Service
Service
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190B8CS/00
190B8CB/69
190B8CB/27
190B8CS/27
190B8CB/75

Service Manual

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 TRANSFOMER FOR THIS UNIT WHEN SERVICING

REFER TO BACK COVER FOR IMPORTANT SAFETY GUIDELINES

Published by Philips CE Jun, 10, 2007 GB 312278517250

飛利浦 PHILIPS

Revision List

Version	Release Date	Revision History
A00	Jun.10, 2007	Initial release, Draft Version
A01	Oct.16,2007	Add Philips 12NC for Model 190B8CB/69 and 190B8CB/75
A02	Nov.07, 2007	Update C907 in Item 16
A03	Nov.21, 2007	Update 190B8 CD MANUAL in Item 16
A04	Nov.25,2007	Add Philips 12NC for 715GT039 A
A05	Apr.08,2008	Cancel USB cable

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	
• Type	TFT LCD
• Screen size	19" visual
• Pixel Pitch	0.294 x 0.294 mm
• LCD Panel type	1280 x 1024 pixels R.G.B. vertical stripe Anti-glare polarizer, hard coated
• Effective viewing area	376.3 x 301.1 mm
SCANNING	
• Vertical refresh rate	56 Hz-75 Hz
• Horizontal Frequency	30 kHz - 83 kHz
VIDEO	
• Video dot rate	140 MHz
• Input impedance	
- Video	75 ohm
- Sync	2.2K ohm
• Input signal levels	0.7 Vpp
• Sync input signal	Separate sync Composite sync Sync on green
• Sync polarities	Positive and negative
AUDIO	
• Laudspeaker	1.5W X 2
• Input signal connector	3.5mm mini jack

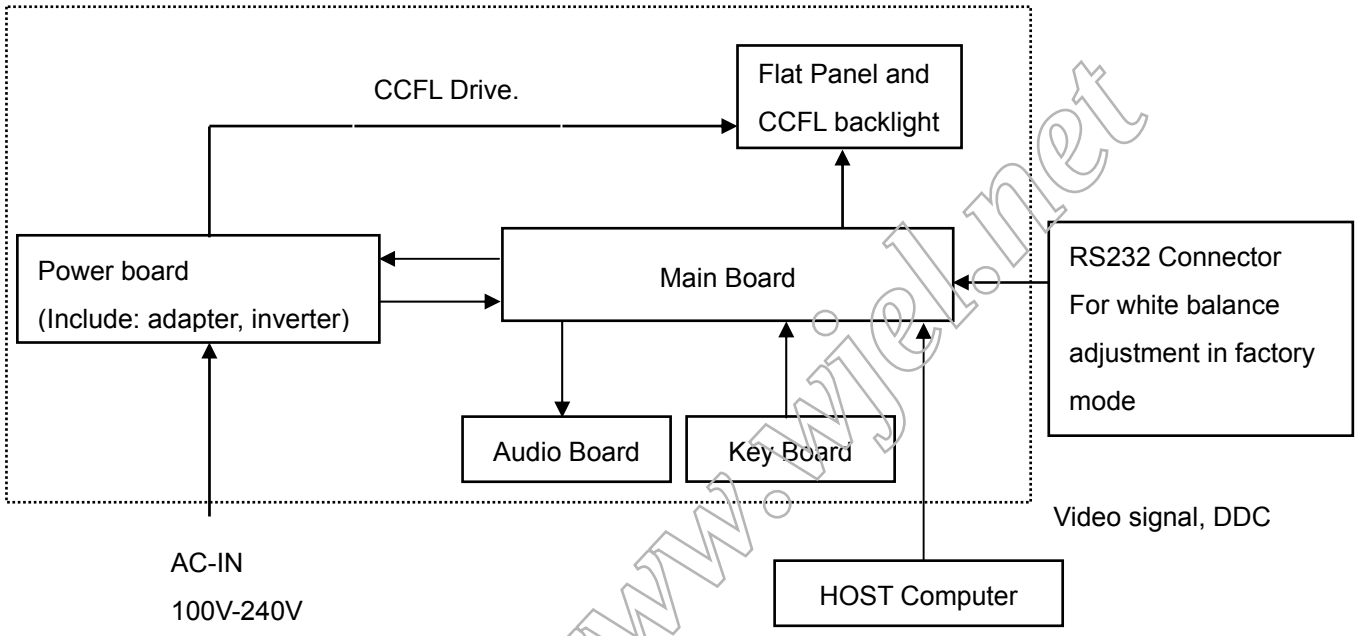
• Dimension (WxHxD) *	422 x 403.8 x 198.8 mm (incl. Pedestal)
• Weight	5.36 Kg
• Tilt	-5°+2/-0 ~+ 20°+3/-0
• Swivel	+/-60°
• Height Adjustment range	60mm
• Power supply	100 ~ 240 VAC, 50/60 Hz
• Power consumption	36W* (typ.)
• Temperature	0° C to 40 ° C (operating) -20° C to 60° C (storage)
• Relative humidity	20% to 80%
• System MTBF	50K hours (CCFL 40K hours)

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.

Monitor Block Diagram



3. Operating Instructions

3.1 General Instructions

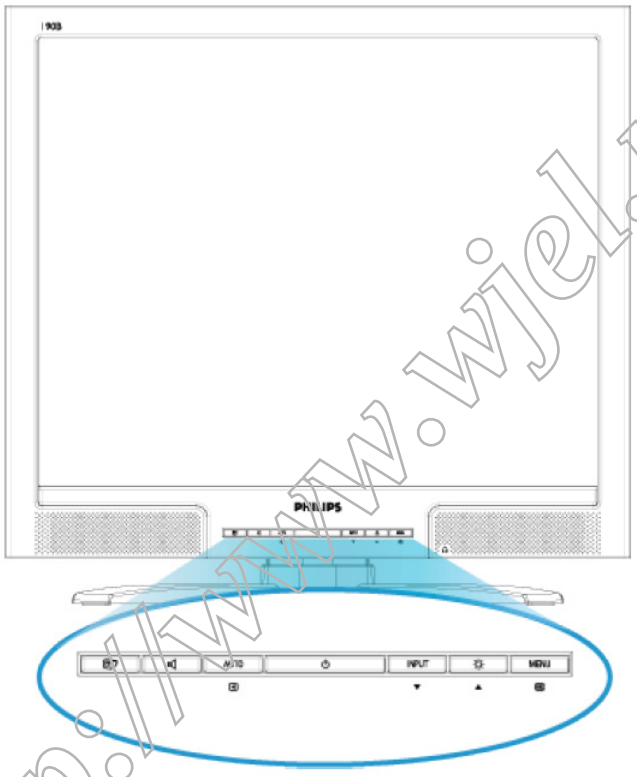
Press the power button to turn the monitor on or off. The other control buttons are located at the front of the panel of the monitor.

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.

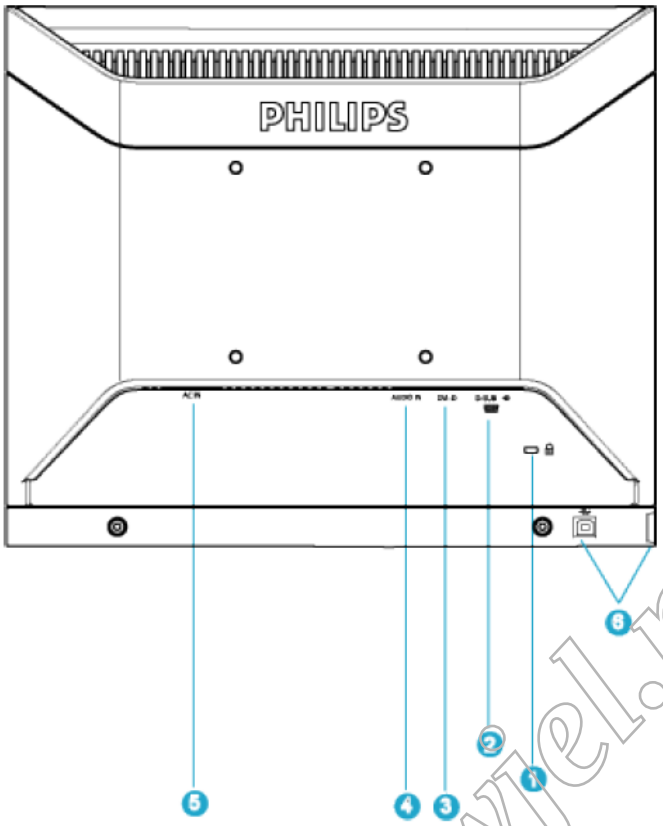
3.2 Control Buttons

Front View



1		To switch monitor's power On and Off
2	**MENU**	To access OSD menu
3		To adjust the OSD menu
4		To adjust brightness of the display
5	**AUTO**	Automatically adjust the horizontal position, vertical position, phase and clock settings.
6		To adjust the OSD menu and the volume os the display.
7		SmartImage. There are five nodes to be selected: Office Work, Image Viewing, Entertainment, Economy, and Off.
8		Earphone jack.

Rear View

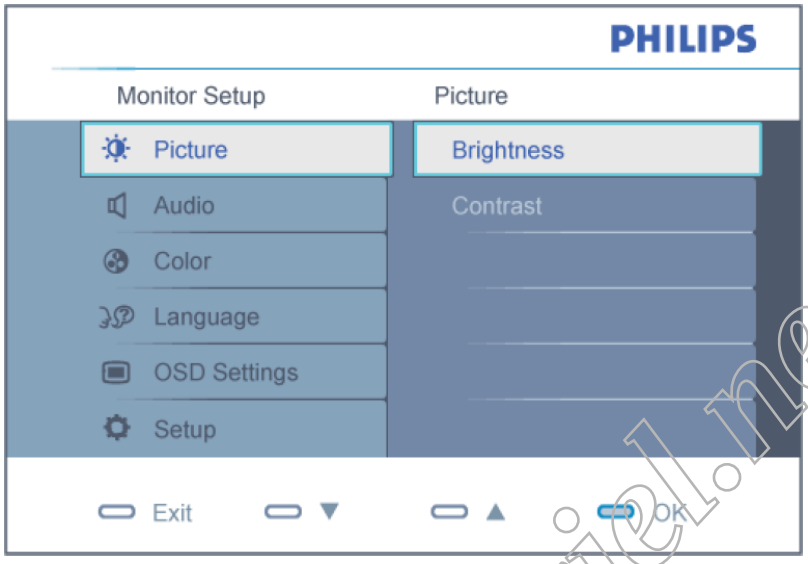


1 Kensington anti-thief lock
2 VGA input
3 DVI-D input
4 PC Audio input
5 AC power input
6 USB upstream and downstream

3.3 Adjusting the Picture

Description of the On Screen Display

On-Screen Display (OSD) is a feature in all Philips LCD monitors. It allows an end user to adjust screen performance or select functions of the monitors directly through an on-screen instruction window. A user friendly on screen display interface is shown as below:



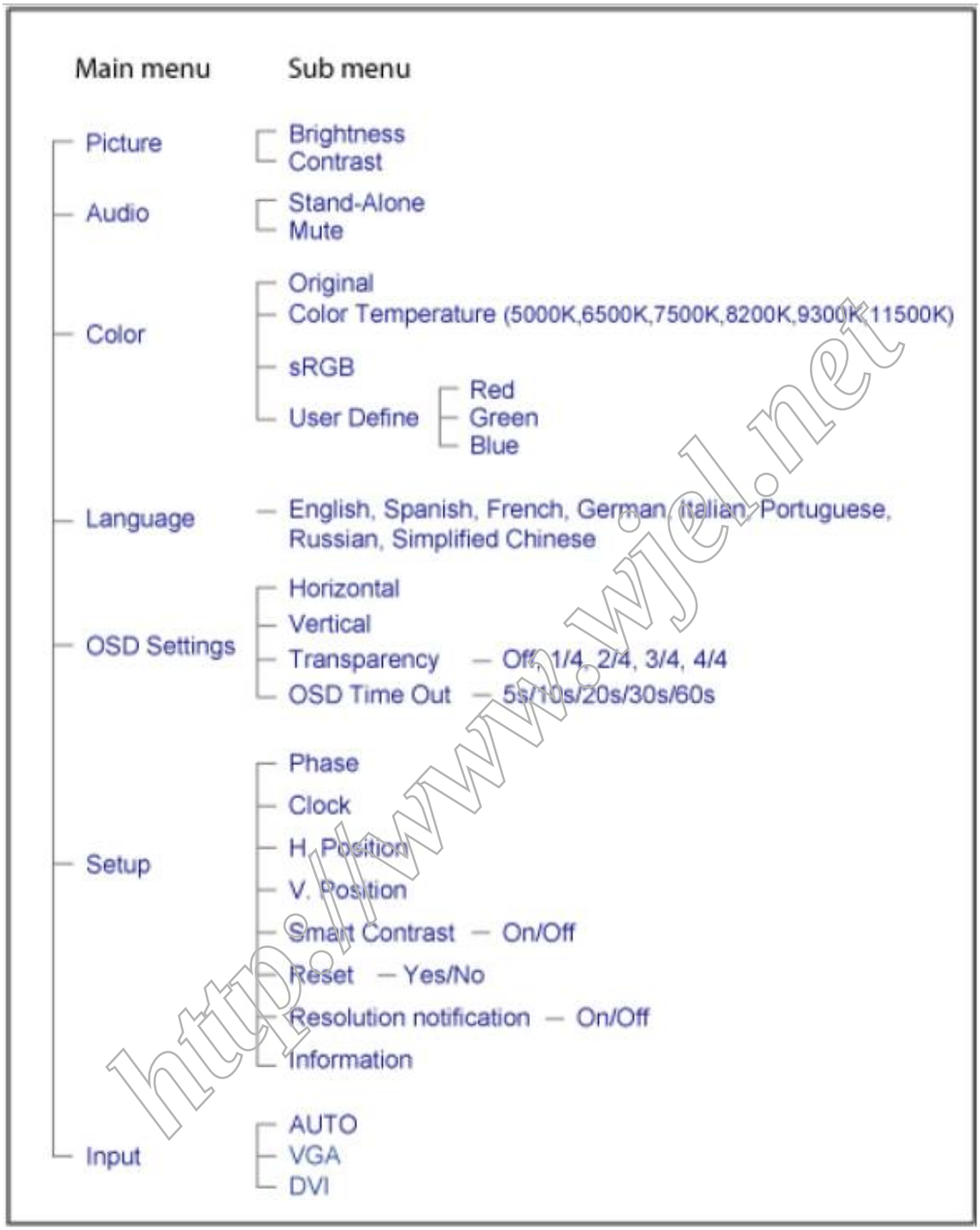
In the OSD shown above users can press buttons at the front bezel of the monitor to move the cursor, to confirm the choice or change.

To Lock/Unlock OSD function (User Mode)

The OSD function can be locked by pressing “MENU” button for more than 10 seconds.
Locked OSD function can be released by pressing “MENU” button for more than 10 seconds again.

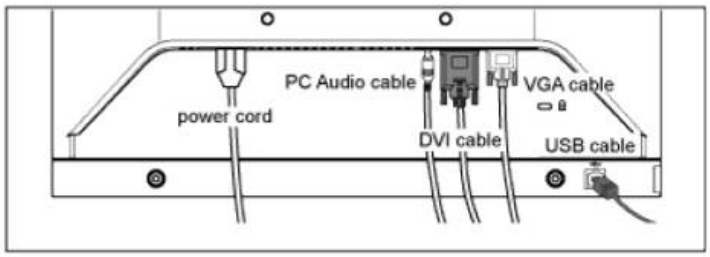
The OSD Tree

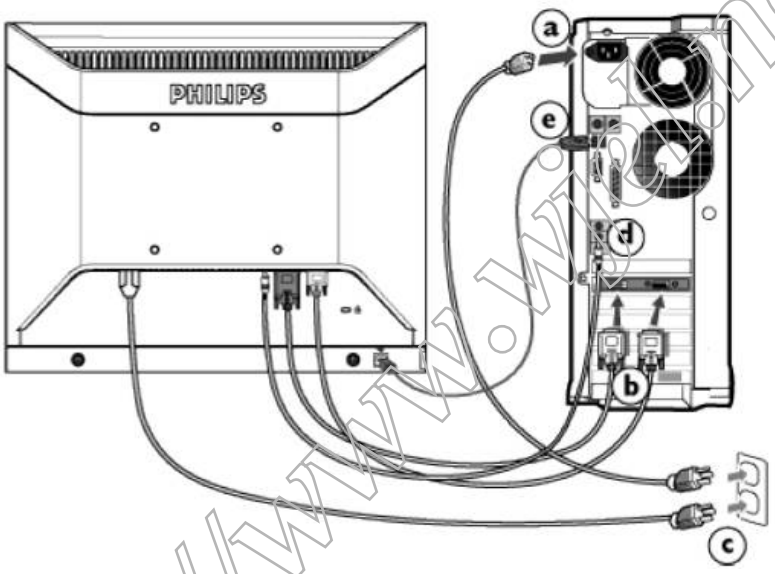
Below is an overall view of the structure of the On-Screen Display. You can use this as a reference when you want to work your way around the different adjustments later on.



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) Connect the PC audio cable to the audio connector on the back of your computer.

(e) USB plug

(1) Connect USB upstream port on monitor and the USB port on PC with a USB cable.

(2) The USB downstream port is now ready for any USB device to plug in.

(f) Turn on your computer and monitor. If the monitor displays an image, installation is complete.

Note: The USB plug is a pass through connection whether it can support USB 1.1 or USB 2.0 depends on your PC's specification.

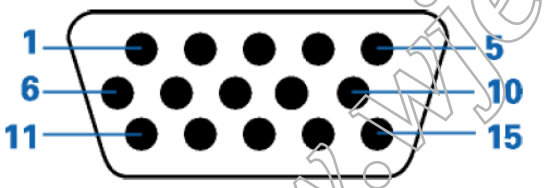
4. Input/ Output Specification

4.1 Input Signal Connector

Analog connectors

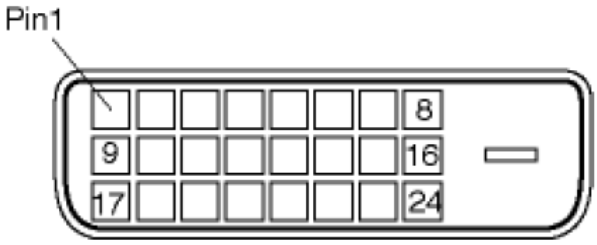
Pin No.	Description	Pin No.	Description
1.	Red video input	9.	+5V
2.	Green video input	10.	Logic Ground
3.	Blue video input	11.	Ground
4.	Sense (GND)	12.	Serial data line (SDA)
5.	Cable detect (GND)	13.	H. Sync
6.	Red video ground	14.	V. Sync
7.	Green video ground	15.	Data clock line (SCL)
8.	Blue video ground		

VGA connector layout



DVI connectors

Pin No.	Description	Pin No.	Description	Pin No.	Description
1.	T.M.D.S Data2-	9.	T.M.D.S Data1-	17.	T.M.D.S Data0-
2.	T.M.D.S Data2+	10.	T.M.D.S Data1+	18.	T.M.D.S Data0+
3.	T.M.D.S Data2/4 Shield	11.	T.M.D.S Data1/3 Shield	19.	T.M.D.S Data0/5 Shield
4.	No connector	12.	No connector	20.	No connector
5.	No connector	13.	No connector	21.	No connector
6.	DDC Clock	14.	+5V Power	22.	T.M.D.S Clock Shield
7.	DDC Data	15.	Ground (for +5V)	23.	T.M.D.S Clock+
8.	No connector	16.	Hot Plug Detection	24.	T.M.D.S Clock-



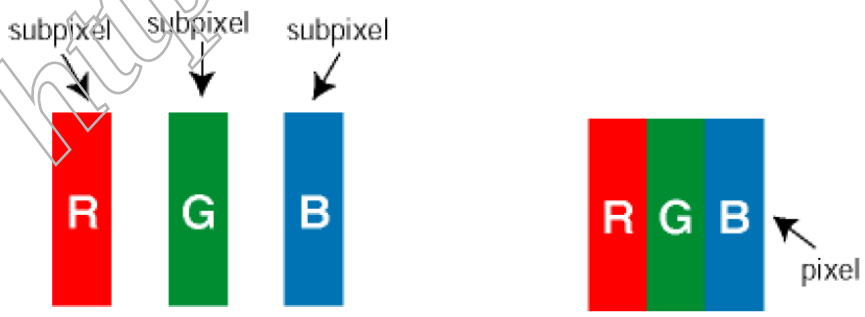
4.2 Factory Preset Display Modes

H. freq (kHz)	Resolution	V. freq (Hz)
31.469	720*400	70.087
31.469	640*480	59.940
35.000	640*480	67.00
37.500	640*480	75.000
35.156	800*600	56.250
37.879	800*600	60.317
46.875	800*600	75.000
48.363	1024*768	60.004
60.023	1024*768	75.029
63.981	1280*1024	60.020
79.976	1280*1024	75.025

4.3 Pixel Defect Policy

Philips' Flat Panel Monitors Pixel Defect Policy

Philips strives to deliver the highest quality products. We use some of the industry's most advanced manufacturing processes and practice stringent quality control. However, pixel or sub pixel defects on the TFT LCD panels used in flat panel monitors are sometimes unavoidable. No manufacturer can guarantee that all panels will be free from pixel defects, but Philips guarantees that any monitor with an unacceptable number of defects will be repaired or replaced under warranty. This notice explains the different types of pixel defects and defines acceptable defect levels for each type. In order to qualify for repair or replacement under warranty, the number of pixel defects on a TFT LCD panel must exceed these acceptable levels. For example, no more than 0.0004% of the sub pixels on a 19" XGA monitor may be defective. Furthermore, Philips sets even higher quality standards for certain types or combinations of pixel defects that are more noticeable than others. This policy is valid worldwide.



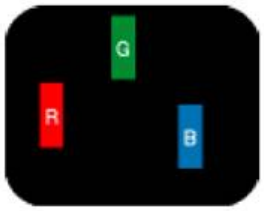
Pixels and Sub pixels

A pixel, or picture element, is composed of three sub pixels in the primary colors of red, green and blue. Many pixels together form an image. When all sub pixels of a pixel are lit, the three colored sub pixels together appear as a single white pixel. When all are dark, the three colored sub pixels together appear as a single black pixel. Other combinations of lit and dark sub pixels appear as single pixels of other colors.

Types of Pixel Defects

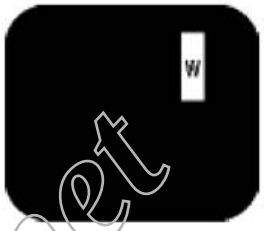
Pixel and sub pixel defects appear on the screen in different ways. There are two categories of pixel defects and several types of sub pixel defects within each category.

Bright Dot Defects Bright dot defects appear as pixels or sub pixels that are always lit or 'on'. That is, a *bright dot* is a sub-pixel that stands out on the screen when the monitor displays a dark pattern. There are the types of bright dot defects:



One lit red, green or blue sub pixel

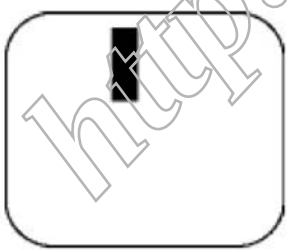
Two adjacent lit sub pixels:
- Red + Blue = Purple
- Red + Green = Yellow
- Green + Blue = Cyan (Light Blue)



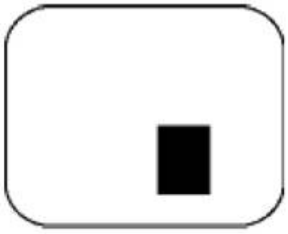
Three adjacent lit sub pixels (one white pixel)

A red or blue *bright dot* must be more than 50 percent brighter than neighboring dots while a green bright dot is 30 percent brighter than neighboring dots.

Black Dot Defects Black dot defects appear as pixels or sub pixels that are always dark or 'off'. That is, a *dark dot* is a sub-pixel that stands out on the screen when the monitor displays a light pattern. These are the types of black dot defects:



One dark sub pixel



Two or three adjacent dark sub pixels

Proximity of Pixel Defects

Because pixel and sub pixels defects of the same type that are near to one another may be more noticeable, Philips also specifies tolerances for the proximity of pixel defects.

Pixel Defect Tolerances

In order to qualify for repair or replacement due to pixel defects during the warranty period, a TFT LCD panel in a Philips flat panel monitor must have pixel or sub pixel defects exceeding the tolerances listed in the following tables.

BRIGHT DOT DEFECTS	ACCEPTABLE LEVEL
MODEL	190B8
1 lit subpixel	0
2 adjacent lit subpixels	0
3 adjacent lit subpixels (one white pixel)	0
Distance between two bright dot defects*	0
Total bright dot defects of all types	0

BLACK DOT DEFECTS	ACCEPTABLE LEVEL
MODEL	190B8
1 dark subpixel	5 or fewer
2 adjacent dark subpixels	2 or fewer
3 adjacent dark subpixels	0
Distance between two black dot defects*	>15mm
Total black dot defects of all types	5 or fewer

TOTAL DOT DEFECTS	ACCEPTABLE LEVEL
MODEL	190B8
Total bright or black dot defects of all types	5 or fewer

Note:

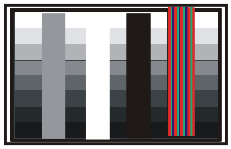
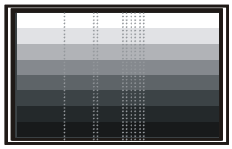
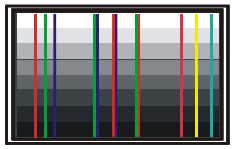
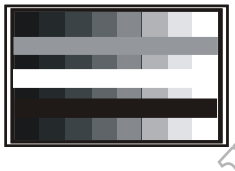
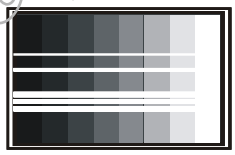
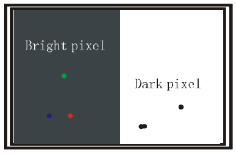
** 1 or 2 adjacent sub pixel defects = 1 dot defect*

Your Philips monitor is ISO13406-2 Compliant

4.4 Failure Mode Of Panel

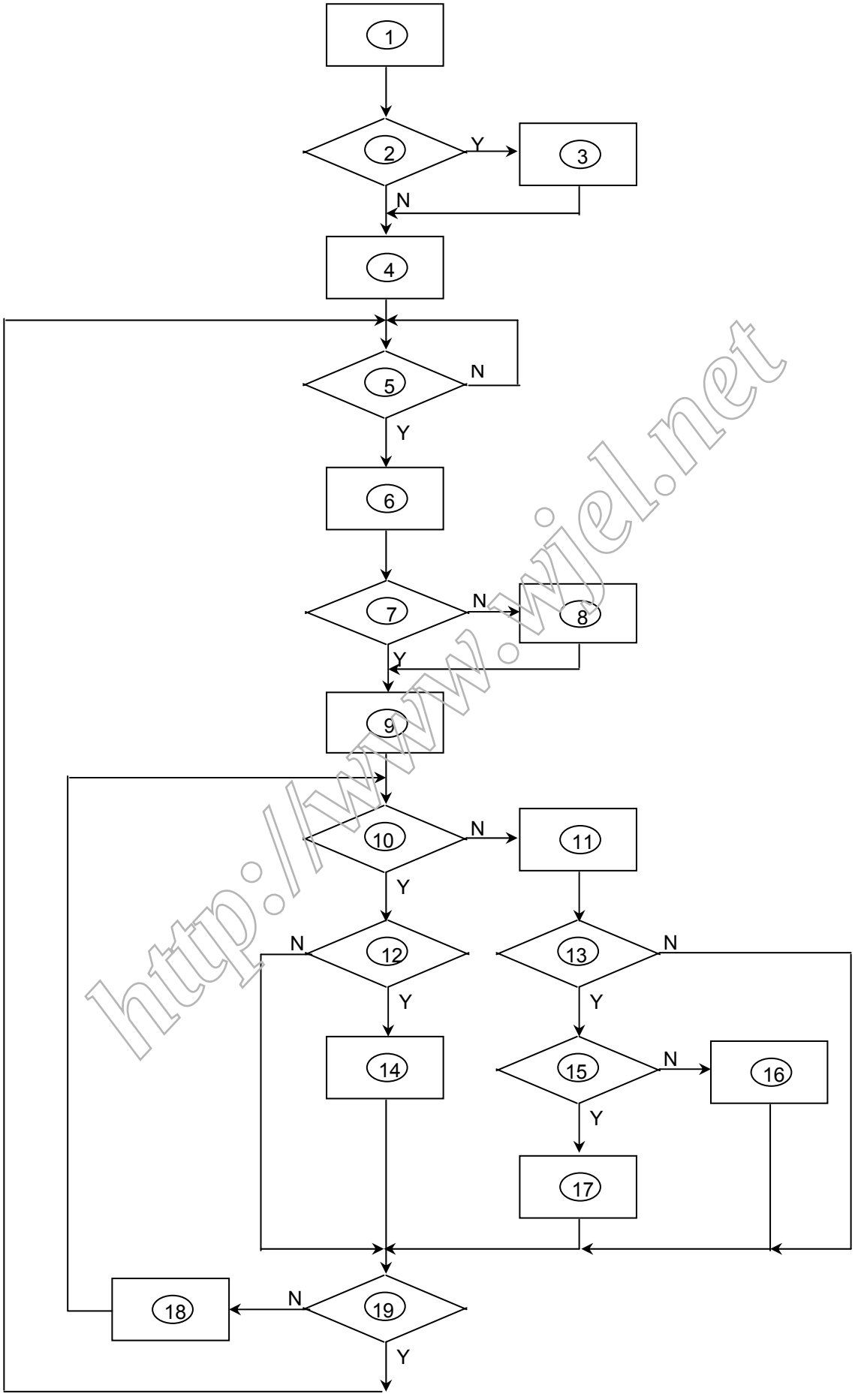
Quick reference for failure mode of LCD panel

this page presents problems that could be made by LCD panel.
It is not necessary to repair circuit board. Simply follow the mechanical instruction on this manual to eliminate failure by replace LCD panel.

