

Service
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Service Manual

Horizontal Frequency

30-83 kHz

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SAFETY NOTICE

ANY PERSON ATTEMPTING TO SERVICE THIS CHASSIS MUST FAMILIARIZE HIMSELF WITH THE CHASSIS AND BE AWARE OF THE NECESSARY SAFETY PRECAUTIONS TO BE USED WHEN SERVICING ELECTRONIC EQUIPMENT CONTAINING HIGH VOLTAGES.

CAUTION: USE A SEPARATE ISOLATION TRANSFORMER FOR THIS UNIT WHEN SERVICING

Important Safety Notice

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

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. AOC could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, AOC has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by AOC must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

Hereafter throughout this manual, AOC Company will be referred to as AOC.

WARNING

Use of substitute replacement parts, which do not have the same, specified safety characteristics might create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from AOC. AOC assumes no liability, express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.

FOR PRODUCTS CONTAINING LASER:

DANGER-Invisible laser radiations when open AVOID DIRECT EXPOSURE TO BEAM.

CAUTION-Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CAUTION -The use of optical instruments with this product will increase eye hazard.

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

Take care during handling the LCD module with backlight unit

- Must mount the module using mounting holes arranged in four corners.
- Do not press on the panel, edge of the frame strongly or electric shock as this will result in damage to the screen.
- Do not scratch or press on the panel with any sharp objects, such as pencil or pen as this may result in damage to the panel.
- Protect the module from the ESD as it may damage the electronic circuit (C-MOS).
- Make certain that treatment person's body is grounded through wristband.
- Do not leave the module in high temperature and in areas of high humidity for a long time.
- Avoid contact with water as it may a short circuit within the module.
- If the surface of panel becomes dirty, please wipe it off with a soft material. (Cleaning with a dirty or rough cloth may damage the panel.)

Revision List

[illegible]

1. Monitor Specification

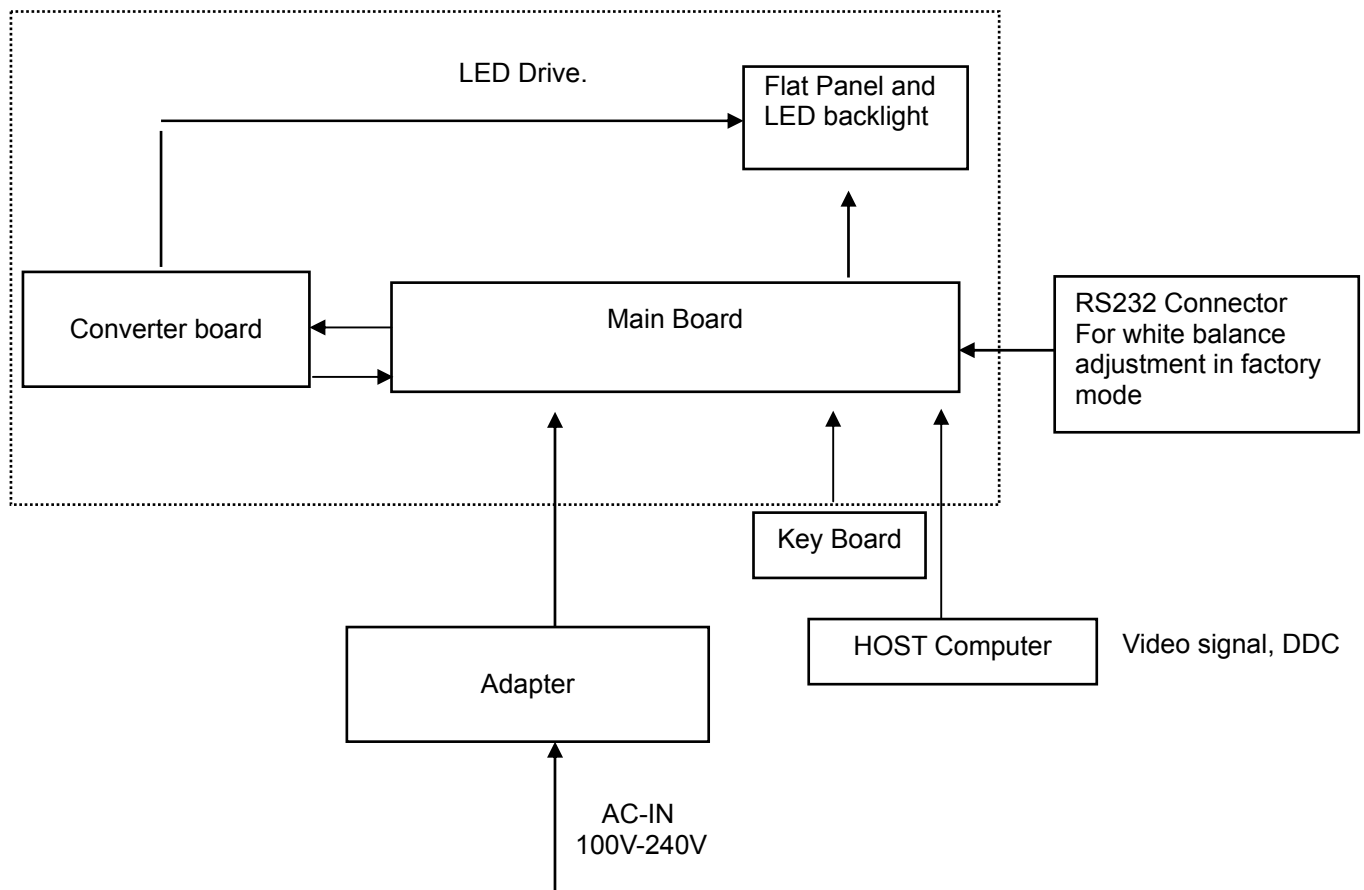
Panel	Product name	e2040S	
	Driving system	TFT Color LCD	
	Viewable Image Size	50.805 cm diagonal	
	Pixel pitch	0.2768 mm(H) x 0.2768 mm(V)	
	Video	R, G, B Analog Interface	
	Separate Sync.	H/V TTL	
	Display Color	16.7M Colors	
	Dot Clock	108 MHz	
Resolution	Horizontal scan range	30 kHz - 83 kHz	
	Horizontal scan Size(Maximum)	442.8mm	
	Vertical scan range	55 Hz - 75 Hz	
	Vertical scan Size(Maximum)	249.075mm	
	Optimal preset resolution	1600x900(60 Hz)	
	Highest preset resolution	1600x900(60 Hz)	
	Plug & Play	VESA DDC2B/CI	
	Input Connector	D-Sub 15pin	
	Input Video Signal	Analog: 0.7Vp-p(standard), 75 OHM, Positive	
	Power Source	12Vdc,3A	
	Power Consumption	Active < 25W	
		Standby < 1 W	
	Off Timer	0~24hours	Select timing to turn off the monitor.
Physical Characteristics	Connector Type	15-pin Mini D-Sub	
	Signal Cable Type	Detachable	
	Dimensions & Weight:		
	Height (with base)	375mm	
	Width	494.57mm	
	Depth	180mm	
	Weight (monitor only)	3.5kg	
	Weight (with packaging)	5.4kg	
Environmental	Temperature:		
	Operating	0° to 40°	
	Non-Operating	-25° to +55°	
	Humidity:		
	Operating	10% to 85% (non-condensing)	
	Non-Operating	5% to 93% (non-condensing)	
	Altitude:		
	Operating	0~ 3658m (0~ 12000 ft)	
	Non-Operating	0~ 12192m (0~ 40000 ft)	

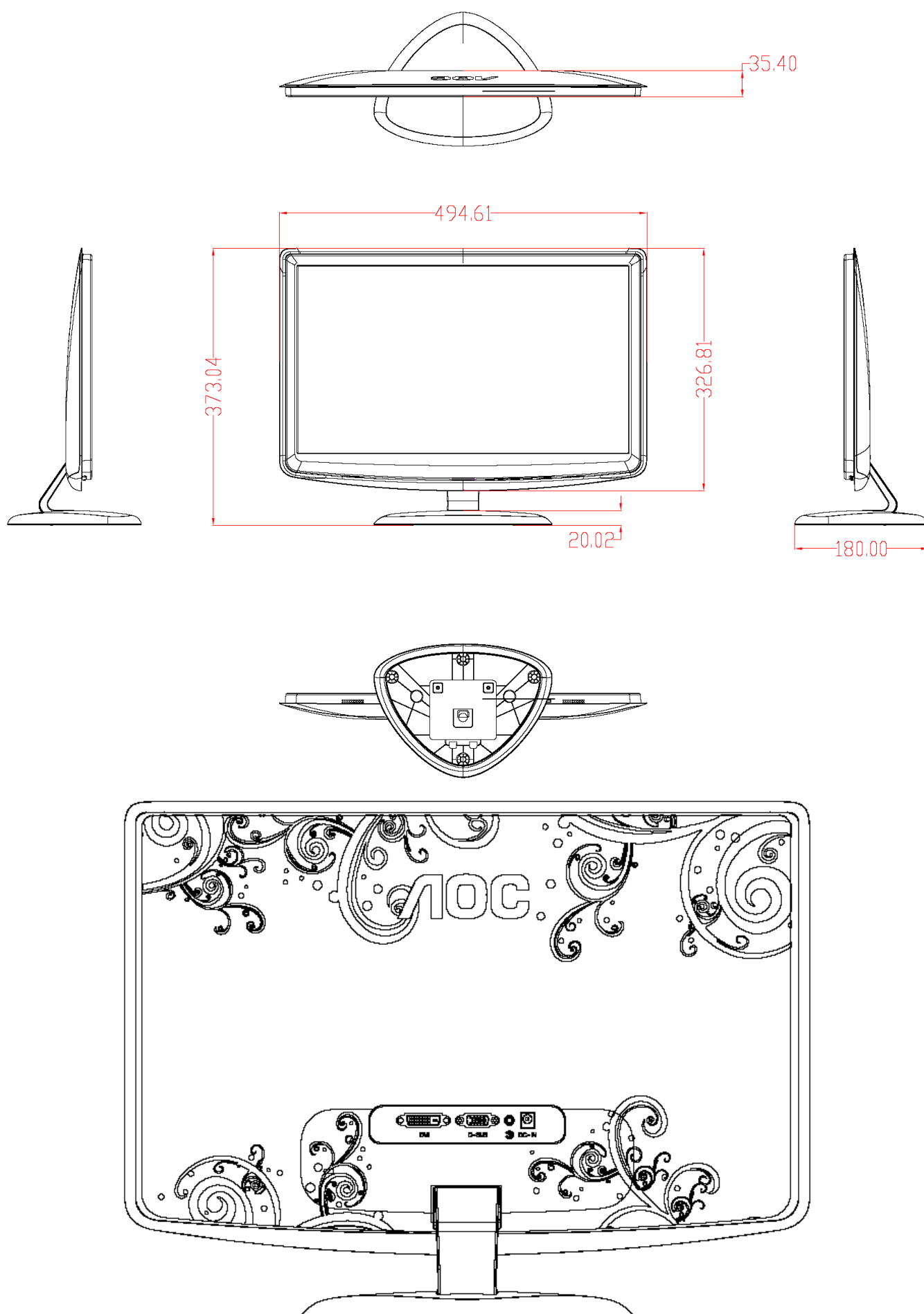
2. LCD Monitor Description

The LCD monitor will contain a main board, an adapter board, a converter board and a key board which house the flat panel control logic, brightness control logic and DDC.

The power part will provide AC to DC Inverter voltage to drive the backlight of panel and the main board chips each voltage.

Monitor Block Diagram



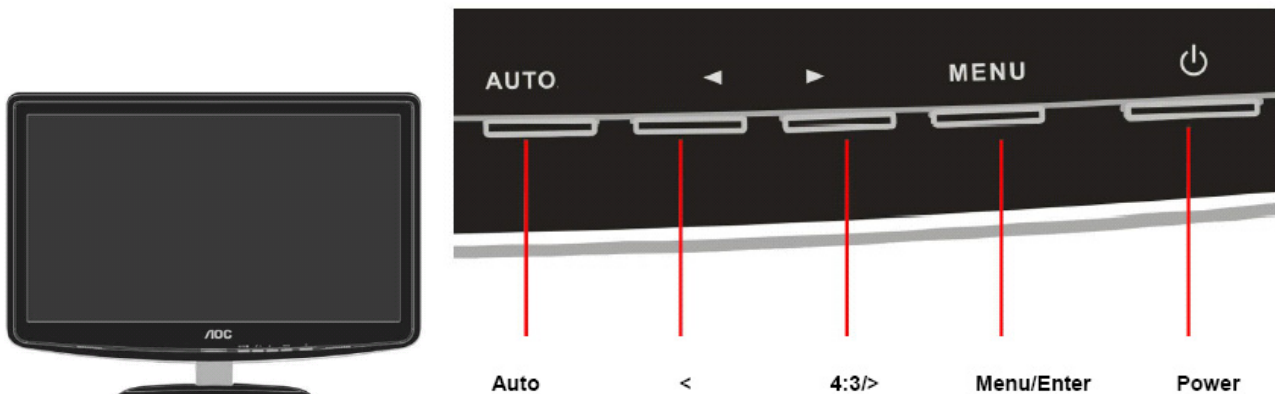


3. Operating Instructions

3.1 General Instructions

Press the power button to turn the monitor on or off. The other control knobs are located at front panel of the monitor. By changing these settings, the picture can be adjusted to your personal preferences.

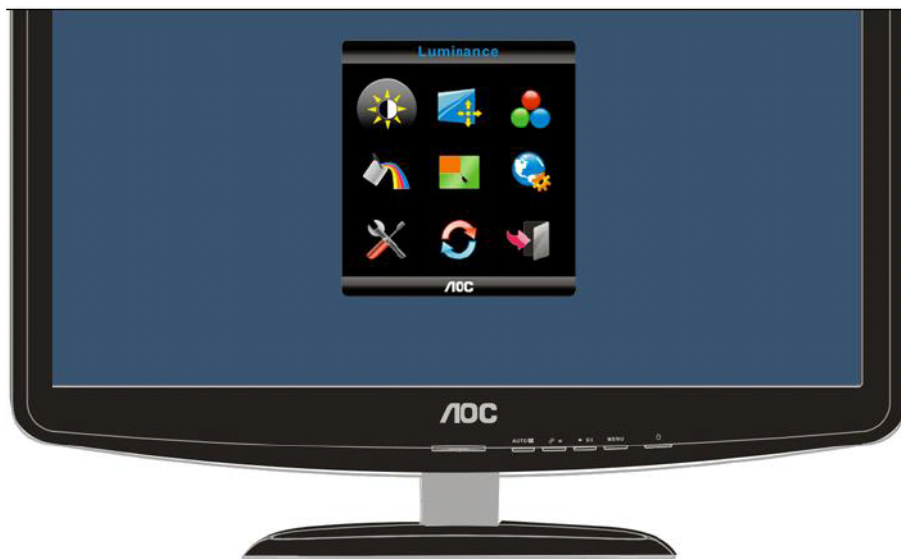
3.2 Control Buttons



4:3 or wide image ratio hot key: When there is no OSD, press ► continuously to change 4:3 or wide image ratio. (If the product screen size is 4:3 or input signal resolution is wide format, the hot key is disable to adjust)

Auto configure hot key When there is no OSD, press Auto/Source button continuously about to do auto configure (Only for the models with dual or more inputs).

3.3 Adjusting the Picture OSD Setting



- 1) Press the **MENU-button** to activate the OSD window.
- 2) Press **◀ or ▶** to navigate through the functions. Once the desired function is highlighted, press the **MENU-button** to activate sub-menu . Once the desired function is highlighted, press **MENU-button** to activate it.
- 3) Press **◀ or ▶** to change the settings of the selected function. Press **◀ or ▶** to select another function in sub-menu . Press **AUTO** to exit . If you want to adjust any other function, repeat steps 2-3.
- 4) OSD Lock Function: To lock the OSD, press and hold the **MENU button** while the monitor is off and then press **power button** to turn the monitor on. To un-lock the OSD - press and hold the **MENU button** while the monitor is off and then press **power button** to turn the monitor on.

Notes:

- 1) If the product has only one signal input, the item of "Input Select" is disable to adjust.
- 2) If the product screen size is 4:3 or input signal resolution is wide format, the item of "Image Ratio" is disable to adjust.
- 3) One of DCR, Color Boost, and Picture Boost functions is active, the other two function is turned off accordingly.

Luminance

1



Press **MENU** (Menu) to display menu.

2



Press ◀ or ▶ to select  (Luminance), and press **MENU** to enter.

3



Press ◀ or ▶ to select submenu, press **MENU** to enter, and press ◀ or ▶ to adjust.

4



Press **AUTO** to exit.

	Brightness	0-100		Backlight Adjustment
	Contrast	0-100		Contrast from Digital-register.
	Eco mode	Standard		Standard Mode
		Text		Text Mode
		Internet		Internet Mode
		Game		Game Mode
		Movie		Movie Mode
		Sports		Sports Mode
	Gamma	Gamma1		Adjust to Gamma1
		Gamma2		Adjust to Gamma 2
		Gamma3		Adjust to Gamma 3
	DCR	On/Off		Enable/Unenble dynamic contrast ratio

1



Press **MENU** (Menu) to display menu.

2



Press ◀ or ▶ to select  (Image Setup), and press **MENU** to enter.

3



Press ◀ or ▶ to select submenu, press **MENU** to enter, and press ◀ or ▶ to adjust.

4



Press **AUTO** to exit.

	Clock	0-100	Adjust picture Clock to reduce Vertical-Line noise.
	Phase	0-100	Adjust Picture Phase to reduce Horizontal-Line noise
	H.Position	0-100	Adjust the horizontal position of the picture.
	V.Position	0-100	Adjust the vertical position of the picture.

1



Press **MENU** (Menu) to display menu.

2



Press ◀ or ▶ to select  (Color Temperature), and press **MENU** to enter.

3



Press ◀ or ▶ to select submenu, press **MENU** to enter, and press ◀ or ▶ to adjust.

4



Press **AUTO** to exit.

	Warm	6500K	Recall Warm Color Temperature from EEPROM.
	Normal	7300K	Recall Normal Color Temperature from EEPROM.
	Cool	9300K	Recall Cool Color Temperature from EEPROM.
	sRGB		Recall sRGB Color Temperature from EEPROM.
	User	Red	Red Gain from Digital-register
		Green	Green Gain Digital-register.
		Blue	Blue Gain from Digital-register

1



Press **MENU** (Menu) to display menu.

2



Press ◀ or ▶ to select  (Color Boost), and press **MENU** to enter.

3



Press ◀ or ▶ to select submenu, press **MENU** to enter, and press ◀ or ▶ to adjust.

4



Press **AUTO** to exit.

	Full Enhance	on or off	Disable or Enable Full Enhance Mode
	Nature Skin	on or off	Disable or Enable Nature Skin Mode
	Green Field	on or off	Disable or Enable Green Field Mode
	Sky-blue	on or off	Disable or Enable Sky-blue Mode
	AutoDetect	on or off	Disable or Enable AutoDetect Mode
	Demo	on or off	Disable or Enable Demo

1



Press **MENU** (Menu) to display MENU.

Press ◀ or ▶ to select  (Picture Boost); and press **MENU** to enter.

2



Press ◀ or ▶ to select Bright Frame. Select “on” to activate Picture Boost.

3



Press ◀ or ▶ to select submenu, press **MENU** to enter, and press ◀ or ▶ to adjust.

4



Press **AUTO** to exit.

	Frame Size	14-100	Adjust Frame Size
	Brightness	0-100	Adjust Frame Brightness
	Contrast	0-100	Adjust Frame Contrast
	H. position	0-100	Adjust Frame horizontal Position
	V.position	0-100	Adjust Frame vertical Position
	Bright Frame	on or off	Disable or Enable Bright Frame

1



Press **MENU** (Menu) to display menu.

2



Press ◀ or ▶ to select  (OSD Setup), and press **MENU** to enter.

3



Press ◀ or ▶ to select submenu, press **MENU** to enter, and press ◀ or ▶ to adjust.

4



Press **AUTO** to exit.

	OSD Setup		
	H.Position	0-100	Adjust the horizontal position of OSD
	V.Position	0-100	Adjust the vertical position of OSD
	Timeout	5-120	Adjust the OSD Timeout
	Transparence	0-100	Adjust the transparence of OSD
	Language		Select the OSD language

1



Press **MENU** (Menu) to display menu.

2



Press ◀ or ▶ to select  (OSD Setup), and press **MENU** to enter.

3



Press ◀ or ▶ to select submenu, press **MENU** to enter, and press ◀ or ▶ to adjust.

4



Press **AUTO** to exit.

	Input Select	Analog	Select Analog Signal Source as Input
	Auto Config	yes or no	Auto adjust the picture to default
	Image Ratio	wide or 4:3	Select wide or 4:3 format for display
	DDC-CI	yes or no	Turn ON/OFF DDC-CI Support
	Information		Show the information of the main image and sub-image source

1



Press **MENU** (Menu) to display menu.

2



Press ◀ or ▶ to select  (Reset), and press **MENU** to enter.

3



Press ◀ or ▶ to select YES or NO.

4



Press **MENU** to exit.

	Reset	yes or no	Reset the menu to default
---	-------	-----------	---------------------------

Exit



Press **MENU** (Menu) to display menu.



Press ◀ or ▶ to select  (Exit); and press **MENU** to enter.

	Exit		Exit the main OSD
---	------	--	-------------------

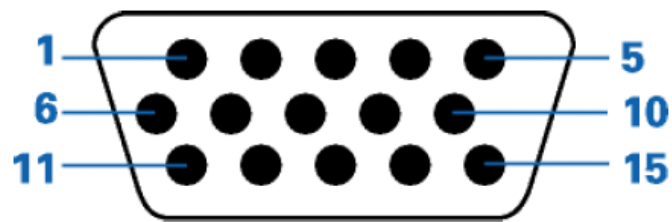
LED Indicator

Status	LED Color	
Full Power Mode	Blue	
Active-off Mode	Orange	

4. Input/Output Specification

4.1 Input Signal Connector

D-SUB connector



Pin Number	15-Pin Side of the Signal Cable
1	Video-Red
2	Video-Green
3	Video-Blue
4	N.C.
5	Detect Cable
6	GND-R
7	GND-G
8	GND-B
9	+5V
10	Ground
11	N.C.
12	DDC-Serial data
13	H-sync
14	V-sync
15	DDC-Serial clock

4.2 Factory Preset Display Modes

STAND	RESOLUTION	HORIZONTAL FREQUENCY(kHZ)	VERTICAL FREQUENCY(Hz)
VGA	640×480 @60Hz	31.469	59.940
VGA	640×480 @67Hz	35.000	66.667
VGA	640×480 @72Hz	37.861	72.809
VGA	640×480 @75Hz	37.500	75.000
Dos-mode	720×400 @70Hz	31.469	70.087
SVGA	800×600 @56Hz	35.156	56.250
SVGA	800×600 @60Hz	37.879	60.317
SVGA	800×600 @72Hz	48.077	72.188
Mac-mode	832×624 @75Hz	49.725	74.500
XGA	1024×768 @60Hz	48.363	60.004
XGA	1024×768 @70Hz	56.476	70.069
XGA	1024×768 @75Hz	60.023	75.029
XGA	1024×768 @75Hz	60.241	74.927
wSXGA	1600×900 @60Hz	60.000	60.000

4.3 Panel Specification**4.3.1 Display Characteristics**

LM200WD3-TLA1 is a Color Active Matrix Liquid Crystal Display with an integral Light Emitting Diode(LED) backlight system. The matrix employs a-Si Thin Film Transistor as the active element. It is a transmissive type display operating in the normally white mode. It has a 20.0 inch diagonally measured active display area with HD+ resolution (900 vertical by 1600 horizontal pixel array) Each pixel is divided into Red, Green and Blue sub-pixels or dots which are arranged in vertical stripes.

