



Applicable Country & Regions: Europe/China

Service Manual for BenQ:

LCD E2400HD

(D-SUB+DVI-D+HDMI1.3

+ Black Bezel)



Product Service Manual – Level 1~2

**Version: 1st
Date:07-08-2008**

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 (August, 2008)

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Abbreviations & Acronyms

A	
ADC	Analogue 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 Synchronisation
D	
DLP	Digital Light Processing / Texas Instruments®
DMD	Digital Micromirror Device
DRAM	Dynamic RAM
DVI	Digital Video Interface
DVI-I	Digital Video 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 ² C	Integrated IC bus
L	
LED	Light Emitting Diode
LVDS	Low Voltage Differential Signalling, 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 colour signals for TV. By mixing levels of R, G, and B, all colours (Y/C) are
ROM	Read Only Memory
S	
SDA	Data signal on I ² C 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= Colour 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 colour 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 Notice

1. Make sure your working environment is dry and clean, and meets all government safety requirements.
2. Ensure that other persons are safe while you are servicing the product.
3. DO NOT perform any action that may cause a hazard to the customer or make the product unsafe.
4. Use proper safety devices to ensure your personal safety.
5. Always use approved tools and test equipment for servicing.
6. Never assume the product's power is disconnected from the mains power supply. Check that it is disconnected before opening the product's cabinet.
7. Modules containing electrical components are sensitive to electrostatic discharge (ESD). Follow ESD safety procedures while handling these parts.
8. Some products contain more than one battery. Do not disassemble any battery, or expose it to high temperatures such as throwing into fire, or it may explode.
9. Refer to government requirements for battery recycling or disposal.

2.3 Compliance Statement

1. 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 E2400HD offers numerous features and functions, for example:

- TFT display (Thin Film Transistor; active matrix)
- minimal space requirements thanks to slim casing
- optimum ergonomic characteristics (totally distortion-free, excellent picture definition and colour purity right into the corners)
- high degree of brightness and good contrast

- high resolution (1920x1080)
- presentation of up to 16.7 million colours (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 21 different display modes
- freely adjustable colour alignment for matching the screen colours to the colours 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
- compliance with the recommendations in accordance with TCO'03

This operating manual contains important information you require to start up and run your LCD monitor.

This specification defines the requirements for the 24" MICROPROCESSOR based Multi-mode supported high resolution color LCD monitor. This monitor can be directly connected to general 15-pin D-sub VGA connector, 24-pin DVI connector and 19-pin HDMI connector, also supports VESA DPMS power management and plug & play function.

There is a build-in stereo audio amplifier with OSD control to drive a pair of speakers.

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 1920x1080 pixels with an aspect ratio of 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.benq.com>**5. Product Overview****5.1 Monitor Specifications**

LCD Panel	Panel Type	TN
	Size	24"
	Pixel pitch	0.277mm(H) × 0.277mm(V)
	Display Area	531.36 (H) x 298.89 (V)
	Viewable angle	170, 160 (CR>10)
	Contrast	1000:1
	Dynamic contrast ratio	10000: 1 (typical)
	Brightness	300 cd/m ²
	Response time	5ms(typical) 2 ms (GTG)
Input	Video	RGB analog 0.7 Vpp/75 Ohm positive Digital: DVI-D, HDMI
	Synchronization	TTL separate signal connection 15-pin mini D-sub cable
	H-Frequency	30 - 83 kHz Multi- frequency monitor
	V-Frequency	50 - 76 Hz modes within these parameters
Display Colors		16.7M Colors
Image diagnostics		Digital, OSD Technology, AUTO key (automatic image setting)
Controls		5 buttons and AUTO key
Max. Resolution		1920 x 1080
Power management		VESA DPMS, EPA
EPA ENERGY STAR®	Max. power consumption	57W (max)
	saving mode	< 2 Watt
Speaker(power consumption)		1 Watt x 2
Operating voltage		Automatic switched mode power supply, 100-240 V, 50-60 HZ
Environmental Considerations		Operating Temp: 0° to 35°C Operating Humidity: 10% to 85%
Dimension (H x W x D)		365.5mm x 582.6mm x 197.4mm
Weight (N. W.)		7 KG

5.2 Packing

When packing the monitor into the carton, please follow the pictures as below.



Using the EPE bag to pack the monitor without base.



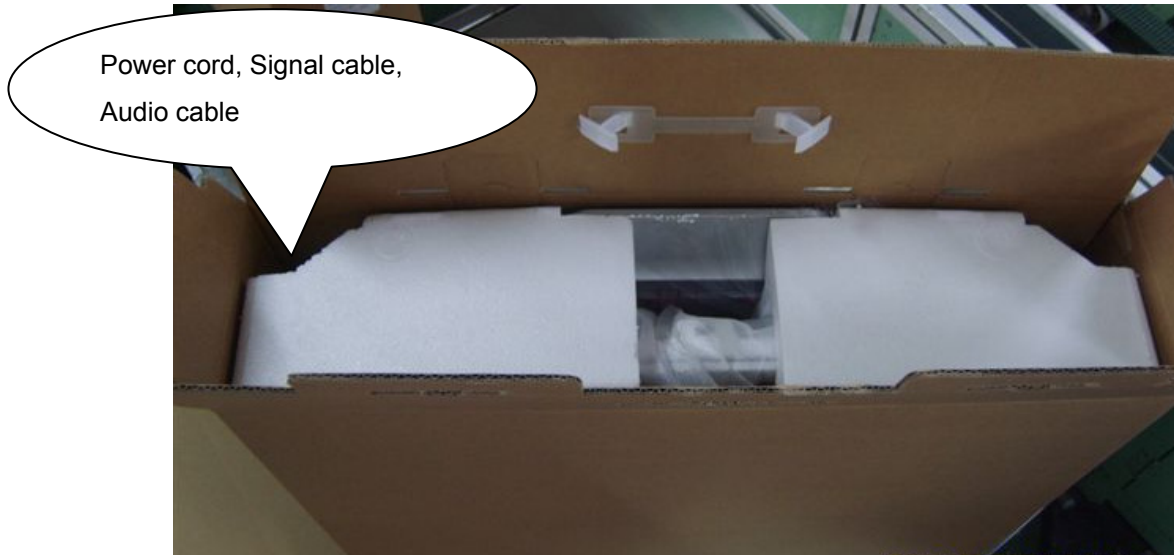
Putting the base into the PE bag



Using the EPS to pack the monitor



Putting the base and user manual in the position as the picture shows above.



Putting the monitor and accessories into the carton.

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.

Software/Firmware Upgrade Process

1. When do the part, need the tools as follow:

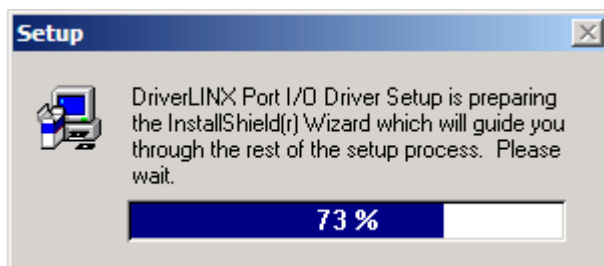
- An i486 (or above) personal computer or compatible.
- Microsoft operation system Windows 95/98/2000/XP.
- “ PORT95NT.exe” program
- Software ISP SN Alignment kits

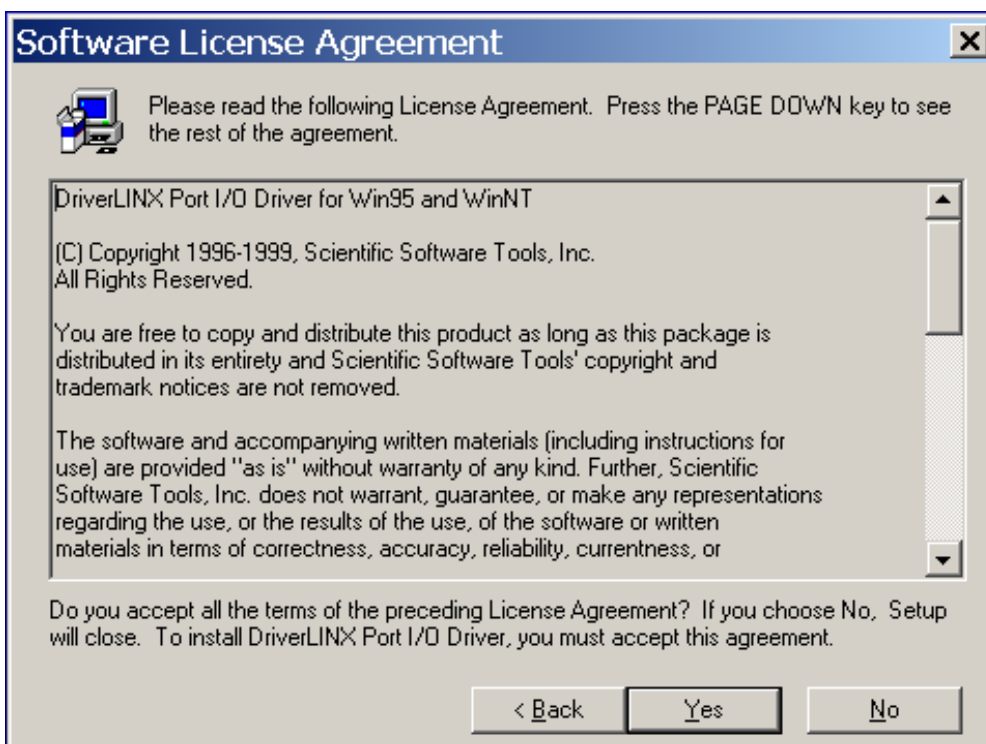
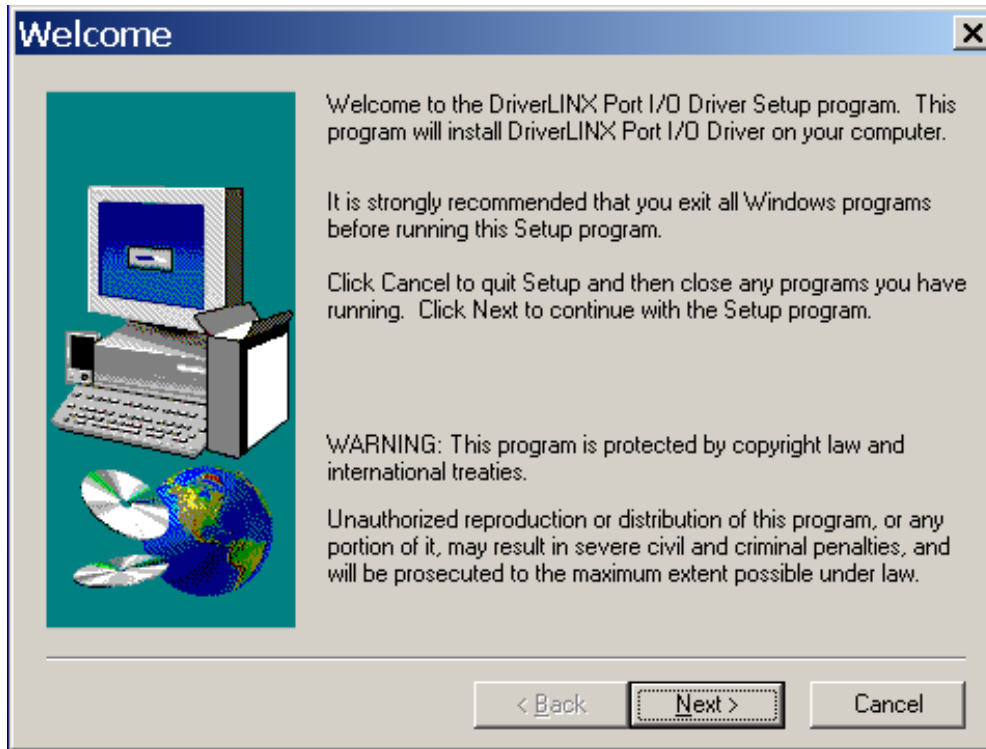
The kit contents:

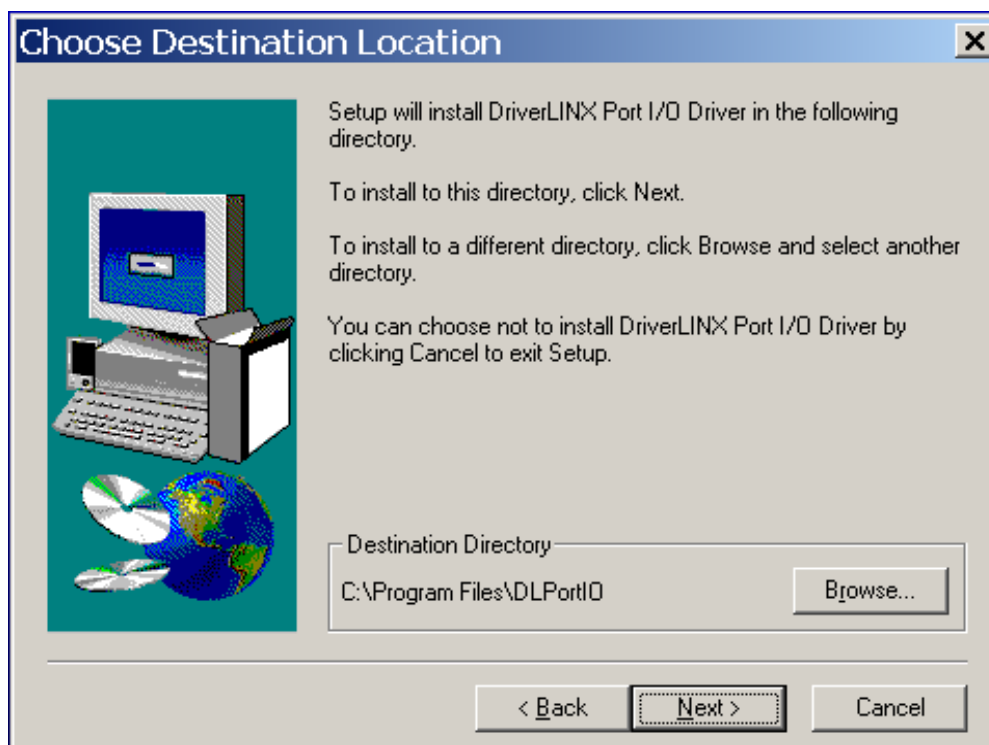
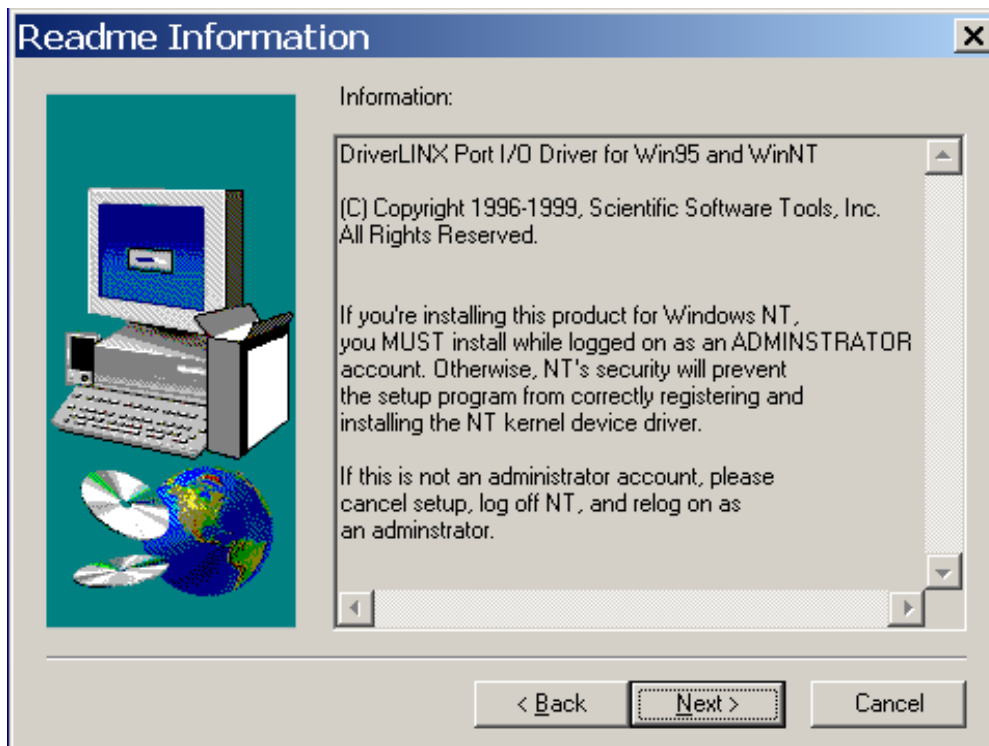
- ISP BOARD x1
- Printer cable x1
- VGA cable x1

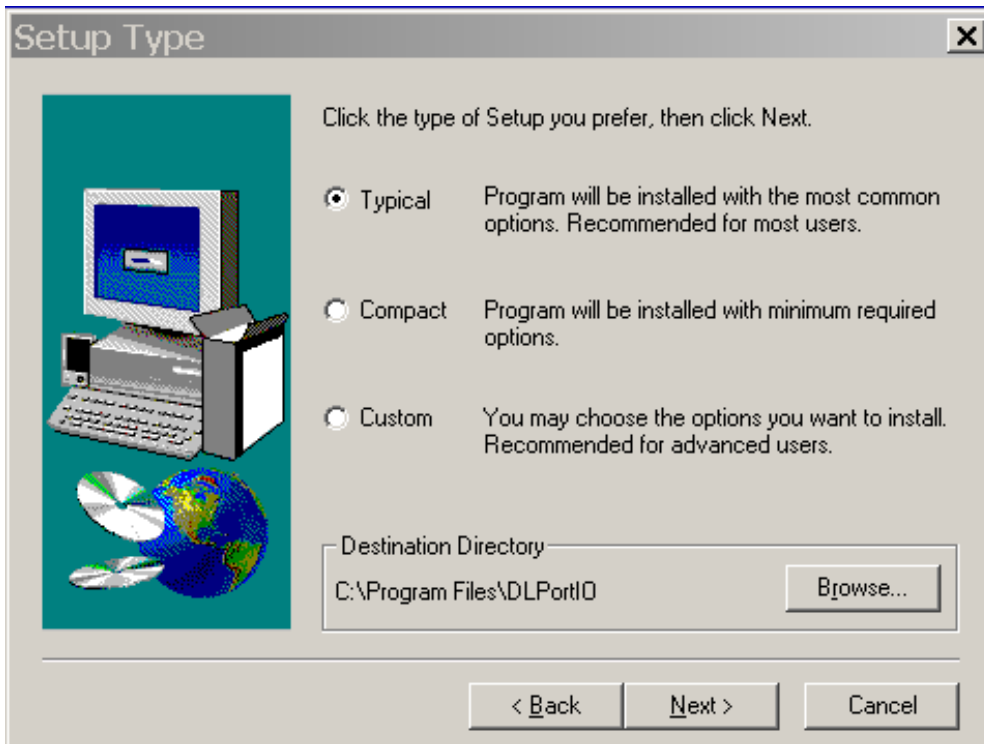
2. Install the “PORT95NT.EXE”, and restart the computer.

