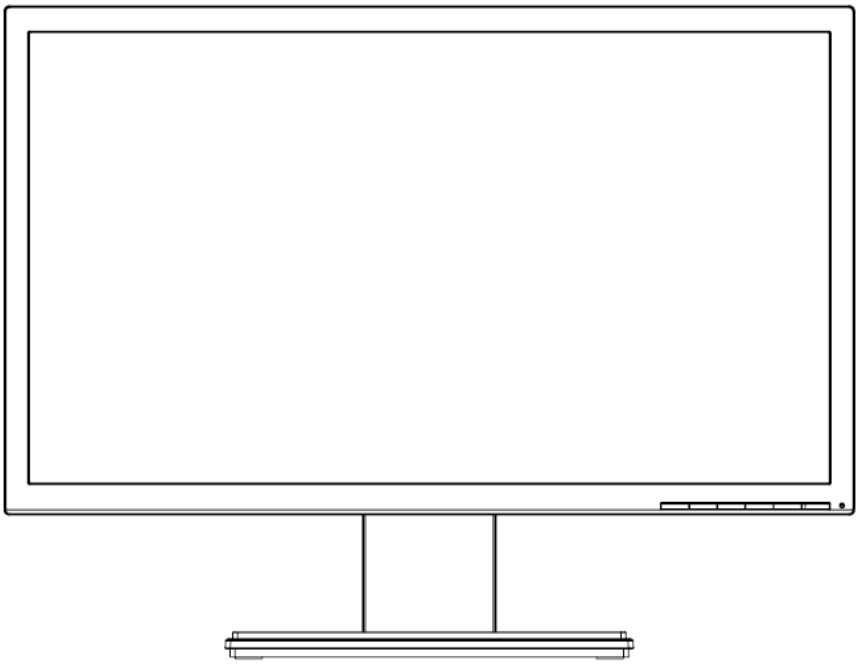
Service Manual



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Safety Notice

Any person attempting to service this chassis must familiarize with the chassis and be aware of the necessary safety precautions to be used when serving electronic equipment containing high voltage.

Important Safety Notice

Product Announcement:

This product is certificated to meet RoHS Directive and Lead-Free produced definition. Using approved critical components only is recommended when the situation to replace defective parts. Vender assumes no liability express or implied, arising out of any unauthorized modification of design or replacing non-RoHS parts. Service providers assume all liability.

Qualified Reparability:

Proper service and repair is important to the safe, reliable operation of all series products. The service providers recommended by vender should being aware of notices listed in this service manual in order to minimize the risk of personal injury when perform service procedures. Furthermore, the possible existed improper repairing method may damage equipment or products. It is recommended that service engineers should have repairing knowledge, experience, as well as appropriate product training per new model before performing the service procedures.

NOTICE:

! To avoid electrical shocks, the products should be connect to an authorized power cord, and turn off the master power switch each time before removing the AC power cord.

! To prevent the product away from water or exposed in extremely high humility environment.

! To ensure the continued reliability of this product, use only original manufacturer's specified parts.

! To ensure following safety repairing behavior, put the replaced part on the components side of PWBA, not solder side.

! To ensure using a proper screwdriver, follow the torque and force listed in assembly and is assembly procedures to screw and unscrew screws.

! Using Lead-Free solder to well mounted the parts.

! The fusion point of Lead-Free solder requested in the degree of 220°C.

1. Product Specification

1.1 Scope:

M195FGE-L20 is a 19.5” TFT Liquid Crystal Display module with WLED Backlight unit and 30 pins 2ch-LVDS interface. This module supports 1600 x 900 HD+ mode and can display up to 16.7M colors. The converter module for Backlight is not built in.

General display parameters:

Item	Specification	Unit
Screen Size	19.5” real diagonal	
Driver Element	a-si TFT active matrix	-
Pixel Number	1600 x R.G.B. x 900	pixel
Pixel Pitch	0.27 (H) x 0.27 (V)	mm
Pixel Arrangement	RGB vertical stripe	-
Display Colors	16.7M	color
Transmissive Mode	Normally white	-
Surface Treatment	AG type, 3H hard coating, Haze 25	-
Luminance, White	250	Cd/m2
Color Gamut	72% of NTSC(Typ.)	-
RoHS,Halogen Free &TCO	RoHS, Halogen Free TCO 6.0 compliance	
Power Consumption	Total14.09 W (Max.) @ cell 5.25W (Max.), BL 8.84W(Max.)	

Optical Characteristics:

Ta= 25°C, V_{LCD}=5.0V, f_V=60Hz, f_{CLK}=140MHz, I_{BL}=120mA

Item		Symbol	Condition	Min.	Typ.	Max.	Unit
Color Chromaticity (CIE 1931)	Red	Rx	θ_x=0° , θ_Y =0° CS-2000 R=G=B=255 Gray scale	Typ – 0.03	0.641	Typ + 0.03	-
		Ry			0.338		
	Green	Gx			0.315		
		Gy			0.629		
	Blue	Bx			0.159		
		By			0.059		
	White	Wx			0.313		
		Wy			0.329		
Center Luminance of White (Center of Screen)		L_C		200	250	-	cd/m^2
Contrast Ratio		CR		700	1000	-	-
Response Time		T_R	θ_x=0° , θ_Y =0°	-	1.5	2.5	ms
		T_F		-	3.5	5.5	
White Variation		W	θ_x=0° , θ_Y =0°	75	-	-	%
Viewing Angle	Horizontal	θx- + θx+	CR ≧ 10	150	170	-	Deg.
	Vertical	θy- + θy+		140	160	-	
Viewing Angle	Horizontal	θx- + θx+	CR ≧ 5	160	178	---	Deg.
	Vertical	θy- + θy+		150	170	---	

1.2 General Requirements:

1.2.1 Test Condition:

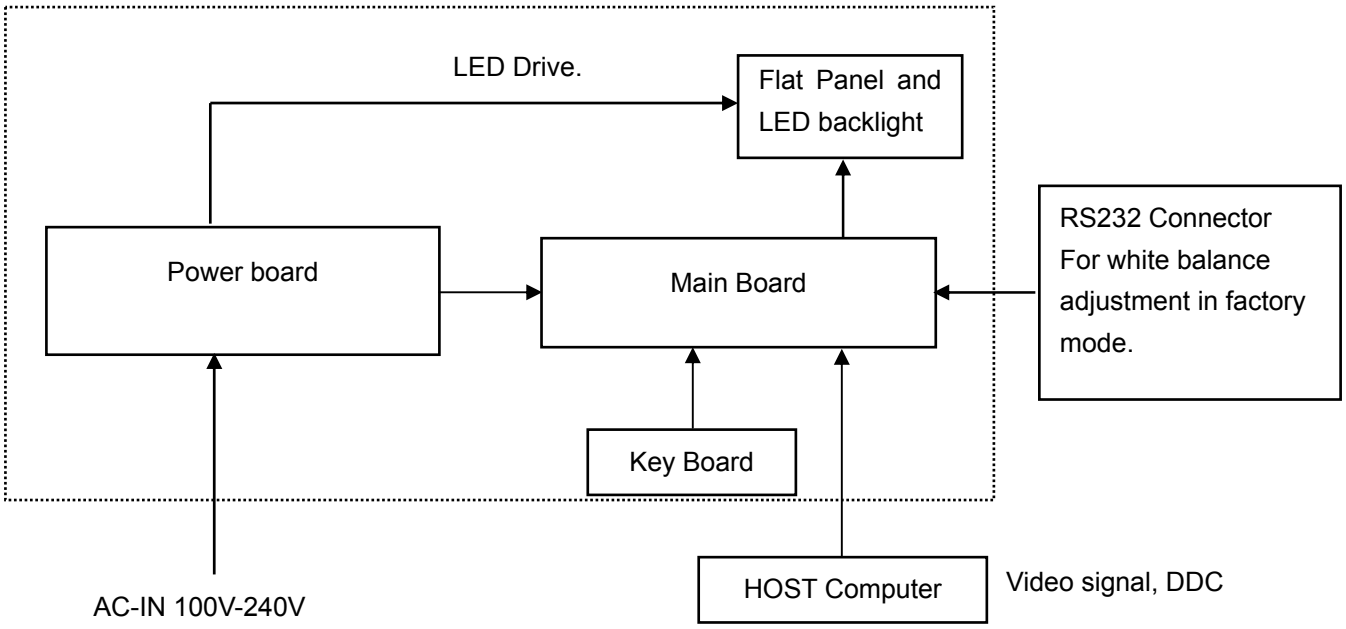
All tests must be performed under “standard testing conditions” unless otherwise specified.

Warm up time	> 30 min.
AC supply voltage	220V± 5%, 50± 3 Hz
Ambient temperature	20°C ± 5°C
Humidity	50% ± 10%
Display mode	1600 x 900, 60 Hz, Pixel Clock: 140MHZ,all white
e-color mode	Set to “User” mode
Contrast control	Set to factory preset value, which allows that the brightest two of 32 linear distributed gray-scales (0～700mv) can be distinguished.
Color temperature	6500°K
Brightness control	The value under user mode
Analog Input signal	700 mVss
Picture position and size	Factory preset value,
Viewing angle	90 ° H and V
Viewing distance	40 cm for LCD performance, 20 cm for LCD failures
Ambient illumination	Dark room (< 1cd/m^2)

1.2.2 Test Equipment: CHROMA 6630.

1.3 Electrical:

This section describes the electrical requirement of the monitor. Below is the block diagram.



The LCD monitor will contain a main board, a power board and a key board which house the flat panel control logic, brightness control logic and DDC. The power board will provide DC to DC Inverter voltage to drive the backlight of panel. The function key board is used for OSD control, monitor power ON/OFF and the LED indicator for power status.

LCD Panel	Driving system	TFT Color LCD
	Pixel pitch	0.265mm(H) x 0.265mm(V)
	Contrast Ratio	100,000,000:1Max. (ACM)
	Response time	14ms (on/off)
	Luminance of White	250cd/m2(Typical)
Input	Separate Sync.	H/V TTL
	H-Frequency	30kHz-83kHz
	V-Frequency	55Hz -76 Hz
Viewing angle	90° H and V	
Display Colors	16.7M	
Display mode	1600x900@60Hz	
EPA ENERGY STAR®	ON Mode	＜30W(typ.)
	SAVING Mode	＜2W(typ.)
	OFF Mode	＜1W(typ.)
Power Source	100 V ~ 240 V, 50 / 60 Hz	
Environmental Considerations	Operating Temp: 5° to 35°C Storage Temp: -20° to 60°C Operating Humidity: 10% to 85% Storage Humidity: 10% to 85% Operating Altitude: 12,000 feet Storage Altitude: 40,000 feet	
Peak surge current	< 55 A peak at 240 VAC and cold starting	
Power line surge	No advance effects (no loss of information or defect) with a maximum of 1 half-wave missing per second	

1.3.1 Interface Connectors:

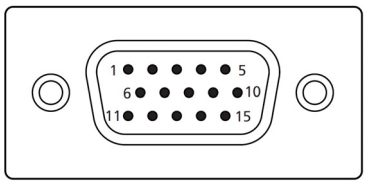
1.3.1.1 Power Adaptor and Connector:

The AC inlet connector shall be an IEC 320-C13 male power receptacle for connection to main power.

The power cord shall be gray or black with length of 1.5m + 10cm/-0cm.

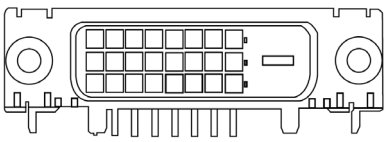
1.3.1.2 Analog Connector, DVI Connector and Cable: The analog signal cable shall be Gray or black and 1.5m + 10cm/-0cm. The DVI signal cable shall be Gray or black and 1.5m + 10cm/-0cm.

A.D-SUB



Pin No.	Description	Pin No.	Description
1	Red Video	9	+5 v
2	Green Video	10	GND
3	Blue Video	11	RS232
4	RS232	12	DDC-Serial Data
5	DDC-Return	13	H-Sync.
6	Red Ground	14	V-Sync.
7	Green Ground	15	DDC-Serial Clock
8	Blue Ground		

B.DVI



Pin No.	Description	Pin No.	Description
1	TMDS data 2-	13	TMDS data 3+
2	TMDS data 2+	14	＋5V Power
3	TMDS data 2/4 Shield	15	GND(return for +5V, H-sync, V-sync)
4	TMDS data 4-	16	Hot Plug Detect
5	TMDS data 4+	17	TMDS data 0 -
6	DDC Clock	18	TMDS data 0 +
7	DDC Data	19	TMDS data 0/5 Shield
8	Analog Vertical Sync	20	TMDS data 5-
9	TMDS data 1-	21	TMDS data 5+
10	TMDS data 1+	22	TMDS Clock Shield
11	TMDS data 1/3 Shield	23	TMDS Clock +
12	TMDS data 3-	24	TMDS Clock -

C. Power Board Connector

Connector: CN902

Pin	Signal
1	DIM
2	NC
3	ON/OFF
4	GND
5	GND
6	+5V
7	+5V
8	VOL
9	MUTE

D. Key Board Connector

Connector: CN001

Pin	Signal
1	LBADC1
2	LBADC2
3	POWER_ Key
4	LED_BLUE#
5	LED_RED#
6	GND

E. Flat Panel Connector

Connector: CN406

Pin	Signal	Pin	Signal
1	PANEL_VCC	16	LVA1M RXE1-
2	PANEL_VCC	17	GND
3	PANEL_VCC	18	LVA0P RXE0+
4	NC	19	LVA0M RXE0-
5	NC	20	LVB3P RXO3+
6	NC	21	LVB3M RXO3-
7	GND	22	LVBCKP RXOC+
8	LVA3P RXE3+	23	LVBCKM RXOC-
9	LVA3M RXE3-	24	GND
10	LVACKP RXOC+	25	LVB2P RXO2+
11	LVACKM RXOC-	26	LVB2M RXO2-
12	LVA2P RXE2+	27	LVB1P RXO1+
13	LVA2M RXE2-	28	LVB1M RXO1-
14	GND	29	LVB0P RXO0+
15	LVA1P RXE1+	30	LVB0M RXO0-

1.3.2 Input Signals:

Video Input Signals Range (Analog RGB Signal)

No.	Symbol	Item	Min	Max	Unit
1	Fh	Horizontal Frequency	30	83	kHz
2	Fv	Vertical Frequency	50	76	Hz
3	Fclk	Pixel Clock Frequency		140	MHz
4	Vih	High Level Input	2.4	5	V
5	Vil	Low Level Input	0	0.8	V
6	Video	RGB Analog Video Level	0	0.7	V

1.3.2.1 Video Signal Amplitudes:

The video inputs consist of Red, Green and Blue signals each has its own coaxial cable terminated at the monitor. These video signals are analog levels, where 0V corresponds to black, and 700mV is the maximum signal amplitude for the respective color. The video signal is terminated with 75 ohms.

1.3.2.2 Video Signal Termination Impedance:

The analog video signal termination shall be 75 ohm.

1.3.2.3 Synchronization (Sync) Signals:

The Horizontal Sync (HS) TTL signal is used to initiate the display of a horizontal line. HS may be either active high or active low according to the timing. The Vertical Sync (VS) TTL signal is used to initiate the display of a new frame. VS may be either active high or active low according to the timing.

1.3.2.4 Sync Signal Levels:

Level: L = 0V ~ 0.8V H = 2.4V ~ 5V

1.3.2.5 Abnormal Signal Immunity:

The monitor shall not be damaged by improper sync timing, pulse duration, absence of sync, abnormal input signal amplitude, or any other anomalous behavior of a graphics card.

1.3.3 User Controls and Indicators:

1.3.3.1 Power On/Off Switch:

The monitor shall have a power control switch visible and accessible on the front of monitor.

1.3.3.2 Power Indicator LED:

The monitor shall have LED indicators located on the front of the monitor. Below picture is the LED color for the power indicator.

Mode	LED light
On	Blue
Power saving	Amber

1.3.3.3 On-Screen Display:

On Screen Display system shall be used to control the monitor. Current setting will be saved and OSD will be tuned off when the keys are not touched for a period of time.

A) Key Function Overview:

All functions are controlled by OSD buttons on the front of front bezel.

1.Power Switch	To turn ON or OFF the power.
2.Power LED	Lights up to indicate the power is turned ON.
3.Empowering	Activate OSD menu when OSD is OFF or trigger the Acer e-Color Management.
4.Auto Adjust button / Exit	Activate OSD menu when OSD is OFF or below: 1) When OSD menu is in active status, this button will act as EXIT-KEY(EXIT OSD menu). 2) When Menu OSD is on, press this button for 2 seconds to activate the Auto Adjustment function .The Auto Adjustment function is used to set the H. Position, V. Position, Clock and Focus. 3) When exit e-Color OSD, it will activate the Auto Adjustment function automatically.
5.< / >	Activate OSD menu when OSD is OFF or Press < / > to select the desired function;Press < or > to change the settings of the current function; Press > to change input source.
6.MENU / ENTER	Activate OSD menu when OSD is OFF or activate/de-activate adjustment function when OSD is ON. But it has no function at the information page.
6.INPUT	Change input source

B) Menu Operation:

Pressing the MENU button brings up the first level menu.

Press the function button to open the shortcut menu. The shortcut menu lets you quickly select the most commonly accessed settings.

C) OSD Function:

Acer e-Color Management Contrast, Brightness, ACM
H-position, V-position
Clock, Focus
OSD position, Timeout
Color Select and Adjust (warm, cool, user).
Language selected English, Deutsch, French, Spanish, Italian, Russian, Finnish, Dutch, Turkish, Polish, Portuguese, Brazilian Portuguese, Japanese, Traditional Chinese, Simplified Chinese—English default
Signal Input Select and DDC/CI Control (Analog, DDC/CI)
Display Information
Factory Reset
Exit

D) OSD Control Factory Default Values:

eColor mode	Standard
Brightness	100
Contrast	50
ACM	Off
Color	Warm
Language	English
OSD H.pos	50
OSD V.pos	50
OSD Timeout	10s
DDC/CI	On
User R/G/B	50/50/50

1.3.4 Monitor Modes and Timing Capability:

1.3.4.1 Format and Timing:

The monitor shall synchronize with any vertical frequency from 50 to 76 Hz, and with any horizontal frequency from 30 to 83 KHz.

1.3.4.2 Factory Assigned Display Modes:

Mode	Resolution	Total	Horizontal		Vertical		Nominal Pixel Clock (MHz)
			Nominal Frequency +/- 0.5kHz	Sync Polarity	Nominal Freq. +/- 1 Hz	Sync Polarity	
VGA	640x480@60Hz	800 x 525	31.469	N	59.941	N	25.175
	640x480@72Hz	832 x 520	37.861	N	72.809	N	31.500
	640x480@75Hz	840 x 500	37.500	N	75.000	N	31.500
SVGA	800x600@56Hz	1024 x 625	35.156	P	56.250	P	36.000
	800x600@60Hz	1056 x 628	37.879	P	60.317	P	40.000
	800x600@72Hz	1040 x 666	48.077	P	72.188	P	50.000
	800x600@75Hz	1056 x 625	46.875	P	75.000	P	49.500
XGA	1024x768@60Hz	1344 x 806	48.363	N	60.004	N	65.000
	1024x768@70Hz	1328 x 806	56.476	N	70.069	N	75.000
	1024x768@75Hz	1312 x 800	60.023	P	75.029	P	78.750
SXGA	1152x864@75Hz	1600x900	67.5	P	75	P	108.000
	1280x720@60Hz	1650x750	44.955	P	59.940	P	74.176
	1280x1024@60Hz	1688x1066	63.981	P	60.020	P	108.000
	1280x1024@75Hz	1688x1066	79.976	P	75.025	P	135.000
WXGA	1360x768@60Hz	1792x795	47.712	N	60.015	N	85.500
WXGA+	1600x900@60Hz	2122x934	55.990	P	59.946	N	118.250
WXGA+	1600x900@60Hz	1800x1000	60.000	P	60.000	N	108.000
DOS	720x400@70Hz	900 x 449	31.469	N	70.087	P	28.322
VGA	640x480@67Hz	864 x 525	35.000	N	66.667	N	30.240
SVGA	832x624@75Hz	1152 x 667	49.722	N	74.551	N	57.283
SXGA	1152x 870@75Hz	1568x909	68.681	N	75.062	N	100.00

1.4 Flat Panel:

1.4.1 General Requirements:

The panel shall be a 49.5 cm (19.5”W) a-si TFT Active matrix LCD.

1.4.2 Polarizer Hardness:

Hard coating (3H), Anti-glare treatment of the front polarizer.

1.4.3 Backlight Requirements:

1.4.3.1 General Requirements:

Parameter	Symbol	Values			unit
		Min.	Typ.	Max.	
LED String Current	IPIN	-	65	69	mA
LED String Voltage	VPIN	-	31	34	V
Power Consumption	PBL	-	8.06	8.84	Watt
LED Life Time	LLED	40,000	-	-	Hrs

1.4.4 Defects:

1.4.4.1 Defect Terminology:

Dark Spots / Lines: Spots or lines that appear dark in the display patterns and are usually the result of contamination. Defects do not vary in size or intensity (contrast) when contrast voltage is varied. Contrast variation can be achieved through the use of varying gray shade patterns.

Bright Spots / Lines: Spots or lines that appears light in the display patterns. Defects do not vary in size or intensity (contrast) when contrast voltage is varied. Contrast variation can be achieved through the use of varying gray shade patterns.

Polarizer Scratch: When the unit lights, lines appear light (white) with display patterns dark and do not vary in size. Physical damage to the polarizer does not damage the glass.

Polarizer Dent: When the unit lights, spots appear light (white) with display patterns dark and do not vary in size. Physical damage to the polarizer does not damage the glass.

Rubbing Line: Horizontal or diagonal lines that appear gray with the display patterns dark and may have resulted from an “out of control” rubbing process on the polyimide or “waves” on the BEFs or prism sheets .

Newton Ring: The “rainbow” effect caused by non-uniform cell thickness.

Mottling: When the unit lights, variation / non - uniformity (splotch) appears light (white) with the display and might vary in size.

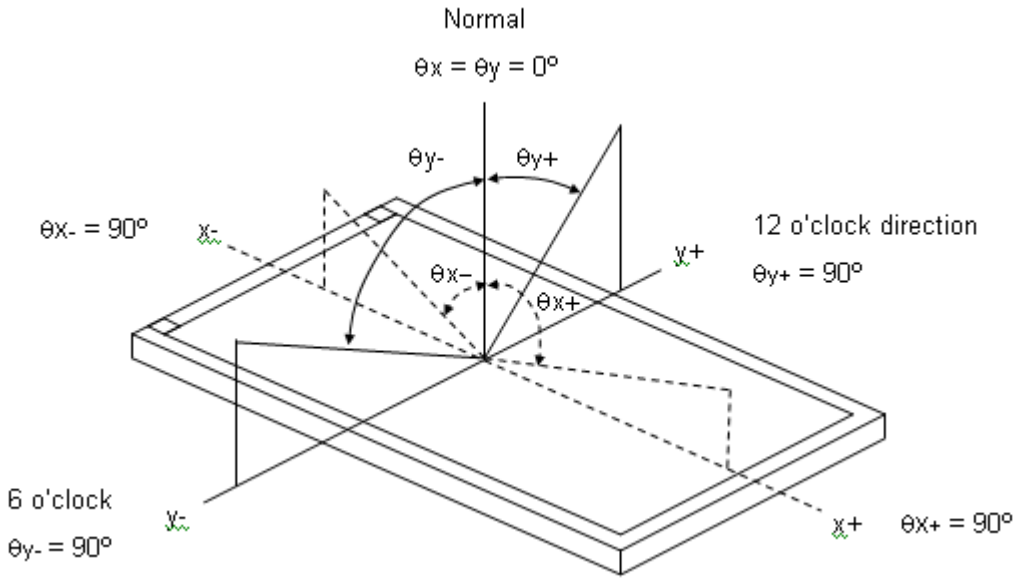
Dim Line: When the unit lights, line(s) in the minor (vertical) or major (horizontal) axis appear dim, but not completely on or off.

Cross Lines Off: When the unit lights , lines in both the minor and major axis do not appear.

Bright/Dark Dot: A sub - pixel (R, G, B dot) stuck off / on (electrical).

1.5 Optical Characteristics:

1.5.1 Definition of Viewing Angle (θx, θy):



1.5.2 Definition of Contrast Ratio (CR):

The contrast ratio can be calculated by the following expression.