Active screen size	20.0 inches (508.05mm) diagonal
Outline Dimension	462.8(H) x 272.0(V) x 11.5(D) mm(Typ.)
Pixel Pitch	0.09225*RGB(H)mm x 0.27675(V)mm
Pixel Format	1600 horizontal By 900 vertical Pixels. RGB stripe arrangement
Interface	LVDS 2Port
Color depth	16.7M colors
Luminance, white	250 cd/m ² (Center 1Point, typ)
Viewing Angle (CR>10)	R/L 170(Typ.), U/D 160(Typ.)
Power Consumption	Total 14.5W(Typ.), (3.9W@V _{LCD} , 10.6W@I _{BL} =110mA)
Weight	1360g (Typ.)
Display operating mode	Transmissive mode, normally White
Surface treatments	Hard coating (3H), Anti-glare treatment of the front polarizer

4.3.2 Optical Characteristics

Parameter		Symbol		Values			Units
				Min	Typ	Max	
Contrast Ratio		CR		700	1000	-	
Surface Luminance, white		L _{WH}		200	250	-	cd/m ²
Luminance Variation		δ _{WHITE}	9P	75	-	-	%
Response Time	Rise Time	Tr _R		-	1.1	2.6	ms
	Decay Time	Tr _D		-	3.9	7.4	ms
Color Coordinates [CIE1931] (By PR650)	RED	R _x		Typ -0.03	0.631	Typ +0.03	
		R _y			0.349		
	GREEN	G _x			0.341		
		G _y			0.622		
	BLUE	B _x			0.152		
		B _y			0.058		
	WHITE	W _x			0.313		
		W _y			0.329		
Color Gamut				-	68	-	%
Viewing Angle (CR>5)							
	x axis, right(φ=0°)	θ _r		75	88	-	Degree
	x axis, left (φ=180°)	θ _l		75	88	-	
	y axis, up (φ=90°)	θ _u		70	85	-	
	y axis, down (φ=270°)	θ _d		70	85	-	
Viewing Angle (CR>10)							
	x axis, right(φ=0°)	θ _r		70	85	-	Degree
	x axis, left (φ=180°)	θ _l		70	85	-	
	y axis, up (φ=90°)	θ _u		60	75	-	
	y axis, down (φ=270°)	θ _d		70	85	-	
Crosstalk				-	-	1.5	%
Luminance uniformity - Angular dependence (TCO'03)		LR		-	-	1.7	
Color grayscale linearity		Δu'v'		-	0.018	-	

4.3.3 Electrical Characteristics

Ta = 25 ± 2 °C

Parameter	Symbol	Values			Unit	Notes
		Min	Typ	Max		
MODULE :						
Power Supply Input Voltage	V _{LCD}	4.5	5.0	5.5	Vdc	
Permissive Power Input Ripple	V _{LCD}	-	-	0.2	V	3
Power Supply Input Current	I _{LCD-MOSAIC}	-	780	935	mA	1
	I _{LCD-BLACK}	-	950	1140	mA	2
Power Consumption	P _{LCD}	-	3.9	4.7	Watt	1
Inrush current	I _{RUSH}	-	-	3.0	A	3

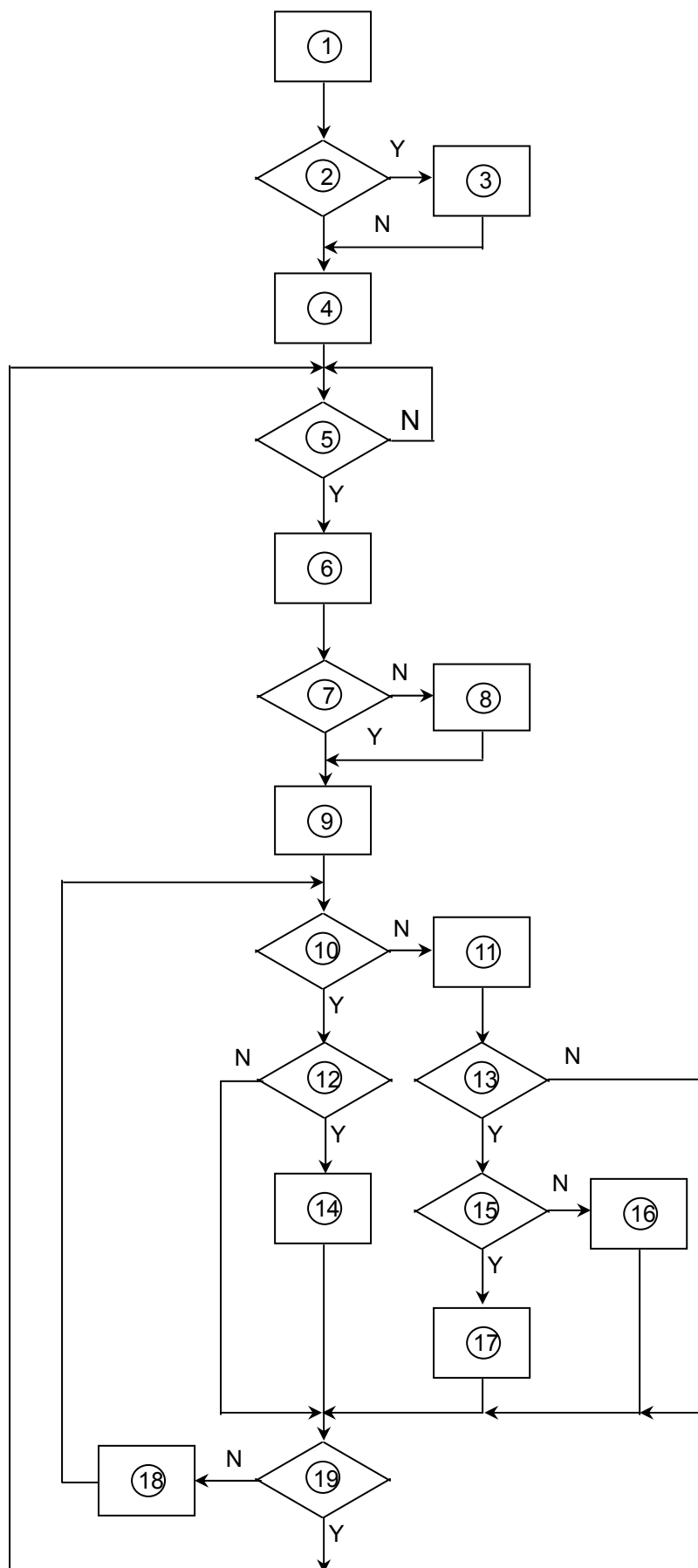
Note :

1. The specified current and power consumption are under the VLCD=5.0V, 25 ± 2°C, fV=60Hz condition whereas mosaic pattern(8 x 6) is displayed and fV is the frame frequency.
2. The current is specified at the maximum current pattern.
3. Permissive power ripple should be measured under VCC=5.0V, 25°C, fV (frame frequency)=75Hz condition and At that time, we recommend the bandwidth configuration of oscilloscope is to be under 20MHz.
4. The duration of rush current is about 5ms and rising time of power Input is 500us ± 20%.

Back Light Unit:

Ta = 25 ± 2 °C

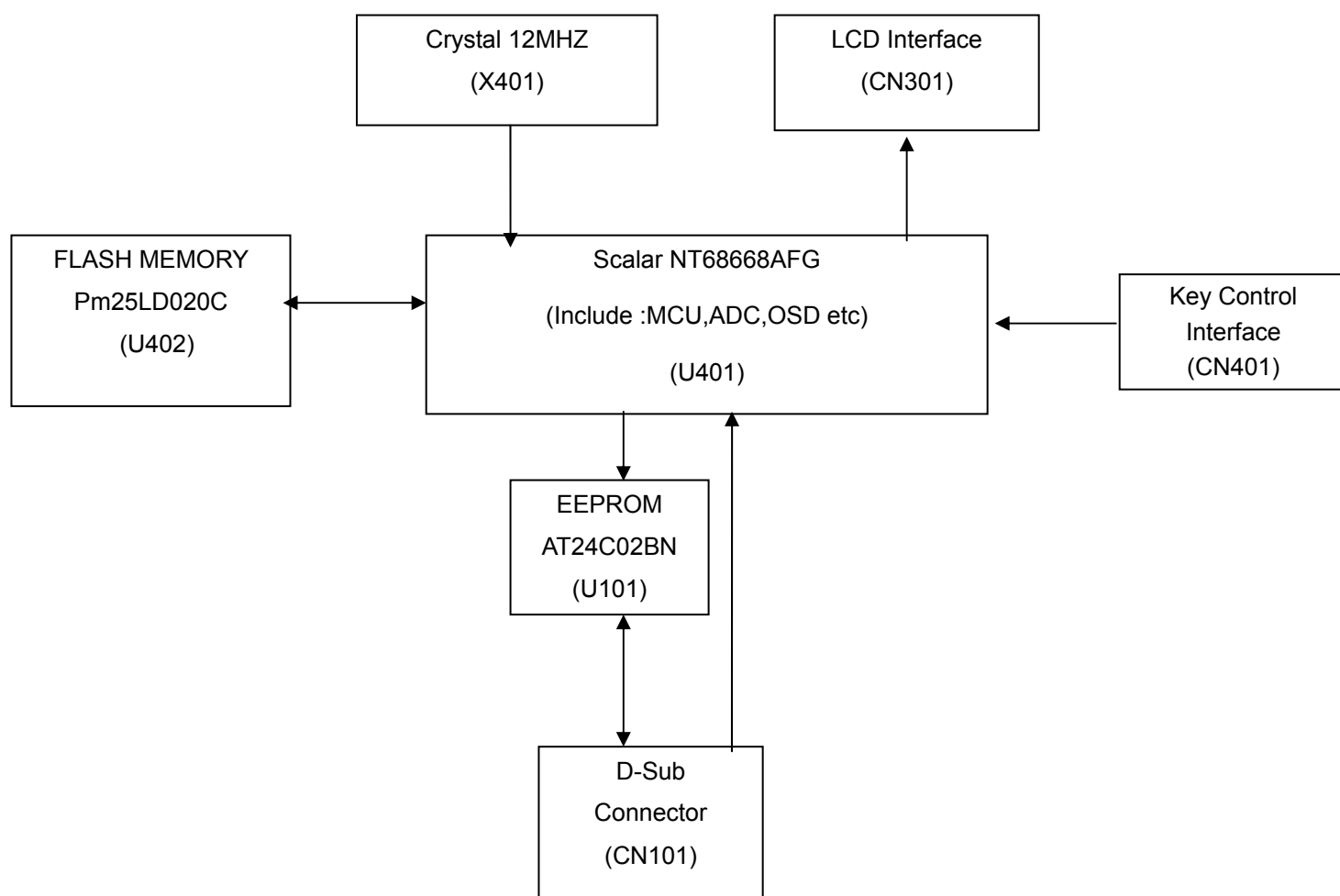
Parameter	Symbol	Condition	Values			Unit
			Min.	Typ.	Max.	
LED :						
LED String Current	Is		-	110	120	mA
LED String Voltage	Vs		-	48.0	51.0	V
Power Consumption	Parray		-	10.6	11.3	Watt
LED Life Time	LED_LT		30,000	-	-	Hrs
LED Junction Temperature	Tj		-	-	70	°C

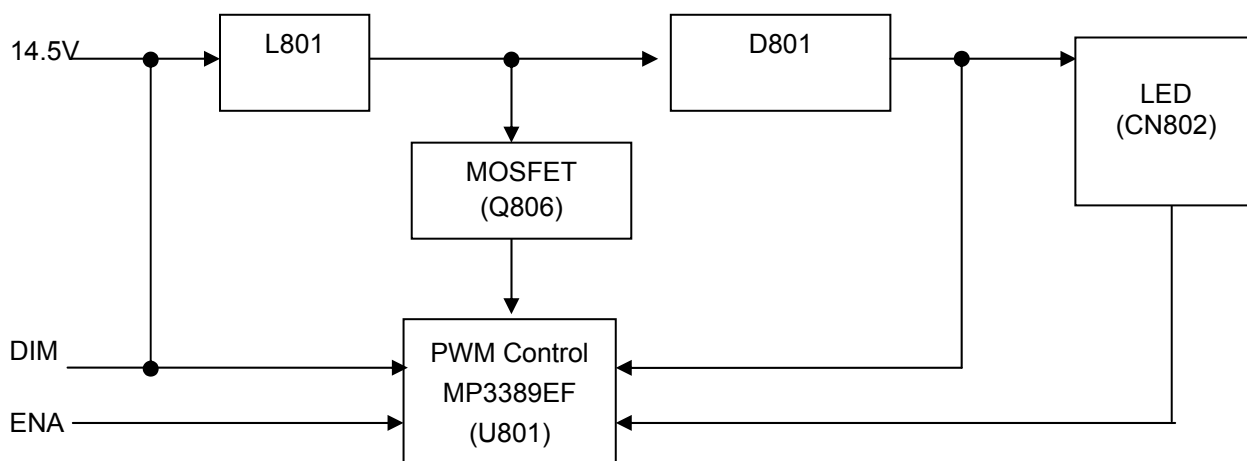
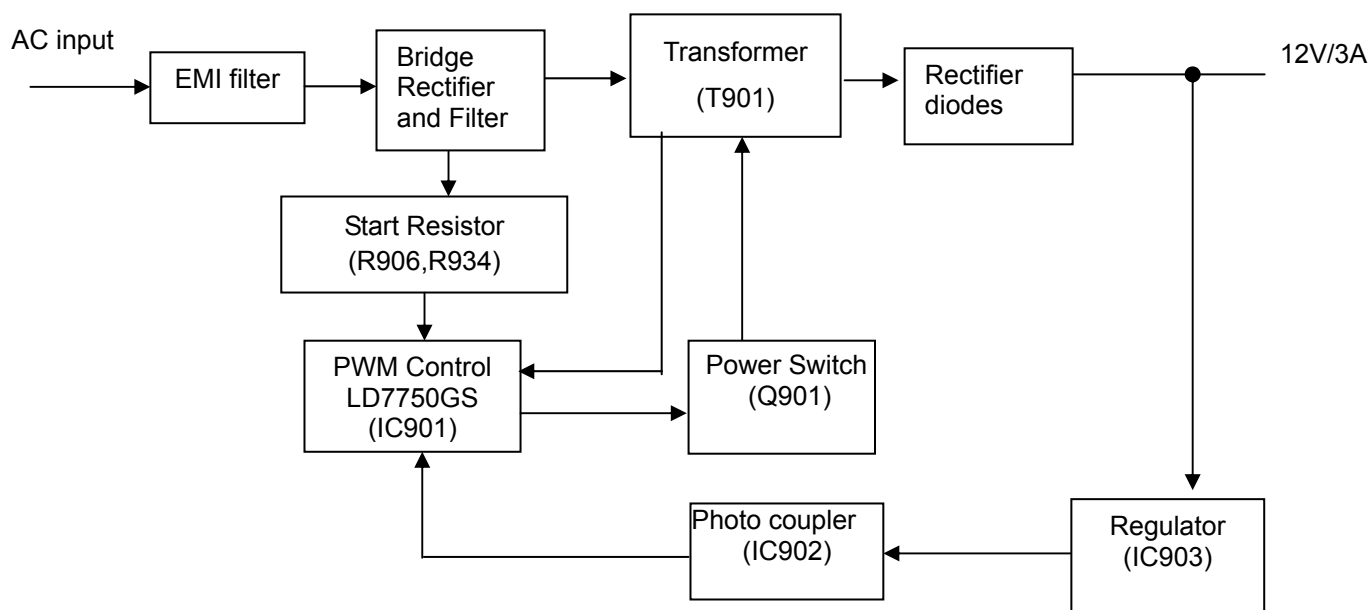
5. Block Diagram**5.1 Software Flow Chart**

REMARK:

1) MCU initialize.
2) Is the EEprom blank?
3) Program the EEprom by default values.
4) Get the PWM value of brightness from EEprom.
5) Is the power key pressed?
6) Clear all global flags.
7) Are the AUTO and SELECT keys pressed?
8) Enter factory mode.
9) Save the power key status into EEprom. Turn on the LED and set it to green color. Scalar initialize.
10) In standby mode?
11) Update the lifetime of back light.
12) Check the analog port, are they're any signals coming?
13) Does the scalar send out an interrupt request?
14) Wake up the scalar.
15) Are there any signals coming from analog port?
16) Display "No connection Check Signal Cable" message. And go into standby mode after the message disappear.
17) Program the scalar to be able to show the coming mode.
18) Process the OSD display.
19) Read the keyboard. Is the power key pressed?

