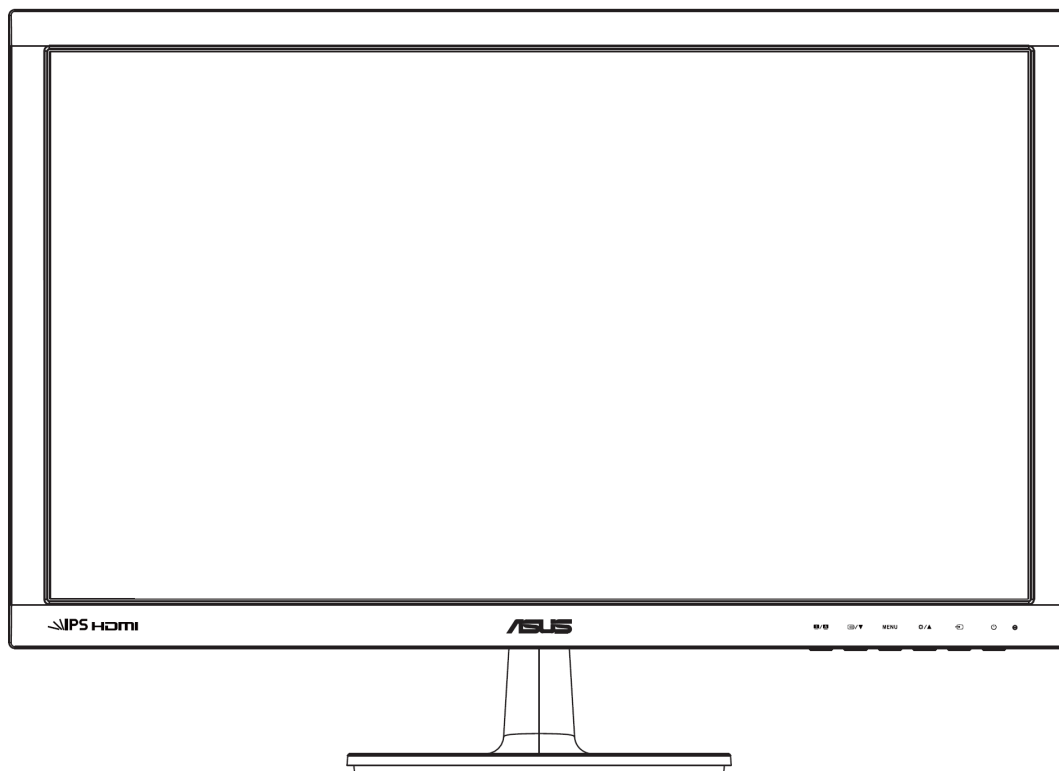


LCD Monitor Service Manual



Model: ASUS VS239H

SPECIFICATIONS AND INFORMATION CONTAINED IN THIS MANUAL ARE FURNISHED FOR INFORMATION USE ONLY, AND ARE SUBJECT TO CHANGE AT ANY TIME WITHOUT NOTICE, AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY ASUS. ASUS ASSUMES NO RESPONSIBILITY OR LIABILITY FOR ANY ERRORS OR INACCURACIES THAT MAY APPEAR IN THIS MANUAL, INCLUDING THE PRODUCT AND SOFTWARE DESCRIBED IN IT.

Index

Revision Lists.....	3
Important Safety Notice.....	4
1. Monitor Specifications	6
2. Operation Instruction.....	8
2.1 General Instructions	8
2.2 Control Button	8
2.3 OSD Menu.....	10
3. Input/Output Specification.....	14
3.1 Input Signal Connector	14
3.2 Power Supply Requirements	15
3.3 Factory Preset Display Modes.....	16
4. Block Diagram.....	17
4.1 Main Board	17
4.2 Power Board.....	18
5. Schematic	19
5.1 Main Board	19
5.2 Power Board.....	25
5.3 Key Board.....	27
6. PCB layout	28
6.1 Main Board	28
6.2 Power Board.....	31
6.3 Key Board.....	32
7. Disassemble & Assemble SOP.....	33
8. ISP Instruction.....	42
9. DDC Instruction.....	52
10. Color/White Balance Adjustment.....	58
11. Trouble Shooting	60
12. Exploded View	64
13. BOM List	66

Revision Lists

[illegible]

Important Safety Notice

Safety information

- Before setting up the monitor, carefully read all the documentation that came with the package.
- To prevent fire or shock hazard, never expose the monitor to rain or moisture.
- Never try to open the monitor cabinet. The dangerous high voltages inside the monitor may result in serious physical injury.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- Slots and openings on the back or top of the cabinet are provided for ventilation. Do not block these slots. Never place this product near or over a radiator or heat source unless proper ventilation is provided.
- The monitor should be operated only from the type of power source indicated on the label. If you are not sure of the type of power supply to your home, consult your dealer or local power company.
- Use the appropriate power plug which complies with your local power standard.
- Do not overload power strips and extension cords. Overloading can result in fire or electric shock.
- Avoid dust, humidity, and temperature extremes. Do not place the monitor in any area where it may become wet. Place the monitor on a stable surface.
- Unplug the unit during a lightning storm or if it will not be used for a long period of time. This will protect the monitor from damage due to power surges.
- Never push objects or spill liquid of any kind into the slots on the monitor cabinet.
- To ensure satisfactory operation, use the monitor only with UL listed computers which have appropriate configured receptacles marked between 100-240V AC.
- If you encounter technical problems with the monitor, contact a qualified service technician or your retailer.

Care & Cleaning

- Before you lift or reposition your monitor, it is better to disconnect the cables and power cord. Follow the correct lifting techniques when positioning the monitor. When lifting or carrying the monitor, grasp the edges of the monitor. Do not lift the display by the stand or the cord.
- Cleaning. Turn your monitor off and unplug the power cord. Clean the monitor surface with a lint-free, non-abrasive cloth. Stubborn stains may be removed with a cloth dampened with mild cleaner.
- Avoid using a cleaner containing alcohol or acetone. Use a cleaner intended for use with the LCD. Never spray cleaner directly on the screen, as it may drip inside the monitor and cause an electric shock.

The following symptoms are normal with the monitor

- The screen may flicker during the initial use due to the nature of the fluorescent light. Turn off the Power Switch and turn it on again to make sure that the flicker disappears.
- You may find slightly uneven brightness on the screen depending on the desktop pattern you use.
- When the same image is display for hours, an afterimage of the previous screen may remain after switching the image. The screen will recover slowly or you can turn off the Power Switch for hours.
- When the screen becomes black or flashes, or cannot work anymore, contact your dealer or service center to fix it. Do not repair the screen by yourself!

Conventions used in this guide



WARNING: Information to prevent injury to yourself when trying to complete a task.



CAUTION: Information to prevent damage to the components when trying to complete a task.



IMPORTANT: Information that you **MUST** follow to complete a task.



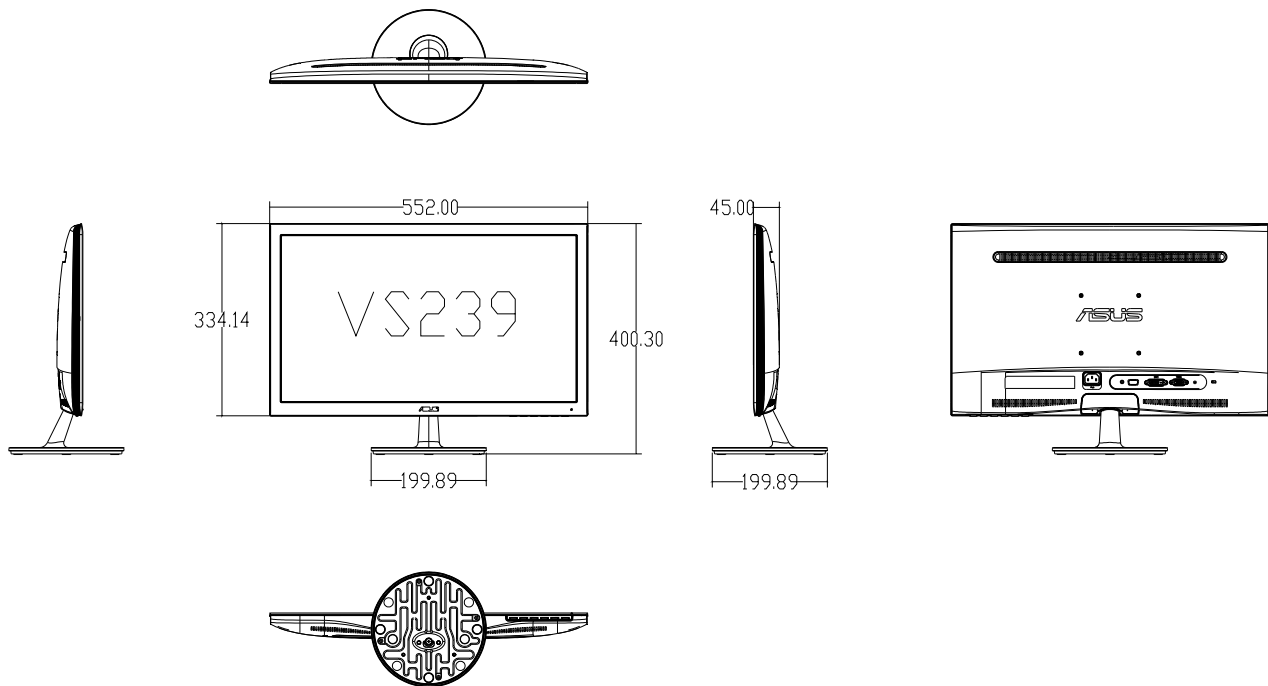
NOTE: Tips and additional information to aid in completing a task.

1. Monitor Specifications

Model		VS239H
Panel Size		23"W (58.4 cm)
Max. Resolution		1920 x 1080 (FHD)
Backlight Tech.		LED Backlight Technology
Brightness (Typ.)		250cd/m ²
Intrinsic Contrast Ratio (Typ.)		1000:1
Viewing Angle (CR=10)		≧ 178°(H) / ≧ 178°(V)
Display Colors		16.7M
Response Time		14ms
Earphone Output		Yes
Sound from HDMI		Yes
HDMI input (HDMI 1.3)		Yes
DVI Input		Yes
D-Sub Input		Yes
Power ON Consumption		Compliant with Energy Star 5.0
Power Saving Mode		< 1W
Power OFF Mode		< 1W
Tilt		-5° ~ +20°
VESA Wall Mounting		Yes (100mm x 100mm)
Phys. Dimension (WxHxD)		552 x 400 x 200 mm
Box Dimension (WxHxD)		608 x 460 x 130 mm
Net Weight (Esti.)		3.5 kg
Gross Weight (Esti.)		5.9 kg
Voltage Rating		AC 100~240V(Built-in)
Temperature	Operating	0°C - +35°C
	Storage	-20°C - +60°C
Humidity	Operating	10% - 80%
	Storage	5% - 90%
Altitude	Operating	12,000 feet (3,658m)
	Storage	40,000 feet (12,192m)

Dimension of Monitor

Dimension	VS239H
with stand	552.00(W)x 400.30(H) x 199.89(D) (mm)
without stand	552.00(W)x 334.14(H) x 45.00(D) (mm)



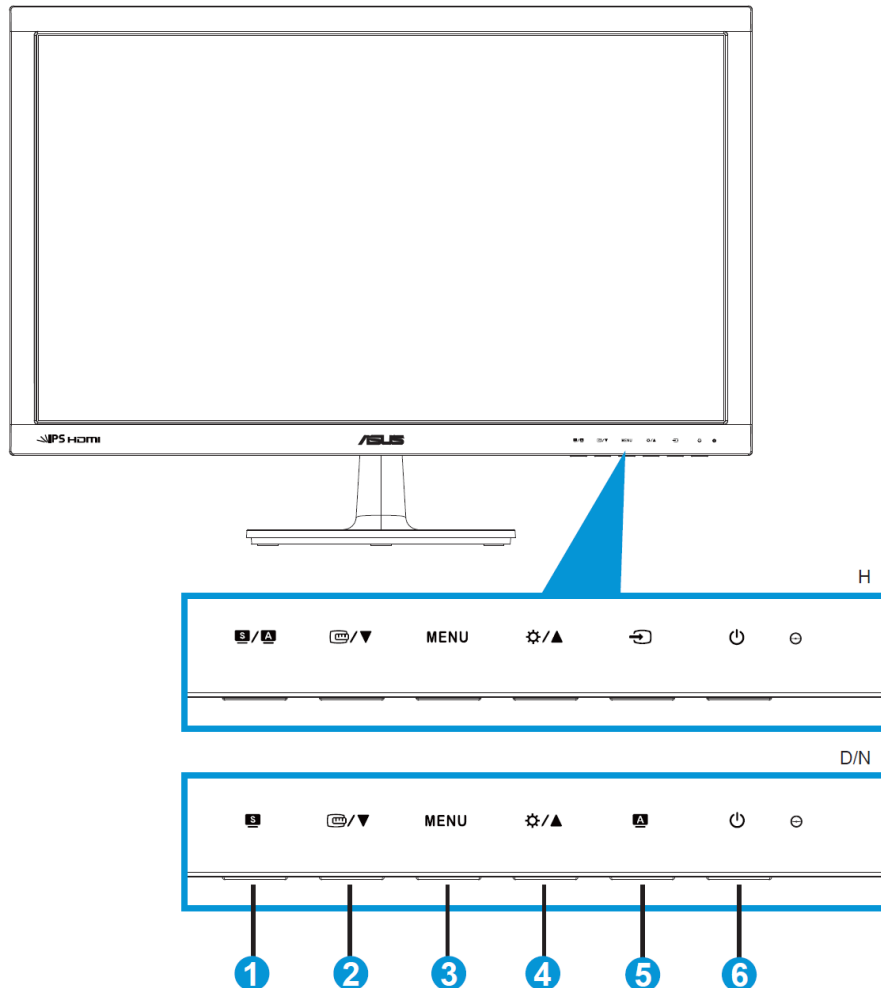
2. Operation Instruction

2.1 General Instructions

Press the power button to turn the monitor on or off. The other control buttons are located at the front of the panel of the monitor.

2.2 Control Button

Front View



1. **S/A** Button:

- Automatically adjust the image to its optimized position, clock and phase by long pressing this button for 2-4 seconds (for VGA mode only).
- Use this hotkey to switch among six video preset modes (Scenery, Standard, Theater, Game, Night View, and sRGB Mode) with SPLENDID™ Video Enhancement Technology.
- Exit the OSD menu or go back to the previous menu as the OSD menu is active.

2. **Q/▼** Button:

- Press this button to decrease the value of the function selected or move to the next function.
- This is a hotkey to activate the QuickFit function designed for alignment.
- The QuickFit function contains 7 pages of common grid patterns, paper sizes, and photo sizes. (Please refer to QuickFit Function).

3. MENU Button:

- Press this button to enter the OSD menu.
- Press this button to enter/select the icon (function) highlighted while the OSD is activated.

4. Button:

- Press this button to increase the value of the function selected or move right/up to the next function.
- This is also a hotkey for Brightness adjustment.

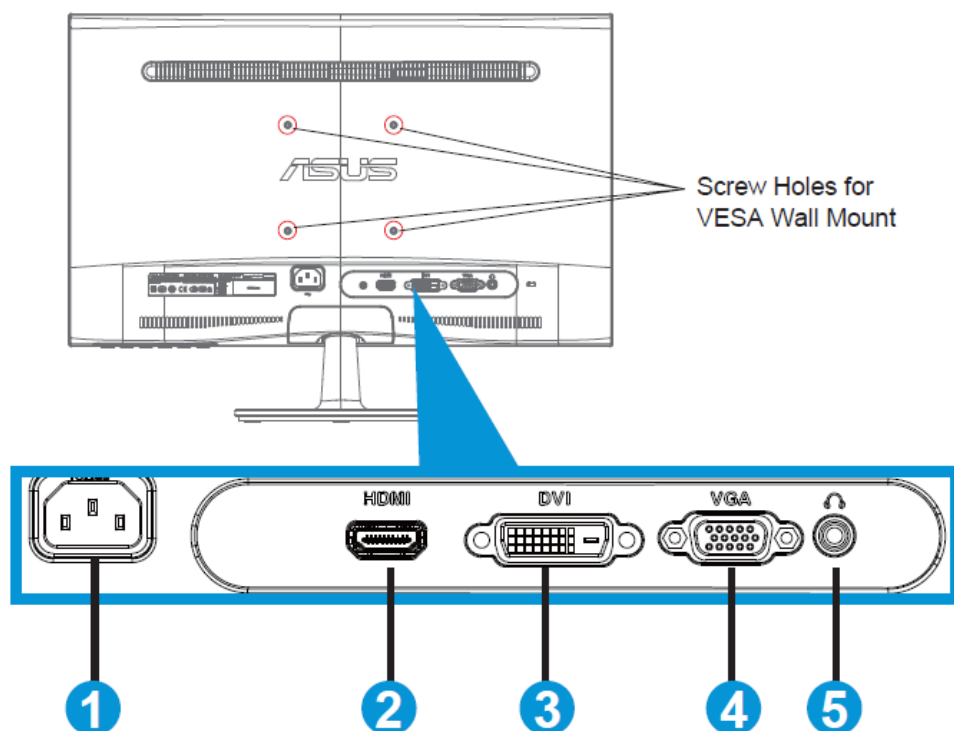
5. Input Select Button

- This button is available for model VS229H/VS239H only.
- Use this hotkey to switch among VGA, DVI, or HDMI inputs.

6. Power button/ Power Indicator

- Press this button to turn the monitor on/off.
- The color definition of the power indicator is as the table below.

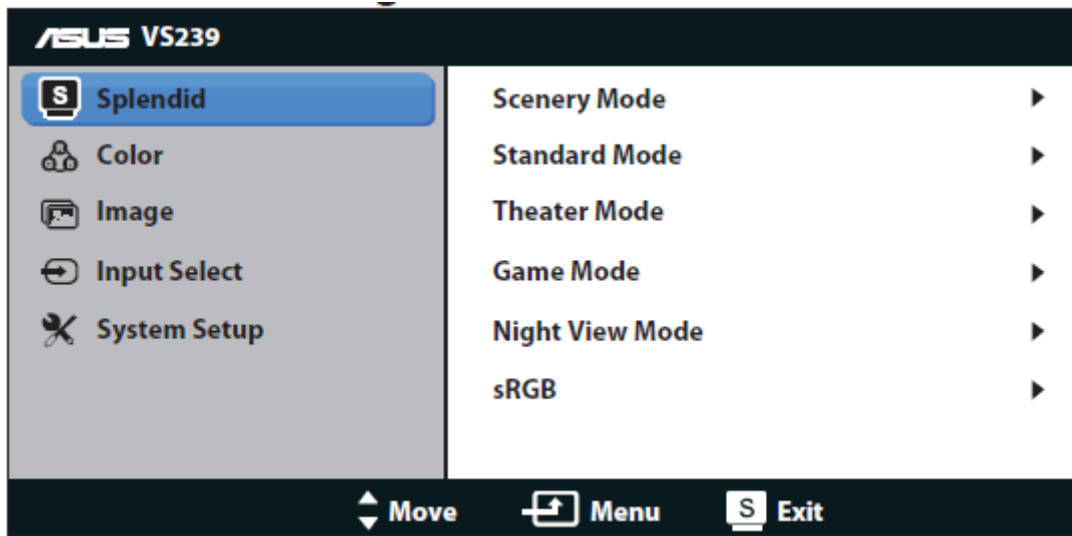
Status	Description
Blue	ON
Amber	Standby mode
OFF	OFF

Rear View

1. AC-In
2. HDMI-In (Available for model VS229H, VS239H only)
3. DVI-In (Available for model VS229N/H, VS239N/H only)
4. VGA-In
5. Earphone-Out (Available for model VS229H, VS239H only)

2.3 OSD Menu

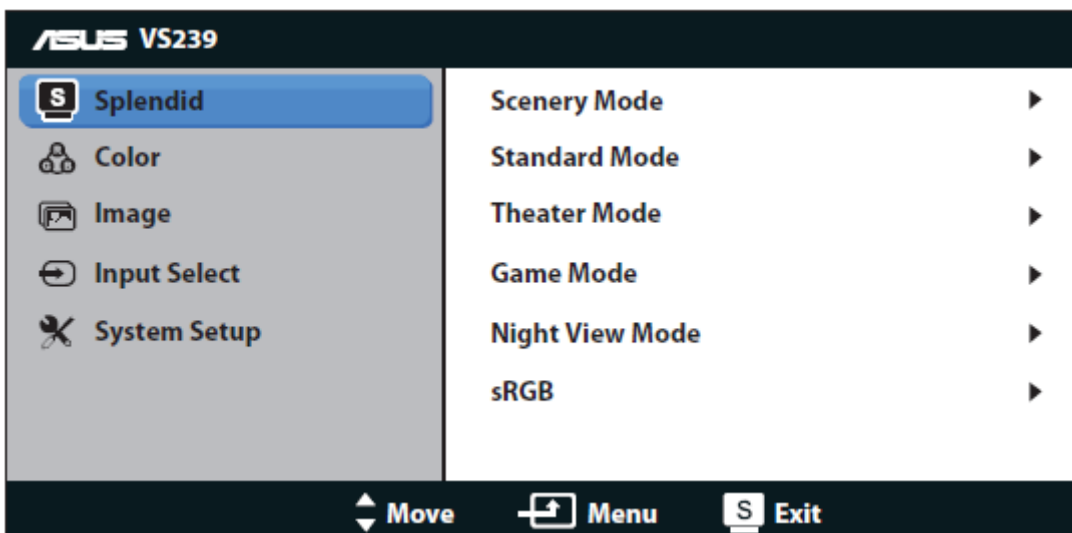
2.3.1 How to reconfigure



1. Press the [MENU] button to activate the OSD menu.
2. Press ▼ and ▲ to navigate through the functions. Highlight and activate the desired function by pressing the [MENU] button. If the function selected has a sub-menu, press ▼ and ▲ again to navigate through the sub-menu functions. Highlight and activate the desired sub-menu function by pressing the [MENU] button.
3. Press ▼ and ▲ to change the settings of the selected function.
4. To exit the OSD menu, press the button. Repeat step 2 and step 3 to adjust any other function.

2.3.2 OSD Function Introduction

1. Splendid



This function contains six sub-functions that you can select for your preference. Each mode has the Reset selection, allowing you to maintain your setting or return to the preset mode.

- **Scenery Mode:** This is the best choice for scenery photo displaying with SPLENDID™ Video Enhancement.
- **Standard Mode:** This is the best choice for document editing with SPLENDID™ Video Enhancement.
- **Theater Mode:** This is the best choice for movie watching with SPLENDID™ Video Enhancement.
- **Game Mode:** This is the best choice for game playing with SPLENDID™ Video Enhancement.

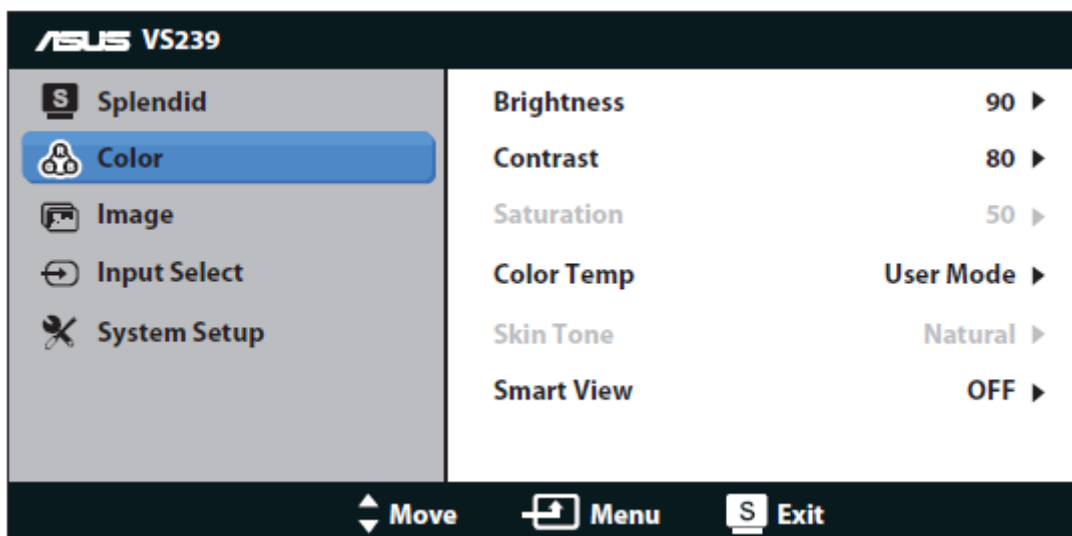
- **Night View Mode:** This is the best choice for playing dark-scene game or watching dark-scene movie with SPLENDID™ Video Enhancement.
- **sRGB:** This is the best choice for viewing photos and graphics from PCs.



In the **Standard Mode**, the **Saturation**, **Skin Tone**, **Sharpness**, and **ASCR** functions are not user-configurable.

In the **sRGB**, the **Brightness**, **Contrast**, **Saturation**, **Color Temp.**, **Skin Tone**, **Sharpness**, and **ASCR** functions are not user-configurable.

2. Color



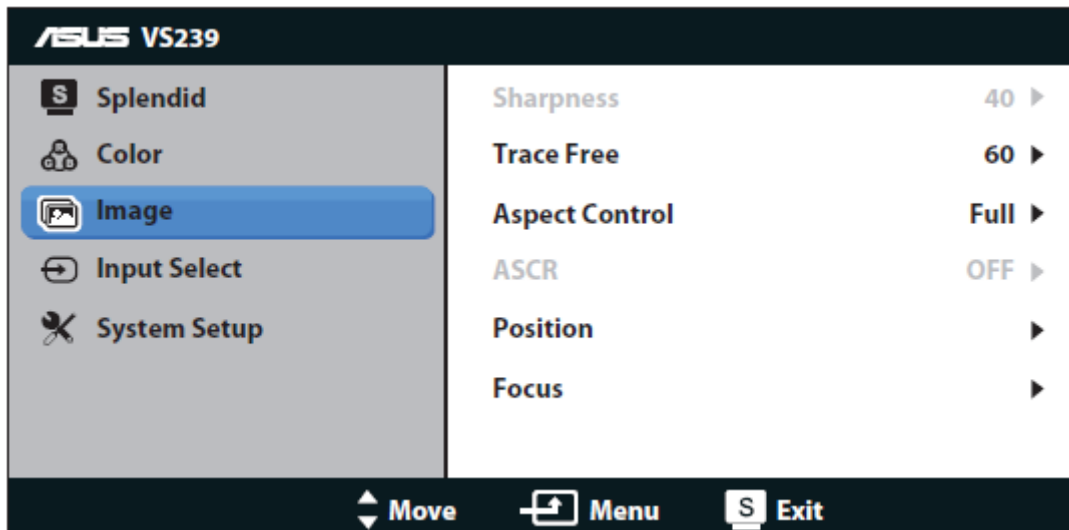
Select the image color you like from this function.

- **Brightness:** The adjusting range is from 0 to 100. The  button is also a hotkey to activate this function.
- **Contrast:** The adjusting range is from 0 to 100.
- **Saturation:** The adjusting range is from 0 to 100.
- **Color Temp.:** Contain three preset color modes (Cool, Normal, Warm) and one User Mode.
- **Skin Tone:** Contain three color modes including Reddish, Natural, and Yellowish.
- **Smart view:** Enable a clearer visibility after tilted the screen.



In the User mode, colors of R (Red), G (Green), and B (Blue) are user configurable; the adjusting range is from 0~100.

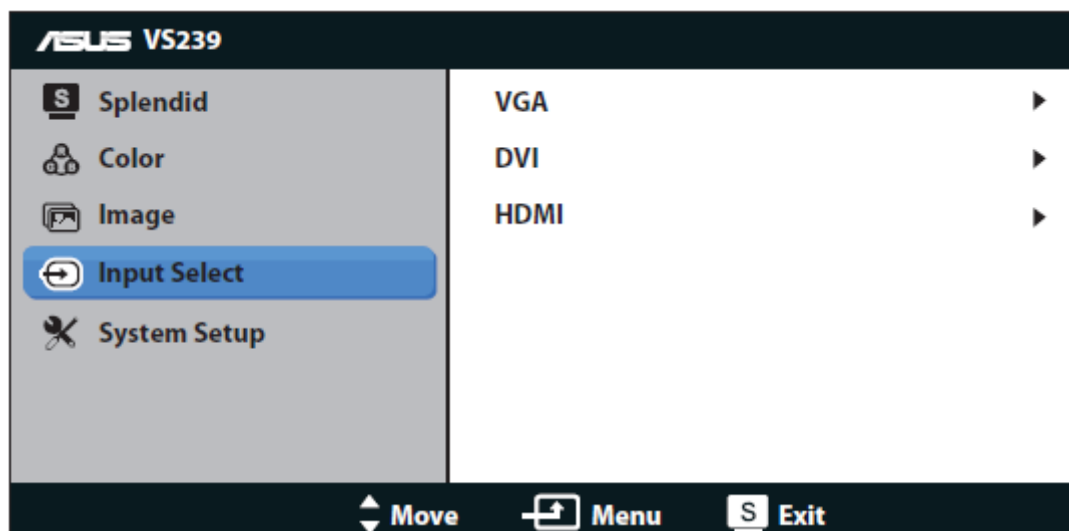
3. Image



You can adjust the image Sharpness, Aspect Control, Position (VGA only), and Focus (VGA only) from this main function.

- **Sharpness:** Adjust the picture sharpness. The adjusting range is from 0 to 100. (Only available for selecting “Standard Mode” in Splendid menu)
- **Trace Free:** Speeds up the response time by Over Drive technology. The adjusting range is from lower 0 to faster 100. (Available for model VS229H-P, VS239H-P only).
- **Aspect Control:** Adjust the aspect ratio to “Full”, “4:3”, or “Over Scan”. (The “Over Scan” ratio is only available for HDMI input.).
- **ASCR:** Select ON or OFF to enable or disable dynamic contrast ratio function. (ASCR: ASUS Smart Contrast Ratio. Disabled at “Standard Mode”).
- **Position:** Adjust the horizontal position (H-Position) and the vertical position (V-Position) of the image. The adjusting range is from 0 to 100. (Only available for VGA input)
- **Focus:** Reduces Horizontal-line noise and Vertical-line noise of the image by adjusting (Phase) and (Clock) separately. The adjusting range is from 0 to 100. (Only available for VGA input)

4. Input Select

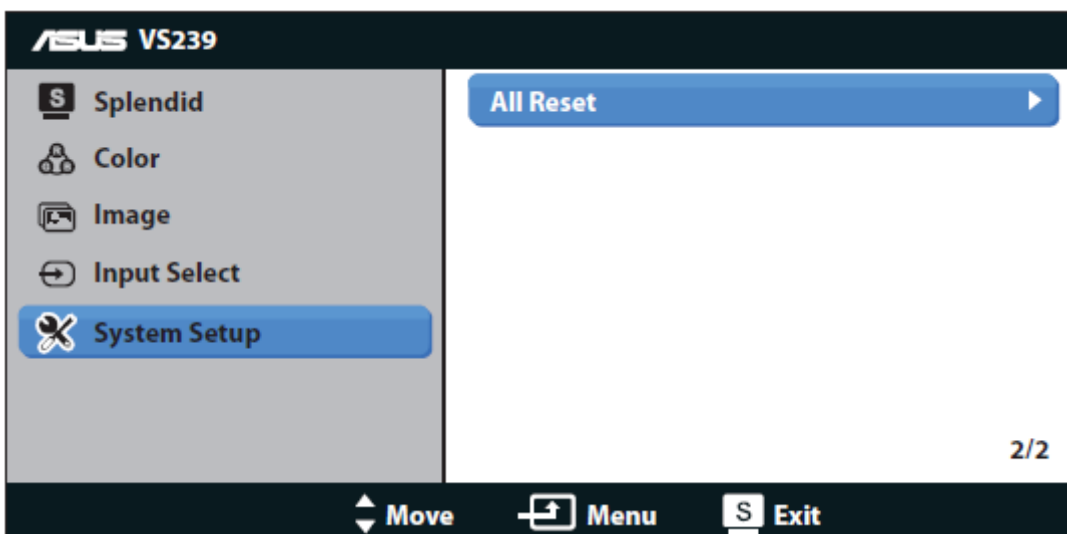
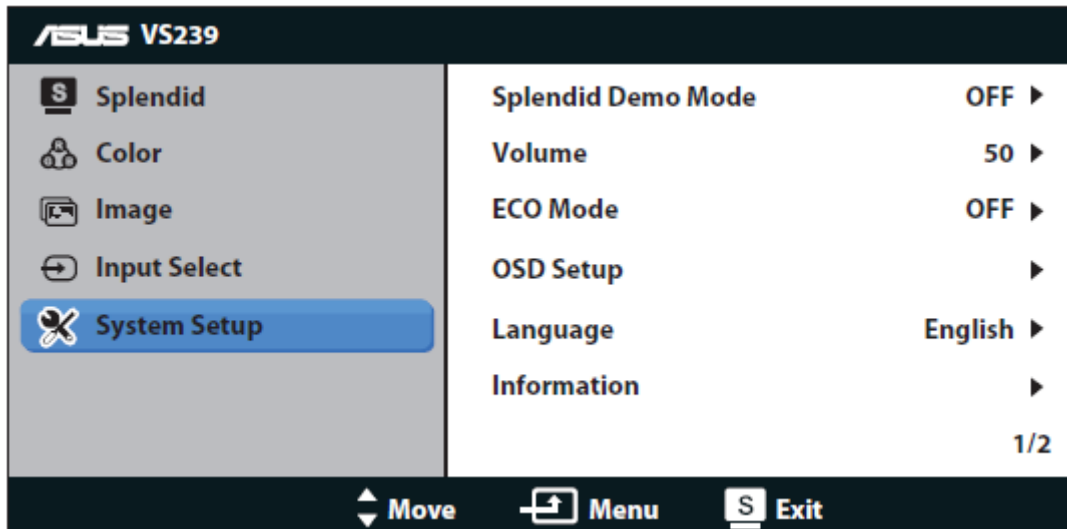


Select the input source from **VGA**, **DVI**, or **HDMI**.