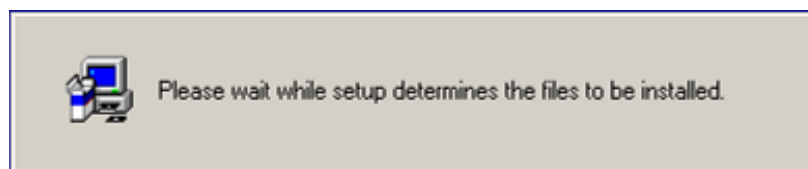
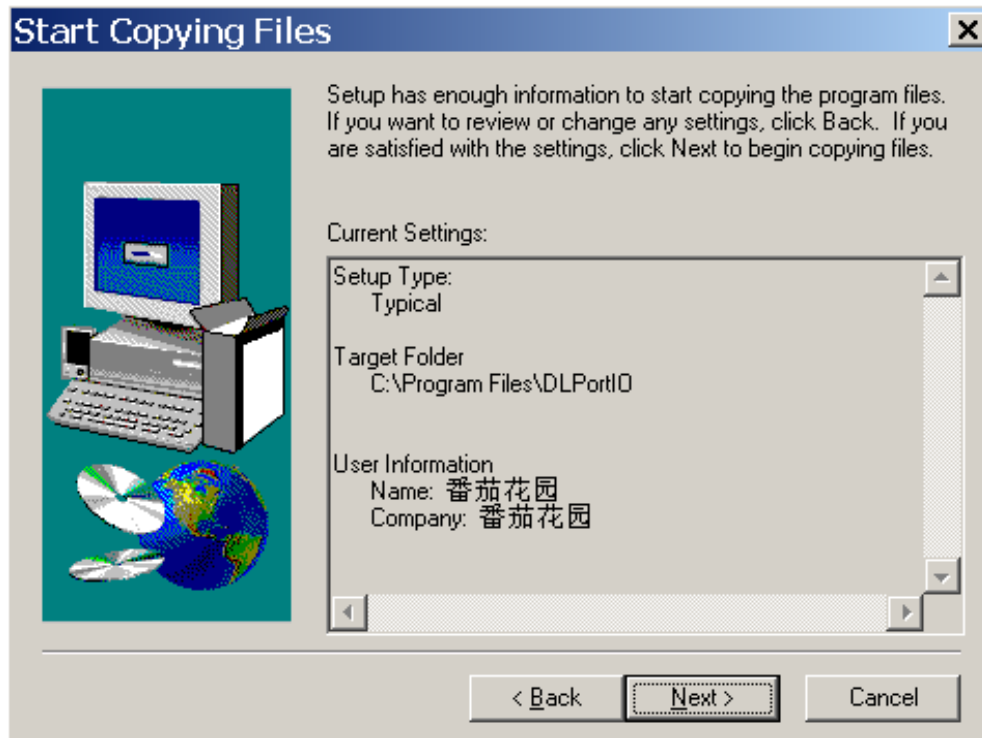
You must install the   at the first. The processing as follows:




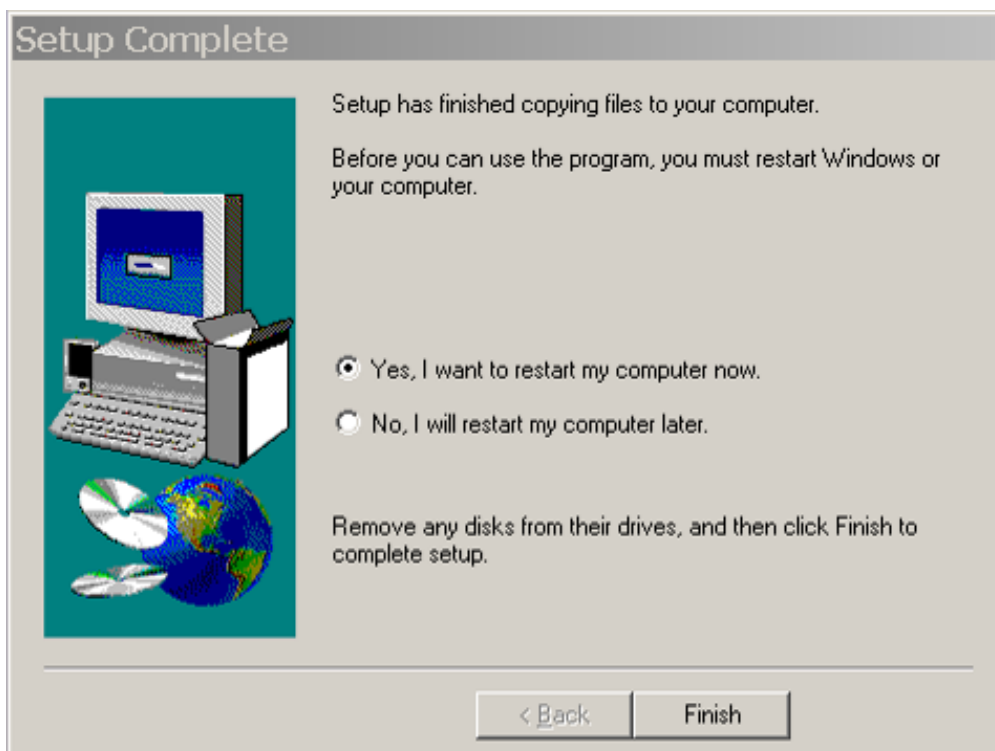






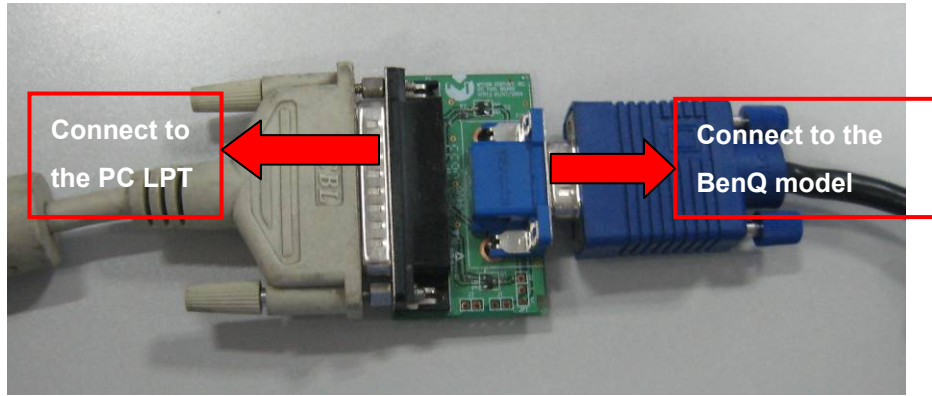


Click  to complete the installation.

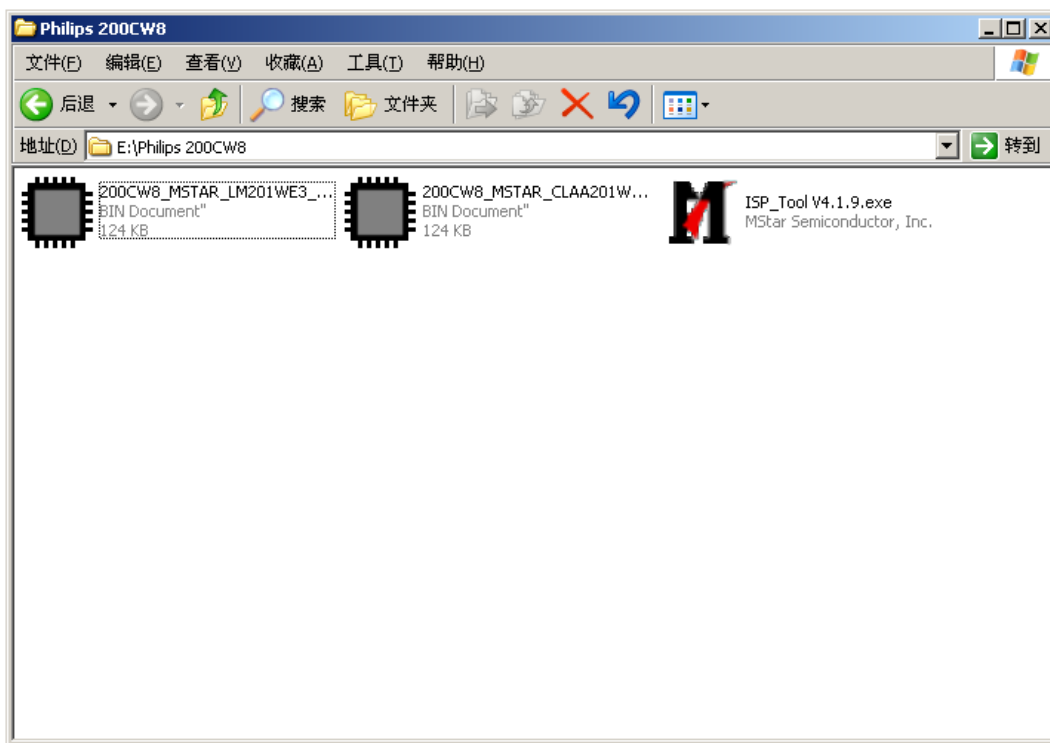



Note: After installation, you must restart the PC to take the setup to effect.

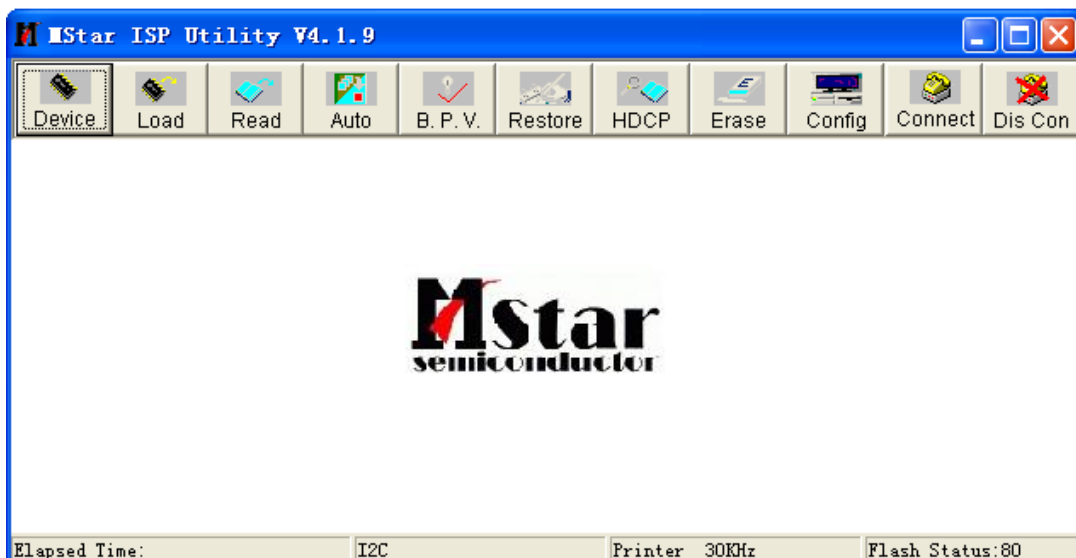
3. Connect the ISP board as follow:




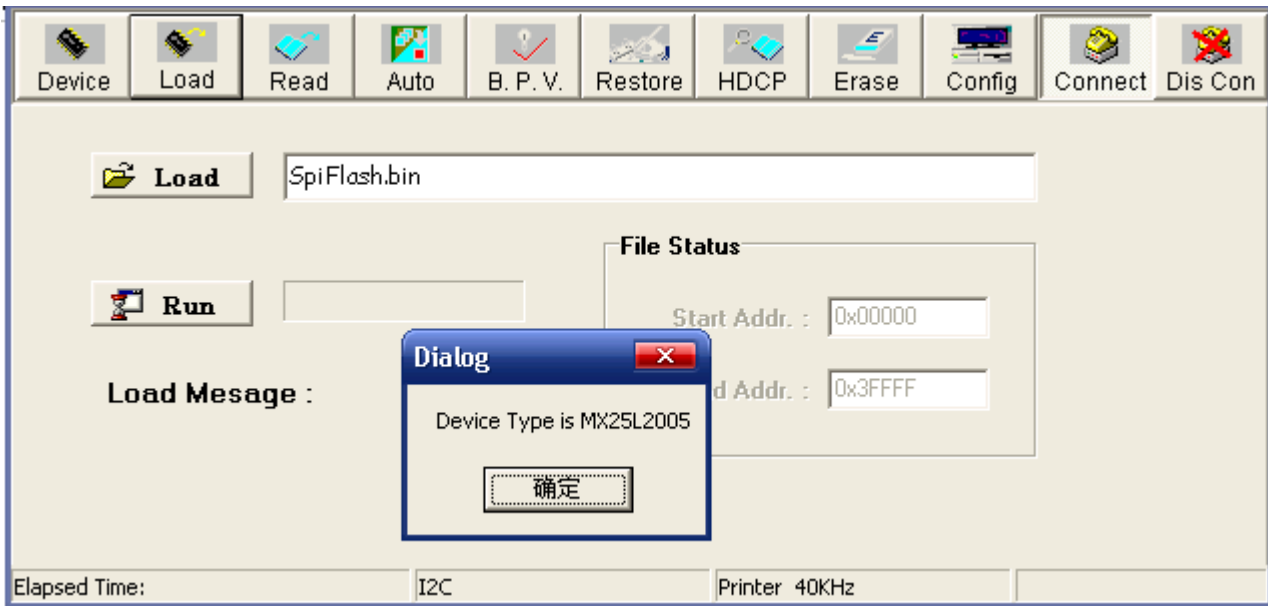
4. The process of ISP write is as follows.




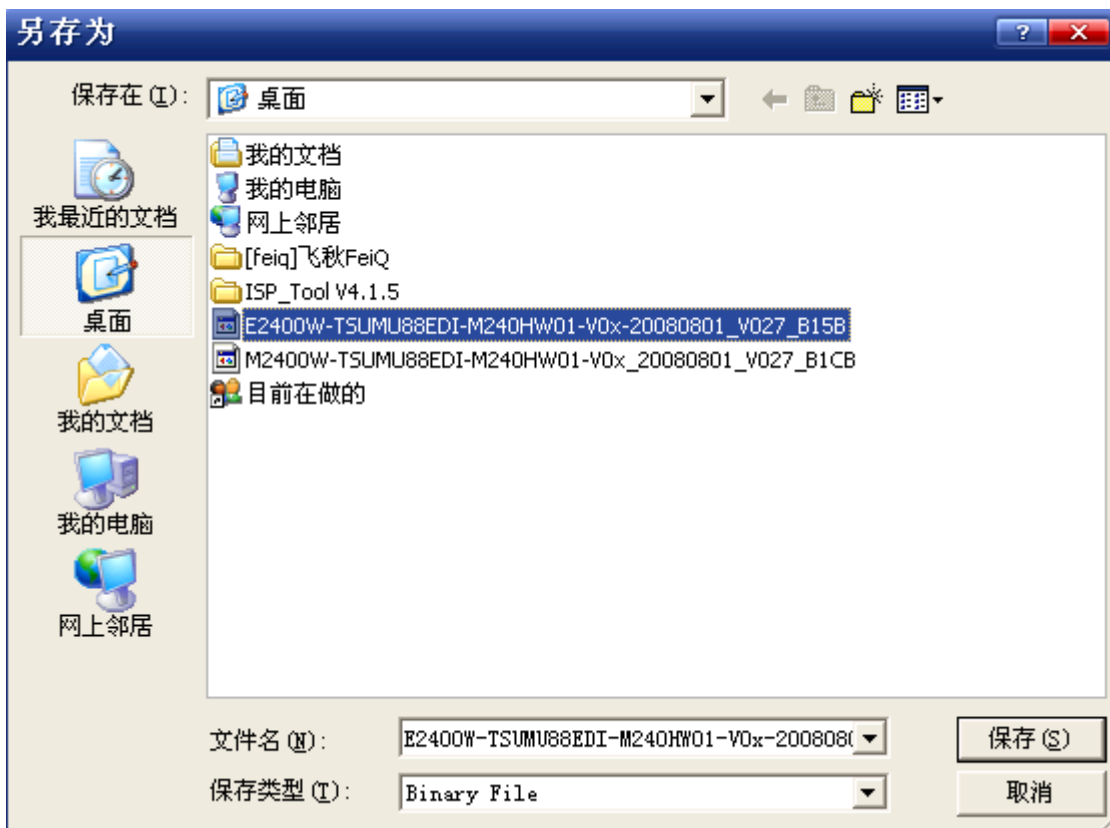
a. Double-click  , running the program as follows:

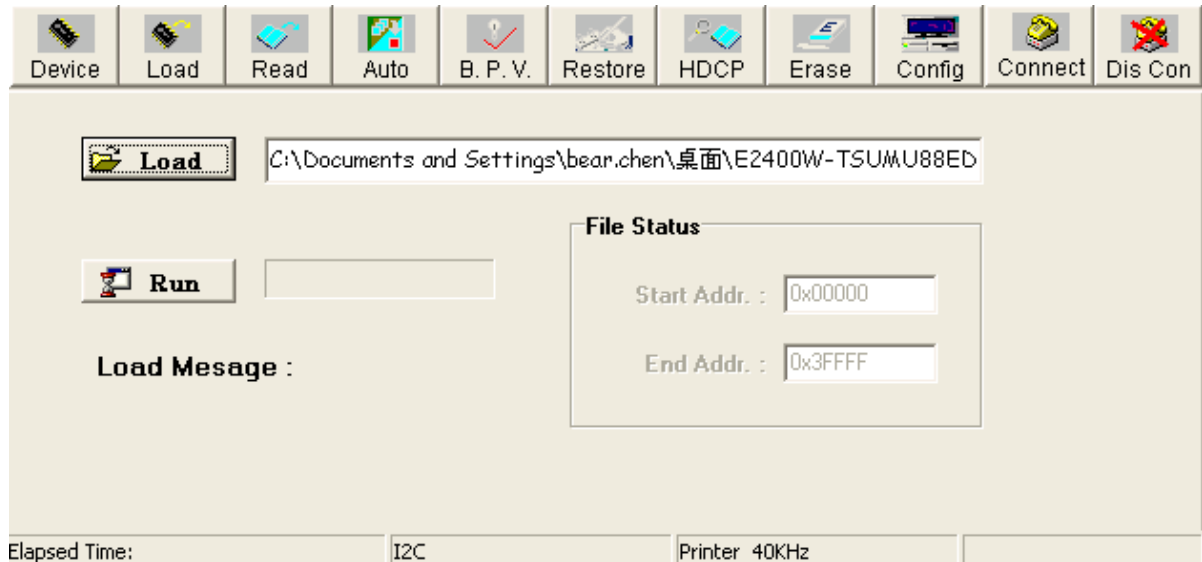



b. Click  icon, running the program as follows:

