

Service
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170S7FS/00

Service Manual

Horizontal Frequency
30- 83KHz

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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

Revision List

[illegible]

Important Safety Notice

Proper service and repair is important to the safe, reliable operation of all Philips Company** Equipment. The service procedures recommended by Philips 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. Philips 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, Philips has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Philips 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, Philips Company will be referred to as Philips.

WARNING

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

Under no circumstances should the original design be modified or altered without written permission from Philips.

Philips 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 radiation 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.)

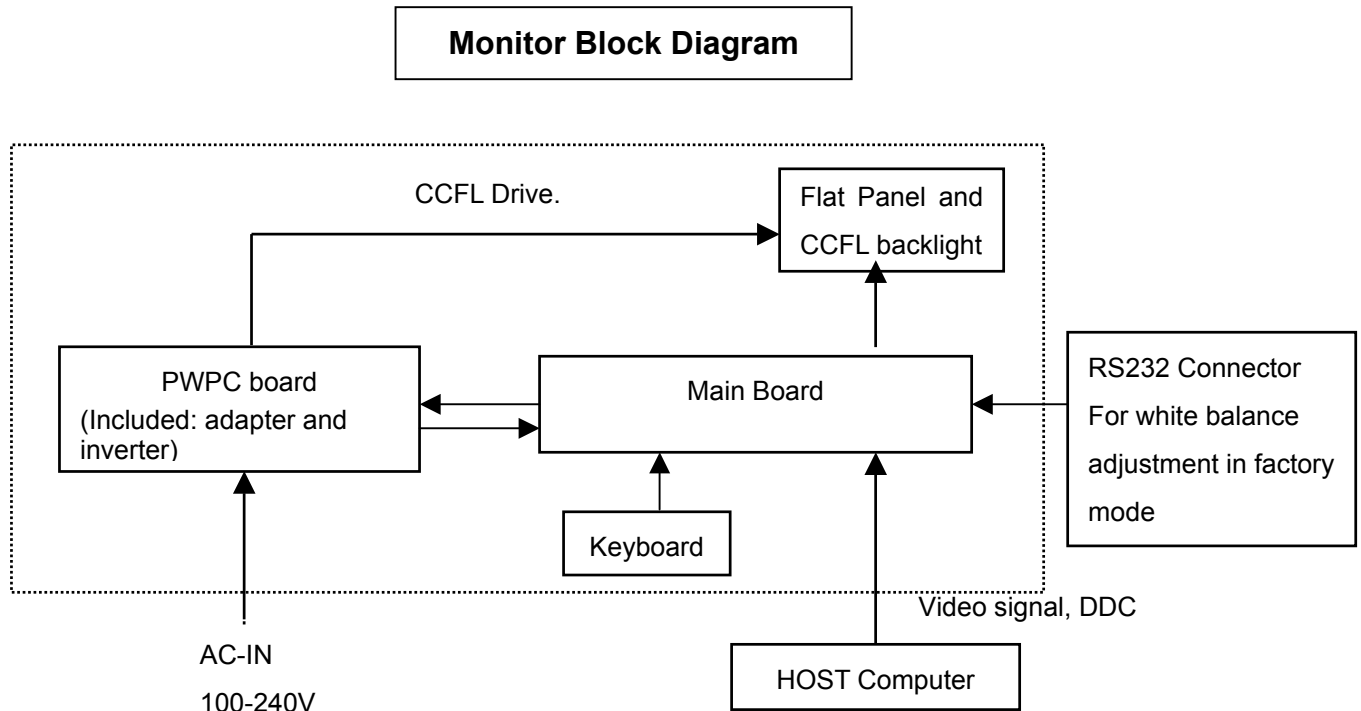
1. Monitor Specifications

LCD Panel	Screen type	Active matrix - TFT LCD
	Panel Type	LM170E01-TLBB (LPL) QD17EL07 (QDI)
	Size	430mm (17.0")
	Pixel pitch	0.264mm(H) x 0.264mm(V)
	Viewable angle (CR>=10)	Horizontal 140°, Vertical 140° (type) (LPL) Horizontal 140°, Vertical 125° (type) (QDI)
	Response time	8 ms (type) (LPL) 8 ms (type) (QDI)
Input	Video	R, G, B Analog Interface
	Separate Sync	TTL level, input impedance 2.2k OHM terminate
	Horizontal Frequency	30kHz – 83kHz
	Vertical refresh rate	56 - 76Hz
Display Colors		16.2 M
Video dot rate		140 MHz
Maximum Resolution		1280 x 1024 at 76Hz (analog input)
Recommended Resolution		1280 x 1024 at 60Hz (analog input)
Plug & Play		VESA DDC2B
Power Consumption		Power on: < 30 W Power off: < 1 W
Input Connector		D -Sub 15pin
Input Video Signal		0.7 Vp-p, input impedance, 75 ohm @DC
Tilt		-5° ~ 25°
Maximum Screen Size		Horizontal: 337.9mm; Vertical: 270.3 mm
Power Source		100-240 VAC, 50/60 Hz
Environmental Considerations		Operating Temp: 5°C to 40°C Storage Temp.: -20°C to 60°C Relative Humidity: 20%-80% Max
Weight (Net)		4.7kg
Cabinet color		Silver

2. LCD Monitor Description

The LCD MONITOR will contain a main board, PWPC board, keypad 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. Operation instructions

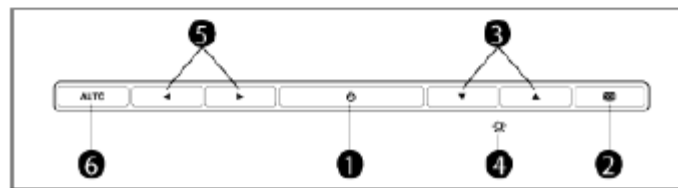
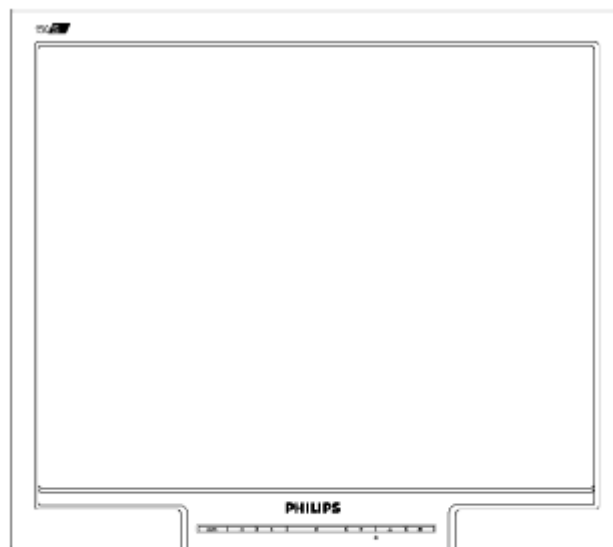
3.1 General Instructions

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

- The power cord should be connected.
- Connect the video cable from the monitor to the video card.
- Press the power button to turn on the monitor, the power indicator will light up.

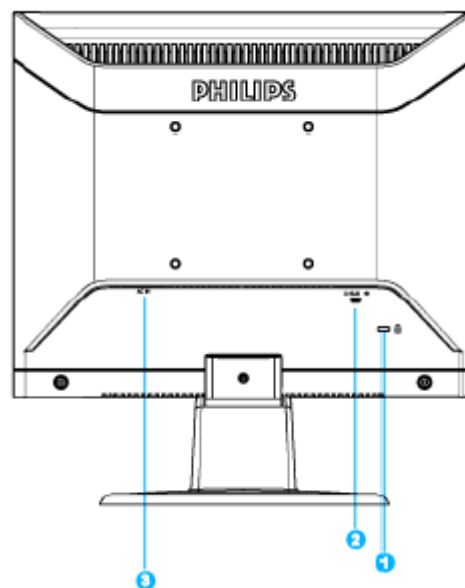
3.2 Control Buttons

Front View



- | | | |
|---|---|--|
| 1 |  | To switch monitor's power On and Off |
| 2 |  | To access OSD menu |
| 3 |  | To adjust the OSD |
| 4 |  | To adjust brightness of the display |
| 5 |  | To adjust the OSD |
| 6 | AUTO | Automatically adjust the horizontal position, vertical position, phase and clock settings. |

Back View

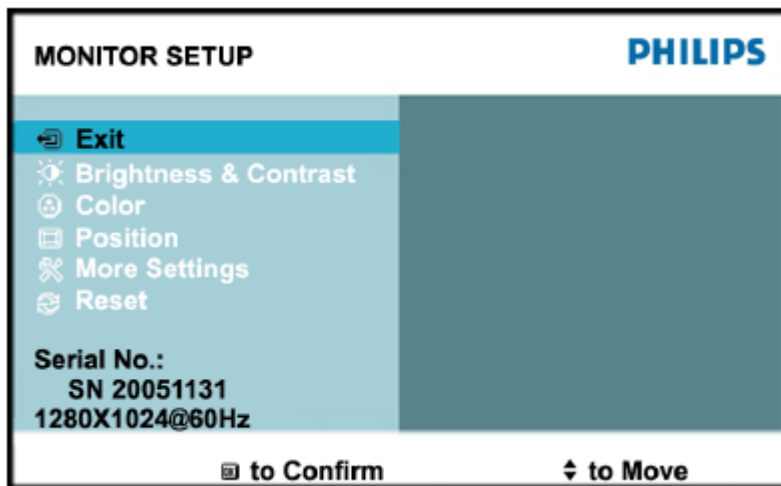


- 1 Kensington anti-thief lock
- 2 VGA input
- 3 AC power input

3.3 Adjusting the Picture

This is a feather in all Philips LCD monitors. It allows an end user to adjust screen performance of the monitors directly through an on-screen instruction window. The user interface provides user-friendliness and ease-of-use when operating the monitor.

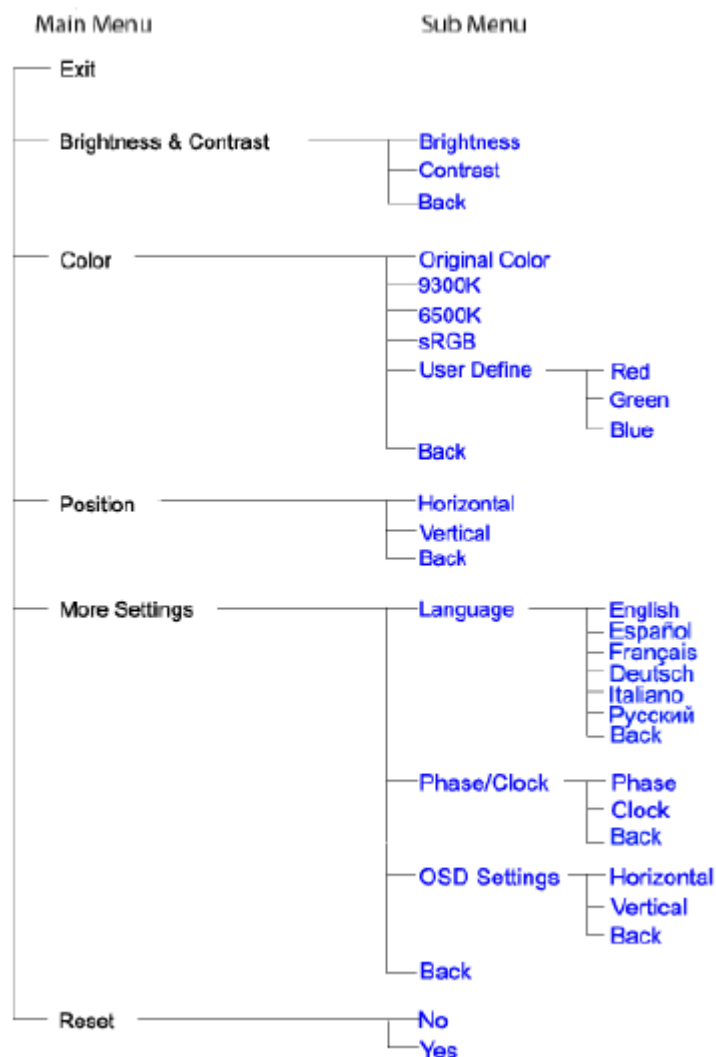
When you press the  button on the front control of your monitor, the On-Screen Display (OSD) main controls window will pop up and you can then start making adjustments to your monitor's various features. Use the  or the  keys to make your adjustments.



The OSD tree

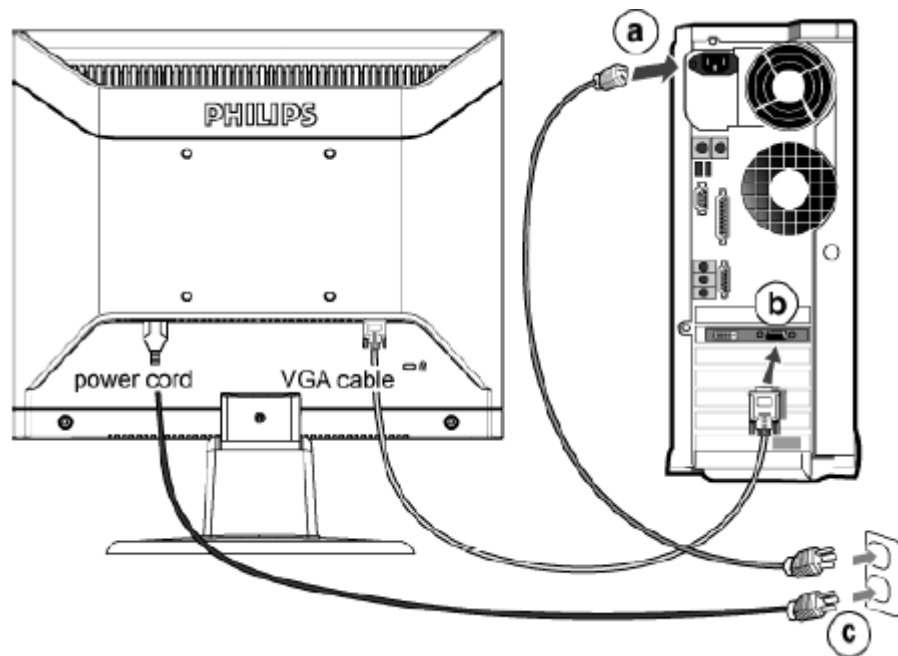
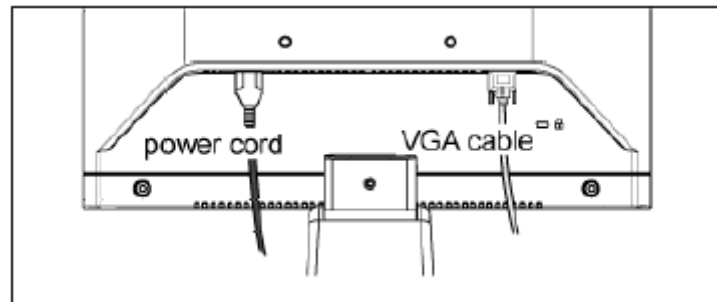
Below is an overall view of the structure of the On-Screen Display. You can use this as a reference when you want to work your way around the different adjustments later on.

For Europe Model only:



3.4 Connecting to the PC

- 1) Connect the power cord to the back of the monitor firmly. (Philips has pre-connected) VGA cable for the first installation.)

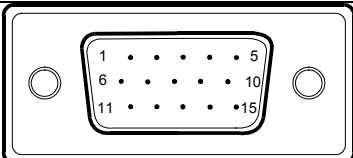


- 2) Connect to PC

- (a) Turn off your computer and unplug its power cable.
- (b) Connect the monitor signal cable to the video connector on the back of your computer.
- (c) Plug the power cord of your computer and your monitor into a nearby outlet.
- (d) Turn on your computer and monitor. If the monitor displays an image, installation is complete.

4. Input/Output Specification

4.1 Input Signal Connector

Pin NO.	Description	Pin NO.	Description
1.	Red Video input	9.	DDC +5V
2.	Green Video input (SOG)	10.	Logic GND
3.	Blue Video input	11.	Ground
4.	Sense (GND)	12.	Serial data line (SDA)
5.	Cable Detect	13.	H.sync/H + V.sync
6.	Red Video Ground	14.	V.Sync
7.	Green Video Ground	15.	Data Clock Line (SCL)
8.	Blue Video Ground		
VGA Connector layout			
			

4.2 Factory Preset Display Modes

H. freq (kHz)	Resolution	V. freq (Hz)
31.469	720*400	70.087
31.469	640*480	59.940
37.861	640*480	72.809
37.500	640*480	75.000
35.156	800*600	56.250
37.879	800*600	60.317
48.077	800*600	72.188
46.875	800*600	75.000
48.363	1024*768	60.004
56.476	1024*768	70.069
60.023	1024*768	75.029
67.500	1152*870	75.000
60.000	1280*960	60.000
63.981	1280*1024	60.020
79.976	1280*1024	75.025
35.000	640*480	67.000
49.700	832*624	75.000

4.3 Panel Specification**4.3.1 Display Characteristics****LM170E01-TLBB Panel**

Active screen size	17.0 inch (43.27cm) diagonal
Outline Dimension	358.5(H) x 296.5(V) x 17.0(D) mm(Typ.)
Pixel Pitch	0.264 mm x 0.264 mm
Pixel Format	1280 horiz. by 1024 vert. Pixels. RGB stripe arrangement
Display Colors	16.2M colors
Luminance, white	300 cd/m ² (Typ. Center 1 point)
Power Consumption	19.6 Watts(Typ.)
Weight	2150g (Typ.)
Display operating mode	Transmissive mode, normally white
Surface treatments	Hard coating (3H), Anti-glare treatment of the front polarizer

QD17EL07 Panel

Parameter	Specifications	Unit
Display size	43(17") Diagonal	mm
Active area	337.9(H) × 270.3(V)	mm
Pixel format	1280 (H) × 1024(V)	Pixel
	(1 pixel = R+G+B dots)	
Pixel pitch	0.264(H) × 0.264 (V)	mm
Pixel configuration	R, G, B vertical stripe	
Display mode	Normally white	
Unit outline dimensions (typ.)*1	296.5(W) × 358.5(H) × 17(T)max.	mm
Mass	1700 max.	g
Surface treatment	Anti-glare and hard-coating 3H	

4.3.2 Optical Characteristics

LM170E01-TLBB Panel

Parameter	Symbol	Values			Units
		Min.	Typ.	Max.	
Contrast ratio	CR	500	700	-	
Surface luminance, white	L_{WH}	250	300	-	cd/m ²
Luminance uniformity	ΔL_9	75	-	-	%
Response time	Tr		8	16	ms
Rise time	Tr_R	-	2	4	
Decay time	Tr_D	-	6	12	
CIE color coordinates					
Red	XR	0.605	0.635	0.665	
	YR	0.312	0.342	0.372	
Green	XG	0.262	0.292	0.322	
	YG	0.581	0.611	0.641	
Blue	XB	0.117	0.147	0.177	
	YB	0.040	0.070	0.100	
White	XW	0.283	0.313	0.343	
	YW	0.299	0.329	0.359	
Viewing angle (by CR ≥ 10)					
X axis, right ($\phi=0^\circ$)	θ_r	60	70	-	degree
X axis, left ($\phi=180^\circ$)	θ_l	60	70	-	
Y axis, up ($\phi=90^\circ$)	θ_u	60	75	-	
Y axis, down ($\phi=270^\circ$)	θ_d	50	65	-	
Viewing angle (by CR ≥ 5)					
X axis, right ($\phi=0^\circ$)	θ_r	70	80	-	degree
X axis, left ($\phi=180^\circ$)	θ_l	70	80	-	
Y axis, up ($\phi=90^\circ$)	θ_u	70	85	-	
Y axis, down ($\phi=270^\circ$)	θ_d	60	75	-	
Relative brightness					
Luminance uniformity (TCO99)		-	-	1.7	

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Viewing Angle Range	Horizontal	$\theta\ 21, \theta\ 22$	CR>10	60	70		Deg.
	Vertical	$\theta\ 11$		55	65		Deg.
		$\theta\ 12$		50	60		Deg.
	Horizontal	$\theta\ 21, \theta\ 22$	CR>5	70	80		Deg.
	Vertical	$\theta\ 11$		65	75		Deg.
		$\theta\ 12$		60	70		Deg.
Contrast ratio		C R n	$\theta = 0^{\circ}$	400	600	—	
Response time		τ	$\theta = 0^{\circ}$	—	8	16	ms
Rise time	$\tau\ r$				2		ms
Fall time	$\tau\ d$				6		ms
Chromaticity of White (CIE 1931)		Wx		0.283	0.313	0.343	
		Wy		0.299	0.329	0.359	
Chromaticity of Red (CIE 1931)		Rx		0.612	0.642	0.672	
		Ry		0.311	0.341	0.371	
Chromaticity of Green (CIE 1931)		Gx		0.249	0.279	0.309	
		Gy		0.580	0.610	0.640	
Chromaticity of Blue (CIE 1931)		Bx		0.113	0.143	0.173	
		By		0.053	0.083	0.113	
Luminance of white		Y L		220	270		Cd/m ²
White Uniformity		$\delta\ W$		—	1.25	1.3	

4.3.3 Electrical Characteristics

LM170E01-TLBB Panel

The LM170E01-TLBB requires two power inputs. One is employed to power the LCD electronics and to drive the TFT array and liquid crystal. Another which powers the CCFL, is typically generated by an inverter. The inverter is an external unit to the LCD.

