

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	e2240Vwa	
	Driving system	TFT Color LCD	
	Viewable Image Size	54.69 cm diagonal	
	Pixel pitch	0.24825 mm(H) x 0.24825 mm(V)	
	Video	R, G, B Analog Interface	
	Separate Sync.	H/V TTL	
	Display Color	16.7M Colors	
	Dot Clock	148.5 MHz	
Resolution	Horizontal scan range	30 kHz - 83 kHz	
	Horizontal scan Size(Maximum)	476.64mm	
	Vertical scan range	55 Hz - 75 Hz	
	Vertical scan Size(Maximum)	268.11mm	
	Optimal preset resolution	1920x1080(60 Hz)	
	Highest preset resolution	1920x1080(60 Hz)	
	Plug & Play	VESA DDC2B/CI	
	Input Connector	D-Sub 15pin & DVI-D	
	Input Video Signal	Analog: 0.7Vp-p(standard), 75 OHM, Positive & DVI-D Digital Interface (TMDS)	
	Power Source	12Vdc,3A	
	Power Consumption	Active < 30W	
		Standby < 1 W	
	Off Timer	0~24hours	Select timing to turn off the monitor.
	Speakers	2W x 2	
Physical Characteristics	Connector Type	15-pin Mini D-Sub & DVI-D	
	Signal Cable Type	Detachable	
	Dimensions & Weight:		
	Height (with base)	528mm	
	Width	391mm	
	Depth	180mm	
	Weight (monitor only)	3.2kg	
	Weight (with packaging)	5.7kg	
Environmental	Temperature:		
	Operating	0° to 40°	
	Non-Operating	-25°to +55°	

21.5" LCD Color Monitor

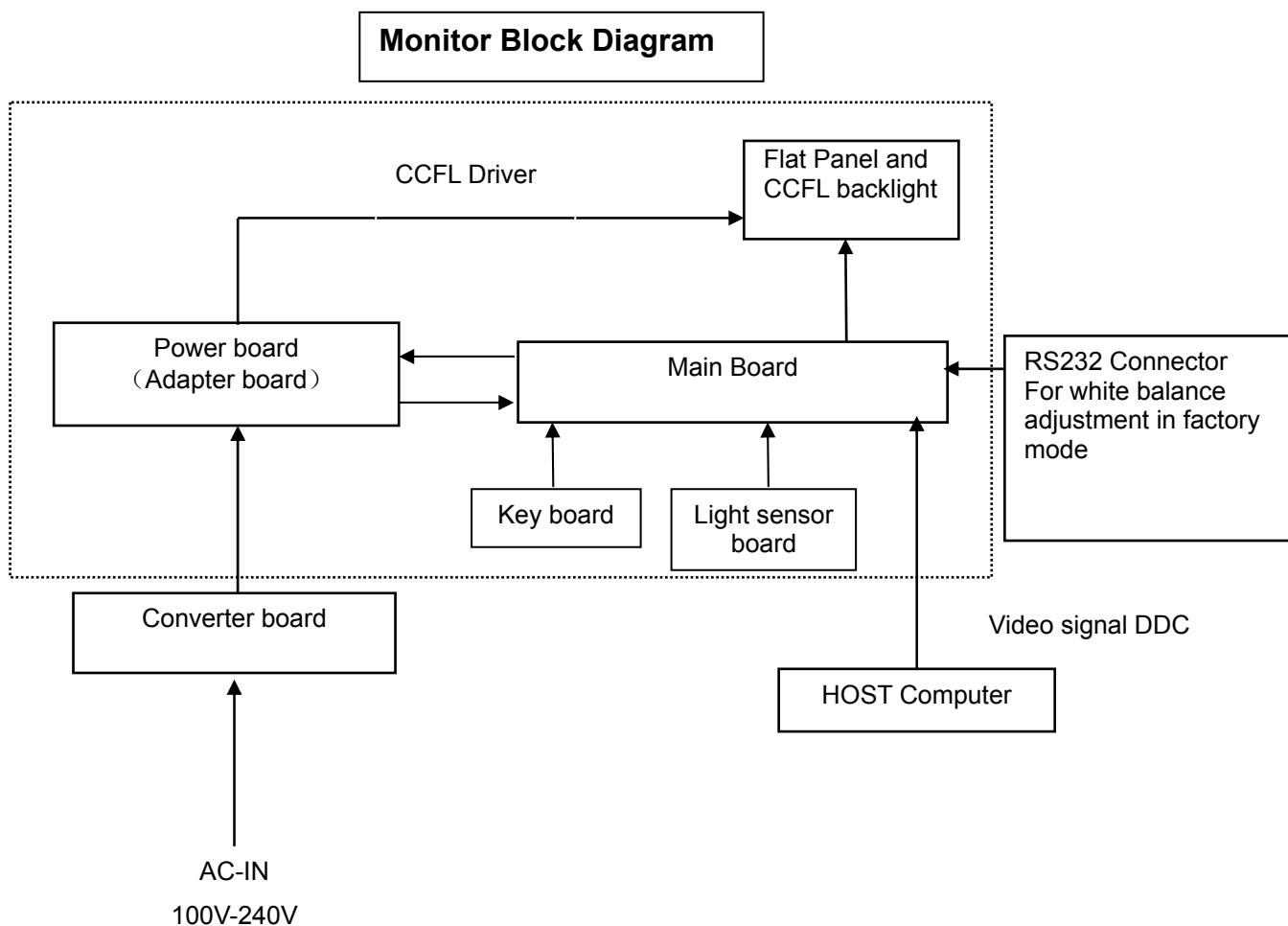
AOC e2240Vwa

	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, a power board, an audio board and a key board which house the flat panel control logic, brightness control logic and DDC.

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

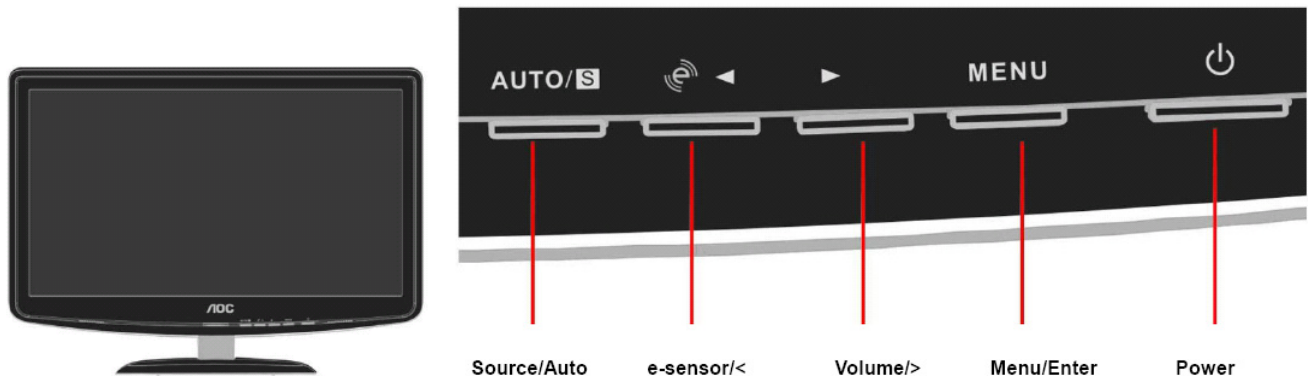


3. Operating Instructions

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



e-Sensor hot key.

When there is no OSD, Press ◀ continuously to select the e-Sensor mode (e-Sensor mode hot key may not be available in all models). e-Sensor: The infrared sensor can detect if user is in front of monitor and adjust monitor brightness automatically to save power. When it is on, we can select the detect range [Near, Average, Far] by using hot-key.

Auto configure hot key

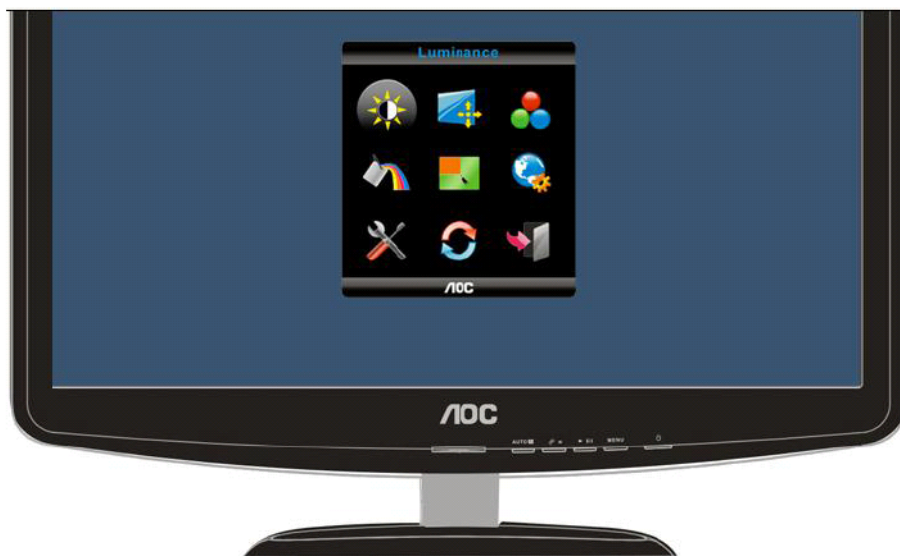
When there is no OSD, press Auto/Source button continuously about 2 second to do auto configure (Only for the models with dual or more inputs).

Volume adjustment hot key

When there is no OSD, press Volume (▶) to active volume djustment bar, press ◀ or ▶ to adjust volume (Only for the models with speakers)

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.
- 5) e-Sensor hot key: When there is no OSD, Press ◀ continuously to select the e-Sensor mode (e-Sensor mode hot key may not be available in all models).
- 6) Volume adjustment hot key: When there is no OSD, press Volume (▶) to active volume djustment bar, press ◀ or ▶ to adjust volume (Only for the models with speakers)

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




	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	Enable dynamic contrast ratio


Image Setup

	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.


Color Temperature

	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


Color Boost

	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


Picture Boost

	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

OSD Setup

	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


Extra

	Input Select	Analog	Select Analog Sigal 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
	Off Timer	0~24hours	Select timing to turn off the monitor.
	Information		Show the information of the main image and sub-image source



Reset

	Reset	yes or no	Reset the menu to default
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Exit

	Exit		Exit the main OSD
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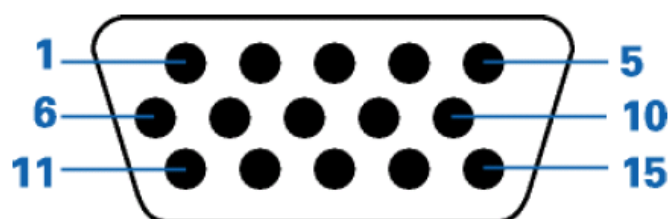
LED Indicator

Status	LED Color	
Full Power Mode	Green or Blue	
Active-off Mode	Orange or Red	

4. Input/Output Specification

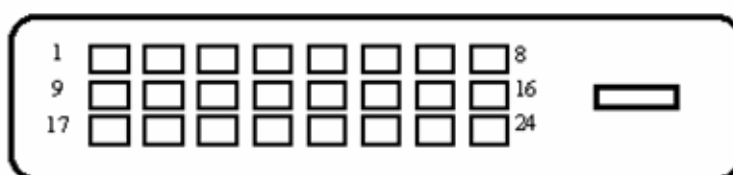
4.1 Input Signal Connector

4.1.1 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

4.1.2 DVI connector



Pin No.	Signal Name	Pin No.	Signal Name	Pin No.	Signal Name
1	TMDS Data 2-	9	TMDS Data 1-	17	TMDS Data 0-
2	TMDS Data 2+	10	TMDS Data 1+	18	TMDS Data 0+
3	TMDS Data 2/4 Shield	11	TMDS Data 1/3 Shield	19	TMDS Data 0/5 Shield
4	TMDS Data 4-	12	TMDS Data 3-	20	TMDS Data 5-
5	TMDS Data 4+	13	TMDS Data 3+	21	TMDS Data 5+
6	DDC Clock	14	+5V Power	22	TMDS Clock Shield
7	DDC Data	15	Ground(for+5V)	23	TMDS Clock +
8	N.C.	16	Hot Plug Detect	24	TMDS Clock -

4.2 Factory Preset Display Modes

STAND	RESOLUTION	Horizontal	Vertical
VGA	640×480@60Hz	31.469	59.94
	640×480@72Hz	37.861	72.809
	640×480@75Hz	37.5	75
	640×480@67Hz	35	66.667
SVGA	800×600@56Hz	35.156	56.25
	800×600@60Hz	37.879	60.317
	800×600@72Hz	48.077	72.188
	800×600@75Hz	46.875	75
XGA	1024×768@60Hz	48.363	60.004
	1024×768@70Hz	56.476	70.069
	1024×768@75Hz	60.023	75.029
XGA	1280x1024@60Hz	63.981	60.02
XGA	1280x1024@75Hz	79.976	75.025
WXGA	1440x900@60Hz	55.935	59.887
WSXGA+	1680x1050@60Hz	65.29	59.95
HDTV	1920x1080@60Hz	67.50	60.00
DOS	720×400@70Hz	31.469	70.087
SVGA	832×624@75Hz	49.725	74.551

5 Panel Specification

5.1 Display Characteristics

This specification applies to the 21.5 inch-wide Color a-Si TFT-LCD Module M215HW01. The display supports the Full HD - 1920(H) x 1080(V) screen format and 16.7M colors (RGB 6-bits + Hi-FRC data). All input signals are 2-channel LVDS interface and this module doesn't contain an driver board for backlight.

ITEMS	Unit	SPECIFICATIONS
Screen Diagonal	[mm]	546.86(21.53")
Active Area	[mm]	476.64 (H) x 268.11 (V)
Pixels H x V		1920(x3) x 1080
Pixel Pitch	[um]	248.25 (per one triad) ×248.25
Pixel Arrangement		R.G.B. Vertical Stripe
Display Mode		TN Mode, Normally White
White Luminance (Center)	[cd/m ²]	250cd/m ² (Typ.)
Contrast Ratio		1000 (Typ.)
Optical Response Time	[msec]	5ms (Typ., on/off)
Nominal Input Voltage VDD	[Volt]	+5.0 V
Power Consumption (VDD line + LED line)	[Watt]	15.1 (Typ.) (without driver board, all black pattern)
Weight	[Grams]	1800 (max.)
Physical Size	[mm]	495.6(W) × 292.2(H) × 9.9(D) Typ.
Electrical Interface		Dual channel LVDS
Support Color		16.7M colors (RGB 6-bit + Hi_FRC)
Surface Treatment		Anti-Glare, 3H
Temperature Range		
Operating	[°C]	0 to +50
Storage (Shipping)	[°C]	-20 to +60
RoHS Compliance		RoHS Compliance
TC0'03 Compliance		TC0'03 Compliance

5.2 Optical Characteristics

Ta = 25 °C

Item	Unit	Conditions	Min.	Typ.	Max.
Viewing Angle	[degree]	Horizontal (Right) CR = 10 (Left)	150	170	-
		Vertical (Up) CR = 10 (Down)	140	160	-
Contrast ratio		Normal Direction	600	1000	-
Response Time	[msec]	Raising Time (T _{rR})	-	3.8	5.5
		Falling Time (T _{rF})	-	1.2	2.5
		Raising + Falling	-	5	8
Color / Chromaticity Coordinates (CIE)		Red x	0.607	0.637	0.667
		Red y	0.319	0.349	0.379
		Green x	0.303	0.333	0.363
		Green y	0.575	0.605	0.635
		Blue x	0.118	0.148	0.178
		Blue y	0.031	0.061	0.091
Color Coordinates (CIE) White		White x	0.283	0.313	0.343
		White y	0.299	0.329	0.359
Central Luminance	[cd/m ²]		200	250	-
Luminance Uniformity	[%]		65	70	-
Crosstalk (in 60Hz)	[%]				1.5
Flicker	dB				-20