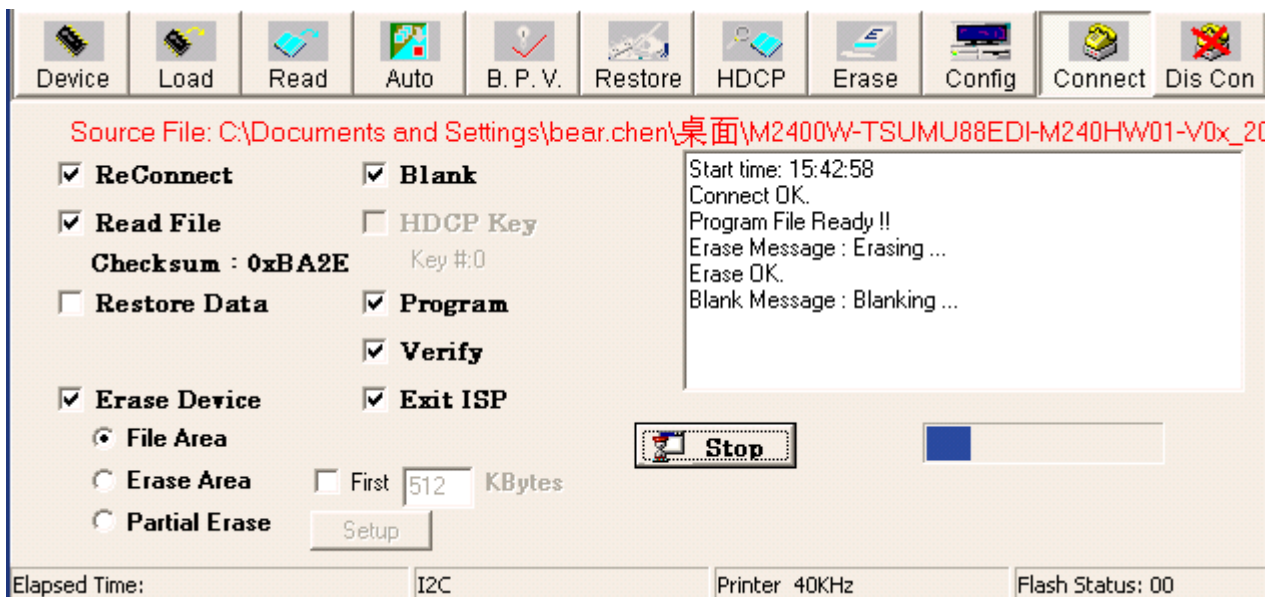
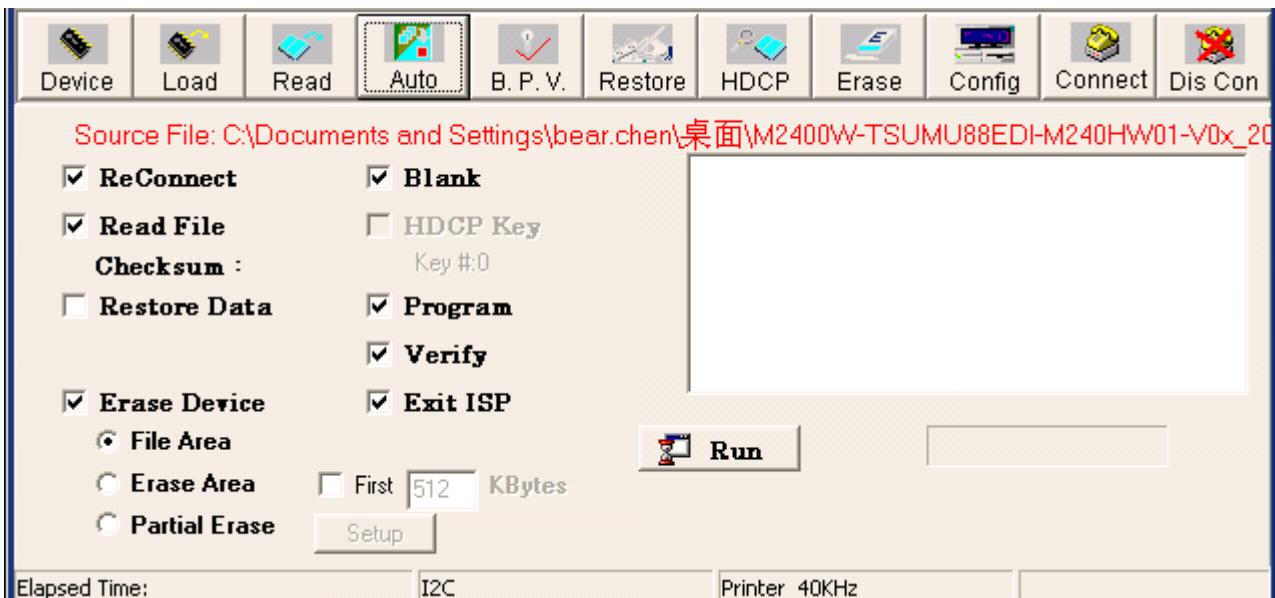


c. Click  icon, load the program "E2400W-TSUMU88EDI-M240HW01-V0x-20080801_V027_B15B.BIN"





d. Click  icon, it will auto run. If burn in success, it will show as the follow picture:



Adjustment / Alignment Procedure**Adjusting the Picture**

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 four main OSD menus:

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

Use the ▲ or ▼ 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.	Press the ENTER key to select this option and make adjustment.	
H. Position	Adjusts the horizontal position of the screen image.	Press the ▲ 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. The function is not available for use when Dynamic Contrast is on	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. The function is not available for use when Dynamic Contrast is on.	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
Color - Press ENTER to enter the Color menu.			
Normal	Allows video and still photographs	▲ ▼	0 to 100

	to be viewed with natural coloring. This is the factory default color.		
Bluish	Applies a cool tint to the image and is factory pre-set to the PC industry standard white color.		0 to 63
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. The default start setting is 50. 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 the ▲ or ▼ keys and the ENTER key to select Red, Green, or Blue. Then use Press the ▲ or ▼ keys to make the color adjustments.	<ul style="list-style-type: none"> • Red (0 to 100) • Green (0 to 100) • Blue (0 to 100)
Reset Color	Resets the User Mode custom color settings to the factory defaults.	Press the ▲ or ▼ keys to change the settings.	<ul style="list-style-type: none"> • YES • NO
Press MENU to leave the Color menu.			
Dynamic Contrast	The function will increase the level of contrast to provide sharper and more detailed image quality. Activating Dynamic Contrast will disable Brightness and Contrast controls.	Press the ENTER key to select this option. Press the ▲ or ▼ keys to change the settings.	<ul style="list-style-type: none"> • ON • OFF

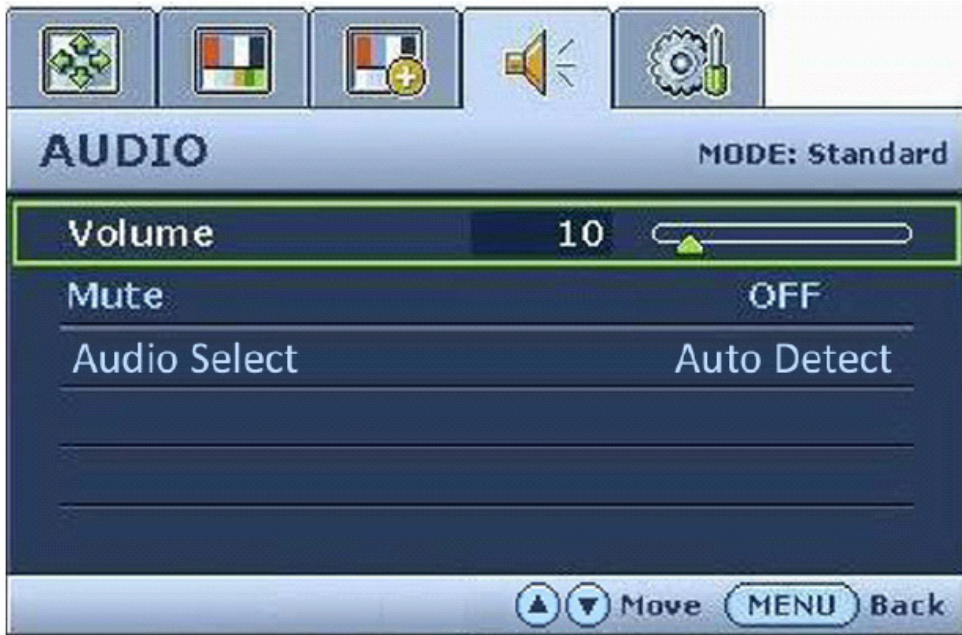
Picture Advanced menu



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	<p>Selects a picture mode that best suits the type of images shown on the screen.</p> <ul style="list-style-type: none"> • Standard - for basic PC application. • Movie - for viewing videos. • Dynamics - for viewing landscape-specific videos and playing games. • Photo - for viewing still images. • sRGB - for better color matching representation with the peripheral devices, such as printers, DSCs, etc. 	<p>Press the ▲ or ▼ keys to change the settings.</p>	<ul style="list-style-type: none"> • Standard • Movie • Dynamics • Photo • sRGB
Display Mode	<p>This feature is provided to allow aspect ratio's other than 16:10 to be displayed without geometric distortion.</p> <ul style="list-style-type: none"> • Full - Scales the input image to fill the screen. Ideal for 16:10 aspect images. • Aspect - Ideal for 4:3 aspect images. 	<p>Press the ▲ or ▼ keys to change the settings.</p>	<ul style="list-style-type: none"> • Full • Aspect
Senseye Demo	<p>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.</p>	<p>Press the ▲ or ▼ keys to change the settings.</p>	<ul style="list-style-type: none"> • ON • OFF

Audio 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
Volume	Adjusts the audio volume	Press the ▲ or ▼ keys to change the volume.	
Mute	Mutes the audio input	Press the ▲ or ▼ keys to change the settings.	<ul style="list-style-type: none"> • ON • OFF
Audio Select	Allow users to select the audio source or let the monitor detect it automatically	Press the ▲ or ▼ keys to change the settings.	<ul style="list-style-type: none"> • PC Audio • HDMI Audio • Auto Detect

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.

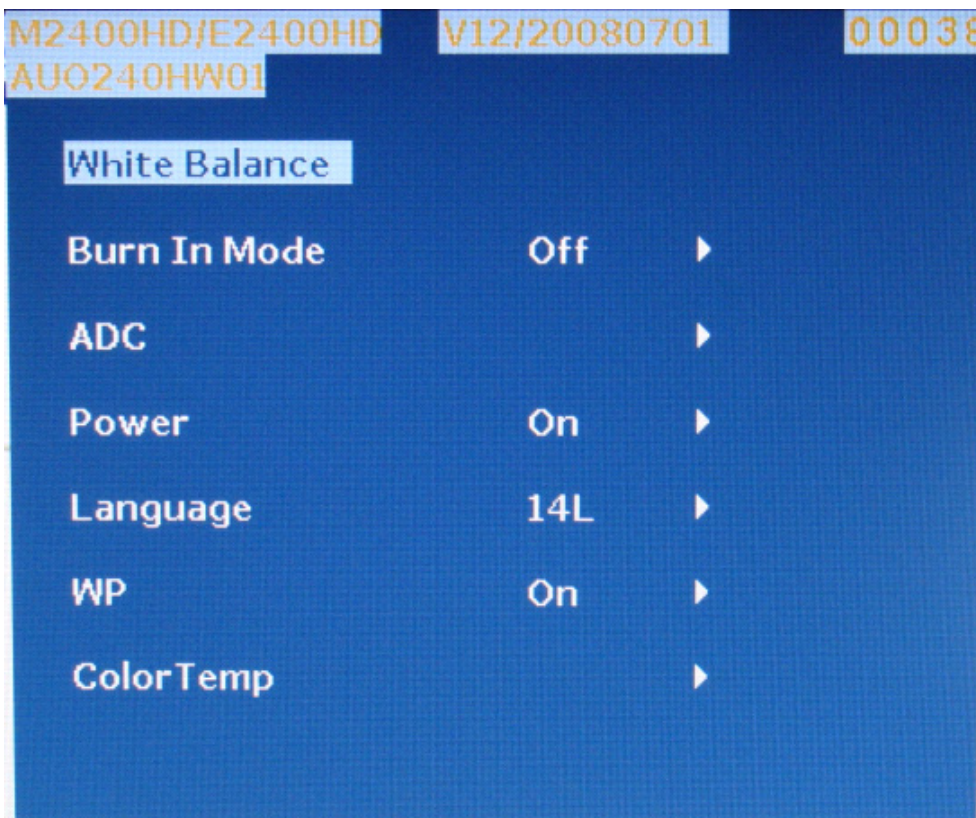
Item	Function	Operation	Range
Input	Selects the D-sub (analog) or DVI (digital) input. Use this to change the input to that appropriate to your video cable connection type. Analog-only models do not have the Input function.	Press the ▲ or ▼ keys to change the settings.	<ul style="list-style-type: none"> • DVI • D-sub • HDMI
OSD Settings - Press ENTER to enter the OSD Settings menu.			
Language	Sets the OSD menu Language.	Press the ▲ or ▼ keys to adjust the value. The language options displayed on your OSD may differ from those shown on the right, depending on the product supplied in your region.	<ul style="list-style-type: none"> • English • French • German • Italian • Spanish • Polish/ Japanese • Czech/ Traditional Chinese • Hungarian/ Simplified Chinese • Serbo-Croatian

			<ul style="list-style-type: none"> • Romanian • Dutch • Russian • Swedish • Portuguese
H. Position	Adjusts the horizontal position of the OSD menu.	Press the ▲ 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 the OSD menu.		<ul style="list-style-type: none"> • 5 Sec. • 10 Sec. • 15 Sec. • 20 Sec. • 25 Sec. • 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 the ▲ 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 the ▲ or ▼ keys to select 'OFF' in the 'OSD Lock' submenu from the 'OSD Settings' menu, and all OSD controls will be accessible.	<ul style="list-style-type: none"> • YES • NO
Press MENU to leave the OSD Settings menu.			
DDC/CI*	Allows the monitor settings to be set through	Press the ENTER key to select this	<ul style="list-style-type: none"> • ON • OFF

	the software on the PC.	option. Press the the ▲ or ▼ keys to change the settings.	
Information	Displays the current monitor property settings.	Press the ENTER key to select this option.	
HDMI Auto Switch	When this function is activated, HDMI port will be in the input auto select loop. Otherwise, HDMI can only be selected by input select or by hot key.	Press the ENTER key to select this option. Press the the ▲ or ▼ keys to change the settings.	<ul style="list-style-type: none"> • ON • OFF
Reset All	Resets all mode, color and geometry settings to the factory default values.	Press the ▲ or ▼ keys to change the settings.	<ul style="list-style-type: none"> • YES • NO

Factory OSD Menu

Turn off the monitor, keep pressing the “MENU” + “ENTER” buttons, and turn on the monitor, then when we press the AUTO button, the factory OSD will be at the left top of the panel as below.



BenQ Service Page

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". And need to have a warning message to double confirm the reset function.The timer should record up to 99999 hours
7. Add one select item for HDCP(DVI port),Mode1,Mode2 at Service menu
 Mode1: To enable the hot plug pin detection.(HDMI port default)
 Mode 2: To disable the hot plug pin detection.(DVI port default)
8. add BenQ logo on/off item, the default is "on"
9. add the auto power on item, the default is "off "
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.



Level 2 Circuit Board and Standard Parts Replacement

Product Exploded View

REVISION LIST		DATE	UPDATED BY	APPROVED BY
ITEM	ECN/FN NO	POSITION	DESCRIPTION	

ITEM	PART NAME	QTY	REMARK
1	BEZEL	1	A34G0854ADPA1B0100
2	BEZEL PLATE	1	A34G0855BCNA1B0100
3	PANEL-AUD	1	750GLU240H1013N000
4	SCREW-M3X6	7	MF/BOARD M1G1730-6-120
5	POWER BD	1	PW/PBCE41AA66
6	SCALAR BD	1	756G08CB BC001
7	MAINFRAME	1	A15G0455 A1 2
8			
9			
10	SPK L RUBBER	1	
11	SCREW-M3X6	4	MF/PANEL M1G130-6-120
12	SPK L COVER	1	
13	EARPHONE BD	1	CNPC80A2
14			
15			
16	SPK L HOUSING	1	
17	REAR COVER	1	A34G0856ADP 2B0130
18	BKT HOLD	1	
19	LOGO PLATE	1	A33G0468ADPA1L0100
20	SCREW-M4X10	6	Sb/Hinge/Rc M1G1740-10-120
21	SCREW-T3XB	4	M/Fb/MF Q1G930-8-120
22	HINGE COVER	1	A33G0473BCN 1L0100
23	COVER HOOK	1	A33G0474BCN 1L0100
24	STAND BACK	1	A34G0858BCN 1B0100
25	BASE	1	A34G0859BCN 1B0133
26	BASE PLATE	1	A34G0860ADP 1B0100
27	FOOT PAD	4	Q12G8600-6
28	BKT BASE	1	A15G0461101
29	SCREW-T3XB	3	SB/Bkt_b Q1G130-8-120
30	HINGE	1	A37G0091-1
31	SCREW-T4X10	3	SB/HINGE Q1G1040-10-120
32	STAND FRONT	1	A34G0857AFD 1B0100
33	SPK R COVER	1	
34	SPK R HOUSING	1	
35	FUNC BUTTON	1	A33G0464BCN 1L0100
36	CONTROL BD	1	KEPC80X2
37	PW BUTTON BD	1	KEPC80X3
38	PW BUTTON	1	A33G0465BCNA1L0100
39	PW LENS	1	A33G0466 1 TC0100
40	BEZEL LOGO	1	Q23G3178-8B1-3A

TOLERANCE UNLESS OTHERWISE SPECIFIED (mm)	
RANGE OF DIM.	METAL & PLASTIC FOLYFORM CARTON
0-25	±0.10
30-50	±0.15
60-120	±0.20
120-300	±0.25
300-600	±0.30
600-1200	±0.40
1200-UPON	±0.50

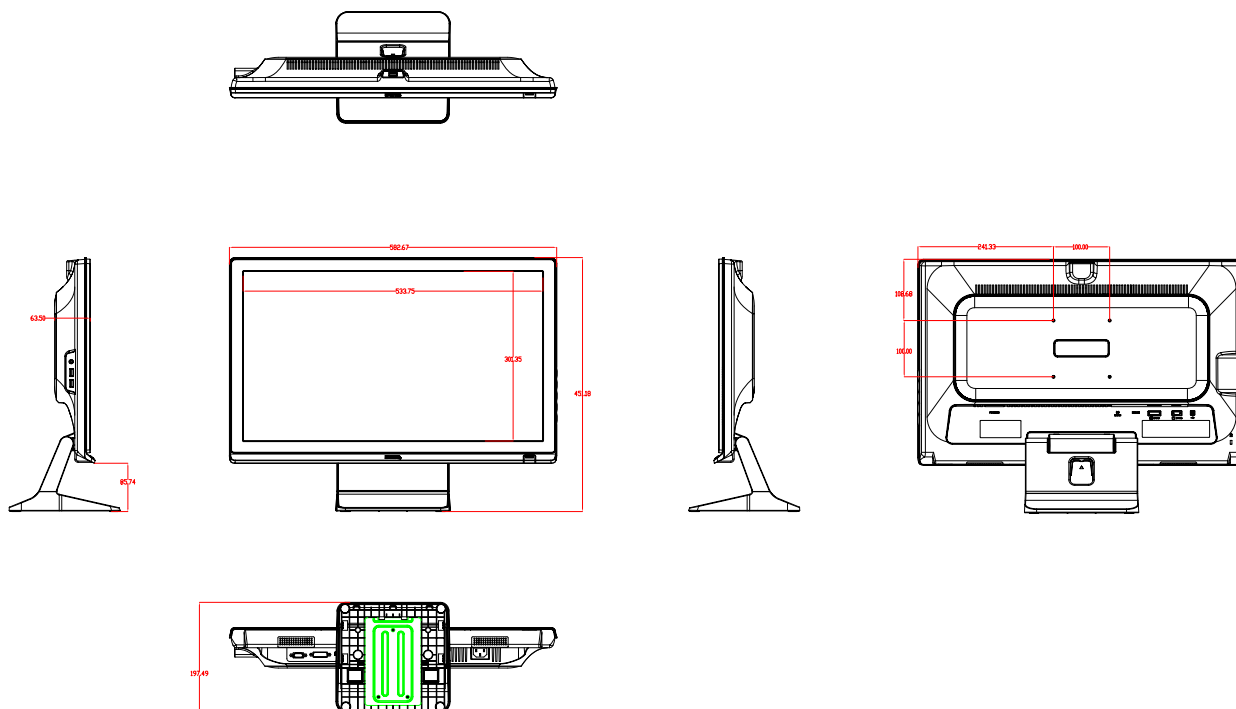
ANGLE (SHEET METAL) 80°

EXPLODE DRAWING

DATE: 06-Jun-08

TPV technology Ltd.

Six angles' view



Product Disassembly

1). Remove the stand-base ASS'Y

Place the monitor face down on a smooth surface. Be careful to avoid scratch and injury during the uninstall. And then remove the four screws as below to remove the stand-base ASS'Y.



Fig1

2).Remove the rear cover

Remove the rear cover as Fig2. The arrows in blue are the hook that we should put attention to when remove the rear cover. Use plastic putty knife to release hooks, then you can easily remove the rear cover.