Parameter	Symbol	Values			Units
		Min.	Typ.	Max.	
MODULE :					
Power Supply Input Voltage	V_{CC}	4.5	5.0	5.5	V
Permissive Power Input Ripple	V_{RF}	-	-	0.1	V
Power Supply Input Current	I_{CC}	-	0.54	0.63	A
Differential Impedance	Z_m	90	100	110	ohm
Power Consumption	P_C	-	2.7	3.15	Watts
Rush Current	I_{RUSH}	-	2.0	3.0	A
LAMP for each CCFL:					
Operating Voltage	V_{BL}	640 (@7.0mA)	650 (@6.5mA)	740 (@3.0mA)	V_{RMS}
Operating Current	I_{BL}	2.5	6.5	7.0	mA_{RMS}
Established Starting Voltage at 25 °C	V_{BS}	-	-	1000	V_{RMS}
at 0 °C		-	-	1250	V_{RMS}
Operating Frequency	f_{BL}	40	60	70	kHz
Discharge Stabilization Time	T_S	-	-	3	Minutes
Power Consumption	P_{BL}	-	16.90	18.60	Watts
Life Time		50,000	-	-	Hrs

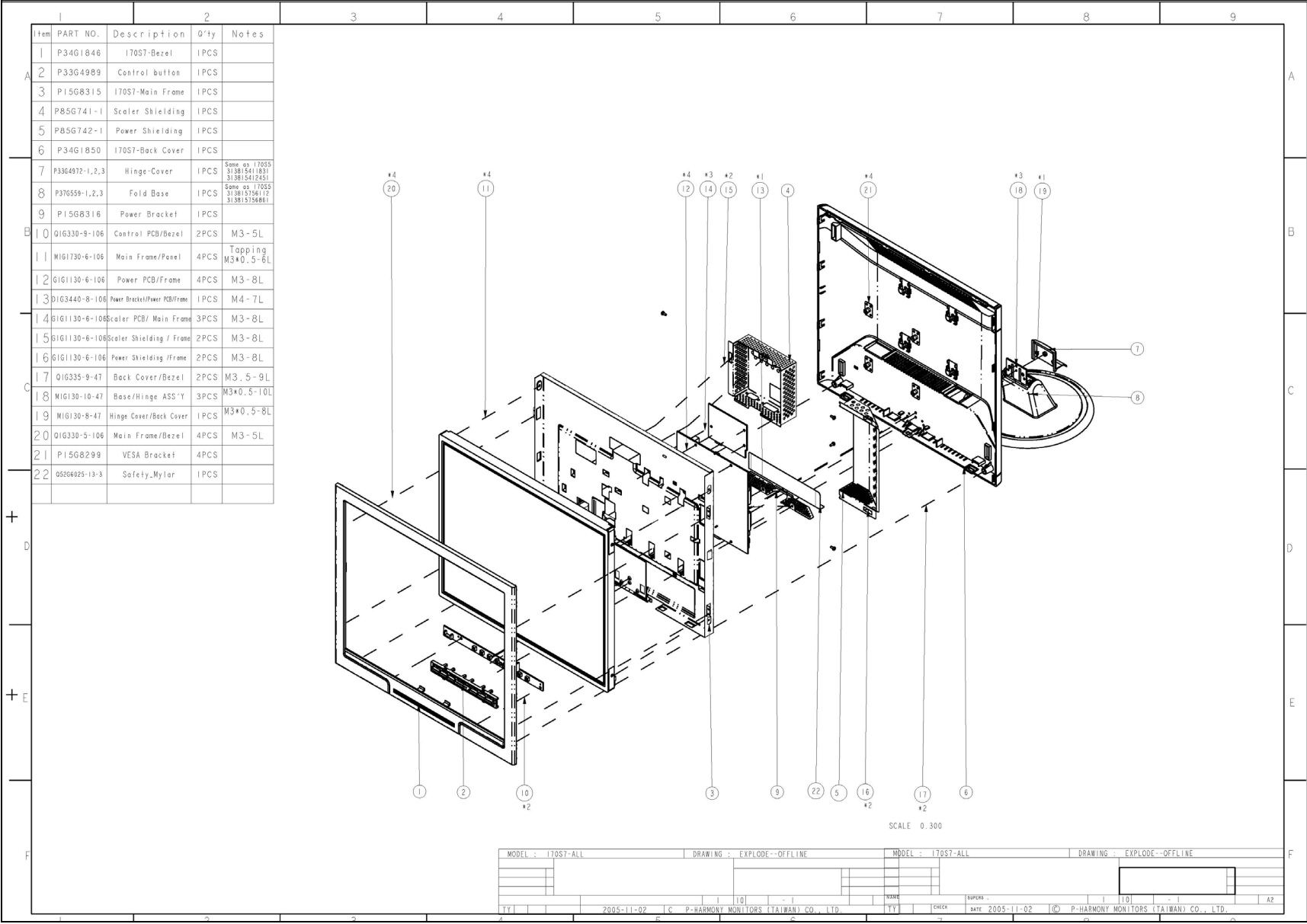
QD17EL07 Panel

Parameter		Sym.	Min.	Typ.	Max.	Unit	Remark
VDD	Supply voltage	VDD	+4.5	+5.0	+5.5	V	【Note2】
Current dissipation	@ Full Back pattern	IDD	—	760	1200	mA	【Note3】
	@ Full White pattern		—	480		mA	
	@ 1-line on/off pattern		—	700		mA	
	@ 1-dot on/off pattern		—	860		mA	
	@ Mosaic pattern		—	630		mA	
Permissive input ripple voltage		V_{RP}	—	—	100	mV p-p	VDD=+5.5V
Differential input Threshold voltage	High	V_{TH}	—	—	+100	mV	$V_{CM}=+1.2V$
	Low	V_{TL}	-100	—	—	mV	【Note1】
Terminal resistor		R_T	—	100	—	Ω	Differential input
Rush current		I_{RUSH}			3	A	Rise time 470uS

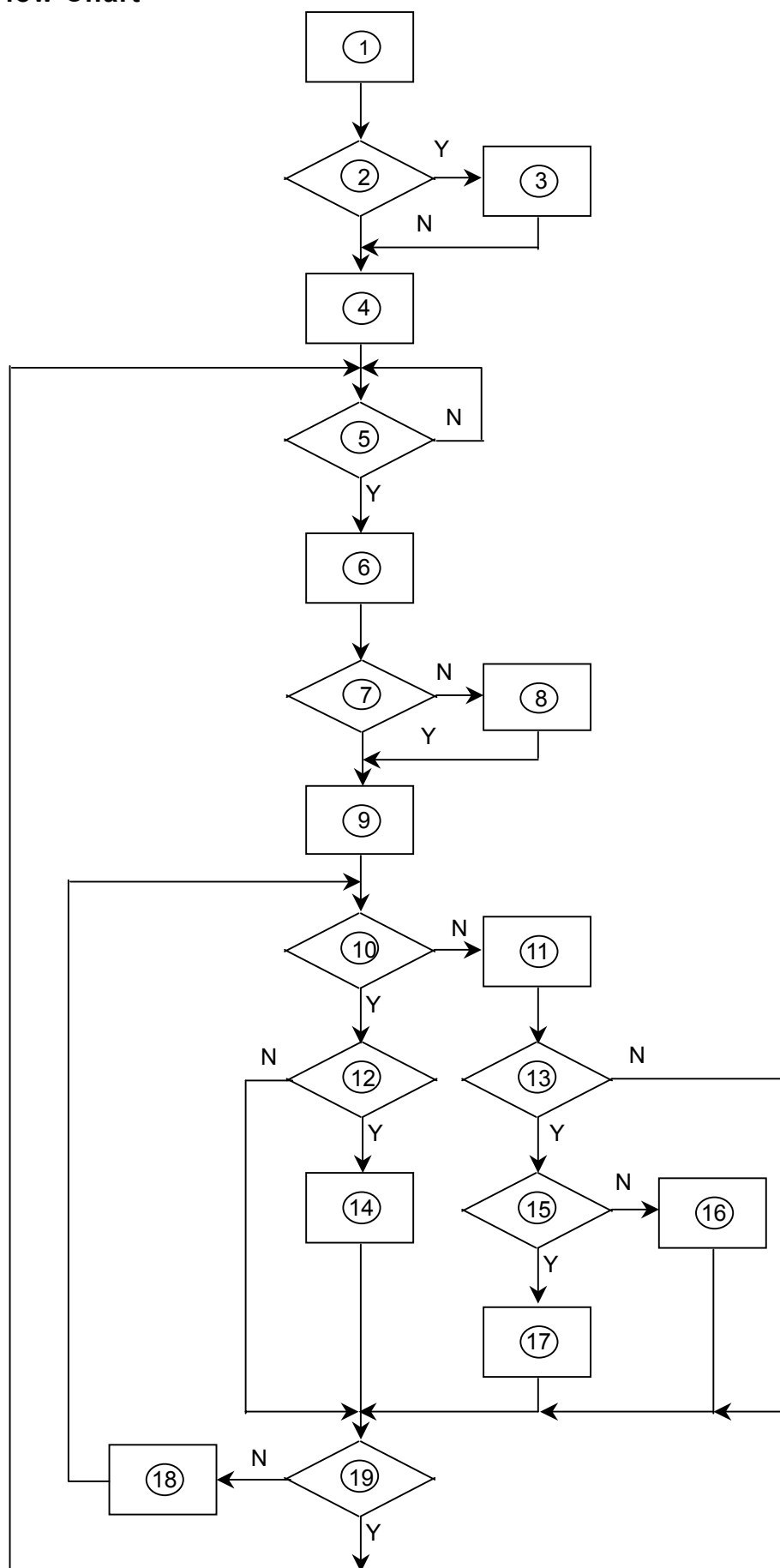
Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
Lamp current range	I_L	4.0	7.0	8.0	mA _{RMS}	【Note1】
Lamp voltage	V_L	550.8	612	673.2	V _{rms}	
Lamp power consumption	P_L	—	4.28	—	W	【Note2】
Lamp frequency	F_L	—	47	—	kHz	【Note3】
Kick-off voltage	V_s	—	—	1200	V _{rms}	Ta=25°C
		—	—	1500	V _{rms}	Ta=0°C
Lamp life time	L_L	40000	50000	—	hour	【Note5】

5. Block Diagram

5.1 Monitor Exploded View



5.2 Software Flow Chart

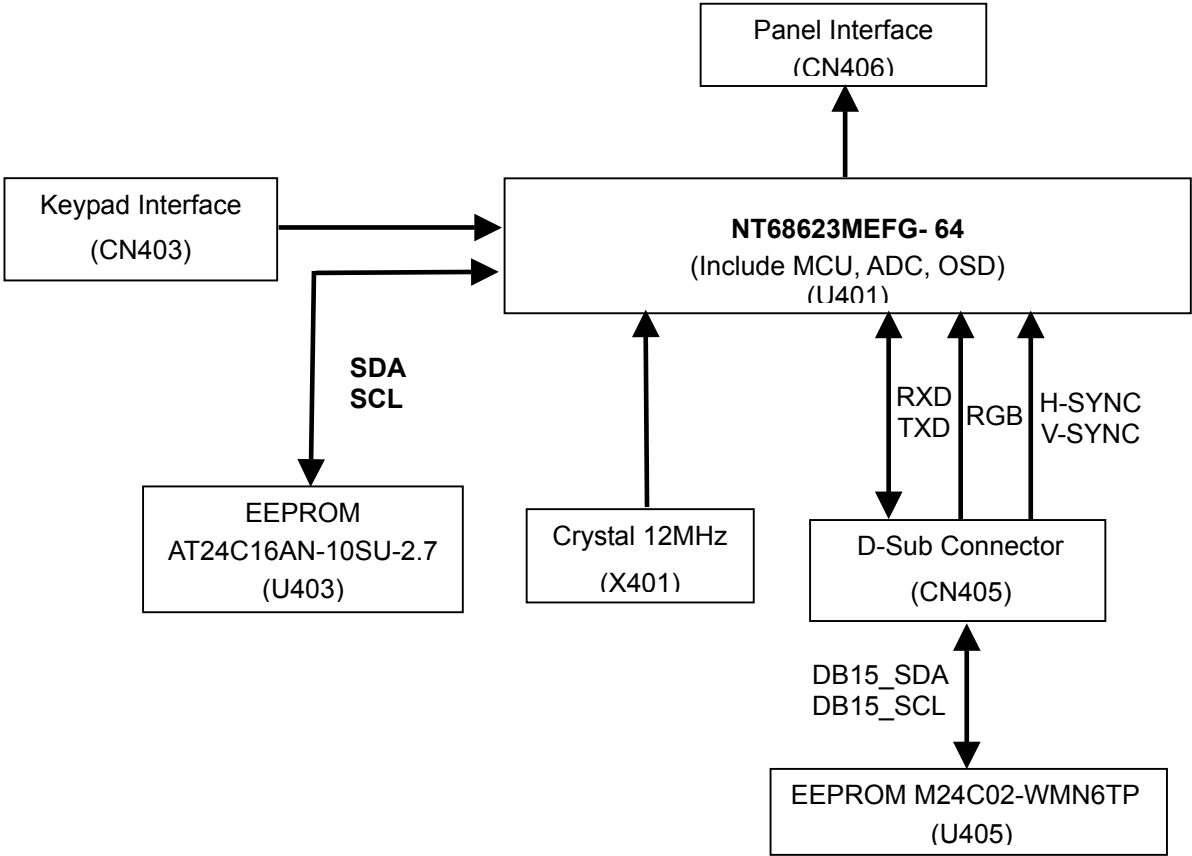


- 1) MCU Initializes.
- 2) Is the EEprom blank?
- 3) Program the EEprom by default values.
- 4) Get the PWM value of brightness from EEprom.
- 5) Is the power key pressed?
- 6) Clear all global flags.
- 7) Are the AUTO and SELECT keys pressed?
- 8) Enter factory mode.
- 9) Save the power key status into EEprom.

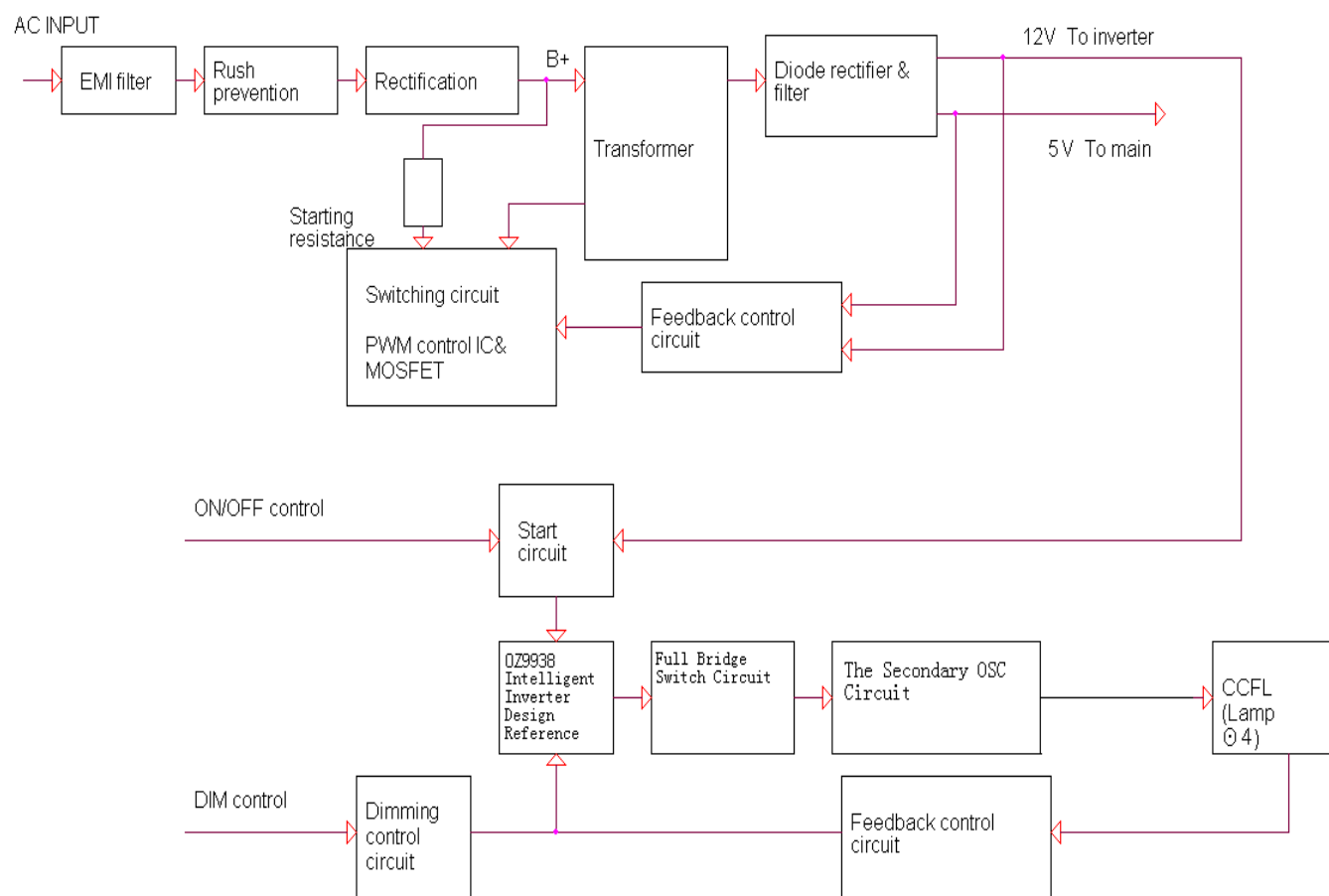
Turn on the LED and set it to green color. Scalar initializes.

- 10) In standby mode?
- 11) Update the lifetime of back light.
- 12) Check the analog port, are there 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 disappears.
- 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?

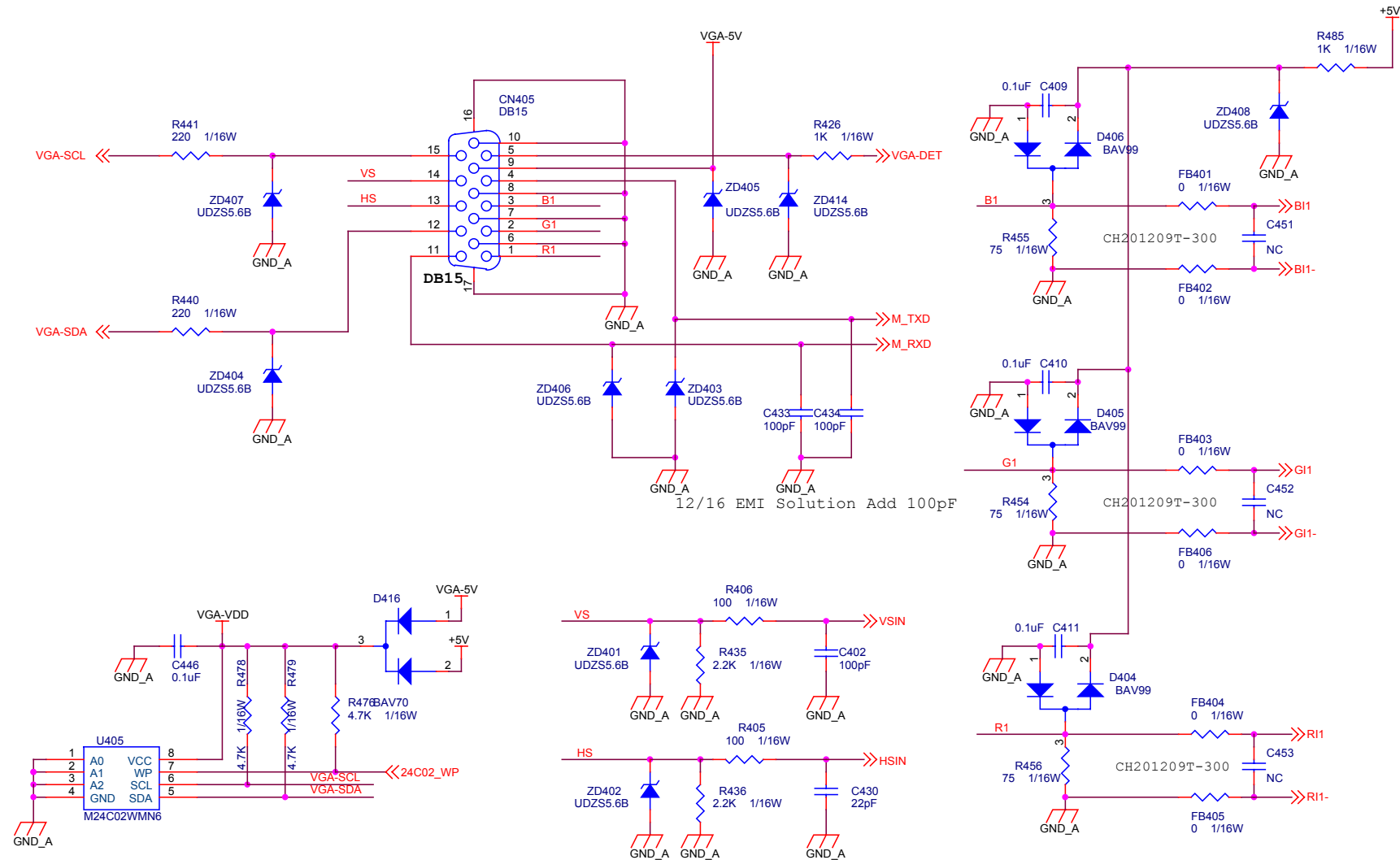
5.3 Electrical Block Diagram
5.3.1 Main Board



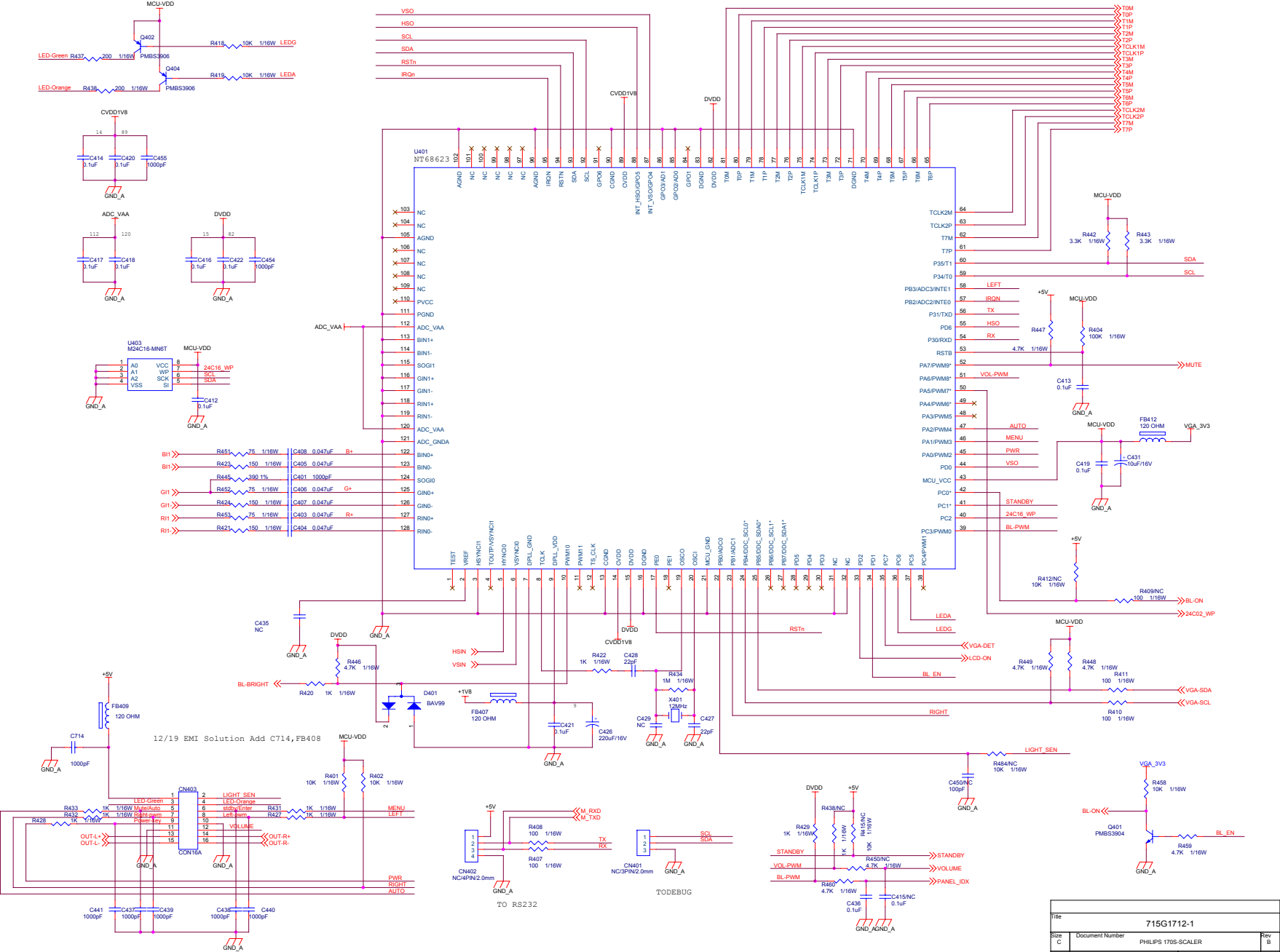
5.3.2 Inverter/Power Board



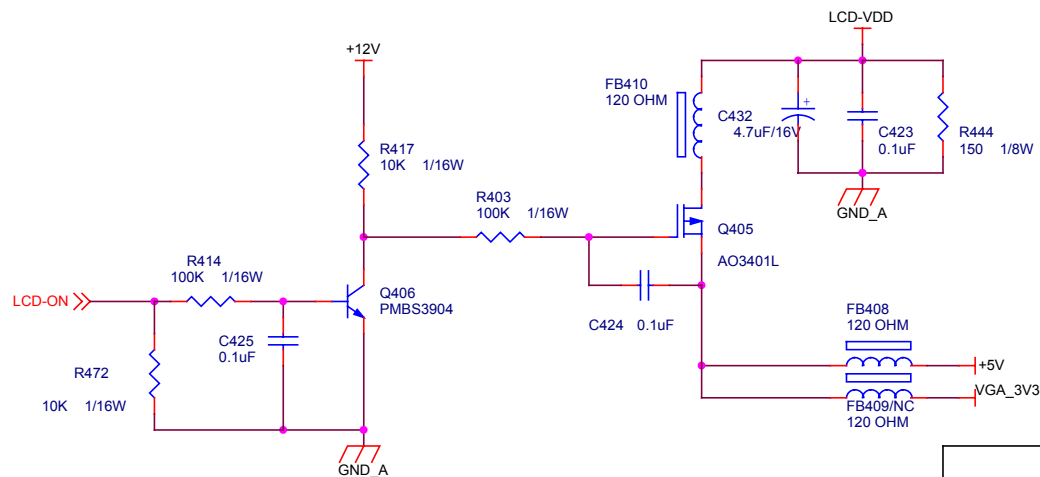
6. Schematic Diagram
6.1 Main Board



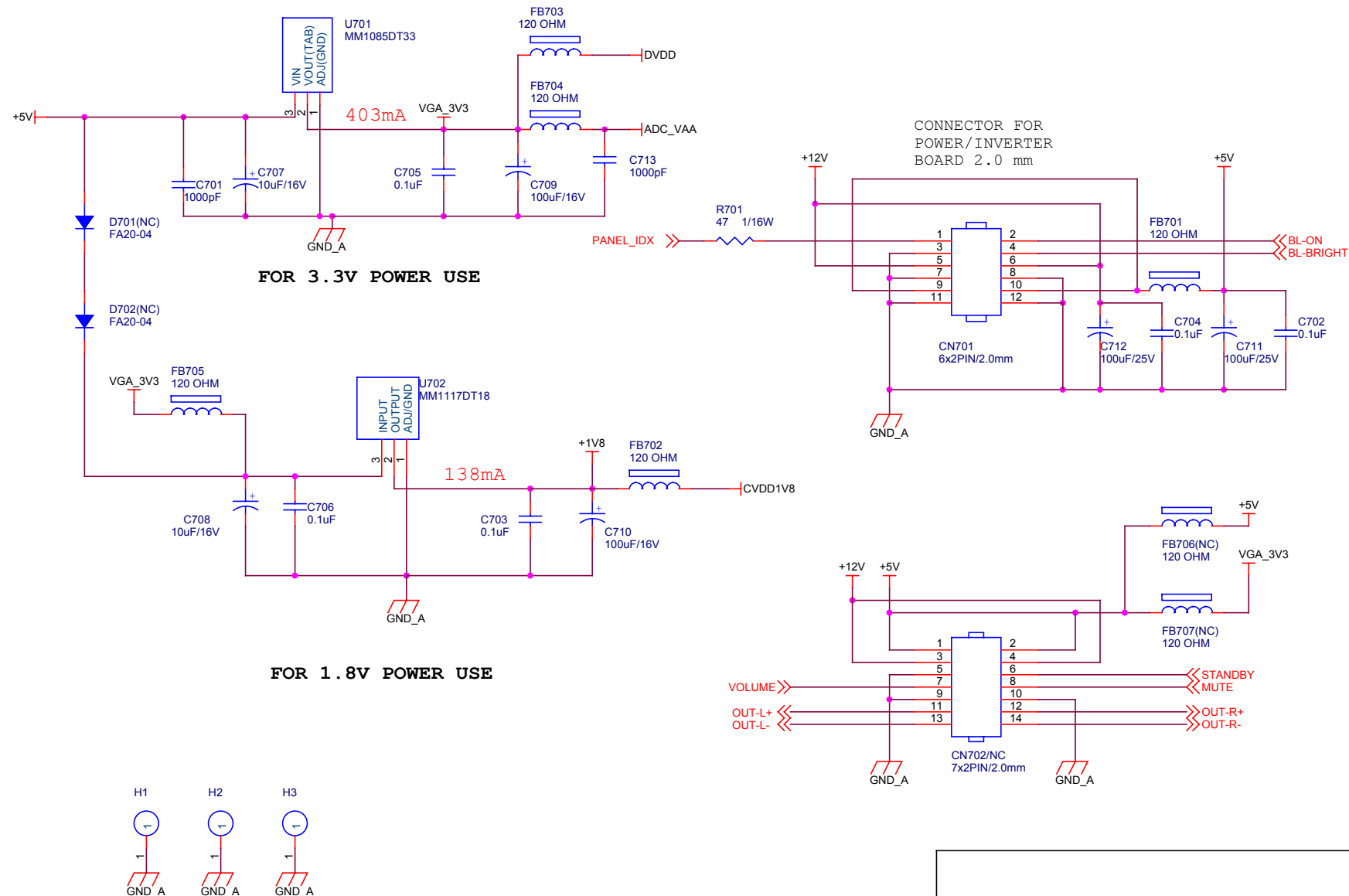
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PHILIPS 170S-ADC Input		
Date:	Thursday, March 02, 2006	Sheet 5 of 5