Failure description	Phenomenon
Vertical block defect	
Vertical dim lines	
Vertical lines defect (Always bright or dark)	
Horizontal block defect	
Horizontal dim lines	
Horizontal lines defect (Always bright or dark)	
Has bright or dark pixel	
Polarizer has bubbles	
Polarizer has bubbles	
Foreign material inside polarizer. It shows liner or dot shape.	
Concentric circle formed	
Bottom back light of LCD is brighter than normal	
Back light un-uniformity	
Backlight has foreign material. Black or white color, liner or circular type	

5. Block Diagram

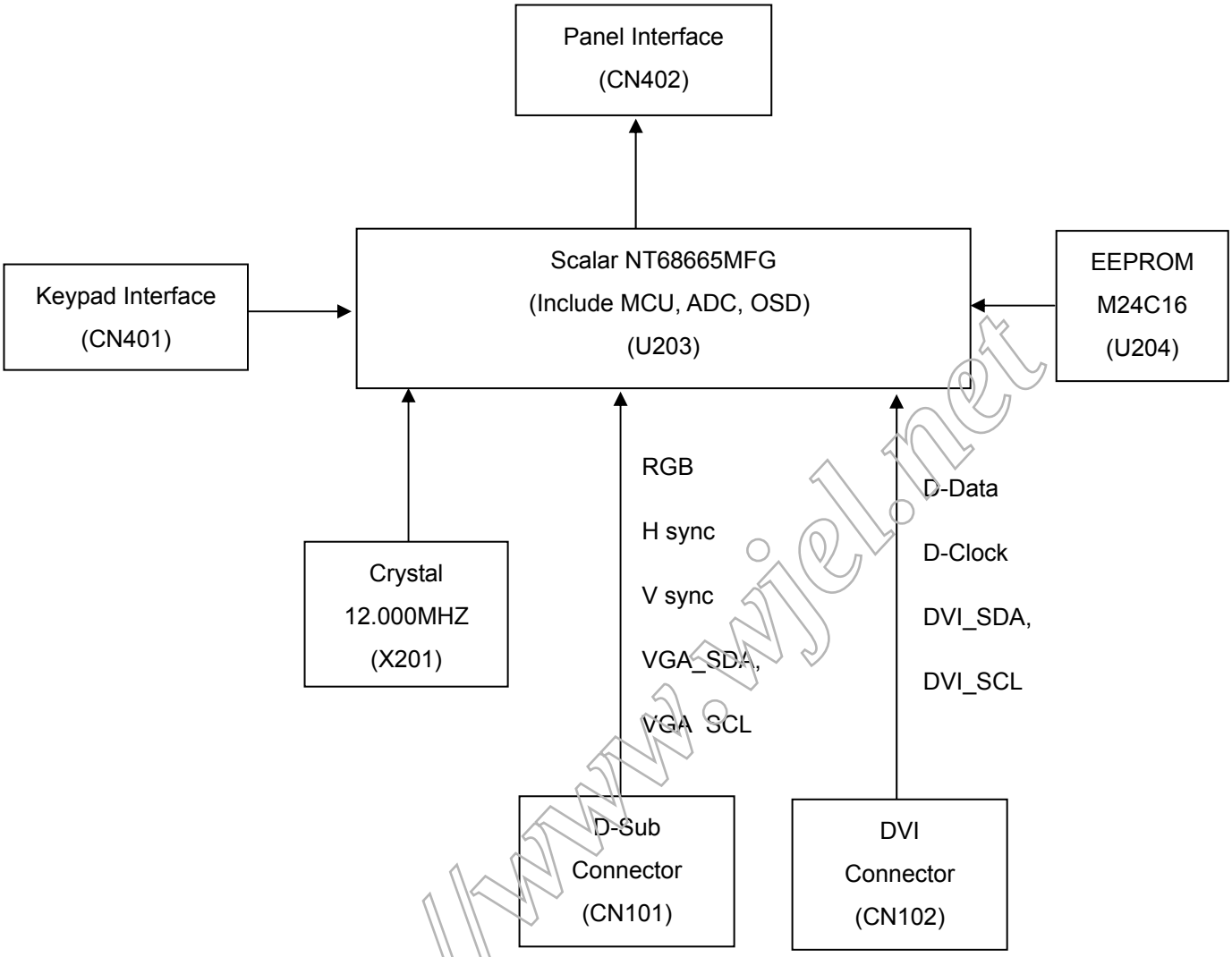
5.1 Software Flow Chat



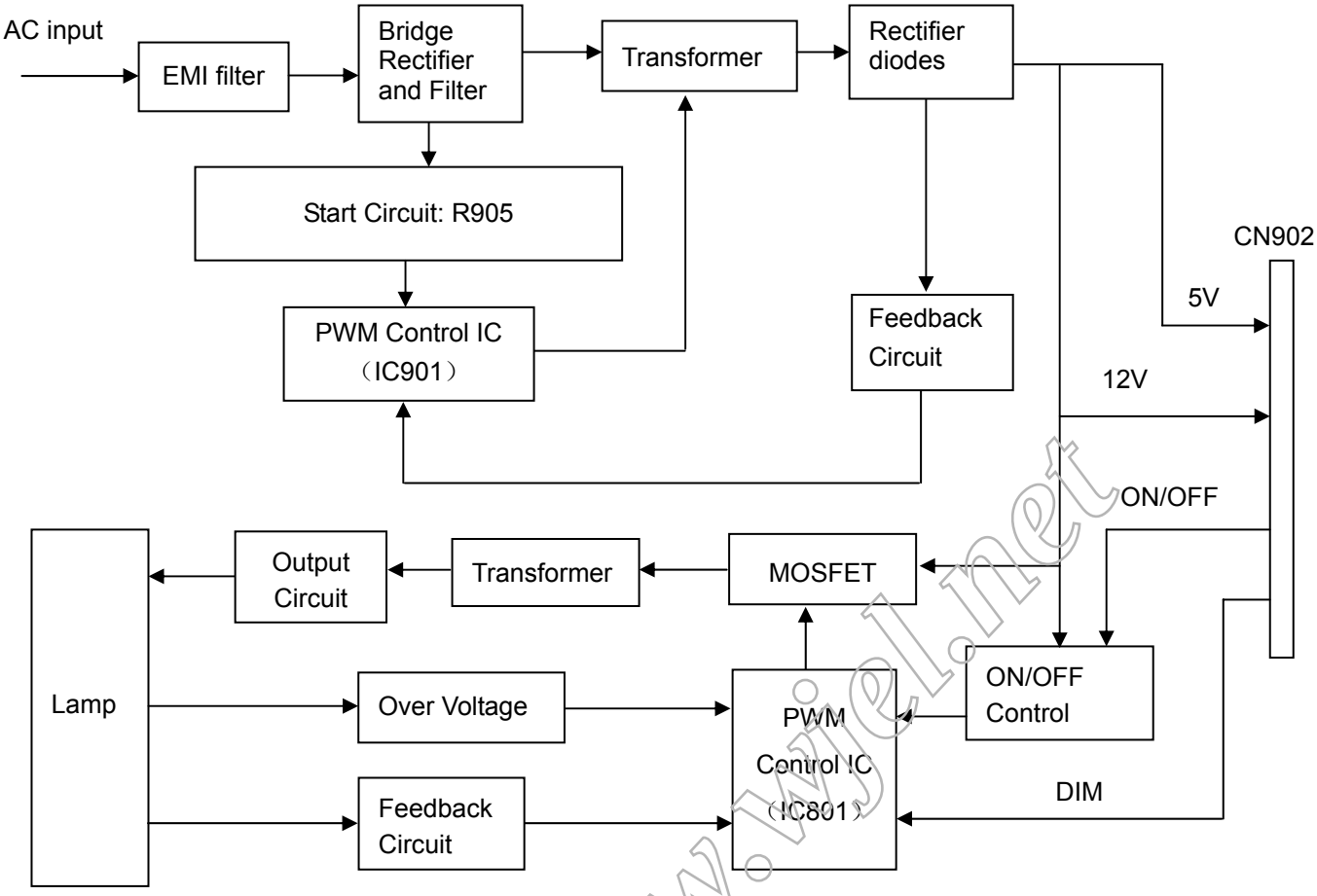
1) MCU initialize.
2) Is the EPROM blank?
3) Program the EPROM by default values.
4) Get the PWM value of brightness from EPROM.
5) Is the power key pressed?
6) Clear all global flags.
7) Are the AUTO and SELECT keys pressed?
8) Enter factory mode.
9) Save the power key status into EPROM. Turn on the 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 disappear.
17) Program the scalar to be able to show the coming mode.
18) Process the OSD display.
19) Read the keyboard. Is the power key pressed?

5.2 Electrical Block Diagram

5.2.1 Main Board



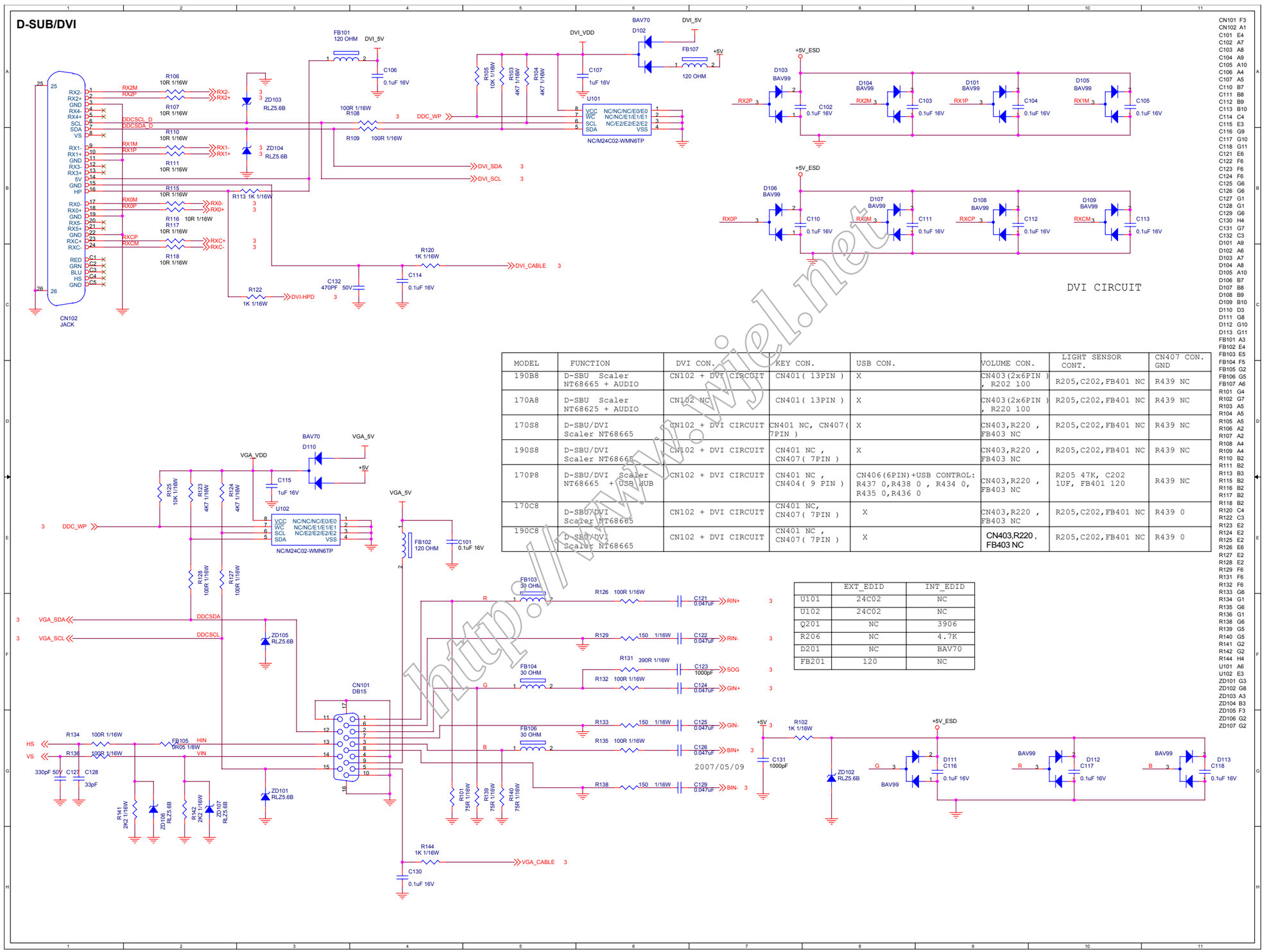
5.2.2 Inverter/Power Board



6. Schematic

6.1 Main Board

715G2561-1



MODEL	FUNCTION	DVI CON.	KEY CON.	USB CON.	VOLUME CON.	LIGHT SENSOR CONT.	CN407 CON. GND
190B8	D-SBU Scaler NT68665 + AUDIO	CN102 + DVI CIRCUIT	CN401(13PIN)	X	CN403(2x6PIN) , R202 100	R205,C202,FB401 NC	R439 NC
170A8	D-SBU Scaler NT68625 + AUDIO	CN102 NC	CN401(13PIN)	X	CN403(2x6PIN) , R220 100	R205,C202,FB401 NC	R439 NC
170S8	D-SBU/DVI Scaler NT68665	CN102 + DVI CIRCUIT	CN401 NC, CN407(7PIN)	X	CN403,R220 , FB403 NC	R205,C202,FB401 NC	R439 NC
190S8	D-SBU/DVI Scaler NT68665	CN102 + DVI CIRCUIT	CN401 NC , CN407(7PIN)	X	CN403,R220 , FB403 NC	R205,C202,FB401 NC	R439 NC
170P8	D-SBU/DVI Scaler NT68665 + USB HUB	CN102 + DVI CIRCUIT	CN401 NC , CN404(9 PIN)	CN406(6PIN)+USB CONTROL: R437 0,R438 0 , R434 0, R435 0,R436 0	CN403,R220 , FB403 NC	R205 47K, C202 1UF, FB401 120	R439 NC
170C8	D-SBU/DVI Scaler NT68665	CN102 + DVI CIRCUIT	CN401 NC, CN407(7PIN)	X	CN403,R220 , FB403 NC	R205,C202,FB401 NC	R439 0
190C8	D-SBU/DVI Scaler NT68665	CN102 + DVI CIRCUIT	CN401 NC , CN407(7PIN)	X	CN403,R220 , FB403 NC	R205,C202,FB401 NC	R439 0

	EXT_EDID	INT_EDID
U101	24C02	NC
U102	24C02	NC
Q201	NC	3906
R206	NC	4.7K
D201	NC	BAV70
FB201	120	NC

CN101 F3
CN102 A1
C101 E4
C102 A7
C103 A8
C104 A9
C105 A10
C106 A4
C107 A5
C110 B7
C111 B8
C112 B9
C113 B10
C114 C4
C115 E3
C116 G9
C117 G10
C118 G11
C121 E6
C122 F6
C123 F6
C124 F6
C125 G6
C126 G6
C127 G1
C128 G1
C129 G6
C130 H4
C131 G7
C132 C3
D101 A9
D102 A6
D103 A7
D104 A8
D105 A10
D106 B7
D107 B8
D108 B9
D109 B10
D110 D3
D111 G8
D112 G10
D113 G11
FB101 A3
FB102 E4
FB103 E5
FB104 F5
FB105 G2
FB106 G5
FB107 A6
R101 G4
R102 G7
R103 A5
R104 A5
R105 A5
R106 A2
R107 A2
R108 A4
R109 A4
R110 B2
R111 B2
R113 B3
R115 B2
R116 B2
R117 B2
R118 B2
R120 C4
R122 C3
R123 E2
R124 E2
R125 E2
R126 E6
R127 E2
R128 E2
R129 F6
R131 F6
R132 F6
R133 G6
R134 G1
R135 G6
R136 G1
R138 G6
R139 G5
R140 G5
R141 G2
R142 G2
R144 H4
U101 A6
U102 E3
ZD101 G3
ZD102 G8
ZD103 A3
ZD104 B3
ZD105 F3
ZD106 G2
ZD107 G2

MCU+SCALER NT68665

NO.	PARTS	NONE OD	OD
1	U203	NT68665	NT68670
2	R209	NC	0R
3	R228	0R	NC
4	R218	22R	NC
5	C212	NC	0.1u
6	C211	NC	0.1u

U203
NT68665MFG-128

EXT_EDID MCU POWER

SMT TYPE

TO RS232

OPTION(HDCP)

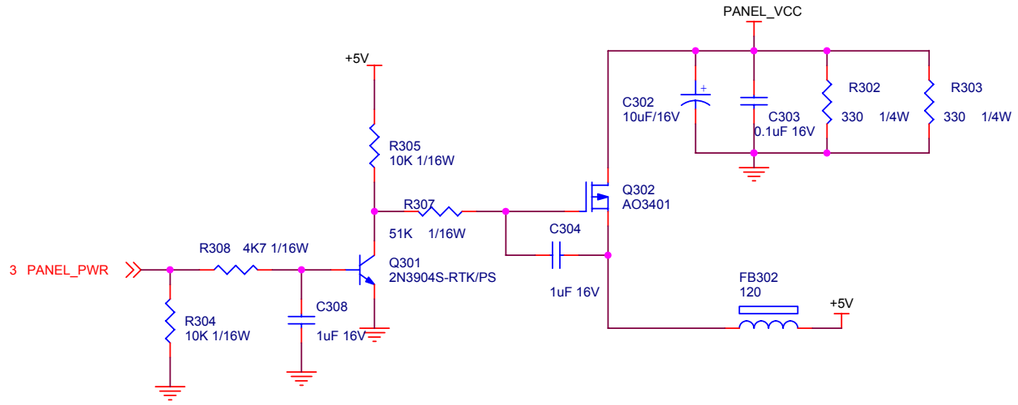
INT_EDID MCU POWER

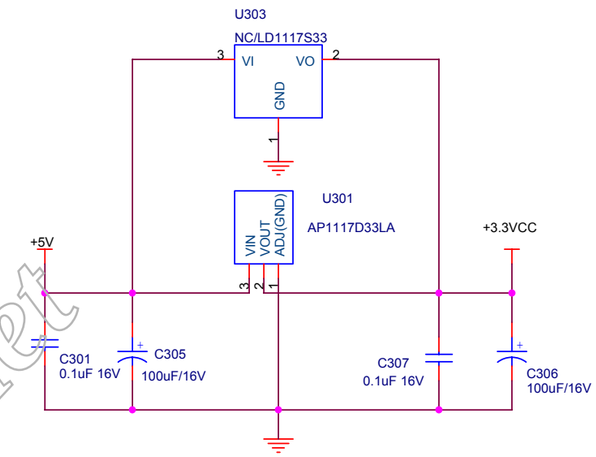
2007/05/08

170A8/90B8

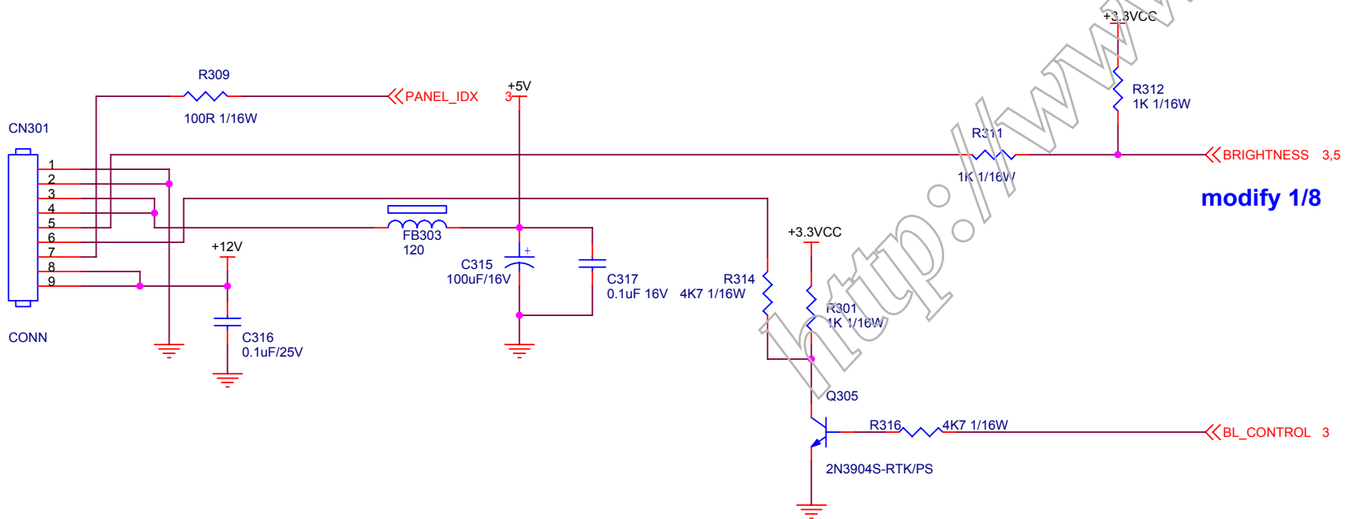
170P8

DC-DC

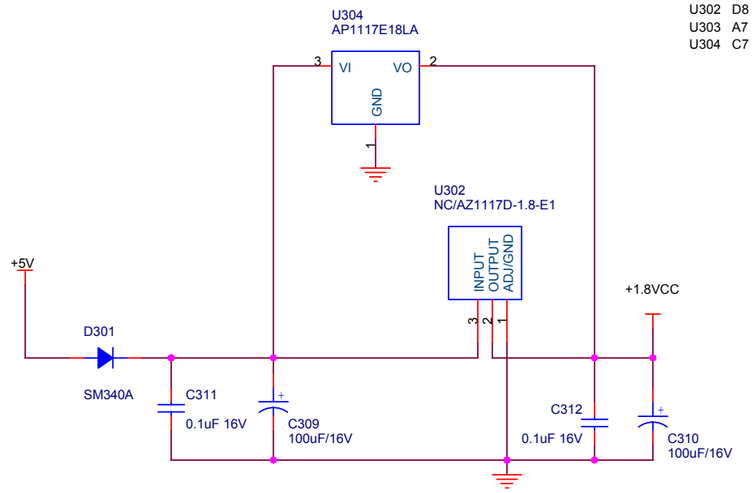




CN301 D1
C301 B6
C302 A4
C303 A4
C304 B3
C305 B7
C306 B8
C307 B8
C308 B2
C309 E7
C310 E9
C311 E7
C312 E8
C315 D3
C316 D1
C317 D3
D301 D7
FB302 B4
FB303 D2
Q301 B2
Q302 B3
Q305 E4
R301 D4
R302 A4
R303 A4
R304 B2
R305 A2
R307 B3
R308 B2
R309 D1
R311 D4
R312 D5
R314 D4
R316 E4
U301 B7
U302 D8
U303 A7
U304 C7



modify 1/8



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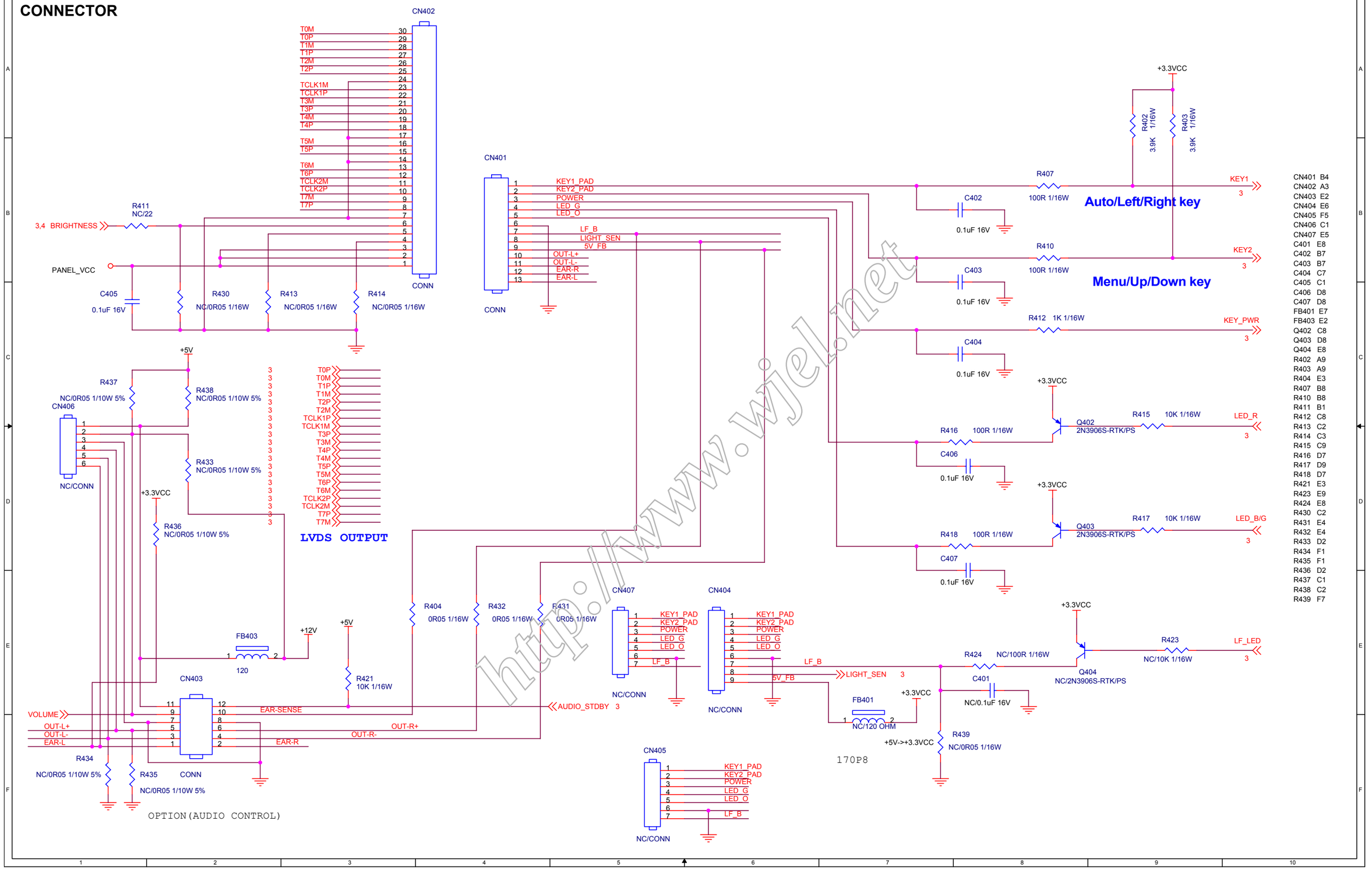

CN401 B4
CN402 A3
CN403 E2
CN404 E6
CN405 F5
CN406 C1
CN407 E5
C401 E8
C402 B7
C403 B7
C404 C7
C405 C1
C406 D8
C407 D8
FB401 E7
FB403 E2
Q402 C8
Q403 D8
Q404 E8
R402 A9
R403 A9
R404 E3
R407 B8
R410 B8
R411 B1
R412 C8
R413 C2
R414 C3
R415 C9
R416 D7
R417 D9
R418 D7
R421 E3
R423 E9
R424 E8
R430 C2
R431 E4
R432 E4
R433 D2
R434 F1
R435 F1
R436 D2
R437 C1
R438 C2
R439 F7

6.2 Power Board

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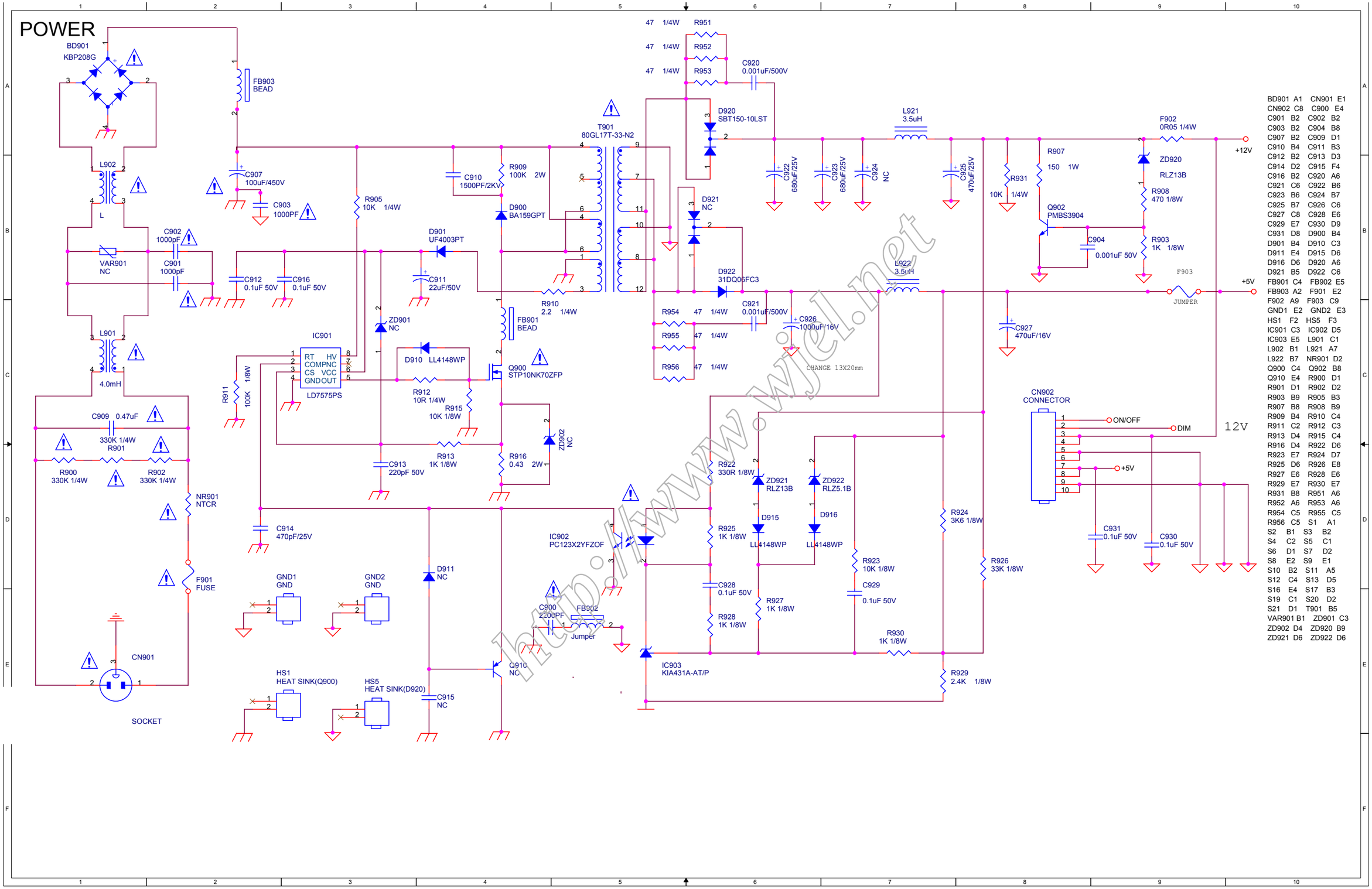
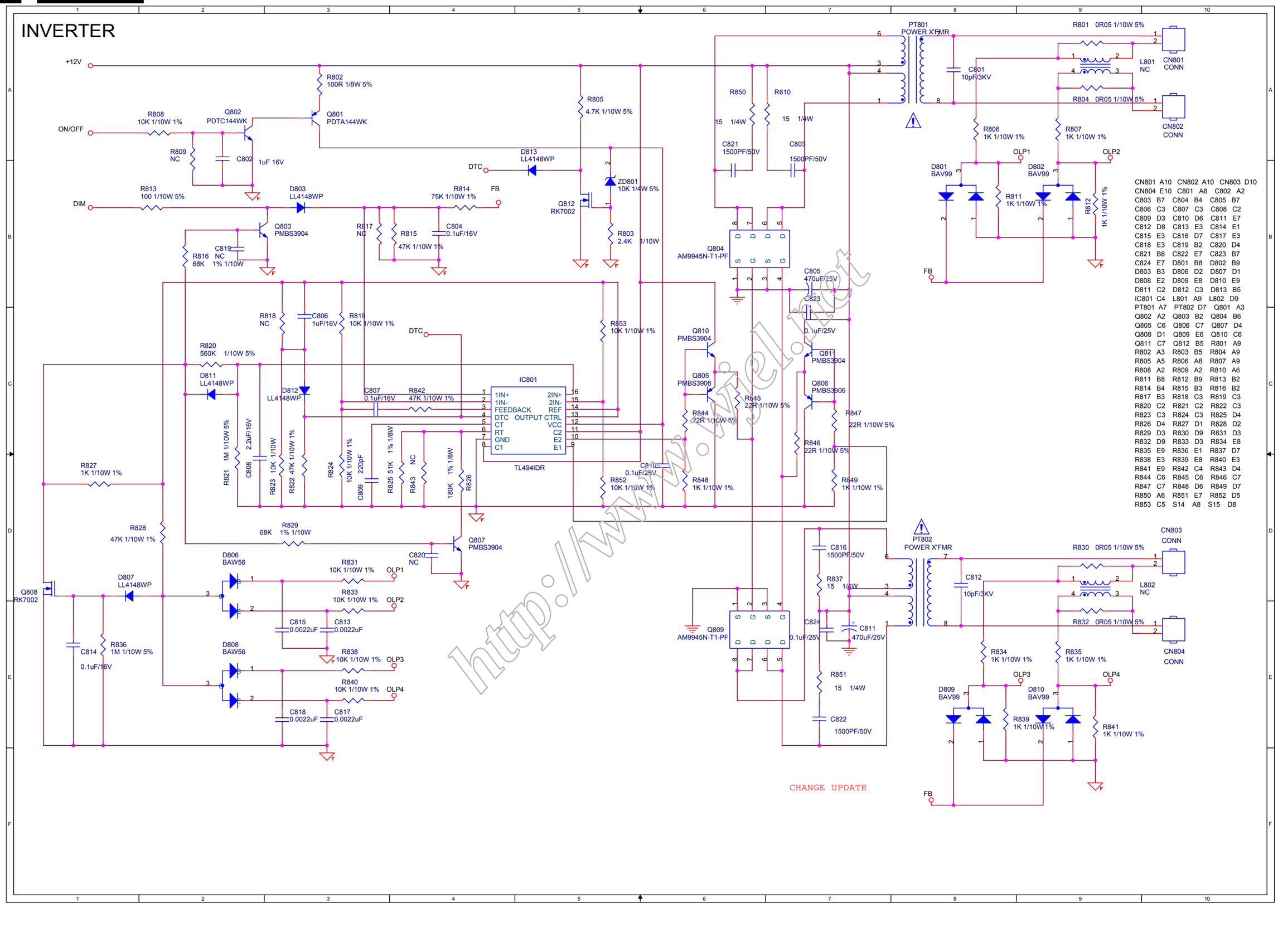