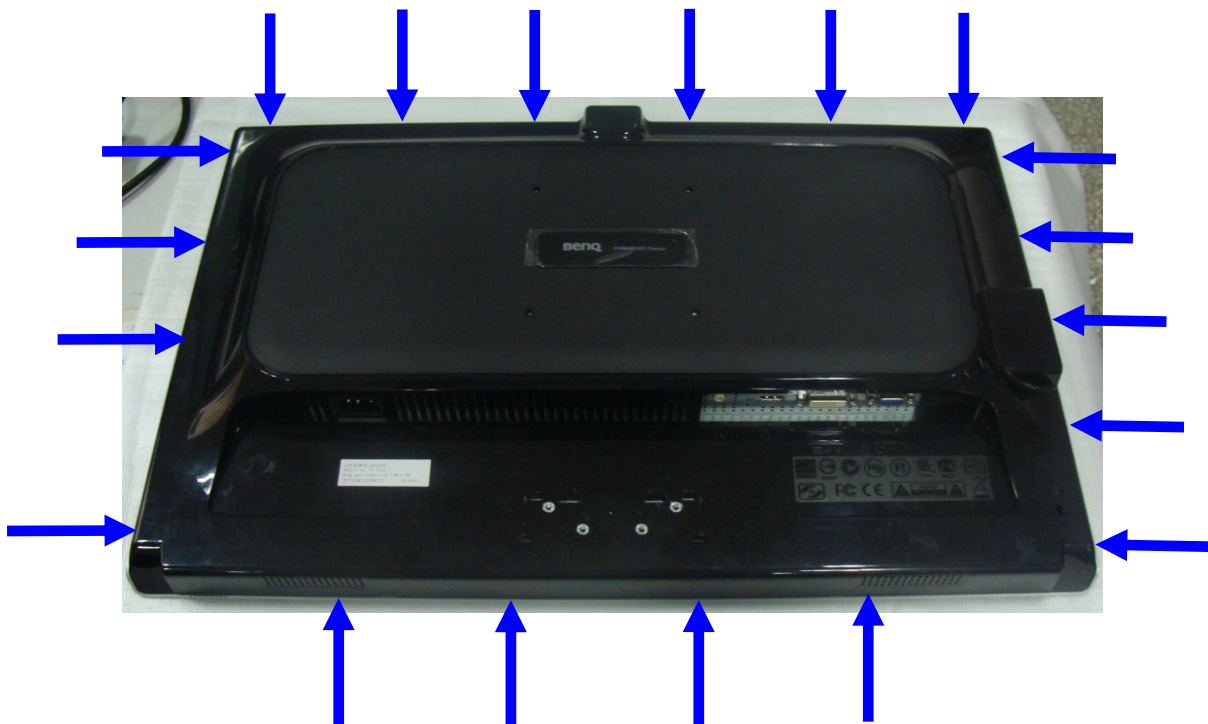


Fig2

3).Remove the Bezel

Release the four screws marked in red as below to remove the bezel. Remove the USB shield.

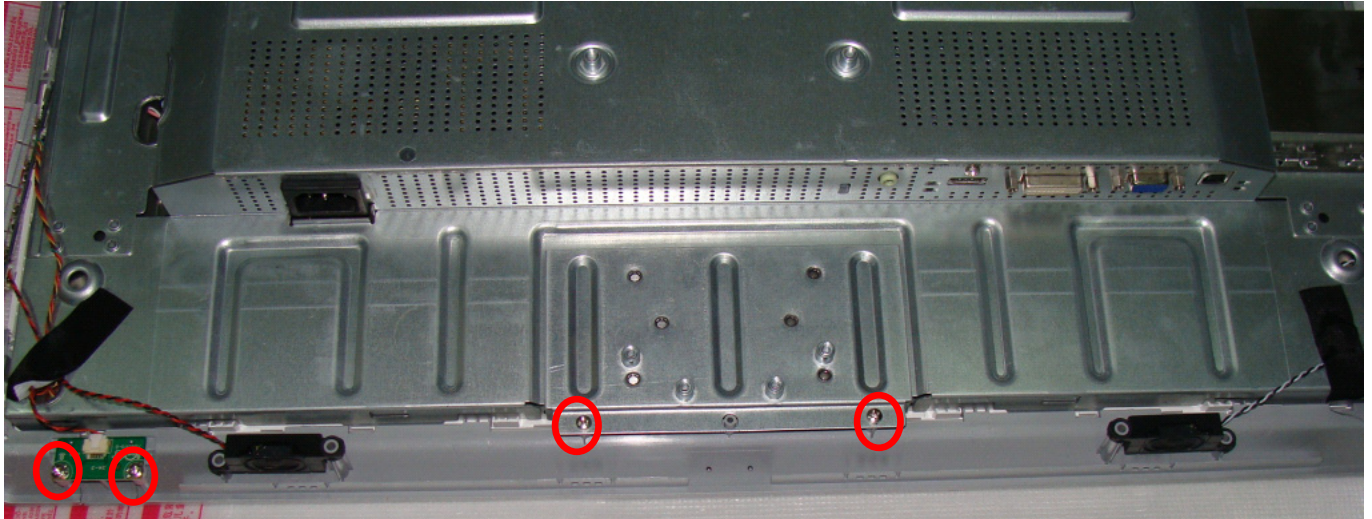
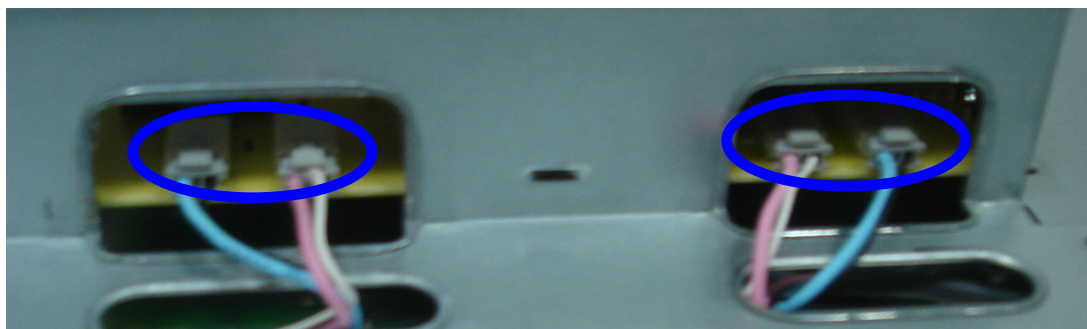
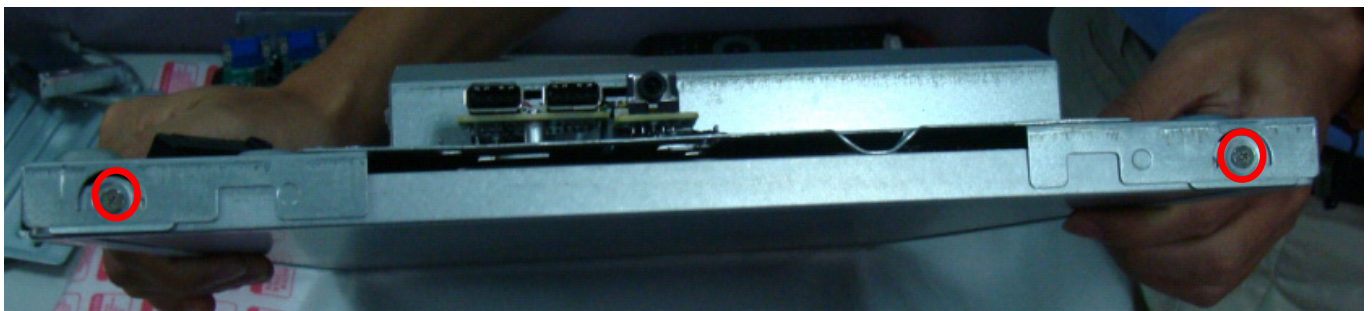


Fig.3

4).Remove the Panel

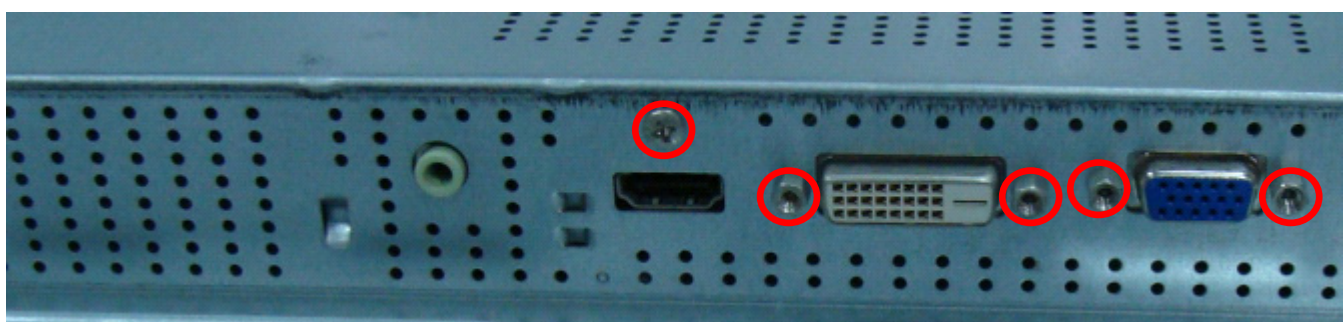
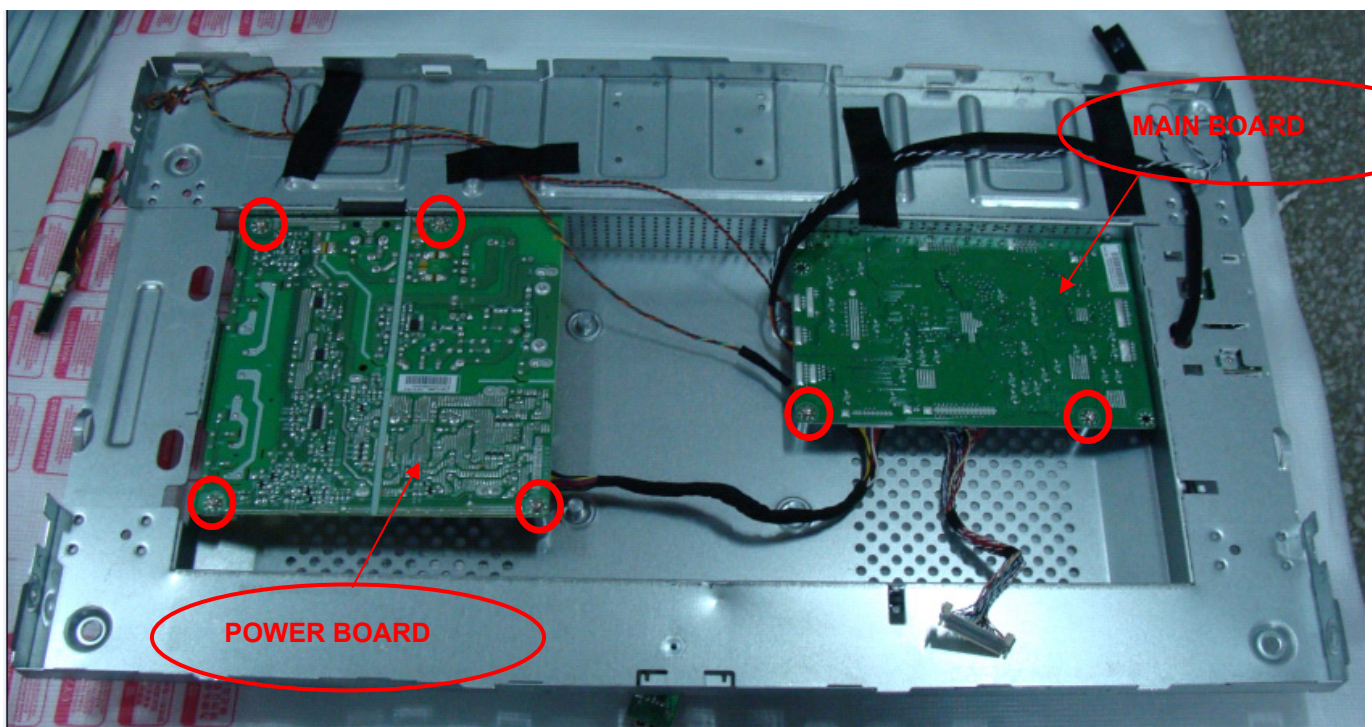
Remove the 4 screws on the side of main frame first, and then disconnect the Lamp Connections and LVDS Cable connection.





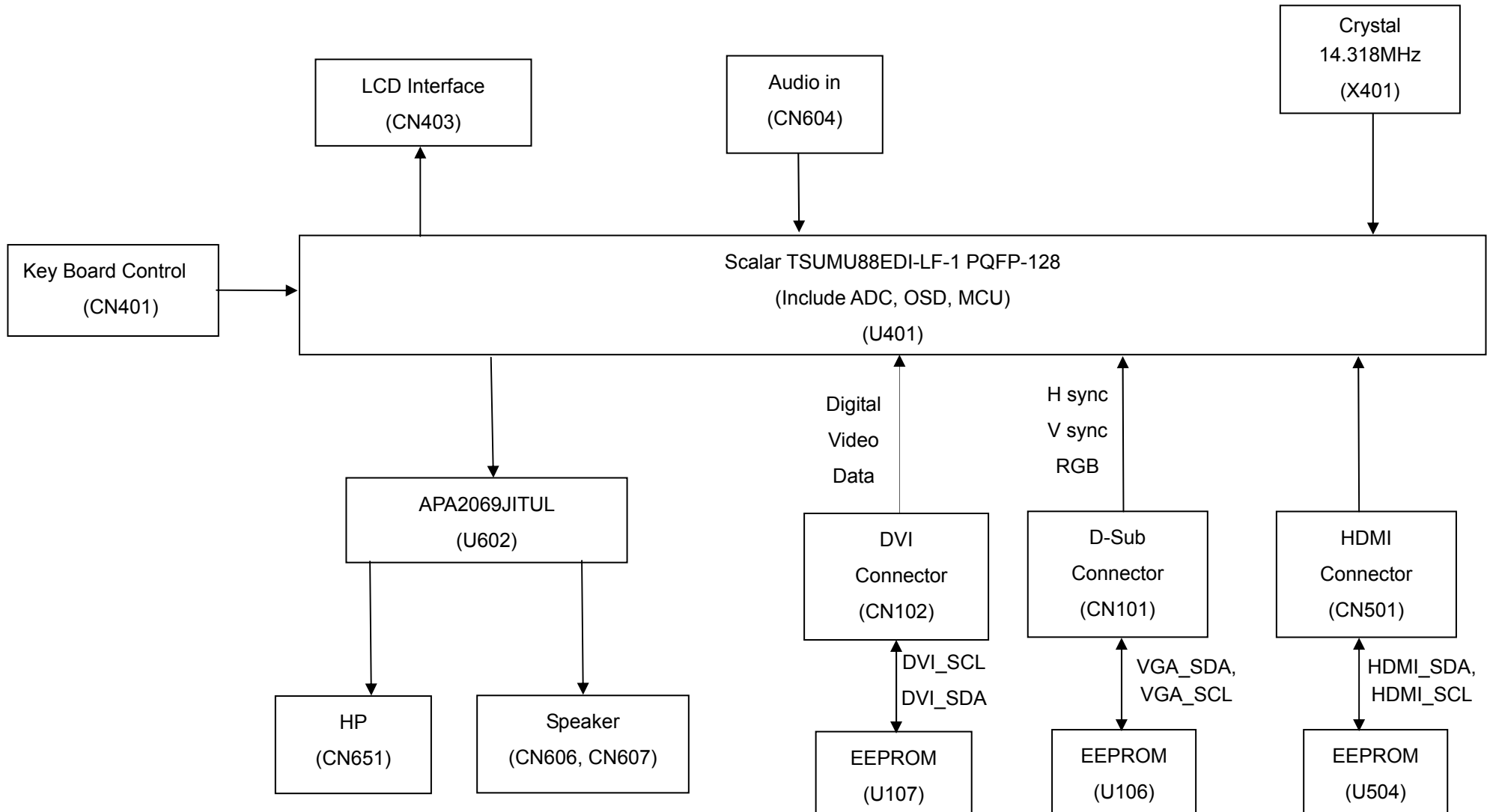
5).Remove the Main Board and Power Board

Remove the screws in red and disconnect the all connections, at last you can get the Main Board and Power Board as follow.

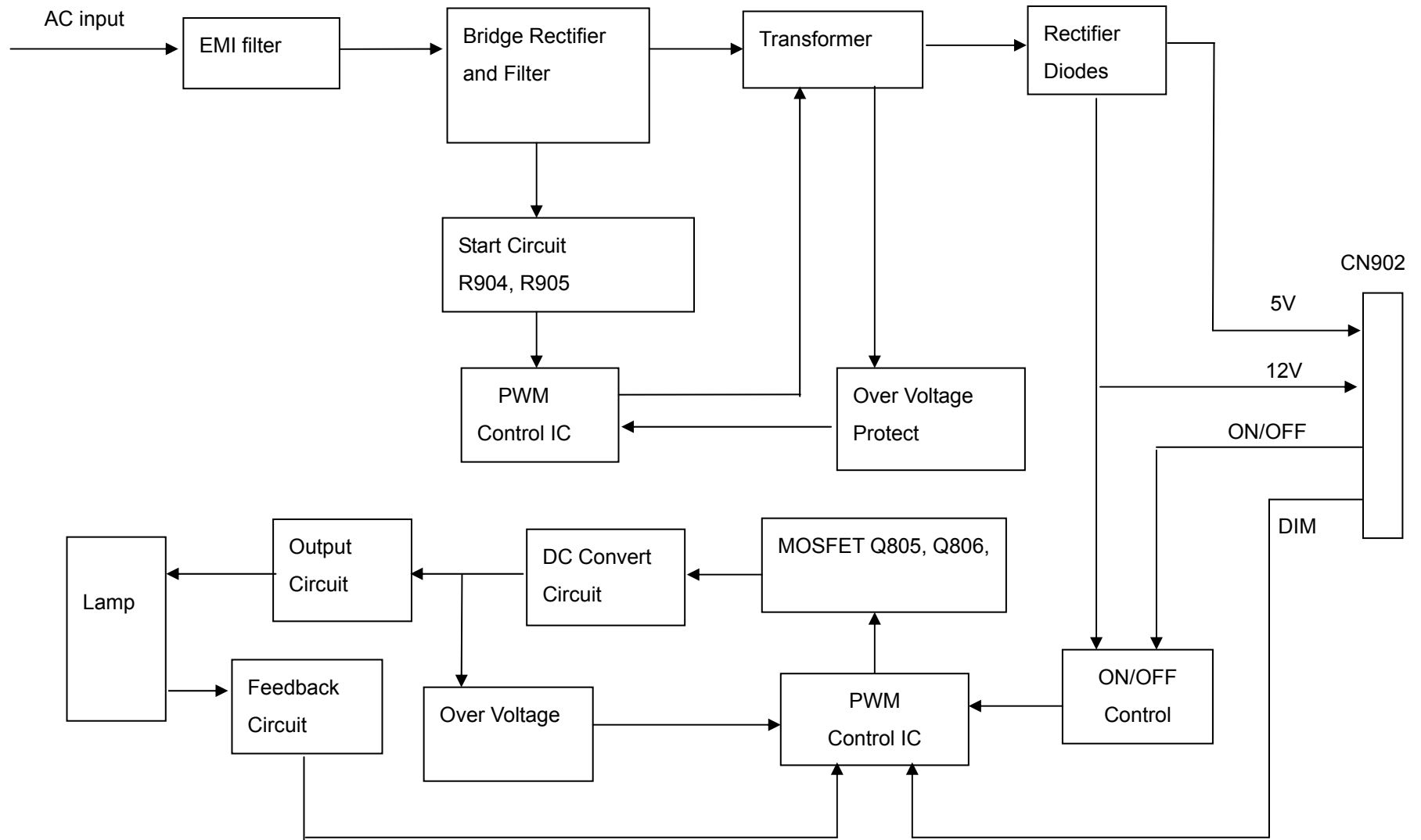


Block Diagram

Main Board

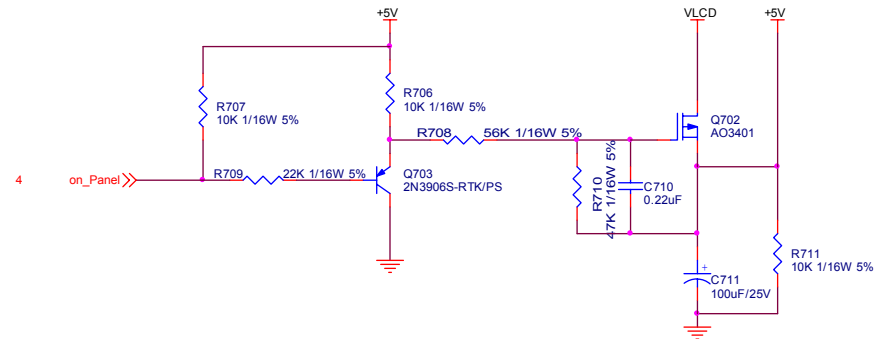
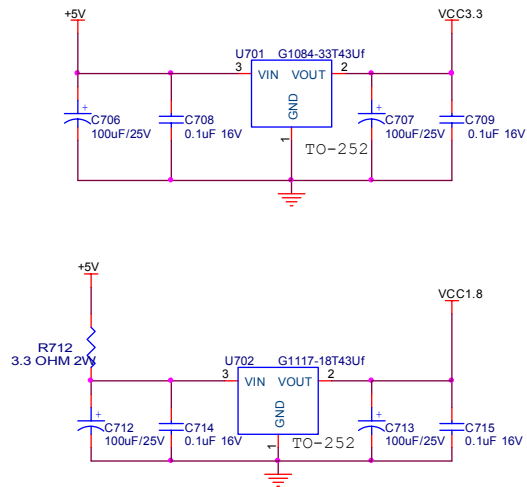
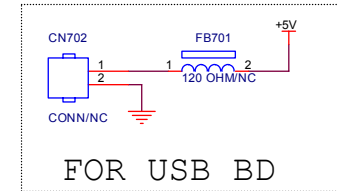
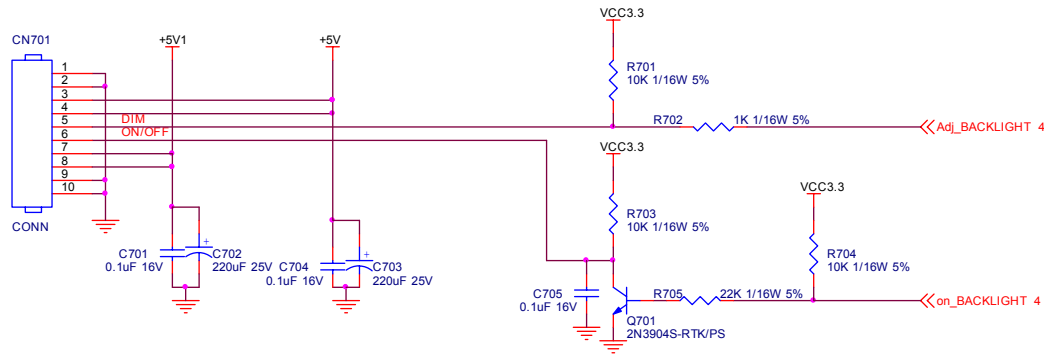