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715G1712-1			
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		B	
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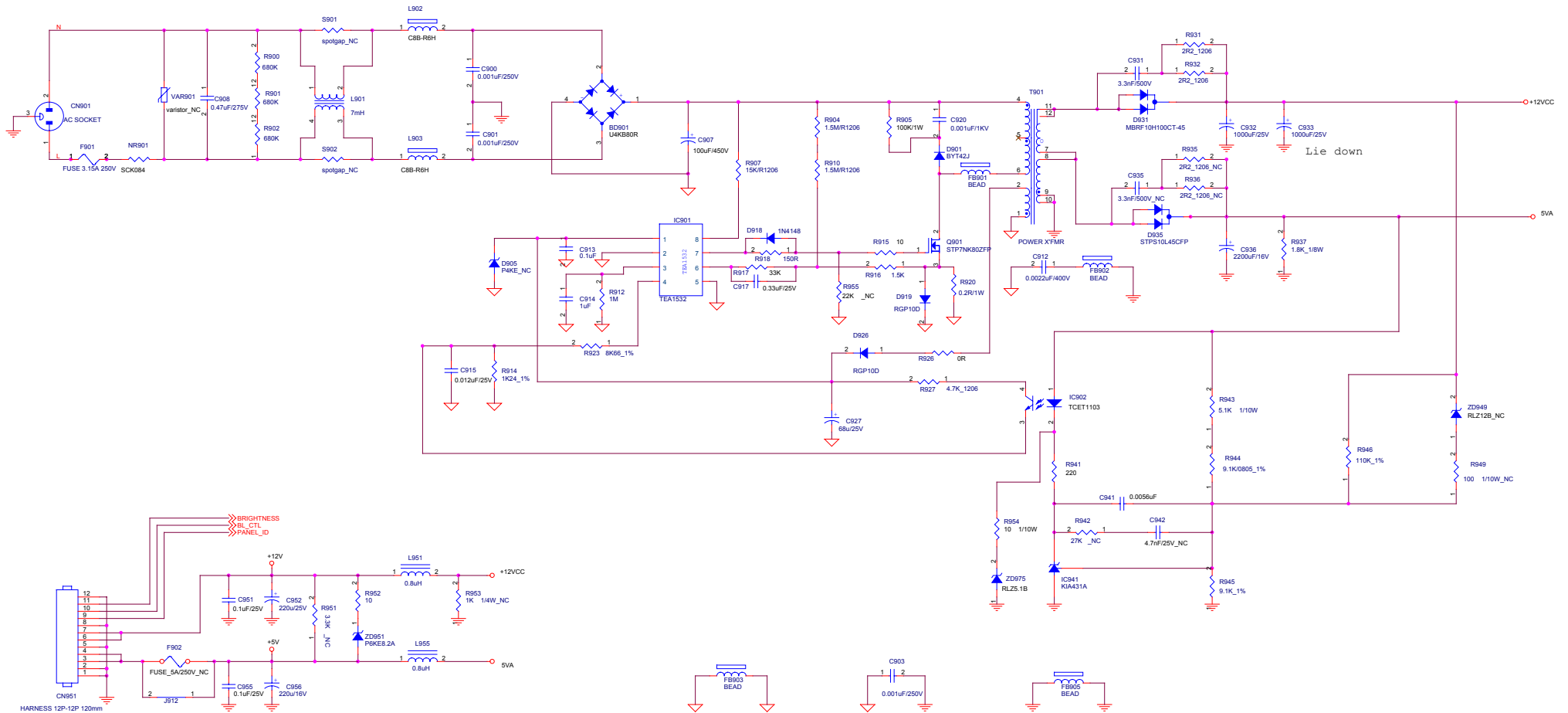
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Date:	Thursday, March 02, 2006	Sheet	3 of 5

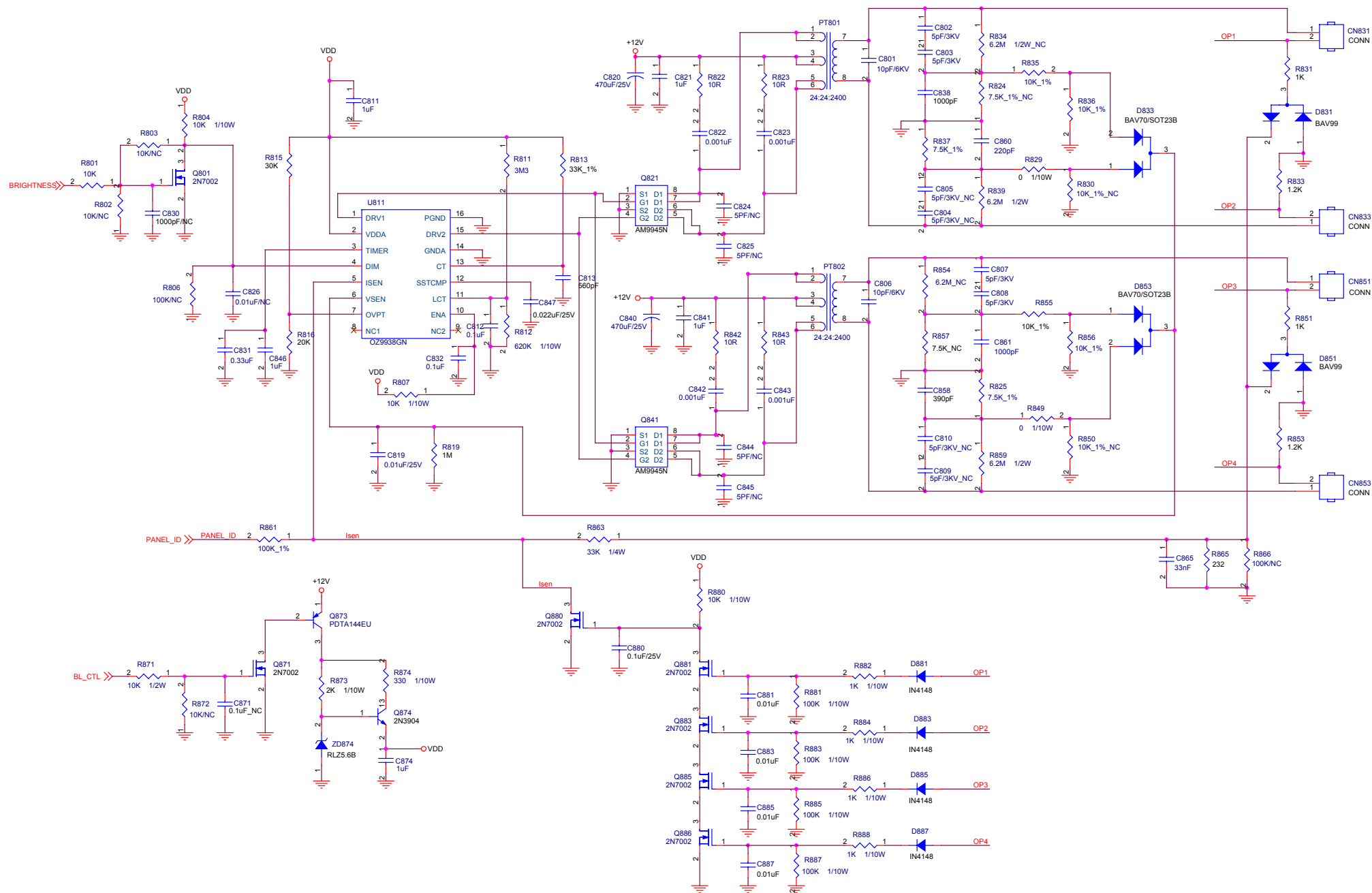


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Date:	Thursday, March 02, 2006	Sheet 2 of 5

6.2 Pwpc Board

PN : PWPC1742LGR1

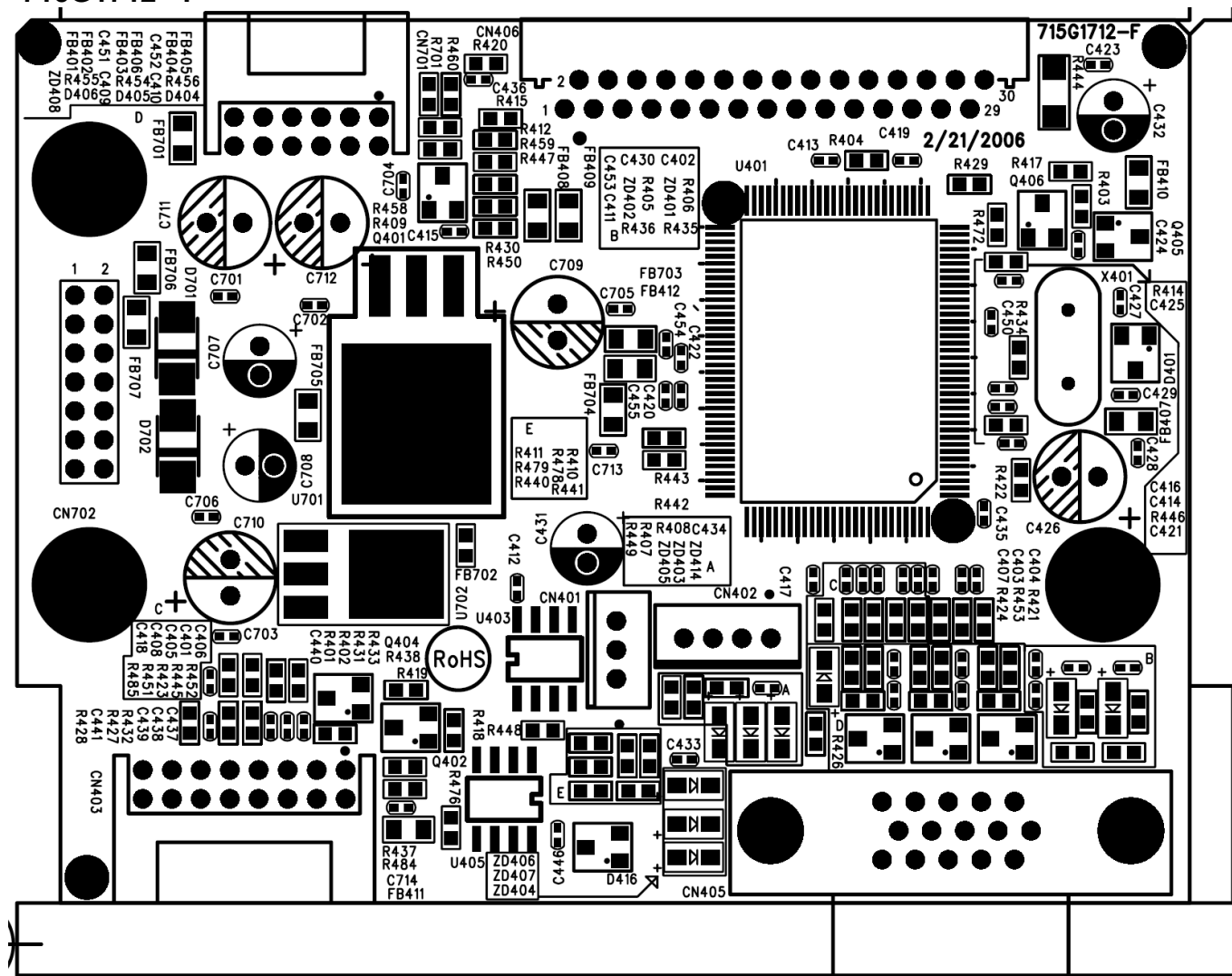


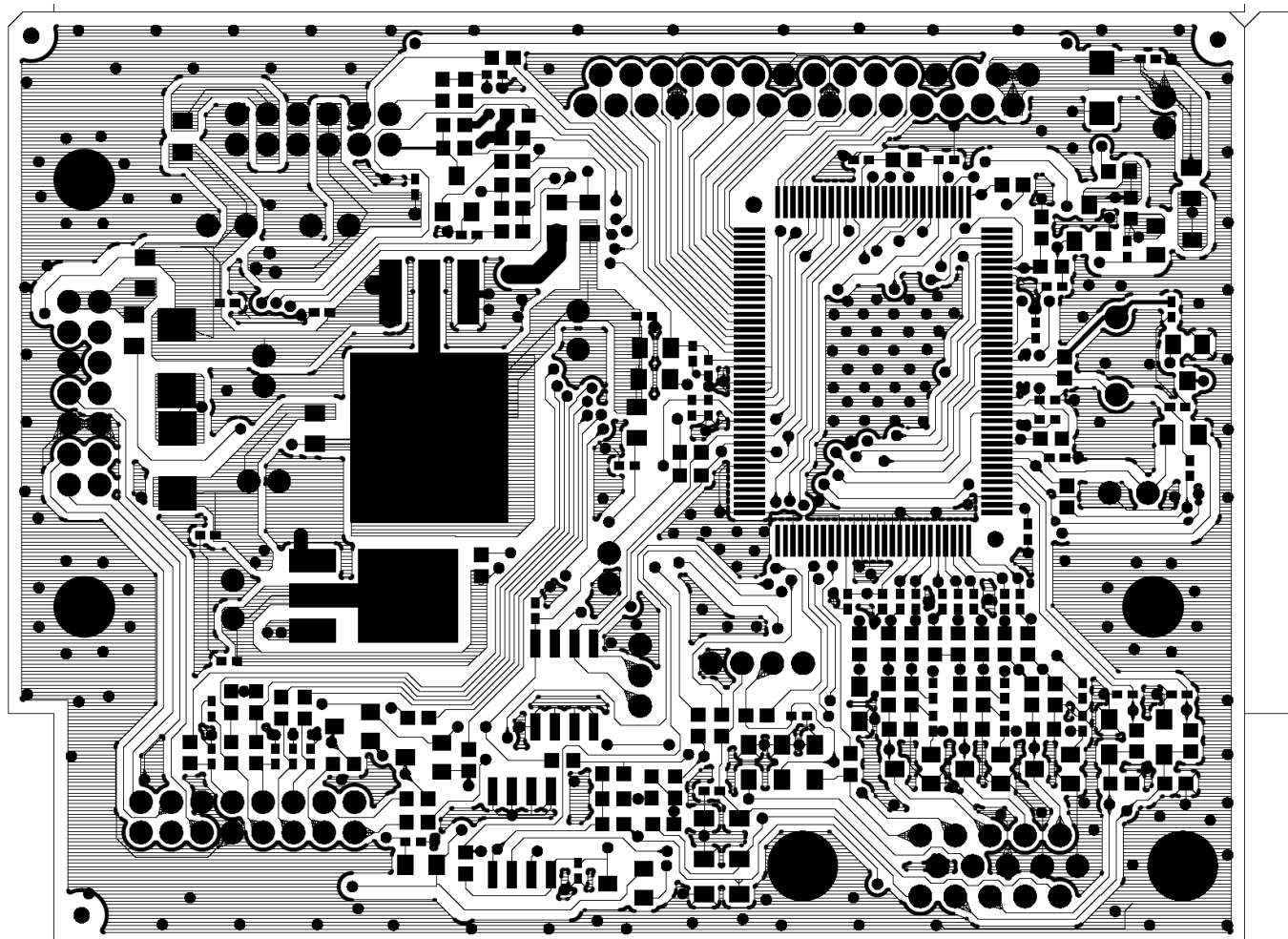


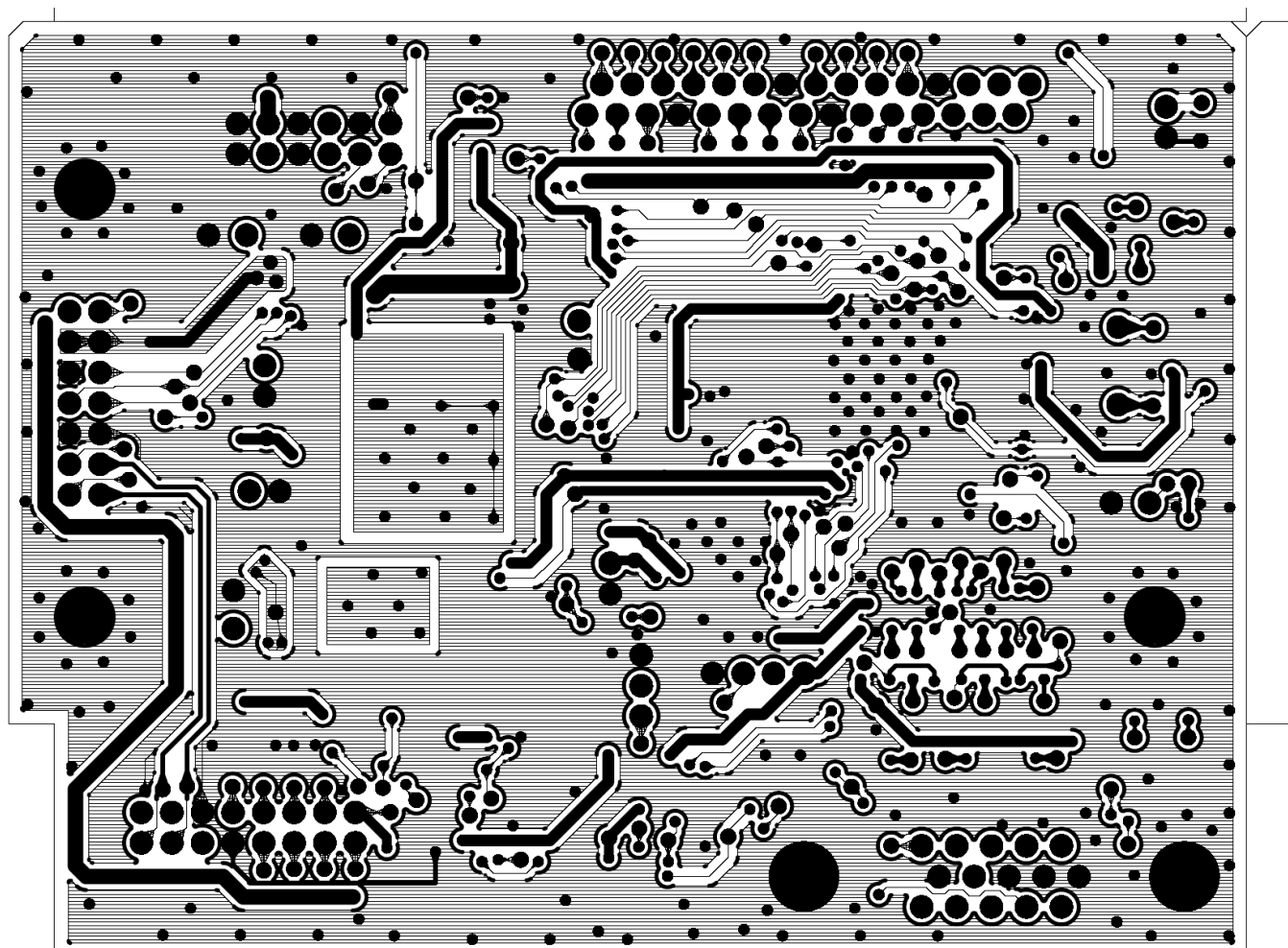
7. PCB Layout

7.1 Main Board

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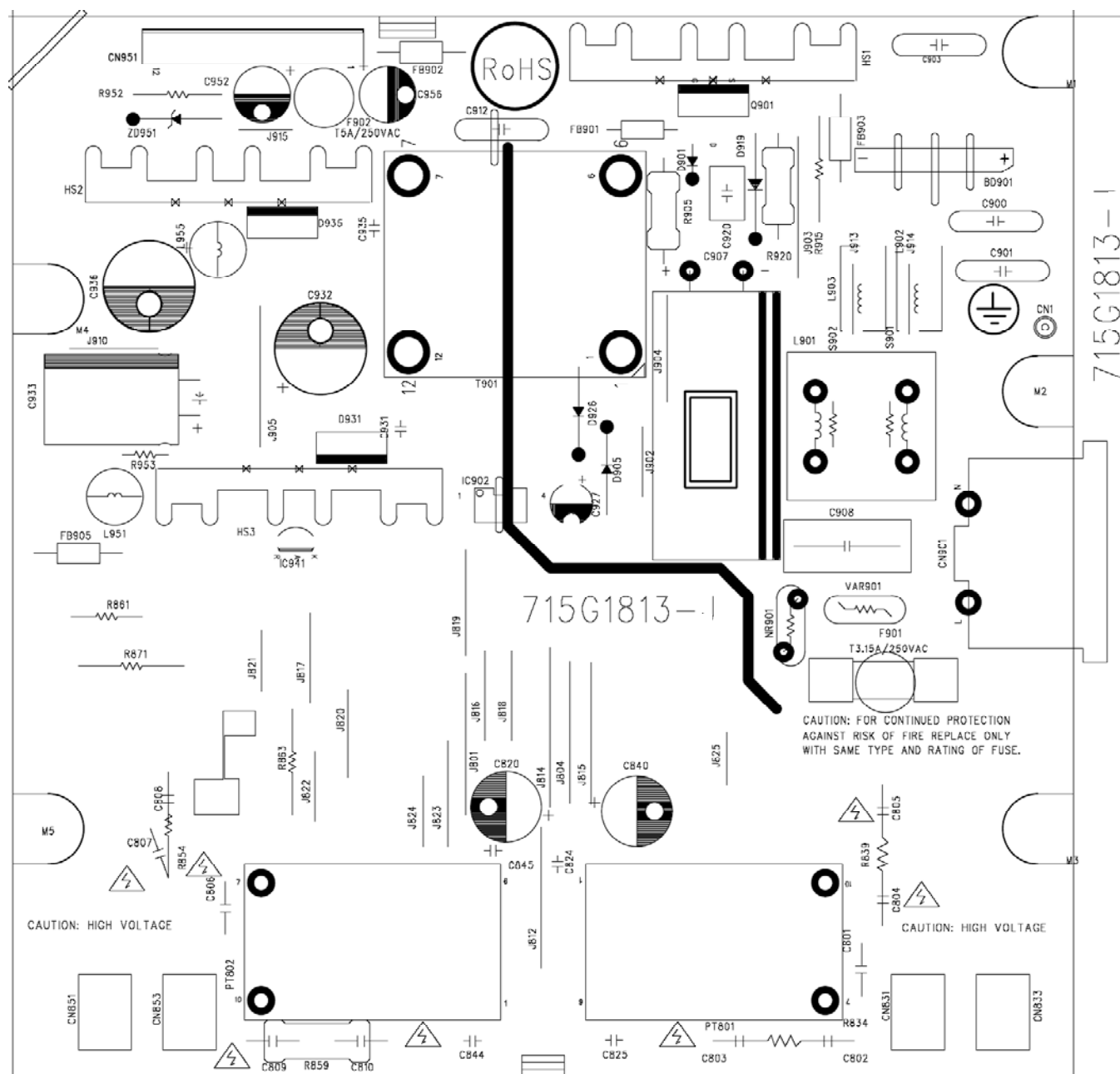