5.2.1 Scalar Board

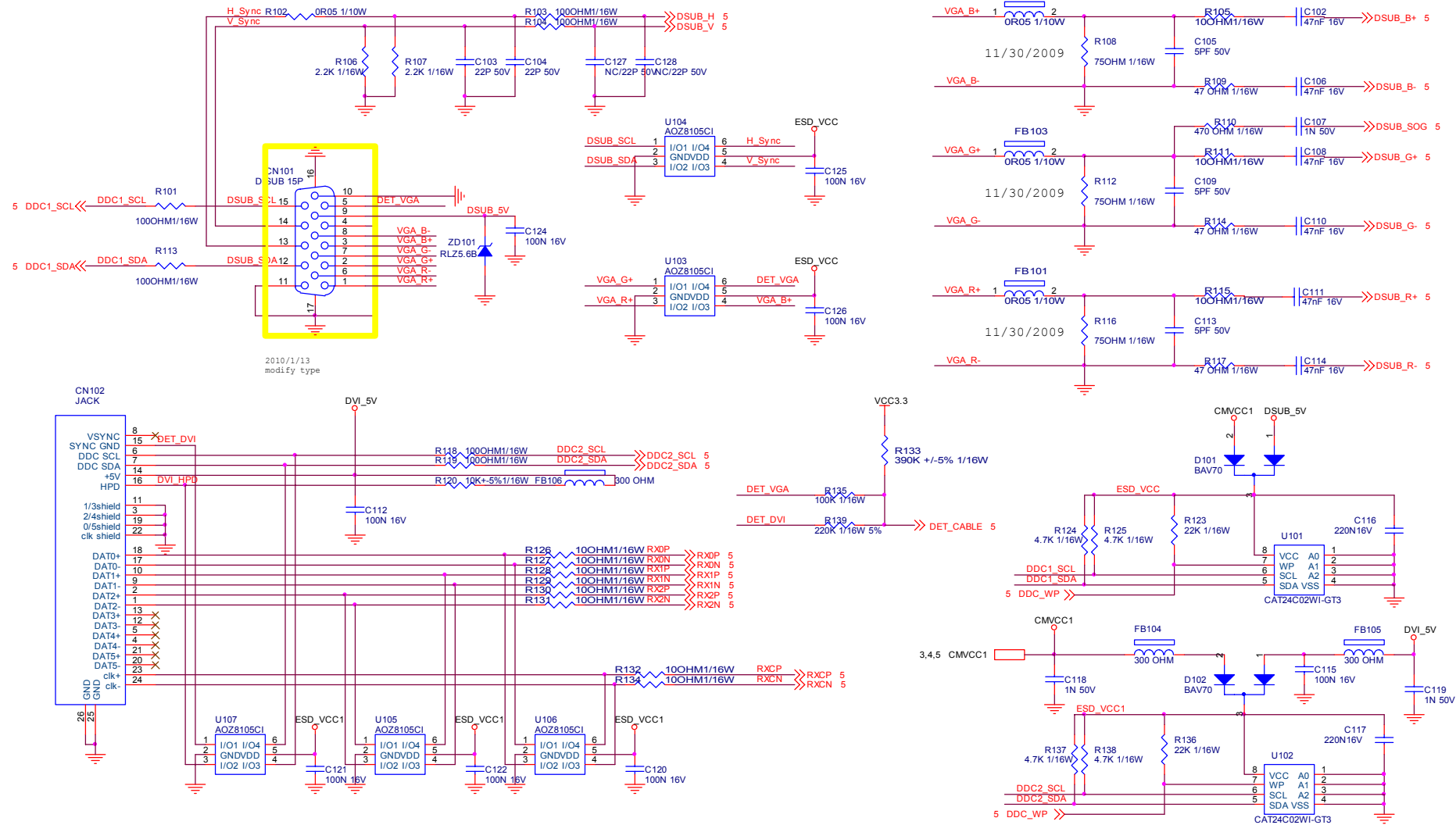


5.2.2 Inverter / Power Board

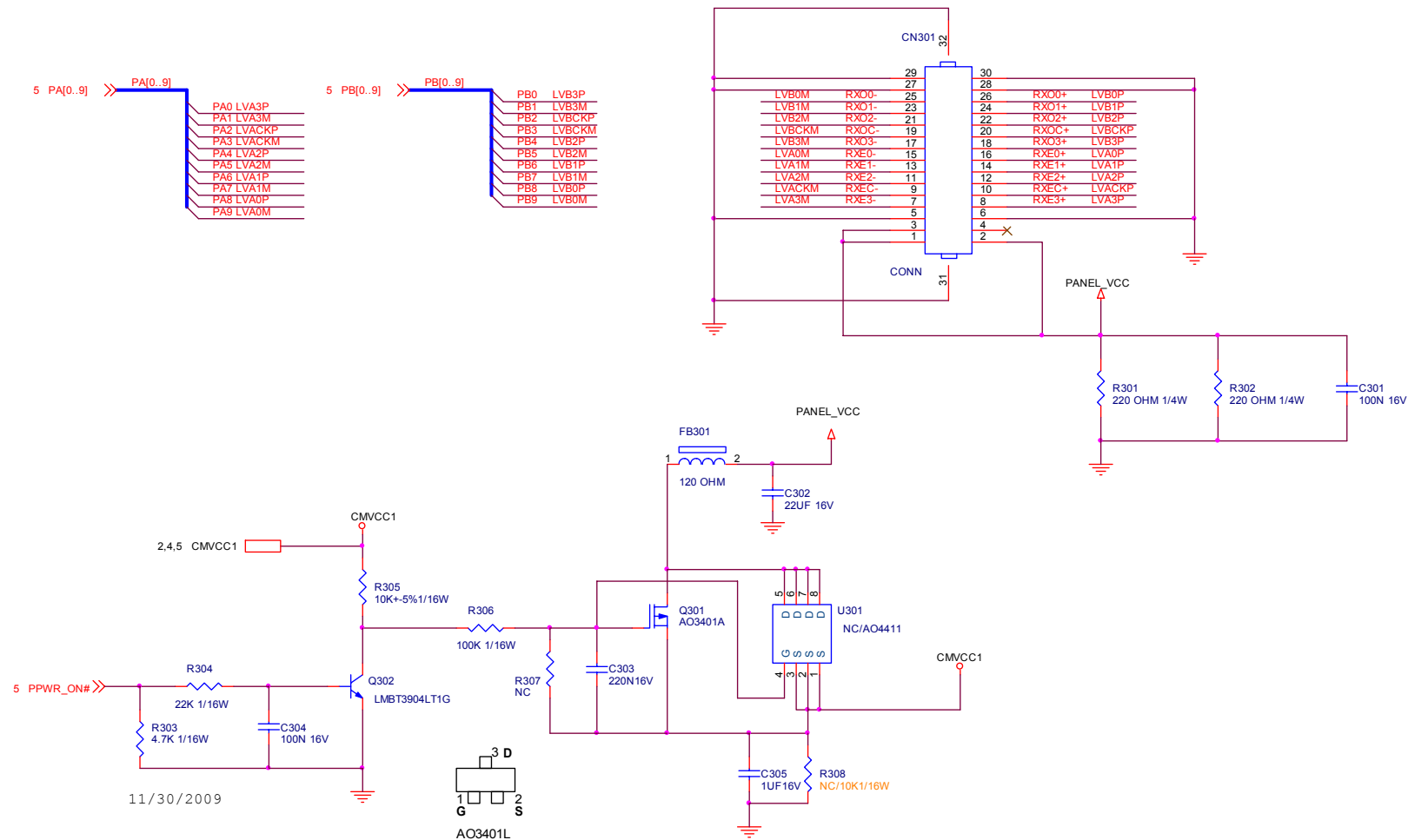
6. Schematic

6.1 Main Board

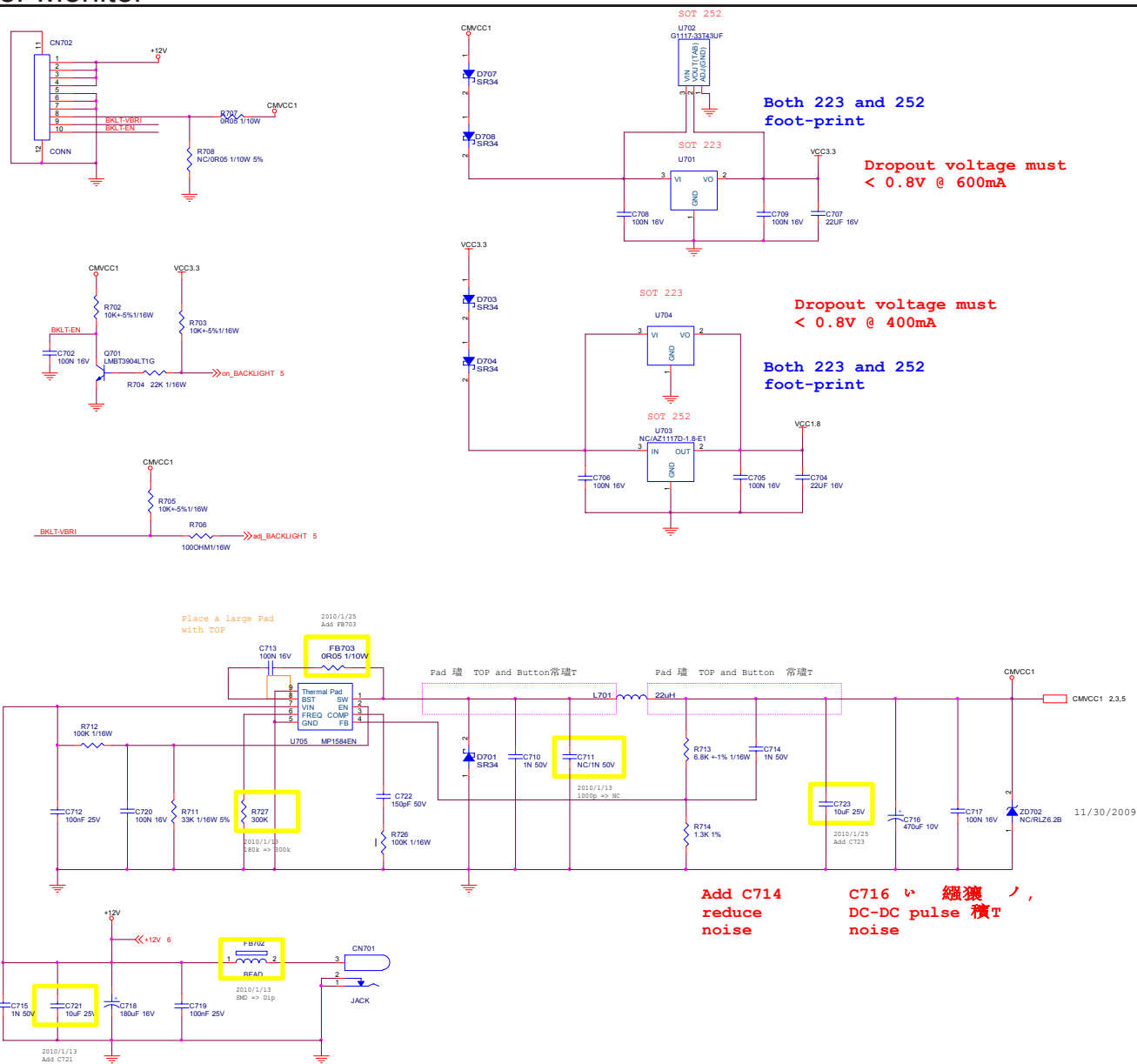
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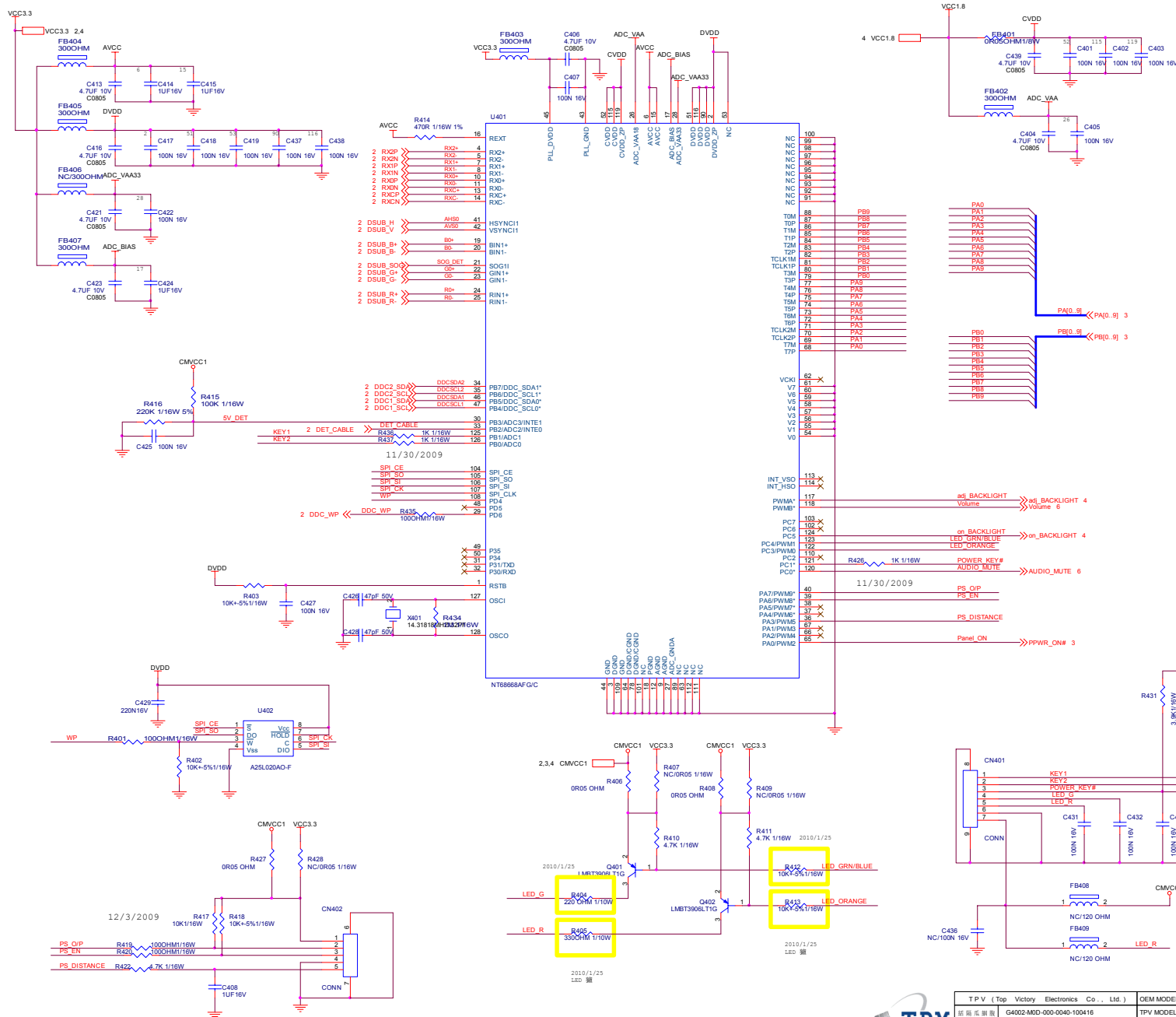


TPV (Top Victory Electronics Co., Ltd.)	OEM MODEL	AOC e2040VA	Size	B
話隔瓜網廠	G4002-M0D-000-0040-100416	TPV MODEL	e2040VA	Rev
Key Component	2.0.INPUT	PCB NAME		Rev
Date	Tuesday, April 27, 2010	Sheet	2 of 6	稱多 <移多>

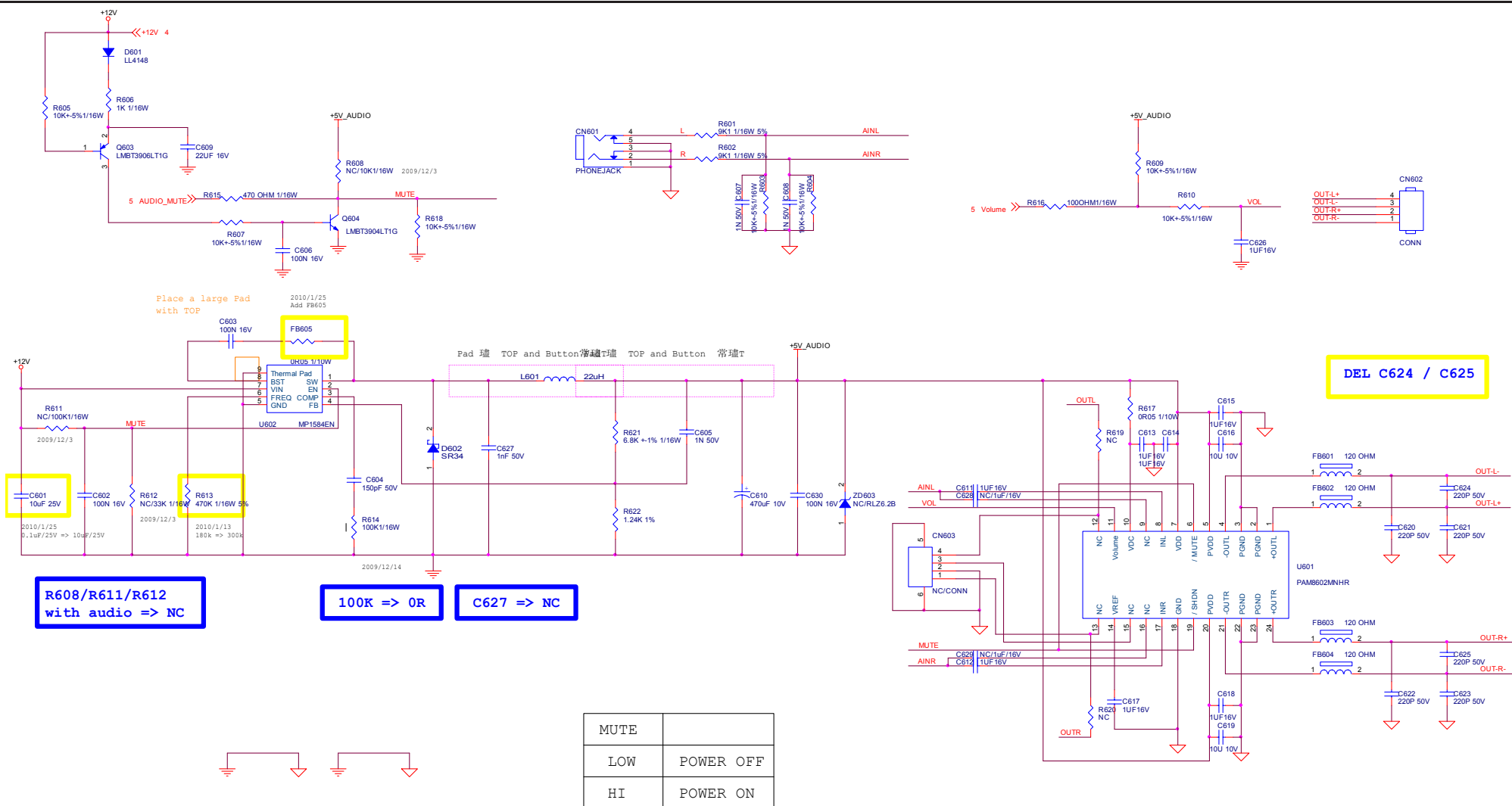


T P V (Top Victory Electronics Co., Ltd.)		OEM MODEL	AOC e2040VA	Size	B
鋅 隔 瓜 鋼 膜 G4002-MOD-000-0040-100416		TPV MODEL	e2040VA	Rev	C
Key Component	3.0 OUTPUT	PCB NAME		陈 爹	<陈爹>
Date	Tuesday, April 27, 2010	Sheet	3 of 6		





TPV (Top Victory Electronics Co., Ltd.)	OEM MODEL	AOC e2040VA	Size	C	
屏顯卡圖號	G4002-M0D-000-0040-100416	TPV MODEL	e2040VA	Rev	C
Key Component	5.0.SCALER	PCB NAME			
Date	Tuesday, April 27, 2010	Sheet	5 of 6	修審	<修審>

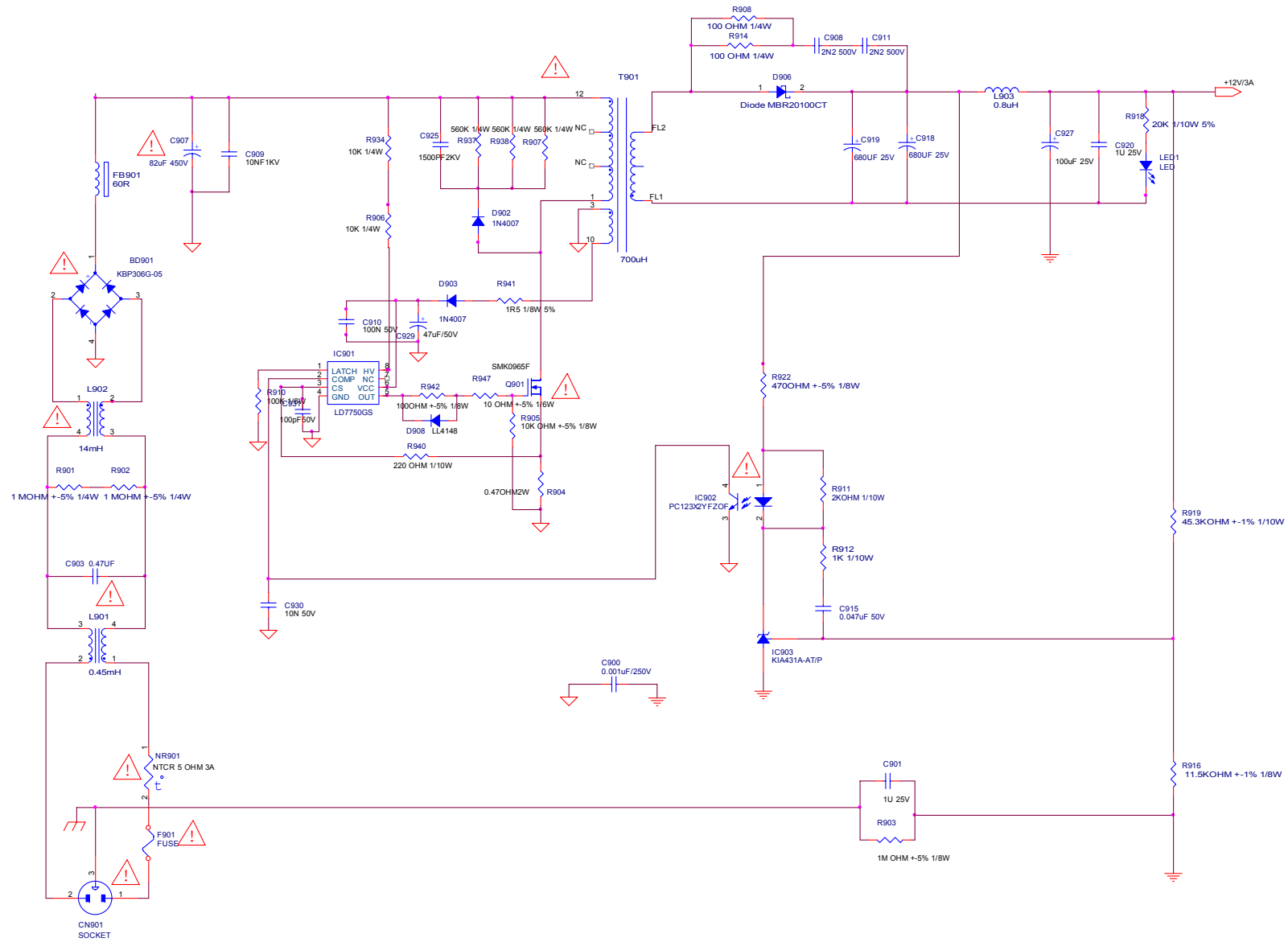


TPV (Top Victory Electronics Co., Ltd.)	OEM MODEL	AOC e240VA	Size	Custom
新南瓜置膜 G4002-M0D-000-0040-100416	TPV MODEL	e240VA	Rev	D
KeyComponent	6.0.AUDIO	PCB NAME		
Date	Tuesday, April 27, 2010	Sheet	6 of 6	称量
				<称量>

6.2 Power Board

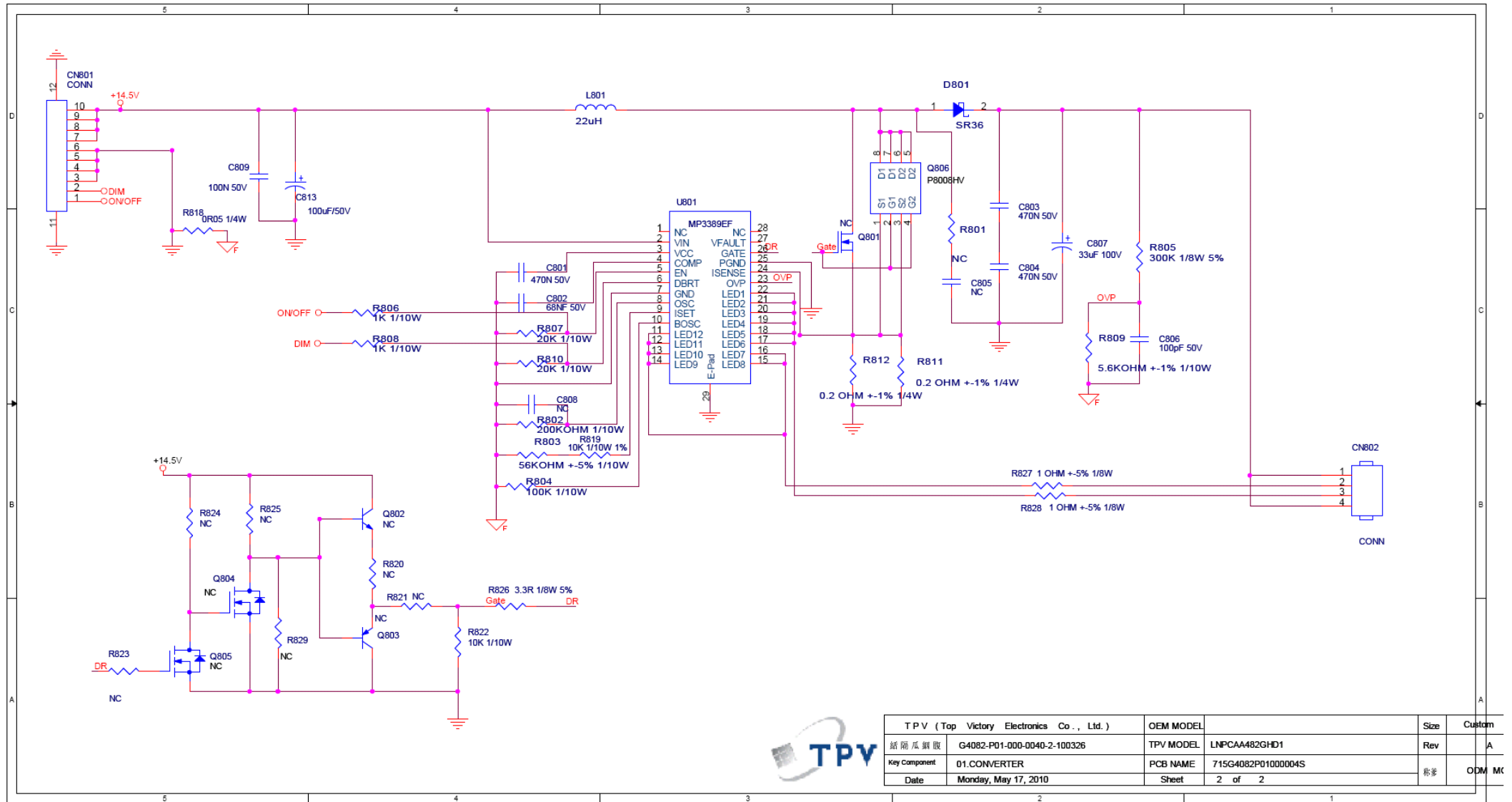
Adapter

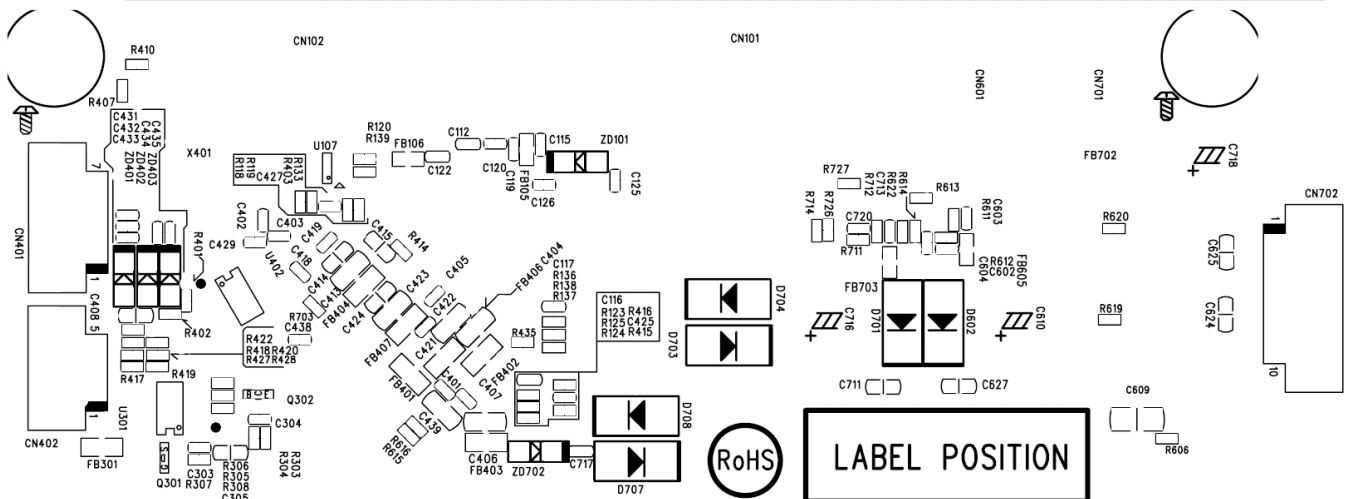
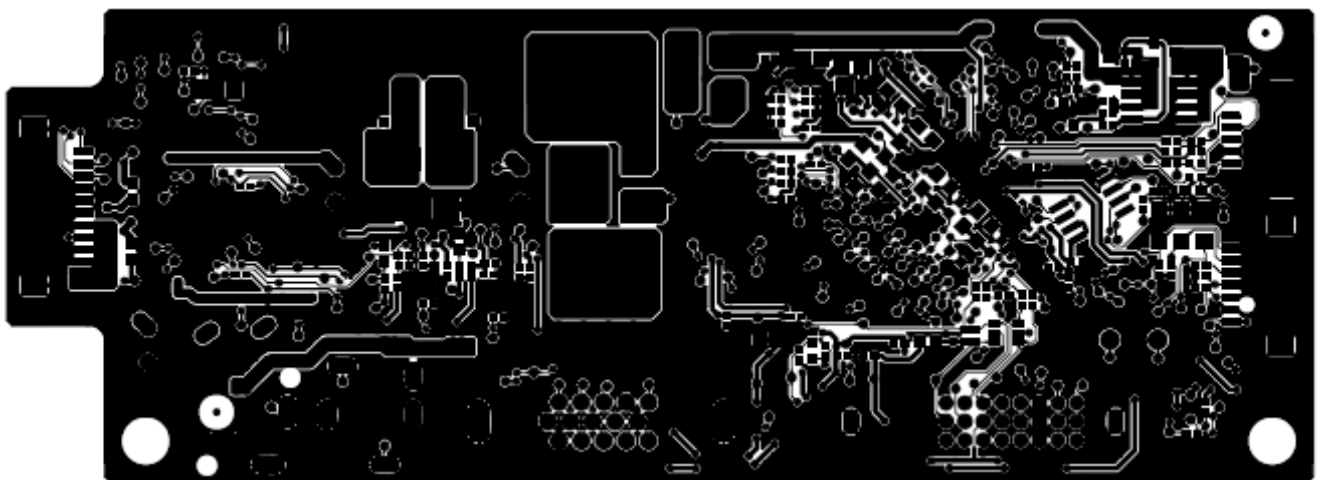
715G3980P02000003S



Converter

715G4082P01000004S

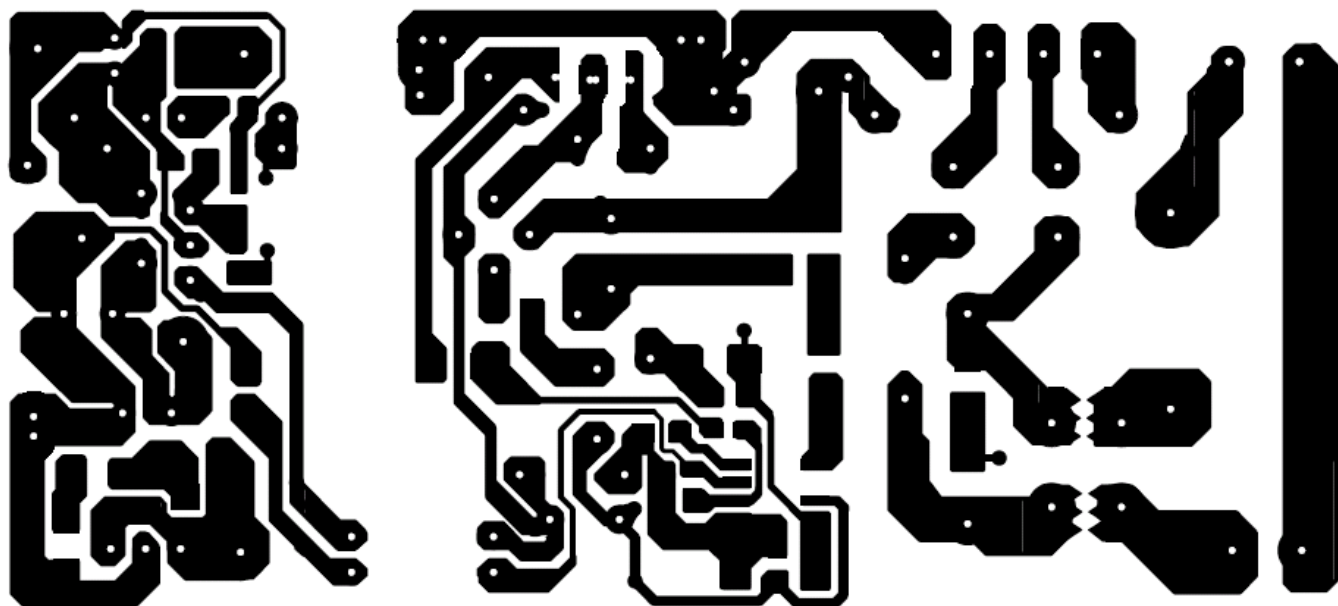




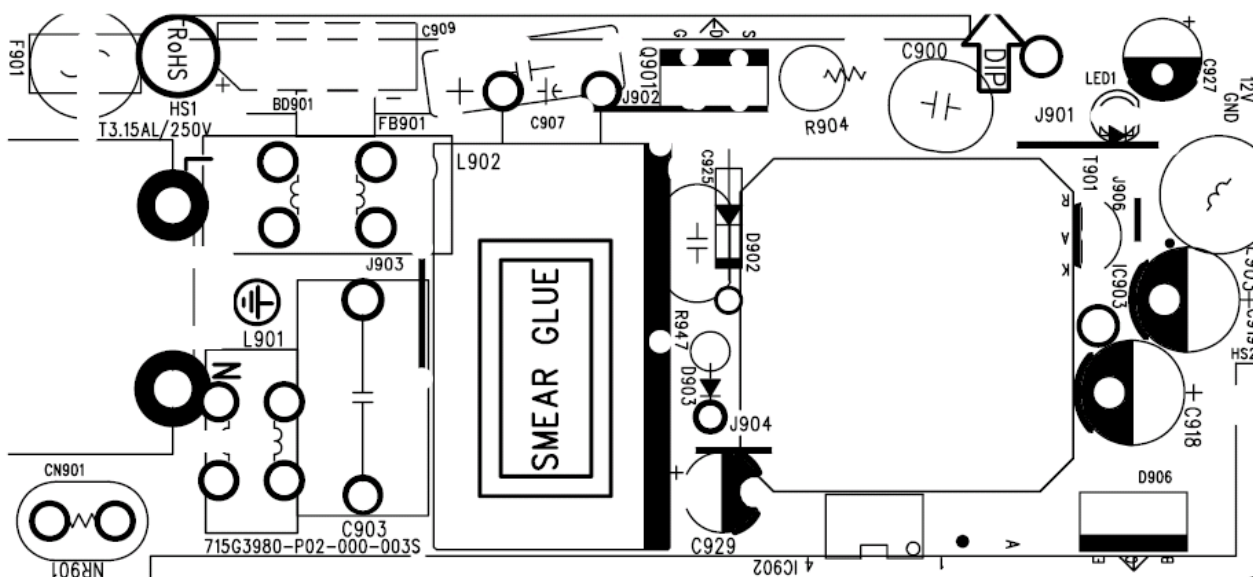
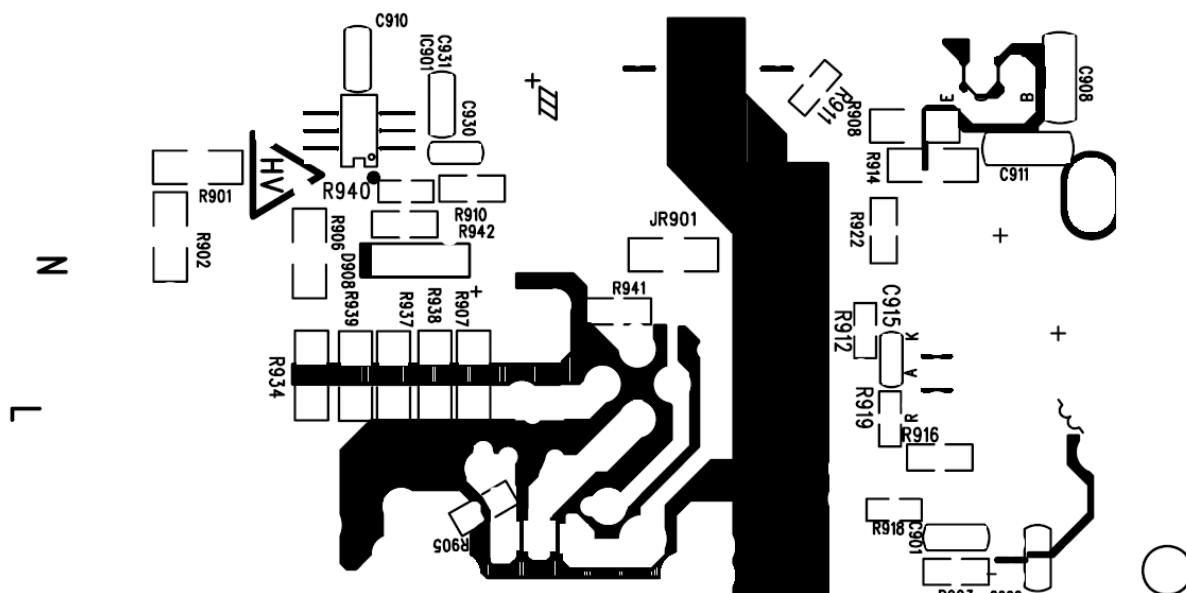
7.2 Power Board

