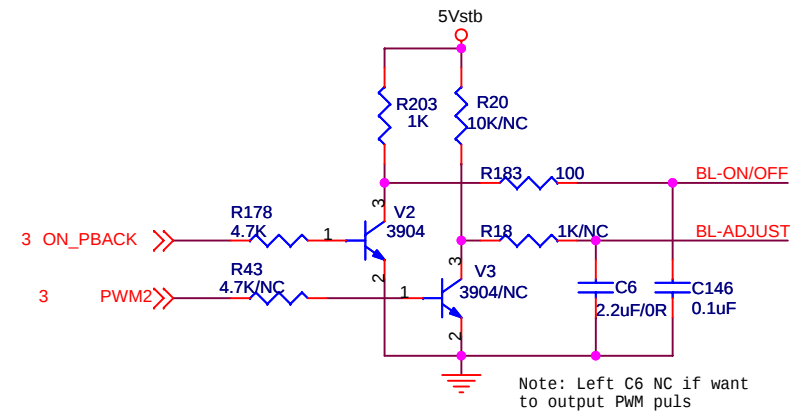
HISENSE LCD19W57ACA PARTS LIST					
No.	Part #	Part Name	Qty.	Code No.	Remark
1	1049322	Light Window	1	RSAG8.640.062	
2	1042501	Screw	2	SJ2824-87 ST3X8C	Zincification
3	114175	IR Board Unit	1	RSAG2.908.1169	
4	1051479	Keyboard	1	RSAG8.335.070	
5	114552	Keypad	1	RSAG2.908.1168-2	
6	1051906	Speaker	2	YDT37E-5W4R-F	
7	1042538	Screw	4	SJ2838-87 ST4X16C.II	Zincification
8	1026852	Screw	5	SJ2825-87 ST3X12C	Black
9	1057324	Stand	1	WG6.121.056	
10	1026924	Screw	4	SJ2824-87 ST4X16C	Black
11	1031851	Screw	3	SJ2824-87 ST4X12F	Black
12	1031750	Screw	4	GB/T818-2000 M4X8	Black
13	1057905	Side Label	1	RSAG8.804.842	Please order them together
14	1046016	Label	1	RSAG8.804.3106	
15	1057771	Rating Label	1	RSAG8.807.4105	
16	1056888	Bottom Label	1	RSAG8.804.3420	
17	1054995	Rear Cover	1	RSAG8.074.625	
18	1053870	Bracket	4	RSAG8.038.1552	
19	1043999	Screw	4	SJ2824-87 ST4X8F	Black
20	1031172	Screw	6	SJ2832-87 ST3X10	
21	1057779	Terminal Bracket	1	RSAG8.081.506	*
22	120130	Main Board	1	RSAG2.908.1544-1	
23	1042512	Screw	4	SJ2836-87 M3X8	Zincification
24	117925	Power Board	1	RSAG2.908.1453	
25	1042524	Screw	4	GB/T 819 M3X6	Zincification
26	1056945	Bracket Unit	1	RSAG6.150.603	*
27	1057991	LCD Panel	1	M185B1-L01	
28	120249	Front Cover	1	RSAG8.074.618	
31	1057774	Remote Control	1	EN-21667A	
32	1048097	Power Cord	1	YS-05-E	
33	1044214	LVDS Cable	1	HX-0146	

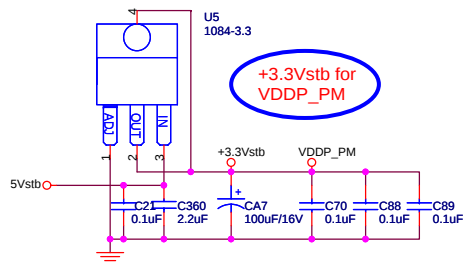
NOTE: * Needn't to be stocked



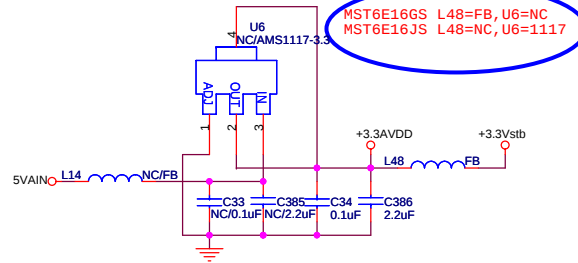


T0 Inverter Board

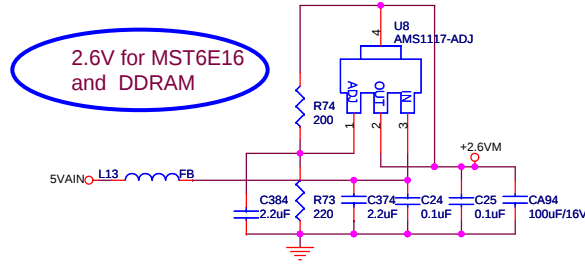




+3.3Vstb for VDDP_PM



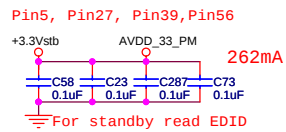
MST6E16GS L48=FB, U6=NC
MST6E16JS L48=NC, U6=1117