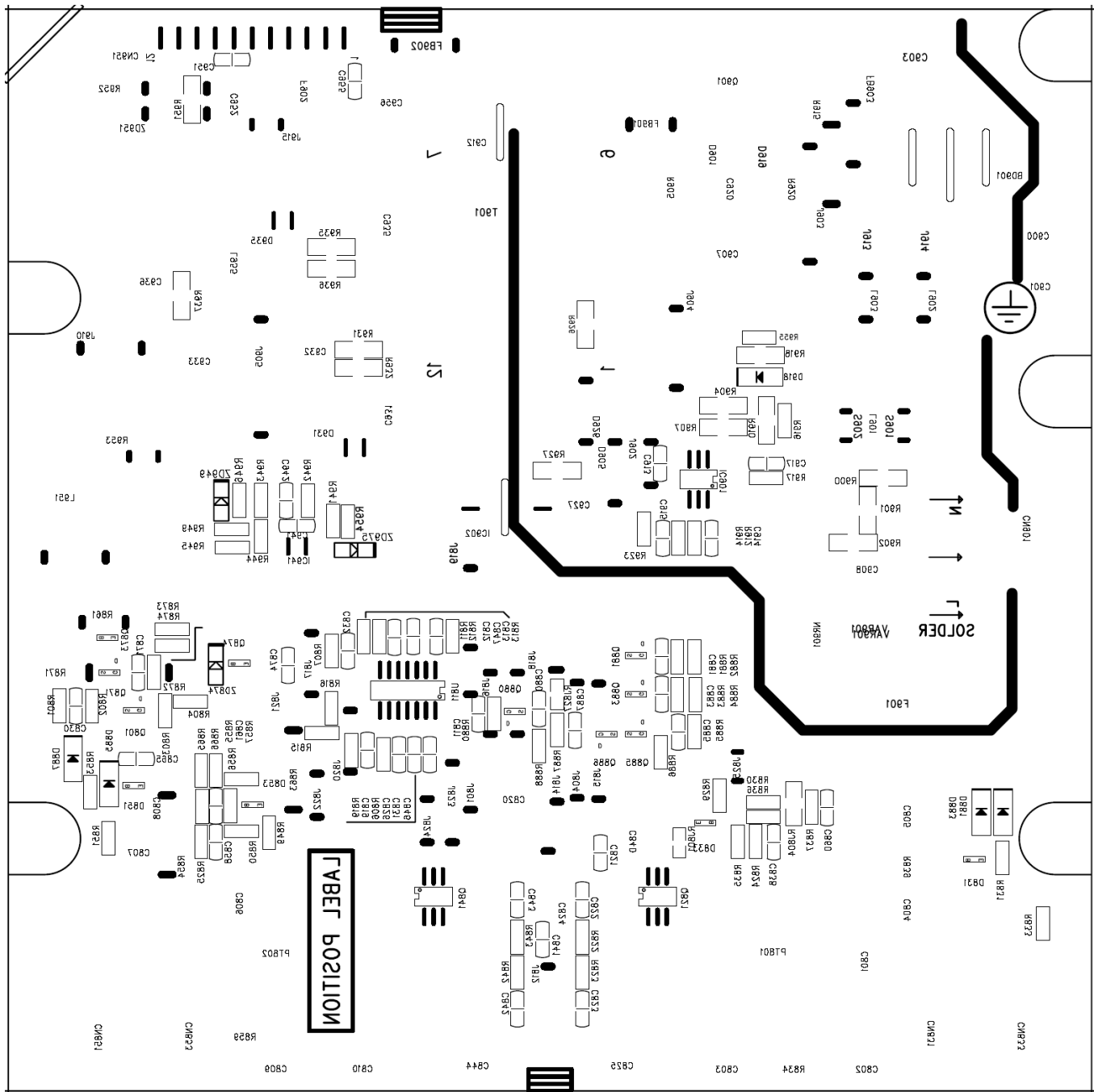


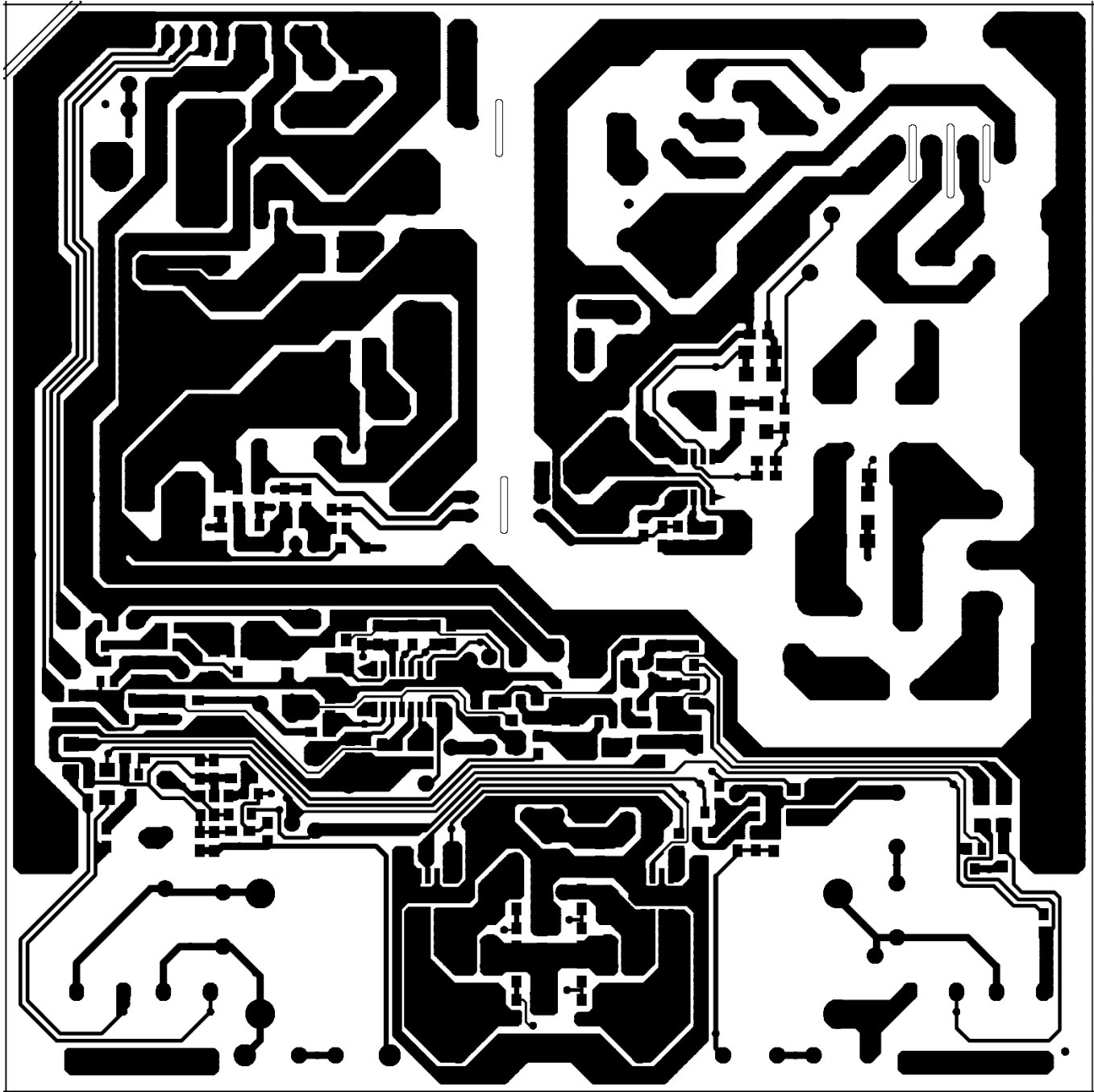


7.2 Pwpc Board

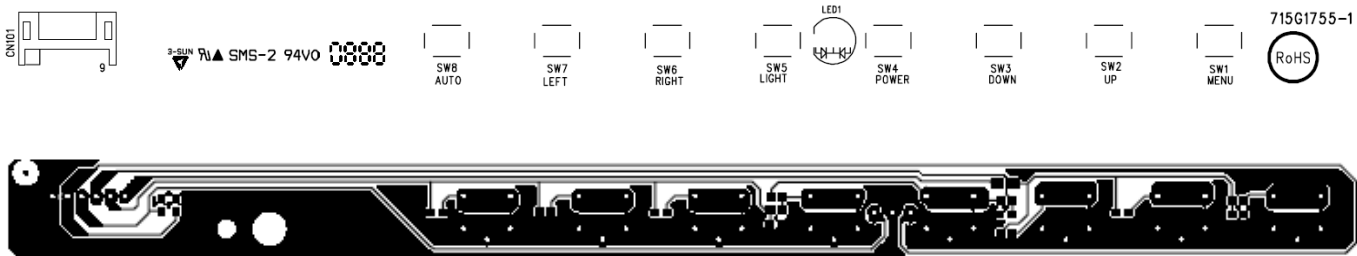
715G1813-1







7.3 Key Board
715G1755-1



8. Mechanical Instructions

1. Back View as Fig.1



Fig.1

2. Remove base as Fig.2- Fig.3

- a. Remove 1 screw for hinge cover as Fig.2
- b. Remove 5 screws for base as Fig.3



Fig.2

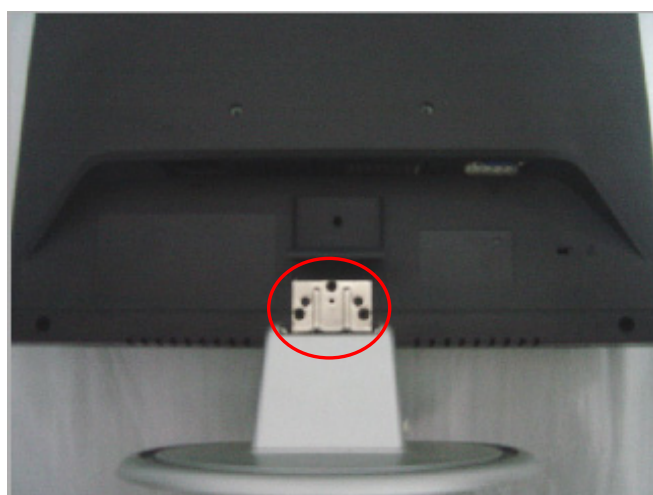


Fig.3

3. Remove rear cover as Fig.4- Fig.6

- a. Remove 2 screws for back cover as Fig.4
- b. Using the "1" type screwdriver to open the 3 clicks on bottom side as Fig.5



Fig.4



Fig.5



Fig.6

4. Remove shield as Fig.7

Remove 6 screws as Fig.7

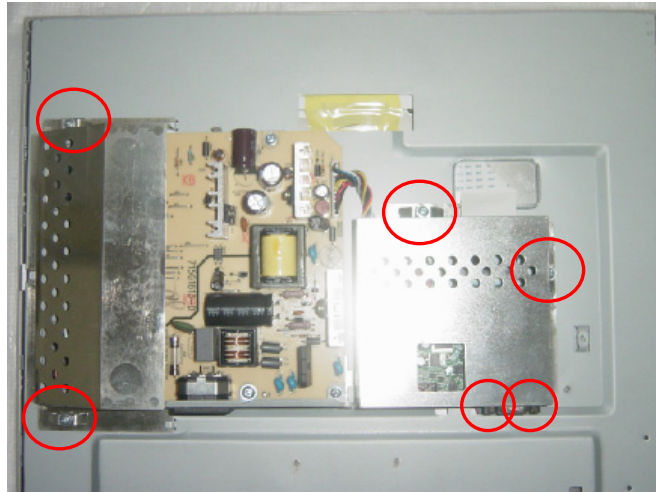


Fig.7

5. Remove main and pwpc board as Fig.8

Remove 13 screws for main and pwpc board as Fig.8

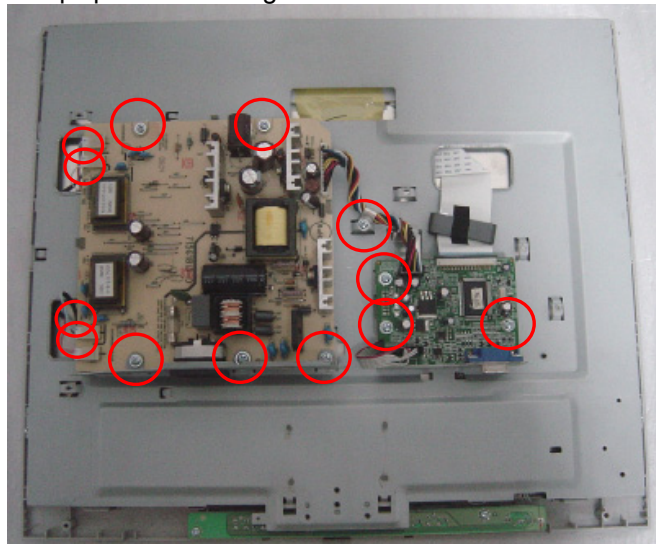


Fig.8

6. Remove the bezel as Fig.9- Fig.11

- a. Remove 2 screws at the right of bezel as Fig.9
- b. Remove 2 screws at the left of bezel as Fig.10
- c. Remove connect wire between main and key board as Fig.11

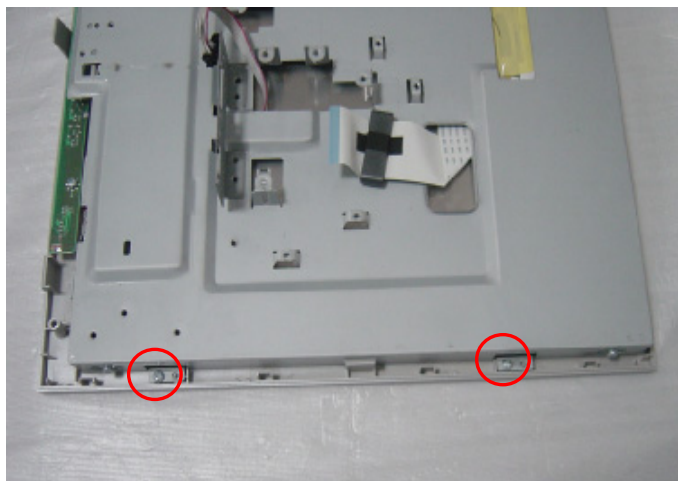


Fig.9

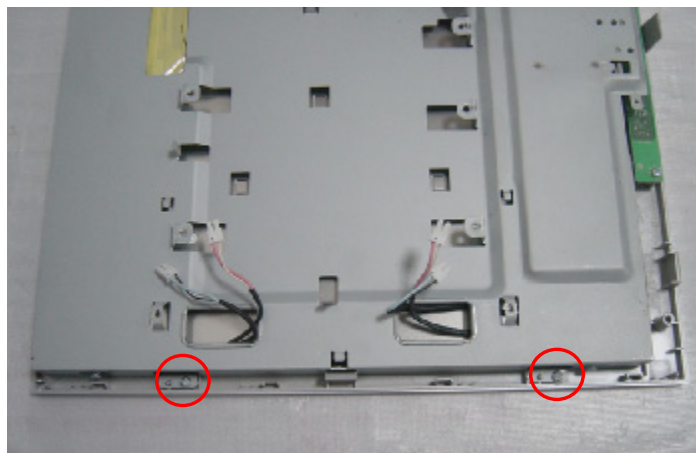


Fig.10



Fig.11

7. Remove the main frame as Fig.12- Fig.14

- a. Remove 2 screws at the right of main frame Fig.12
- b. Remove 2 screws at the left of main frame Fig.13



Fig.12



Fig.13

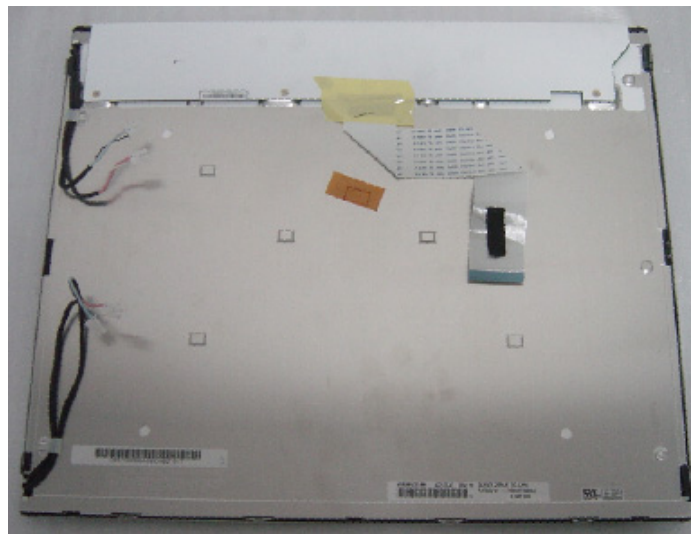
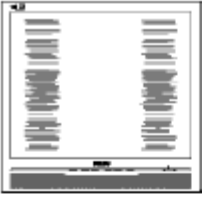


Fig.14

9. Trouble Shooting

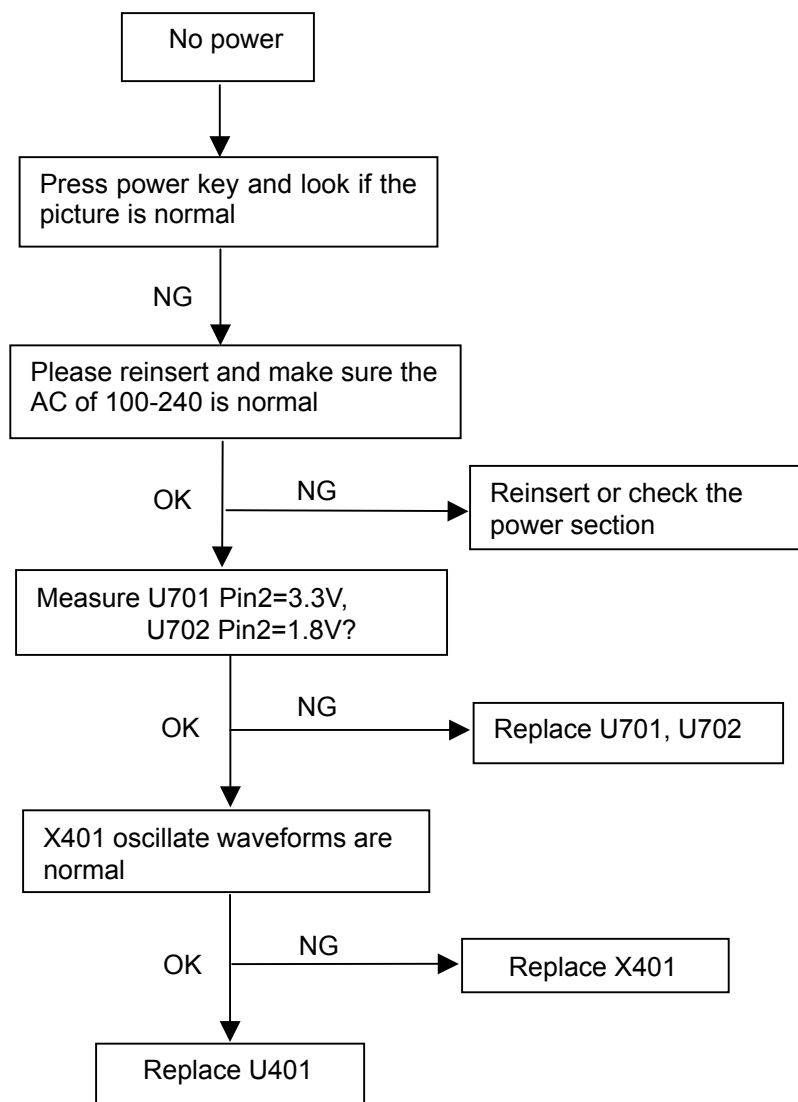
This page deals with problems that can be corrected by a user. If the problem still persists after you have tried these solutions, contact Philips customer service representative.

Common Problems	
Having this problem	Check these items
No Picture (Power LED not lit)	• Make sure the power cord is plugged into the power outlet and into the back of the monitor. • First, ensure that the power button on the front of the monitor is in the OFF position, then press it to the ON position.
No Picture (Power LED is amber or yellow)	• Make sure the computer is turned on. • Make sure the signal cable is properly connected to your computer. • Check to see if the monitor cable has bent pins. • The Energy Saving feature may be activated
Screen says 	• Make sure the monitor cable is properly connected to your computer. (Also refer to the Quick Set-Up Guide). • Check to see if the monitor cable has bent pins. • Make sure the computer is turned on.
AUTO button not working properly	• The Auto Function is designed for use on standard Macintosh or IBM-compatible PCs running Microsoft Windows. • It may not work properly if using nonstandard PC or video card.
Imaging Problems	
Display position is incorrect	• Press the Auto button. • Adjust the image position using the Phase/Clock of More Settings in OSD Main Controls.
Image vibrates on the screen	• Check that the signal cable is properly connected to the graphics board or PC.

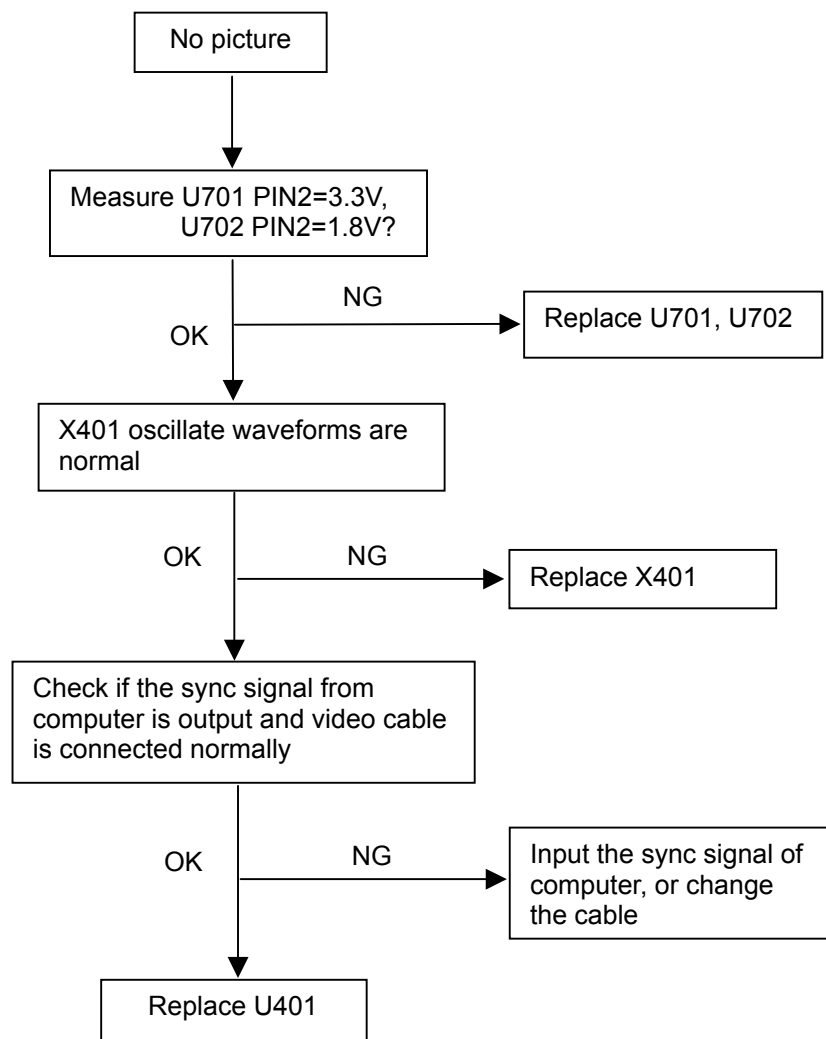
Vertical flicker appears 	• Press the Auto button. • Eliminate the vertical bars using the Phase/Clock of More Settings in OSD Main Controls.
Horizontal flicker appears 	• Press the Auto button. • Eliminate the vertical bars using the Phase/Clock of More Settings in OSD Main Controls.
The screen is too bright or too dark	• Adjust the contrast and brightness on On-Screen Display. (The backlight of the LCD monitor has a fixed life span. When the screen becomes dark or begins to flicker, please contact your sales representative).
An after-image appears	• If an image remains on the screen for an extended period of time, it may be imprinted in the screen and leave an after-image. This usually disappears after a few hours
An after-image remains after the power has been turned off.	• This is characteristic of liquid crystal and is not caused by a malfunction or deterioration of the liquid crystal. The after-image will disappear after a period of time.
Green, red, blue, dark, and white dots remains	• The remaining dots are normal characteristic of the liquid crystal used in today's technology.