BD901 A1 CN901 E1
CN902 C8 C900 E4
C901 B2 C902 B2
C903 B2 C904 B8
C907 B2 C909 D1
C910 B4 C911 B3
C912 B2 C913 D3
C914 D2 C915 F4
C916 B2 C920 A6
C921 C6 C922 B6
C923 B6 C924 B7
C925 B7 C926 C6
C927 C8 C928 E6
C929 E7 C930 D9
C931 D8 D900 B4
D901 B4 D910 C3
D911 E4 D915 D6
D916 D6 D920 A6
D921 B5 D922 C6
FB901 C4 FB902 E5
FB903 A2 F901 E2
F902 A9 F903 C9
GND1 E2 GND2 E3
HS1 F2 HS5 F3
IC901 C3 IC902 D5
IC903 E5 L901 C1
L902 B1 L921 A7
L922 B7 NR901 D2
Q900 C4 Q902 B8
Q910 E4 R900 D1
R901 D1 R902 D2
R903 B9 R905 B3
R907 B8 R908 B9
R909 B4 R910 C4
R911 C2 R912 C3
R913 D4 R915 C4
R916 D4 R922 D6
R923 E7 R924 D7
R925 D6 R926 E8
R927 E6 R928 E6
R929 E7 R930 E7
R931 B8 R951 A6
R952 A6 R953 A6
R954 C5 R955 C5
R956 C5 S1 A1
S2 B1 S3 B2
S4 C2 S5 C1
S6 D1 S7 D2
S8 E2 S9 E1
S10 B2 S11 A5
S12 C4 S13 D5
S16 E4 S17 B3
S19 C1 S20 D2
S21 D1 T901 B5
VAR901 B1 ZD901 C3
ZD902 D4 ZD920 B9
ZD921 D6 ZD922 D6

INVERTER



CN801 A10 CN802 A10 CN803 D10
CN804 E10 C801 A8 C802 A2
C803 B7 C804 B4 C805 B7
C806 C3 C807 C3 C808 C2
C809 D3 C810 D6 C811 E7
C812 D8 C813 E3 C814 E1
C815 E3 C816 D7 C817 E3
C818 E3 C819 B2 C820 D4
C821 B6 C822 E7 C823 B7
C824 E7 D801 B8 D802 B9
D803 B3 D806 D2 D807 D1
D808 E2 D809 E8 D810 E9
D811 C2 D812 C3 D813 B5
IC801 C4 L801 A9 L802 D9
PT801 A7 PT802 D7 Q801 A3
Q802 A2 Q803 B2 Q804 B6
Q805 C6 Q806 C7 Q807 D4
Q808 D1 Q809 E6 Q810 C6
Q811 C7 Q812 B5 R801 A9
R802 A3 R803 B5 R804 A9
R805 A5 R806 A8 R807 A9
R808 A2 R809 A2 R810 A6
R811 B8 R812 B9 R813 B2
R814 B4 R815 B3 R816 B2
R817 B3 R818 C3 R819 C3
R820 C2 R821 C2 R822 C3
R823 C3 R824 C3 R825 D4
R826 D4 R827 D1 R828 D2
R829 D3 R830 D9 R831 D3
R832 D9 R833 D3 R834 E8
R835 E9 R836 E1 R837 D7
R838 E3 R839 E8 R840 E3
R841 E9 R842 C4 R843 D4
R844 C6 R845 C6 R846 C7
R847 C7 R848 D6 R849 D7
R850 A6 R851 E7 R852 D5
R853 C5 S14 A8 S15 D8

6.3 Audio Board

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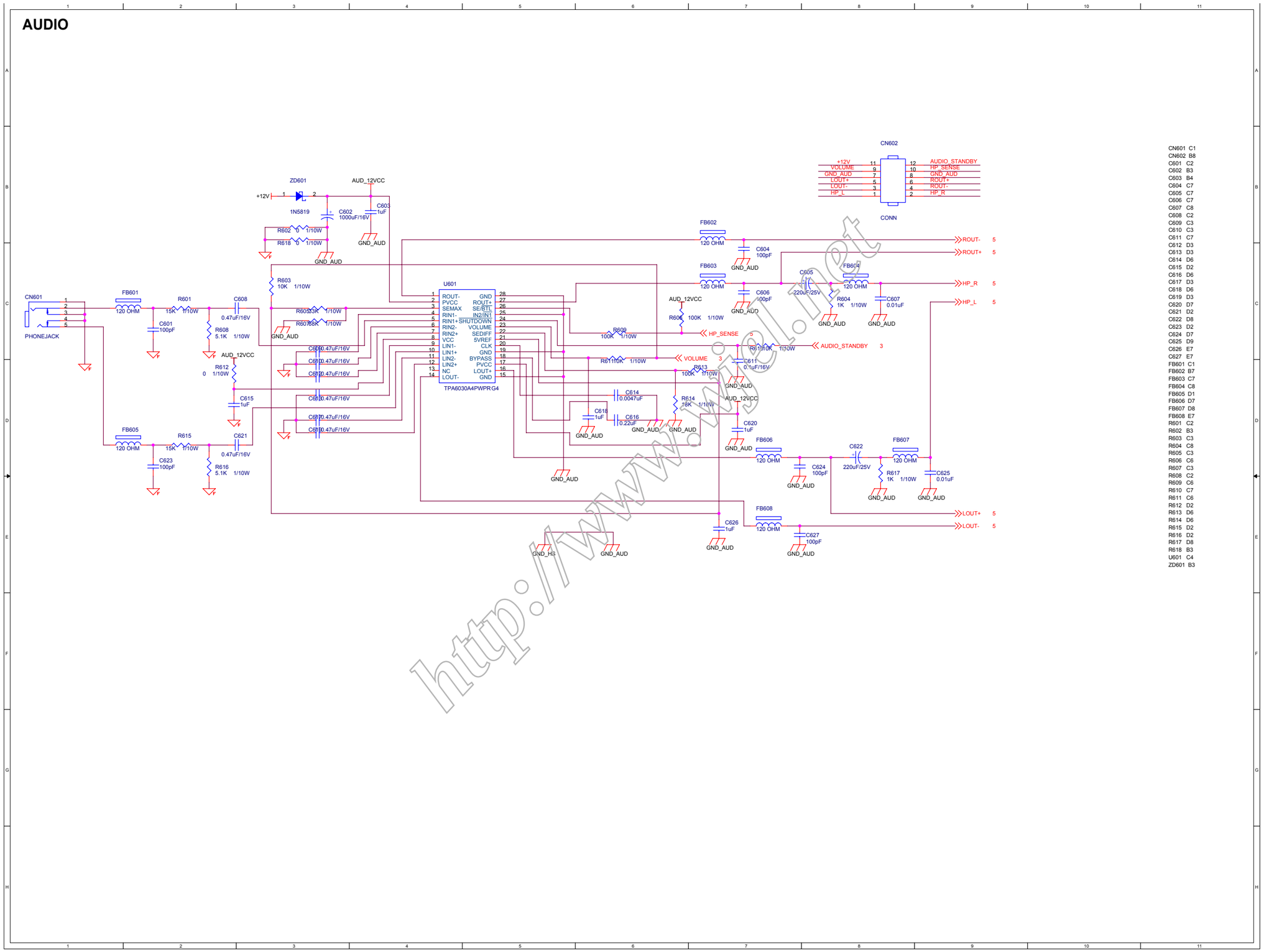

CN601 C1
CN602 B8
C601 C2
C602 B3
C603 B4
C604 C7
C605 C7
C606 C7
C607 C8
C608 C2
C609 C3
C610 C3
C611 C7
C612 D3
C613 D3
C614 D6
C615 D2
C616 D6
C617 D3
C618 D6
C619 D3
C620 D7
C621 D2
C622 D8
C623 D2
C624 D7
C625 D9
C626 E7
C627 E7
FB601 C1
FB602 B7
FB603 C7
FB604 C8
FB605 D1
FB606 D7
FB607 D8
FB608 E7
R601 C2
R602 B3
R603 C3
R604 C8
R605 C3
R606 C6
R607 C3
R608 C2
R609 C6
R610 C7
R611 C6
R612 D2
R613 D6
R614 D6
R615 D2
R616 D2
R617 D8
R618 B3
U601 C4
ZD601 B3

7. PCB Layout

7.1 Main Board

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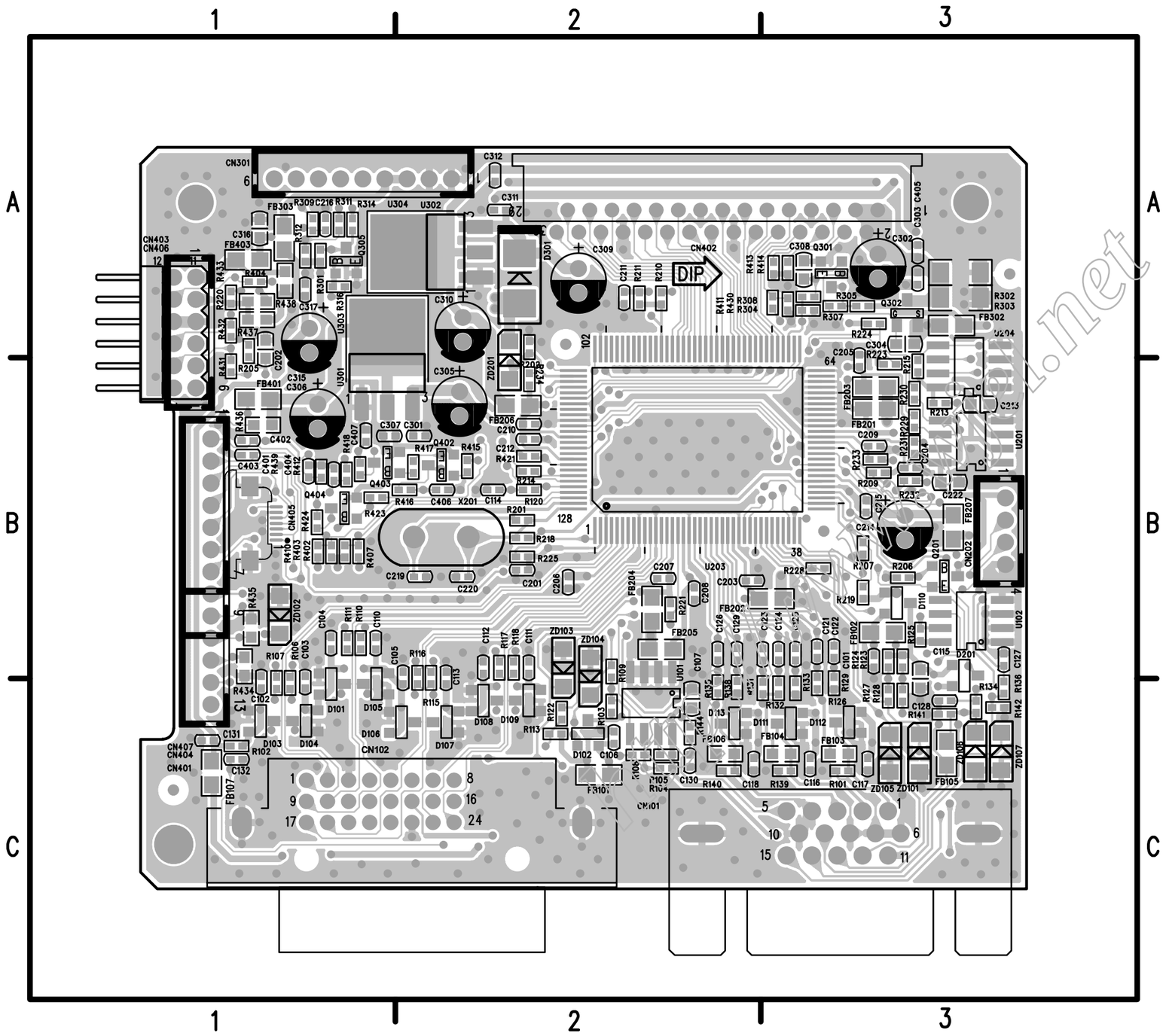
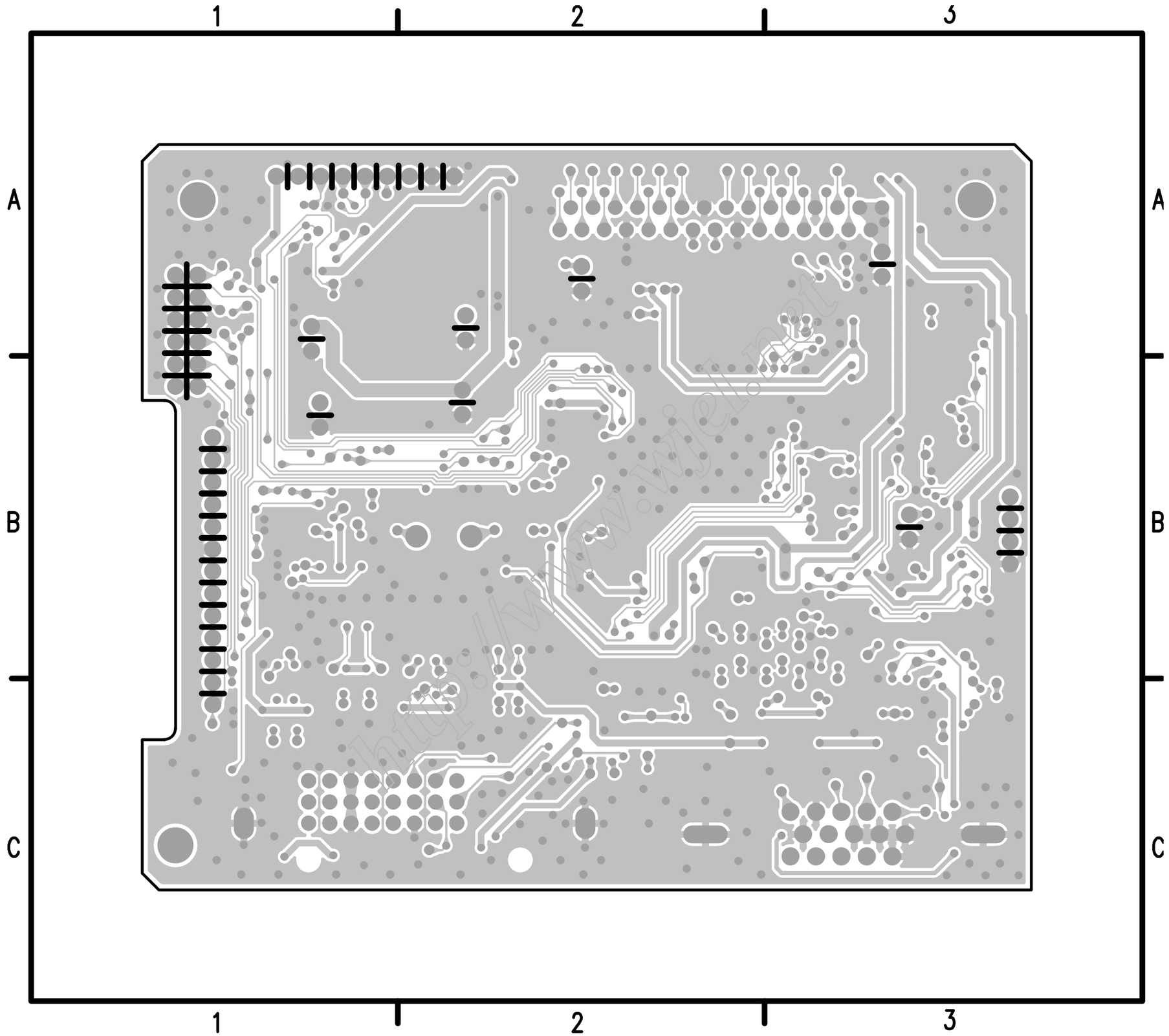


C101	B3	C215	B3	D105	C1	Q301	A3	R144	C2	R410	B1
C102	C1	C216	A1	D106	C2	Q302	A3	R201	B2	R411	A3
C103	C1	C219	B2	D107	C2	Q305	A1	R202	A2	R412	B1
C104	B1	C220	B2	D108	C2	Q402	B2	R205	A1	R413	A3
C105	C2	C222	B3	D109	C2	Q403	B2	R206	B3	R414	A3
C106	C2	C301	B2	D110	B3	Q404	B1	R207	B3	R415	B2
C107	C2	C302	A3	D111	C3	R101	C3	R209	B3	R416	B2
C110	B1	C303	A3	D112	C3	R102	C1	R210	A2	R417	B2
C111	B2	C304	A3	D113	C2	R103	C2	R211	A2	R418	B1
C112	B2	C305	B2	D201	B3	R104	C2	R213	B3	R421	B2
C113	C2	C306	B1	D301	A2	R105	C2	R214	B2	R423	B1
C114	B2	C307	B1	FB101	C2	R106	C1	R215	B3	R424	B1
C115	C3	C308	A3	FB102	B3	R107	C1	R218	B2	R430	A3
C116	C3	C309	A2	FB103	C3	R108	C2	R219	B3	R431	B1
C117	C3	C310	A2	FB104	C3	R109	B2	R220	A1	R432	A1
C118	C2	C311	A2	FB105	C3	R110	B1	R221	B2	R433	A1
C121	B3	C312	A2	FB106	C2	R111	B1	R223	B3	R434	B1
C122	B3	C315	A1	FB107	C1	R113	C2	R224	A3	R435	B1
C123	B2	C316	A1	FB201	B3	R115	C2	R225	B2	R436	B1
C124	B3	C317	A1	FB202	B3	R116	C2	R228	B3	R437	A1
C125	B3	C401	B1	FB203	B3	R117	B2	R229	B3	R438	A1
C126	B2	C402	B1	FB204	B2	R118	B2	R230	B3	R439	B1
C127	B3	C403	B1	FB205	B2	R120	B2	R231	B3	U101	B2
C128	C3	C404	B1	FB206	B2	R122	C2	R232	B3	U102	B3
C129	B2	C405	A3	FB207	B3	R123	B3	R233	B3	U201	B3
C130	C2	C406	B2	FB302	A3	R124	B3	R234	B2	U203	B2
C131	C1	C407	B1	FB303	A1	R125	B3	R301	A1	U204	B3
C132	C1	CN101	C3	FB401	B1	R126	C3	R302	A3	U301	B1
C201	B2	CN102	C2	FB403	A1	R127	C3	R303	A3	U302	A2
C202	A1	CN202	B3	FDT1	B3	R128	C3	R304	A3	U303	B1
C203	B2	CN301	A2	FDT10	<1	R129	C3	R305	A3	U304	A2
C204	B3	CN401	B1	FDT11	C8	R131	C2	R307	A3	X201	B2
C205	B3	CN402	A2	FDT12	<8	R132	C3	R308	A3	ZD101	C3
C206	B2	CN403	B1	FDT13	C1	R133	C3	R309	A1	ZD102	B1
C207	B2	CN404	B1	FDT2	A2	R134	C3	R311	A1	ZD103	B2
C208	B2	CN405	B1	FDT3	A3	R135	C2	R312	A1	ZD104	B2
C209	B3	CN406	A1	FDT4	C1	R136	C3	R314	A1	ZD105	C3
C210	B2	CN407	B1	FDT5	C1	R138	C2	R316	A1	ZD106	C3
C211	A2	D101	C1	FDT6	<1	R139	C3	R402	B1	ZD107	C3
C212	B2	D102	C2	FDT7	C8	R140	C2	R403	B1	ZD201	B2
C213	B3	D103	C1	FDT8	<8	R141	C3	R404	A1		
C214	B3	D104	C1	Q201	B3	R142	C3	R407	B1		


1
2
3
A
B
C

7.2 Power Board

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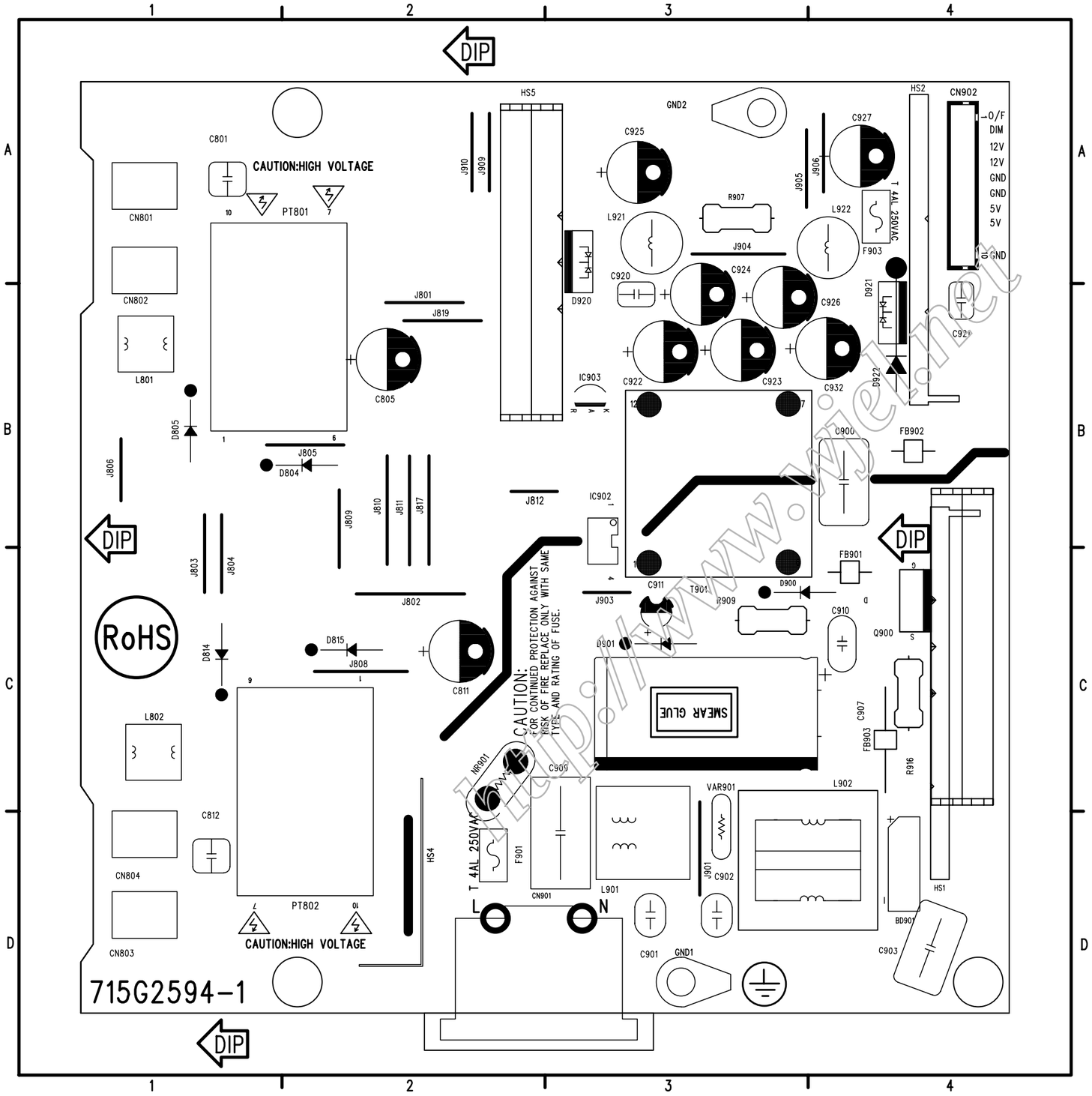

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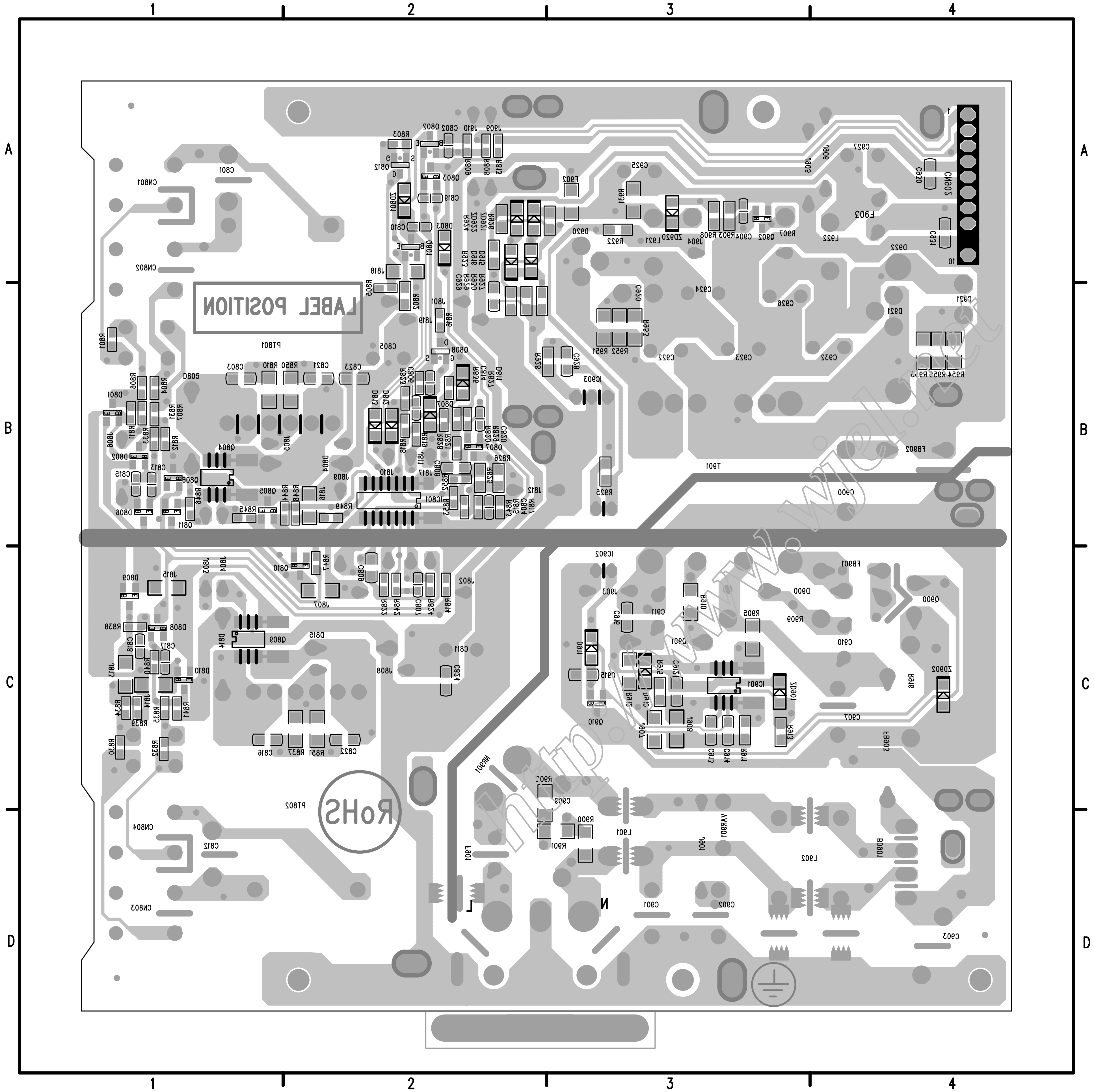
C801	A1	J803	B1
C805	B2	J804	B1
C811	C2	J805	B2
C812	D1	J806	B1
C900	B4	J808	C2
C901	D3	J809	C2
C902	D3	J810	C2
C903	D4	J811	C2
C907	C4	J812	B2
C909	D3	J817	C2
C910	C4	J819	B2
C911	C3	J901	D3
C920	B3	J903	C3
C921	B4	J904	A3
C922	B3	J905	A3
C923	B3	J906	A4
C924	B3	J909	A2
C925	A3	J910	A2
C926	B3	L801	B1
C927	A4	L802	C1
C932	B4	L901	D3
CN801	A1	L902	D4
CN802	A1	L921	A3
CN803	D1	L922	A4
CN804	D1	NR901	C2
CN901	D2	PT801	B1
CN902	A4	PT802	C2
D804	B1	Q900	C4
D805	B1	R907	A3
D814	C1	R909	C3
D815	C2	R916	C4
D900	C3	SG11	C4
D901	C3	SG12	D2
D920	A3	SG19	D2
D921	B4	SG22	D4
D922	A4	SG25	D4
F901	D2	SG27	D3
F903	A4	SG28	C3
FB901	C4	SG31	D3
FB902	B4	SG33	A1
FB903	C4	SG34	A1
HS10	A3	SG35	A1
HS13	A3	SG36	A1
HS14	A2	SG39	A1
HS16	A2	SG40	D1
HS17	B4	SG42	D1
HS20	A8	SG44	D1
HS28	A7	SG45	D1
HS29	B1	SG46	C4
HS31	B4	SG47	C4
IC902	B3	SG49	C4
IC903	B3	T901	C3
J801	B2	VAR901	D3



C802	A2	J907	C3	R843	B2
C803	B1	J908	C3	R844	B2
C804	B2	Q801	A2	R845	B1
C806	B2	Q802	A2	R846	B1
C807	C2	Q803	A2	R847	C2
C808	B2	Q804	B1	R848	B2
C809	C2	Q805	B1	R849	B2
C810	A2	Q806	B1	R850	B2
C813	B1	Q807	B2	R851	C2
C814	B2	Q808	B2	R852	B2
C815	B1	Q809	C1	R853	B2
C816	C1	Q810	C2	R900	D3
C817	C1	Q811	B1	R901	D3
C818	C1	Q812	A2	R902	C2
C819	A2	Q902	A3	R903	A3
C820	B2	Q910	C3	R905	C3
C821	B2	R801	B1	R908	A3
C822	C2	R802	B2	R910	C3
C823	B2	R803	A2	R911	C3
C824	C2	R804	B1	R912	C3
C904	A3	R805	B2	R913	C3
C912	C3	R806	B1	R915	C3
C913	C3	R807	B1	R922	A3
C914	C3	R808	A2	R923	A2
C915	C3	R809	A2	R924	A2
C916	C3	R810	B1	R925	B3
C928	B3	R811	B1	R926	A3
C929	B2	R812	B1	R927	B2
C930	A4	R813	A2	R928	B3
C931	A4	R814	C2	R929	B2
D801	B1	R815	B2	R930	B2
D802	B1	R816	B2	R931	A3
D803	A2	R817	B2	R951	B3
D806	B1	R818	B2	R952	B3
D807	B2	R819	B2	R953	B3
D808	C1	R820	B2	R954	B4
D809	C1	R821	B2	R955	B4
D810	C1	R822	C2	R956	B4
D811	B2	R823	B2	SG10	C3
D812	B2	R824	C2	SG15	D3
D813	B2	R825	B2	SG17	D3
D910	C3	R826	B2	SG18	D4
D911	C3	R827	B2	SG20	D4
D915	A2	R828	B2	SG21	D3
D916	A2	R829	B2	SG23	D4
F902	A3	R830	C1	SG24	D3
HS11	D4	R831	B1	SG26	D4
HS15	A1	R832	C1	SG29	C3
HS21	A7	R833	B1	SG30	D3
HS22	A1	R834	C1	SG32	D3
IC801	B2	R835	C1	SG37	D2
IC901	C3	R836	B2	SG38	D2
J807	C2	R837	C2	ZD801	A2
J813	C1	R838	C1	ZD901	C3
J814	C1	R839	C1	ZD902	C4
J815	C1	R840	C1	ZD920	A3
J816	B2	R841	C1	ZD921	A2
J818	A2	R842	C2	ZD922	A2