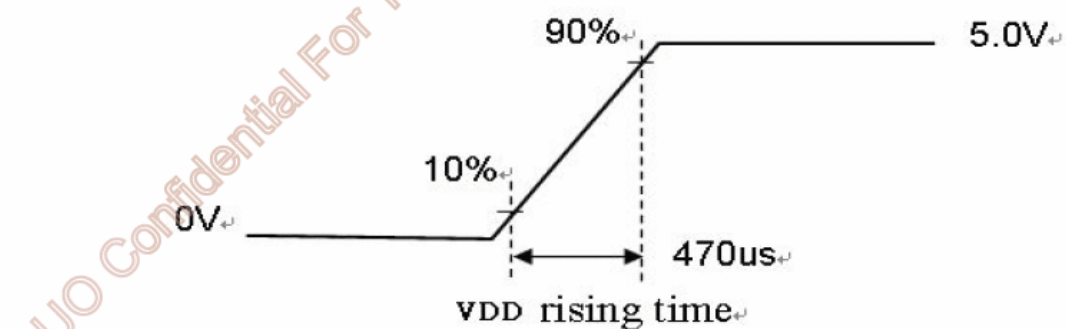
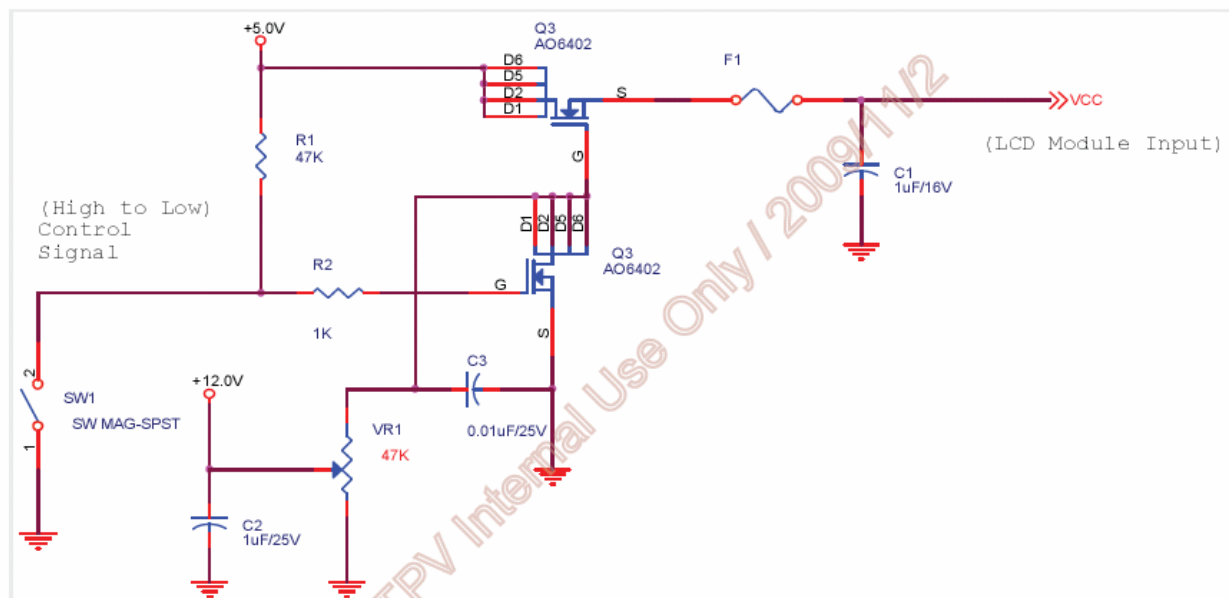
5.3 Electrical Characteristics

1.TFT LCD Module:

Symbol	Parameter	Min	Typ	Max	Unit	Conditions
VDD	Logic/LCD Drive Voltage	4.5	5.0	5.5	[Volt]	+/-10%
IDD	Input Current	-	0.98	1.22	[A]	VDD= 5.0V, All Black Pattern At 60Hz
PDD	VDD Power	-	4.9	6.1	[Watt]	VDD= 5.0V, All Black Pattern At 60Hz
IRush	Inrush Current	-	-	3	[A]	Note 1
VDDrp	Allowable Logic/LCD Drive Ripple Voltage	-	-	300	[mV] p-p	VDD= 5.0V, All Black Pattern At 75Hz

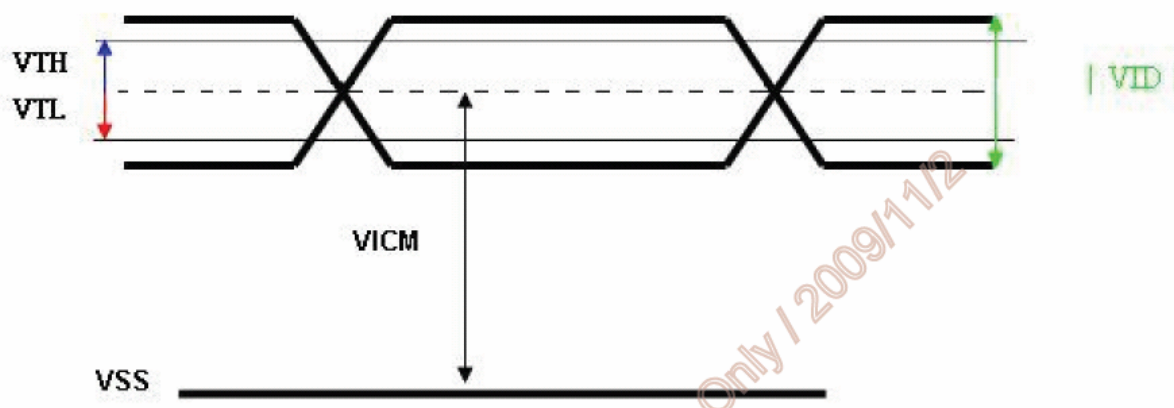
Note 1: Measurement conditions:

The duration of rising time of power input is 470us.



Symbol	Parameter	Min	Typ	Max	Units	Condition
V _{TH}	Differential Input High Threshold	-	+50	+100	[mV]	V _{ICM} = 1.2V Note 1
V _{TL}	Differential Input Low Threshold	-100	-50	-	[mV]	V _{ICM} = 1.2V Note 1
V _{ID}	Input Differential Voltage	100	-	600	[mV]	Note 1
V _{ICM}	Differential Input Common Mode Voltage	+1.0	+1.2	+1.5	[V]	V _{TH} -V _{TL} = 200mV (max) Note 1

Note 1: LVDS Signal Waveform



2.Back Light Unit:

T_a = 25 °C

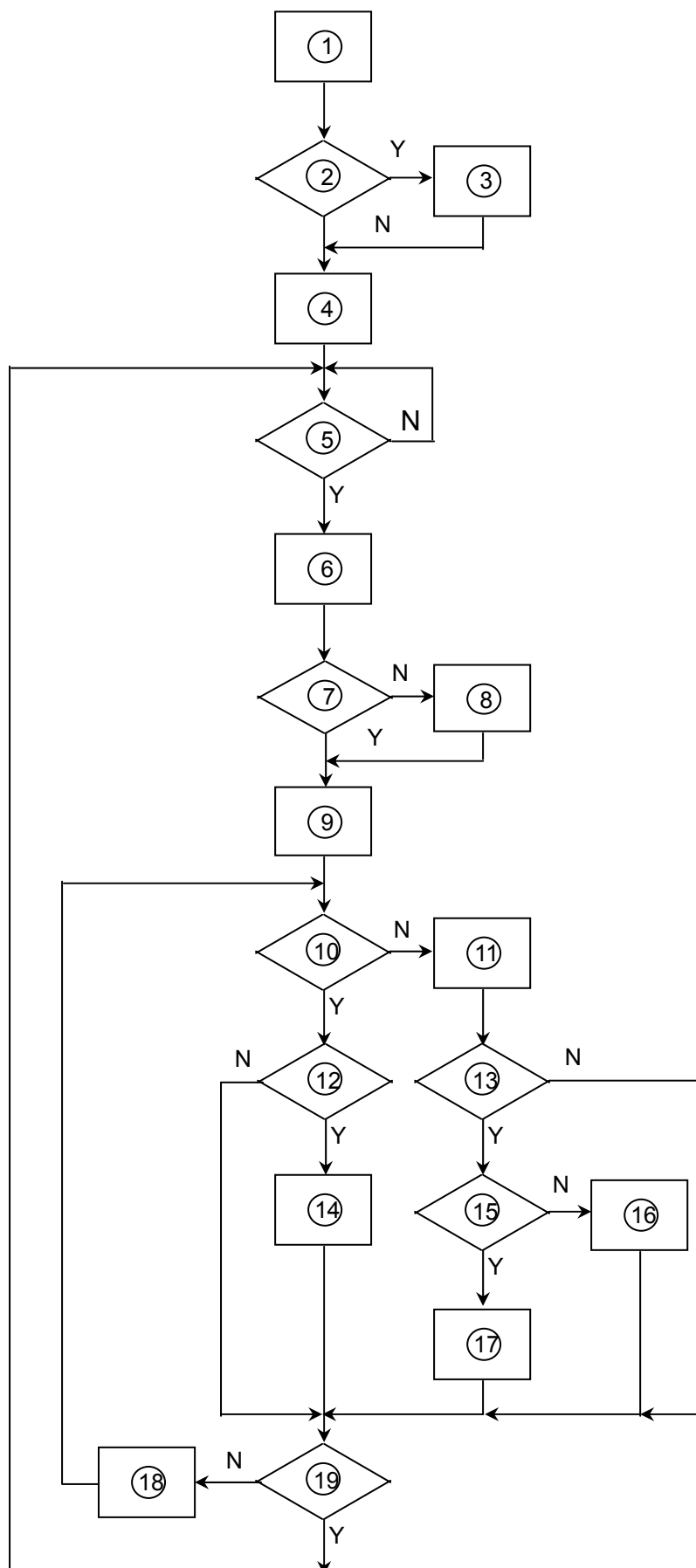
Symbol	Parameter	Min.□	Typ.	Max.	Unit	Note
I _{RLED}	LED Operation Current	19	20	21	[mA]	Operating with fixed driving current
V _{LB}	Light Bar Operation Voltage (for reference)	29	32	34	[Volt] Note 1	
P _{BLU}	BLU Power consumption (for reference)	8.8	10.2	11.4	[Watt]	
V _f	Forward Voltage	2.9	3.2	3.4		
LT _{LED}	LED life Time	25,000	30,000	--	[Hour] Note 2	

Note 1 : The value showed in the table is one light bar's operation voltage.

Note 2 : Based on the oprating current is 20mA.

6. Block Diagram

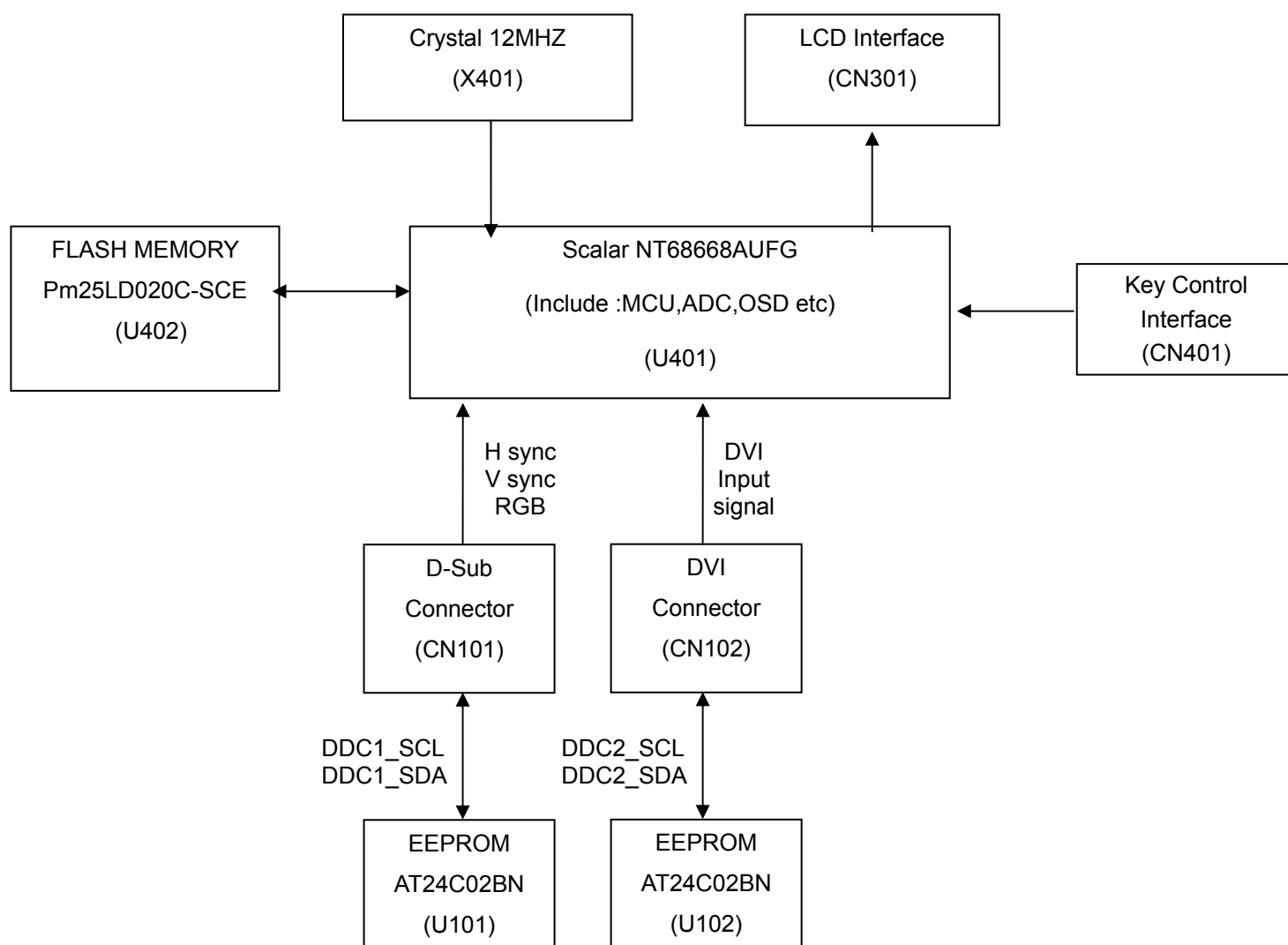
6.1 Software Flow Chart

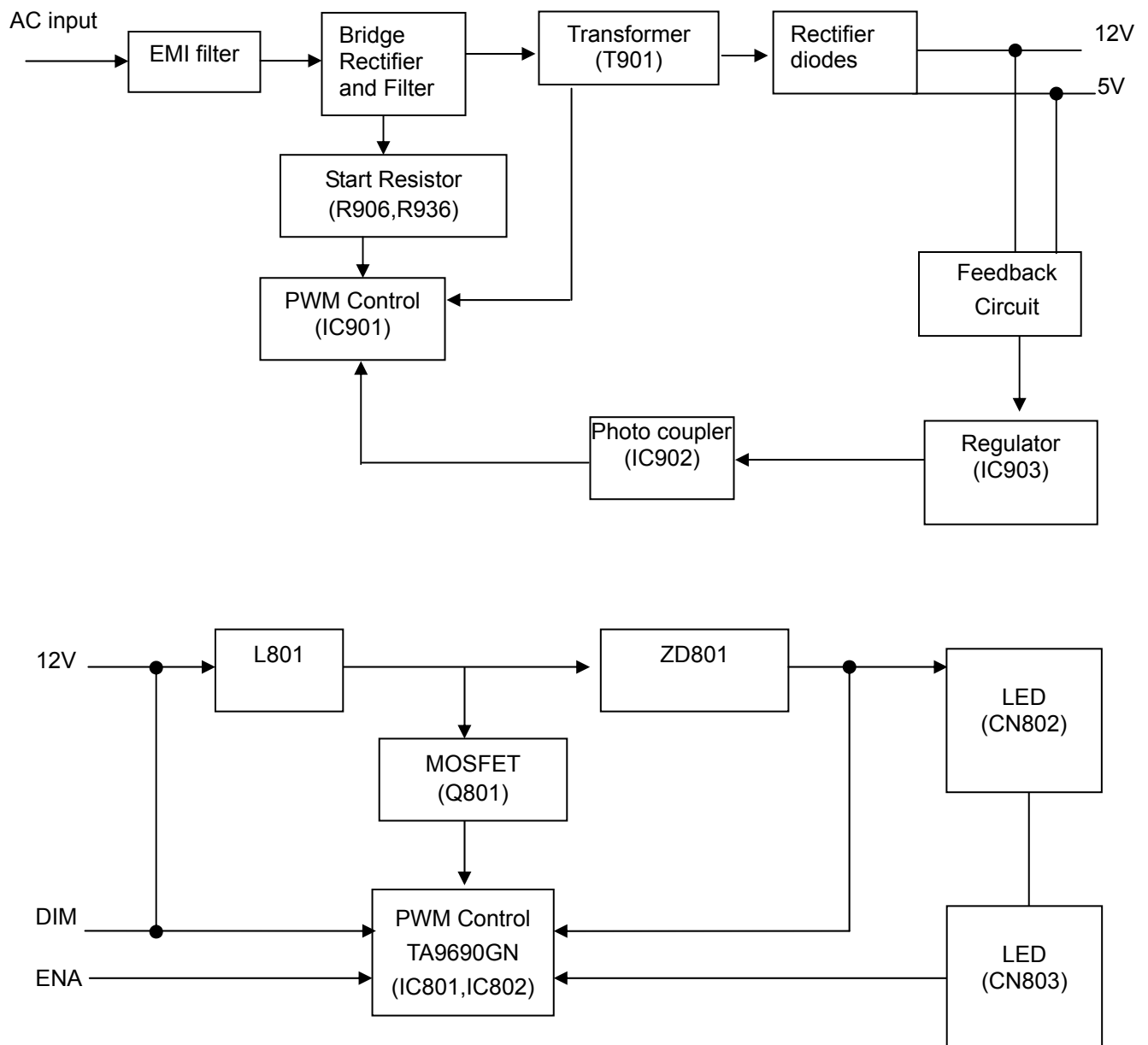


REMARK:

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?