10. Repair Flow Chart

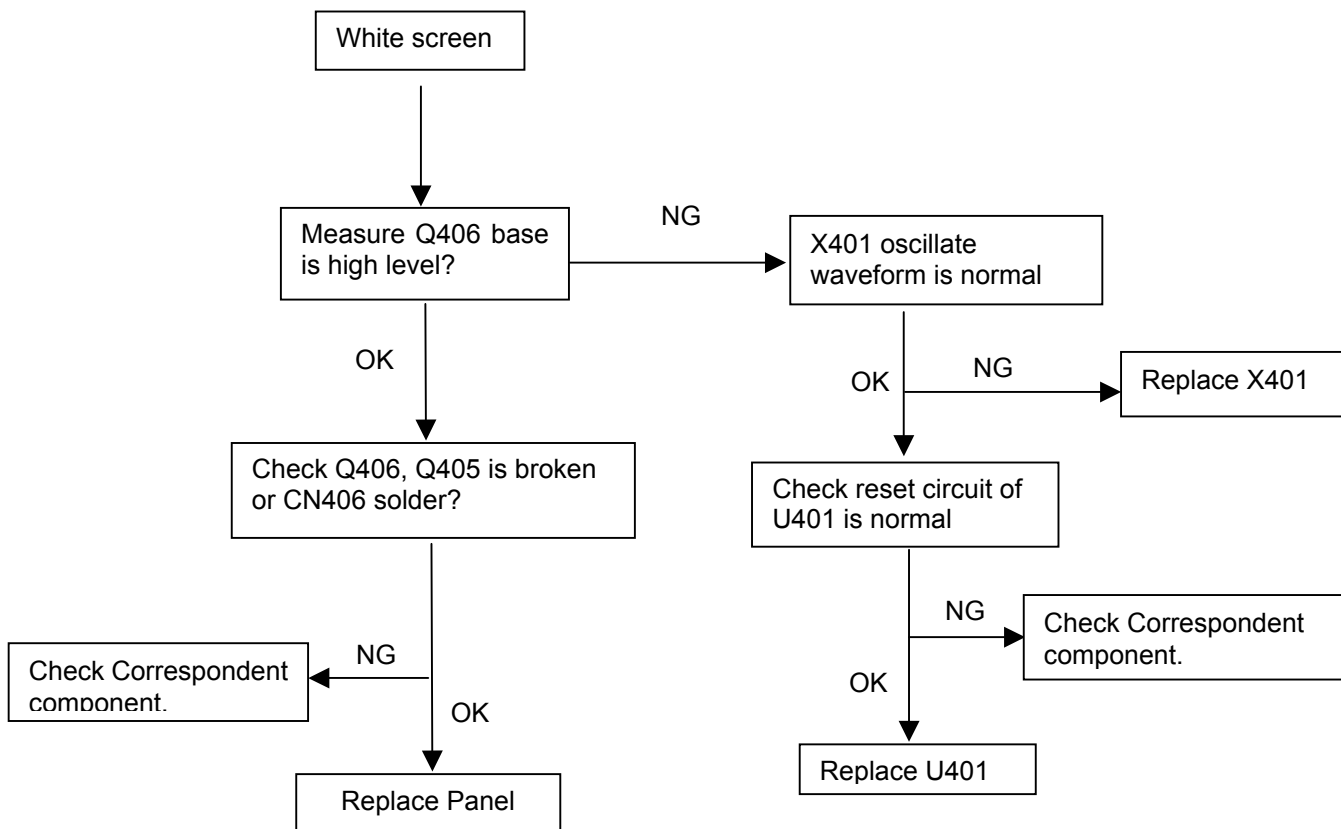
(1). No Power



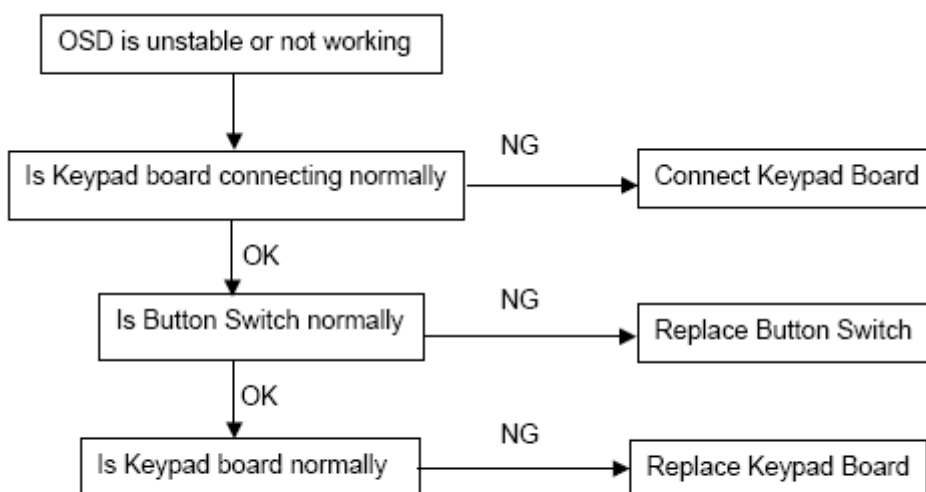
(2). No Picture



(3). White screen



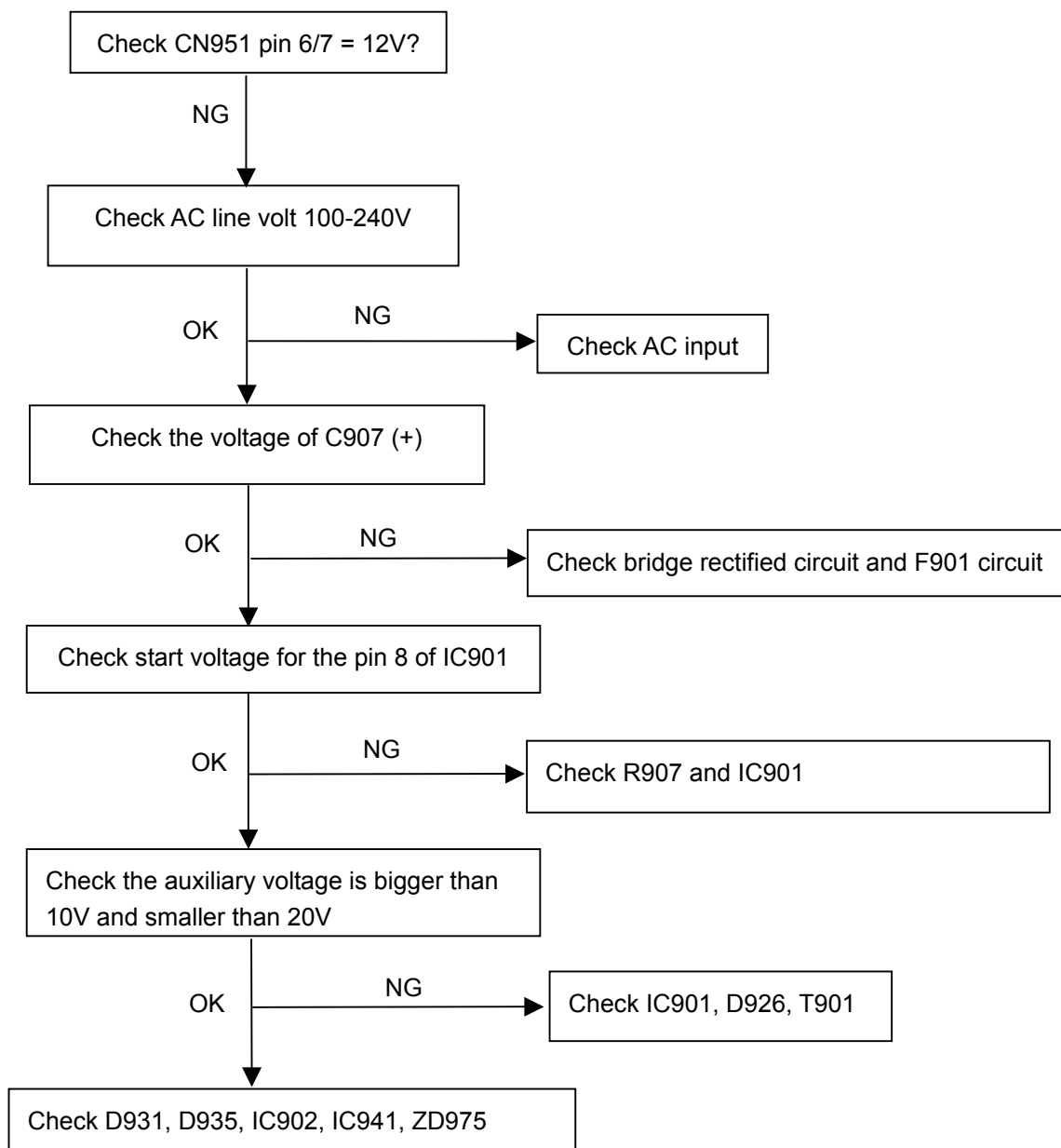
(4). Keypad Board



9.2.2 Power/Inverter Board

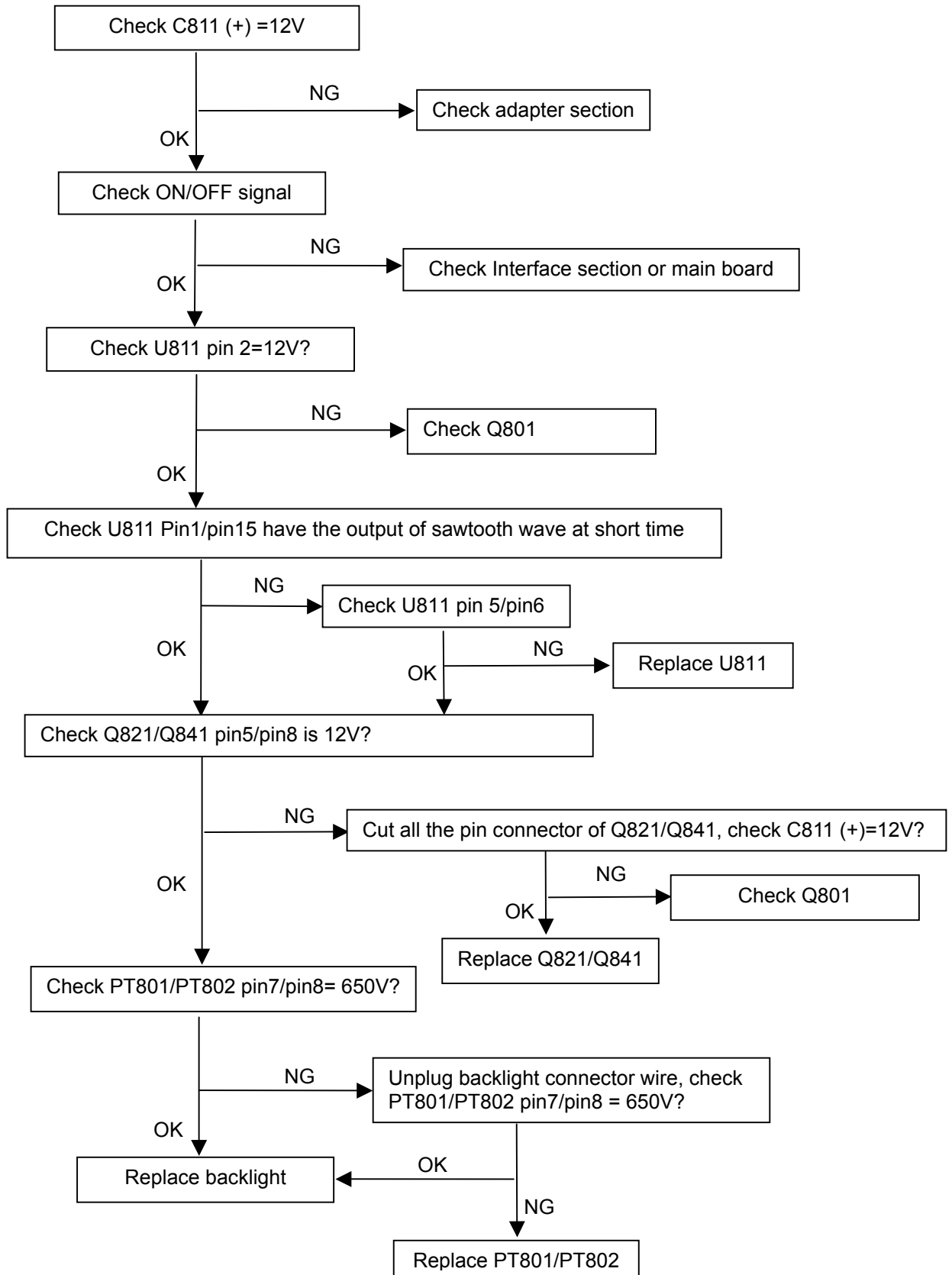
No power

Adapter Board

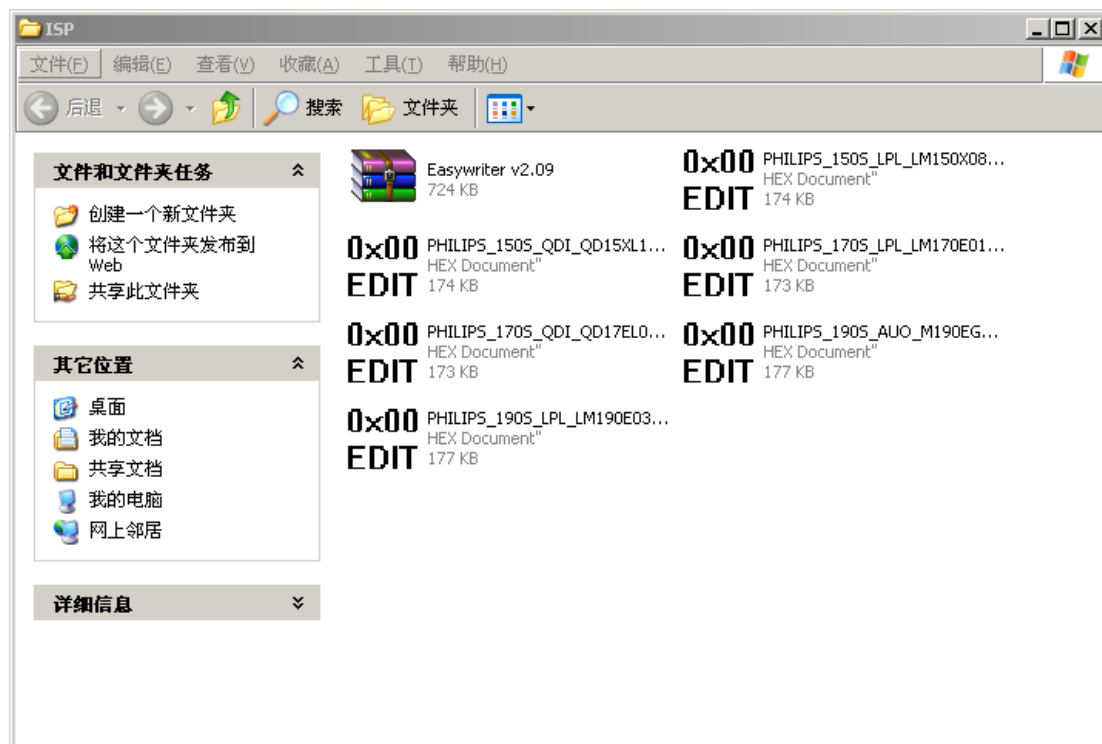


Inverter board

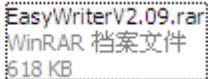
No power

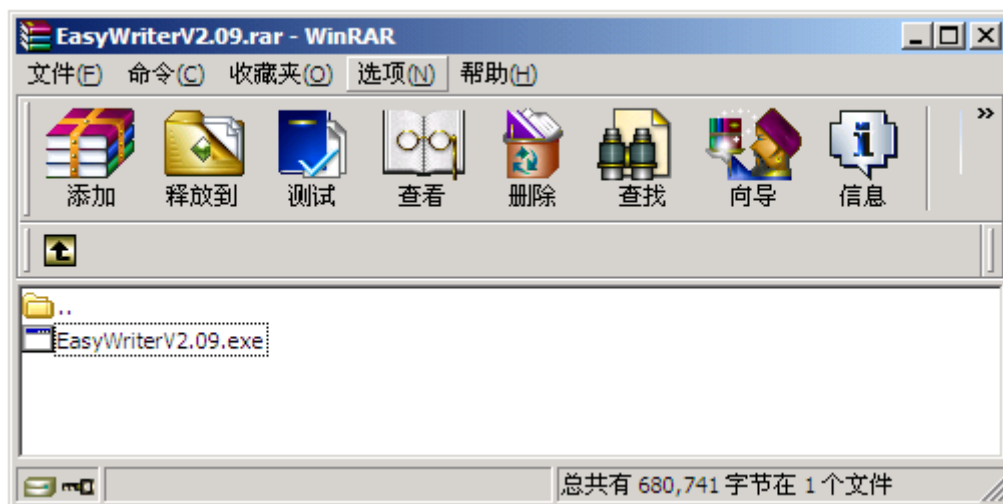


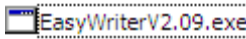
11. ISP Instruction

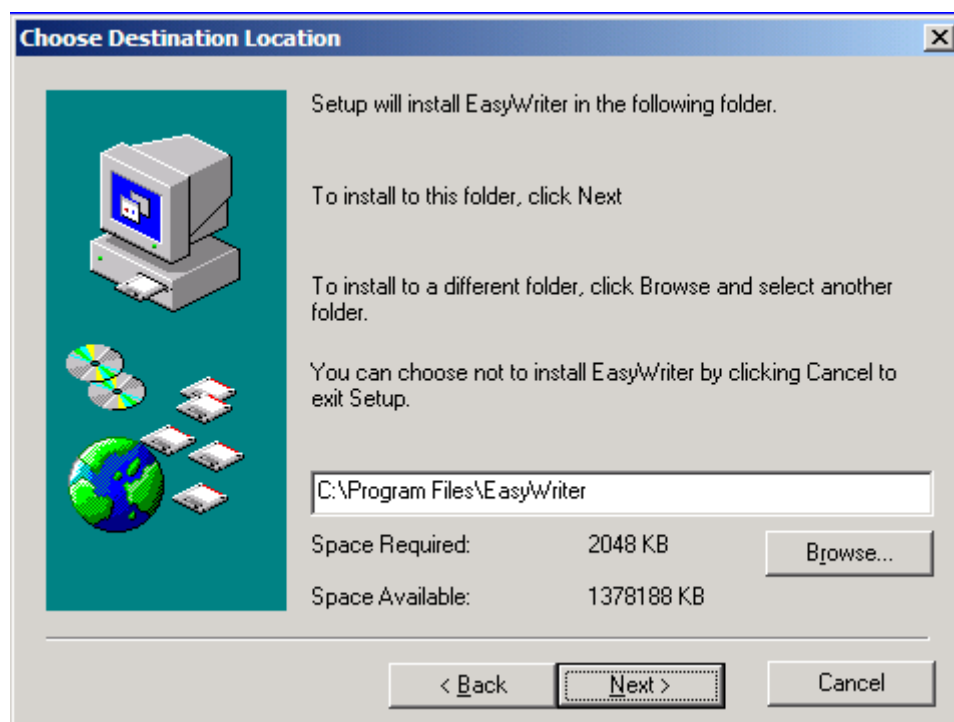
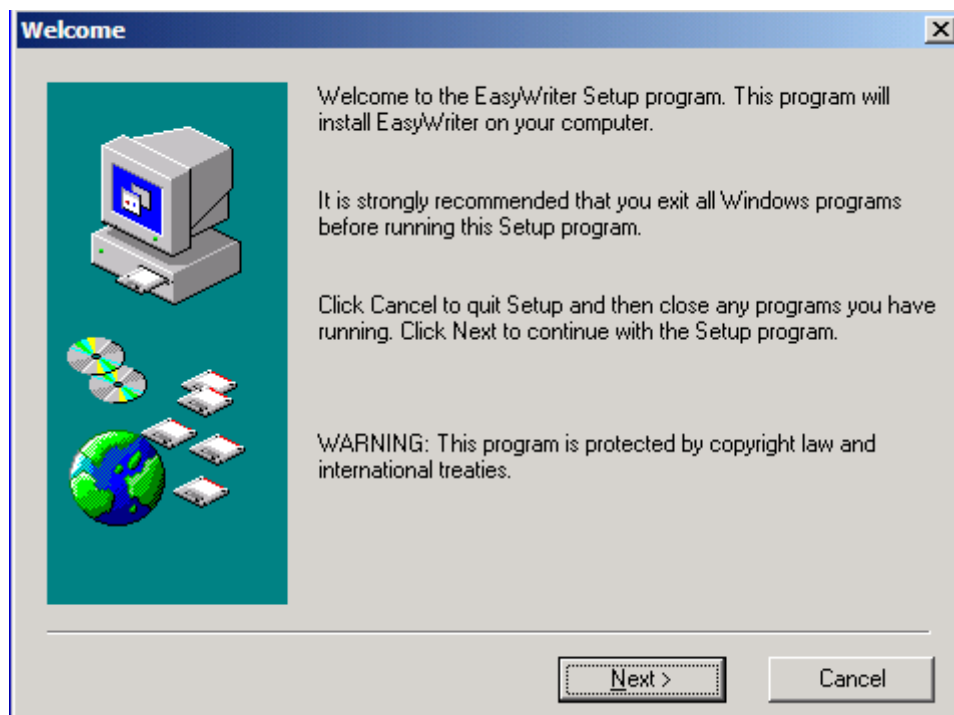


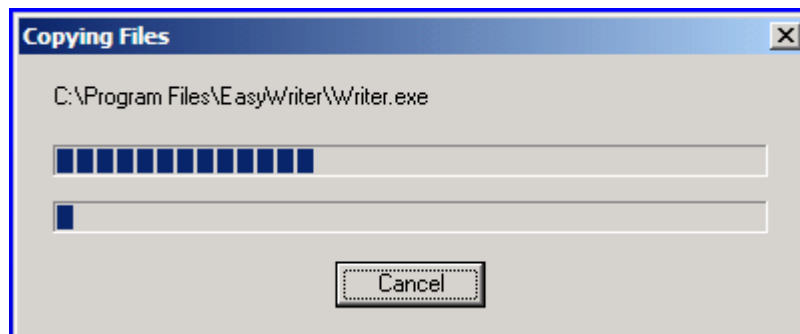
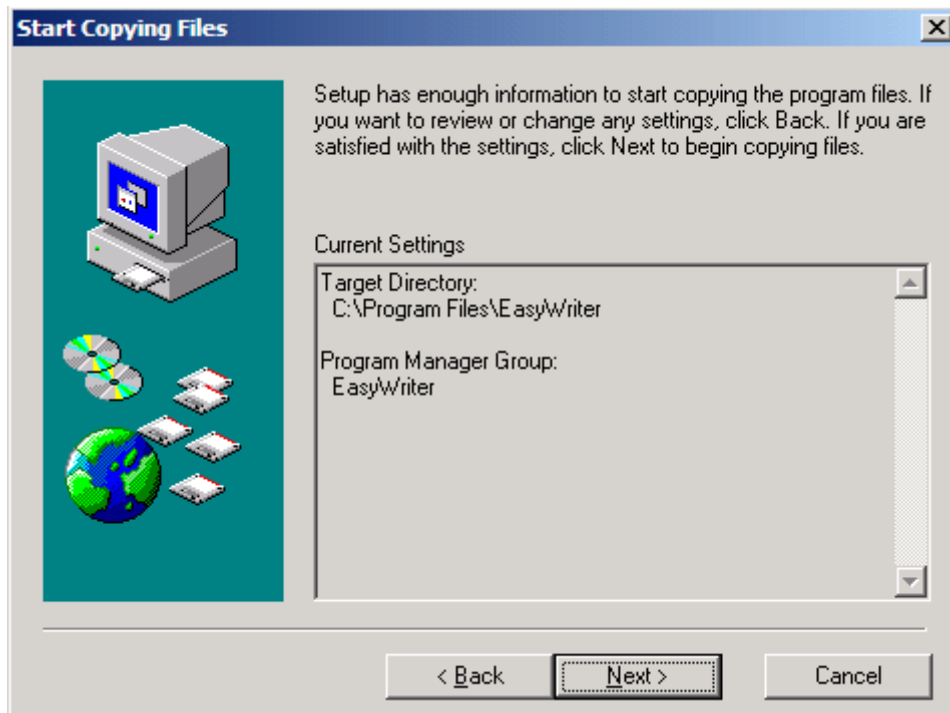
(1). Install the program software

- a. First decompressing files   , as follow:



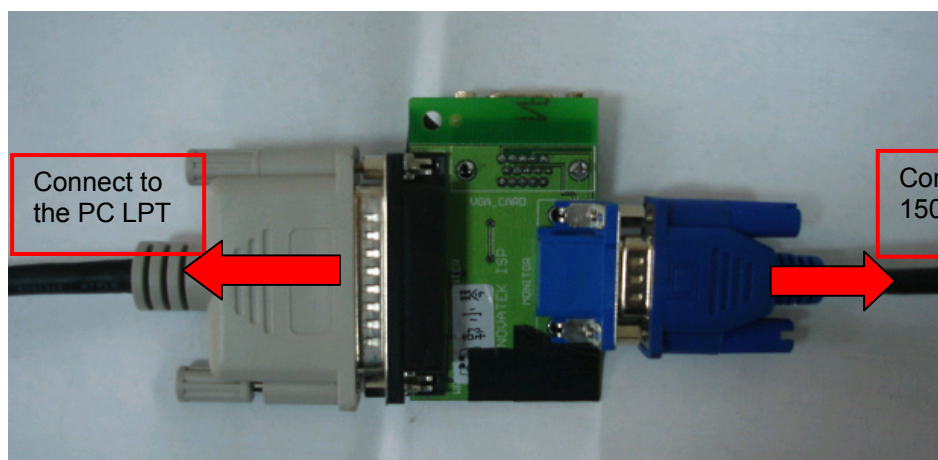
- b. Double – click  , start to install as follows:



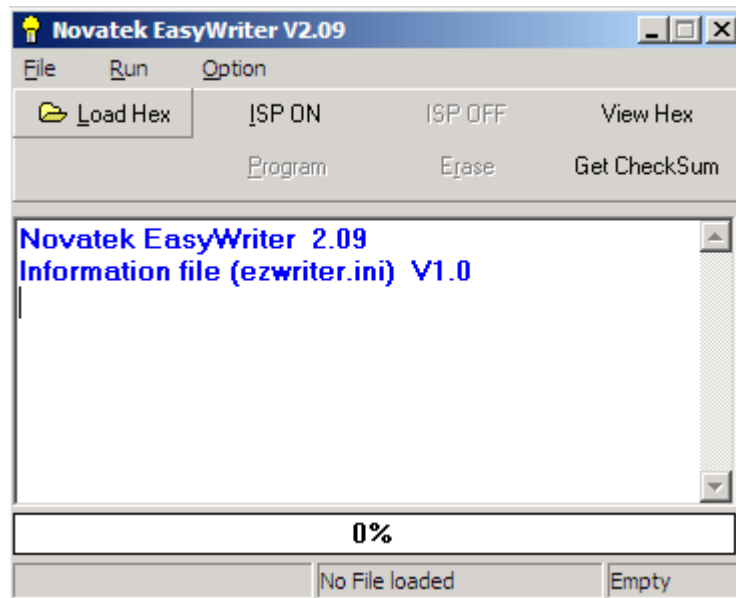


c. There will be a shortcut key  appears on the desktop.