- **DVI**: Available for model VS229N/H, VS239N/H only.
- **HDMI**: Available for model VS229H, VS239H only.

5. System Setup

Adjusts the system configuration.

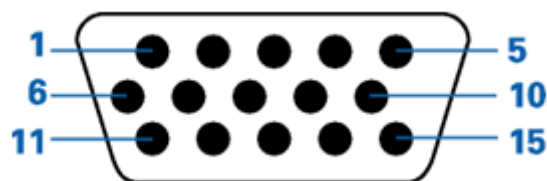


- **Splendid Demo Mode**: Activate the demo mode for the Splendid function.
- **Volume**: Adjust the earphone output volume level. The adjusting range is from 0 to 100.(Available for model VS229H, VS239H only.)
- **ECO Mode**: Activate the ecology mode for power saving. (Some gray levels may not be distinguished if ECO is ON. Its brightness is lower than that when setting the Contrast Ratio to 100.)
- **OSD Setup**: Adjust the horizontal position (H-Position), vertical position (V-Position), OSD Timeout, DDD/CI, and Transparency of the OSD screen.
- **Language**: Select OSD language. The selections are English, French, German, Spanish, Italian, Dutch, Russian, Traditional Chinese, Simplified Chinese, and Japanese.
- **Information**: Display the monitor information of Input Port, Resolution, H-freq., V-freq., and Model Name.
- **All Reset**: Set to "Yes" to revert all settings to the factory default status.

3. Input/Output Specification

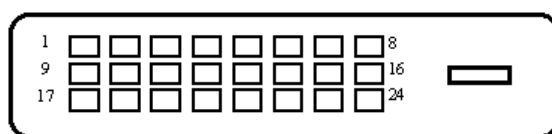
3.1 Input Signal Connector

VGA connector



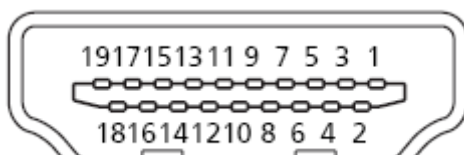
1	Red Video	8	Blue Ground
2	Green Video	9	+5V Supply
3	Blue Video	10	Logic Ground
4	Monitor Ground	11	Monitor Ground
5	DDC-Return	12	DDC-Serial Data
6	Red Ground	13	H-Sync.
7	Green Ground	14	V-Sync.
		15	DDC-Serial Clock

DVI connector



Pin	Signal	Pin	Signal	Pin	Signal
1	RX2-	9	R X1-	17	RX0-
2	RX2+	10	RX1+	18	RX0+
3	RX2 Shield	11	RX1 Shield	19	RX0 Shield
4	NC	12	NC	20	NC
5	NC	13	NC	21	NC
6	DDC Clock	14	+5V Power	22	RX Clock Shield
7	DDC Data	15	Ground	23	RX Clock+
8	NC	16	Hot Plug Detection	24	RX Clock-

HDMI connector



1	TMDS Data2+	11	TMDS Clock Shield
2	TMDS Data2 Shield	12	TMDS Clock
3	TMDS Data2-	13	CEC
4	TMDS Data1+	14	Reserved(N.C. on device)
5	TMDS Data1 Shield	15	SCL
6	TMDS Data1-	16	SDA
7	TMDS Data0+	17	DDC/CEC Ground
8	TMDS Data0 Shield	18	+5V
9	TMDS Data0-	19	Hot Plug Detect
10	TMDS Clock+		

3.2 Power Supply Requirements

A/C Line voltage range	100 V ~ 240 V
A/C Line frequency range	50 ± 3Hz, 60 ± 3Hz
Input Voltage transients	90-264 voltage AC for 10 sec @40℃
Current	1.5A max at 100V; 0.8A max at 240 V
Peak surge current	< 60A peak at 240 VAC and cold starting < 30A peak at 100VAC and cold starting
Leakage current	< 3.5mA
Power line surge	No advance effects (no loss of information or defect) with a maximum of 1 half-wave missing per second

3.3 Factory Preset Display Modes

VESA / IBM Modes Support Timing (D-SUB, DVI-D, HDMI inputs)

Resolution	Refresh Rate	Horizontal Frequency
640 x 350	70Hz	31.469KHz
640 x 480	60Hz	31.469KHz
640 x 480	67Hz	35KHz
640 x 480	75Hz	37.5KHz
720 x 400	70Hz	31.469KHz
800 x 600	56Hz	35.156KHz
800 x 600	60Hz	37.879KHz
800 x 600	72Hz	48.077KHz
800 x 600	75Hz	46.875KHz
848 x 480	60Hz	31.02KHz
1024 x 768	60Hz	48.363KHz
1024 x 768	70Hz	56.476KHz
1024 x 768	75Hz	60.023KHz
1152 x 864	75Hz	67.5KHz
1280 x 720	60Hz	44.772KHz
1280 x 800	60Hz	49.702KHz
1280 x 960	60Hz	60KHz
1280 x 1024	60Hz	63.981KHz
1280 x 1024	75Hz	79.976KHz
1366 x 768	60Hz	47.712KHz
1440 x 900	60Hz	55.935KHz
1680 x 1050	60Hz	65.29KHz
1680 x 1050	60Hz	64.674KHz
1920 x 1080	60Hz	67.5KHz
1920 x 1080	60Hz	66.587KHz

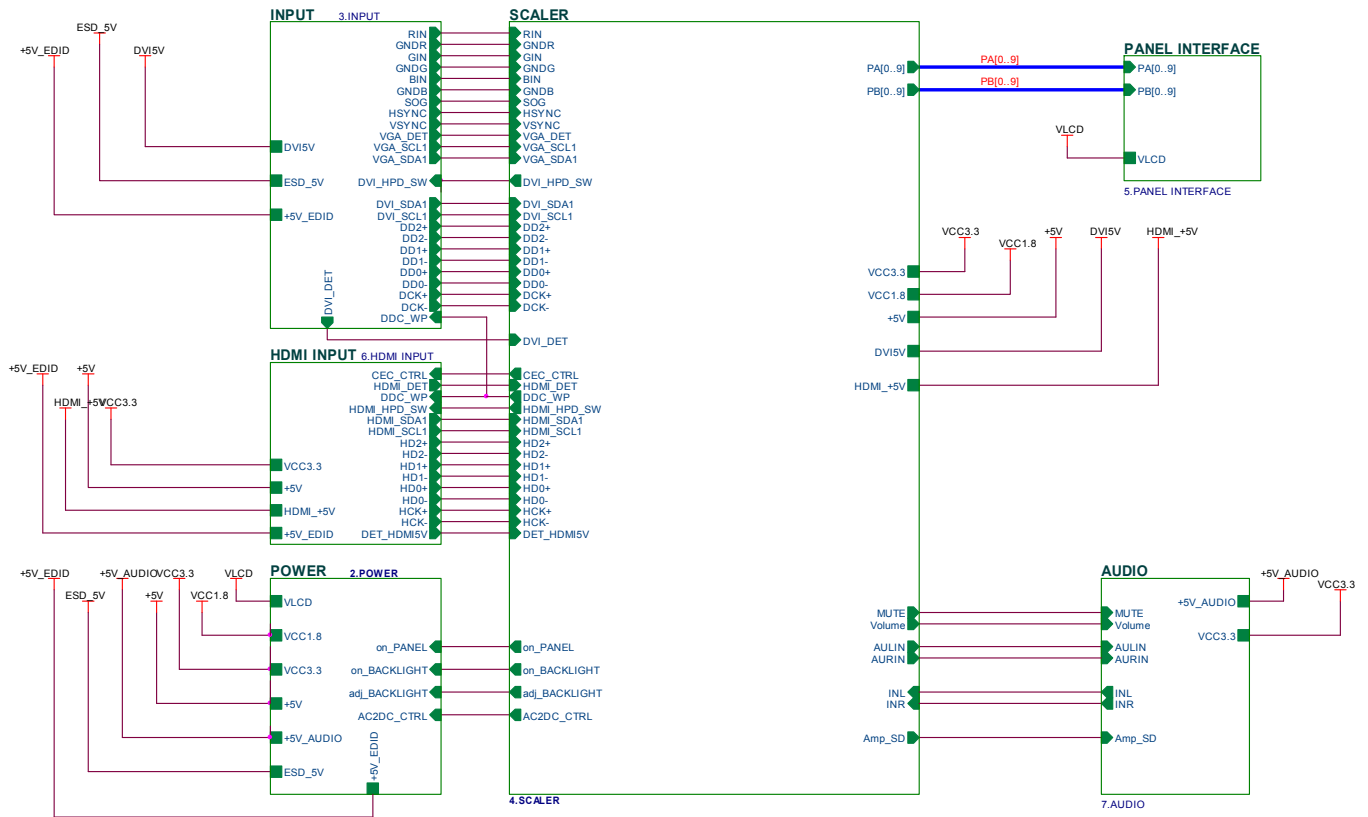
HDMI 1.3 CEA-861 Formats Supported Timing (for HDMI input)

Resolution	Refresh Rate	Horizontal Frequency
640 x 480P	59.94 / 60Hz	31.469 / 31.5KHz
720 x 480P	59.94 / 60Hz	31.469 / 31.5KHz
720 x 576P	50Hz	31.25KHz
1280 x 720P	50Hz	37.5KHz
1280 x 720P	59.94 / 60Hz	44.955 / 45KHz
1440 x 480P	59.94 / 60Hz	31.469 / 31.5KHz
1440 x 576P	50Hz	31.25KHz
1920 x 1080i	50Hz	28.125KHz
1920 x 1080i	59.94 / 60Hz	33.716 / 33.75KHz
1920 x 1080P	50Hz	56.25KHz
1920 x 1080P	59.94 / 60Hz	67.433 / 67.5KHz

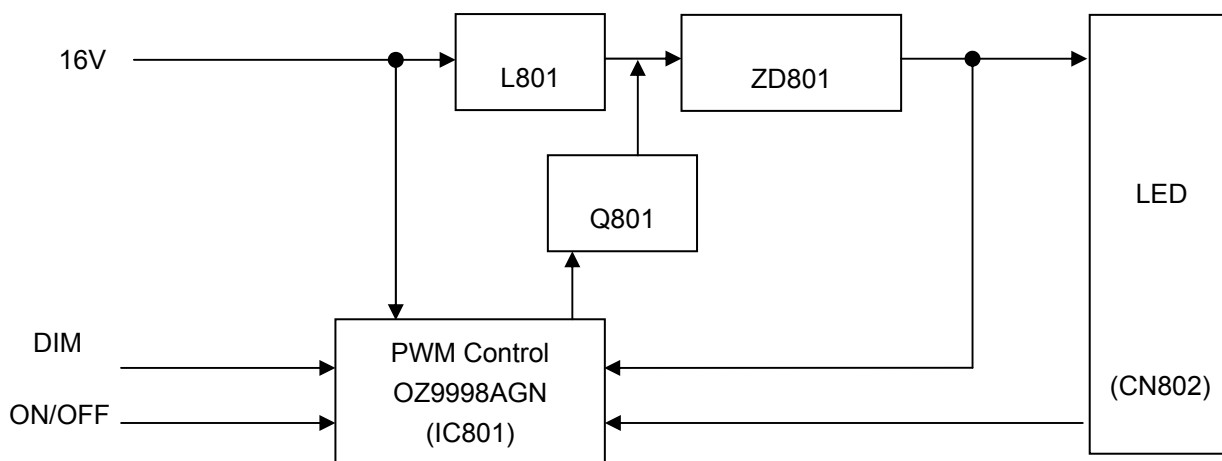
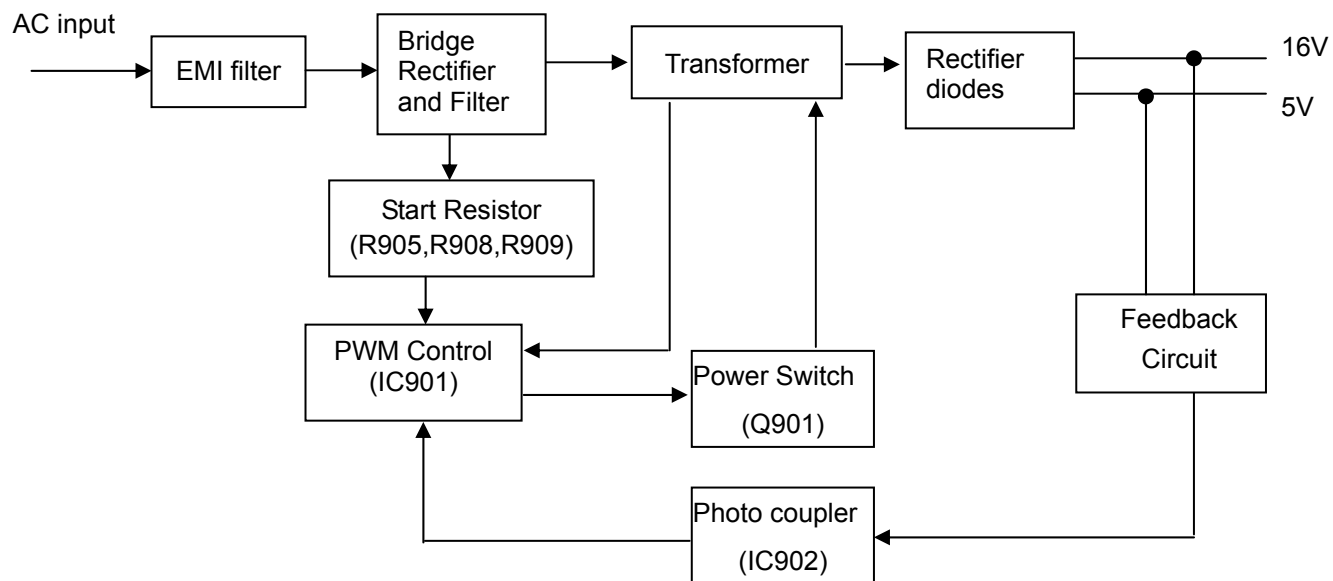
4. Block Diagram

4.1 Main Board

TSUMU88MWDT3-LF-1



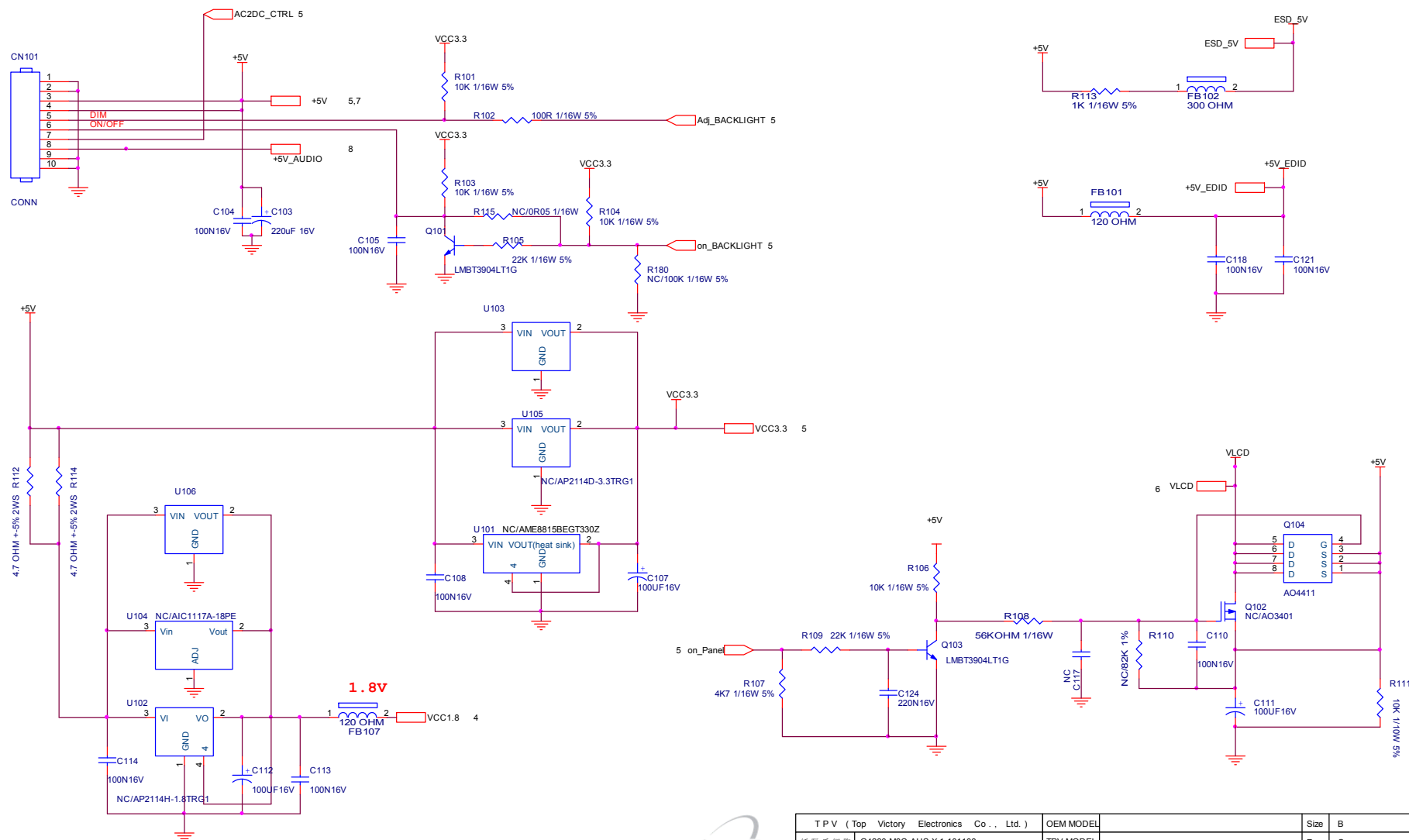
4.2 Power Board



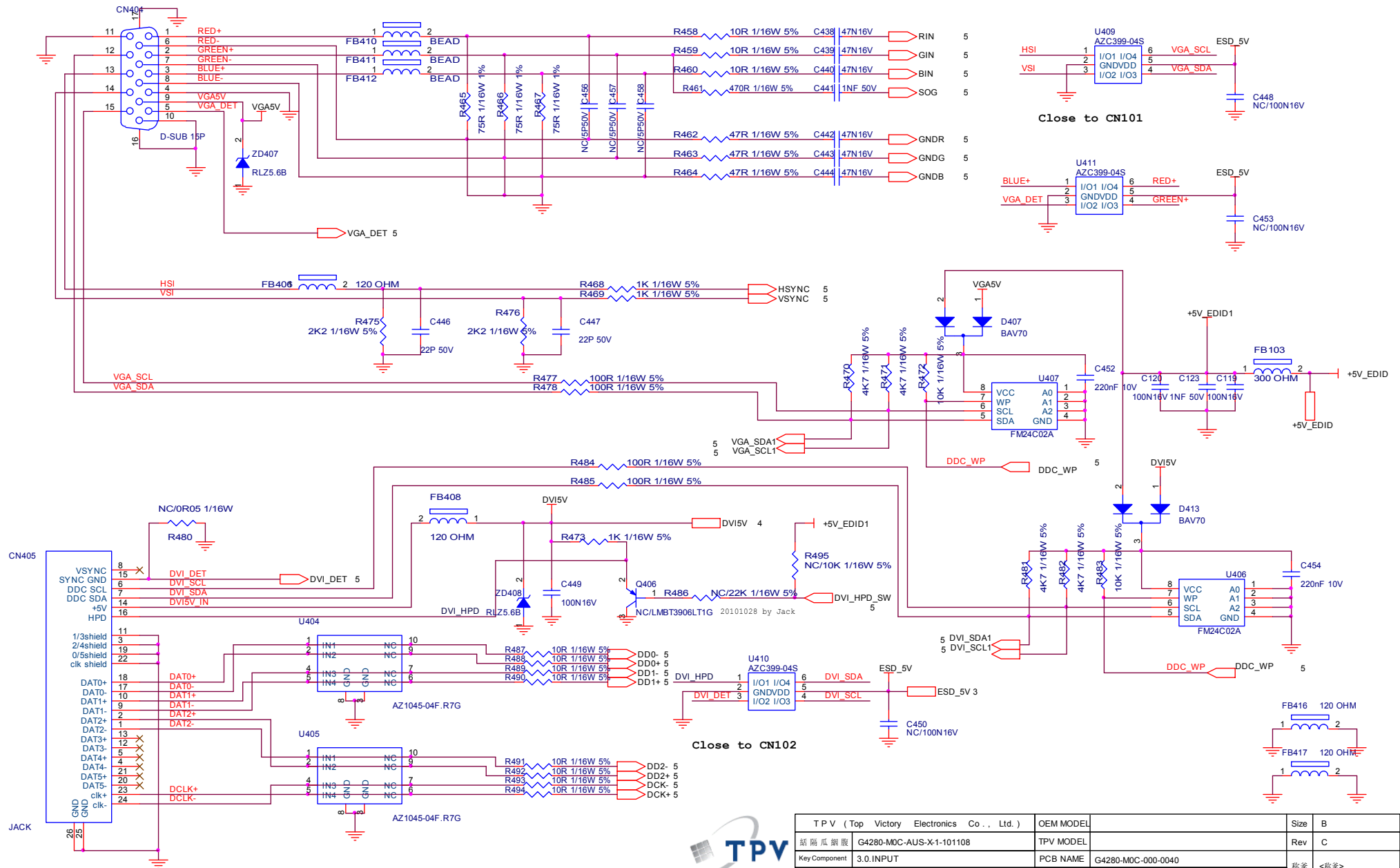
5. Schematic

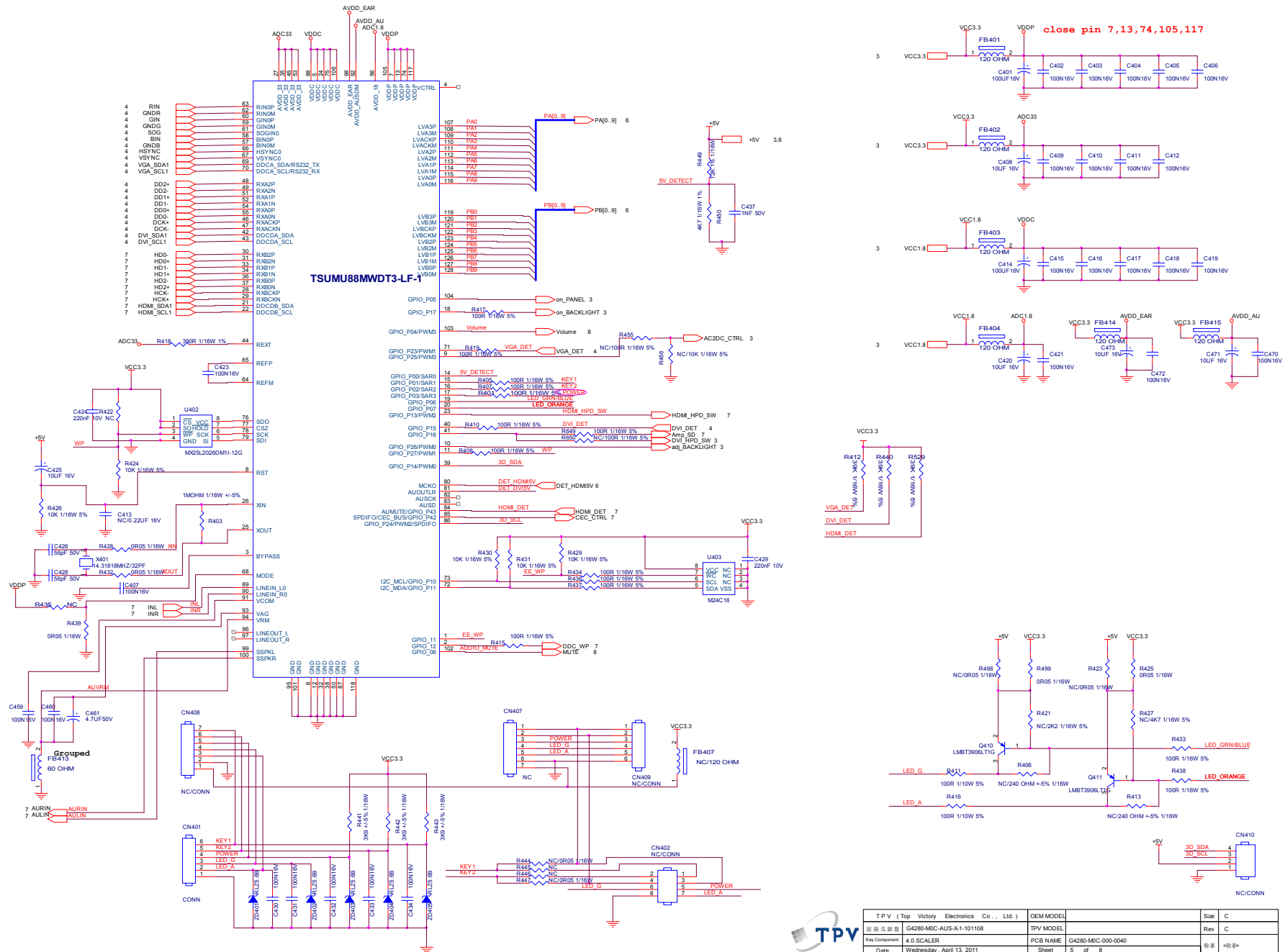
5.1 Main Board

715G4280M020000041

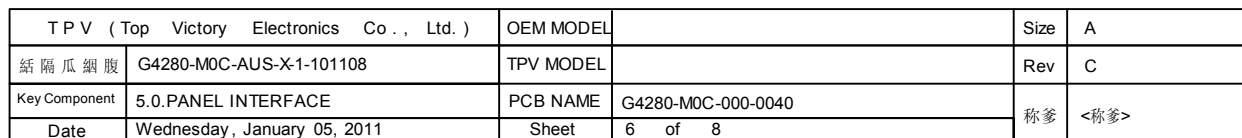


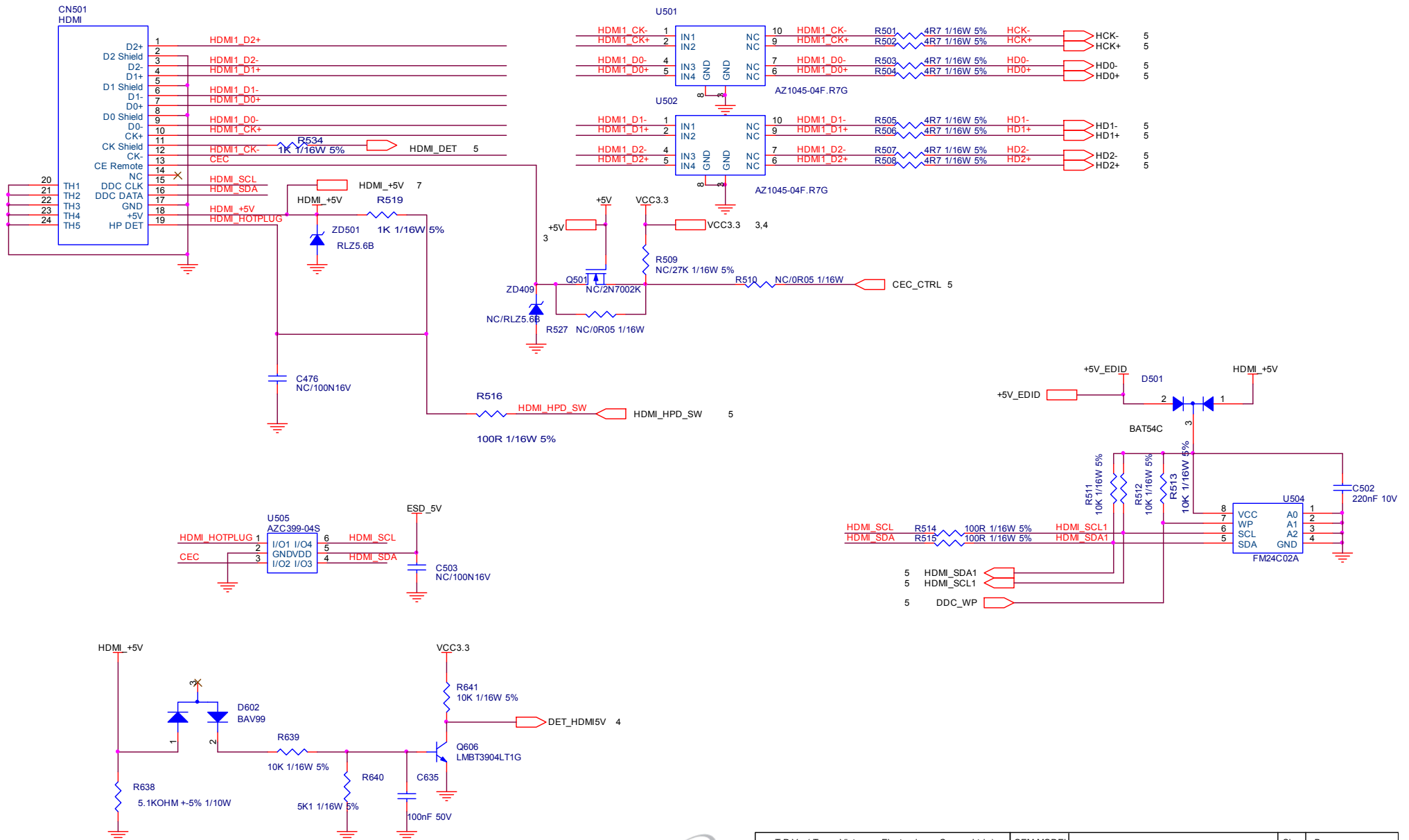
T P V (Top Victory Electronics Co., Ltd.)	OEM MODEL		Size	B
話 隔 瓜 蝦 蝦	G4280-MDC-AUS-X-1-101108	TPV MODEL	Rev	C
Key Component	2.0 POWER	PCB NAME	G4280-MDC-000-0040	称 爹
Date	Saturday, December 25, 2010	Sheet	3 of 8	<称 爹>



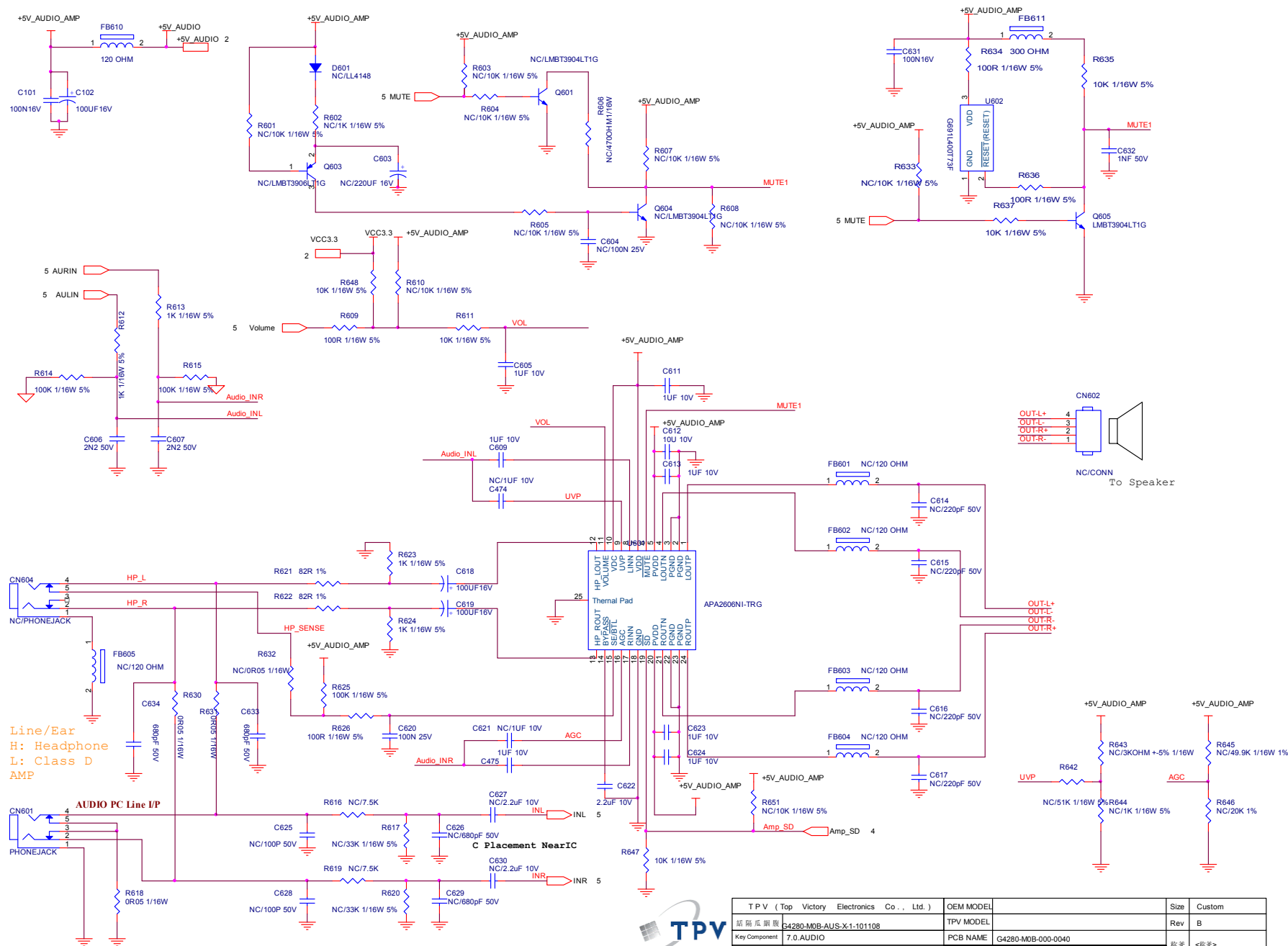


T.P.V. (Top Victory Electronics Co., Ltd.)	OEM MODEL	Size	C
冠捷电通	G4280-MC-AUS-X1-101108	TPV MODEL	
Key Component	4.0 SCALER	PCB NAME	G4280-MC-000-0040
Date	Wednesday, April 13, 2011	Sheet	5 of 8
		Rev	C
		修图	<8>