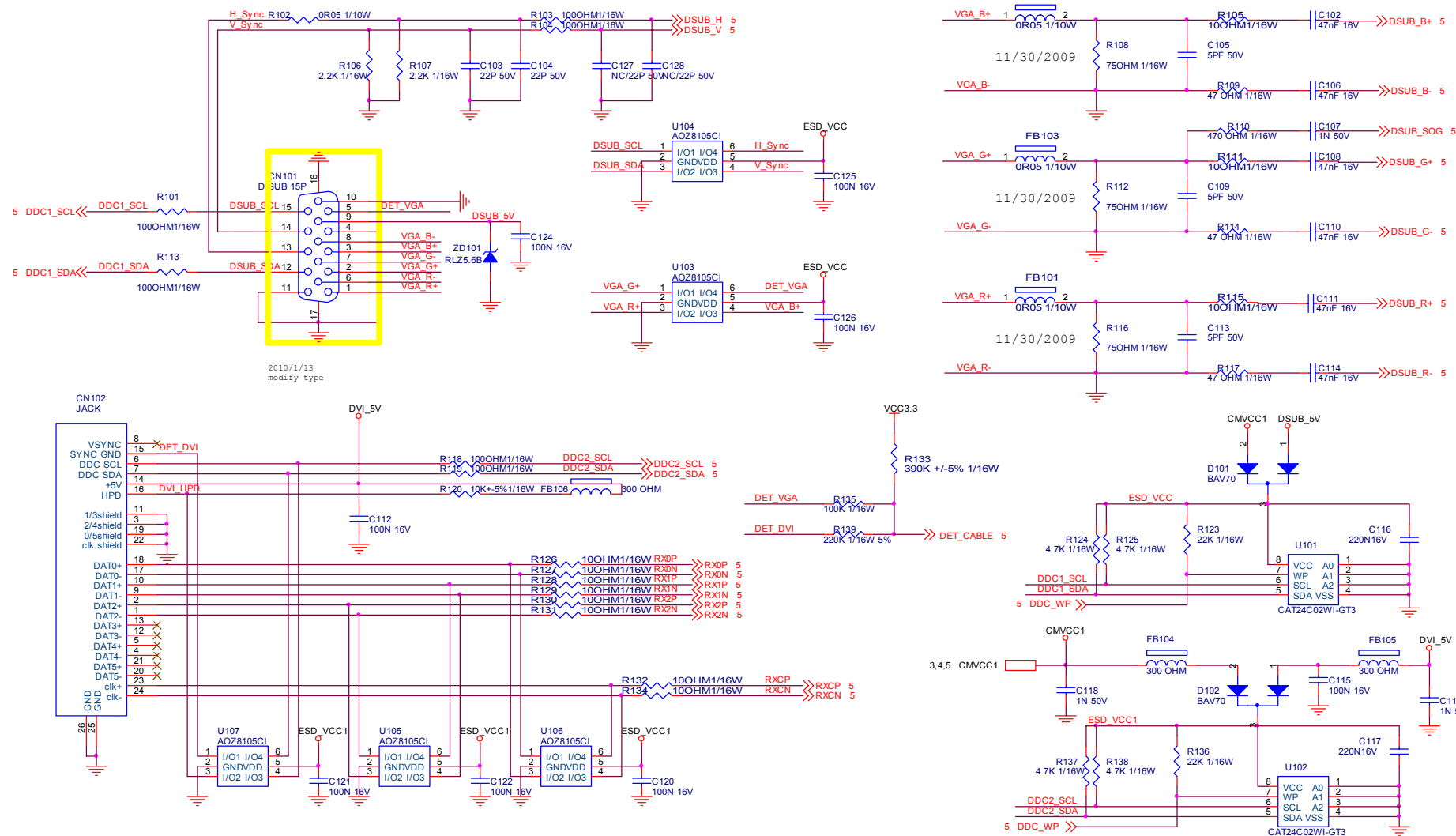
6.2.1 Scalar Board



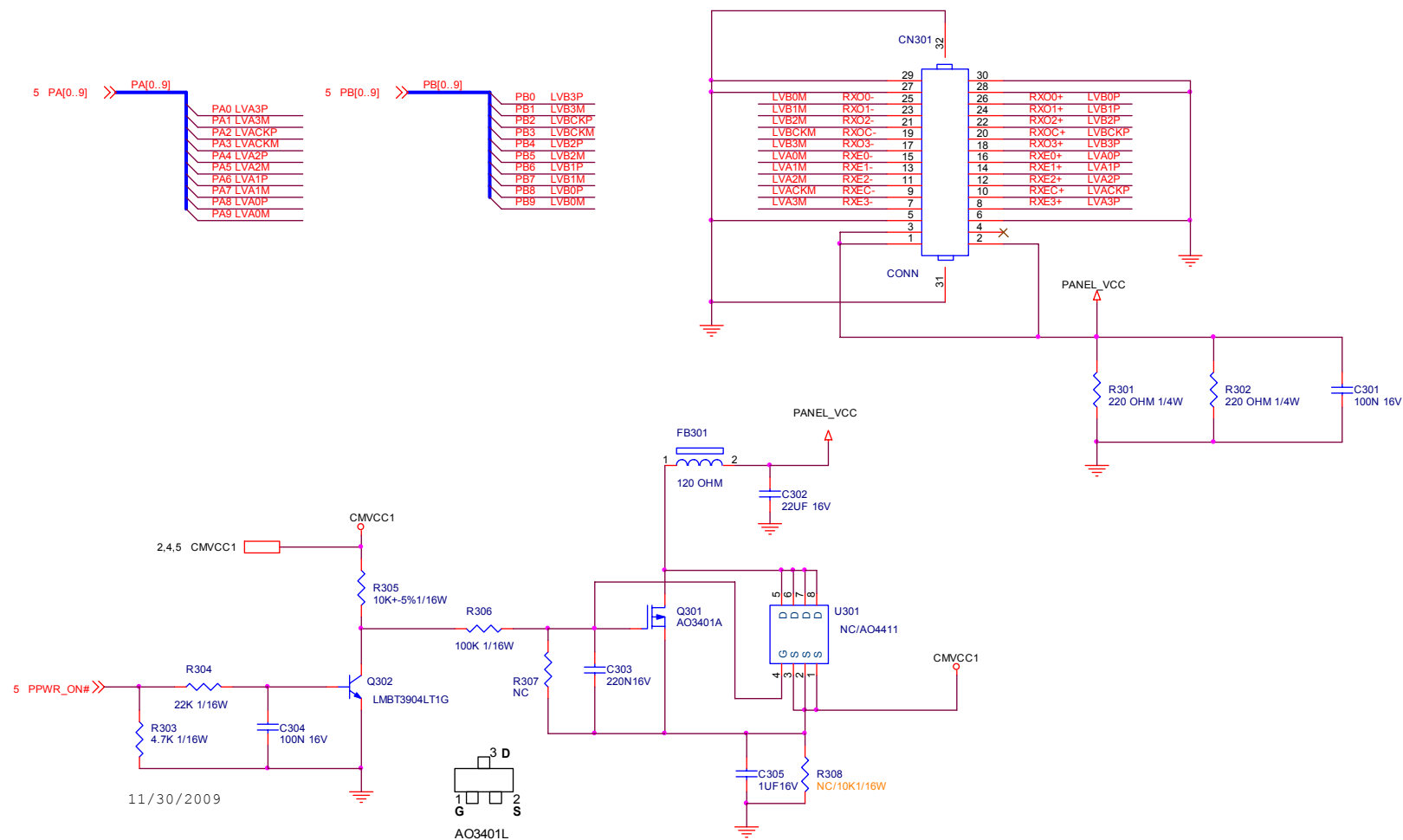
6.2.2 Inverter / Power Board

7.1 Main Board

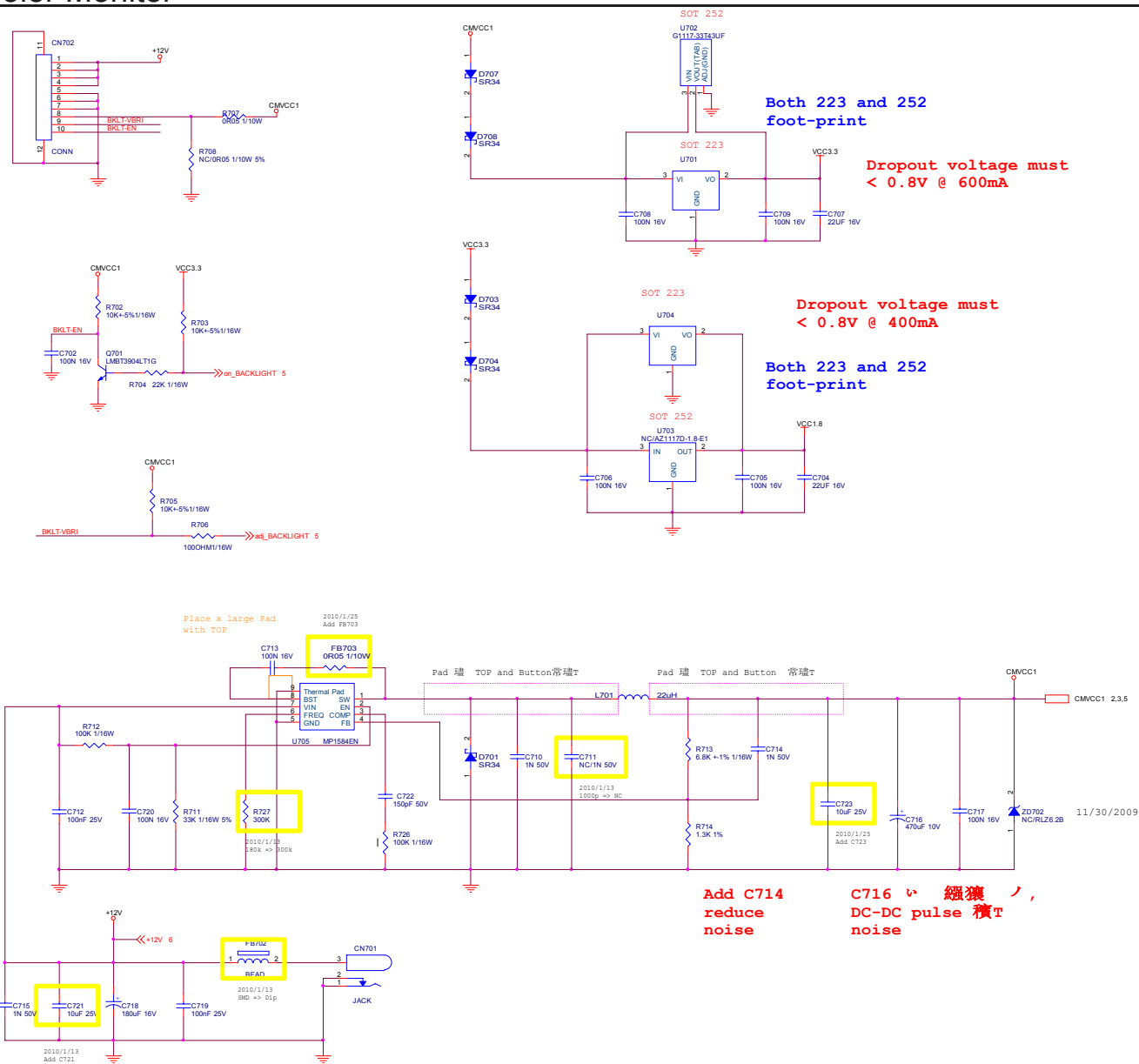
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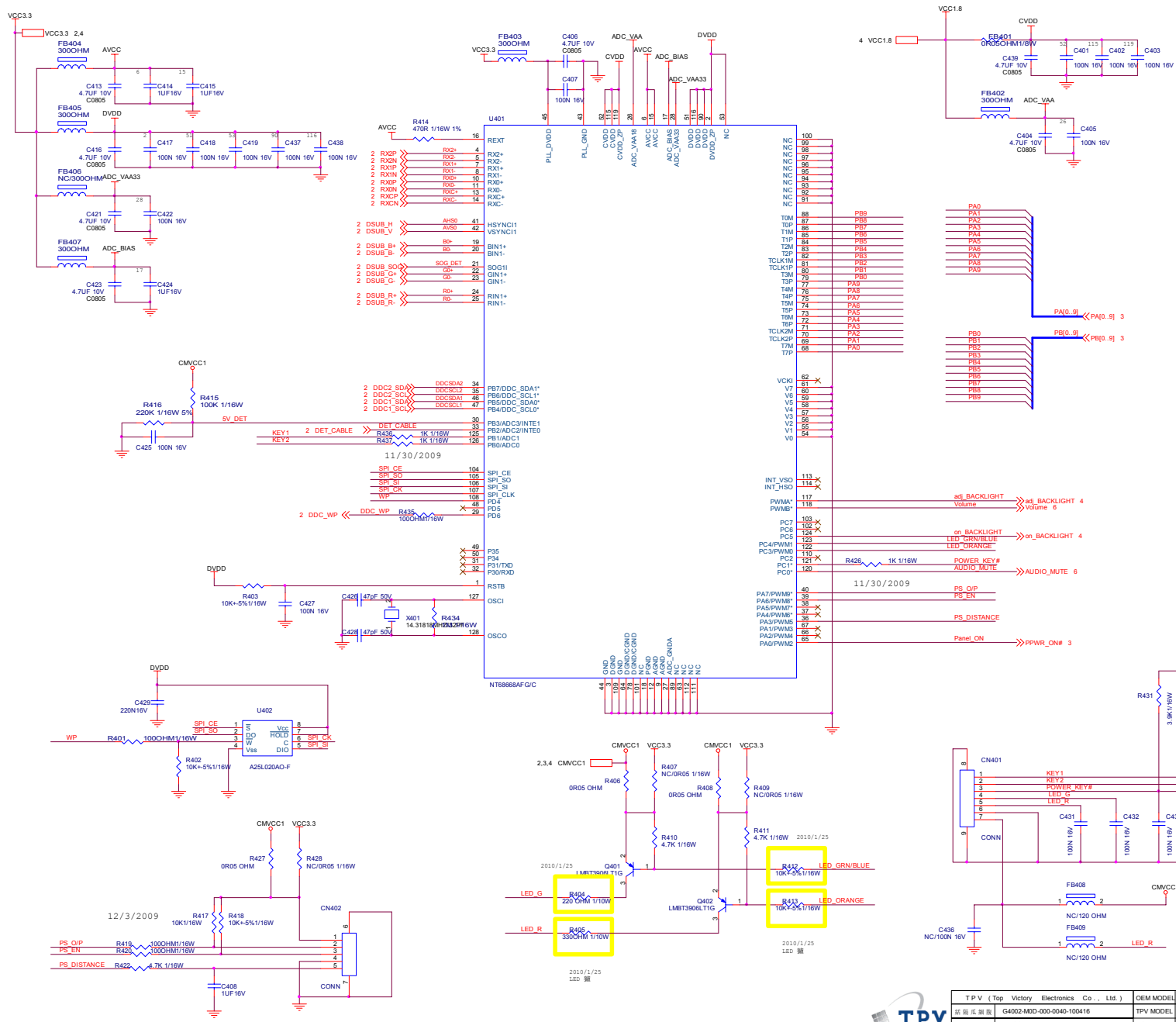


TPV (Top Victory Electronics Co., Ltd.)	OEM MODEL	AOC e2040VA	Size	B
話筒爪蝦展	G402-MD-000-0040-100416	TPV MODEL	Rev	C
Key Component	2.0.INPUT	PCB NAME		
Date	Tuesday, April 27, 2010	Sheet	2 of 6	称爹 <称爹>