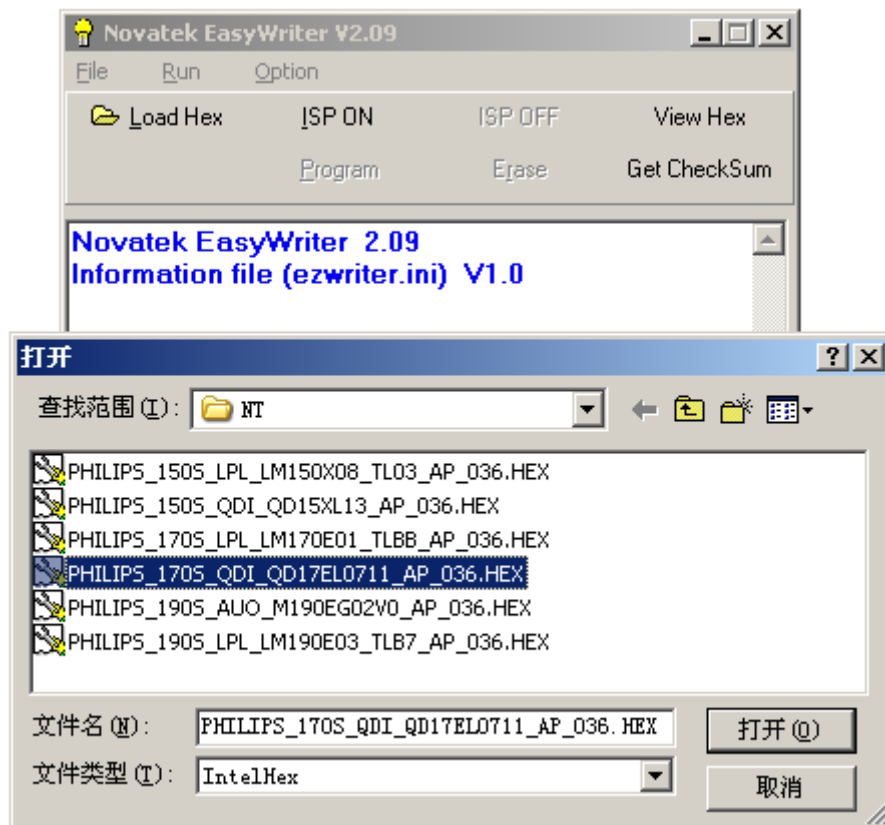
(2). Connect the ISP board as follow:



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

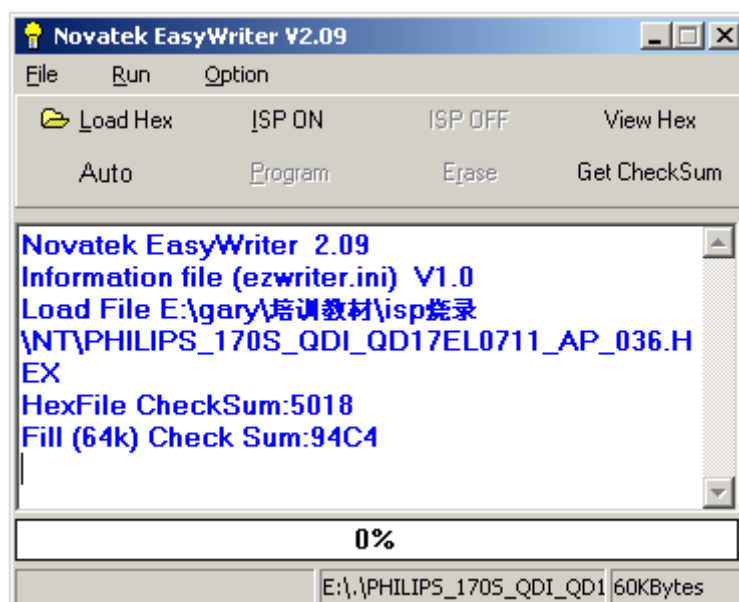
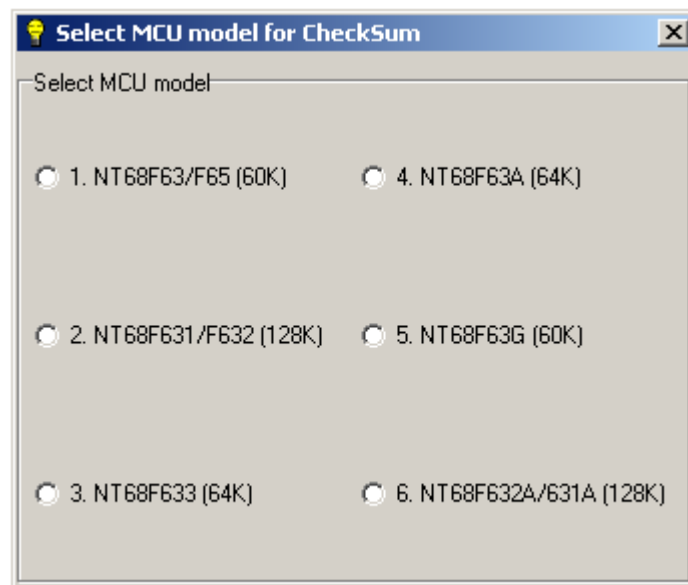


- b. Click  **Load Hex** icon, search the program" PHILIPS_170S_QDI_QD17EL0711_AP_036.HEX", and click **open**:

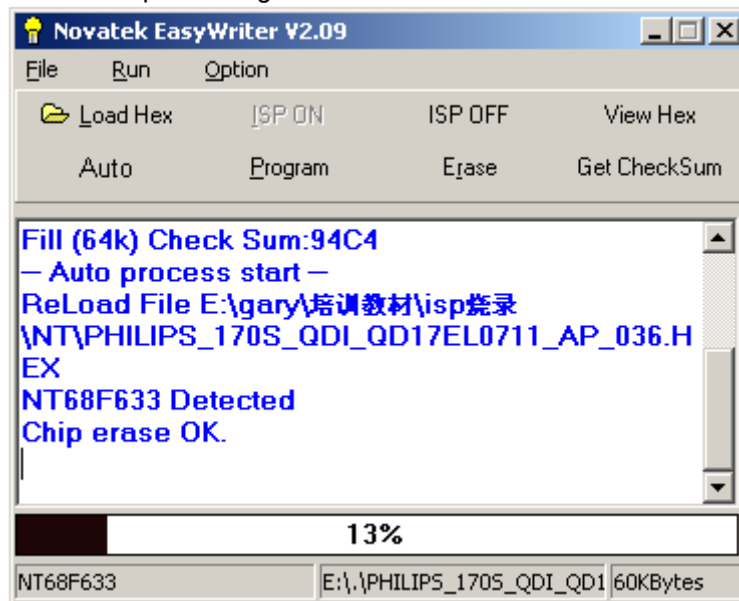


Note: If it is 170s model, you can select the  **PHILIPS_170S_QDI_QD17EL0711_AP_036.HEX** (for QDI panel) or  **PHILIPS_170S_LPL_LM170E01_TLBB_AP_036.HEX** (for LPL panel)

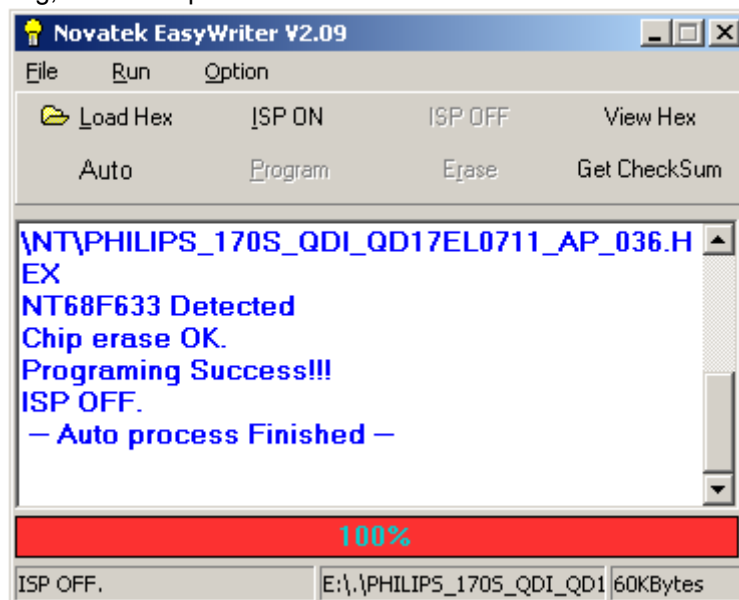
c. After click "OPEN", there would be a dialog box, select ☒ 3. NT68F633 (64K).



d. Click **Auto** icon, the writer is in processing...



e. Until appears the follow Fig, writer completed.



12. DDC Instruction



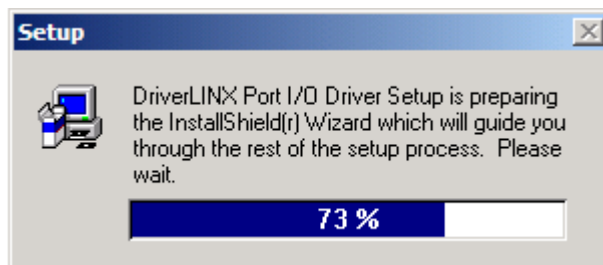
(1). Install software

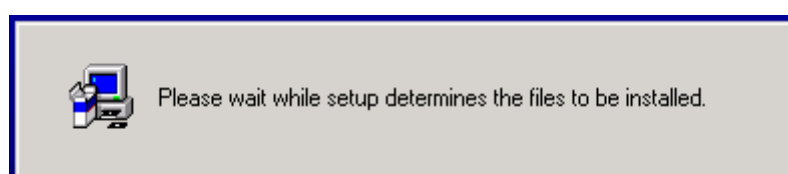
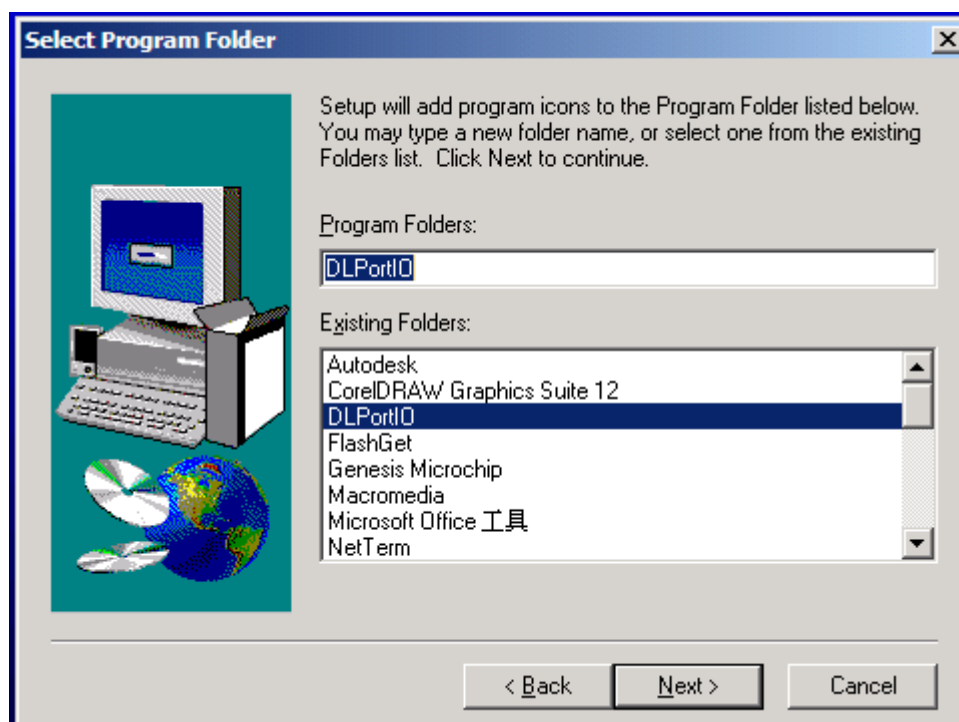
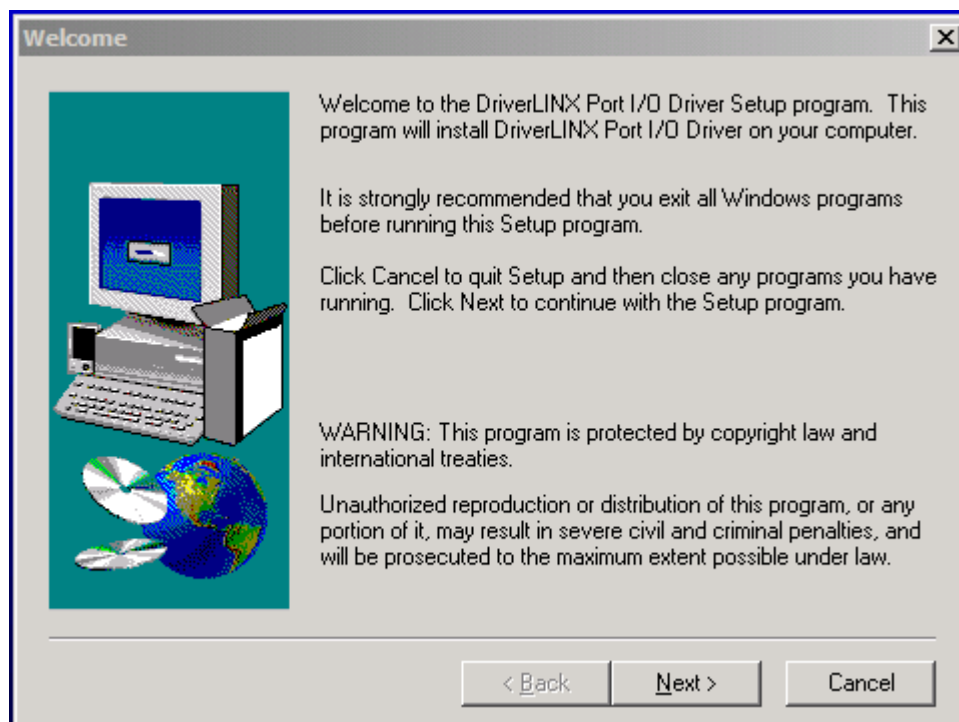
You must install the



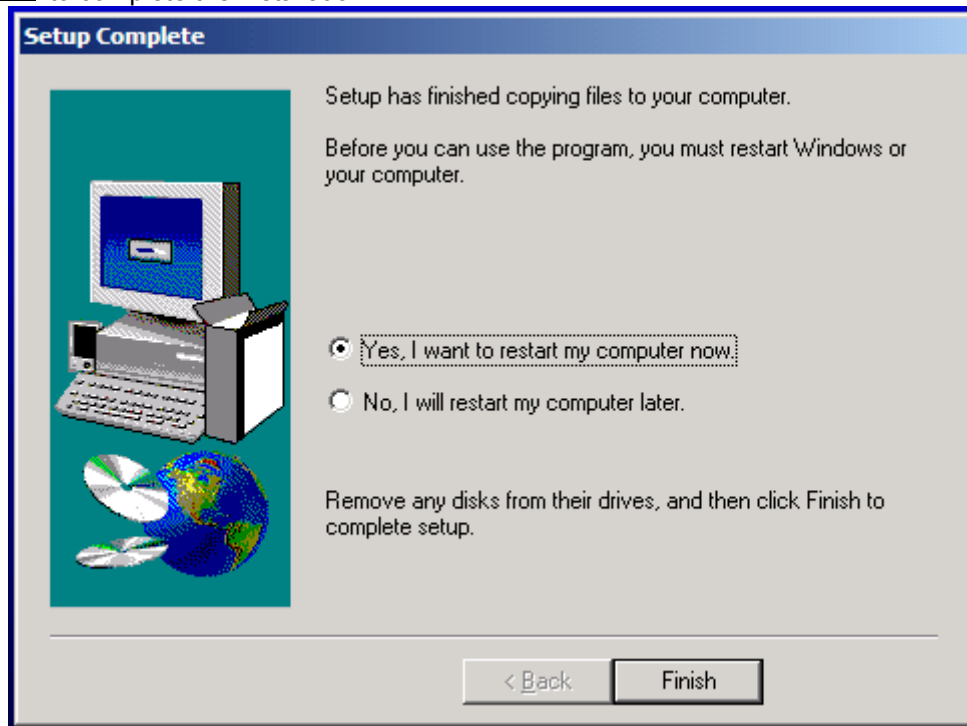
PORT95NT.EXE
PackageForTheWeb Stub
InstallShield Software Corpora...

at the first. The processing as follows:



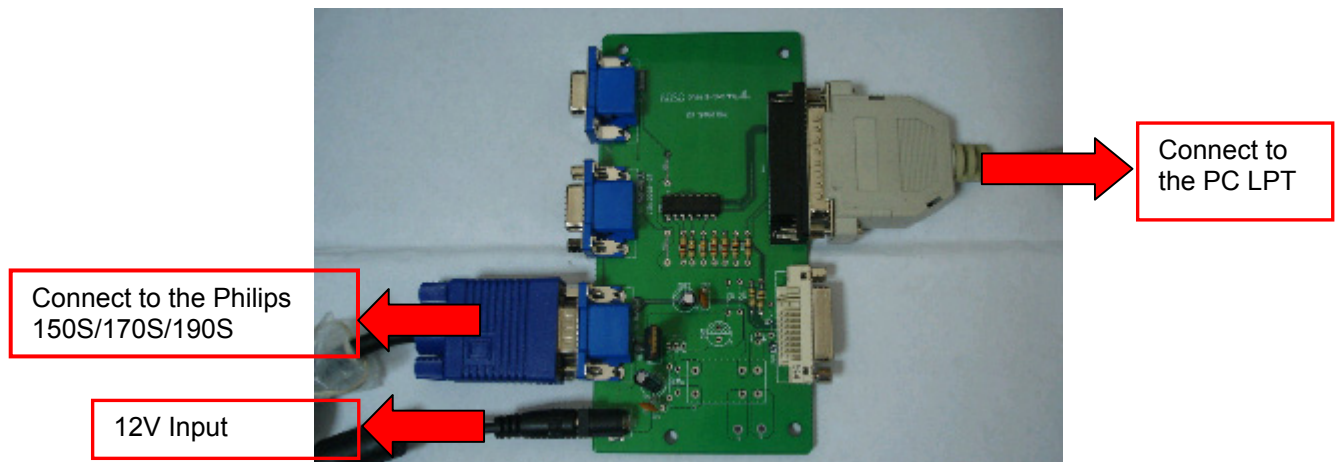


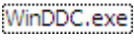
Click  to complete the installation.

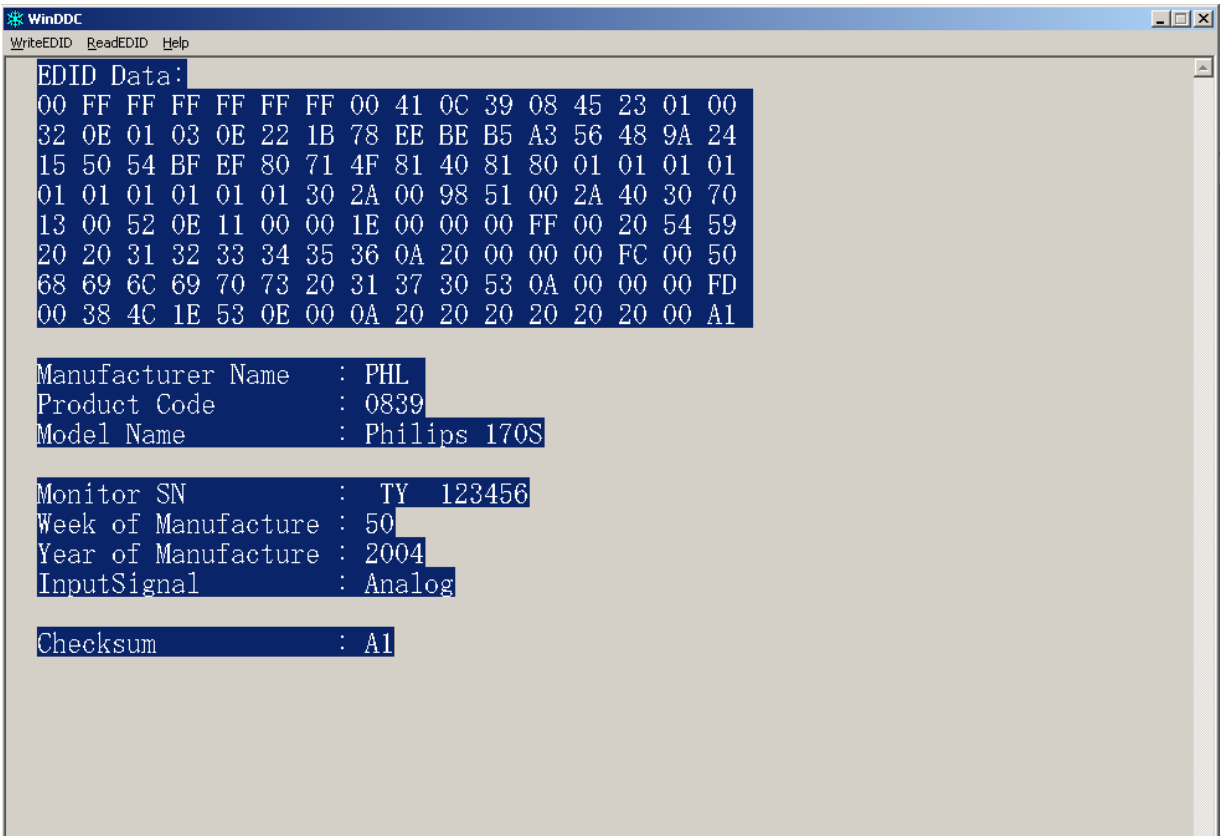


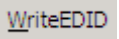
Note: After installation, you must restart the PC to take the setup effect.

