Applicable Country & Regions: Australia & Taiwan & EU

Service Manual for BenQ:

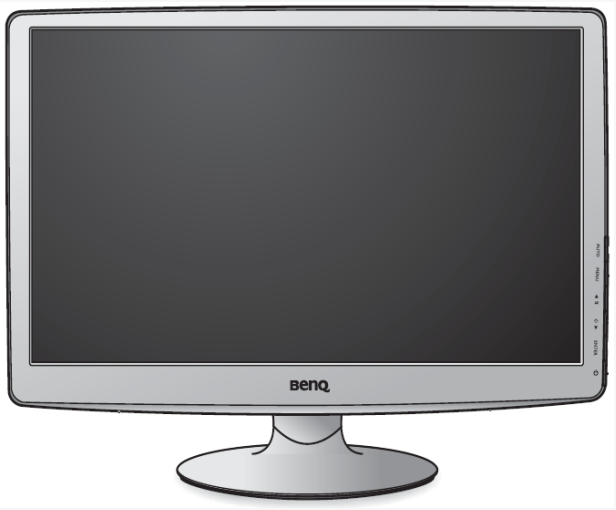
GL2040: D-SUB + DVI-D

P/N: 9H.L6FLA.TBW

GL2040M: D-SUB + DVI-D+AUDIO

P/N: 9H.L5XLA.TBE (For EU)

9H.L5XLA.TBT (For Australia)



Glossy Black Chassis Colors

Product Service Manual – Level 1~2

Version: 1st
Date:05-12-2011

Notice:
For RO to input specific “Legal Requirement” in specific NS regarding to responsibility and liability statements.
Please check BenQ’s eSupport web site, http://esupport.benq.com, to ensure that you have the most recent version of this manual.

First Edition (May. 2011)

Content Index

Abbreviations & Acronyms

A	
ADC	Analog to Digital Converter
AFC	Automatic Frequency Control: control signal used to tune to the correct frequency
B	
BenQ	BenQ Corporation
BTSC	Broadcast Television System Committee
C	
CPU	Central Process Unit
CVBS	Composite Video Blanking and Synchronization
D	
DLP	Digital Light Processing / Texas Instruments®
DMD	Digital Micro mirror Device
DRAM	Dynamic RAM
DVI	Digital Visual Interface
DVI-D	Digital Visual Interface-digital
DVI-I	Digital Visual Interface-Integrated
E	
EEPROM	Electrically Erasable and Programmable Read Only Memory
F	
FLASH	FLASH memory
G	
G-TXT	Green Teletext
H	
HDMI	High Definition Multimedia Interface, digital audio and video interface
HP	Head Phone
I	
I^2C	Integrated IC bus
L	
LED	Light Emitting Diode
LVDS	Low Voltage Differential Signal, data transmission system for high
M	
MOSFET	Metal Oxide Semiconductor Field Effect Transistor
N	

NC	Not Connected
NVM	Non Volatile Memory: IC containing TV related data (for example, options)
O	
OSD	On Screen Display
P	
PC	Personal Computer
PCB	Printed Circuit Board (or PWB)
R	
RC	Remote Control transmitter
RGB	Red, Green and Blue. The primary color signals for TV. By mixing levels of R, G and B, all colors (Y/C) are
ROM	Read Only Memory
S	
SDA	Data signal on I^2C bus
SDRAM	Synchronous DRAM
SW	Sub Woofer / Software
T	
THD	Total Harmonic Distortion
V	
VGA	Video Graphics Array
Y	
YPbPr	Component video (Y= Luminance, Pb / Pr= Color difference signals B-Y and R-Y, other amplitudes w.r.t. to YUV)
Y/C	Video related signals: Y consists of luminance signal, blanking level and sync; C consists of color signal.

1. About this Manual

The purpose of Service Manual is to provide a guide line to engineers to repair different models. The appearance and capability is introduced in this Service Manual. It is better for repair engineer to have a rough idea of this model through reading the Service Manual. Please do pay attention to the item part of the disassembly when repair the machine and also do the protection of panel any time. When repairing the circuit board, please follow the requirement of RoHS and refer to the circuit diagram and repairing process that attached in the Service Manual. The method of firmware updated, the way of using the menu and some information that may be used when repairing are also attached in the Service Manual that provide repair engineer various choice.

1.1 Important

Only trained service personnel who are familiar with this BenQ Product shall perform service or maintenance to it. Before performing any maintenance or service, the engineer MUST read the “Important Safety Information”.

1.2 Trademark

2. Introduction

This section contains general service information, please read through carefully. It should be stored for easy access place.

2.1 RoHS (2002/95/EC) Requirements – Applied to all countries require RoHS.

The RoHS (Restriction of Hazardous Substance in Electrical and Electronic Equipment Directive) is a legal requirement by EU (European Union) for the global electronics industry which sold in EU and some counties also require this requirement. Any electrical and electronics products launched in the market after June 2006 should meet this RoHS requirements. Products launched in the market before June 2006 are not required to compliant with RoHS parts. If the original parts are not RoHS complaints, the replacement parts can be non ROHS complaints, but if the original parts are RoHS compliant, the replacement parts MUST be RoHS complaints.
If the product service or maintenance require replacing any parts, please confirming the RoHS requirement before replace them.

2.2 Safety Warning and Notice

Installation

1. Do not use your monitor under any of the following environmental conditions:
   - Extremely high or low temperature, or in direct sunlight
   - Dusty places
   - Highly humid, exposed to rain, or close to water
   - Exposed to vibrations or impacts in places such as cars, buses, trains, and other rail vehicles
   - Near heating appliances such as radiators, heaters, fuel stoves, and other heat-generating items (including audio amplifiers)
   - An enclosed place (such as a closet or bookcase) without appropriate ventilation
   - An uneven or sloping surface
   - Exposed to chemical substances or smoke
2. Do not block vents and openings by clothes or curtains.
3. Carry the monitor carefully.
4. Do not place the monitor face down on the floor or a desk surface directly. Otherwise, scratches on the panel surface may occur.
5. Do not place heavy loads on the monitor to avoid possible personal injury or damage to the monitor.
6. Ensure that children do not hang or climb onto the monitor.
7. Keep all packing bags out of reach of children.

Operation

1. To protect your eyesight, please refer to the user manual to set the optimal screen resolution and the viewing distance.
2. To reduce eye fatigue, take a break on a regular basis while using the monitor.
   Avoid taking either one of the following actions for a long time. Otherwise, burn marks may occur.
   - Use the monitor in the aspect ratio of 16:9 or 16:10.
   - Place a still image (such as an OSD menu, fixed text or image) on the screen.
3. To avoid possible damage to the monitor, do not touch the monitor panel by hand, pen, or any other sharp objects.
4. Excessively frequent plug and unplug of video connectors (D-sub / DVI) may cause damage to the monitor.
5. This monitor is designed mainly for personal use. If you want to use the monitor in a public place or a harsh environment, contact your nearest BenQ service center for assistance.
6. To avoid possible electric shock, do not dissemble or repair the monitor.
7. If a bad smell or an abnormal sound appears to come from the monitor, contact your nearest BenQ service center for assistance immediately.

Cleaning

1. Ensure that the power is unplugged before cleaning your monitor
2. Use a monitor cleaner and a soft cloth to clean your monitor.
3. Do not use solvents such as alcohol to clean your monitor.

Power

1. To avoid possible damage to the monitor, do not use it in a region where power supply is unstable.
2. Ensure that the power cord is connected to a grounded power outlet before turning on the monitor.
3. Use only the power cord provided by BenQ.
4. Never use a power cord that appears to be damaged or frayed.
5. To avoid possible danger, observe the total electric load when using the monitor with a (multi-outlet) extension cord.
6. Always turn off the monitor before unplugging the power cord.

2.3 Compliance Statement

Caution: This Optical Storage Product contains a Laser device. Refer to the product specifications and your local Laser Safety Compliance Requirements.

3. General Description

This new LCD (Liquid Crystal Display) monitor BenQ GL2040&GL2040M offers numerous features and functions, for example:

- Panel Type: TN + WLED
- Minimal space requirements thanks to slim casing
- Optimum ergonomic characteristics (totally distortion-free, excellent picture definition and color purity right into the corners)
- Contrast ratio 12 million:1 (DCR), brightness 250nits
- MAX. resolution (1600x900)
- Presentation of up to 16.7 M colors (in conjunction with an appropriate graphics card)
- Automatic scanning of horizontal frequencies from 30 to 83 kHz and refresh rates (vertical frequencies) from 50 to 76 Hz (absolutely flicker-free)
- Digital screen controller with microprocessor for storing 15 different display modes
- Freely adjustable color alignment for matching the screen colors to the colors of various input and output devices
- Convenient operation via integrated OSD (On-Screen-Display) menu
- VESA-DDC compatibility
- Plug & play capability
- Power management for reducing power consumption when the computer is not in use

This operating manual contains important information you require to start up and run your LCD monitor.
This specification defines the requirements for the 20″ MICROPROCESSOR based Multi-mode supported high resolution color LCD monitor. This monitor can be directly connected to general 15-pin VGA connector and 24-pin DVI-D connector, also supports VESA DPMS power management and plug & play function.

Additional information

Due to the nature of liquid crystal display (LCD) technology, the picture resolution is always fixed. For the best display performance, please set the display resolution to 1600x900 pixels with an aspect ratio of 16:9 or 16:10. This is called “Native Resolution” or maximal resolution - that is, the clearest picture. Lower resolutions are displayed on a full screen through an interpolation circuit. Image blurring across pixel boundaries can occur with the interpolated resolution depending upon the image type and its initial resolution.

4. Related service information

This Service Manual contains general information. There are 2 levels of service:

Level 1: Cosmetic / Appearance / Alignment Service

Level 2: Circuit Board or Standard Parts Replacement

Service Web Site

eSupport URL: **http://esupport.beng.com**

5. Product Overview

5.1 Monitor Specifications

		GL2040 D-sub (include component source)+ DVI-D	GL2040M D-sub (include component source)+ DVI-D + speaker
Panel / Display	Panel Type (TN / VA / IPS)	TN + WLED	TN + WLED
	Panel Size	20"W	20"W
	Display Area	442.8x249.075	442.8x249.075
	Max. Resolution	1600x900	1600x900
	Pixel Pitch	0.2768	0.2768
	Brightness (Typ.)	250 cd/㎡	250 cd/㎡
	Contrast Ratio (Typ.) / DCR (Min.)	12M:1 (DCR)	12M:1 (DCR)
	Viewing Angle (H/V), CR≧10	170/160	170/160
	Display Colors	16.7M	16.7M
	Response Time	5ms (Tr+Tf)	5ms (Tr+Tf)
	GtG response Time	N/A	N/A
	MPRT	N/A	N/A
	NTSC ratio	68%	68%
Video	BenQ Senseye™ Technology	Senseye 3	Senseye 3
	BenQ Senseye™ Preset Modes	6 Modes (by hotkey) : Standard / Movie / Game / Photo / s-RGB / ECO	6 Modes (by hotkey) : Standard / Movie / Game / Photo / s-RGB / ECO
	Color Temperature Selection	Normal (6500°K) / Reddish (5800°K) / Bluish (9300°K) / User Mode	Normal (6500°K) / Reddish (5800°K) / Bluish (9300°K) / User Mode
	Hor. Frequency (KHz)	30-83	30-83
	Ver. Frequency (Hz)	50-76	50-76
	Video Bandwidth (MHz)	205	205
Audio	Speakers (built-in)	No	1W x 2
Input/Output	PC Video Input	D-sub + DVI-D	D-sub + DVI-D
	Audio line in	No	Yes
	Earphone Jack	No	Yes

Power Supply	Voltage Rating	AC: 100~240V (Built-in)	AC: 100~240V (Built-in)
	Power-On Mode	<24W (max)	<27W (max)
	Standby Mode	<0.3W (max)	<0.3W (max)
	Power Off Mode	<0.3W (max)	<0.3W (max)
Mechanical Design	Chassis Colors (proposal A)	Glossy black, detail refer to artwork	Glossy black, detail refer to artwork
	Carton	Brown Carton with at least C flute (A flute CTN for BQjp shipments)	Brown Carton with at least C flute (A flute CTN for BQjp shipments)
	Power LED	Green (ON)/ Amber (Standby)	Green (ON)/ Amber (Standby)
	Tilt (Up / Down)	20° ~ -5°	20° ~ -5°
	VESA Wall Mount	N/A	N/A
	Kensington Lock	Yes	Yes
	Container Loading (foam cushion 40')	>1700	>1700
	Container Loading (foam cushion 20')	>850	>850
Multi-language Support	OSD	17 Languages (English / Francais / Deutsch / Italiano / Espanol / Polish / Czech / Hungarian / Serbo-croatian / Romanian / Netherlands / Russian / Swedish / Protuguese / Japanese / Chinese / S-Chinese)	17 Languages (English / Francais / Deutsch / Italiano / Espanol / Polish / Czech / Hungarian / Serbo-croatian / Romanian / Netherlands / Russian / Swedish / Protuguese / Japanese / Chinese / S-Chinese)
Other feature	Vista	Vista Premium	Vista Premium
	Win 7	Yes	Yes
	sRGB Pro	Yes	Yes
Accessories		VGA cable, power cord, warranty card, quick start guide, CD manual	VGA cable, power cord, warranty card, Audio cable, quick start guide, CD manual
Regulation Approvals		Refer to the worksheet "RFQ-Regulatory"	Refer to the worksheet "RFQ-Regulatory"

5.1.1 Certification

Region	Shipment Country (Pls select)	Country	Certification / Requirement						Remark
			Request for Certification (Pls select)	Certification (Black is mandatory and blue is voluntary)	Regulatory Type (safety/safety & EMC/EMC/GP)	Applied by vendor	Applied by BenQ	BenQ Sample Reguest	
Asia-Pacific	V	Australia, New Zealand	V	C-Tick	EMC	V			Must include radiation test result for frequency above 1GHz
	V	Taiwan	V	BSMI	Safety & EMC	V			Including BSMI certificate, BSMI report and BSMI authorization letter for BenQ Corporation if the applicant of BSMI certificate is vendor and vendor will perform the clearance for BenQ.
				Green Mark	GP	Vender provide relevant information	V	1 set.	One sample of DVT is required

						and report			for the assigned third-party test.
				Energy Label	GP	V			One sample of DVT is required for the assigned third-party test.
				Carbon-Footprint Label	GP	Vender provide relevant information and report	V		3rd party verification is required first.
European Union	V	Member countries of EU	V	CE	Safety & EMC	V			
			V	EuP	GP	Vender provide relevant information and report			
			V	WEEE	GP	Vender provide relevant information and report			
			V	REACH	GP	Vender provide relevant information and report			
	V	Germany		GS	Safety	V			
			V	Bauart	Safety	V			
				Ergo	Safety	V			
			V	ISO9241-307	Safety	V			
			V	MPR II	Safety	V			
Eastern Europe	V	Russia	V	GOST	Safety & EMC		V		
	V	Ukraine	V	UkrSEPRO	Safety	V			
			V	EMC DoC	EMC	V			

International	V	CB Scheme	V	CB	Safety	V			for CE DOC or PSE DOC or international certification
International	V	International	V	RoHS	GP	Vender provide relevant information and report			
International	V	All	V	Energy Star	GP	V			Including Test Report by EPA recognition of Accreditation Laboratory and Certificate by EPA recognition of Certification Body (CB). Effective date: 2011-1-1. BenQ phase in date: 2010-12-06.

5.2 Panel Inspection Specification

1. Description

These inspection standards shall be applied to LCD Module supplied by CHI MEI Optoelectronics Corporation.

2. The environmental condition of inspection

The environmental condition and visual inspection shall be conducted as below.

(1) Ambient temperature: 15~25℃

(2) Humidity: 25~75 %RH

(3) External appearance inspection shall be conducted by using a single 20W fluorescent lamp or equivalent illumination.

(4) Panel visual inspection on the operation condition for cosmetic shall be conducted at the distance 35cm or more between the LCD module and eyes of inspector. And, the viewing angle shall be 90 degree to the front surface of display panel.

Ambient Illumination: 400 ~ 600 Lux for external appearance inspection

Ambient Illumination: 100 ~ 200 Lux for light on inspection

(5) Using method for ND Filter

When using ND Filter for judging Mura, placing ND Filter near Mura defect and get close to the surface of LCD Panel (its distance shall be 1~2cm between the surface of panel and ND Filter.) Don't touch the surface of polarizer to avoid scratching polarizer, and then move to the defect position to judge mura by view angle 90 degree (The viewing angle shall be 90 degree to the right top of Mura defect with panel.)

3. Classification of defects

Defects are classified two types, major defect and minor defect according to the defect. And, the definition of defects is classified as below.

(1) Major defect

Any defect may result in functional failure, or reduce the usability of product for its purpose. For example, electrical failure, deformation and etc.

(2) Minor defect

A defect that is not to reduce the usability of product for its intended purpose and un-uniformity, dot defect and etc.

The criteria on major and/or minor judgment will be according with the classification of defects.

4. Inspection Criteria

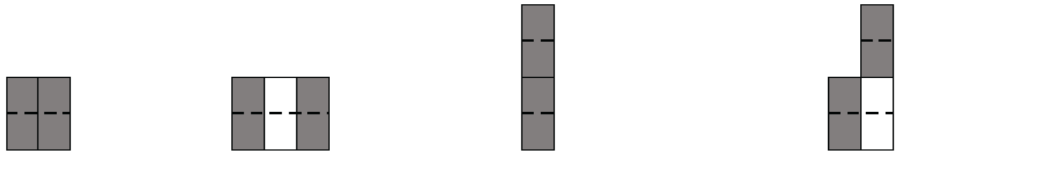
(1) Definition of dot defect induced from the panel inside a) the definition of dot: The size of a defective dot over 1/2 of whole dot is regarded as one defective dot.

b) Bright dot: Dots appear bright and unchanged in size in which module is displaying under black pattern.

c) Dark dot: Dots appear dark and unchanged in size in which module is displaying under pure red, green, blue picture.

d) 2 dot adjacent = 1pair = 2 dots

Picture:



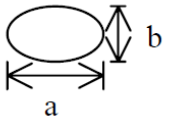
2 dot adjacent　　2 dot adjacent　　2 dot adjacent (vertical)　　2 dot adjacent (slant)

(2) Display Inspection

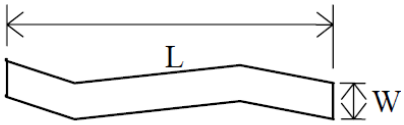
Items		Acceptable count
Bright dot	Random	N≦2
	2 dots adjacent	N≦1
	3 dots adjacent or more	N≦0
Dark dot	Random	N≦3
	2 dots adjacent	N≦1
	3 dots adjacent or more	N≦0
Distance	Minimum Distance Between Bright dots	L≧15mm
	Minimum Distance Between Dark dots	L≧15mm
Total bright and dark dot		N≦4
Display failure (V-line/H-line/Cross line etc.)		Not allowable
Mura	Not visible through 8% ND filter at 50% gray pattern or judge by limit sample ifnecessary	

(2) Appearance inspection

Item	Standards
Foreign Black/White/Bright Spot	0.15＜D≦0.5 mm, N≦4
Foreign Black/White/Bright Lint	0.05＜W≦0.1 mm, 0.5＜L≦5.0 mm, N≦4
Polarizer Scratches	0.05＜W≦0.1 mm, 0.5＜L≦10.0 mm, N≦4
Dent/Air Bubble	Avg. 0.15<D≦0.5 mm, N≦4



D=(a+b)/2



W: width, L ： length

5. External Appearance Inspection Criteria

Item	**Contents**	
Screw	Parts mounting, incomplete assembly, deformation, oxidized, crooked or rusty is not permitted.	
CCFT cable	Cable not continuous、Break-off 、Connector Burn-off /Break-off	
Metal frame (Bezel)	Scratch	*Noticeable scratch and exfoliation coating are not permitted. *The oxidized metal is not permitted.
	Incomplete assembly is not permitted.	
Backlight	Scratch	The scratch which may cause a problem in practical use is not permitted.
	Break-off	Breaking off is not permitted.
	Crack	The crack is not permitted.
Stain on Polarizer	The stain which can't be wiped off is not permitted.	
Tape/Label	Incorrect position, missed label is not permitted.	
Connector	Oxidized/rusty connector is not permitted.	
Outline size	Spec. out is not permitted.	

6. Classification of defects

Inspection Item	Criteria and Description	Defect type
Vertical line	Signal input, vertical line off or irregular V-line appears	major
Horizontal line	Signal input, horizontal line off or irregular H-line appears	major
Cross line	Pattern signal input, a correct display is not obtained	major
No display	Signal input, display is dead	major
Irregular display	Pattern signal input, a correct display is not obtained	major
Dots defect	Exceed specified standards	minor
Scratch and Dent on polarizer	Exceed specified standards	minor
Foreign material	Exceed specified standards	minor
External Appearance	Rust, deformation, irregular plating, coating missing etc. A appearance defect that do not affect function or performance	minor
Bezel claw	Bezel claw missing or not bent	major
Polarizer bubble	Exceed specified standards	minor

Level 1 Cosmetic / Appearance / Alignment Service

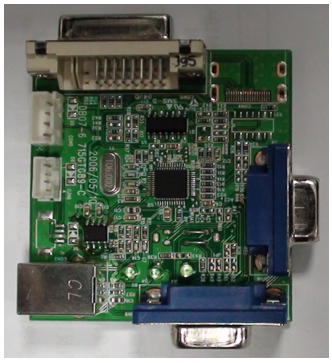
Visual Inspection & Cleaning

- Cleaning. Always unplug your monitor from the wall outlet before cleaning. Clean the LCD monitor surface with a lint-free, non-abrasive cloth. Avoid using any liquid, aerosol or glass cleaners.
- Slots and openings on the back or top of the cabinet are for ventilation. They must not be blocked or covered. Your monitor should never be placed near or over a radiator or heat source, or in a built-in installation unless proper ventilation is provided.
- Never push objects or spill liquid of any kind into this product.

F/W Upgrade SOP

Upgrade by 715GT089-B/ C

1. Materials list

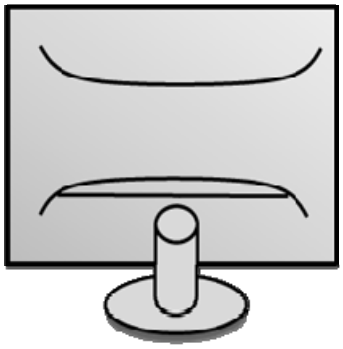


ISP JIG: 715GT089-B/C

VGA cable

TPV P/N: 089G728 GAA DB

PC



Monitor

USB cable

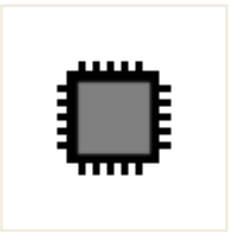
TPV P/N: 089G1758 X

FTC100103(MSTAR) usb drive.rar

USB port driver

ISP_Tool.exe

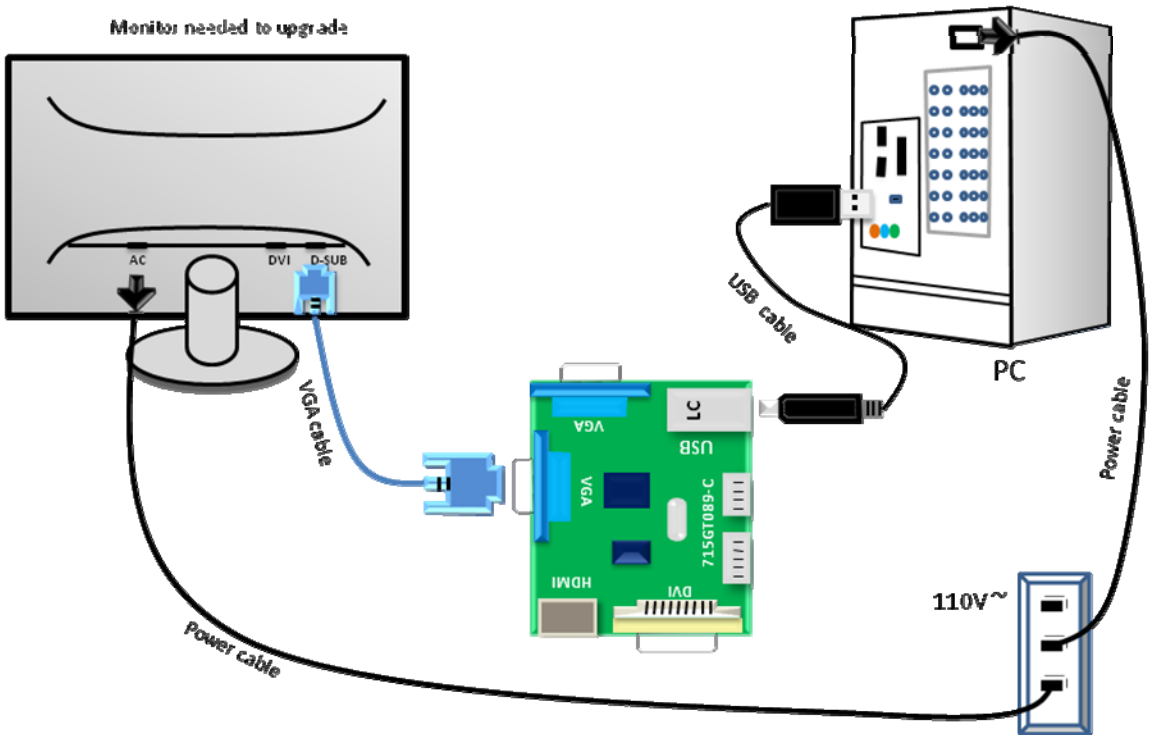
ISP tool: V4.5.0.8.0



BENQ-GL2040M-TSUMU58PWHL-CMI-M200O3-LA3-20110414_V01_349C.bin

New F/W

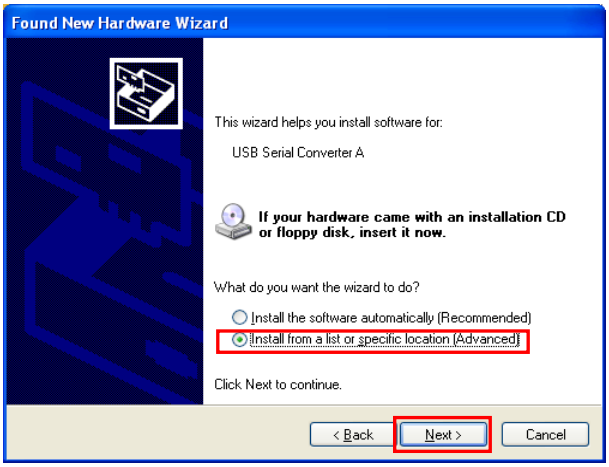
2.Connection

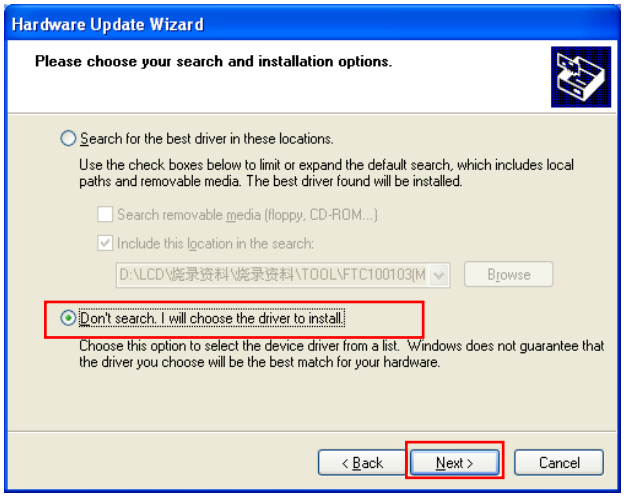


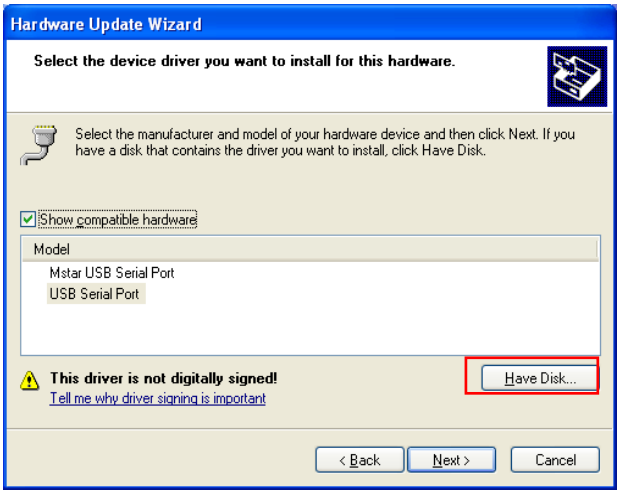
3.Install USB driver.

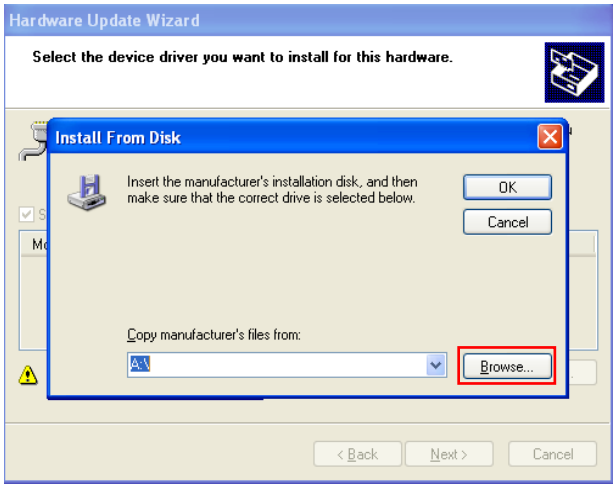
3.1. When insert the USB cable to PC USB port, will pop up a Hardware Wizard to help you install the USB driver if you use this ISP board first time. You can install it successfully as the below instruction step by step.

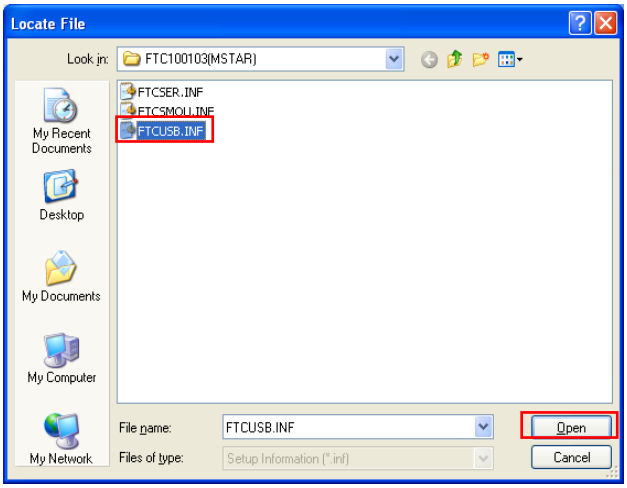
Remark: The USB driver files path: D:\FTC100103(Mstar)\FTCUSB.INF

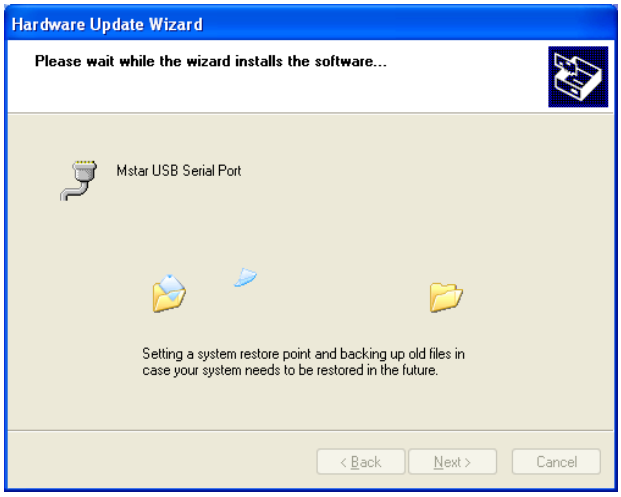


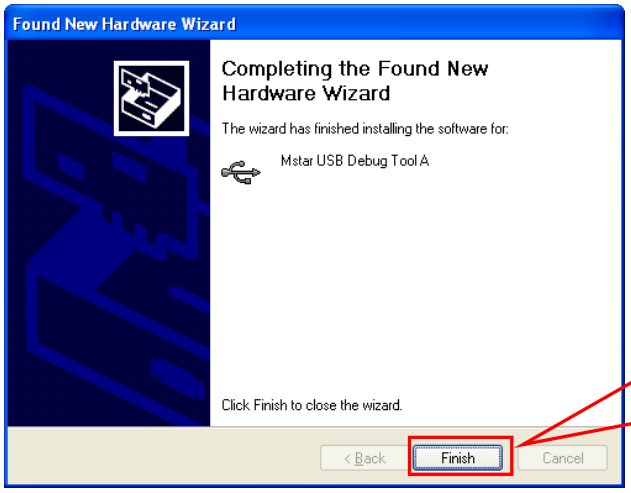








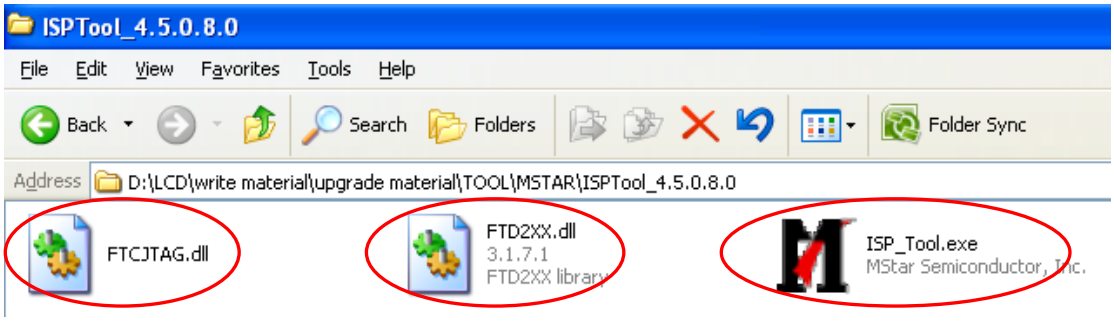


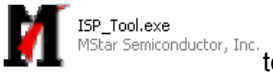


Click “Finish” to complete the USB serial port driver installation.