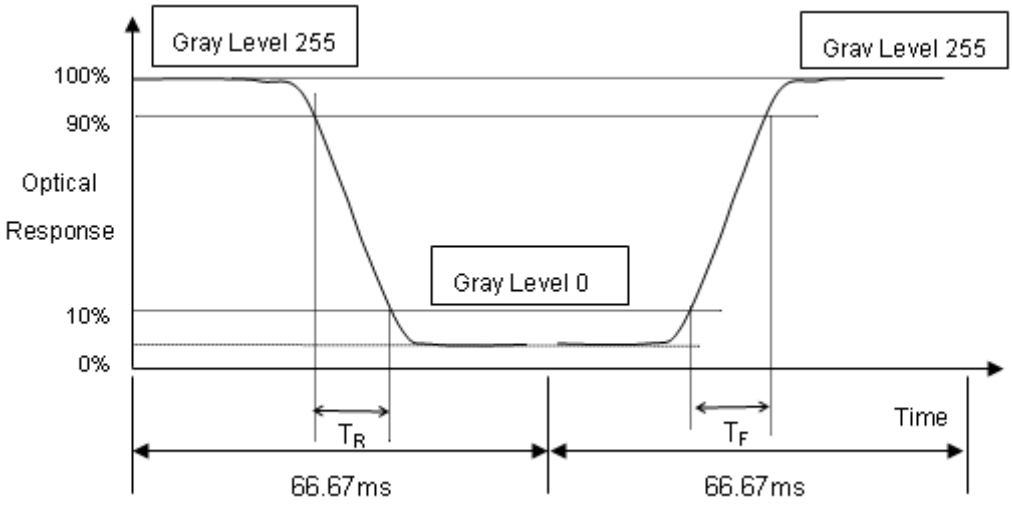
Contrast Ratio (CR) = L255 / L0

L255: Luminance of gray level 255

L 0: Luminance of gray level 0

CR = CR (5)

1.5.3 Definition of Response Time (T_R, T_F):



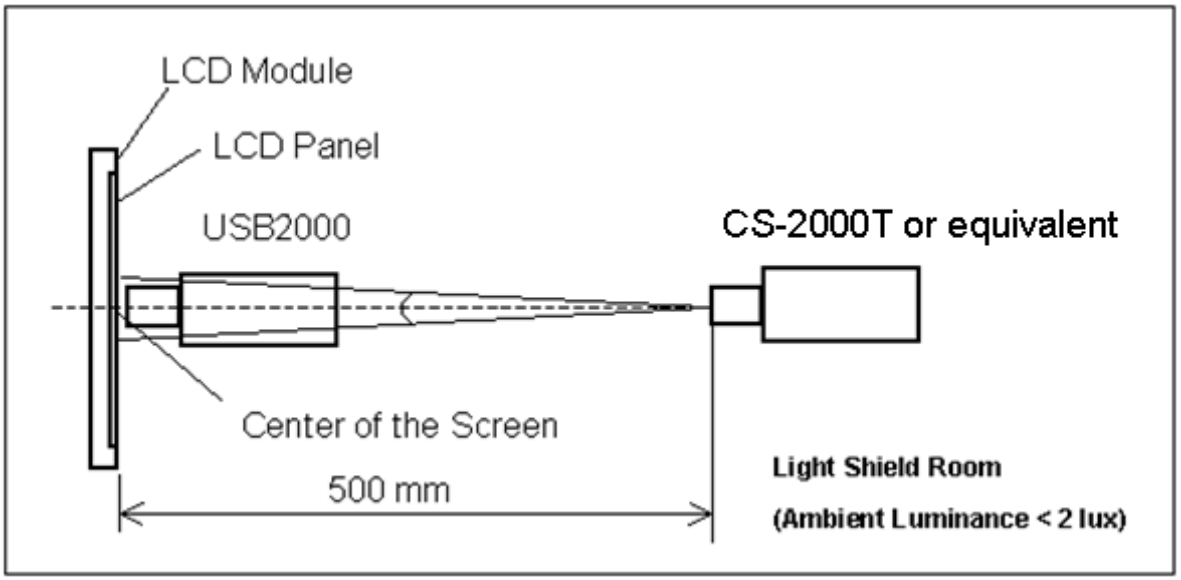
1.5.4 Definition of Luminance of White (L_C):

Measure the luminance of gray level 255 at center point

L_C = L (5)

1.5.5 Measurement Setup:

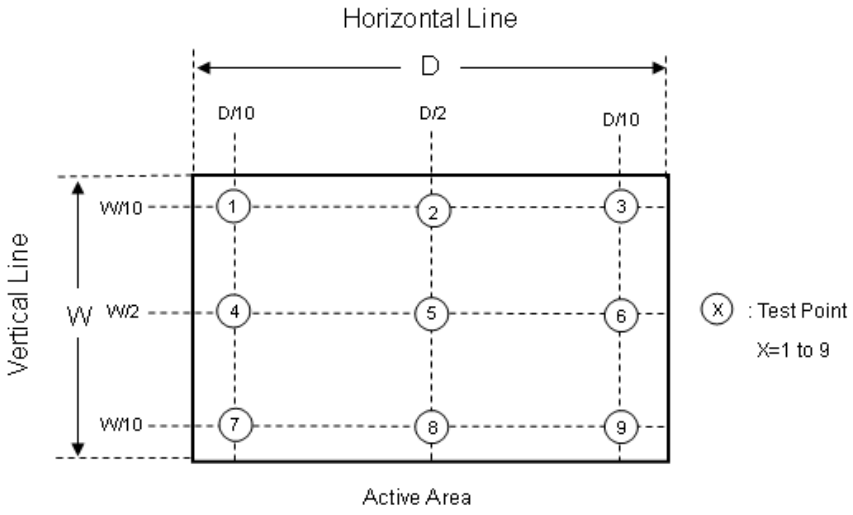
The LCD module should be stabilized at given temperature for 40 minutes to avoid abrupt temperature change during measuring. In order to stabilize the luminance, the measurement should be executed after lighting Backlight for 40 minutes in a windless room.Color shift is the angle at which the average color difference for all Macbeth is lower than 0.02.



1.5.6 Definition of White Variation (™W):

Measure the luminance of gray level 255 at 9 points

™W = (Minimum [L (1) ~ L (9)] / Maximum [L (1) ~ L (9)]) *100%



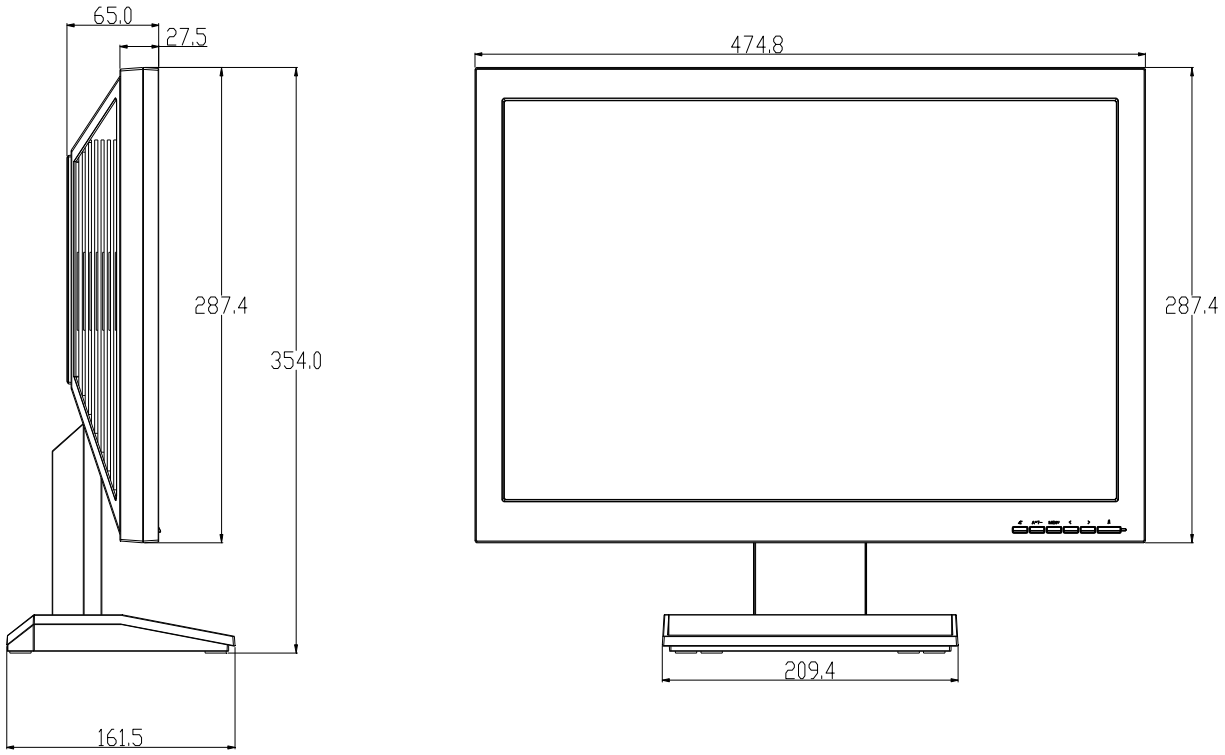
1.6 Environmental Requirements:

	Operating	Storage
Temperature:	0°C - +40°C	-20°C - +60°C
Humidity:	15% - 90%	10% - 85%
Altitude:	12,000 feet (3,658m)	40,000 feet (12,192m)

1.7 Mechanical and Packing:

	Monitor	Packed Monitor
Width:	474.8mm	TBD
Height:	354.0mm	TBD
Depth:	161.5mm	TBD
Weight:	TBD	TBD

Dimension (mm):



2. OSD Menu

2.1 Key Definition:

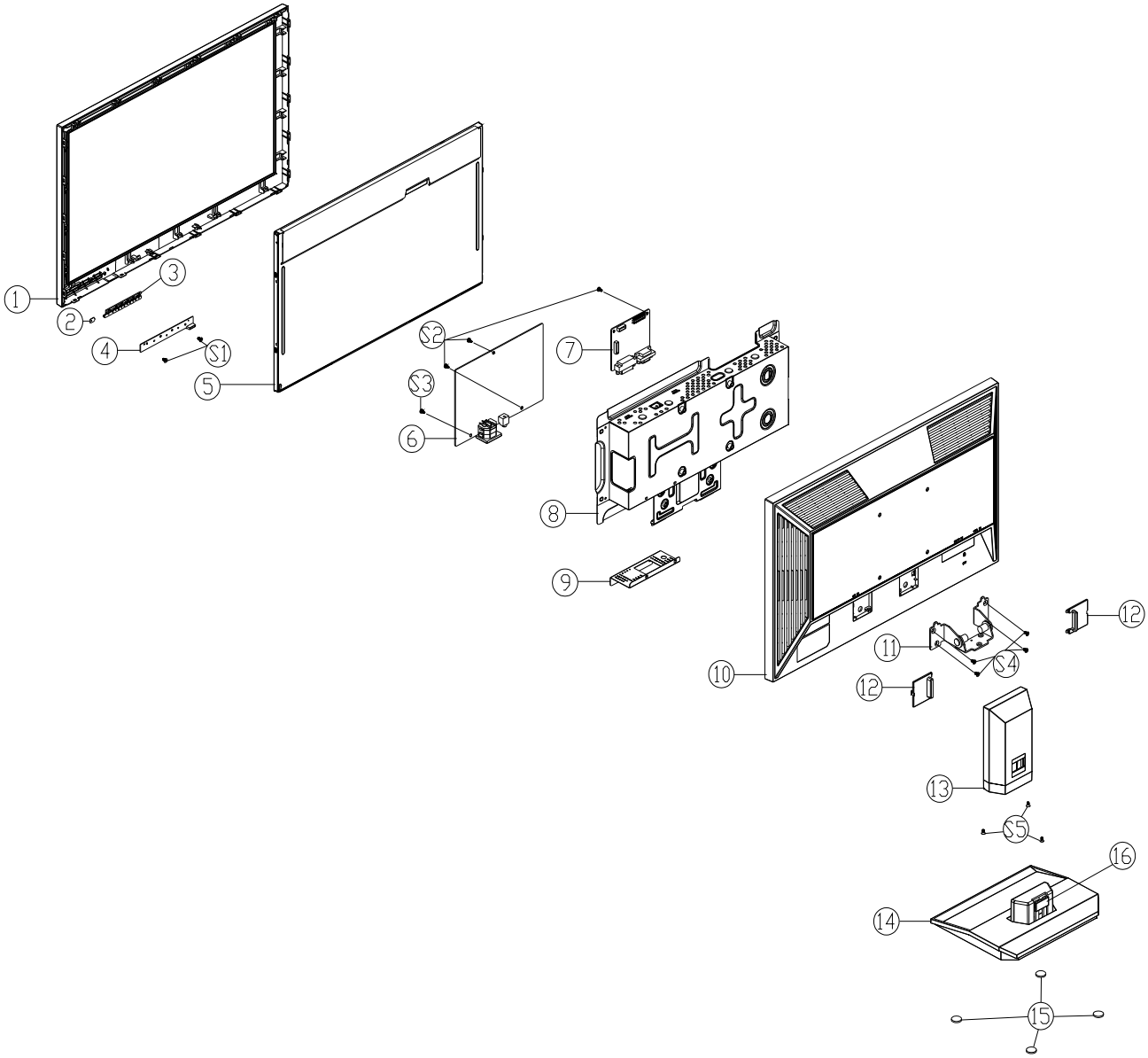
1.Power Switch/ Power LED	To turn ON or OFF the power. Lights up to indicate the power is turned ON.
2.>/(Input)	1) Activate OSD First menu when OSD is OFF. 2) Press > to select the desired function. 3) Press > to change the settings of the current function. 4) When First menu is on, press >(Input) key to change source.
3. .</Volume	1) Activate OSD First menu when OSD is OFF. 2) Press < to select the desired function. 3) Press < to change the settings of the current function. 4) When First menu is on, press < (AUDIO) key to select audio.
4. Menu/Enter	1) Activate OSD First menu when OSD is OFF. 2) Activate/de-activate adjustment function when OSD is ON.
5.Auto / Exit	1) Activate OSD First menu when OSD is OFF. 2) When OSD menu is in active status, this button will act as EXIT-KEY (EXIT OSD menu). 3) When exit eColor OSD, it will activate the Auto Adjustment function automatically.
6.Empowering	1) Activate OSD First menu when OSD is OFF. 2) Trigger the acer eColor Management when first menu is active.

2.2 Function Menu:

1). Display Function Menu while user press any function button.

3. Exploded Diagram

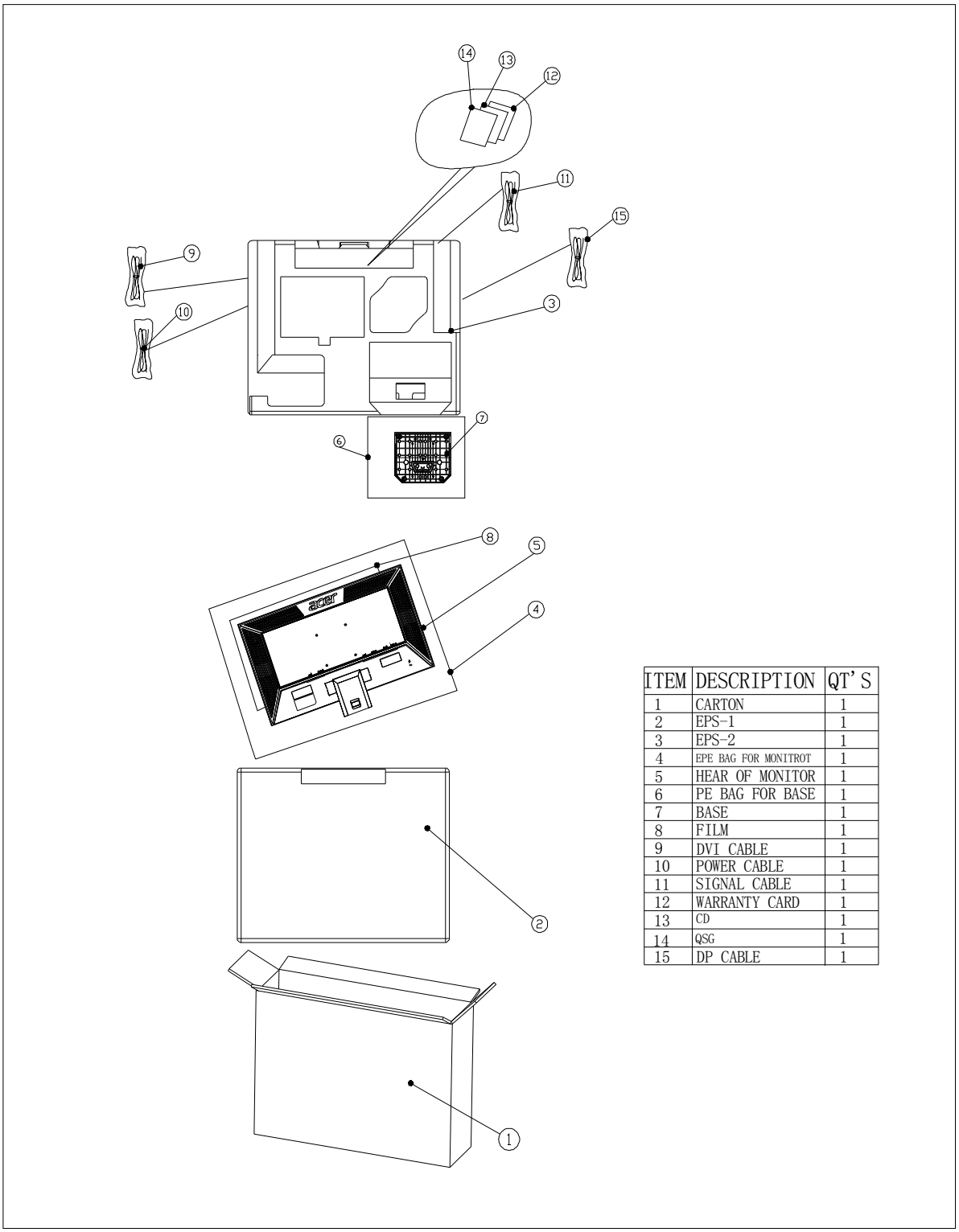
3.1 Product Exploded Diagram:



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	TPV Part No.	Acer Part No.
1	BEZEL	705GQDCS034324	60.LZJM2.001
2	LENS_POWER	A33G0378 1 1C0100	N/A
3	KEY_FUNCTION	A33G0379AEM 1L0100	N/A
4	KEY BOARD	KEPC8QK4	55.LBZ0B.005
5	PANEL	750GBM195FGK33N000	KL.1950D.002
6	POWER BOARD	PLPCD9346MQEN	55.LZJM2.002
7	MCU ASSY	756GQDCB0AE0020000	55.LZJM2.001
8	MAINFRAME	Q15G160210100100GH	60.LZJM2.004
9	BKT_AC_INLET	Q15G164710100100GH	N/A
10	REAR_COVER	Q34G7771AEMA1B0100	60.LZJM2.002
11	HINGE	A37G0074 7	N/A
12	COVER_HINGE	A33G0382AEM 1L0100	N/A
13	STAND	A34G0723AEM 1B0100	N/A
14	BASE	Q34G0354AEM 1B0100	N/A
15	FOOT	Q12G6600 6	N/A
16	KNOB_SHUTTLE	A33G0380AEM 1L0100	N/A
S1	SCREW 6x10	Q01G6019 2	N/A
S2	SCREW 3x6	0M1G1730 6120	N/A
S3	SCREW	0M1G1740 6120	N/A
S4	SCREW	0M1G 140 6125	N/A
S5	SCREW	0M1G1740 10120	N/A

3.2 Packing Exploded Diagram:

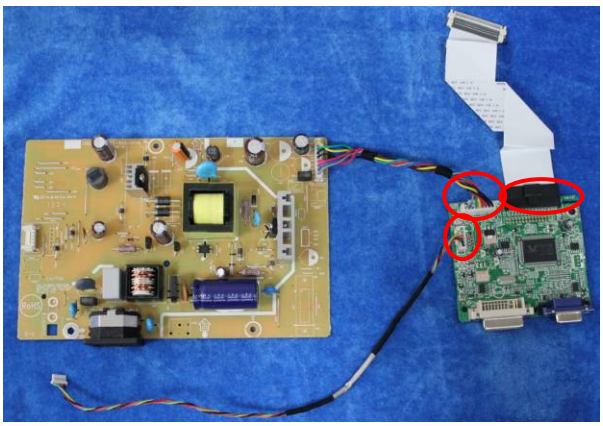


ITEM	DESCRIPTION	QT'S
1	CARTON	1
2	EPS-1	1
3	EPS-2	1
4	EPE BAG FOR MONITROT	1
5	HEAR OF MONITOR	1
6	PE BAG FOR BASE	1
7	BASE	1
8	FILM	1
9	DVI CABLE	1
10	POWER CABLE	1
11	SIGNAL CABLE	1
12	WARRANTY CARD	1
13	CD	1
14	QSG	1
15	DP CABLE	1

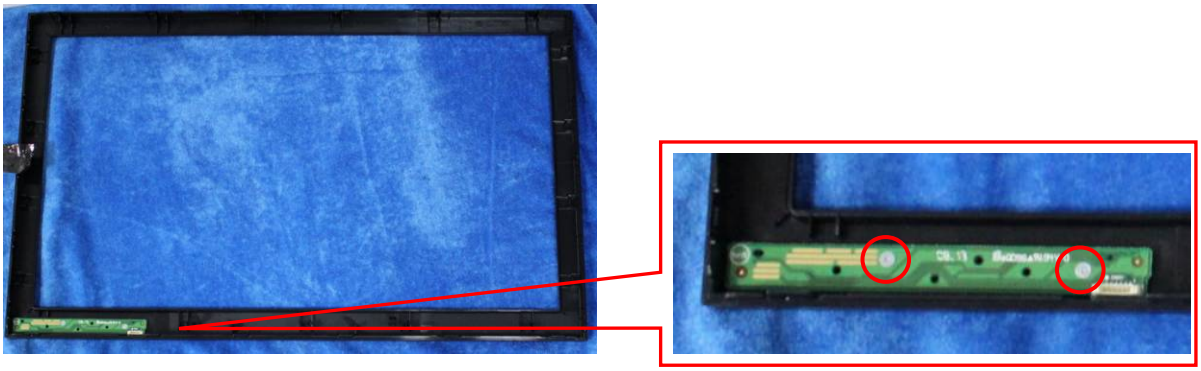
4. Assembly and Disassembly Procedures

4.1 Assembly Procedures:

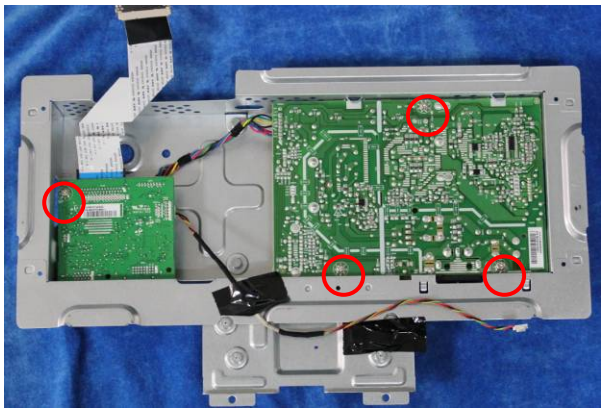
S1 Prepare a main board, a power board and FFC cable. Connect the cables as the below picture.



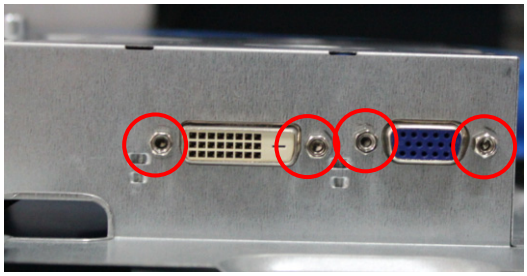
S2 Prepare a bezel and key board. Assemble bezel and key board aim the active position and screw the screws marked in red circle.



S3 Prepare a mainframe, assemble the boards to the mainframe, use a Philips-head screwdriver to tighten the screws till the power board and main board with shield are firmly attached. Tighten the screws for locking the VGA and DVI connectors.