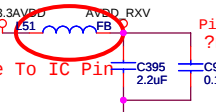
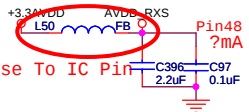
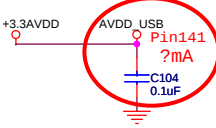
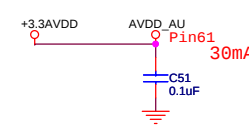
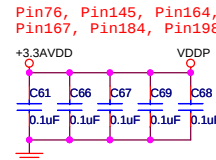
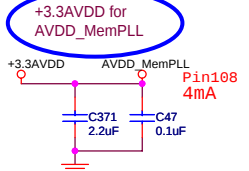
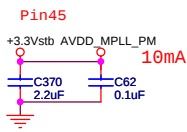
2.6V for MST6E16 and DDRAM

FOR use DDR, +2.6VM must be 2.6V

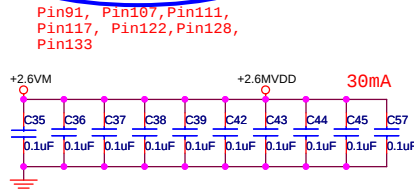
+3.3Vstb for AVDD_33



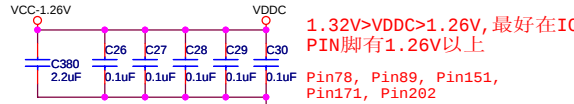
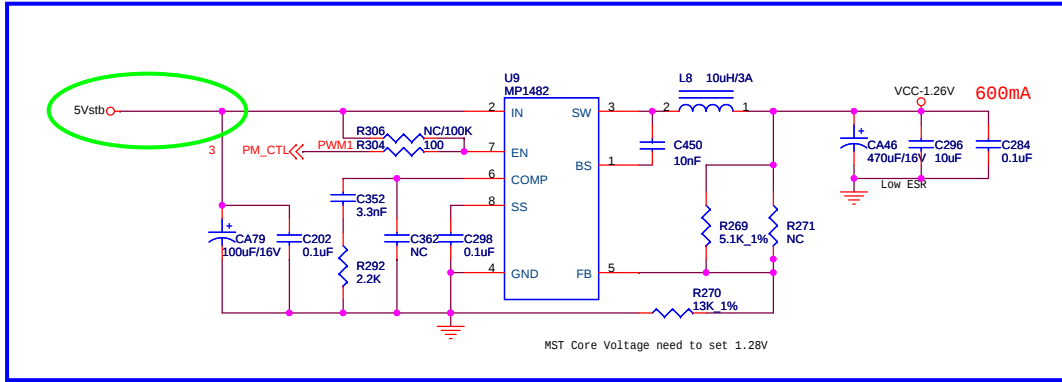
+3.3Vstb for VDD_MPLL