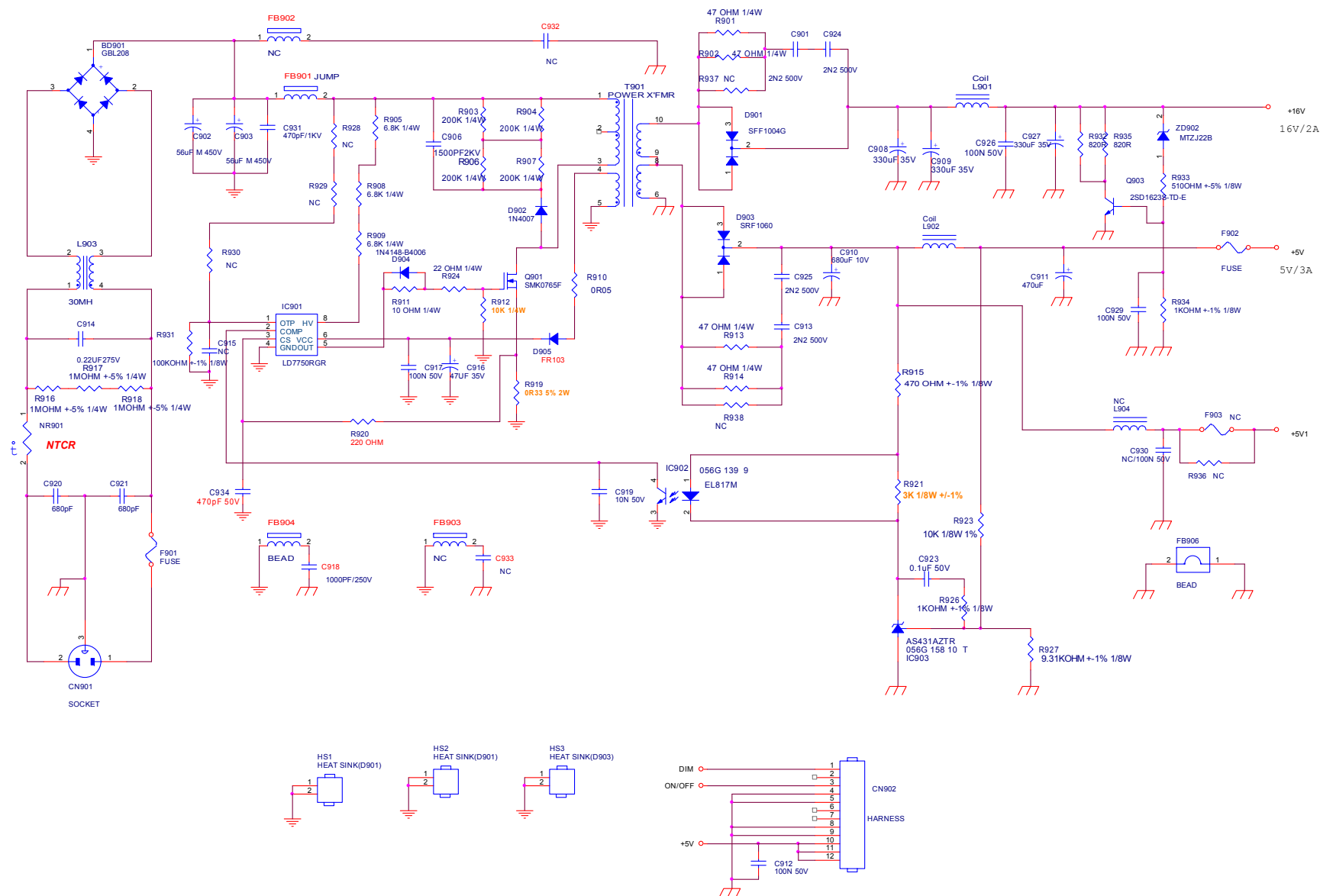


T P V (Top Victory Electronics Co. , Ltd.)	OEM MODEL		Size	B
結 隔 瓜 網 膜	G4280-M0C-AUS-X-1-101108	TPV MODEL	Rev	C
Key Component	6.0.HDMI INPUT	PCB NAME	G4280-M0C-000-0040	称 爹
Date	Wednesday , April 06, 2011	Sheet	7 of 8	<称 爹>

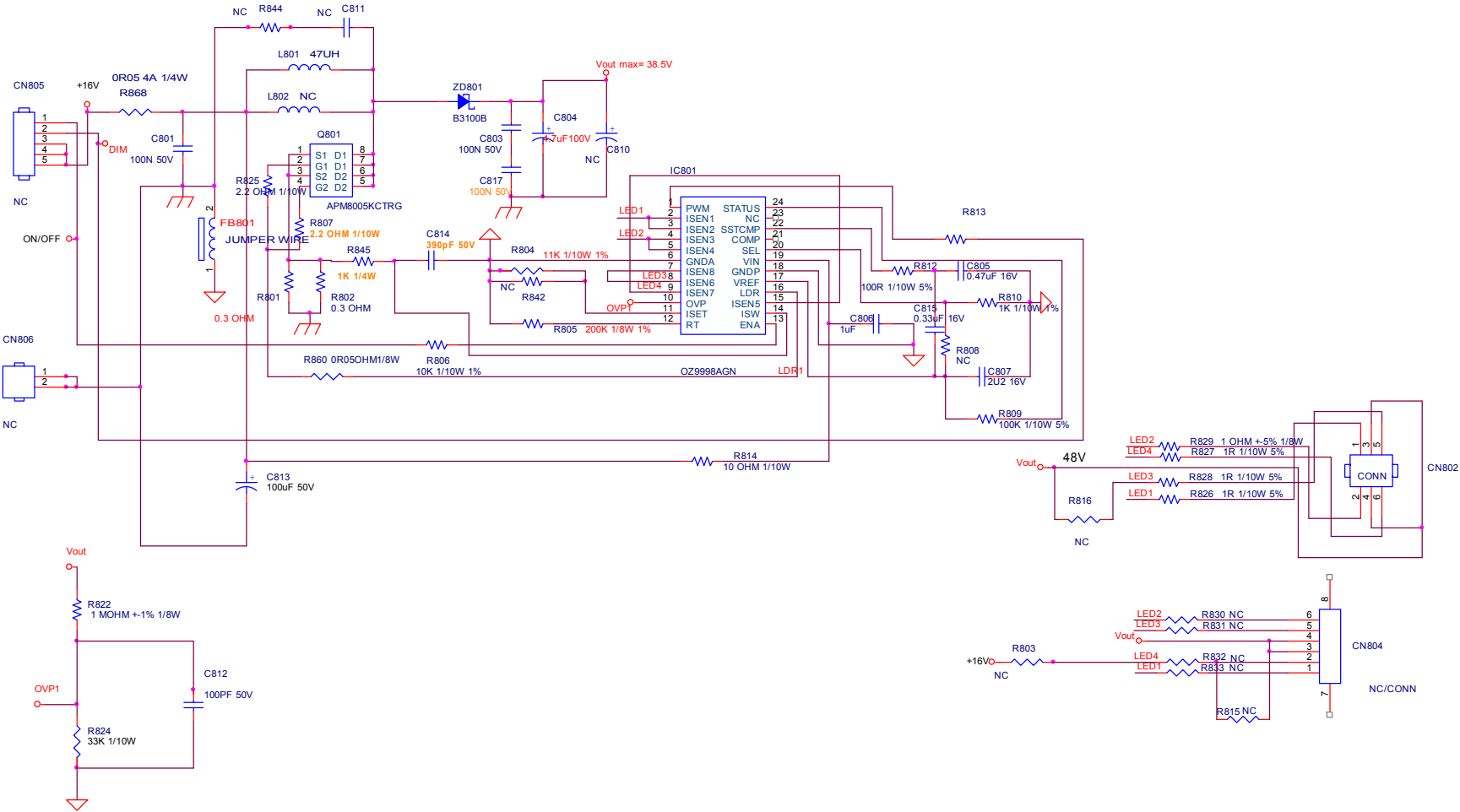


5.2 Power Board

715G4705P03000001H



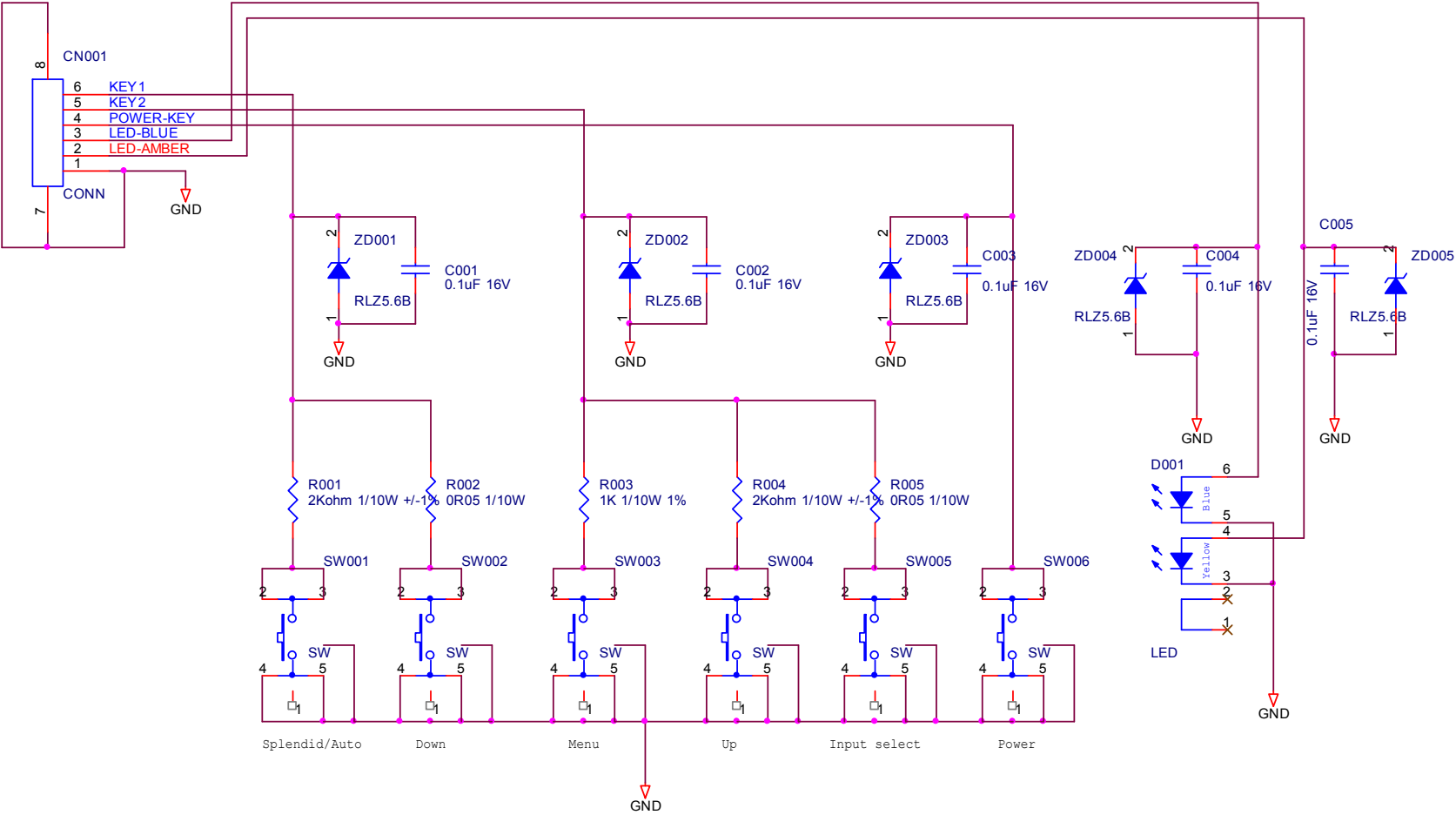
TPV (Top Victory Electronics Co., Ltd.)	OEM MODEL		Size	A3
华硕电源板	G4705-P03-000-0010-11-110621	TPV MODEL	Rev	A
Key Component	03.POWER	PCB NAME	715G4705-P03-000-0010	名称
Date	Tuesday, June 21, 2011	Sheet	3 of 4	ODM MODEL



TPV (Top Victory Electronics Co., Ltd.)	OEM MODEL		Size	Custom
銘南瓜銅膜	715G4705-P03-000-0010-11-110621	TPV MODEL	Rev	A
Key Component	02.CONVERTER	PCB NAME	715G4705-P03-000-0010	修家
Date	Tuesday, June 21, 2011	Sheet	2 of 4	ODM MODEL

5.3 Key Board

715G4752K01000004M

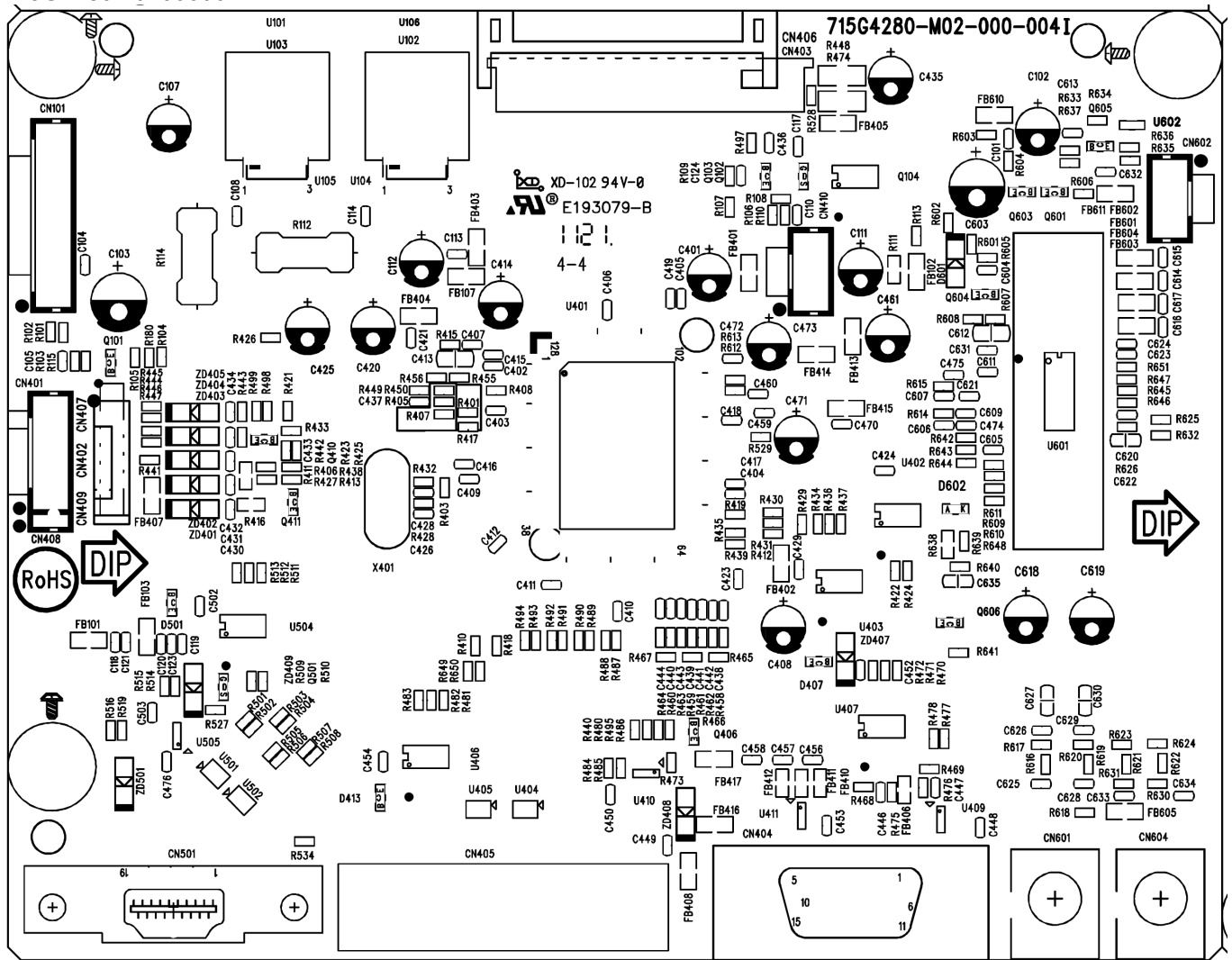


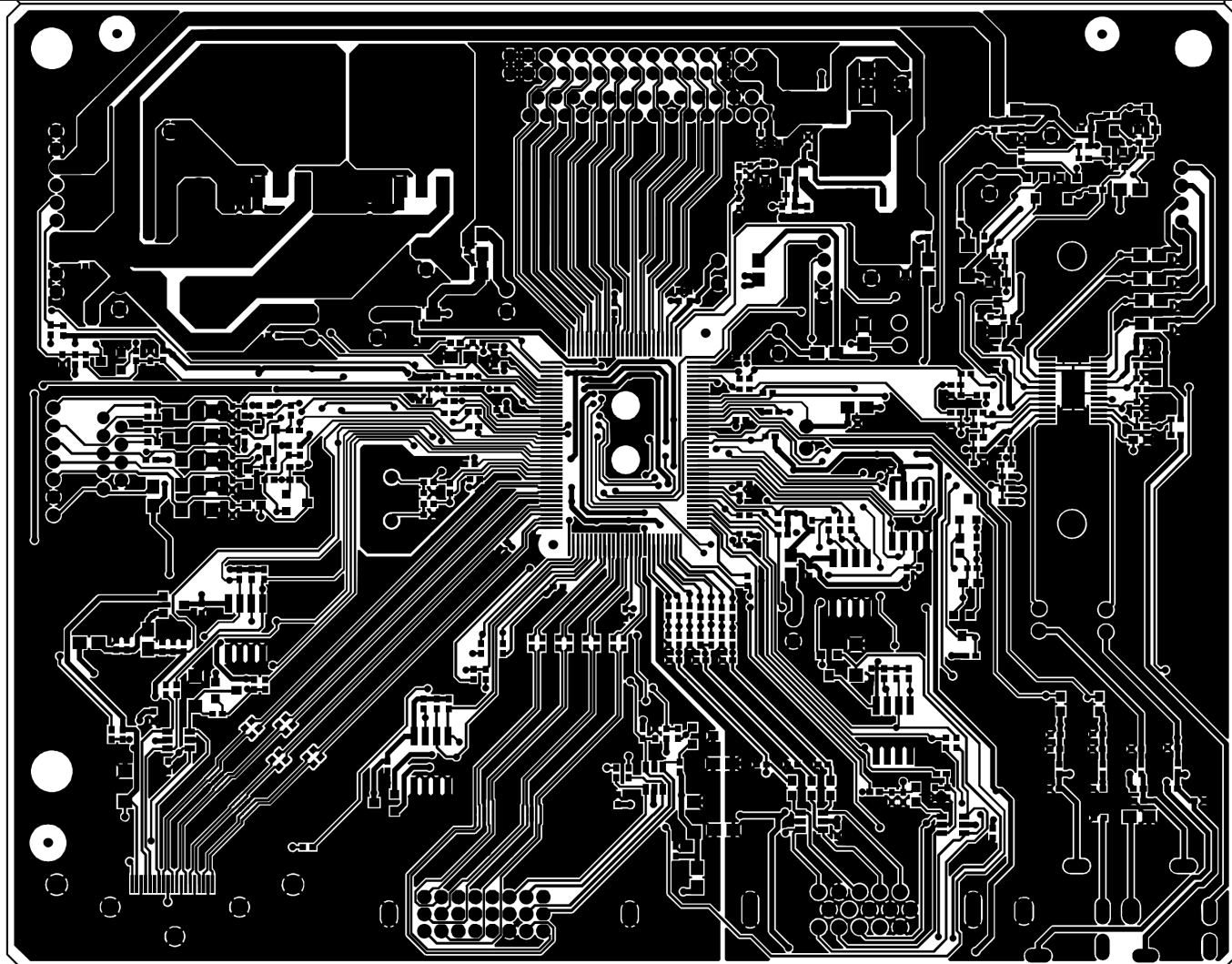
TPV (Top Victory Electronics Co. , Ltd.)	OEM MODEL		Size	A
結隔瓜網腹	G4752-K0B-AUS-X-1-101203	TPV MODEL	Rev	B
Key Component	01.KEYBOARD	PCB NAME	715G4752-K0B	称爹 备注
Date	Friday , December 03, 2010	Sheet	2 of 2	

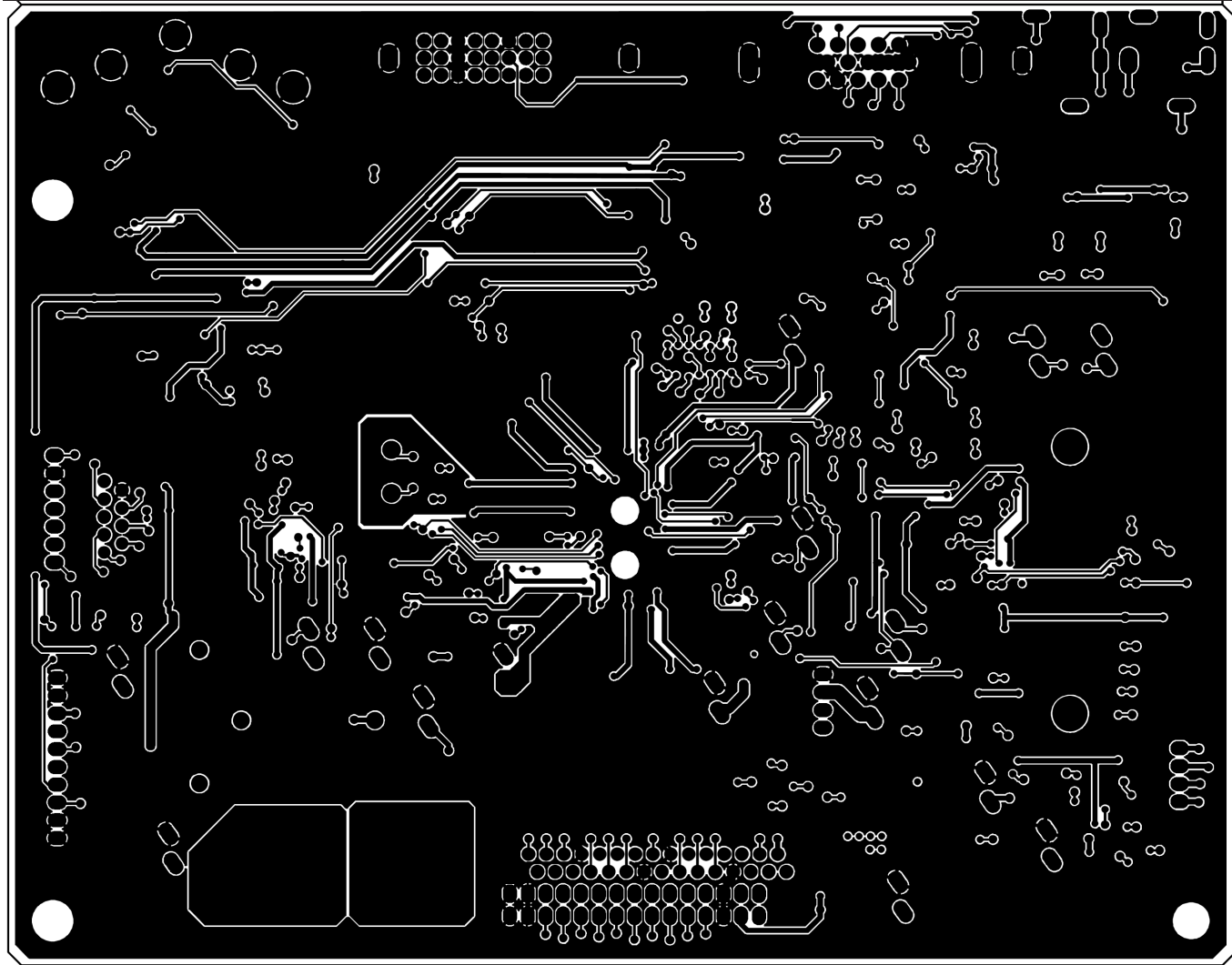
6. PCB Layout

6.1 Main Board

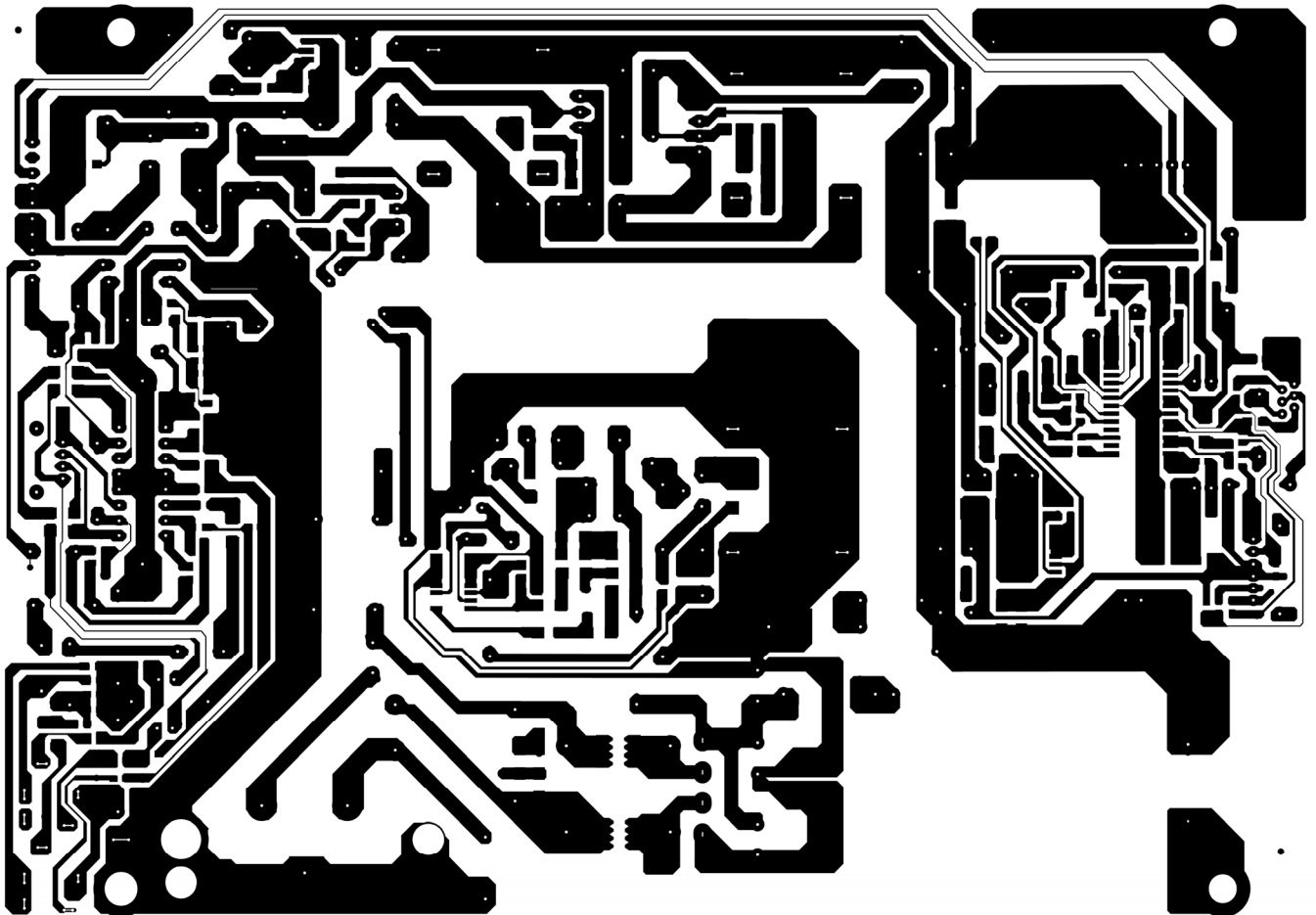
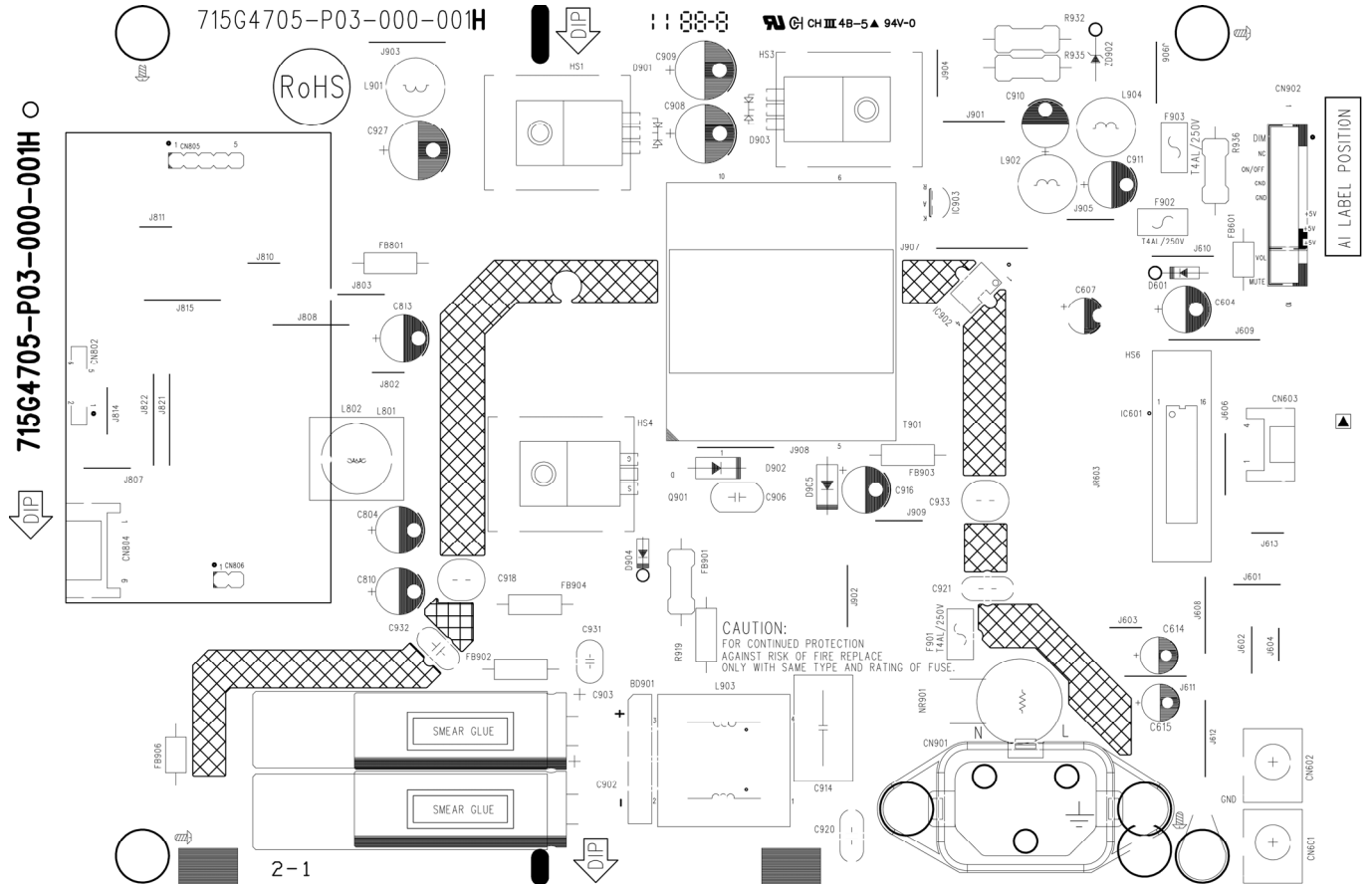
715G4280M02000004I

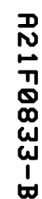




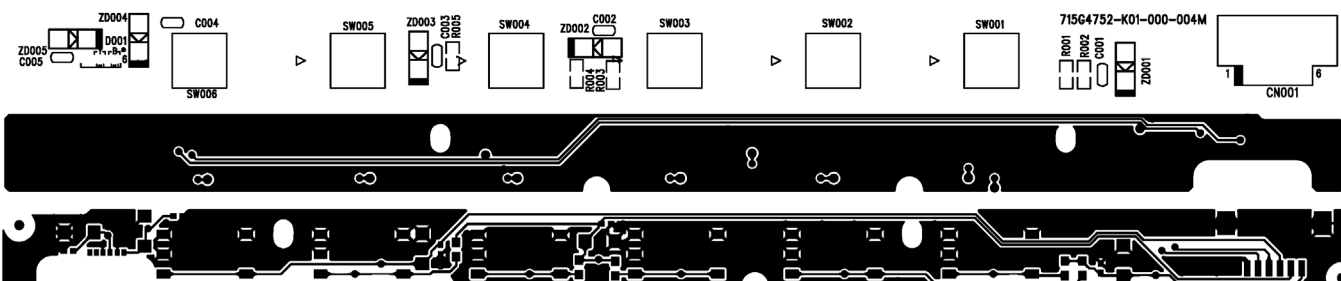


715G4705P03000001H





715G4752K01000004M



7. Disassembly & Assembly SOP

7.1. Precaution

Please read the precautions as follows to prevent any damages to the LCD Monitor and also select the appropriate tools for disassembly and re-assembly.

- ◆ Make sure all power connection is removed. Be sure that the LCD Monitor is in power off status.
- ◆ Prepare soft cloth and sponge as working platform to place LCD monitor horizontally.
- ◆ Hold LCD by the side carefully and DON'T touch or press panel directly.



- ◆ Remove all rings, watches and any other metal objects from your hands which possible to cause scratch.