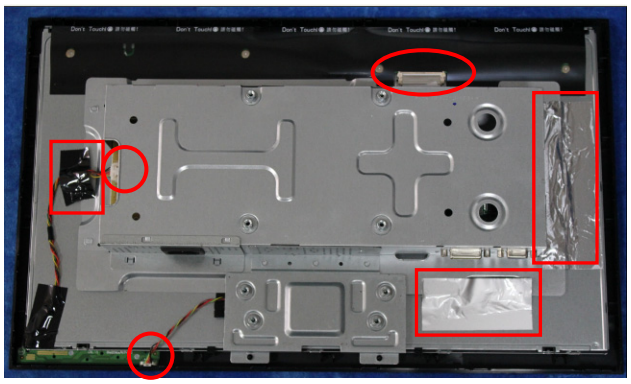


S4 Assemble the AC shield and tighten the screws for locking the VGA and DVI connectors.

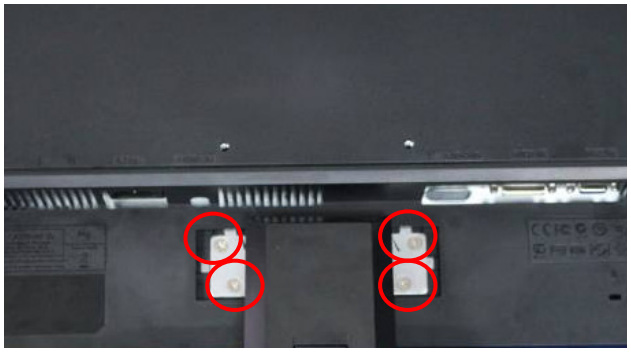


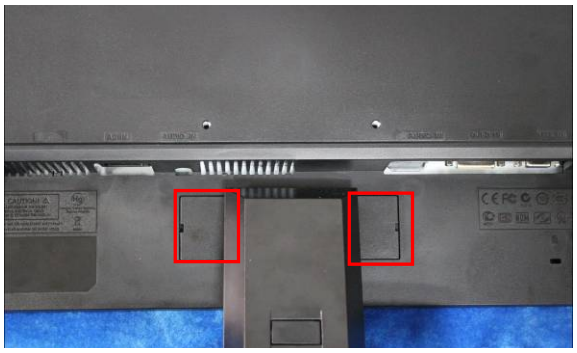
S5 Prepare a panel. Put panel into bezel ASS'Y.

S6 Assemble bezel unit and shield unit. Connect the FFC cable (main board to panel), lamp power cable (main board to panel), key cable (main board to key board). And paste the tapes. Prepare a rear cover to assemble as below picture.



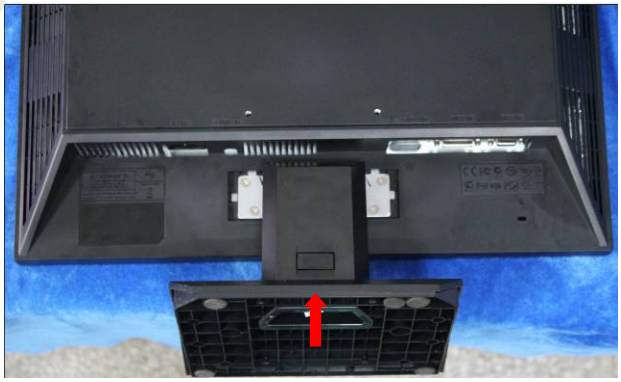
S7 Assemble the stand ASS'Y to rear cover. Screw the four screws mark as below picture and then assemble the cover hinge.





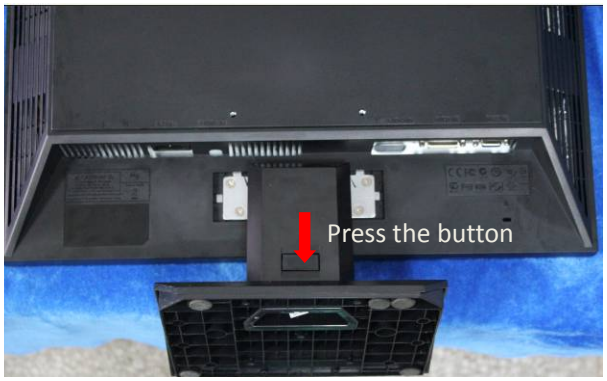
Assemble the Base to stand ASSY.

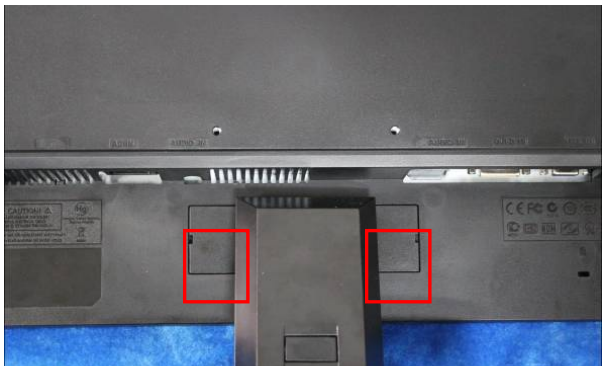
S8

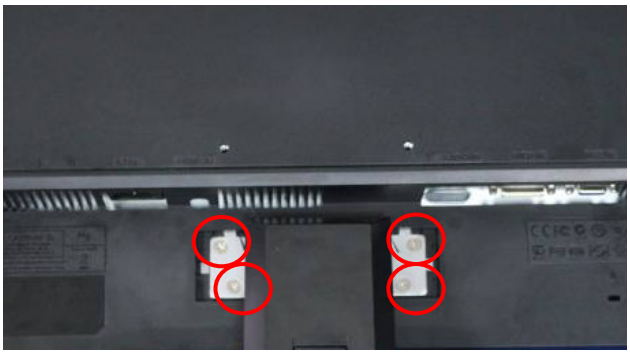


4.2 Disassembly procedures:

S1 Remove the stand ASS'Y. Press the button,remove the base at the same time, and then remove the cover hinge and unscrew the four screws to remove the stand ASS'Y.

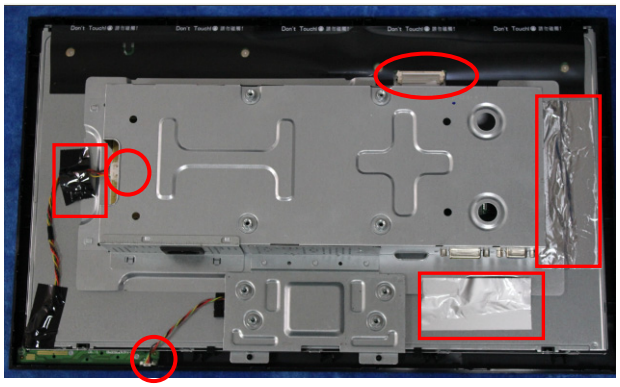




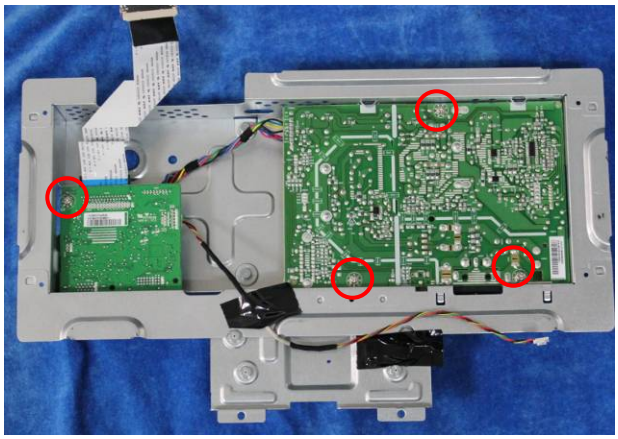


S2 Remove the rear cover. Use a tool (like picture using) to open all latches. (Be careful the position of the key board.)

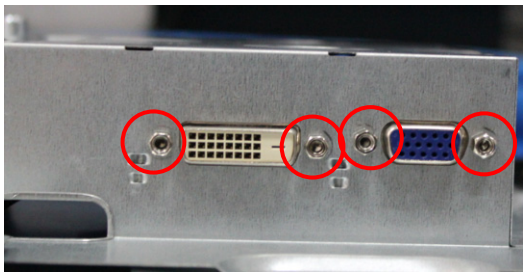
S3 Disconnect the FFC cable (main board to panel), lamp power cable (power board to panel), key cable (main board to key board) and tear up all tapes.



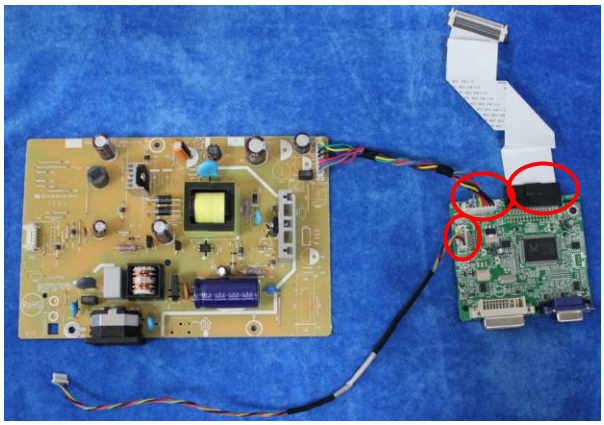
S4 Remove the screws on main board and power board.



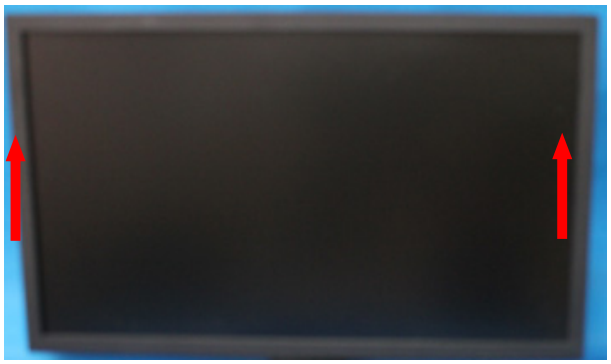
S5 Disassemble the AC shield and unscrew the screws for locking the VGA and DVI connectors.



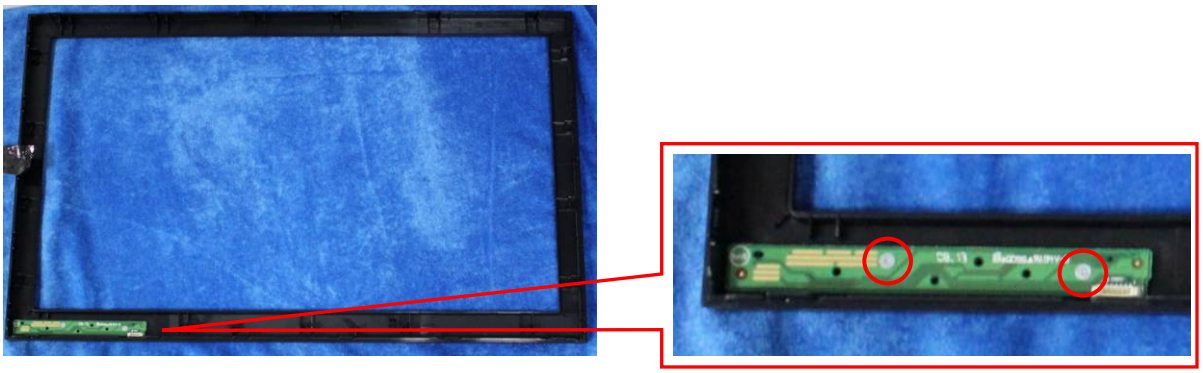
S6 Remove the main board and power board. Turn over the boards and disconnect the cables.



S7 Remove the panel. Turn over the bezel and panel unit, Lift the bezel to separate it from the panel as below left picture. And then remove the panel.

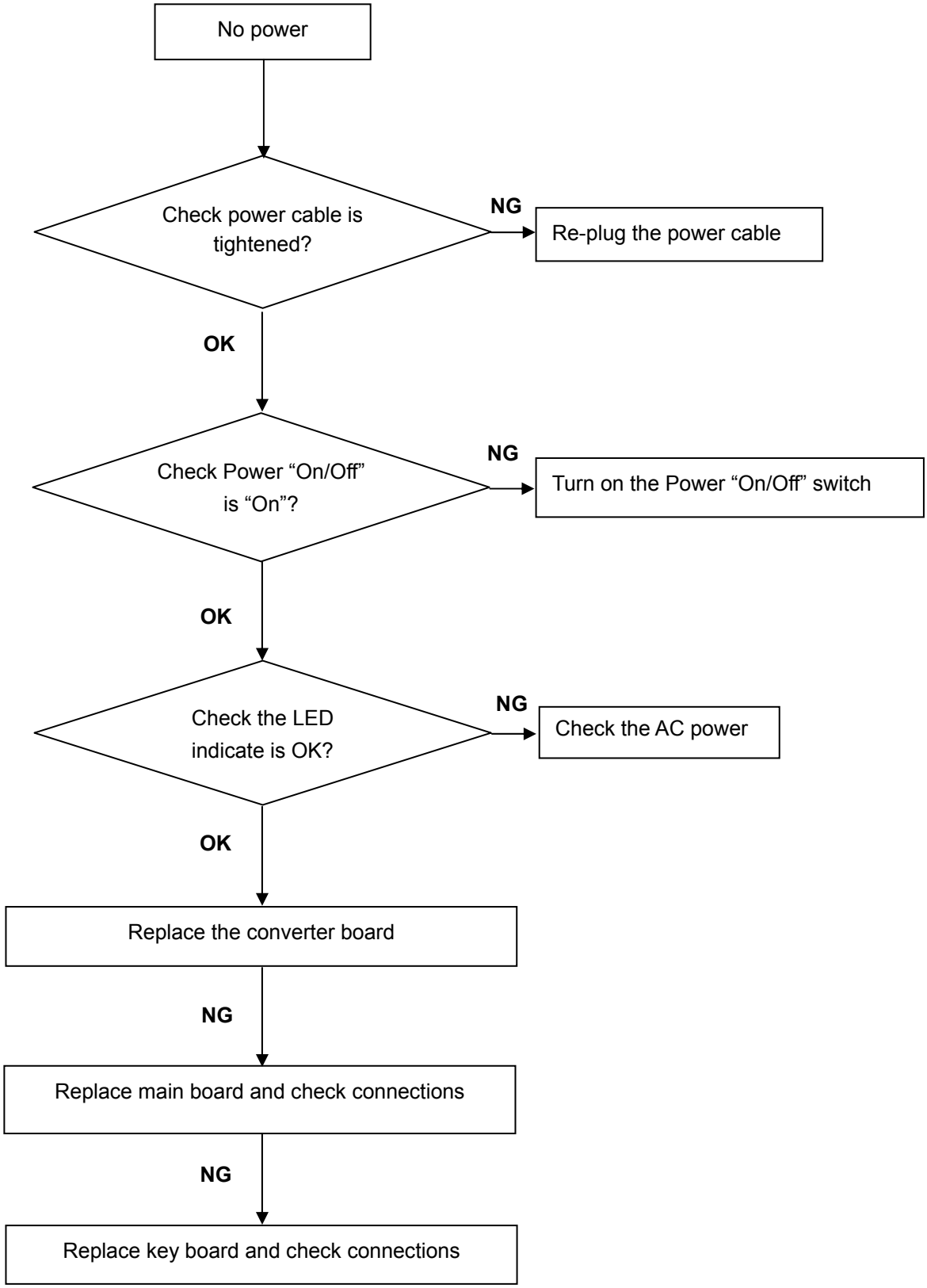


S8 The bezel and key board.Unscrew the two screws to remove the key board.

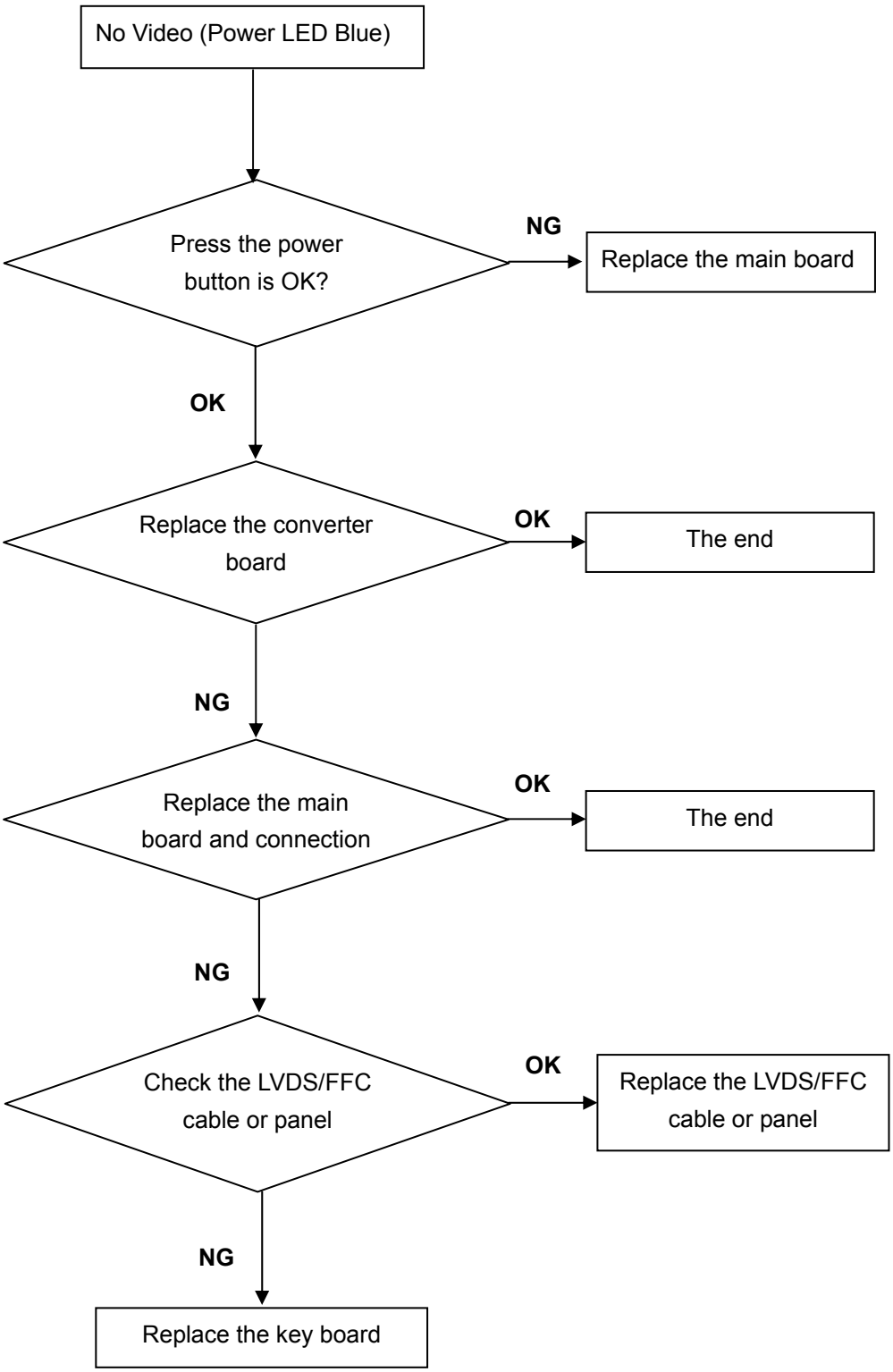


5. Troubleshooting

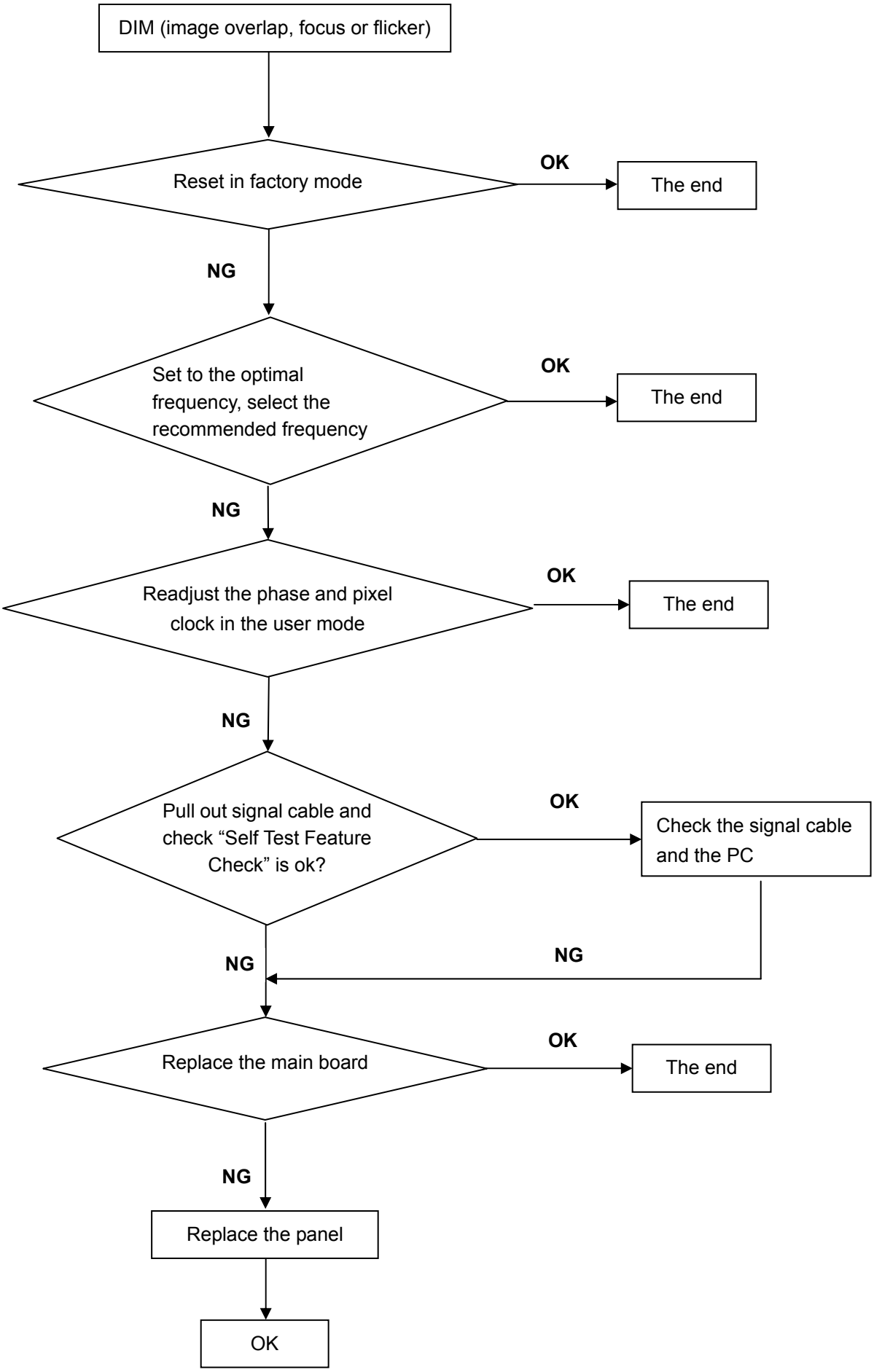
1. No Power



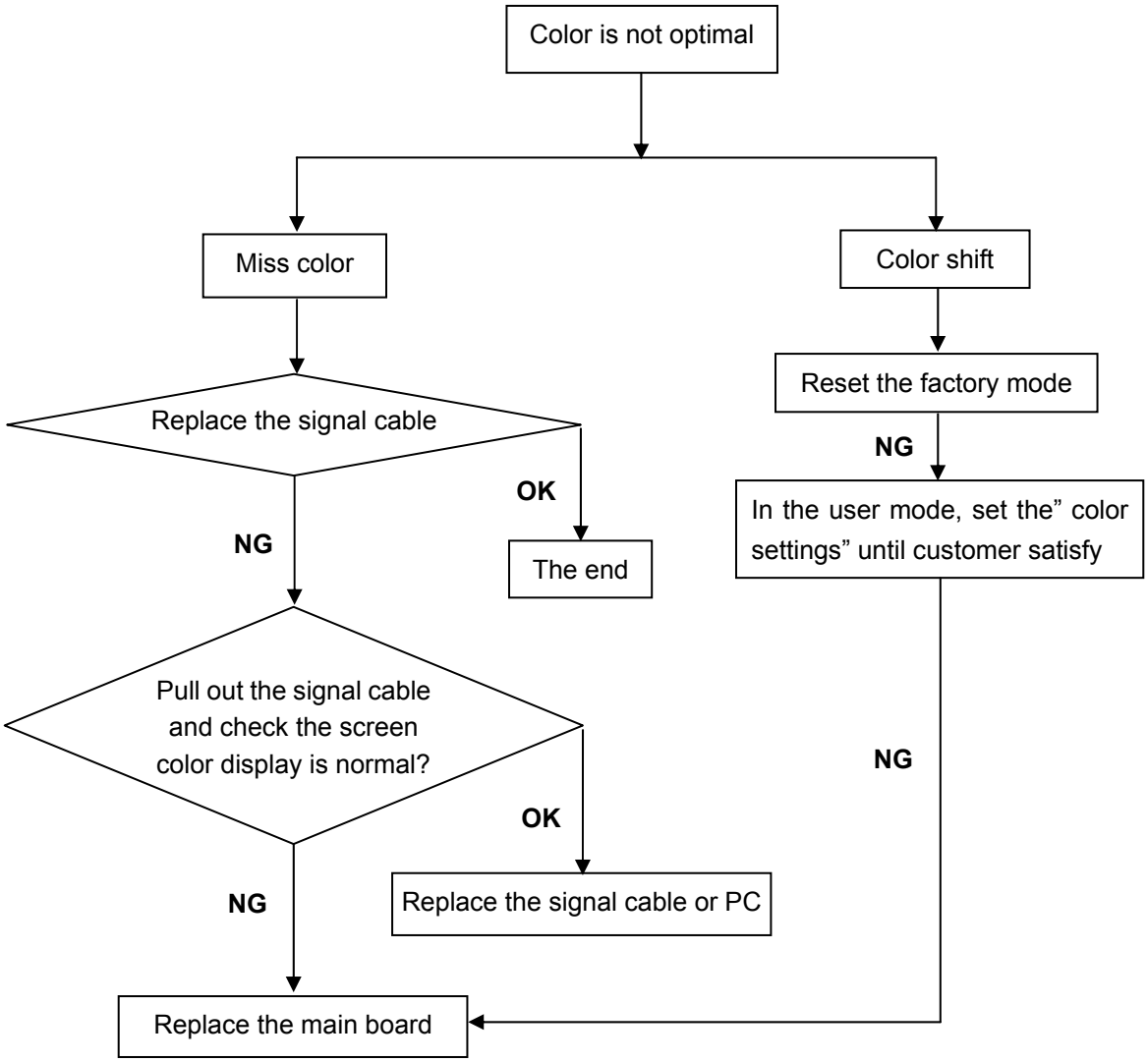
2. No Video (Power LED Blue)