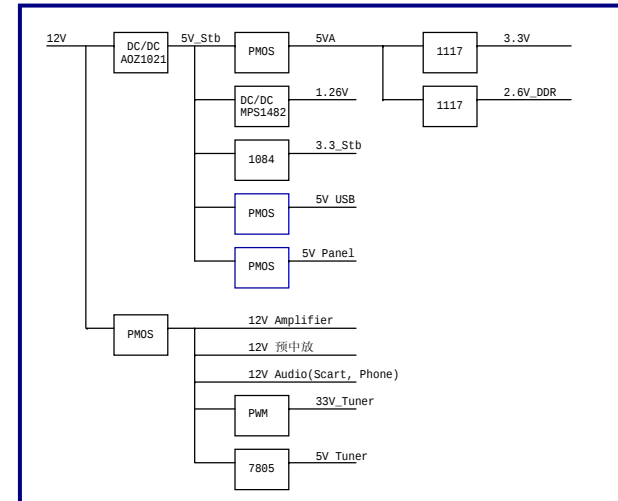
+2.6V for MST6E16

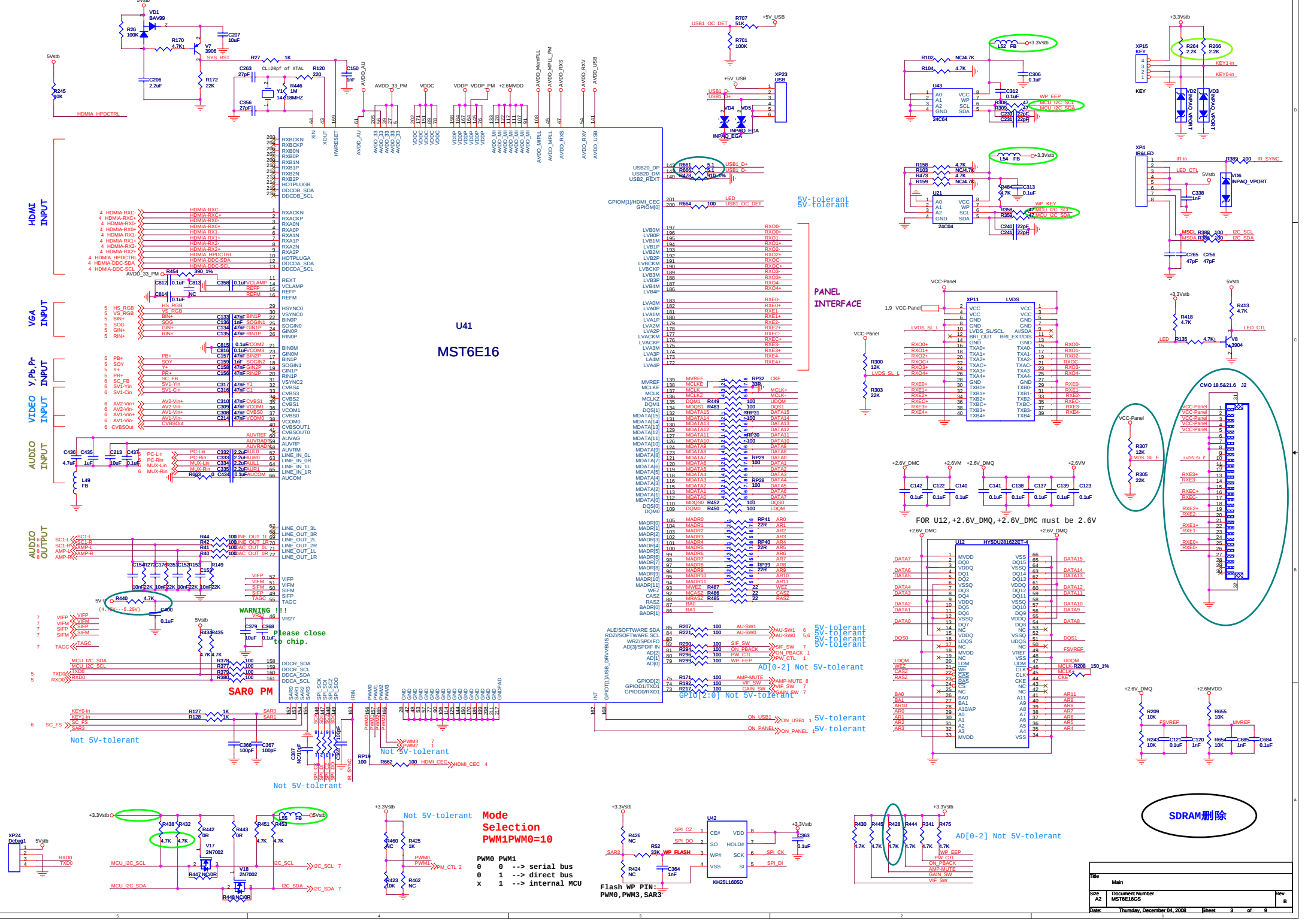


Vcc 1.26V for MST6E16 Core power



注意: L7电流要大, 直流电阻要小, 保证VDDC到MST6E16GS的电压在1.26V





U41
MST6E16

PANEL
INTERFACE

5V-tolerant
5V-tolerant
5V-tolerant

AD[0-2] Not 5V-tolerant

5V-tolerant
5V-tolerant

5V-tolerant
5V-tolerant

5V-tolerant
5V-tolerant

5V-tolerant
5V-tolerant

5V-tolerant
5V-tolerant

5V-tolerant