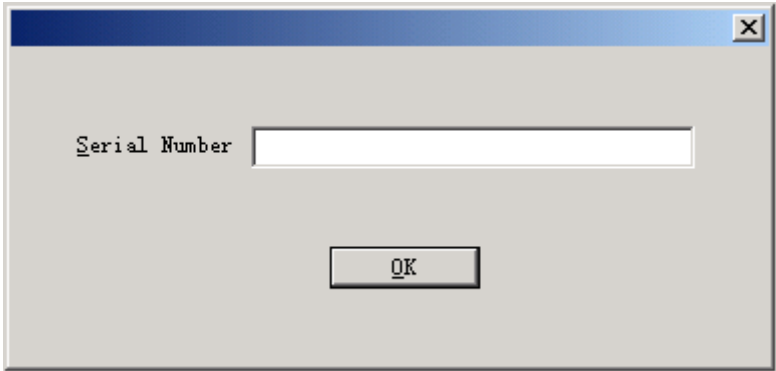
(2). Connect the DDC board as follow:



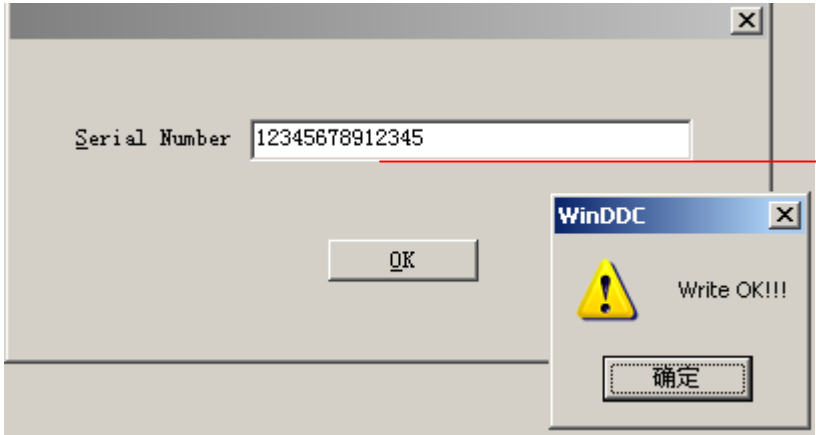
a. Double-click , appear as follow Figs:



b. Click 

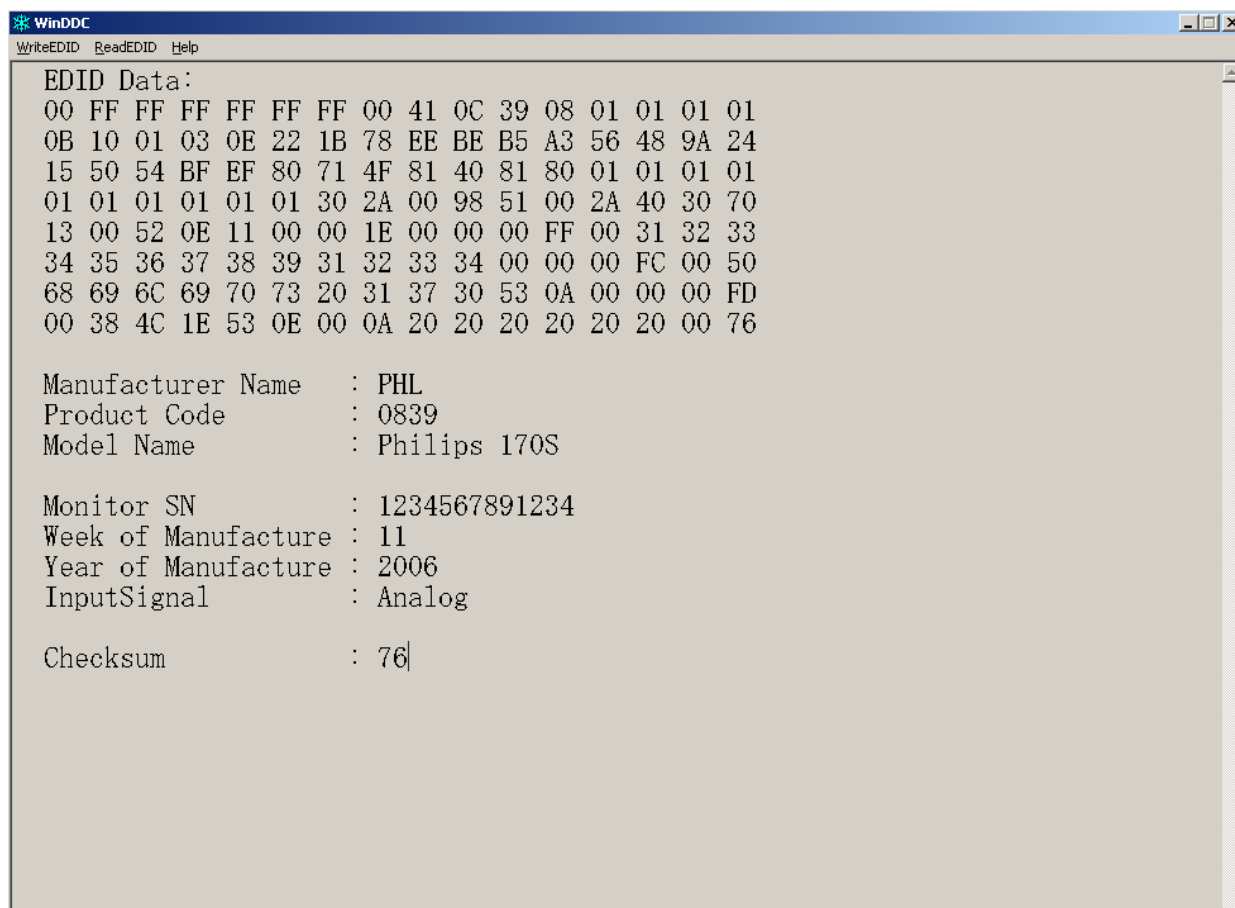


c. Key in the Serial Number printed on the barcode label, then click “OK”



14 codes,
for example.

d. Unit appears the following Fig, writer completed.



170S EDID Program

128 bytes EDID Data (Hex):

00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15

0: 00 FF FF FF FF FF FF 00 41 0C 39 08 01 01 01 01
16: 0A 10 01 03 0E 22 1B 78 EE BE B5 A3 56 48 9A 24
32: 15 50 54 BF EF 80 71 4F 81 40 81 80 01 01 01 01
48: 01 01 01 01 01 01 30 2A 00 98 51 00 2A 40 30 70
64: 13 00 52 0E 11 00 00 1E 00 00 00 FF 00 20 41 55
80: 20 20 30 30 30 30 31 0A 20 00 00 00 FC 00 50
96: 68 69 6C 69 70 73 20 31 37 30 53 0A 00 00 00 FD
112: 00 38 4C 1E 53 0E 00 0A 20 20 20 20 20 00 DD

Decoded EDID data

<---Header--->

Header: 00 FF FF FF FF FF FF 00

<-x-Header-x->

<---Vendor/Product Identification--->

ID Manufacturer Name: PHL
ID Product Code: 0839
ID Serial Number: 01010101
Week of Manufacture: 10
Year of Manufacture: 2006

<-x-Vendor/Product Identification-x->

<---EDID Structure Version/Revision--->

EDID Version#: 01
EDID Revision#: 03

<-x-EDID Structure Version/Revision-x->

<---Basic Display Parameters/Features--->

Video i/p definition: Analog
Signal Level Standard: 0.700V/0.300V(1.000Vpp)
Setup: Blank-to-Black not expected
Separate Sync Support: Yes
Composite Sync Support: Yes
Sync. on green video supported: Yes
Serration of the Vsync.Pulse is not required.
Max. H. Image Size : 34cm.
Max. V. Image Size : 27cm.
Display Gamma: 2.2
DPMS Features, Stand-by: Yes.
DPMS Features, Suspend: Yes.
DPMS Features, Active off: Yes.
Display Type: R.G.B color display.
Standard Default Color Space: Primary color space.
Preferred Timing Mode: In First Detailed Timing.
GTF supported: No.

<---Basic Display Parameters/Features--->

<---Color Characteristics--->

Red x: 0.6386718750
Red y: 0.3388671875
Green x: 0.2861328125
Green y: 0.6035156250
Blue x: 0.1425781250
Blue y: 0.0849609375
White x: 0.3125000000
White y: 0.3300781250

<-x-Color Characteristics-x->

<---Established Timings--->

Established Timings 1: BF

- 720x400 @70Hz VGA,IBM
- 640x480 @60Hz VGA,IBM
- 640x480 @67Hz Apple,Mac II
- 640x480 @72Hz VESA
- 640x480 @75Hz VESA
- 800x600 @56Hz VESA
- 800x600 @60Hz VESA

Established Timings 2: EF

- 800x600 @72Hz VESA
- 800x600 @75Hz VESA
- 832x624 @75Hz Apple,Mac II
- 1024x768 @60Hz VESA
- 1024x768 @70Hz VESA
- 1024x768 @75Hz VESA
- 1280x1024 @75Hz VESA

Established Timings 3: 80

- 1152x870 @75Hz Apple,Mac II

<-x-Established Timings-x->

<---Standard Timing Identification--->

- 1152x864 @75
- 1280x960 @60
- 1280x1024 @60

<-x-Standard Timing Identification-x->

<---Detailed Timing Descriptions--->

Detailed Timing: 1280x1024 @ 60Hz.

<-x-Detailed Timing Descriptions-x->

<---Detailed Timing Descriptions--->

Detailed Timing: FF (Monitor SN) 'AU 000001'

Detailed Timing: FC (Monitor Name) 'Philips 170S'

Detailed Timing: FD (Monitor limits)

Min. V. rate: 56Hz

Max. V. rate: 76Hz

Min. H. rate: 30KHz

Max. H. rate: 83KHz

Max. Pixel Clock: 140MHz

<-x-Detailed Timing Descriptions-x->

Extension Flag: 00

Checksum: DD

13. White Balance, Luminance Adjustment

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

1. Required instruments: Chroma 7120、Chroma 2325 (BGA265A)。
2. First connect the instruments together and turn on the LCD power.
3. Set Chroma 2325 (BGA265A) to be T144 (1280*1024/60HZ) and P105 of full white screen.
4. **Enter into the factory mode:**
Firstly, turn off the power, press the AUTO and OK at one time, and then turn the power on (AUTO and OK are still pressed, about 10s), release, press the menu again will activate the factory mode, the factory OSD will be at the left top of the screen.

Move the cursor to select the Hyson 170S7*****, press OK button to enter into the sub-menu; Move the cursor again to select " Cool/warm ".
5. Set Chroma-7120 CH3 as 9300 color temperature by ID key, press SC and Next key set 9300: $x=283\pm20$, $y=297\pm20$, $Y>230$.

Set Chroma-7120 CH4 as 6500 color temperature by ID key, press SC and Next key set 6500: $x=313\pm20$, $y=329\pm20$, $Y>200$.
6. Adjust 9300 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). Adjust the **R** of Cool item on factory window until chroma 7120 indicator reached the value $R=100\pm5$
 - 4). Adjust the **G** of Cool item on factory window until chroma 7120 indicator reached the value $G=100\pm5$
 - 5). Adjust the **B** of Cool item on factory window until chroma 7120 indicator reached the value $B=100\pm5$
 - 6). Switch the Chroma-7120 to x, y, Y Mode (with press "MODE" button), check whether the color-temperature value is within Spec (the Spec is 9300: $x=283\pm20$, $y=297\pm20$, $Y>230$). If not in the SPEC, repeat step 3,4,5.
7. Adjust 6500/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). Adjust the **R** of Warm item on factory window until chroma 7120 indicator reached the value $R=100\pm5$
 - 4). Adjust the **G** of Warm item on factory window until chroma 7120 indicator reached the value $G=100\pm5$
 - 5). Adjust the **B** of Warm item on factory window until chroma 7120 indicator reached the value $B=100\pm5$
 - 6). Switch the Chroma-7120 to x, y, Y Mode, check whether the color-temperature value is within Spec.

the Spec is 6500: $x=313\pm20$, $y=329\pm20$, $Y>200$. If not in the SPEC, repeat step 3,4,5.

Turn the Power-button off to quit and save the factory mode.

14. Spare Parts List

Different Spare Parts between LPL panel and QDI panel

Location	Part No. for TPV	Description	Located in
	CBPC780KGMPHP (LPL)	CONVERSION BOARD	
	CBPC780KQMPHP (QDI)	CONVERSION BOARD	
	AIC780KGMPHP (LPL)	MAIN BOARD	
	AIC780KQMPHP (QDI)	MAIN BOARD	
	750GLG70E1B 11 (LPL)	LPL 17" TLBB PANEL	
	750GLQ70L07 61 (QDI)	QDI 17" V11 PANEL	
C714	065G040210131T	0402 MLCC 100PF J 50V	Only for LPL panel model, Located in Main board)
C713	065G040210131T	0402 MLCC 100PF J 50V	
C455	065G040210131T	0402 MLCC 100PF J 50V	
C454	065G040210131T	0402 MLCC 100PF J 50V	
C441	065G040210131T	0402 MLCC 100PF J 50V	
C440	065G040210131T	0402 MLCC 100PF J 50V	
C439	065G040210131T	0402 MLCC 100PF J 50V	
C438	065G040210131T	0402 MLCC 100PF J 50V	
C437	065G040210131T	0402 MLCC 100PF J 50V	
C433	065G040210131T	0402 MLCC 100PF J 50V	
C434	065G040210131T	0402 MLCC 100PF J 50V	
FB411	071G 56K121	CHIP BEAD (LPL)	

PCB

Part No. for TPV	Description
CBPC780KGMPHP (LPL)	CONVERSION BOARD
CBPC780KQMPHP (QDI)	CONVERSION BOARD
PWPC1742QDR1P (LPL and QDI)	POWER BOARD
KEPC780KE7P (LPL and QDI)	KEY BOARD

Panel

Part No. for TPV	Description
750GLG70E1B 11 (LPL)	LPL 17" TLBB PANEL
750GLQ70L07 61 (QDI)	QDI 17" V11 PANEL

Mechanical and Accessory

007G 5 7100	COMPOUND PALLET
007G 5 7101	COMPOUND PALLET
040G 58162435A	LABEL
044G600278612A	PAPER BOARD
044G6002834 6A GP	PAPER BOARD
044G9003109	CORNER PAPER
044G9003210	CORNER PAPER
050G 600 2	HANDLE1
050G 600 3	HANDLE2
052G 1185	MIDDLE TAPE FOR CARTON
052G 1186	SMALL TAPE
052G 1211 A	165MINIUM TAPE

089G179E30C 4	FFC CABLE P-TWO
095G8014 16659 Q	WIRE HARNESS
095G8014 16659 X	WIRE HARNESS
0D1G3440 8120	SCREW
0G1G1130 6106	SCREW
0M1G 130 8 47	SCREW FLAT M3-0.5X10
0M1G 130 10 47	SCREW PHM4-0.7X8 TPS
0M1G1730 6106	SCREW TAPPING M3X0.5X6+SW
0Q1G 330 5106	SCREW
0Q1G 330 9106	SCREW
0Q1G 335 9 47	SCREW
P15G8299 1	BKT-VESA
P15G8315 1	MAIN FRAME
P15G8316 1	POWER BRACKET
P33G4972 VB 1L	COVER_HINGE
P33G4989 VPA1C	CONTROL BUTTON
P34G1846 VOA1T	BEZEL
P34G1850 VB 1T	REAR COVER
P37G 559 1 VO	HINGE
P44G3790 1	EPS
P44G3790 2	EPS
P44G3790813 1A	CARTON
P45G 88609 36	PE BAG FOR MONITOR
P85G 741 1	SCALER SHIELDING
P85G 742 1	POWER SHIELDING
Q40G 17N813 1A	RATING LABEL
Q40G 581813 8A	EPA LABEL
Q40G 582813 2A	FAMILY SHEET
Q41G780081312A	170S7 QSG
Q44GSLIP00126A	PAPER SLIPSHEET
Q44GSLIP00127A	PAPER SLIPSHEET
Q45G 76 28A04	PHILIPS PE BAG
Q52G6025 13 3	MYLAR
Q70G1700813 1A	CD MANUAL
040G 45762412B	CBPC LABEL
051G 6 4500	RTV
705G 078057001	Q920 ASS'Y
705G 078093010	D931 ASS'Y
705G 078093011	D935 ASS'Y
040G 457624 1B	LABEL-CPU
090G6064 1	HEAT SINK
0M1G1730 8128	SCREW M3x8

Main Board (LPL)

Location	Part No. for TPV	Description
	CBPC780KGMPHP	CONVERSION BOARD
CN406	033G801930F H	FPC CONN. 1.0MM 30P
CN701	033G8027 12	WAFER 2*6P 2.0MM R/A
CN403	033G8027 16	WAFER 16PIN 2.0mm DIP
C712	067G215L101 4N	KY25VB100M-L 6.3*11
C711	067G215L101 4N	KY25VB100M-L 6.3*11
C710	067G215L101 4N	KY25VB100M-L 6.3*11
C709	067G215L101 4N	KY25VB100M-L 6.3*11
C432	067G215Y479 7N	LOW ESR EC 4.7 UF 50V NCC
C426	067G305V221 3	220UF/16V
CN405	088G 35315F H	D-SUB 15PIN
X401	093G 22 51	CRYSTAL 12MHz HC-49US ARG6-120
	AIC780KGMPHP	MAIN BOARD
U401	056G 562112	NT68623MEFG-64
U701	056G 563 7	AIC1084-33PM
U702	056G 563 31	AI1117D-1.8-EI
U403	056G1133 24	AT24C16AN-10SU-2.7
U405	056G1133 34	M24C02-WMN6TP
Q401	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q406	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q402	057G 417 13 T	KEC 2N3906S-RTK/PS
Q404	057G 417 13 T	KEC 2N3906S-RTK/PS
Q405	057G 763 1	A03401 SOT23 BY AOS(A1)
FB702	061L0603000	RST SM 0603 JUMP MAX 0R05 R
FB406	061L0603000	RST SM 0603 JUMP MAX 0R05 R
FB405	061L0603000	RST SM 0603 JUMP MAX 0R05 R
FB404	061L0603000	RST SM 0603 JUMP MAX 0R05 R
FB403	061L0603000	RST SM 0603 JUMP MAX 0R05 R
FB402	061L0603000	RST SM 0603 JUMP MAX 0R05 R
FB401	061L0603000	RST SM 0603 JUMP MAX 0R05 R
R411	061L0603101	CHIPR 100 OHM +-5% 1/16W
R410	061L0603101	CHIPR 100 OHM +-5% 1/16W
R408	061L0603101	CHIPR 100 OHM +-5% 1/16W
R407	061L0603101	CHIPR 100 OHM +-5% 1/16W
R406	061L0603101	CHIPR 100 OHM +-5% 1/16W
R405	061L0603101	CHIPR 100 OHM +-5% 1/16W
R422	061L0603102	CHIPR 1K OHM +-5% 1/16W
R485	061L0603102	CHIPR 1K OHM +-5% 1/16W
R433	061L0603102	CHIPR 1K OHM +-5% 1/16W
R432	061L0603102	CHIPR 1K OHM +-5% 1/16W
R431	061L0603102	CHIPR 1K OHM +-5% 1/16W
R428	061L0603102	CHIPR 1K OHM +-5% 1/16W
R427	061L0603102	CHIPR 1K OHM +-5% 1/16W
R426	061L0603102	CHIPR 1K OHM +-5% 1/16W
R420	061L0603102	CHIPR 1K OHM +-5% 1/16W
R472	061L0603103	CHIPR 10K OHM +-5% 1/16W
R458	061L0603103	CHIPR 10K OHM +-5% 1/16W
R419	061L0603103	CHIPR 10K OHM +-5% 1/16W
R418	061L0603103	CHIPR 10K OHM +-5% 1/16W
R417	061L0603103	CHIPR 10K OHM +-5% 1/16W
R414	061L0603103	CHIPR 10K OHM +-5% 1/16W

R402	061L0603103	CHIPR 10K OHM +-5% 1/16W
R401	061L0603103	CHIPR 10K OHM +-5% 1/16W
R403	061L0603104	RST SM 0603 RC0603 100K PM5 R
R404	061L0603104	RST SM 0603 RC0603 100K PM5 R
R434	061L0603105	RST SM 0603 RC0603 1M PM5 R
R424	061L0603151	CHIPR 150 OHM +-5% 1/16W
R423	061L0603151	CHIPR 150 OHM +-5% 1/16W
R421	061L0603151	CHIPR 150 OHM +-5% 1/16W
R437	061L0603201	CHIP 200 OHM 1/16W
R438	061L0603201	CHIP 200 OHM 1/16W
R440	061L0603221	CHIPR 220 OHM+-5% 1/16W
R441	061L0603221	CHIPR 220 OHM+-5% 1/16W
R435	061L0603222	CHIPR 2.2K OHM+-5% 1/16W
R436	061L0603222	CHIPR 2.2K OHM+-5% 1/16W
R443	061L0603332	CHIP 3.3K OHM 1/10W
R442	061L0603332	CHIP 3.3K OHM 1/10W
R445	061L0603390 0F	CHIP 390 OHM 1/10W 1%
R701	061L0603470	CHIPR 47 OHM +-5% 1/16W
R479	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R478	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R476	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R460	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R459	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R449	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R448	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R447	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R446	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R451	061L0603750	CHIPR 75 OHM+-5% 1/16W
R452	061L0603750	CHIPR 75 OHM+-5% 1/16W
R453	061L0603750	CHIPR 75 OHM+-5% 1/16W
R454	061L0603750 9F	75OHM 1% 1/10W
R455	061L0603750 9F	75OHM 1% 1/10W
R456	061L0603750 9F	75OHM 1% 1/10W
FB410	061L0805000	CHIPR 0OHM +-5% 1/10W
R444	061L1206151	CHIP 150OHM 1/4W
C714	065G040210131T	0402 MLCC 100PF J 50V
C713	065G040210131T	0402 MLCC 100PF J 50V
C455	065G040210131T	0402 MLCC 100PF J 50V
C454	065G040210131T	0402 MLCC 100PF J 50V
C441	065G040210131T	0402 MLCC 100PF J 50V
C440	065G040210131T	0402 MLCC 100PF J 50V
C439	065G040210131T	0402 MLCC 100PF J 50V
C438	065G040210131T	0402 MLCC 100PF J 50V
C437	065G040210131T	0402 MLCC 100PF J 50V
C433	065G040210131T	0402 MLCC 100PF J 50V
C434	065G040210131T	0402 MLCC 100PF J 50V
C402	065G040210131T	0402 MLCC 100PF J 50V
C701	065G040210232T	0402 MLCC 1000PF K 50V
C401	065G040210232T	0402 MLCC 1000PF K 50V
C422	065G040210415T	0402 MLCC 0.1UF K 16V
C423	065G040210415T	0402 MLCC 0.1UF K 16V
C424	065G040210415T	0402 MLCC 0.1UF K 16V
C425	065G040210415T	0402 MLCC 0.1UF K 16V