3. DIM



4. Color is not optimal



6. Firmware Upgrade Process

6.1 Test Environment Preparation:

Hardware and Software Required:

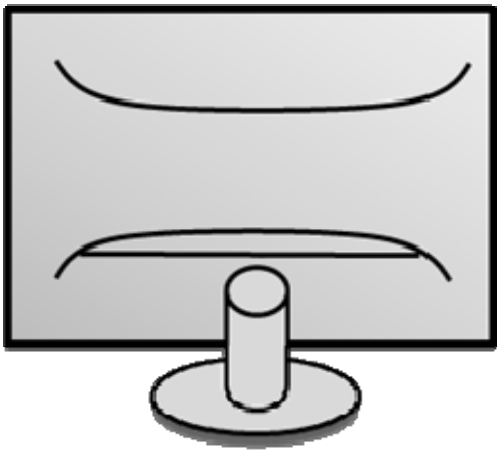
- ISP JIG
- VGA cable
- PC
- Monitor
- USB cable
- USB port driver
- Installation patch
- ISP tool
- New F/W

ISP JIG: 715GT089-B/C

VGA cable

PC

Monitor



USB cable

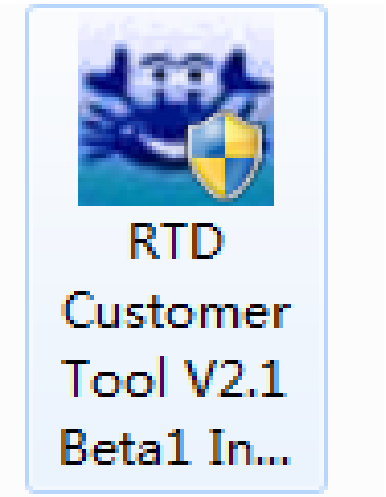
USB port driver

FTC100103(MSTAR) usb drive.rar

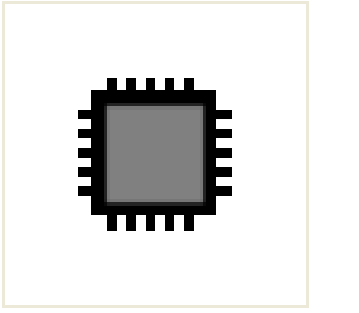
Installation patch

WindowsXP-KB935448-x86-ENU.zip

ISP tool

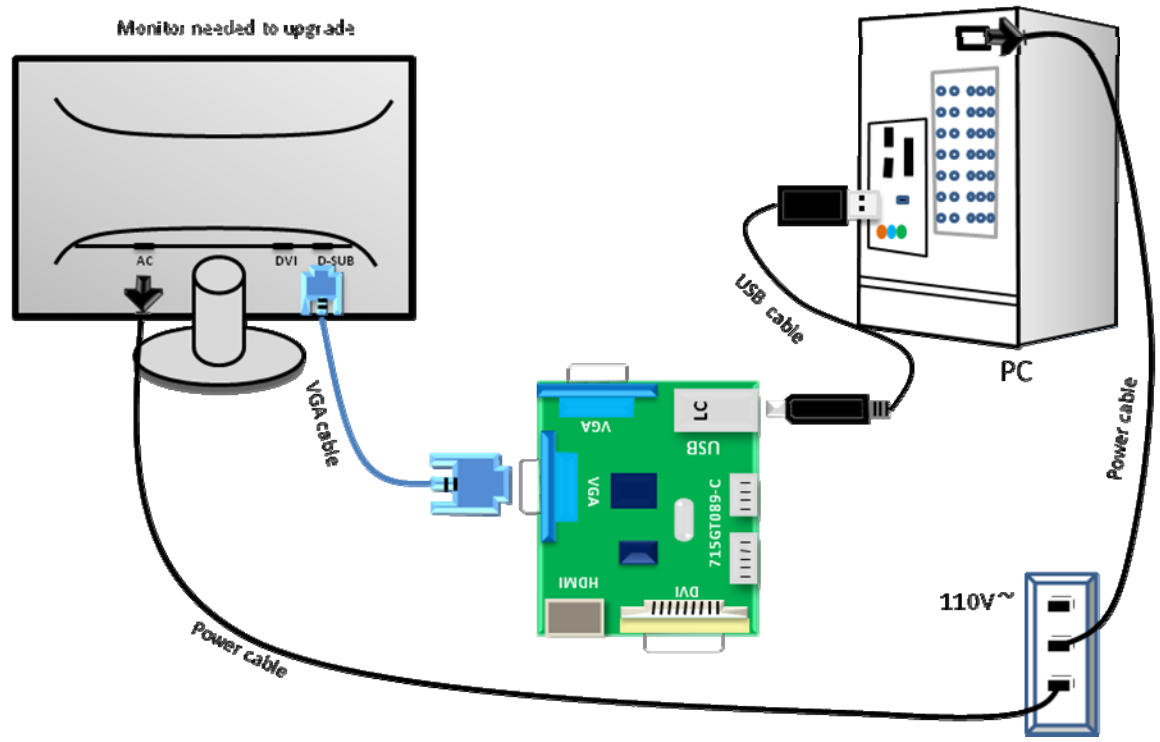


New F/W



ACER_V203HQL_RTD2271DW_CMI_M195FGE_L20_AD_LA_20130515_V0.02.bin

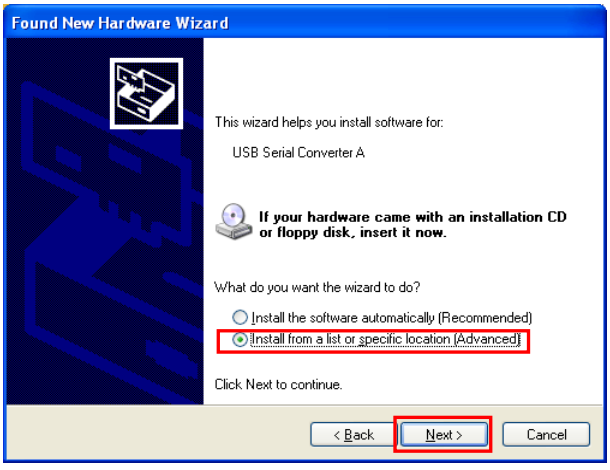
6.2.Connection

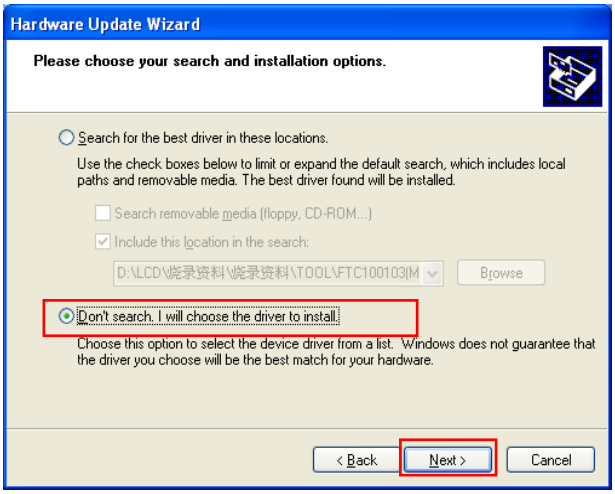


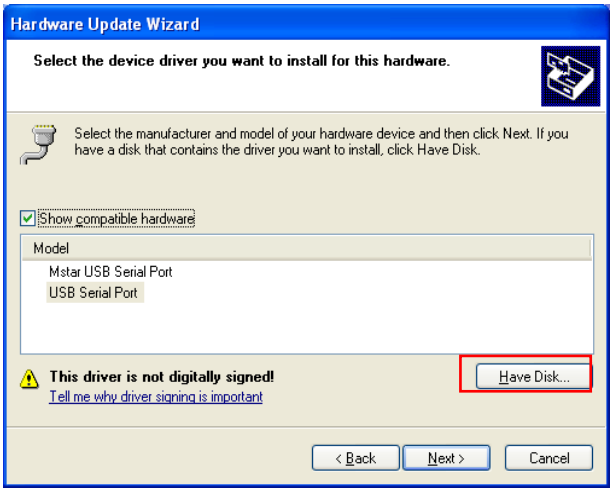
6.3.Install USB driver.

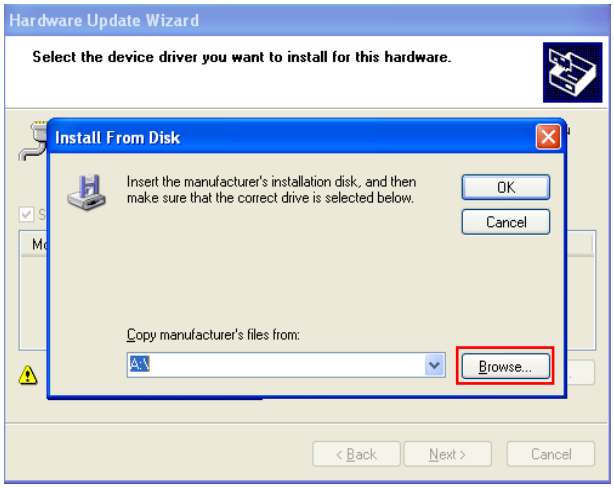
S1. When insert the USB cable to PC USB port, will pop up a Hardware Wizard to help you install the USB driver if you use this ISP board first time. You can install it successfully as the below instruction step by step.

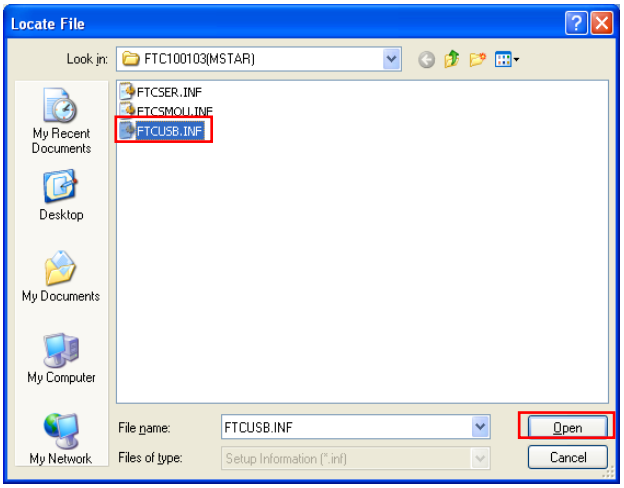
Remark: The USB driver files path: D:\FTC100103(Mstar)\FTCUSB.INF

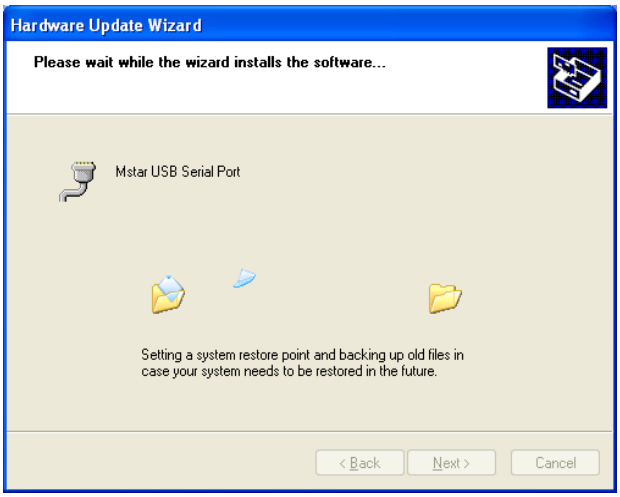


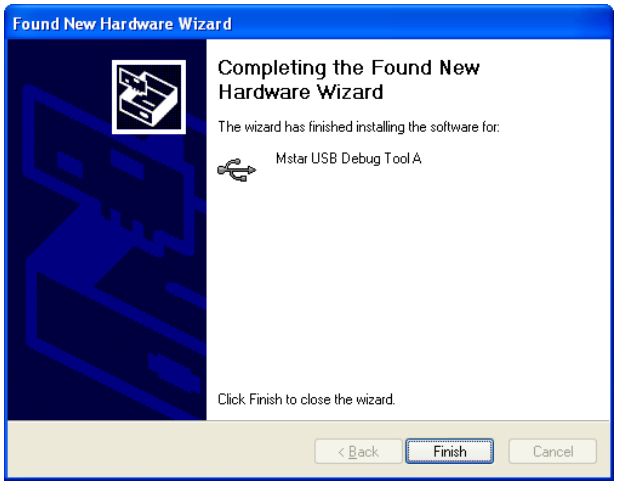




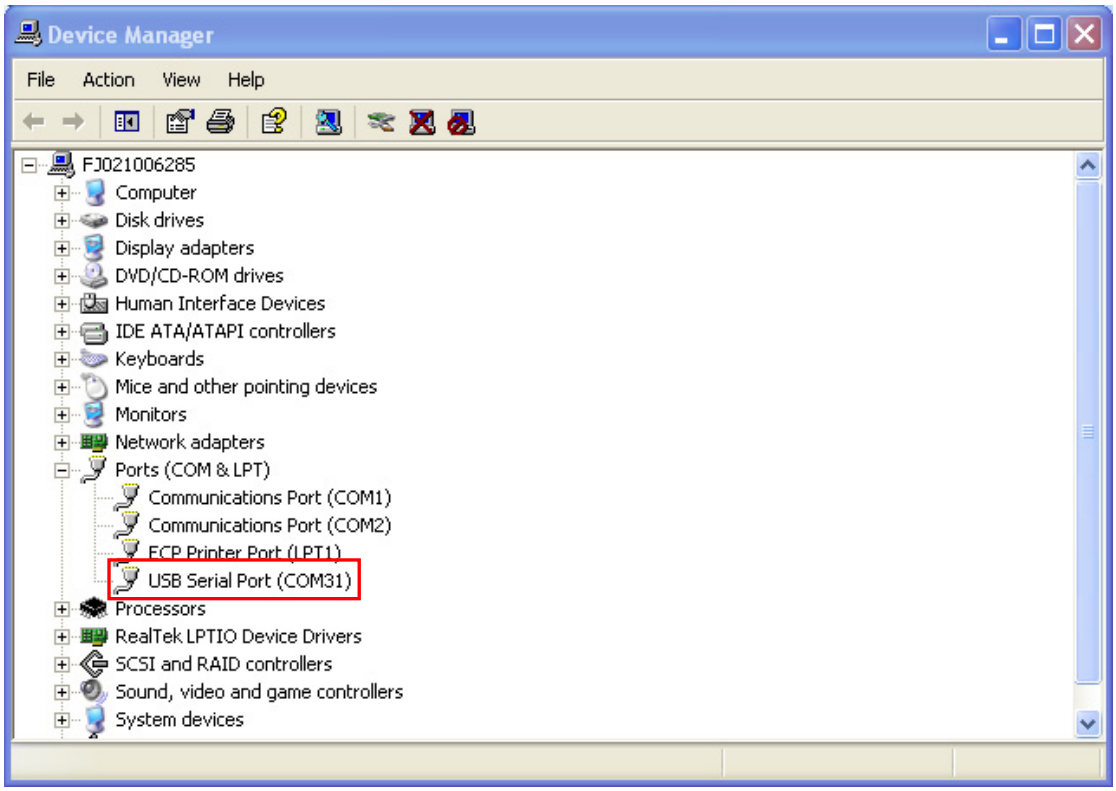




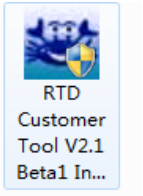




After installation the USB serial port driver, please check the port. Look the properties of “my Computer”



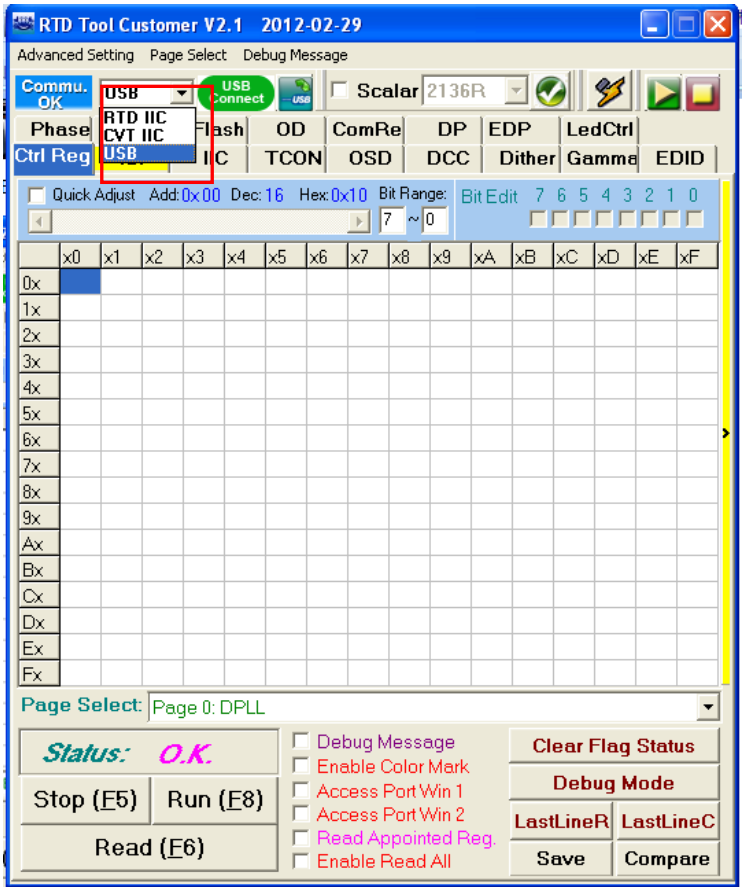
6.4. Install RTD tool.

S1. Click 

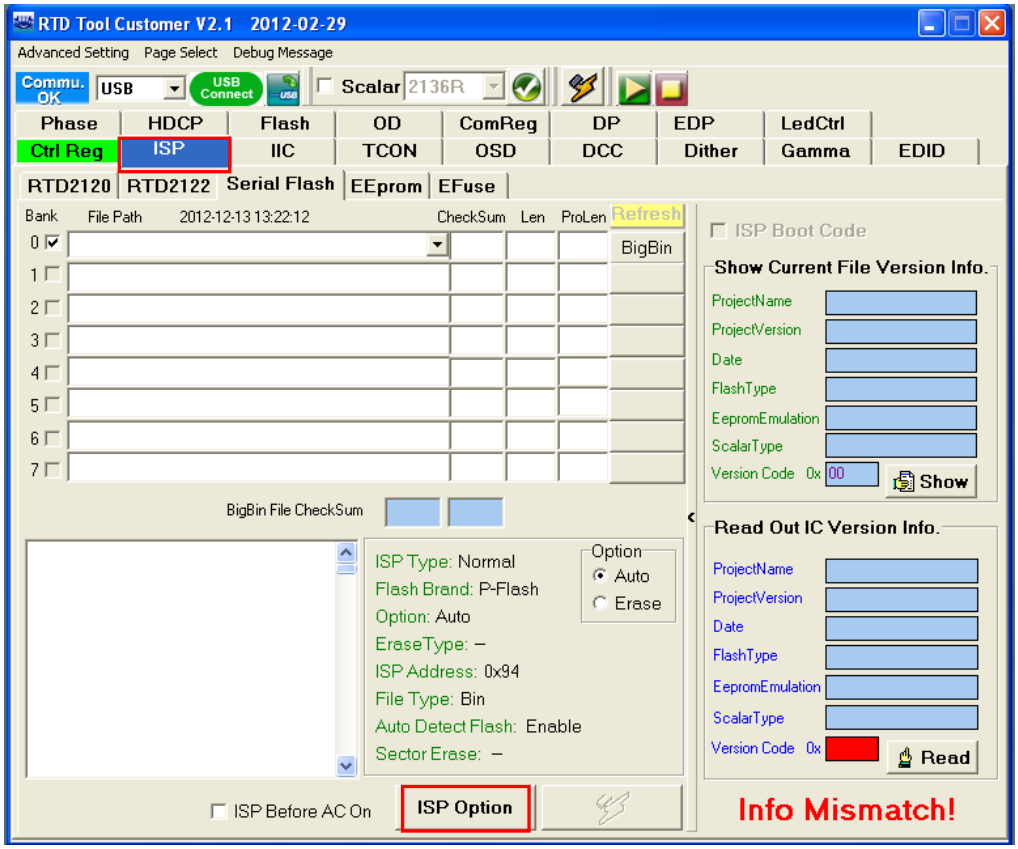
to install it. After installation, double- clicks the icon to run it.

（Note: Must to install patch firstly, and Click RTD Customer Tool V2.1.exe to installed in windows XP. RTD Customer Tool V2.1.exe can be installed in Windows 7 directly.）

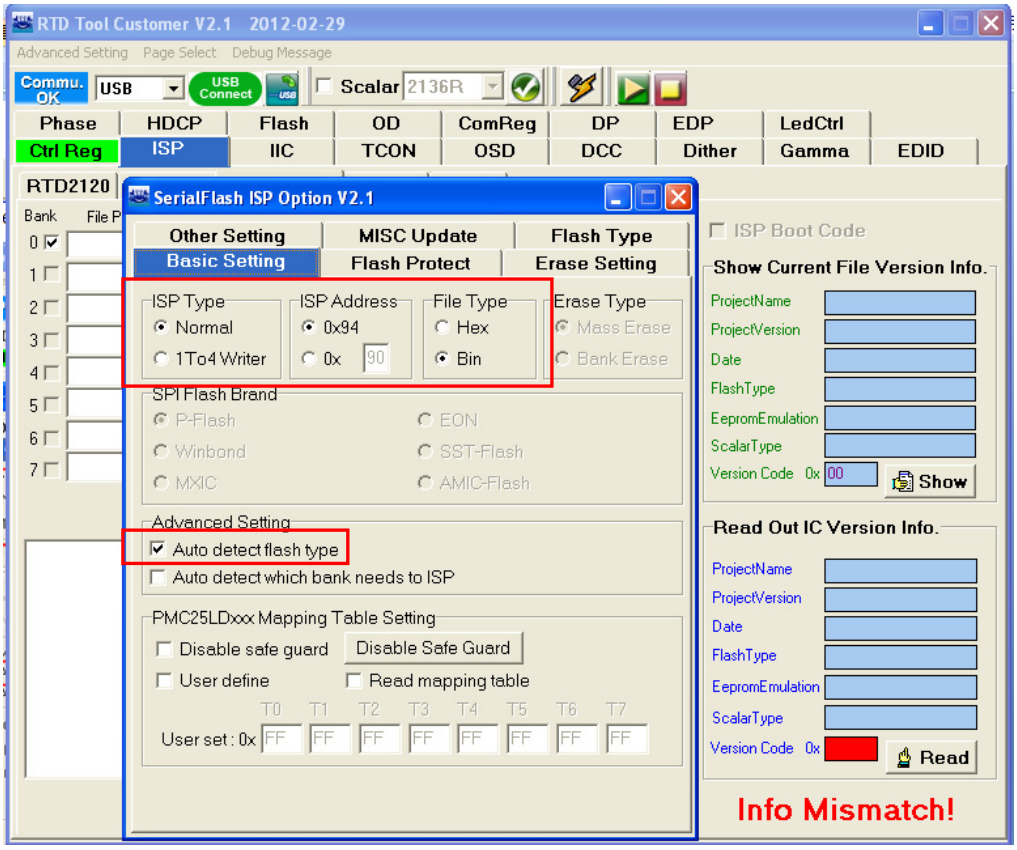
S2. Choose the USB communication way.