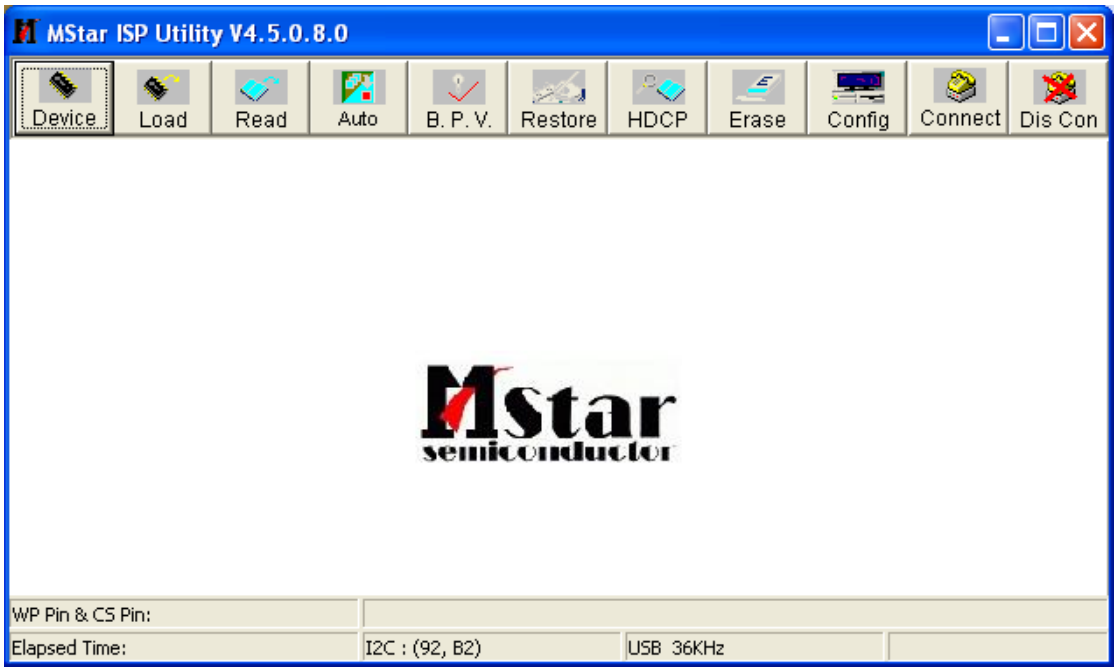
4. Install the ISP tool.

4.1.Copy the three files in one folder.

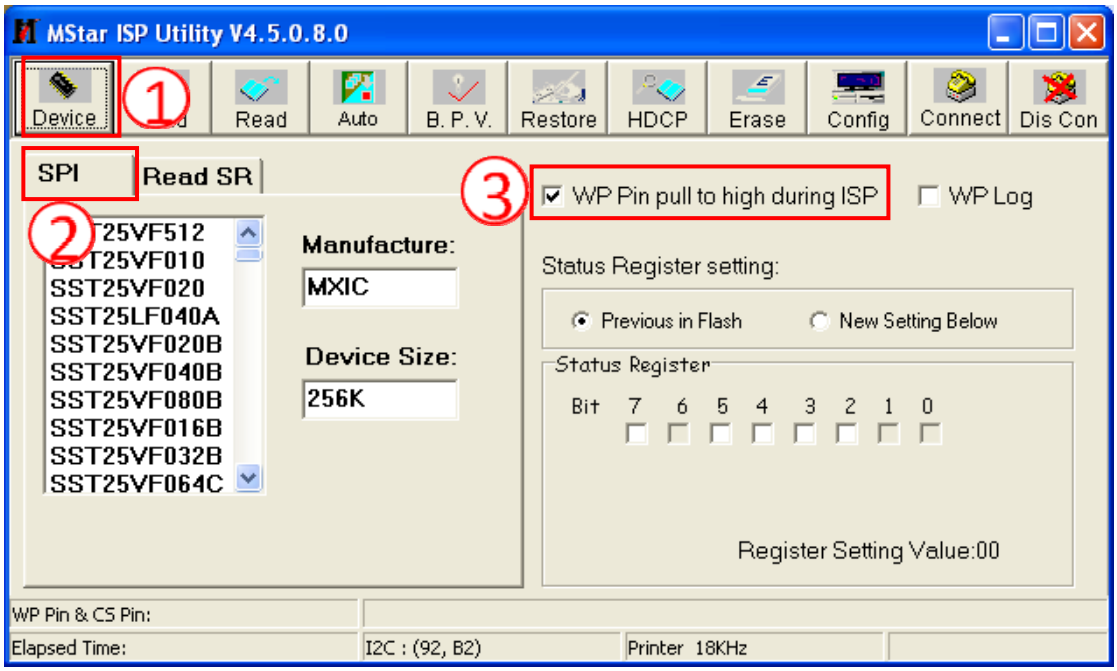


4.2. Double-click 

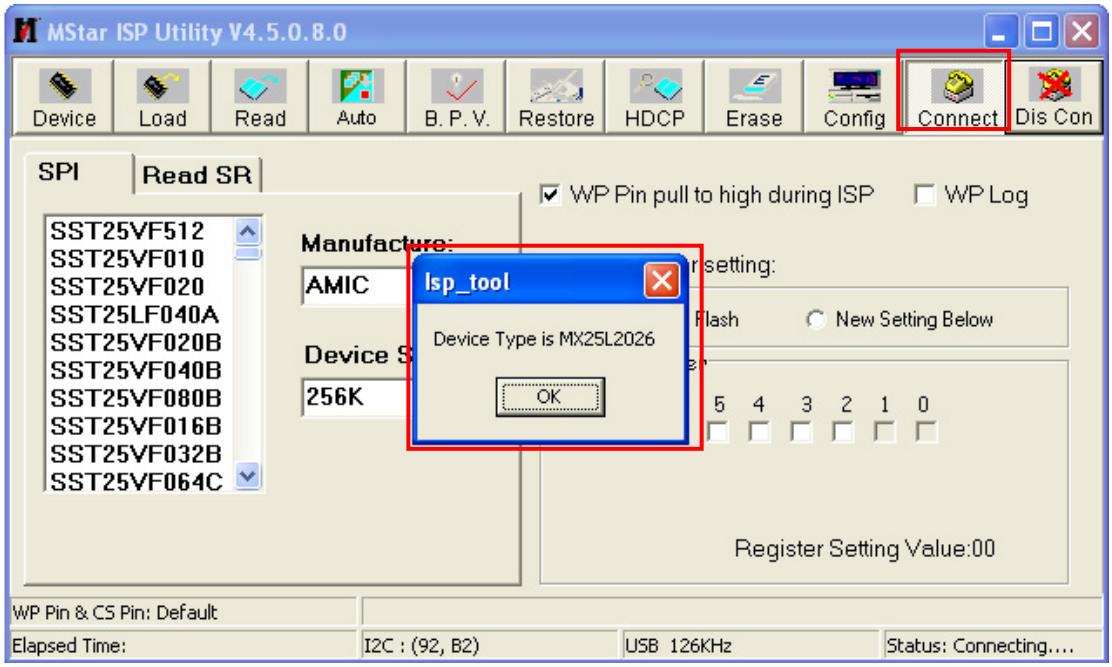
to run the ISP tool.



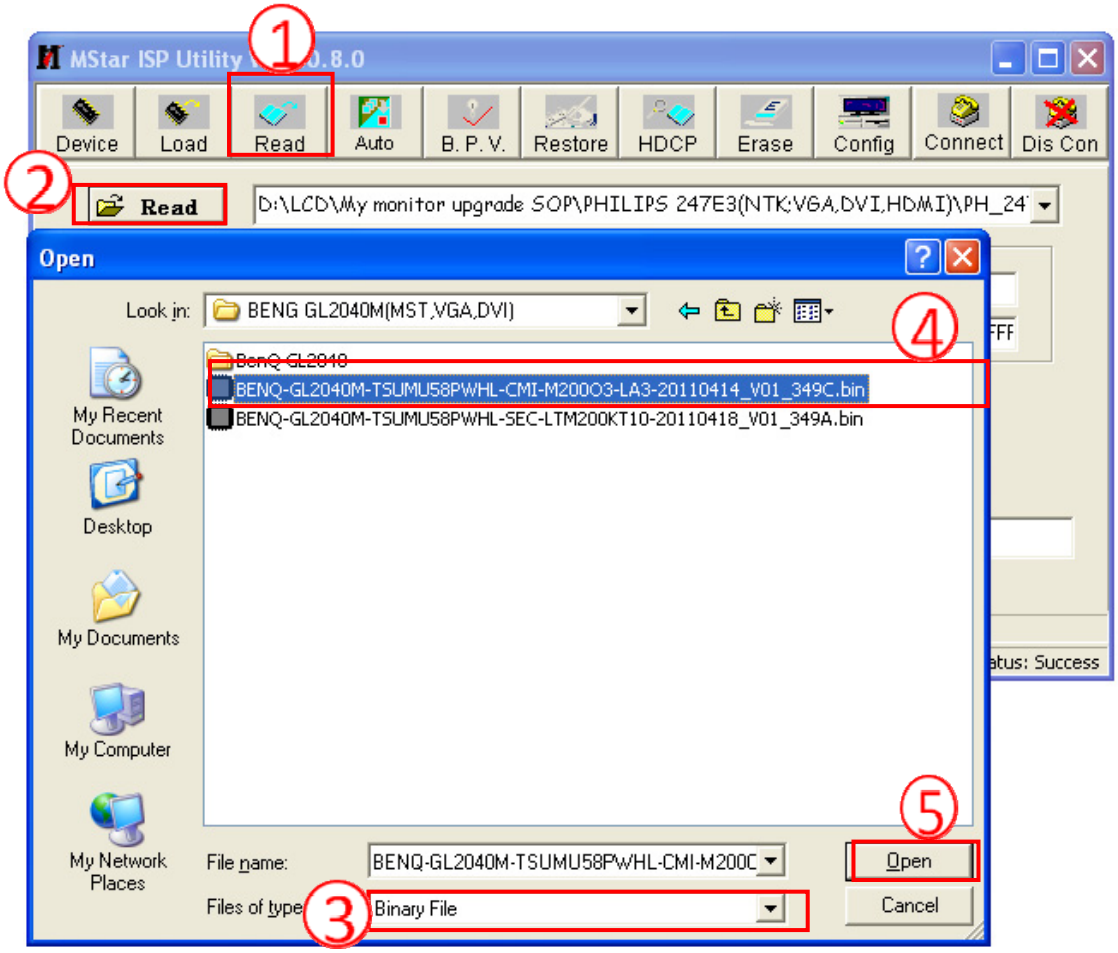
4.3. Set the parameters in “Device” window. Tick “WP Pin pull to high during ISP”.



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

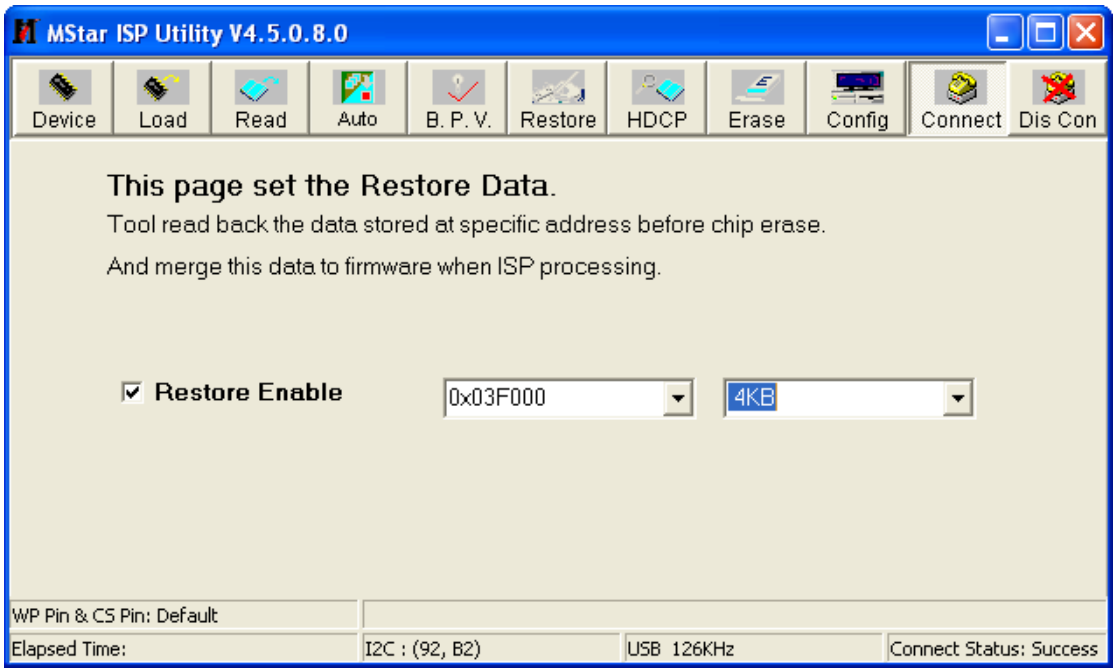


4.5. Load the F/W you want to upgrade.

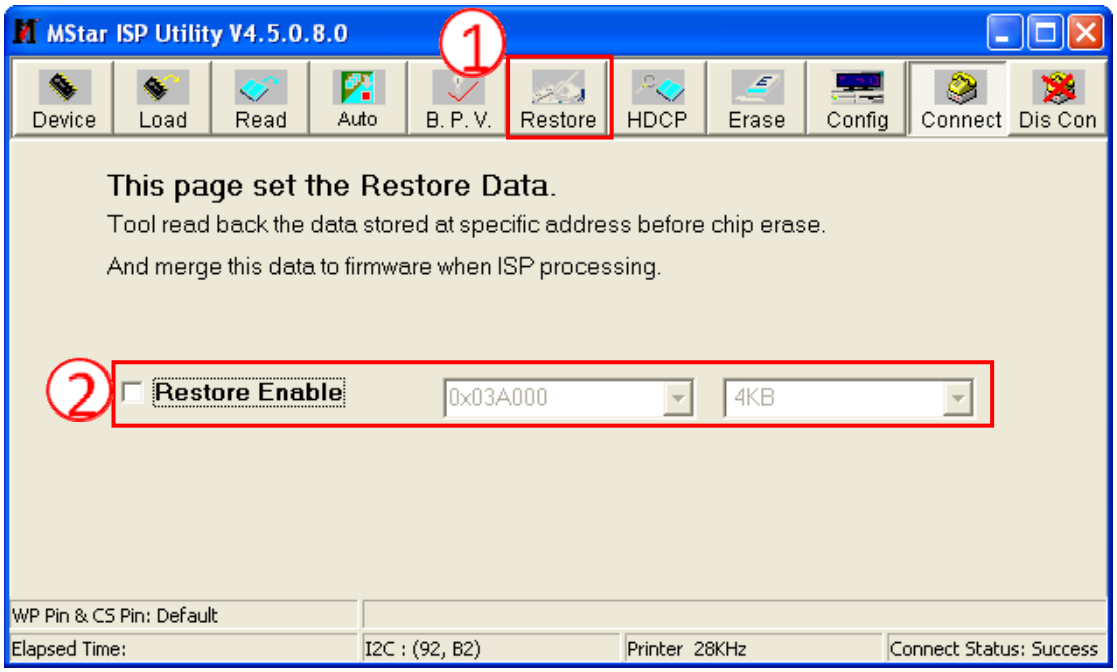


4.6. Set the restore address.

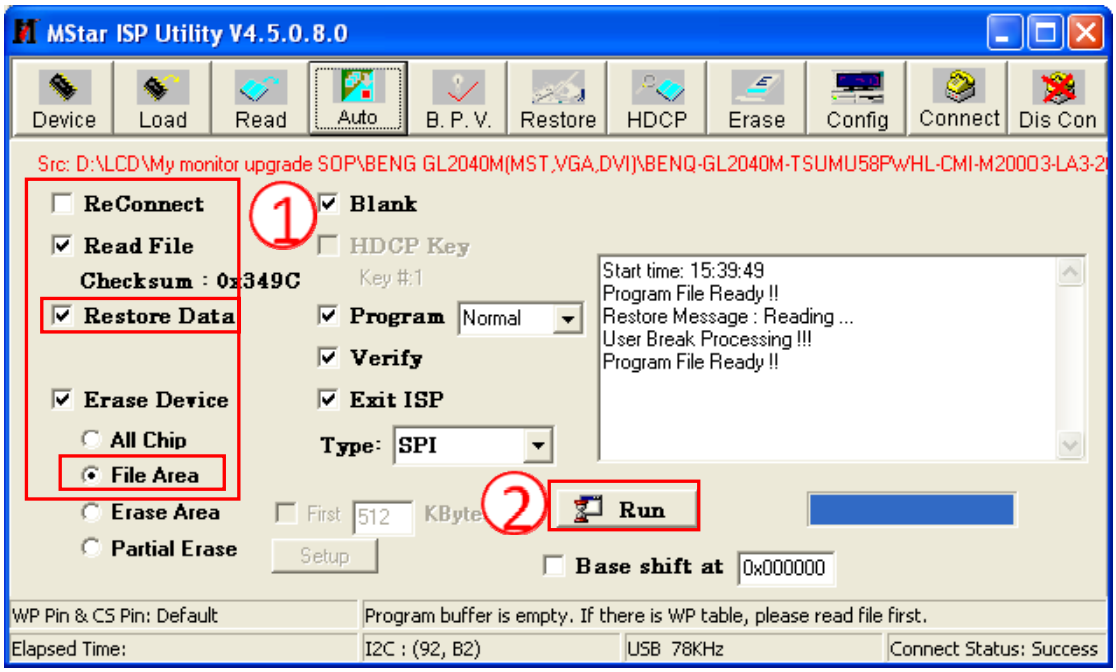
(1)If the monitor has DVI or HDMI port, you need to set restore address for HDCP key to avoid re-program HDCP key. Benq GL2040M has DVI, please fill “0x03F000” and “4KB” for it.



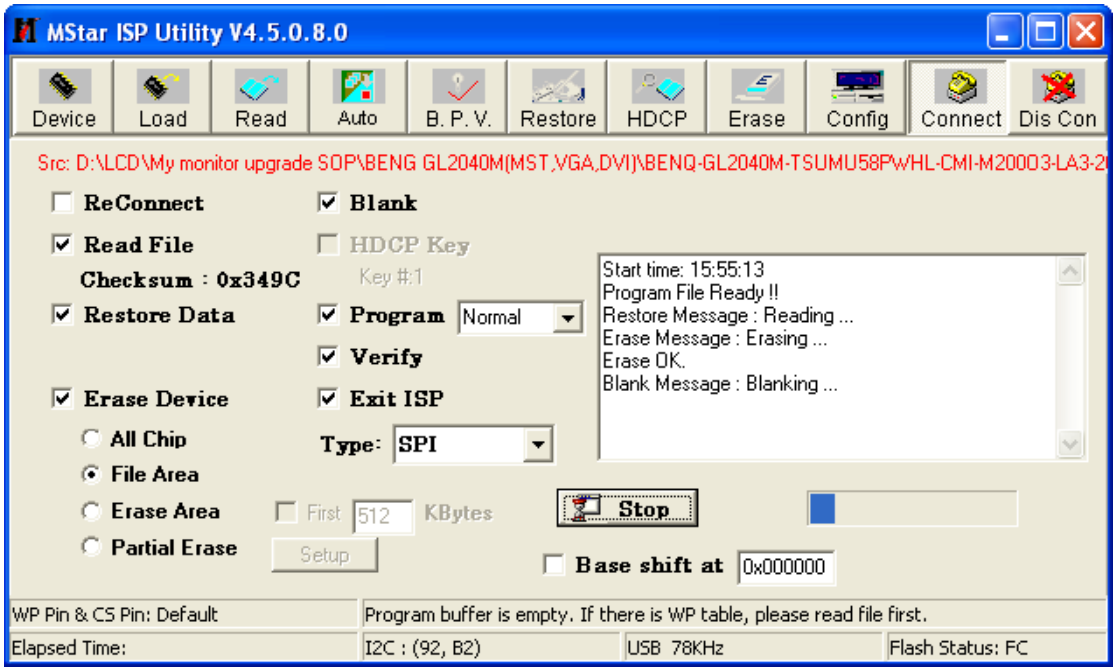
(2)If monitor hasn’t DVI or HDMI port, it isn’t necessary to tick “Restore Enable”.



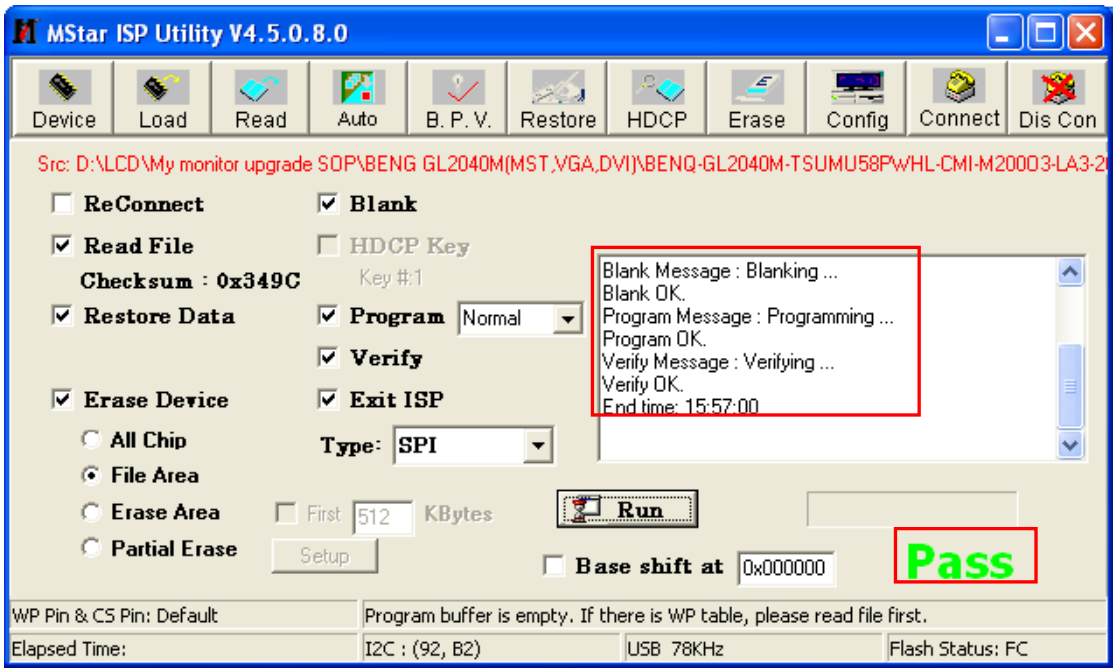
4.7. Set parameter in “Auto” window. If you have set “Restore address”, please tick “Restore Data”.



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



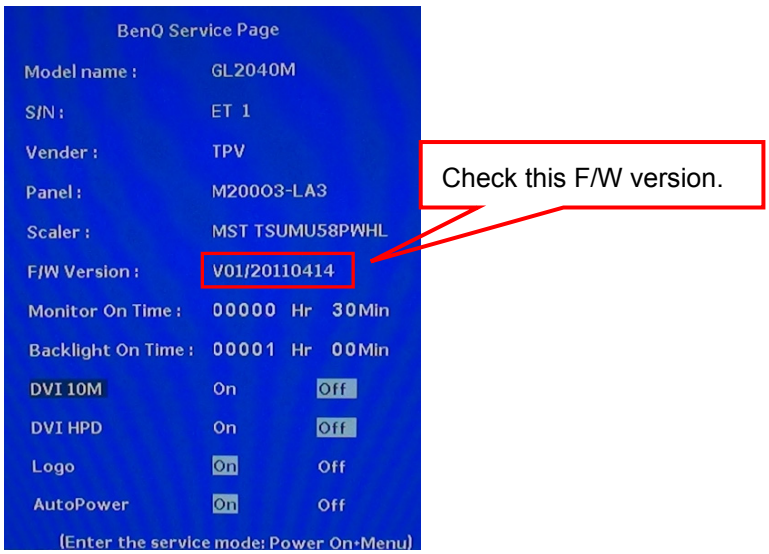
4.9.Successful upgrade. When upgrade successful, there will be green Pass letter appearing.



5. Check the FW version after upgrade.（Take below figure as an instance）

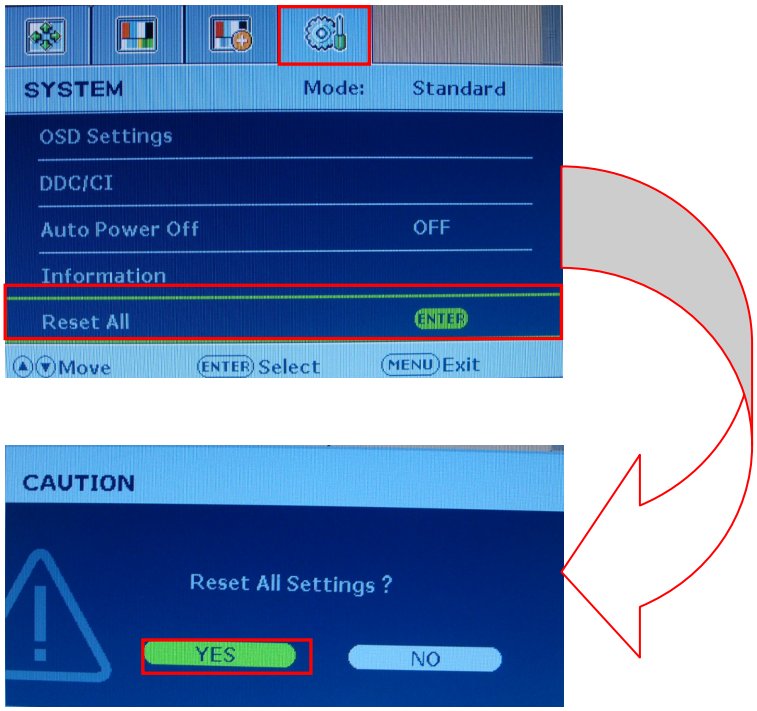
(1)Connect signal source and power cable to monitor and DC off it.

(2) Press “menu” key and “power on” key synchronously as below figure. When the screen lights, release the two buttons and then press “menu” again to open below factory menu.



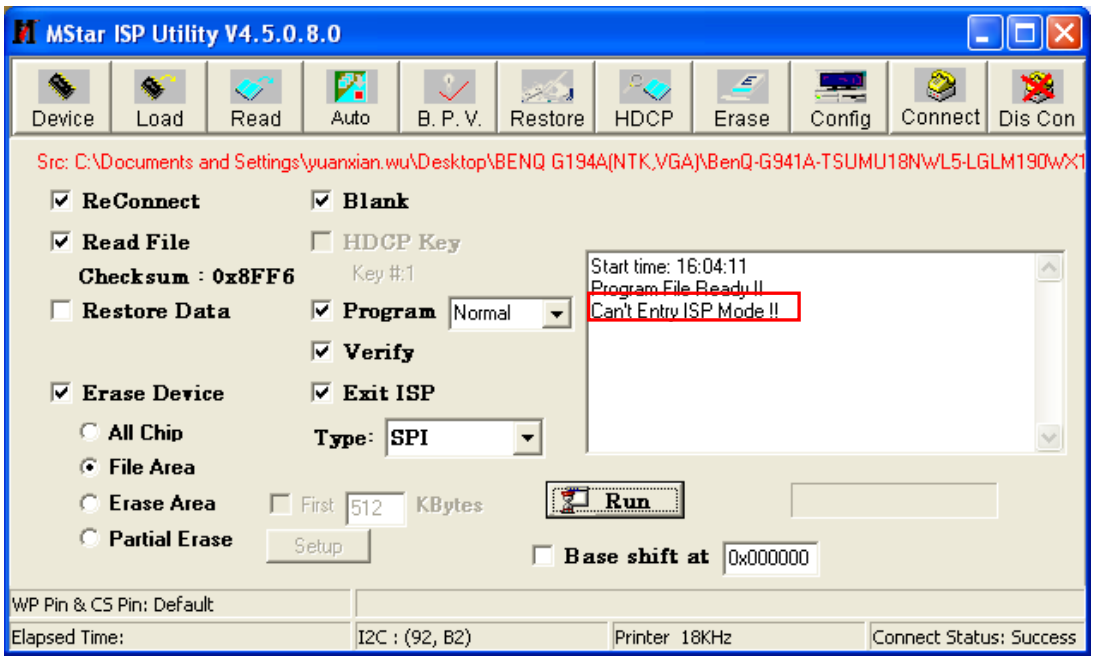
(3)If the version is right, please do factory reset in user menu as below, or re-upgrade F/W as the above steps.

The reset will turn off burn in mode.



6. Troubleshooting.

6.1. Can't Entry ISP Mode!!



The methods:

(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.

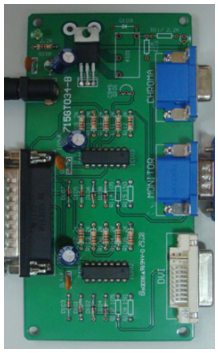
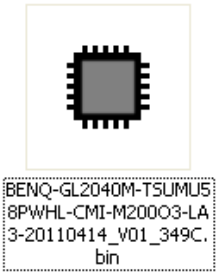
(4) Change advanced ISP tool.

(5)Change ISP JIG or cable.

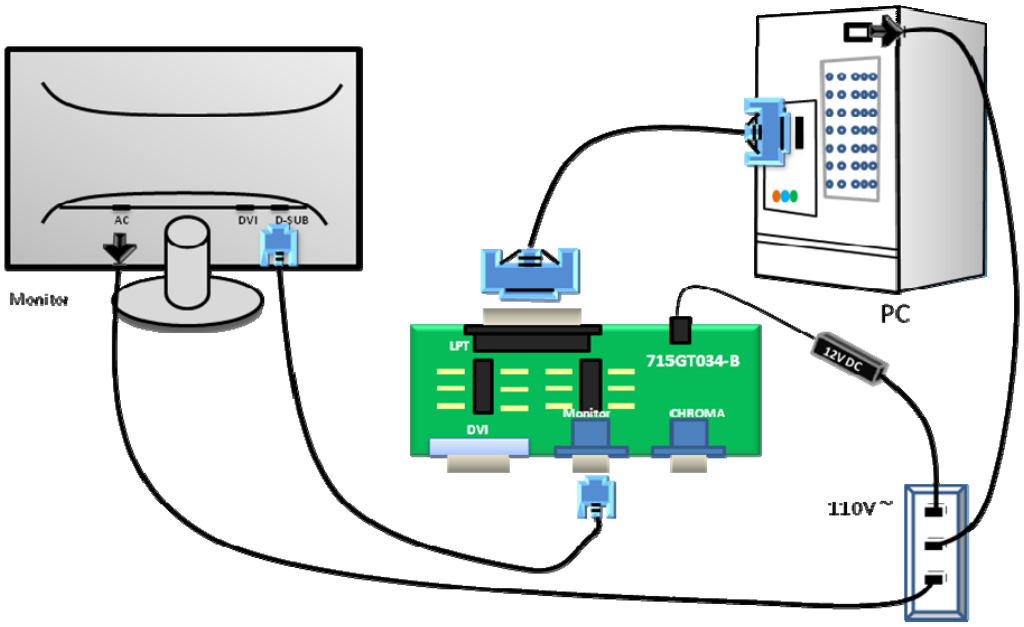
(6)Change PC.

Upgrade by 715GT034-B

1. Materials list for uprade.

		
LPT cable(male to male)	VGA cable	12V DC adapt
		
ISP jip: 715GT034-B	PC	monitor
 PORT95NT.EXE	 ISP_Tool.exe	 BENQ-GL2040M-TSUMU58PWHL-CMI-M200O3-LA3-20110414_V01_349C.bin
LPT port driver	ISP tool: V4.5.0.8.0	New F/W

2. Connection



2.1. Monitor AC ON as fig2.

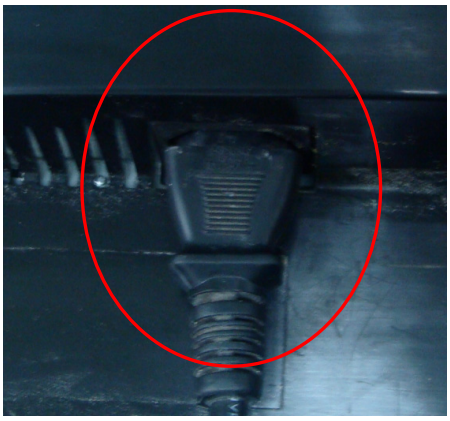


Fig2

3. Install LPT driver.

3.1. Double click the icon 

to install the driver.

3.2. Restart your PC after the LPT driver installation.

4. Install the ISP tool and run it.

4.1. Copy these three files to one folder as fig3 if you use the latest version tool.

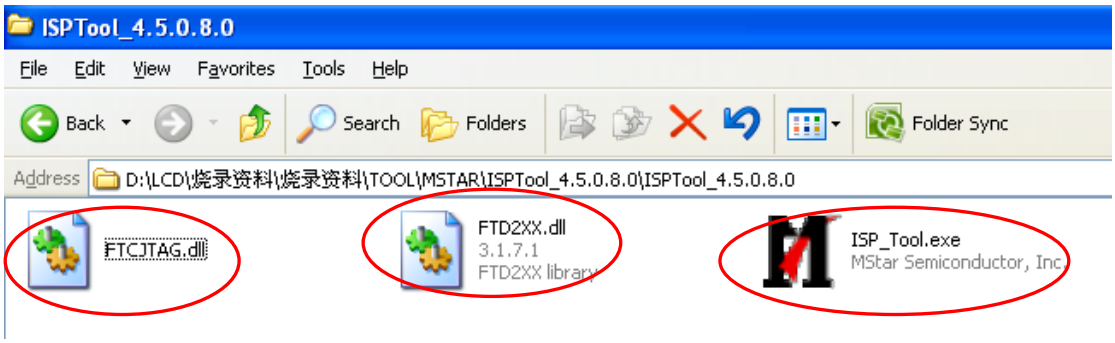


Fig3

4.2. Double-click 

to run the program as figure4.