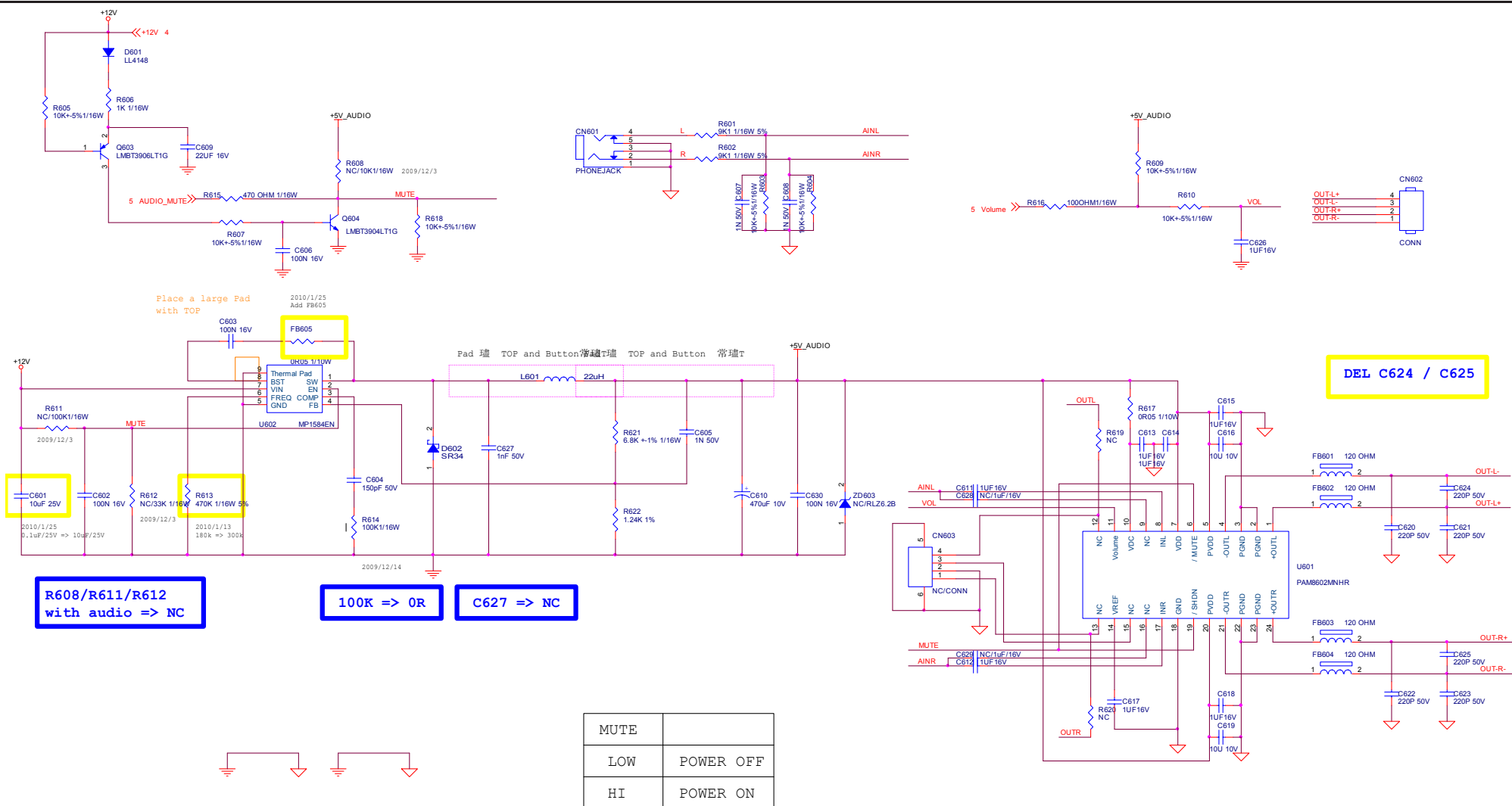


T P V (Top Victory Electronics Co., Ltd.)		OEM MODEL	AOC e2040VA	Size	B
話 隔 瓜 網 膜	G4002-MOD-000-0040-100416	TPV MODEL	e2040VA	Rev	C
Key Component	3.0 OUTPUT	PCB NAME			
Date	Tuesday, April 27, 2010	Sheet	3 of 6	稱 審	<稱 審>

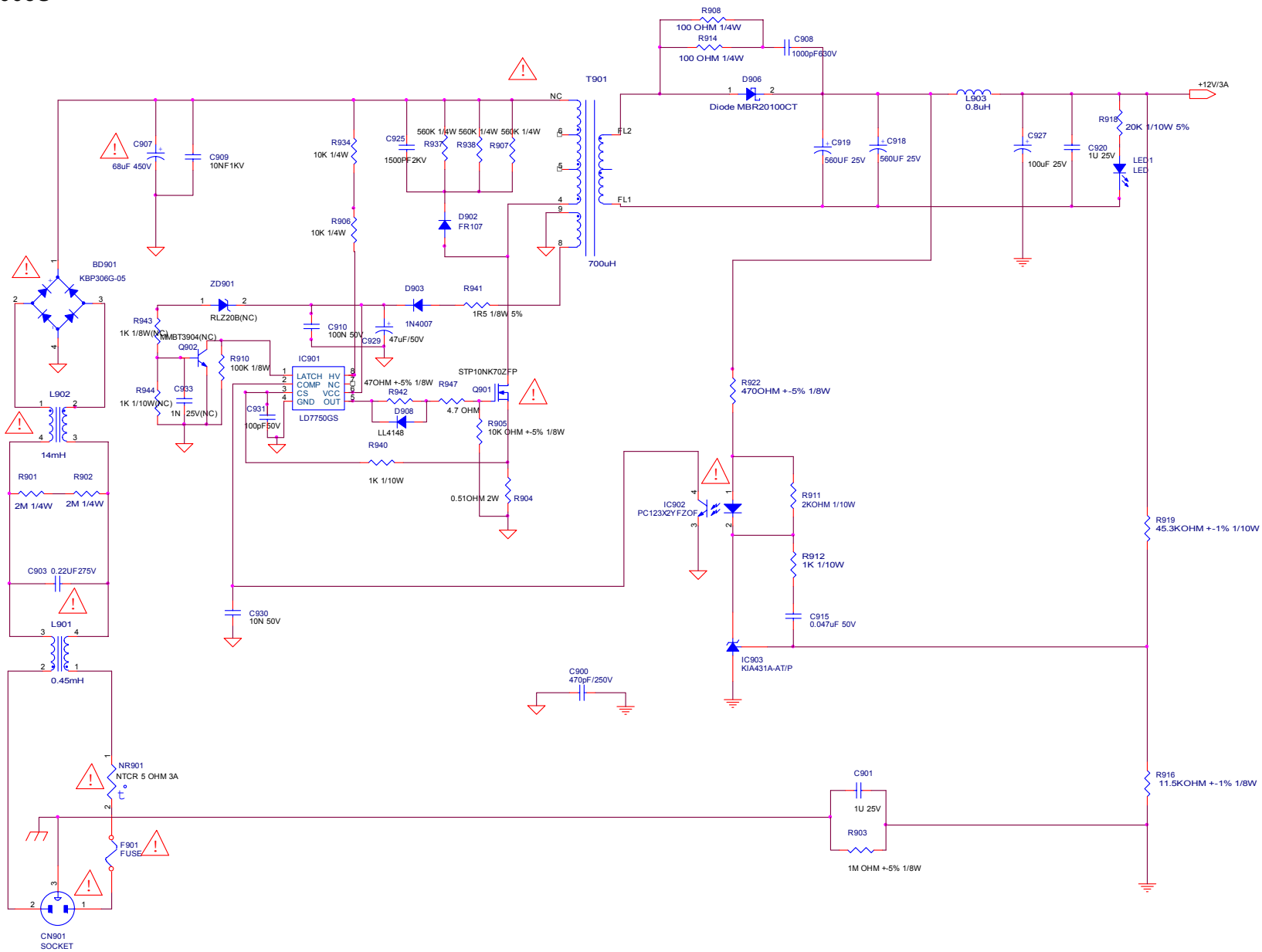


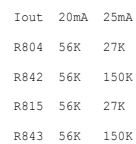


T P V (Top Victory Electronics Co., Ltd.)		OEM MODEL	AOC e2040VA	Size	C
採購單號 G4002-MOD-000-0040-100416		TPV MODEL	e2040VA	Rev	C
Key Component	5.0 SCALER	PCB NAME		Rev	<Rev>
Date	Tuesday, April 27, 2010	Sheet	5 of 6		



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>

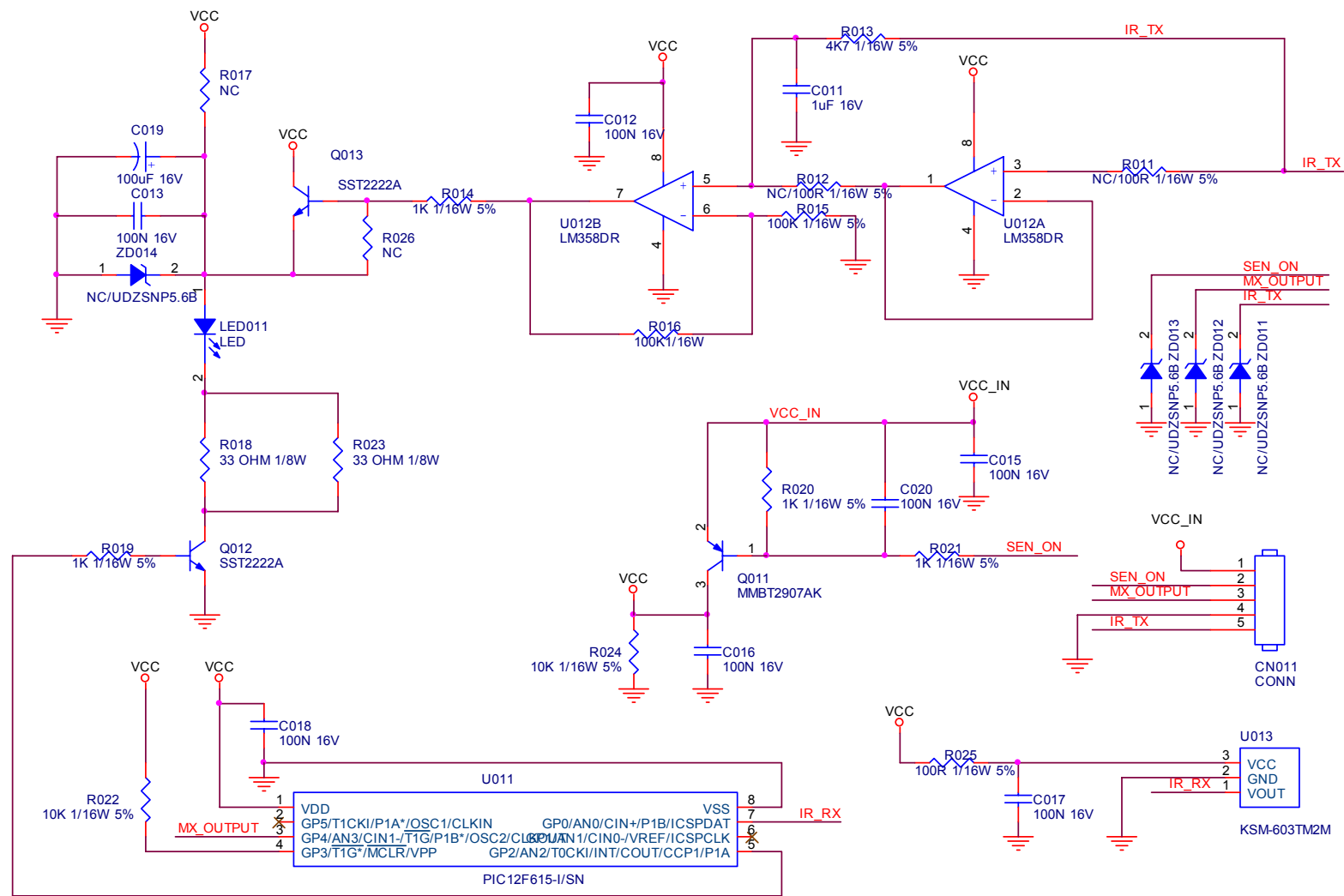




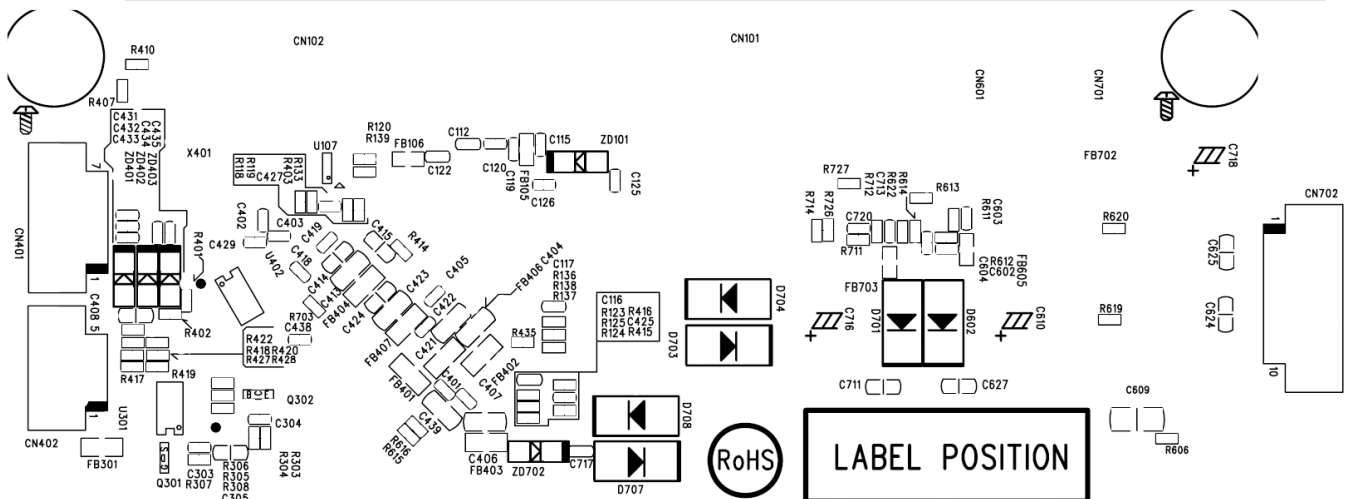
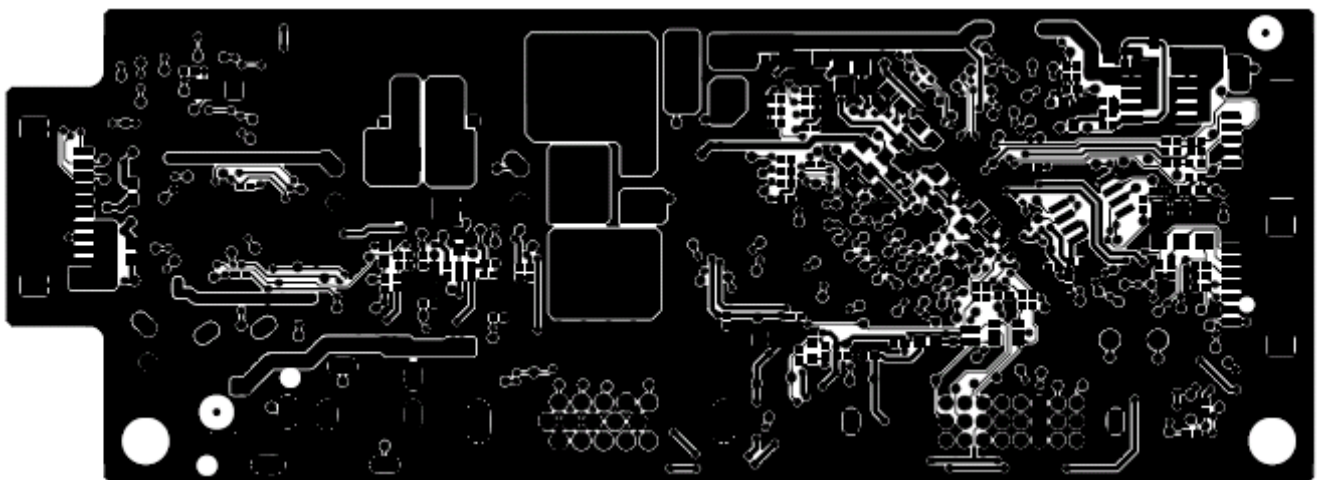
TPV (Top Victory Electronics Co., Ltd.)		OEM MODEL		Size	A4
紙隔瓜網膠	G3823-P01-000-X-1-091029	TPV MODEL	LNPC9B362AHD1	Rev	1
Key Component	02.CONVERTER	PCB NAME	715G3823P01000004S	称爹	ODM MODEL
Date	Tuesday, December 08, 2009	Sheet	of		