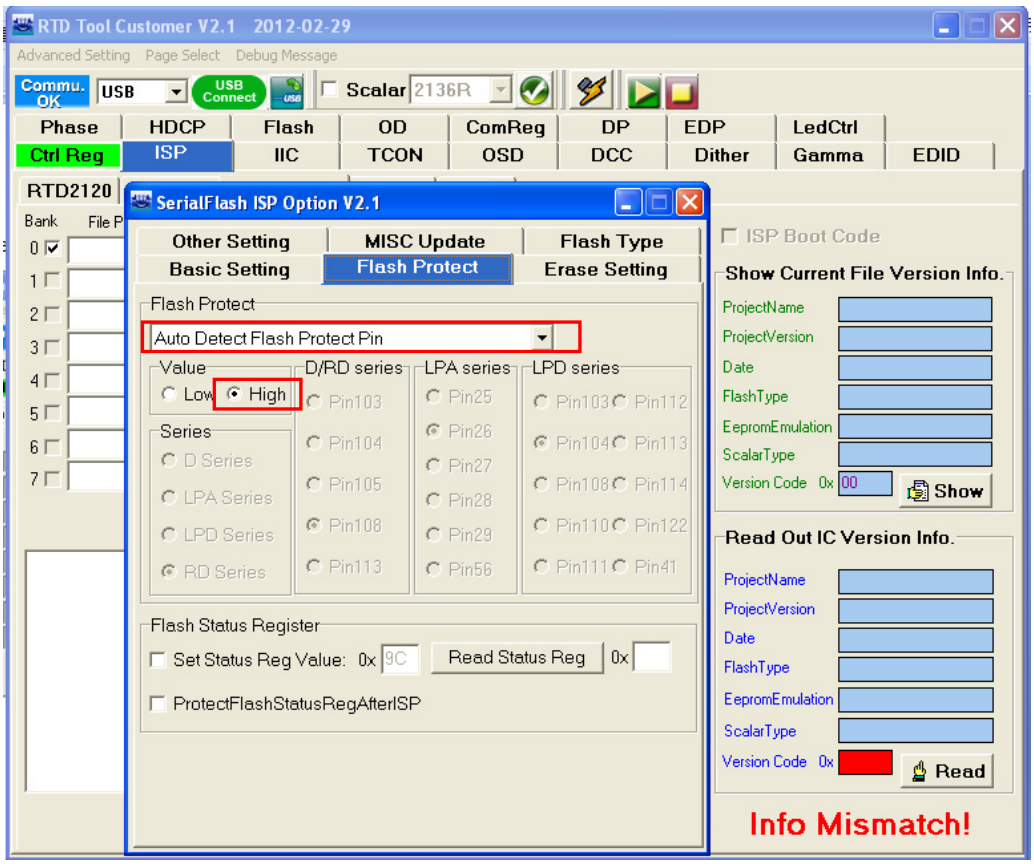
S3. Click “ISP” and “ISP Option” to set the parameter.



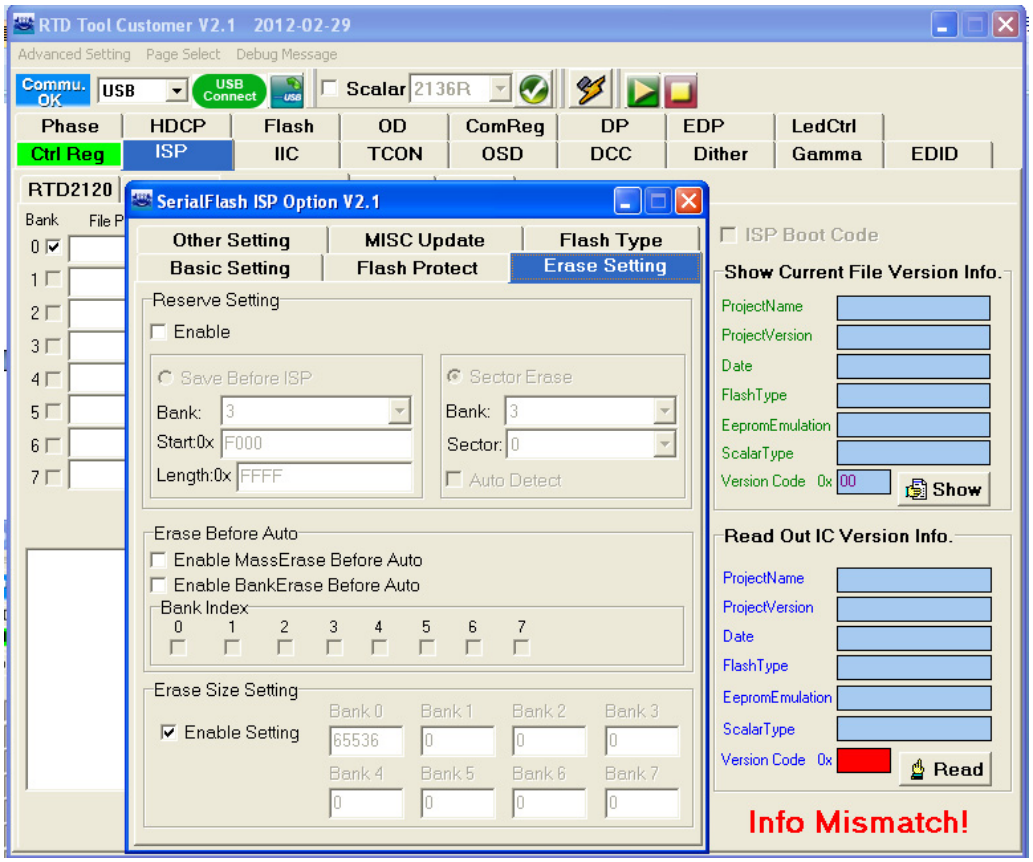
S4. Set the Basic Setting.



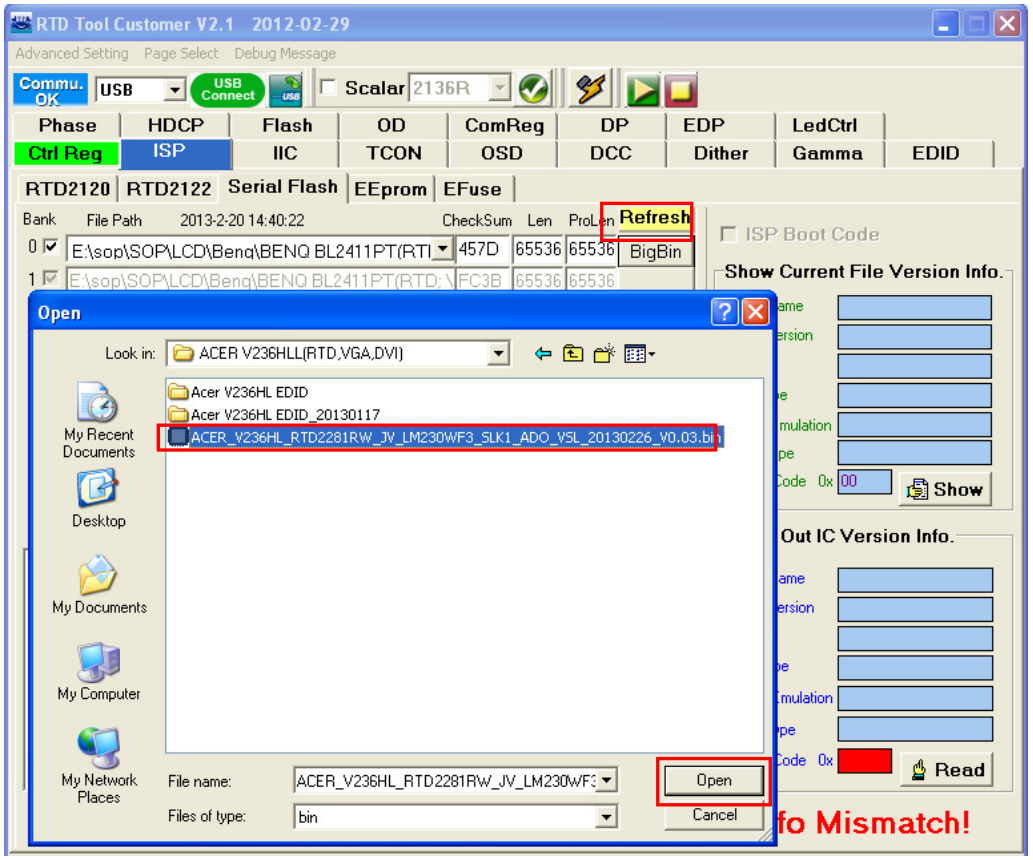
S5. Set the flash Protect to disable flash device protect when programming.



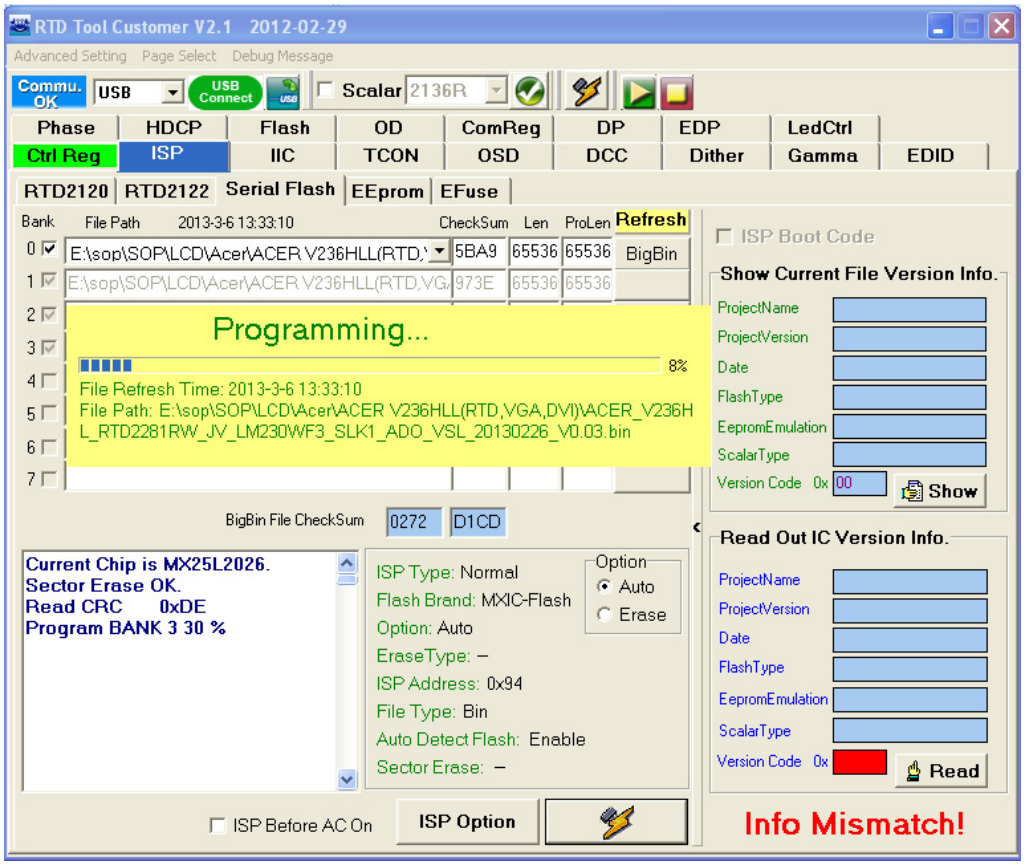
S6. Do erase setting as below.



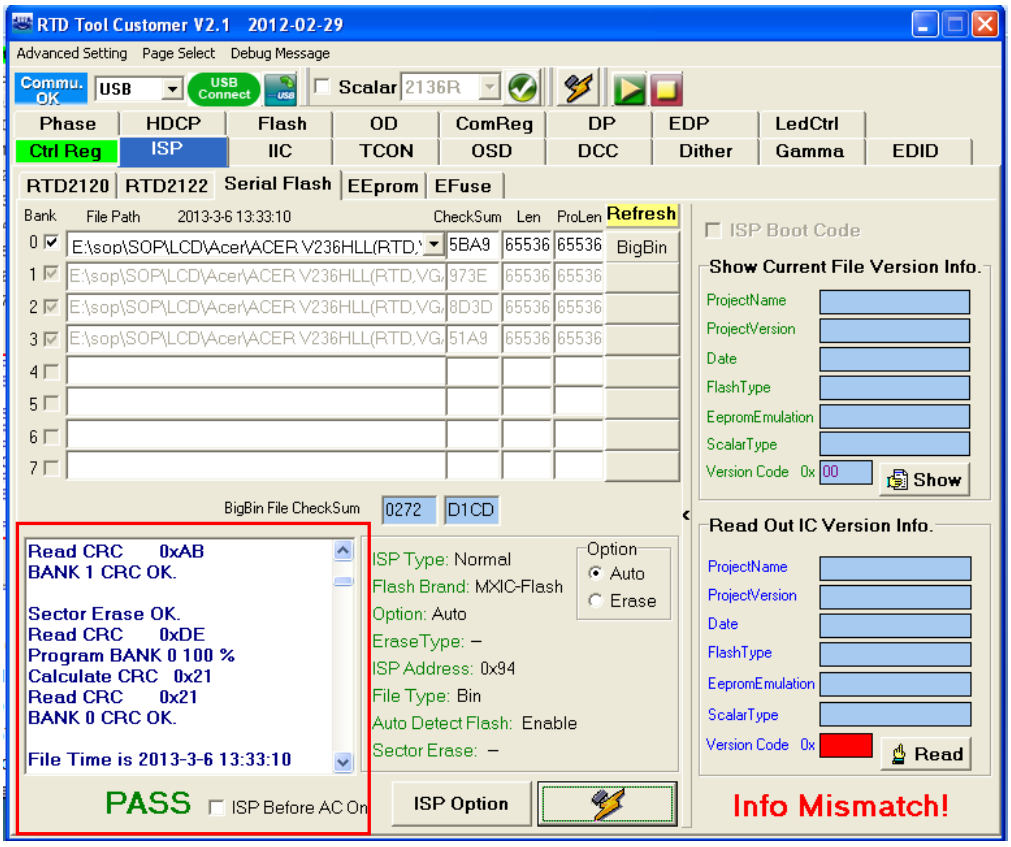
S7. Close the “ISP Option” window and click the “BigBin” to load the correct F/W.



S8. Click  to start programming.



S9. After about 2minutes, there will pop up message as below figure which promotes the upgrade successful.

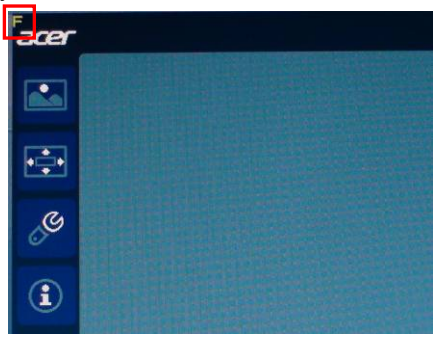


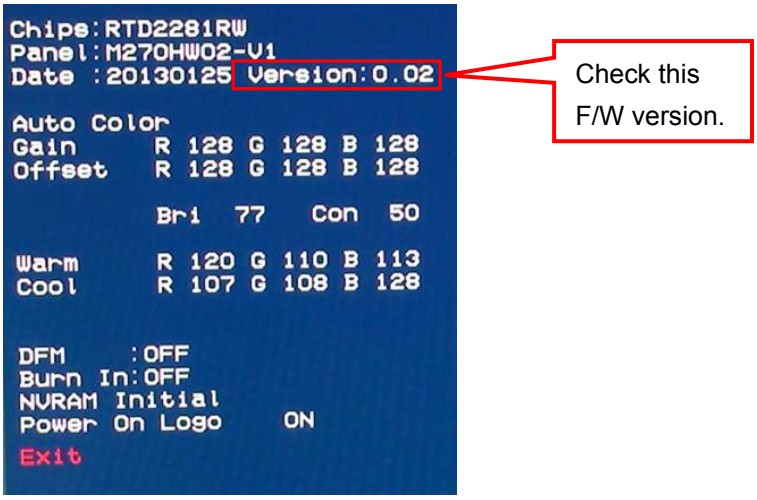
6.5. Check the FW version after upgrade.

S1. The way to open factory menu.

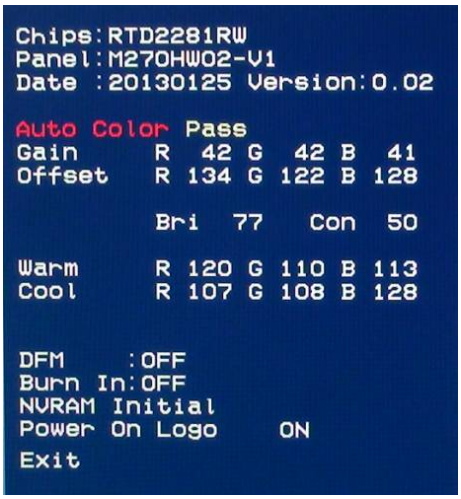
(1)Connect VGA source to monitor and turn it on.

(2)The way to factory menu: Pressing “e” and DC on, when the screen lights, release the key and press “MENU” again to open the menu with “F” and select “F” to open factory menu.



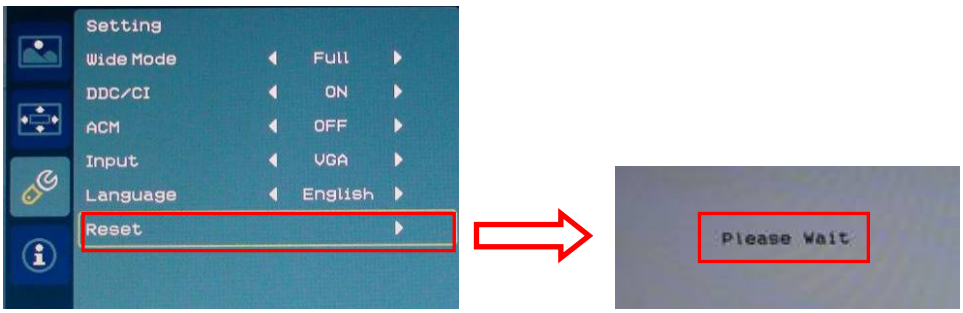


(3) Do “Auto Color” in factory mode，If the version is right, please do autocolor in factory menu，choose to“autocolor” and click”menu”,when apper the word ”pass”,it’s seems that autocolor OK..



S2. Do factory reset in user menu.

(1)Restart the monitor after open factory menu. And then open the user menu.



(2)Factory reset will turn off “Burn in” mode which screen color switches among red, green, blue and black.

7. Writing EDID Process

7.1 Test Environment Preparation:

Hardware and Software Required:

- LPT cable(male to male)
- VGA cable
-12V DC adapter
- ISP Board: 715GT034-B
- PC
- Monitor
- LPT port driver
- ISP tool
- EDID

LPT cable(male to male)

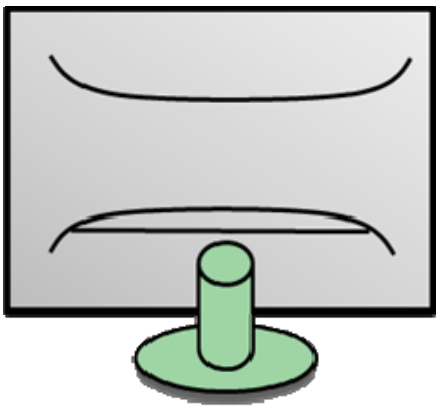
VGA cable

12V DC adapter

ISP Board: 715GT034-B

PC

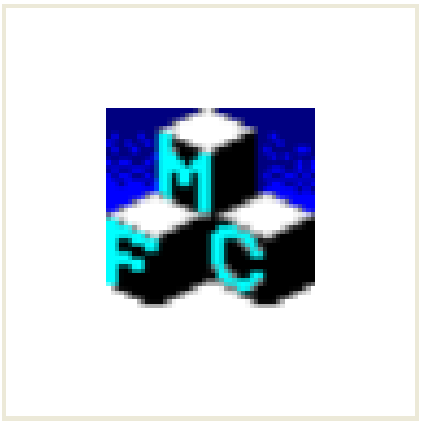
Monitor



LPT port driver

PORT95NT.EXE

ISP tool

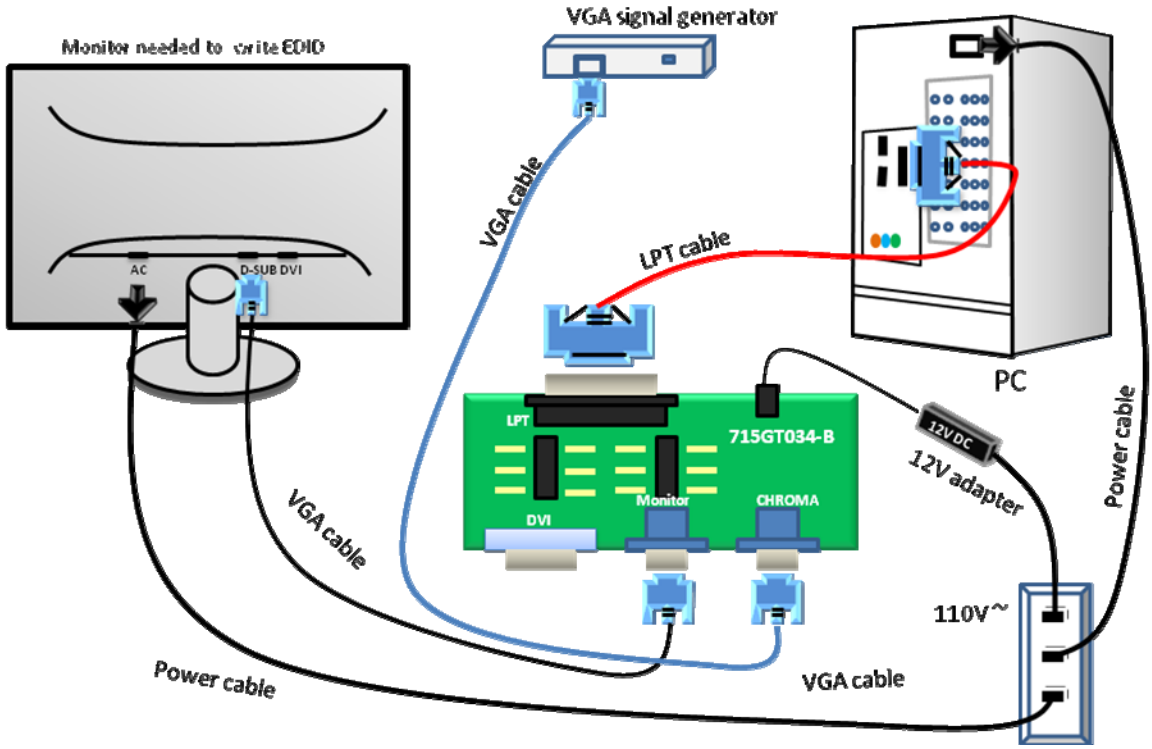


TPVDDC_V047.exe

EDID

Acer V203HQL EDID

7.2. Connection(DC on the monitor)



7.3. Install LPT driver.

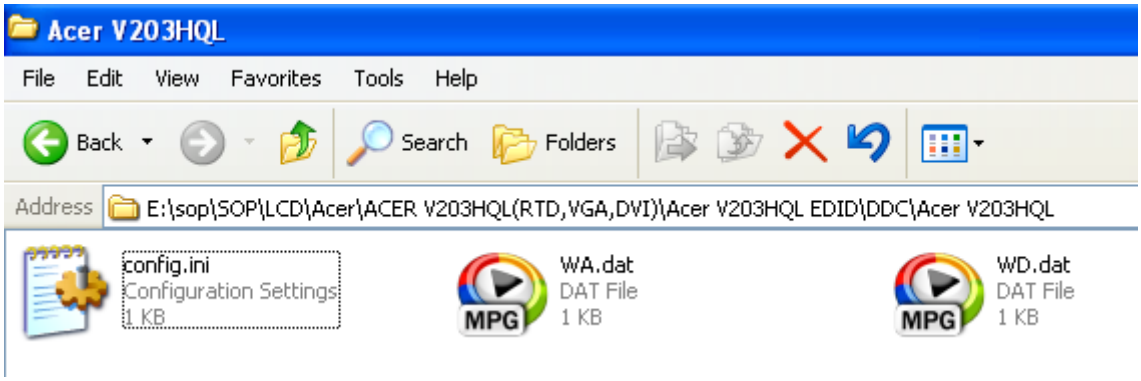
S1. Double click the icon  PORT95NT.EXE
PackageForTheWeb Stub
InstallShield Software Corpora... to install the driver. Restart PC after installation.