- ◆ Always wear a ground strap or anti-static glove to protect the parts from static discharge. ESD (electro-static discharge) protection is required to guarantee the safety of product and personnel.



7.2. Suggest Tools

Here are some tools that can be used for the LCD monitor's service and repair.

Philips-head Screwdriver

Use a Philips-head screwdriver to fasten/remove the K- or B-typed screws



P/N : N/A

Gloves

To protect LCD Panel and your hand



P/N: (L) N/A (M) N/A

C/D Disassembly Tool

Use C/D Disassembly Tool to open cosmetic cover and avoid scratch.



P/N: N/A

Spacer Screwdriver

Use a spacer screwdriver to fasten/remove spacer screws or hex screws.



P/N: N/A

7.3. Disassembly Procedure

Information in this section is to perform the disassembly procedure of the LCD monitor. Depending on the failures, replace the defective parts accordingly.

ASUS VS239H LCD monitor consists of various subsystems. This section describes the procedures for LCD monitor disassembly. In addition, the detailed disassembly procedures of individual subsystem will be provided for your service needs.

The disassembly procedure consists of the following steps:

7.3.1 Stand Subsystem

7.3.2 Main Subsystem

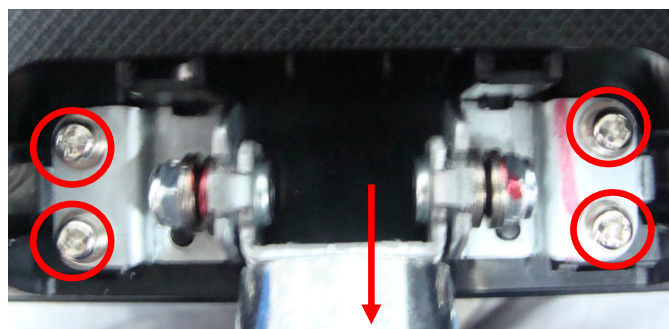
7.3.3 Bezel Subsystem

7.3.1 Stand Subsystem

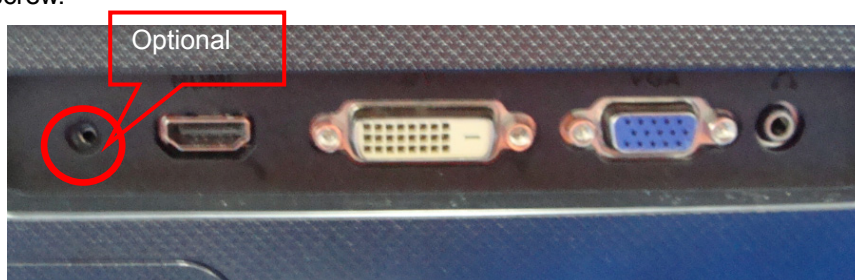
1. Remove the hinge cover.



2. Unscrew the 4 screws to remove the STAND_ASSY 23.



3. Unscrew the 1 screw.



7.3.2 Main Subsystem

Rear Cover

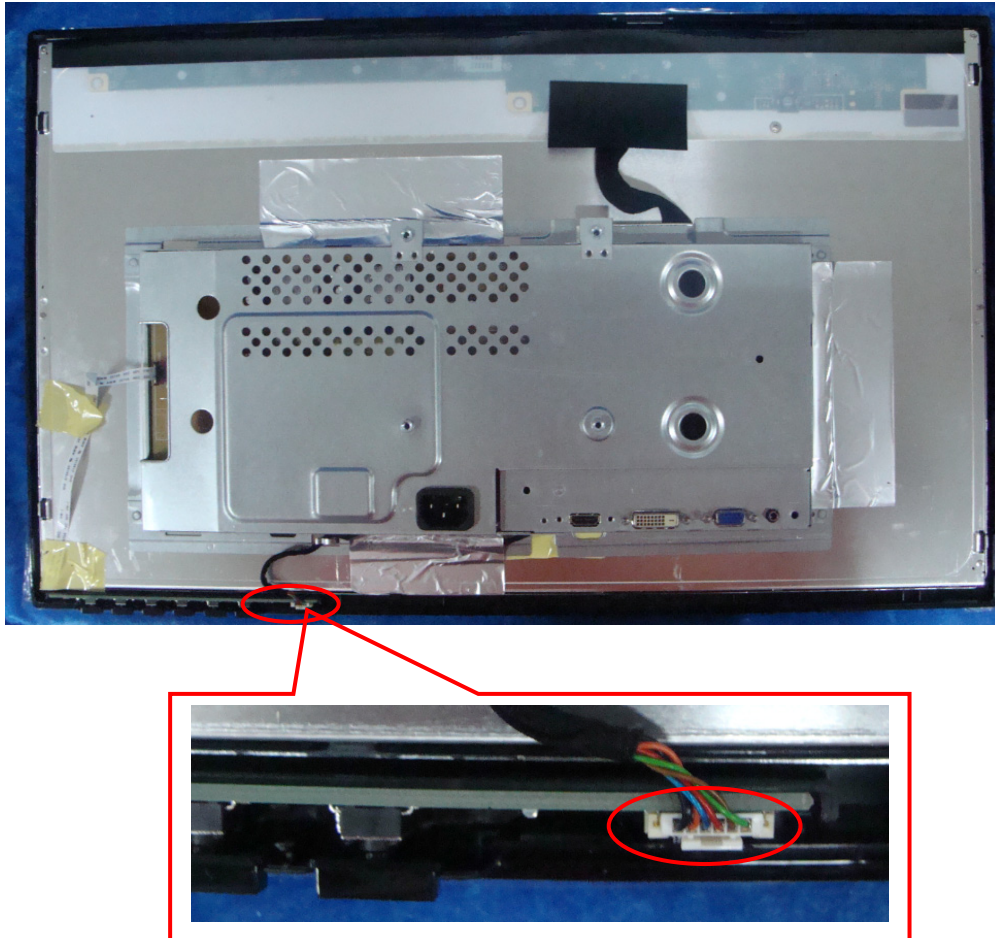
1. Open the all latches along the edges of the BEZEL. (Note: Don't damage the key board.)



2. Lift to dismount the REAR COVER.

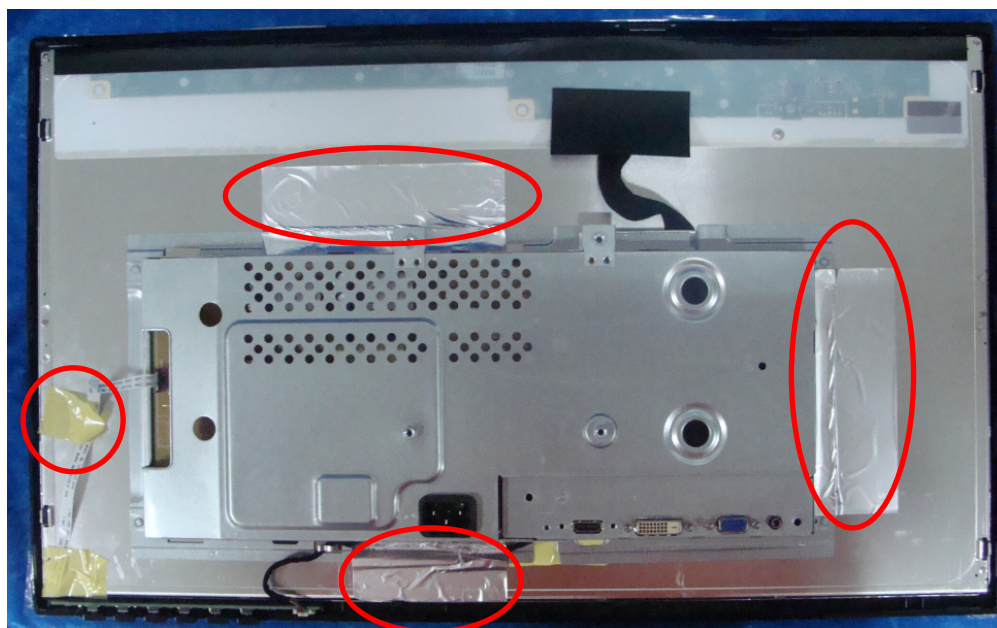


1. Disconnect the KEY BOARD cable.

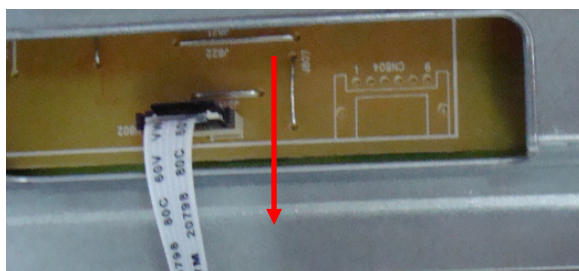


MAIN_FRAME

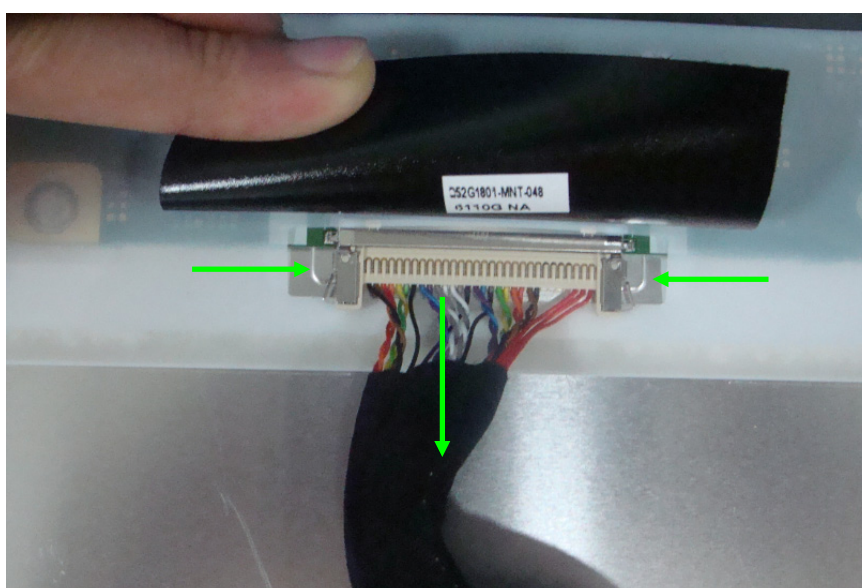
1. Tear up the tapes.



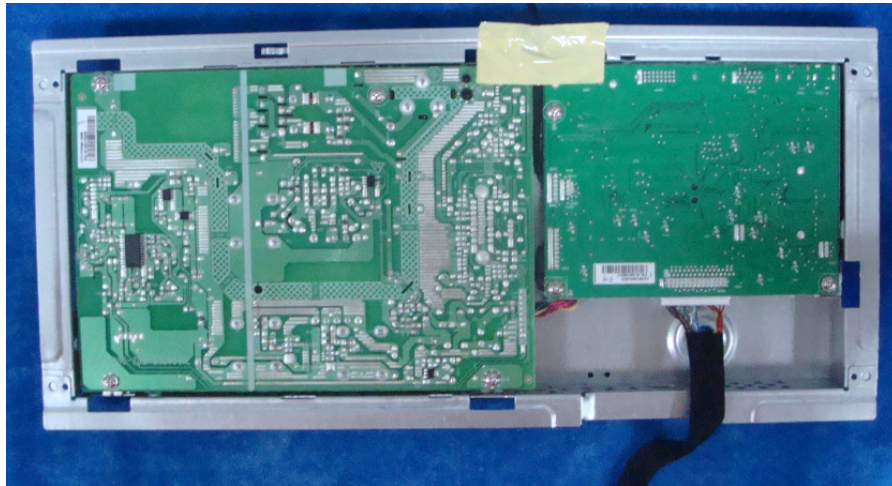
2. Disconnect the FFC cable.



3. Tear up the INSULATING SHEET. Press to release the left and right latches of the LVDS CABLE, and then disconnect it.

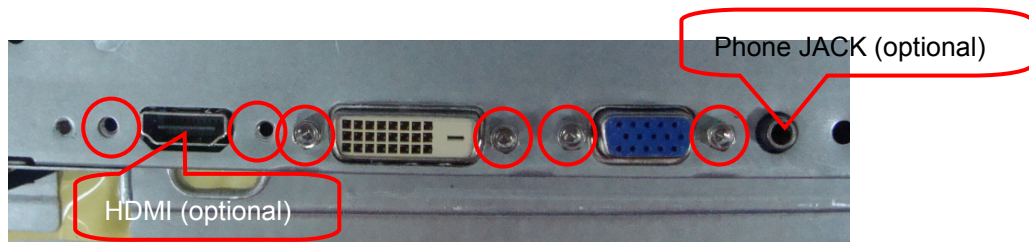


4. Remove the MAIN_FRAME away from the PANEL.

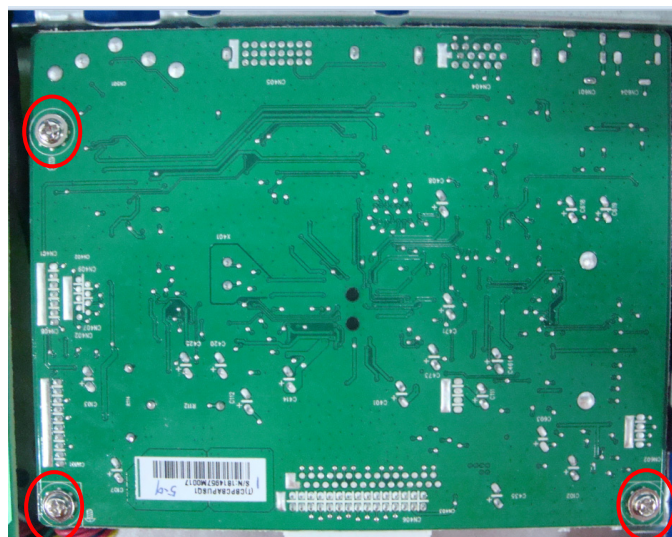


Main Board

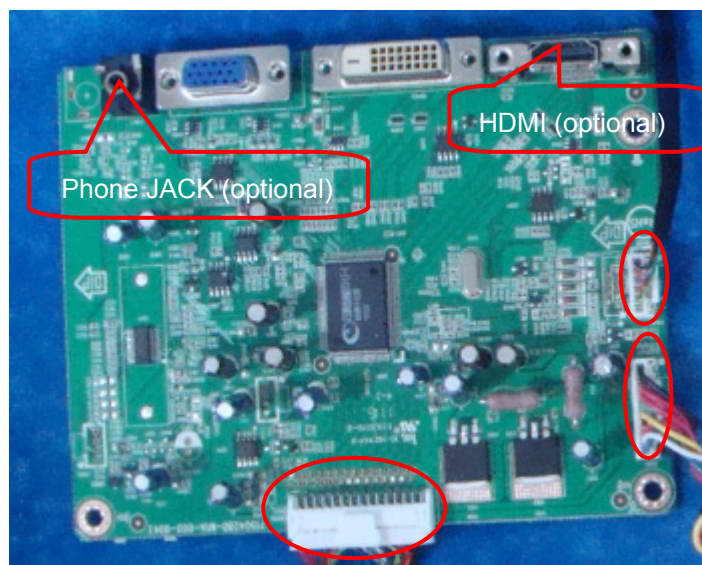
1. Unscrew the 6 screws.



2. Unscrew the 3 screws on the MAIN BOARD.

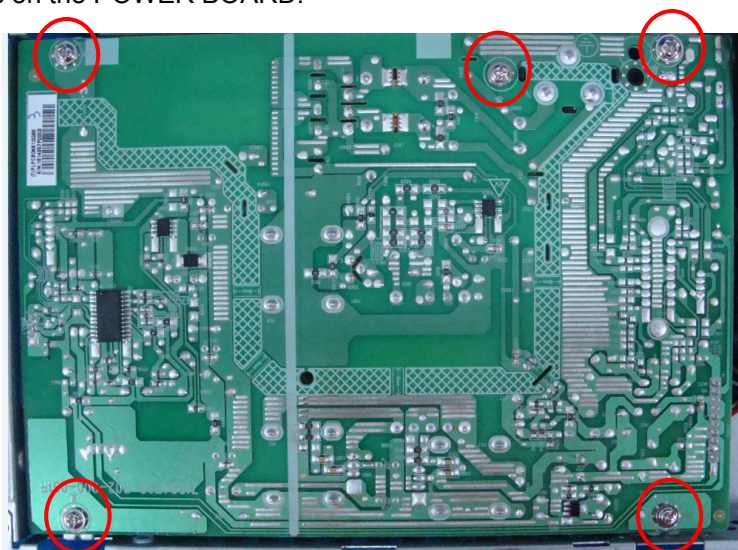


3. Turn over the MAIN BOARD and disconnect the KEY BOARD CABLE, the LVDS CABLE and the MAIN BD_POWER BD CABLE.

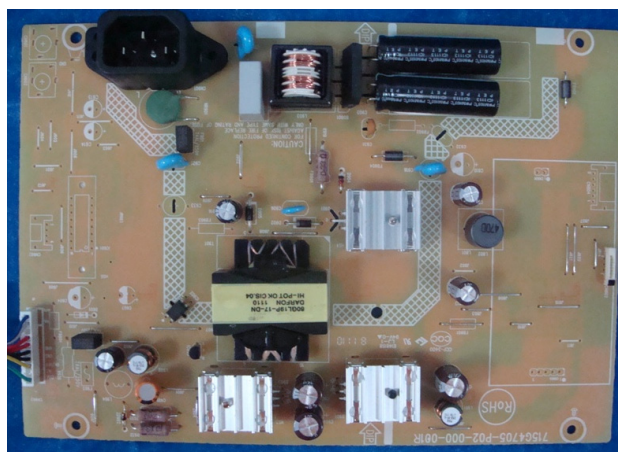


Power Board

1. Unscrew the 5 screws on the POWER BOARD.



2. Remove the POWER BOARD.



7.3.3 Bezel Subsystem

1. Remove the panel away from the bezel.



2. Remove the key board.



3. The bezel.



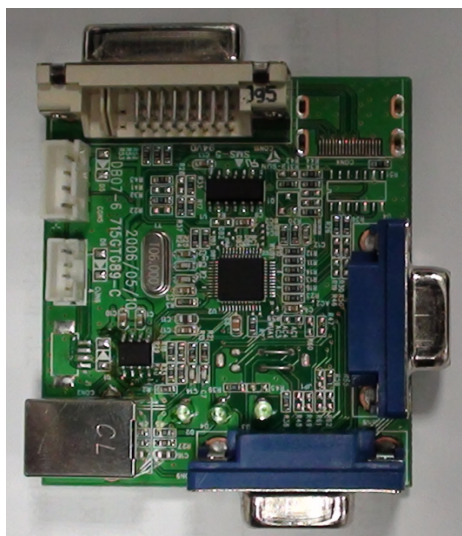
7.4. Assembly Procedure

The assembly procedure and the disassembly procedure are opposite.

8. ISP Instruction

Take VS247H for example.

8.1 Materials list



ISP JIG: 715GT089-B/C

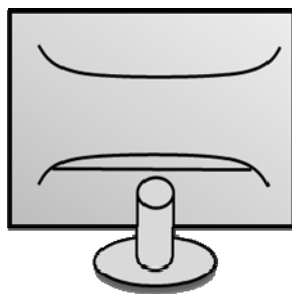


VGA cable

TPV P/N: 089G728 GAA DB



PC

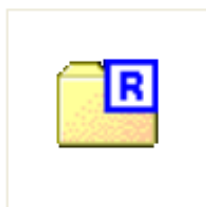


Monitor



USB cable

TPV P/N: 089G1758 X



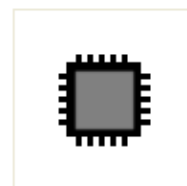
FTC100103(MSTAR) usb
drive.rar

USB port driver



ISP_Tool.exe

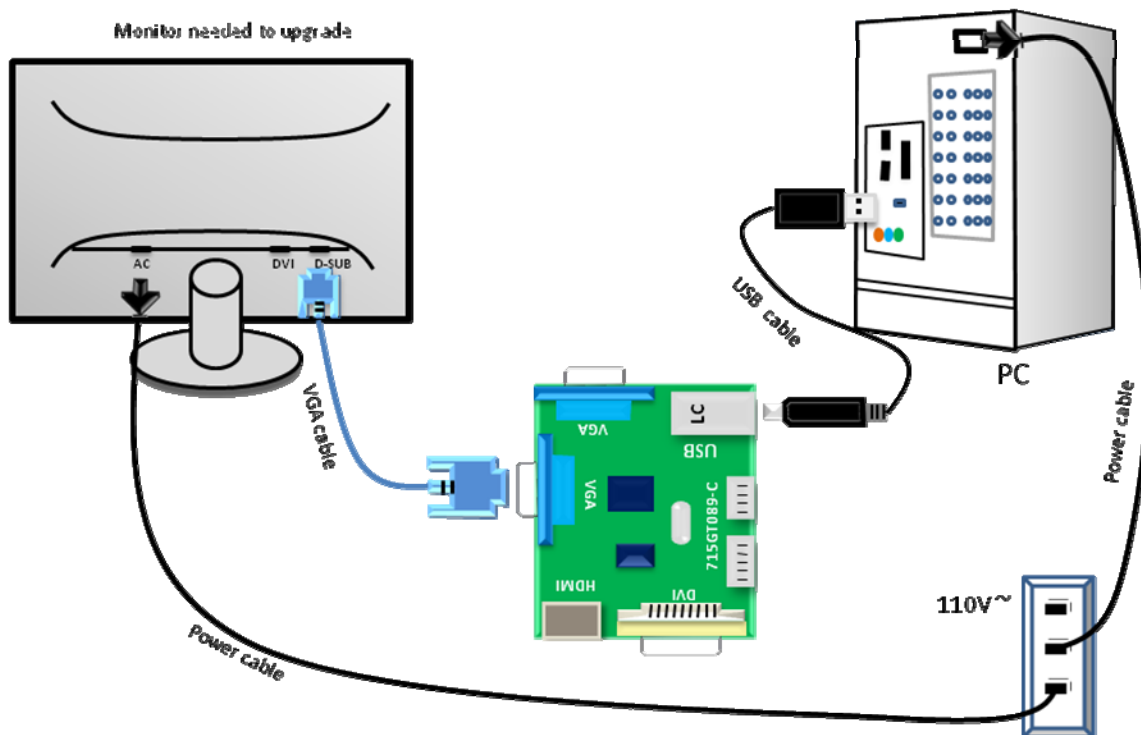
ISP tool: V4.5.0.8.0



ASUS_VS247H_T5UMU88
MWDt3_CMIM236H3_20
110104_V004_6415.BIN

New F/W

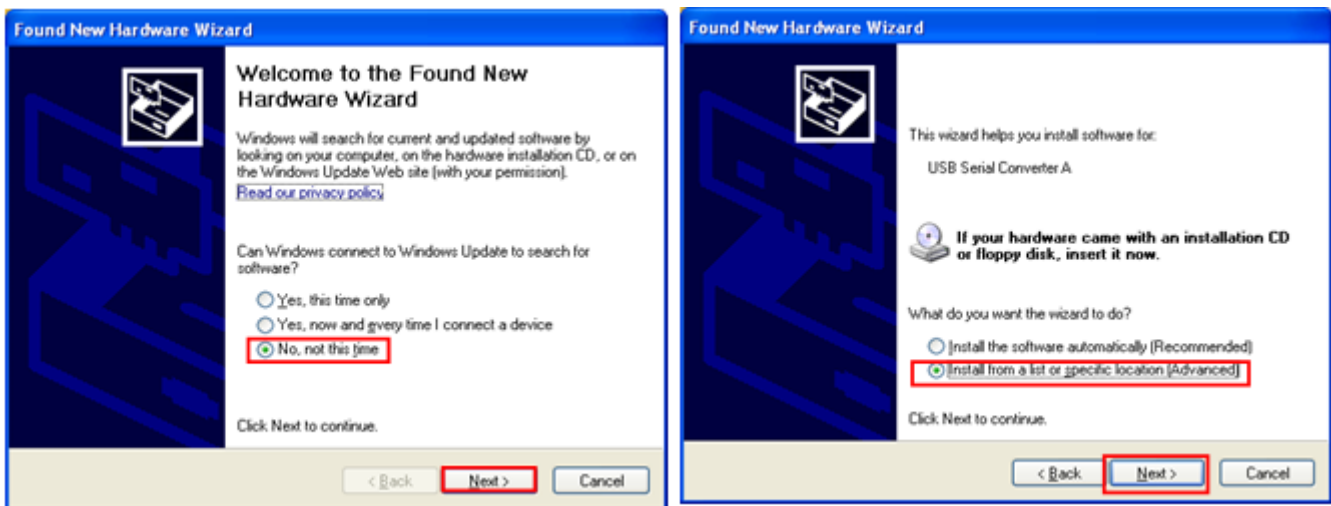
8.2.Connection

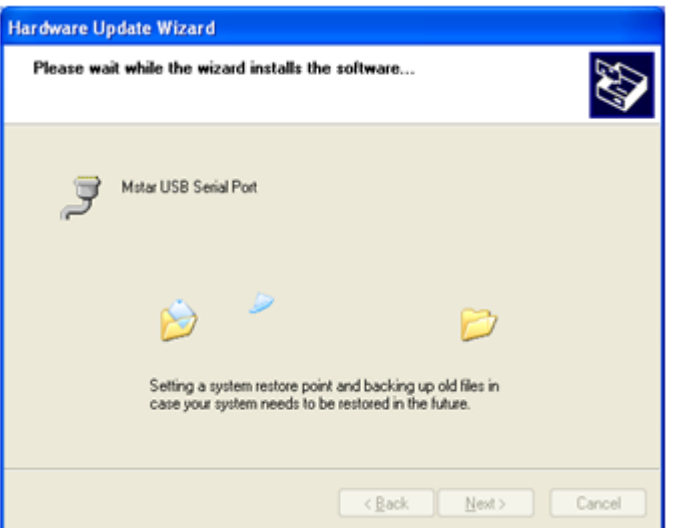
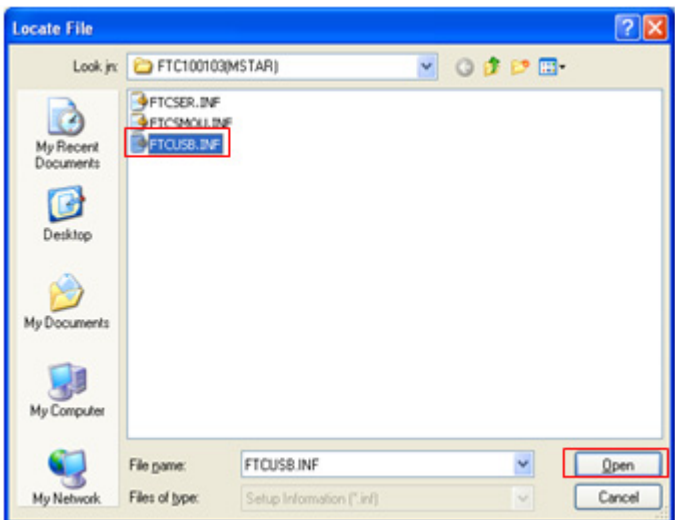
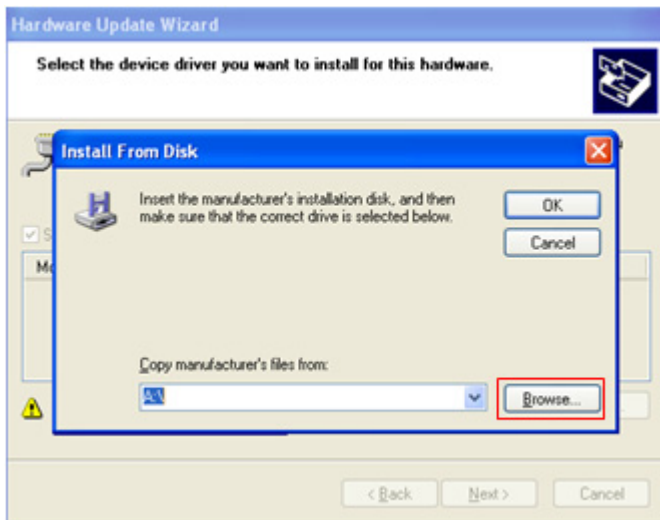
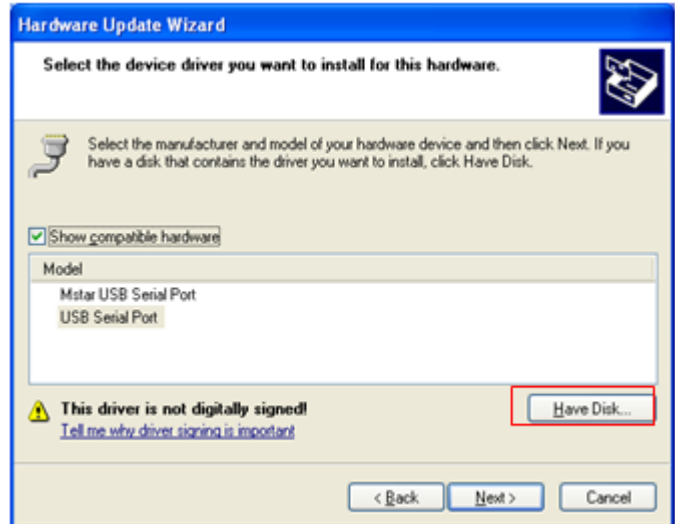
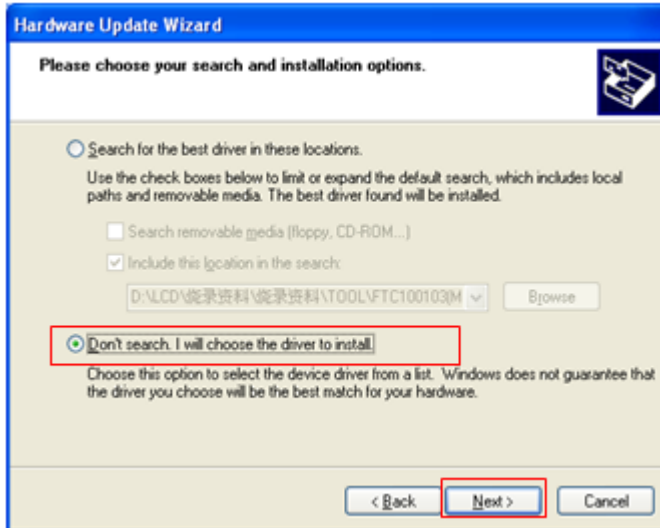


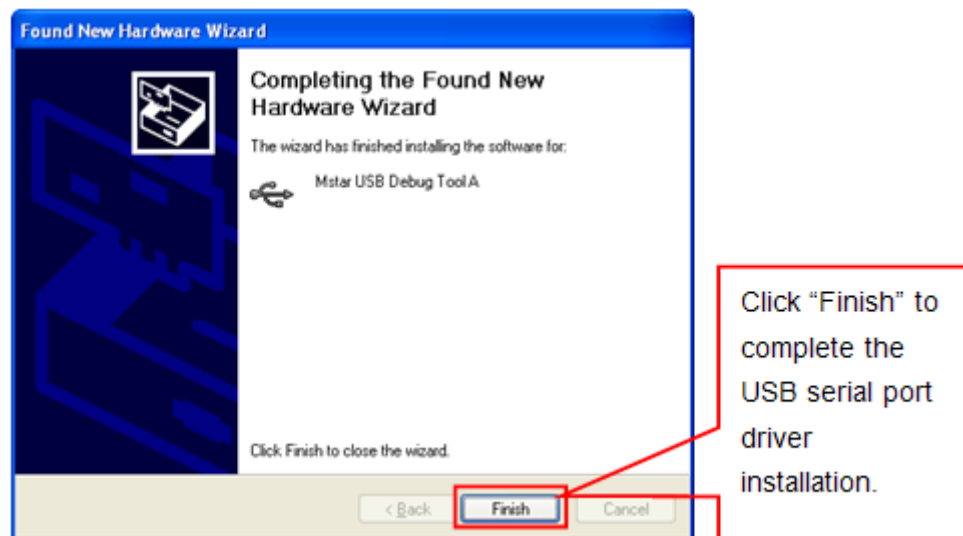
8.3.Install USB driver.

8.3.1. When insert the USB cable to PC USB port, will pop up a Hardware Wizard to help you install the USB driver if you use this ISP board first time. You can install it successfully as the below instruction step by step.