7.3 Audio Board

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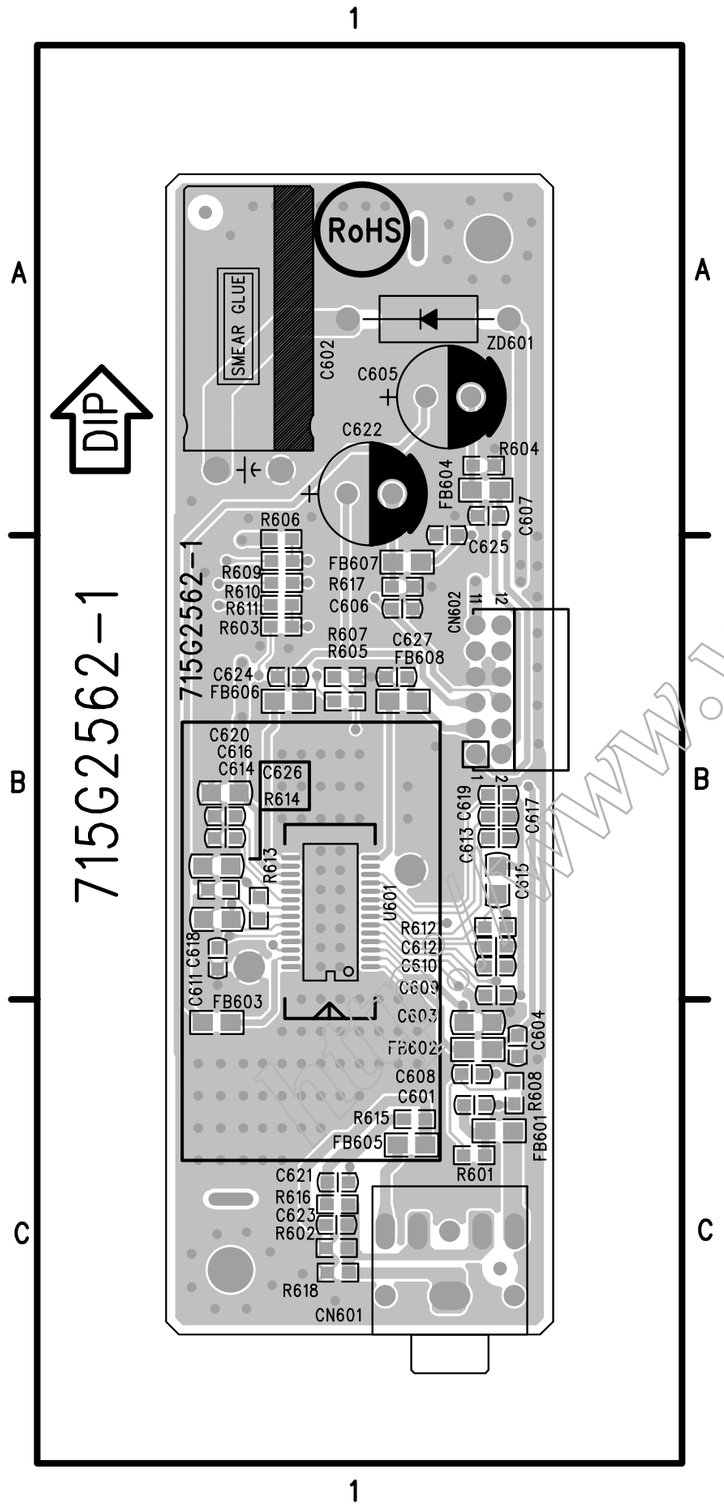
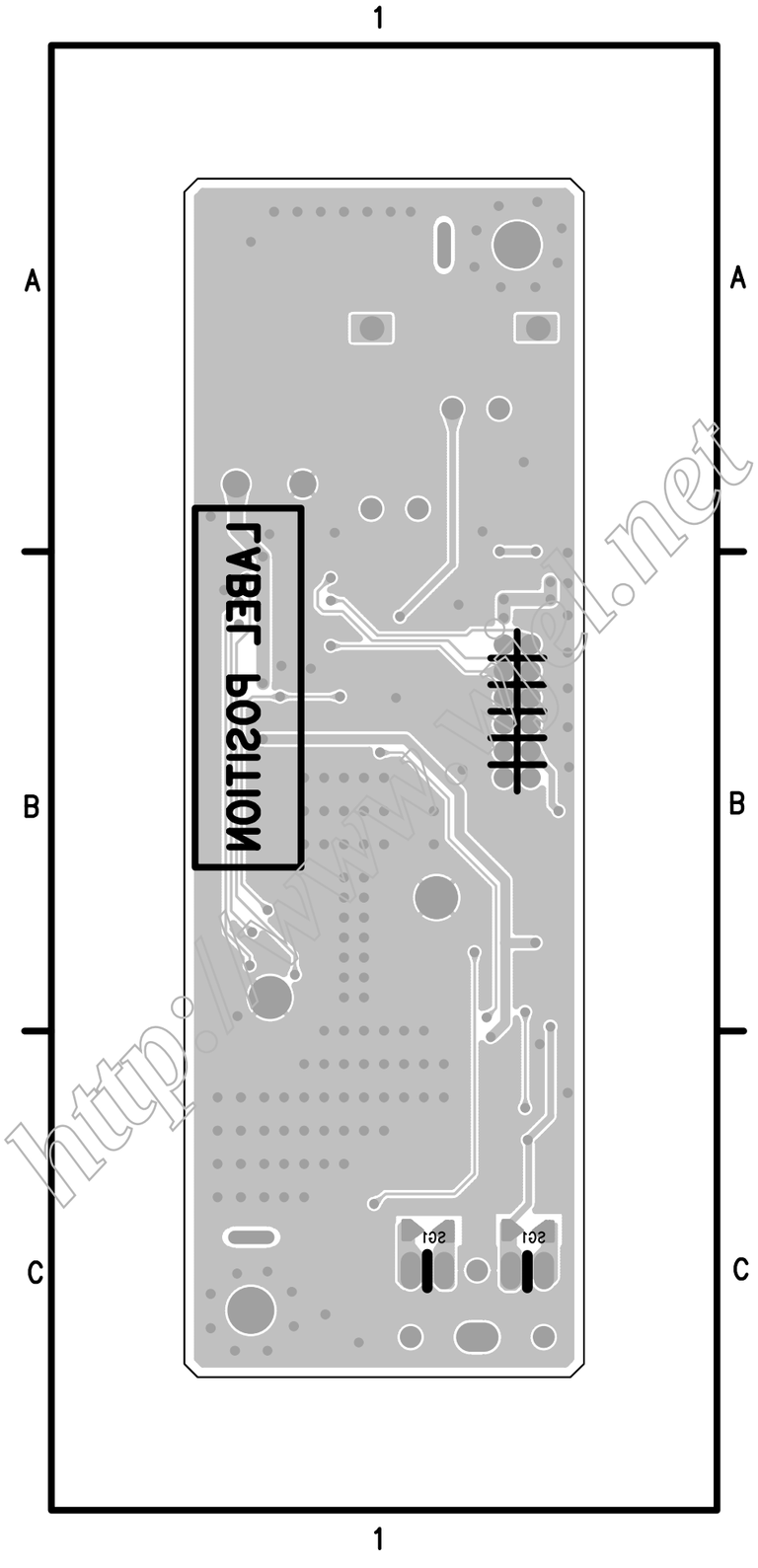
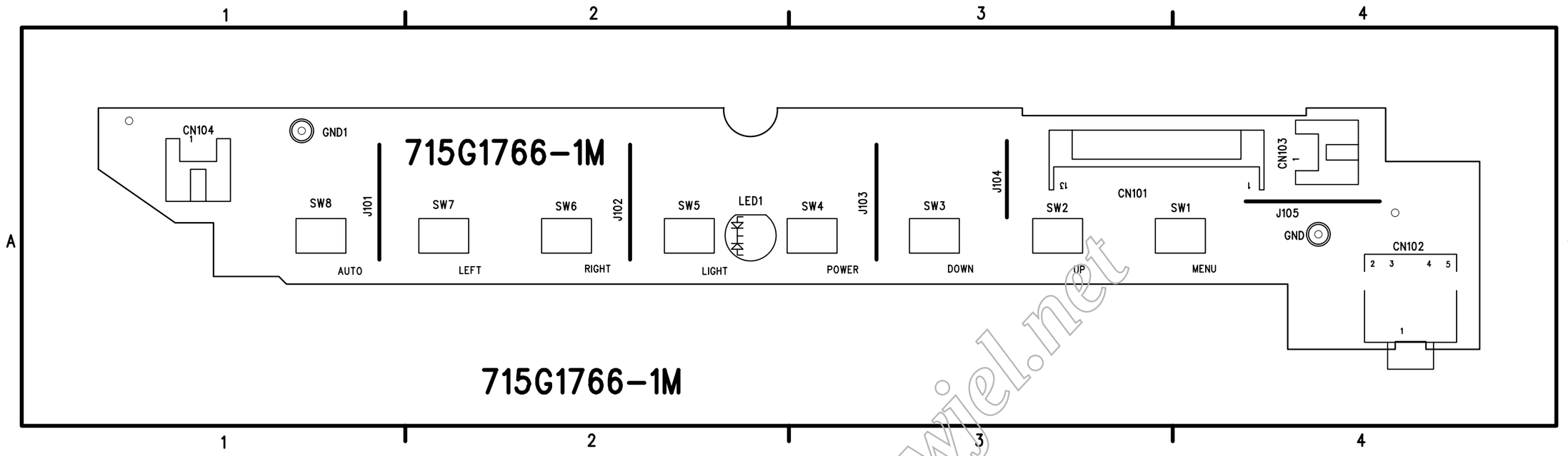


C601	C1	FB601	C1
C602	A1	FB602	C1
C603	C1	FB603	C1
C604	C1	FB604	A1
C605	A1	FB605	C1
C606	B1	FB606	B1
C607	A1	FB607	B1
C608	C1	FB608	B1
C609	C1	R601	C1
C610	B1	R602	C1
C611	B1	R603	B1
C612	B1	R604	A1
C613	B1	R605	B1
C614	B1	R606	B1
C615	B1	R607	B1
C616	B1	R608	C1
C617	B1	R609	B1
C618	B1	R610	B1
C619	B1	R611	B1
C620	B1	R612	B1
C621	C1	R613	B1
C622	A1	R614	B1
C623	C1	R615	C1
C624	B1	R616	C1
C625	B1	R617	B1
C626	B1	R618	C1
C627	B1	U601	B1
CN601	C1	ZD601	A1
CN602	B1		

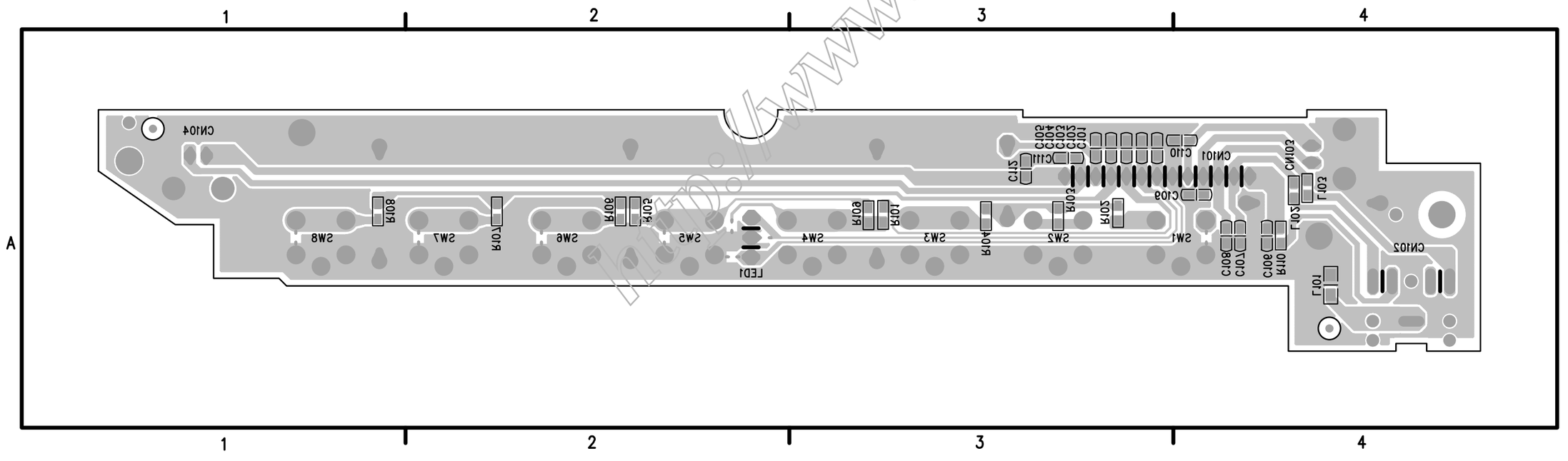


7.4 Key Board

715G1766-1M

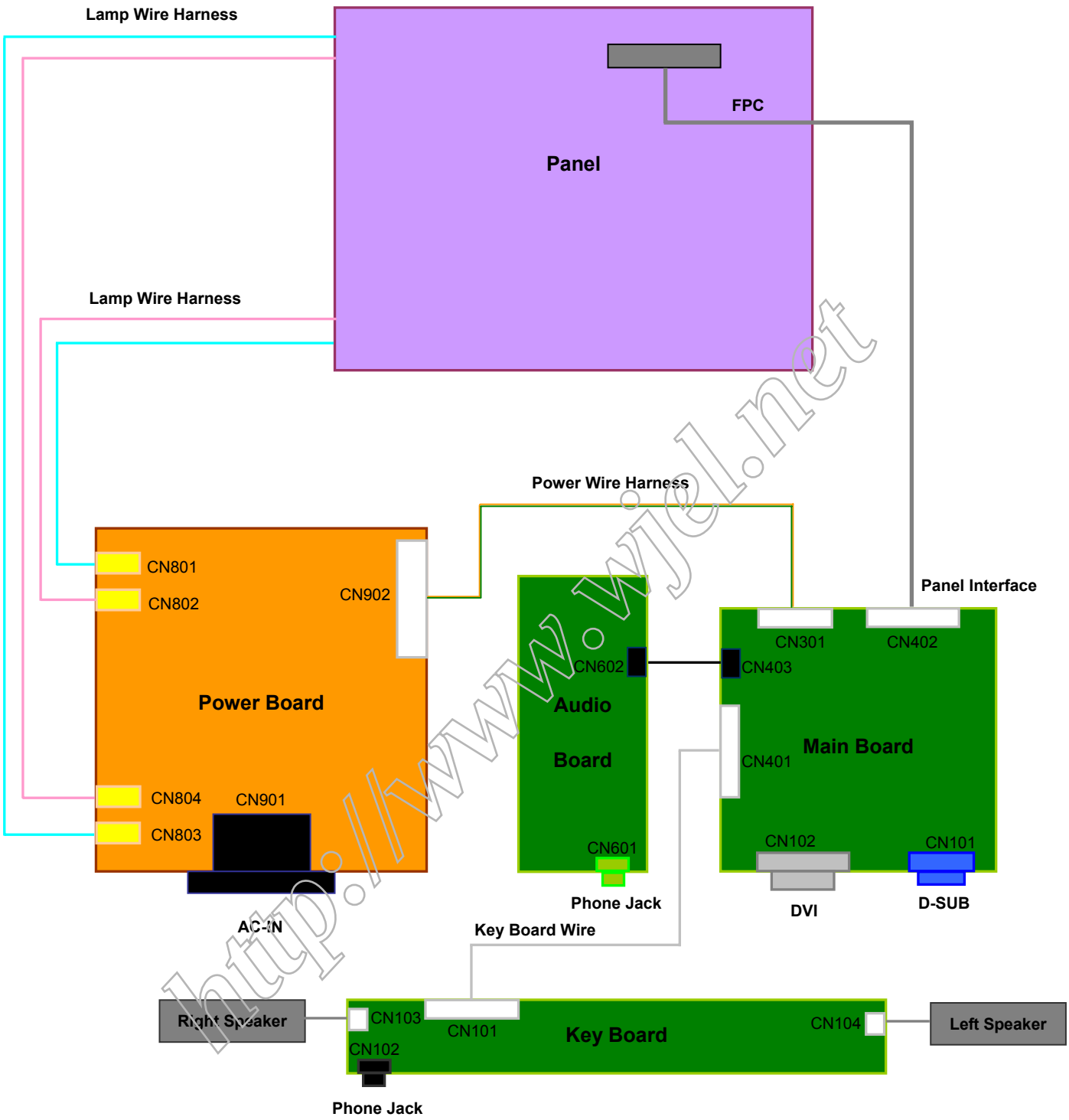


CN101	A4
CN102	A4
CN103	A4
CN104	A1
GND1	A1
GND	A4
J101	A1
J102	A2
J103	A3
J104	A3
J105	A4
LED1	A2
SW1	A4
SW2	A3
SW3	A3
SW4	A3
SW5	A2
SW6	A2
SW7	A2
SW8	A1



C101	A3
C102	A3
C103	A3
C104	A3
C105	A3
C106	A4
C107	A4
C108	A4
C109	A4
C110	A4
C111	A3
C112	A3
L101	A4
L102	A4
L103	A4
R101	A3
R102	A3
R103	A3
R104	A3
R105	A2
R106	A2
R107	A2
R108	A1
R109	A3
R110	A4

8. Wiring Diagram



9. Mechanical Instructions

Steps of dismantling base stand from base column

Step 1: Place the monitor face down on a smooth surface as Fig 1. Be careful to avoid scratch and injury during the uninstallation. Meanwhile, it is need to avoid pressing the control key.

Fig1

Step 2: Insert a sheet, as Fig 2.2, to the base stand as Fig 2.1.

The sheet's dimension is about 5cm(L) x 1cm(W) x 1mm(D).

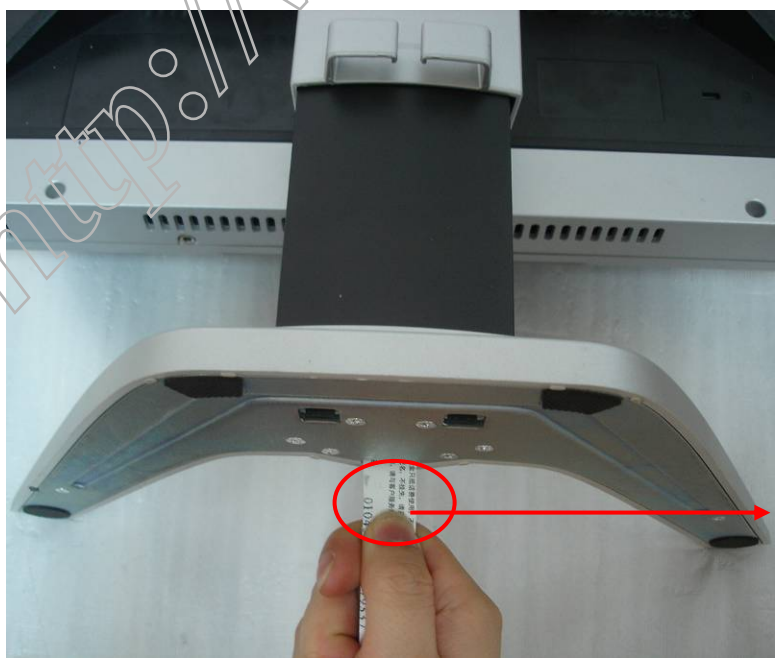


Fig2.1

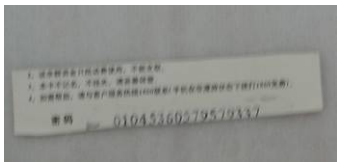


Fig2.2

Step 3: Put out the base emphatically as Fig 3, then you can disjoin the base from the stand.

Fig3

Step 4: Turn the stand, then pull out the hinge cover as Fig 4.

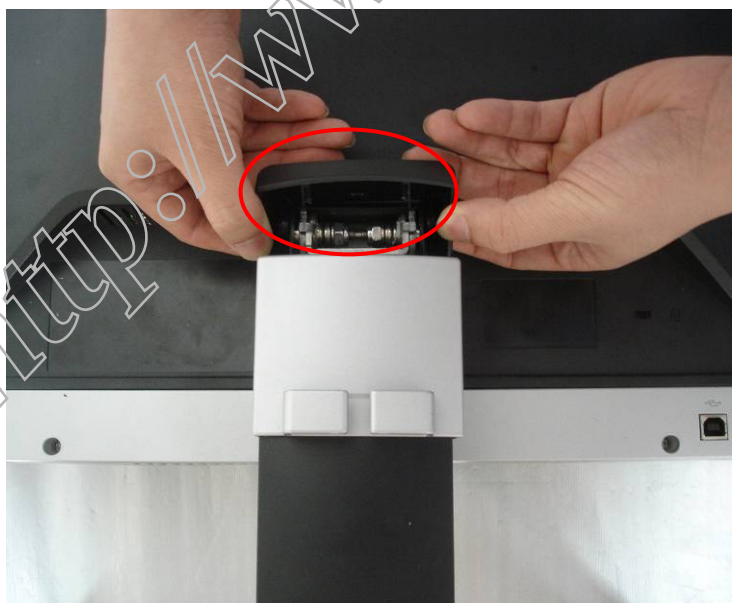
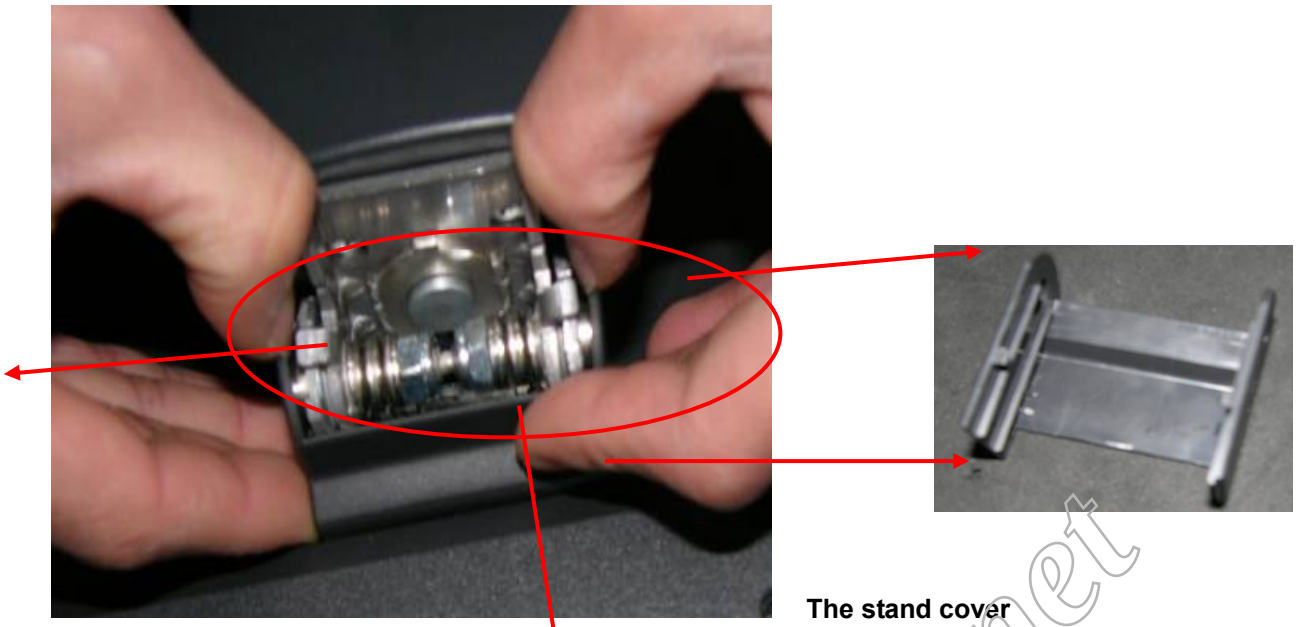


Fig4

Step 5: Pull out the stand cover emphatically as Fig 5.



The stand cover

Fig5

Step6: Unfasten the four screws on the hinge as Fig 6. then dismantle base stand from base column.

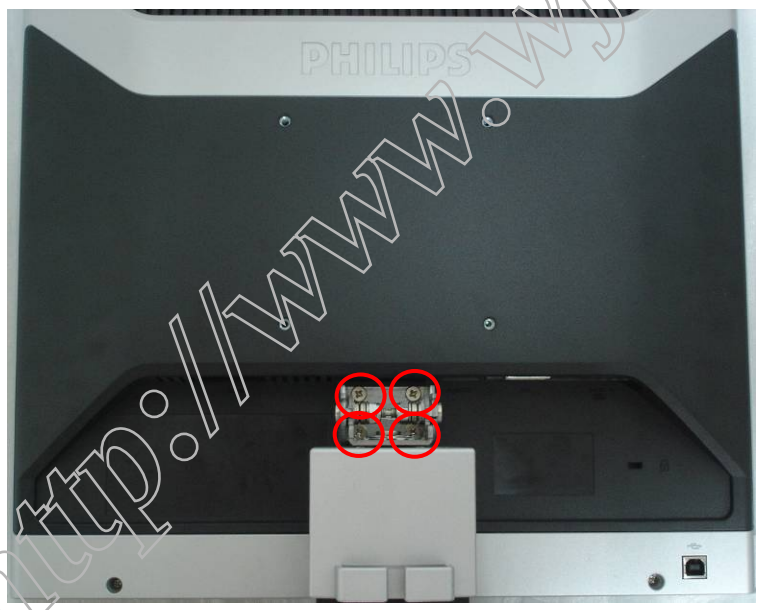


Fig6

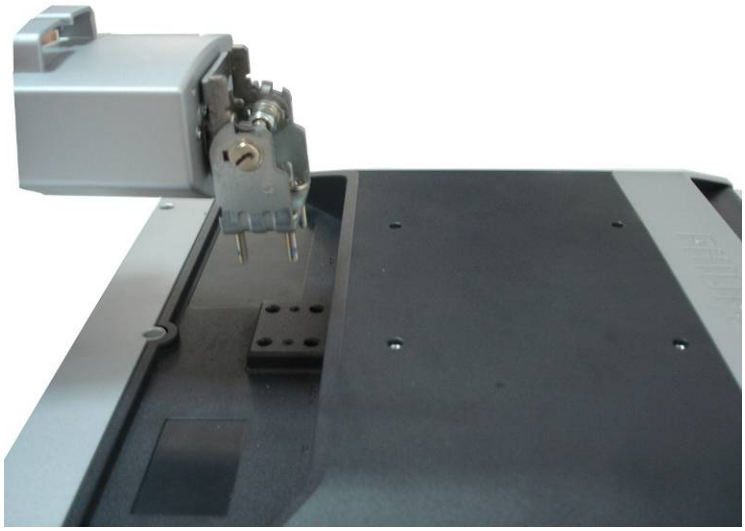


Fig 7

Back View as Fig.1

Fig.1

2. Remove hinge cover as Fig.2.

Remove the hinge cover as Fig.2

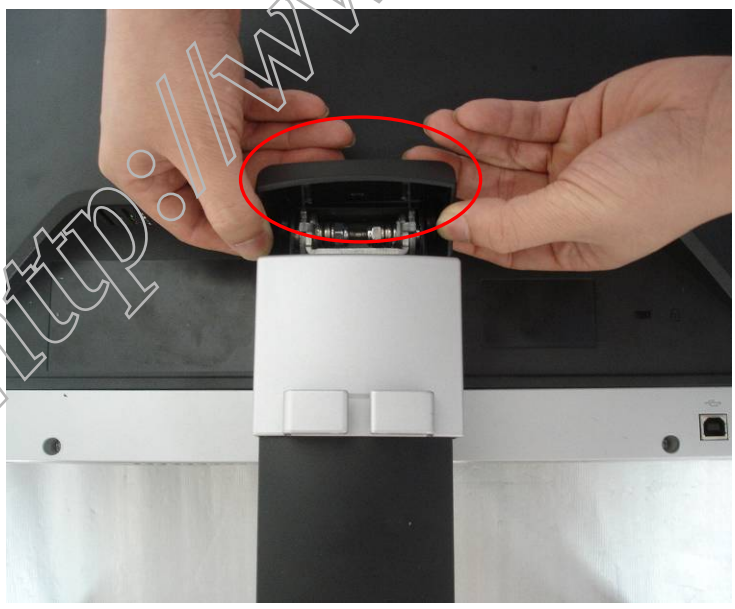


Fig.2

3. Remove rear cover as Fig.3.

Pull out the stand cover emphatically as fig.3.

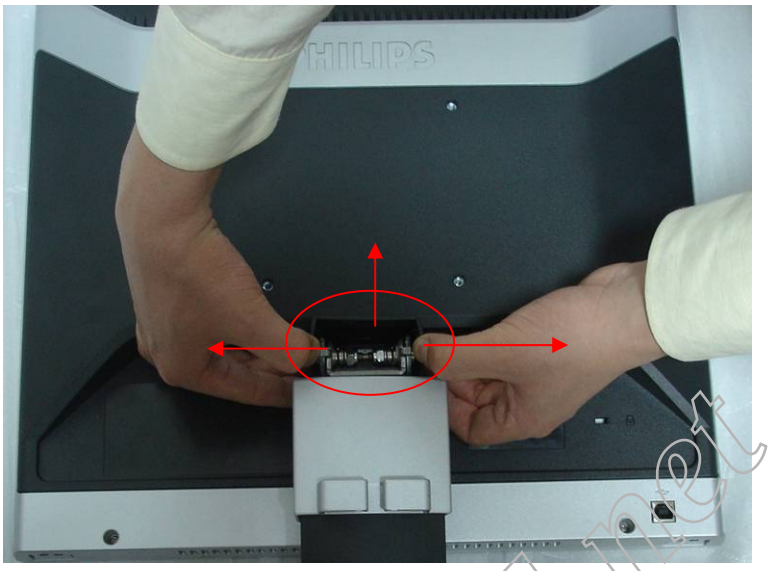


Fig.3

4. Remove base stand as Fig.4

Remove the four screws as Fig.7 to remove the base stand.

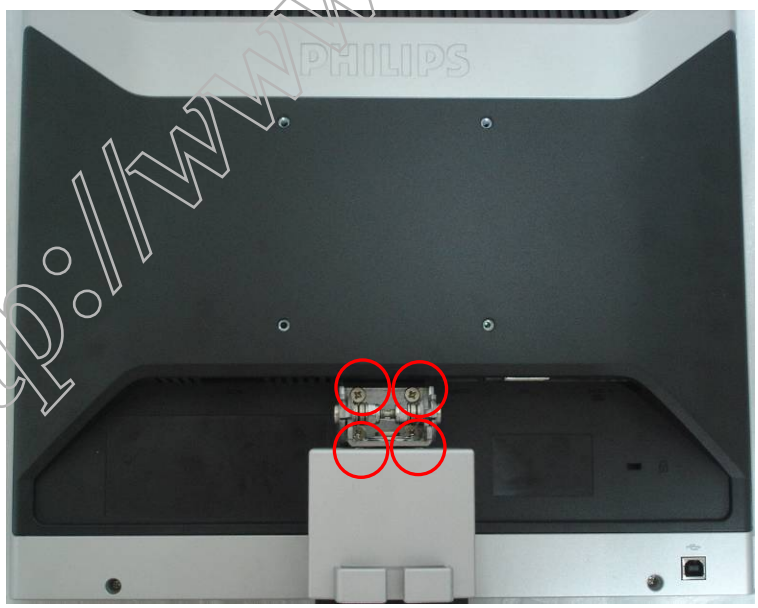


Fig.4

5. Remove back cover as Fig.5

Remove the three screws to remove the back cover as Fig.5.

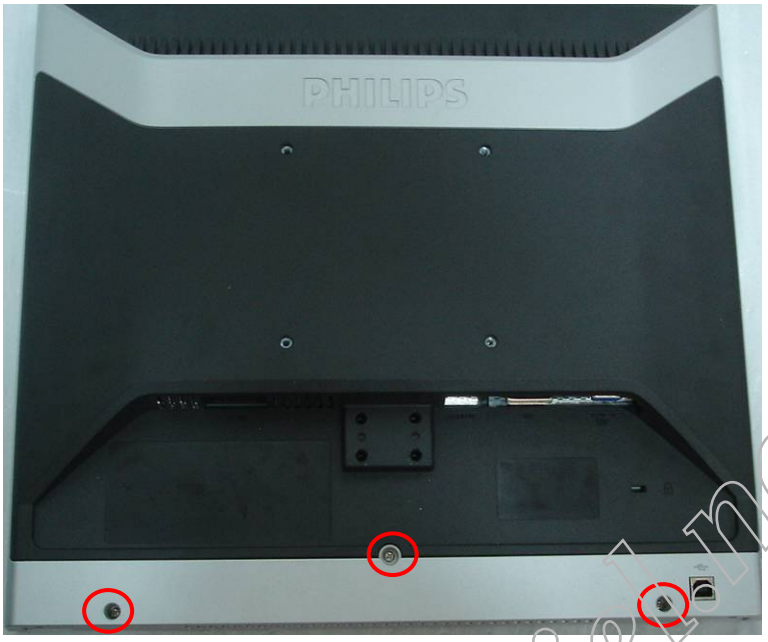


Fig.5

6. Remove the shields of the main board and power board as Fig.6.

Remove the 8 screws as Fig.6 to remove the shields.