Adapter

715G3980P02000003S

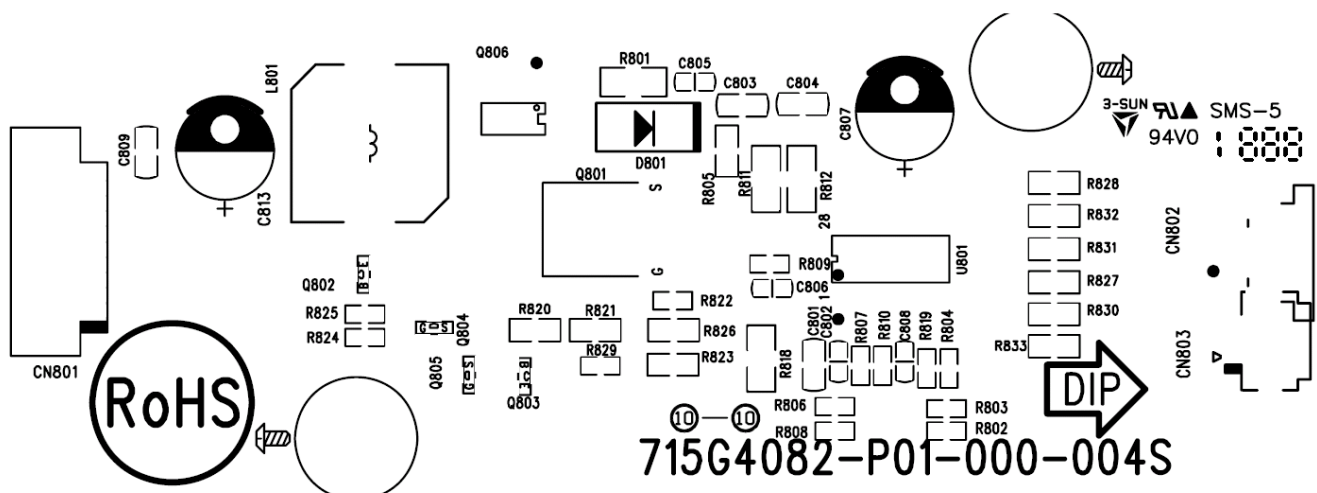
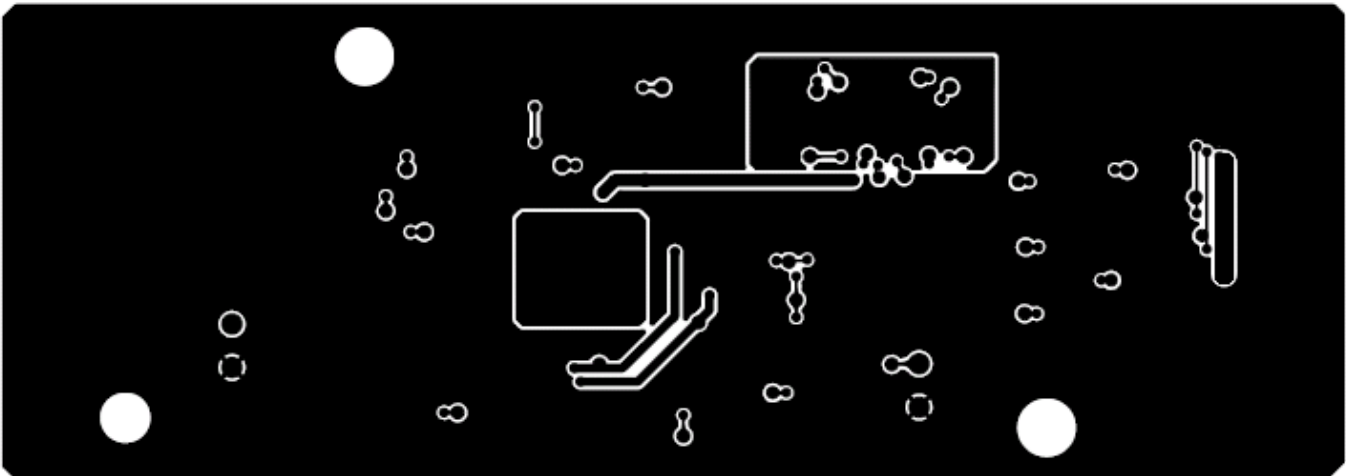
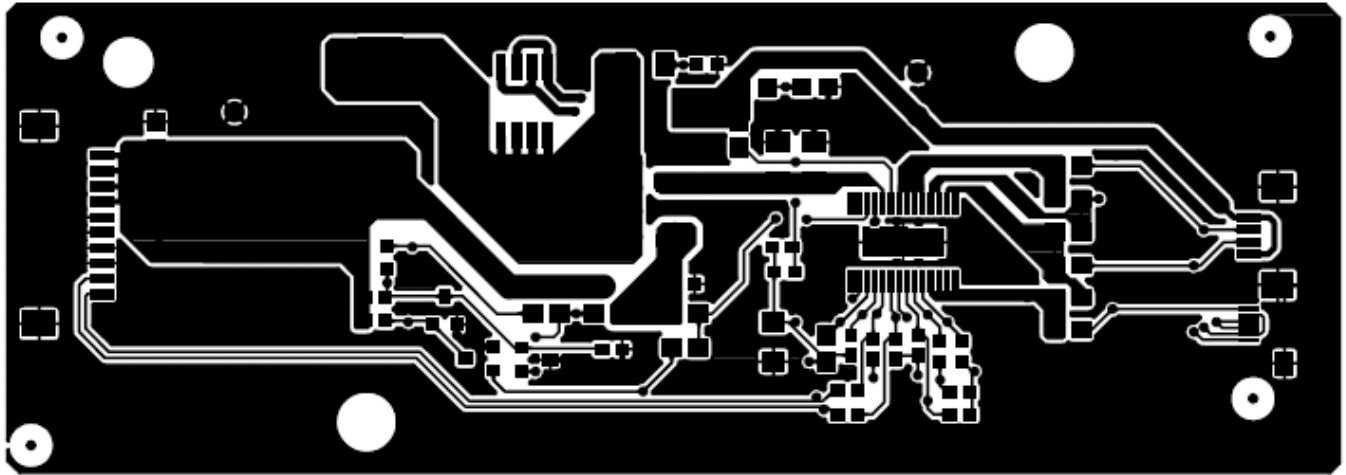


3-SIN
 RoHS
 SMS-2 94VO : 000



Converter

715G4082P01000004S



7.3 Key Board

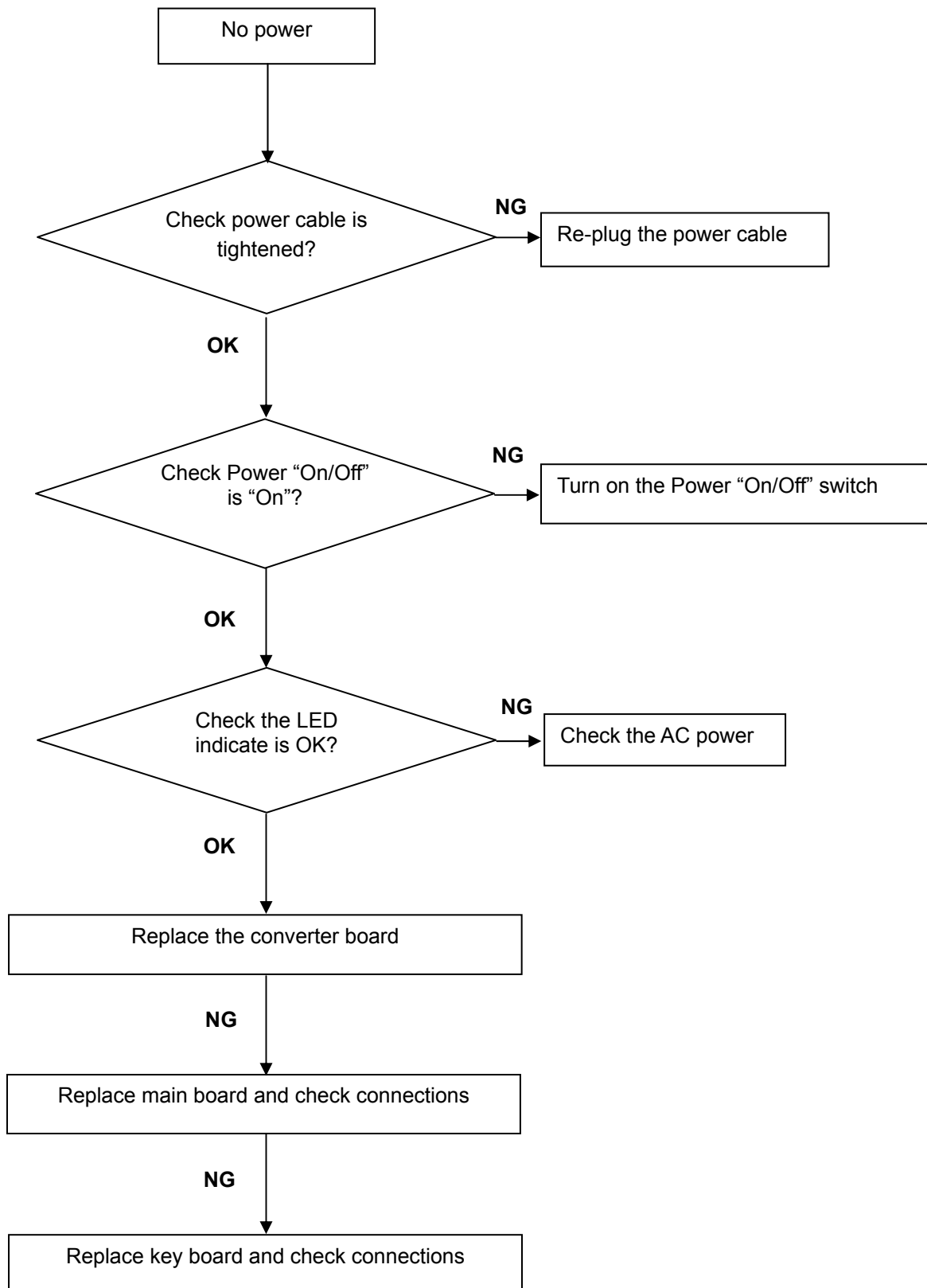
715G4014K01000004C

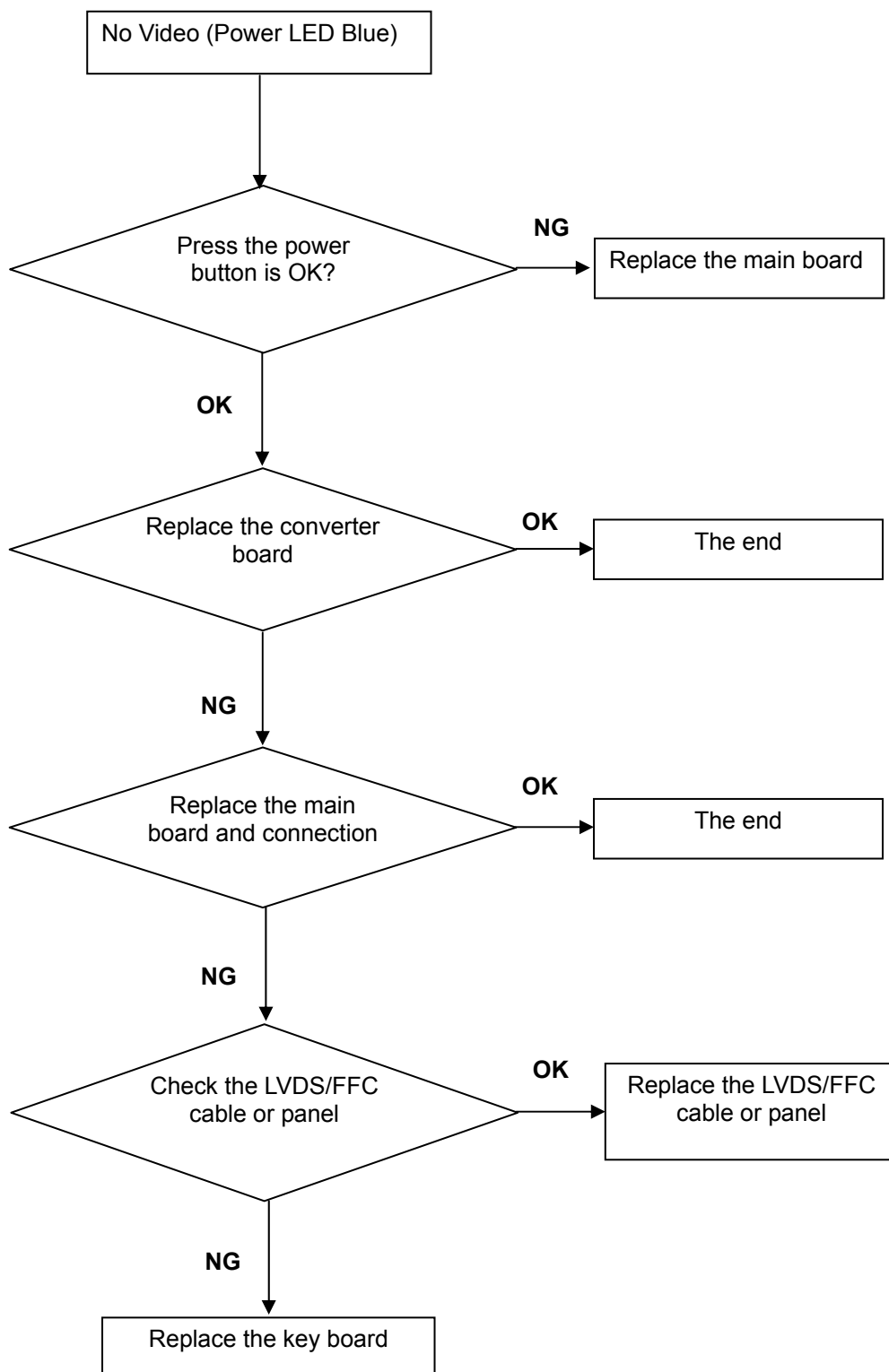


8. Maintainability

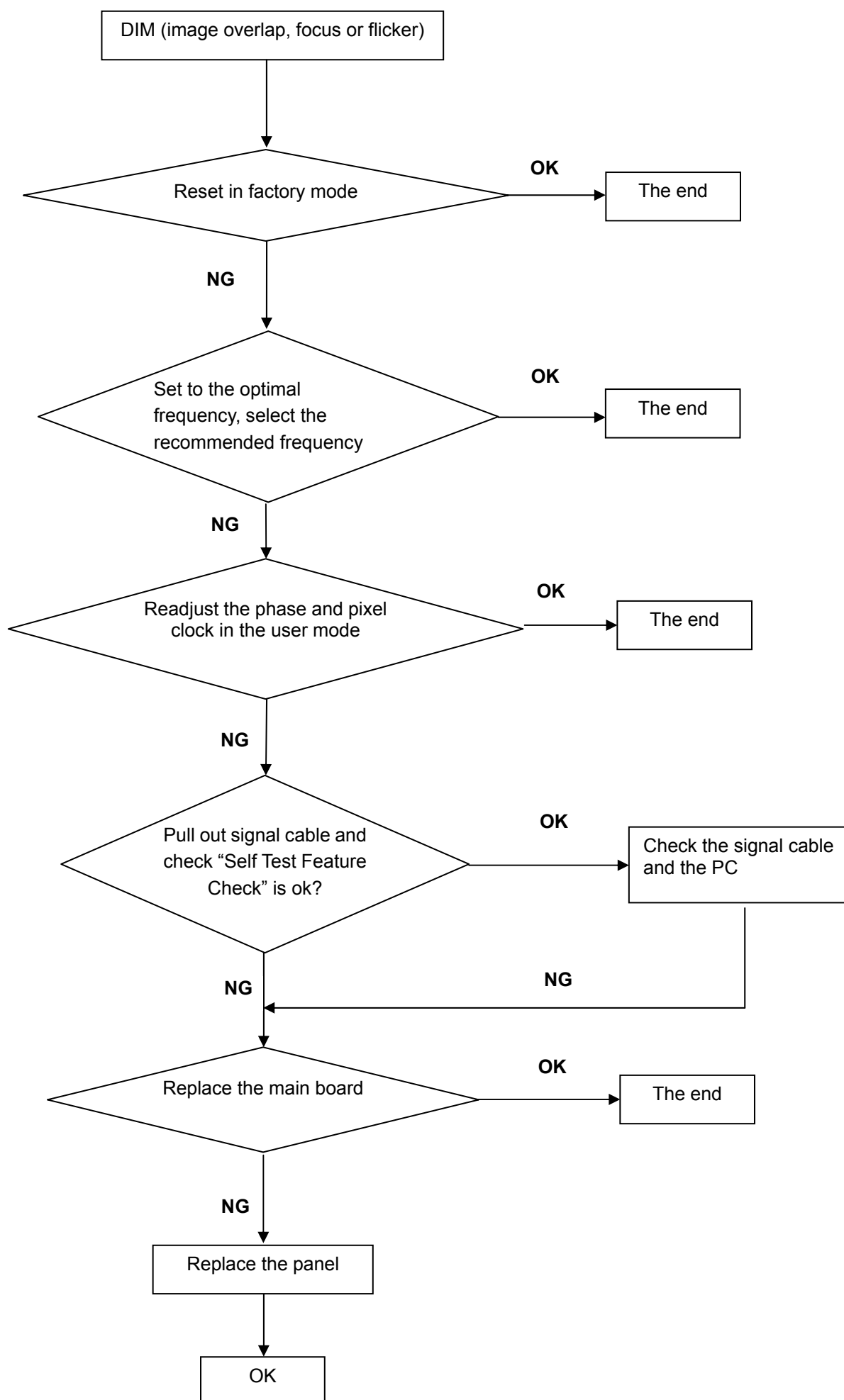
8.1 Equipments and Tools Requirement

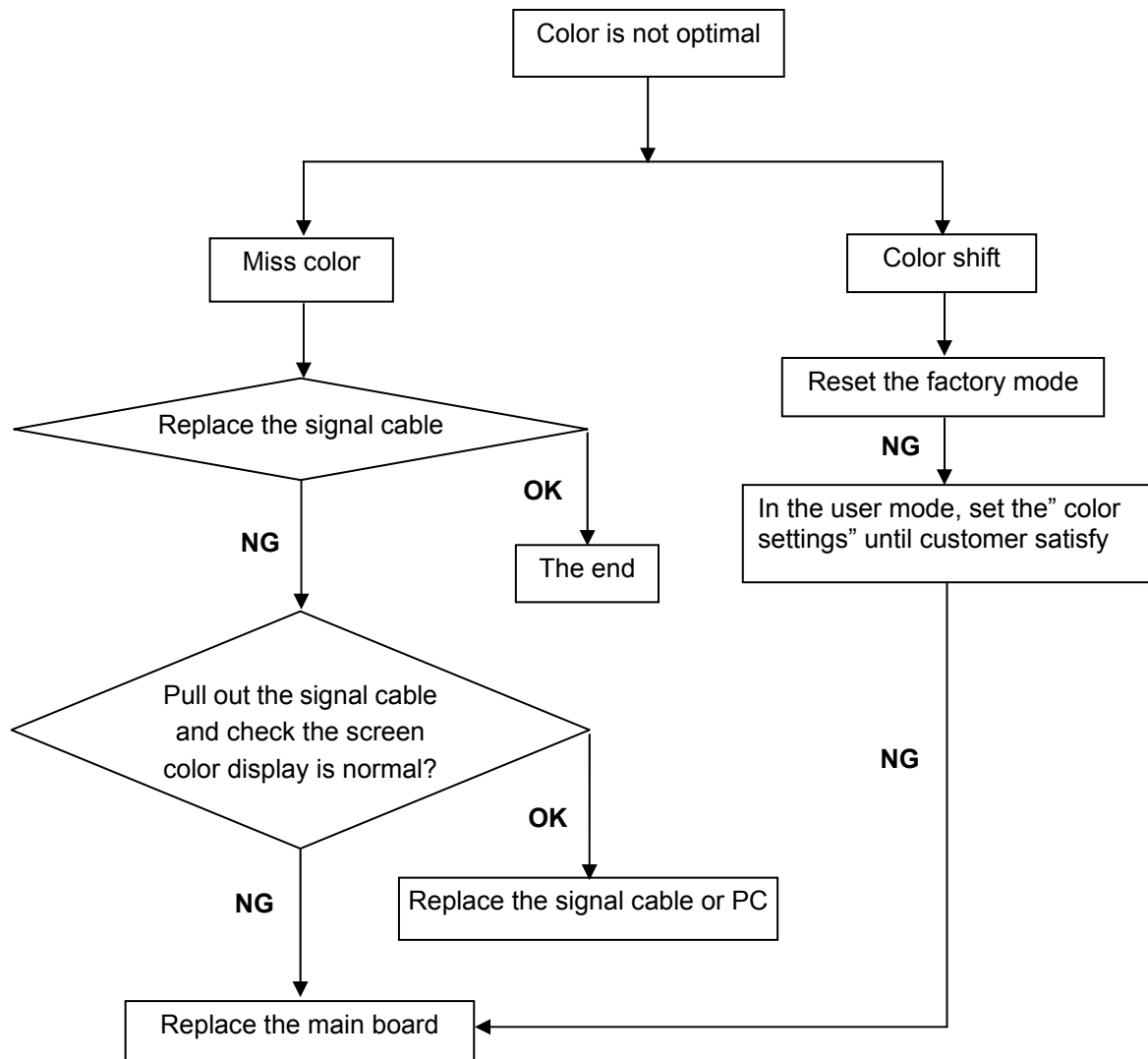
1. Voltmeter.
2. Oscilloscope.
3. Pattern Generator.
4. DDC Tool with an IBM Compatible Computer.
5. Alignment Tool.
6. LCD Color Analyzer.
7. Service Manual.
8. User Manual.

8.2 Trouble Shooting**1. No Power**



3. DIM



4. Color is not optimal

9. FOS Testing

9.1 Brightness Measurement

Max. Brightness >250 cd/m²(typ).

Test conditions:

- Center of display
- Video input (RGB) = 0,700V for Analog Input
- Brightness control is set to max
- Contrast control is set to max.