5V-tolerant

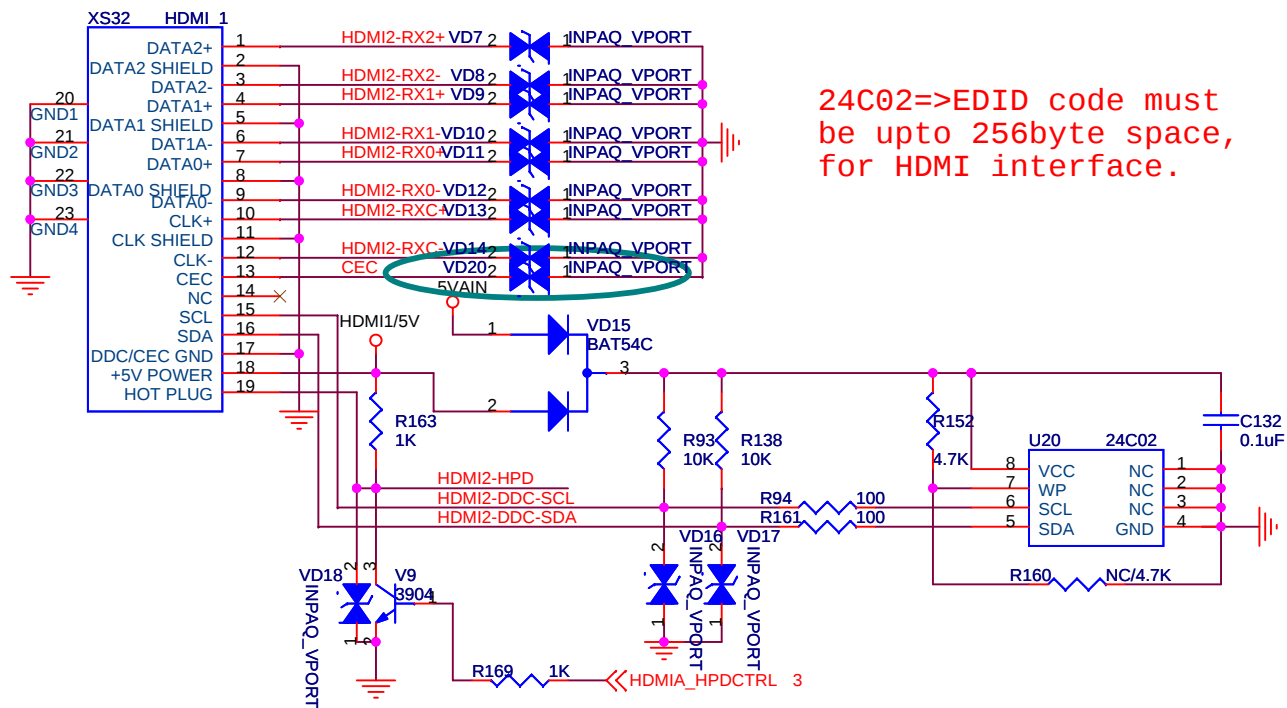
Mode
Selection
PWM1PWM0=10

PWM0 PWM1
0 0 --> serial bus
0 1 --> direct bus
X 1 --> internal MCU

Flash WP PIN:
PWM0, PWM3, SAR3

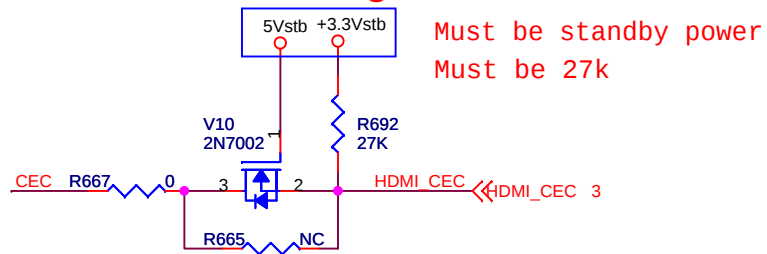
SDRAM删除

File	Main
Size	Document Number
A2	MST6E16G5
Date	Thursday, December 04, 2008
Sheet	3 of 9
Rev	B

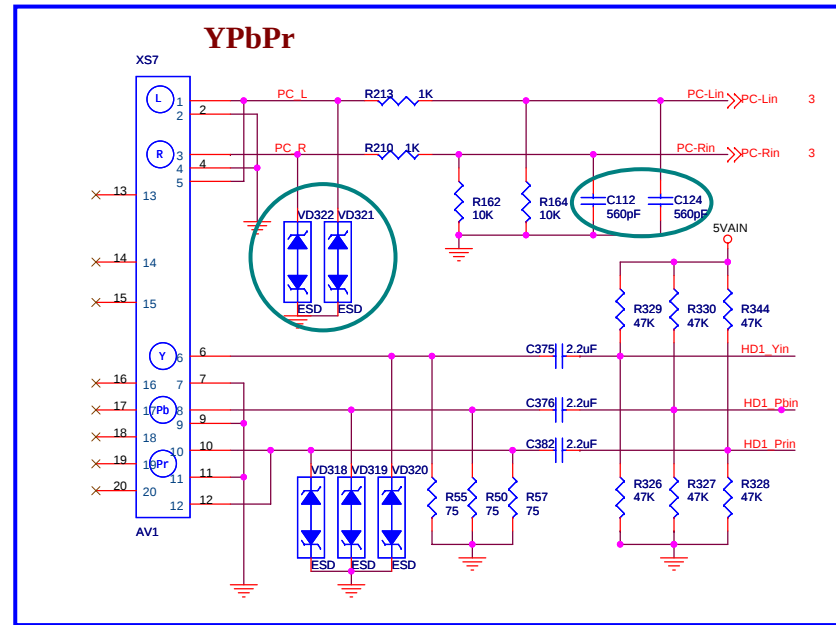
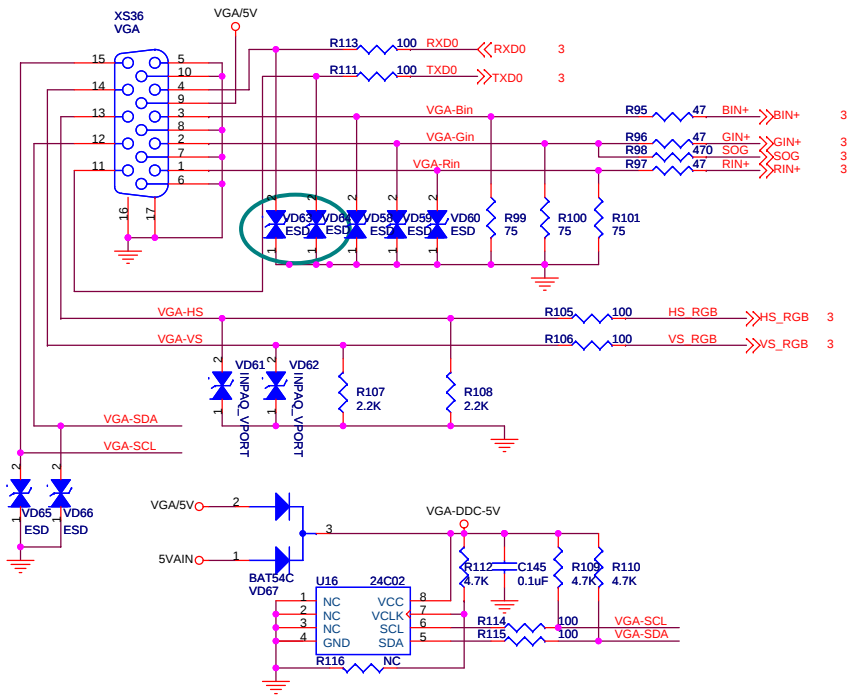