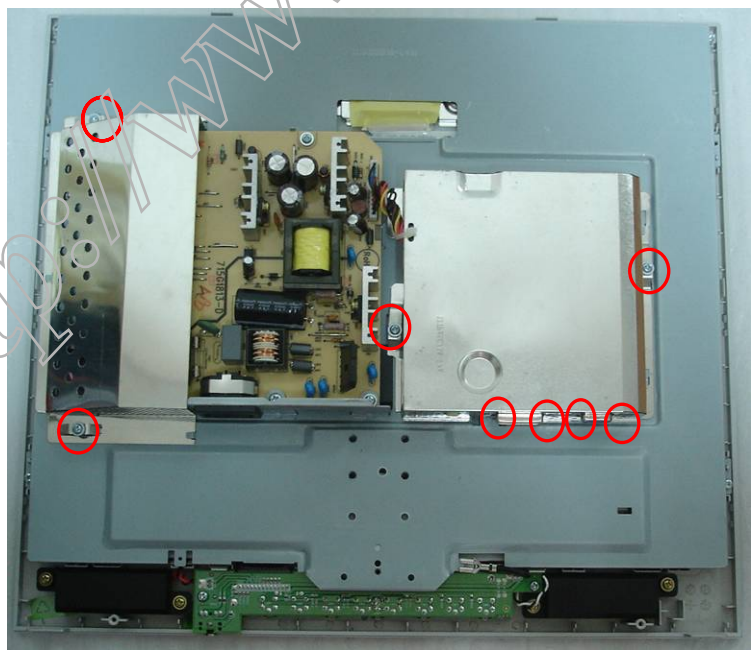


Fig.6

7. Remove the main board，audio board and the power board. as Fig.7

Remove the 9 screws as Fig.7 to remove the main board 、 audio board and the power board.

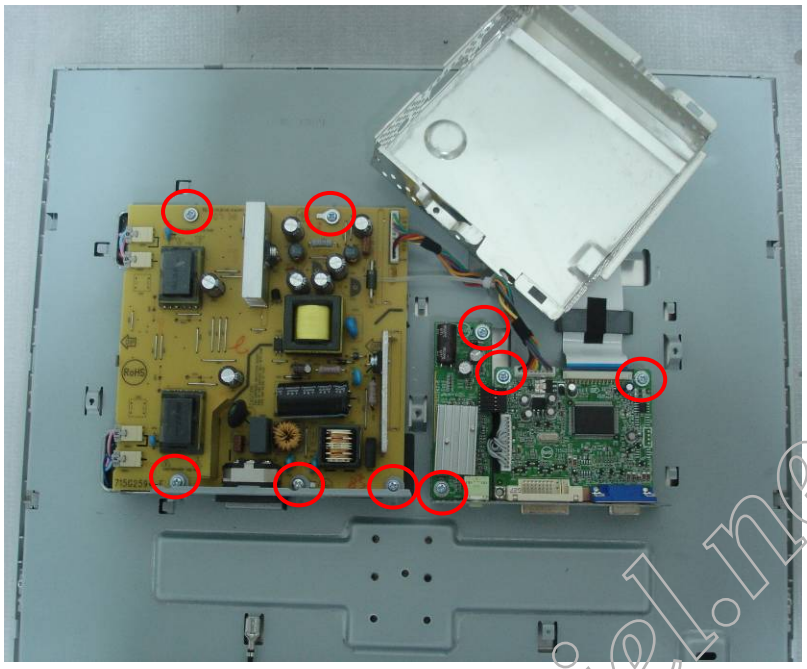


Fig.7

8. Remove the bezel as Fig.8.

Remove the 4 screws as Fig.8 to remove the bezel.

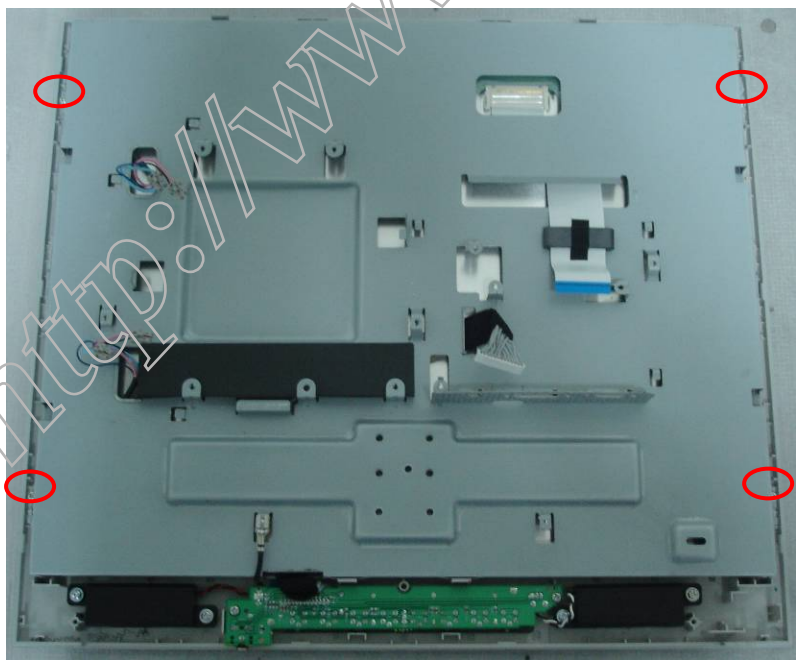


Fig.8

9. Remove the main frame as Fig.9.

Remove the 4 screws as Fig.9 to remove the main frame.

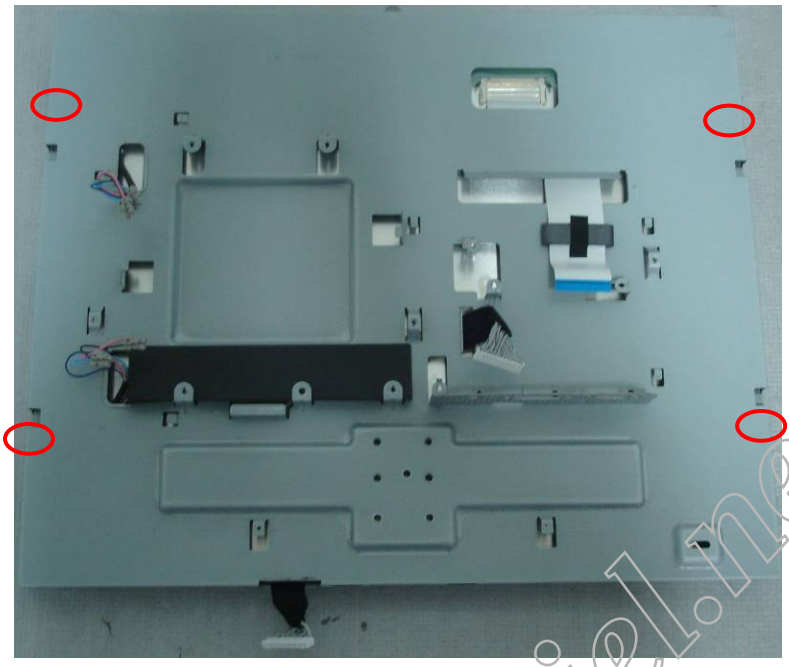


Fig.9

10. 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 ATTENTION CHECK CABLE CONNECTION	• 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.

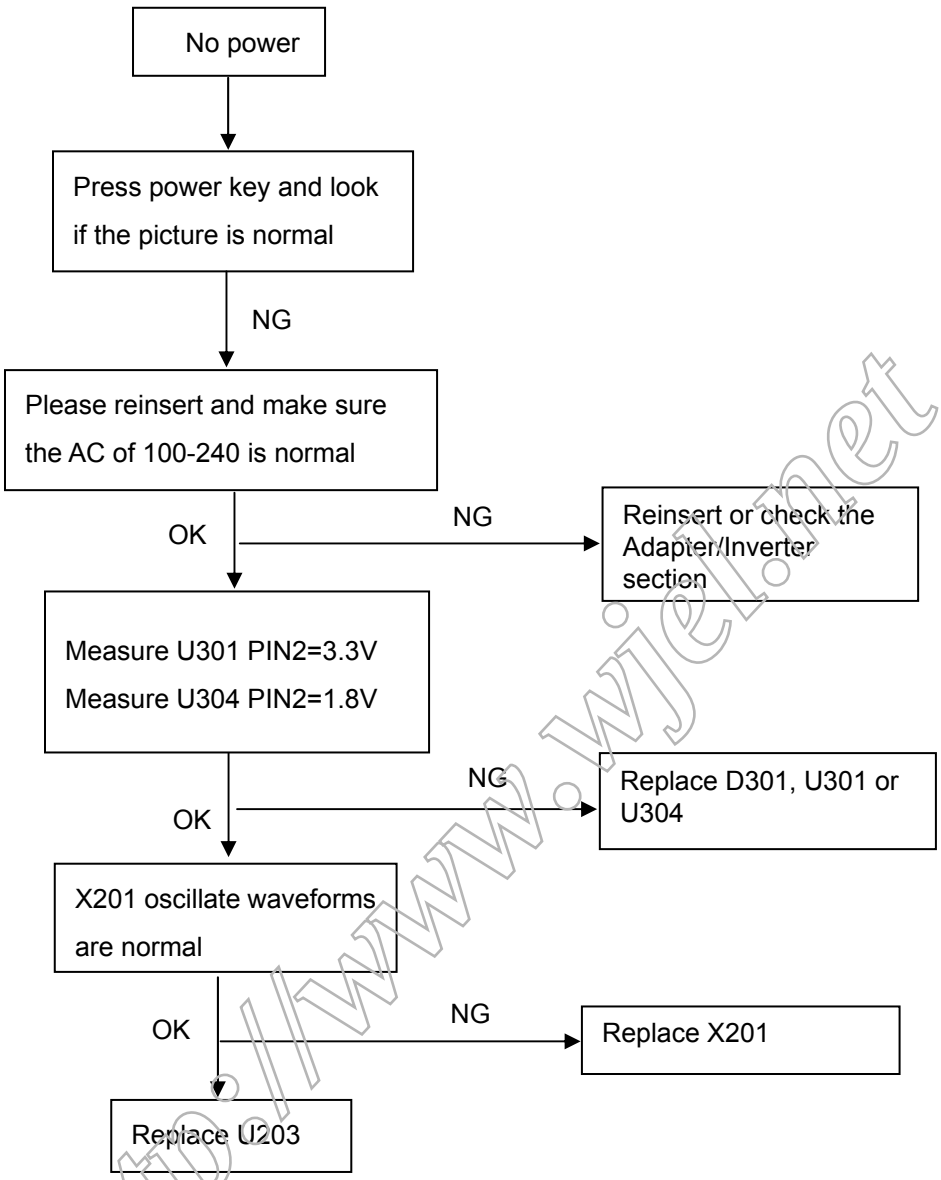
Vertical flicker appears 	• Press the Auto button. • Eliminate the vertical bars using the Phase/Clock of More Settings in OSD Main Controls.
Horizontal flicker appears 	• Press the Auto button. • Eliminate the vertical bars using the Phase/Clock of More Settings in OSD Main Controls.
The screen is too 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 peroid 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.
For further assistance, refer to the Consumer Information Centers list and contact Philips customer service representative.	