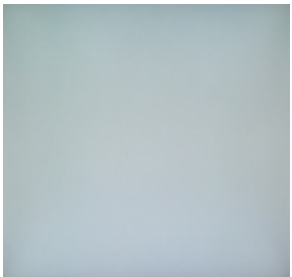
Min. brightness measurement:

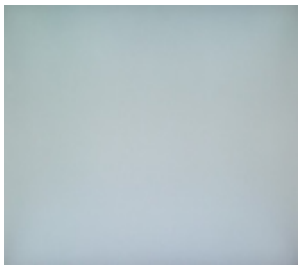
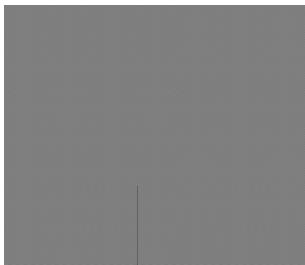
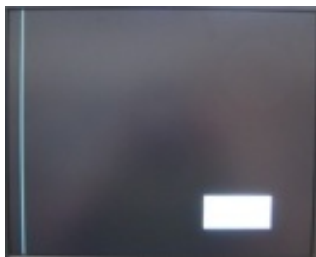
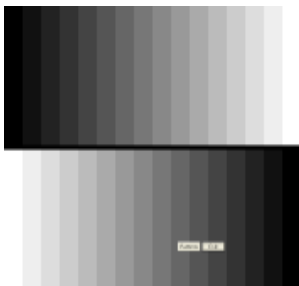
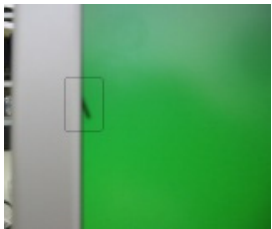
< 45% of Max luminance (max luminance = max contrast + max brightness)

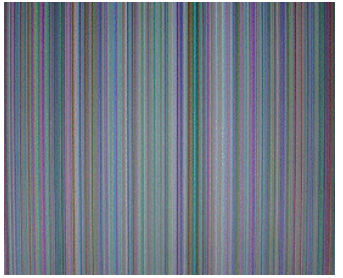
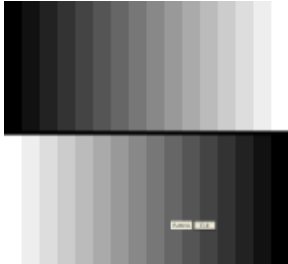
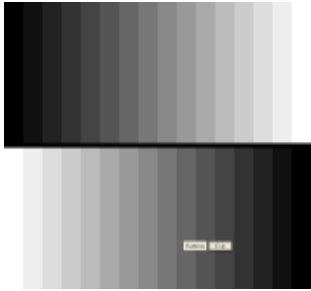
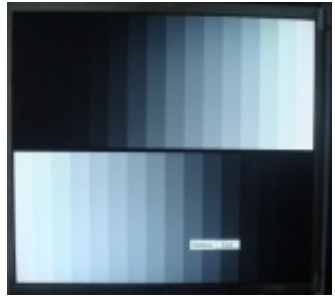
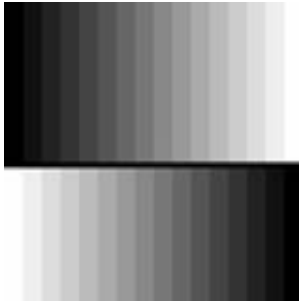
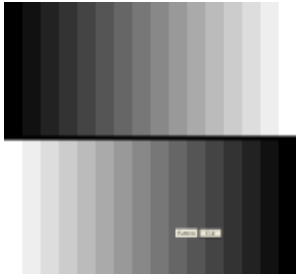
Test conditions: - Center of display

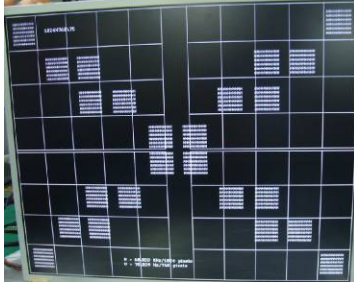
- Video input (RGB) = 0.700V for Analog Input
- Brightness control is set to min.
- Contrast control is set to min.

9.2 Patterns Testing

Item	Condition (Resolution, Commended test paten)	Normal picture	Abnormal Picture
Waterwave noise	1. 1600 x 900 (60 Hz) 2. White pattern		
Mura	1.1600 x 900 (60 Hz), 2. Black pattern or White pattern.		
LCD bubble	1.1600 x 900 (60 Hz), 2. Black pattern or White pattern		
Cross line	1.1600 x 900 (60 Hz), 2. Black pattern		

Half line	1.1600 x 900 (60 Hz), 2. Black pattern or White pattern		
H-Line	1.1600 x 900 (60 Hz), 2. Black pattern, Red pattern, Green pattern or Blue pattern.		
V-Line	1.1600 x 900 (60 Hz), 2. Black pattern or White pattern		
H-Strip	1.1600 x 900 (60 Hz), 2. Black pattern, Gray scale pattern, Red pattern, Green pattern or blue pattern .		
V-Strip	1.1600 x 900 (60 Hz), 2. Black pattern, Gray scale pattern, Red pattern, Green pattern or blue pattern .		

Abnormal display	1. 1600 x 900 (60 Hz), 2. Gray scale pattern		
Gray defect	1. 1600 x 900 (60 Hz), 2. Gray scale pattern		
Video noise	1. 1600 x 900 (60 Hz), 2. Gray scale pattern		
Color tint	1. 1600 x 900 (60 Hz), 2. Gray scale pattern		
Gray scale failure	1. 1600 x 900 (60 Hz), 2. Gray scale pattern		

Light leakage	1.1600 x 900 (60 Hz), 2. Black pattern or White pattern		
Fuzzy video	1.1600 x 900 (60 Hz), 2. Pane picture		

10. Firmware and DDC Instruction

10.1 Firmware Instruction

Step 1: Operation Conditions:

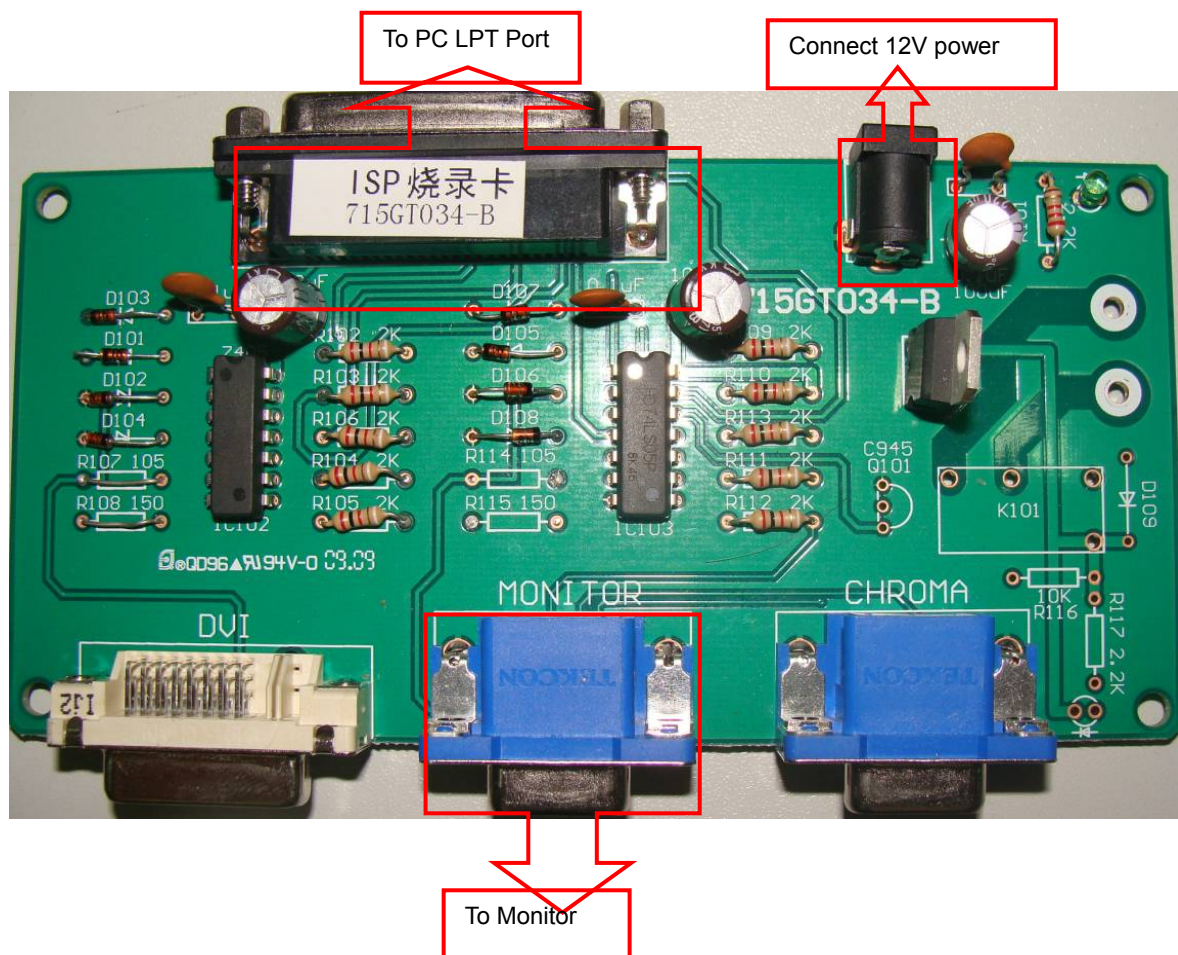
- 1) An i486 (or above) personal computer or compatible.
- 2) Microsoft operation system Windows 95/98/2000/XP.
- 3) ISPTool programs
- 4) VGA cable & LPT cable
- 5) ISP board (PN: 715GT034-B, 715GT048-1 or 715GT035-A)
- 6) ISP Firmware/Software
- 7) **For example:** NOVATEK ICNT68668FGQFP-128

Step 2: Connection:

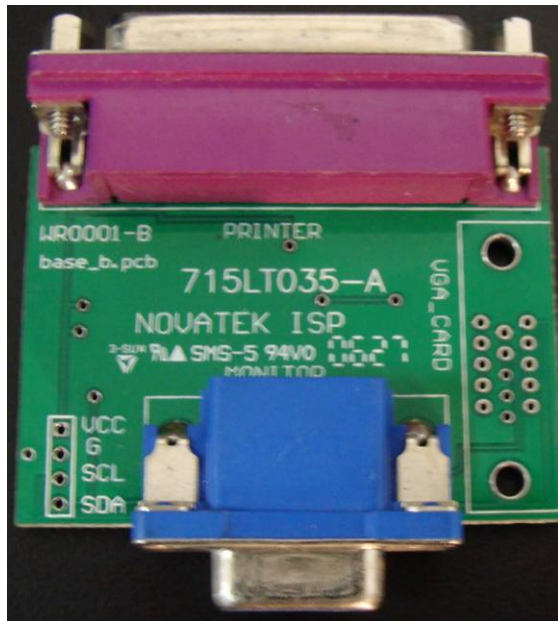
NO1. TPV Part No. : 715GT048-1 or 715GT035-A (715GT048-1 or 715GT035-A)



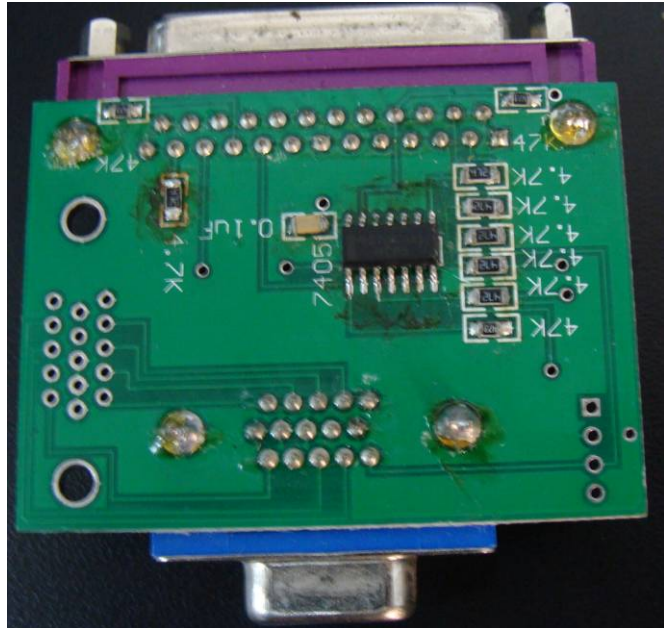
NO2. TPV Part No : 715GT034-B (NEW LCD EDID TOOL : 715GT034-B)



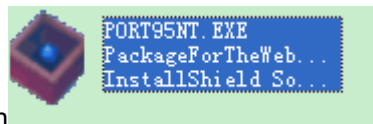
ISP TOOL front side



ISP TOOL reverse side



Step 3: Programming:



1. Double-click the icon to install Port95nt print driver,

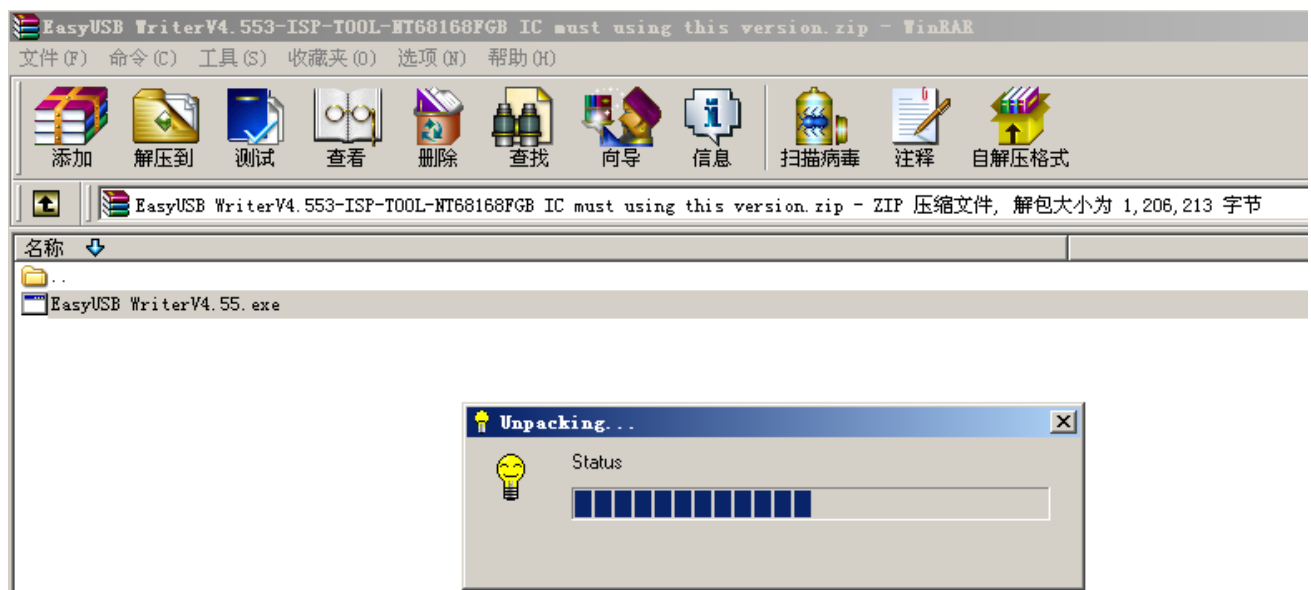
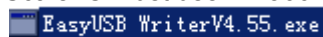
2. Install tool programme



2.1 decompress

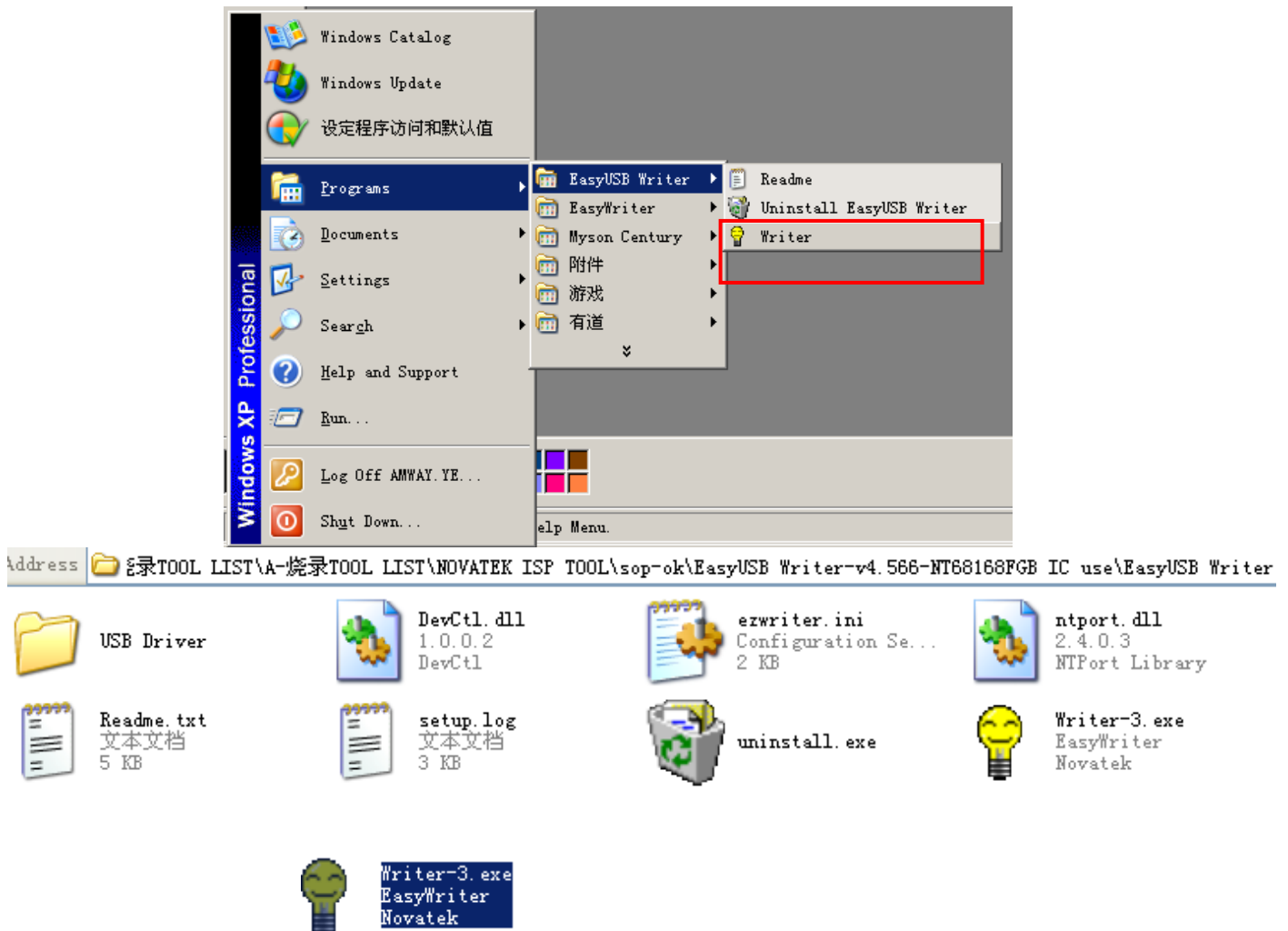
Note:NT68168F Scale IC must use V4.566 version.

2.2 Double-click

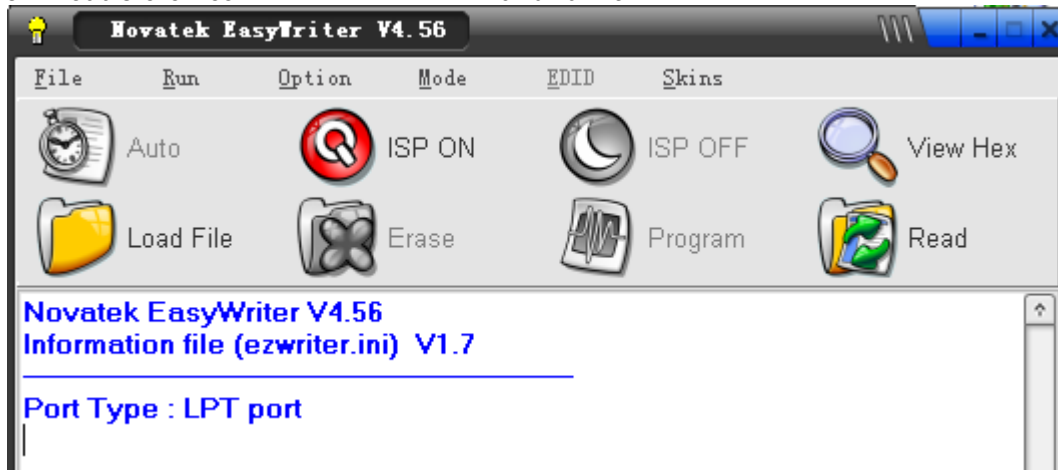


3. ISP Tool

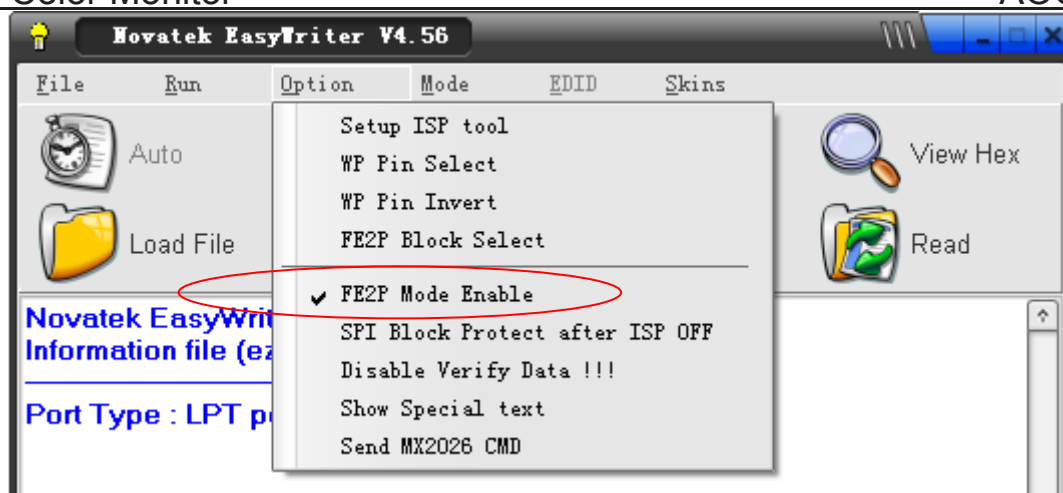
3.1. Choose "writer" as follow picture.



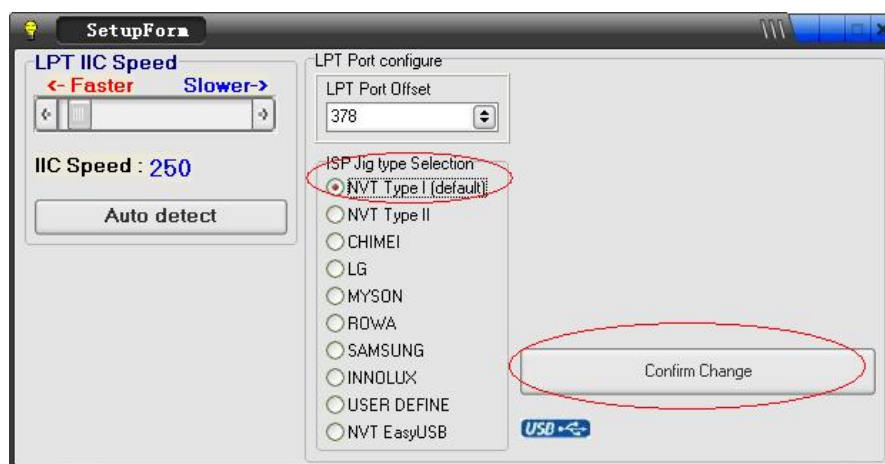
3.2. Double-click icon and run it:



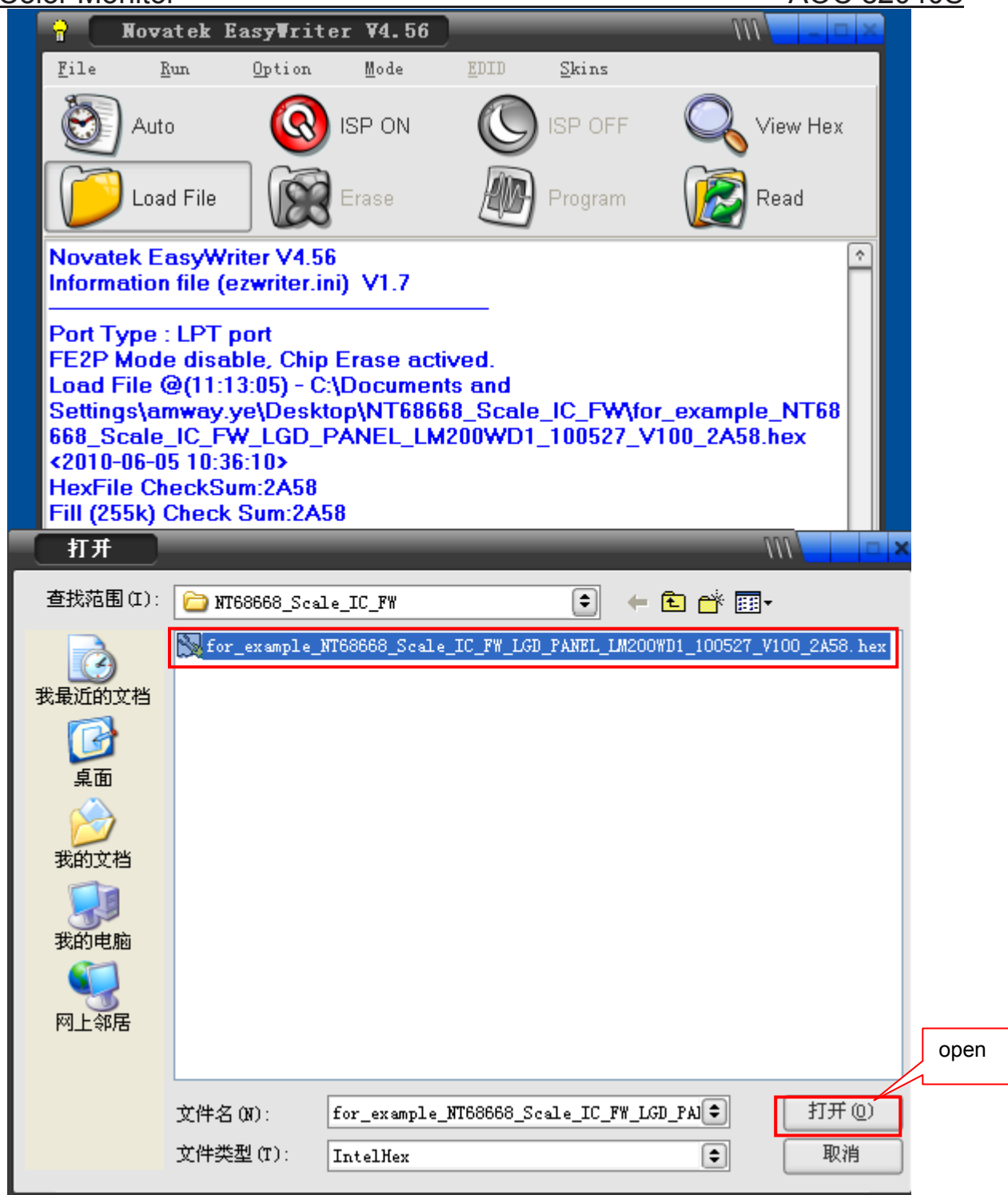
4. Please read the below message. For the tool, "Option" -> "FE2P Mode Enable" default "√", and for the model, please get rid of "√". If it is "DATA IN FLASH" models, need save "HSCP KEY" of DVI or HDMI models, and select "Option" -> "FE2P Mode Enable" (Plugins EEPROM, Data in 24c16, option : FE2P Mode choose disable, don't need "√")