Power Board

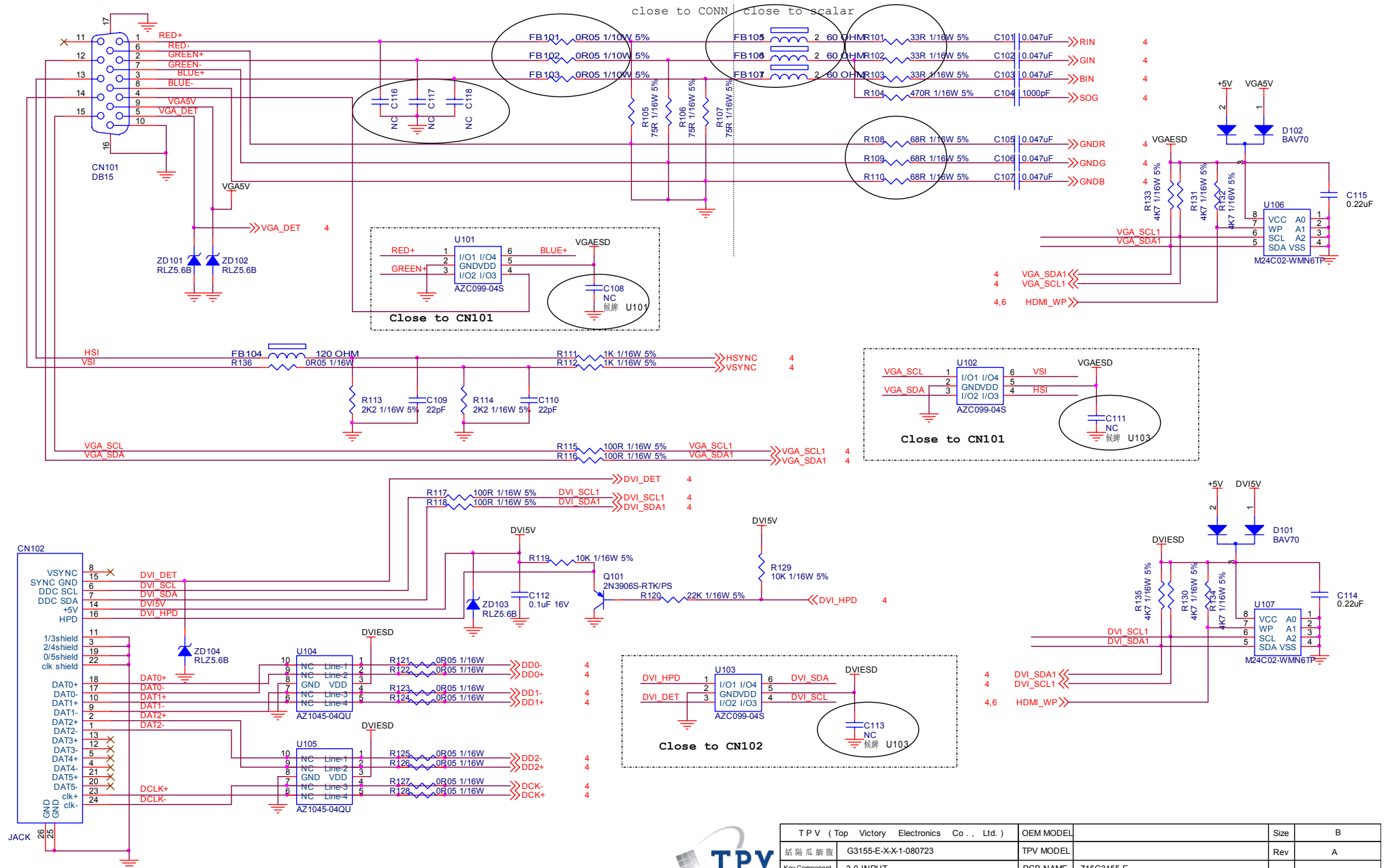


Schematic Diagram

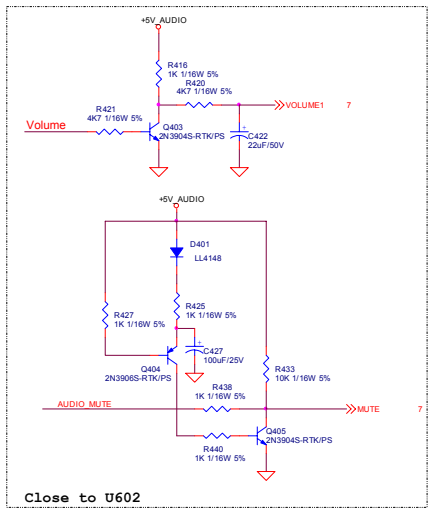
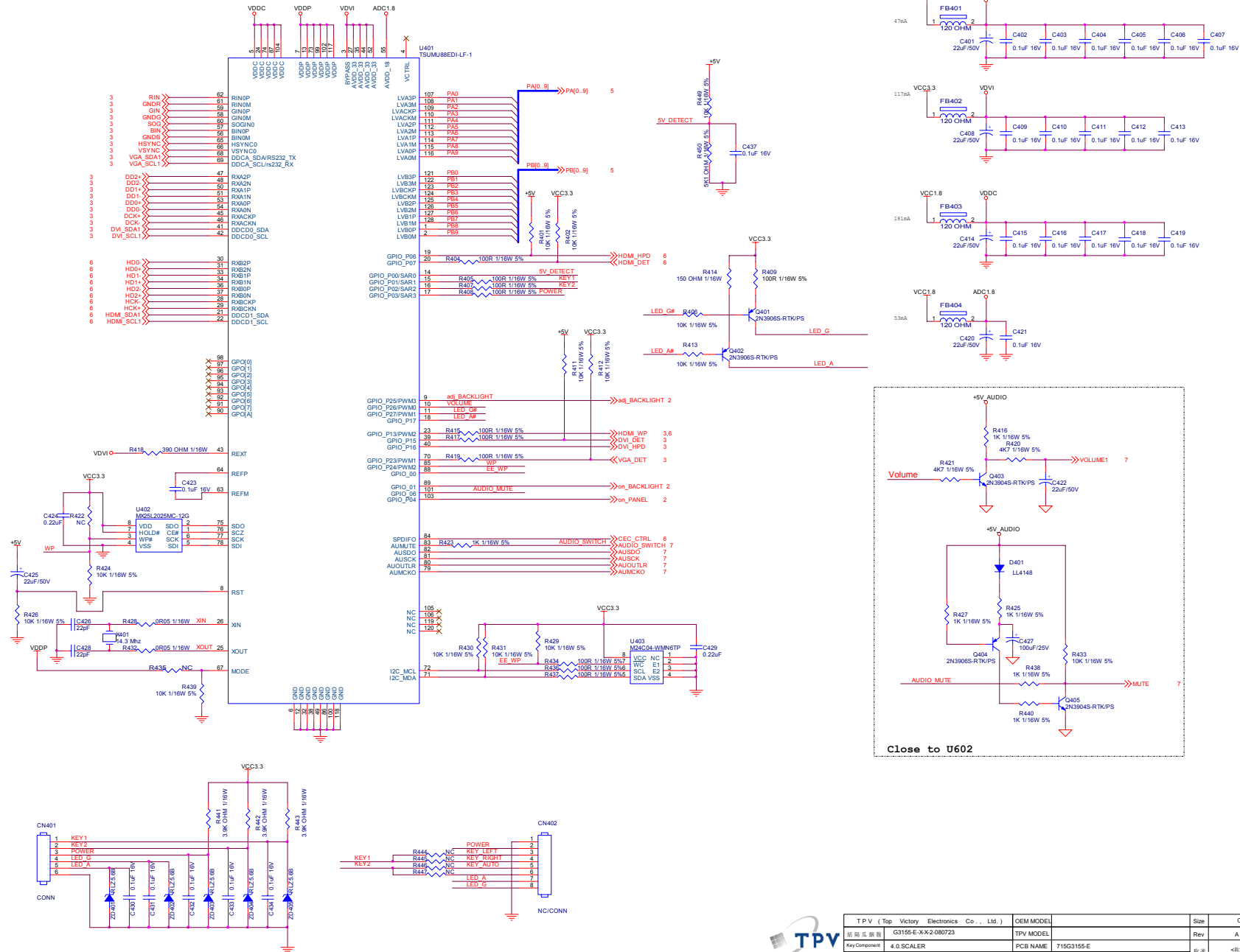
Main Board



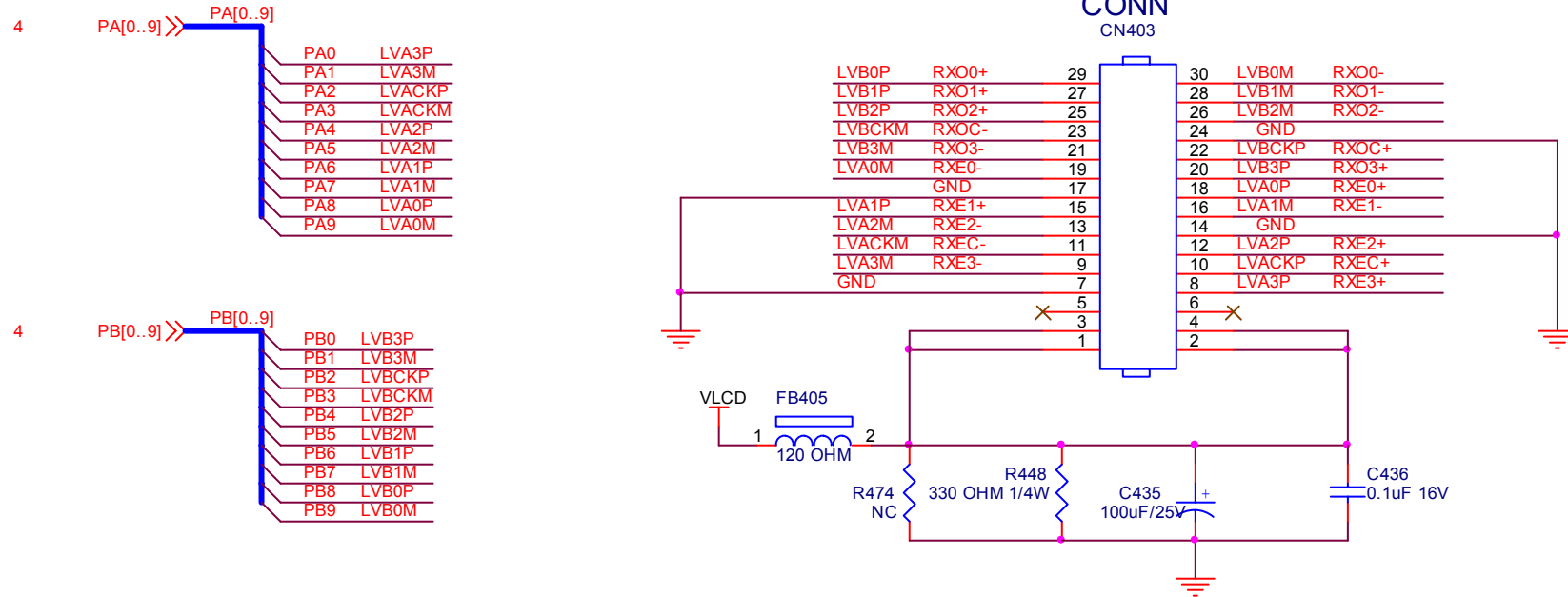
TPV (Top Victory Electronics Co., Ltd.)	OEM MODEL	Size	B
磊隔瓜網版 G3155-E-X-X-2-080723	TPV MODEL	Rev	A
Key Component 2.0.POWER	PCB NAME 715G3155-E	称爹	<称爹>
Date Wednesday, July 23, 2008	Sheet 2 of 8		



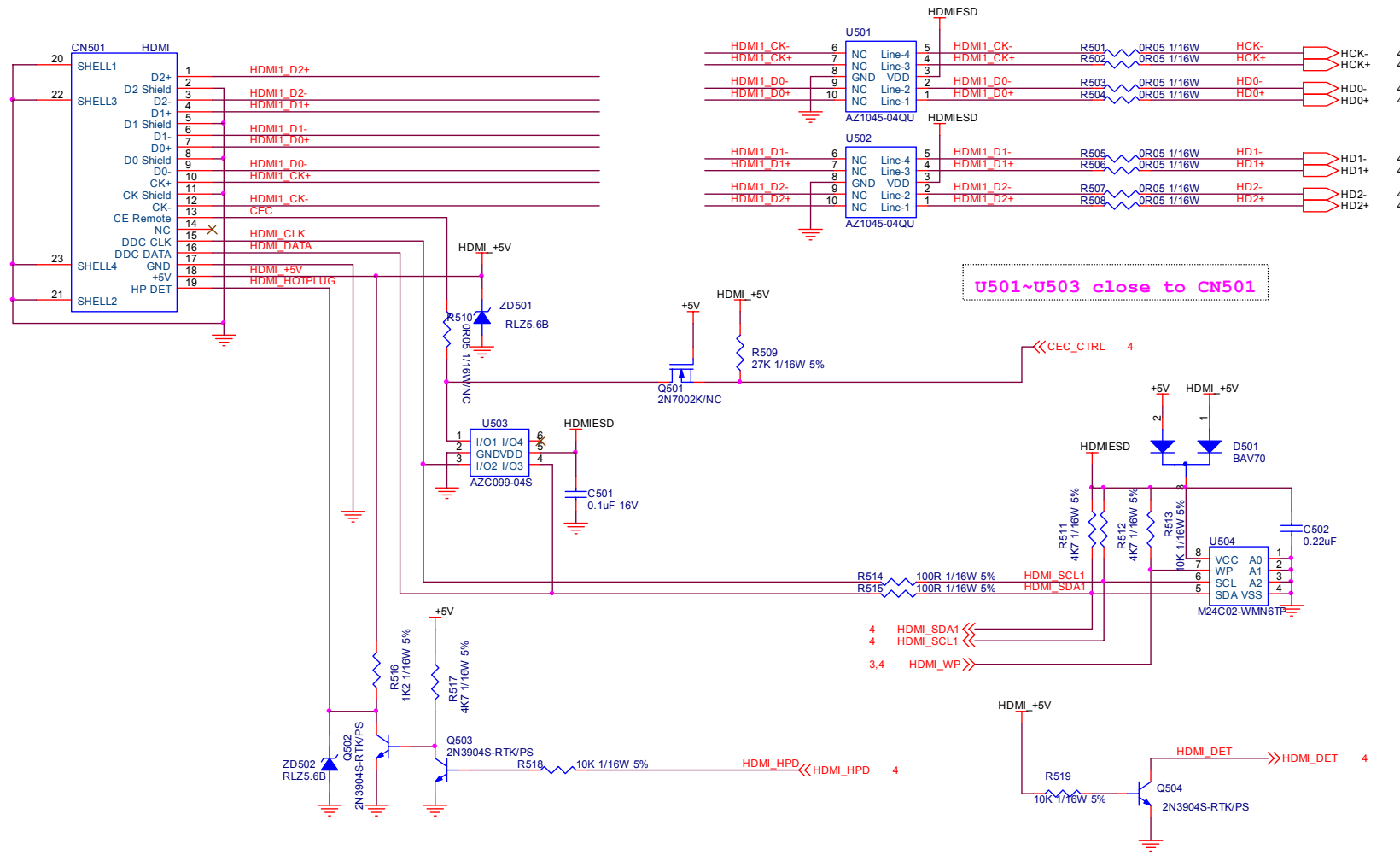
TPV (Top Victory Electronics Co., Ltd.)	OEM MODEL		Size	B
経隔瓜網膜	G3155-E-X-X-1-080723	TPV MODEL		Rev
Key Component	3.0.INPUT	PCB NAME	715G3155-E	称差
Date	Wednesday, July 23, 2008	Sheet	3 of 8	<称差>



T P V (Top Victory Electronics Co., Ltd.)	GEM MODEL	Size	C
嘉善元鼎	G315E-XX-2-080723	TPV MODEL	Rev
Key Component	4.0 SCALER	PCB NAME	715G3155-E
Date	Wednesday, July 23, 2008	Sheet	4 of 8



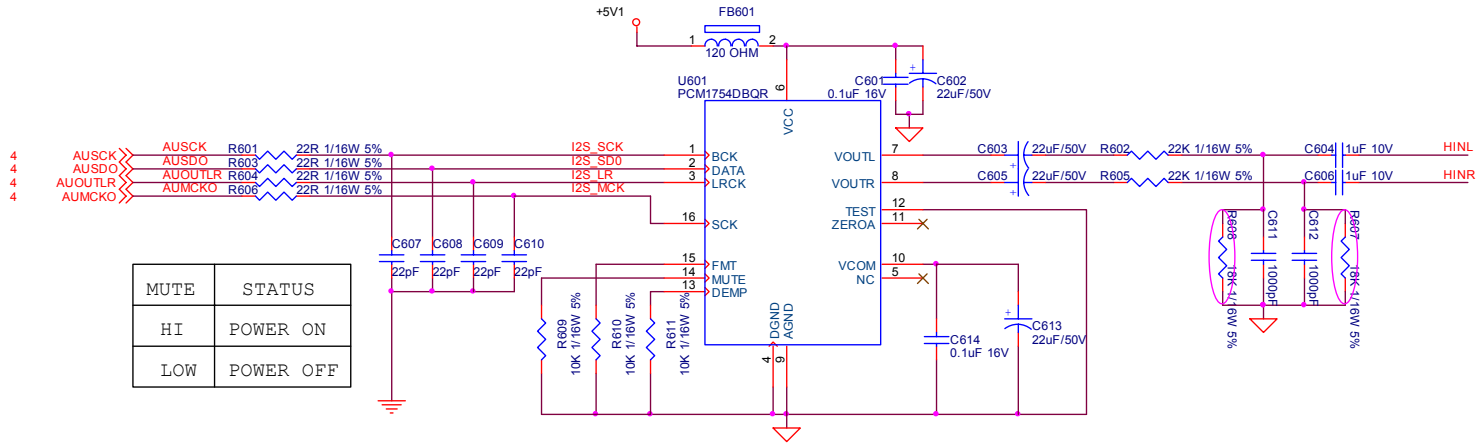
TPV (Top Victory Electronics Co., Ltd.)		OEM MODEL		Size	A
紙隔瓜網腹	G3155-E-X-X-2-080723	TPV MODEL		Rev	C
Key Component	5.0.PANEL INTERFACE	PCB NAME	715G3155-E	称爹	<称爹>
Date	Wednesday, July 23, 2008	Sheet	5 of 8		