HDMI2-RX2+	R182	10	HDMIA-RX2+	HDMIA-RX2+ 3
HDMI2-RX2-	R184	10	HDMIA-RX2-	HDMIA-RX2- 3
HDMI2-RX1+	R185	10	HDMIA-RX1+	HDMIA-RX1+ 3
HDMI2-RX1-	R190	10	HDMIA-RX1-	HDMIA-RX1- 3
HDMI2-RX0+	R206	10	HDMIA-RX0+	HDMIA-RX0+ 3
HDMI2-RX0-	R173	10	HDMIA-RX0-	HDMIA-RX0- 3
HDMI2-RXC+	R175	10	HDMIA-RXC+	HDMIA-RXC+ 3
HDMI2-RXC-	R176	10	HDMIA-RXC-	HDMIA-RXC- 3
HDMI2-DDC-SCL	R177	100	HDMIA-DDC-SCL	HDMIA-DDC-SCL 3
HDMI2-DDC-SDA	R181	100	HDMIA-DDC-SDA	HDMIA-DDC-SDA 3

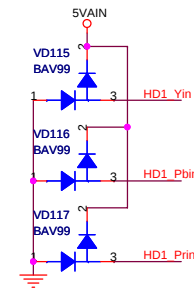
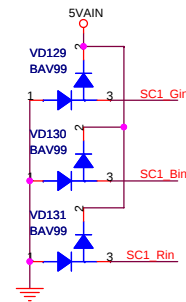
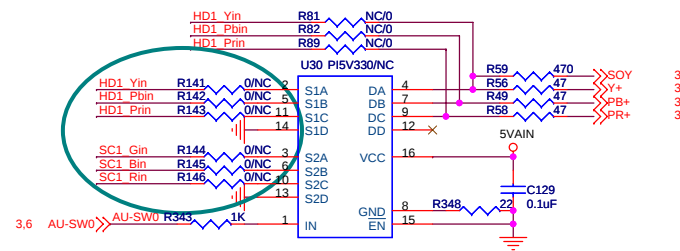
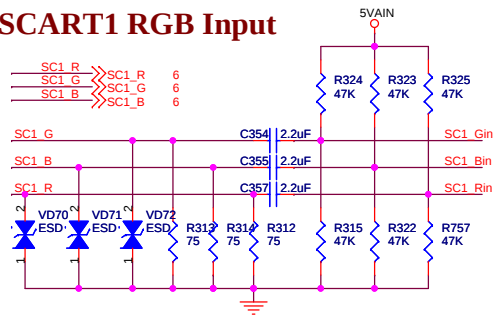
For CEC Leakage Protect



		深圳市高新区南区科技南十路国际技术创新研究院C座4楼 TEL:0755-26996895 FAX:0755-26996830	
		Title: HDMI	
Size: A4	Document Number: MST6E16GS		Rev: B
Date: Friday, November 28, 2008		Sheet: 4	of 9



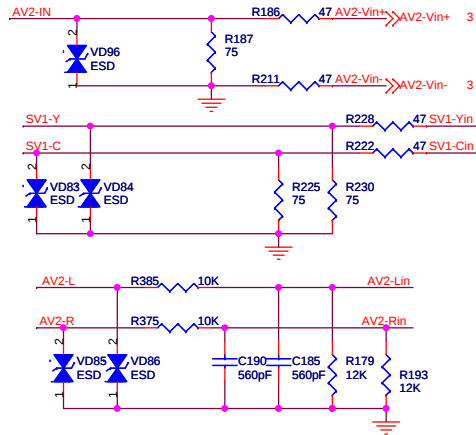
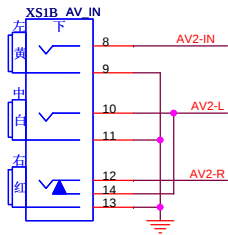
SCART1 RGB Input