Fig4

4.3. Click the “Config” to set the parameter as figure5. Click “Apply” after selecting AOC in “JIG”. Select “LPT1” and the Speed less than 50kHz. After all click “Auto Detect”, if show “OK” which presents the communicate OK, you can do next.

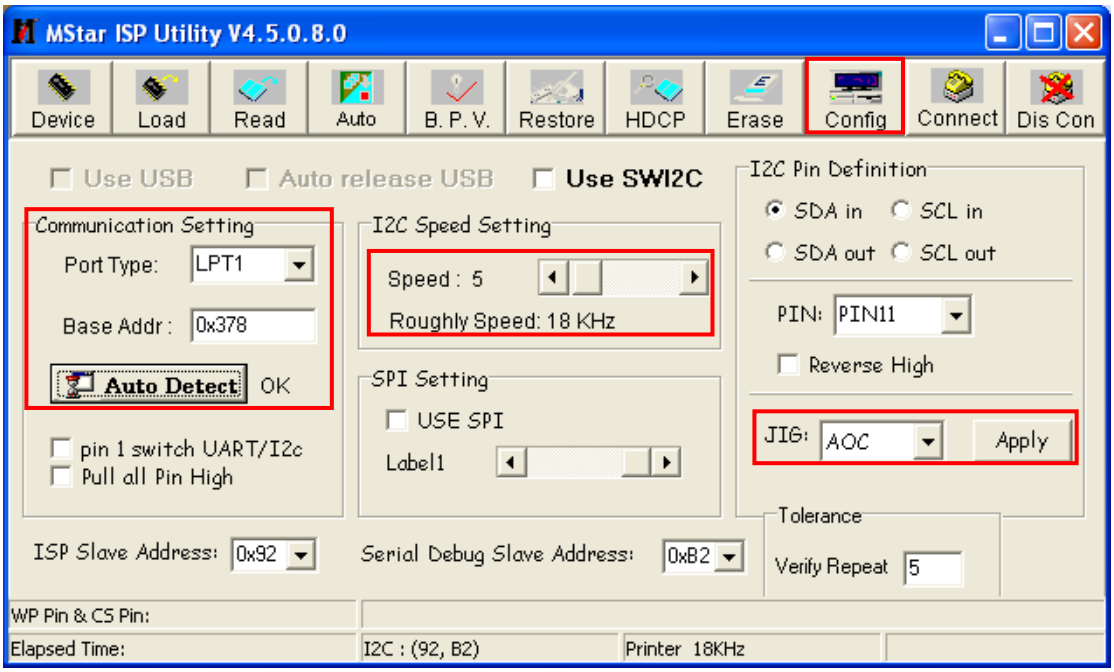


Fig5

4.4. Click “Device” and tick “WP Pin pull to high during ISP” as fig6 and click “connect” later, will pop up the flash type of the monitor as figure7.

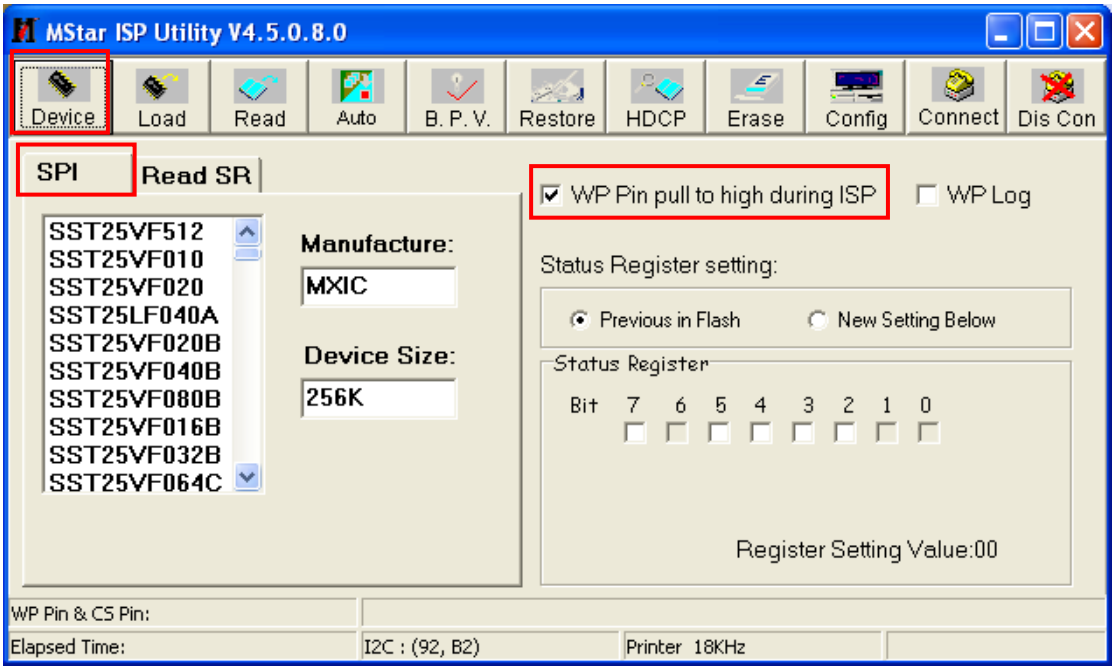


Fig6

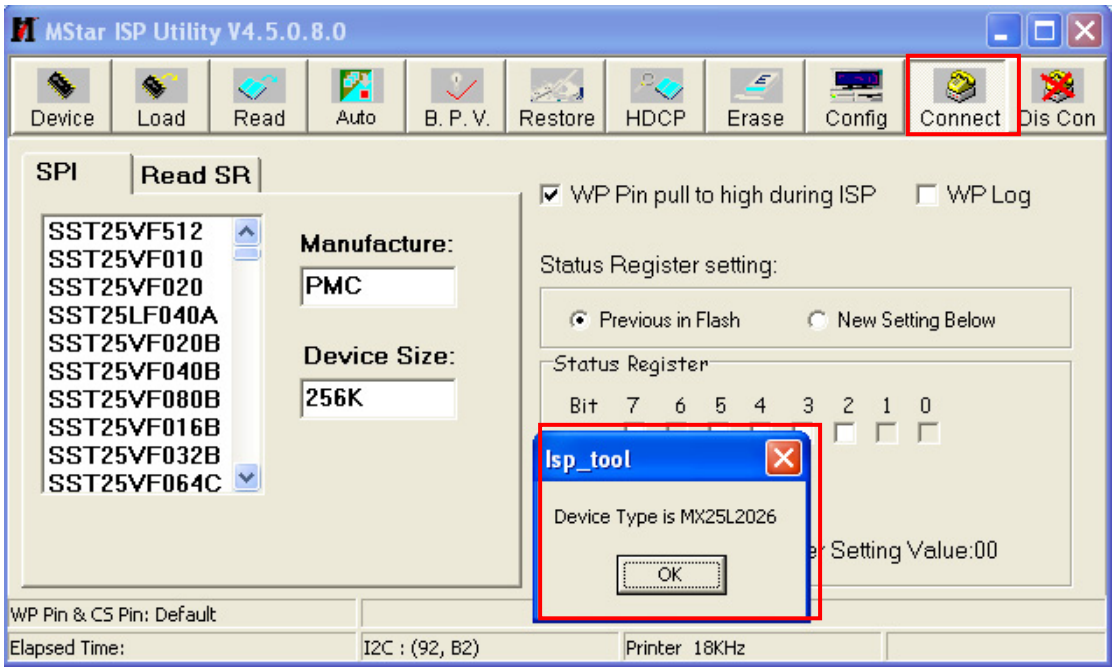


Fig7

4.5. Click “Read” to load the FW you need to upgrade as figure8.

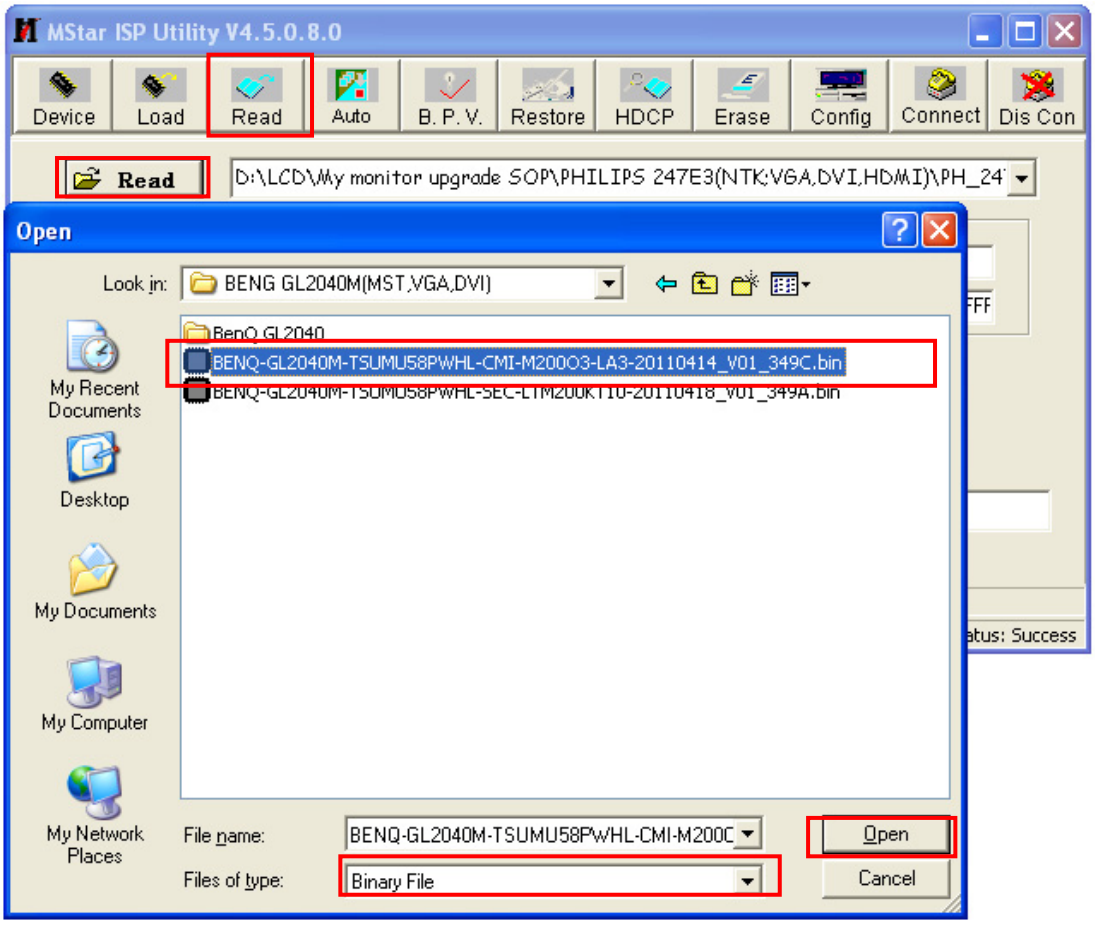
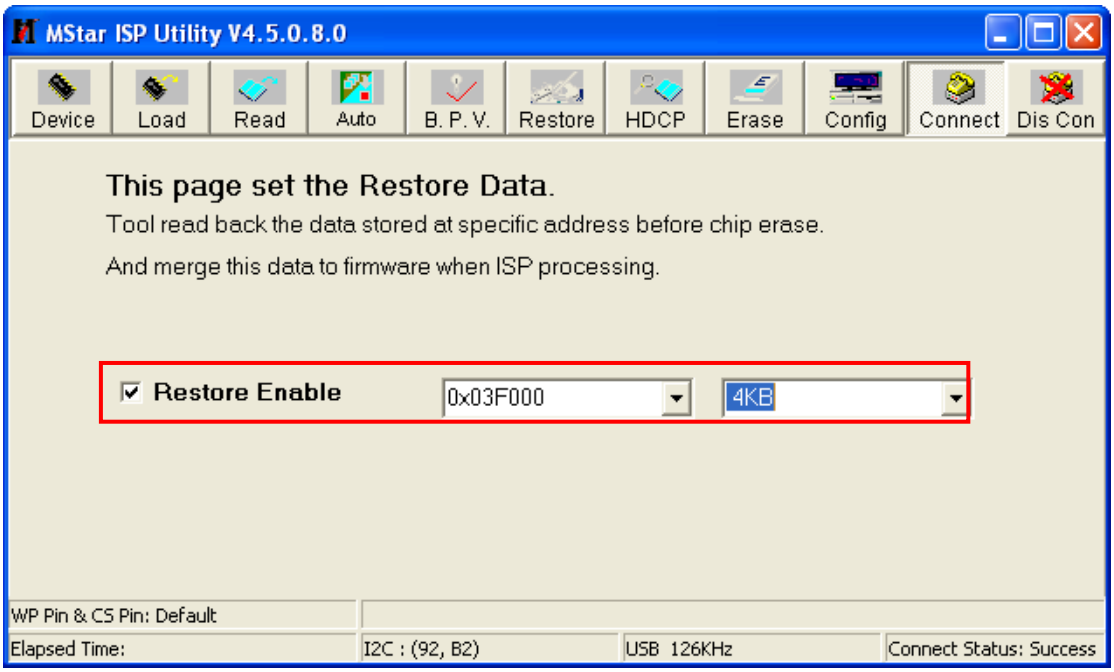


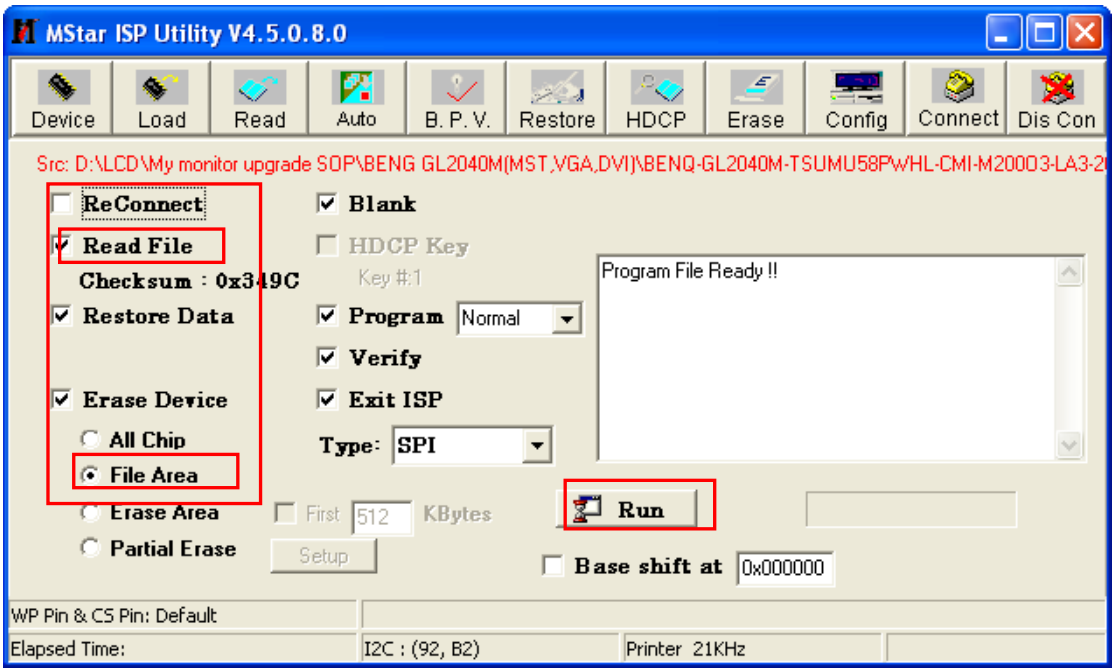
Fig8

4.6. Set the restore address for saving HDCP key as below.



4.7. Click “Auto” and set the parameters and so on, later click“Run” to start programming as figure9.

Because monitor has not DVI or HDMI port, so it isn’t necessary to set “Restore” item.



4.8. The process after click “run” lasts about 2 munites. During the process don’t cut off the connection and click “Stop”.

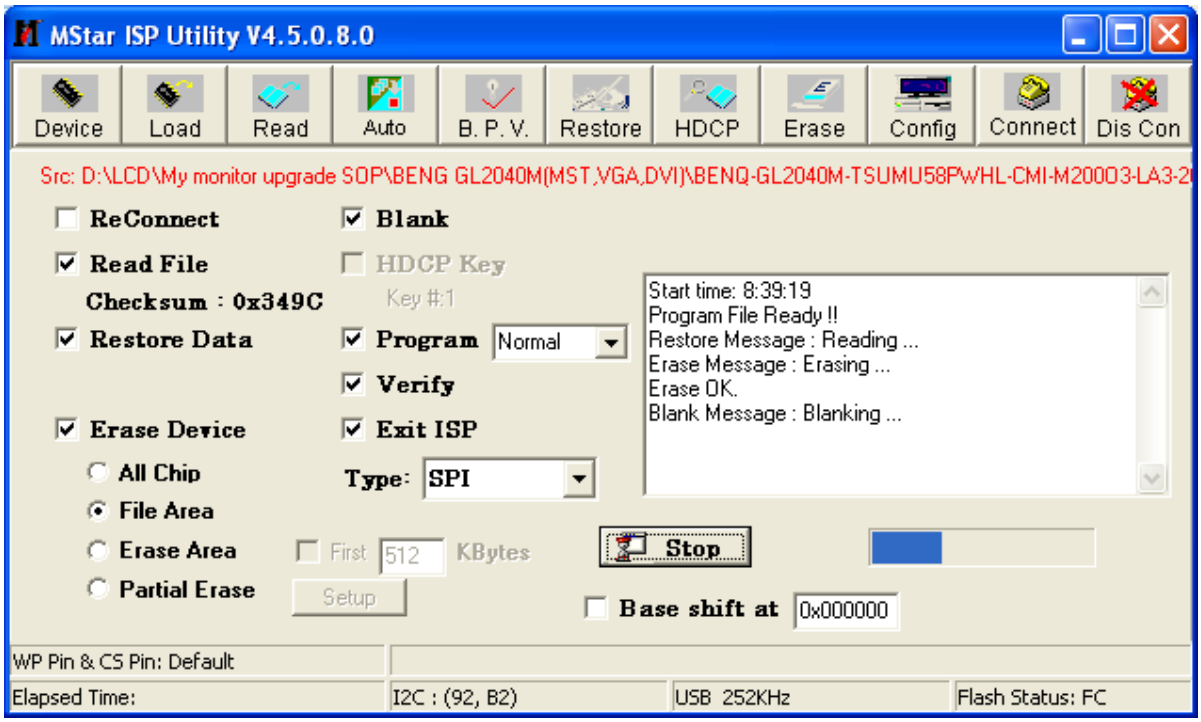
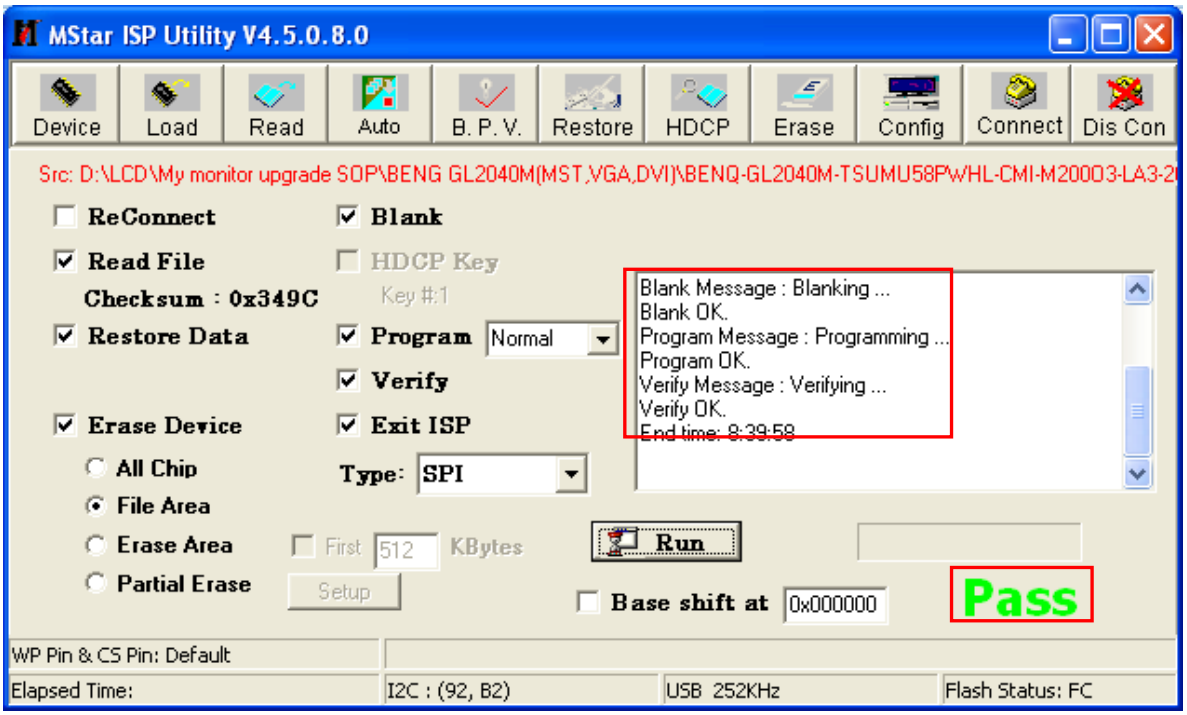


Fig10

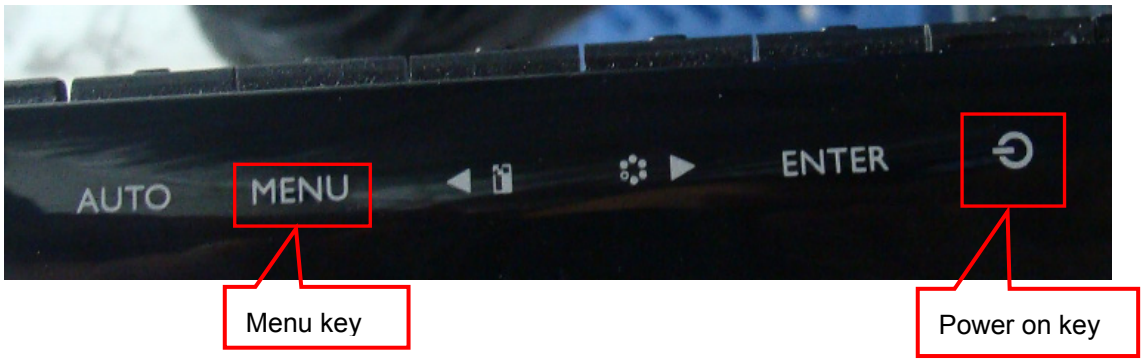
4.9. When appears the below message and green PASS as fig11, the program process is finished.

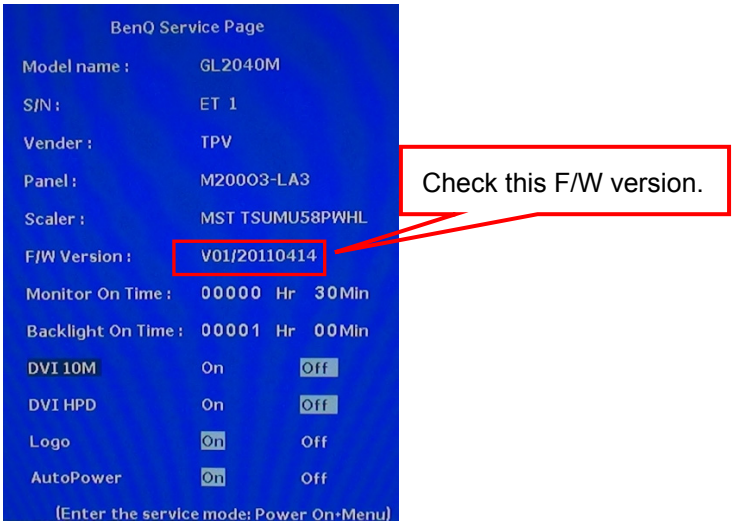


5. Check the FW version after upgrade.（Take below figure as an instance）

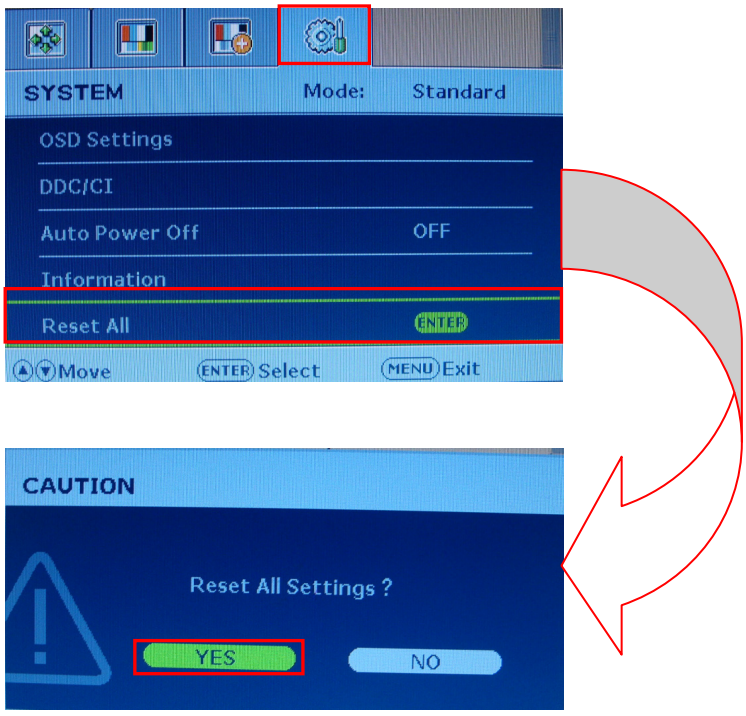
(1)Connect signal source and power cable to monitor and DC off it.

(2) Press “menu” key and “power on” key synchronously as below figure. When the screen lights, release the two buttons and then press “menu” again to open below factory menu.





(3)If the version is right, please do factory reset in user menu as below, or re-upgrade F/W as the above steps. The reset will turn off burn in mode.



5. Troubleshooting.

5.1. When click the “run”, but can’t entry ISP mode as fig15.

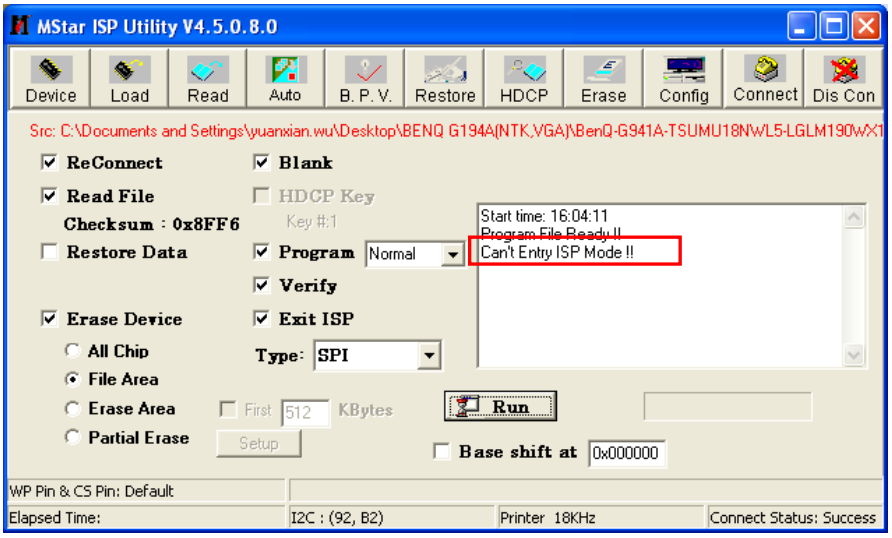


Fig15

5.2. The way to cure the “Can’t Entry ISP Mode!” issue.

(1) Click the “Dis Con” and the click “Connect” again to connect with monitor.

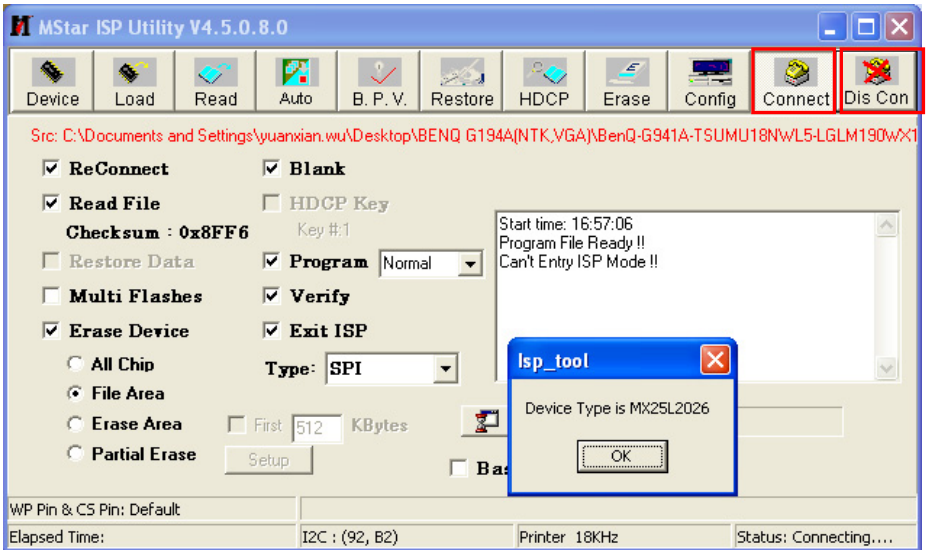


Fig16

(2) Check the cable and ISP jip are connected fluently.

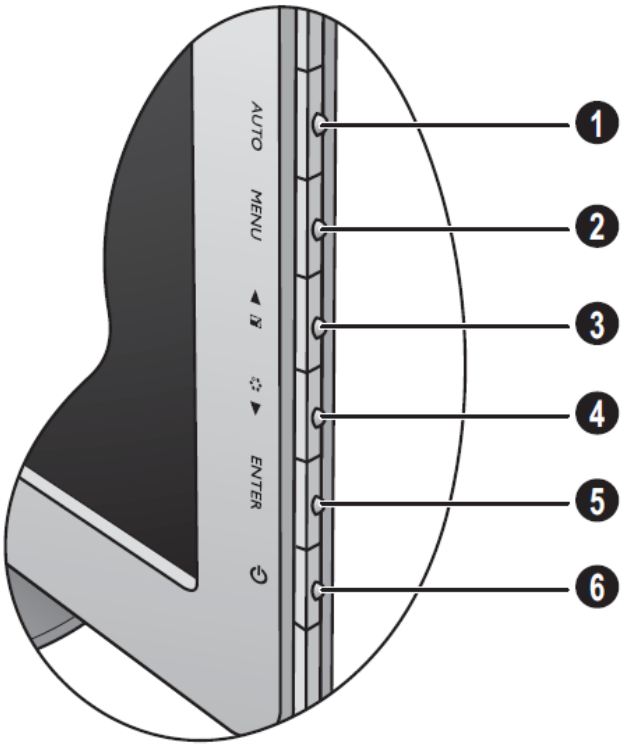
(3) Some time the communication fail with monitor will result monitor power key LED dark, so please AC off the monitor for a while. And AC on to retry.

5.3. Restart the monitor after successful upgrade. And the upgrade process is finished finally after above all steps.

Adjustment / Alignment Procedure

GL2040

The Control Panel



1. **AUTO**: Adjusts vertical position, phase, horizontal position and pixel clock automatically.
2. **MENU** key: Activates OSD main menu and return to the previous menu or exit OSD.
3. ▲ /**Display Mode** key: For Up/Increase adjustment. The key is the hot key for Display Mode.
4. ▼ /**Mode** key: For Down/Decrease adjustment. The key is the hot key for Mode.
5. **ENTER** key: Enters sub menus and select items. For models with DVI inputs, this key is also the hot key for Input.
6. **Power**: Turns the power on or off.

OSD = On Screen Display.

The hot keys will display a graduated scale for adjusting the value of that setting, and will only operate while the OSD menu is not currently displaying. Hot key displays will disappear after a few seconds of no key activity.

Hot key mode

The monitor keys perform as hot keys to provide direct access to particular functions whenever the menu isn't currently displaying on-screen.

Display Mode hot key

Press the ▲ key continually to switch between **Full** and **Aspect**. The setting will take effect immediately.

Mode hot key

Press the ▼ key continually to switch between the 6 modes for the main window, including **Standard**, **Movie**, **Game**, **Photo**, **sRGB,** and **Eco**. The setting will take effect immediately.

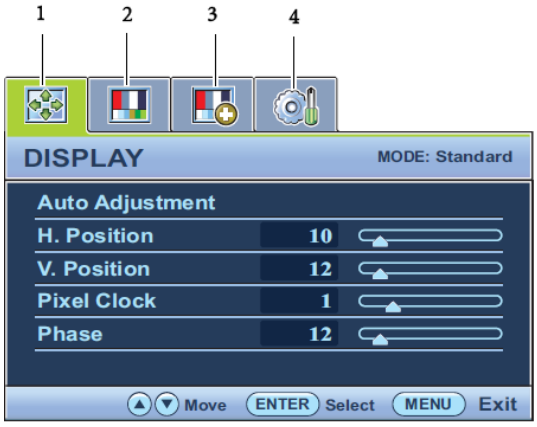
Input hot key (not available for analog-only models)

Press the **ENTER** key to toggle between different PC video signal inputs that may be connected to your monitor. The setting will take effect immediately. The setting will take effect immediately. The setting will take effect immediately.

Main Menu Mode

You can use the OSD (On Screen Display) menu to adjust all the settings on your monitor. Available menu options may vary depending on the input sources, functions and settings.

Press the **MENU** key to display the following main OSD menu.