U501~U503 close to CN501

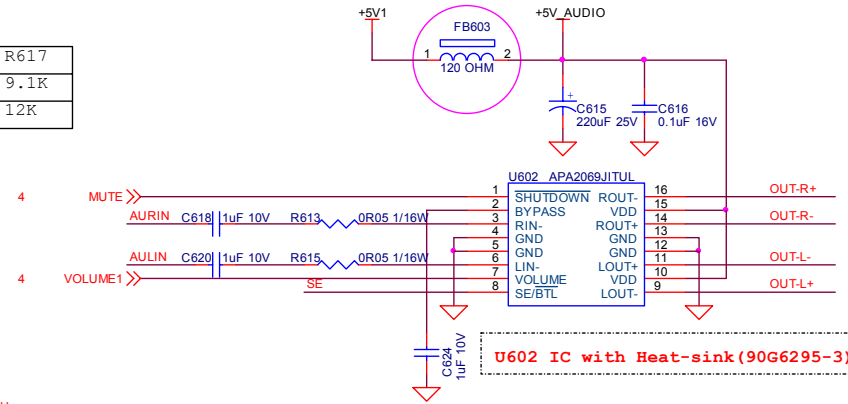
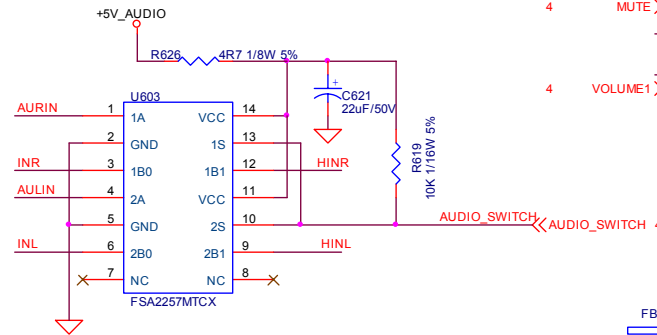
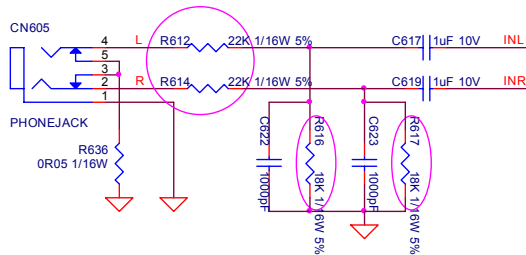


TPV (Top Victory Electronics Co., Ltd.)	OEM MODEL	Size	B
錫蘭瓜錫廠	G3155-E-X-X-2-080723	Rev	C
Key Component	6.0.HDMI INPUT	PCB NAME	715G3155-E
Date	Wednesday, July 23, 2008	Sheet	6 of 8
		稱號	<稱號>

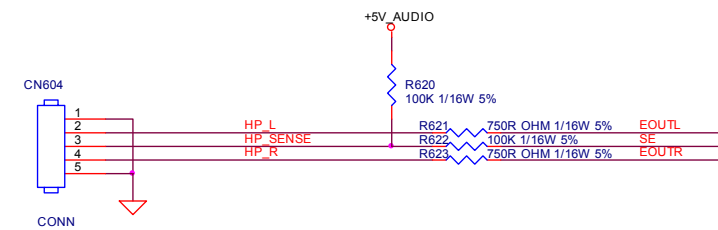


MUTE	STATUS
HI	POWER ON
LOW	POWER OFF

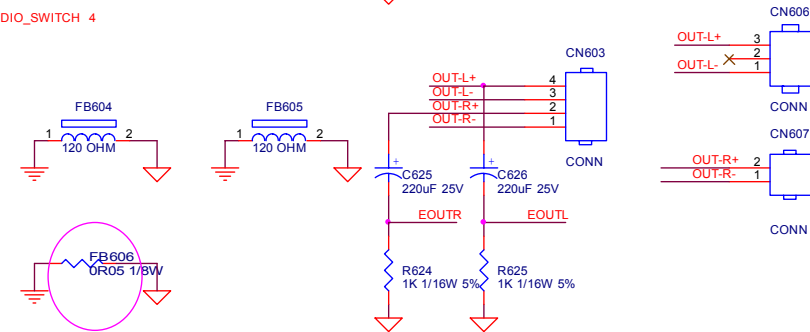
	R612	R614	R616	R617
1W/4 OHM	22K	22K	9.1K	9.1K
1W/8 OHM	9.1K	9.1K	12K	12K



U602 IC with Heat-sink (90G6295-3)

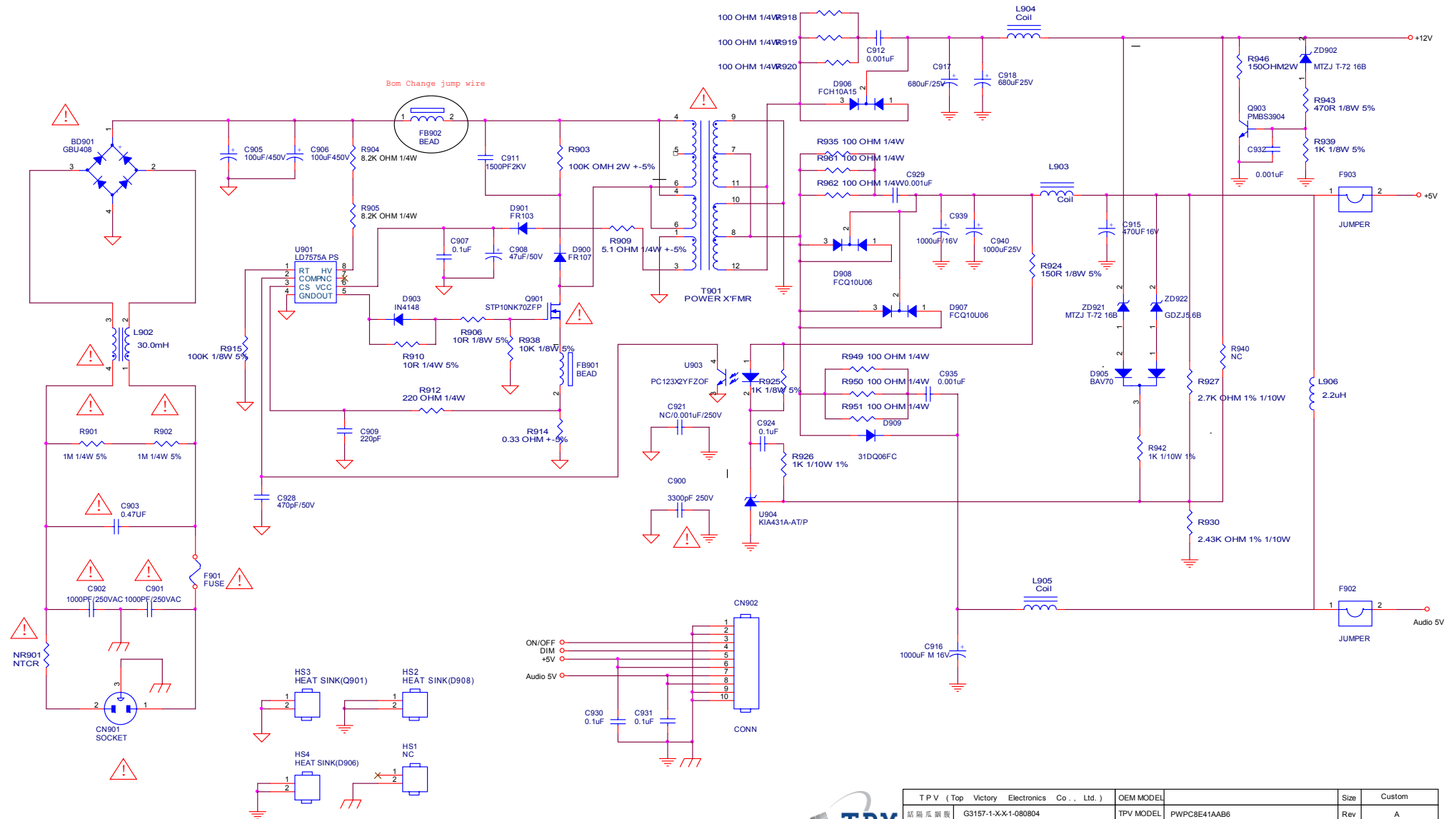


1S, 2S	STATUS
HI	HDMI (B1 to A)
LOW	PC (B0 to A)

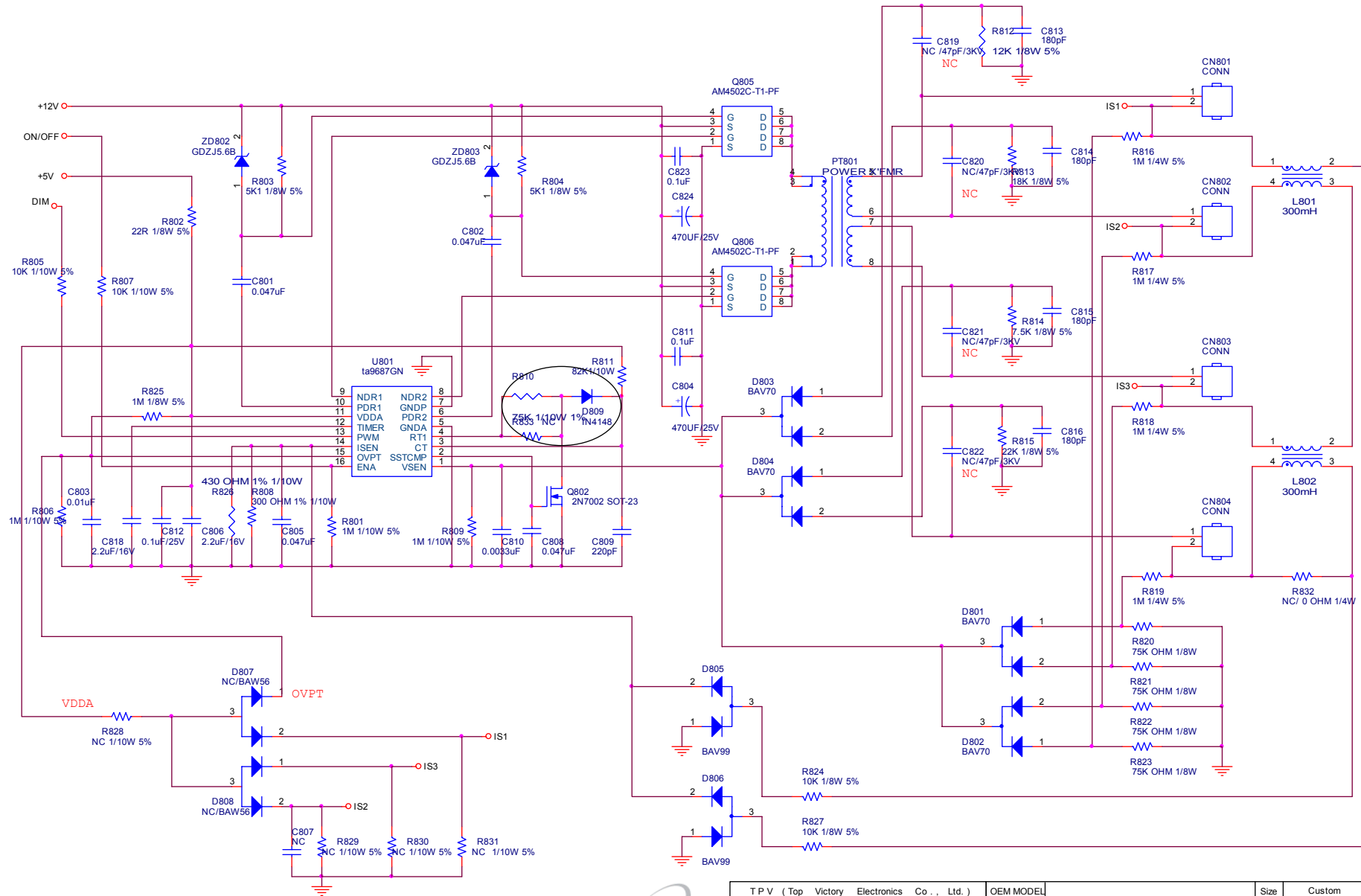


TPV (Top Victory Electronics Co., Ltd.)	OEM MODEL		Size	B
結構瓜網膜	G3155-E-X-X-2-080723	TPV MODEL	Rev	C
Key Component	7.0.AUDIO	PCB NAME	715G3155-E	称差 <称差>
Date	Wednesday, July 23, 2008	Sheet	7 of 8	

Power Board

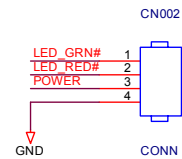
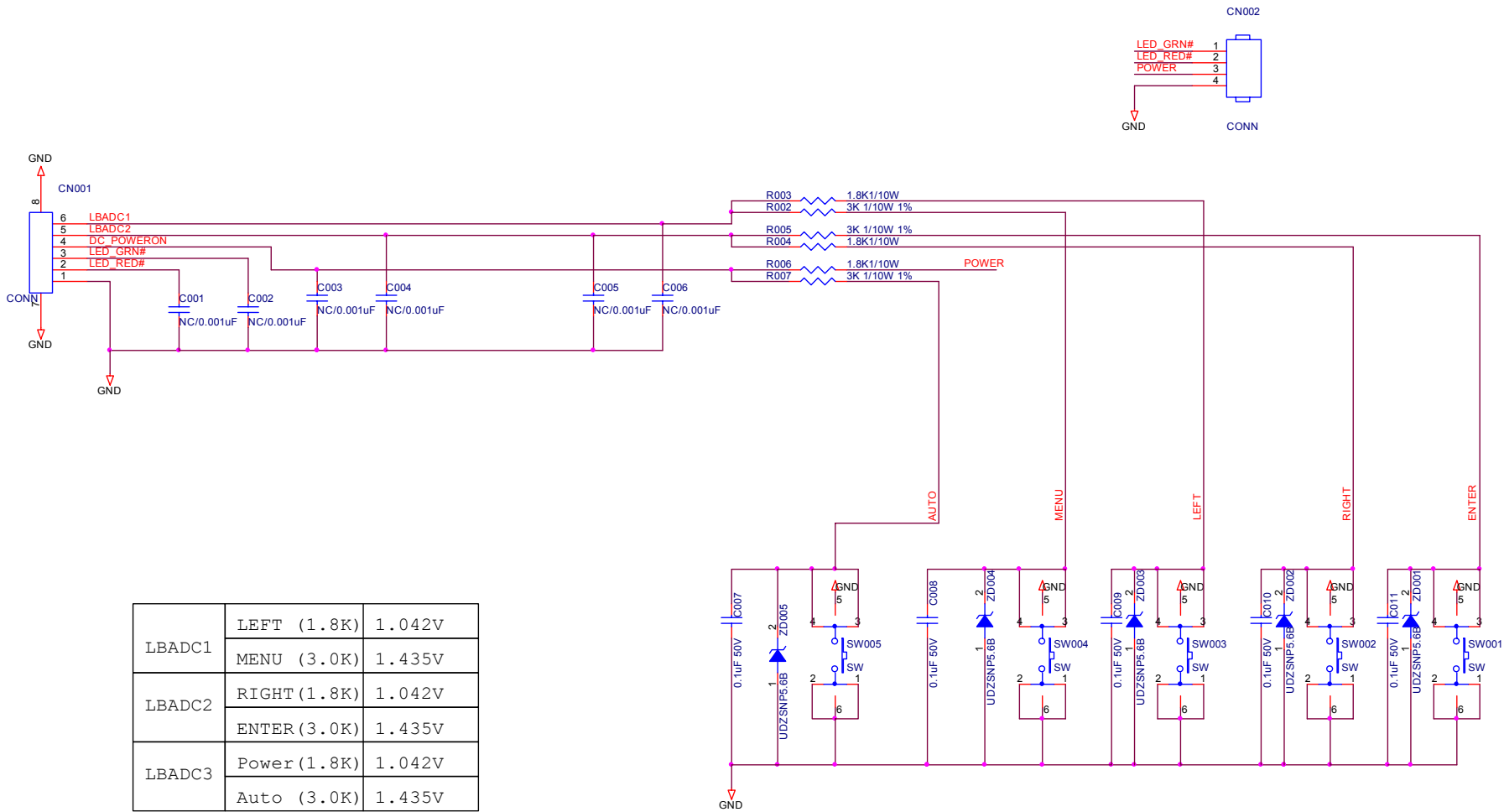


TPV (Top Victory Electronics Co., Ltd.)	OEM MODEL		Size	Custom
嘉爾瓜網膜	G3157-1-XX-1-080804	PWPCBE41AAB6	Rev	A
Key Component	03.POWER	PCB NAME	715G3157-1	称 号
Date	Tuesday, August 05, 2008	Sheet	1 of 3	ODM MODEL

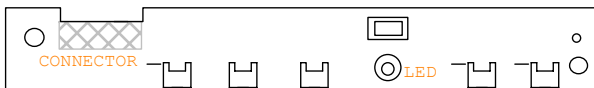


TPV (Top Victory Electronics Co., Ltd.)	OEM MODEL	Size	Custom
話爾瓜銀眼	G3157-1-X-X-1-080804	Rev	A
Key Component	02.INVERTER	PCB NAME	715G3157-1
Date	Monday, August 04, 2008	Sheet	2 of 3
		称参	ODM MODEL

Key Board



LBADC1	LEFT (1.8K)	1.042V
	MENU (3.0K)	1.435V
LBADC2	RIGHT (1.8K)	1.042V
	ENTER (3.0K)	1.435V
LBADC3	Power (1.8K)	1.042V
	Auto (3.0K)	1.435V



(AUTO) (MENU) (LEFT) (Power) (RIGHT) (ENTER)



TPV (Top Victory Electronics Co., Ltd.)	OEM MODEL	M2400	Size	B
結構圖	G3169-C-XX-1-0080508	TPV MODEL	Rev	C
Key Component	02.KEY BOARD	PCB NAME	715G3169-C	稱差
Date	Thursday, June 19, 2008	Sheet	2 of 2	

Troubleshooting Guide

Equipments and Tools Requirement

- 1. Voltmeter.
- 2. Oscilloscope.
- 3. Pattern Generator.
- 4. DDC Tool with and Compatible Computer.
- 5. Alignment Tool.
- 6. LCD Color Analyzer.
- 7. Service Manual.
- 8. User Manual.