7.3 Light Sensor Board

715G3995T01000004C



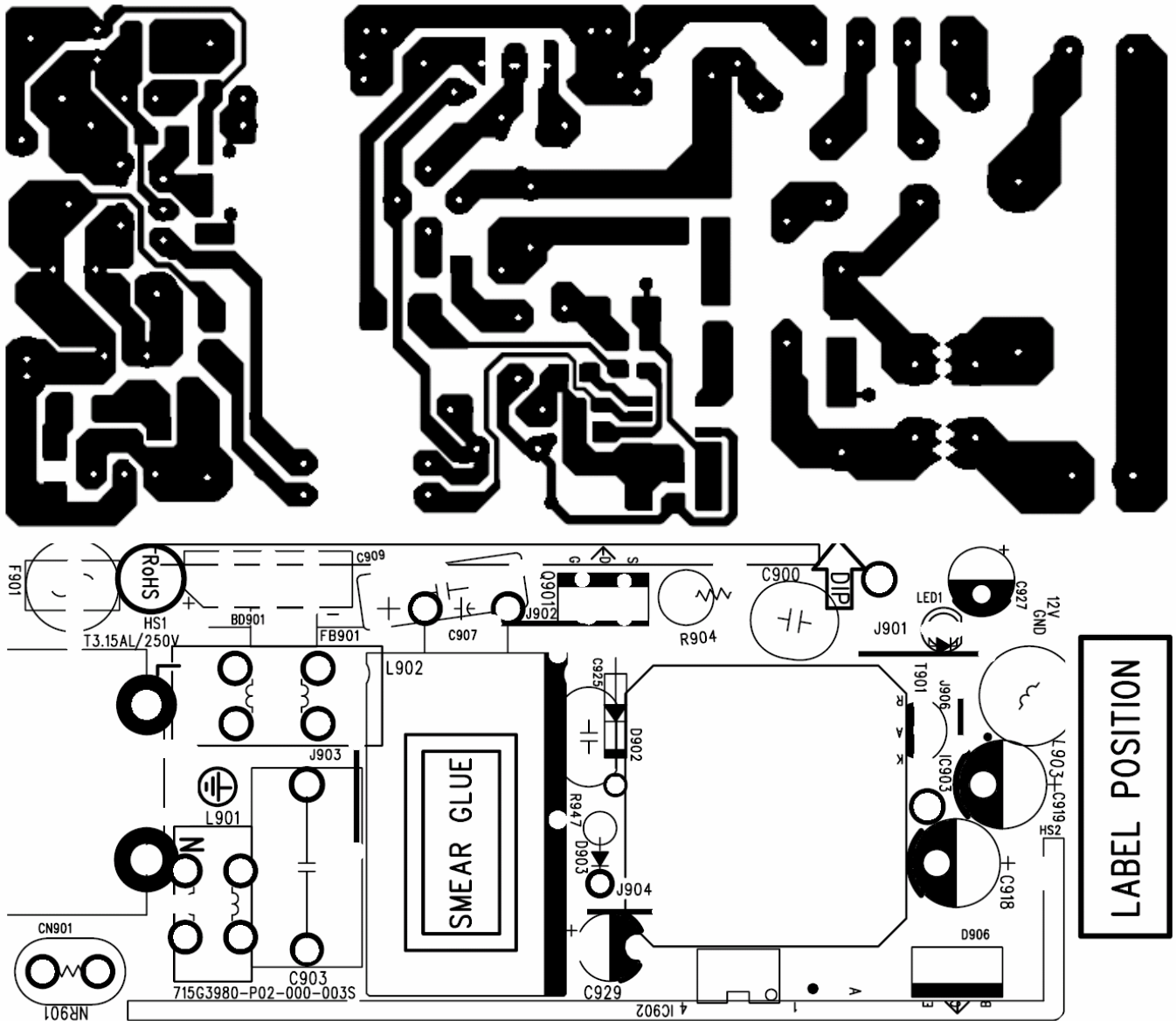
TPV (Top Victory Electronics Co., Ltd.)	OEM MODEL	40TH	Size	A
結 隔 瓜 網 膜	G3995-T01-000-0040-100415	TPV MODEL	40TH	Rev
Key Component	PIC12F615-I/SN	PCB NAME	Power Sensor	称 爹
Date	Friday, April 16, 2010	Sheet	2 of 2	<称 爹>



8.2 Power Board

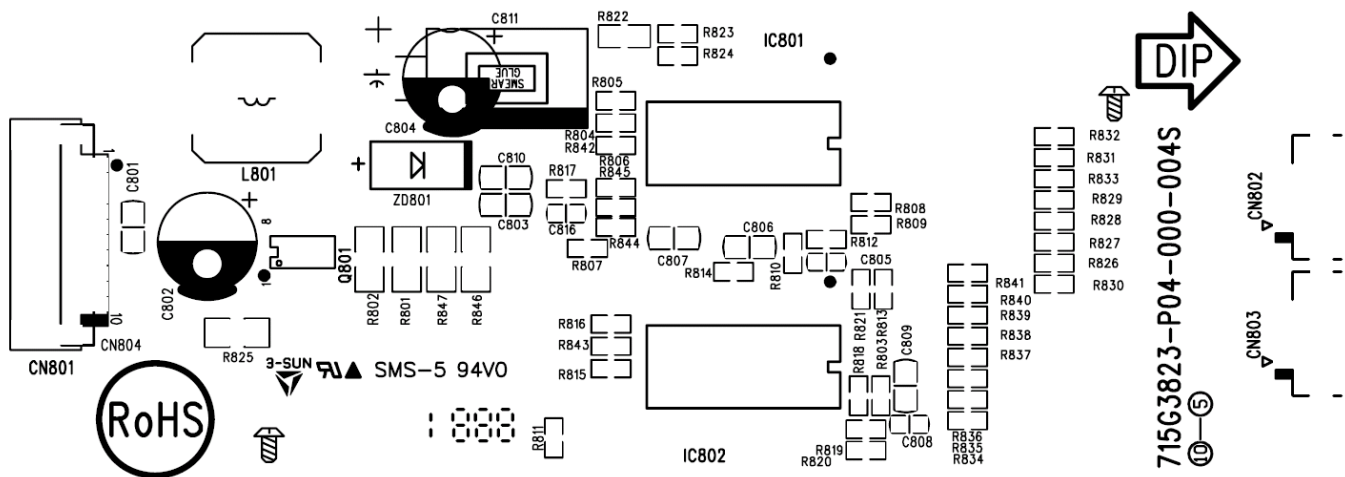
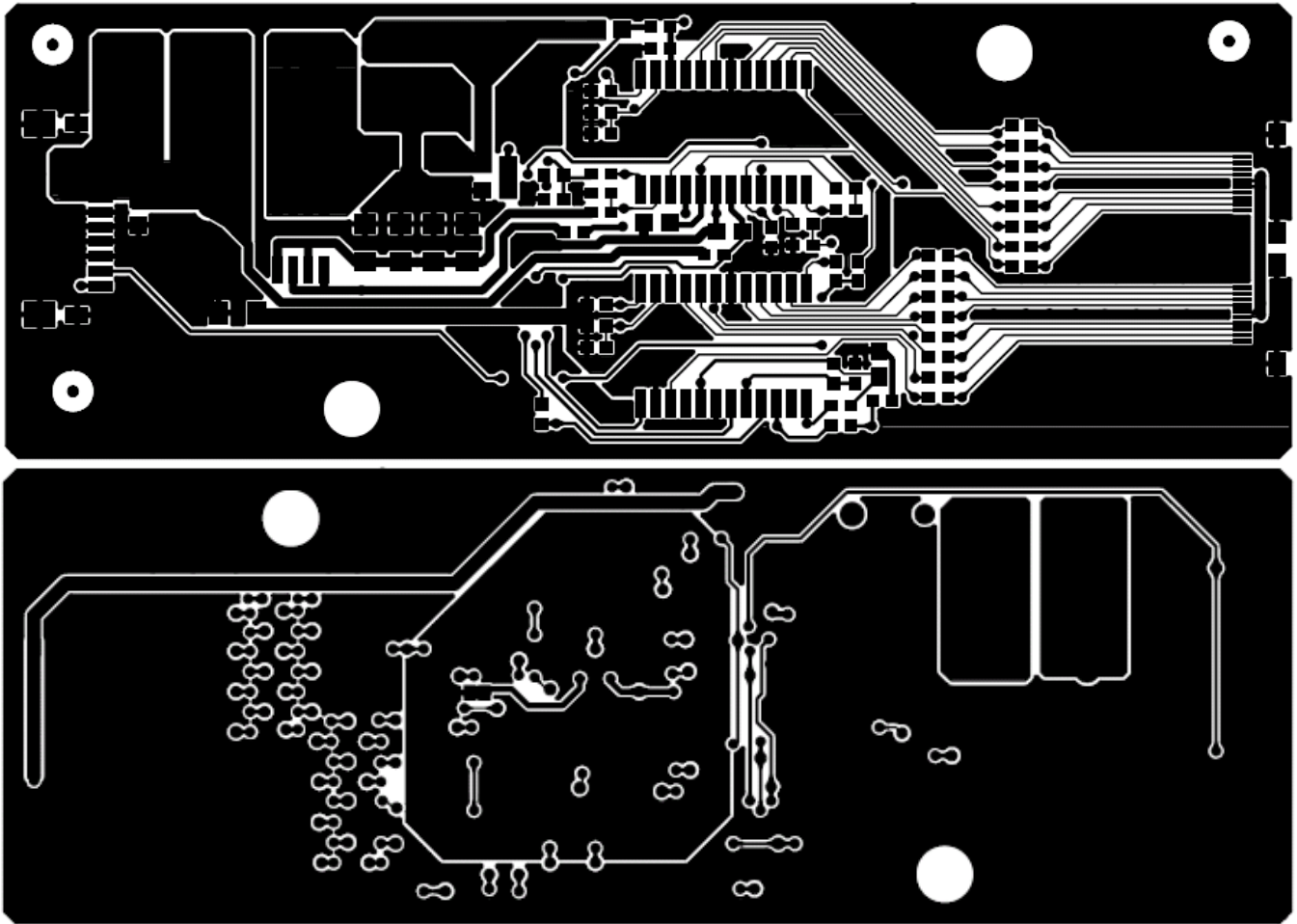
Adapter

715G3980P02000003S



Converter

715G3823P04000004S



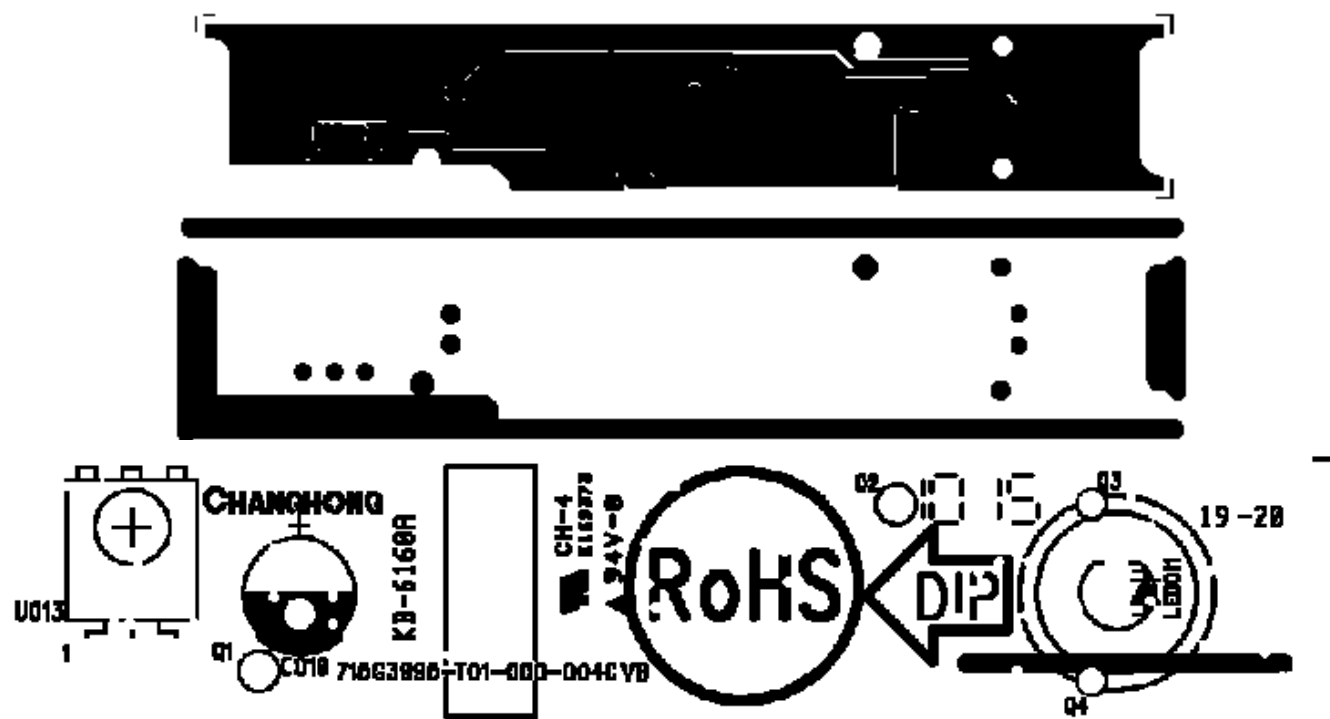
8.3 Key Board

715G4014K01000004C



8.4 Light Sensor Board

715G3995T01000004C



9. Maintainability

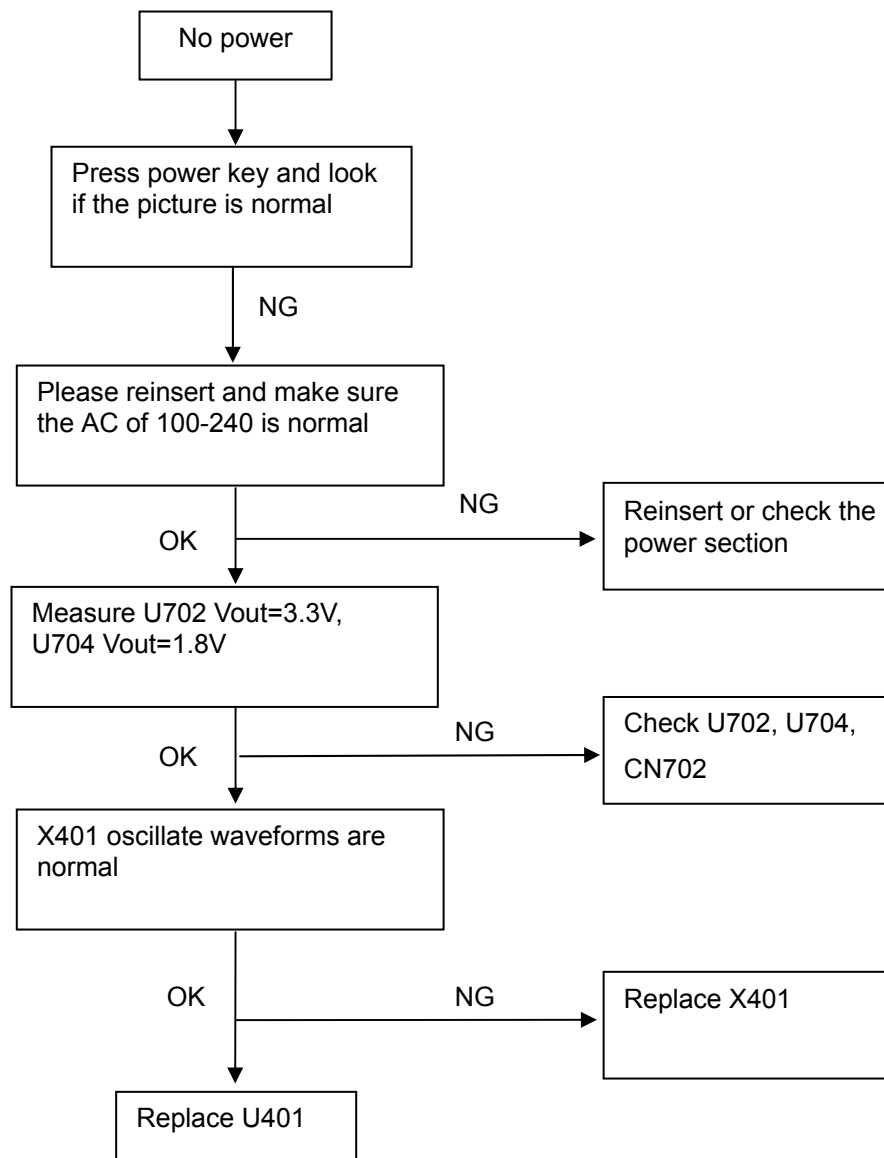
9.1 Equipments and Tools Requirement

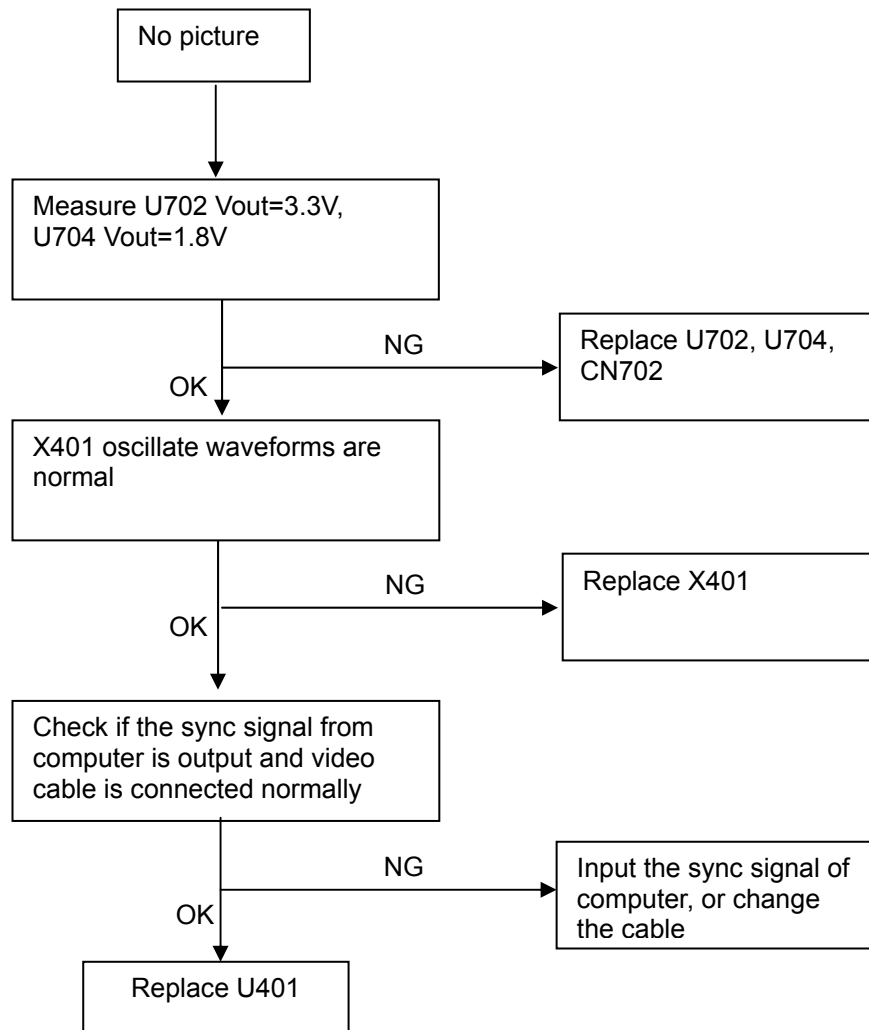
1. Multi-meter.
2. Oscilloscope.
3. Pattern Generator.
4. DDC Tool with an Compatible Computer.
5. Alignment Tool.
6. LCD Color Analyzer.
7. Service Manual.
8. User Manual.