There are four main OSD menus:

1. Display
2. Picture
3. Picture Advanced
4. System

Use the ▲ (up) or ▼ (down) keys to highlight a menu item, and press the **ENTER** key to enter the Menu item settings.

Display Menu

Available menu options may vary depending on the input sources, functions and settings.

1. Press the **MENU** key to display the main menu.
2. Press the ▲ or ▼ keys to select **DISPLAY** and then press the **ENTER** key to enter the menu.
3. Press the ▲ or ▼ keys to move the highlight to a menu item and then press the **ENTER** key to select that item.
4. Press the ▲ or ▼ keys to make adjustments or selections.
5. To return to the previous menu, press the **MENU** button.

Item	Function	Operation	Range
Auto Adjustment	Optimizes and adjusts the screen settings automatically for you. The **AUTO** key is a 'hot key' for this function. ☞ When you connect a digital video output using a digital (DVI) cable to your monitor, the **AUTO** key and the **Auto Adjustment** function will be disabled.	Press the **ENTER** key to select this option and make adjustment.	
H. Position	Adjusts the horizontal position of the screen image.	Press ▲ or ▼ keys to adjust the value.	0 to 100
V. Position	Adjusts the vertical position of the screen image.		0 to 100
Pixel Clock	Adjusts the pixel clock frequency timing to synchronize with the analog input video signal. Not applicable to a digital input signal.		0 to 100
Phase	Adjusts the pixel clock phase timing to synchronize with the analog input video signal. Not applicable to a digital input signal.		0 to 63

Picture Menu

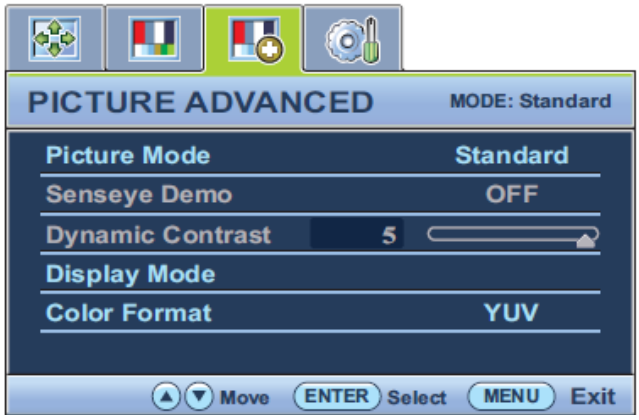
1. Press the **MENU** key to display the main menu.
2. Press the ▲ or ▼ keys to select **PICTURE** and then press the **ENTER** key to enter the menu.
3. Press the ▲ or ▼ keys to move the highlight to a menu item and then press the **ENTER** key to select that item.
4. Press the ▲ or ▼ keys to make adjustments or selections.
5. To return to the previous menu, press the **MENU** button.

Item	Function	Operation	Range
Brightness	Adjusts the balance between light and dark shades.	Press the ▲ key to increase the brightness and press the ▼ key to decrease the brightness.	0 to 100
Contrast	Adjusts the degree of difference between darkness and lightness.	Press the ▲ key to increase the contrast and press the ▼ key to decrease the contrast.	0 to 100
Sharpness	Adjusts the clarity and visibility of the edges of the subjects in the image.	Press the ▲ key to improve the crispness of the display and press the ▼ key to have softness effect on the display.	1 to 5
Gamma	Adjusts the tone luminance. The default value is 2.2 (the standard value for Windows).	Press the ▲ key to increase the gamma value (Tone becomes darker) and press the▼ key to decrease the gamma value (tone becomes lighter).	1.8 ~ 2.6
Color - Press **ENTER** to enter the **Color** menu.			
Normal	Allows video and still photographs to be viewed with natural coloring. This is the factory default color.	Press ▲ or ▼ keys to select this option.	
Bluish	Applies a cool tint to the image and is factory pre-set to the PC industry standard white color.		
Reddish	Applies a warm tint to the image and is factory pre-set to the news print standard white color.		
User Mode	Tailors the image color tint. The	Press ▲ or ▼ keys and the **ENTER** key to	• Red

	blend of the Red, Green and Blue primary colors can be altered to change the color tint of the image. Decreasing one or more of the colors will reduce their respective influence on the color tint of the image. (e.g. if you reduce the Blue level the image will gradually take on a yellowish tint. If you reduce Green, the image will become a magenta tint.)	select **Red**, **Green**, or **Blue**. Then use the ▲ or ▼ keys to make the color adjustments.	(0 to 100) • Green (0 to 100) • Blue (0 to 100)
	Hue: Adjusts the degree of how we perceive colors.	Press ▲ or ▼ keys to adjust the value.	0 to 100
	Saturation: Adjusts the purity degree of colors.	Press ▲ or ▼ keys to adjust the value.	0 to 100
Reset Color	Resets the **User Mode** custom color settings to the factory defaults.	Press ▲ or ▼ keys to adjust the settings.	YES NO
Press **MENU** to leave the Color menu.			

Picture Advanced Menu

Available menu options may vary depending on the input sources, functions and settings.



1. Press the **MENU** key to display the main menu.
2. Press the ▲ or ▼ keys to select **PICTURE ADVANCED** and then press the ENTER key to enter the menu.
3. Press the ▲ or ▼ keys to move the highlight to a menu item and then press the **ENTER** key to select that item.
4. Press the ▲ or ▼ keys to make adjustments or selections.
5. To return to the previous menu, press the **MENU** button.

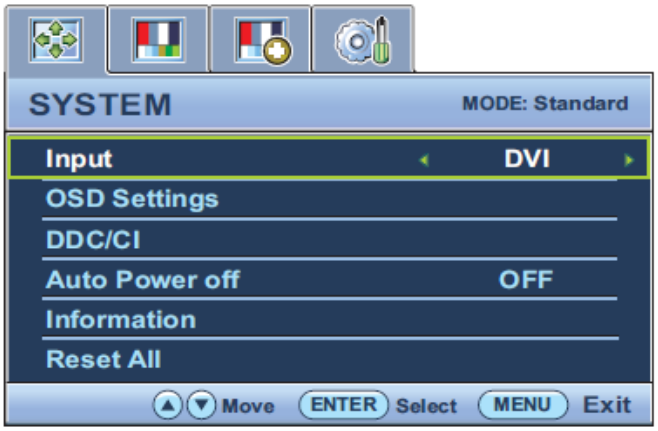
Item	Function	Operation	Range
Picture Mode	Selects a picture mode that best suits the type of images shown on the screen. • Standard - for basic PC application. • Movie - for viewing videos. • Game - for playing video games. • Photo - for viewing still images.	Press ▲ or ▼ keys to change the settings.	• Standard • Movie • Game • Photo • sRGB • Eco

	• sRGB - for better color matching representation with the peripheral devices, such as printers, DSCs, etc. • Eco - for saving electricity with low power consumption by providing minimum brightness for all running programs.		
Senseye Demo	Displays the preview of screen images under the selected mode from Picture Mode. The screen will be divided into two windows; the left window demonstrates images of Standard mode, while the right window presents the images under the specified mode.	Press▲ or ▼ keys to change the settings.	ON OFF
Dynamic Contrast	The function is to automatically detect the distribution of an input visual signal, and then to create the optimal contrast.	Press the **ENTER** key to select this option. Press the ▲ or ▼ keys to change the settings.	0 to 5
Display Mode	This feature is provided to allow aspect ratios other than 16:9 or 16:10 (depending on the purchased model) to be displayed without geometric distortion. • Overscan – Slightly enlarges the input image. Use this feature to hide annoying edge noise if present around your image. • Full - Scales the input image to fill the screen. Ideal for 16:9 or 16:10 (depending on the purchased model) aspect images. • Aspect - The input image is displayed without geometric distortion filling as much of the display as possible. Depending on the purchased model, 16:9 or 16:10 images will fill the screen horizontally while 4:3 or 5:4 images will fill the screen vertically. ☞To find out the monitor aspect ratio of the purchased model, please check the Specification document on the provided CD.	Press the ▲ or ▼ keys to change the settings. The options under Display Mode will be different depending on the input signal sources.	When the signal source is from a DVI or D-sub source, and the input image is of non-wide aspect ratio: • Full • Aspect Or When the signal source is from a D-sub (VGA converted from Component) source: • Overscan • Full • Aspect
Color Format	Determines the color space (RGB or YUV)	Press the **ENTER** key	• RGB

	based on the following detected video signal: • D-Sub (VGA) from PC: The default Color Format is RGB. • D-Sub (Component) from a video device: The default Color Format is YUV. ☞You might need to manually set the Color Format if colors shown on the monitor screen do not display properly. • DVI (for models with DVI inputs): Color Format is automatically set to RGB.	to select this option. Press the ▲ or ▼ keys to change the settings.	• YUV

System menu

Available menu options may vary depending on the input sources, functions and settings.



1. Press the **MENU** key to display the main menu.
2. Press the ▲ or ▼ keys to select **SYSTEM** and then press the **ENTER** key to enter the menu.
3. Press the ▲ or ▼ keys to move the highlight to a menu item and then press the **ENTER** key to select that item.
4. Press the ▲ or ▼ keys to make adjustments or selections.
5. To return to the previous menu, press the **MENU** button.

Item	Function	Operation	Range
Input	Use this to change the input to that appropriate to your video cable connection type. ☞Analog-only models do not have the Input function.	Press ▲ or ▼ keys to change the settings.	• DVI • D-sub (VGA)
OSD Settings - Press **ENTER** to enter the **OSD Settings** menu.			
Language	Sets the OSD menu Language.	Press ▲ or ▼ keys to change the settings. ☞ The language options displayed on your OSD may differ from those shown on the right, depending on the product supplied in your region.	• English • French • German • Italian • Spanish • Polish • Japanese

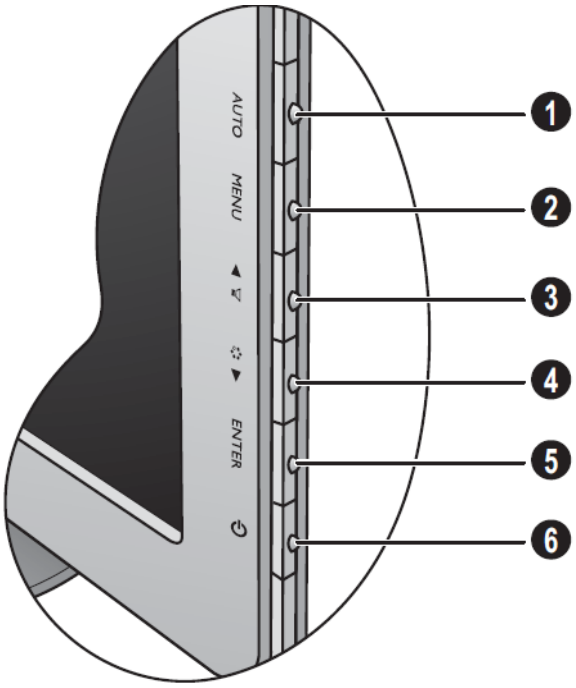
			• Czech • Traditional Chinese • Hungarian • Simplified Chinese • Serbo-Croatian • Romanian • Dutch • Russian • Swedish • Portuguese
H. Position	Adjusts the horizontal position of the OSD menu.	Press ▲ or ▼ keys to change the settings.	0 to 100
V. Position	Adjusts the vertical position of the OSD menu.		0 to 100
Display Time	Adjusts the display time of the OSD menu.		5 / 10 / 15 / 20 / 25 / 30 sec
OSD Lock	Prevents all the monitor settings from being accidentally changed. When this function is activated, the OSD controls and hotkey operations will be disabled.	Press ▲ or ▼ keys to change the settings. ☞ To unlock the OSD controls when the OSD is preset to be locked, press and hold the "MENU" key for 15 seconds to enter the "OSD Lock" option and make changes. Alternatively, you may use ▲ or ▼ keys to select "NO" in the "OSD Lock" submenu from the "OSD Settings" menu, and all OSD controls will be accessible.	YES NO
Press **MENU** to leave the **OSD Settings** menu.			
DDC/CI*	Allows the monitor settings to be set through the software on the PC.	Press the **ENTER** key to select this option. Press ▲ or ▼ keys to change the settings.	ON OFF
Auto Power off	Sets the time to power off the monitor automatically in power saving mode.	Press the **ENTER** key to select this option. Press the ▲ or ▼ keys to change the settings.	• OFF • 10min. • 20min. • 30min.

Information	Displays the current monitor property settings.		• Input • Current Resolution • Optimum Resolution (best with the monitor) • Model Name
Reset All	Resets all mode, color and geometry settings to the factory default values.	Press ▲ or ▼ keys to change the settings.	YES NO

*DDC/CI, short for Display Data Channel/Command Interface, which was developed by Video Electronics Standards Association (VESA). DDC/CI capability allows monitor controls to be sent via the software for remote diagnostics.

GL2040M

The Control Panel



1. **AUTO**: Adjusts vertical position, phase, horizontal position and pixel clock automatically.
2. **MENU** key: Activates OSD main menu and return to the previous menu or exit OSD.
3. ▲ /**Volume** key: For Up/Increase adjustment. The key is the hot key for Volume.
4. ▼ /**Mode** key: For Down/Decrease adjustment. The key is the hot key for Mode.
5. **ENTER** key: Enters sub menus and select items. For models with DVI inputs, this key is also the hot key for Input.
6. **Power**: Turns the power on or off.

OSD = On Screen Display.

The hot-keys will display a graduated scale for adjusting the value of that setting, and will only operate while the OSD menu is not currently displaying. Hot-key displays will disappear after a few seconds of no key activity.

Hot key mode

The monitor keys perform as hot keys to provide direct access to particular functions whenever the menu isn't currently displaying on-screen.

Volume hot key

Press the ▲ key to display the **Volume** indicators. Further press the ▲ key will increase the volume, while the ▼ key will decrease the volume.

To Mute, press the Volume hot key for 3 seconds. To release Mute, press the Volume hot key for 3 more seconds.

Mode hot key

Press the ▼ key continually to switch between the 6 modes for the main window, including **Standard**, **Movie**, **Game**, **Photo**, **sRGB,** and **Eco**. The setting will take effect immediately.

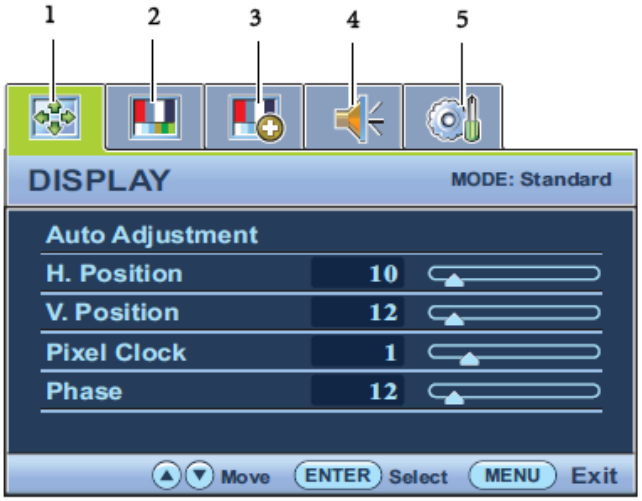
Input hot key (not available for analog-only models)

Press the **ENTER** key to toggle between different PC video signal inputs that may be connected to your monitor. The setting will take effect immediately.

Main Menu Mode

You can use the OSD (On Screen Display) menu to adjust all the settings on your monitor.

Press the **MENU** key to display the following main OSD menu.



There are five main OSD menus:

1. Display
2. Picture
3. Picture Advanced
4. Audio
5. System

Use the ▲ (up) or ▼ (down) keys to highlight a menu item, and press the **ENTER** key to enter the Menu item settings.

Display Menu

1. Press the **MENU** key to display the main menu.
2. Press the ▲ or ▼ keys to select **DISPLAY** and then press the **ENTER** key to enter the menu.
3. Press the ▲ or ▼ keys to move the highlight to a menu item and then press the **ENTER** key to select that item.
4. Press the ▲ or ▼ keys to make adjustments or selections.
5. To return to the previous menu, press the **MENU** button.

Item	Function	Operation	Range
Auto Adjustment	Optimizes and adjusts the screen settings automatically for you. The **AUTO** key is a 'hot key' for this function. ☞ When you connect a digital video output using a digital (DVI) cable to your monitor, the **AUTO** key and the **Auto Adjustment** function will be disabled.	Press the **ENTER** key to select this option and make adjustment.	
H. Position	Adjusts the horizontal position of the screen image.	Press ▲ or ▼ keys to adjust the value.	0 to 100
V. Position	Adjusts the vertical position of the screen image.		0 to 100
Pixel Clock	Adjusts the pixel clock frequency timing to synchronize with the analog input video signal. Not applicable to a digital input signal.		0 to 100
Phase	Adjusts the pixel clock phase timing to synchronize with the analog input video signal. Not applicable to a digital input signal.		0 to 63

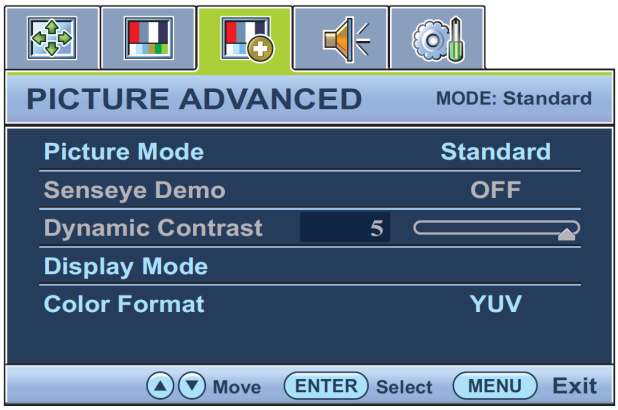
Picture Menu

1. Press the **MENU** key to display the main menu.
2. Press the ▲ or ▼ keys to select **PICTURE** and then press the **ENTER** key to enter the menu.
3. Press the ▲ or ▼ keys to move the highlight to a menu item and then press the **ENTER** key to select that item.
4. Press the ▲ or ▼ keys to make adjustments or selections.
5. To return to the previous menu, press the **MENU** button.

Item	Function	Operation	Range
Brightness	Adjusts the balance between light and dark shades.	Press the ▲ key to increase the brightness and press the ▼ key to decrease the brightness.	0 to 100
Contrast	Adjusts the degree of difference between darkness and lightness.	Press the ▲ key to increase the contrast and press the ▼ key to decrease the contrast.	0 to 100
Sharpness	Adjusts the clarity and visibility of the edges of the subjects in the image.	Press the ▲ key to improve the crispness of the display and press the ▼ key to have softness effect on the display.	1 to 5
☞ The above options for Brightness, Contrast, and Sharpness are available only in the Standard mode.			
Gamma (available when the Picture Mode is set to Standard or Eco)	Adjusts the tone luminance. The default value is 2.2 (the standard value for Windows).	Press the ▲ key to increase the gamma value (Tone becomes darker) and press the▼ key to decrease the gamma value (tone becomes lighter).	1.8 ~ 2.6
Color - Press **ENTER** to enter the **Color** menu. ☞ This Color menu is available only in the Standard mode.			
Normal	Allows video and still photographs to be viewed with natural coloring. This is the factory default color.	Press ▲ or ▼ keys to select this option.	
Bluish	Applies a cool tint to the image and is factory pre-set to the PC industry standard white color.		
Reddish	Applies a warm tint to the image and is factory pre-set to the news print standard white color.		
User Mode	Tailors the image color tint. The blend of the Red, Green and Blue primary colors can be altered to change the color tint of the image. Decreasing one or more of the colors will reduce their respective influence on the color tint of the image. (e.g. if you reduce the Blue level the image will gradually take on a yellowish tint. If you reduce Green, the image will become a magenta tint.)	Press ▲ or ▼ keys and the **ENTER** key to select **Red**, **Green**, or **Blue**. Then use the ▲ or ▼ keys to make the color adjustments.	• Red (0 to 100) • Green (0 to 100) • Blue (0 to 100)
	Hue: Adjusts the degree of how we	Press ▲ or ▼ keys to adjust the value.	0 to 100

	perceive colors.		
	Saturation: Adjusts the purity degree of colors.	Press ▲ or ▼ keys to adjust the value.	0 to 100
	☞ The above options for Hue and Saturation are available only if the signal source is Component Video.		
Reset Color	Resets the **User Mode** custom color settings to the factory defaults.	Press ▲ or ▼ keys to change the settings.	YES NO
Press **MENU** to leave the Color menu.			

Picture Advanced Menu



1. Press the **MENU** key to display the main menu.
2. Press the ▲ or ▼ keys to select **PICTURE ADVANCED** and then press the ENTER key to enter the menu.
3. Press the ▲ or ▼ keys to move the highlight to a menu item and then press the **ENTER** key to select that item.
4. Press the ▲ or ▼ keys to make adjustments or selections.
5. To return to the previous menu, press the **MENU** button.

Item	Function	Operation	Range
Picture Mode	Selects a picture mode that best suits the type of images shown on the screen. • Standard - for basic PC application. • Movie - for viewing videos. • Game - for playing video games. • Photo - for viewing still images. • sRGB - for better color matching representation with the peripheral devices, such as printers, DSCs, etc. • Eco - for saving electricity with low power consumption by providing minimum brightness for all running programs.	Press ▲ or ▼ keys to change the settings.	• Standard • Movie • Game • Photo • sRGB • Eco
Senseye Demo (available when the Picture Mode is set to Movie,	Displays the preview of screen images under the selected mode from Picture Mode. The screen will be divided into two windows; the left window demonstrates images of Standard	Press▲ or ▼ keys to change the settings.	ON OFF

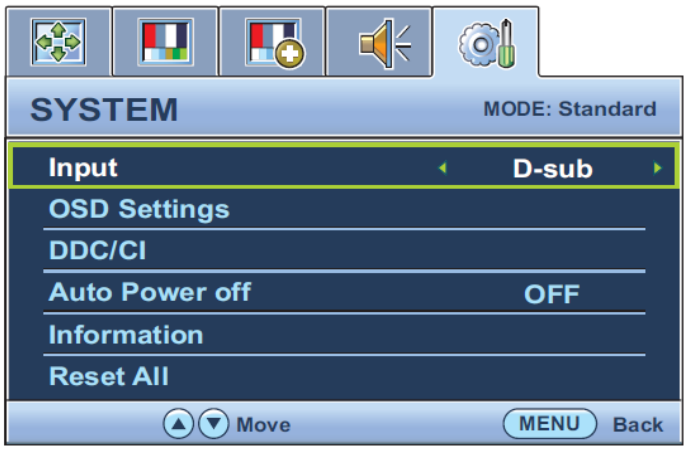
Game, or Photo)	mode, while the right window presents the images under the specified mode.		
Dynamic Contrast (available when the Picture Mode is set to Movie, Game, or Photo)	The function is to automatically detect the distribution of an input visual signal, and then to create the optimal contrast.	Press the **ENTER** key to select this option. Press ▲ or ▼ keys to change the settings.	0 to 5
Display Mode	This feature is provided to allow aspect ratios other than 16:9 or 16:10 (depending on the purchased model) to be displayed without geometric distortion. • Overscan – Slightly enlarges the input image. Use this feature to hide annoying edge noise if present around your image. • Full - Scales the input image to fill the screen. Ideal for 16:9 or 16:10 (depending on the purchased model) aspect images. • Aspect - The input image is displayed without geometric distortion filling as much of the display as possible. Depending on the purchased model, 16:9 or 16:10 images will fill the screen horizontally while 4:3 or 5:4 images will fill the screen vertically. ☞To find out the monitor aspect ratio of the purchased model, please check the Specification document on the provided CD.	Press the ▲ or ▼ keys to change the settings. ☞The options under Display Mode will be different depending on the input signal sources.	When the signal source is from a DVI or D-Sub source, and the input image is of non-wide aspect ratio: • Full • Aspect Or When the signal source is from a D-Sub (VGA converted from Component) source: • Overscan • Full • Aspect
Color Format	Determines the color space (RGB or YUV) based on the following detected video signal: • D-Sub (VGA) from PC: The default Color Format is RGB. • D-Sub (Component) from a video device: The default Color Format is YUV. ☞ You might need to manually set the Color Format if colors shown on the monitor screen do not display properly. • DVI (for models with DVI inputs): Color Format is automatically set to RGB.	Press the **ENTER** key to select this option. Press the ▲ or ▼ keys to change the settings.	• RGB • YUV

Audio menu

1. Press the **MENU** key to display the main menu.
2. Press the ▲ or ▼ keys to select **AUDIO** and then press the **ENTER** key to enter the menu.
3. Press the ▲ or ▼ keys to move the highlight to a menu item and then press the **ENTE**R key to select that item.
4. Press the ▲ or ▼ keys to make adjustments or selections.
5. To return to the previous menu, press the **MENU** button.

Item	Function	Operation	Range
Volume	Adjusts the audio volume	Press the ▲key to increase the volume and press the ▼ key to decrease the volume.	0 ~ 100
Mute	Mutes the audio input	Press the ▲ or ▼ keys to change the settings.	• ON • OFF

System menu



1. Press the **MENU** key to display the main menu.
2. Press the ▲ or ▼ keys to select **SYSTEM** and then press the **ENTER** key to enter the menu.
3. Press the ▲ or ▼ keys to move the highlight to a menu item and then press the **ENTER** key to select that item.
4. Press the ▲ or ▼ keys to make adjustments or selections.
5. To return to the previous menu, press the **MENU** button.

Item	Function	Operation	Range
Input	Use this to change the input to that appropriate to your video cable connection type. ☞Analog-only models do not have the Input function.	Press ▲ or ▼ keys to change the setting.	• DVI • D-sub (VGA)
OSD Settings - Press **ENTER** to enter the **OSD Settings** menu.			
Language	Sets the OSD menu Language.	Press ▲ or ▼ keys to change the settings. ☞ The language options displayed on your OSD may differ from those shown on the right, depending on the product supplied in your region.	• English • French • German • Italian • Spanish • Polish • Japanese • Czech • Traditional Chinese • Hungarian • Simplified Chinese • Serbo-Croatian • Romanian • Dutch • Russian • Swedish • Portuguese
H. Position	Adjusts the horizontal position of the OSD menu.	Press ▲ or ▼ keys to change the settings.	0 to 100
V. Position	Adjusts the vertical position of the OSD menu.		0 to 100
Display Time	Adjusts the display time of the OSD menu.		5 / 10 / 15 / 20 / 25 / 30 sec
OSD Lock	Prevents all the monitor settings from being accidentally changed. When this function is activated, the OSD controls and hotkey operations will be disabled.	Press ▲ or ▼ keys to change the settings. ☞ To unlock the OSD controls when the OSD is preset to be locked, press and hold the "MENU" key for 15 seconds to enter the "OSD Lock" option and make changes. Alternatively, you may use ▲ or ▼	YES NO

		keys to select "NO" in the "OSD Lock" submenu from the "OSD Settings" menu, and all OSD controls will be accessible.	
Press **MENU** to leave the **OSD Settings** menu.			
DDC/CI*	Allows the monitor settings to be set through the software on the PC.	Press the **ENTER** key to select this option. Press the ▲ or ▼ keys to change the settings.	ON OFF
Auto Power off	Sets the time to power off the monitor automatically in power saving mode.	Press the **ENTER** key to select this option. Press the ▲ or ▼ keys to change the settings.	• OFF • 10min. • 20min. • 30min.
Information	Displays the current monitor property settings.		• Input • Current Resolution • Optimum Resolution (best with the monitor) • Model Name
Reset All	Resets all mode, color and geometry settings to the factory default values.	Press ▲ or ▼ keys to change the settings.	YES NO

*DDC/CI, short for Display Data Channel/Command Interface, which was developed by Video Electronics Standards Association (VESA). DDC/CI capability allows monitor controls to be sent via the software for remote diagnostics.

Display Timing Table

Resolution	Pixel clock (unit: MHz)	H-sync (unit: kHz)	V-sync (unit: Hz)
480i	13.5	15.734	60
576i	13.5	15.625	50
640x480p	25.175	31.468	59.94
720x480p	27.00	31.468	59.94
720x576p	27.00	31.25	50
720p 50Hz	74.25	37.50	50
720p 60Hz	74.25	45.00	60
1080i 50Hz	74.25	28.125	50
1080i 50Hz	74.25	31.25	50
1080i 60Hz	74.25	33.75	60
1080p 50Hz	148.50	56.250	50
1080p 60Hz	148.50	67.50	60

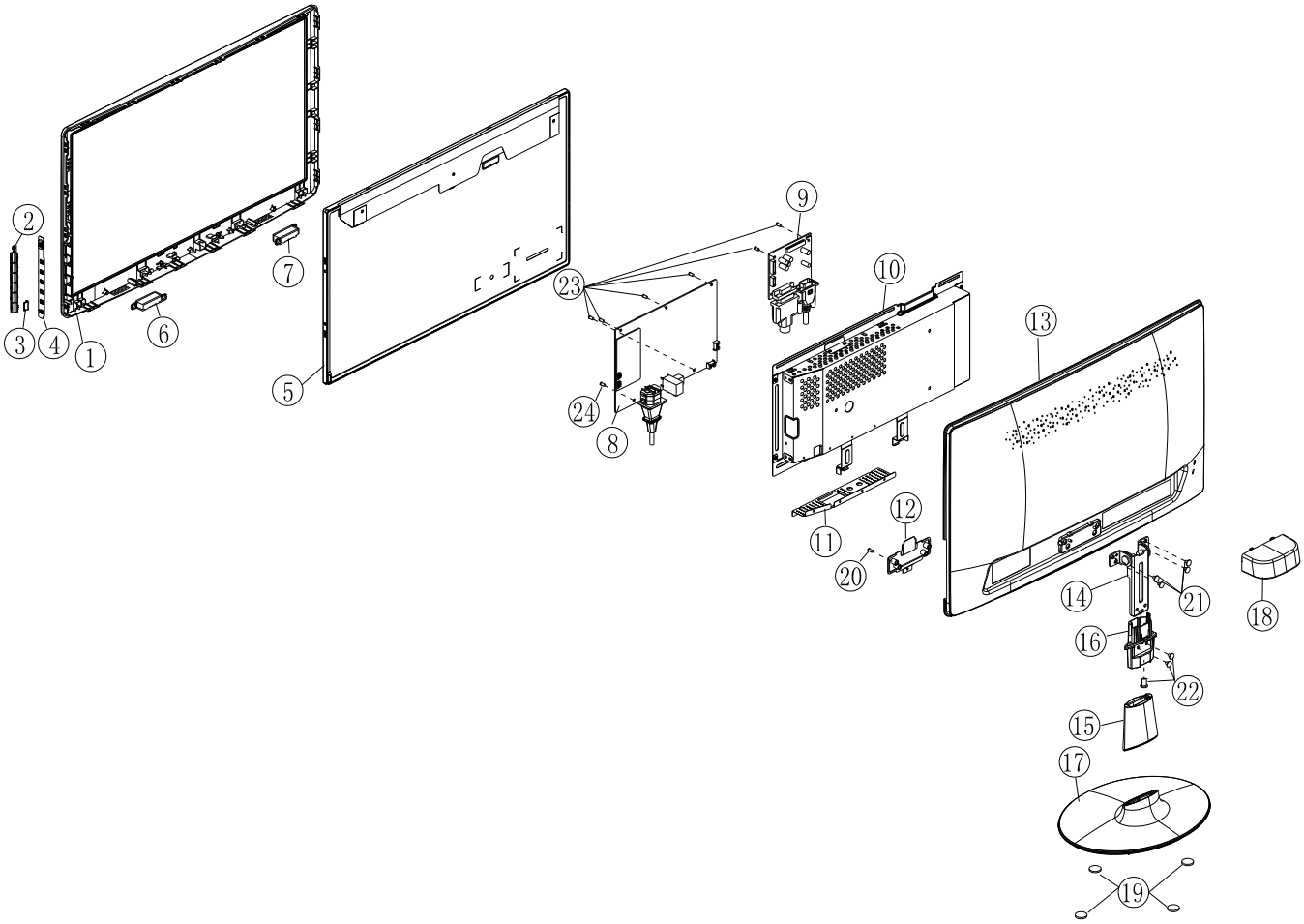
Factory OSD Menu

The service page needs to include that information: Model name, S/N, Vender, panel, scalar, F/W version, Monitor on time, Backlight on time.