Remark: The USB driver files path: D:\FTC100103(Mstar)\FTCUSB.INF

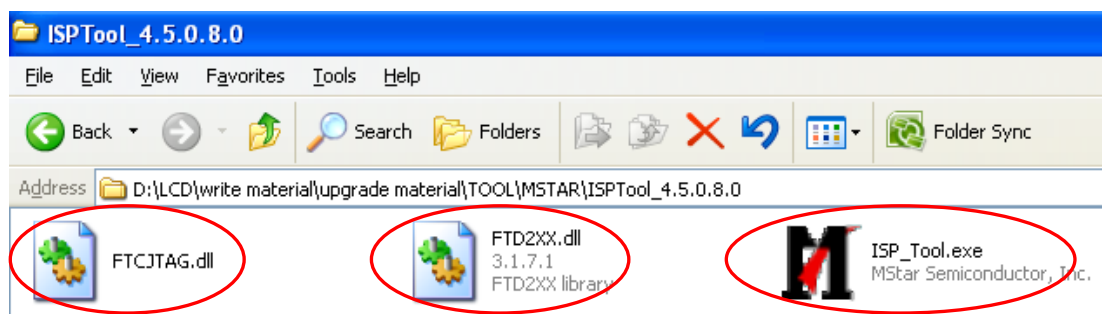




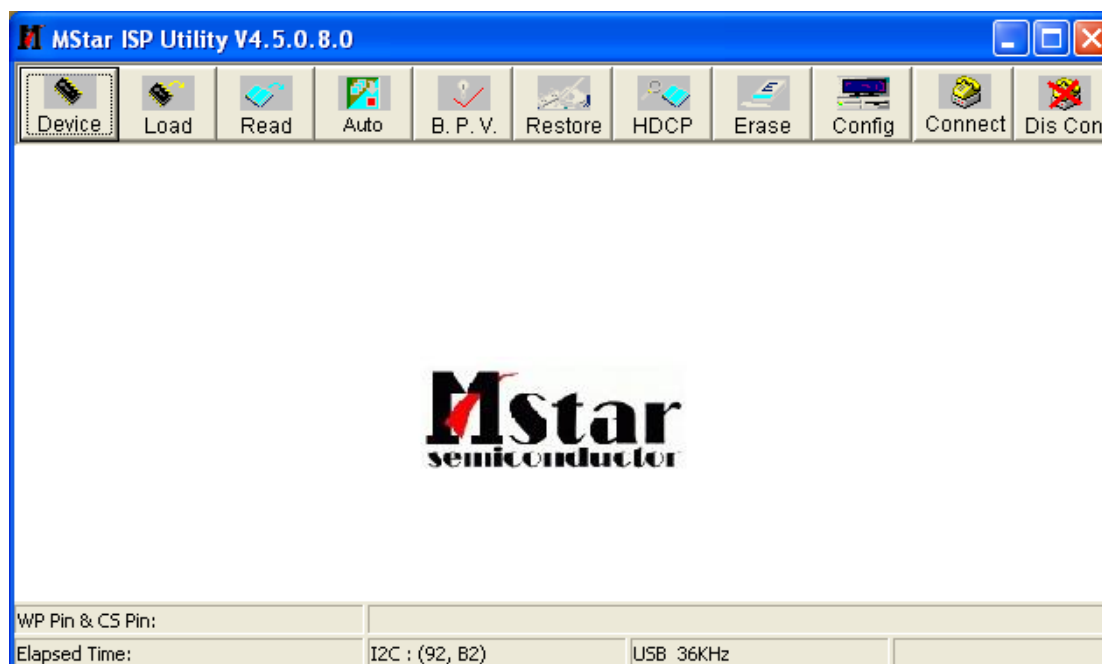


8.4. Install the ISP tool.

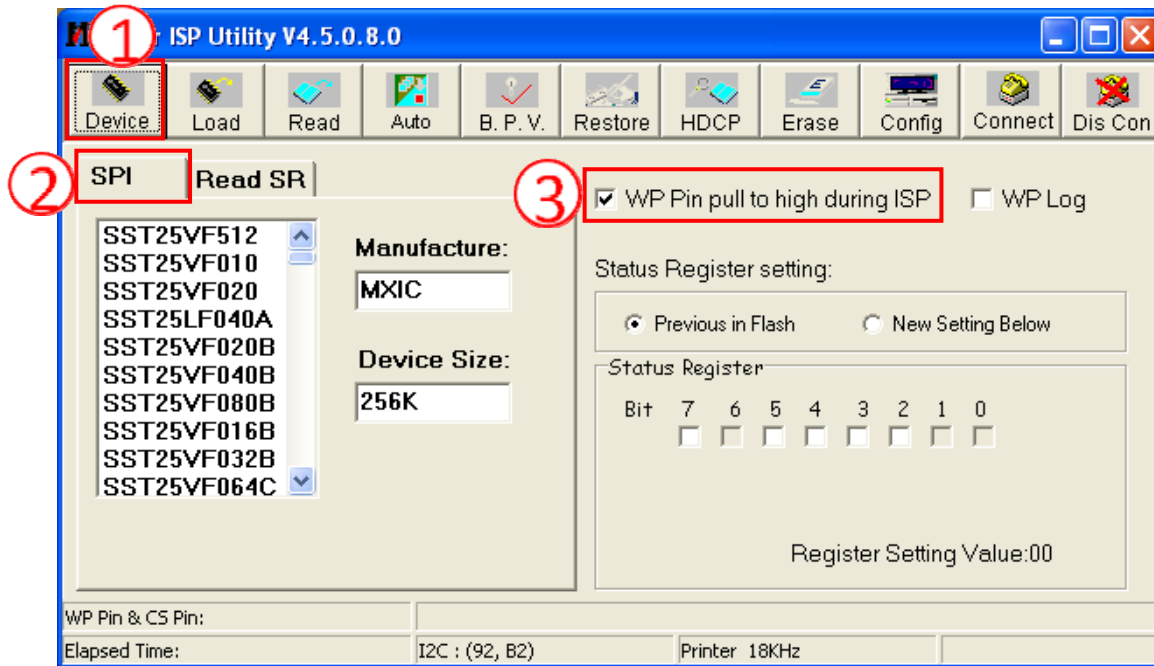
8.4.1. Copy the three files in one folder.



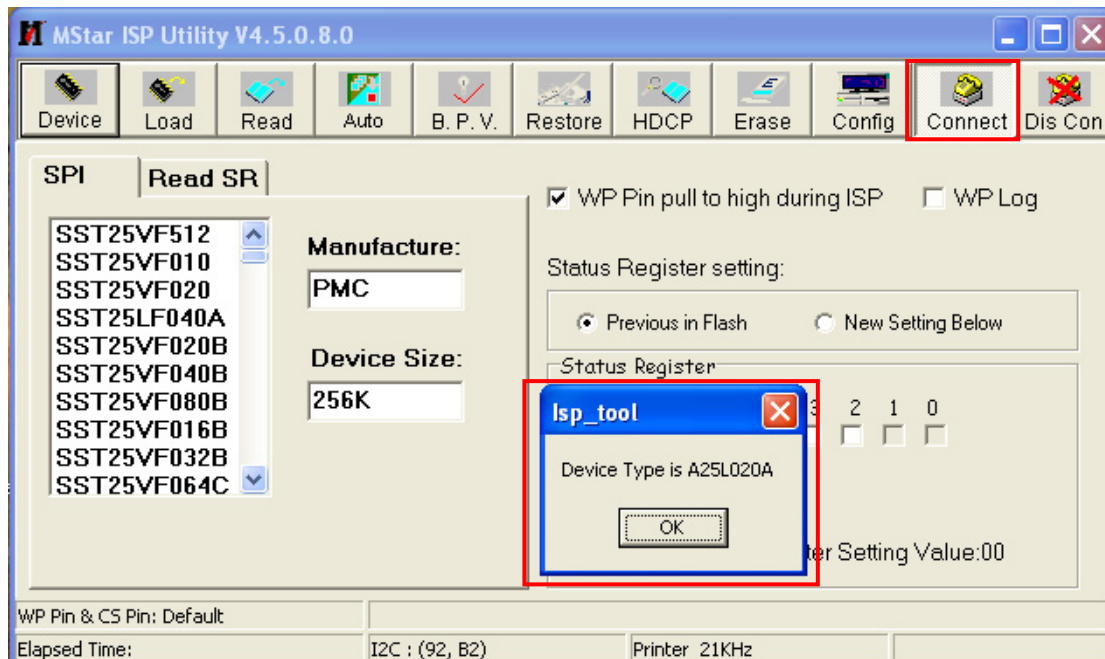
8.4.2. Double-click  to run the ISP tool.



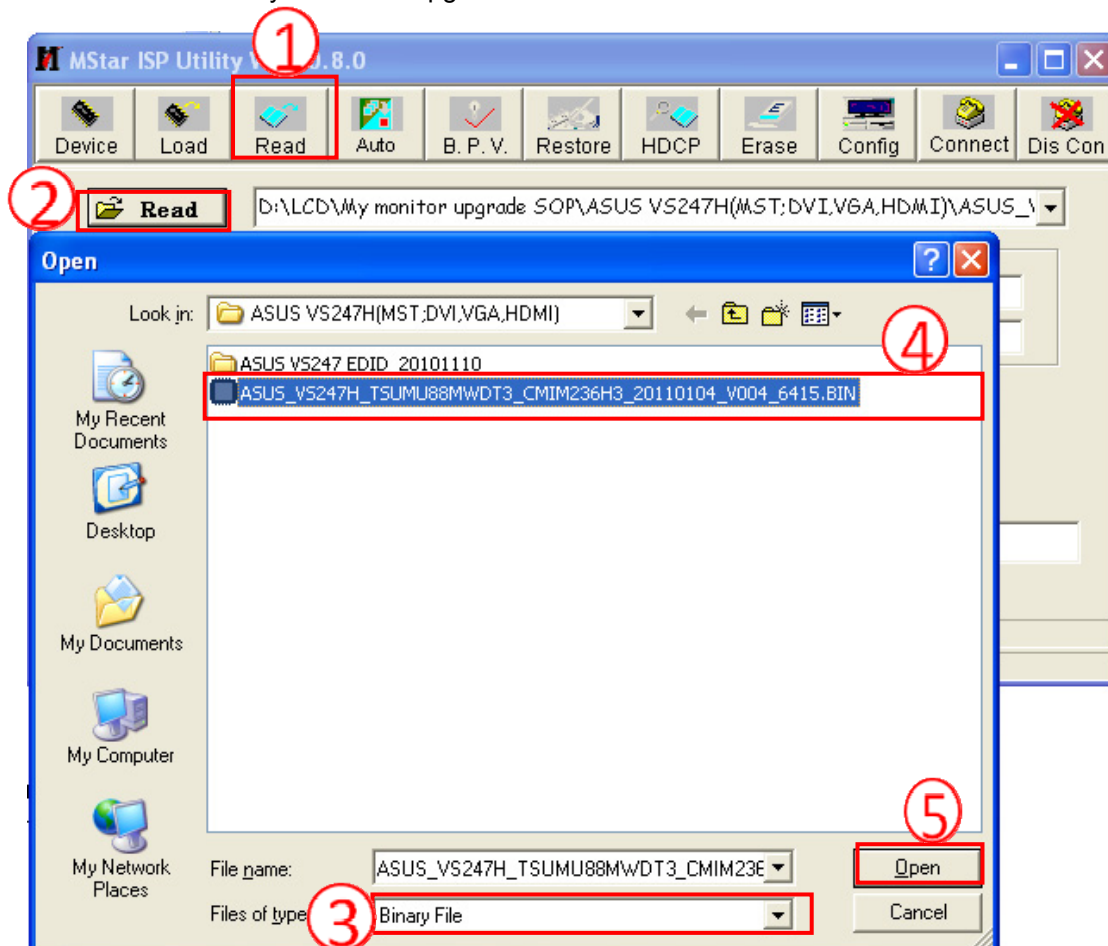
8.4.3. Set the parameters in “Device” window. Tick “WP Pin pull to high during ISP”.



8.4.4. Connect to the monitor. Click “Connect”. If the tool communicate with monitor successfully, the tool will detect the flash type of monitor.

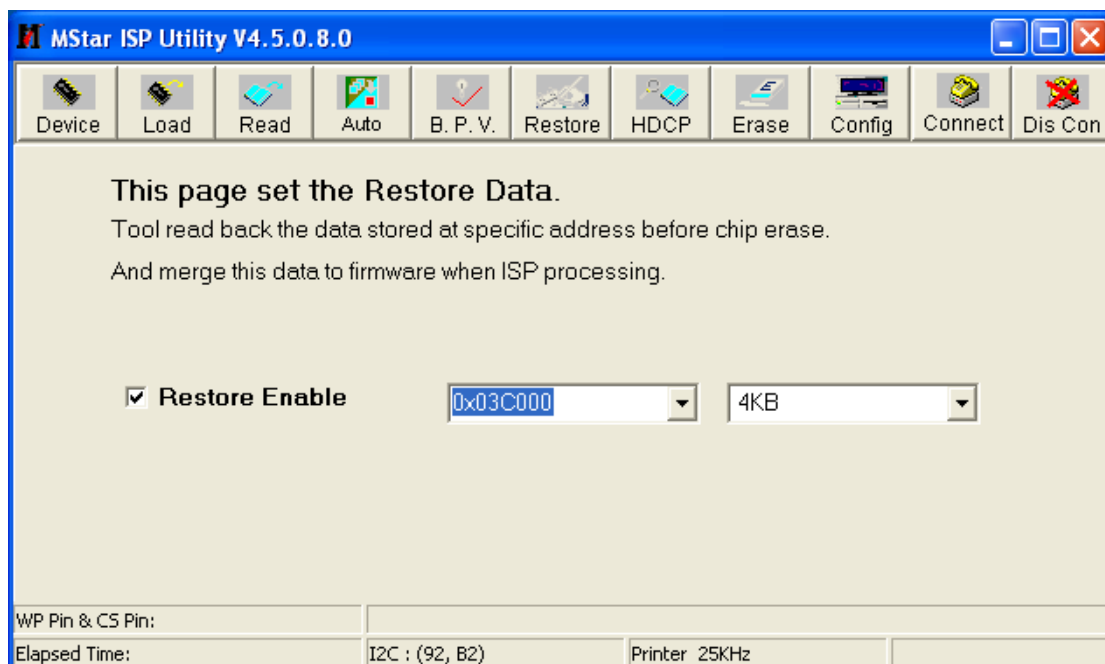


8.4.5. Load the F/W you want to upgrade.

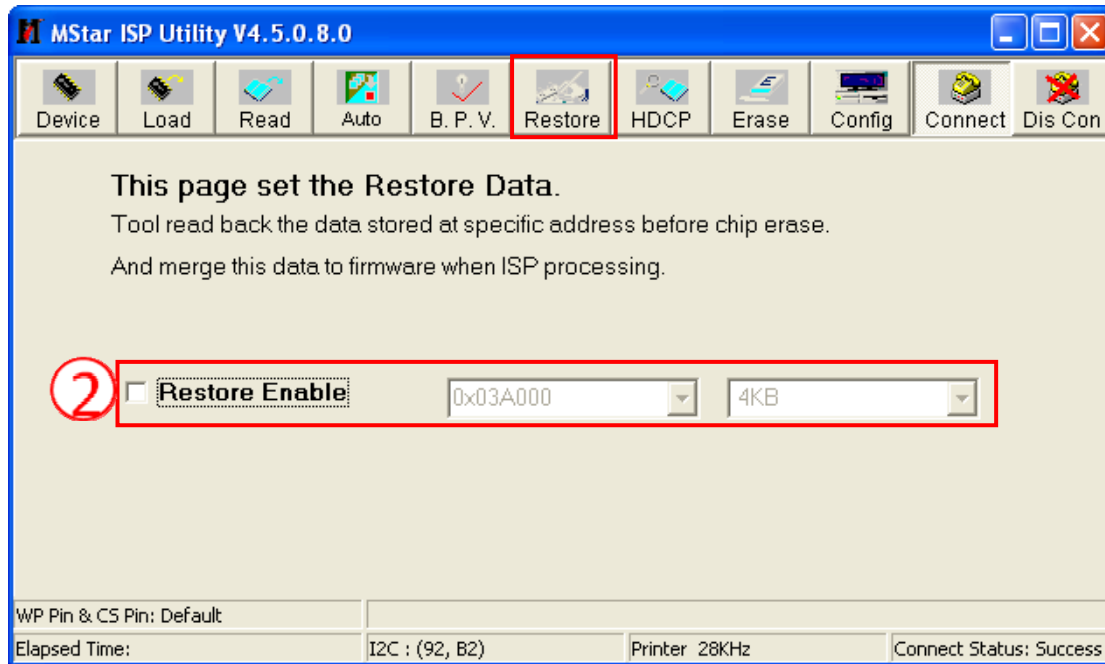


8.4.6. Set the restore address.

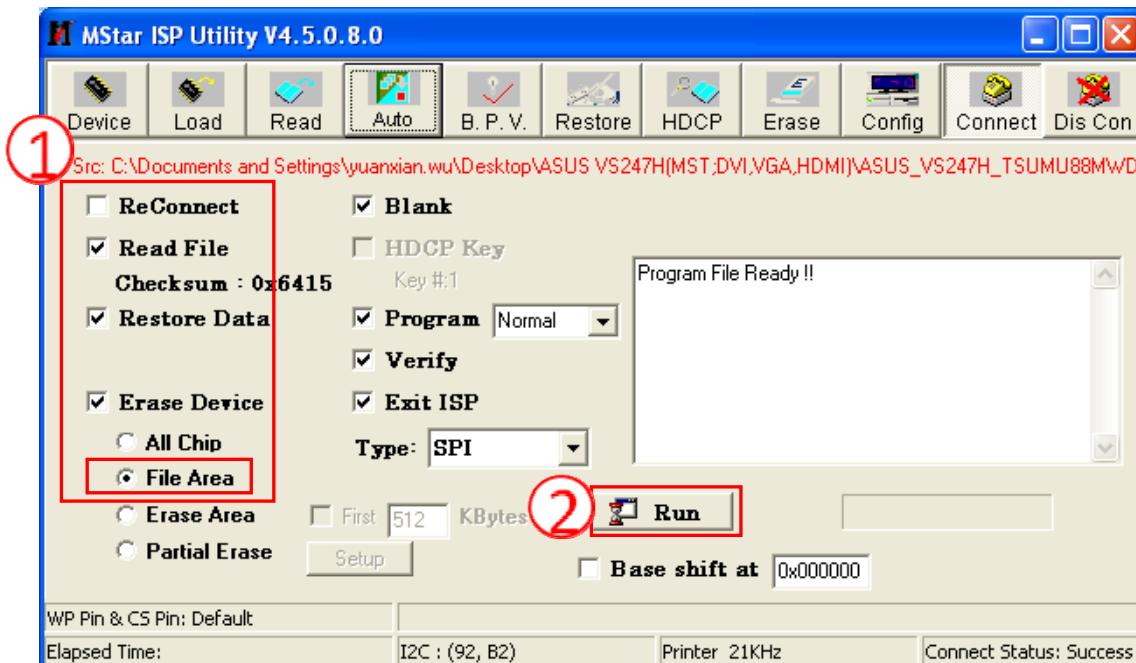
- (1) If the monitor has DVI or HDMI port, you need to set restore address for HDCP key to avoid re-program HDCP key. "0x03C000", 4KB for ASUS VS239H.



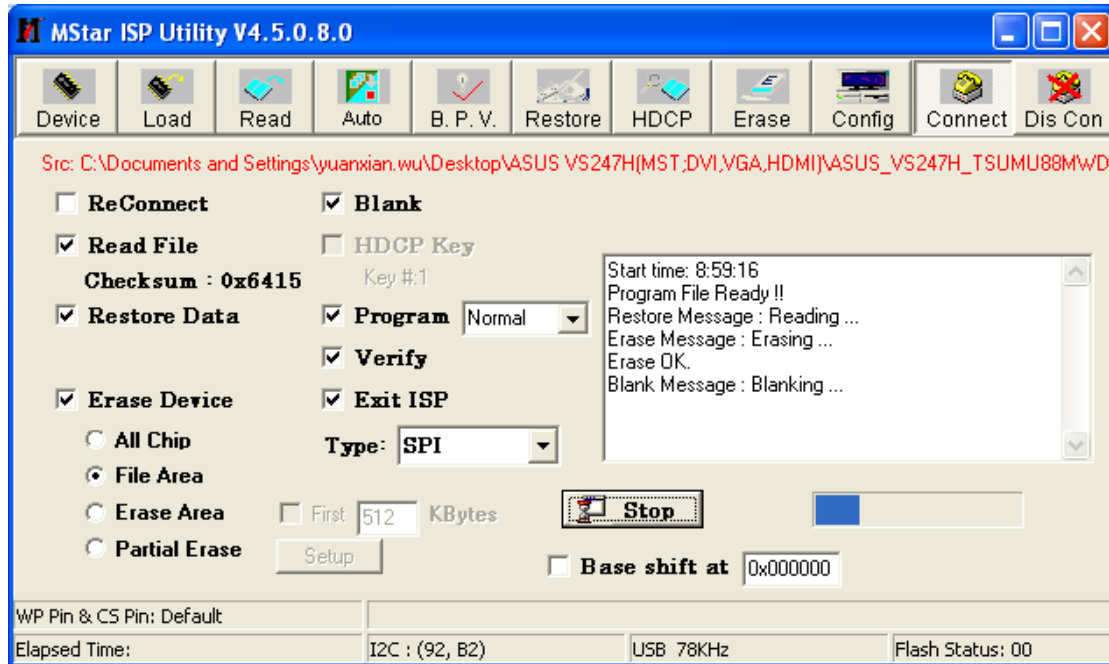
(2) If monitor hasn't DVI or HDMI port, it isn't necessary to tick "Restore Enable".



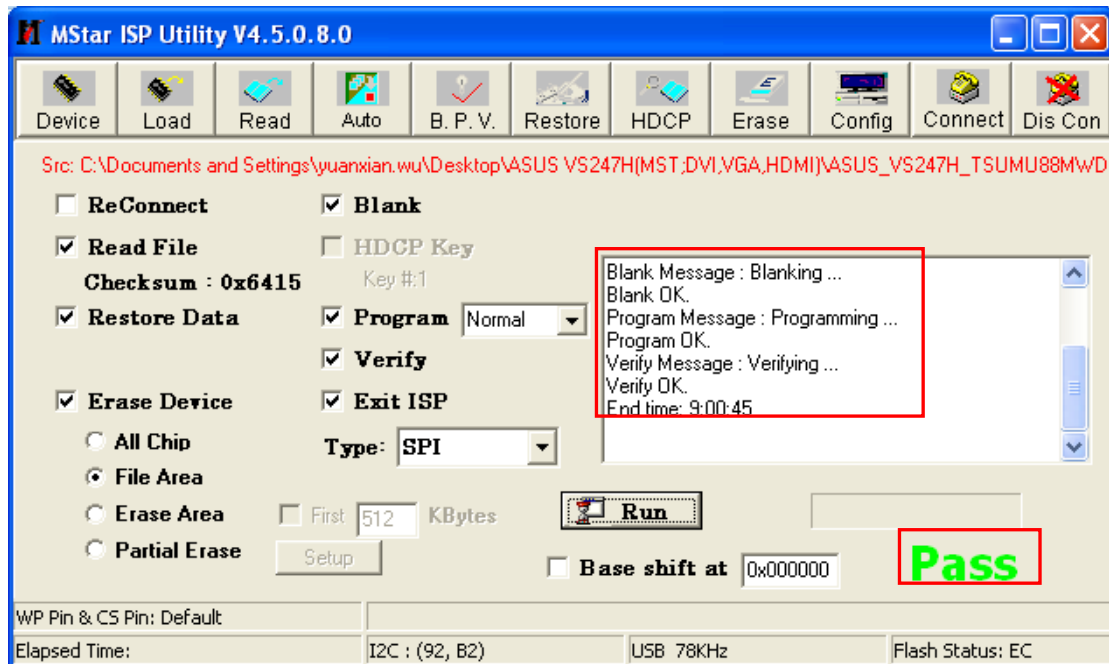
8.4.7. Set parameter in "Auto" window. If you have set "Restore address", please tick "Restore Data".



8.4.8.Processing of upgrade. After clicking “Run”, the tool start to program. It is forbidden to power off monitor or switch off connection during programming.



8.4.9.Successful upgrade. When upgrade successful, there will be green Pass letter appearing.



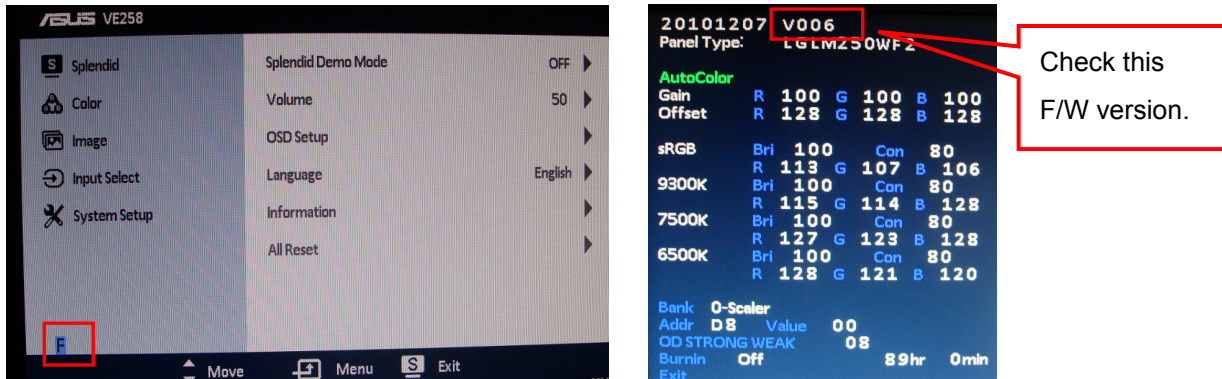
8.5. Check the FW version after upgrade.

(Note: Take below figs as an instance)

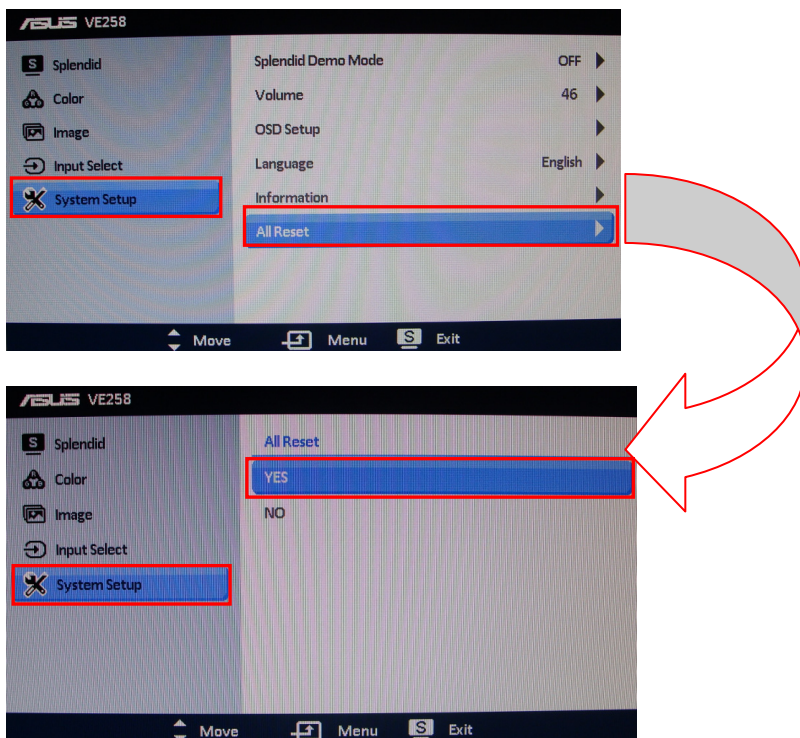
8.5.1. The way to open the factory menu.

(1) Connect source to monitor, and turn it on.

(2) Press “menu” key and AC on simultaneously. when the screen lights, release the “menu” and then press “menu” again to open below menu and select “F” to open factory menu.

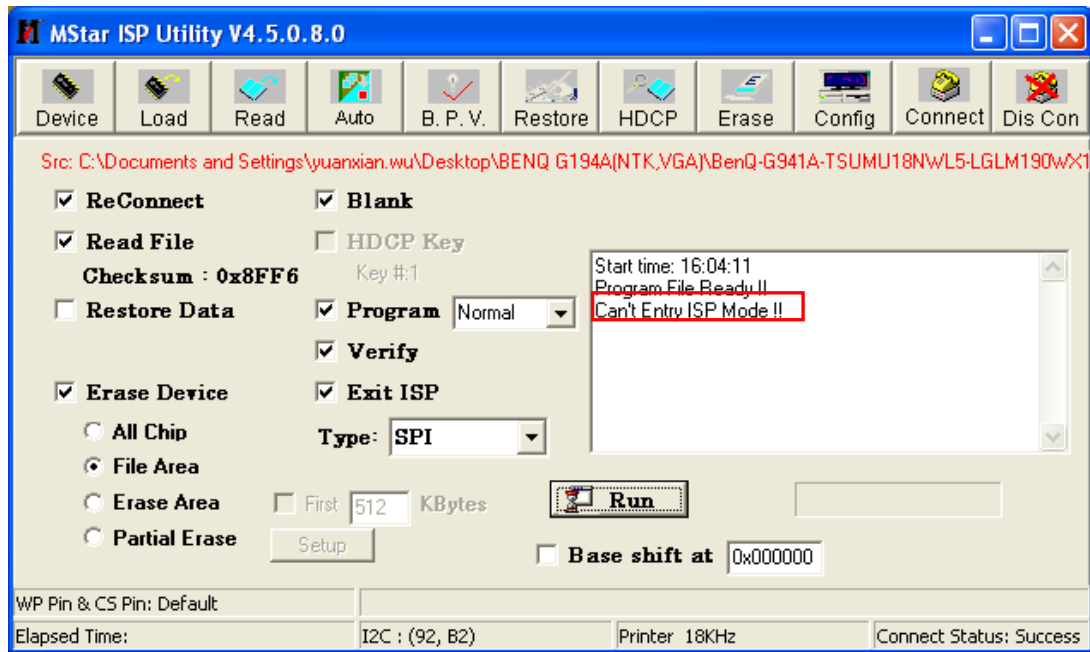


(3) If the version is right, please do factory reset in user menu as fig12, or re-upgrade F/W as the above steps.



8.6. Troubleshooting.

8.6.1. Can't Entry ISP Mode!!



- (1) Check the cables and ISP JIG are connected fluently.
- (2) Click the "Dis Con" and click "Connect" again.
- (3) AC off the monitor for a while and retry it.
- (4) Change other version ISP program.
- (4)Change ISP JIG or cable.
- (5)Change PC.

9. DDC Instruction

Note: Take VS247H for example.

9.1 Materials list for writing.



LPT cable (male to male)

TPV P/N: N/A



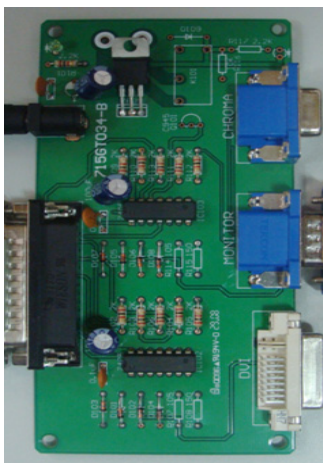
VGA cable

TPV P/N: 089G728 GAA DB



12V DC adapter

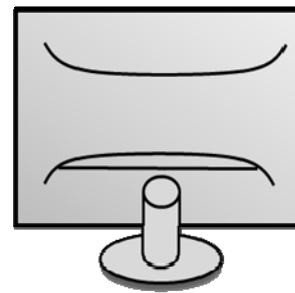
TPV P/N: ADPC12416BEP



ISP JIG: 715GT034-B



PC



Monitor



PORT95NT.EXE

LPT port driver



HdmiSinglePort.exe

ISP tool



ASUS V5247
EDID_20101110.zip

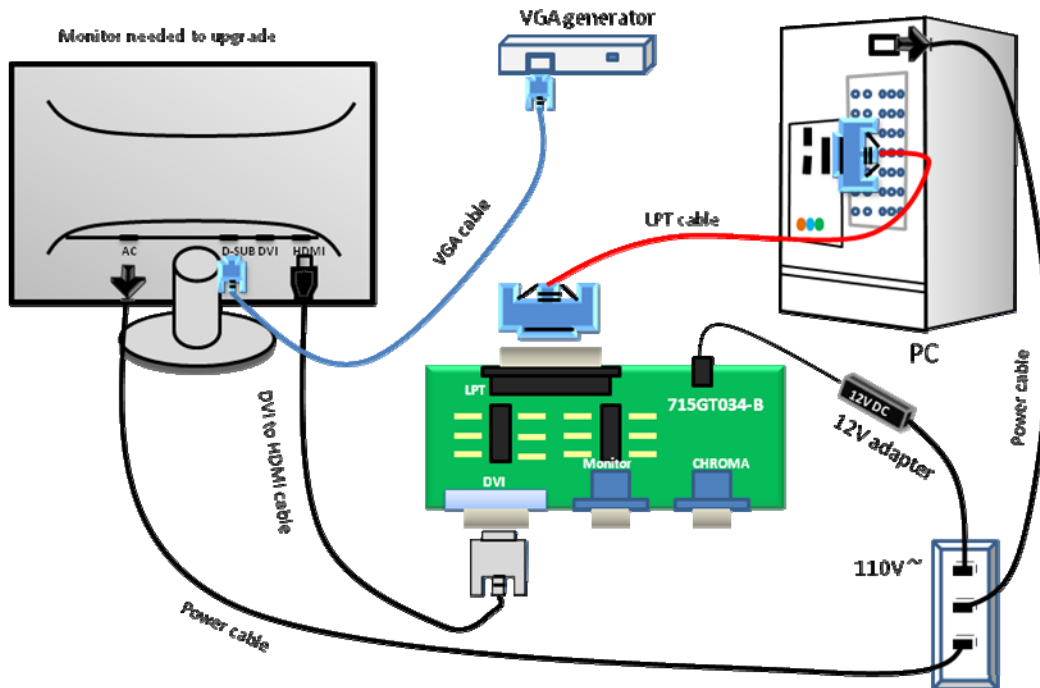
EDID



DVI to HDMI cable

TPV P/N: 089G183GAA501

9.2. Connection



9.3. Install LPT driver.



PORT95NT.EXE
PackageForTheWeb Stub
InstallShield Software Corpora...

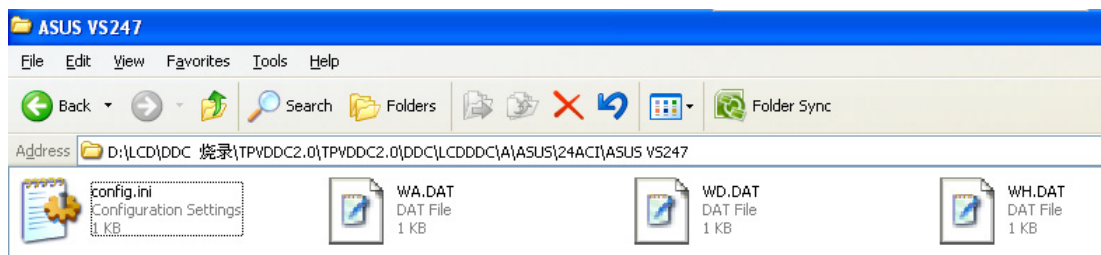
9.3.1. Double click the icon to install the driver. Restart PC after installation.