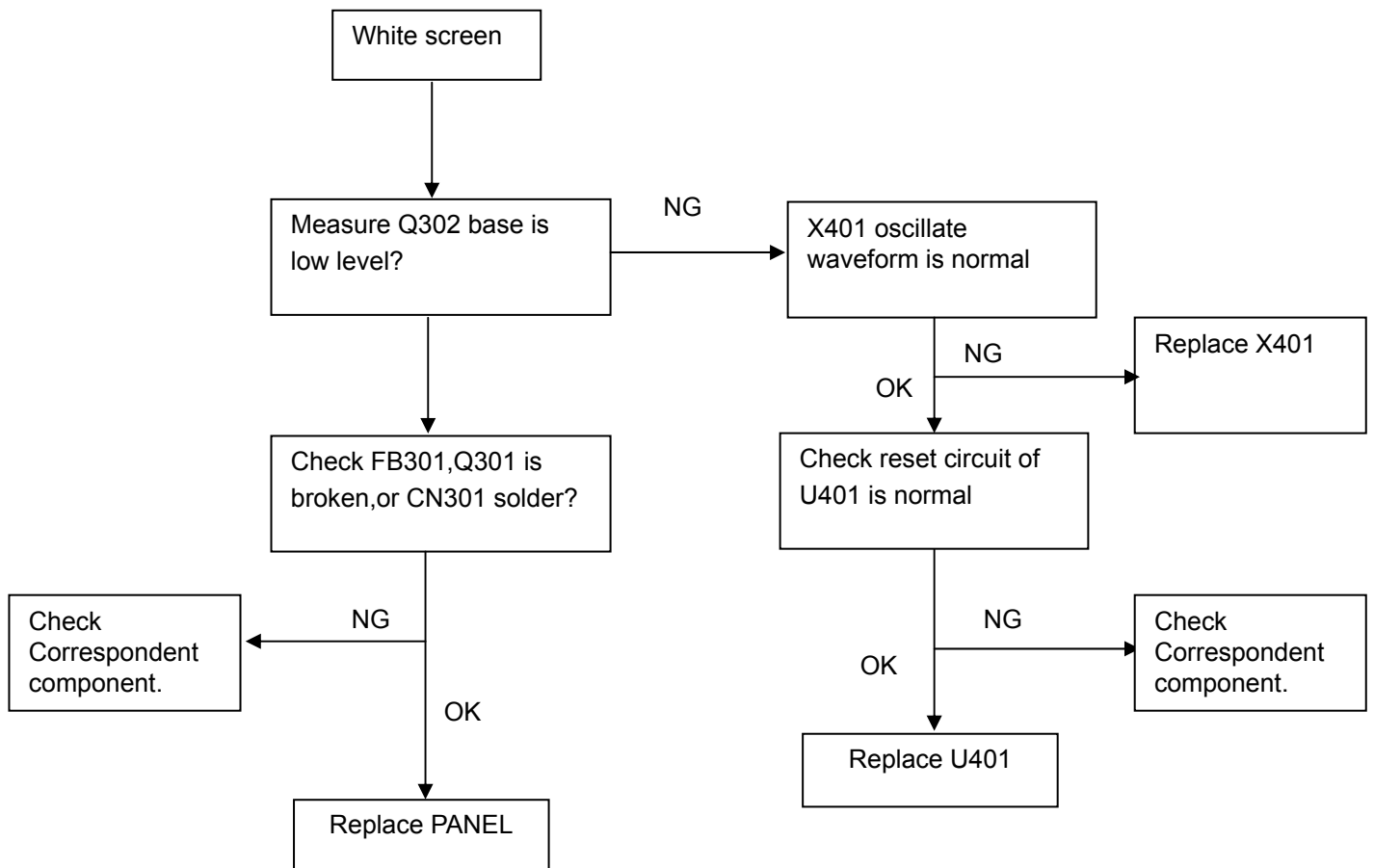
9.2 Trouble Shooting

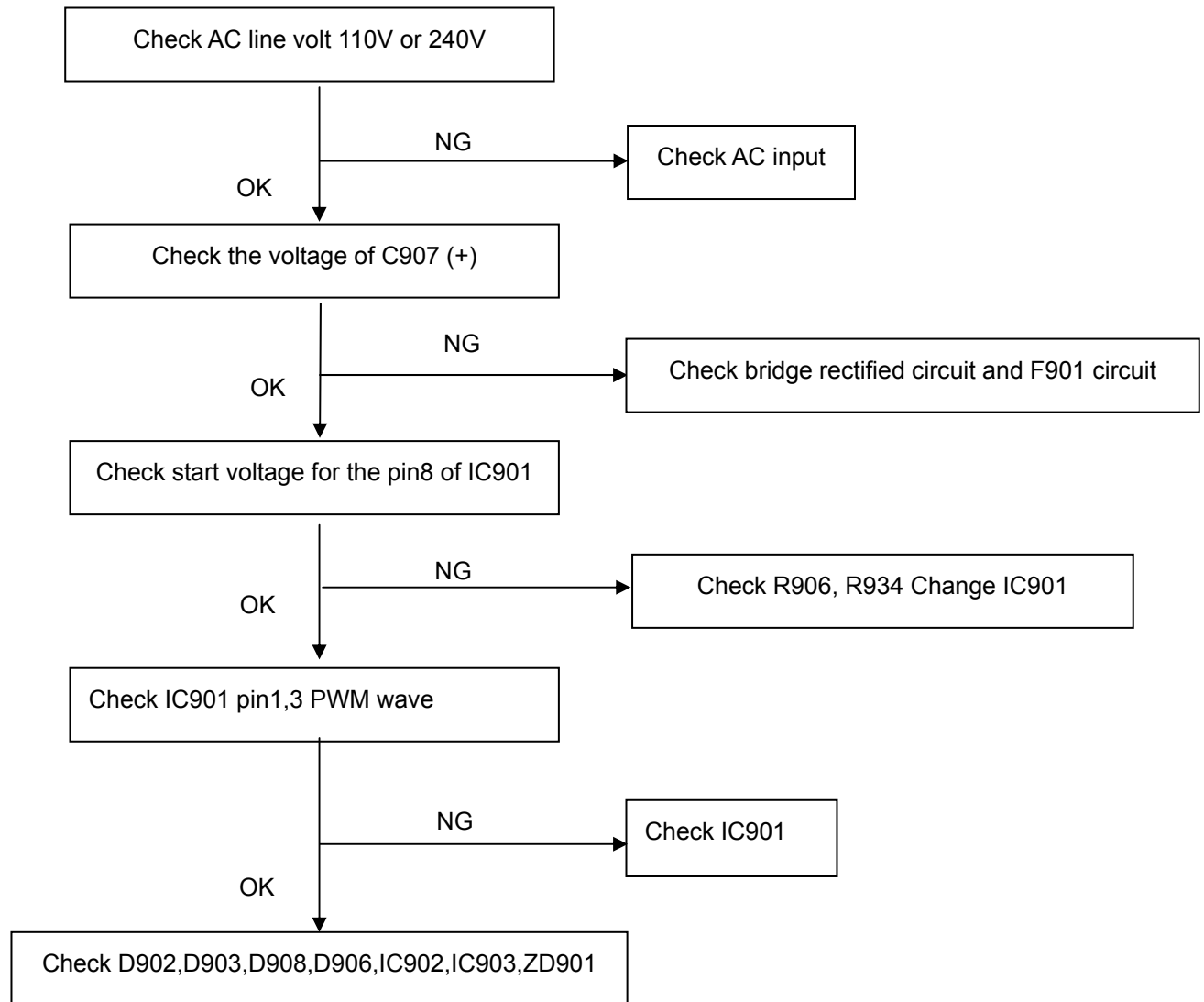
9.2.1 Main Board

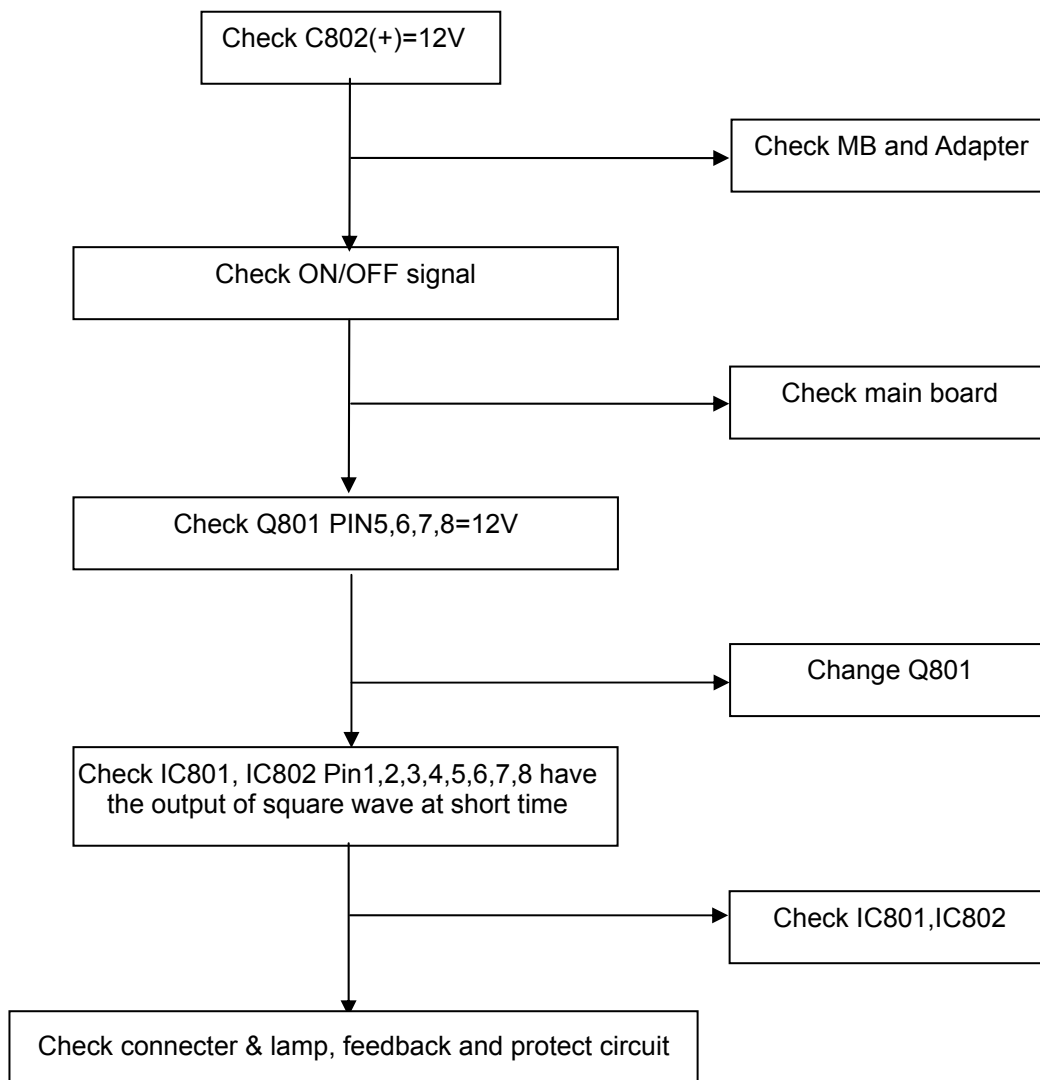
No Power

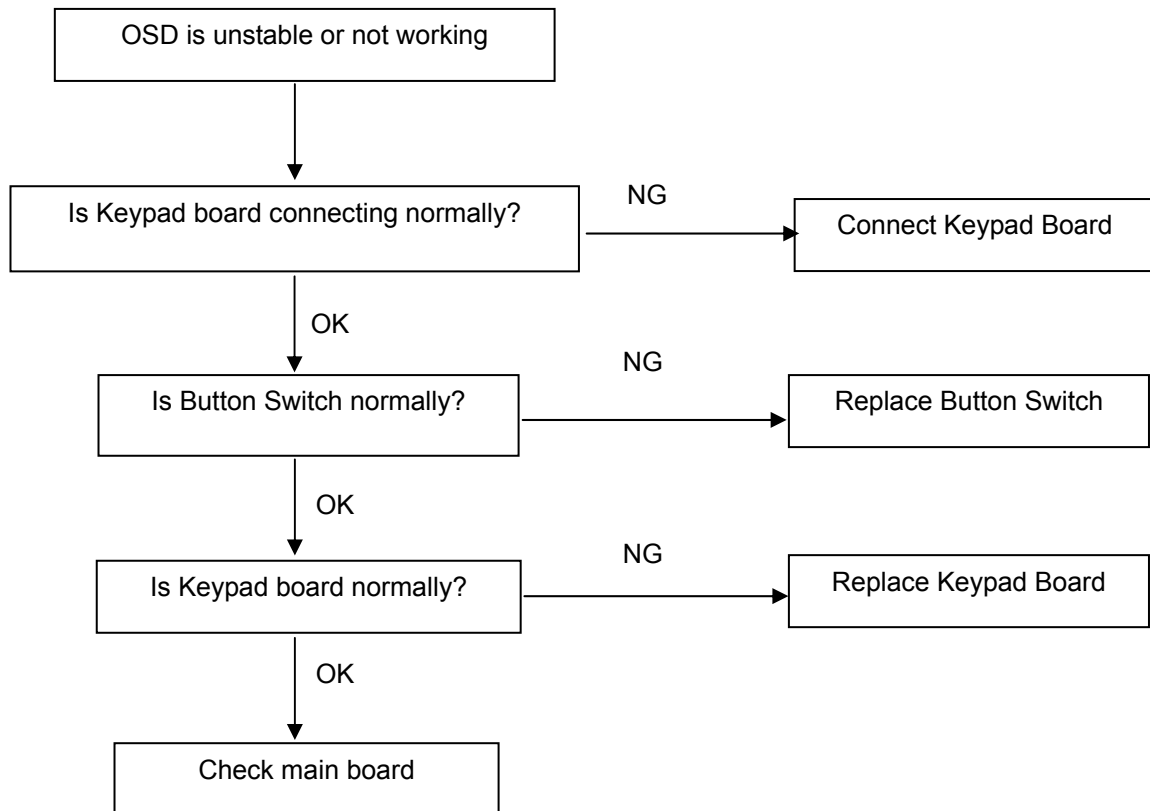






9.2.2 Power Board**1. No power**

2. No Backlight

9.2.3 Key Board

10. 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 $x = 313 \pm 20$, $y = 329 \pm 20$

B. 7300K color:

7300K color temp. parameter is $x = 301 \pm 20$, $y = 317 \pm 20$

C. 9300K color:

9300K color temp. parameter is $x = 283 \pm 20$, $y = 297 \pm 20$

D. sRGB color:

sRGB color temp. parameter is $x = 313 \pm 20$, $y = 329 \pm 20$

3. Enter into factory mode

Press the MENU button, pull out the power cord, then plug the power cord. Then the factory OSD will be at the left top of the panel.

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 $x = 313 \pm 20$, $y = 329 \pm 20$
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. $x = 301 \pm 20$, $y = 317 \pm 20$
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 $x = 283 \pm 20$, $y = 297 \pm 20$
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 $x = 313 \pm 20$, $y = 329 \pm 20$
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.

11. Monitor Exploded View

ITEM	P/N	DESCRIPTION	QTY
1	A34G1861-11-01A	FRONT BEZEL	1
2		PANEL	1
3	H15G0035301101	CHASSIS	1
4	A34G1862-11-01A	REAR COVER	1
5	H37G0014	HINGE	1
6	H34G0048	STAND-FRONT	1
7	H15G0036101	STAND-BRACKET	1
8	H34G0049	STAND-REAR	1
9	H34G0047	BASE	1
10	H15G0037101	BASE-BRACKET	1
11	H33G0023	KEY	1
12	H33G0022	LENS	1
13	TBD	KEY PCB	1
14	TBD	POWER SENSOR BOARD	1
15	TBD	SCALAR BOARD	1
16	TBD	CONVERTER BOARD	1
17	MIG1730-8-120	SCREW	4
18	QIG140-8-120	SCREW	5
19	MIG140-8-120	SCREW	2
20	QIG130-8-120	SCREW	3
21	TBD	SCREW	1
22	TBD	FOOT RUBBER	4
23	TBD	SPEAKER, 2W	2

12. 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.