1. Trigger method: Press “Menu” key and Power on.
2. Press the Menu key will display the service page
3. Press menu key will close the service page.
4. power off will quit the service mode
5. At the service mode, the key function is same as normal OSD define.
6. The timer can only reset at the service mode by “Timer Reset” (Timer Reset moves to SI factory Area). And needs to have a warning message to double confirm the reset function.The timer should record up to 99999 hours and will be reset once launch.
7. Add one selected item for HPD (DVI port),DVI HPD at Service menu
   DVI HPD: To disable the hot plug pin detection. (DVI port default: Off)
8. add BenQ logo on/off item, the default is “on”
9. add the auto power on item, the default is “on”
10. Add the timer reset warning message, when select the timer reset item, then the warning message will display and need to confirm it again and the default is “No”.
11. Panel type define need to have the panel version
12. F/W version need to define the dual or analog model
13. Add support “DVI 10m” items. (default: Off)

Level 2 Circuit Board and Standard Parts Replacement

Product Exploded View



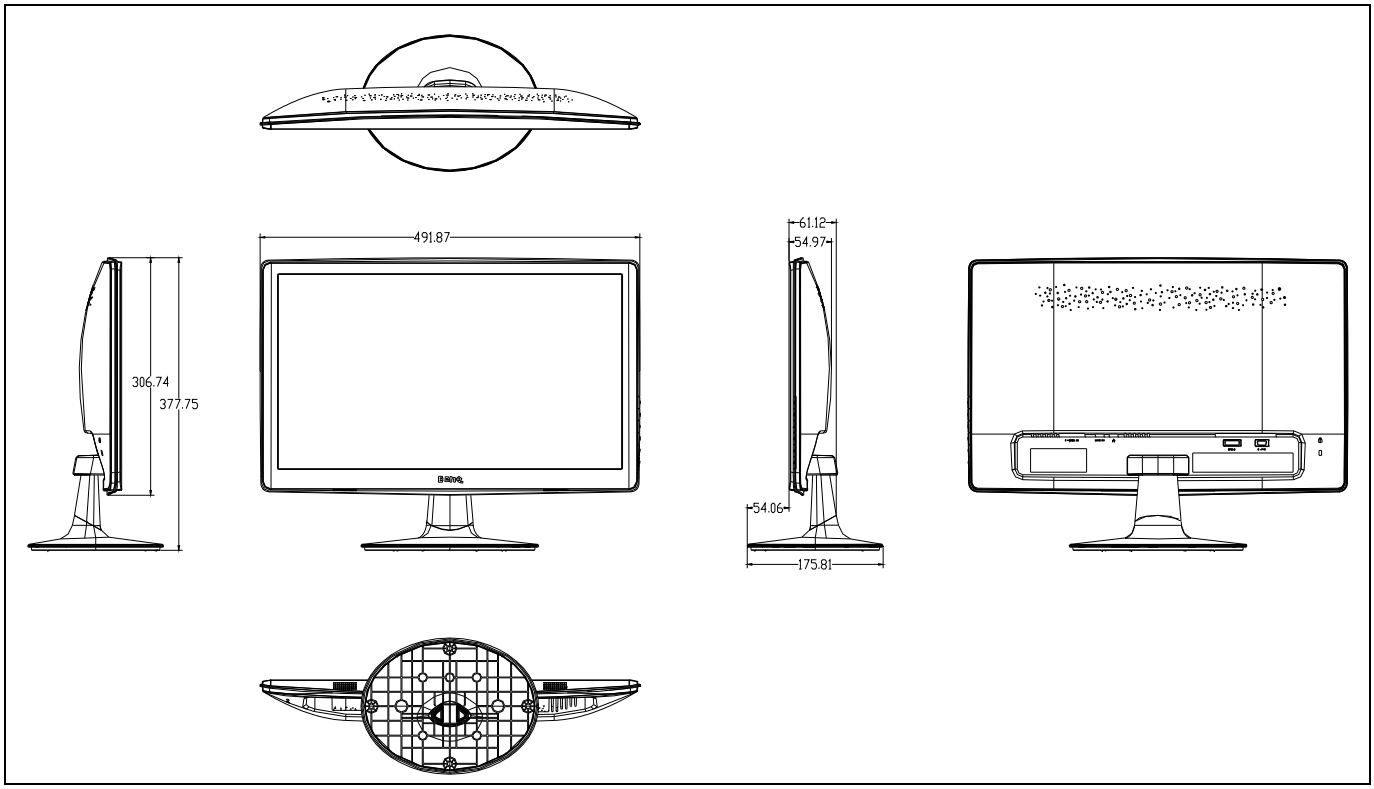
Note: The parts information listed below are for reference only, and are subject to change without notice. Please go to http://cs.tpv.com.cn/hello1.asp for the latest information.

Item	Description	Qty	Unit
1	BEZEL	1	PCS
2	KEY BUTTON	1	PCS
3	POWER LENS	1	PCS
4	KEY BOARD	1	PCS
5	PANEL	1	PCS
6	SPEAKER (JUST FOR GL2040M)	1	PCS
7	SPEAKER (JUST FOR GL2040M)	1	PCS
8	POWER BOARD	1	PCS
9	MAIN BOARD	1	PCS
10	MAINFRAME	1	PCS
11	AC SHIELD	1	PCS
12	HINGE BKT	1	PCS

13	REAR COVER	1	PCS
14	HINGE	1	PCS
15	STAND COVER	1	PCS
16	STAND	1	PCS
17	BASE	1	PCS
18	COVER HINGE	1	PCS
19	FOOT PAD	4	PCS

SCREW				
Item	**Part No.**	**Description**	**Qty**	**Unit**
20	0Q1G 930 8120	HINGE BKT & REAR COVER	1	PCS
21	0M1G1740 10 47 CR3	HIGNE & REAR COVER	4	PCS
22	0M1G1740 8 47 CR3	HINGE & STAND	3	PCS
23	0D1G1030 6120	MAIN/POWER BOARD & MAINFRAME	6	PCS
24	0M1G1740 6120	POWER BOARD & MAINFRAME	1	PCS
ART.				
	Part No.	**Description**	**Qty**	**Unit**
	Q44GA107101	EPS	1	PCS
	Q44GA107201	EPS	1	PCS
	Q44GA107624 1A	CARTON	1	PCS

Six Angles' View



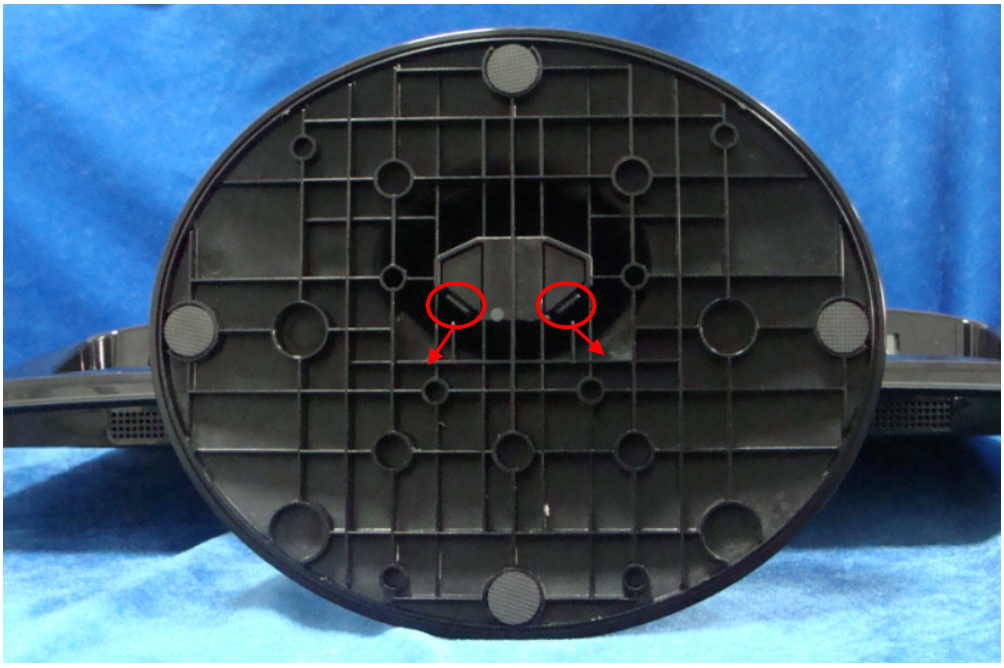
Product Disassembly/Assembly

Note: The speaker just for GL2040M.

Disassembly

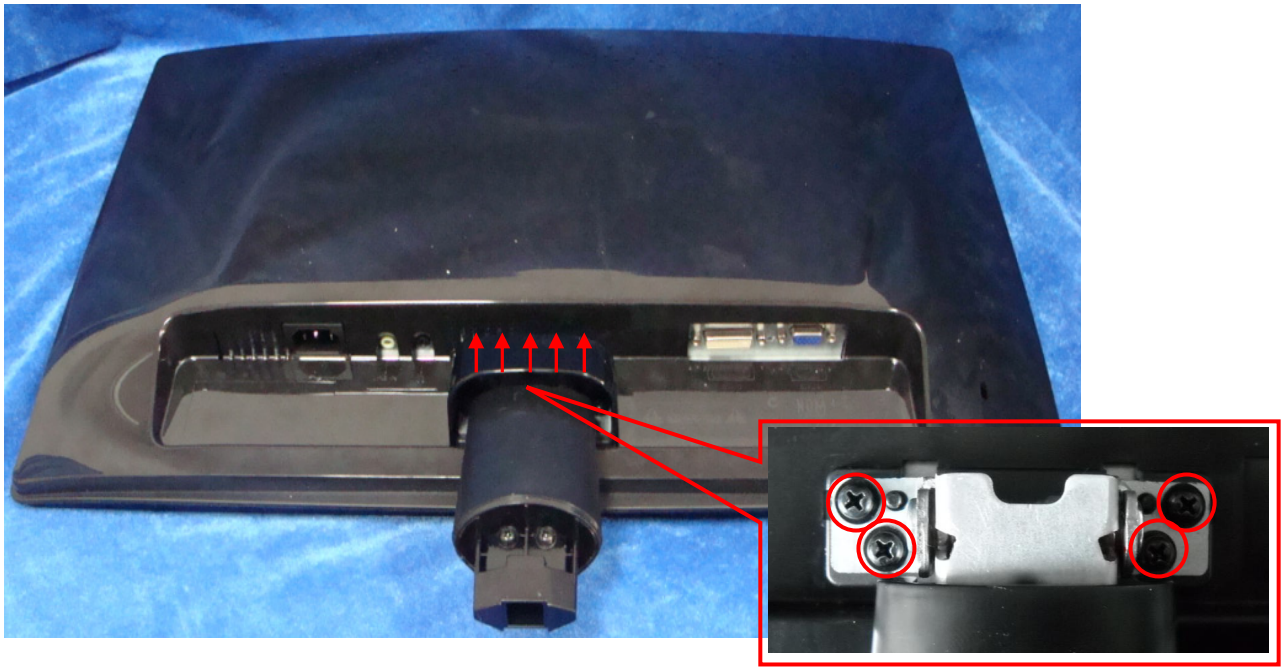
1) Remove the base

Place the monitor face down on a smooth surface. Be careful to avoid scratch and injury during the process of uninstall. And then remove the base.



2) Remove the stand-cover and stand.

Remove the screws in red to remove the stand.

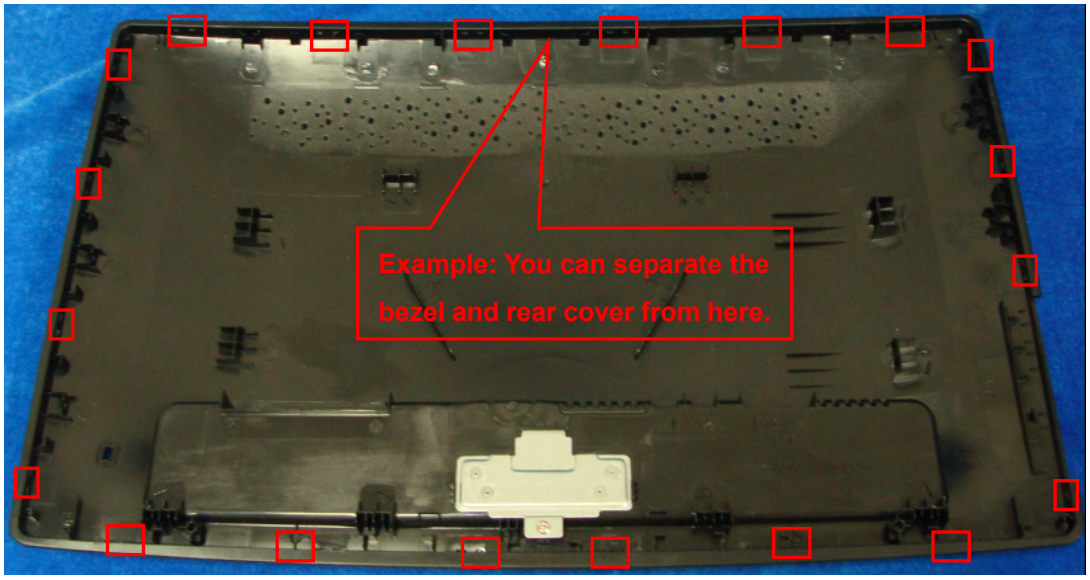


3) Remove the rear cover

Remove the rear cover as follow:

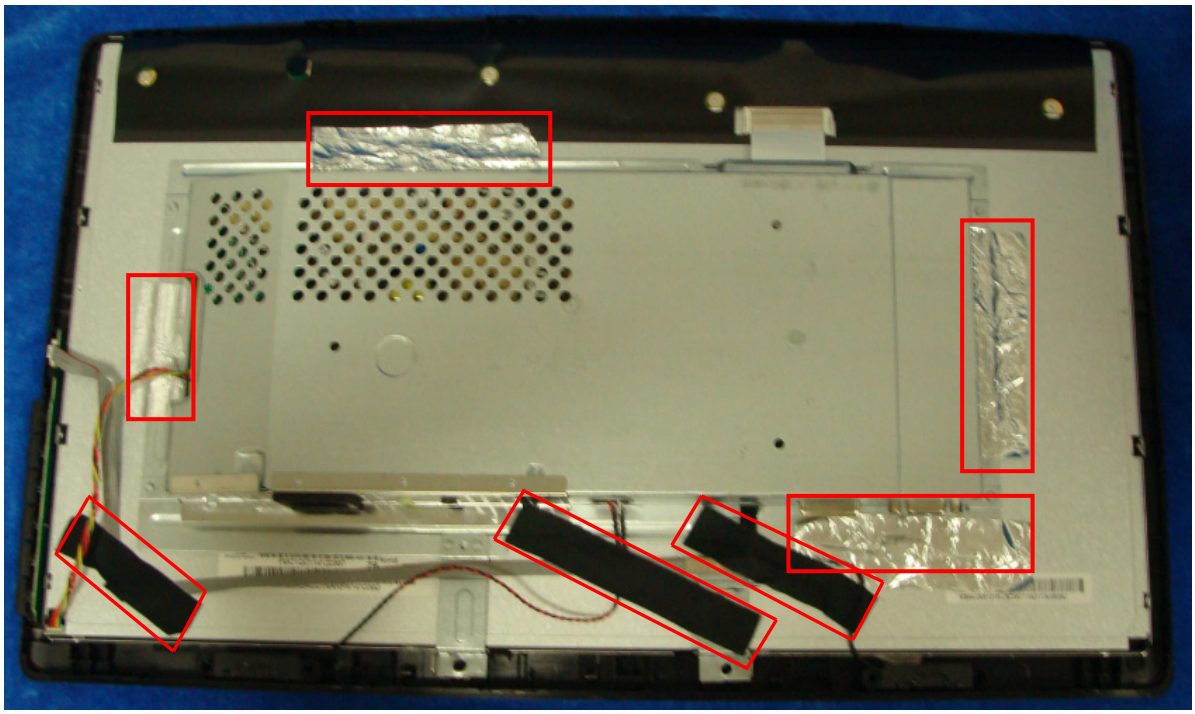
Note: Be careful, the BEZEL CLIP is easy to break.

Note: The positions of the clips on the rear cover are as follow. There are some small gaps between CLIPS. It's suggested to separate bezel and rear cover from the gaps.

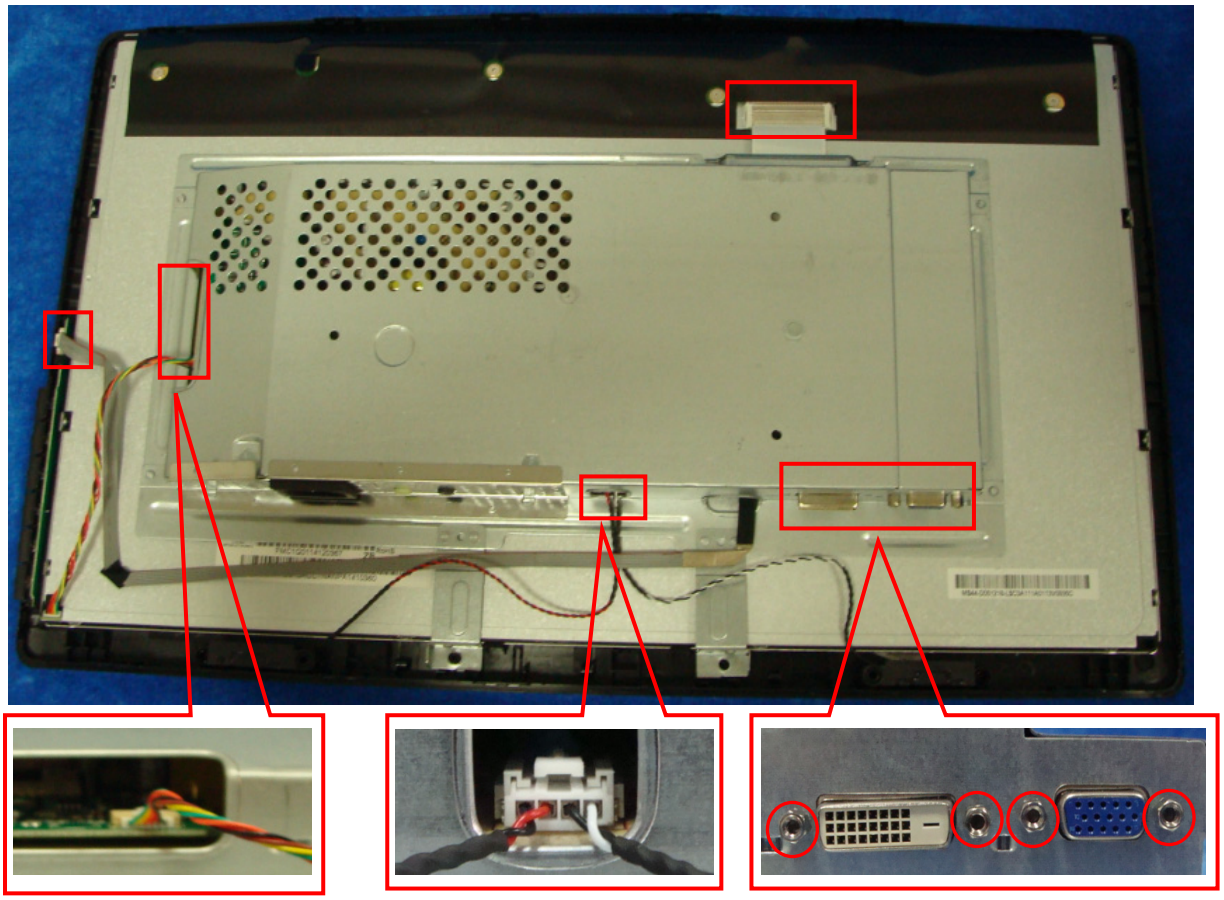


4) **Remove the black rubberized fabric and aluminum foil.**

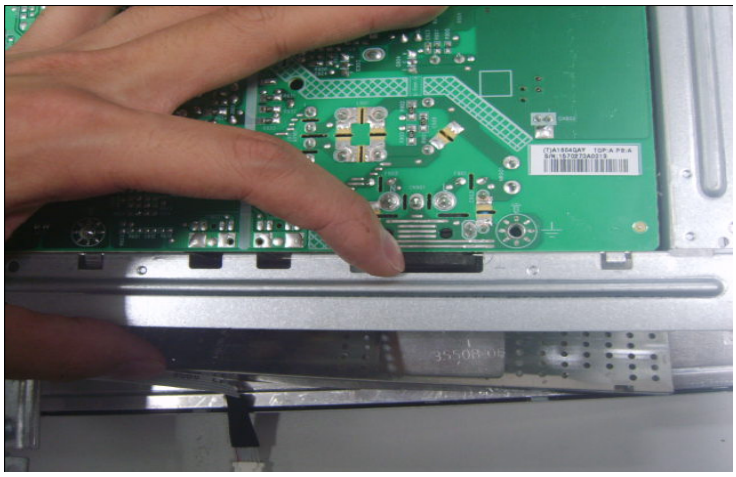
Note: When you assembled the LCD, you must tidy the wire as follow picture.



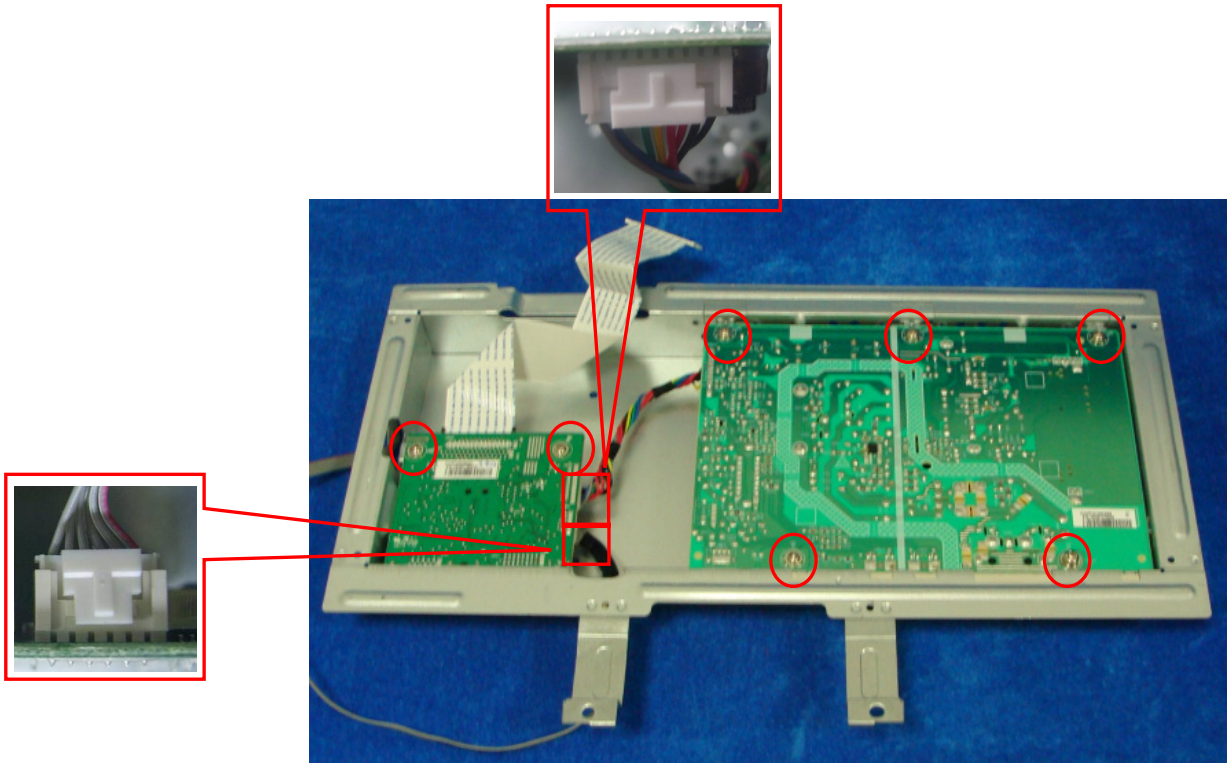
5) **Remove the main frame from the panel.**



6) **Remove the AC cover from the mainframe.**



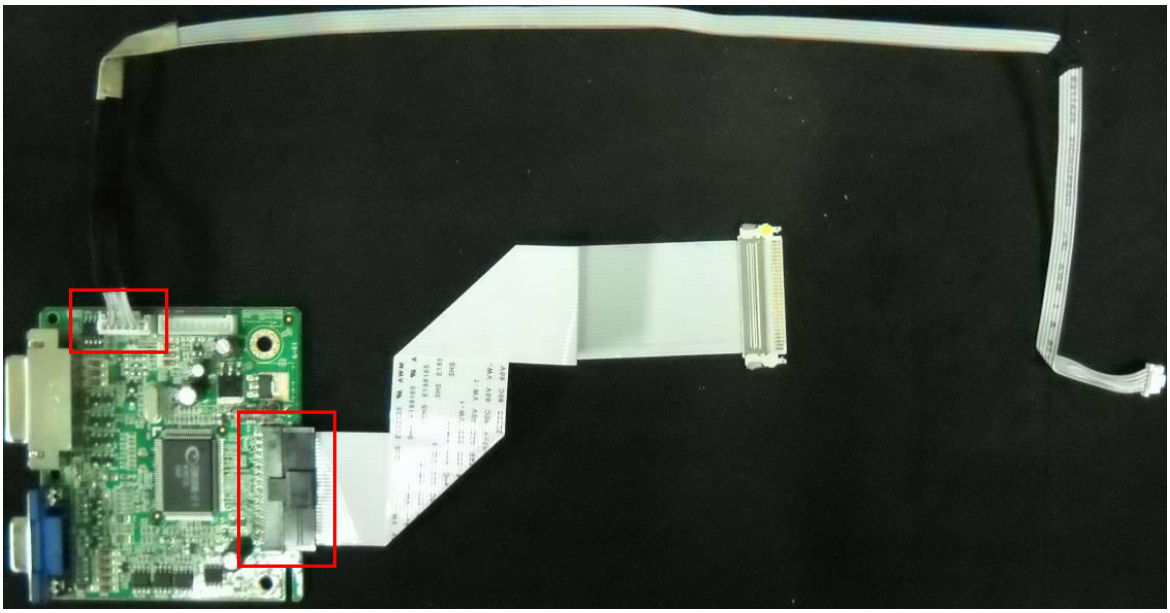
7) **Remove the boards from the main frame.**



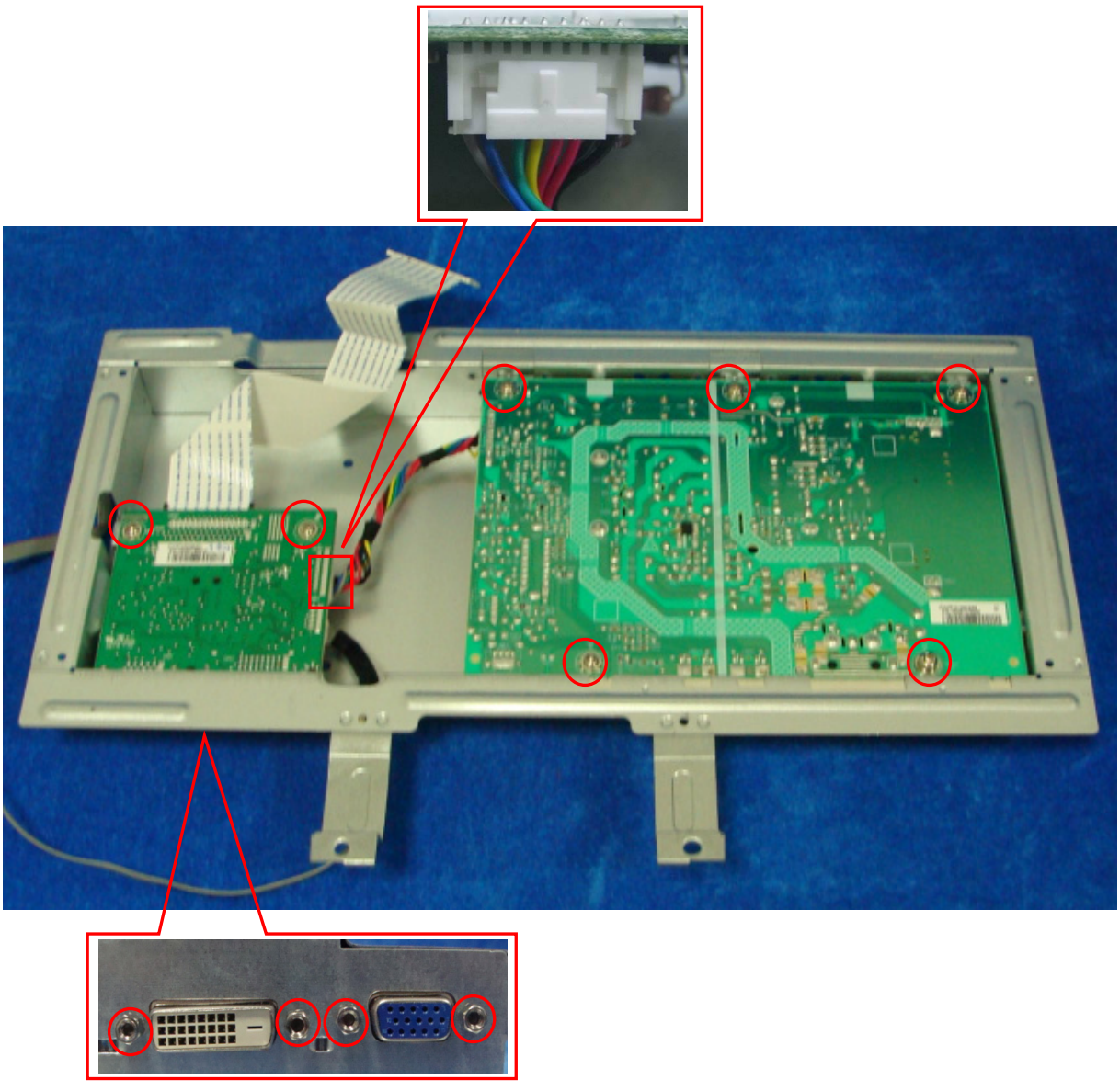
8) **The panel**

Assembly

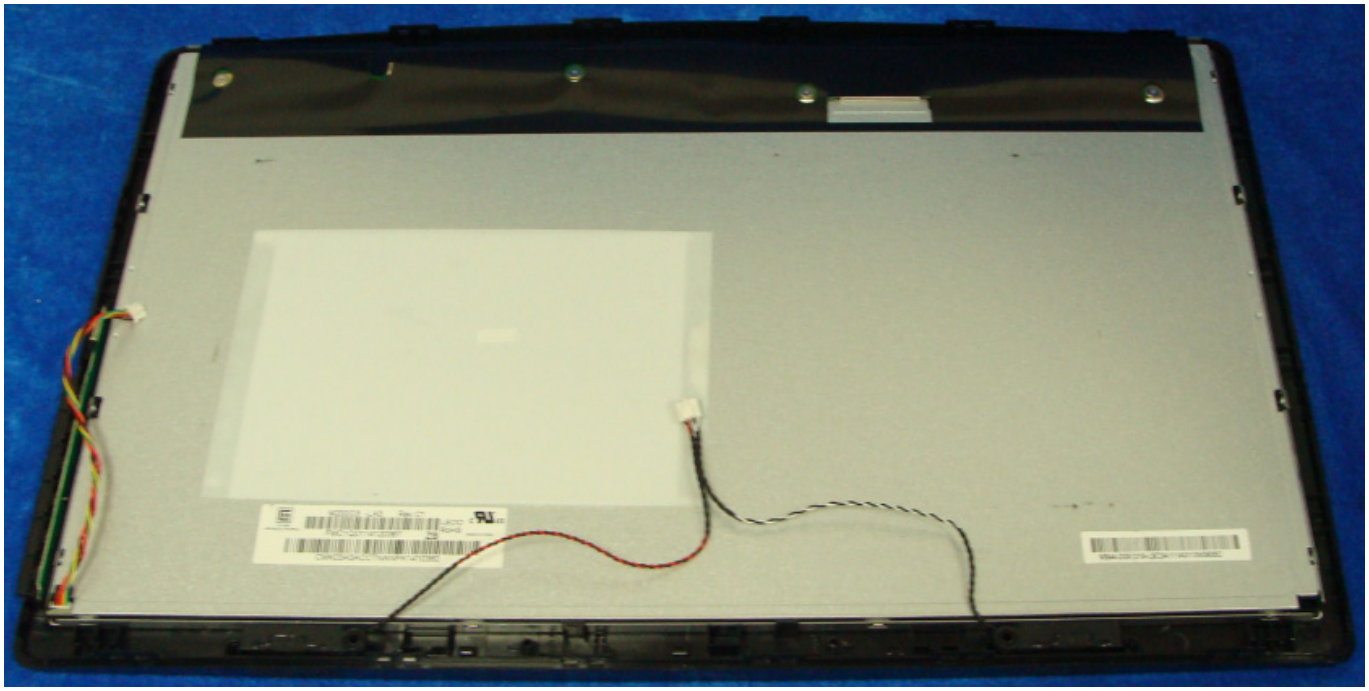
1) **Assemble the wire to the main board.**