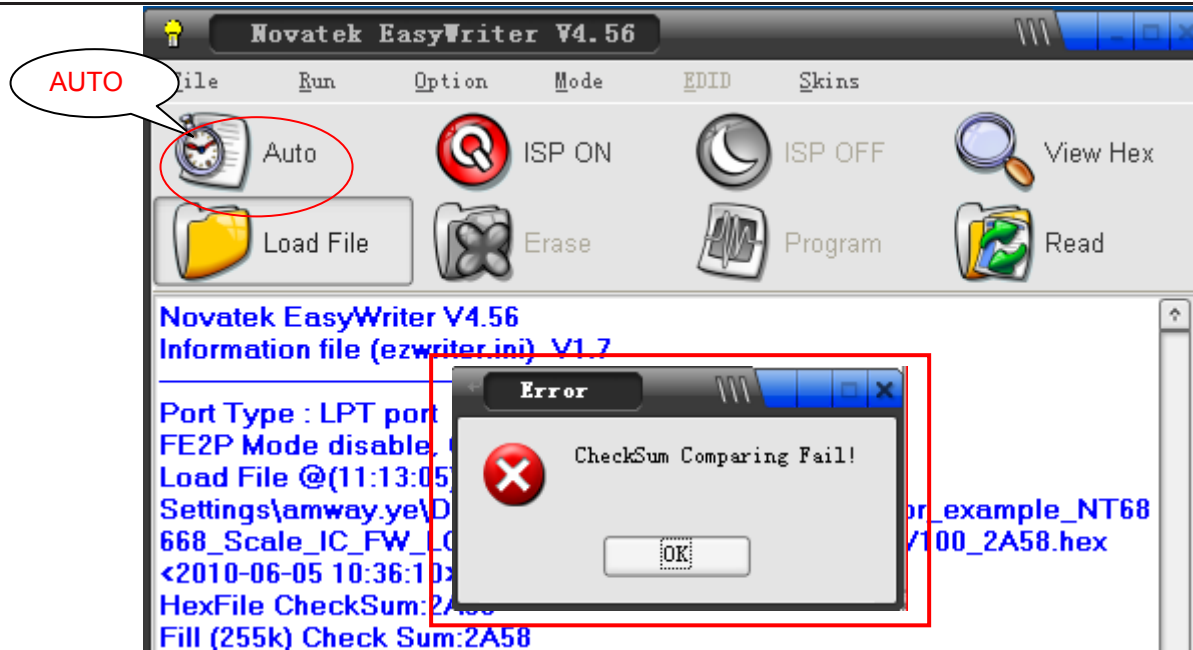
5. Click tool "Option" choose "Setup ISP tool" and then choose LPT Port, the next, choose NVT Type (default), click "Auto Detect" to choose the appropriate speed. Click "Confirm change".



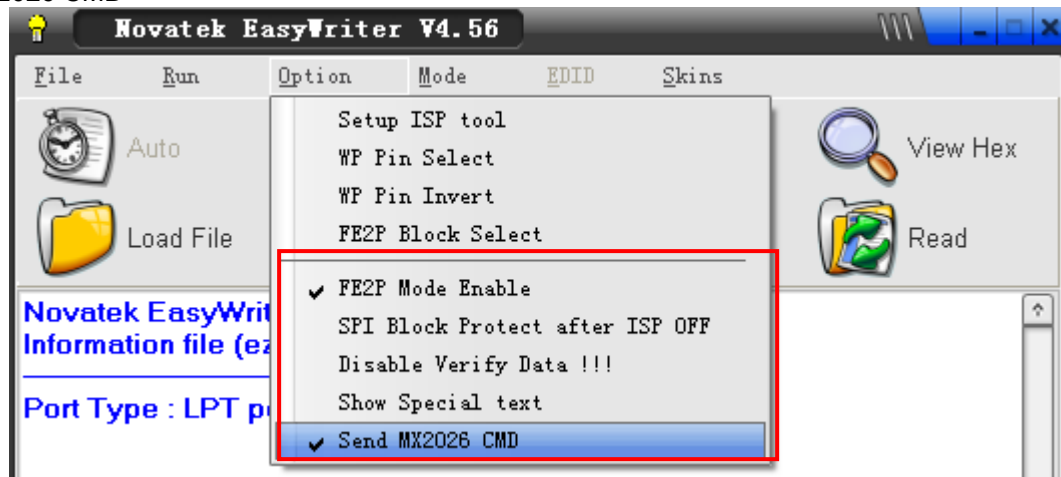
6. Click "Load File" to use the proper software:



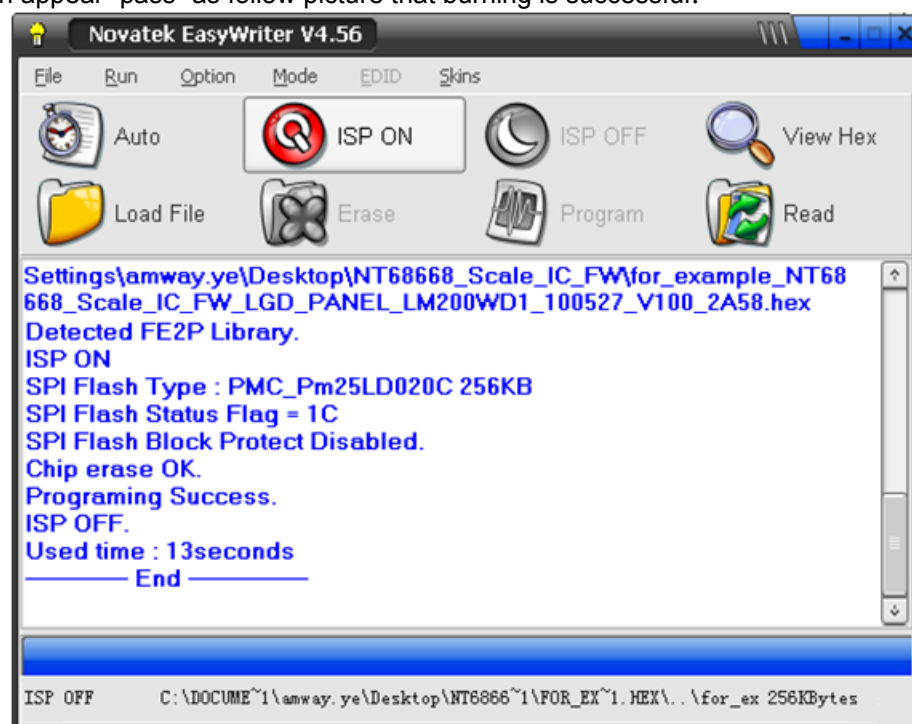
Click "Auto" to upgrade F/W. Appear the dialog box as follow.



Click "Send MX2026 CMD"



Click "AUTO", when appear "pass" as follow picture that burning is successful:



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

Step4: CHECK Software Version:

1. Set resolution **optimum resolution**, Screen is 48 gray-scale,, keep to pressing "MENU" button, AC ON/OFF.
2. Press "MENU" button again, choose "F" , as follow picture:

PS: Different model into the factory model method is not the same,

Relevant model how to enter the factory model, please reference service manual!



3. Press "MENU" button, Select the "F" in OSD, press "Menu" key to Enter "F", enter into the factory mode, it will show as the follow picture, If FW version "V005" is displayed in red rectangle as the follow picture, it means Burn In successful. as follow picture:

PS: Different model firmware version is not the same,

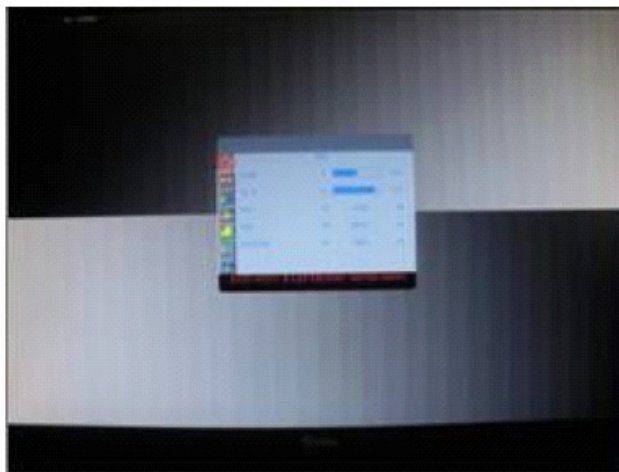


4. Choose "AUTO COLOR/LEVEL", PC will switch to the gray-scale screen, press "MENU" button again, Show "PASS" to express "AUTO COLOR" OK, as follow picture:



5. ①Press "MENU" to enter into user mode→②Choose other option→③Choose "reset" → ④Choose "yes" to restore the factory setting. Otherwise, monitor will not be able to save setting. If not save the setting, when AC ON/OFF, it will can't find the boot LOG from the screen. As the below pictures:

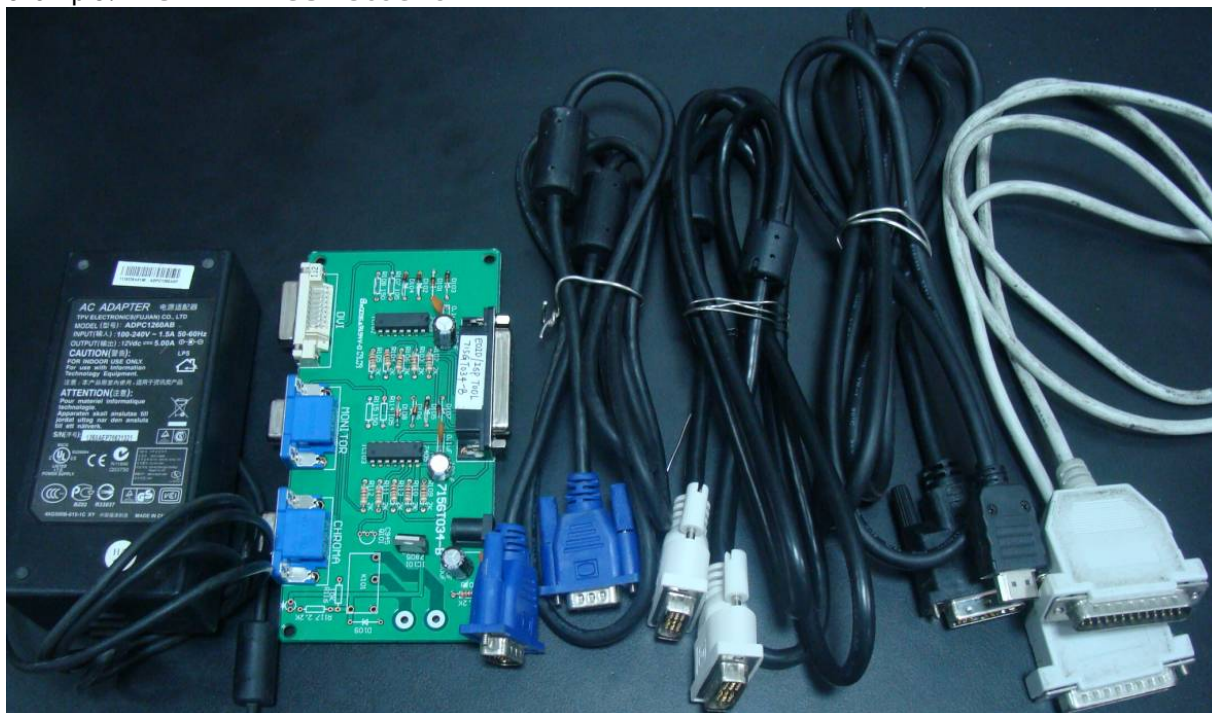
6.



Note: If VGA can't be adjusted to the best resolution, please rewrite EDID. To rewrite EDID, please refer to Service Manual. The Part No. of the EDID tool is 715GT034-B.

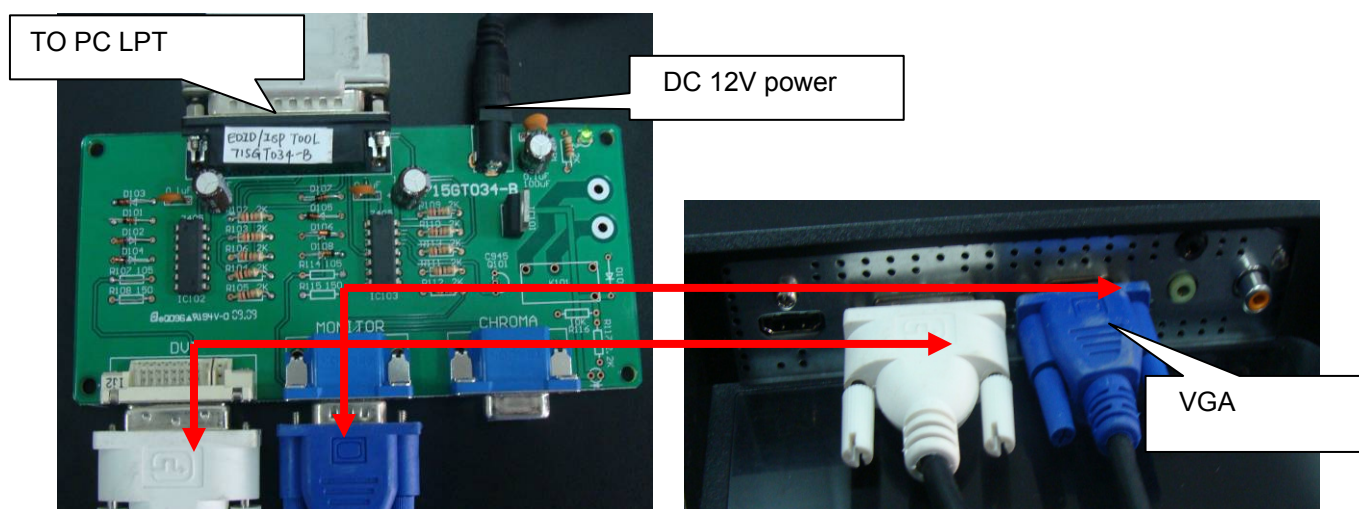
10.2 DDC Instruction**Tool list:**

1. DDC board:715GT034-B
2. Software (WA.DAT&WD.DAT&*. CONFIG.INI)
3. LPT driver software
4. LPT cable, D-SUB CABLE
5. 12V(Adapter)
6. TPVDDC6.0
7. PC
8. For example: MSTAR IC TSUMO58GDJ

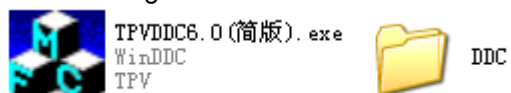


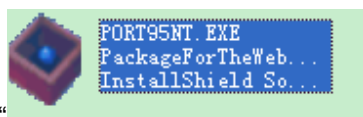
Tool picture

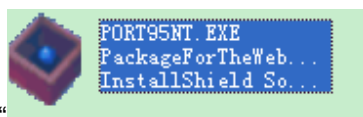
DDC Board as the follow picture:

**Install software:**

Note: Burning software and EDID data must be put in the same folder as follow picture:



Burning:

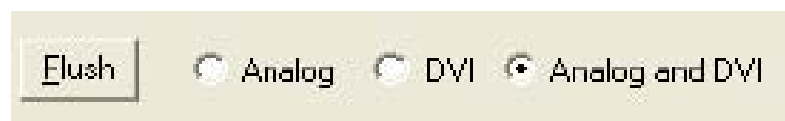
1. Double-click the icon “” to install Port95nt print driver, and then restart the computer.

Double-click  TPVDDC6.0(简版).exe , select “Analog” show as follow picture

Note: The way of digital DDC Write is the other same as analog. But the Flush need Choose “DVI” .



If you write DDC VGA&DVI is together, Flush Choose Analog and DVI.



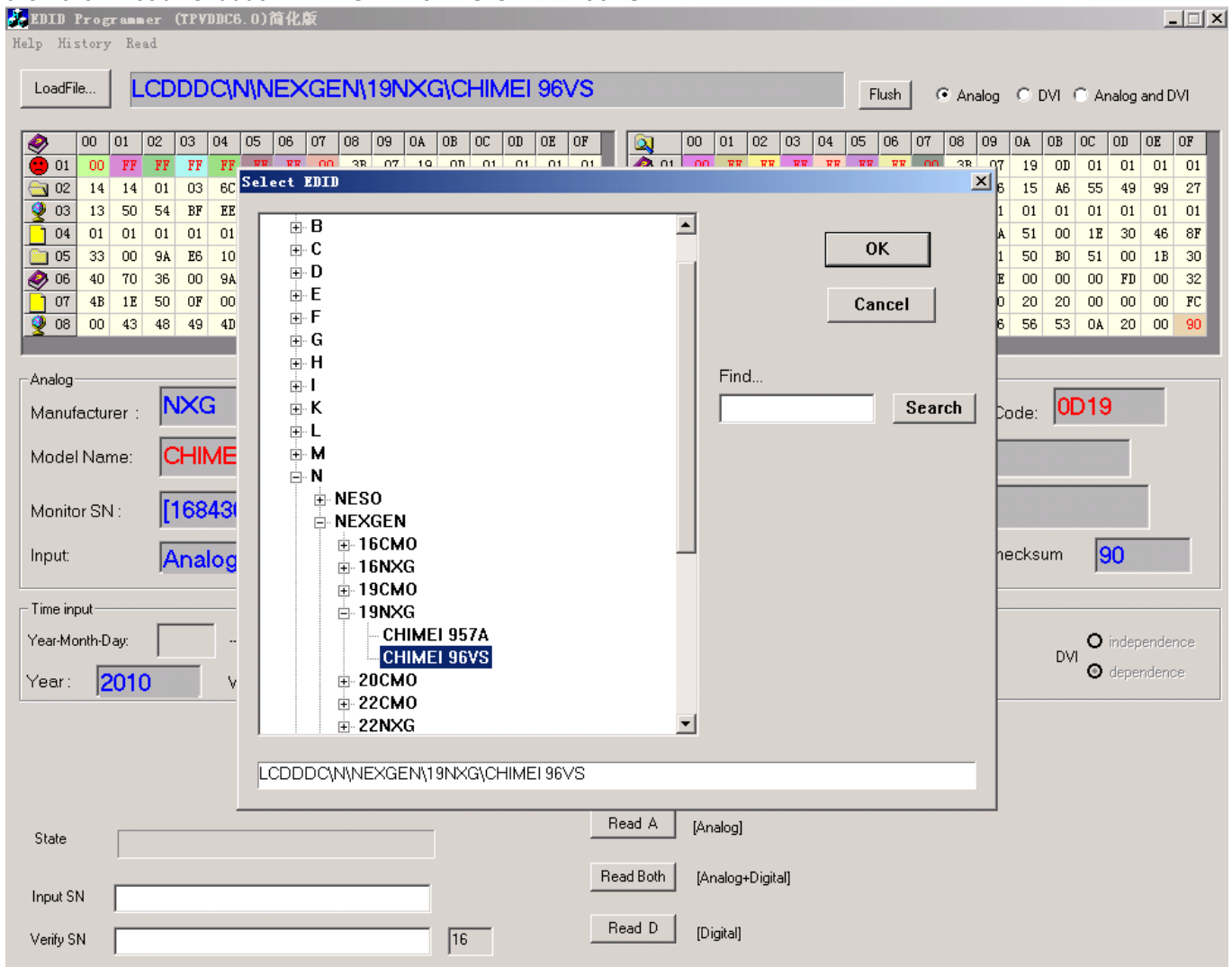
The way of HDMI DDC Write is the same as analog. But the Flush need Choose HDMI.



If you write DDC VGA&HDMI is together, Flush Choose Analog and HDMI.



2. Choose methods: Loadfile/ldddd/ The first letter of the brand/ size/ Customer mode Such as: choose “Analog” and then click “Loadfile/ldddd/N/NEXGEN/19NXG/CHIMEI 96VS”



3. Click “ok” show as follow picture.

EDID Programmer (TPVDDC6.0) 简化版

Help History Read

LoadFile... LCDDDC\N\NEXGEN\19NXG\CHIMEI 96VS Flush ☒ Analog ☐ DVI ☐ Analog and DVI

00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
01	00	FF	FF	FF	FF	FF	00	3B	07	19	0D	01	01	01	01
02	14	14	01	03	6C	29	17	78	2E	B5	15	A6	55	49	27
03	13	50	54	BF	EE	00	61	4C	01	01	01	01	01	01	01
04	01	01	01	01	01	01	66	21	56	AA	51	00	1E	30	46
05	33	00	9A	B5	10	00	00	1E	66	21	50	B0	51	00	1B
06	40	70	36	00	9A	B5	10	00	00	1E	00	00	FD	00	32
07	4B	1E	50	0F	00	0A	20	20	20	20	20	00	00	00	FC
08	00	43	48	49	4D	45	49	20	39	36	56	53	0A	20	00

Analog
 Manufacturer : NXG Product Code : OD19
 Model Name : CHIMEI 96VS
 Monitor SN : [16843009]
 Input : Analog Checksum : 9D

Digital
 Manufacturer : NXG Product Code : OD19
 Model Name : CHIMEI 96VS
 Monitor SN : [16843009]
 Input : Digital Checksum : 90

Time input
 Year-Month-Day:
 Year: 2010 Week: 20 [ISO8601] ☐ ASUS防呆 ☐ 进工厂 ☐ 手动输入日期

Flash Type
 Analog ☐ independence ☐ dependence DVI ☐ independence ☐ dependence

Program

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

State

Input SN

Verify SN 16

4. Input same SN twice and date. Click "Program" to burn. When appear "pass" as follow picture that burning is successful.