7.4. Prepare the EDID written.

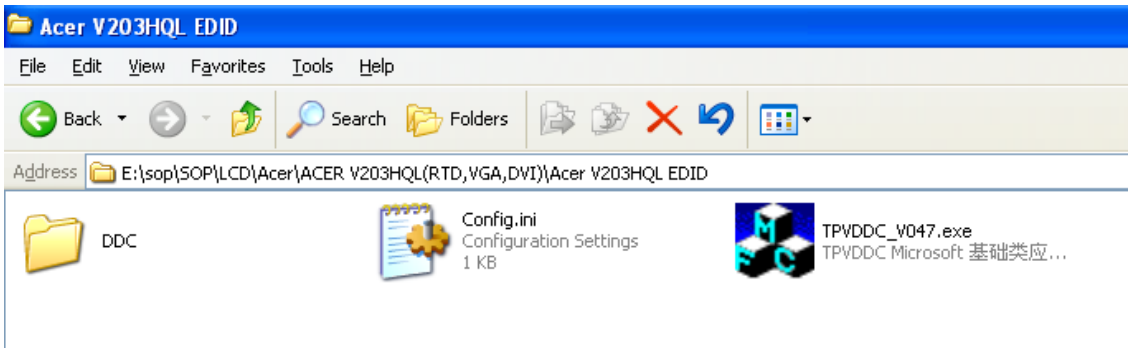
S1. Change the EDID files name as below rule.

Anolog EDID ⟶ WA.dat Digital EDID ⟶ WD.dat

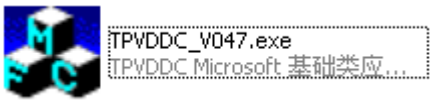
S2. Copy these three files to one folder named as ACER V203HQL which must contains “config.ini” file.



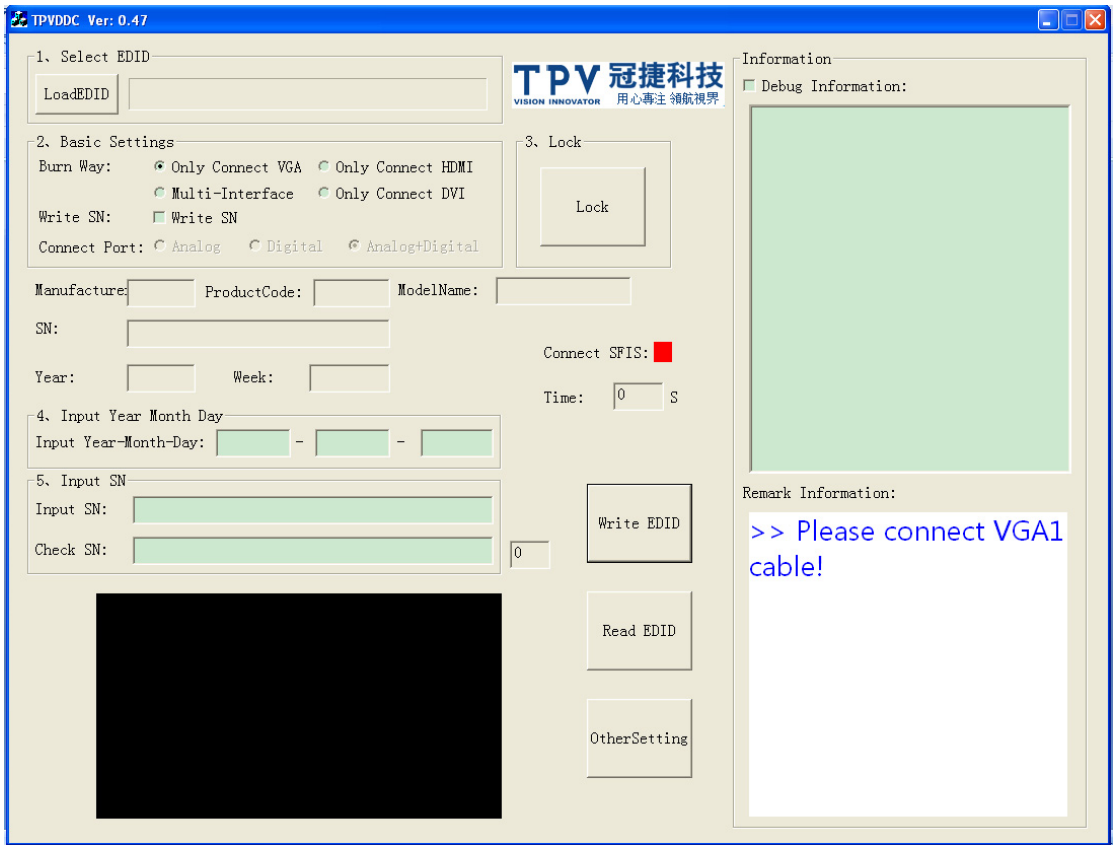
S3. Copy ACER V203HQL to DDC folder and put DDC and ISP tool together.



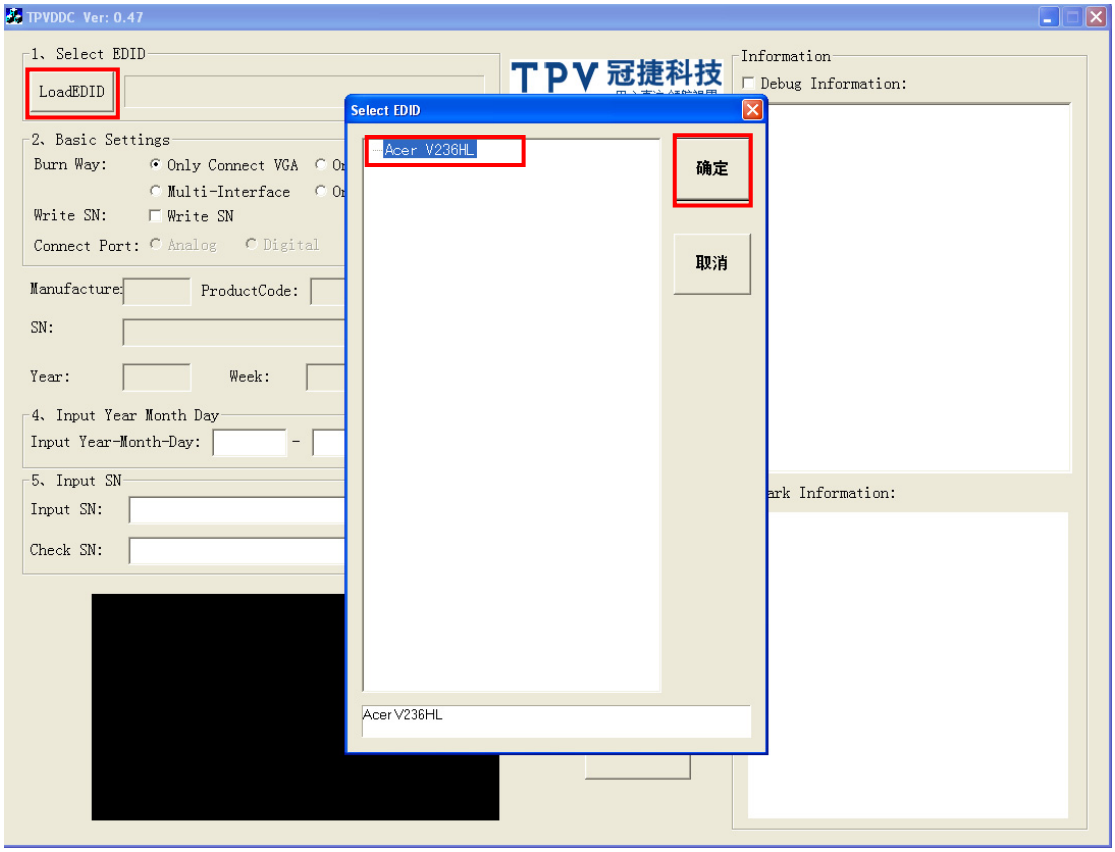
7.5. Run the ISP tool

S1. Double-click the icon 

to open the tool.

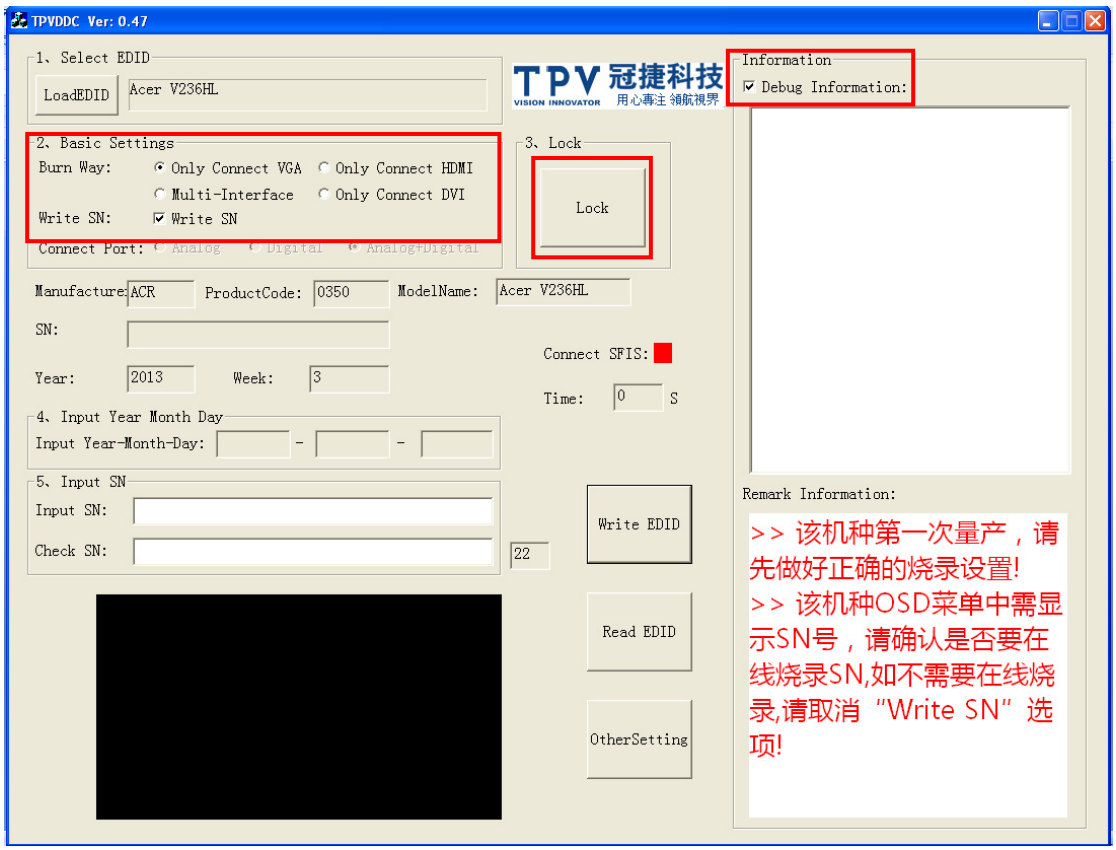


S2. Select the EDID folder.

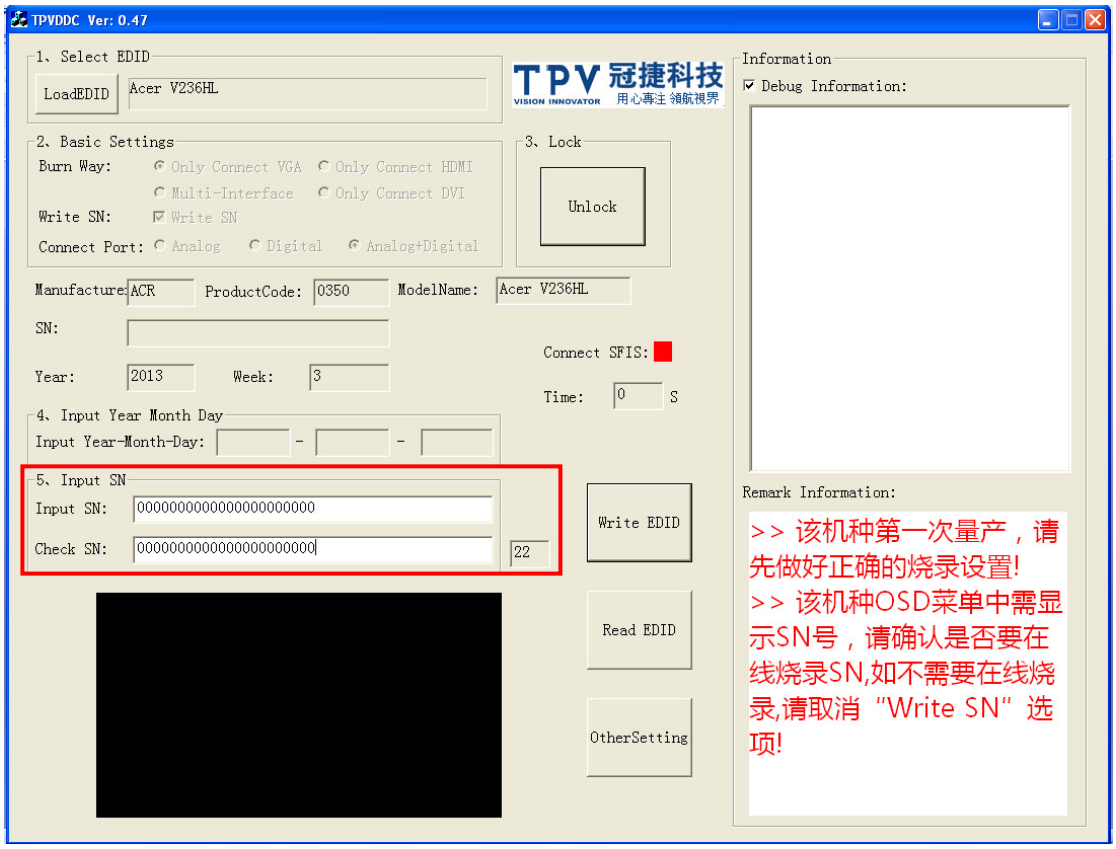


S3. Load EDID successful.

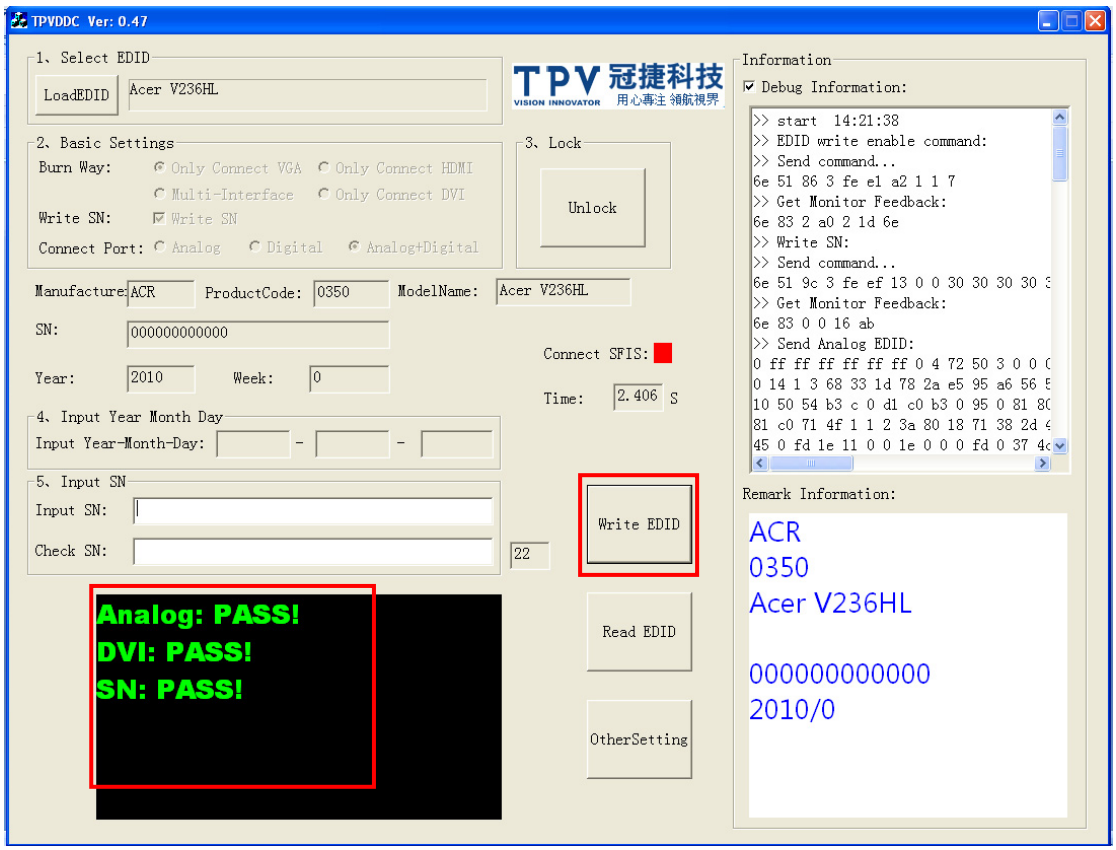
S4. Tick the “Only connect VGA”and “write SN”, then click “Lock” and “Debug Imformayion”.



S5. type in the 22 digit S/N..

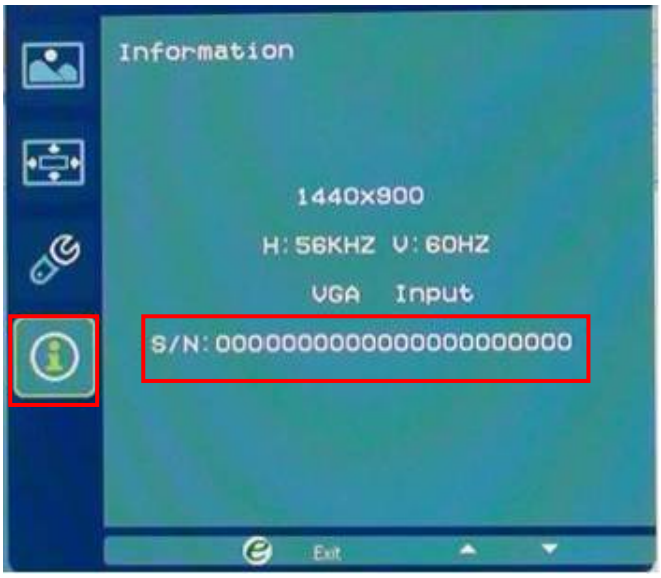


S6. Start to writing. Click “write EDID” to start writing. When The green “PASS” appear, the process is finished.



S7. Check the S/N in monitor user menu.

Press “MENU” and select “Information”—“SN”, you can check the SN.



7.6. Troubleshooting.

S1. Can’t write!

(1) AC on the monitor and turn on it.(Restart the monitor)

(2)Take apart the monitor and connect the 7pin of EEPROM to GND to diable write protection then write EDID one by one.

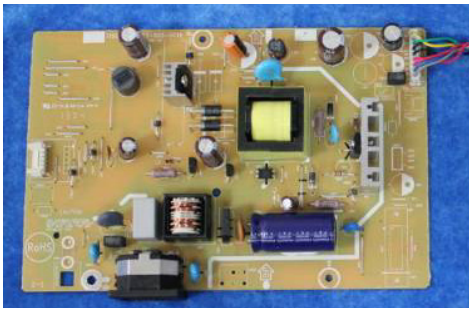
(3) Set the Burn in on last to try again.

8. FRU (Field Replaceable Unit) List

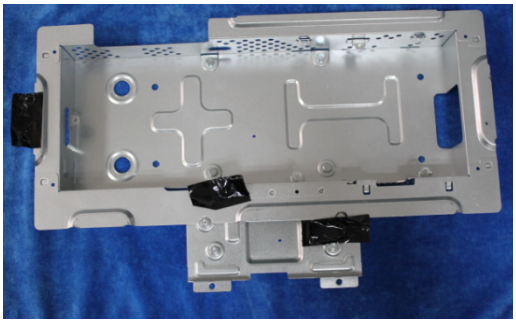
This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of Acer V203HQL Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

Please note that WHEN ORDERING FRU PARTS, you should check the most up-to-date information available on your regional web or channel. For whatever reasons a part number change is made, it will not be noted on the printed Service Guide. For ACER AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code from those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

NOTE: To scrap or to return the defective parts, you should follow the local government ordinance or regulations on how to dispose it properly, or follow the rules set by your regional Acer office on how to return it.