2) **Assemble the main board and power board on the main frame.**

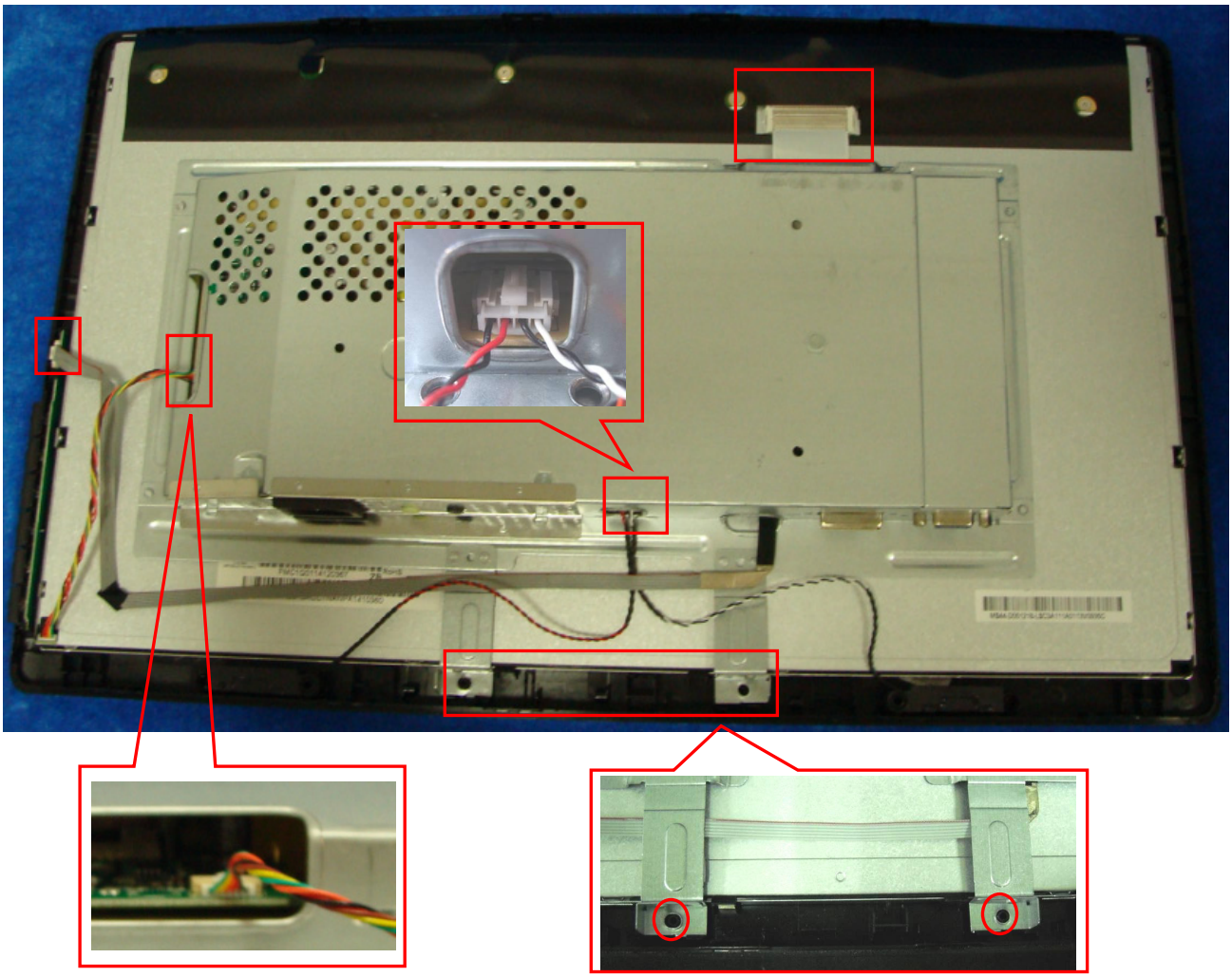


3) **Assemble the panel on the bezel.**

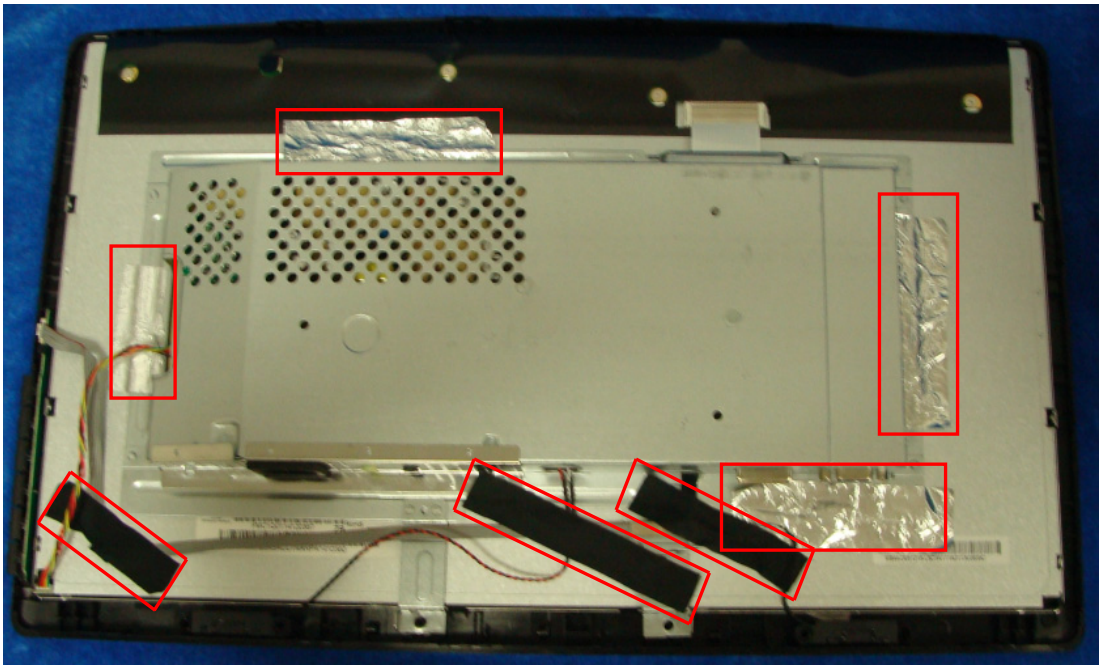


4) **Assemble the main frame and the key board.**

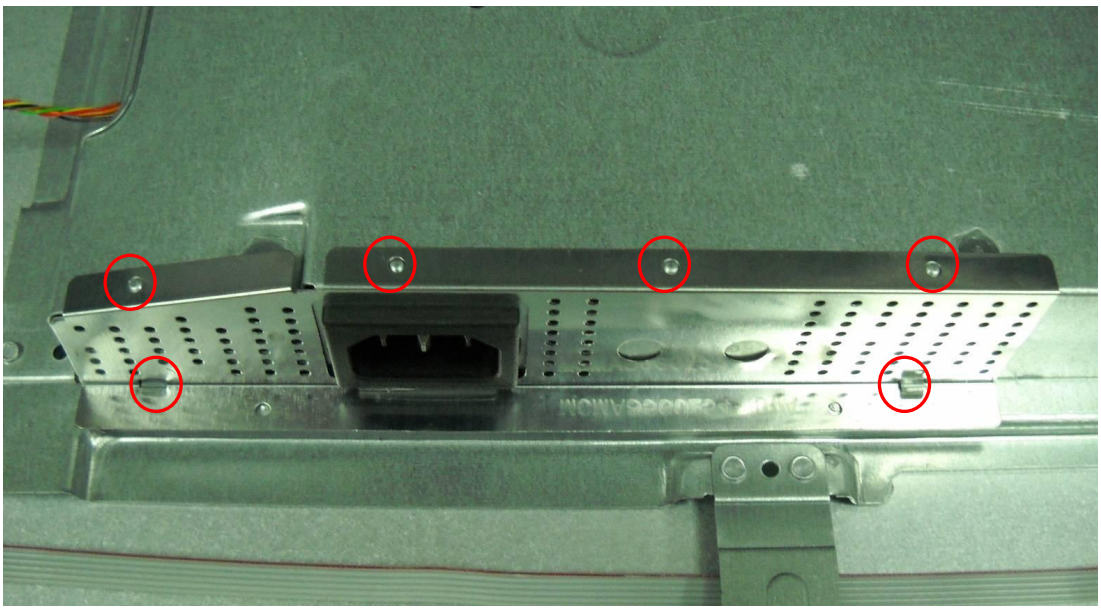
a. **Insert the wire.**



b. **Stick the black rubberized fabric and the aluminum foil.**

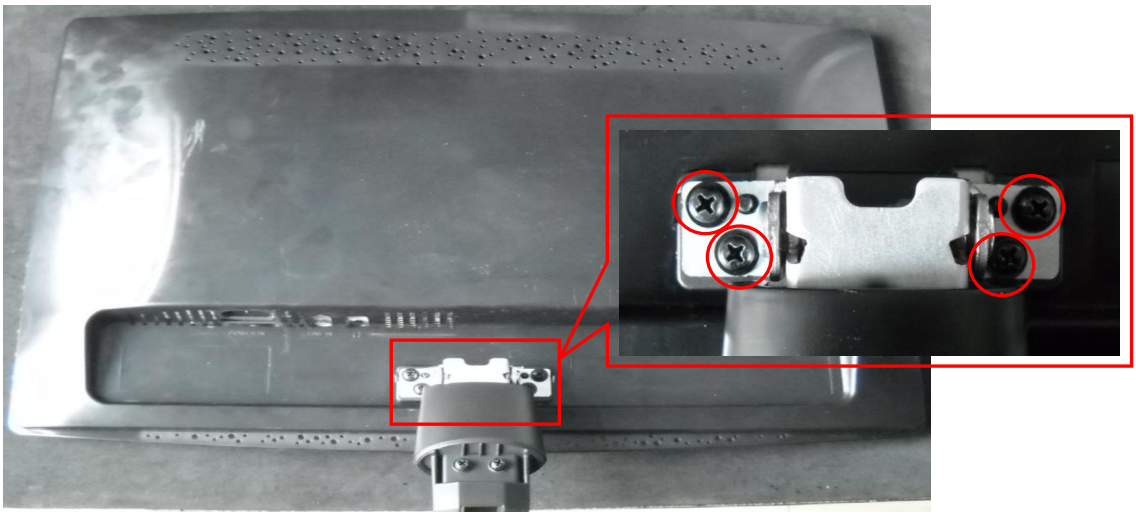


5) **Assemble the AC-COVER.**

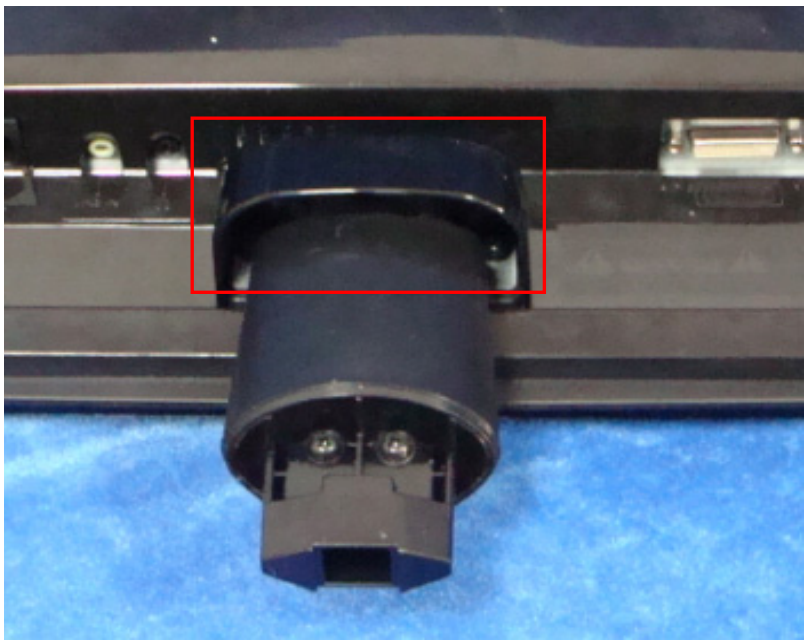


6) **Assemble the base.**

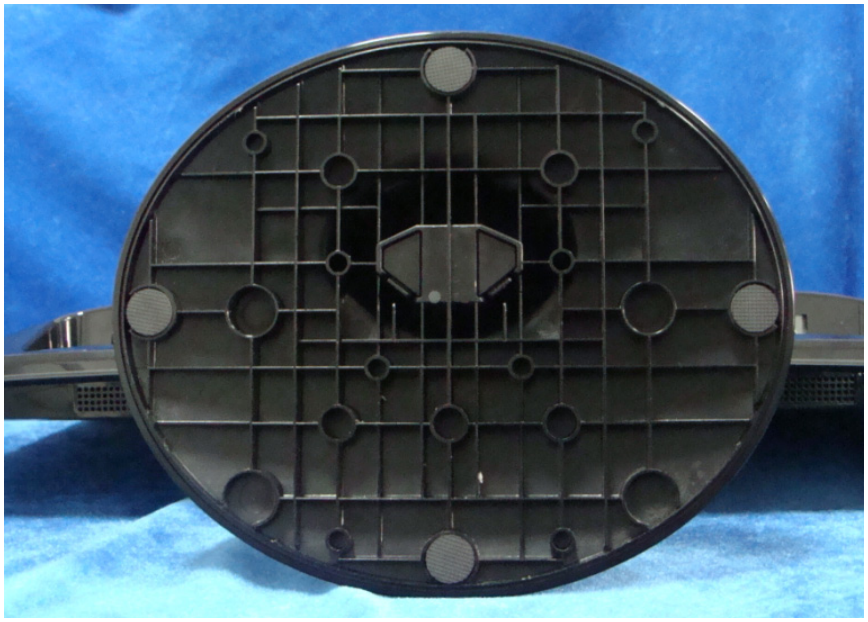
7) **Assemble the stand.**



8) **Assemble the stand cover.**

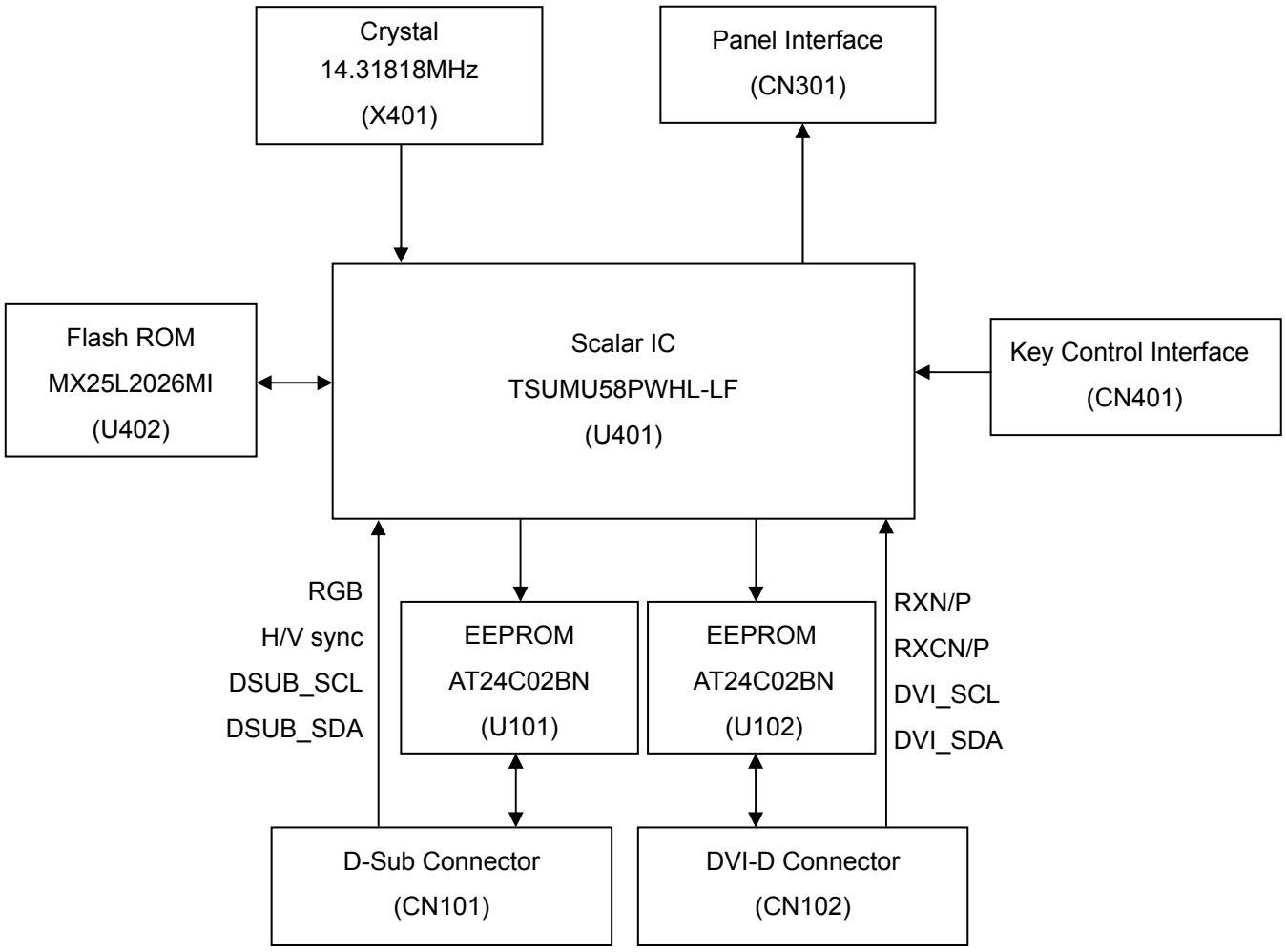


9) **Assemble the base.**

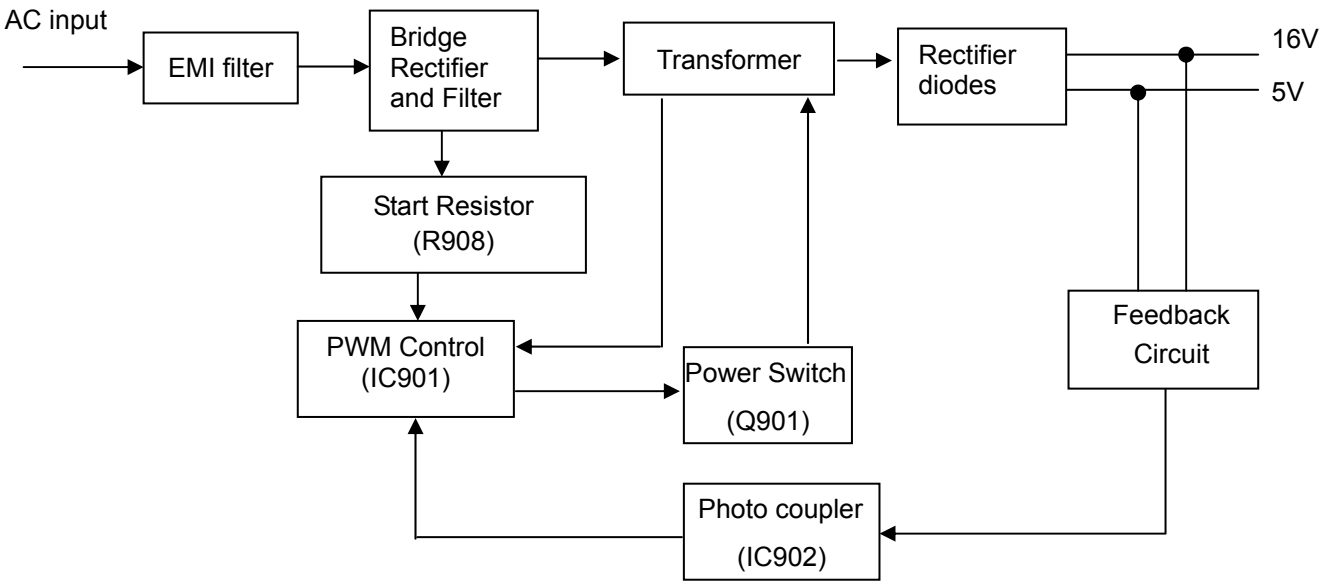


Block Diagram

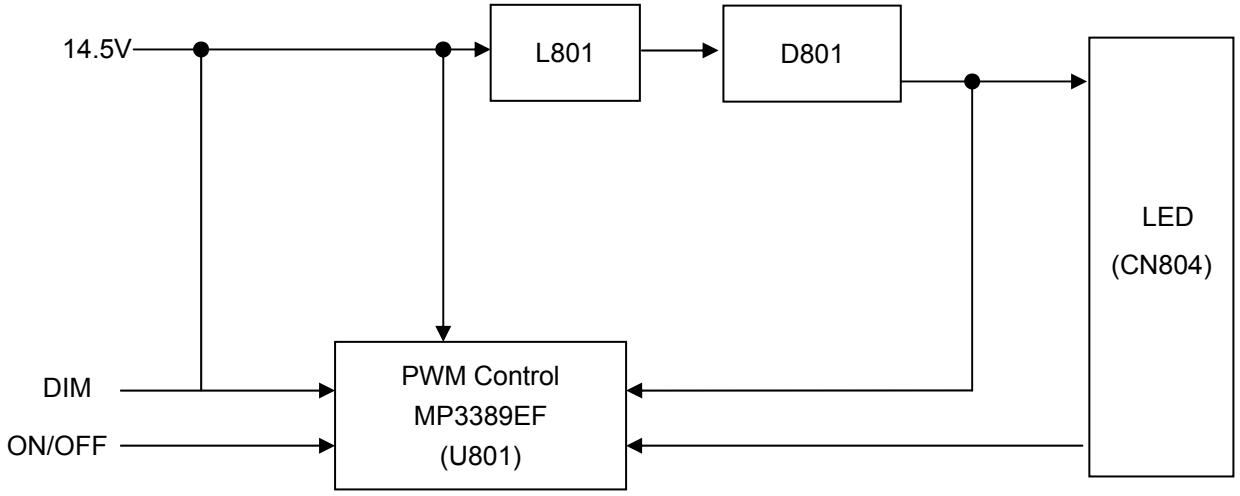
Main Board



Adapter Board



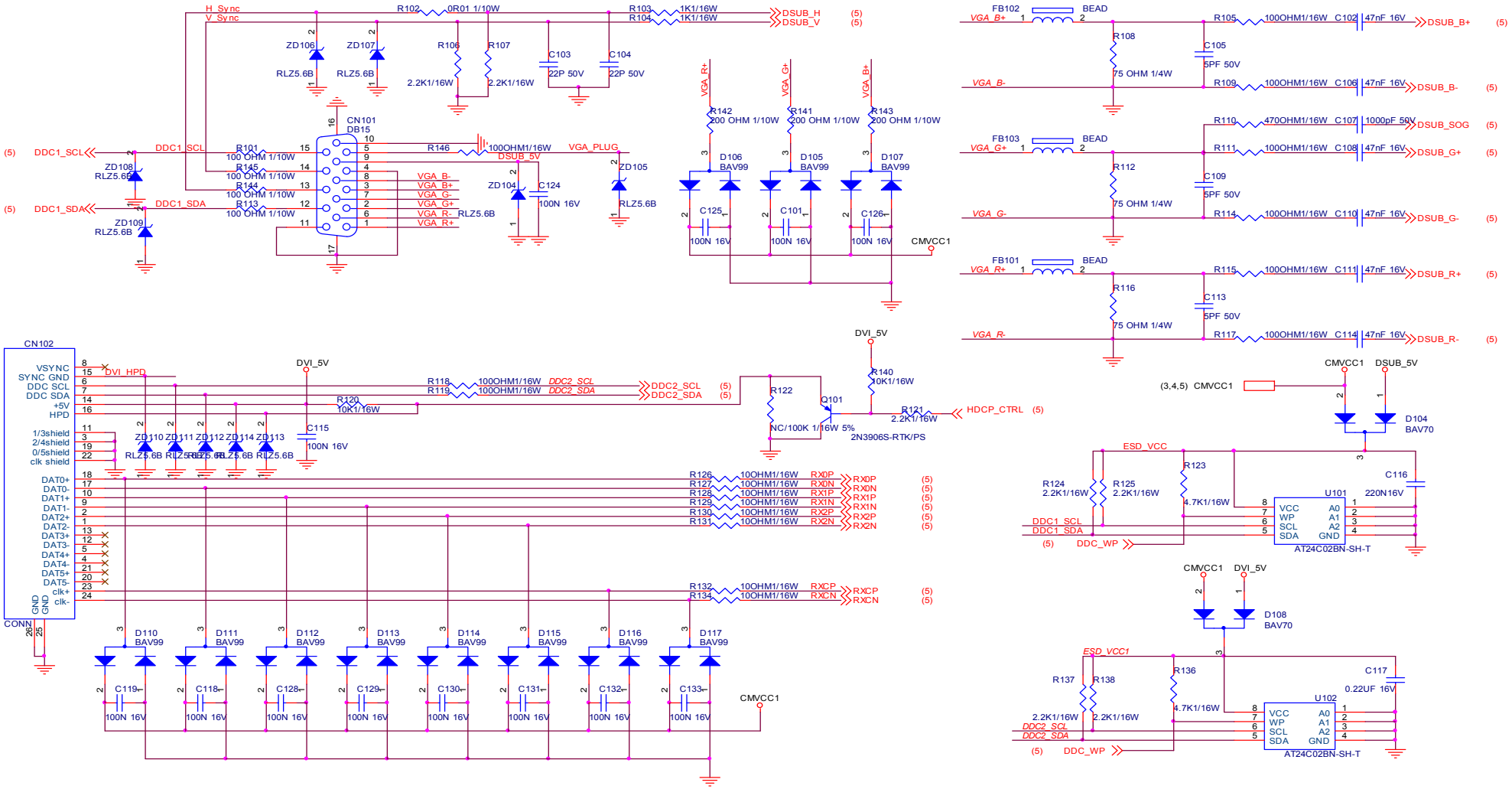
Converter Board



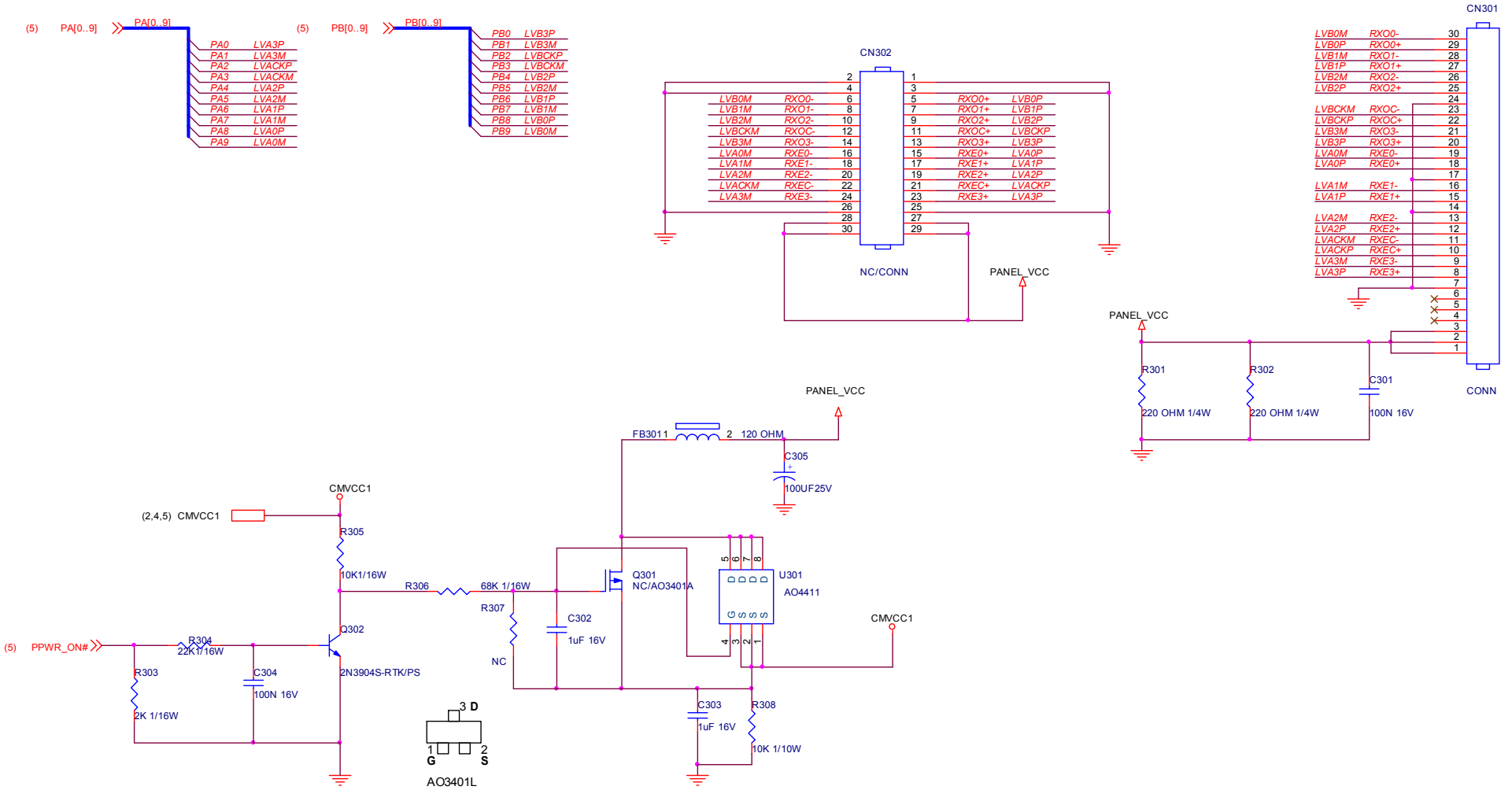
Schematic Diagram

Main Board

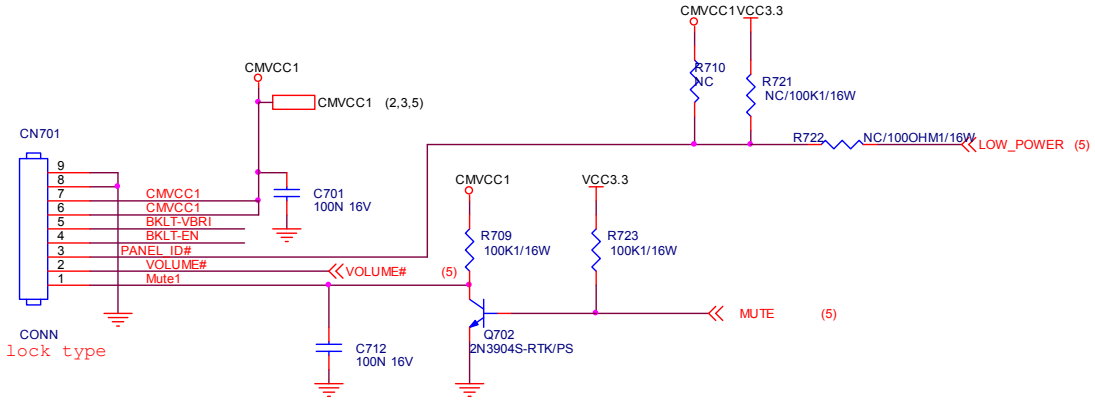
715G3849M02000004L

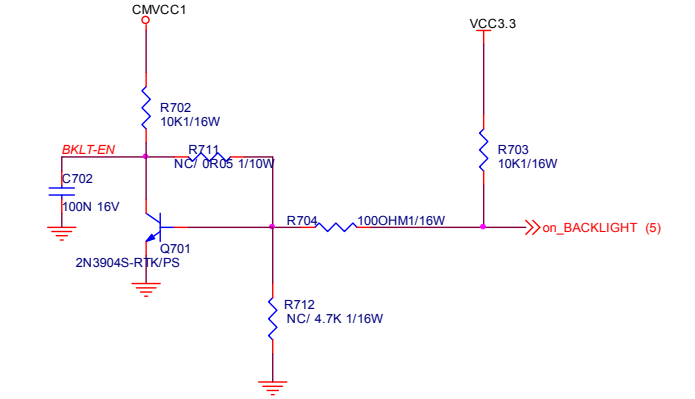


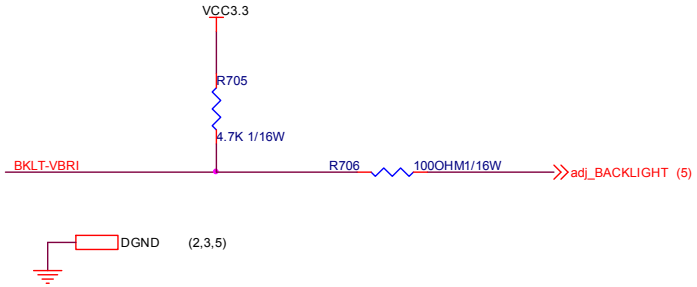
T P V (Top Victory Electronics Co., Ltd.)		OEM MODEL		Size	B
結 隔 瓜 綢 腹	G3849-M0D-X-X-9-110304	TPV MODEL	CBPCBSQBQQ1	Rev	1.0
Key Component	1.0.INPUT	PCB NAME	715G3849-M0D-000-0040	称 爹	
Date	Friday, March 04, 2011	Sheet	1 of 4		

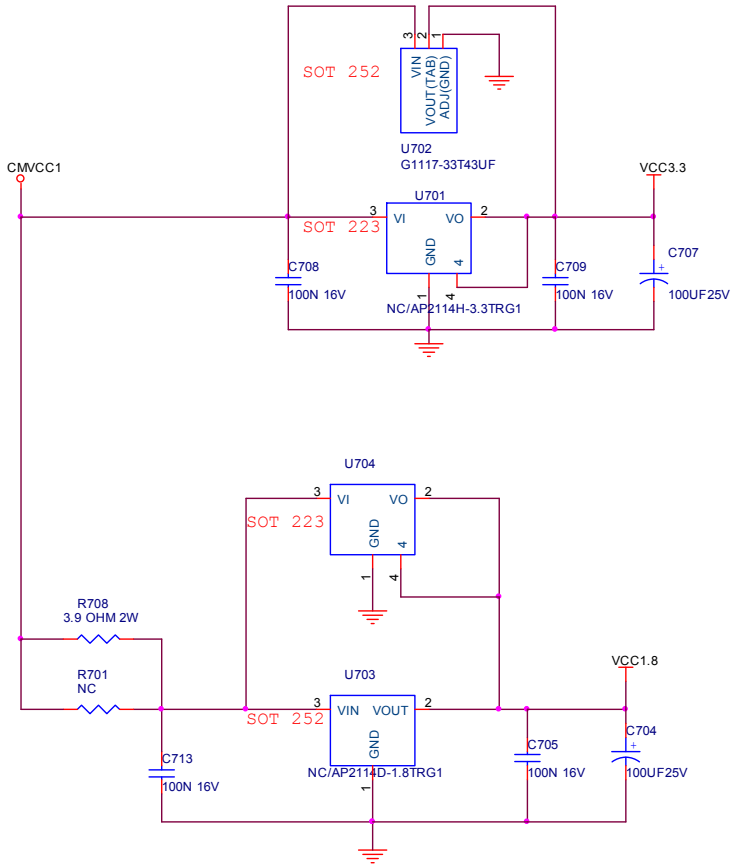


T P V （Top Victory Electronics Co., Ltd.）		OEM MODEL		Size	B
結 隔 瓜 編 腹	G3849-M0D-X-X-9-110304	TPV MODEL	CBPCBSQBQQ1	Rev	1.0
Key Component	2.0.OUTPUT	PCB NAME	715G3849-M0D-000-0040	称爹	
Date	Friday, March 04, 2011	Sheet	2 of 4		