EDID Programmer (TPVDDC6.0) 简化版

Help History Read

LoadFile... LCDDDC\N\NEXGEN\19NXG\CHIMEI 96VS Flush ☒ Analog ☐ DVI ☐ Analog and DVI

00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
01	00	FF	FF	FF	FF	FF	00	3B	07	19	0D	01	01	01	01
02	14	14	01	03	6C	29	17	78	2E	B5	15	A6	55	49	27
03	13	50	54	BF	EE	00	61	4C	01	01	01	01	01	01	01
04	01	01	01	01	01	01	66	21	56	AA	51	00	1E	30	46
05	33	00	9A	B5	10	00	00	1E	66	21	50	B0	51	00	1B
06	40	70	36	00	9A	B5	10	00	00	1E	00	00	FD	00	32
07	4B	1E	50	0F	00	0A	20	20	20	20	20	00	00	00	FC
08	00	43	48	49	4D	45	49	20	39	36	56	53	0A	20	00

Analog
 Manufacturer : NXG Product Code : OD19
 Model Name : CHIMEI 96VS
 Monitor SN : [16843009]
 Input : Analog Checksum : 9D

Digital
 Manufacturer : NXG Product Code : OD19
 Model Name : CHIMEI 96VS
 Monitor SN : [16843009]
 Input : Digital Checksum : 90

Time input
 Year-Month-Day:
 Year: 2010 Week: 20 [ISO8601] ☐ ASUS防呆 ☐ 进工厂 ☐ 手动输入日期

Flash Type
 Analog ☐ independence ☐ dependence DVI ☐ independence ☐ dependence

Program

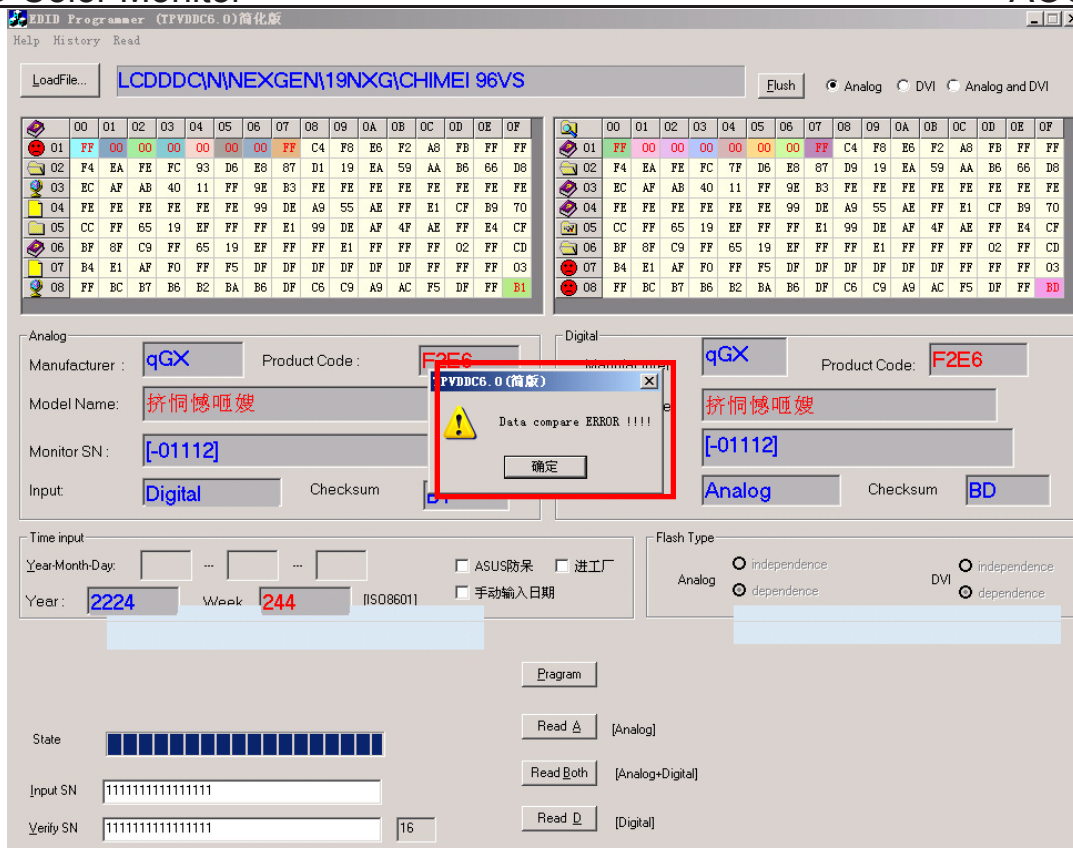
Read A [Analog]
 Read Both [Analog+Digital]
 Read D [Digital]

State

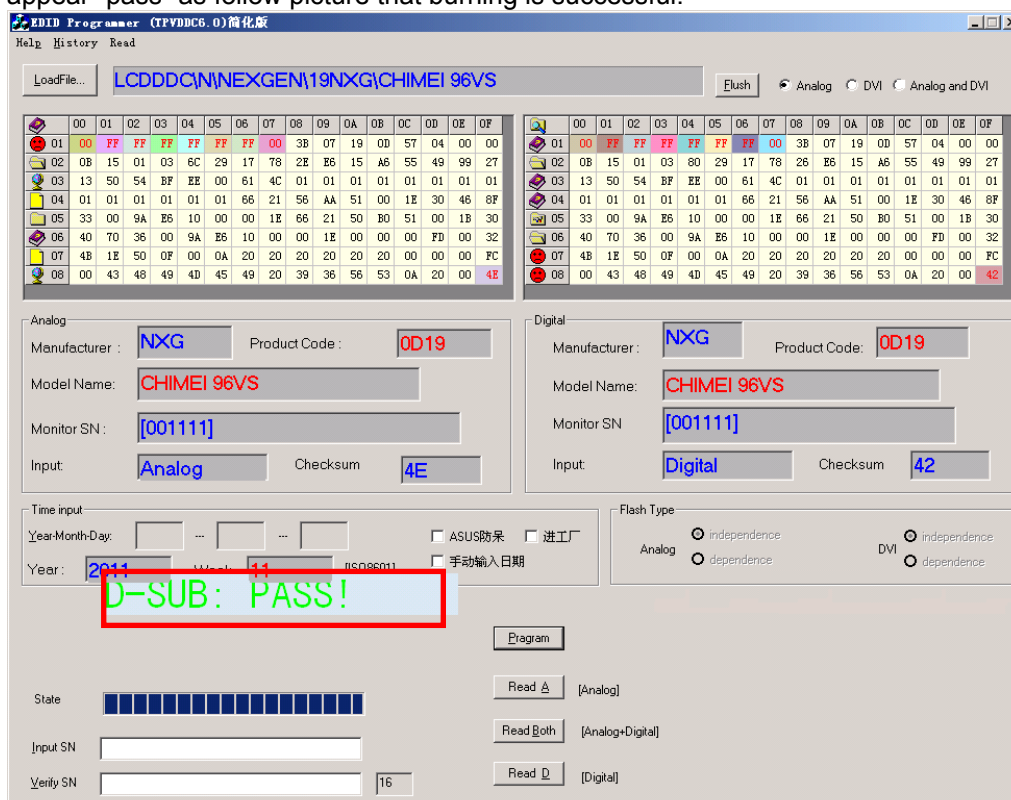
Input SN 1111111111111111

Verify SN 16

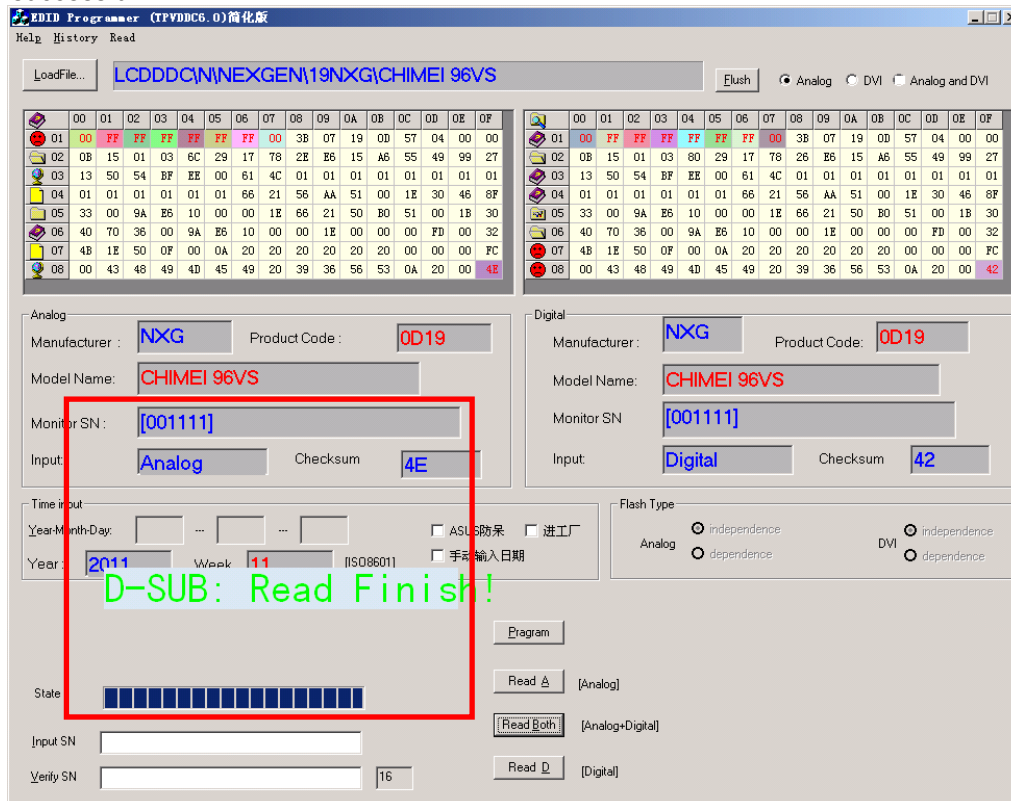
5. Click "program",
 Note: 1. Appear fault as follow , please input SN twice and burning again.



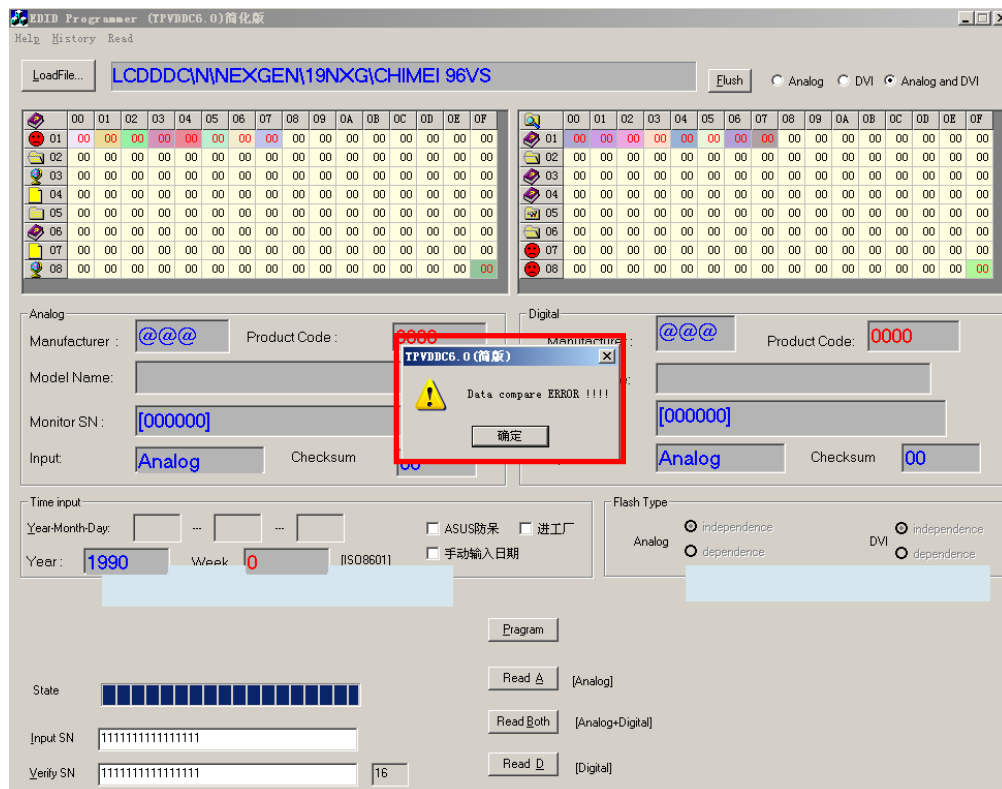
Note:2. When appear “pass” as follow picture that burning is successful.



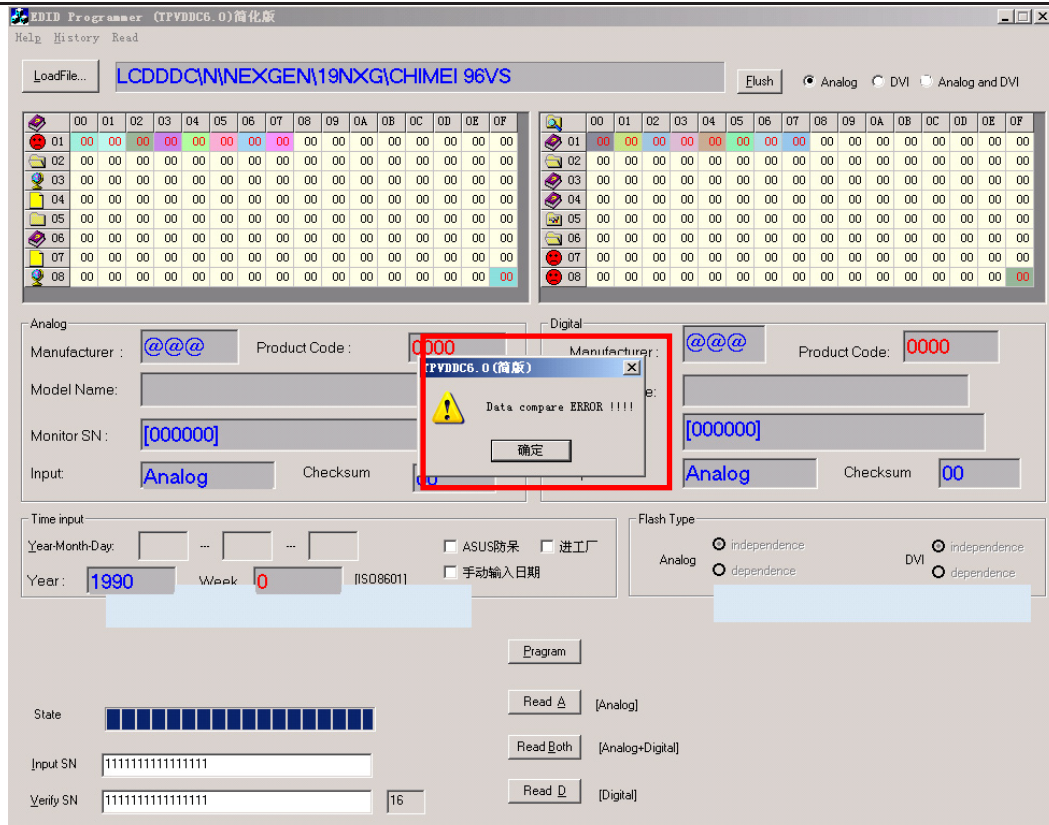
Note3: Click "Read both" show as follow picture..If read SN and model name are same as before inputing as before that burning is successful.



Note4: Appear fault as follow, please check the connection of LPT cable , Tool adapter cable and LCD power.



Note5: Appear fault as follow, please check the connection of VGA and the connection of DVI



Note6:

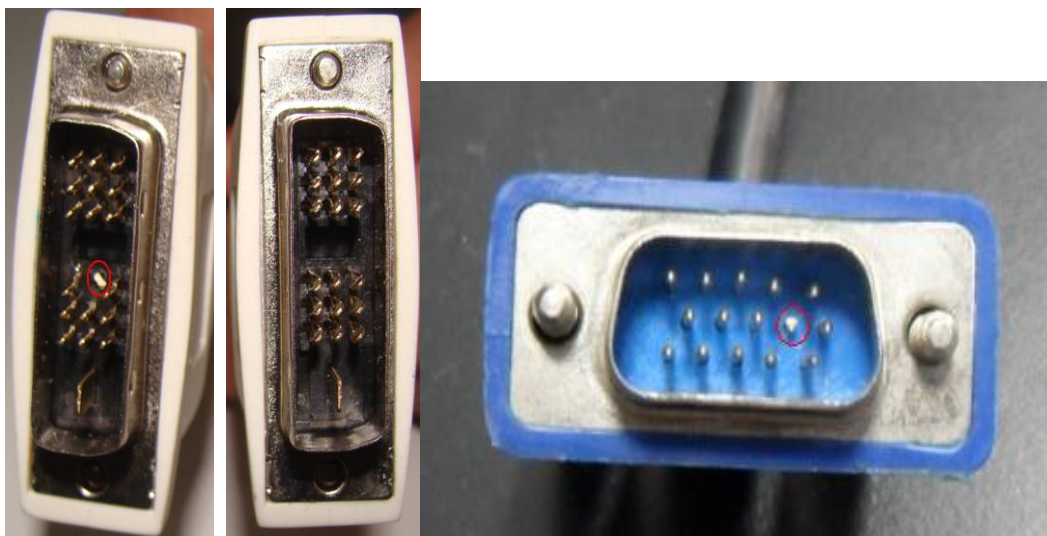
If the burn software is unsuccessful, appear fault :

1. For VGA, the resolution will be not the best achieve.
2. For DVI, No picture, no sound.

If program failed, in VGA mode, you can't use the optimal resolution.

When Read is OK, program is NG, pls do take following action:

1. For VGA, cut off the 9th pin (connect the monitor).
2. For DVI, cut off the 14th pin (the shortest pin, power supply).
3. Connect the EEPROM WP pin to ground.



11. White- Balance, Luminance Adjustment

Approximately 30 minutes should be allowed for warm up before proceeding White-Balance adjustment.

1. How to do the Chroma-7120 MEM. Channel setting

A. Reference to chroma 7120 user guide

B. Use “**SC**” key and “**NEXT**” key to modify x, y, Y value and use “**ID**” key to modify the TEXT description Following is the procedure to do white-balance adjust

2. Setting the color temp. you want

A. 6500K color:

6500K color temp. parameter is $x = 313 \pm 30$, $y = 329 \pm 30$

B. 7300K color:

7300K color temp. parameter is $x = 301 \pm 30$, $y = 317 \pm 30$

C. 9300K color:

9300K color temp. parameter is $x = 283 \pm 30$, $y = 297 \pm 30$

D. sRGB color:

sRGB color temp. parameter is $x = 313 \pm 30$, $y = 329 \pm 30$

3. Enter into factory mode

Press the MENU button, pull out the power cord, then plug the power cord. You will enter into the factory mode.

4. Bias adjustment:

Set the **Contrast**  to 50; Adjust the **Brightness**  to 90.

5. Gain adjustment:

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

A. Adjust Warm (6500K) color-temperature

1. Switch the chroma-7120 to **RGB-Mode** (with press “MODE” button)
2. Switch the MEM.channel to Channel 4(with up or down arrow on chroma 7120)
3. The LCD-indicator on chroma 7120 will show $x = 313 \pm 30$, $y = 329 \pm 30$
4. Adjust the RED on factory window until chroma 7120 indicator reached the value R=100
5. Adjust the GREEN on factory window until chroma 7120 indicator reached the value G=100
6. Adjust the BLUE on factory window until chroma 7120 indicator reached the value B=100
7. Repeat above procedure (item 4,5,6) until chroma 7120 RGB value meet the tolerance $=100 \pm 5$

B. Adjust Normal (7300K) color-temperature

1. Switch the Chroma-7120 to **RGB-Mode** (with press “MODE” button)
2. Switch the MEM. Channel to Channel 3 (with up or down arrow on chroma 7120)
3. The LCD-indicator on chroma 7120 will show 7300 color temp. $x = 301 \pm 30$, $y = 317 \pm 30$
4. Adjust the RED on factory window until chroma 7120 indicator reached the value R=100
5. Adjust the GREEN on factory window until chroma 7120 indicator reached the value G=100
6. Adjust the BLUE on factory window until chroma 7120 indicator reached the value B=100
7. Repeat above procedure (item 4,5,6) until chroma 7120 RGB value meet the tolerance $=100 \pm 5$

C. Adjust Cool (9300K) color-temperature

1. Switch the chroma-7120 to **RGB-Mode** (with press “MODE” button)

2. Switch the MEM.channel to Channel 4(with up or down arrow on chroma 7120)
 3. The LCD-indicator on chroma 7120 will show $x = 283 \pm 30$, $y = 297 \pm 30$
 4. Adjust the RED on factory window until chroma 7120 indicator reached the value $R=100$
 5. Adjust the GREEN on factory window until chroma 7120 indicator reached the value $G=100$
 6. Adjust the BLUE on factory window until chroma 7120 indicator reached the value $B=100$
 7. Repeat above procedure (item 4,5,6) until chroma 7120 RGB value meet the tolerance $=100 \pm 5$
- D. Adjust sRGB color-temperature
1. Switch the chroma-7120 to **RGB-Mode** (with press "MODE" button)
 2. Switch the MEM.channel to Channel 4(with up or down arrow on chroma 7120)
 3. The LCD-indicator on chroma 7120 will show $x = 313 \pm 30$, $y = 329 \pm 30$
 4. Adjust the RED on factory window until chroma 7120 indicator reached the value $R=100$
 5. Adjust the GREEN on factory window until chroma 7120 indicator reached the value $G=100$
 6. Adjust the BLUE on factory window until chroma 7120 indicator reached the value $B=100$
 7. Repeat above procedure (item 4,5,6) until chroma 7120 RGB value meet the tolerance $=100 \pm 5$
- E. Turn the Power-button off to quit from factory mode.

12. Monitor Exploded View

AOC 2040V Explosion Flowchart

The diagram shows the exploded view of the AOC 2040V monitor. Components are numbered 1 through 23. The main frame (9) is the central part, with the bezel (1) and lens (2) on top. The main board (8) and converter board (7) are inside the frame. The key board (5) and sensor board (4) are also shown. The stand (14) and base (15) are at the bottom. The rear cover (11) is on the back of the frame. The hinge (10) connects the frame to the stand. The rubber foot (17) is on the base. The screw (21) is used to secure the main board. The screw (20) is used to secure the hinge. The screw (19) is used to secure the base. The screw (18) is used to secure the stand. The screw (16) is used to secure the rear cover. The screw (15) is used to secure the base. The screw (14) is used to secure the stand. The screw (13) is used to secure the hinge. The screw (12) is used to secure the rear cover. The screw (11) is used to secure the base. The screw (10) is used to secure the stand. The screw (9) is used to secure the hinge. The screw (8) is used to secure the rear cover. The screw (7) is used to secure the base. The screw (6) is used to secure the stand. The screw (5) is used to secure the hinge. The screw (4) is used to secure the rear cover. The screw (3) is used to secure the base. The screw (2) is used to secure the stand. The screw (1) is used to secure the hinge.

Item.	Parts Name	Parts Number	Qty
	pulp	H44GA009-101	1
	pulp	H44GA009-201	1
38.			
37.			
36.			
35.			
34.			
33.			
32.			
31.			
30.			
29.			
28.			
27.			
26.			
25.			
24.			
23.	Screw M3.0X6mm(stand to bkt)	OQ1G 130-6-120	2
21.	Screw M3.0X8mm(main and converter to mainframe)	OD1C1730-8-120	4
20.	Screw M4.0X10mm(hinge to rearcover)	OQ1G 140-10-120	5
19.	Screw M6(stand bkt to base)	001G6009-1	1
18.	Screw M3.0X8mm(bkt to base)	OQ1G 130-8-120	2
17.	rubber foot	Q12G6600-6	4
16.	BASE BKT	H15G0037101	1
15.	BASE	H34G0047-11-01A	1
14.	STAND REAR	H34G0049-11-01A	1
11.	rearcover	H34G0046-11-01A	1
10.	HINGE	H37G0017	1
9.	MAINF RAME	H15G0035101101	1
8.	MAIN BOARD	NA	1
7.	CONVERTER BOARD	NA	1
6.	PANEL	NA	3
5.	KEY BOARD	NA	1
4.	SENSOR BOARD	NA	1
3.	KEY	H33G0023-11-01A	1
2.	LENS	H33G0022-11-01A	1
1.	BEZEL	H34G0045-11-01A	1

13. BOM List

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

TAAGNRNEWWA1NNE

Location	Part No.	Description	Remark
	040G 58162435A	P/N LABEL FOR MANUAL PE BAG	
	052G 1150 C	INSULATING TAPE	
	052G 1211 B	Conductive Tape 85mm *40mm *0.09mm	
E09504	095G176J 4E01	FFC CABLE 4P-4P 260 1.0	
E09501	095G8018 3DE36	HARNESS 30P-30P 330MM	
E09502	095G8022 7TE01	HARNESS 7P(1253)-6P(1253) 130	
E09505	095G802210TE01	HARNESS 10P(A1253)-10P(A1253) 90	
	0D1G1730 8120	SCREW	
	705GHA34014	BASE ASS'Y	
	705GHA34044	2040 REAR COVER_STAND ASS'Y	
E750	750GLG200W3A13N000	PANEL LM200WD3-TLA1 GZ LGD	
E080	ADPCA1236HD1	ADAPTER BOARD	
	H01G6009 1	Screw	
	H15G0035101402	MAIN FRAME	
	H33G0022 1 1L	LENS_AOC_L201WA-2040LED	
	H33G0023AED 1B	KEY PAD_AOC_L201WA-2040LED	
	H34G0045DAVE1M0130	BEZEL	
	H40G 58361513A	win7 EPEAT EPA LABEL	
	H41G780961523A	QSG	
	H44GA009101	PULP	
	H44GA009201	PULP	
	H44GA009615 3A	e2040S carton	
	H45G 77 6	PE PACKING	
	H45G 87 1 23	EPE COVER	
	H45G 87 1810H A	EPE COVER FOR BASE	
	H52G6025 16 58	mylar	
	H70G201061523A	e2040S CD MANUAL	
	KEPC9HC2	KEY BOARD	
	LNPCAA482GHD1	CONVERTER BOARD	
	Q45G 76 28 H A	PE BAG FOR MANUAL	
	Q50G 4 10	TIE (Y1900221)	
	Q52G 1185 99	big carton tape for aoc	
	Q52G6019 14	TAPE	
	0Q1G 130 8120	SCREW 42A9930011	
	H15G0037101	BASE BKT	
	H34G0047DAV 1M0130	BASE	
	0Q1G 130 8120	SCREW 42A9930011	
	0Q1G 140 10120	SCREW	
	H34G0046DAV 4M	REAR COVER _AOC_L201WA-2040LED	
	H34G0048DBA 1B0100	STAND DOWN	
	H34G0049DBA 1B0100	STAND UP	
	H37G0017 1	Hinge	
	756GHACB A4004	MAIN BOARD-CBPCANRA1H1	
SMTCA-U402	100GANGA001W11	MCU ASS'Y-056G2233 11	
	808GE2040SAUS	E2040S Australia ASS'Y	

E08902	089G 715HAAE01	SIGNAL CABLE	
E08901	089G412A15NIS3	POWER CORD	
	H26G 800504 2A	barcode	
	H40G 22E61552A	ID LABEL	
	H40G 58361551A	e2040S CARTON LABEL	
	H41G780061558A	WARRANTY CARD	
	808GE2040SHKG	E2040S HongKong ASS'Y	
E08902	089G 715HAAE01	SIGNAL CABLE	
E08901	089G410A15N IS	POWER CORD	
	H26G 800504 2A	barcode	
	H40G 22E61552A	ID LABEL	
	H40G 58361551A	e2040S CARTON LABEL	
	808GE2040SPHI	E2040S Philippines ASS'Y	
E08902	089G 715HAAE01	SIGNAL CABLE	
E08901	089G402A15N HL	POWER CORD	
	H26G 800504 2A	barcode	
	H40G 22E61552A	ID LABEL	
	H40G 58361551A	e2040S CARTON LABEL	
	808GE2040STHA	E2040S Thailand ASS'Y	
E08902	089G 715HAAE01	SIGNAL CABLE	
E08901	089G402A15N HL	POWER CORD	
	H26G 800504 2A	barcode	
	H40G 22E61552A	ID LABEL	
	H40G 58361551A	e2040S CARTON LABEL	
	H41G780961530A	AOC 泰国 warranty card	
	808GE2040SVIE	E2040S Vietnam ASS'Y	
E08902	089G 715HAAE01	SIGNAL CABLE	
E08901	089G404A15N HL	POWER CORD	
	H26G 800504 2A	barcode	
	H40G 22E61552A	ID LABEL	
	H40G 58361551A	e2040S CARTON LABEL	
	040G 154501 1	HI-POT GND LABEL	
	040G 45762412B	CBPC LABEL	
	045G 88525 E	PE BAG	
IC902	056G 139 3A	PC123Y22FZOF SHARP	
NR901	061G 58005 X	RST NTCR 5R 20% 3A 2.6W	
R904	061G152M47858G SY	RST MOFR 0.47 OHM +-5% 2WS	
C903	063G107K474 6S	0.47UF +-10%	
C909	065G 1K103 2E6921	CAP CER 10NF K 1KV Y5U	
C900	065G306M1022BP	Y1 1000PF M 250VAC	
C927	067G 3151014KV	CAP 105C 100UF M 25V	
C918	067G 515681 4L	EC 680UF 20% 25V RZW 8*20	
C919	067G 515681 4L	EC 680UF 20% 25V RZW 8*20	
C907	067G515Z82015L	EC 82UF 20% 450V RXQ 18*31.5	
D903	071G 55 30	FERRITE BEAD 4.0*2*3	
D902	071G 55 30	FERRITE BEAD 4.0*2*3	
L902	073G 174514 X1	LINE FILTER 14mH MIN 3LFT1495-143M-1	
L901	073G 174515 H	LINE FILTER 0.45mH MIN LCL-11006 HA	
L903	073G 253902 H	IND CHOKE 0.8uH MIN DADON	
LED1	081G 2 3 1P	LED GPG2603T/R006-35A GUANGPU	
E08906	089G 171536 G	DC CABLE 1000mm	