9.4. Prepare the EDID written.

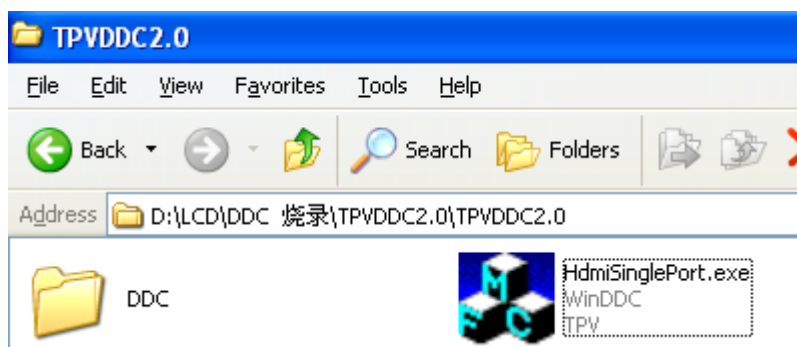
9.4.1. Change the EDID files name as below rule.

Analog EDID → WA.dat Digital EDID → WD.dat
HDMI EDID → WH.dat

9.4.2. Copy these four files to one folder named as ASUS VS239 which must contains "config.ini" file.(note: below picture is a sample.)



9.4.3. Copy ASUS VS239 to DDC folder and put DDC and ISP tool together.



9.5. Run the ISP tool

9.5.1. Double-click the icon  to open the tool.

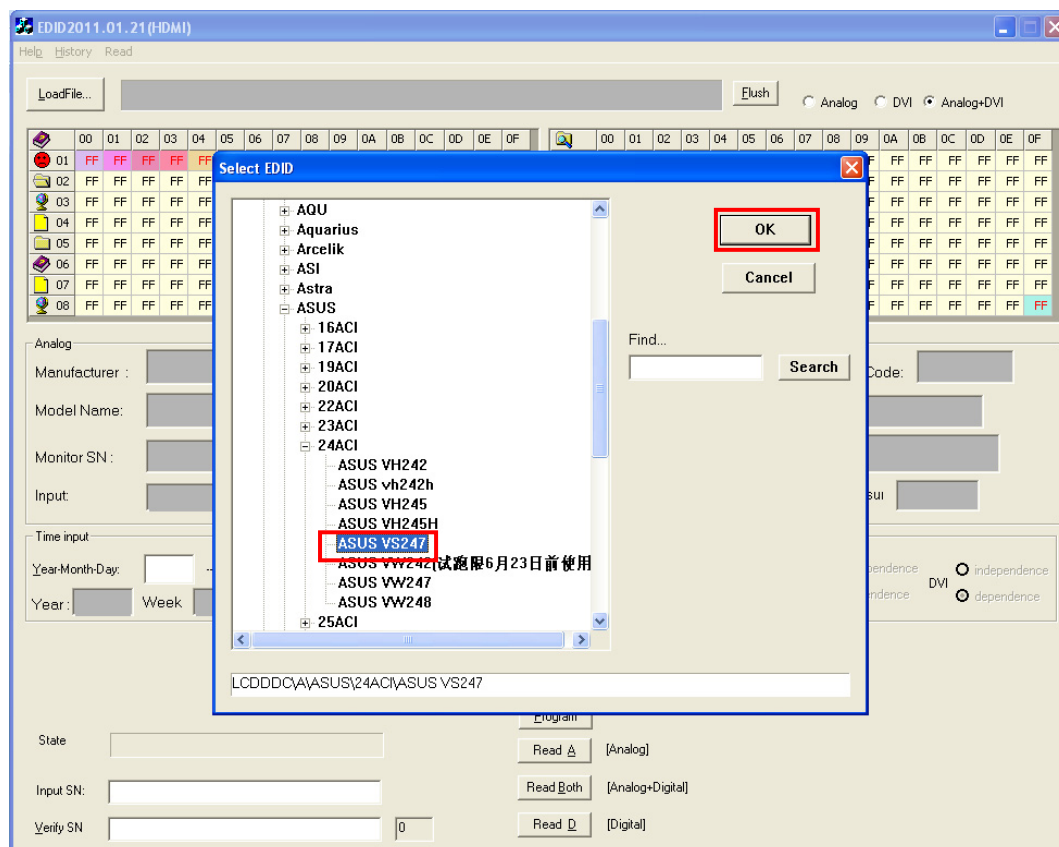


9.5.2. Tick the “Analog+DVI” and click “Loadfile” to set the parameters.

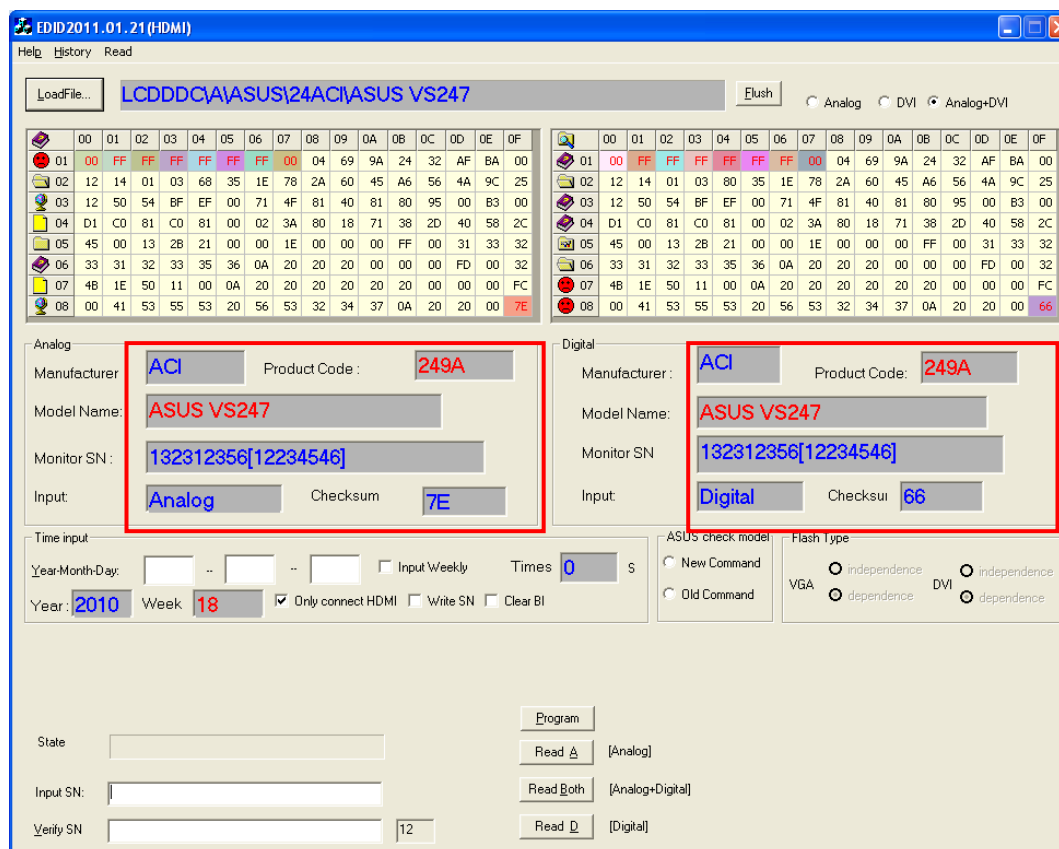
Remark:(1)Tick “Analog”, “Digital” and “HDMI”.

(2)Manufacturer: ACI Product Code: 23D2 Model Name: ASUS VS239 for VS239 setting.

9.5.3. Select the EDID folder.



9.5.4. Load EDID successful.



9.5.5. Tick the “Only connect HDMI”, and type in the 12 digit S/N and date.

EDID2011.01.21 (HDMI)

LoadFile... LCDDDC\A\ASUS\24AC\ASUS VS247 Flush Analog DVI Analog+DVI

00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F

01 00 FF FF FF FF FF 00 04 69 9A 24 32 AF BA 00

02 12 14 01 03 68 35 1E 78 2A 60 45 A6 56 4A 9C 25

03 12 50 54 BF EF 00 71 4F 81 40 81 80 95 00 B3 00

04 D1 C0 81 C0 81 00 02 3A 80 18 71 38 2D 40 58 2C

05 45 00 13 2B 21 00 00 1E 00 00 00 FF 00 31 33 32

06 33 31 32 33 35 36 0A 20 20 20 20 00 00 FD 00 32

07 4B 1E 50 11 00 0A 20 20 20 20 20 20 00 00 FC

08 00 41 53 55 53 20 56 53 32 34 37 0A 20 20 00 7E

Analog Manufacturer: ACI Product Code: 249A Model Name: ASUS VS247 Monitor SN: 132312356[12234546] Input: Analog Checksum: 7E

Digital Manufacturer: ACI Product Code: 249A Model Name: ASUS VS247 Monitor SN: 132312356[12234546] Input: Digital Checksum: 66

Time Input Year-Month-Day: 2011 -- 03 -- 14 Input Weekly Times 0 s Year: 2010 Week 18 Only connect HDMI Write SN Clear BI

ASUS check model New Command Old Command Flash Type VGA independence dependence DVI independence dependence

Program Read A [Analog] Read Both [Analog+Digital] Read D [Digital]

State Input SN: 111111111111 Verify SN: 111111111111 12

9.5.6. Start to writing. Click “Program” to start writing. When The green “PASS” appear, the process is finished.

EDID2011.05.27 (HDMI)

LoadFile... LCDDDC\A\ASUS\24AC\ASUS VS247 Flush Analog DVI Analog+DVI

00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F

01 00 FF FF FF FF FF 00 04 69 9A 24 07 B2 01 00

02 02 15 01 03 68 35 1E 78 2A 60 45 A6 56 4A 9C 25

03 12 50 54 BF EF 00 71 4F 81 40 81 80 95 00 B3 00

04 D1 C0 81 C0 81 00 02 3A 80 18 71 38 2D 40 58 2C

05 45 00 13 2B 21 00 00 1E 00 00 00 FF 00 31 31 31

06 31 31 31 31 31 31 31 31 31 31 31 31 0A 00 00 FD 00 32

07 4B 1E 50 11 00 0A 20 20 20 20 20 20 00 00 FC

08 00 41 53 55 53 20 56 53 32 34 37 0A 20 20 00 4C

Analog Manufacturer: ACI Product Code: 249A Model Name: ASUS VS247 Monitor SN: 111111111111[111111] Input: Analog Checksum: 4C

Digital Manufacturer: ACI Product Code: 249A Model Name: ASUS VS247 Monitor SN: 111111111111[111111] Input: Digital Checksum: 34

Time input Year-Month-Day: 2011 -- 03 -- 14 Input Weekly Times 0 s Year: 2010 Week 18 Only connect HDMI Write SN Clear BI

ASUS check model New Command Old Command Flash Type VGA independence dependence DVI independence dependence

Program Read A [Analog] Read Both [Analog+Digital] Read D [Digital]

State Input SN: Verify SN: 12

Analog: PASS! DVI: PASS! HDMI: PASS!

9.6. Troubleshooting.

9.6.1. Can't write!

- (1)AC on the monitor and turn on it.(Restart the monitor)
- (2)Although we write all EDID through by HDMI single port in this SOP, I can also write it one by one when can't write into.
- (3)Take apart the monitor and connect the 7pin of EEPROM to GND to diable write protection then write EDID one by one.
- (4)Set the Burn in on last to try again.

10. Color/White Balance Adjustment

Approximately 30 minutes should be allowed for warm up before proceeding white balance adjustment. How to setting MEM channel you can reference to chroma 7120 user guide or simple use “SC” key and “NEXT” key to modify x, y, Y value and use “ID” key to modify the TEXT description Following is the procedure to do white-balance adjust.

2. Setting the color temp.

A. MEM.CHANNEL 3 (Warm color):

Warm color temp. parameter is $x = 313 \pm 20$, $y = 329 \pm 20$, $Y = 210 \text{cd/ m}^2$ (typ.)

B. MEM.CHANNEL 4 (Normal color):

Normal color temp. parameter is $x = 299 \pm 20$, $y = 315 \pm 20$, $Y = 200 \text{cd/ m}^2$ (typ.)

C. MEM.CHANNEL 9 (Cool color):

Cool color temp. parameter is $x = 283 \pm 20$, $y = 297 \pm 20$, $Y = 190 \text{cd/ m}^2$ (typ.)

D. MEM.CHANNEL 10 (sRGB color):

sRGB color temp. parameter is $x = 313 \pm 20$, $y = 329 \pm 20$, $Y = 160 \pm 10 \text{cd/ m}^2$

3. Enter into factory mode:

Press “MENU” button, AC off and then AC on, you will enter into the factory mode.

4. Bias adjustment:

Set the Contrast  to 50; Adjust the Brightness  to 80.

5. Gain adjustment:

Move cursor to “-F-” and press MENU key

A. Adjust Warm (6500K) color-temperature

1. Switch the chroma-7120 to RGB-Mode (with press “MODE” button)
2. Switch the MEM.channel to Channel 3 (with up or down arrow on chroma 7120)
3. The LCD-indicator on chroma 7120 will show $x = 313 \pm 20$, $y = 329 \pm 20$, $Y = 210 \text{cd/ m}^2$ (typ.)
4. Adjust the RED on factory window until chroma 7120 indicator reached the value $R=100$
5. Adjust the GREEN on factory window until chroma 7120 indicator reached the value $G=100$
6. Adjust the BLUE on factory window until chroma 7120 indicator reached the value $B=100$
7. Repeat above procedure (item4, 5, 6) until chroma 7120 RGB value meet the tolerance $=100 \pm 2$

B. Adjust Normal (7500K) color-temperature

1. Switch the chroma-7120 to RGB-Mode (with press “MODE” button)
2. Switch the MEM.channel to Channel 4 (with up or down arrow on chroma 7120)
3. The LCD-indicator on chroma 7120 will show $x = 299 \pm 20$, $y = 315 \pm 20$, $Y = 200 \text{cd/ m}^2$ (typ.)
4. Adjust the RED on factory window until chroma 7120 indicator reached the value $R=100$
5. Adjust the GREEN on factory window until chroma 7120 indicator reached the value $G=100$
6. Adjust the BLUE on factory window until chroma 7120 indicator reached the value $B=100$
7. Repeat above procedure (item 4, 5, 6) until chroma 7120 RGB value meet the tolerance $=100 \pm 2$

C. Adjust Cool (9300K) color-temperature

1. Switch the Chroma-7120 to RGB-Mode (with press "MODE" button)
2. Switch the MEM. Channel to Channel 9 (with up or down arrow on chroma 7120)
3. The LCD-indicator on chroma 7120 will show $x = 283 \pm 20$, $y = 297 \pm 20$, $Y = 190 \text{cd/ m}^2$ (typ.)
4. Adjust the RED on factory window until chroma 7120 indicator reached the value $R=100$
5. Adjust the GREEN on factory window until chroma 7120 indicator reached the value $G=100$
6. Adjust the BLUE on factory window until chroma 7120 indicator reached the value $B=100$
7. Repeat above procedure (item 4, 5, 6) until chroma 7120 RGB value meet the tolerance $=100 \pm 2$

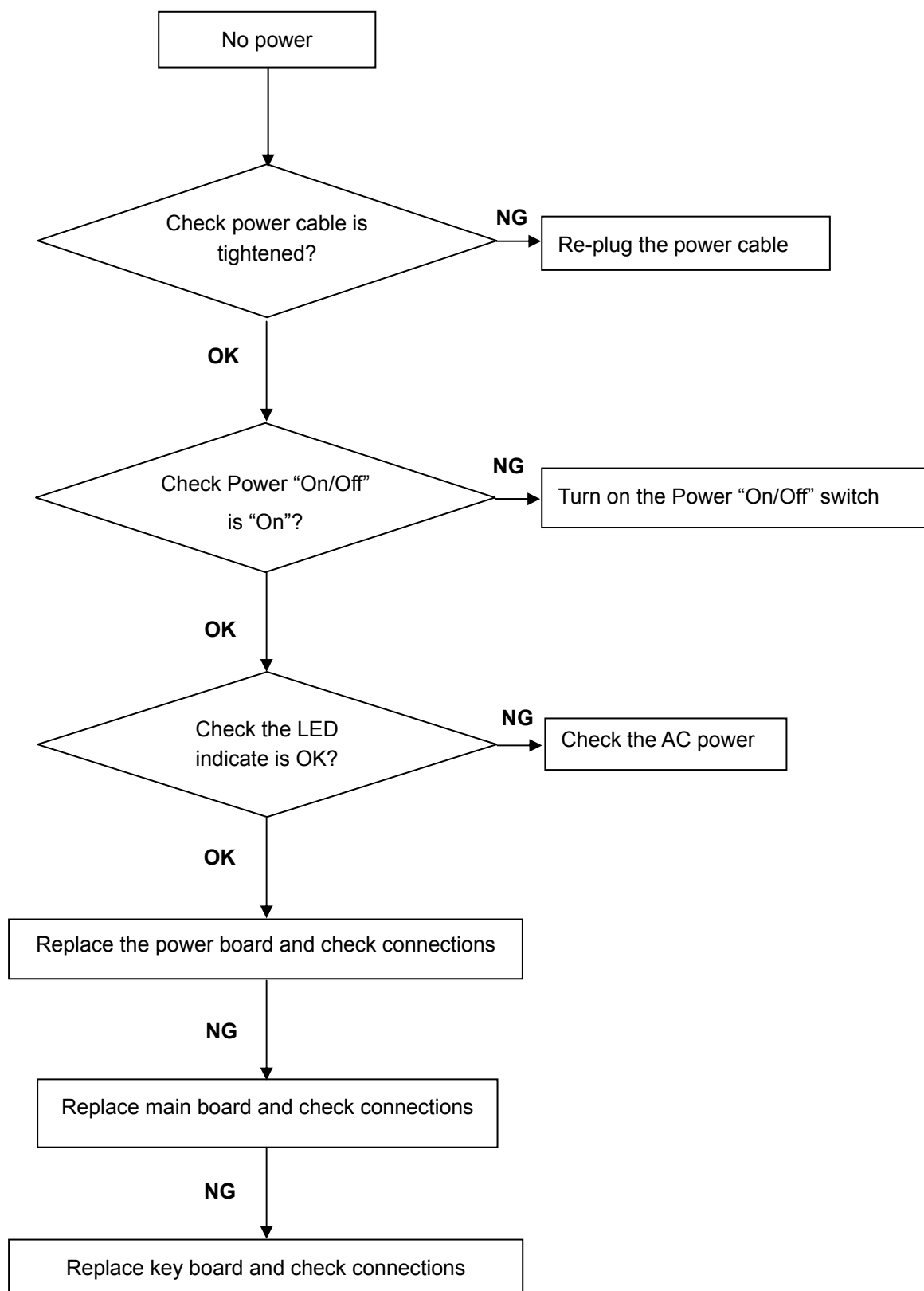
D. Adjust sRGB color-temperature

1. Switch the chroma-7120 to RGB-Mode (with press "MODE" button)
2. Switch the MEM.channel to Channel 10 (with up or down arrow on chroma 7120)
3. The LCD-indicator on chroma 7120 will show $x = 313 \pm 20$, $y = 329 \pm 20$, $Y = 160 \pm 10 \text{cd/ m}^2$
4. Adjust the RED on factory window until chroma 7120 indicator reached the value $R=100$
5. Adjust the GREEN on factory window until chroma 7120 indicator reached the value $G=100$
6. Adjust the BLUE on factory window until chroma 7120 indicator reached the value $B=100$
7. Repeat above procedure (item 4, 5, 6) until chroma 7120 RGB value meet the tolerance $=100 \pm 2$

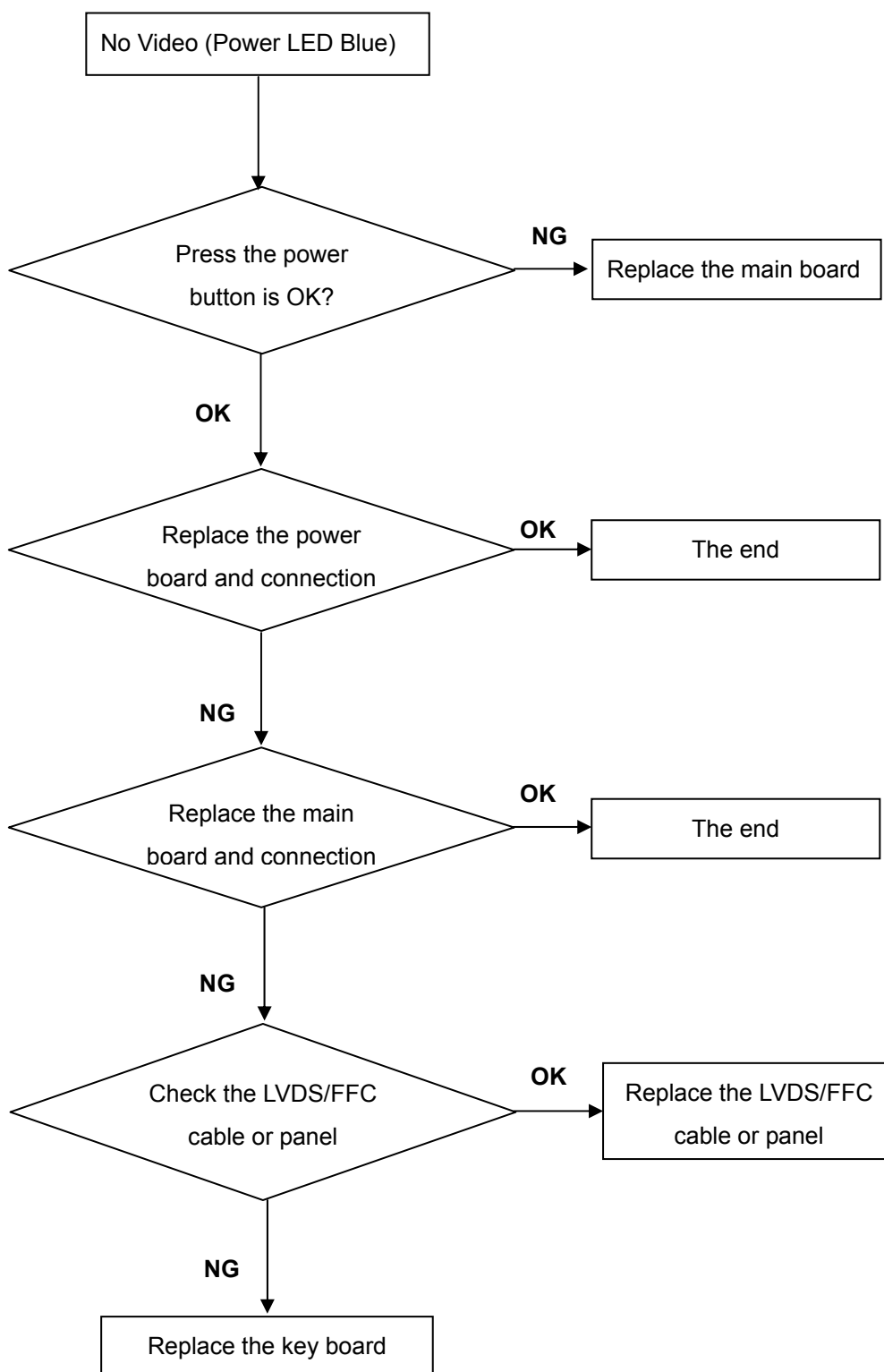
E. Turn the Power-button off to quit from factory mode.

11. Trouble Shooting

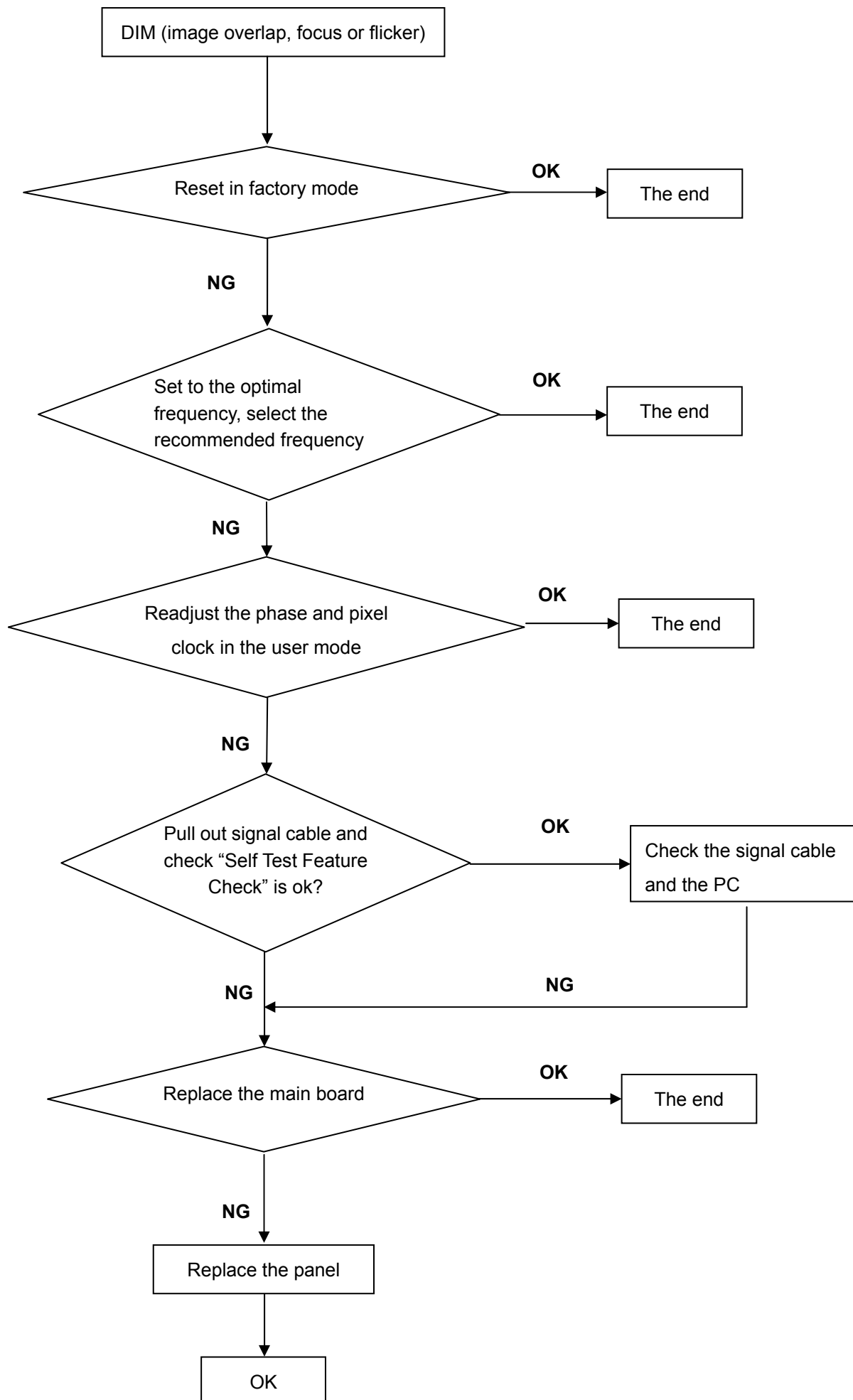
1. No Power



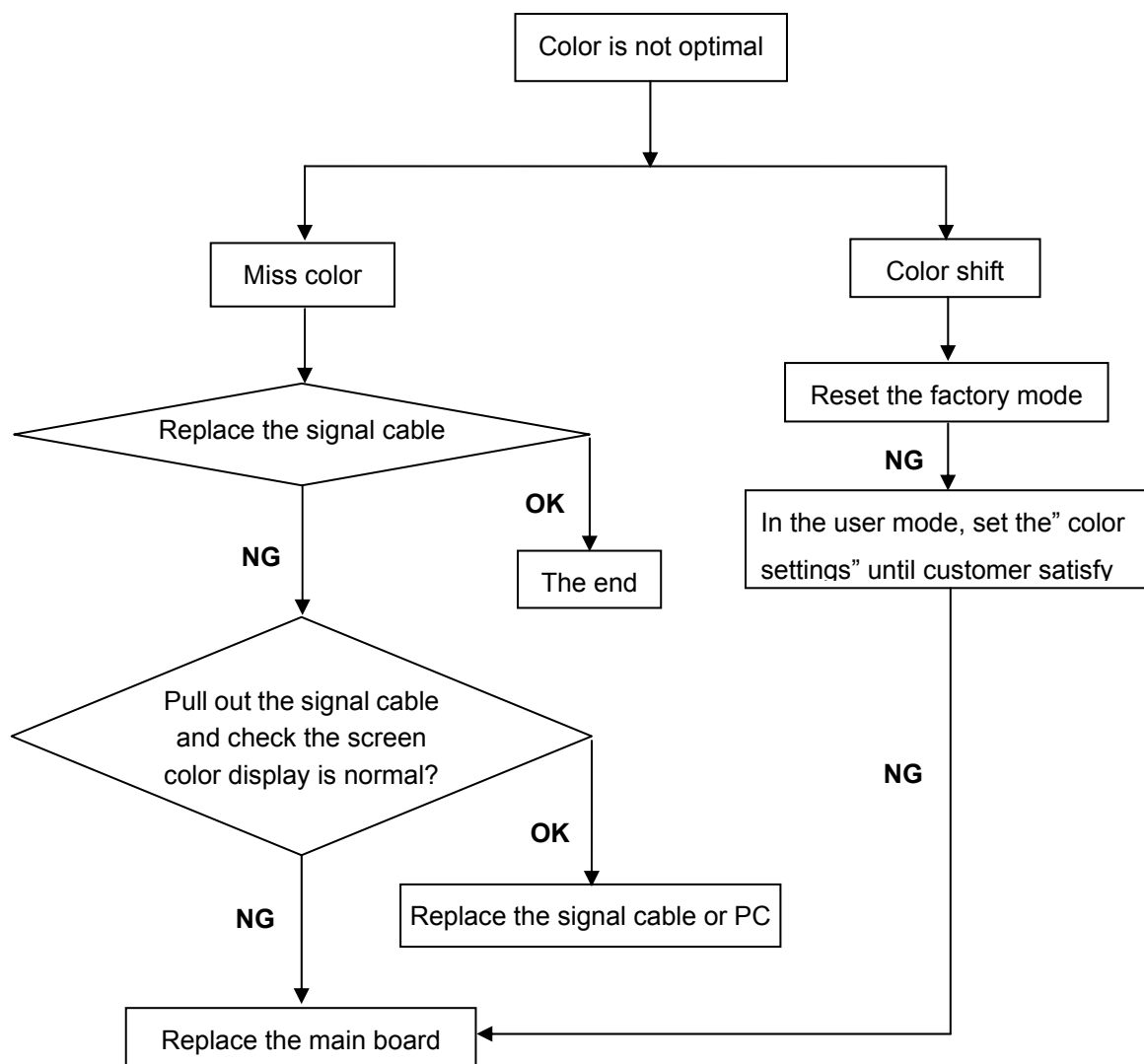
2. No Video (Power LED Blue)



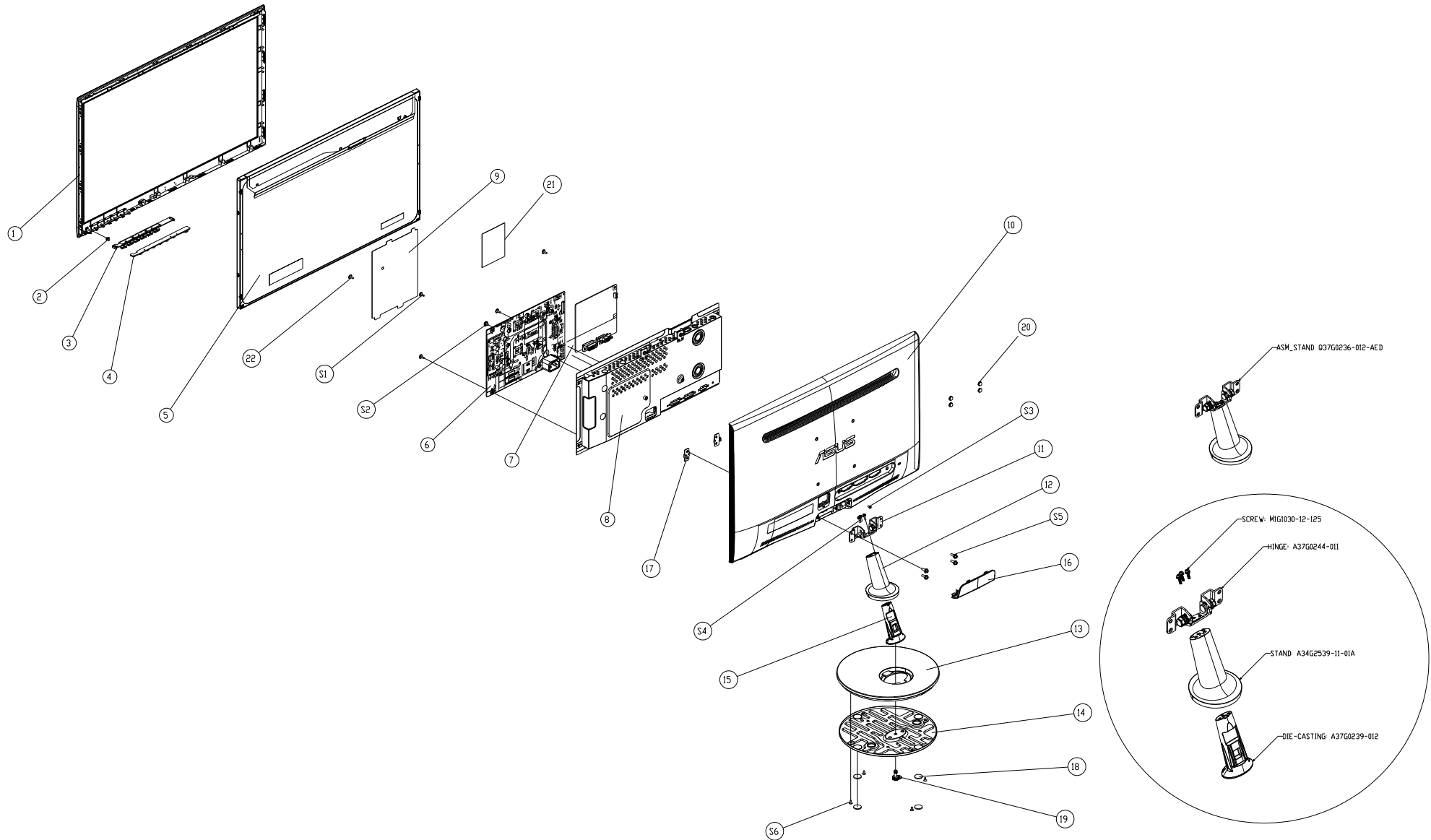
3. DIM



4. Color is not optimal



12. Exploded View



No.	Description
1	BEZEL
2	LENS
3	KEY
4	KEY BOARD
5	PANEL
6	POWER BOARD
7	MAIN BOARD
8	MAIN_FRAME
9	INSULATING SHEET
10	REAR COVER
11	HINGE
12	STAND
13	BASE
14	PLATE
15	STAND DIE-CASTING

No.	Description	No.	Part No.	Description
16	HINGE COVER	S1	0D1G1030 8120	SCREW(FOR MB&PB/MAIN_FRAME)
17	BRACKET	S2	0D1G1040 6120	SCREW(FOR POWER BOARD)
18	FOOT PAD	S3	0M1G 130 5 47 CR3	SCREW(FOR REAR COVER)
19	HAND SCREW	S4	0M1G 930 8120	SCREW(FOR HINGE/STAND)
20	VESA PLUG	S5	0M1G1740 10120	SCREW(FOR HINGE/REAR COVER)
21	INSULATING SHEET	S6	0Q1G 130 6120	SCREW(FOR PLATE/BASE)
22	NYLON-SPACER SUPPORT			

13. BOM list

Note: The parts information listed below are for reference only, and are subject to change without notice. Please go to <http://cs.tpv.com.cn/hello1.asp> for the latest information.