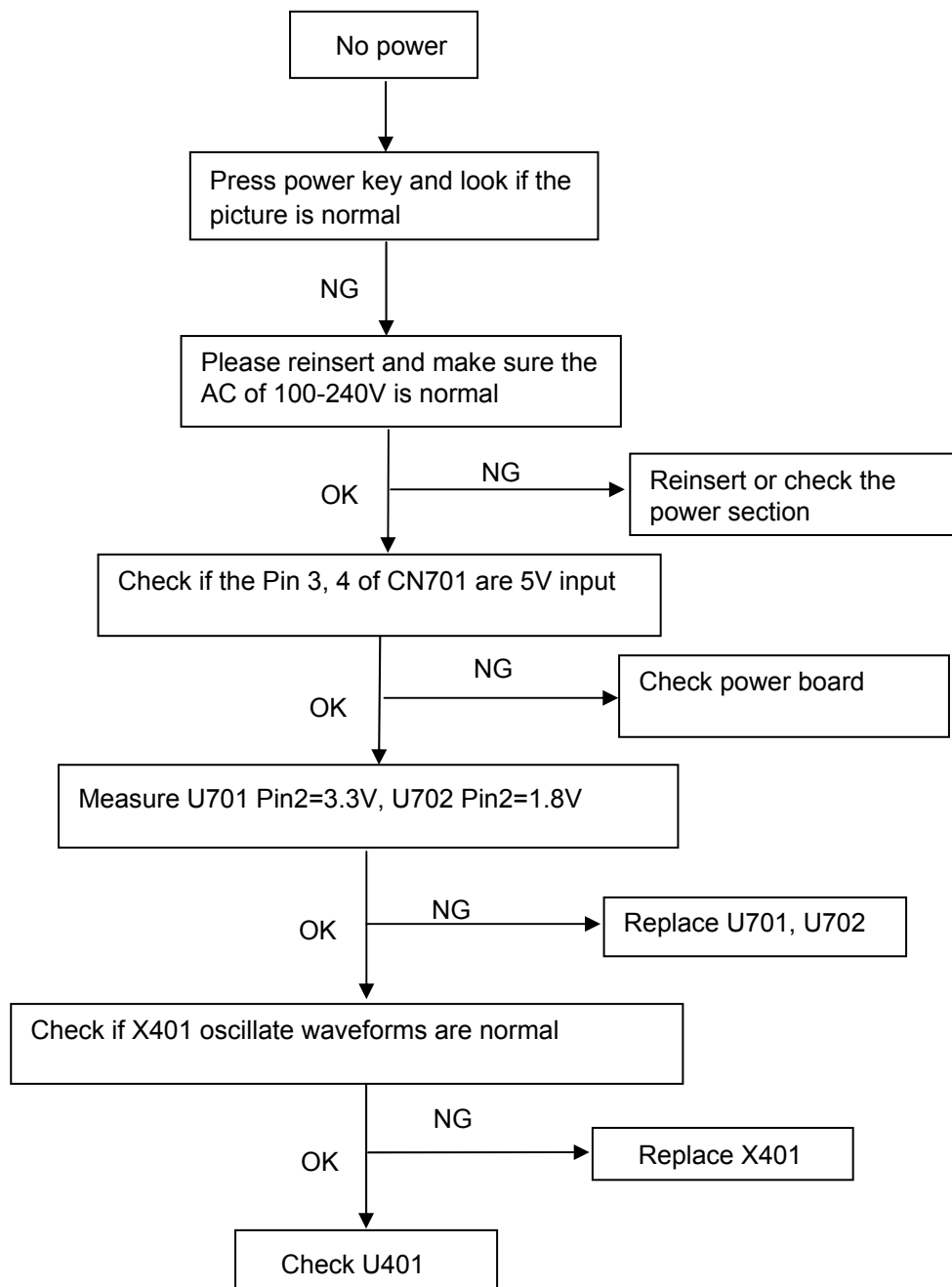
If the monitor fails to operate correctly, please follow the steps below for a possible solution.

- 1. Perform the adjustments described in OPERATING THE MONITOR, depending on the problem you have. If the monitor does not get a picture, skip to 2.
- 2. Consult the following items if you cannot find an appropriate adjustment item in OPERATING THE MONITOR or if the problem persists.
- 3. If you are experiencing a problem which is not described below or you cannot correct the problem, discontinue using the monitor and contact your dealer or iiyama service center for further assistance.

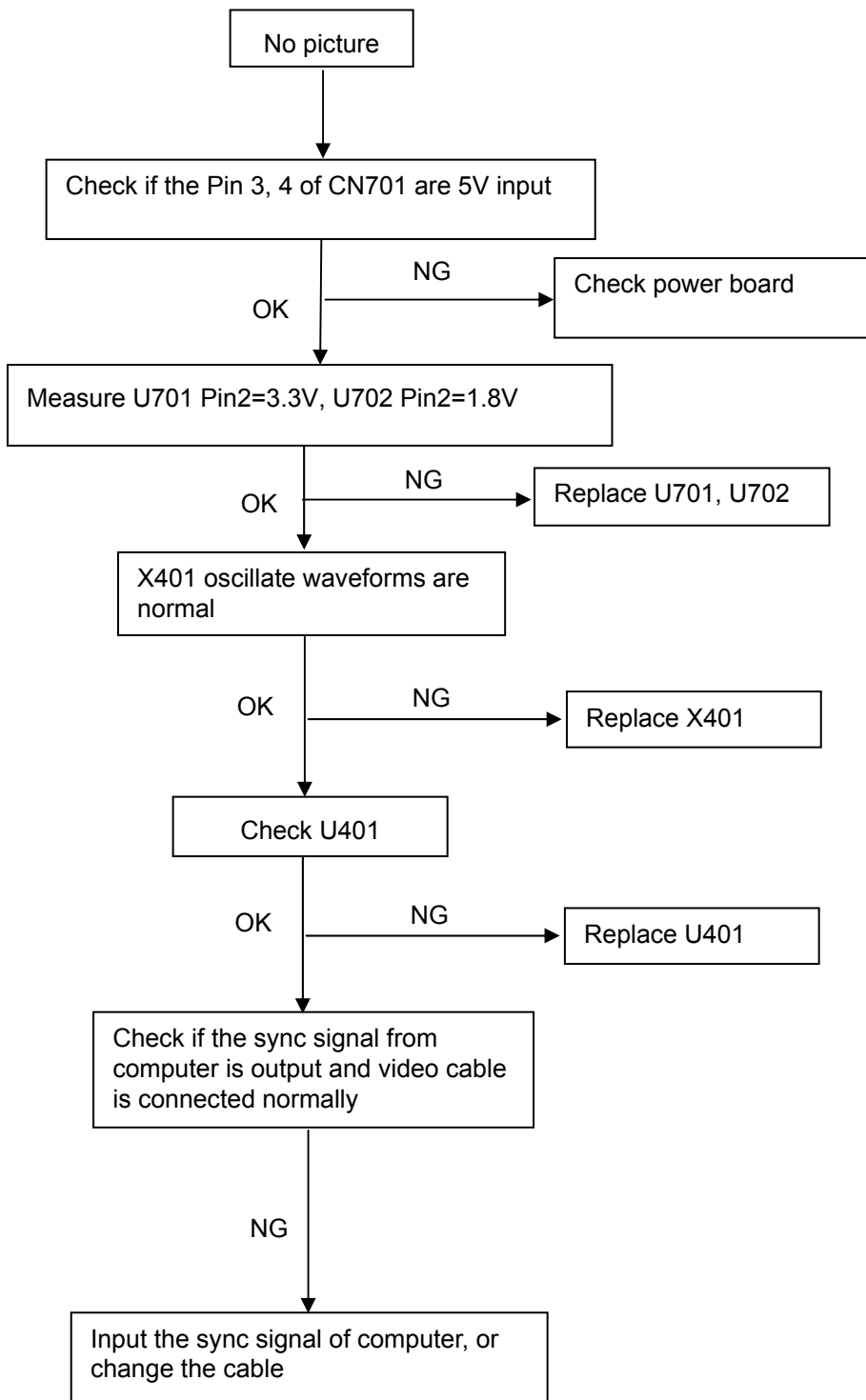
Problem	Check
<p>① The picture does not appear.</p> <p>(Power indicator does not light up.)</p> <p>(Power indicator is green/blue.)</p> <p>(Power indicator is orange.)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> The Power Cable is firmly seated in the socket. <input type="checkbox"/> The Power Switch is turned ON. <input type="checkbox"/> The AC socket is live. Please check with another piece of equipment. <input type="checkbox"/> If the blank screen saver is in active mode, touch the keyboard or the mouse. <input type="checkbox"/> Increase the Contrast and/or Brightness. <input type="checkbox"/> The computer is ON. <input type="checkbox"/> The Signal Cable is properly connected. <input type="checkbox"/> The signal timing of the computer is within the specification of the monitor. <input type="checkbox"/> If the monitor is in power management mode, touch the keyboard or the mouse. <input type="checkbox"/> The computer is ON. <input type="checkbox"/> The Signal Cable is properly connected. <input type="checkbox"/> The signal timing of the computer is within the specification of the monitor.
<p>② The screen is not synchronized.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> The Signal Cable is properly connected. <input type="checkbox"/> The signal timing of the computer is within the specification of the monitor. <input type="checkbox"/> The video output level of the computer is within the specification of the monitor.
<p>③ The screen position is not in the center.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> The signal timing of the computer is within the specification of the monitor.
<p>④ The screen is too bright or too dark.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> The video output level of the computer is within the specification of the monitor.
<p>⑤ The screen is shaking.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> The power voltage is within the specification of the monitor. <input type="checkbox"/> The signal timing of the computer is within the specification of the monitor.