TI9ANTNQWWA25NE

Location	Part No.	Description	Remark
	040G 45762420A	LABEL 25x6mm	
	040G 58162435A	P/N LABEL FOR MANUAL PE BAG	
	045G 77500	BARCODE RIBBON	
	045G 77501	BARCODE RIBBON	
	052G 1150 C	INSULATING TAPE	
	052G 1185	MIDDLE TAPE (Y1200141)	
	052G 1186	SMALL TAPE	
	052G 2191 A	PAPER TAPE	
HDCP-SMT	070GHDCP500HDC	HDCP CODE	
E07801	078G025A 2 Y	SPK 4 OHM 2.5 W 500/150mm 42.2X22.2mm	
E08904	089G 17356H553	AUDIO CABLE 1800MM	
E08902	089G 725HAA DB CKD	D-SUB CABLE	
E08903	089G1745HAA 9	DVI CABLE 1.5M	
E08901	089G424A15N IS	AC POWER CORD 1.5M FOR Brazil Reg.	
E09514	095G176W 10E08	FFC CABLE 10PIN P0.5MM 325MM	
E09504	095G176W 10E14	FFC CABLE 10PIN P0.5MM 325MM	
E09501	095G8018 3TE36	HARNESS 30P-30P 330MM	
E09503	095G8022 5TE01	HARNESS 5P(A1253)-5P(A1253) 260MM	
E09502	095G8022 7TE01	HARNESS 7P-6P 130MM	
E09505	095G802210TE01	HARNESS 10P(A1253)-10P(A1253) 90MM	
	0D1G1730 8120	SCREW	
	0Q1G 130 8120	SCREW 42A9930011	
	0Q1G 140 10120	SCREW	
E750	750GLU215H1614N000	PANEL M215HW01 V600 SH AUO	2nd source
	A34G1861DAVC1M0100	BEZEL FOR 2240	
	A34G1862DAV 3M0100	REAR COVER FOR 2240	
	ADPCA1236HD1	ADAPTER G3980-P02-000-0030-1-100420	
	H01G6009 1	Screw	
	H15G0035301101 CKD	MAIN FRAME FOR 2240	
	H15G0037101CKD	BASE BKT	
	H26G800P504 1A	barcode	
	H33G0022 1 1L	LENS_AOC_L201WA-2040LED	
	H33G0023AED 1B	KEY PAD_AOC_L201WA-2040LED	
	H34G0047DAV 1M0100	BASE	
	H34G0048 AI 1B	STAND FRONT	
	H34G0049 AI 1B	STAND REAR	
	H37G0017 2	HINGE	
	H40G 45762413A	P/N LABEL FOR BASE	
	H40G 58361511A	e2040v POP LABEL	
	H40G 58361512A	esensor LABEL	
	H40G 58361513A	win7 EPEAT EPA LABEL	
	H40G20NP61520A	e2040Va Max ID LABEL	
	H41G780061554A	BRAZIL WARRANTY CARD	
	H41G780961525A	QSG	
	H45G 77 6	PE PACKING	

	H45G 87 1 26	EPE COVER	
	H45G 87 18 28	PE BAG FOR BASE	
	H45G 87 28 V2	PE BAG FOR MANUAL	
	H52G6025 16 58	mylar	
	H70G201061519A	CD MANUAL	
	KEPCAHCK	KEY BOARD	
	LNPC9B362AHD2	CONVERTER BOARD	
	LSPC9HCK	LIGHT SENSOR BOARD	
	Q52G 1185 99	big carton tape for aoc	
	Q52G6019 14	TAPE	
	Q55G 100625	TIN STICK_LOW ARGENTUM	
	756GH9CB A1101	MAIN BOARD-CBPCANRA1H4K	
SMTCR-U402	100GANAI009W11	MCU ASS'Y-056G2233 11	
	040G 154501 1	HI-POT GND LABEL	
	040G 45762412B	CBPC LABEL	
	045G 88525 E	PE BAG	
IC902	056G 139 3A	IC PC123Y22FZ0F	
NR901	061G 58005 W	RST NTCR 5 OHM 3A THINKING	
R904	061G152M47858G SY	RST MOFR 0.47 OHM +-5% 2WS	
C903	063G107K474 6S	CAP X2 0.47UF K 275VAC	
C909	065G 1K103 2E6921	CAP CER 10NF K 1KV Y5U	
C900	065G306M1022B2	1000pf 400vac/250vac y1	
C927	067G 3151014KV	EC 105°C CAP 100uF M 25V	
C919	067G 515681 4L	EC 680UF 20% 25V RZW 8*20	
C918	067G 515681 4L	EC 680UF 20% 25V RZW 8*20	
C907	067G515Z82015L	EC 82UF 20% 450V RXQ 18*31.5	
D902	071G 55 30	FERRITE BEAD 4.0*2*3	
D903	071G 55 30	FERRITE BEAD 4.0*2*3	
L902	073G 174514 H	LINE FILTER 14mH MIN LCL-11402 HA	
L901	073G 174515 H	LINE FILTER 0.45mH MIN LCL-11006 HA	
L903	073G 253902 H	IND CHOKE 0.8uH MIN DADO	
LED1	081G 2 3 1P	LED GPG2603T/R006-35A GUANGPU	
E08906	089G 171535 G	DC CABLE 1000MM	
BD901	093G 50460514	BRIDGE KBP306G 3A/800V TSC	
D902	093G 5212T52T	DIODE 1N4007 DO-41	
D903	093G 5212T52T	DIODE 1N4007 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	
	Q40G300B615 1B	LABEL	
	Q51G 6 4509	GLUE_RTV	
	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	
C610	067G204V471 2K	CS CAP 470uF 10V 8*8 mm	

FB702	071G 55 26 S	FERRITE CORE	
CN601	088G 30254C	PHONE JACK 3.5mm 5P V/A GREEN	
CN701	088G 304 11 C	DC POWER JACK 3P 2.5mm	
CN101	088G 35315FVCL	D-SUB CONN 15P V/T 10.5mm WITH SCREW	
CN102	088G 35424F VC	DVI CONN 24P V/T WITH SCREW	
X401	093G 2251B J	CRYSTAL 12MHZ NXS12.000AC30F-KAB10	
	040G 45762412B	CBPC LABEL	
C802	067G 4151017KV	EC 100uF 50V ED 8*12	
C804	067G 4151017KV	EC 100uF 50V ED 8*12	
	LN9B362AHD2SMT	CONVERTER BOARD FOR SMT	
U013	056G 627911	IR 38KHZ KSM-603TM2M	
C019	067G305M101 3K	105 摄氏度 100UF +-20% 16V	
LED011	081G IR 7 GP	LED GP1303T12A/940-2 GP	
	H12G6200 13	RUBBER	
	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	
	0M1G1030 5120	SCREW SPIN BASE PLATE	
HS1	Q90G0200 1	HEAT SINK	
CN901	087G 50112A CJ	AC SOCKET	
	095G 900H12 X	YELLOW/GREEN 75MM	
	096G 29 8	TUBE	
IC901	056G 379530	IC LD7750GS 65KHZ SOP-8	
R912	061G0603102 JF	RST CHIPR 1K OHM +-5% 1/10W FENGHUA	
R940	061G0603102 JT	RST CHIP 1K 1/10W 5% TZAI YUAN	
R911	061G0603202 JT	RST CHIPR 2KOHM 1/10W TZAI YUAN	
R918	061G0603203 JT	RST CHIP 20K 1/10W 5% 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 CHIP MAX 0R05 1/4W TZAI YUAN	
R908	061G1206101 JT	RST CHIPR 100 OHM +-5% 1/4W TZAI YUAN	
R914	061G1206101 JT	RST CHIPR 100 OHM +-5% 1/4W TZAI YUAN	
R906	061G1206103 JT	RST CHIPR 10KOHM +-5% 1/4W TZAI YUAN	
R934	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	bAP chip 0603 10nF K 50V X7R	
C915	065G060347332K F	CAP CHIP 0603 47NF K 50V X7R	
C931	065G080510131J F	CAP CHIP 0805 100PF J 50V NPO	

C901	065G080510332K F	CAP CHIP 0805 10NF K 50V X7R	
C910	065G080510432K A	CAP CHIP 0805 100nF K 50V X7R	
C920	065G080510522K 3	CAP CHIP 0805 1U 25V X7R +/-10%	
C908	065G1206222B2K T	CAP CHIP 1206 2200PF K 630V X7R	
C911	065G1206222B2K T	CAP CHIP 1206 2200PF K 630V X7R	
D908	093G 64S522SEM	LL4148	
	ADA1236HD1AI	ADAPTER BOARD FOR AI	
CN602	033G8023 4 JS	WAFER	
CN402	033G8032 5F HR	CONNECTOR	
CN401	033G8032 7F HR	CONNECTOR	
CN702	033G803210F HR	CONNECTOR	
U401	056G 562328	IC Scaler NT68668AUFQ QFP-128	
U704	056G 563113	IC G1117-18T63Uf 1A/1.8V SOT-223	
U602	056G 563215	IC DC/DC MP1584EN SOIC8E	
U705	056G 563215	IC DC/DC MP1584EN SOIC8E	
U702	056G 563512	IC G1117-33T43UF TO-252	
U601	056G 616 65	IC PAM8602MNHR SSOP-24	
U103	056G 662502	C ESD AZC199-04S SOT23-6L	
U104	056G 662502	C ESD AZC199-04S SOT23-6L	
U105	056G 662502	C ESD AZC199-04S SOT23-6L	
U106	056G 662502	C ESD AZC199-04S SOT23-6L	
U107	056G 662502	C ESD AZC199-04S SOT23-6L	
U101	056G1133918	IC AT24C02BN-SH-T 8-SOIC	
U102	056G1133918	IC AT24C02BN-SH-T 8-SOIC	
U402	056G2233 11	IC Pm25LD020C-SCE SIOC-8(150mil) 2M	
Q401	057G 417517	Tra LMBT3906LT1G -200mA/-40V SOT-23 LRC	
Q402	057G 417517	Tra LMBT3906LT1G -200mA/-40V SOT-23 LRC	
Q603	057G 417517	Tra LMBT3906LT1G -200mA/-40V SOT-23 LRC	
Q302	057G 417518	TRA LMBT3904LT1G 200mA/40V SOT-23 LRC	
Q604	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	
R427	061G0402000 JY	RST CHIPR 0 OHM +-5% 1/16W YAGEO	
R408	061G0402000 JY	RST CHIPR 0 OHM +-5% 1/16W YAGEO	
R406	061G0402000 JY	RST CHIPR 0 OHM +-5% 1/16W YAGEO	
R115	061G0402100 JY	RST CHIPR 10 OHM +-5% 1/16W YAGEO	
R111	061G0402100 JY	RST CHIPR 10 OHM +-5% 1/16W YAGEO	
R105	061G0402100 JY	RST CHIPR 10 OHM +-5% 1/16W YAGEO	
R134	061G0402100 JY	RST CHIPR 10 OHM +-5% 1/16W YAGEO	
R132	061G0402100 JY	RST CHIPR 10 OHM +-5% 1/16W YAGEO	
R131	061G0402100 JY	RST CHIPR 10 OHM +-5% 1/16W YAGEO	
R130	061G0402100 JY	RST CHIPR 10 OHM +-5% 1/16W YAGEO	
R129	061G0402100 JY	RST CHIPR 10 OHM +-5% 1/16W YAGEO	
R128	061G0402100 JY	RST CHIPR 10 OHM +-5% 1/16W YAGEO	
R127	061G0402100 JY	RST CHIPR 10 OHM +-5% 1/16W YAGEO	
R126	061G0402100 JY	RST CHIPR 10 OHM +-5% 1/16W YAGEO	
R101	061G0402101 JY	RST CHIPR 100 OHM +-5% 1/16W YAGEO	
R103	061G0402101 JY	RST CHIPR 100 OHM +-5% 1/16W YAGEO	
R104	061G0402101 JY	RST CHIPR 100 OHM +-5% 1/16W YAGEO	
R113	061G0402101 JY	RST CHIPR 100 OHM +-5% 1/16W YAGEO	
R118	061G0402101 JY	RST CHIPR 100 OHM +-5% 1/16W YAGEO	

R119	061G0402101 JY	RST CHIPR 100 OHM +-5% 1/16W YAGEO	
R401	061G0402101 JY	RST CHIPR 100 OHM +-5% 1/16W YAGEO	
R419	061G0402101 JY	RST CHIPR 100 OHM +-5% 1/16W YAGEO	
R420	061G0402101 JY	RST CHIPR 100 OHM +-5% 1/16W YAGEO	
R435	061G0402101 JY	RST CHIPR 100 OHM +-5% 1/16W YAGEO	
R616	061G0402101 JY	RST CHIPR 100 OHM +-5% 1/16W YAGEO	
R706	061G0402101 JY	RST CHIPR 100 OHM +-5% 1/16W YAGEO	
R606	061G0402102 JY	RST CHIPR 1KOHM +-5% 1/16W YAGEO	
R437	061G0402102 JY	RST CHIPR 1KOHM +-5% 1/16W YAGEO	
R436	061G0402102 JY	RST CHIPR 1KOHM +-5% 1/16W YAGEO	
R426	061G0402102 JY	RST CHIPR 1KOHM +-5% 1/16W YAGEO	
R413	061G0402103 JY	RST CHIPR 10KOHM +-5% 1/16W YAGEO	
R412	061G0402103 JY	RST CHIPR 10KOHM +-5% 1/16W YAGEO	
R705	061G0402103 JY	RST CHIPR 10KOHM +-5% 1/16W YAGEO	
R703	061G0402103 JY	RST CHIPR 10KOHM +-5% 1/16W YAGEO	
R702	061G0402103 JY	RST CHIPR 10KOHM +-5% 1/16W YAGEO	
R618	061G0402103 JY	RST CHIPR 10KOHM +-5% 1/16W YAGEO	
R610	061G0402103 JY	RST CHIPR 10KOHM +-5% 1/16W YAGEO	
R609	061G0402103 JY	RST CHIPR 10KOHM +-5% 1/16W YAGEO	
R607	061G0402103 JY	RST CHIPR 10KOHM +-5% 1/16W YAGEO	
R120	061G0402103 JY	RST CHIPR 10KOHM +-5% 1/16W YAGEO	
R305	061G0402103 JY	RST CHIPR 10KOHM +-5% 1/16W YAGEO	
R402	061G0402103 JY	RST CHIPR 10KOHM +-5% 1/16W YAGEO	
R403	061G0402103 JY	RST CHIPR 10KOHM +-5% 1/16W YAGEO	
R417	061G0402103 JY	RST CHIPR 10KOHM +-5% 1/16W YAGEO	
R418	061G0402103 JY	RST CHIPR 10KOHM +-5% 1/16W YAGEO	
R603	061G0402103 JY	RST CHIPR 10KOHM +-5% 1/16W YAGEO	
R604	061G0402103 JY	RST CHIPR 10KOHM +-5% 1/16W YAGEO	
R605	061G0402103 JY	RST CHIPR 10KOHM +-5% 1/16W YAGEO	
R135	061G0402104 JY	RST CHIPR 100KOHM +-5% 1/16W YAGEO	
R306	061G0402104 JY	RST CHIPR 100KOHM +-5% 1/16W YAGEO	
R415	061G0402104 JY	RST CHIPR 100KOHM +-5% 1/16W YAGEO	
R712	061G0402104 JY	RST CHIPR 100KOHM +-5% 1/16W YAGEO	
R726	061G0402104 JY	RST CHIPR 100KOHM +-5% 1/16W YAGEO	
R614	061G0402104 JY	RST CHIPR 100KOHM +-5% 1/16W YAGEO	
R434	061G0402105 JY	RST CHIPR 1000KOHM 1/16W YAGEO	
R622	061G04021241FF	RST 0402 1.24K 1% 1/16W FENGHUA	
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	
R136	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	
R139	061G0402224 JY	RST CHIPR 220KOHM +-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 CHIPR 3.9KOHM 1% 1/16W YAGEO	
R432	061G04023901FY	RST CHIPR 3.9KOHM 1% 1/16W YAGEO	
R433	061G04023901FY	RST CHIPR 3.9KOHM 1% 1/16W YAGEO	