RETURN TO TOP OF THE PAGE

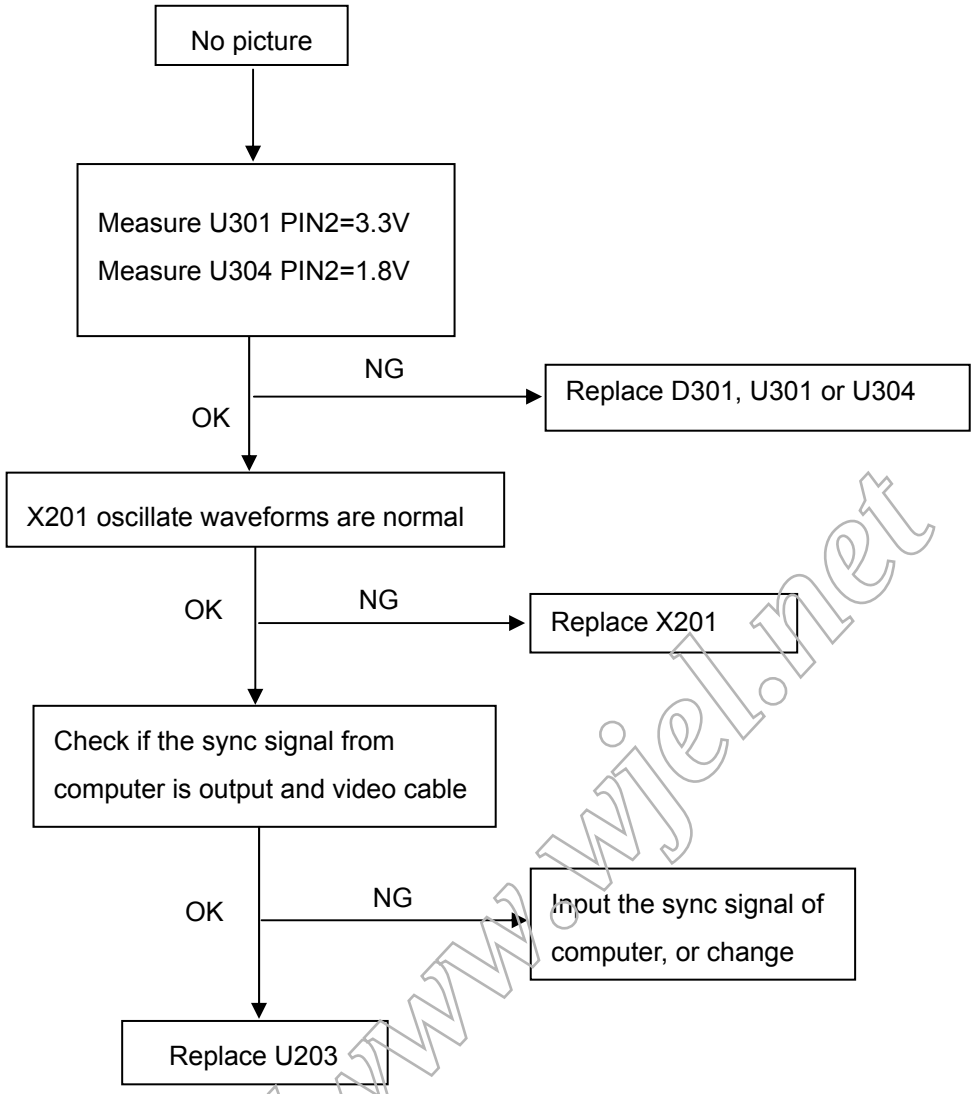
11. Repair Flow Chart

11.1 Main Board

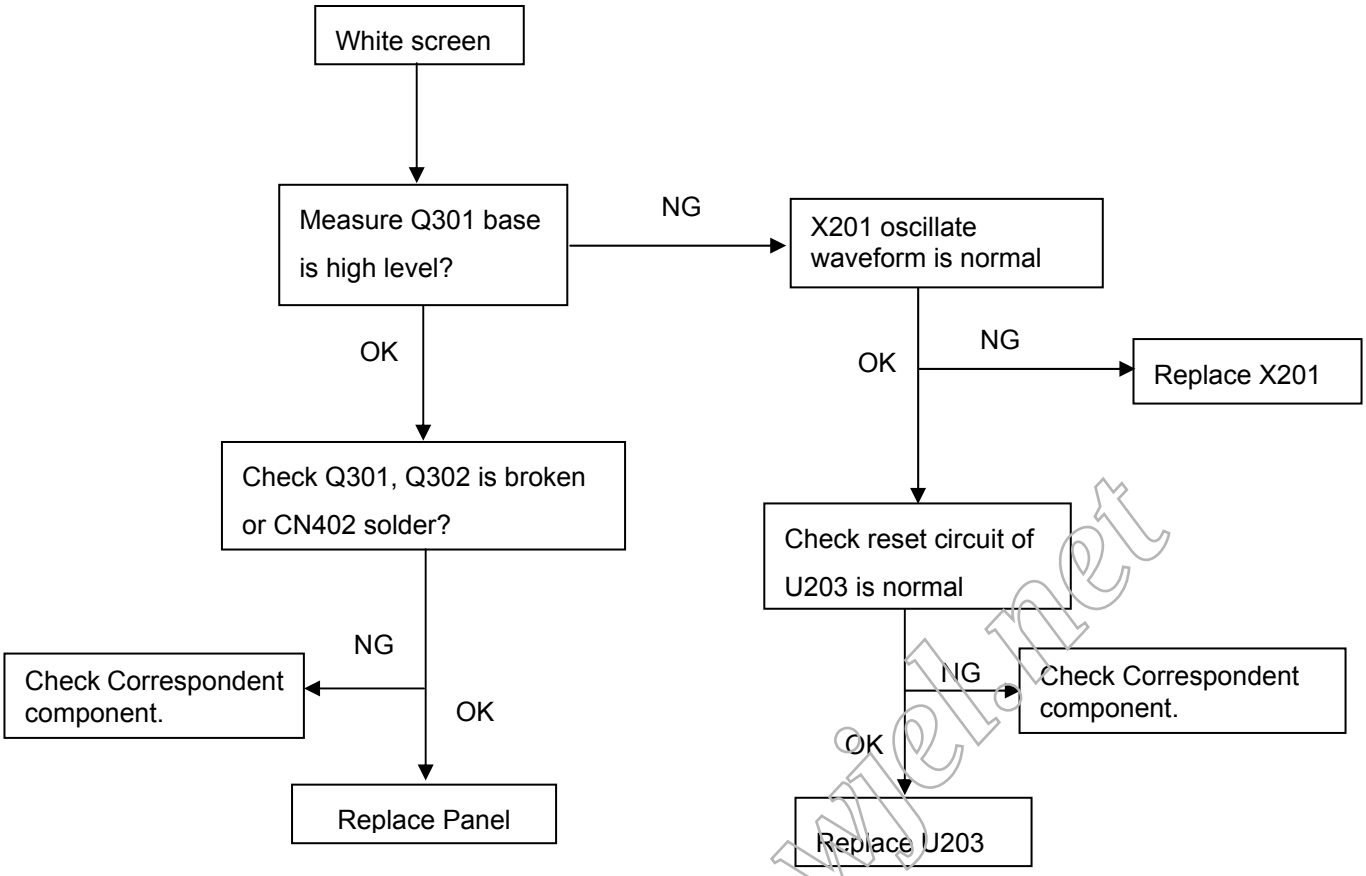
(1). No Power



(2). No Picture

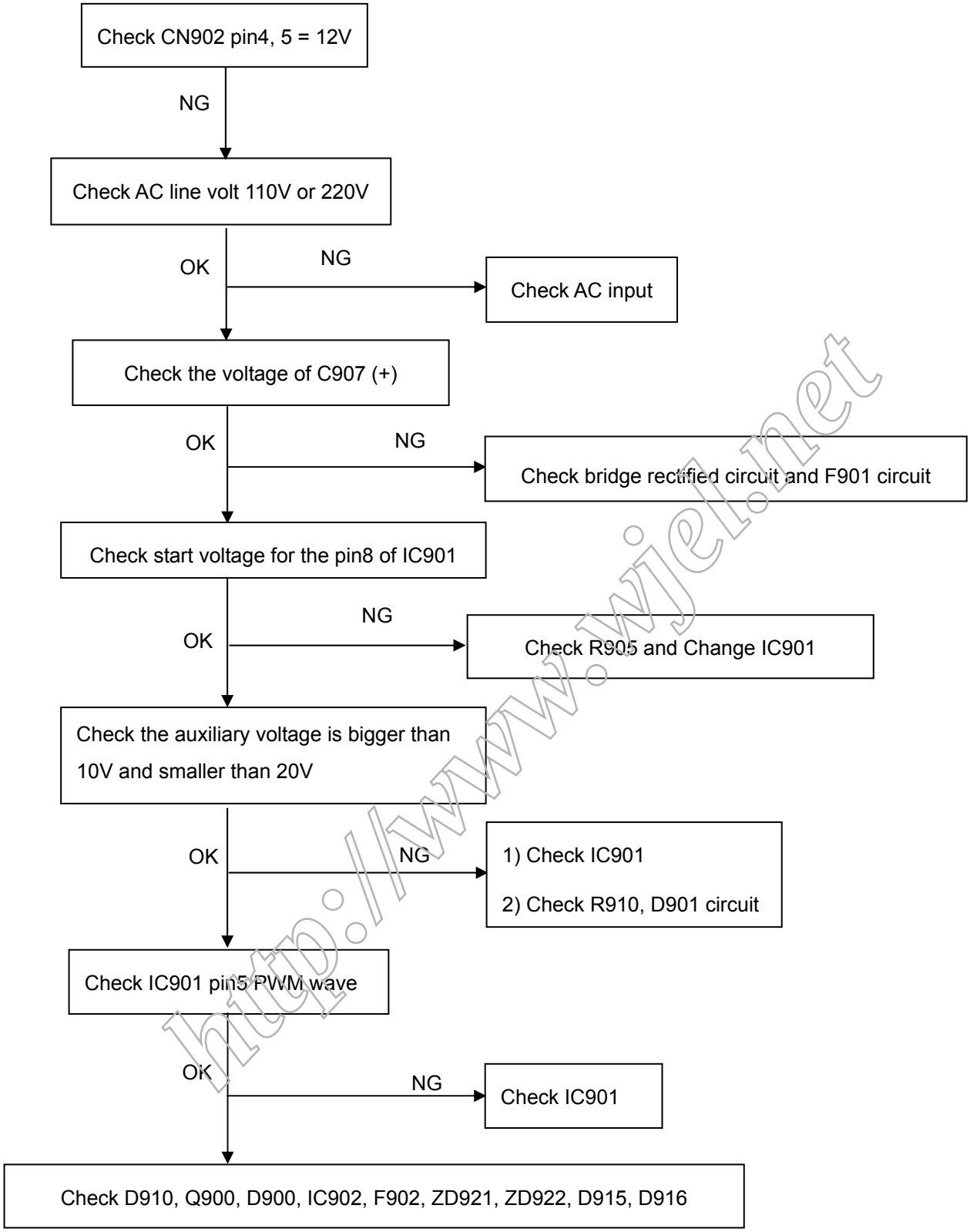


(3). White screen

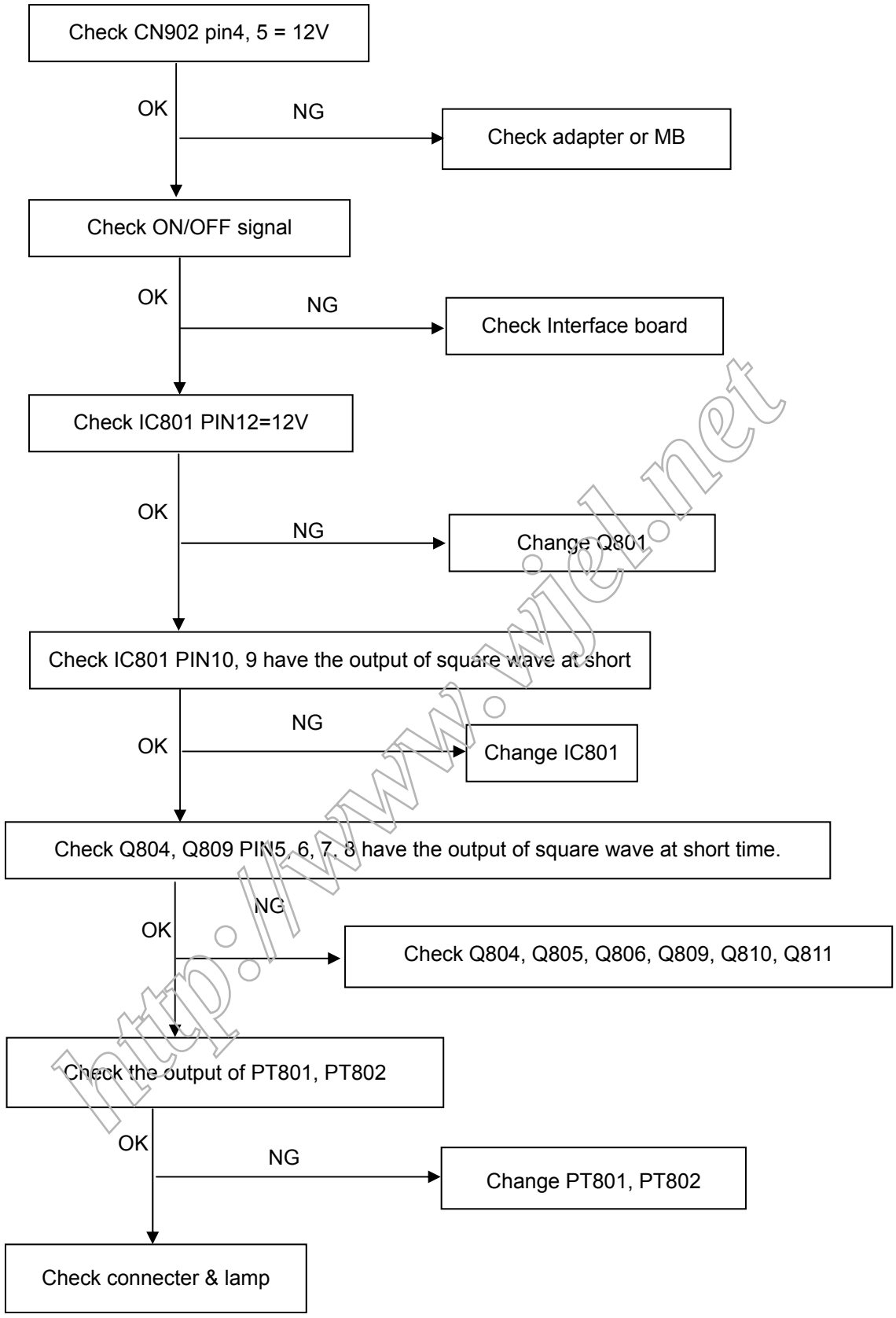


11.2. Power/Inverter Board

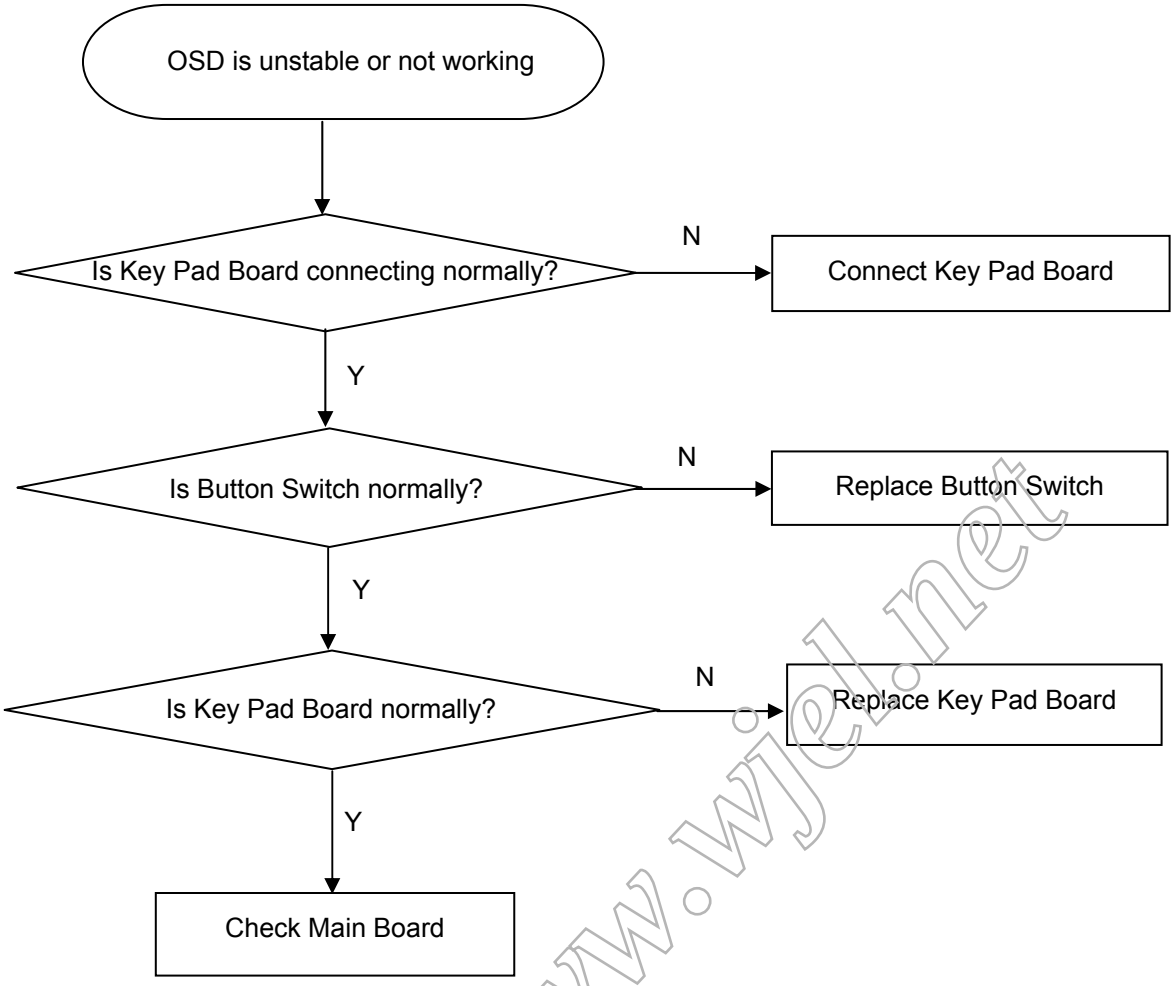
(1) No power



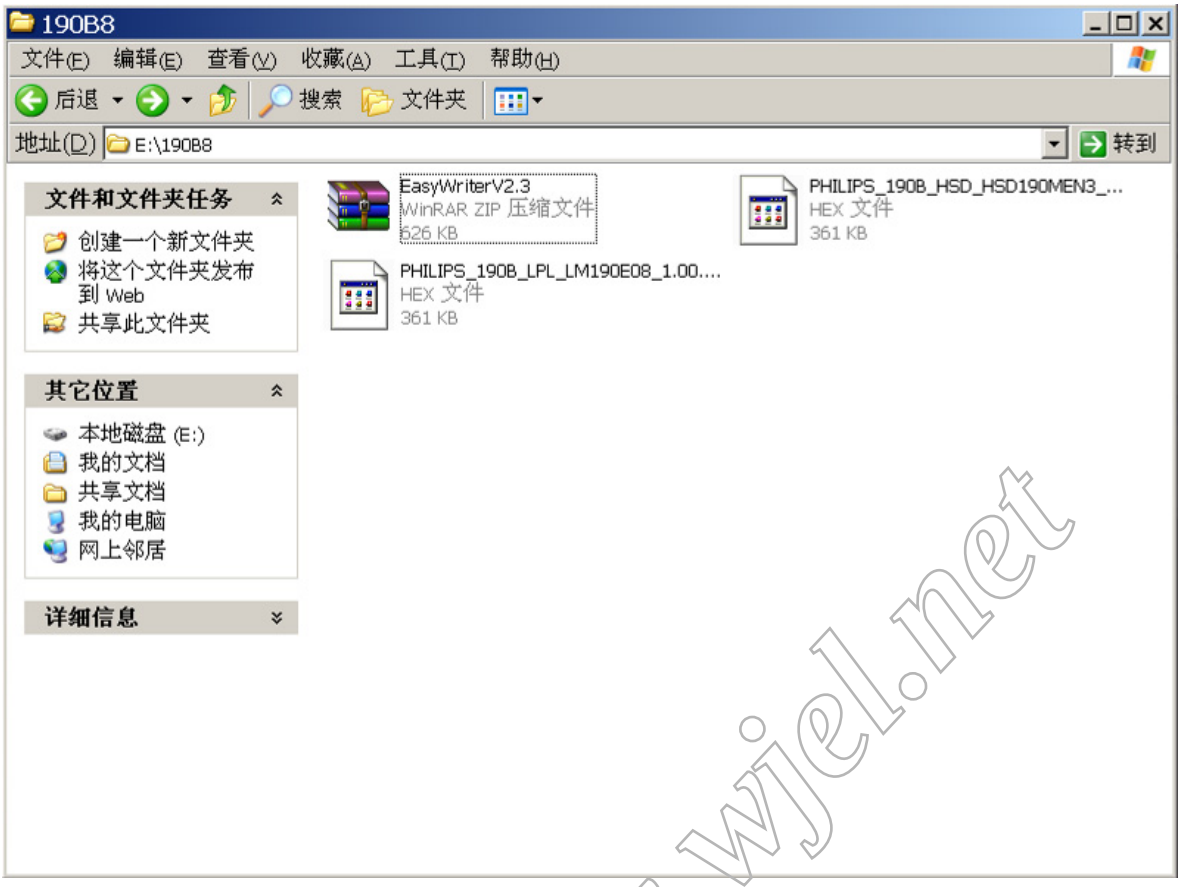
(2) W / LED, No Backlight



11.3 Key Board



12. ISP Instruction

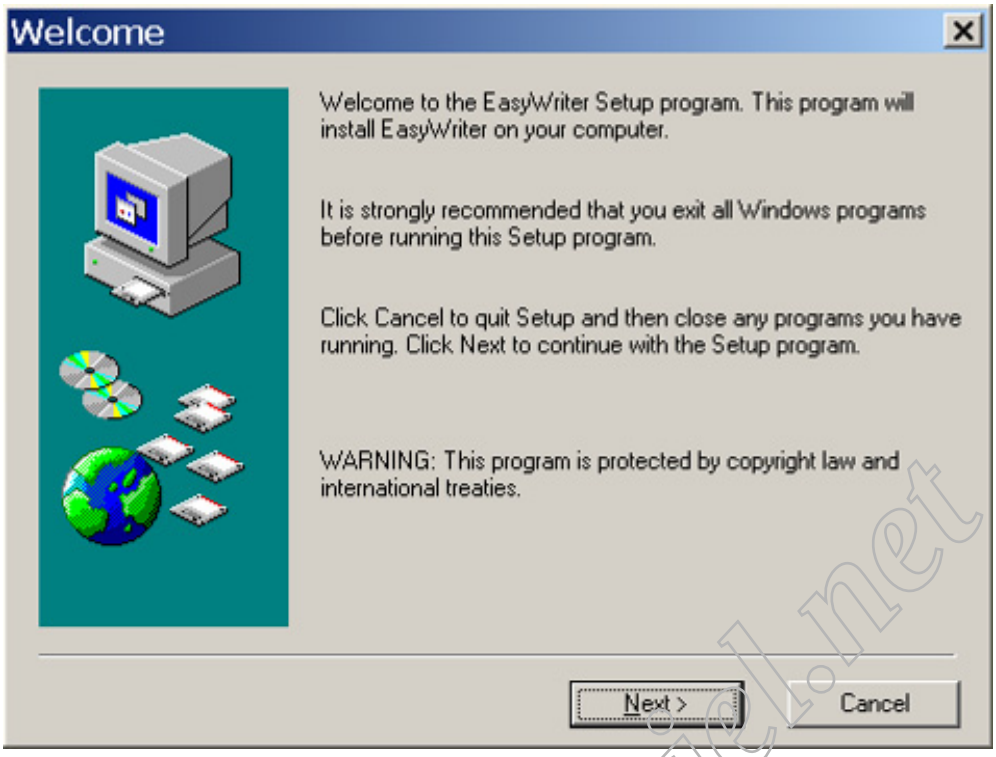


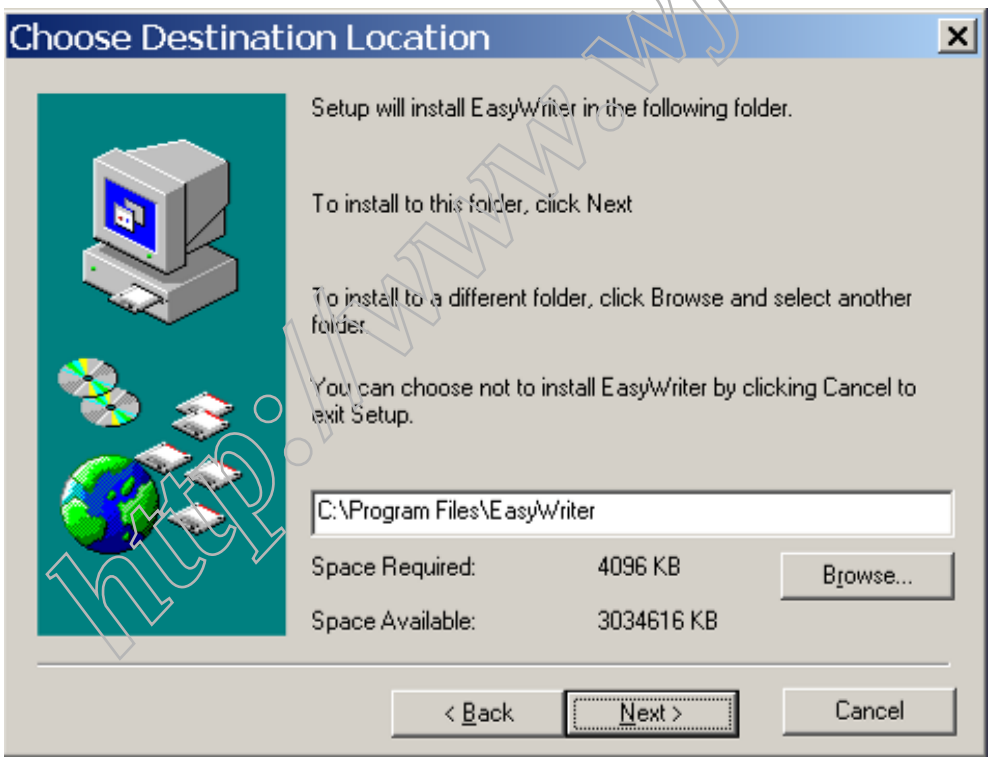
(1). Install the program software

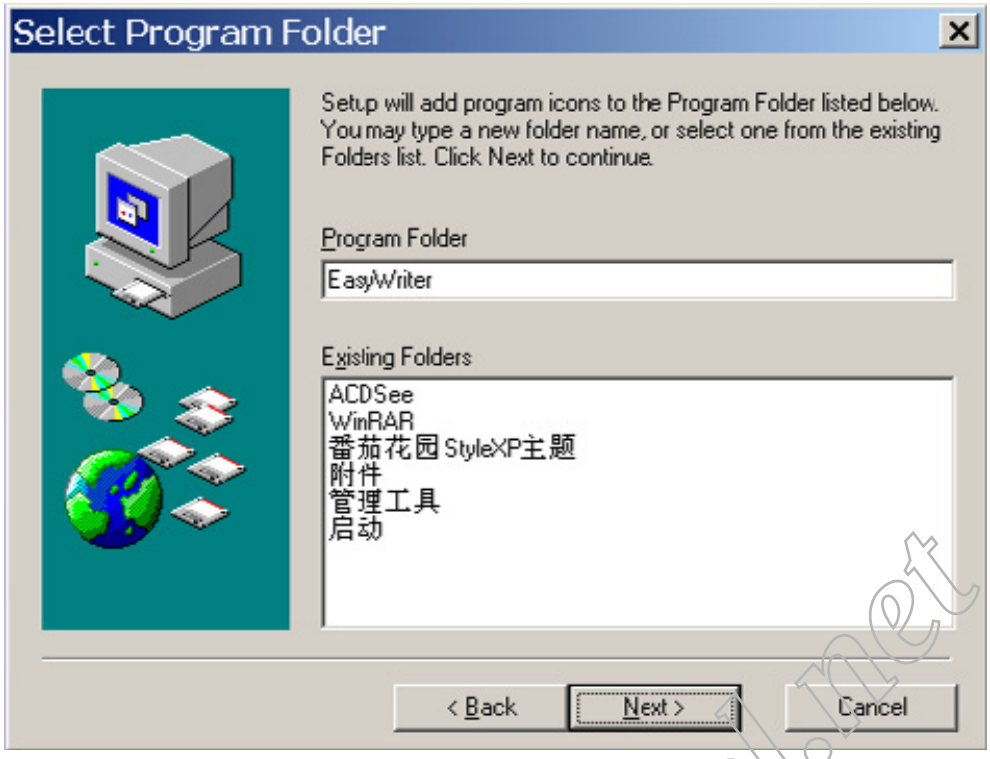
a. First decompressing files 

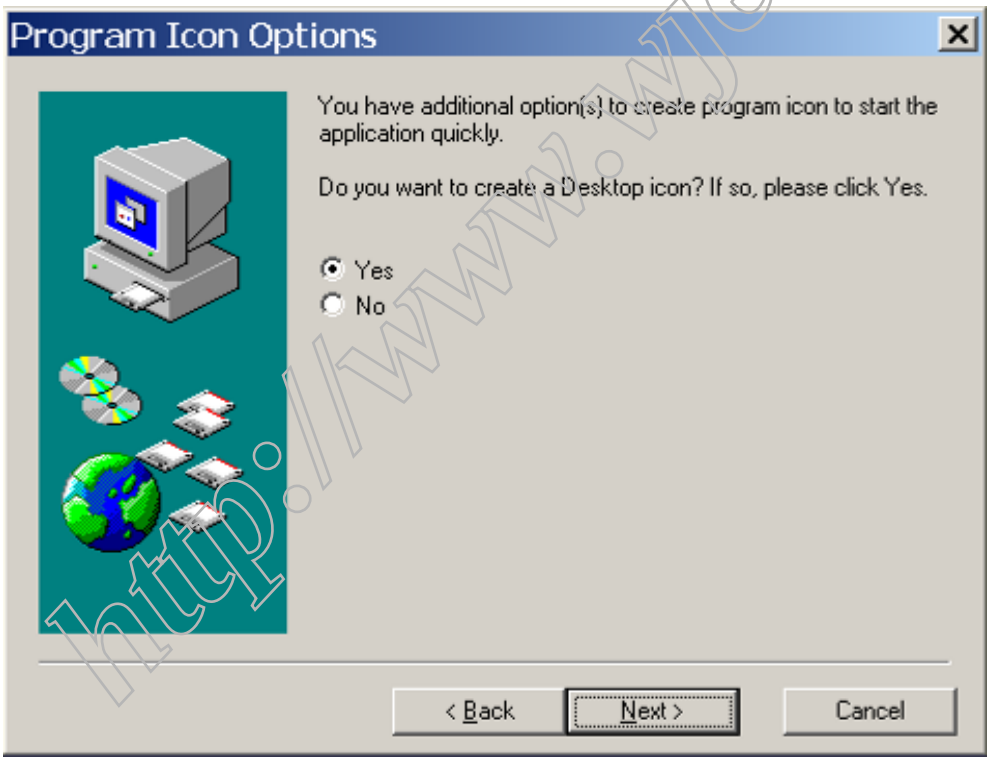
, as follow:

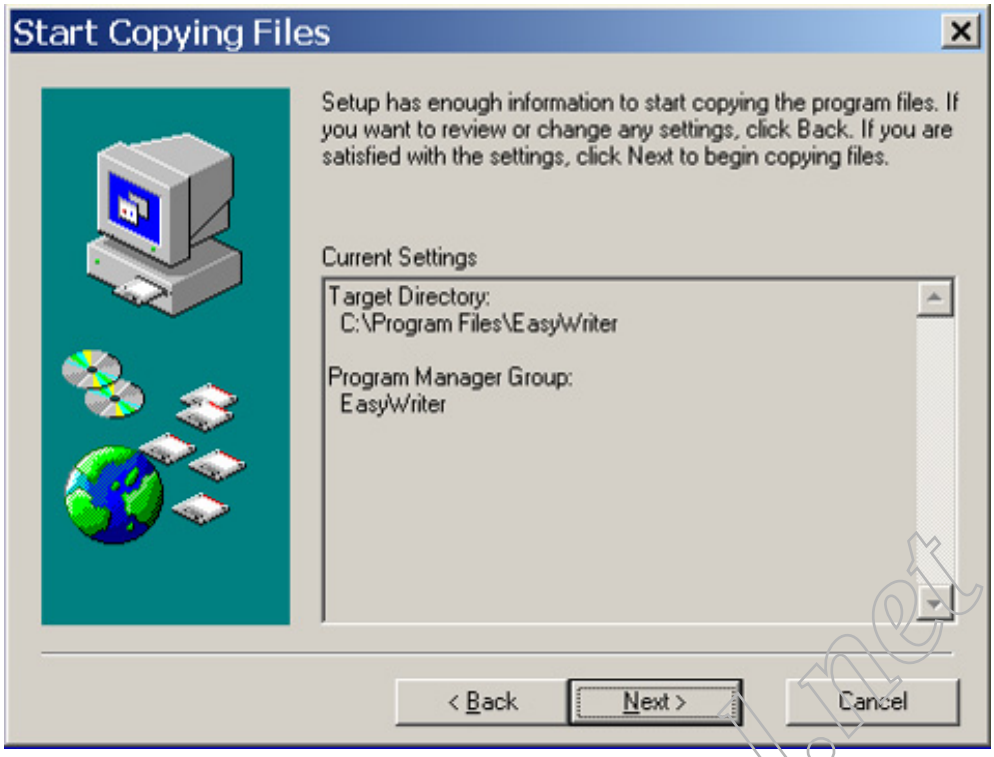
b. Double – click EasyWriterV2...., start to install as follows:

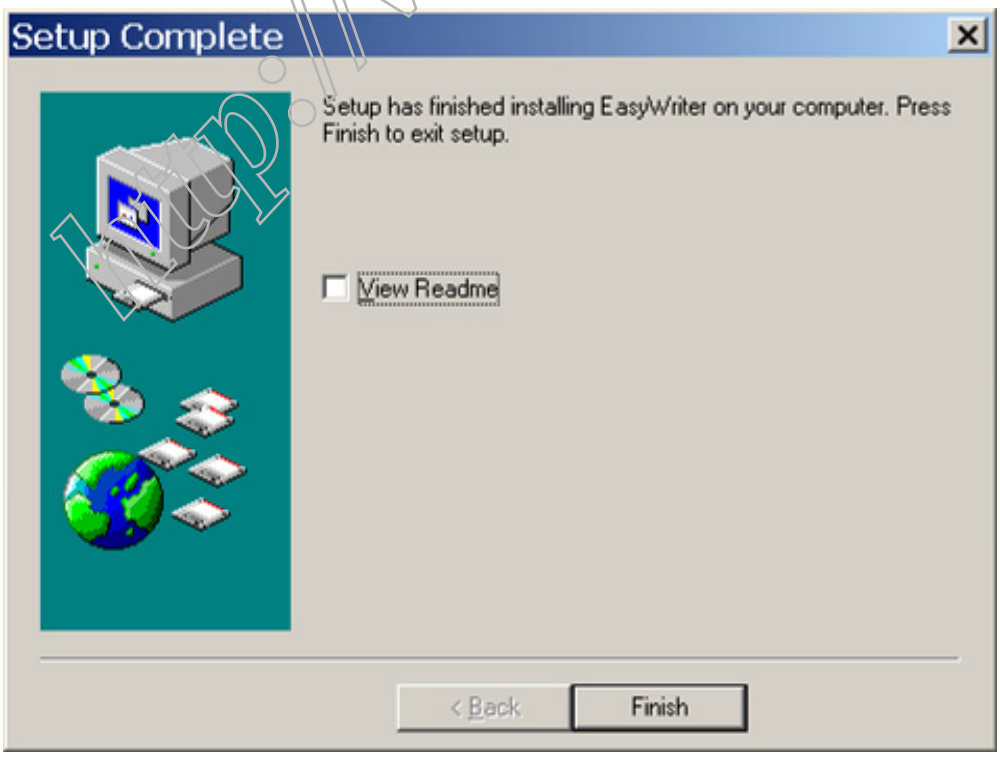








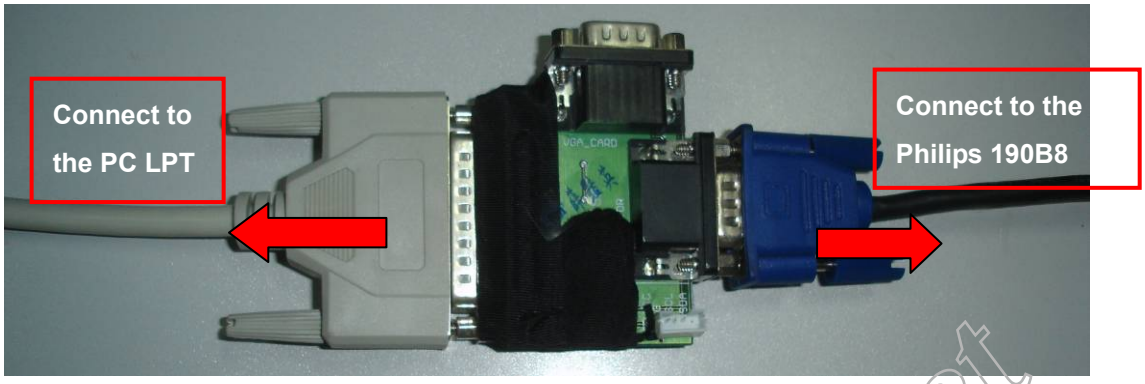




c. There will be a shortcut key 

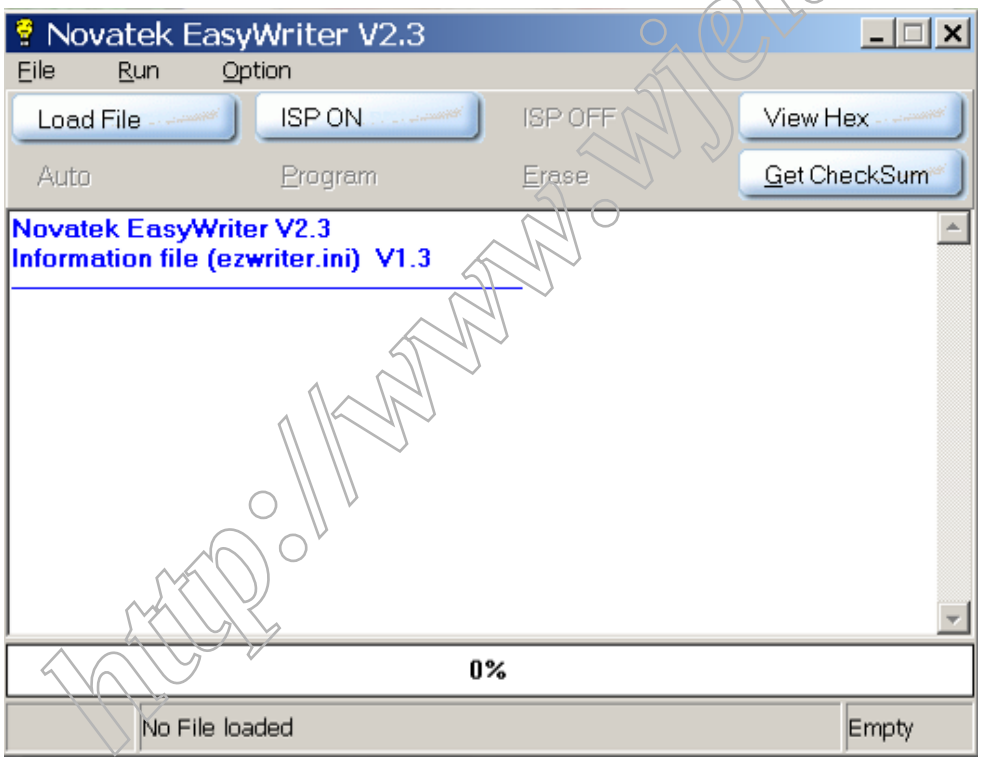
appears on the desktop.

(2). Connect the ISP board as follow:

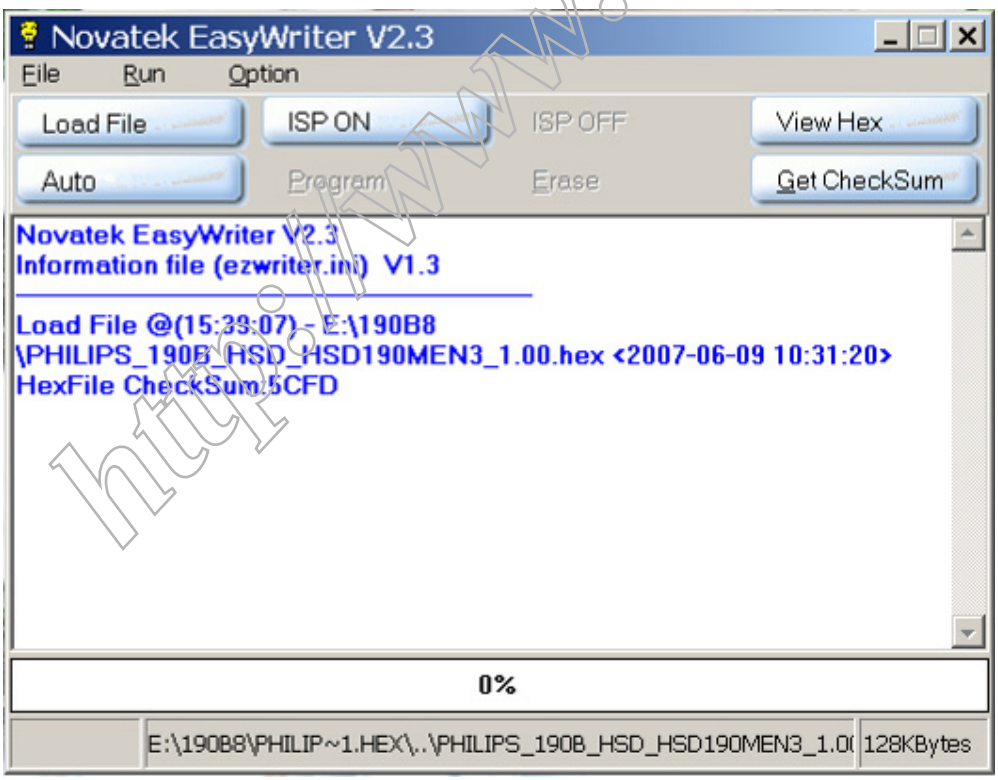


a. Double-click 

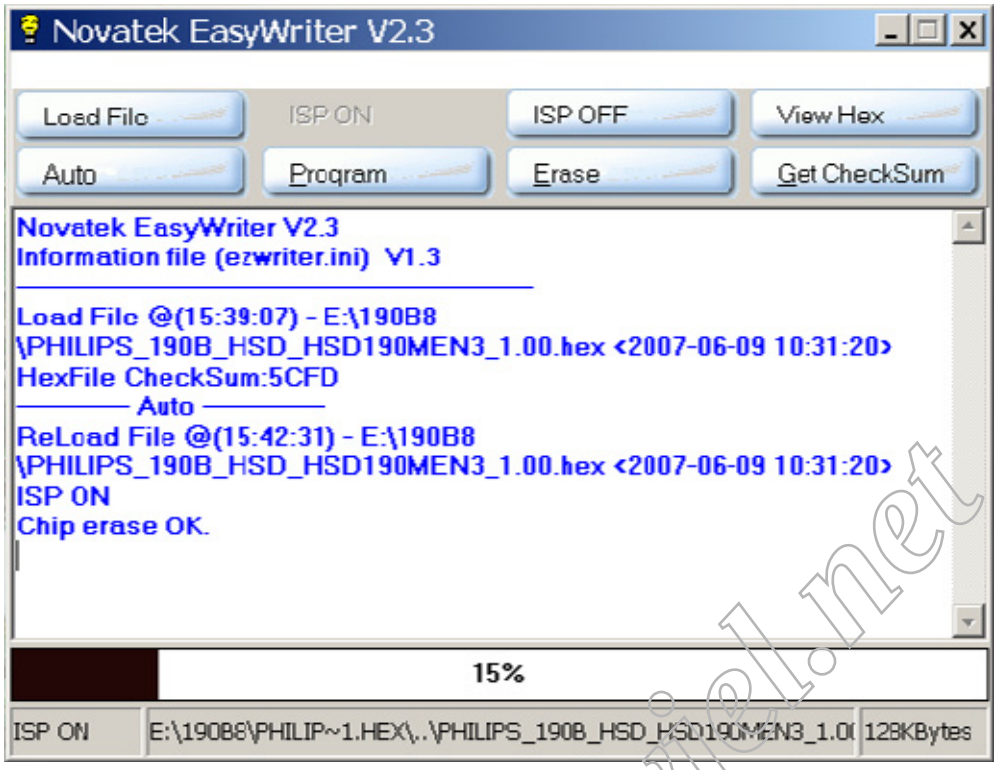
，running the program as follows:



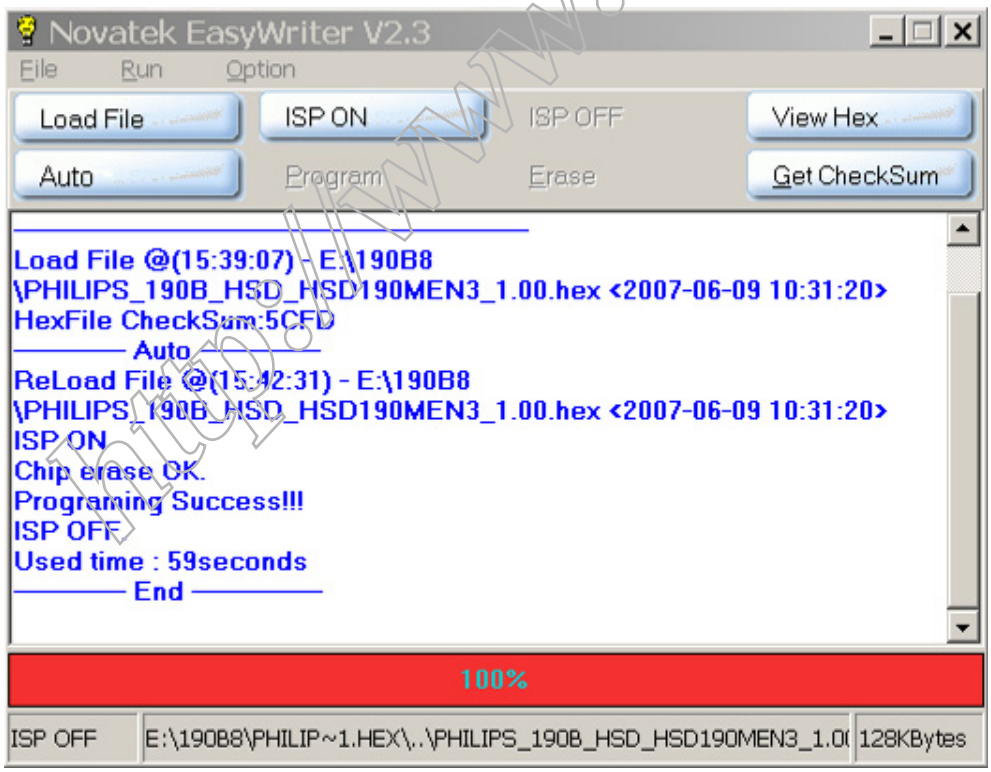
b. Click  icon, search the program" PHILIPS_190B_HSD_HSD190MEN3_1.00.hex", and click **open:**



c. Click Auto icon, the writer is in processing…



d. Until appears the follow Fig, writer completed.



13. DDC Instruction

General

DDC Data Re-programming

In case the main EEPROM with Software DDC which store all factory settings were replaced because a defect, repaired monitor' the serial numbers have to be re-programmed.

It is advised to re- soldered the main EEPROM with Software DDC from the old board onto the new board if circuit board have been replaced, in this case the DDC data does not need to be re-programmed.

Additional information about DDC (Display Data Channel) may be obtained from Video Electronics Standards Association (VESA). Extended Display Identification Data (EDID) information may be also obtained from VESA.

1. An i486 (or above) personal computer or compatible.
2. Microsoft operation system Windows 95/98/2000/XP.
3. " PORT95NT.exe, WinDDC_ setup" program.
4. Software OSD SN Alignment kits

The kit contents:

a. OSD SN BOARD x1

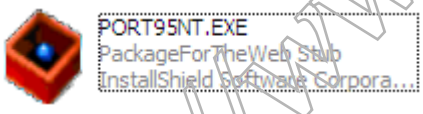
b. Printer cablex1

c. VGA cable x1

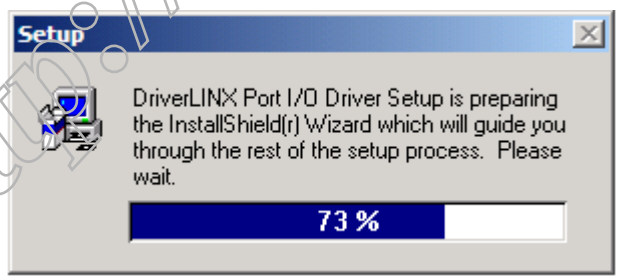
d. Digital cable x1

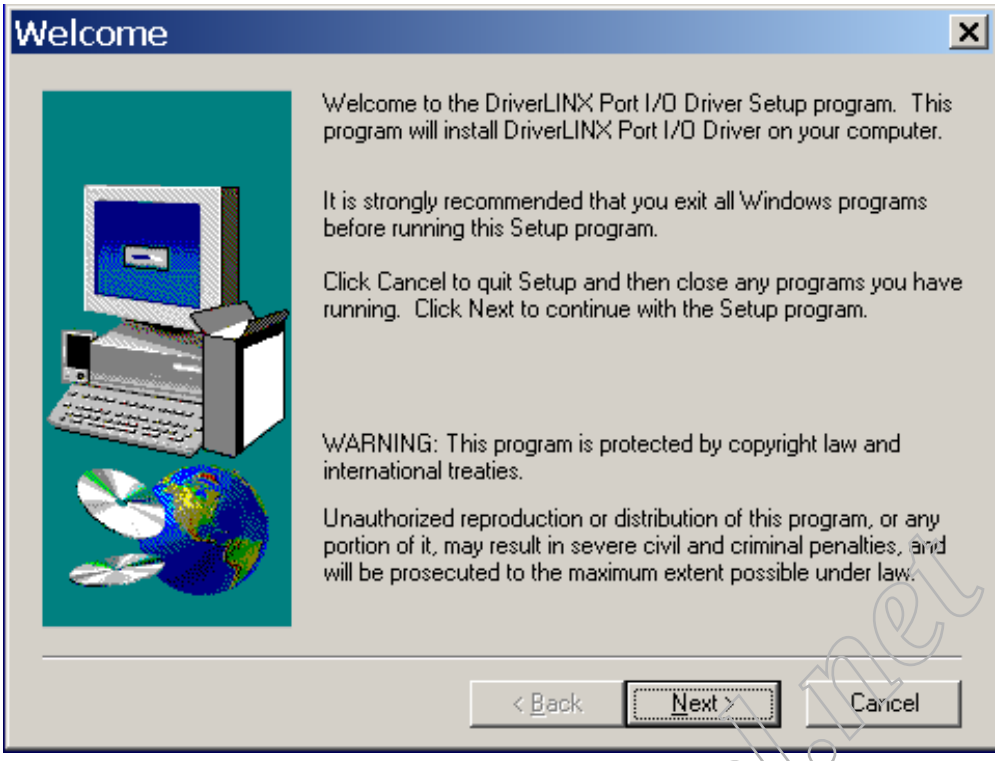
e. 12V DC power source

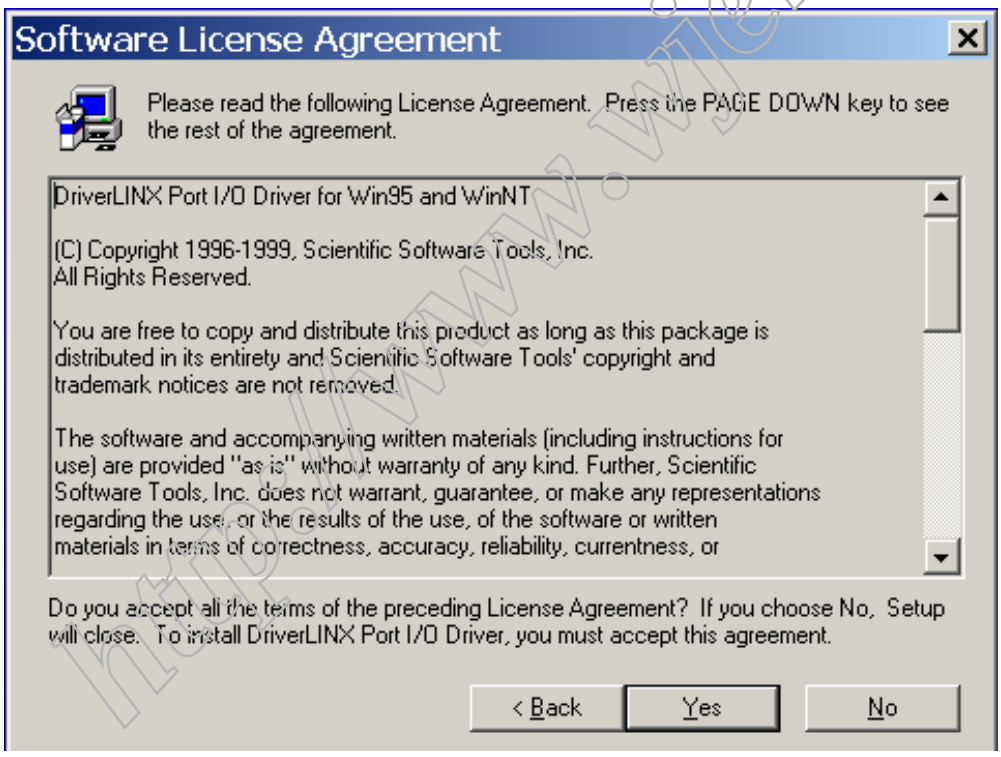
1. Install the "PORT95NT.EXE", and restart the computer.