BD901	093G 50460514	BRIDGE KBP306G-05 3A/800V TSC	
D903	093G 5212T52T	DIODE 1N4007-AO DO-41	
D902	093G 5212T52T	DIODE 1N4007-AO DO-41	
	705GQ957052	D906 ASS'Y	
	705GQ957053	Q901 ASS'Y	
	705GQA57002	AC SOCKET ASS'Y	
	ADA1236HD1SMT	ADAPTER BOARD FOR SMT	
	H33G0027 1 1C	LENS FOR AOC 40TH	
	H33G0028 GM T 18	TOP COVER FOR AOC 40TH	
	H33G0029 GM T 18	BOTTON COVER FOR AOC 40TH	
	Q40G000362427A	LABEL	
	Q40G300B615 1C	LABEL adapter	
	Q51G 6 4509	GLUE_RTV	
T901	S80GL19P512V	Transformer ASS'Y	
	040G 45762412B	CBPC LABEL	
C718	067G204V181 3K	CS CAP 180uF 16V 8*8 mm	
C716	067G204V471 2K	CS CAP 470uF 10V 8*8 mm	
FB702	071G 5526A H	CORE 6.0X3.5X3.5 127 25% 3.5X6.0	
CN701	088G 304 11 C	DC POWER JACK 3P 2.5mm	
CN101	088G 35315FVCL	D-SUB CONN 15P V/T 10.5mm WITH SCREW	
X401	093G 2251B J	CRYSTAL 12MHZ NXS12.000AC30F-KAB10	
	Q55G 23524	WELDING FLUX WITHOUT PB	
	Q55G 100625	TIN STICK_LOW ARGENTUM	
CN401	033G8032 7F HR	CONNECTOR	
CN702	033G803210F HR	CONNECTOR 10P 1.25	
U401	056G 562327	IC Scaler NT68668AFG QFP-128	
U704	056G 563113	IC G1117-18T63Uf 1A/1.8V SOT-223	
U705	056G 563215	IC DC/DC MP1584EN SOIC8E	
U702	056G 563512	IC G1117-33T43UF 1A/3.3V TO-252	
U103	056G 662502	IC ESD AZC199-04S.R7G SOT23-6L	
U104	056G 662502	IC ESD AZC199-04S.R7G SOT23-6L	
U101	056G1133918	NO-SUGGEST AT24C02BN-SH-T 2kb SO-8	
U402	056G2233 11	IC Pm25LD020C-SCE SIOC-8(150mil) 2M	
Q402	057G 417517	Tra LMBT3906LT1G -200mA/-40V SOT-23 LRC	
Q401	057G 417517	Tra LMBT3906LT1G -200mA/-40V SOT-23 LRC	
Q302	057G 417518	TRA LMBT3904LT1G 200mA/40V SOT-23 LRC	
Q701	057G 417518	TRA LMBT3904LT1G 200mA/40V SOT-23 LRC	
Q301	057G 763940	MOSFET AO3401A SOT-23	
R408	061G0402000 JY	NO-SUGGEST RST CHIPR MAX 0R05 OHM 1/16W	
R406	061G0402000 JY	NO-SUGGEST RST CHIPR MAX 0R05 OHM 1/16W	
R105	061G0402100 JY	NO-SUGGEST RST CHIPR 10 OHM +-5% 1/16W Y	
R111	061G0402100 JY	NO-SUGGEST RST CHIPR 10 OHM +-5% 1/16W Y	
R115	061G0402100 JY	NO-SUGGEST RST CHIPR 10 OHM +-5% 1/16W Y	
R706	061G0402101 JY	NO-SUGGEST RST CHIPR 100 OHM +-5% 1/16W	
R435	061G0402101 JY	NO-SUGGEST RST CHIPR 100 OHM +-5% 1/16W	
R401	061G0402101 JY	NO-SUGGEST RST CHIPR 100 OHM +-5% 1/16W	
R113	061G0402101 JY	NO-SUGGEST RST CHIPR 100 OHM +-5% 1/16W	
R104	061G0402101 JY	NO-SUGGEST RST CHIPR 100 OHM +-5% 1/16W	

R103	061G0402101 JY	NO-SUGGEST RST CHIPR 100 OHM +-5% 1/16W	
R101	061G0402101 JY	NO-SUGGEST RST CHIPR 100 OHM +-5% 1/16W	
R426	061G0402102 JY	NO-SUGGEST RST CHIPR 1KOHM +-5% 1/16W YA	
R436	061G0402102 JY	NO-SUGGEST RST CHIPR 1KOHM +-5% 1/16W YA	
R437	061G0402102 JY	NO-SUGGEST RST CHIPR 1KOHM +-5% 1/16W YA	
R413	061G0402103 JY	NO-SUGGEST RST CHIPR 10KOHM +-5% 1/16W Y	
R412	061G0402103 JY	NO-SUGGEST RST CHIPR 10KOHM +-5% 1/16W Y	
R705	061G0402103 JY	NO-SUGGEST RST CHIPR 10KOHM +-5% 1/16W Y	
R703	061G0402103 JY	NO-SUGGEST RST CHIPR 10KOHM +-5% 1/16W Y	
R702	061G0402103 JY	NO-SUGGEST RST CHIPR 10KOHM +-5% 1/16W Y	
R403	061G0402103 JY	NO-SUGGEST RST CHIPR 10KOHM +-5% 1/16W Y	
R402	061G0402103 JY	NO-SUGGEST RST CHIPR 10KOHM +-5% 1/16W Y	
R305	061G0402103 JY	NO-SUGGEST RST CHIPR 10KOHM +-5% 1/16W Y	
R726	061G0402104 JY	RST CHIPR 100KOHM +-5% 1/16W YAGEO	
R712	061G0402104 JY	RST CHIPR 100KOHM +-5% 1/16W YAGEO	
R415	061G0402104 JY	RST CHIPR 100KOHM +-5% 1/16W YAGEO	
R306	061G0402104 JY	RST CHIPR 100KOHM +-5% 1/16W YAGEO	
R135	061G0402104 JY	RST CHIPR 100KOHM +-5% 1/16W YAGEO	
R434	061G0402105 JY	RST CHIPR 1000KOHM 1/16W YAGEO	
R714	061G04021301FY	RST CHIPR 1K3 +-1% 1/16W YAGEO	
R107	061G0402222 JY	RST CHIPR 2.2KOHM +-5% 1/16W YAGEO	
R106	061G0402222 JY	RST CHIPR 2.2KOHM +-5% 1/16W YAGEO	
R123	061G0402223 JY	RST CHIPR 22KOHM +-5% 1/16W YAGEO	
R304	061G0402223 JY	RST CHIPR 22KOHM +-5% 1/16W YAGEO	
R704	061G0402223 JY	RST CHIPR 22KOHM +-5% 1/16W YAGEO	
R416	061G0402224 JY	RST CHIPR 220KOHM +-5% 1/16W YAGEO	
R727	061G0402304 JF	RST 0402 300K 5% 1/16W FENGHUA	
R711	061G0402333 JY	RST CHIPR 33KOHM £«-5£¥ 1/16W YAGEO	
R431	061G04023901FY	RST CHIP 3.9KOHM 1% YAGEO	
R432	061G04023901FY	RST CHIP 3.9KOHM 1% YAGEO	
R433	061G04023901FY	RST CHIP 3.9KOHM 1% YAGEO	
R133	061G0402394 JY	RST CHIP R 390K +/-5% 1/16W YAGEO	
R117	061G0402470 JY	NO-SUGGEST RST CHIPR 47 OHM 5% 1/16W YAG	
R114	061G0402470 JY	NO-SUGGEST RST CHIPR 47 OHM 5% 1/16W YAG	
R109	061G0402470 JY	NO-SUGGEST RST CHIPR 47 OHM 5% 1/16W YAG	
R414	061G04024700FY	RST CHIP 470R 1/16W 1%	
R110	061G0402471 JY	RST CHIPR 470OHM +-5% 1/16W YAGEO	
R411	061G0402472 JY	RST CHIPR 4.7KOHM +-5% 1/16W YAGEO	
R410	061G0402472 JY	RST CHIPR 4.7KOHM +-5% 1/16W YAGEO	
R303	061G0402472 JY	RST CHIPR 4.7KOHM +-5% 1/16W YAGEO	
R125	061G0402472 JY	RST CHIPR 4.7KOHM +-5% 1/16W YAGEO	
R124	061G0402472 JY	RST CHIPR 4.7KOHM +-5% 1/16W YAGEO	

R713	061G04026801FY		RST CHIP 6K8 1/16W 1%	
R108	061G0402750 JY		NO-SUGGEST RST CHIPR 75OHM +-5% 1/16W YA	
R112	061G0402750 JY		NO-SUGGEST RST CHIPR 75OHM +-5% 1/16W YA	
R116	061G0402750 JY		NO-SUGGEST RST CHIPR 75OHM +-5% 1/16W YA	
R707	061G0603000 JF		RST CHIPR MAX 0R05 1/10W FENGHUA	
R102	061G0603000 JF		RST CHIPR MAX 0R05 1/10W FENGHUA	
FB703	061G0603000 JF		RST CHIPR MAX 0R05 1/10W FENGHUA	
FB103	061G0603000 JF		RST CHIPR MAX 0R05 1/10W FENGHUA	
FB102	061G0603000 JF		RST CHIPR MAX 0R05 1/10W FENGHUA	
FB101	061G0603000 JF		RST CHIPR MAX 0R05 1/10W FENGHUA	
R404	061G0603221 JF		ST CHIPR 220 OHM +-5% 1/10W FENGHUA	
R405	061G0603331 JF		RST CHIPR 330OHM +-5% 0603	
FB401	061G0805000 JF		RST CHIPR 0 OHM +-5% 1/8W FENGHUA	
R301	061G1206221 JF		RST CHIPR 220 OHM +-5% 1/4W FENGHUA	
R302	061G1206221 JF		RST CHIPR 220 OHM +-5% 1/4W FENGHUA	
C714	065G040210232K	A	CAP 0402 1NF K 50V X7R	
C107	065G040210232K	A	CAP 0402 1NF K 50V X7R	
C431	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C432	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C433	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C434	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C435	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C437	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C438	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C702	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C705	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C706	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C708	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C709	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C713	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C717	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C720	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C427	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C124	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C125	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C126	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C301	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C304	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C401	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C402	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C403	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C405	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C407	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C417	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C418	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C419	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C422	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C425	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C719	065G040210427Z	T	NO-SUGGEST 0402 0.1UF 25V Y5V	

C712	065G040210427Z	T	NO-SUGGEST 0402 0.1UF 25V Y5V	
C722	065G040215131J	Y	CHIP 150pF 50V NPO YAGEO	
C103	065G040222031J	A	CAP 0402 22PF J 50V NPO	
C104	065G040222031J	A	CAP 0402 22PF J 50V NPO	
C116	065G040222417Z	A	NO-SUGGEST CAP CHIP 0402 220nF Z 16V Y5V	
C303	065G040222417Z	A	NO-SUGGEST CAP CHIP 0402 220nF Z 16V Y5V	
C429	065G040222417Z	A	NO-SUGGEST CAP CHIP 0402 220nF Z 16V Y5V	
C426	065G040227031J	A	CAP 0402 27PF 50V NPO	
C428	065G040227031J	A	CAP 0402 27PF 50V NPO	
C114	065G040247312K	A	8.31HIP 0402 47nF K 16V X7R	
C111	065G040247312K	A	8.31HIP 0402 47nF K 16V X7R	
C110	065G040247312K	A	8.31HIP 0402 47nF K 16V X7R	
C108	065G040247312K	A	8.31HIP 0402 47nF K 16V X7R	
C106	065G040247312K	A	8.31HIP 0402 47nF K 16V X7R	
C102	065G040247312K	A	8.31HIP 0402 47nF K 16V X7R	
C113	065G040250931J	A	CAP 0402 5PF J 50 NPO	
C109	065G040250931J	A	CAP 0402 5PF J 50 NPO	
C105	065G040250931J	A	CAP 0402 5PF J 50 NPO	
C710	065G060310232K	F	CAP CHIP 0603 1NF K 50V X7R	
C715	065G060310232K	F	CAP CHIP 0603 1NF K 50V X7R	
C305	065G060310512K	A	NO-SUGGEST CAP CHIP 0603 1UF K 16V X7R	
C414	065G060310512K	A	NO-SUGGEST CAP CHIP 0603 1UF K 16V X7R	
C415	065G060310512K	A	NO-SUGGEST CAP CHIP 0603 1UF K 16V X7R	
C424	065G060310512K	A	NO-SUGGEST CAP CHIP 0603 1UF K 16V X7R	
C404	065G0805475A2K	Y	CAP CHIP 0805 4.7UF K 10V X7R	
C406	065G0805475A2K	Y	CAP CHIP 0805 4.7UF K 10V X7R	
C413	065G0805475A2K	Y	CAP CHIP 0805 4.7UF K 10V X7R	
C416	065G0805475A2K	Y	CAP CHIP 0805 4.7UF K 10V X7R	
C421	065G0805475A2K	Y	CAP CHIP 0805 4.7UF K 10V X7R	
C423	065G0805475A2K	Y	CAP CHIP 0805 4.7UF K 10V X7R	
C439	065G0805475A2K	Y	CAP CHIP 0805 4.7UF K 10V X7R	
C723	065G120610625K	Y	NO-SUGGEST CAP CHIP 1206 10uF K 25V X5R	
C721	065G120610625K	Y	NO-SUGGEST CAP CHIP 1206 10uF K 25V X5R	
C302	065G120622617Z	Y	NO-SUGGEST CHIP 1206 22UF Z 16V Y5V	
C704	065G120622617Z	Y	NO-SUGGEST CHIP 1206 22UF Z 16V Y5V	
C707	065G120622617Z	Y	NO-SUGGEST CHIP 1206 22UF Z 16V Y5V	
FB301	071G 56K121	M	CHIP BEAD 120OHM 6A MGLB2012-120T-LF	
FB407	071G 56V301	B	CHIP BEAD 0805 300OHM BULLWILL	
FB405	071G 56V301	B	CHIP BEAD 0805 300OHM BULLWILL	
FB404	071G 56V301	B	CHIP BEAD 0805 300OHM BULLWILL	
FB403	071G 56V301	B	CHIP BEAD 0805 300OHM BULLWILL	
FB402	071G 56V301	B	CHIP BEAD 0805 300OHM BULLWILL	
L701	073G253S521	H	SMD CHOKE 22UH 20% 3.3A HF	
D101	093G 64 42	L	DIODE LBAV70LT1G SOT-23 LRC	
ZD101	093G 39GA01	T	RLZ5.6B	
D708	093G3004	3	SM340A	
D707	093G3004	3	SM340A	
D704	093G3004	3	SM340A	
D703	093G3004	3	SM340A	
D701	093G3004	3	SM340A	
CN301	311GW125A30ACH		WAFER 1.25mm 30P	

	715G4002M01000004S	MAIN BOARD PCB	
	040G 45762412B	CBPC LABEL	
C813	067G 4151017KV	EC 100uF 50V ED 8*12	
C807	067G 415330 9L	EC 33UF 20% 100V RZW 8*11.5	
	LNAA482GHD1SMT	CONVERTER BOARD FOR SMT	
	051G 200 1	OIL FOR DISAPPEAR	
D906	093G 605AP	Diode MBR20100CT	
	0M1G 130 5120	SCREW	
HS1	Q90G0201 1	HEAT SINK	
	051G 200 1	OIL FOR DISAPPEAR	
Q901	057G 667924	MOSFET SMK0965F	
	0M1G 930 5120	SCREW	
HS1	Q90G0200 1	HEAT SINK	
CN901	087G 50112A CJ	AC SOCKET 3P -	
E09509	095G 900H12 D	HARNESS 1p-1p 75	
	096G 29 6	H.S. TUBE	
IC901	056G 379530	AC/DC CONVERTER LD7750GS SOP-8	
R912	061G0603102 JF	RST CHIPR 1K OHM +-5% 1/10W FENGHUA	
R940	061G0603102 JT	RST CHIP 1K 1/10W 5% TZAI YUAN	
R918	061G0603103 JT	RST CHIP 10K 1/10W 5% TZAI YUAN	
R911	061G0603202 JT	RST CHIPR 2KOHM 1/10W TZAI YUAN	
R919	061G06034532FF	RST CHIPR 45.3KOHM +-1% 1/10W FENGHUA	
R905	061G08051002FF	RST CHIPR 10KOHM +-1% 1/8W FENGHUA	
R903	061G08051004FT	RST CHIP R 1 MOHM +-1% 1/8W	
R942	061G0805101 JT	RST CHIP 100R 1/8W 5% TZAI YUAN	
R910	061G0805104 JT	RST CHIPR 100KOHM +- 5% 1/8W TZAI YUAN	
R916	061G08051152FT	RST CHIPR 11.5KOHM +- 1% 1/8W TZAI YUAN	
R941	061G0805159 JT	RST CHIP 1R5 1/8W 5%	
R922	061G0805471 JT	RST CHIPR 470OHM +-5% 1/8W TZAI YUAN	
JR901	061G12060007JT	RST CHIPR MAX 0R05 1/4W 1206	
R908	061G1206101 JT	RST CHIPR 100 OHM +-5% 1/4W TZAI YUAN	
R914	061G1206101 JT	RST CHIPR 100 OHM +-5% 1/4W TZAI YUAN	
R934	061G1206103 JT	RST CHIPR 10KOHM +-5% 1/4W TZAI YUAN	
R906	061G1206103 JT	RST CHIPR 10KOHM +-5% 1/4W TZAI YUAN	
R901	061G1206105 JF	RST CHIPR 1 MOHM +-5% 1/4W FENGHUA	
R902	061G1206105 JF	RST CHIPR 1 MOHM +-5% 1/4W FENGHUA	
R907	061G1206564 JF	RST CHIPR 560KOHM +-5% 1/4W FENGHUA	
R937	061G1206564 JF	RST CHIPR 560KOHM +-5% 1/4W FENGHUA	
R938	061G1206564 JF	RST CHIPR 560KOHM +-5% 1/4W FENGHUA	
C930	065G060310332K A	CAP CHIP 0603 10nF K 50V X7R	
C915	065G060347332K Y	CAP CHIP 0603 47N 50V X7R +/-10%	
C931	065G080510131J F	CAP CHIP 0805 100PF J 50V NPO	
C901	065G080510332K F	CAP 0805 10NF K 50V X7R	
C910	065G080510432K A	CAP CHIP 0805 0.1UF K 50V X7R	
C920	065G080510522K 3	CAP CHIP 0805 1U 25V X7R +/-10%	
C911	065G1206222B2K T	CAP CHIP 1206 2200PF K 630V X7R	
C908	065G1206222B2K T	CAP CHIP 1206 2200PF K 630V X7R	
D908	093G 64S522SEM	LL4148	
	ADA1236HD1AI	ADAPTER BOARD FOR AI	
SW005	077G603S AI HJ	TACT SWITCH AI 2PIN SEALED	
SW004	077G603S AI HJ	TACT SWITCH AI 2PIN SEALED	

SW003	077G603S AI HJ	TACT SWITCH AI 2PIN SEALED	
SW002	077G603S AI HJ	TACT SWITCH AI 2PIN SEALED	
SW001	077G603S AI HJ	TACT SWITCH AI 2PIN SEALED	
CN802	033G8019 4K H JS	FPC CONN 1.0mm 4P	
CN801	033G803210F HR	CONNECTOR 10P 1.25	
U801	056G 700 5	IC LED driver MP3389EF TSSOP28	
Q806	057G 763947	MOSFET APM8005KCTRG SOP-8	
R819	061G06031002FT	RST CHIP 10K 1/10W 1%	
R804	061G06031003FT	RST CHIP 100K 1/10W 1%	
R808	061G0603102 JF	RST CHIPR 1K OHM +-5% 1/10W FENGHUA	
R806	061G0603102 JF	RST CHIPR 1K OHM +-5% 1/10W FENGHUA	
R822	061G0603103 JF	RST CHIPR 10K OHM +-5% 1/10W FENGHUA	
R802	061G06032003FF	RST CHIPR 200KOHM 1/10W FENGHUA	
R807	061G0603203 JF	RST CHIPR 20K OHM +-5% 1/10W FENGHUA	
R810	061G0603203 JF	RST CHIPR 20K OHM +-5% 1/10W FENGHUA	
R803	061G06035602FF	RST CHIPR 56KOHM +-1% 1/10W FENGHUA	
R809	061G06036801FF	RST CHIPR 6.8KOHM +-1% 1/10W FENGHUA	
R830	061G0805000 JF	RST CHIPR 0 OHM +-5% 1/8W FENGHUA	
R832	061G0805000 JF	RST CHIPR 0 OHM +-5% 1/8W FENGHUA	
R827	061G0805109 JT	RST CHIP 1R 1/8W 5% TZAI YUAN	
R828	061G0805109 JT	RST CHIP 1R 1/8W 5% TZAI YUAN	
R805	061G0805304 JT	RST CHIP 300K 1/8W 5% TZAI YUAN	
R826	061G0805339 JT	RST CHIP 3.3R 1/8W 5% TZAI YUAN	
R818	061G1206000 JF	RST CHIPR MAX0R05 1/4W FENGHUA	
R811	061G1206308 JF	RST CHIPR 0.3 OHM +-5% 1/4W FENGHUA	
R812	061G1206308 JF	RST CHIPR 0.3 OHM +-5% 1/4W FENGHUA	
C806	065G060310131J F	CAP CHIP 0603 100PF J 50V NPO	
C802	065G060368332K F	CAP CHIP 0603 68NF K 50V X7R	
C809	065G080510432K A	CAP CHIP 0805 0.1UF K 50V X7R	
C804	065G080547432K F	NO-SUGGEST 0805 0.47UF K 50V X7R	
C803	065G080547432K F	NO-SUGGEST 0805 0.47UF K 50V X7R	
C801	065G080547432K F	NO-SUGGEST 0805 0.47UF K 50V X7R	
L801	073G253S 59 DN	SMD CHOKE 22uH 4A LK.29220.A2P	
D801	093G 60S907 T	SCHOTTKY B3100B 3A 100V SMB	
E715	715G4082P01000004D	CONVERTER BOARD PCB	2nd source
E715	715G4082P01000004S	CONVERTER BOARD PCB	
CN901	006G 31500	EYELET	
12V	006G 31501	EYELET	
GND	006G 31501	EYELET	
C903	006G 31502	1.5MM RIVET	
L901	006G 31502	1.5MM RIVET	
L902	006G 31502	1.5MM RIVET	
NR901	006G 31502	1.5MM RIVET	
C907	006G 31502	1.5MM RIVET	
IC903	056G 158 10 T	IC AS431AZTR-E1 TO-92 BY AAC	
R947	061G 60210052T XZ	RST CF 10R 5% 1/6W	
C925	065G 2K152 2T6921	CAP CER 1500pF K 2KV Y5P	
C929	067G 2154707NT	KY50VB47M-TP5 6.3*11	
FB901	071G 55908	BEAD - 60R - C8B RH3.5X4.7X1.0+TAP	
F901	084G 55 7W	FUSE 3.15A 250V Wickmann	
J904	095G 90 23	JUMPER WIRE	

J906	095G 90 23	JUMPER WIRE	
J902	095G 90 23	JUMPER WIRE	
J903	095G 90 23	JUMPER WIRE	
J901	095G 90 23	JUMPER WIRE	
E715	715G3980P02000003M	ADAPTER BOARD PCB	2nd source
E715	715G3980P02000003S	ADAPTER BOARD PCB	
CN001	033G8032 6F HR	CONNECTOR 6P 1.25	
R002	061G0603000 FF	RST CHIPR MAX0R01 1/10W FENGHUA	
R004	061G06031001FF	RST CHIPR 1 KOHM +-1% 1/10W FENGHUA	
R003	061G06032001FF	RST CHIP 2KOHM 1% 1/10W FENGHUA	
R001	061G06032001FF	RST CHIP 2KOHM 1% 1/10W FENGHUA	
C001	065G060310432K A	CAP CHIP 0603 100nF K 50V X7R	
C002	065G060310432K A	CAP CHIP 0603 100nF K 50V X7R	
LED001	081G 14 12 GP	CHIP LED GPTD1210YBC5-D	
E715	715G4014K01000004C	KEY BOARD PCB	
E715	715G4014K01000004S	KEY BOARD PCB	2nd source