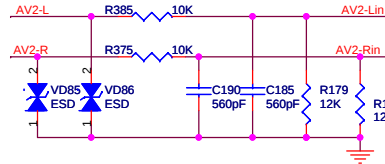
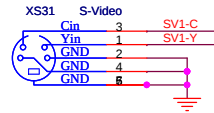
深圳市高新区南区科技南十路国际技术创新研究院C座4楼
TEL:0755-26996895 FAX:0755-26996830

Title		VGA&Component
Size	Document Number	Rev
A3	MST6E16GS	B
Date:	Friday, November 28, 2008	Sheet 5 of 9

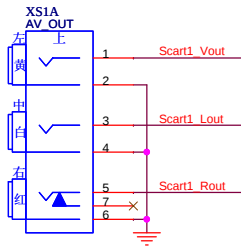
AV2 Input



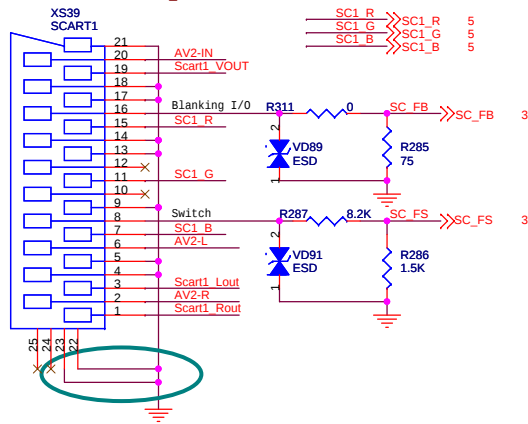
S-Video Input



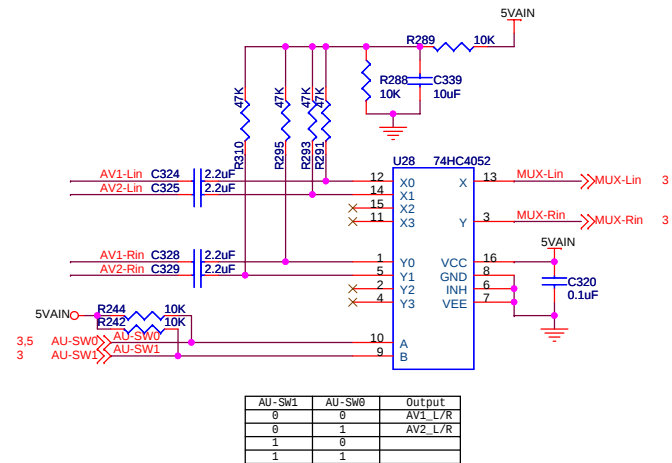
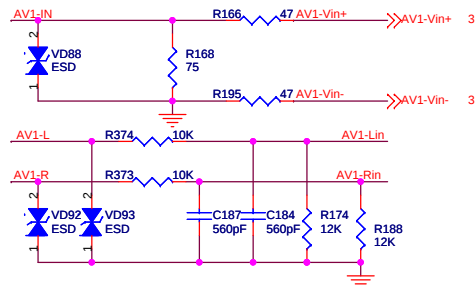
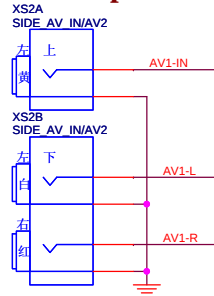
AV Output



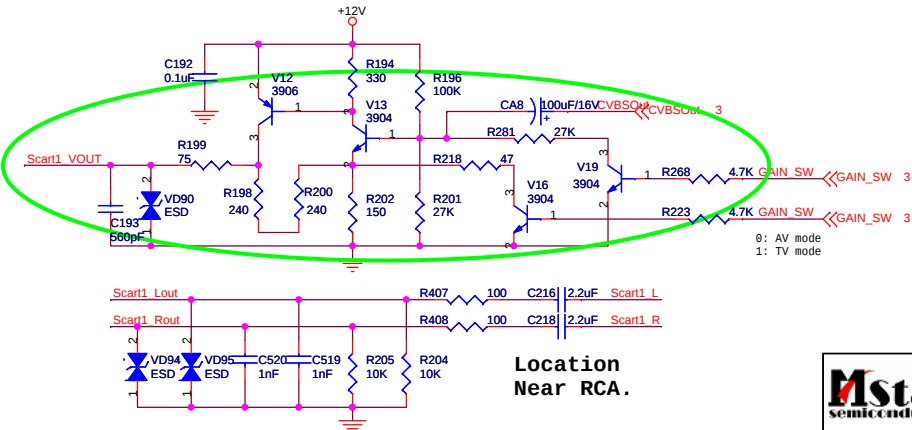
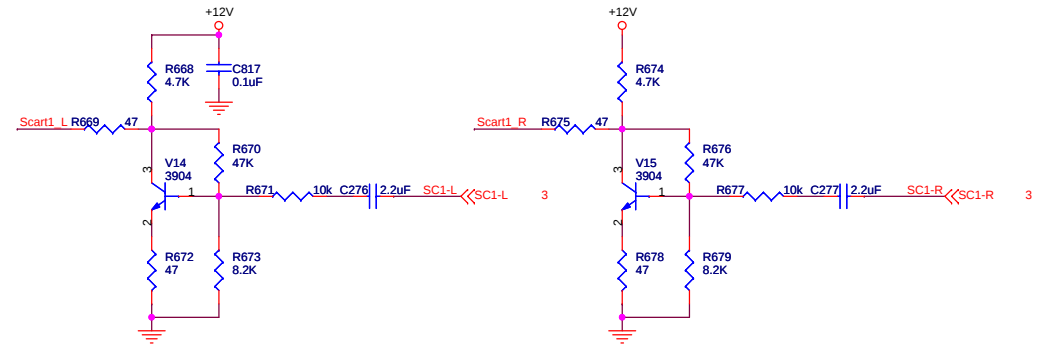
SCART1 Input