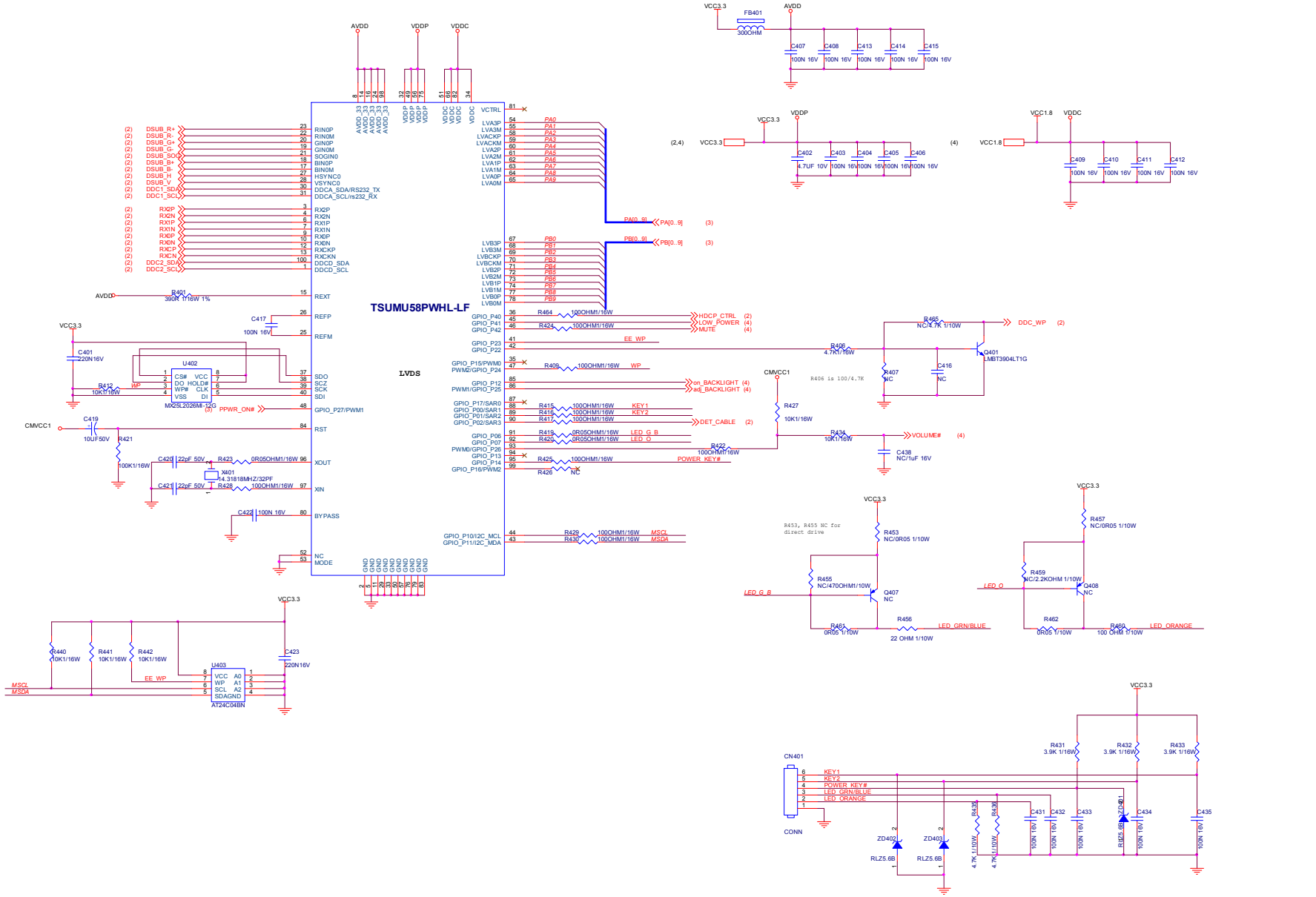








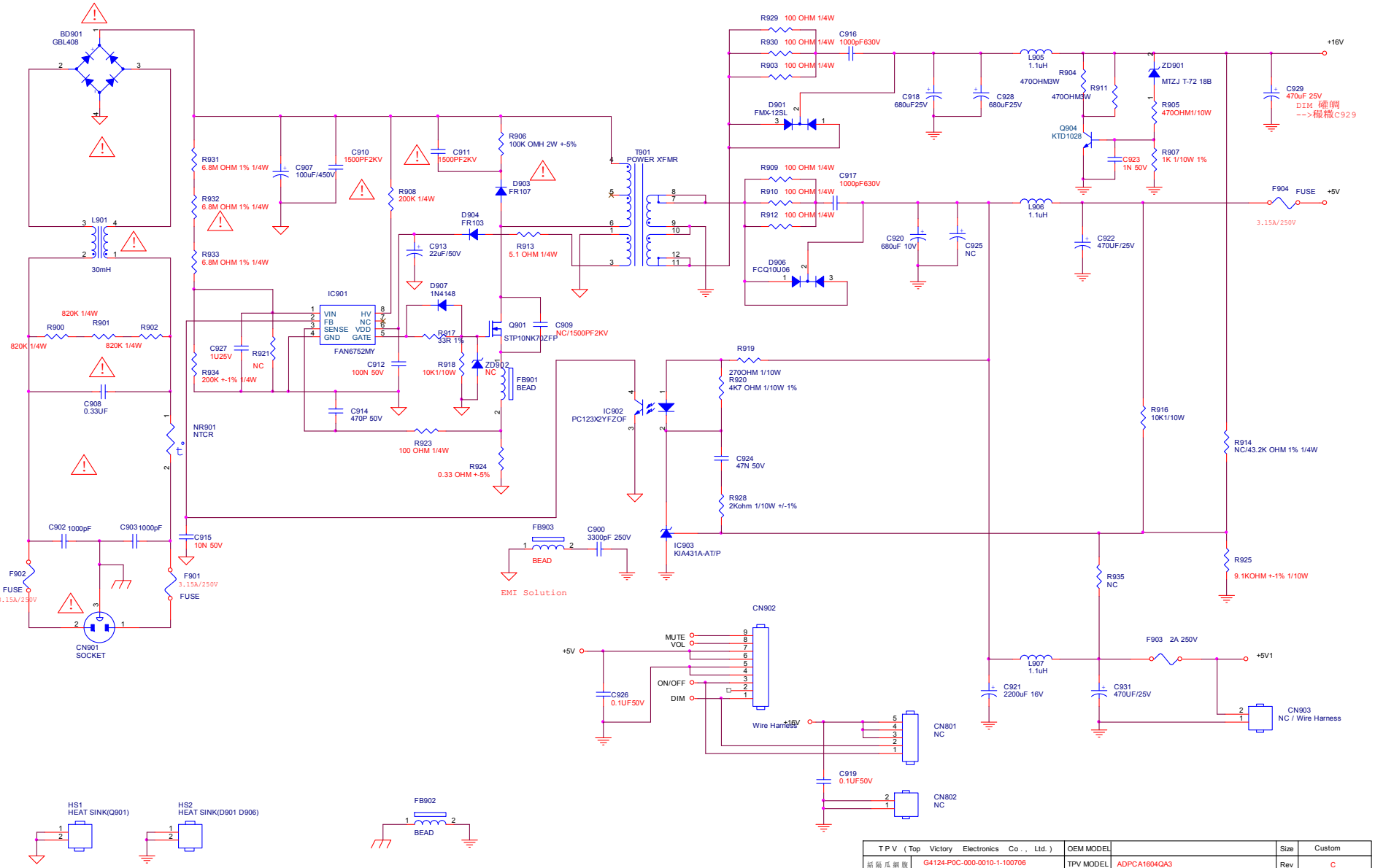
T P V (Top Victory Electronics Co . , Ltd.)		OEM MODEL		Size	B
結 隔 瓜 絹 腹	G3849-M0D-X-X-9-110304	TPV MODEL	CBPCBSQBQQ1	Rev	1.0
Key Component	3.0.POWER	PCB NAME	715G3849-M0D-000-0040	称爹	
Date	Friday, March 04, 2011	Sheet	3 of 4		



T P V (Top Victory Electronics Co . , Ltd.)		OEM MODEL		Size	C
結 期 瓜 鋼 版	G3849-M0D-X-X-9-110304	TPV MODEL	CBPCBSQBQQ1	Rev	1.0
Key Component	4.0.SCALER	PCB NAME	715G3849-M0D-000-0040	称 签	
Date	Friday, March 04, 2011	Sheet	4 of 4		

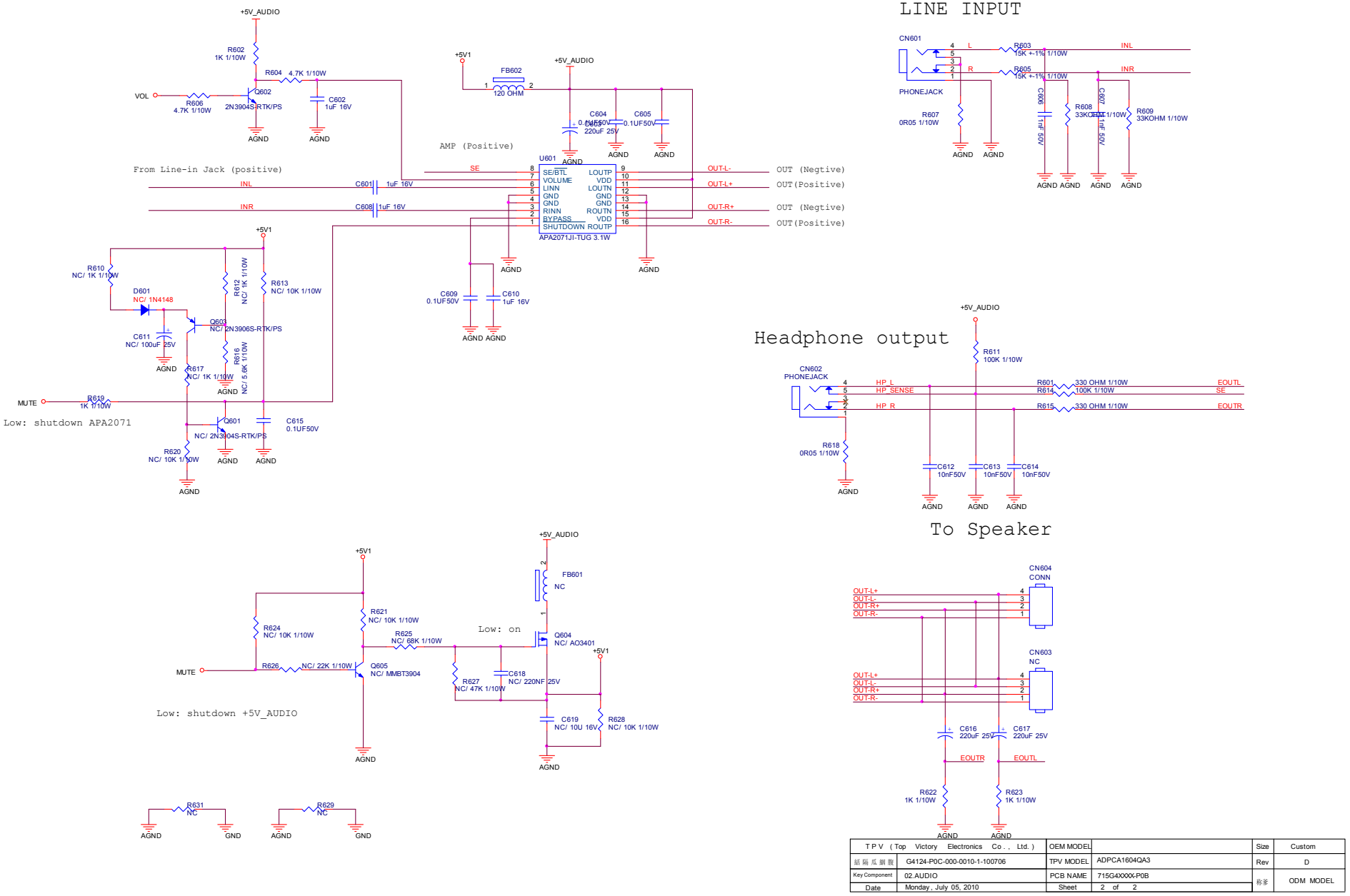
Adapter Board

715G4124P02000003S



T P V (Top Victory Electronics Co . , Ltd.)		OEM MODEL		Size	Custom
話 隔 瓜 貓 腹	G4124-P0C-000-0010-1-100706	TPV MODEL	ADPCA1604QA3	Rev	C
Key Component	01.POWER	PCB NAME	715G4XXXX-P0B	称 爹	ODM MODEL
Date	Monday, July 05, 2010	Sheet	of		

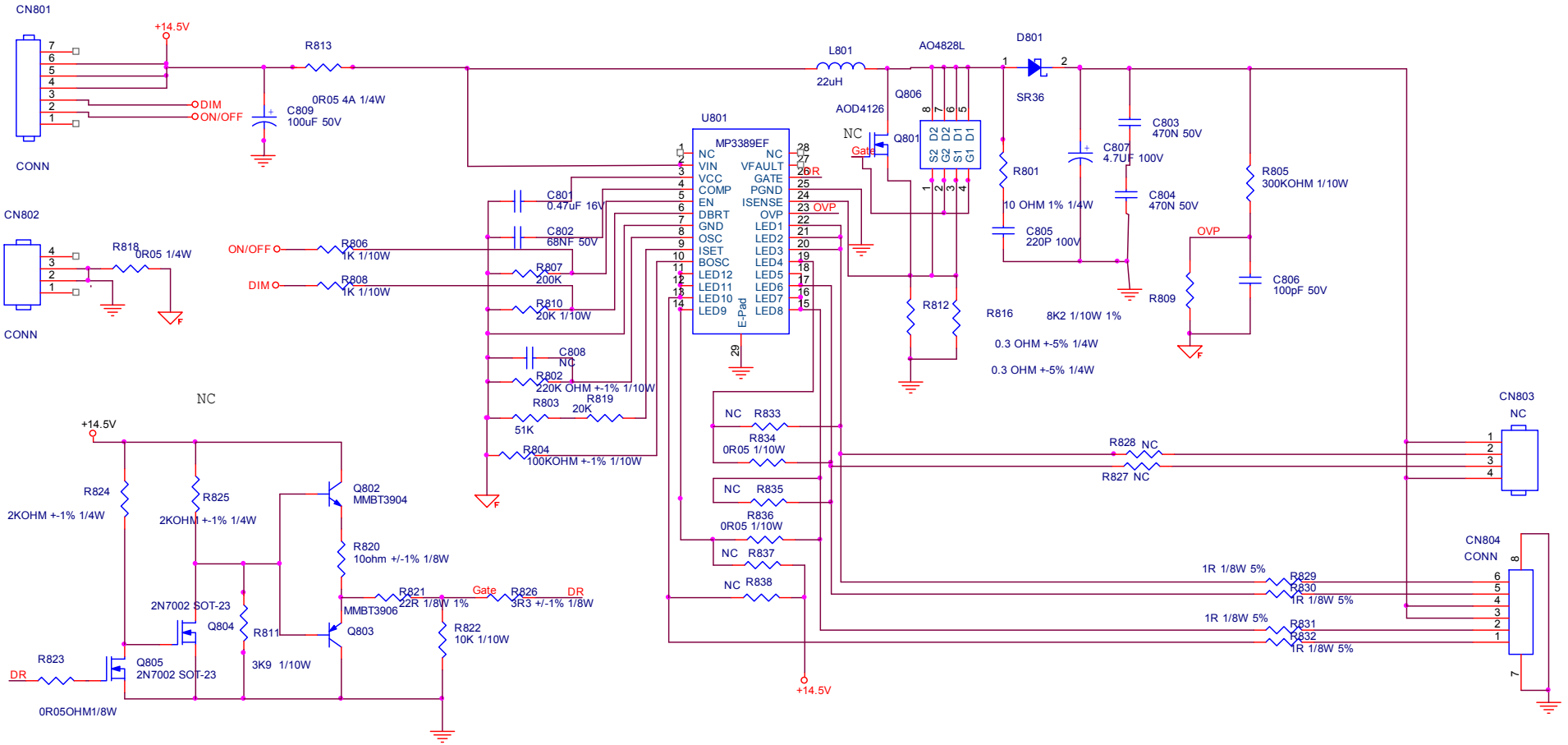
Just for GL2040M



T P V (Top Victory Electronics Co . , Ltd.)		OEM MODEL		Size	Custom
結 扁 瓜 銅 散	G4124-P0C-000-0010-1-100706	TPV MODEL	ADPCA1604QA3	Rev	D
Key Component	02.AUDIO	PCB NAME	715G4XXXX-P0B	称 爹	ODM MODEL
Date	Monday, July 05, 2010	Sheet	2 of 2		

Converter Board

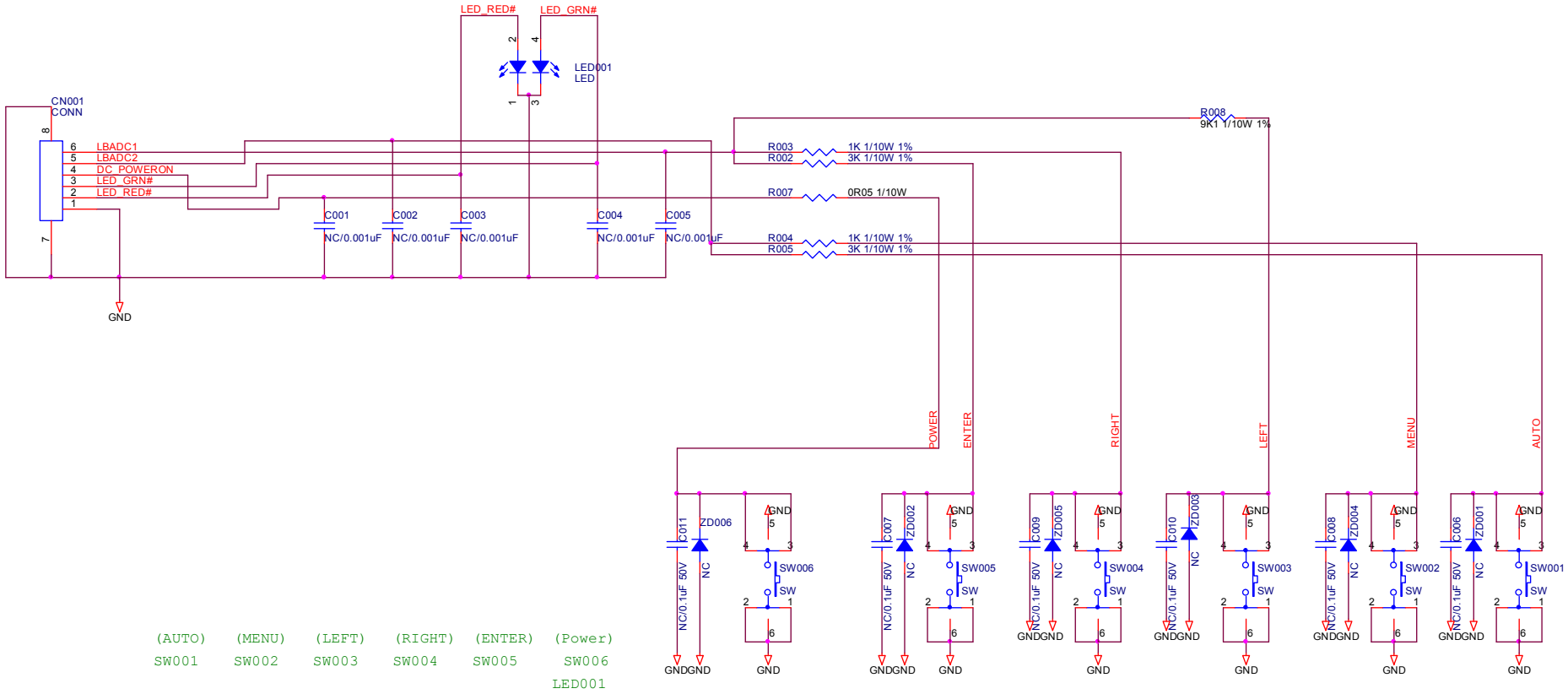
715G3977P03000004L



T P V (Top Victory Electronics Co . , Ltd.)		OEM MODEL		Size	Custom
結 隔 瓜 綱 腹	G3977-P02-000-0040-20-110126	TPV MODEL	LNPCAA441AQCJ	Rev	A
Key Component	01.CONVERTER	PCB NAME	715G3977-P02-000-0040	称爹	ODM MODEL
Date	Tuesday , January 25, 2011	Sheet	1 of 1		

Key Board

715G4131K01000004S



T P V (Top Victory Electronics Co., Ltd.)		OEM MODEL		Size	B
結 隔 瓜 綢 腹	G4131-K0B-X-1-110118	TPV MODEL		Rev	A
Key Component	01 KEY BOARD	PCB NAME	715G4131K0B0000040	称 爹	
Date	Tuesday, January 18, 2011	Sheet	1 of 1		

Troubleshooting

Frequently asked questions (FAQ)

The image is blurred:

☞ Read the instructions on the link "**Adjusting the Screen Resolution**" on the CD, and then select the correct resolution, refresh rate and make adjustments based on these instructions.

How do you use a VGA extension cable?

☞ Remove the extension cable for the test. Is the image now in focus? If not, optimize the image by working through the instructions in the "**Adjusting the refresh rate**" section on the link "**Adjusting the Screen Resolution**". It is normal for blurring to occur due to conduction losses in extension cables. You can minimize these losses by using an extension cable with better conduction quality or with a built-in booster.

Does the blurring only occur at resolutions lower than the native (maximum) resolution?

☞ Read the instructions on the link "**Adjusting the Screen Resolution**" on the CD. Select the native resolution.

Pixel errors can be seen:

☞ One of several pixels is permanently black, one or more pixels are permanently white, one or more pixels are permanently red, green, blue or another color.

- Clean the LCD screen.
- Cycle power on-off.
- These pixels are permanently on or off and that is a natural defect occurs in LCD technology.

The image has a faulty coloration:

☞ It has a yellow, blue or pink appearance.

Select MENU > PICTURE > Color > Reset Color, and then choose “YES” in the “Caution” message box to reset the color settings to the factory defaults.

If the image is still not correct and the OSD also has faulty coloration, this means one of the three primary colors is missing in the signal input. Now check the signal cable connectors. If any pin is bent or broken off, please contact your dealer to get necessary support.

No image can be seen:

☞ Is the prompt on the display illuminated in green?

If the LED is illuminated in green and there is a message “Out of Range” on the screen, this means you are using a display mode that this monitor does not support, please change the setting to one of the supported mode. Please read the “**Preset display modes**” section from the link "**Adjusting the Screen Resolution**".

Faint shadow from the static image displayed is visible on the screen:

☞
- Activate the power management function to let your computer and monitor go into a low power "sleep" mode when not actively in use.
- Use a screensaver to prevent the occurrence of image retention.

Is the prompt on the display illuminated in orange?

☞ If the LED is illuminated in orange, the power management mode is active. Press any button on the computer keyboard or move the mouse. If that does not help, check the signal cable connectors. If any pin is bent or broken off, please contact your dealer to get necessary support.

Is the prompt on the display not illuminated at all?

☞ Check the power supply mains socket, the external power supply and the mains switch.

The image is distorted, flashes or flickers:

☞ Read the instructions on the link "**Adjusting the Screen Resolution**" on the CD, and then select the correct resolution, refresh rate and make adjustments based on these instructions.

You are running the monitor at its native resolution, but the image is still distorted.

☞ Images from different input sources may appear distorted or stretched on the monitor running at its native resolution. To have the optimal display performance of each type of input sources, you can use the "Display Mode" function to set a proper aspect ratio for the input sources.

The image is displaced in one direction:

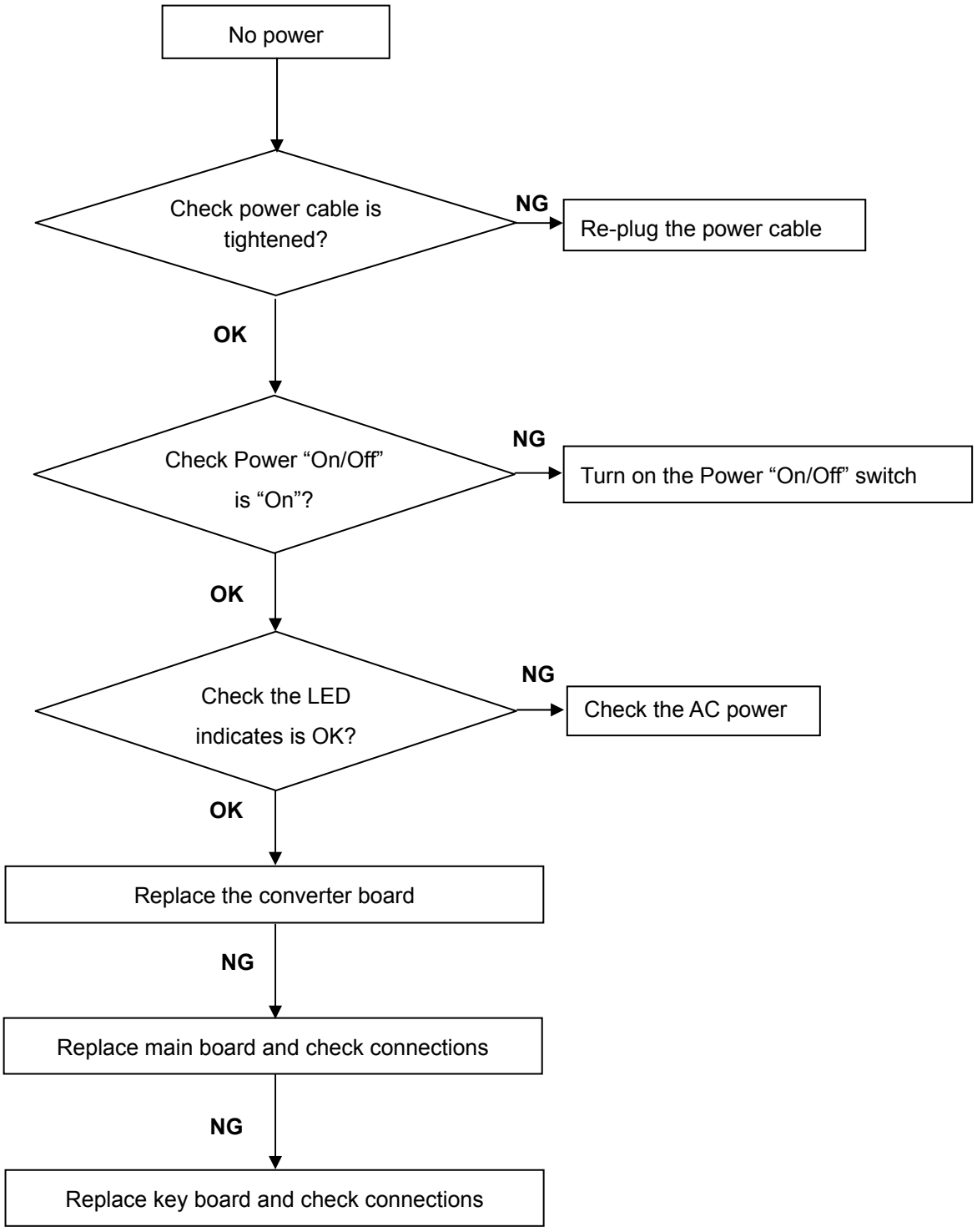
☞ Read the instructions on the link "**Adjusting the Screen Resolution**" on the CD, and then select the correct resolution, refresh rate and make adjustments based on these instructions.

The OSD controls are inaccessible:

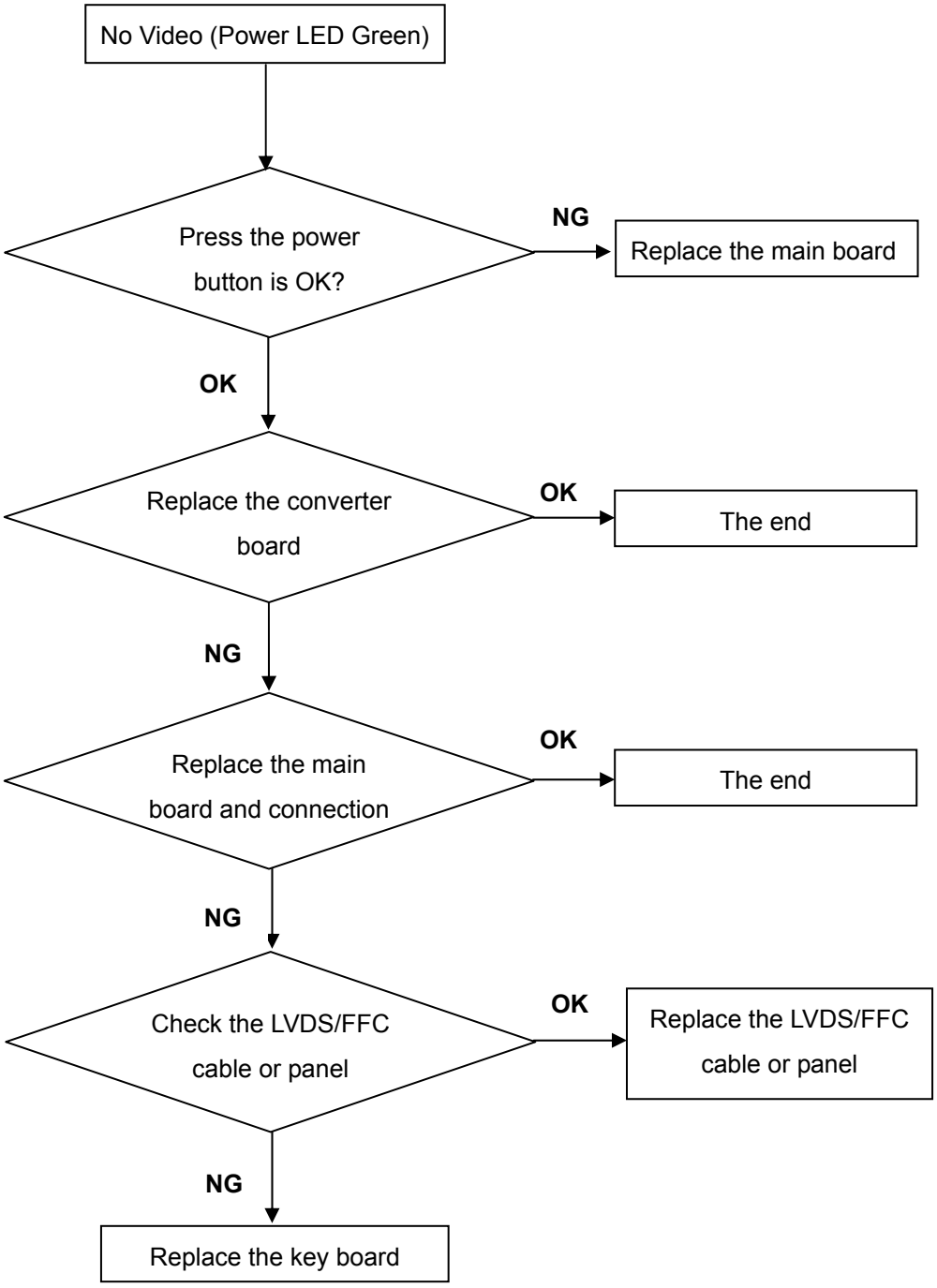
☞
- To unlock the OSD controls when the OSD is preset to be locked, press and hold the “MENU” key for 15 seconds to enter the “OSD Lock” option and make changes.
- Alternatively, you may use ◀ or ▶ keys to select “NO” in the “OSD Lock” submenu from the “OSD Settings” menu (under SYSTEM), and all OSD controls will be accessible.