R133	061G0402394 JY	RST CHIP R 390K +/-5% 1/16W YAGEO	
R117	061G0402470 JY	RST CHIPR 47 OHM 5% 1/16W YAGEO	
R114	061G0402470 JY	RST CHIPR 47 OHM 5% 1/16W YAGEO	
R109	061G0402470 JY	RST CHIPR 47 OHM 5% 1/16W YAGEO	
R414	061G04024700FY	RST CHIP 470R 1/16W 1%	
R110	061G0402471 JY	RST CHIPR 470OHM +/-5% 1/16W YAGEO	
R615	061G0402471 JY	RST CHIPR 470OHM +/-5% 1/16W YAGEO	
R124	061G0402472 JY	RST CHIPR 4.7KOHM +/-5% 1/16W YAGEO	
R125	061G0402472 JY	RST CHIPR 4.7KOHM +/-5% 1/16W YAGEO	
R137	061G0402472 JY	RST CHIPR 4.7KOHM +/-5% 1/16W YAGEO	
R138	061G0402472 JY	RST CHIPR 4.7KOHM +/-5% 1/16W YAGEO	
R303	061G0402472 JY	RST CHIPR 4.7KOHM +/-5% 1/16W YAGEO	
R410	061G0402472 JY	RST CHIPR 4.7KOHM +/-5% 1/16W YAGEO	
R411	061G0402472 JY	RST CHIPR 4.7KOHM +/-5% 1/16W YAGEO	
R422	061G0402472 JY	RST CHIPR 4.7KOHM +/-5% 1/16W YAGEO	
R613	061G0402474 JY	RST CHIP 470K 1/16W 5% YAGEO	
R621	061G04026801FY	RST CHIP 6K8 1/16W 1%	
R713	061G04026801FY	RST CHIP 6K8 1/16W 1%	
R108	061G0402750 JY	RST CHIPR 75OHM +/-5% 1/16W YAGEO	
R112	061G0402750 JY	RST CHIPR 75OHM +/-5% 1/16W YAGEO	
R116	061G0402750 JY	RST CHIPR 75OHM +/-5% 1/16W YAGEO	
R602	061G0402912 JY	RST CHIP 9K1 1/16W 5% YAGEO	
R601	061G0402912 JY	RST CHIP 9K1 1/16W 5% YAGEO	
FB101	061G0603000 JF	RST CHIPR MAX 0R05 1/10W FENGHUA	
FB102	061G0603000 JF	RST CHIPR MAX 0R05 1/10W FENGHUA	
FB103	061G0603000 JF	RST CHIPR MAX 0R05 1/10W FENGHUA	
FB605	061G0603000 JF	RST CHIPR MAX 0R05 1/10W FENGHUA	
FB703	061G0603000 JF	RST CHIPR MAX 0R05 1/10W FENGHUA	
R102	061G0603000 JF	RST CHIPR MAX 0R05 1/10W FENGHUA	
R617	061G0603000 JF	RST CHIPR MAX 0R05 1/10W FENGHUA	
R707	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 1/10W FENGHUA	
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	
C605	065G040210212K A	CAP 0402 1NF 16V X7R	
C714	065G040210232K A	CAP 0402 1NF K 50V X7R	
C608	065G040210232K A	CAP 0402 1NF K 50V X7R	
C607	065G040210232K A	CAP 0402 1NF K 50V X7R	
C119	065G040210232K A	CAP 0402 1NF K 50V X7R	
C118	065G040210232K A	CAP 0402 1NF K 50V X7R	
C107	065G040210232K A	CAP 0402 1NF K 50V X7R	
C419	065G040210412K Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C418	065G040210412K Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C417	065G040210412K Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C407	065G040210412K Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C405	065G040210412K Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C403	065G040210412K Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C402	065G040210412K Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C401	065G040210412K Y	CAP CHIP 0402 100N 16V X7R +/-10%	

C304	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C301	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C126	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C125	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C124	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C122	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C121	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C120	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C720	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C717	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C713	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C709	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C708	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C706	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C705	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C702	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C630	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C606	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C603	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C602	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C438	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C437	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C435	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C434	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C433	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C432	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C431	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C427	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C425	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C422	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C115	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C112	065G040210412K	Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C712	065G040210427Z	T	CAP CHIP 0402 0.1UF 25V Y5V	
C719	065G040210427Z	T	CAP CHIP 0402 0.1UF 25V Y5V	
C604	065G040215131J	Y	CHIP 150pF 50V NPO YAGEO	
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	CAP CHIP 0402 220nF Z 16V Y5V	
C117	065G040222417Z	A	CAP CHIP 0402 220nF Z 16V Y5V	
C303	065G040222417Z	A	CAP CHIP 0402 220nF Z 16V Y5V	
C429	065G040222417Z	A	CAP CHIP 0402 220nF Z 16V Y5V	
C426	065G040227031J	A	CAP 0402 27PF J 50V NPO	
C428	065G040227031J	A	CAP 0402 27PF J 50V NPO	
C102	065G040247312K	A	8.31HIP 0402 47nF K 16V X7R	
C106	065G040247312K	A	8.31HIP 0402 47nF K 16V X7R	
C108	065G040247312K	A	8.31HIP 0402 47nF K 16V X7R	
C110	065G040247312K	A	8.31HIP 0402 47nF K 16V X7R	
C111	065G040247312K	A	8.31HIP 0402 47nF K 16V X7R	
C114	065G040247312K	A	8.31HIP 0402 47nF K 16V X7R	
C105	065G040250931J	A	CAP 0402 5PF J 50 NPO	

C109	065G040250931J	A	CAP 0402 5PF J 50 NPO	
C113	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	
C627	065G060310232K	Y	CAP CHIP 0603 1N 50V X7R +/-10%	
C626	065G060310512K	A	CAP CHIP 0603 1UF K 16V X7R	
C618	065G060310512K	A	CAP CHIP 0603 1UF K 16V X7R	
C617	065G060310512K	A	CAP CHIP 0603 1UF K 16V X7R	
C615	065G060310512K	A	CAP CHIP 0603 1UF K 16V X7R	
C614	065G060310512K	A	CAP CHIP 0603 1UF K 16V X7R	
C613	065G060310512K	A	CAP CHIP 0603 1UF K 16V X7R	
C612	065G060310512K	A	CAP CHIP 0603 1UF K 16V X7R	
C611	065G060310512K	A	CAP CHIP 0603 1UF K 16V X7R	
C424	065G060310512K	A	CAP CHIP 0603 1UF K 16V X7R	
C415	065G060310512K	A	CAP CHIP 0603 1UF K 16V X7R	
C414	065G060310512K	A	CAP CHIP 0603 1UF K 16V X7R	
C408	065G060310512K	A	CAP CHIP 0603 1UF K 16V X7R	
C305	065G060310512K	A	CAP CHIP 0603 1UF K 16V X7R	
C620	065G060322131J	Y	CAP CHIP 0603 220P 50V NPO +/-5%	
C621	065G060322131J	Y	CAP CHIP 0603 220P 50V NPO +/-5%	
C622	065G060322131J	Y	CAP CHIP 0603 220P 50V NPO +/-5%	
C623	065G060322131J	Y	CAP CHIP 0603 220P 50V NPO +/-5%	
C624	065G060322131J	Y	CAP CHIP 0603 220P 50V NPO +/-5%	
C625	065G060322131J	Y	CAP CHIP 0603 220P 50V NPO +/-5%	
C616	065G0805106A7Z	A	CAP 0805 10UF Z 10V Y5V	
C619	065G0805106A7Z	A	CAP 0805 10UF Z 10V Y5V	
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	CAP CHIP 1206 10uF K 25V X5R	
C721	065G120610625K	Y	CAP CHIP 1206 10uF K 25V X5R	
C601	065G120610625K	Y	CAP CHIP 1206 10uF K 25V X5R	
C707	065G120622617Z	Y	CHIP 1206 22UF Z 16V Y5V	
C704	065G120622617Z	Y	CHIP 1206 22UF Z 16V Y5V	
C609	065G120622617Z	Y	CHIP 1206 22UF Z 16V Y5V	
C302	065G120622617Z	Y	CHIP 1206 22UF Z 16V Y5V	
FB301	071G 56K121	M	CHIP BEAD	
FB601	071G 56K121	M	CHIP BEAD	
FB602	071G 56K121	M	CHIP BEAD	
FB603	071G 56K121	M	CHIP BEAD	
FB604	071G 56K121	M	CHIP BEAD	
FB402	071G 56V301	B	CHIP BEAD FCM2012VF-301T07 bullwill	
FB403	071G 56V301	B	CHIP BEAD FCM2012VF-301T07 bullwill	
FB404	071G 56V301	B	CHIP BEAD FCM2012VF-301T07 bullwill	
FB405	071G 56V301	B	CHIP BEAD FCM2012VF-301T07 bullwill	
FB407	071G 56V301	B	CHIP BEAD FCM2012VF-301T07 bullwill	
FB106	071G 59G301		CHIP BEAD 300OHM	

FB105	071G 59G301	CHIP BEAD 300OHM	
FB104	071G 59G301	CHIP BEAD 300OHM	
L601	073G253S521 H	SMD CHOKE 22UH 20% 3.3A HF	
L701	073G253S521 H	SMD CHOKE 22UH 20% 3.3A HF	
D101	093G 64 42 PP	BAV70 SOT-23	
D102	093G 64 42 PP	BAV70 SOT-23	
ZD101	093G 39GA01 T	RLZ5.6B	
D601	093G 64S522SEM	LL4148	
D703	093G3004 3	SM340A	
D704	093G3004 3	SM340A	
D707	093G3004 3	SM340A	
D708	093G3004 3	SM340A	
D602	093G3004 3	SM340A	
D701	093G3004 3	SM340A	
CN301	311GW125A30ACH	WAFER 1.25mm 30P	
	715G4002M01000004S	MAIN BOARD PCB	
SW004	077G 603 AI HJ	TACT SWITCH 2PIN	
SW003	077G 603 AI HJ	TACT SWITCH 2PIN	
SW002	077G 603 AI HJ	TACT SWITCH 2PIN	
SW001	077G 603 AI HJ	TACT SWITCH 2PIN	
SW005	077G 603 AI HJ	TACT SWITCH 2PIN	
CN803	033G801910Y H	FPC CONN. 0.5mm SMT 10P	
CN802	033G801910Y H	FPC CONN. 0.5mm SMT 10P	
CN801	033G803210F HR	CONNECTOR	
IC802	056G 379167	IC TA9690GN-A1-0-TR SOP-24	
IC801	056G 379167	IC TA9690GN-A1-0-TR SOP-24	
Q801	057G 763 92	FET P8008HV 4A/80V SOP-8	
R811	061G0603000 JT	RST CHIP MAX 0R05 1/10W TZAI YUAN	
R844	061G0603100 JT	RST CHIP 10R 1/10W 5% TZAI YUAN	
R807	061G0603100 JT	RST CHIP 10R 1/10W 5% TZAI YUAN	
R814	061G0603100 JT	RST CHIP 10R 1/10W 5% TZAI YUAN	
R820	061G0603101 JT	RST CHIP 100R 1/10W 5% TZAI YUAN	
R812	061G0603101 JT	RST CHIP 100R 1/10W 5% TZAI YUAN	
R803	061G0603102 JT	RST CHIP 1K 1/10W 5% TZAI YUAN	
R810	061G0603102 JT	RST CHIP 1K 1/10W 5% TZAI YUAN	
R821	061G0603103 JT	RST CHIP 10K 1/10W 5% TZAI YUAN	
R817	061G0603103 JT	RST CHIP 10K 1/10W 5% TZAI YUAN	
R813	061G0603103 JT	RST CHIP 10K 1/10W 5% TZAI YUAN	
R806	061G0603103 JT	RST CHIP 10K 1/10W 5% TZAI YUAN	
R819	061G0603104 JT	RST CHIP 100K 1/10W 5% TZAI YUAN	
R809	061G0603104 JT	RST CHIP 100K 1/10W 5% TZAI YUAN	
R841	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R826	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R827	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R828	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R831	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R830	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R835	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R834	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R833	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R832	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	

R829	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R840	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R839	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R838	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R837	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R836	061G0603109 JT	RST CHIP 1R 1/10W 5% TZAI YUAN	
R816	061G0603124 JT	RST CHIP 120K 1/10W 5% TZAI YUAN	
R805	061G0603124 JT	RST CHIP 120K 1/10W 5% TZAI YUAN	
R824	061G06034702FT	RST CHIP 47K 1/10W 1%	
R823	061G0603472 JT	RST CHIP 4K7 1/10W 5% TZAI YUAN	
R843	061G06035602FT	RST CHIPR 56 KOHM +-1% 1/10W	
R815	061G06035602FT	RST CHIPR 56 KOHM +-1% 1/10W	
R804	061G0603563 JT	RST CHIPR 56KOHM +-5% 1/10W TZAI YUAN	
R842	061G0603563 JT	RST CHIPR 56KOHM +-5% 1/10W TZAI YUAN	
R822	061G0805105 JT	RST CHIP 1M 1/8W 5% TZAI YUAN	
R825	061G1206000 JT	RST CHIPR MAX0R05 1/4W TZAI YUAN	
R802	061G1206308 JT	RST CHIPR 0.3 OHM +-5% 1/4W	
R801	061G1206308 JT	RST CHIPR 0.3 OHM +-5% 1/4W	
C816	065G060310232K A	CAP CHIP 0603 1000pF K 50V X7R	
C808	065G060347412K T	CAP CHIP 0603 0.47UF K 16V X7R	
C805	065G060347412K T	CAP CHIP 0603 0.47UF K 16V X7R	
C801	065G080510432K A	CAP CHIP 0805 100nF K 50V X7R	
C810	065G080522432K F	CAP CHIP 0805 0.22UF K 50V X7R	
C803	065G080522432K F	CAP CHIP 0805 0.22UF K 50V X7R	
C809	065G080522512K A	CAP CHIP 0805 2.2uF K 16V X7R	
C807	065G080522512K A	CAP CHIP 0805 2.2uF K 16V X7R	
C806	065G080522525K T	CAP CHIP 0805 2.2uF K 25V X5R	
L801	073G253S 80 DN	SMD CHOKE 22uH 2.16A LZ.3A220.A1P HF	
ZD801	093G 60S 31 T	DIODE B360B 3A/60V SMB	
E715	715G3823P04000004S	CONVERTER BOARD PCB	
CN011	033G8032 5F HR	CONNECTOR	
U012	056G 192 25	D-AMP AS358MTR-E1 SOIC-8	
U011	056G1125200	IC MCU PIC12F615-I/SN SOIC-8	
Q011	057G 417 16 T	MMBT2907	
Q012	057G 761 18 T	TRA SST2222A SST3 ROHM	
Q013	057G 761 18 T	TRA SST2222A SST3 ROHM	
R025	061G0402101 JY	RST CHIPR 100 OHM +-5% 1/16W YAGEO	
R027	061G0402102 JY	RST CHIPR 1KOHM +-5% 1/16W YAGEO	
R021	061G0402102 JY	RST CHIPR 1KOHM +-5% 1/16W YAGEO	
R020	061G0402102 JY	RST CHIPR 1KOHM +-5% 1/16W YAGEO	
R019	061G0402102 JY	RST CHIPR 1KOHM +-5% 1/16W YAGEO	
R014	061G0402102 JY	RST CHIPR 1KOHM +-5% 1/16W YAGEO	
R022	061G0402103 JY	RST CHIPR 10KOHM +-5% 1/16W YAGEO	
R024	061G0402103 JY	RST CHIPR 10KOHM +-5% 1/16W YAGEO	
R016	061G0402104 JY	RST CHIPR 100KOHM +-5% 1/16W YAGEO	
R015	061G0402104 JY	RST CHIPR 100KOHM +-5% 1/16W YAGEO	
R013	061G0402472 JY	RST CHIPR 4.7KOHM +-5% 1/16W YAGEO	
R023	061G0805330 JT	RST CHIP 33R 1/8W 5% TZAI YUAN	
R018	061G0805330 JT	RST CHIP 33R 1/8W 5% TZAI YUAN	
C020	065G040210412K Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C018	065G040210412K Y	CAP CHIP 0402 100N 16V X7R +/-10%	

C017	065G040210412K Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C016	065G040210412K Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C015	065G040210412K Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C013	065G040210412K Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C012	065G040210412K Y	CAP CHIP 0402 100N 16V X7R +/-10%	
C011	065G060310517Z Y	CAP CHIP 0603 1UF Z 16V Y5V	
E715	715G3995T01000004C	LIGHT SENSOR BOARD PCB	
E715	715G3995T01000004S	LIGHT SENSOR BOARD PCB	2nd source
CN901	006G 31500	EYELET	
GND	006G 31501	EYELET	
A	006G 31501	EYELET	
12V	006G 31501	EYELET	
NR901	006G 31502	1.5MM RIVET	
L902	006G 31502	1.5MM RIVET	
L901	006G 31502	1.5MM RIVET	
C903	006G 31502	1.5MM RIVET	
C907	006G 31502	1.5MM RIVET	
IC903	056G 158 10 T	IC AS431AZTR-E1 TO-92	
R947	061G 60210052T XZ	RST CFR 10 OHM +-5% 1/6W XIANZHENG	
C925	065G 2K152 2T6921	CAP CER 1500pF K 2KV Y5P	
C929	067G 2154707NT	KY50VB47M-TP5 6.3*11	
FB901	071G 55908	FERRITE CORE 60R W5 RH 2.5X3X1.0	
F901	084G 55 7W	FUSE 3.15A 250V Wickmann	
J906	095G 90 23	JUMPER WIRE	
J904	095G 90 23	JUMPER WIRE	
J903	095G 90 23	JUMPER WIRE	
J902	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	
R002	061G0603000 FF	RST CHIPR MAX0R01 1/10W FENGHUA	
R004	061G06031001FF	RST CHIPR 1KOHM +-1% 1/10W FENGHUA	
R001	061G06032001FF	RST CHIPR 2KOHM +-1% 1/10W FENGHUA	
R003	061G06032001FF	RST CHIPR 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	LED	
E715	715G4014K01000004C	KEY BOARD PCB	
E715	715G4014K01000004S	KEY BOARD PCB	2nd source