C436	065G040210415T	0402 MLCC 0.1UF K 16V
C446	065G040210415T	0402 MLCC 0.1UF K 16V
C702	065G040210415T	0402 MLCC 0.1UF K 16V
C703	065G040210415T	0402 MLCC 0.1UF K 16V
C704	065G040210415T	0402 MLCC 0.1UF K 16V
C705	065G040210415T	0402 MLCC 0.1UF K 16V
C706	065G040210415T	0402 MLCC 0.1UF K 16V
C409	065G040210415T	0402 MLCC 0.1UF K 16V
C410	065G040210415T	0402 MLCC 0.1UF K 16V
C411	065G040210415T	0402 MLCC 0.1UF K 16V
C413	065G040210415T	0402 MLCC 0.1UF K 16V
C414	065G040210415T	0402 MLCC 0.1UF K 16V
C416	065G040210415T	0402 MLCC 0.1UF K 16V
C417	065G040210415T	0402 MLCC 0.1UF K 16V
C418	065G040210415T	0402 MLCC 0.1UF K 16V
C419	065G040210415T	0402 MLCC 0.1UF K 16V
C420	065G040210415T	0402 MLCC 0.1UF K 16V
C421	065G040210415T	0402 MLCC 0.1UF K 16V
C430	065G040222031T	0402 MLCC 22PF J 50V
C428	065G040222031T	0402 MLCC 22PF J 50V
C427	065G040222031T	0402 MLCC 22PF J 50V
C412	065G0402224A5T	MLCC 0402 0.22UF K 10V X5R
C403	065G040247312T	0402 MLCC 47NF K 16V
C404	065G040247312T	0402 MLCC 47NF K 16V
C405	065G040247312T	0402 MLCC 47NF K 16V
C406	065G040247312T	0402 MLCC 47NF K 16V
C407	065G040247312T	0402 MLCC 47NF K 16V
C408	065G040247312T	0402 MLCC 47NF K 16V
FB407	071G 56F102 K	CHIP BEAD 1KOHM
D401	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D406	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D405	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D404	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D416	093G 64 42 PP	BAV70 SOT-23
ZD414	093G 39S 34 T	UDZS5.6B
ZD408	093G 39S 34 T	UDZS5.6B
ZD407	093G 39S 34 T	UDZS5.6B
ZD406	093G 39S 34 T	UDZS5.6B
ZD405	093G 39S 34 T	UDZS5.6B
ZD404	093G 39S 34 T	UDZS5.6B
ZD403	093G 39S 34 T	UDZS5.6B
ZD402	093G 39S 34 T	UDZS5.6B
ZD401	093G 39S 34 T	UDZS5.6B
	715G1712 F	MAIN BOARD
FB408	071G 56K121 M	CHIP BEAD
FB701	071G 56K121 M	CHIP BEAD
FB412	071G 56K121 M	CHIP BEAD
FB703	071G 56K121 M	CHIP BEAD
FB704	071G 56K121 M	CHIP BEAD
FB705	071G 56K121 M	CHIP BEAD
FB411	071G 56K121 M	CHIP BEAD

Main Board (QDI)

Location	Part No. for TPV	Description
	CBPC780KQMPHP	CONVERSION BOARD
CN406	033G801930F H	FPC CONN. 1.0MM 30P
CN701	033G8027 12	WAFER 2*6P 2.0MM R/A
CN403	033G8027 16	WAFER 16PIN 2.0mm DIP
C712	067G215L101 4N	KY25VB100M-L 6.3*11
C711	067G215L101 4N	KY25VB100M-L 6.3*11
C710	067G215L101 4N	KY25VB100M-L 6.3*11
C709	067G215L101 4N	KY25VB100M-L 6.3*11
C432	067G215Y479 7N	LOW ESR EC 4.7 UF 50V NCC
C426	067G305V221 3	220UF/16V
CN405	088G 35315F H	D-SUB 15PIN
X401	093G 22 51	CRYSTAL 12MHz HC-49US ARG6-120
	AIC780KQMPHP	MAIN BOARD
U401	056G 562112	NT68623MEFG-64
U701	056G 563 7	AIC1084-33PM
U702	056G 563 31	AI1117D-1.8-EI
U403	056G1133 24	AT24C16AN-10SU-2.7
U405	056G1133 34	M24C02-WMN6TP
Q401	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q406	057G 417 4	PMBS3904/PHILIPS-SMT(04)
Q402	057G 417 13 T	KEC 2N3906S-RTK/PS
Q404	057G 417 13 T	KEC 2N3906S-RTK/PS
Q405	057G 763 1	A03401 SOT23 BY AOS(A1)
FB702	061L0603000	RST SM 0603 JUMP MAX 0R05 R
FB406	061L0603000	RST SM 0603 JUMP MAX 0R05 R
FB405	061L0603000	RST SM 0603 JUMP MAX 0R05 R
FB404	061L0603000	RST SM 0603 JUMP MAX 0R05 R
FB403	061L0603000	RST SM 0603 JUMP MAX 0R05 R
FB402	061L0603000	RST SM 0603 JUMP MAX 0R05 R
FB401	061L0603000	RST SM 0603 JUMP MAX 0R05 R
R411	061L0603101	CHIPR 100 OHM +-5% 1/16W
R410	061L0603101	CHIPR 100 OHM +-5% 1/16W
R408	061L0603101	CHIPR 100 OHM +-5% 1/16W
R407	061L0603101	CHIPR 100 OHM +-5% 1/16W
R406	061L0603101	CHIPR 100 OHM +-5% 1/16W
R405	061L0603101	CHIPR 100 OHM +-5% 1/16W
R422	061L0603102	CHIPR 1K OHM +-5% 1/16W
R485	061L0603102	CHIPR 1K OHM +-5% 1/16W
R433	061L0603102	CHIPR 1K OHM +-5% 1/16W

R432	061L0603102	CHIPR 1K OHM +-5% 1/16W
R431	061L0603102	CHIPR 1K OHM +-5% 1/16W
R428	061L0603102	CHIPR 1K OHM +-5% 1/16W
R427	061L0603102	CHIPR 1K OHM +-5% 1/16W
R426	061L0603102	CHIPR 1K OHM +-5% 1/16W
R420	061L0603102	CHIPR 1K OHM +-5% 1/16W
R472	061L0603103	CHIPR 10K OHM +-5% 1/16W
R458	061L0603103	CHIPR 10K OHM +-5% 1/16W
R419	061L0603103	CHIPR 10K OHM +-5% 1/16W
R418	061L0603103	CHIPR 10K OHM +-5% 1/16W
R417	061L0603103	CHIPR 10K OHM +-5% 1/16W
R414	061L0603103	CHIPR 10K OHM +-5% 1/16W
R402	061L0603103	CHIPR 10K OHM +-5% 1/16W
R401	061L0603103	CHIPR 10K OHM +-5% 1/16W
R403	061L0603104	RST SM 0603 RC0603 100K PM5 R
R404	061L0603104	RST SM 0603 RC0603 100K PM5 R
R434	061L0603105	RST SM 0603 RC0603 1M PM5 R
R421	061L0603151	CHIPR 150 OHM +-5% 1/16W
R423	061L0603151	CHIPR 150 OHM +-5% 1/16W
R424	061L0603151	CHIPR 150 OHM +-5% 1/16W
R438	061L0603201	CHIP 200 OHM 1/16W
R437	061L0603201	CHIP 200 OHM 1/16W
R440	061L0603221	CHIPR 220 OHM+-5% 1/16W
R441	061L0603221	CHIPR 220 OHM+-5% 1/16W
R435	061L0603222	CHIPR 2.2K OHM+-5% 1/16W
R436	061L0603222	CHIPR 2.2K OHM+-5% 1/16W
R443	061L0603332	CHIP 3.3K OHM 1/10W
R442	061L0603332	CHIP 3.3K OHM 1/10W
R445	061L0603390 0F	CHIP 390 OHM 1/10W 1%
R701	061L0603470	CHIPR 47 OHM +-5% 1/16W
R479	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R478	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R476	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R460	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R459	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R449	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R448	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R447	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R446	061L0603472	CHIPR 4.7K OHM +-5% 1/16W
R453	061L0603750	CHIPR 75 OHM+-5% 1/16W

R452	061L0603750	CHIPR 75 OHM+-5% 1/16W
R451	061L0603750	CHIPR 75 OHM+-5% 1/16W
R454	061L0603750 9F	75OHM 1% 1/10W
R455	061L0603750 9F	75OHM 1% 1/10W
R456	061L0603750 9F	75OHM 1% 1/10W
FB410	061L0805000	CHIPR 0OHM +-5% 1/10W
R444	061L1206151	CHIP 150OHM 1/4W
C402	065G040210131T	0402 MLCC 100PF J 50V
C401	065G040210232T	0402 MLCC 1000PF K 50V
C701	065G040210232T	0402 MLCC 1000PF K 50V
C422	065G040210415T	0402 MLCC 0.1UF K 16V
C423	065G040210415T	0402 MLCC 0.1UF K 16V
C424	065G040210415T	0402 MLCC 0.1UF K 16V
C425	065G040210415T	0402 MLCC 0.1UF K 16V
C436	065G040210415T	0402 MLCC 0.1UF K 16V
C446	065G040210415T	0402 MLCC 0.1UF K 16V
C702	065G040210415T	0402 MLCC 0.1UF K 16V
C703	065G040210415T	0402 MLCC 0.1UF K 16V
C704	065G040210415T	0402 MLCC 0.1UF K 16V
C705	065G040210415T	0402 MLCC 0.1UF K 16V
C706	065G040210415T	0402 MLCC 0.1UF K 16V
C409	065G040210415T	0402 MLCC 0.1UF K 16V
C410	065G040210415T	0402 MLCC 0.1UF K 16V
C411	065G040210415T	0402 MLCC 0.1UF K 16V
C413	065G040210415T	0402 MLCC 0.1UF K 16V
C414	065G040210415T	0402 MLCC 0.1UF K 16V
C416	065G040210415T	0402 MLCC 0.1UF K 16V
C417	065G040210415T	0402 MLCC 0.1UF K 16V
C418	065G040210415T	0402 MLCC 0.1UF K 16V
C419	065G040210415T	0402 MLCC 0.1UF K 16V
C420	065G040210415T	0402 MLCC 0.1UF K 16V
C421	065G040210415T	0402 MLCC 0.1UF K 16V
C427	065G040222031T	0402 MLCC 22PF J 50V
C428	065G040222031T	0402 MLCC 22PF J 50V
C430	065G040222031T	0402 MLCC 22PF J 50V
C412	065G0402224A5T	MLCC 0402 0.22UF K 10V X5R
C403	065G040247312T	0402 MLCC 47NF K 16V
C404	065G040247312T	0402 MLCC 47NF K 16V
C405	065G040247312T	0402 MLCC 47NF K 16V
C406	065G040247312T	0402 MLCC 47NF K 16V

C407	065G040247312T	0402 MLCC 47NF K 16V
C408	065G040247312T	0402 MLCC 47NF K 16V
FB407	071G 56F102 K	CHIP BEAD 1KOHM
D401	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D406	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D405	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D404	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D416	093G 64 42 PP	BAV70 SOT-23
ZD414	093G 39S 34 T	UDZS5.6B
ZD408	093G 39S 34 T	UDZS5.6B
ZD407	093G 39S 34 T	UDZS5.6B
ZD406	093G 39S 34 T	UDZS5.6B
ZD405	093G 39S 34 T	UDZS5.6B
ZD404	093G 39S 34 T	UDZS5.6B
ZD403	093G 39S 34 T	UDZS5.6B
ZD402	093G 39S 34 T	UDZS5.6B
ZD401	093G 39S 34 T	UDZS5.6B
	715G1712 F	MAIN BOARD
FB408	071G 56K121 M	CHIP BEAD
FB701	071G 56K121 M	CHIP BEAD
FB412	071G 56K121 M	CHIP BEAD
FB703	071G 56K121 M	CHIP BEAD
FB704	071G 56K121 M	CHIP BEAD
FB705	071G 56K121 M	CHIP BEAD

Power Board(LPL and QDI)

Location	Part No. for TPV	Description
	PWPC1742QDR1P	POWER BOARD
CN831	033G8021 2D U	3.5mm WAFER
CN833	033G8021 2D U	3.5mm WAFER
CN851	033G8021 2D U	3.5mm WAFER
CN853	033G8021 2D U	3.5mm WAFER
IC902	056G 139 3A	PC123Y22FZOF
NR901	061G 5810T	8 OHM 4A NTCR BY THINKING
R905	061G152M104 64	100KOHM 5% 2W
R920	061G152M208 64	0.20 OHM 2W
C808	065G 3J5096ET	5PF 5% SL 3KV
C807	065G 3J5096ET	5PF 5% SL 3KV
C803	065G 3J5096ET	5PF 5% SL 3KV
C802	065G 3J5096ET	5PF 5% SL 3KV
C801	065G 6J1006ET	10PF 5% SL 6KV
C806	065G 6J1006ET	10PF 5% SL 6KV
C900	065G305M1022BP	Y2 1000PF M 250VAC Y5P
C901	065G305M1022BP	Y2 1000PF M 250VAC Y5P
C912	065G305M2222BP	2200PF +-20%
C936	067G215D2222KV	105°C 2200UF M 10V
C840	067G215D471 4K	ED 470UF 25V
C820	067G215D471 4K	ED 470UF 25V
C907	067G215S10115K	100UF 450V
C932	067G215S102 4K	ED1000UF 25V
C933	067G215S102 4K	ED1000UF 25V
L903	071G 55 24	FERRITE BEAD
L902	071G 55 24	FERRITE BEAD
L901	073G 174 65 LS	LINE FILTER BY LISHIN
L955	073G 253902 T	CKOLE COIL 0.8uH
L951	073G 253902 T	CKOLE COIL 0.8uH
T901	080GL17T900 T	X'FMR SRW28LEC-T93H016
PT802	080GL19T 8DN1	X'FMR DARFONTK.2006M.101
PT801	080GL19T 8DN1	X'FMR DARFONTK.2006M.101
F901	084G 55 7 GP	FUSE 3.15A 250V
CN901	087G 501 32 S	AC SOCKET
BD901	093G 50460 16	U4KB80R
D901	093G 6026T52T	RECTIFIER DIODE FR107
CN951	095G8013 12 15	HARNESS
	PW1742R1SMTP	POWER BOARD FOR SMT
Q901	057G 600 35	STP8NK80ZFP
D931	093G 60267	SP10100
D935	093G1506 2	FMW-2156
IC901	056G 564911	IC TEA1532AT S08
U811	056G 608 10	0Z9938
Q874	057G 417 12 T	KEC 2N3904S-RTK/PS
Q886	057G 759 2	RK7002
Q885	057G 759 2	RK7002
Q883	057G 759 2	RK7002
Q881	057G 759 2	RK7002
Q880	057G 759 2	RK7002
Q801	057G 759 2	RK7002
Q871	057G 759 2	RK7002

Q873	057G 760 4B	PDTA144WK SOT346
Q841	057G 763 14	AM9945N
Q821	057G 763 14	AM9945N
RJ827	061L0805000	CHIPR 0OHM +-5% 1/10W
RJ801	061L0805000	CHIPR 0OHM +-5% 1/10W
R849	061L0805000	CHIPR 0OHM +-5% 1/10W
R829	061L0805000	CHIPR 0OHM +-5% 1/10W
R822	061L0805100	CHIPR 10 OHM+-5% 1/10W
R823	061L0805100	CHIPR 10 OHM+-5% 1/10W
R842	061L0805100	CHIPR 10 OHM+-5% 1/10W
R843	061L0805100	CHIPR 10 OHM+-5% 1/10W
R954	061L0805100	CHIPR 10 OHM+-5% 1/10W
R836	061L0805100 2F	CHIP 10K OHM 1/8W 1%
R855	061L0805100 2F	CHIP 10K OHM 1/8W 1%
R856	061L0805100 2F	CHIP 10K OHM 1/8W 1%
R835	061L0805100 2F	CHIP 10K OHM 1/8W 1%
R941	061L0805102	CHIPR 1K OHM +-5% 1/10W
R851	061L0805102	CHIPR 1K OHM +-5% 1/10W
R888	061L0805102	CHIPR 1K OHM +-5% 1/10W
R886	061L0805102	CHIPR 1K OHM +-5% 1/10W
R884	061L0805102	CHIPR 1K OHM +-5% 1/10W
R882	061L0805102	CHIPR 1K OHM +-5% 1/10W
R831	061L0805102	CHIPR 1K OHM +-5% 1/10W
R801	061L0805103	CHIPR 10K OHM +-5% 1/10W
R804	061L0805103	CHIPR 10K OHM +-5% 1/10W
R807	061L0805103	CHIPR 10K OHM +-5% 1/10W
R880	061L0805103	CHIPR 10K OHM +-5% 1/10W
R887	061L0805104	CHIPR 100K OHM+-5% 1/10W
R802	061L0805104	CHIPR 100K OHM+-5% 1/10W
R872	061L0805104	CHIPR 100K OHM+-5% 1/10W
R885	061L0805104	CHIPR 100K OHM+-5% 1/10W
R883	061L0805104	CHIPR 100K OHM+-5% 1/10W
R881	061L0805104	CHIPR 100K OHM+-5% 1/10W
R819	061L0805105	CHIP 1M OHM 5% 1/8W
R912	061L0805105	CHIP 1M OHM 5% 1/8W
R946	061L0805110 3F	110KOHM 1% 1/10W
R853	061L0805122	1.2KOHM +-5%, 1/8W, 0805
R833	061L0805122	1.2KOHM +-5%, 1/8W, 0805
R923	061L0805123	CHIP 12KOHM 1/8W
R914	061L0805124 1F	CHIP 1.24K OHM 1/10W 1%
R916	061L0805152	CHIPR 1.5K OHM +-5% 1/10W
R873	061L0805202	CHIP 2KOHM 1/8W
R816	061L0805203	CHIPR 20KOHM +-5% 1/8W
R865	061L0805232 0F	CHIP 232OHM
R815	061L0805303	CHIP 30K OHM 1/8W
R813	061L0805330 2F	CHIP 33KOHM 1/8W 1%
R874	061L0805331	CHIP 330 OHM 5% 1/10W
R917	061L0805333	CHIP 33KOHM 1% 1/8W
R811	061L0805335	3.3M 0805
R943	061L0805510 1F	CHIP 5.1K OHM 1/10W 1%
R812	061L0805624	CHIP 620KOHM 5% 0805 1/8W
R825	061L0805752	CHIP 7.5K OHM 1/10W
R837	061L0805752	CHIP 7.5K OHM 1/10W

R944	061L0805910 1F	CHIP 9.1K OHM 1/10W 1%
R945	061L0805910 1F	CHIP 9.1K OHM 1/10W 1%
RJ804	061L1206000	CHIPR 0 OHM +-5% 1/8W
R926	061L1206000	CHIPR 0 OHM +-5% 1/8W
R918	061L1206000	CHIPR 0 OHM +-5% 1/8W
R907	061L1206103	CHIP 10KOHM 5% 1/4W
R904	061L1206155	1.5M/0805
R910	061L1206155	1.5M/0805
R937	061L1206182	CHIP 1.8KOHM
R931	061L1206229	CHIP 2.2OHM 5% 1/8W
R932	061L1206229	CHIP 2.2OHM 5% 1/8W
R927	061L1206472	CHIP 4.7KOHM 5% 1/4W
R902	061L1206684	CHIPR 680K OHM+-5% 1/8W
R901	061L1206684	CHIPR 680K OHM+-5% 1/8W
R900	061L1206684	CHIPR 680K OHM+-5% 1/8W
C838	065G0805102 31	1000PF 50V NPO
C861	065G0805102 31	1000PF 50V NPO
C822	065G0805102 32	CHIP 1000P 50VX7R 0805
C823	065G0805102 32	CHIP 1000P 50VX7R 0805
C842	065G0805102 32	CHIP 1000P 50VX7R 0805
C843	065G0805102 32	CHIP 1000P 50VX7R 0805
C887	065G0805103 22	CHIP 0.01uF 25V X7R 0805
C885	065G0805103 22	CHIP 0.01uF 25V X7R 0805
C883	065G0805103 22	CHIP 0.01uF 25V X7R 0805
C881	065G0805103 22	CHIP 0.01uF 25V X7R 0805
C819	065G0805103 22	CHIP 0.01uF 25V X7R 0805
C913	065G0805104 22	0.1UF +-10% 25V X7R 080
C955	065G0805104 22	0.1UF +-10% 25V X7R 080
C951	065G0805104 22	0.1UF +-10% 25V X7R 080
C880	065G0805104 22	0.1UF +-10% 25V X7R 080
C832	065G0805104 22	0.1UF +-10% 25V X7R 080
C812	065G0805104 22	0.1UF +-10% 25V X7R 080
C914	065G0805105 22	CHIP 1UF 25V X7R 0805
C811	065G0805105 22	CHIP 1UF 25V X7R 0805
C821	065G0805105 22	CHIP 1UF 25V X7R 0805
C841	065G0805105 22	CHIP 1UF 25V X7R 0805
C846	065G0805105 22	CHIP 1UF 25V X7R 0805
C874	065G0805105 22	CHIP 1UF 25V X7R 0805
C915	065G0805123 22	CHIP 12nF 25V X7R 0805
C860	065G0805221 22	CHIP 220PF 25V X7R 0805
C847	065G0805223 22	CHIP 0.022UF 25V X7R 0805
C831	065G0805331 32	CHIP 330P 50V X7R 0805
C865	065G0805333 32	CHIP 0.033UF 50V
C917	065G0805334 22	0.33UF+-10% 25V X7R 0805
C858	065G0805391 31	CHIP 390PF 50V
C813	065G0805561 31	CHIP 560PF 50V NPO 0805
C941	065G0805562 21	5600PF/25V/NPO/J
D851	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D831	093G 64 33	DIO SIG SM BAV99 (PHSE)R
D833	093G 64 42 PP	BAV70 SOT-23
D853	093G 64 42 PP	BAV70 SOT-23
D883	093G 64 44 S	LL4148WP
D881	093G 64 44 S	LL4148WP

D887	093G 64 44 S	LL4148WP
D885	093G 64 44 S	LL4148WP
ZD874	093G 39S 24 T	RLZ 5.6B LLDS
ZD975	093G 39S 25 T	RLZ5.1B LLDS
	PW1742QDR1AIP	POWER BOARD FOR AI
CN901	006G 31500	EYELET
T901	006G 31502	1.5MM RIVET
L902	006G 31502	1.5MM RIVET
PT801	006G 31502	1.5MM RIVET
PT802	006G 31502	1.5MM RIVET
NR901	006G 31502	1.5MM RIVET
C905	006G 31502	1.5MM RIVET
IC941	056G 158 10 T	AZ431AZ-AE1
R952	061G 17210052T	100HM 5% 1/4W
R915	061G 17210052T	100HM 5% 1/4W
R871	061G 17210352T	CFR 10KOHM +-5% 1/4W
R861	061G 20010452T	100K OHM 1/4W 1%
R863	061G 20033352T	33KOHM 1% 1/4W
R859	061G212Y625 KT	MGFR 6.2MOHM +-5% 1/2W
R839	061G212Y625 KT	MGFR 6.2MOHM +-5% 1/2W
C920	065G 1K102 5T	1000PF/1KV
C931	065G517K332 2T	3.3NF 500V
C927	067G 3056804KT	ELCAP 68UF M 25V 105°C KINGNICH
C952	067G215B2214KT	LOW E,S,R 220UF +-20% 25V
C956	067G215B2214KT	LOW E,S,R 220UF +-20% 25V
FB905	071G 55 23 S	BEAD
FB902	071G 55 23 S	BEAD
FB903	071G 55 23 S	BEAD
FB901	071G 55 29	FERRITE BEAD
F902	084G 55 4	FOSE 382-5A 250V SICKMANN
F901	084G 55 7 GP	FUSE 3.15A 250V
ZD951	093G 39A3552T	ZENER DIODE P6KE8.2A ZOWIE
D926	093G 6038T52T	FR103
D919	093G 6038T52T	FR103
	715G1813 I	POWER BOARD

KEPC Board (LPL and QDI)

	Vendor P/N	Description
	KEPC780KE7P	KEY BOARD
CN101	033G3802 6H	WAFER 6P RIGHT ANGLE PITCH 2.0
SW1	077G 600 1GCJ	TACT SWITCH TSPB-2 -NP
SW2	077G 600 1GCJ	TACT SWITCH TSPB-2 -NP
SW3	077G 600 1GCJ	TACT SWITCH TSPB-2 -NP
SW4	077G 600 1GCJ	TACT SWITCH TSPB-2 -NP
SW5	077G 600 1GCJ	TACT SWITCH TSPB-2 -NP
SW6	077G 600 1GCJ	TACT SWITCH TSPB-2 -NP
SW7	077G 600 1GCJ	TACT SWITCH TSPB-2 -NP
SW8	077G 600 1GCJ	TACT SWITCH TSPB-2 -NP
LED1	081G 12 1 GP	GP32032ME
	AIK780KE7SMTP	KEY BOARD
R109	061L0603000	RST SM 0603 JUMP MAX 0R05 R
R100	061L0603000	RST SM 0603 JUMP MAX 0R05 R
R101	061L0603101	CHIPR 100 OHM +-5% 1/16W
R104	061L0603102	CHIPR 1K OHM +-5% 1/16W
R108	061L0603102	CHIPR 1K OHM +-5% 1/16W
R103	061L0603103	CHIPR 10K OHM +-5% 1/16W
R107	061L0603103	CHIPR 10K OHM +-5% 1/16W
R106	061L0603473	RST SM 0603 RC0603 47K PM5 R
R102	061L0603473	RST SM 0603 RC0603 47K PM5 R
C101	065G0603103 32	0.01UF +-10% 50V X7R
C102	065G0603103 32	0.01UF +-10% 50V X7R
C103	065G0603103 32	0.01UF +-10% 50V X7R
C104	065G0603103 32	0.01UF +-10% 50V X7R
C105	065G0603103 32	0.01UF +-10% 50V X7R
	715G1755 1	KEY BOARD