If your problems remain after checking this manual, please contact your place of purchase or e-mail us at: Support@BenQ.com

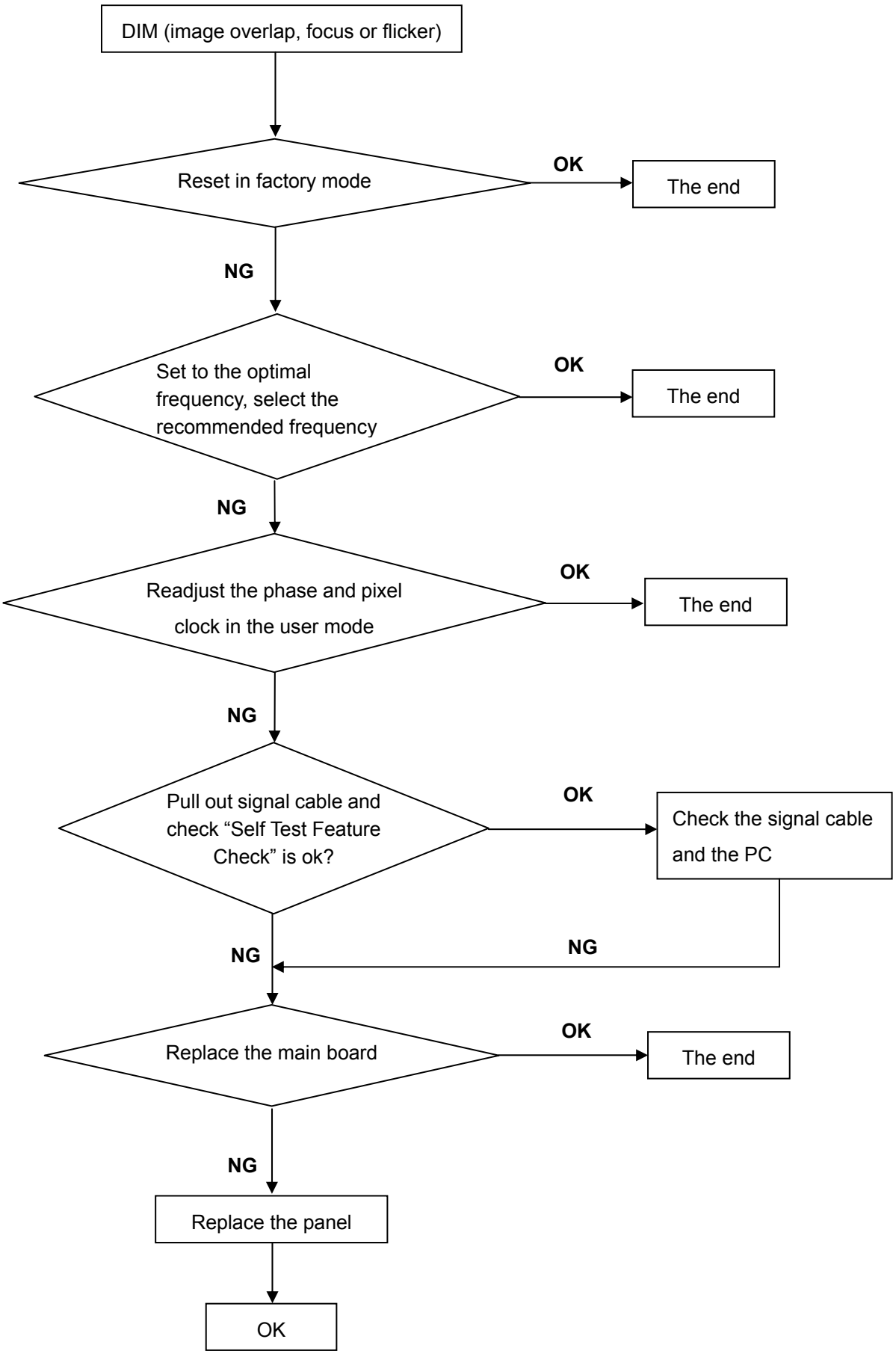
No Power


No power
Check power cable is tightened?
NG
Re-plug the power cable
OK
Check Power “On/Off” is “On”?
NG
Turn on the Power “On/Off” switch
OK
Check the LED indicates is OK?
NG
Check the AC power
OK
Replace the converter board
NG
Replace main board and check connections
NG
Replace key board and check connections

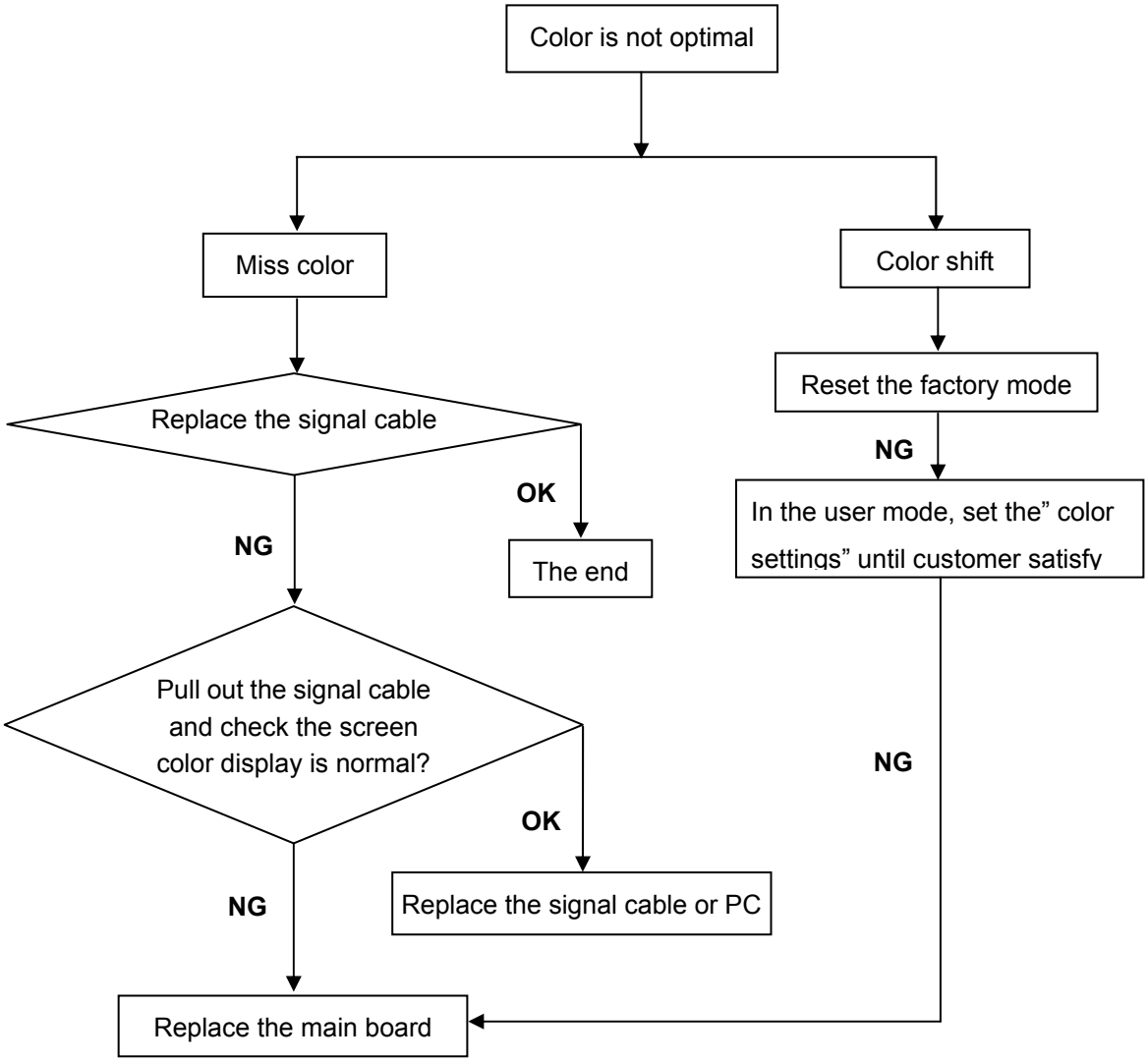
No Video (Power LED Green)



DIM


DIM (image overlap, focus or flicker)
Reset in factory mode
OK
The end
NG
Set to the optimal frequency, select the recommended frequency
OK
The end
NG
Readjust the phase and pixel clock in the user mode
OK
The end
NG
Pull out signal cable and check “Self Test Feature Check” is ok?
OK
Check the signal cable and the PC
NG
NG
Replace the main board
OK
The end
NG
Replace the panel
OK

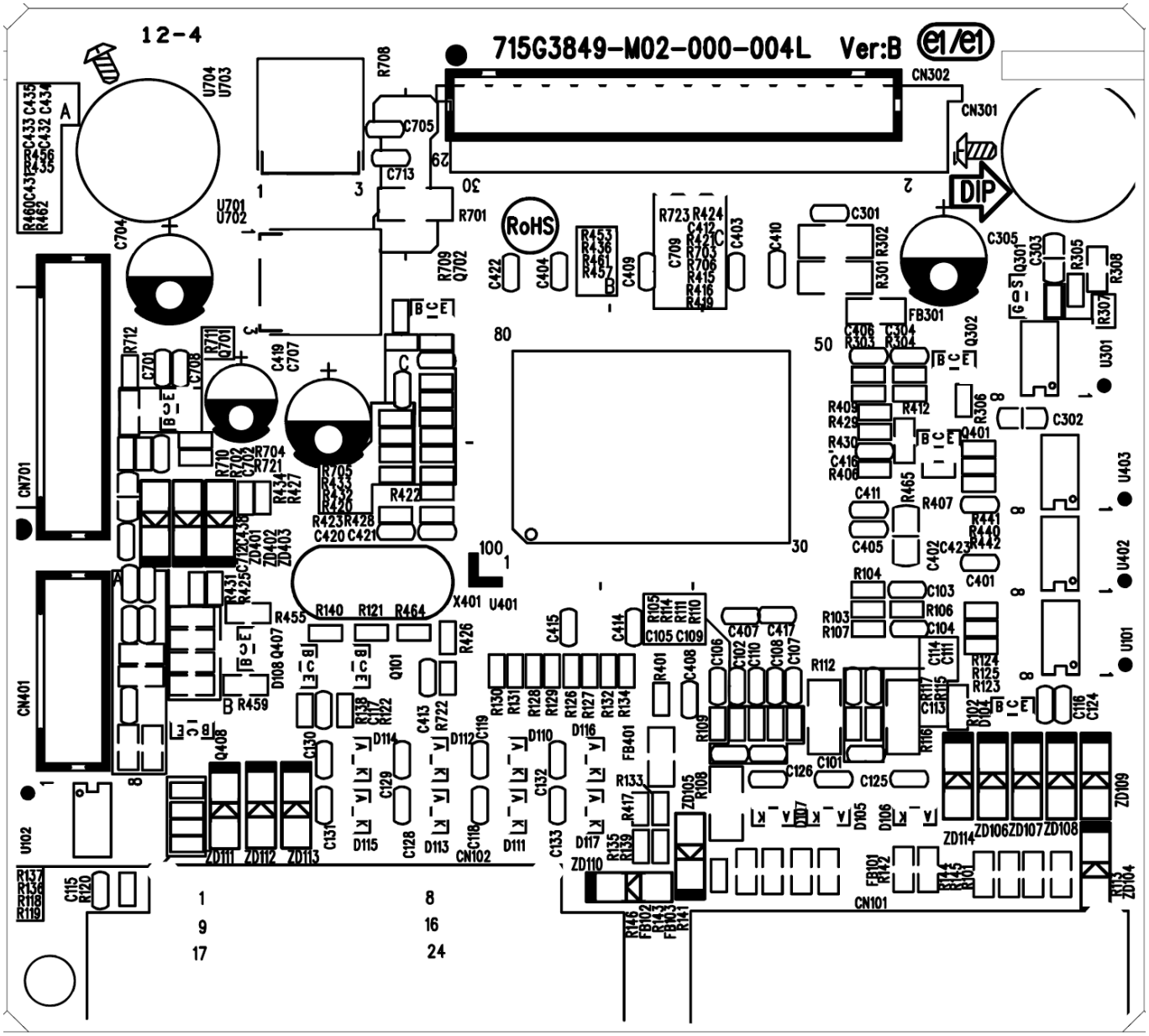
Color is not optimal



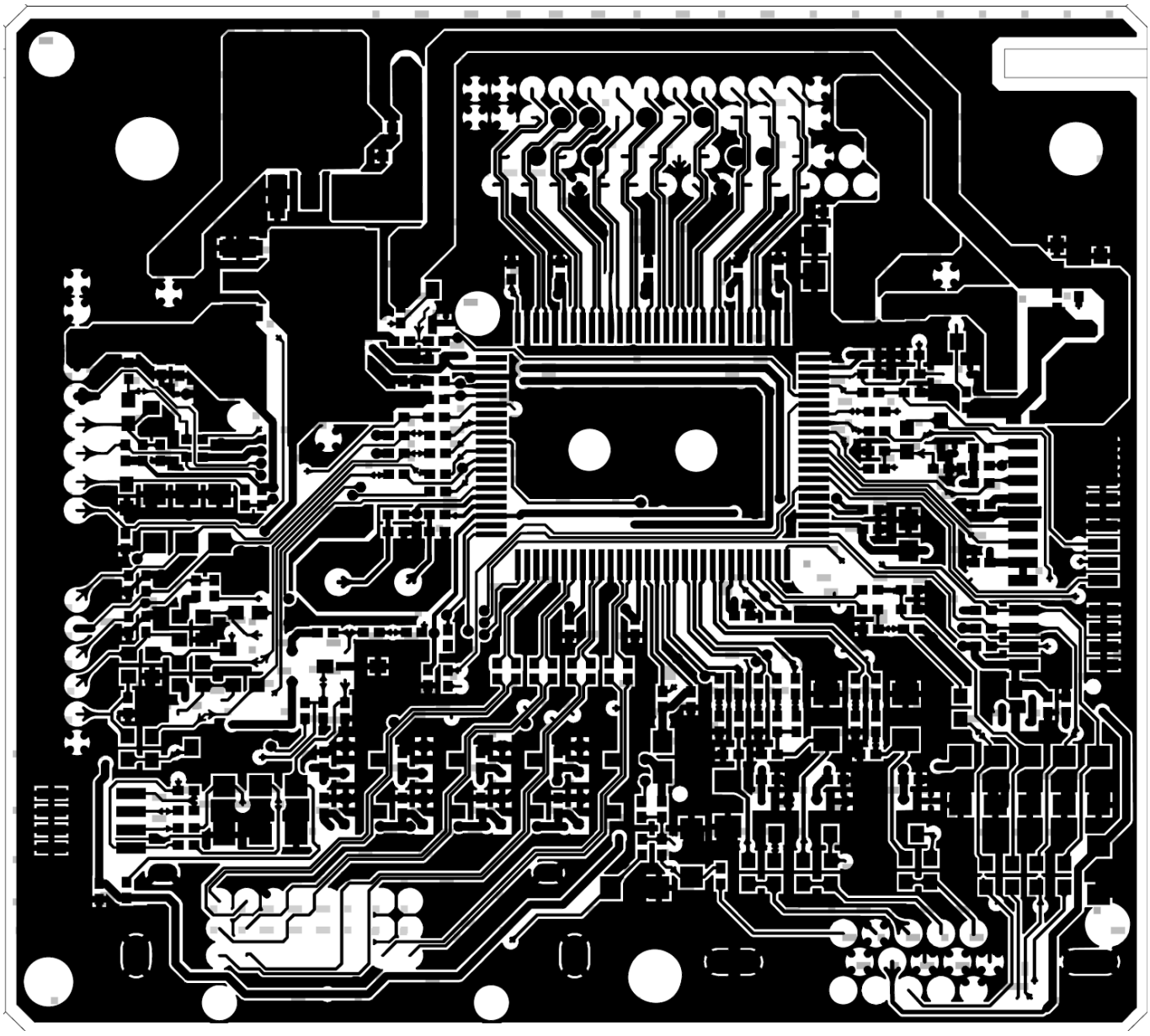
PCB LAYOUT

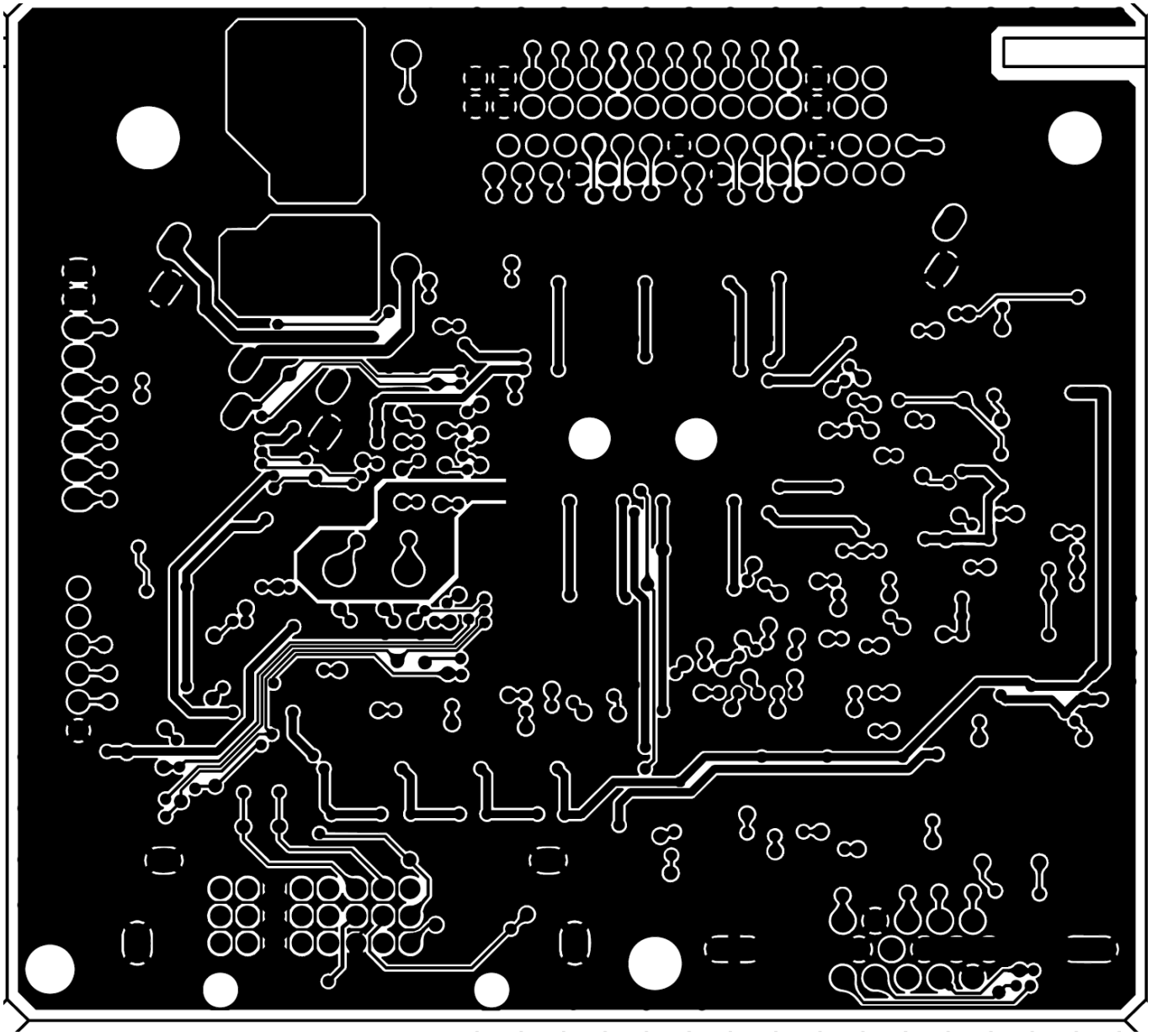
Main Board

715G3849M02000004L



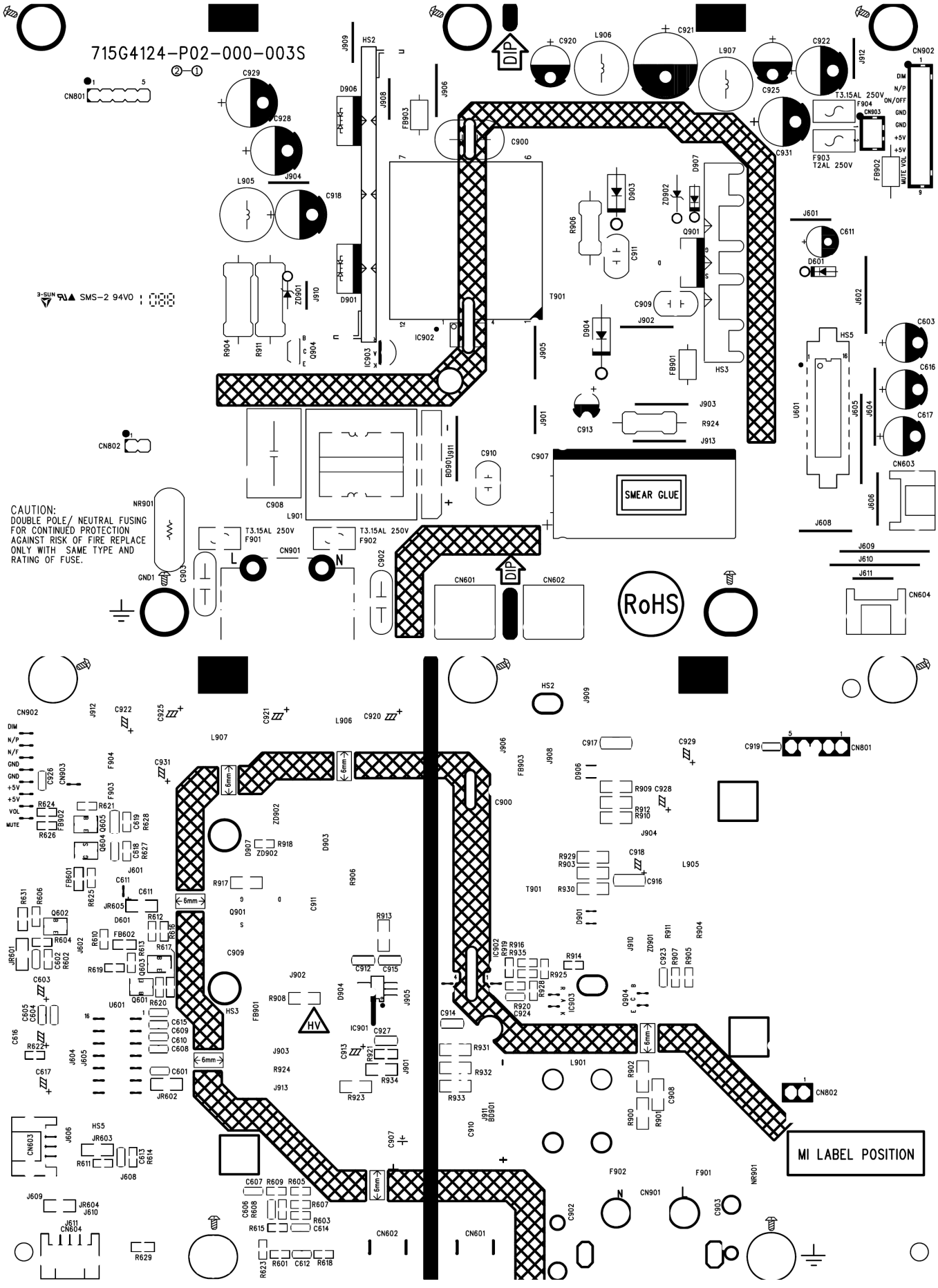
CN302
CN301
R708
MI LABEL POSITION
C305
CN701
C704
C718
C707
CN401
X401
E310226
94V-0
M-1
CN102
CN101

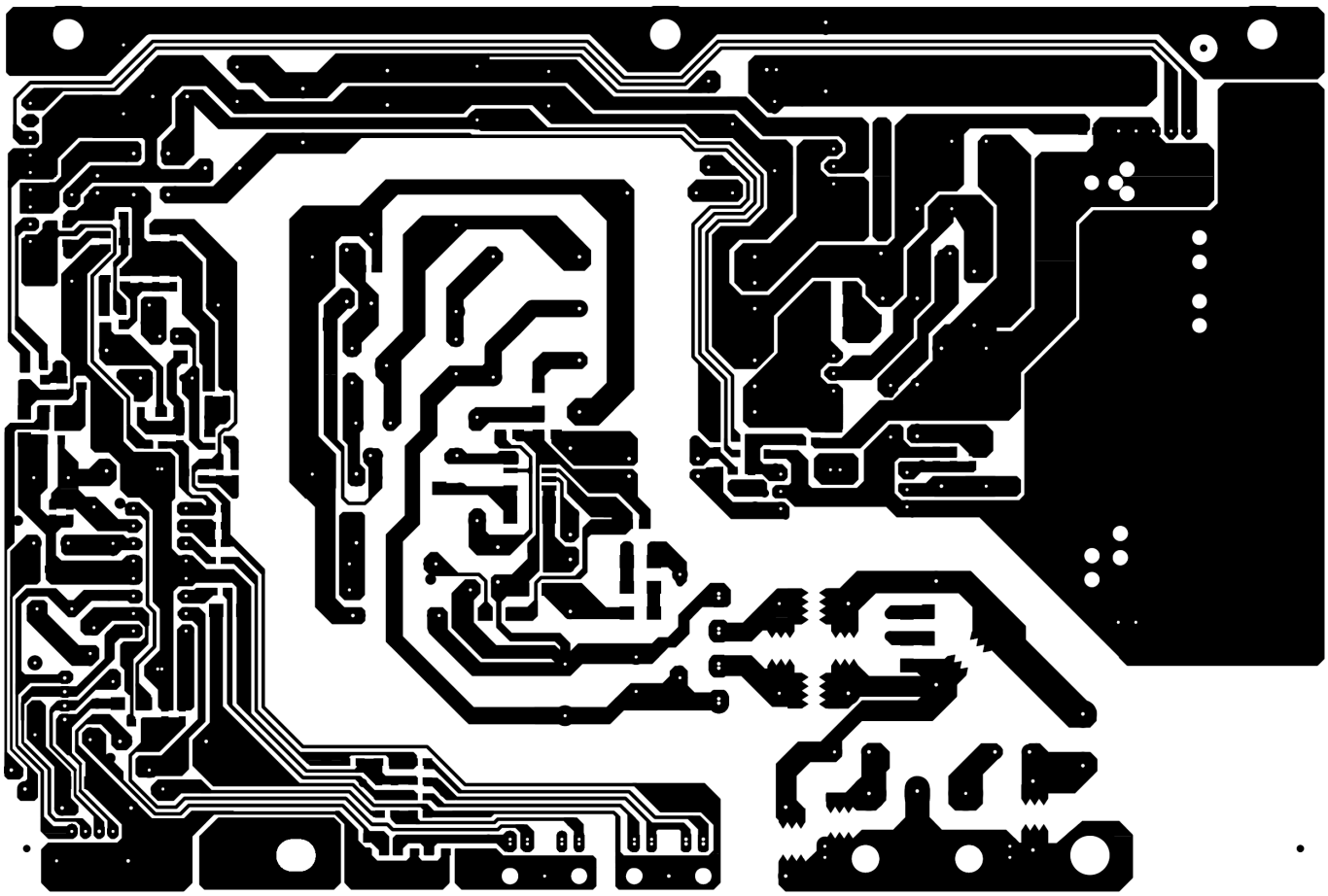




Adapter Board

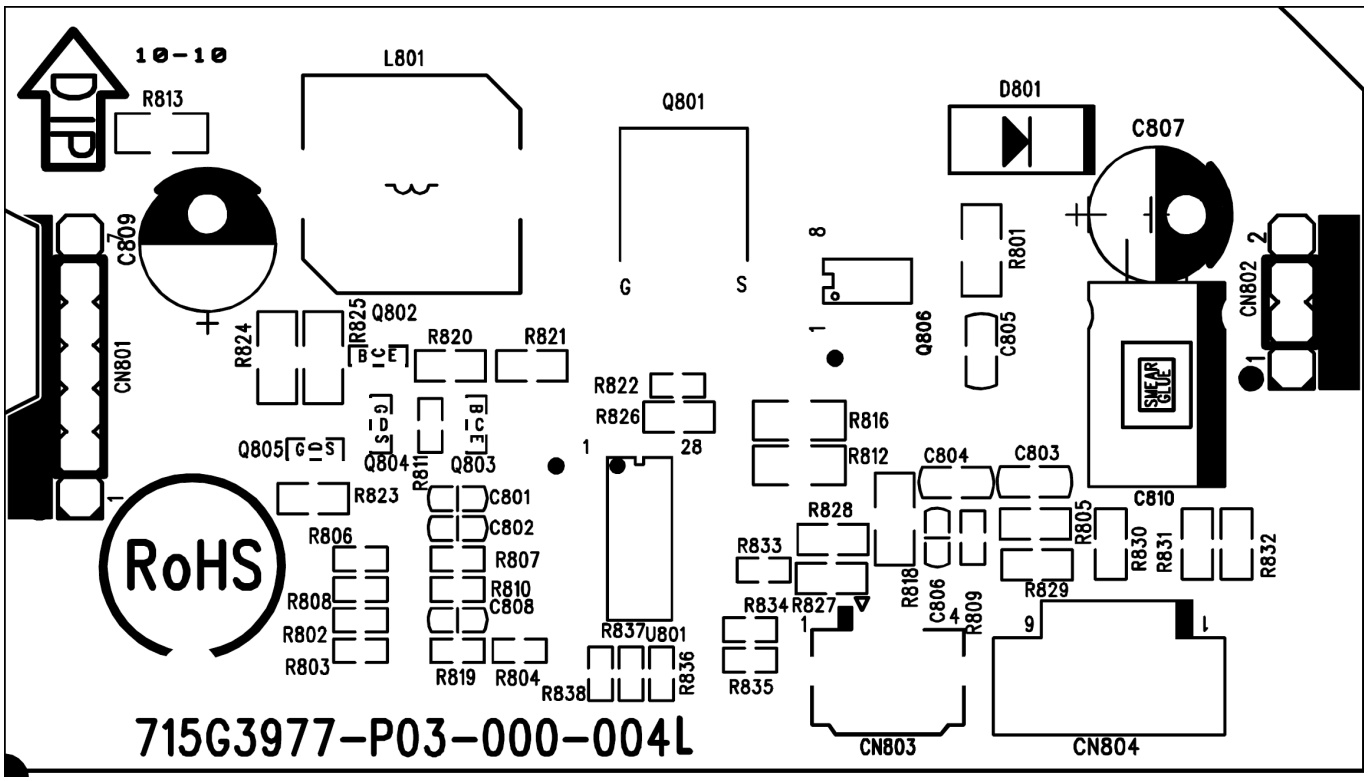
715G4124P02000003S

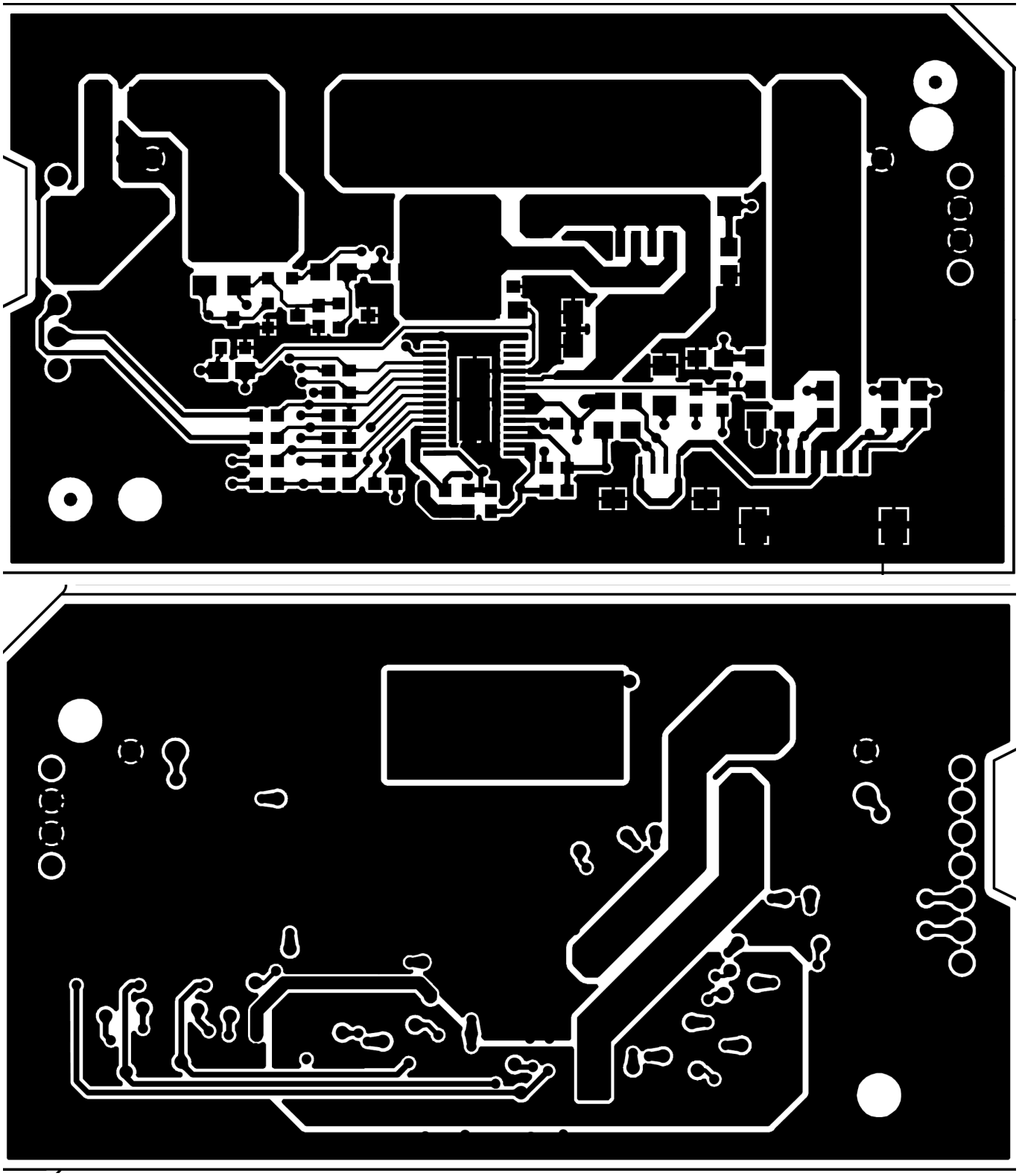




Converter Board

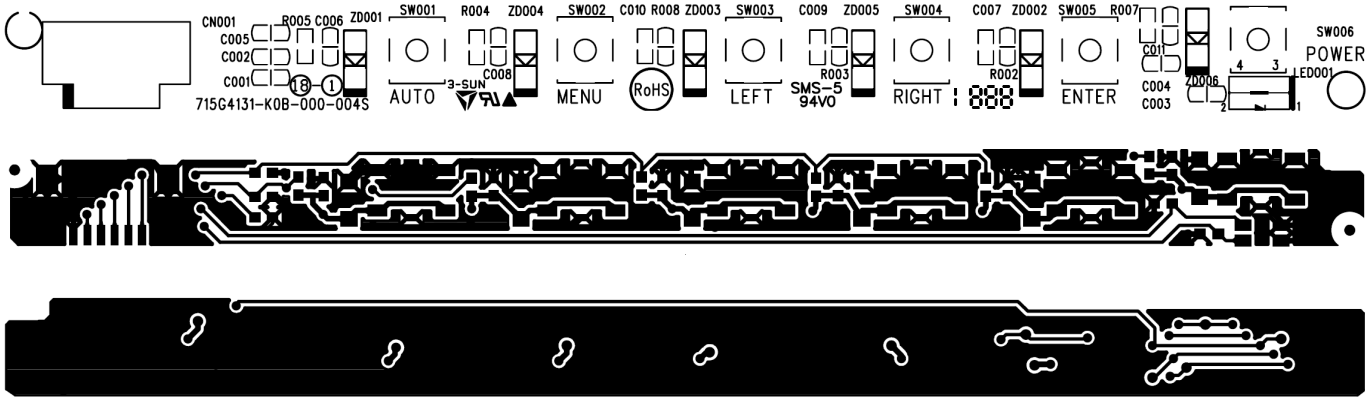
715G3977P03000004L





Key Board

715G4131K01000004S



Appendix 1 – Screw List / Torque

Part No.	Type	Description	Quantity	Torque
0Q1G 930 8120	Q3*8	HINGE & HINGE BKT & REAR COVER	1	
0M1G1740 10 47 CR3	M4*10	HIGNE & REAR COVER	4	12 ± 2kgf.cm
0M1G1740 8 47 CR3	M4*8	HINGE & STAND	3	
0D1G1030 6120	D3*6	MAIN/POWER BOARD & MAINFRAME	6	6 ± 1kgf.cm
0M1G1740 6120	M4*6	POWER BOARD & MAINFRAME	1	6 ± 1kgf.cm