Main Board

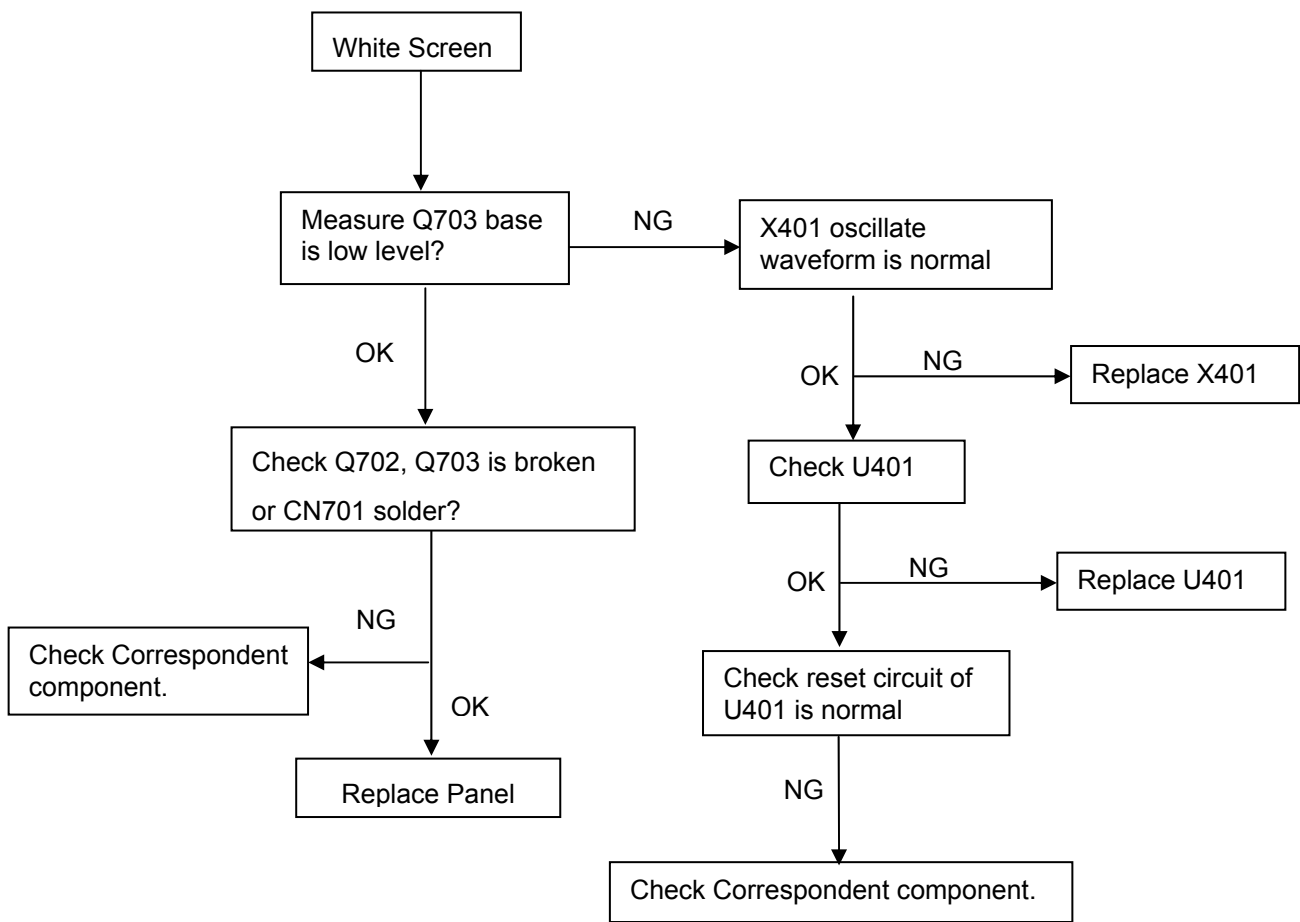
(1) No Power



(2) No picture

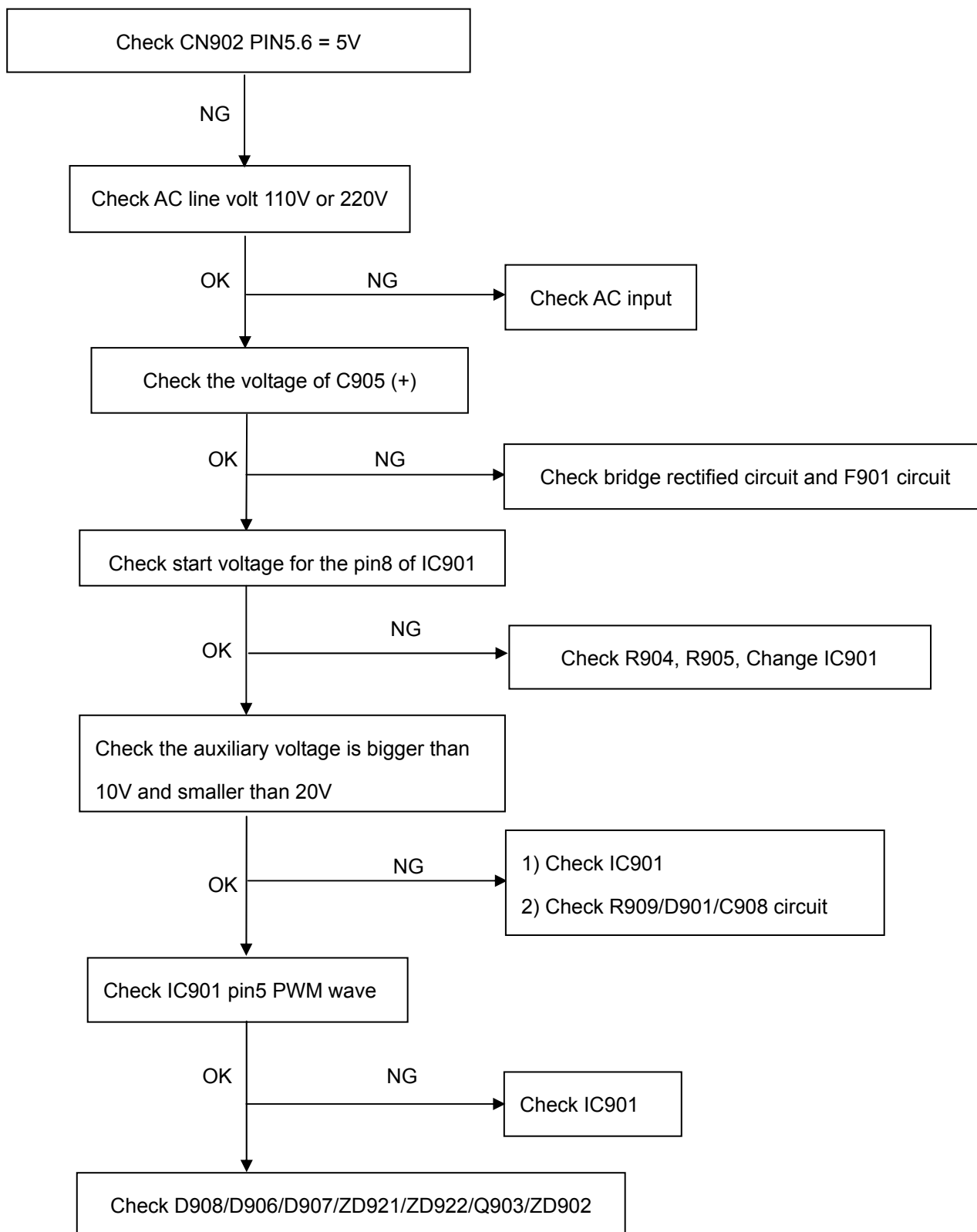


(3) White screen

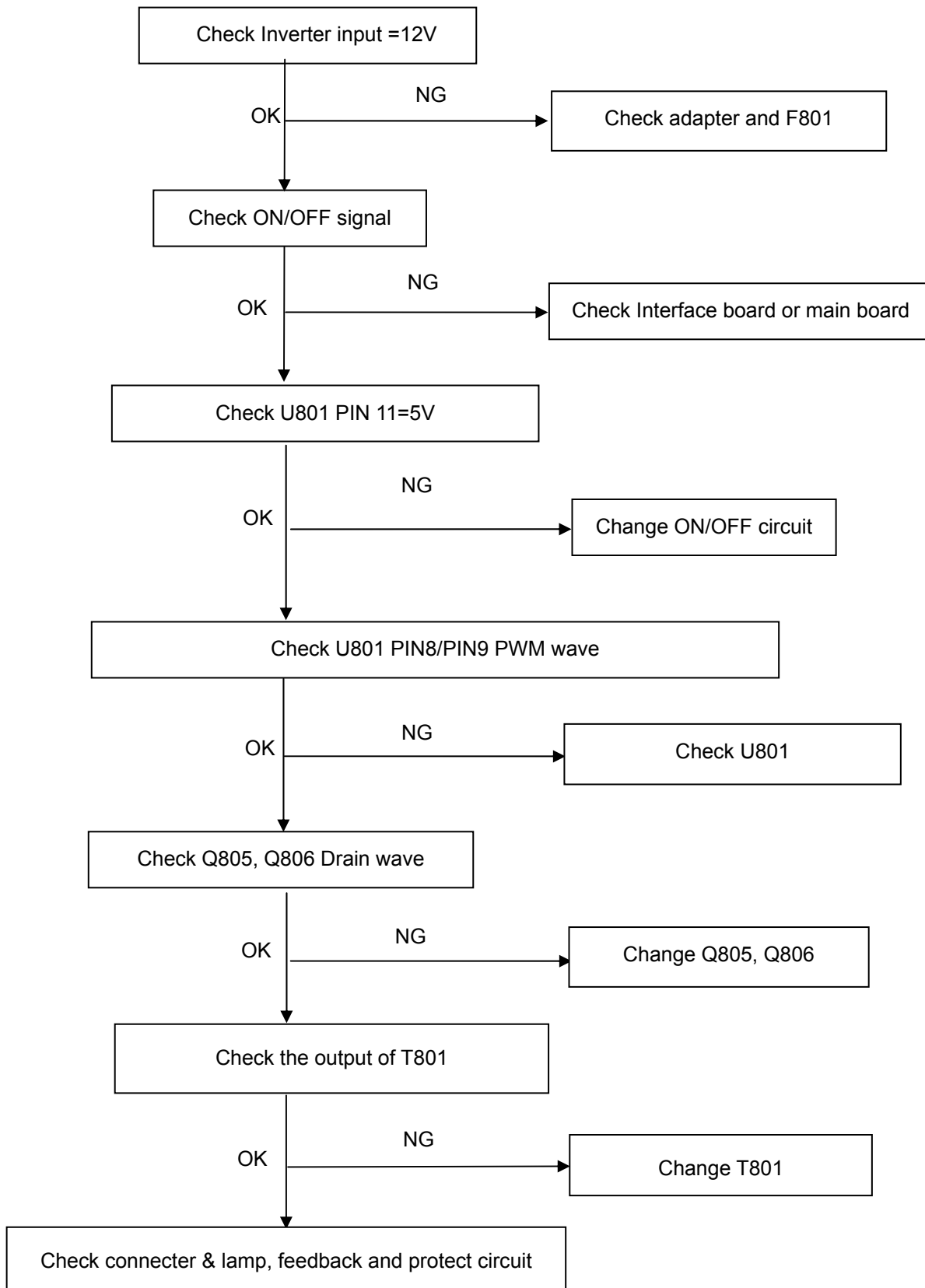


Power Board

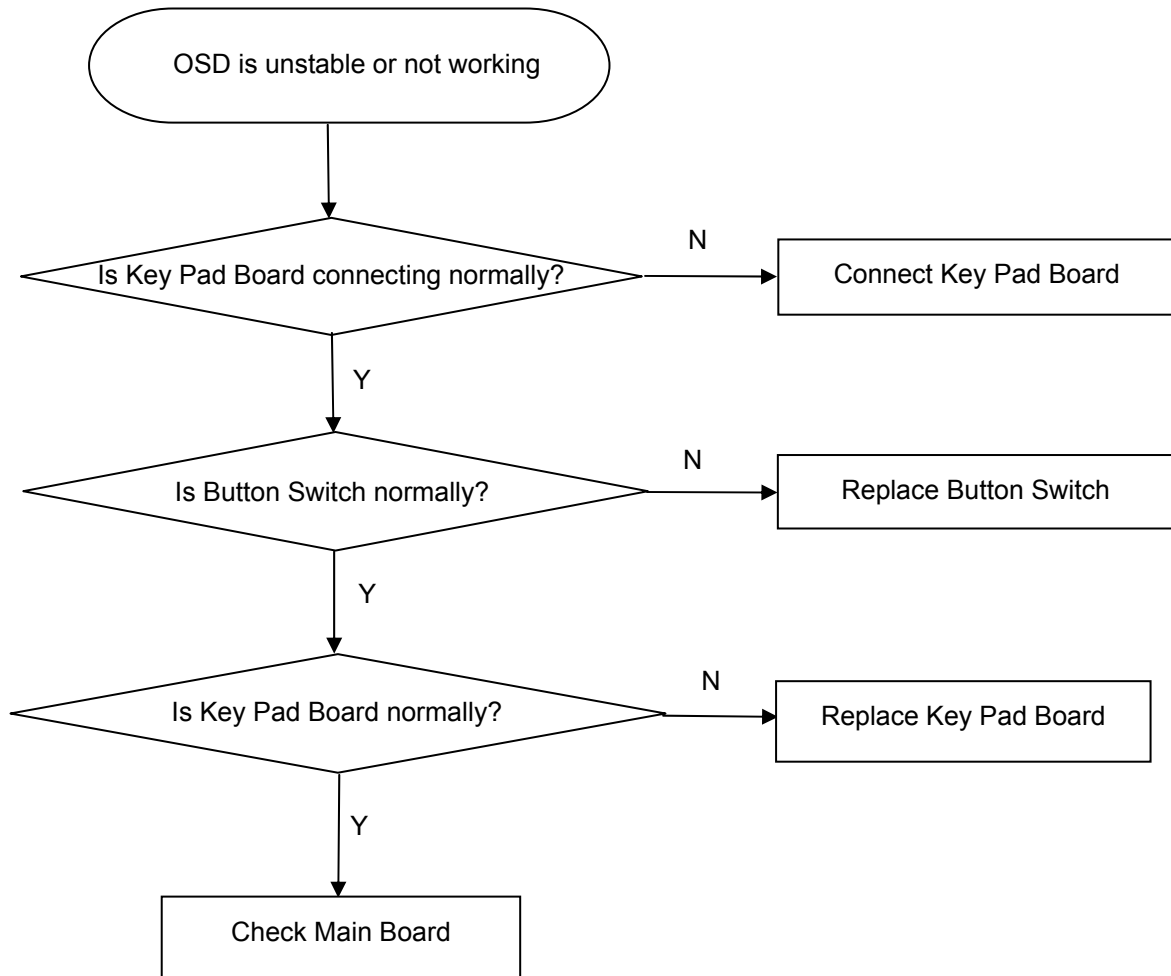
No power



W / LED, No Backlight

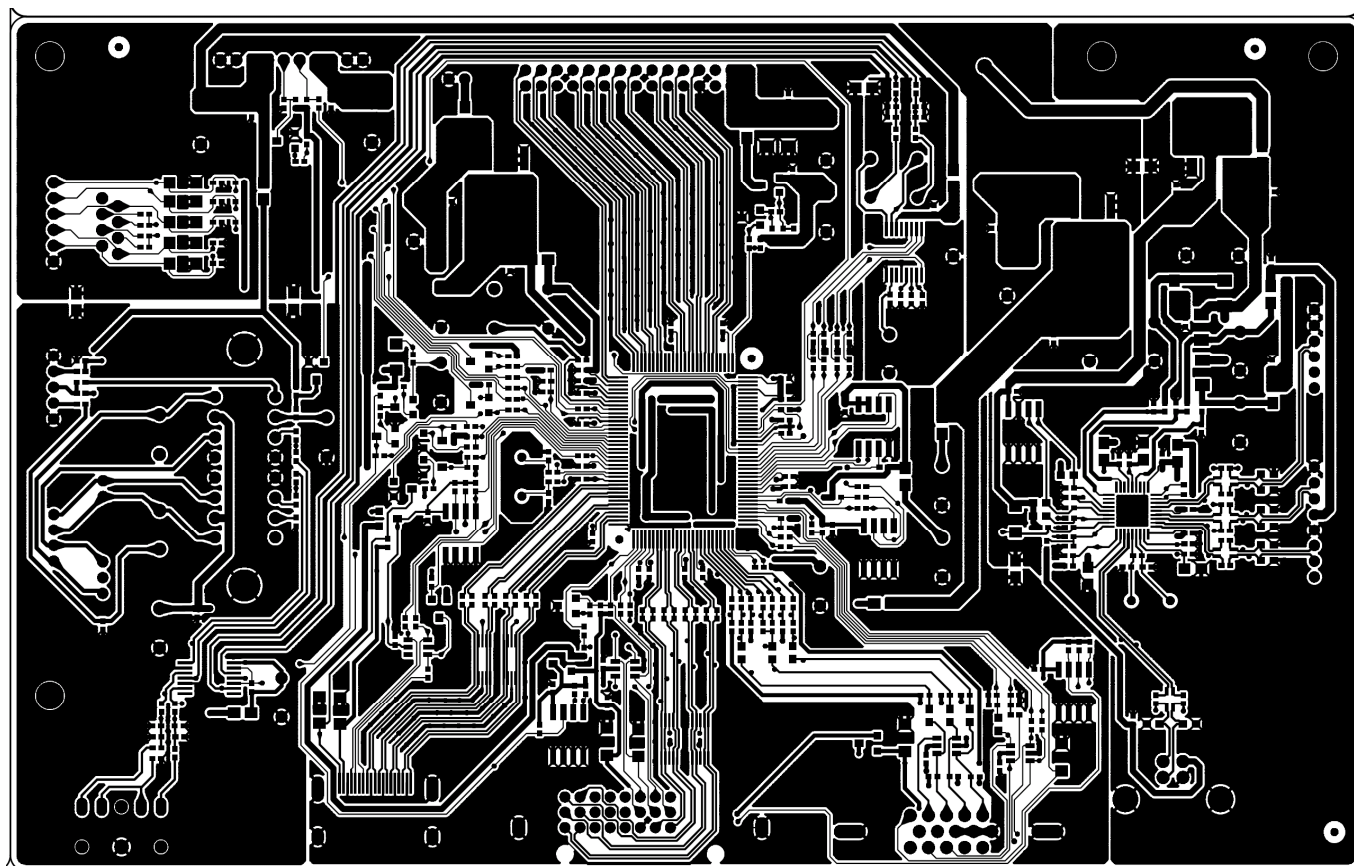
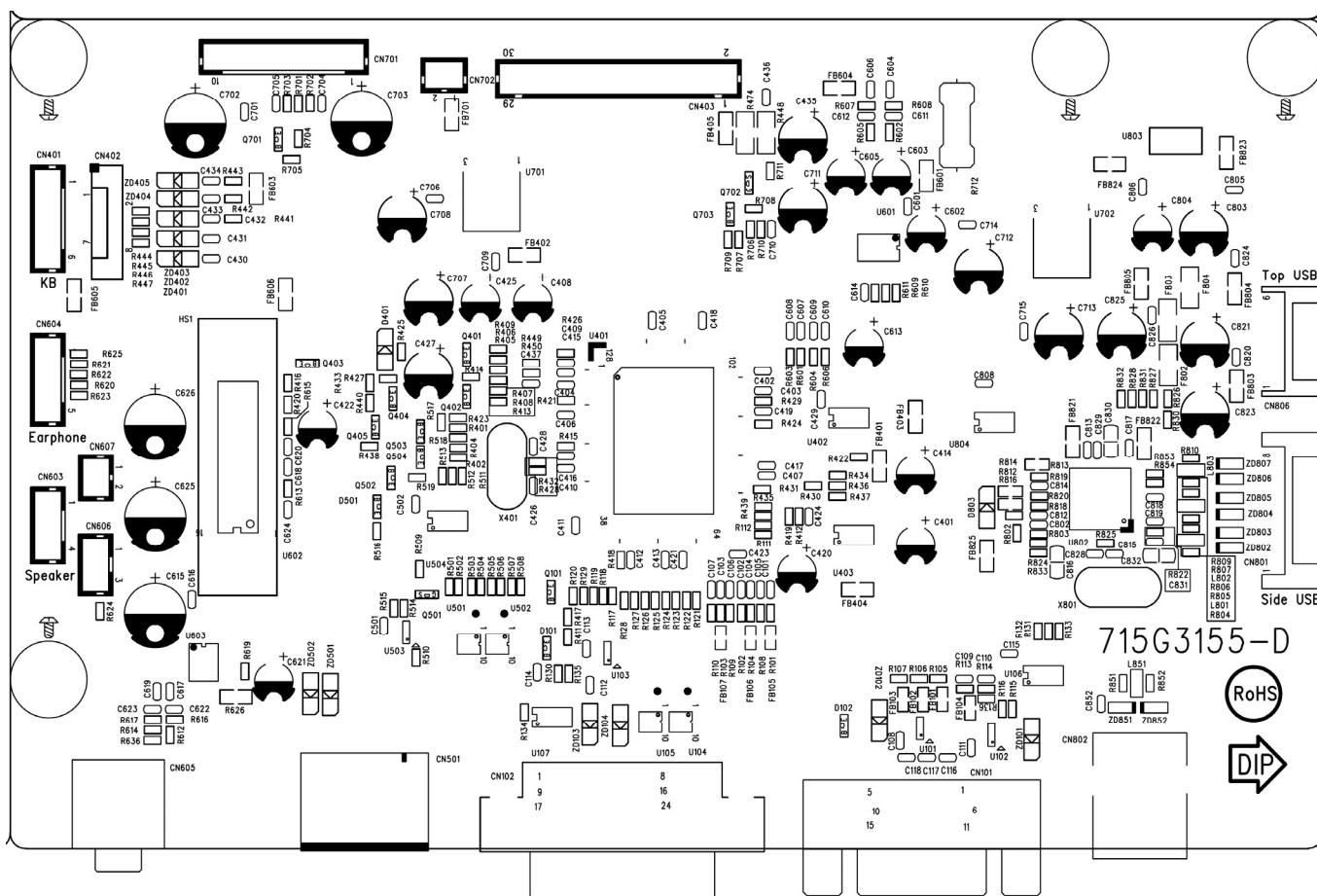


Keypad Board

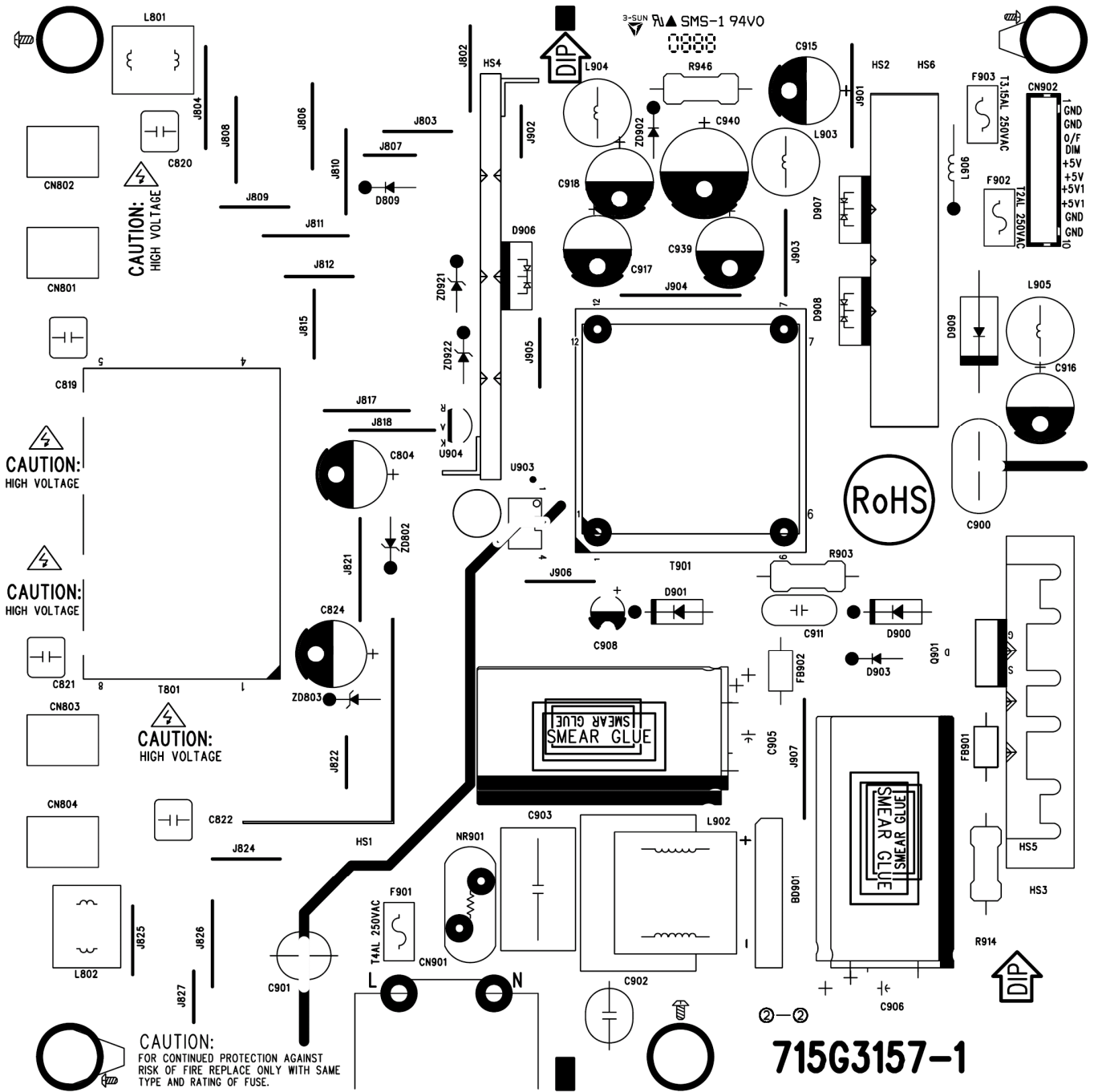


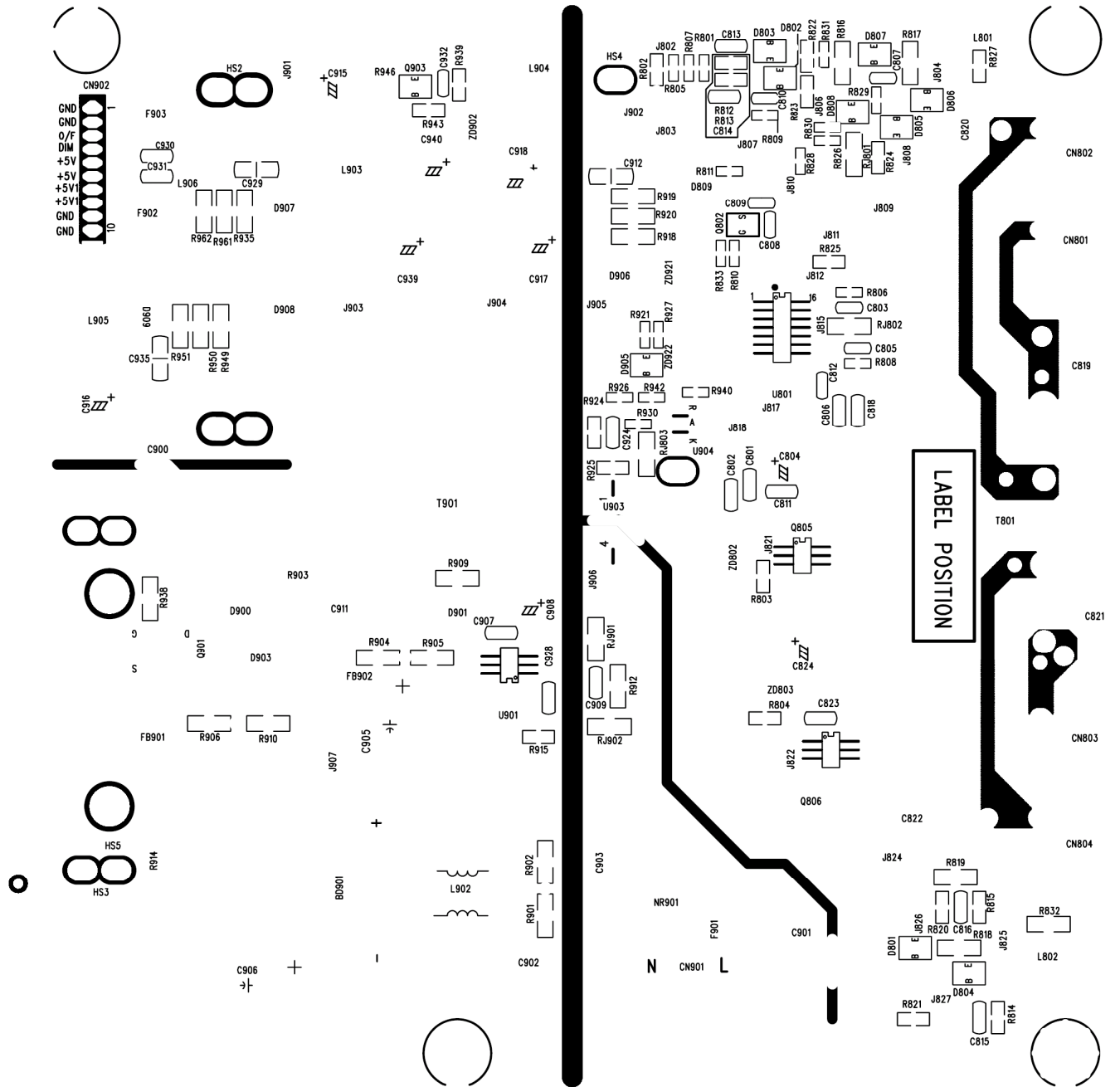
PCB LAYOUT

Main Board



Power Board





Appendix – Screw List / Torque**(TKRAA2NBW2BQDN/ TKRAA2NDW2BQDN)**

Part No.	Type	Description	Quantity	Torque
0M1G 130 6120	M3*6	FOR MAIN FRAME & PANEL	4	3±0.5KGF. CM
0M1G 930 6120	M3*6	For HDMI CONNECTOR & MAIN FRAME	1	6±1 KGF. CM
0M1G1730 6120	M3*6	FOR ALL BOARDS & MAIN FRAME	7	6±1 KGF. CM
0M1G1740 10120	M4*10	FOR HINGE & REAR COVER	4	12±2KGF. CM
0Q1G 930 8120	Q3*8	FOR STAND BKT & BEZEL	2	6±1KGF. CM
0Q1G 930 8120	Q3*8	FOR POWER KEY BOARD & BEZEL	2	6±1KGF. CM
0M1G1730 8120	M3*8	FOR HEAT SINK	1	~
0M1G1730 8120	M3*8	FOR HEAT SINK	1	~
0M1G1730 8120	M3*8	FOR HEAT SINK	2	~
0M1G1740 10120	M4*10	FOR HINGE & STAND	2	6±2KGF. CM
0Q1G 130 8120	Q3*8	FOR BKT_BASE & BASE	3	6±2KGF. CM
0Q1G1040 10120	Q4*10	FOR HINGE & STAND	3	6±2KGF. CM