AV1 Input



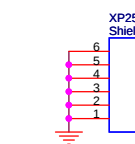
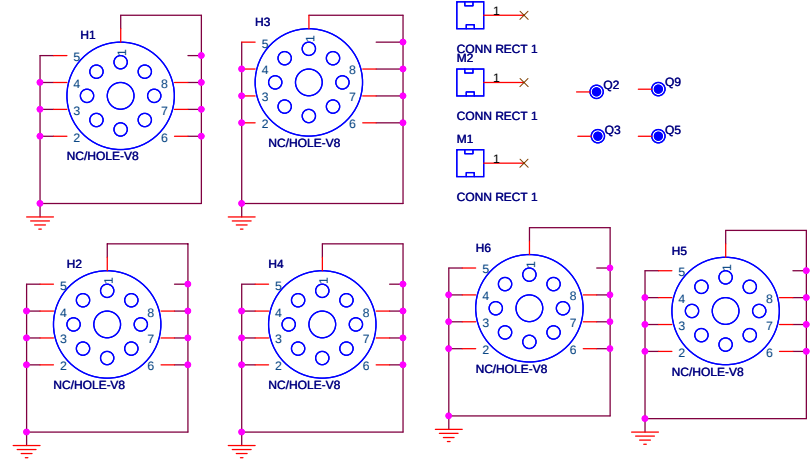
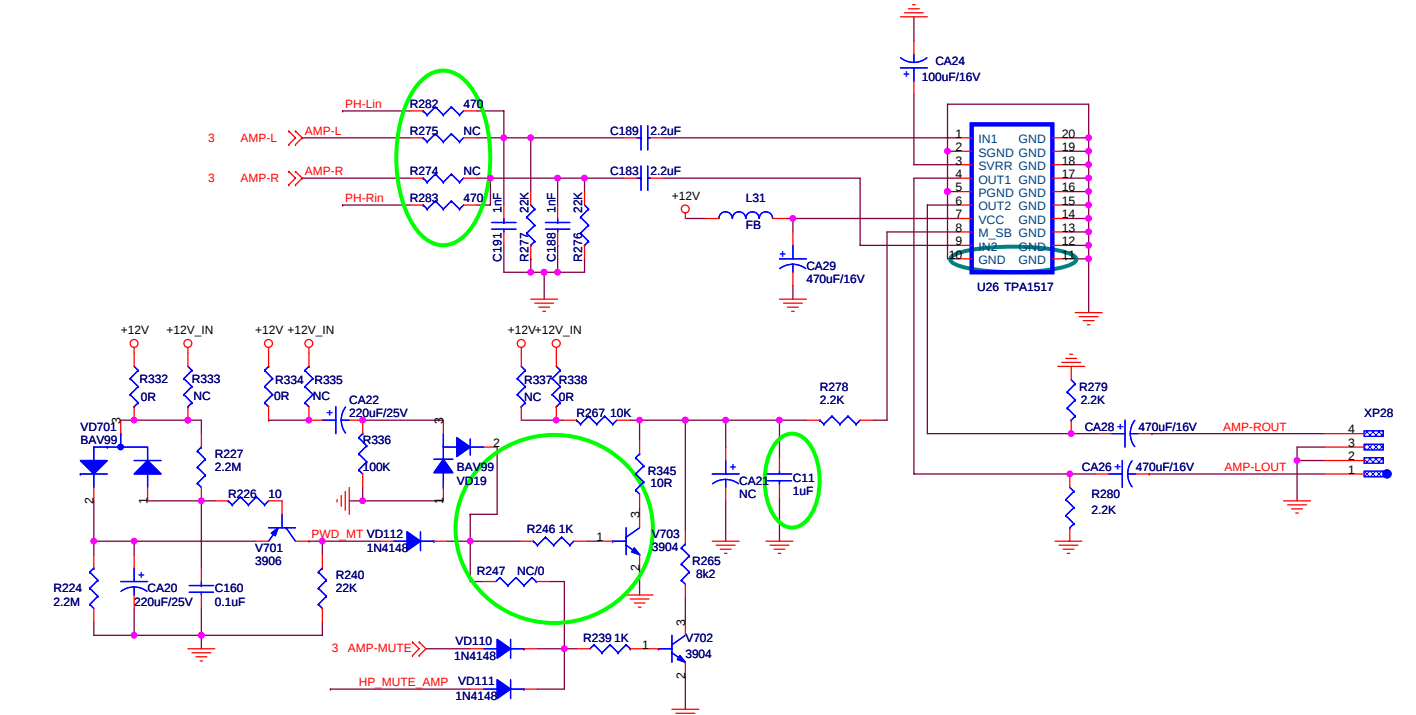
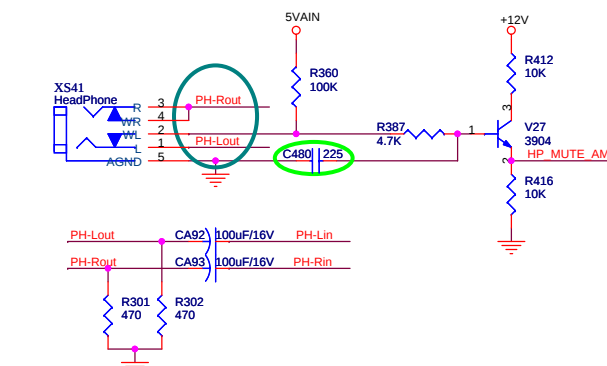
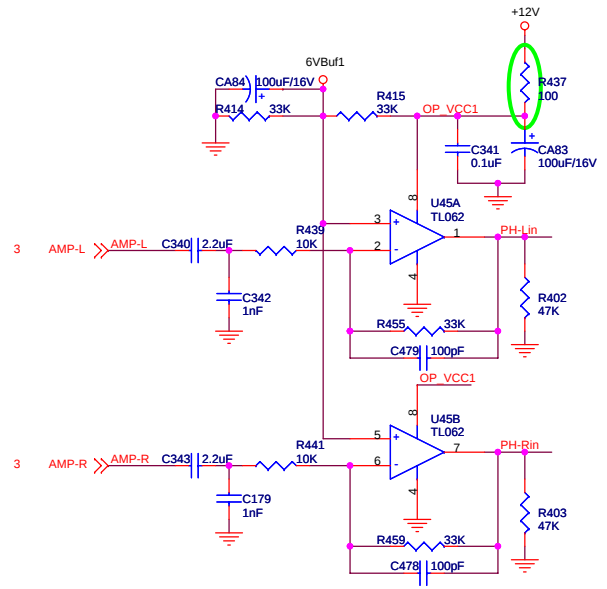
AU-SW1	AU-SW8	Output
0	0	AV1 L/R
0	1	AV2 L/R
1	0	
1	1	