HDBGAP2BACU1HC

Location	Part No.	Description	Remark
	040G 581680 1A	WARRANTY LABEL	
E08902	089G 728CAA 2G	SIGNAL CABLE	
E08902	089G 728GAA 2G	D-SUB CABLE 1800MM	2nd Source
E08902	089G 728HAA 2G	SIGNAL CABLE	2nd Source
E08903	089G1748CAA AC	SIGNAL CABLE DVI COMLINK	2nd Source
E08903	089G1748GAA AC	SIGNAL CABLE DVI GREATLAND	
E08903	089G1748HAA AC	DVI CABLE 1800MM	2nd Source
E08901	089G404A18N CX	AC POWER CORD 1800MM	2nd Source
E08901	089G404A18N IS	AC POWER CORD 1800	
ECN802	095G176X 6N507	FFC CABLE 6PIN 238MM P1.0MM	2nd Source
E09502	095G8014 6D962	HARNESS 6P-6P 260MM FQE102618I	
ECN406	095G801830D197	HARNESS 30P-30P 160MM FQE103246I	
	707GQA14019	EMI ASS'Y	
	052G 1209 A	TASMA ALUMINIOWA	
	052G 1211 B	CONDUCTIVE TAPE 85MM *40MM *0.09MM	
	708GD101XWP	ASUS 40(1408)	
	050G 600 1 W	WHITE STRAP (1G004991)	
	050G 600 3	HANDLE2	
	050G 600 4	HANDLE 1	
	Q50G 4 10	TIE (Y1900221)	
	Q52G 1185 69	ASUS BIG TAPE	
	709G QP000105	CONSUMPTIVE ASS'Y	
	052G 2191 A	PAPER TAPE	
	052G6019 1	INSULATING TAPE	
E750	750GBG230F3B13N0AS	LCD LM230WF3-SLB1 GZ LGD	
	756GQBCB CA032	MAIN BOARD-CBPCBAPUSQ1	
SMTCB-U402	100GCMGD00CNT1	MCU ASS'Y-056G2233501	
	801GQAEE523	L23WA-TASUS9-9 VS238H LGD ASS'Y	
	011G6091 1	NYLON-SPACER SUPPORT	
	0D1G1030 8120	SCREW	
	0D1G1040 6120	SCREW	
	0M1G 130 5 47 CR3	SCREW	
	0M1G1740 10120	SCREW	
	A15G1585103	MAIN_FRAME	
	A15G1591101	BRACKET	
	Q52G1801MNT041B000	INSULATING SHEET	
	Q52G1801MNT048	INSULATING SHEET	
	802GQB34071	L23WA-TASUS9-9 VS239H REAR COVER ASS'Y	
	0M1G 130 8 47 CR3	SCREW 3X8	
	A34G2541AED 7B0130	REAR COVER	
	Q12G6300 71	VESA PLUG	
	803GQA44177	L23WA-TASUS9-9 VS238N EPS ASS'Y	
	Q44GD101101	CUSHION EPS	
	Q44GD101201	CUSHION EPS	
	A33G1178AED 1L0100	HINGE COVER	
	A33G1180 2 1C0100	LENS	
	A34G2540AEDC3B0101	BEZEL	

	Q37G0236012AED	STAND_ASSY 23	
	Q40G000368035A	LABEL TRY ME	
	Q40G0003680A21	SPLENDID LABEL FOR VS239H	
	Q41G78D168019A	EU WARRANTY CARD FOR CCFL & LED NZBD	
	Q44GD101680 2A	23 LCD CARTON	
	Q45G2010M0102A	PE BAG FOR MANUAL	
	Q45G9901609273 N	P.E. BAGX500X630X0.3	
ECN802	S95G176T6N507	FFC CABLE 1.0MM 200MM 6PIN	
	033F303FJR1K16	F1001-6P	
	033F303FJR2K26	F1001-6Y	
E09502	S95G80146962	HARNESS 6P-6P 280MM	2nd Source
	033F206H06PH06	A2006H-06P	
	033F206H06P253	A1253HA-6P	
	033F206T 24	DF11-2428SCF/A2211-T	
	033F206THR2253	A1253TPE-A	
	Q41G78S168033A	QSG_VS229/239	
	Q45G2010M0201A	P.E. BAG (INSTR. BOOK)	
	040G 457834 4A GP	S/N LABEL FOR ID	
	040G 58162435A	PN LABEL FOR MANUAL PE BAG	
	Q40G 24N68029A	RATING LABEL FOR WW	
	Q40G 581709 1B	CARTON LABEL	
	040G 45762412B	CBPC LABEL	
CN401	033G3802 6B Y	CONN 6PIN 2.0	
CN101	033G380210B Y	CONNECTOR	
CN101	033G380210B Y L	CONNECTOR 10P 2.0	2nd Source
CN406	033G804330C H HR	WAFER 2*15P 2.0PICTH	2nd Source
R114	061G152M479 64 SY	RST MOFR 4.7 OHM +-5% 2WS FUTABA	
R112	061G152M479 64 SY	RST MOFR 4.7 OHM +-5% 2WS FUTABA	
CN404	088G 35315FVCL	D-SUB CONN V/T 15P BLUE H=10.4	2nd Source
CN404	088G 35315FVDL	D-SUB CONN 15P FEMALE V/T WITH SCREW	
CN405	088G 35424F VC	DVI CONN 24P V/T WITH SCREW	
CN405	088G 35424FVXH	DVI CONN V/T 24P WHITE	2nd Source
CN601	088G302G5B2VCL	PHONE JACK V/T 5P BLACK H=10.3	
CN601	088G302G5B2VYG	PHONE JACK V/T 5P BLACK H=10.3	2nd Source
X401	093G 22 53 J	CRYSTAL 14.31818MHZ/32PF49US	
X401	093G 22 53 YC	CRYSTAL 14.31818MHZ/32PF 49U/S YC	
CN406	311GW200C30ABL	WAFER 2.0MM 2*15P	
C408	067G 4051003LB	EC 10UF 20% 16V 5*11	
C420	067G 4051003LB	EC 10UF 20% 16V 5*11	
C425	067G 4051003LB	EC 10UF 20% 16V 5*11	
C471	067G 4051003LB	EC 10UF 20% 16V 5*11	
C473	067G 4051003LB	EC 10UF 20% 16V 5*11	
C473	067G 4051007PB	EC 10UF M 50V 5*11MM	
C471	067G 4051007PB	EC 10UF M 50V 5*11MM	
C425	067G 4051007PB	EC 10UF M 50V 5*11MM	
C420	067G 4051007PB	EC 10UF M 50V 5*11MM	
C408	067G 4051007PB	EC 10UF M 50V 5*11MM	
C618	067G 4051013LB	EC 100UF 20% 16V 5*11	
C619	067G 4051013LB	EC 100UF 20% 16V 5*11	
C435	067G 4051013LB	EC 100UF 20% 16V 5*11	
C414	067G 4051013LB	EC 100UF 20% 16V 5*11	
C401	067G 4051013LB	EC 100UF 20% 16V 5*11	
C112	067G 4051013LB	EC 100UF 20% 16V 5*11	
C111	067G 4051013LB	EC 100UF 20% 16V 5*11	

C107	067G 4051013LB	EC 100UF 20% 16V 5*11	
C102	067G 4051013LB	EC 100UF 20% 16V 5*11	
C619	067G 4051013PB	EC 100UF M 16V 5*11MM	
C618	067G 4051013PB	EC 100UF M 16V 5*11MM	
C435	067G 4051013PB	EC 100UF M 16V 5*11MM	
C414	067G 4051013PB	EC 100UF M 16V 5*11MM	
C401	067G 4051013PB	EC 100UF M 16V 5*11MM	
C112	067G 4051013PB	EC 100UF M 16V 5*11MM	
C111	067G 4051013PB	EC 100UF M 16V 5*11MM	
C107	067G 4051013PB	EC 100UF M 16V 5*11MM	
C102	067G 4051013PB	EC 100UF M 16V 5*11MM	
C103	067G 4052213PB	EC 220UF 20% 16V 6.3*11	
C461	067G 4054797PB	EC 4.7UF M 50V 5*11MM	
U401	056G 562306	IC TSUMU88MWD3-LF-1 PQFP-128	
U103	056G 563121	IC G1084-33TU3UF TO-263T	
U106	056G 563123	IC G1084-18TU3UF TO-263T	
U106	056G 563253	LDO AZ1084S2-1.8TRE1 5A 1.8V TO263-2	
U103	056G 563254	LDO AZ1084S2-3.3TRE1 5A 3.3V TO263-2	
U601	056G 616112	AUDIO APA2606NAI-TRG 2.8W SSOP-24P	
U602	056G 643 13	G691L400T73UF SOT-23 GMT	
U501	056G 662 18	ESD PROTECT AZ1045-04F.R7G DFN2510P10E	
U502	056G 662 18	ESD PROTECT AZ1045-04F.R7G DFN2510P10E	
U405	056G 662 18	ESD PROTECT AZ1045-04F.R7G DFN2510P10E	
U404	056G 662 18	ESD PROTECT AZ1045-04F.R7G DFN2510P10E	
U501	056G 662 21	IC AOZ8804DI DFN-10	
U502	056G 662 21	IC AOZ8804DI DFN-10	
U405	056G 662 21	IC AOZ8804DI DFN-10	
U404	056G 662 21	IC AOZ8804DI DFN-10	
U411	056G 662 48	ESD PROTECT AZC399-04S.R7G SOT23-6L	
U505	056G 662 48	ESD PROTECT AZC399-04S.R7G SOT23-6L	
U410	056G 662 48	ESD PROTECT AZC399-04S.R7G SOT23-6L	
U409	056G 662 48	ESD PROTECT AZC399-04S.R7G SOT23-6L	
U409	056G 662505	ESD PROTECT AOZ8105CI SOT-23-6	
U410	056G 662505	ESD PROTECT AOZ8105CI SOT-23-6	
U411	056G 662505	ESD PROTECT AOZ8105CI SOT-23-6	
U505	056G 662505	ESD PROTECT AOZ8105CI SOT-23-6	
U403	056G1133 56	M24C16-WMN6TP	
U407	056G1133158	EEPROM CAT24C02WI-GT3A 2KB SOIC-8	
U504	056G1133158	EEPROM CAT24C02WI-GT3A 2KB SOIC-8	
U406	056G1133158	EEPROM CAT24C02WI-GT3A 2KB SOIC-8	
U406	056G1133531	EEPROM FM24C02A-SO-T-G 2K SOP-8	
U407	056G1133531	EEPROM FM24C02A-SO-T-G 2K SOP-8	
U504	056G1133531	EEPROM FM24C02A-SO-T-G 2K SOP-8	
U403	056G1133534	EEPROM FM24C16A-SO-T-G 16K SOP-8	
U402	056G2233501	FLASH MX25L2026DM1I-12G 2MB SOP-8	
Q101	057G 417511	MMBT3904	
Q103	057G 417511	MMBT3904	
Q605	057G 417511	MMBT3904	
Q606	057G 417511	MMBT3904	
Q410	057G 417512	MMBT3906	
Q411	057G 417512	MMBT3906	
Q410	057G 417517	TRA LMBT3906LT1G -200MA/-40V SOT-23 LRC	
Q411	057G 417517	TRA LMBT3906LT1G -200MA/-40V SOT-23 LRC	
Q606	057G 417518	TRA LMBT3904LT1G 200MA/40V SOT-23 LRC	

Q605	057G 417518	TRA LMBT3904LT1G 200MA/40V SOT-23 LRC	
Q103	057G 417518	TRA LMBT3904LT1G 200MA/40V SOT-23 LRC	
Q101	057G 417518	TRA LMBT3904LT1G 200MA/40V SOT-23 LRC	
Q104	057G 763 3	AO4411 SO-8 BY AOS	
Q104	057G 763512	MOSFET P06P03LVG -6A -30V SO-8	
R631	061G0402000 JI	RST 0402 0.05R MAX 1/16W	
R630	061G0402000 JI	RST 0402 0.05R MAX 1/16W	
R618	061G0402000 JI	RST 0402 0.05R MAX 1/16W	
R499	061G0402000 JI	RST 0402 0.05R MAX 1/16W	
R439	061G0402000 JI	RST 0402 0.05R MAX 1/16W	
R432	061G0402000 JI	RST 0402 0.05R MAX 1/16W	
R428	061G0402000 JI	RST 0402 0.05R MAX 1/16W	
R425	061G0402000 JI	RST 0402 0.05R MAX 1/16W	
R631	061G0402000 JT	RST CHIPR MAX0R05 1/16W TZAI YUAN	
R630	061G0402000 JT	RST CHIPR MAX0R05 1/16W TZAI YUAN	
R618	061G0402000 JT	RST CHIPR MAX0R05 1/16W TZAI YUAN	
R499	061G0402000 JT	RST CHIPR MAX0R05 1/16W TZAI YUAN	
R439	061G0402000 JT	RST CHIPR MAX0R05 1/16W TZAI YUAN	
R432	061G0402000 JT	RST CHIPR MAX0R05 1/16W TZAI YUAN	
R428	061G0402000 JT	RST CHIPR MAX0R05 1/16W TZAI YUAN	
R425	061G0402000 JT	RST CHIPR MAX0R05 1/16W TZAI YUAN	
R494	061G0402100 JI	TEST ONLY RST 0402 10R 5% 1/16W TA-I	
R493	061G0402100 JI	TEST ONLY RST 0402 10R 5% 1/16W TA-I	
R492	061G0402100 JI	TEST ONLY RST 0402 10R 5% 1/16W TA-I	
R491	061G0402100 JI	TEST ONLY RST 0402 10R 5% 1/16W TA-I	
R490	061G0402100 JI	TEST ONLY RST 0402 10R 5% 1/16W TA-I	
R489	061G0402100 JI	TEST ONLY RST 0402 10R 5% 1/16W TA-I	
R488	061G0402100 JI	TEST ONLY RST 0402 10R 5% 1/16W TA-I	
R487	061G0402100 JI	TEST ONLY RST 0402 10R 5% 1/16W TA-I	
R460	061G0402100 JI	TEST ONLY RST 0402 10R 5% 1/16W TA-I	
R459	061G0402100 JI	TEST ONLY RST 0402 10R 5% 1/16W TA-I	
R458	061G0402100 JI	TEST ONLY RST 0402 10R 5% 1/16W TA-I	
R494	061G0402100 JT	RST CHIP 10R 1/16W 5% TZAI YUAN	
R493	061G0402100 JT	RST CHIP 10R 1/16W 5% TZAI YUAN	
R492	061G0402100 JT	RST CHIP 10R 1/16W 5% TZAI YUAN	
R491	061G0402100 JT	RST CHIP 10R 1/16W 5% TZAI YUAN	
R490	061G0402100 JT	RST CHIP 10R 1/16W 5% TZAI YUAN	
R489	061G0402100 JT	RST CHIP 10R 1/16W 5% TZAI YUAN	
R488	061G0402100 JT	RST CHIP 10R 1/16W 5% TZAI YUAN	
R487	061G0402100 JT	RST CHIP 10R 1/16W 5% TZAI YUAN	
R460	061G0402100 JT	RST CHIP 10R 1/16W 5% TZAI YUAN	
R459	061G0402100 JT	RST CHIP 10R 1/16W 5% TZAI YUAN	
R458	061G0402100 JT	RST CHIP 10R 1/16W 5% TZAI YUAN	
R437	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R438	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R477	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R478	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R484	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R485	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R514	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R515	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R516	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R609	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R626	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	

R634	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R636	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R649	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R102	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R401	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R405	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R407	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R408	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R410	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R415	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R417	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R419	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R433	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R434	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R436	061G0402101 JI	BEST ONLY RST 0402 100R 5% 1/16W TA-I	
R514	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R485	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R484	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R478	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R477	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R438	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R437	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R515	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R516	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R609	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R626	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R634	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R649	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R636	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R102	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R401	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R405	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R407	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R408	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R410	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R436	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R434	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R433	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R419	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R417	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R415	061G0402101 JT	RST CHIP 100R 1/16W 5% TZAI YUAN	
R624	061G0402102 JI	RST 0402 1K 5% 1/16W TA-I	
R623	061G0402102 JI	RST 0402 1K 5% 1/16W TA-I	
R613	061G0402102 JI	RST 0402 1K 5% 1/16W TA-I	
R612	061G0402102 JI	RST 0402 1K 5% 1/16W TA-I	
R534	061G0402102 JI	RST 0402 1K 5% 1/16W TA-I	
R519	061G0402102 JI	RST 0402 1K 5% 1/16W TA-I	
R473	061G0402102 JI	RST 0402 1K 5% 1/16W TA-I	
R469	061G0402102 JI	RST 0402 1K 5% 1/16W TA-I	
R468	061G0402102 JI	RST 0402 1K 5% 1/16W TA-I	
R113	061G0402102 JI	RST 0402 1K 5% 1/16W TA-I	
R624	061G0402102 JT	RST CHIP 1K 1/16W 5% TZAI YUAN	
R623	061G0402102 JT	RST CHIP 1K 1/16W 5% TZAI YUAN	
R613	061G0402102 JT	RST CHIP 1K 1/16W 5% TZAI YUAN	

R612	061G0402102 JT	RST CHIP 1K 1/16W 5% TZAI YUAN	
R534	061G0402102 JT	RST CHIP 1K 1/16W 5% TZAI YUAN	
R519	061G0402102 JT	RST CHIP 1K 1/16W 5% TZAI YUAN	
R473	061G0402102 JT	RST CHIP 1K 1/16W 5% TZAI YUAN	
R469	061G0402102 JT	RST CHIP 1K 1/16W 5% TZAI YUAN	
R468	061G0402102 JT	RST CHIP 1K 1/16W 5% TZAI YUAN	
R113	061G0402102 JT	RST CHIP 1K 1/16W 5% TZAI YUAN	
R483	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R511	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R512	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R513	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R611	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R635	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R637	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R639	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R641	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R648	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R647	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R472	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R101	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R103	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R104	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R106	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R424	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R426	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R429	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R430	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R431	061G0402103 JI	TEST ONLY RST 0402 10K 5% 1/16W TA-I	
R483	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R511	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R512	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R513	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R611	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R635	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R637	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R639	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R641	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R647	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R648	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R472	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R431	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R430	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R429	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R426	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R424	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R106	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R104	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R103	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R101	061G0402103 JT	RST CHIP 10K 1/16W 5% TZAI YUAN	
R625	061G0402104 JI	TEST ONLY RST 0402 100K 5% 1/16W TA-I	
R615	061G0402104 JI	TEST ONLY RST 0402 100K 5% 1/16W TA-I	
R614	061G0402104 JI	TEST ONLY RST 0402 100K 5% 1/16W TA-I	
R614	061G0402104 JT	RST CHIP 100K 1/16W 5% TZAI YUAN	
R615	061G0402104 JT	RST CHIP 100K 1/16W 5% TZAI YUAN	

R625	061G0402104 JT	RST CHIP 100K 1/16W 5% TZAI YUAN	
R403	061G0402105 JI	EST ONLY RST 0402 1M 5% 1/16W TA-I	
R403	061G0402105 JT	RST CHIP R 1MOHM 1/16W +/-5% TZAI YUAN	
R449	061G04021202FI	RST 0402 12K 1% 1/16W TA-I	
R449	061G04021202FT	RST 0402 12K 1% 1/16W	
R475	061G0402222 JI	TEST ONLY RST 0402 2.2K 5% 1/16W TA-I	
R476	061G0402222 JI	TEST ONLY RST 0402 2.2K 5% 1/16W TA-I	
R475	061G0402222 JT	RST CHIP 2K2 1/16W 5% TZAI YUAN	
R476	061G0402222 JT	RST CHIP 2K2 1/16W 5% TZAI YUAN	
R105	061G0402223 JI	TEST ONLY RST 0402 22K 5% 1/16W TA-I	
R109	061G0402223 JI	TEST ONLY RST 0402 22K 5% 1/16W TA-I	
R105	061G0402223 JT	RST CHIP 33K 1/16W 5% TZAI YUAN	
R109	061G0402223 JT	RST CHIP 33K 1/16W 5% TZAI YUAN	
R418	061G04023900FI	TEST ONLY RST 0402 390R 1% 1/16W TA-I	
R418	061G04023900FT	RST CHIP 390R 1/16W 1%	
R443	061G0402392 JI	TEST ONLY RST 0402 3.9K 5% 1/16W TA-I	
R442	061G0402392 JI	TEST ONLY RST 0402 3.9K 5% 1/16W TA-I	
R441	061G0402392 JI	TEST ONLY RST 0402 3.9K 5% 1/16W TA-I	
R441	061G0402392 JT	RST CHIP R 3K9 +/-5% 1/16W TZAI YUAN	
R442	061G0402392 JT	RST CHIP R 3K9 +/-5% 1/16W TZAI YUAN	
R443	061G0402392 JT	RST CHIP R 3K9 +/-5% 1/16W TZAI YUAN	
R412	061G0402393 JI	RST 0402 39K 5% 1/16W	
R440	061G0402393 JI	RST 0402 39K 5% 1/16W	
R529	061G0402393 JI	RST 0402 39K 5% 1/16W	
R440	061G0402393 JT	RST CHIP 39K 1/16W 5% TZAI YUAN	
R529	061G0402393 JT	RST CHIP 39K 1/16W 5% TZAI YUAN	
R412	061G0402393 JT	RST CHIP 39K 1/16W 5% TZAI YUAN	
R462	061G0402470 JI	RST 0402 47R 5% 1/16W	
R463	061G0402470 JI	RST 0402 47R 5% 1/16W	
R464	061G0402470 JI	RST 0402 47R 5% 1/16W	
R464	061G0402470 JT	RST CHIP 47R 1/16W 5% TZAI YUAN	
R462	061G0402470 JT	RST CHIP 47R 1/16W 5% TZAI YUAN	
R463	061G0402470 JT	RST CHIP 47R 1/16W 5% TZAI YUAN	
R450	061G04024701FF	RST 0402 4.7K 1% 1/16W	
R450	061G04024701FI	RST 0402 4.7K 1/16W 1% TA-I	
R461	061G0402471 JI	TEST ONLY RST 0402 470R 5% 1/16W TA-I	
R461	061G0402471 JT	RST CHIP 470R 1/16W 5% TZAI YUAN	
R107	061G0402472 JI	TEST ONLY RST CHIP 4.7K 5% 1/16W TA-I	
R470	061G0402472 JI	TEST ONLY RST CHIP 4.7K 5% 1/16W TA-I	
R471	061G0402472 JI	TEST ONLY RST CHIP 4.7K 5% 1/16W TA-I	
R481	061G0402472 JI	TEST ONLY RST CHIP 4.7K 5% 1/16W TA-I	
R482	061G0402472 JI	TEST ONLY RST CHIP 4.7K 5% 1/16W TA-I	
R482	061G0402472 JT	RST CHIP 4K7 1/16W 5% TZAI YUAN	
R481	061G0402472 JT	RST CHIP 4K7 1/16W 5% TZAI YUAN	
R471	061G0402472 JT	RST CHIP 4K7 1/16W 5% TZAI YUAN	
R470	061G0402472 JT	RST CHIP 4K7 1/16W 5% TZAI YUAN	
R107	061G0402472 JT	RST CHIP 4K7 1/16W 5% TZAI YUAN	
R508	061G0402479 JI	RST 0402 4.7R 5% 1/16W	
R507	061G0402479 JI	RST 0402 4.7R 5% 1/16W	
R506	061G0402479 JI	RST 0402 4.7R 5% 1/16W	
R505	061G0402479 JI	RST 0402 4.7R 5% 1/16W	
R504	061G0402479 JI	RST 0402 4.7R 5% 1/16W	
R503	061G0402479 JI	RST 0402 4.7R 5% 1/16W	
R502	061G0402479 JI	RST 0402 4.7R 5% 1/16W	

R501	061G0402479 JI	RST 0402 4.7R 5% 1/16W	
R507	061G0402479 JT	RST CHIP 4R7 1/16W 5% TZAI YUAN	
R508	061G0402479 JT	RST CHIP 4R7 1/16W 5% TZAI YUAN	
R506	061G0402479 JT	RST CHIP 4R7 1/16W 5% TZAI YUAN	
R505	061G0402479 JT	RST CHIP 4R7 1/16W 5% TZAI YUAN	
R504	061G0402479 JT	RST CHIP 4R7 1/16W 5% TZAI YUAN	
R503	061G0402479 JT	RST CHIP 4R7 1/16W 5% TZAI YUAN	
R502	061G0402479 JT	RST CHIP 4R7 1/16W 5% TZAI YUAN	
R501	061G0402479 JT	RST CHIP 4R7 1/16W 5% TZAI YUAN	
R640	061G0402512 JI	RST 0402 5.1K 5% 1/16W	
R640	061G0402512 JT	RST CHIP 5K1 1/16W 5% TZAI YUAN	
R108	061G0402563 JI	RST 0402 56K 5% 1/16W	
R108	061G0402563 JT	RST CHIPR 56KOHM 1/16W TZAI YUAN	
R467	061G04027509FI	TEST ONLY RST 0402 75R 1% 1/16W TA-I	
R466	061G04027509FI	TEST ONLY RST 0402 75R 1% 1/16W TA-I	
R465	061G04027509FI	TEST ONLY RST 0402 75R 1% 1/16W TA-I	
R465	061G04027509FT	RST CHIP 75R 1/16W 1%	
R466	061G04027509FT	RST CHIP 75R 1/16W 1%	
R467	061G04027509FT	RST CHIP 75R 1/16W 1%	
R622	061G04028209FI	RST 0402 82R 1% 1/16W	
R621	061G04028209FI	RST 0402 82R 1% 1/16W	
R621	061G04028209FT	RST 0402 82R 1% 1/16W	
R622	061G04028209FT	RST 0402 82R 1% 1/16W	
R411	061G0603101 JI	RST 0603 100R 5% 1/10W TA-I	
R416	061G0603101 JI	RST 0603 100R 5% 1/10W TA-I	
R416	061G0603101 JT	RST CHIP 100R 1/10W 5% TZAI YUAN	
R411	061G0603101 JT	RST CHIP 100R 1/10W 5% TZAI YUAN	
R111	061G0603103 JI	RST 0603 10K 5% 1/10W	
R111	061G0603103 JT	RST CHIP 10K 1/10W 5% TZAI YUAN	
R638	061G0603512 JI	RST 0603 5.1K 5% 1/16W TA-I	
R638	061G0603512 JT	RST 0603 5.1K 5% 1/10W	
R448	061G1206102 JI	RST 1206 1K 5% 1/4W	
R474	061G1206102 JI	RST 1206 1K 5% 1/4W	
R448	061G1206102 JT	RST CHIPR 1KOHM +-5% 1/4W TZAI YUAN	
R474	061G1206102 JT	RST CHIPR 1KOHM +-5% 1/4W TZAI YUAN	
C632	065G040210232K A	CAP 0402 1NF 10% 50V X7R	
C441	065G040210232K A	CAP 0402 1NF 10% 50V X7R	
C437	065G040210232K A	CAP 0402 1NF 10% 50V X7R	
C123	065G040210232K A	CAP 0402 1NF 10% 50V X7R	
C123	065G040210232K Y	CAP CHIP 0402 1N 50V X7R +/-10%	
C437	065G040210232K Y	CAP CHIP 0402 1N 50V X7R +/-10%	
C441	065G040210232K Y	CAP CHIP 0402 1N 50V X7R +/-10%	
C632	065G040210232K Y	CAP CHIP 0402 1N 50V X7R +/-10%	
C431	065G040210412K A	CAP CHIP 0402 100NF K 16V X7R	
C430	065G040210412K A	CAP CHIP 0402 100NF K 16V X7R	
C421	065G040210412K A	CAP CHIP 0402 100NF K 16V X7R	
C419	065G040210412K A	CAP CHIP 0402 100NF K 16V X7R	
C418	065G040210412K A	CAP CHIP 0402 100NF K 16V X7R	
C417	065G040210412K A	CAP CHIP 0402 100NF K 16V X7R	
C416	065G040210412K A	CAP CHIP 0402 100NF K 16V X7R	
C415	065G040210412K A	CAP CHIP 0402 100NF K 16V X7R	
C411	065G040210412K A	CAP CHIP 0402 100NF K 16V X7R	
C412	065G040210412K A	CAP CHIP 0402 100NF K 16V X7R	
C432	065G040210412K A	CAP CHIP 0402 100NF K 16V X7R	

C433	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C434	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C436	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C449	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C459	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C460	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C470	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C472	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C631	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C410	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C101	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C104	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C105	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C108	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C110	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C113	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C114	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C118	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C119	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C409	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C407	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C406	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C405	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C404	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C403	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C402	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C121	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C120	065G040210412K	A	CAP CHIP 0402 100NF K 16V X7R	
C423	065G040210412K	T	CAP CHIP 0402 100NF 16V X7R	
C430	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C423	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C421	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C419	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C418	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C417	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C416	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C415	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C412	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C411	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C431	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C432	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C433	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C434	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C436	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C449	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C459	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C460	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C470	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C472	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C631	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C101	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C104	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C105	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C108	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	

C110	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C113	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C114	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C118	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C119	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C120	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C121	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C402	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C403	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C404	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C405	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C406	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C407	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C409	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C410	065G040210412K	Y	CAP 0402 100NF 10% 16V X7R	
C620	065G040210425K	3	CAP CHIP 0402 100N 25V X5R +/-10%	
C620	065G040210425K	M	CAP 0402 100NF 10% 25V X5R	
C475	065G0402105A5K	3	CAP CHIP 0402 1UF K 10V X5R	
C605	065G0402105A5K	3	CAP CHIP 0402 1UF K 10V X5R	
C609	065G0402105A5K	3	CAP CHIP 0402 1UF K 10V X5R	
C611	065G0402105A5K	3	CAP CHIP 0402 1UF K 10V X5R	
C613	065G0402105A5K	3	CAP CHIP 0402 1UF K 10V X5R	
C623	065G0402105A5K	3	CAP CHIP 0402 1UF K 10V X5R	
C624	065G0402105A5K	3	CAP CHIP 0402 1UF K 10V X5R	
C624	065G0402105A5K	Y	CAP 0402 1UF 10% 10V X5R	
C623	065G0402105A5K	Y	CAP 0402 1UF 10% 10V X5R	
C613	065G0402105A5K	Y	CAP 0402 1UF 10% 10V X5R	
C611	065G0402105A5K	Y	CAP 0402 1UF 10% 10V X5R	
C609	065G0402105A5K	Y	CAP 0402 1UF 10% 10V X5R	
C605	065G0402105A5K	Y	CAP 0402 1UF 10% 10V X5R	
C475	065G0402105A5K	Y	CAP 0402 1UF 10% 10V X5R	
C446	065G040222031J	A	CAP 0402 22PF J 50V NPO	
C447	065G040222031J	A	CAP 0402 22PF J 50V NPO	
C446	065G040222031J	Y	CAP CHIP 0402 22P 50V NP0 +/-5%	
C447	065G040222031J	Y	CAP CHIP 0402 22P 50V NP0 +/-5%	
C607	065G040222232K	A	CAP 0402 2.2NF 10% 50V X7R	
C606	065G040222232K	A	CAP 0402 2.2NF 10% 50V X7R	
C606	065G040222232K	Y	CAP CHIP 0402 2N2 50V X7R +/-10%	
C607	065G040222232K	Y	CAP CHIP 0402 2N2 50V X7R +/-10%	
C124	065G040222415K	M	CAP 0402 220NF 10% 16V X5R	
C124	065G040222415K	T	CAP CHIP 0402 220NF K 16V X5R	
C424	065G0402224A5K	A	CAP 0402 220NF K 10V X5R	
C429	065G0402224A5K	A	CAP 0402 220NF K 10V X5R	
C452	065G0402224A5K	A	CAP 0402 220NF K 10V X5R	
C454	065G0402224A5K	A	CAP 0402 220NF K 10V X5R	
C502	065G0402224A5K	A	CAP 0402 220NF K 10V X5R	
C454	065G0402224A5K	T	CAP 0402 0.22UF K X5R	
C502	065G0402224A5K	T	CAP 0402 0.22UF K X5R	
C452	065G0402224A5K	T	CAP 0402 0.22UF K X5R	
C429	065G0402224A5K	T	CAP 0402 0.22UF K X5R	
C424	065G0402224A5K	T	CAP 0402 0.22UF K X5R	
C438	065G040247312K	A	CAP 0402 47NF 10% 16V X7R	
C439	065G040247312K	A	CAP 0402 47NF 10% 16V X7R	
C440	065G040247312K	A	CAP 0402 47NF 10% 16V X7R	