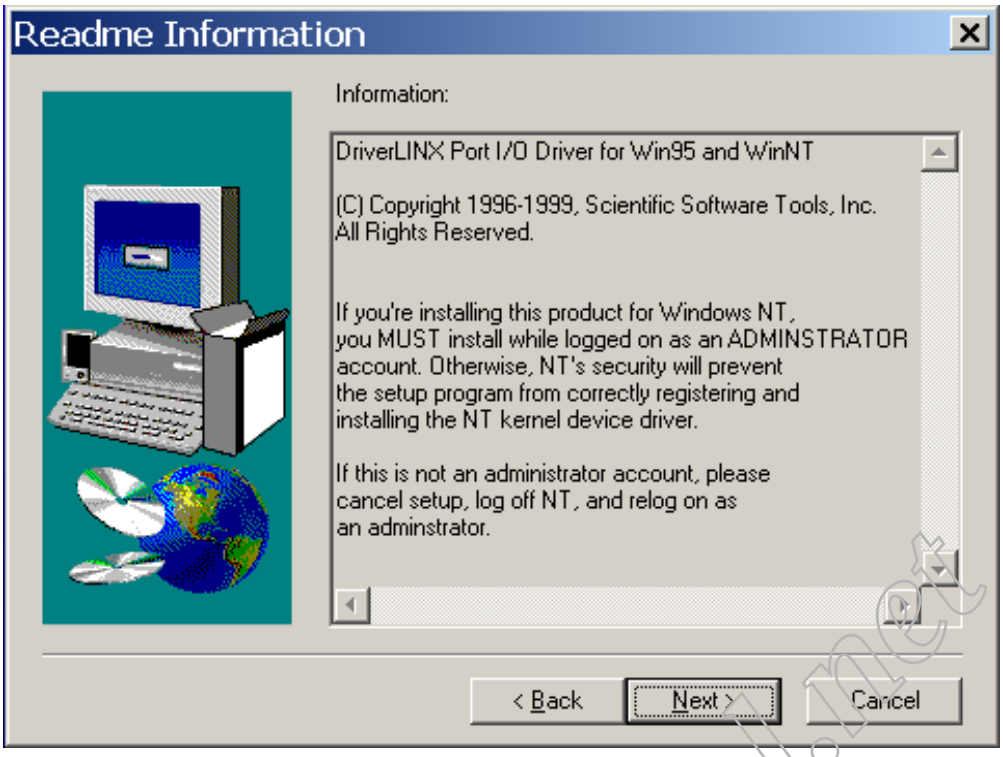
You must install the 

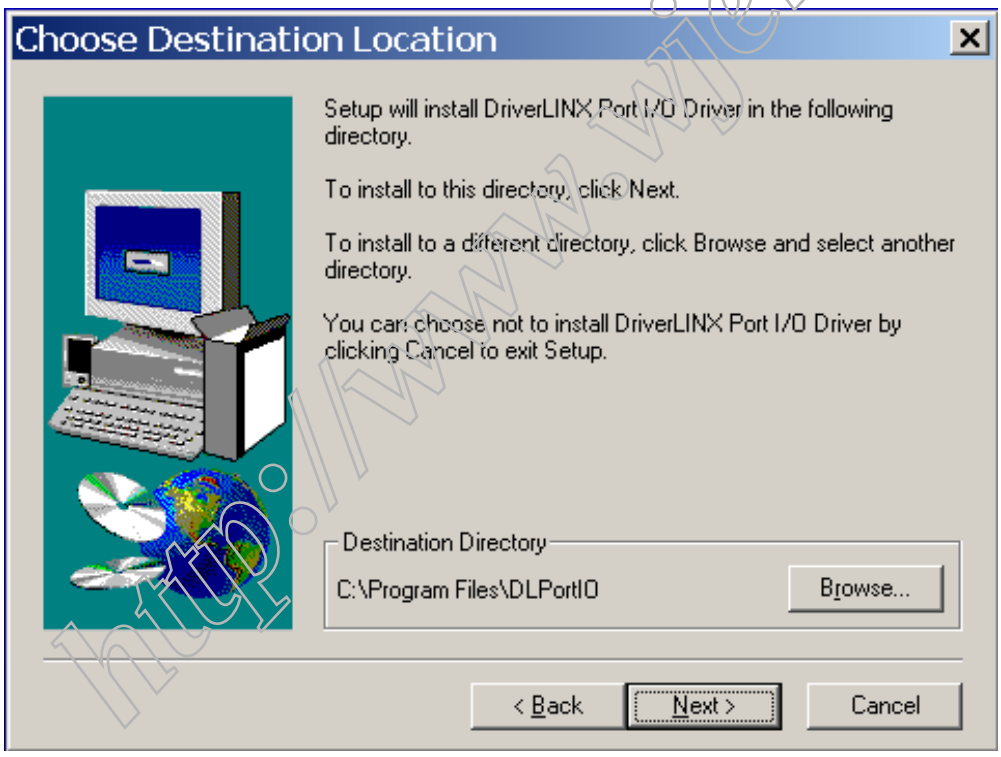
at the first. The processing as follows:

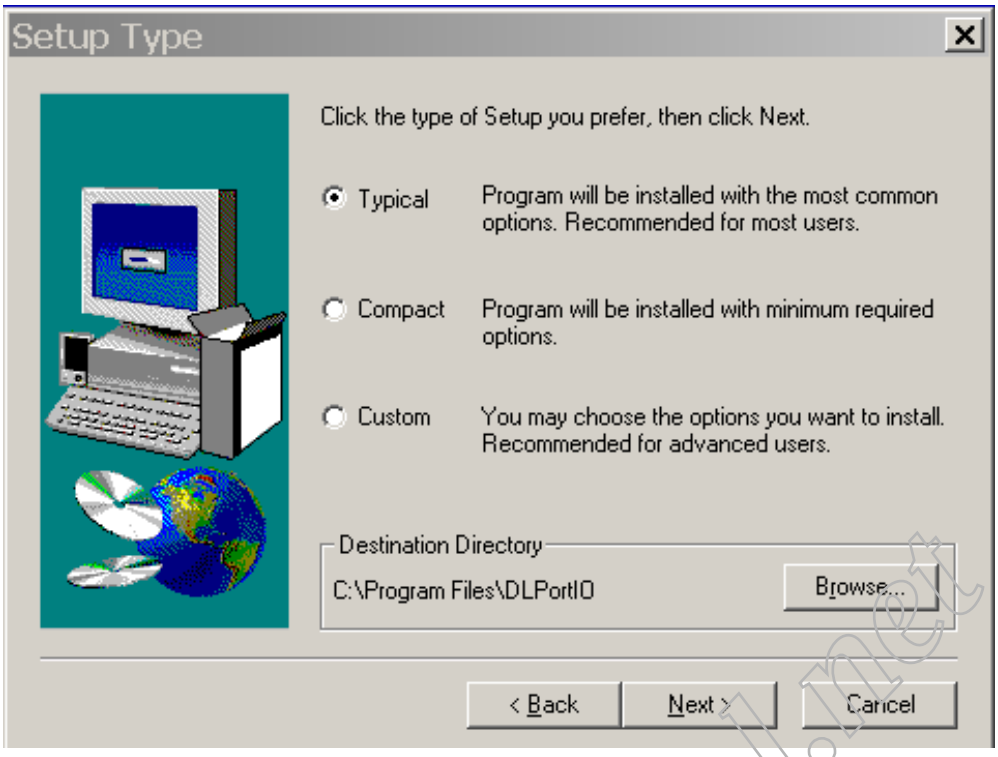


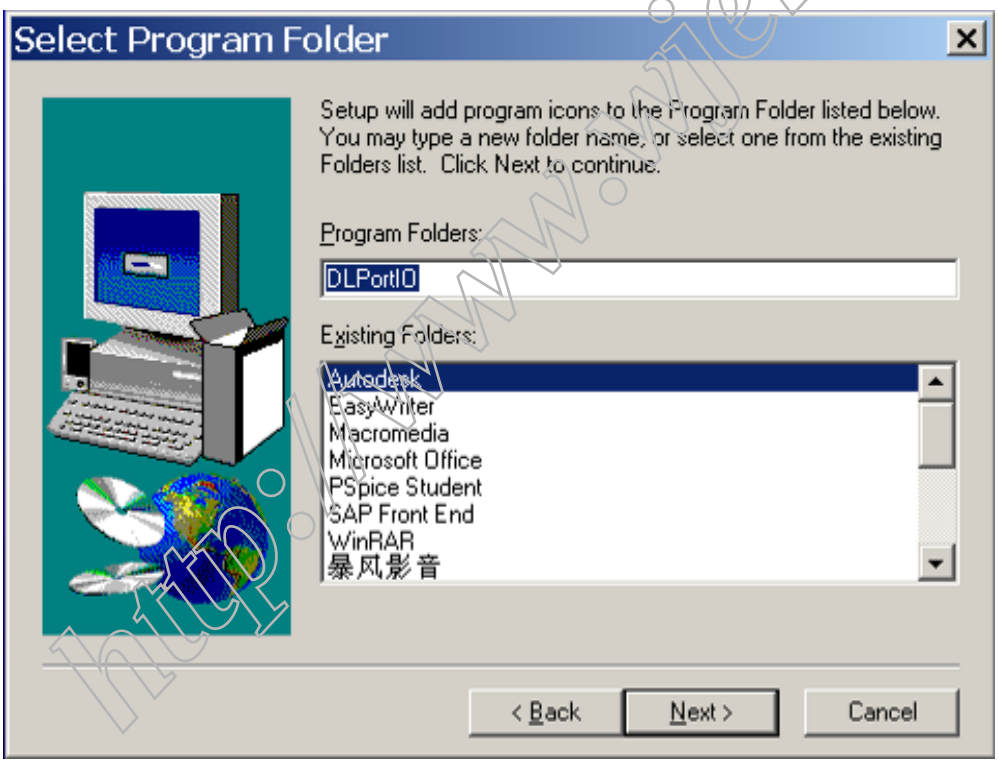


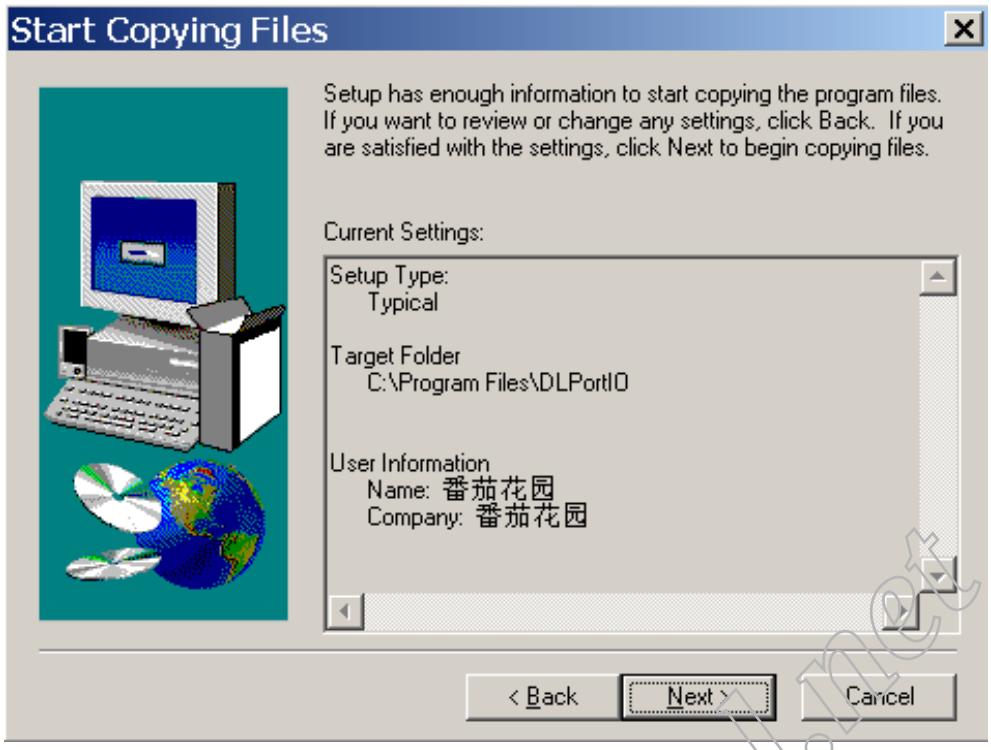


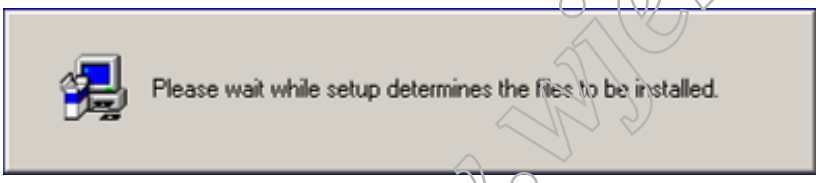




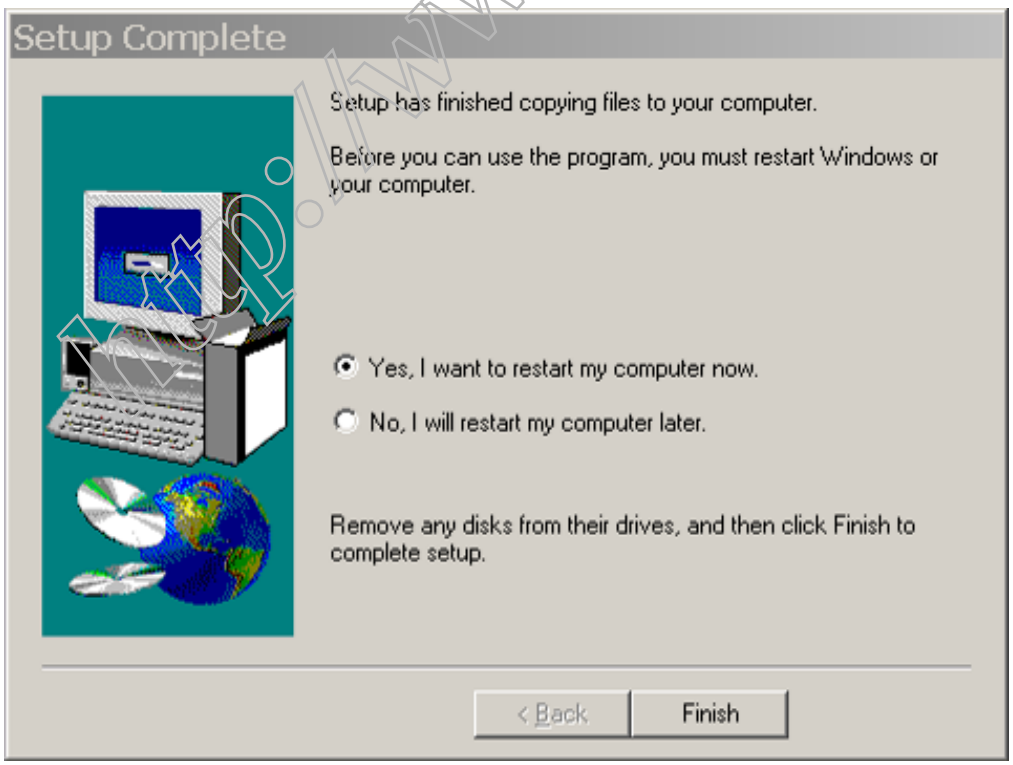








Click Finish to complete the installation.

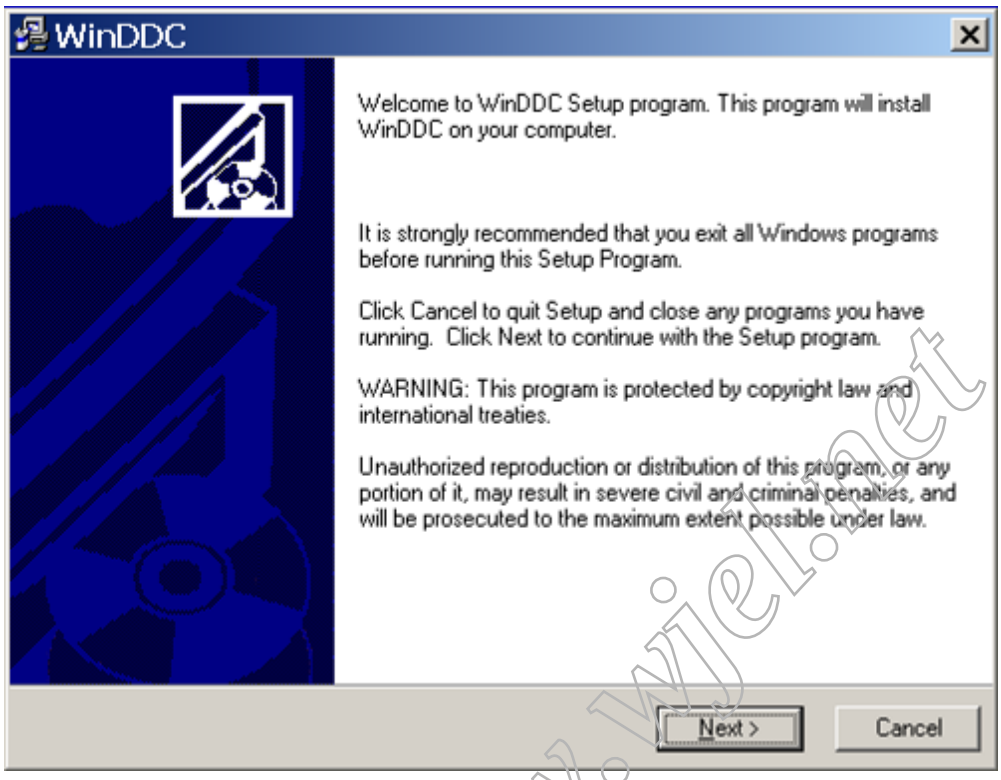


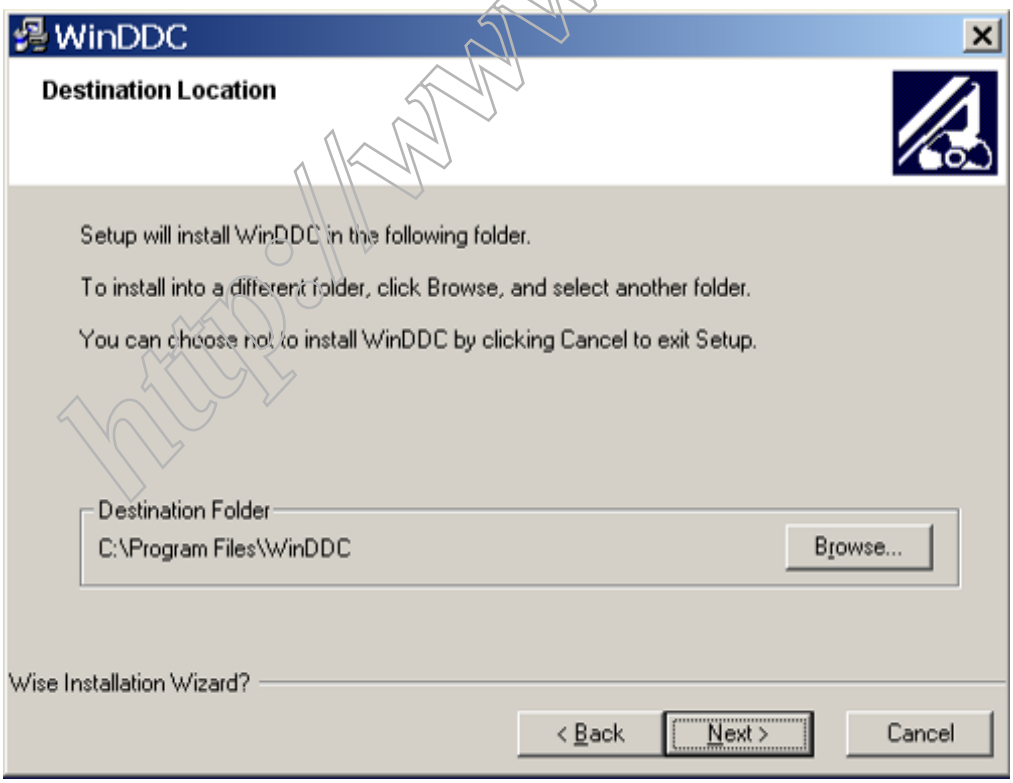
Note: After installation, you must restart the PC to take the setup to effect.

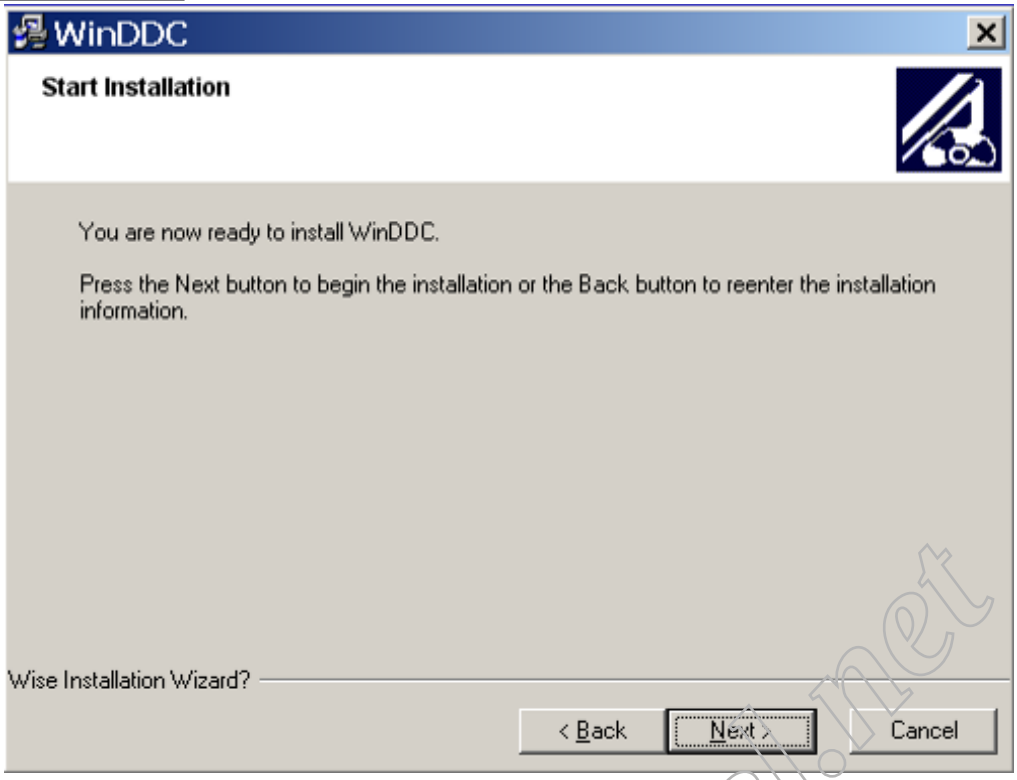
2. Install the "WinDDC_ setup"

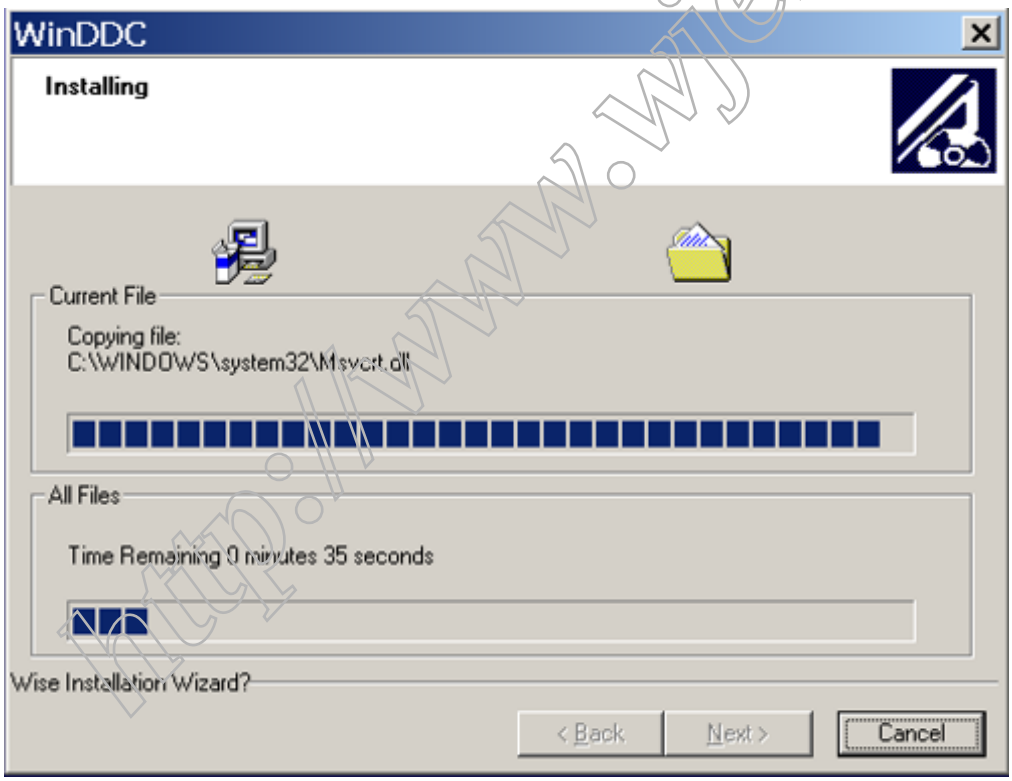
Second, you must install the 

. The processing as follows:

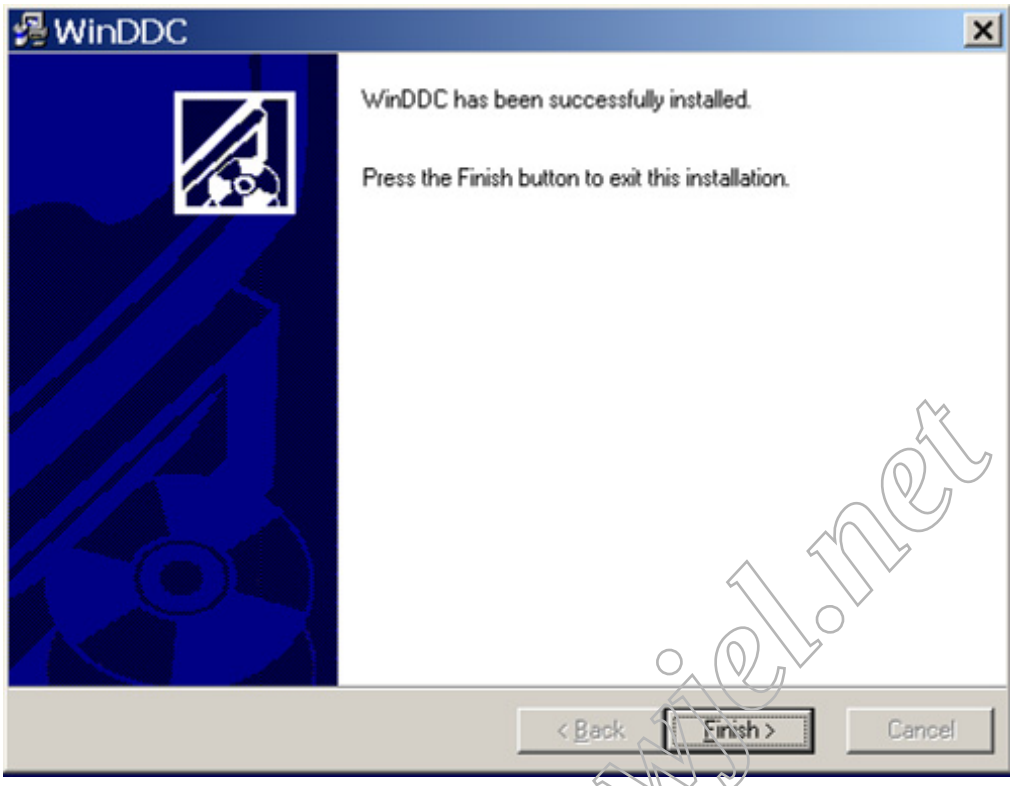




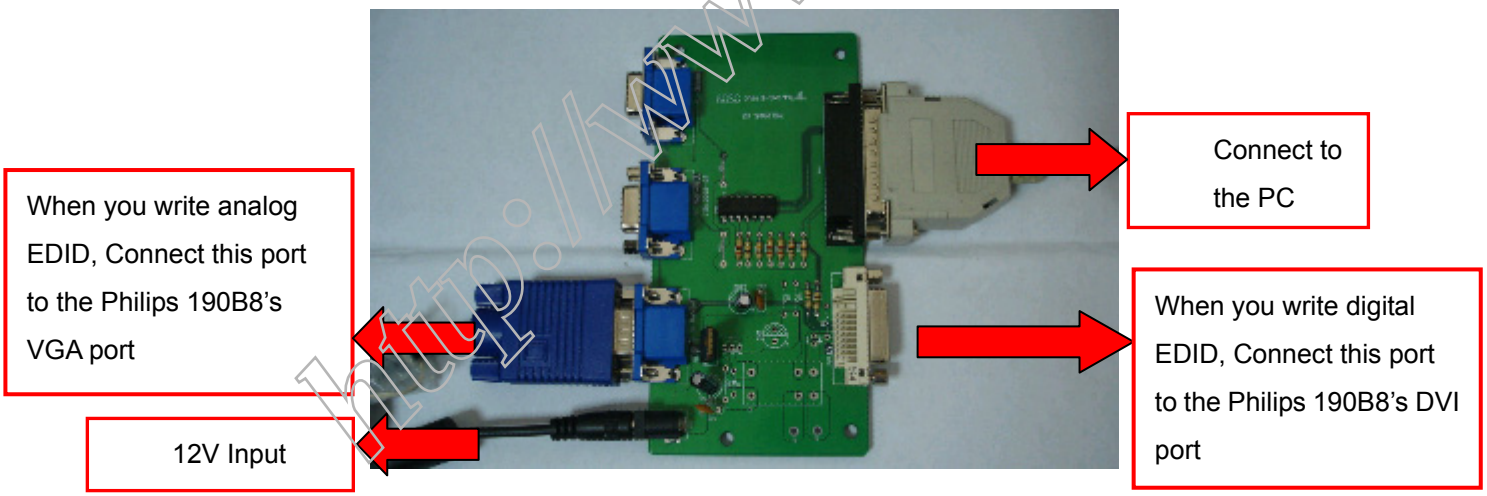




Click Finish to complete the installation.