Picture	Description	TPV Part No.	Acer Part No.
	Main board	756GQDCB0AE0020000	55.LZJM2.001
	Power board	PLPCD9346MQEN	55.LZJM2.002
	Key board	KEPC8QK4	55.LBZ0B.005
	Panel	750GBM195FGK33N000	KL.1950D.002

	D-SUB CABLE 1800mm	089G-725GAA-2A	50.LNY0B.014
	HARNESS 6P-6P(CI1406S) 180mm	395G801406DJ60	50.LZJM2.002
	BEZEL	705GQDCS034324	60.LZJM2.001
	REAR COVER	Q34G7771AEMA1B0100	60.LZJM2.002
	STAND-HING ASSY	705GQDCS034322	N/A

	MAIN FRAME	Q15G160210100100GH	60.LZJM2.004

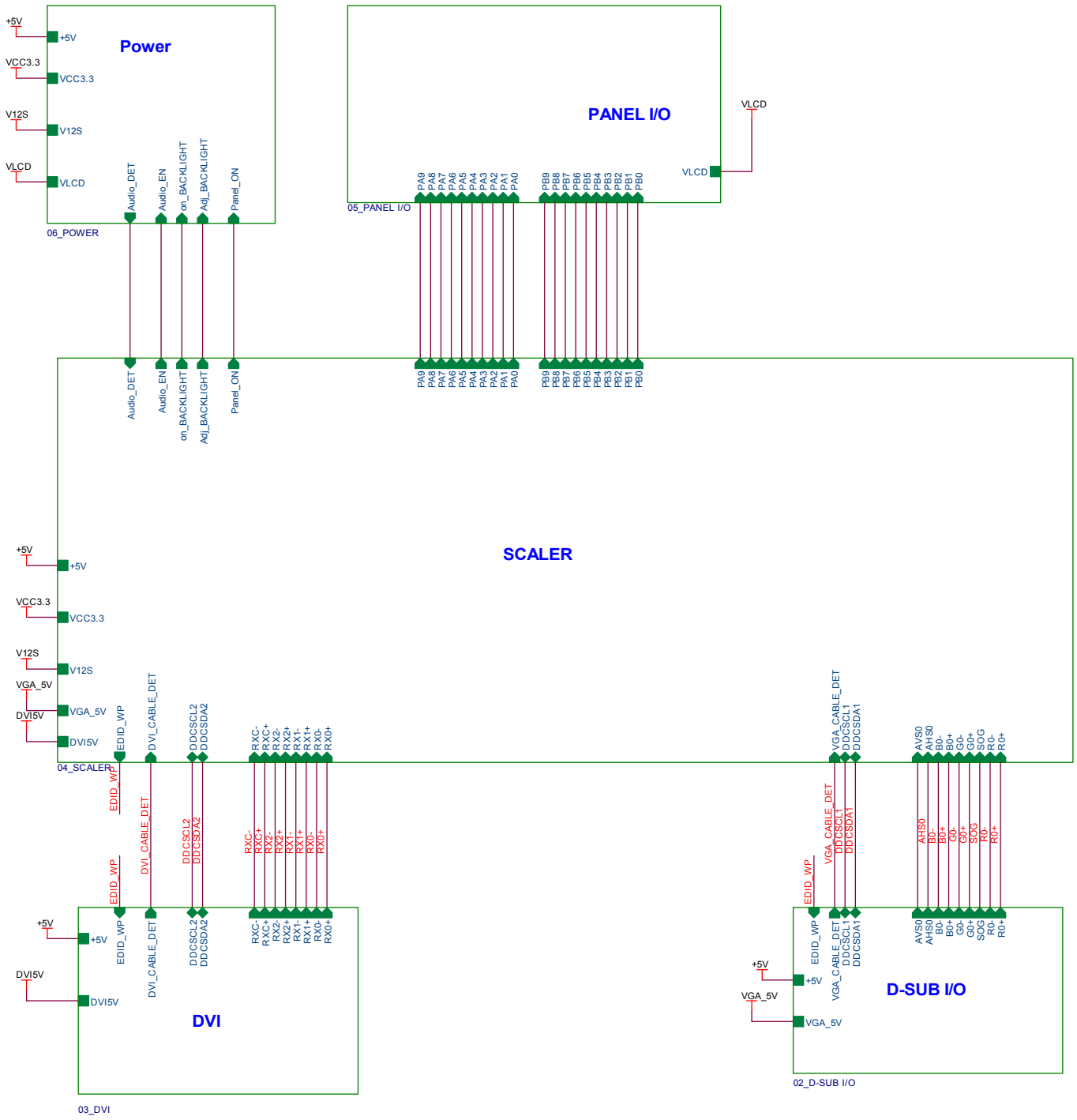
9. Schematics and Layouts

9.1 Schematics

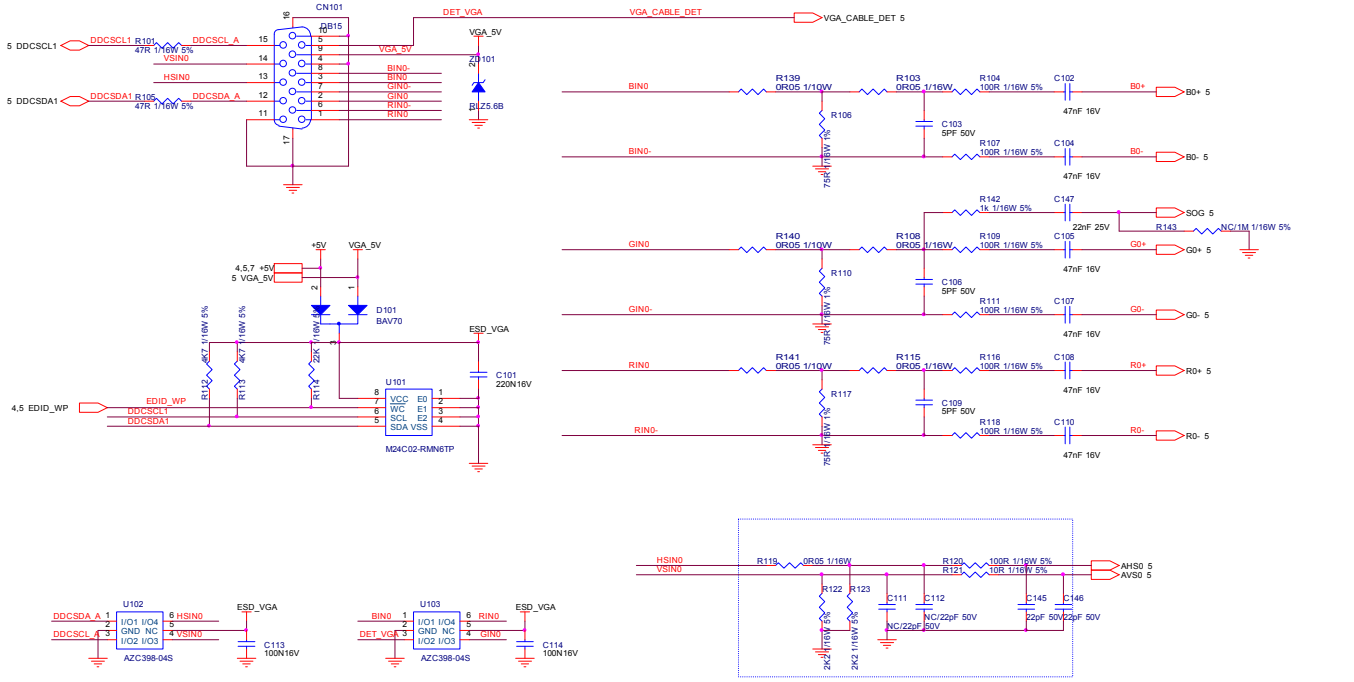
Main Board

715G4032M05000004L

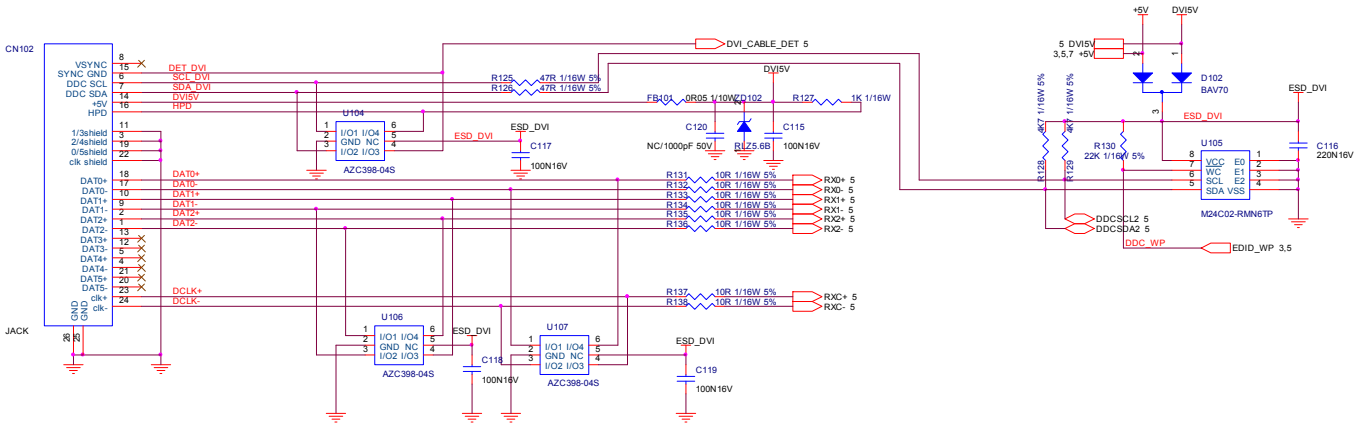
1.TOP



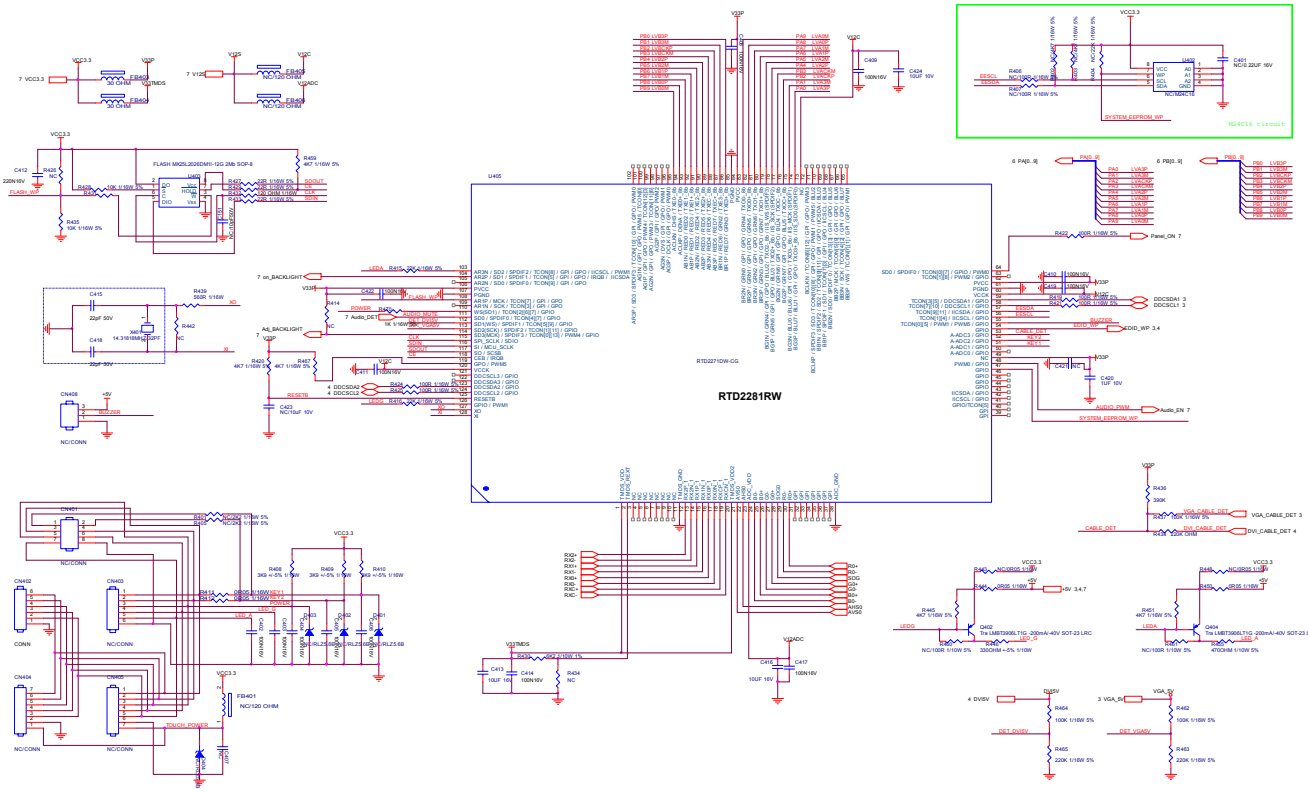
2.D-SUB I/O



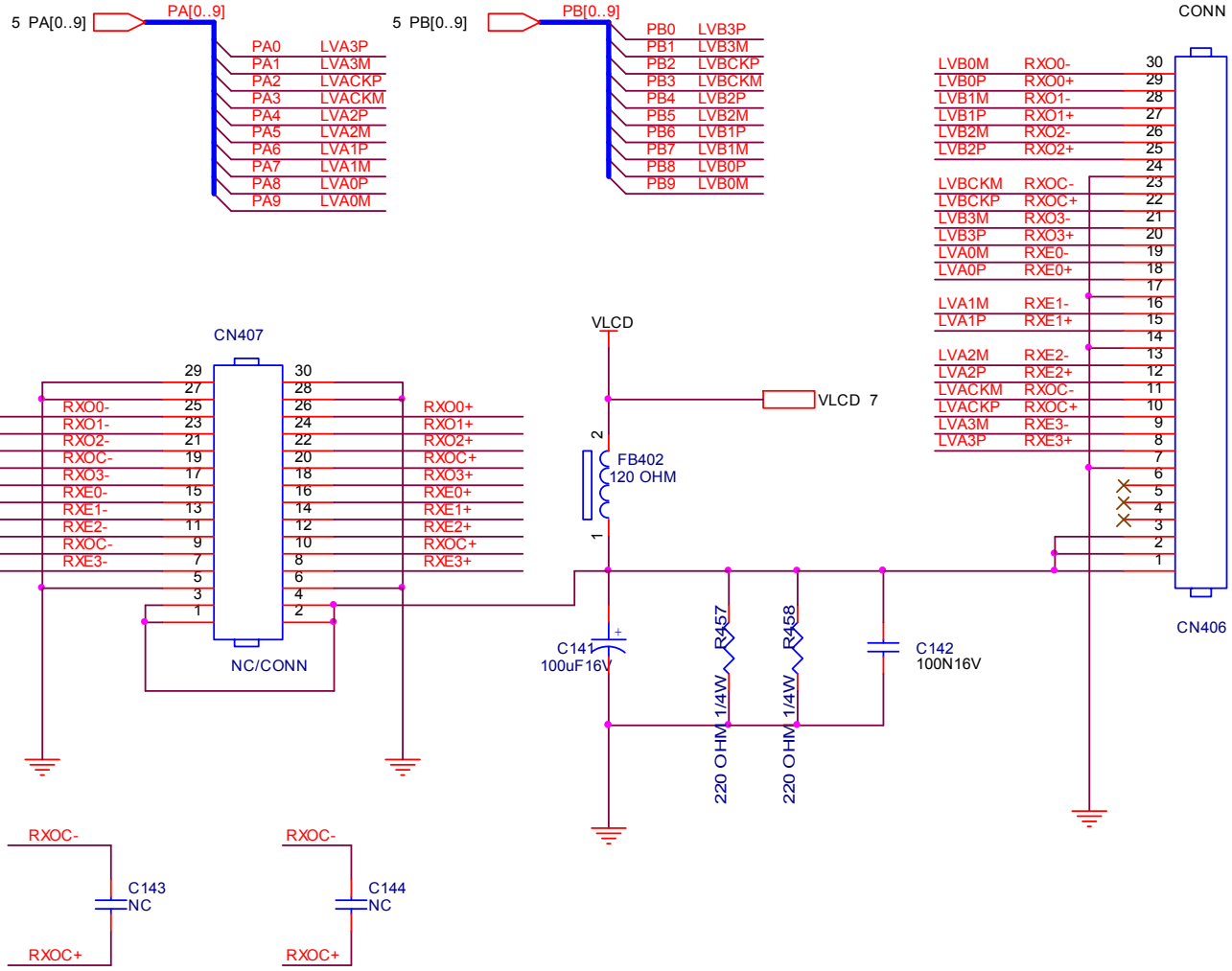
3.DVI



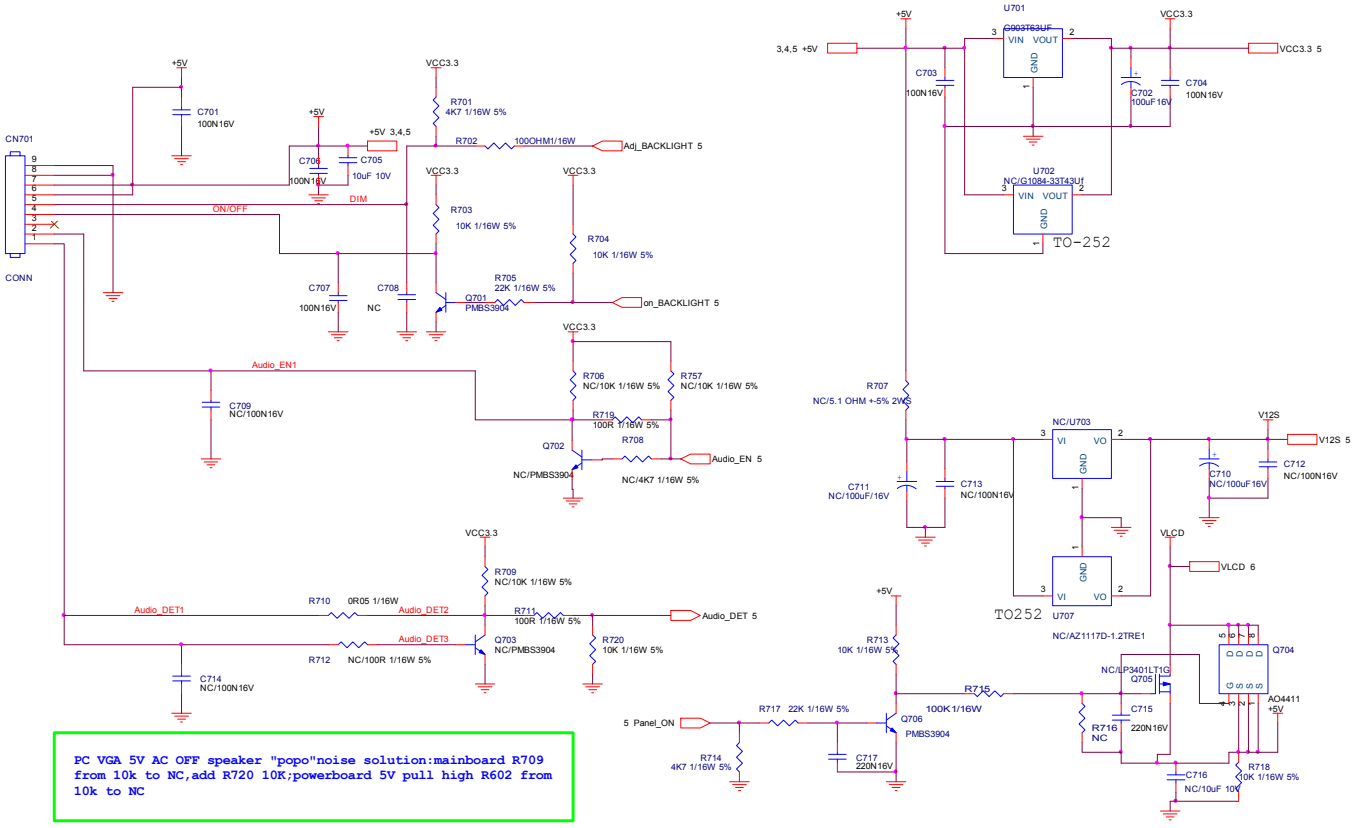
4.SCALER



5.LVDS PANEL I/O



6.POWER

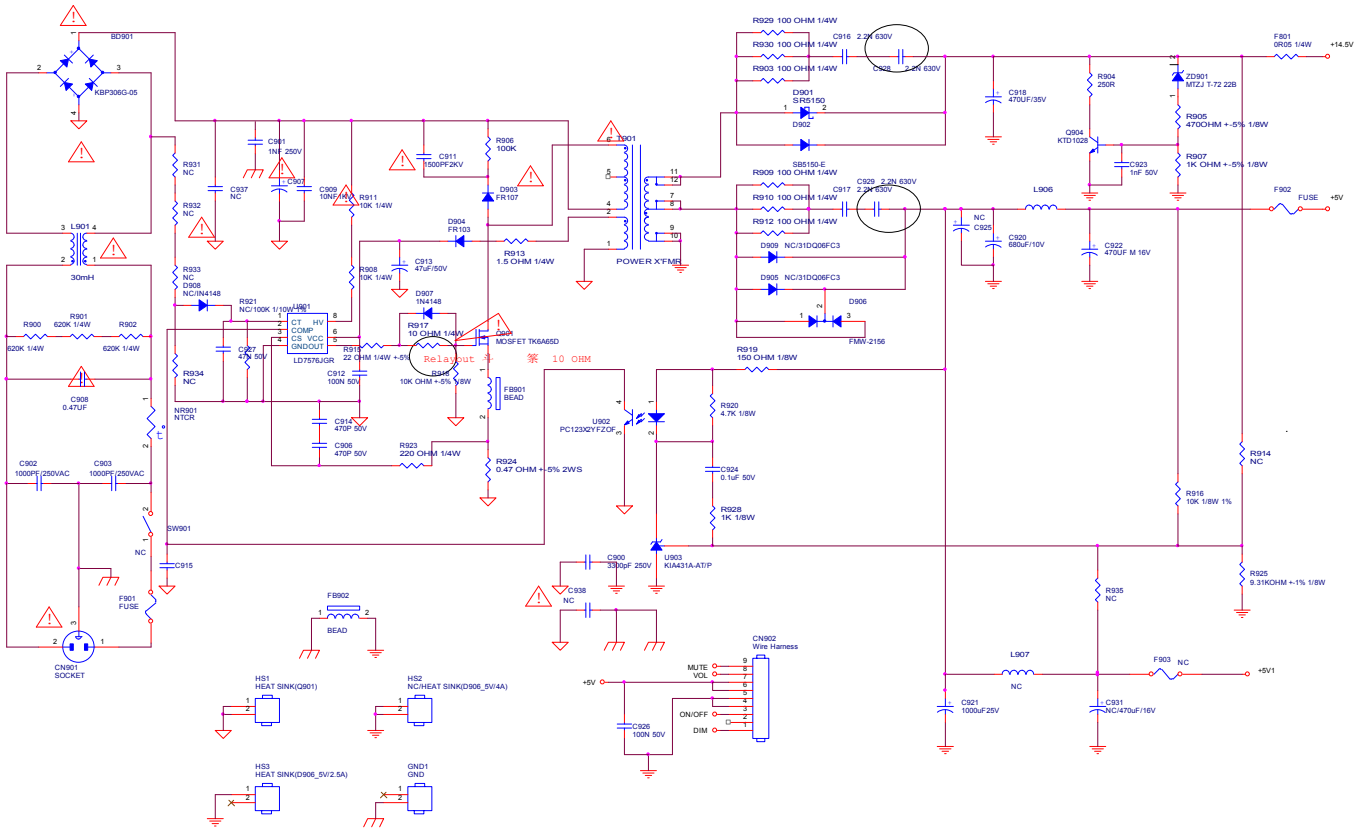


PC VGA 5V AC OFF speaker "popo"noise solution:mainboard R709 from 10k to NC,add R720 10K;powerboard 5V pull high R602 from 10k to NC