C442	065G040247312K	A	CAP 0402 47NF 10% 16V X7R	
C443	065G040247312K	A	CAP 0402 47NF 10% 16V X7R	
C444	065G040247312K	A	CAP 0402 47NF 10% 16V X7R	
C444	065G040247312K	T	CAP 0402 47NF 10% 16V X7R	
C443	065G040247312K	T	CAP 0402 47NF 10% 16V X7R	
C442	065G040247312K	T	CAP 0402 47NF 10% 16V X7R	
C440	065G040247312K	T	CAP 0402 47NF 10% 16V X7R	
C439	065G040247312K	T	CAP 0402 47NF 10% 16V X7R	
C438	065G040247312K	T	CAP 0402 47NF 10% 16V X7R	
C426	065G040256031J	A	CAP 0402 56PF 5% 50V NP0	
C428	065G040256031J	A	CAP 0402 56PF 5% 50V NP0	
C426	065G040256031J	Y	CAP CHIP 0402 56PF 50V NP0 +/-5%	
C428	065G040256031J	Y	CAP CHIP 0402 56PF 50V NP0 +/-5%	
C634	065G040268132K	A	CAP 0402 680PF 10% 50V X7R	
C633	065G040268132K	A	CAP 0402 680PF 10% 50V X7R	
C633	065G040268132K	Y	CAP 0402 680PF 50V X7R +/-10%	
C634	065G040268132K	Y	CAP 0402 680PF 50V X7R +/-10%	
C635	065G060310432K	A	CAP 0603 100NF 10% 50V X7R	
C635	065G060310432K	M	CAP 0603 100NF 10% 50V X7R	
C622	065G0603225A5K	M	CAP MLCC 0603 2.2UF K 10V X5R	
C622	065G0603225A5K	Y	0603 2.2UF 10V X5R	
C612	065G0805106A7Z	3	CAP CHIP 0805 10UF 10V Y5V -20~+80%	
C612	065G0805106A7Z	Y	CAP CHIP 0805 10U 10V Y5V -20~+80%	
U402	070GHDCP500HDC		HDCP CODE	
FB103	071G 56G301 EA		CHIP BEAD 0805 300R 25% 4000MA	
FB611	071G 56G301 EA		CHIP BEAD 0805 300R 25% 4000MA	
FB102	071G 56G301 EA		CHIP BEAD 0805 300R 25% 4000MA	
FB102	071G 56G301 MA		CHIP BEAD 0805 300OHM 4A	
FB103	071G 56G301 MA		CHIP BEAD 0805 300OHM 4A	
FB611	071G 56G301 MA		CHIP BEAD 0805 300OHM 4A	
FB610	071G 56K121		HF CHIP BEAD 0805 120R 25%	
FB417	071G 56K121		HF CHIP BEAD 0805 120R 25%	
FB416	071G 56K121		HF CHIP BEAD 0805 120R 25%	
FB415	071G 56K121		HF CHIP BEAD 0805 120R 25%	
FB414	071G 56K121		HF CHIP BEAD 0805 120R 25%	
FB408	071G 56K121		HF CHIP BEAD 0805 120R 25%	
FB405	071G 56K121		HF CHIP BEAD 0805 120R 25%	
FB404	071G 56K121		HF CHIP BEAD 0805 120R 25%	
FB403	071G 56K121		HF CHIP BEAD 0805 120R 25%	
FB402	071G 56K121		HF CHIP BEAD 0805 120R 25%	
FB401	071G 56K121		HF CHIP BEAD 0805 120R 25%	
FB107	071G 56K121		HF CHIP BEAD 0805 120R 25%	
FB101	071G 56K121		HF CHIP BEAD 0805 120R 25%	
FB405	071G 56K121	M	CHIP BEAD 120OHM 6A MGLB2012-120T-LF	
FB408	071G 56K121	M	CHIP BEAD 120OHM 6A MGLB2012-120T-LF	
FB414	071G 56K121	M	CHIP BEAD 120OHM 6A MGLB2012-120T-LF	
FB415	071G 56K121	M	CHIP BEAD 120OHM 6A MGLB2012-120T-LF	
FB416	071G 56K121	M	CHIP BEAD 120OHM 6A MGLB2012-120T-LF	
FB417	071G 56K121	M	CHIP BEAD 120OHM 6A MGLB2012-120T-LF	
FB610	071G 56K121	M	CHIP BEAD 120OHM 6A MGLB2012-120T-LF	
FB404	071G 56K121	M	CHIP BEAD 120OHM 6A MGLB2012-120T-LF	
FB403	071G 56K121	M	CHIP BEAD 120OHM 6A MGLB2012-120T-LF	
FB402	071G 56K121	M	CHIP BEAD 120OHM 6A MGLB2012-120T-LF	
FB401	071G 56K121	M	CHIP BEAD 120OHM 6A MGLB2012-120T-LF	

FB107	071G 56K121 M	CHIP BEAD 120OHM 6A MGLB2012-120T-LF	
FB101	071G 56K121 M	CHIP BEAD 120OHM 6A MGLB2012-120T-LF	
FB413	071G 56U600	CHIP BEAD 60 OHM	
FB406	071G 59C121 B	CHIP BEAD 0603 120R 25% 300MA	
FB410	071G 59K190 B	CHIP BEAD 0603 19 OHM FCB1608KF-190T05	
FB411	071G 59K190 B	CHIP BEAD 0603 19 OHM FCB1608KF-190T05	
FB412	071G 59K190 B	CHIP BEAD 0603 19 OHM FCB1608KF-190T05	
FB410	071G 59K190 M	CHIP BEAD 0603 19R/500MA	
FB411	071G 59K190 M	CHIP BEAD 0603 19R/500MA	
FB412	071G 59K190 M	CHIP BEAD 0603 19R/500MA	
CN501	088G 34019H VA	HDMI HEADER 19P V/T H:13.0MM	
CN501	088G 34019H VD	HDMI HEADER 19P BLACK HD2NA-19BM4YN10	2nd Source
D501	093G 60505	SCHOTTKY BAT54C 0.2A 30V SOT-23	
D407	093G 64 42 P	BAV70 SOT23 BY PAN JIT	
D413	093G 64 42 P	BAV70 SOT23 BY PAN JIT	
D407	093G 64 42SEM	SWITCHING BAV70 215MA 75V SOT-23	
D413	093G 64 42SEM	SWITCHING BAV70 215MA 75V SOT-23	
D602	093G 6433P	BAV99	
ZD408	093G 39GA01 T	RLZ5.6B	
ZD501	093G 39GA01 T	RLZ5.6B	
ZD407	093G 39GA01 T	RLZ5.6B	
ZD405	093G 39GA01 T	RLZ5.6B	
ZD404	093G 39GA01 T	RLZ5.6B	
ZD403	093G 39GA01 T	RLZ5.6B	
ZD402	093G 39GA01 T	RLZ5.6B	
ZD401	093G 39GA01 T	RLZ5.6B	
ZD501	093G 39S 24 T	RLZ 5.6B LLDS	
ZD408	093G 39S 24 T	RLZ 5.6B LLDS	
ZD407	093G 39S 24 T	RLZ 5.6B LLDS	
ZD405	093G 39S 24 T	RLZ 5.6B LLDS	
ZD404	093G 39S 24 T	RLZ 5.6B LLDS	
ZD403	093G 39S 24 T	RLZ 5.6B LLDS	
ZD402	093G 39S 24 T	RLZ 5.6B LLDS	
ZD401	093G 39S 24 T	RLZ 5.6B LLDS	
E715	715G4280M02000004I	MAIN PCB FR4 DS 138*108*1.6MM	
E715	715G4280M02000004K	MAIN PCB FR4 DS 138*108*1.6MM	2nd Source
	KEPCAQUS6	KEY BOARD G4752-K0B-AUS-X-1-101203	
	A33G1179AED 1L0100	KEY	
CN001	033G8032 6F HR	CONNECTOR 6P 1.25	
R002	061G0603000 JI	RST 0603 0.05R MAX 1/10W TA-I	
R005	061G0603000 JI	RST 0603 0.05R MAX 1/10W TA-I	
R002	061G0603000 JT	RST CHIP MAX 0R05 1/10W TZAI YUAN	
R005	061G0603000 JT	RST CHIP MAX 0R05 1/10W TZAI YUAN	
R003	061G06031001FI	1EST ONLY RST 0603 1K 1% 1/10W TA-I	
R003	061G06031001FT	RST CHIP 1K 1/10W 1%	
R004	061G06032001FI	TEST ONLY RST 0603 2K 1% 1/10W TA-I	
R001	061G06032001FI	TEST ONLY RST 0603 2K 1% 1/10W TA-I	
R001	061G06032001FT	RST CHIP R 2KOHM 1/10W +/-1%	
R004	061G06032001FT	RST CHIP R 2KOHM 1/10W +/-1%	
C001	065G060310412K M	MLCC 0603 CAP 0.1UF 16V X7R	
C002	065G060310412K M	MLCC 0603 CAP 0.1UF 16V X7R	
C003	065G060310412K M	MLCC 0603 CAP 0.1UF 16V X7R	
C004	065G060310412K M	MLCC 0603 CAP 0.1UF 16V X7R	
C005	065G060310412K M	MLCC 0603 CAP 0.1UF 16V X7R	

C005	065G060310412K Y	CAP CHIP 0603 100N 16V X7R +/-10%	
C004	065G060310412K Y	CAP CHIP 0603 100N 16V X7R +/-10%	
C003	065G060310412K Y	CAP CHIP 0603 100N 16V X7R +/-10%	
C002	065G060310412K Y	CAP CHIP 0603 100N 16V X7R +/-10%	
C001	065G060310412K Y	CAP CHIP 0603 100N 16V X7R +/-10%	
SW006	077G606S 5B HC	CHIP TACT SW 5P 3.5MM 150G TS-6614W-5B	
SW005	077G606S 5B HC	CHIP TACT SW 5P 3.5MM 150G TS-6614W-5B	
SW004	077G606S 5B HC	CHIP TACT SW 5P 3.5MM 150G TS-6614W-5B	
SW003	077G606S 5B HC	CHIP TACT SW 5P 3.5MM 150G TS-6614W-5B	
SW002	077G606S 5B HC	CHIP TACT SW 5P 3.5MM 150G TS-6614W-5B	
SW001	077G606S 5B HC	CHIP TACT SW 5P 3.5MM 150G TS-6614W-5B	
D001	081G15BY 3 EL	LED 99-235-YSB7C-A26-2D	
ZD005	093G 39GA01 T	RLZ5.6B	
ZD004	093G 39GA01 T	RLZ5.6B	
ZD003	093G 39GA01 T	RLZ5.6B	
ZD002	093G 39GA01 T	RLZ5.6B	
ZD001	093G 39GA01 T	RLZ5.6B	
ZD001	093G 39S 24 T	RLZ 5.6B LLDS	
ZD002	093G 39S 24 T	RLZ 5.6B LLDS	
ZD003	093G 39S 24 T	RLZ 5.6B LLDS	
ZD004	093G 39S 24 T	RLZ 5.6B LLDS	
ZD005	093G 39S 24 T	RLZ 5.6B LLDS	
	715G4752K01000004M	KEY PCB FR4 DS 156*10.5*1.6MM	
	PLPCBD481GQB6	POWER BOARD G4705-P03-000-0010-11-110621	
	040G 45762412B	CBPC LABEL	
IC902	056G 139 9	IC EL817M(X) PHOTOCOUPLER DIP-4	
IC902	056G 139 10	IC TLP781F PHOTOCOUPLER DIP-4	
NR901	061G 58509MEW	NTCR 5R 5A SCK13055MMY506	
NR901	061G 58509MYX 5A	NTCR 5R 5A 5D2-14MCSF	
C914	063G107K224 TM	X2 CAP 0.22UF K 275VAC	
C914	063G107K224 UM	X2 CAP 0.22UF K 275VAC	
C920	065G306K6812BP	Y1 680PF M 250VAC	
C921	065G306K6812BP	Y1 680PF M 250VAC	
C920	065G306K6812BW	CAP Y1 680PF 10% 250V Y5P	
C921	065G306K6812BW	CAP Y1 680PF 10% 250V Y5P	
C918	065G306M1022BP	CAP Y1 1NF 20% 250V Y5U	
C918	065G306M1023BW	CAP Y1 1NF 20% 250V Y5U	
C916	067G215C4706KV	EC 47UF 20% 35V EM 8*9	
C916	067G215C4706LV	EC 47UF 20% 35V RXY 8*9	
C927	067G215S3316KV	EC 330UF M 35V 10*12MM	
C909	067G215S3316KV	EC 330UF M 35V 10*12MM	
C908	067G215S3316KV	EC 330UF M 35V 10*12MM	
C908	067G215S3316LV	EC 330UF 35V M 10*12.5MM	
C909	067G215S3316LV	EC 330UF 35V M 10*12.5MM	
C927	067G215S3316LV	EC 330UF 35V M 10*12.5MM	
C902	067G215Z56015H	EC 56UF 20% 450V 12.5*40 2000 HR	
C903	067G215Z56015H	EC 56UF 20% 450V 12.5*40 2000 HR	
C903	067G215Z56015K	EC 56UF 20% 450V 12.5*40 2000 HR	
C902	067G215Z56015K	EC 56UF 20% 450V 12.5*40 2000 HR	
L903	073G 174192 H	LINE FILTER 30MH MIN LCL-12012 HA	
L903	073G 174192 S	LINE FILTER 30MH MIN LCL-ET-02510	
L901	073G 253 91 H	IND CHOKE 3.5UH+-10% DADONG	
L902	073G 253 91 H	IND CHOKE 3.5UH+-10% DADONG	
L901	073G 253 91 L	CHOKE COIL 3.5UH 10% CC-015367HF,VOC,HF	

L902	073G 253 91 L	CHOKE COIL 3.5UH 10% CC-015367HF,VOC,HF	
L901	073G 253 91 V	CHOKE COIL 3.5UH+-10%	
L902	073G 253 91 V	CHOKE COIL 3.5UH+-10%	
L801	073G 253214 H	CHOKE COIL 47UH 10% L470R HA	
L801	073G 253214 DN	CHOKE COIL 47UH 10% LZ.CC013.G01	
T901	080GL19P 17 N	X'FMR 500UH 5% YUVA-1379	
T901	080GL19P 17 DN	X'FMR 500UH 5% 10UH LZ.PJ004.A00	
CN901	087G 501 48 S	AC SOCKET 3PIN + 3 HOLE	
CN901	087G 501 48 DL	AC SOCKET 3PIN + 3 HOLE	2nd Source
BD901	093G 50460 43	BRIDGE GBL208 2A/800V GBL	
BD901	093G 50460 51	BRIDGE D2SB80 2A 800V GBL	
CN902	095G 82510D903	HARNESS 10P(SCN)-10P 80MM	
CN902	095G 82510X903	HARNESS 10P(SCN)-10P 80MM LCDXXTF0812	2nd Source
CN802	311GF100A06AAJ	FFC CONN 1.0MM 6P	
	705GQA57063	Q901 ASS'Y	
Q901	057G 667923	MOSFET SMK0765F 7A 650V TO-220FP	
Q901	057G 667941	MOSFET P0765ATF 7 650 TO-220F	
	0M1G 930 8120	SCREW 3X8	
HS4	Q90T0195 3	HEAT SINK	
	705GQA93047	D901 ASS'Y	
D901	093G 52 66	DIODE FMX-12SL 10A/200V TO-220	
D901	093G 60943	DIODE SFF1004G ITO-220AB	
	0M1G 930 8 47 CR3	SCREW 3X8	
HS1	Q90T0195 1	HEAT SINK	
	705GQA93048	D903 ASS'Y	
D903	093G 60507	SCHOTTKY SRF1060 C0 10A 60V ITO-220AB	
D903	093G 60526	SCHOTTKY MBRF1060CT ITO-220AB	
	0M1G 930 8120	SCREW 3X8	
HS3	Q90T0195 1	HEAT SINK	
IC901	056G 379190	AC/DC CONVERTER LD7750RGR SOP-7	
IC801	056G 700 12	LED DRIVER OZ9998AGN-A1-0-TR SOP-24	
Q903	057G 419913 T	TRANSISTOR 2SD1623S-TD-E PCP	
Q903	057G 761505	SMALLTRAN KTD1624-C 3A 60V SOT-89	
Q801	057G 763 92	FET P8008HV 4A/80V SOP-8	
Q801	057G 763947	MOSFET APM8005KCTRG SOP-8	
R814	061G0603100 JF	RST CHIPR 10 OHM 5% 1/10W FENGHUA	
R814	061G0603100 JT	RST CHIP 10R 1/10W 5% TZAI YUAN	
R810	061G06031001FF	RST CHIPR 1 KOHM +-1% 1/10W FENGHUA	
R810	061G06031001FT	RST CHIP 1K 1/10W 1%	
R806	061G06031002FF	RST CHIPR 10 KOHM +-1% 1/10W FENGHUA	
R813	061G06031002FF	RST CHIPR 10 KOHM +-1% 1/10W FENGHUA	
R806	061G06031002FT	RST CHIP 10K 1/10W 1%	
R813	061G06031002FT	RST CHIP 10K 1/10W 1%	
R812	061G0603101 JF	RST CHIPR 100 OHM +-5% 1/10W FENGHUA	
R812	061G0603101 JT	RST CHIP 100R 1/10W 5% TZAI YUAN	
R809	061G0603104 JF	RST CHIPR 100KOHM 5% 1/10W FENGHUA	
R809	061G0603104 JT	RST CHIP 100K 1/10W 5% TZAI YUAN	
R828	061G0603109 JF	RST CHIP 1R 1/10W 5% FENGHUA	
R827	061G0603109 JF	RST CHIP 1R 1/10W 5% FENGHUA	
R826	061G0603109 JF	RST CHIP 1R 1/10W 5% FENGHUA	
R826	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R827	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R828	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R804	061G06031102FF	RST CHIPR 11KOHM +-1% 1/10W FENGHUA	

R804	061G06031102FT	RST CHIP 11K 1/10W 1%	
R807	061G0603229 JF	RST CHIPR 2.2 OHM 5% 1/10W FENGHUA	
R825	061G0603229 JF	RST CHIPR 2.2 OHM 5% 1/10W FENGHUA	
R825	061G0603229 JT	RST 0603 2.2R 5% 1/10W	
R807	061G0603229 JT	RST 0603 2.2R 5% 1/10W	
R824	061G06033302FF	RST CHIPR 33K OHM +-1% 1/10W FENGHUA	
R824	061G06033302FT	RST CHIP 33K 1/10W 1%	
R860	061G0805000 JF	RST CHIPR 0 OHM +-5% 1/8W FENGHUA	
R860	061G0805000 JT	RST 0805 0.05R MAX 1/8W	
R934	061G08051001FF	RST CHIPR 1KOHM +-1% 1/8W FENGHUA	
R926	061G08051001FF	RST CHIPR 1KOHM +-1% 1/8W FENGHUA	
R934	061G08051001FT	RST CHIP 1K 1/8W 1%	
R926	061G08051001FT	RST CHIP 1K 1/8W 1%	
R923	061G08051002FF	RST CHIPR 10KOHM +-1% 1/8W FENGHUA	
R923	061G08051002FY	RST CHIP 10K 1/8W 1%	
R931	061G08051003FF	RST CHIPR 100KOHM +-1% 1/8W FENGHUA	
R931	061G08051003FT	RST CHIP 100K 1/8W 1%	
R822	061G08051004FF	RST CHIPR 1 MOHM +-1% 1/8W FENGHUA	
R822	061G08051004FT	RST CHIP R 1 MOHM +-1% 1/8W	
R829	061G0805109 JF	RST CHIPR 1 OHM +- 5% 1/8W FENGHUA	
R829	061G0805109 JT	RST CHIP 1R 1/8W 5% TZAI YUAN	
R805	061G08052003FF	RST CHIPR 200KOHM +-1% 1/8W FENGHUA	
R805	061G08052003FT	RST CHIP 200K 1/8W 1%	
R920	061G0805221 JF	RST CHIPR 220 OHM +-5% 1/8W FENGHUA	
R920	061G0805221 JI	RST CHIPR 220 OHM +-5% 1/8W 0805	
R921	061G08053001FF	RST CHIPR 3KOHM +-1% 1/8W	
R921	061G08053001FT	RST CHIP R 3K 1/8W +/-1%	
R915	061G08054700FF	RST 0805 470R 1% 1/8W	
R915	061G08054700FT	RST CHIP 470R 1/8W 1%	
R933	061G0805511 JF	RST CHIPR 510OHM +-5% 1/8W FENGHUA	
R933	061G0805511 JT	RST CHIPR 510OHM +-5% 1/8W TZAI YUAN	
R927	061G08059311FF	RST CHIPR 9.31KOHM +-1% 1/8W FENGHUA	
R927	061G08059311FT	RST CHIPR 9.31KOHM +-1% 1/8W TZAI YUAN	
JR804	061G1206000 JF	RST CHIPR MAX0R05 1/4W FENGHUA	
JR805	061G1206000 JF	RST CHIPR MAX0R05 1/4W FENGHUA	
JR808	061G1206000 JF	RST CHIPR MAX0R05 1/4W FENGHUA	
JR901	061G1206000 JF	RST CHIPR MAX0R05 1/4W FENGHUA	
JR804	061G1206000 JT	RST CHIPR MAX0R05 1/4W TZAI YUAN	
JR805	061G1206000 JT	RST CHIPR MAX0R05 1/4W TZAI YUAN	
JR808	061G1206000 JT	RST CHIPR MAX0R05 1/4W TZAI YUAN	
JR901	061G1206000 JT	RST CHIPR MAX0R05 1/4W TZAI YUAN	
R868	061G12060004JF	RST CHIPR MAX0R05 4A 1/4W FENGHUA	
R868	061G12060004JT	RST CHIPR 1206 MAX0R05 4A 1/4W TZAI YUAN	
R910	061G12060007JF	RST CHIPR MAX0R05 7A 1/4W FENGHUA	
R910	061G12060007JT	RST CHIPR MAX 0R05 1/4W 1206	
R911	061G1206100 JF	RST CHIPR 10 OHM +-5% 1/4W FENGHUA	
R911	061G1206100 JT	RST CHIPR 10 OHM +-5% 1/4W TZAI YUAN	
R845	061G1206102 JF	RST CHIPR 1KOHM +-5% 1/4W FENGHUA	
R845	061G1206102 JT	RST CHIPR 1KOHM +-5% 1/4W TZAI YUAN	
R912	061G1206103 JF	RST CHIPR 10KOHM +-5% 1/4W FENGHUA	
R912	061G1206103 JT	RST CHIPR 10KOHM +-5% 1/4W TZAI YUAN	
R918	061G1206105 JF	RST CHIPR 1 MOHM +-5% 1/4W FENGHUA	
R917	061G1206105 JF	RST CHIPR 1 MOHM +-5% 1/4W FENGHUA	
R916	061G1206105 JF	RST CHIPR 1 MOHM +-5% 1/4W FENGHUA	

R916	061G1206105 JT	RST CHIPR 1MOHM +-5% 1/4W TZAI YUAN	
R917	061G1206105 JT	RST CHIPR 1MOHM +-5% 1/4W TZAI YUAN	
R918	061G1206105 JT	RST CHIPR 1MOHM +-5% 1/4W TZAI YUAN	
R903	061G1206204 JF	RST CHIPR 200KOHM +-5% 1/4W FENGHUA	
R904	061G1206204 JF	RST CHIPR 200KOHM +-5% 1/4W FENGHUA	
R906	061G1206204 JF	RST CHIPR 200KOHM +-5% 1/4W FENGHUA	
R907	061G1206204 JF	RST CHIPR 200KOHM +-5% 1/4W FENGHUA	
R907	061G1206204 JT	RST CHIPR 200KOHM +-5% 1/4W TZAI YUAN	
R906	061G1206204 JT	RST CHIPR 200KOHM +-5% 1/4W TZAI YUAN	
R904	061G1206204 JT	RST CHIPR 200KOHM +-5% 1/4W TZAI YUAN	
R903	061G1206204 JT	RST CHIPR 200KOHM +-5% 1/4W TZAI YUAN	
R924	061G1206220 JF	RST CHIPR 22 OHM +-5% 1/4W FENGHUA	
R924	061G1206220 JT	RST CHIPR 22 OHM +-5% 1/4W TZAI YUAN	
R802	061G1206308 JF	RST CHIPR 0.3 OHM +-5% 1/4W FENGHUA	
R801	061G1206308 JF	RST CHIPR 0.3 OHM +-5% 1/4W FENGHUA	
R802	061G1206308 JT	RST 1206 0.3R 5% 1/4W	
R801	061G1206308 JT	RST 1206 0.3R 5% 1/4W	
R914	061G1206470 JF	RST CHIPR 47 OHM +-5% 1/4W FENGHUA	
R913	061G1206470 JF	RST CHIPR 47 OHM +-5% 1/4W FENGHUA	
R902	061G1206470 JF	RST CHIPR 47 OHM +-5% 1/4W FENGHUA	
R901	061G1206470 JF	RST CHIPR 47 OHM +-5% 1/4W FENGHUA	
R901	061G1206470 JT	RST CHIPR 47 OHM +-5% 1/4W TZAI YUAN	
R902	061G1206470 JT	RST CHIPR 47 OHM +-5% 1/4W TZAI YUAN	
R913	061G1206470 JT	RST CHIPR 47 OHM +-5% 1/4W TZAI YUAN	
R914	061G1206470 JT	RST CHIPR 47 OHM +-5% 1/4W TZAI YUAN	
R909	061G1206682 JF	RST CHIPR 6.8KOHM +-5% 1/4W FENGHUA	
R908	061G1206682 JF	RST CHIPR 6.8KOHM +-5% 1/4W FENGHUA	
R905	061G1206682 JF	RST CHIPR 6.8KOHM +-5% 1/4W FENGHUA	
R905	061G1206682 JT	RST CHIPR 6.8 KOHM +-5% 1/4W TZAI YUAN	
R908	061G1206682 JT	RST CHIPR 6.8 KOHM +-5% 1/4W TZAI YUAN	
R909	061G1206682 JT	RST CHIPR 6.8 KOHM +-5% 1/4W TZAI YUAN	
C815	065G060333412K A	CAP 0603 330NF 10% 16V X7R	
C815	065G060333412K F	0603 0.33UF K 16V X7R	
C814	065G060339131J A	CAP CHIP 0603 390PF J 50V NPO	
C814	065G060339131J F	CAP CHIP 0603 390PF J 50V NPO	
C805	065G060347412K A	CAP 0603 470NF 10% 16V X7R	
C805	065G060347412K Y	CAP CHIP 0.47UF 16V +/-10% X7R	
C812	065G080510131J F	CAP CHIP 0805 100PF J 50V NPO	
C812	065G080510131J Y	CAP CHIP 0805 100P 50V NP0 +/-5%	
C919	065G080510332K F	CAP 0805 10NF K 50V X7R	
C919	065G080510332K Y	CAP CHIP 0805 10N 50V X7R +/-10%	
C929	065G080510432K F	CAP CHIP 0805 0.1UF K 50V X7R	
C926	065G080510432K F	CAP CHIP 0805 0.1UF K 50V X7R	
C923	065G080510432K F	CAP CHIP 0805 0.1UF K 50V X7R	
C917	065G080510432K F	CAP CHIP 0805 0.1UF K 50V X7R	
C912	065G080510432K F	CAP CHIP 0805 0.1UF K 50V X7R	
C817	065G080510432K F	CAP CHIP 0805 0.1UF K 50V X7R	
C803	065G080510432K F	CAP CHIP 0805 0.1UF K 50V X7R	
C801	065G080510432K F	CAP CHIP 0805 0.1UF K 50V X7R	
C929	065G080510432K Y	CAP CHIP 0805 100N 50V X7R +/-10%	
C926	065G080510432K Y	CAP CHIP 0805 100N 50V X7R +/-10%	
C923	065G080510432K Y	CAP CHIP 0805 100N 50V X7R +/-10%	
C917	065G080510432K Y	CAP CHIP 0805 100N 50V X7R +/-10%	
C912	065G080510432K Y	CAP CHIP 0805 100N 50V X7R +/-10%	

C817	065G080510432K	Y	CAP CHIP 0805 100N 50V X7R +/-10%	
C803	065G080510432K	Y	CAP CHIP 0805 100N 50V X7R +/-10%	
C801	065G080510432K	Y	CAP CHIP 0805 100N 50V X7R +/-10%	
C806	065G080510532K	M	CAP 0805 1UF 10% 50V X7R	
C806	065G080510532K	T	CAP 0805 1UF 10% 50V X7R	
C807	065G080522512K	3	CAP CHIP 0805 2U2 16V X7R +/-10%	
C807	065G080522512K	M	CAP 0805 2.2UF 10% 16V X7R	
C934	065G080547131J	F	CAP CHIP 0805 470PF J 50V NPO	
C934	065G080547131J	Y	CAP CHIP 0805 470P 50V NPO +/-5%	
C925	065G120622272K	F	CAP 1206 2.2NF 10% 500V X7R	
C924	065G120622272K	F	CAP 1206 2.2NF 10% 500V X7R	
C913	065G120622272K	F	CAP 1206 2.2NF 10% 500V X7R	
C901	065G120622272K	F	CAP 1206 2.2NF 10% 500V X7R	
C901	065G120622272K	Y	CER 1206 2N2 500V X7R 10%	
C913	065G120622272K	Y	CER 1206 2N2 500V X7R 10%	
C924	065G120622272K	Y	CER 1206 2N2 500V X7R 10%	
C925	065G120622272K	Y	CER 1206 2N2 500V X7R 10%	
ZD801	093G 60S509	T	SCHOTTKY BR310 T/R 3A 100V SMB	
ZD801	093G 60S907	T	SCHOTTKY B3100B 3A 100V SMB	
CN901	006G 31500		EYELET	
IC903	056G 158 10	T	LDO IC AZ431AZ-AE1 TO-92 150MA 40V TO-92	
IC903	056G 158 12		SHUNT REGULATOR KIA431A-AT/P TO-92	
IC903	056G 158900		TL431CZ-AP 0.1A ADJ TO92	
R919	061G152M33852T	HX	RST MOF 0.33R 5% 2WS	
R919	061G152M33852T	SY	RST MOF 0R33 5% 2W	
R932	061G152M82152T	HX	RST MOF 820R 5% 2W	
R935	061G152M82152T	HX	RST MOF 820R 5% 2W	
R932	061G152M82152T	SY	820OHM +/-5% 2W	
R935	061G152M82152T	SY	820OHM +/-5% 2W	
C931	065G 1K471 2T6921		CAP CER 470PF 1KV K Y5P	
C906	065G 2K152 2T6213		CAP CER 1.5NF 10% 2KV Y5P	
C906	065G 2K152 2T6921		CAP CER 1500PF K 2KV Y5P	
C910	067G 2046812KT		CS CAP 680UF 10V 8*11 MM	
C910	067G 2046812LT		CAP CS 680UF 20% 10V 8*11.5	
C911	067G215C4713KT		EC 470 20% 16 8*9 EM	
C911	067G215C4713LT		EC 470UF 20% 16V 8*9	
FB904	071G 55 9 T		BEAD 3.5*0.8*6.0MM 110R HF	
FB906	071G 55 9 T		BEAD 3.5*0.8*6.0MM 110R HF	
F902	084G 56 4 B		FUSE 4A 250V	
F901	084G 56 4 B		FUSE 4A 250V	
F901	084G 56 4W		FUSE 4A 250V	
F902	084G 56 4W		FUSE 4A 250V	
ZD902	093G 3916352T		ZD TZX22B	
ZD902	093G 39A6852T		ZENER DIODES MTZJ22B DO-34	
D902	093G 52 1552T		RECTIFIER 1N4007 1 1000 DO41	
D902	093G 5212T52T		DIODE 1N4007-AO DO-41	
D905	093G 6038P52T		PS102R	
D905	093G 6038T52T		FR103 AO	
D904	093G 6451652T		1N4148	
D904	093G 6452452T		SWITCHING 1N4148-B4006 0.2A 100V DO-35	
J901	095G 90 23		JUMPER WIRE	
J902	095G 90 23		JUMPER WIRE	
J903	095G 90 23		JUMPER WIRE	
J904	095G 90 23		JUMPER WIRE	

J905	095G 90 23	JUMPER WIRE	
J906	095G 90 23	JUMPER WIRE	
J907	095G 90 23	JUMPER WIRE	
J908	095G 90 23	JUMPER WIRE	
J909	095G 90 23	JUMPER WIRE	
J822	095G 90 23	JUMPER WIRE	
FB801	095G 90 23	JUMPER WIRE	
FB901	095G 90 23	JUMPER WIRE	
J803	095G 90 23	JUMPER WIRE	
J807	095G 90 23	JUMPER WIRE	
J808	095G 90 23	JUMPER WIRE	
J810	095G 90 23	JUMPER WIRE	
J814	095G 90 23	JUMPER WIRE	
J815	095G 90 23	JUMPER WIRE	
J821	095G 90 23	JUMPER WIRE	
E715	715G4705P03000001H	PWR PCB FR1 CTI>600 SS 150*215*1.6MM	
E715	715G4705P03000001R	PWR PCB FR1 CTI>600 SS 150*215*1.6MM	2nd Source
C813	067G 4151017KT	EC 100UF 20% 50V 8*12	
C804	067G 4154799KT	EC 4.7UF 20% 100V 8*12	