Location
Near RCA.

Mstar semiconductor		深圳市高新区南区科技南十路国际技术创新研究院C座4楼	
TEL:0755-26996895		FAX:0755-26996830	
Title: Video Input			
Size: A3	Document Number: MST6E16GS		Rev: B
Date: Friday, December 05, 2008	Sheet: 6	of: 9	

TPA1517(可兼容TDA1517P,10、11NC即可)



Version A:在LCD22V68HK_ZB_1648_B的基础上更改，参照《更改记录1701VERA.txt》。

Version B:在LCD22W57DEU_ZB_1701_A的基础上更改，参照《更改记录1701VERB.doc》。

Page1

- 1.DCDC U10更改，注意外围元器件footprint&value;
- 2.R203修改参数，调整BL-ADJUST电压;
- 3.C8、C10、C14、C18修改参数;
- 4.C311调整位号为CA6，规范命名;

Page2

- 1.调整电源框图，A0Z1021;
- 2.删除L5;
- 3.R269、R270修改参数，符合SAP;

Page3

- 1.R447、R448调为NC，R432、R438调为4k7，R451、R453删除;
- 2.R264、R266调为0402封装，清除单一物料;
- 3.R300、R303、R305、R307调整参数，CM0 18.5&21.6均为5V屏;
- 4.E2P上拉采用+3.3Vstb（3.3V），删除L53，SCL、SDA相应网络调整，避免7002失效导致系统问题;

Page4、Page5

Page6

- 1.调整AV1、AV2相关描述;
- 2.C307调整位号为CA8，规范命名;
- 3.R198、R200调为0402封装封装，R202调为0805封装，清除单一物料;
- 4.增加C193;

Page7

- 1.R53、R298调为0805封装：功率、清除单一物料;
- 2.R51调为1k;
- 3.删除R320;

Page8

- 1.增加R246、R247、R345、V703;
- 2.R265、R267、R274、R275、R278、R282、R283、R332、R333、R334、R335、R336、R337、R338、R437等调为0402封装;
- 3.C480参数调整，符合SAP;
- 4.增加C11，与CA21可选，CA21 NC;

		深圳市高新区南区科技南十路国际技术创新研究院C座4楼	
		TEL:0755-26996895	FAX:0755-26996830
Title			
Revision			
Size	Document Number		Rev
A4	MST6E16GS		B
Date:	Friday, December 05, 2008		Sheet 9 of 9