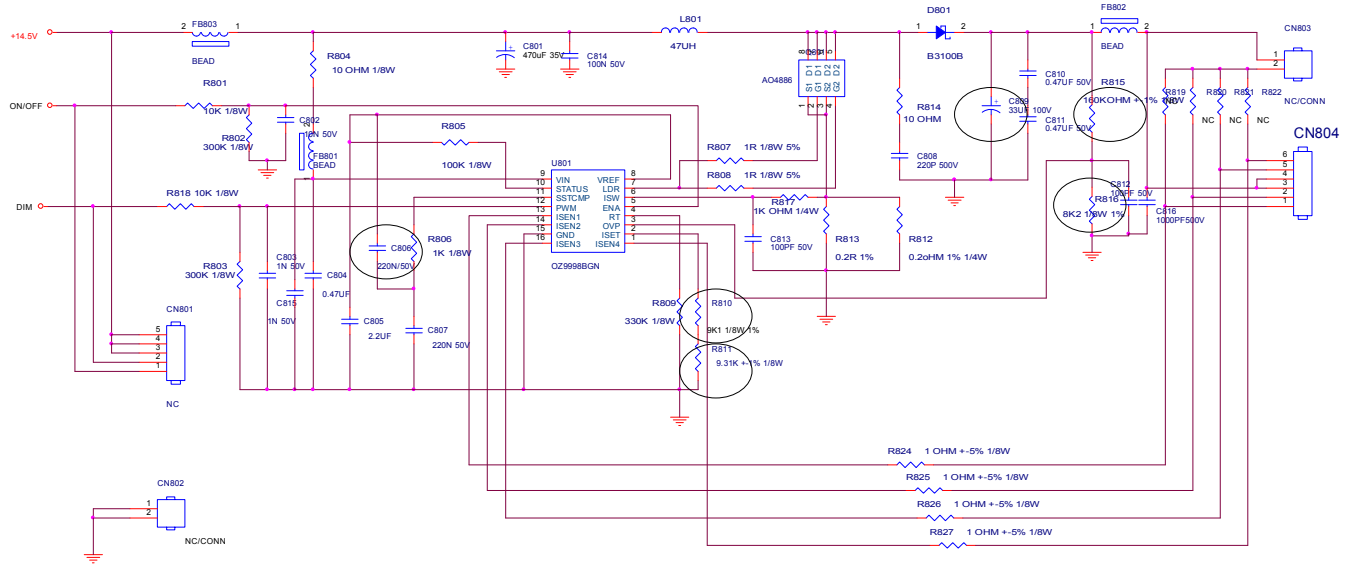
Power Board

715G4497P02005001H

1.POWER

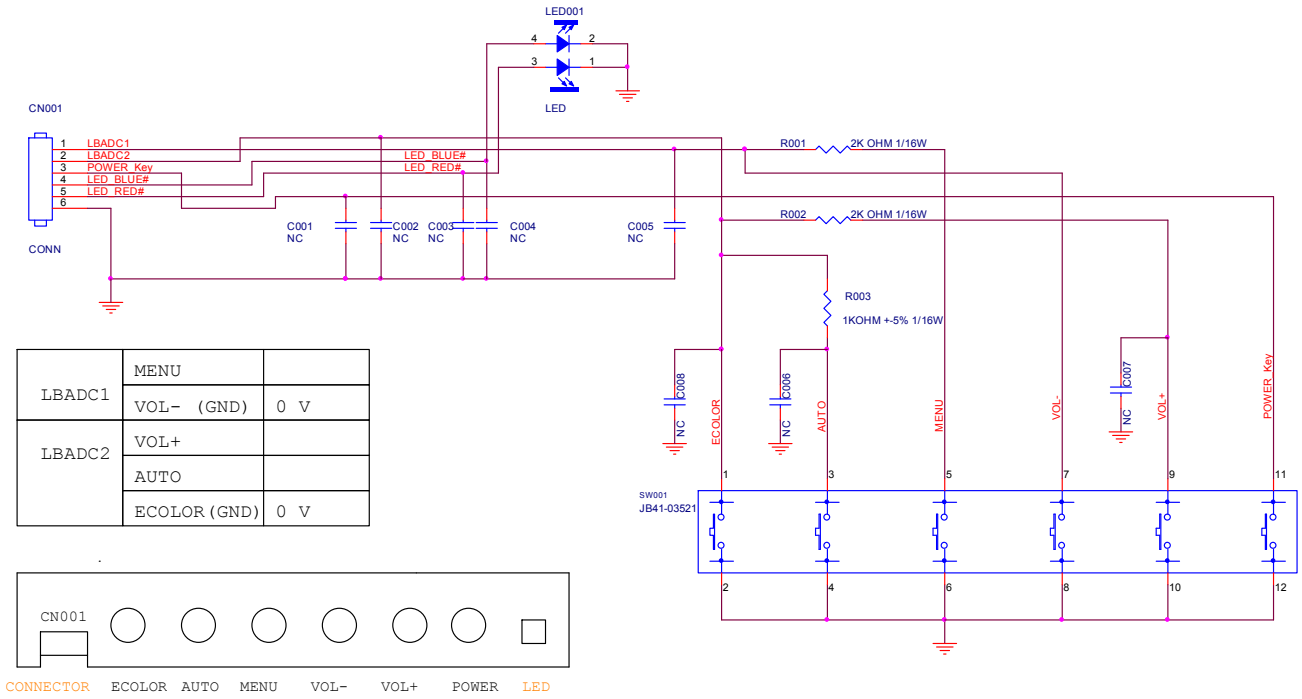


2.Converter



Key Board

715G2944 3



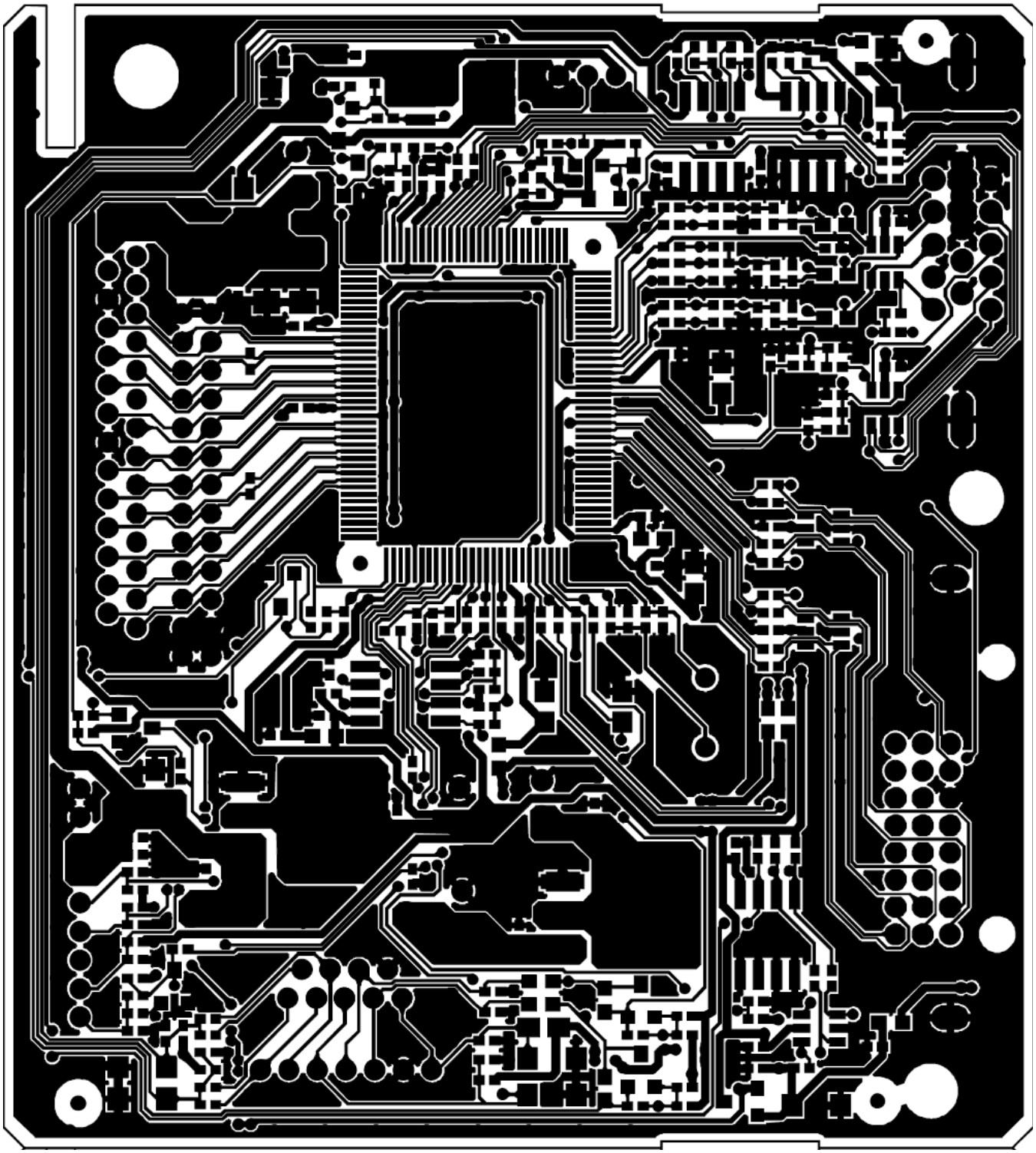
LBADC1	MENU	
	VOL- (GND)	0 V
LBADC2	VOL+	
	AUTO	
	ECOLOR (GND)	0 V

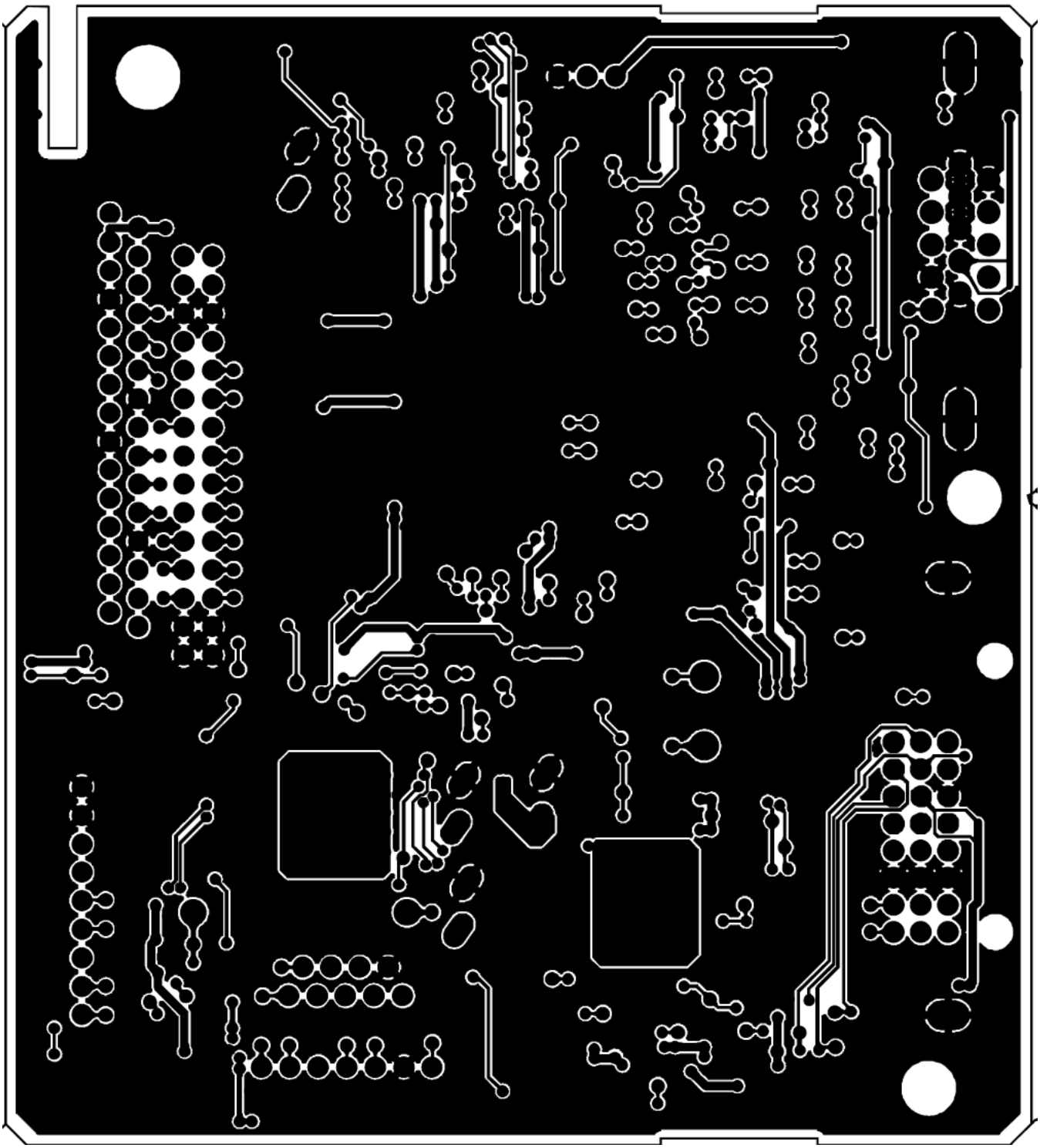
CONNECTOR ECOLOR AUTO MENU VOL- VOL+ POWER LED

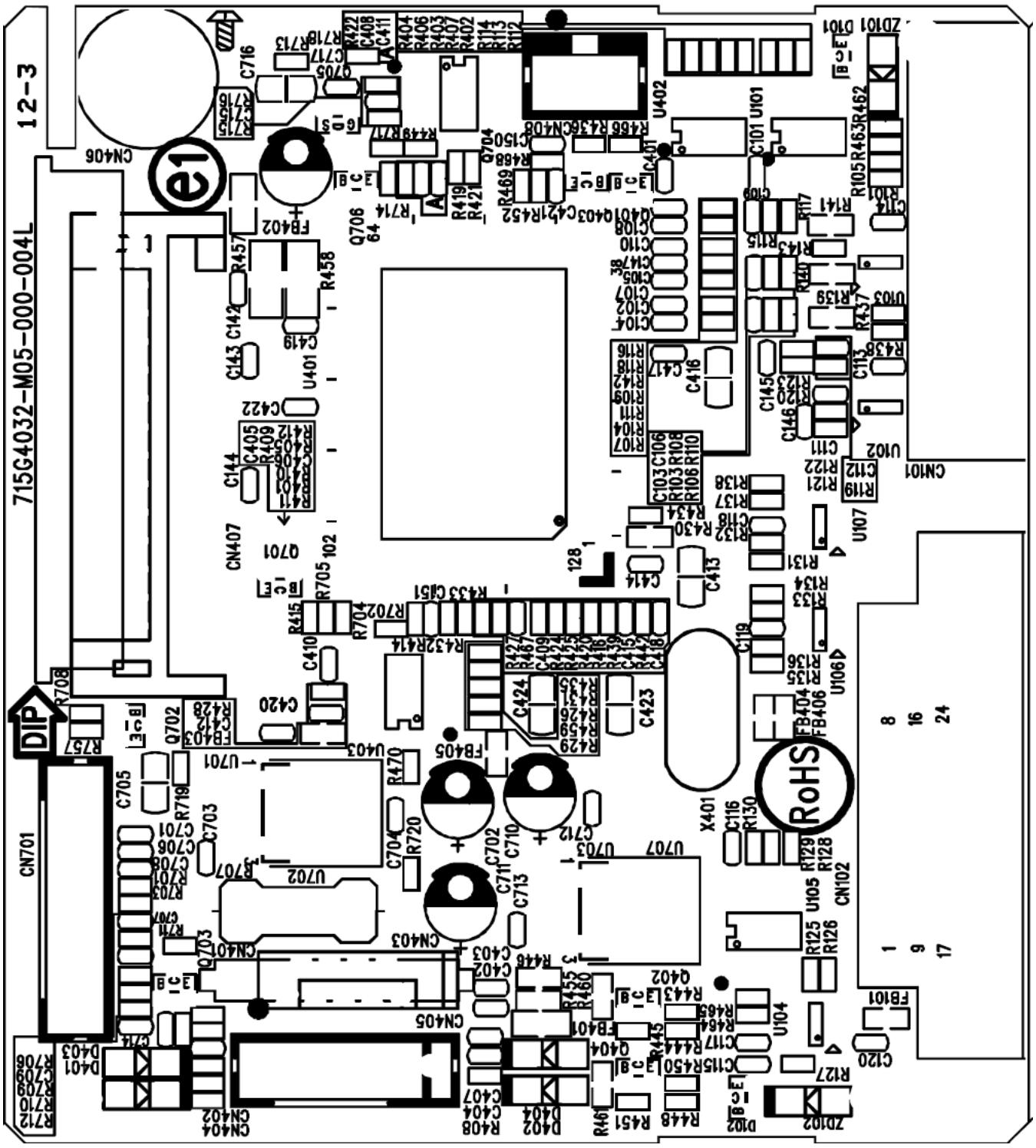
9.2 Layouts

Main Board

715G4032M05000004L

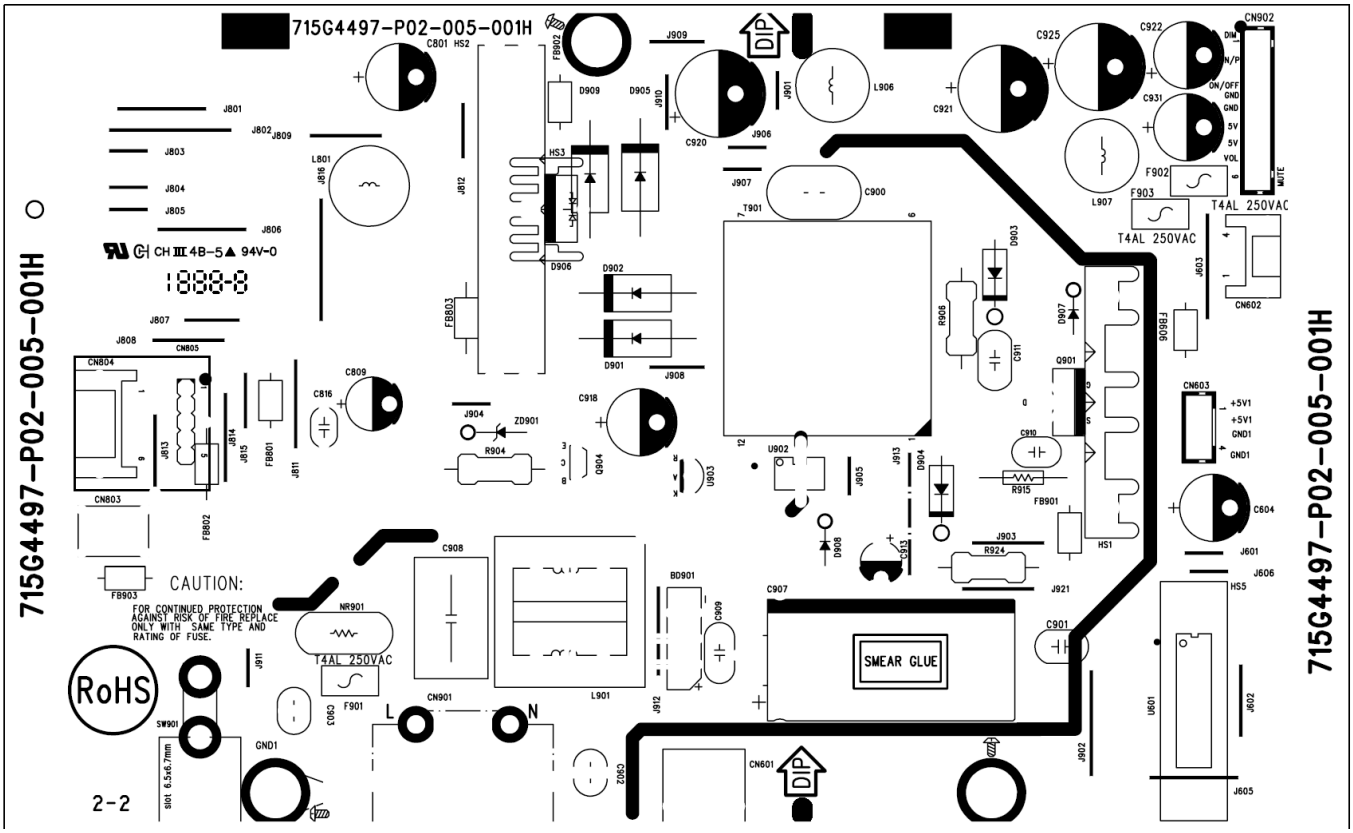


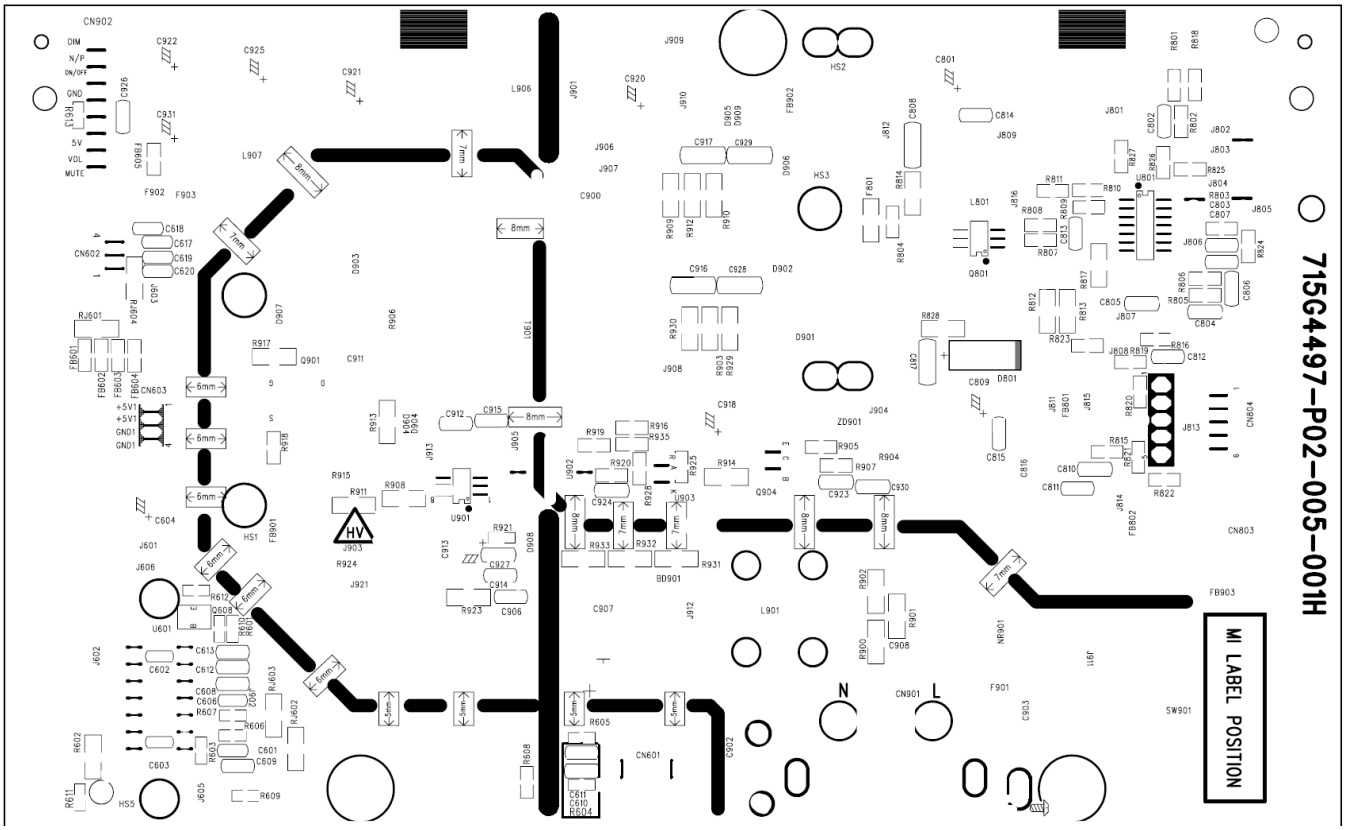


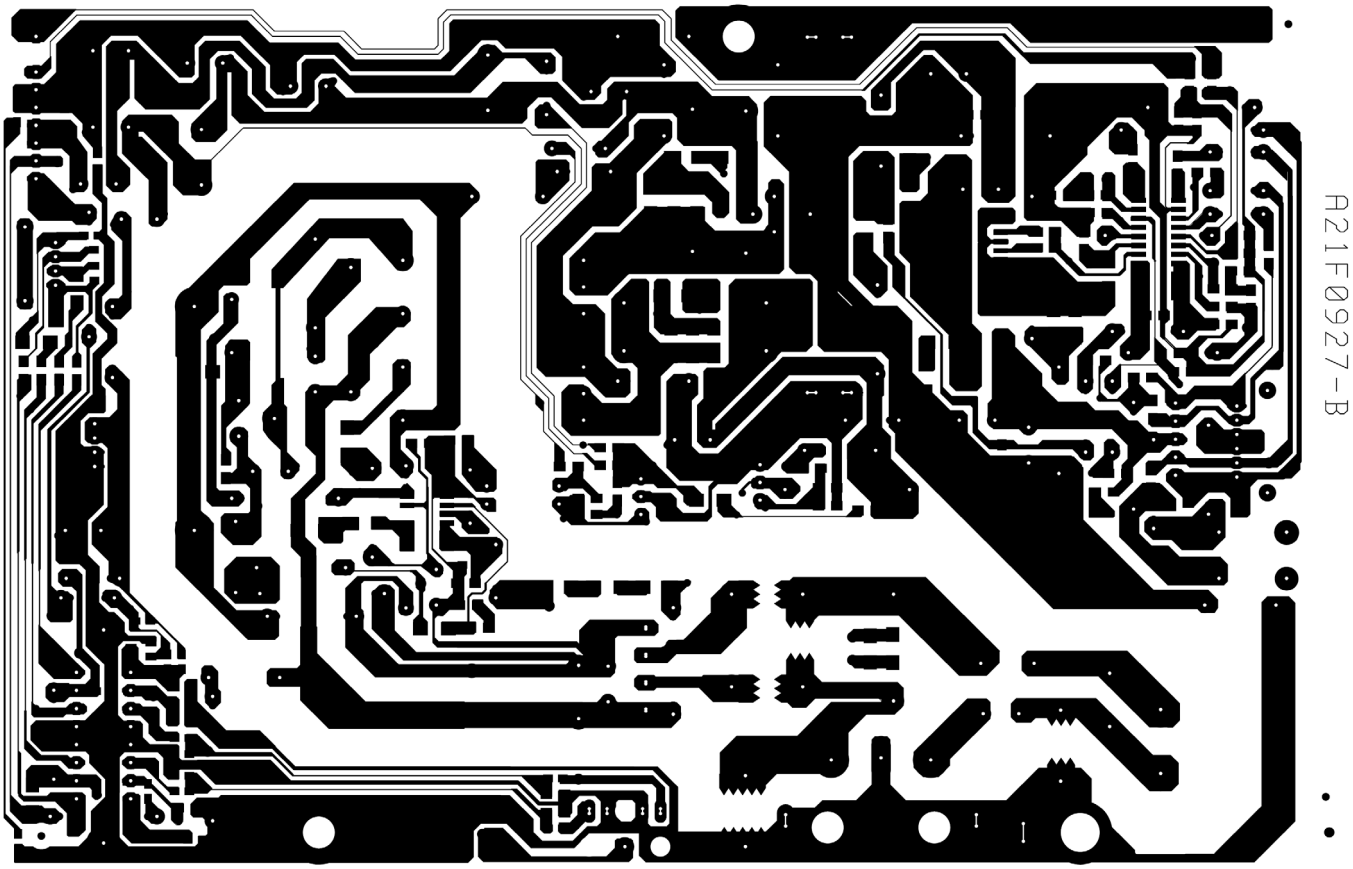


Power Board

715G4497P02005001H







Key Board

715G2944 3