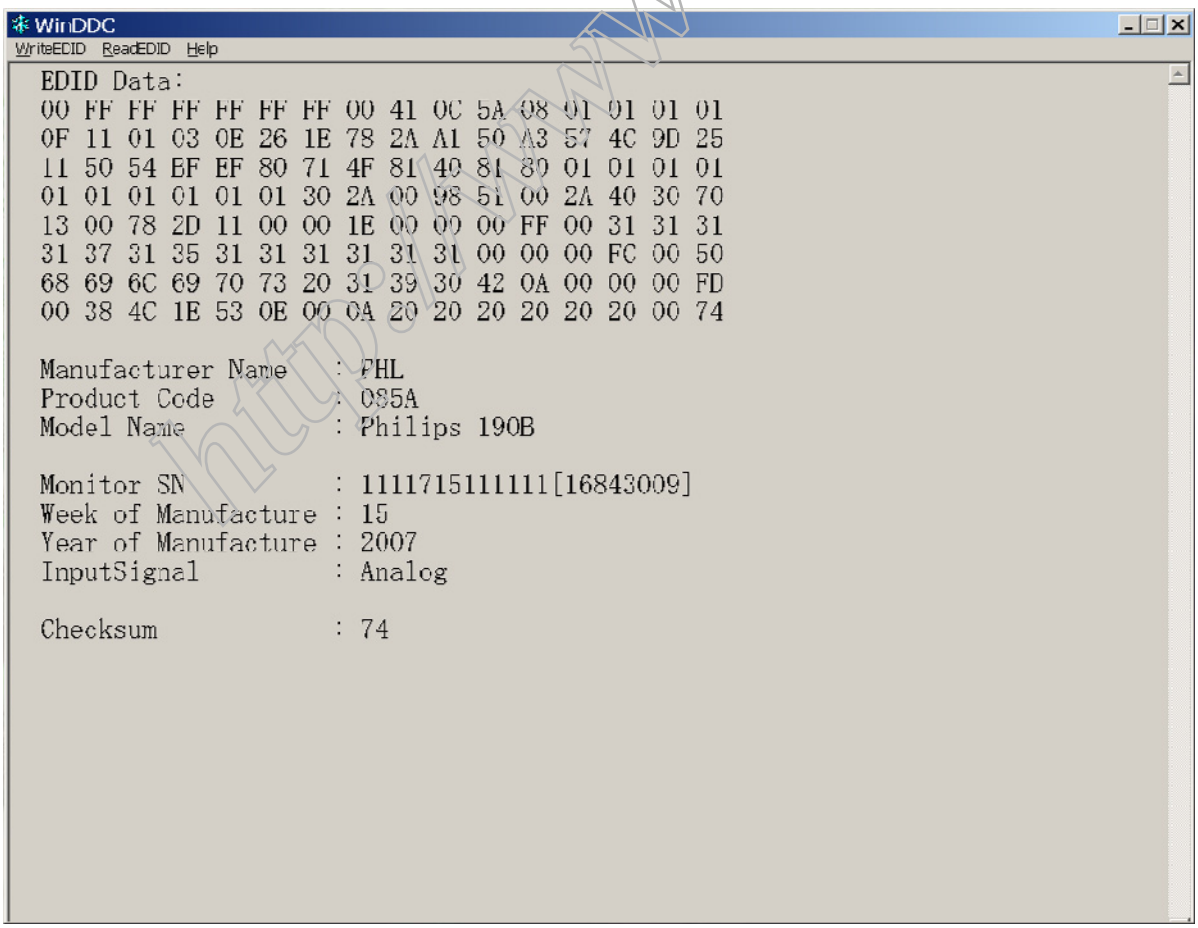
3. Connect the DDC board as follow:



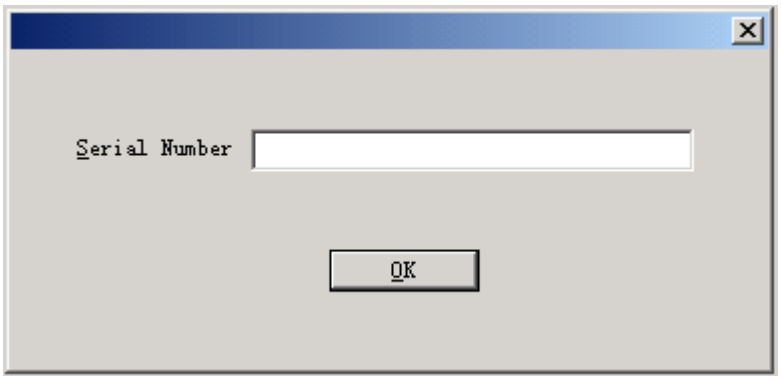
Note: Pin5 of the VGA cable which connects to the monitor should be cut off.

4. Take analog DDC write for example, as follow

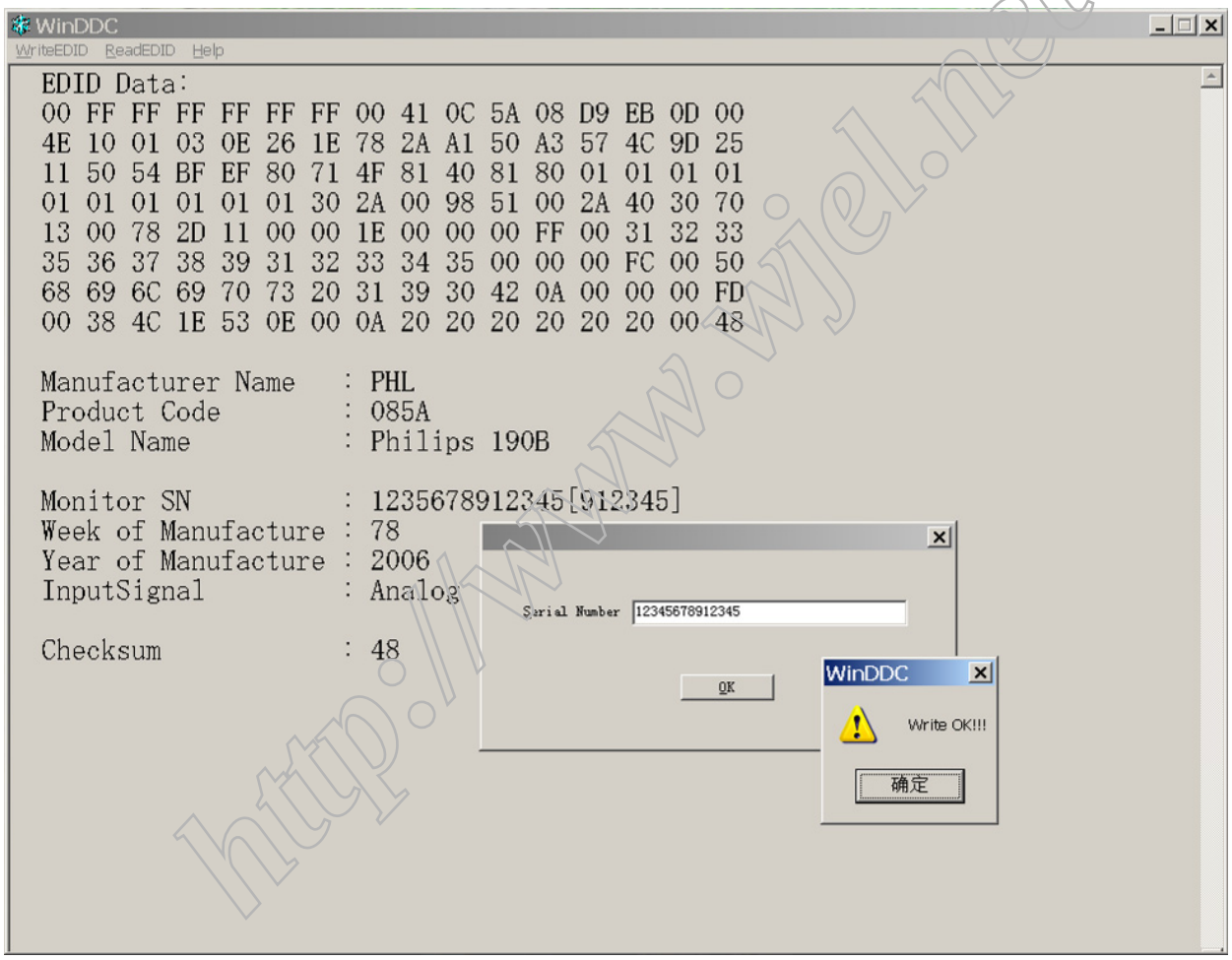
a. Double-click WinDDC.exe，appear as follow Figs：



b. Click WriteEDID.



c. Key 14 numbers in the Serial Number blank, then click “OK”. Now analog DDC Write completes, as follow.



Note: The way of digital DDC write is the same as analog DDC write.

190B8 EDID

Analog

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 5A 08 01 01 01 01
16:     15 11 01 03 0E 26 1E 78 2A A1 50 A3 57 4C 9D 25
32:     11 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 78 2D 11 00 00 1E 00 00 00 FF 00 31 32 33
80:     31 33 32 31 33 32 31 33 32 33 00 00 00 FC 00 50
96:     68 69 6C 69 70 73 20 31 39 30 42 0A 00 00 00 FD
112:    00 38 4C 1E 53 0E 00 0A 20 20 20 20 20 20 00 6A
```

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:            085A
                ID Serial Number:           01010101
                Week of Manufacture:        21
                Year of Manufacture:        2007
        <-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(0.700Vpp)
                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 :        38cm.
                Max. V. Image Size :        30cm.
                Display Gamma:              2.2
                DPMS Features, Active off:          Yes.
                Display Type:    R/G/B color display.
                Preferred Timing Mode:          Yes.
        <---Basic Display Parameters/Features--->
        <---Color Characteristics--->
                Red x:          0.6386718750
                Red y:          0.3417968750
                Green x:        0.2968750000
```

Green y: 0.6142578125
Blue x: 0.1455078125
Blue y: 0.0673828125
White x: 0.3125000000
White y: 0.3291015625
<-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) '123132132132'
Detailed Timing: FC (Monitor Name) 'Philips 190B'
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: 6A

190B8 EDID

Digital

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 5A 08 01 01 01 01
16:     15 11 01 03 80 26 1E 78 2A A1 50 A3 57 4C 9D 25
32:     11 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 78 2D 11 00 00 1E 00 00 00 FF 00 33 31 32
80:     32 33 31 32 33 32 33 31 32 33 00 00 00 FC 00 50
96:     68 69 6C 69 70 73 20 31 39 30 42 0A 00 00 00 FD
112:    00 38 4C 1E 53 0E 00 0A 20 20 20 20 20 20 00 F7
```

Decoded EDID data

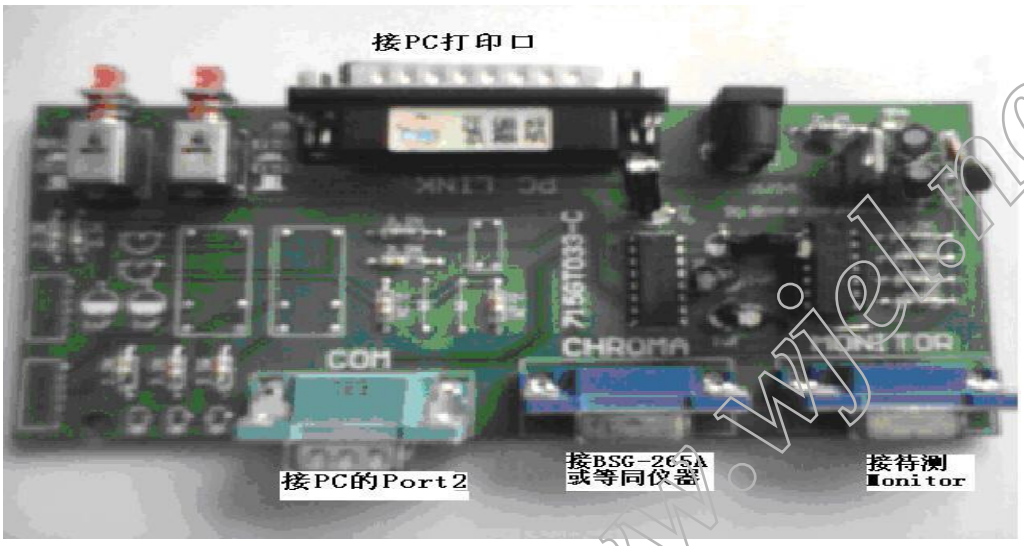
```
        <---Header--->
            Header: 00 FF FF FF FF FF FF 00
        <-x-Header-x->
        <---Vendor/Product Identification--->
            ID Manufacturer Name:       PHL
            ID Product Code:            085A
            ID Serial Number:           01010101
            Week of Manufacture:        21
            Year of Manufacture:        2007
        <-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:       Digital
            Max. H. Image Size :        38cm.
            Max. V. Image Size :        30cm.
            Display Gamma:              2.2
            DPMS Features, Active off:          Yes.
            Display Type:   R/G/B color display.
            Preferred Timing Mode:          Yes.
        <---Basic Display Parameters/Features--->
        <---Color Characteristics--->
            Red x:              0.6386718750
            Red y:              0.3417968750
            Green x:            0.2968750000
            Green y:            0.6142578125
            Blue x:             0.1455078125
            Blue y:             0.0673828125
            White x:            0.3125000000
            White y:            0.3291015625
```

<-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) '312231232312'
Detailed Timing: FC (Monitor Name) 'Philips 190B'
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: F7

14. White Balance, Luminance Adjustment

1. Apparatuses and program: analyzer CA-210, PC, tool, FGA adjustment program (FGAWB0.15SN), Pattern generator.
2. Equipment installation:
   a. Connect analyzer CA-210 to PC by USB connector, install drive program CA-SDK Ver4.00 for CA-210 and restart PC after finish installing.
   b. Install Port95NT drive program, set PC printer connector mode as ECP mode and restart PC after finish installing.
   c. Connect tools as follow:

   (Note: It is not necessary to connect Port2)



3. Adjustment

Preparation before adjustment:

(1) Monitor should be warmed up for more than half an hour.

(2) Make sure that the tools are connected right and drive programs have been installed OK.

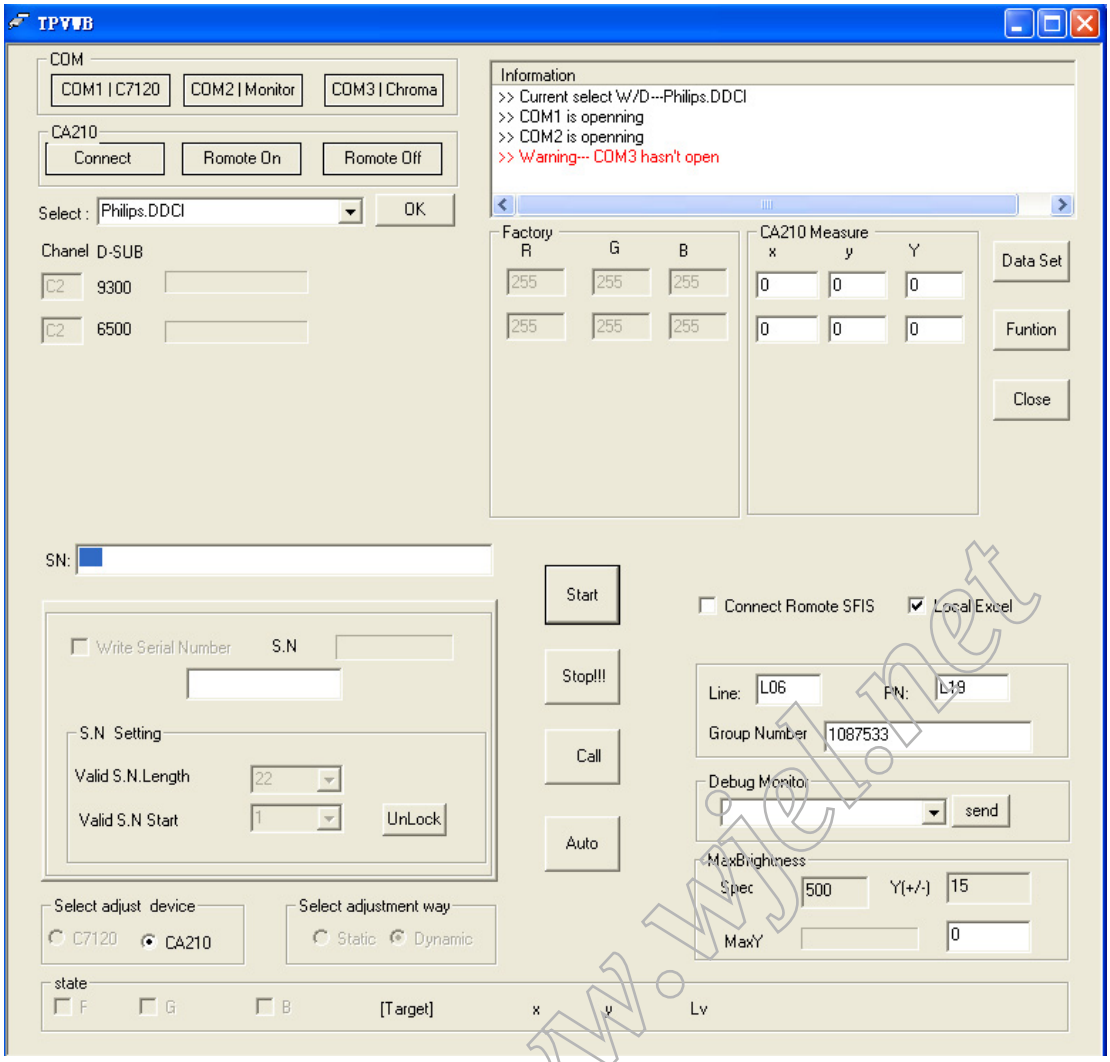
Adjustment process:

(1) Press the power of CA-210, shut off the lens, press 0-Cal and open the lens after analyzer reset.

(2) Start white balance adjustment program, select the right parameter according with the program and click OK.

(3) Make sure that the lens of CA-210 aims at the center of the screen, then click Start and start adjusting.

(4) After finish adjusting, the adjustment program displays pass, and the Start Button is changed to Next, which means you can adjust another monitor.

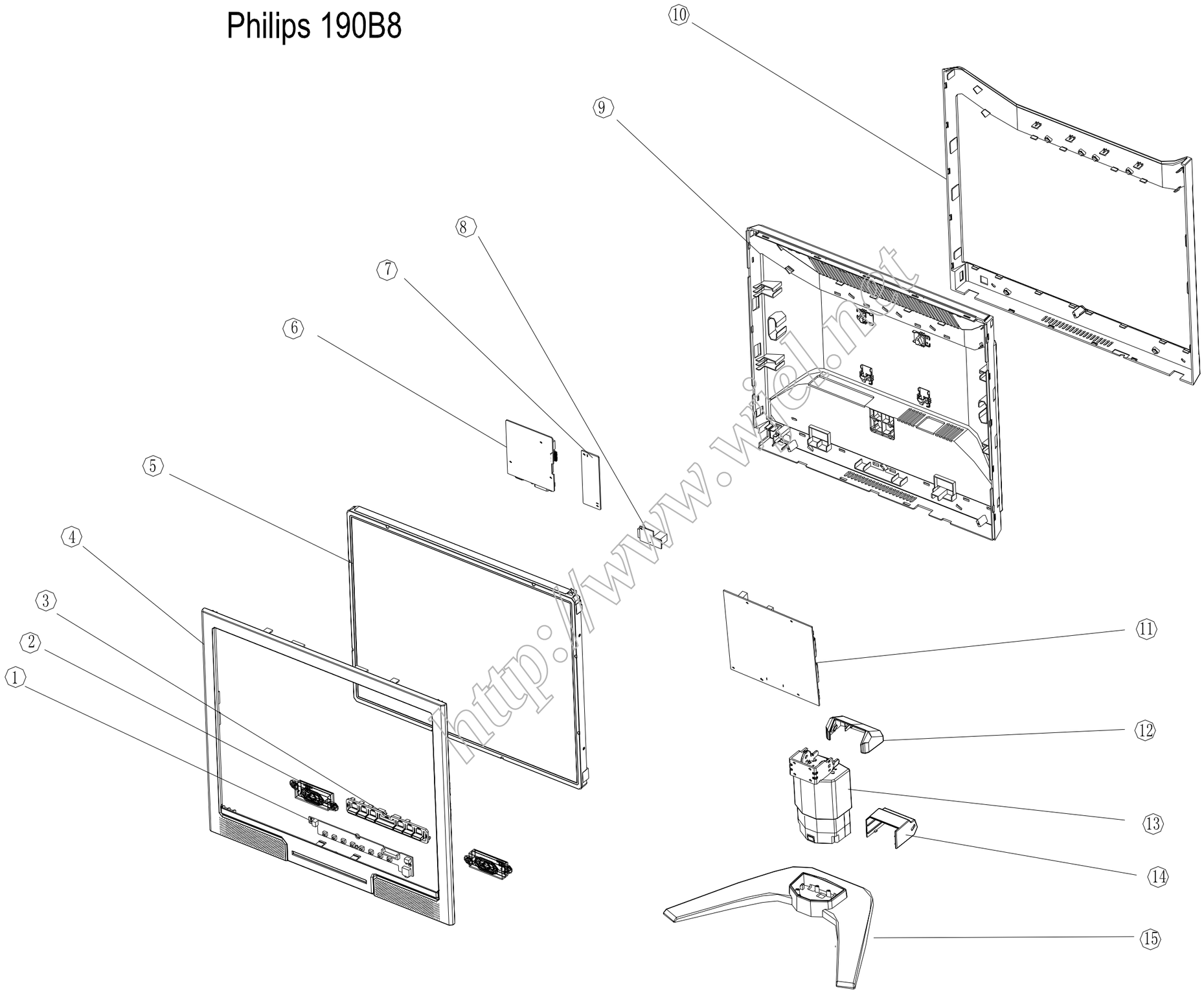


4. Color Temp confirmation

Connect the signal to the monitor, the monitor display white-picture, use CA-210 to measure the Color Temp of the screen center and select the OSD to make sure whether the Color Temps accord with the SPEC.

15. Monitor Exploded View

Philips 190B8



1.KEY BOARD
2.SPEAKER
3.CONTORL BUTTON
4.BEZEL
5.PANEL
6.MAIN BOARD
7.AUDIO BOARD
8.USB BOARD
9.REAR COVER
10.MID_COVER
11.POWER BOARD
12.HINGE COVER BACK
13.HINGE
14.HINGE COVER FRONT
15.BASE ASSY

16. Recommended & Spare Parts List

Recommended Parts List

190B8CB/69

Item	Location	Part No.	Description	Philips 12NC
1	FQ024	KEPC7QBB	KEY BOARD	996510005732
2	FQ001	078G 311 9 L	SPK 16OHM 2.5W NEOSONICA	996500037296
2	FQ002	078G 311 9 R	SPK 16OHM 2.5W NEOSONICA	996500037297
3	FQ007	P33G4984 VQB1C	CONTORL BUTTON	996510005686
4	FQ010	P34G1865 VBC1T	BEZEL(19")	996510005687
5	FQ006	750GLH90N3A12Z000F	PANEL HSD190MEN3-A00 NJ HSD	996510005685
5	E750L	750GLG90E8L12Z000F	PANEL LM190E08-TLL1 NJ ZBD PHP	996510005682
6	FQ021	CBPC7HNAPHQB1	SCALER BOARD (HSD)	996510005692
6	FQ022	CBPC7GNAPHQB1	SCALER BOARD (LG)	996510005693
7	FQ019	089G 17356G554	AUDIO CABLE	996510005691
8	FQ026	USB7QB1	USB BOARD	996510005635
9	FQ012	P34G1867 VB 1T 2	REAR COVER	996510005688
10	FQ011	P34G1866 VB 1T	MID_COVER	996500038126
11	FQ025	PWPC942GR1P	POWER BOARD	996500041051
12	FQ009	P33G5015 VB 1L	HEING COVER BACK	996500037293
13	FQ013	P37G 567 2 VB	HINGE	
14	FQ008	P33G5014 VB 1L	HINGE COVER FRONT	996500037292
15	FQ005	705GQ9K0S34VB1	BASE ASSY	996500038119
	E089A	089G 728HAA 21	SIGNAL CABLE	996510005679
	E089B	089G179J30H564	FFC CABLE	996510005680
	E089C	089G410A18N IS	POWER CORD WALL-OUT FOR UK	996500037340
	FQ004	095G801413D641	WIRE HARNESS	996510005681
	E089A	089G 728LAA 21	SIGNAL CABLE	996510005683
	E089B	089G179E30H564	FFC CABLE	996510005684
	FQ014	P44G3960 1	EPS(L)	
	FQ015	P44G3960 2	EPS(R)	
	FQ016	P45G 88609 37 R	EPE BAG	
	FQ017	Q40G 19N81318A	RATING LABEL	
	FQ018	Q44G3960813 2A	19 LCD CARTON	
	FQ020	Q70G9000813 7C	CD MANUAL	
	FQ023	AUPC7QB1	AUIDO BOARD	996510005730
	U301	056G 563 52	IC AP1117D33LA TO252-3L ATC	996510005697

	U304	056G 56327A	IC AP1117E18LA SOT223-3L ANACHIP	996510005698
	U204	056G1133 56	M24C16-WMN6TP	996500037783
	U203	705GQ756006	MCU ASS'Y	996510005729
	U601	056G 616 24	TPA6030A4PWPRG4	996500037316
	U811	056G 608 10	IC OZ9938GN-B SOIC-16	996500036059
	IC902	056G 139 3A	PC123Y22FZOF	996500036055
	IC902	056G 139 3B	PC123 Y82FZ0F	996500040055
	IC902	056G 139 5A	TCET1103G	996500040056
	IC941	056G 158 4 T	H431BA	996500040068
	IC941	056G 158 10 T	IC AZ431AZ-AE1 TO-92 BY AAC	996510002780
	IC901	056G 564911	IC TEA1532AT S08	996500036960

Spare Parts List

Service Kit

Description	Part No.	Philips 12NC	Remark
DDC Kit	715L2005C2	9965 000 43197	for all model
OSD SN Kit	715GT033 C	9965 000 43252	for all model
NOVATEK ISP Kit	715LT035A	9965 000 43198	for all hudson 7
			for 170A8, 190B8, 150S8, 170S8,190S8, 170V8,190V8
MSTAR ISP Kit	715GT039 A	996510010027	200CW8
REALTEK ISP Kit	715GT039 A	996510010027	170CW8

190B8CB/69

Panel

Location	Part No.	Description	Philips 12NC
E750L	750GLG90E8L12Z000F	PANEL LM190E08-TLL1 NJ ZBD	996510005682
FQ006	750GLH90N3A12Z000F	PANEL HSD190MEN3-A00 NJ	996510005685

Board ASS'Y

Location	Part No.	Description	Philips 12NC
FQ021	CBPC7HNAPHQB1	SCALER BOARD (HSD)	996510005692
FQ022	CBPC7GNAPHQB1	SCALER BOARD (LG)	996510005693
FQ023	AUPC7QB1	AUIDO BOARD	996510005730
FQ024	KEPC7QBB	KEY BOARD	996510005732
FQ025	PWPC942GR1P	POWER BOARD	996500041051
FQ026	USB7QB1	USB BOARD	996510005635

Accessory and Mechanical

Location	Part No.	Description	Philips 12NC
FQ001	078G 311 9 L	SPK 16OHM 2.5W NEOSONICA	996500037296
FQ002	078G 311 9 R	SPK 16OHM 2.5W NEOSONICA	996500037297
E089A	089G 728HAA 21	SIGNAL CABLE	996510005679
E089B	089G179J30H564	FFC CABLE	996510005680
E089C	089G410A18N IS	POWER CORD WALL-OUT FOR UK	996500037340
FQ004	095G801413D641	WIRE HARNESS	996510005681
FQ005	705GQ9K0S34VB1	BASE ASSY	996500038119
E750L	750GLG90E8L12Z000F	PANEL LM190E08-TLL1 NJ ZBD PHP	996510005682
E089A	089G 728LAA 21	SIGNAL CABLE	996510005683
E089B	089G179E30H564	FFC CABLE	996510005684
FQ006	750GLH90N3A12Z000F	PANEL HSD190MEN3-A00 NJ HSD	996510005685
FQ007	P33G4984 VQB1C	CONTORL BUTTON	996510005686
FQ008	P33G5014 VB 1L	HINGE COVER FRONT	996500037292
FQ009	P33G5015 VB 1L	HEING COVER BACK	996500037293
FQ010	P34G1865 VBC1T	BEZEL(19")	996510005687
FQ011	P34G1866 VB 1T	MID_COVER	996500038126
FQ012	P34G1867 VB 1T 2	REAR COVER	996510005688
FQ013	P37G 567 2 VB	HINGE	
FQ014	P44G3960 1	EPS(L)	
FQ015	P44G3960 2	EPS(R)	
FQ016	P45G 88609 37 R	EPE BAG	
FQ017	Q40G 19N81318A	RATING LABEL	
FQ018	Q44G3960813 2A	19 LCD CARTON	
FQ019	089G 17356G554	AUDIO CABLE	996510005691
FQ020	Q70G9000813 7C	CD MANUAL	

Board Parts

Location	Part No.	Description	Philips 12NC
FQ021	CBPC7HNAPHQB1	SCALER BOARD (HSD)	996510005692
FQ022	CBPC7GNAPHQB1	SCALER BOARD (LG)	996510005693
C101	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C102	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C103	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C104	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C105	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C106	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C107	065G060310517T	MLCC 0603 CAP 1UF Z 16V Y5V	996510005722
C110	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C111	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C112	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C113	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C115	065G060310517T	MLCC 0603 CAP 1UF Z 16V Y5V	996510005722
C116	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C117	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C118	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C121	065G0402473 12	CHIP 0.047uF 16V X7R	996510005721
C122	065G0402473 12	CHIP 0.047uF 16V X7R	996510005721
C123	065G0402102 32	1000PF +-10% 50V X7R	996510005715
C124	065G0402473 12	CHIP 0.047uF 16V X7R	996510005721
C125	065G0402473 12	CHIP 0.047uF 16V X7R	996510005721
C126	065G0402473 12	CHIP 0.047uF 16V X7R	996510005721
C127	065G0402331 32	CHIP 330PF 50V X7R	996510005719
C128	065G0402330 31	33PF +-50% 50V NPO	996510005718
C129	065G0402473 12	CHIP 0.047uF 16V X7R	996510005721
C130	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C131	065G0402102 32	1000PF +-10% 50V X7R	996510005715
C132	065G040247132K T	CAP CHIP 0402 470PF 50V X7R	996510005720
C201	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C203	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C204	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C205	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C206	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C207	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C208	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C209	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716

C210	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C213	065G060310517T	MLCC 0603 CAP 1UF Z 16V Y5V	996510005722
C214	067G305V101 3	105C 10UF +-20% 16V	996510005694
C215	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C216	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C219	065G0402220 31	CHIP 22PF 50V NPO	996510005717
C220	065G0402220 31	CHIP 22PF 50V NPO	996510005717
C301	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C302	067G305V100 3	105deg 10UF -20% 16V	996500037413
C303	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C304	065G060310517T	MLCC 0603 CAP 1UF Z 16V Y5V	996510005722
C305	067G305V101 3	105C 10UF +-20% 16V	996510005694
C306	067G305V101 3	105C 10UF +-20% 16V	996510005694
C307	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C308	065G060310517T	MLCC 0603 CAP 1UF Z 16V Y5V	996510005722
C309	067G305V101 3	105C 10UF +-20% 16V	996510005694
C310	067G305V101 3	105C 10UF +-20% 16V	996510005694
C311	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C312	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C315	067G305V101 3	105C 10UF +-20% 16V	996510005694
C316	065G0603104 22	CHIP 0.1UF 25V X7R	996500042674
C317	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C402	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C403	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C405	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
D101	093G 6433S	DIODE BAV99 SEMTECH	996510005726
D102	093G 64 42 PP	BAV70 SOT-23	996500035995
D103	093G 6433S	DIODE BAV99 SEMTECH	996510005726
D104	093G 6433S	DIODE BAV99 SEMTECH	996510005726
D105	093G 6433S	DIODE BAV99 SEMTECH	996510005726
D106	093G 6433S	DIODE BAV99 SEMTECH	996510005726
D107	093G 6433S	DIODE BAV99 SEMTECH	996510005726
D108	093G 6433S	DIODE BAV99 SEMTECH	996510005726
D109	093G 6433S	DIODE BAV99 SEMTECH	996510005726
D110	093G 64 42 PP	BAV70 SOT-23	996500035995
D111	093G 6433S	DIODE BAV99 SEMTECH	996510005726
D112	093G 6433S	DIODE BAV99 SEMTECH	996510005726
D113	093G 6433S	DIODE BAV99 SEMTECH	996510005726
D201	093G 64 42 PP	BAV70 SOT-23	996500035995
D301	093G3004 3	SM340A	996510005728

Q201	057G 417 13 T	KEC 2N3906S-RTK/PS	996500035967
Q301	057G 417 12 T	KEC 2N3904S-RTK/PS	996500036961
Q302	057G 763 1	A03401 SOT23 BY AOS(A1)	996500035968
Q305	057G 417 12 T	KEC 2N3904S-RTK/PS	996500036961
Q402	057G 417 13 T	KEC 2N3906S-RTK/PS	996500035967
Q403	057G 417 13 T	KEC 2N3906S-RTK/PS	996500035967
R101	061G0402750	RST CHIPR 75 OHM +-5% 1/16W	996510005713
R102	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	996510005702
R103	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R104	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R106	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	996510005700
R107	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	996510005700
R108	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R109	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R110	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	996510005700
R111	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	996510005700
R113	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	996510005702
R115	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	996510005700
R116	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	996510005700
R117	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	996510005700
R118	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	996510005700
R120	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	996510005702
R122	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	996510005702
R123	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R124	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R126	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R127	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R128	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R129	061G0402151	RST CHIP 150R 1/16W 5%	996510005704
R131	061G0402391	RST CHIPR 390 OHM +-5% 1/16W	996510005708
R132	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R133	061G0402151	RST CHIP 150R 1/16W 5%	996510005704
R134	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R135	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R136	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R138	061G0402151	RST CHIP 150R 1/16W 5%	996510005704
R139	061G0402750	RST CHIPR 75 OHM +-5% 1/16W	996510005713
R140	061G0402750	RST CHIPR 75 OHM +-5% 1/16W	996510005713
R141	061G0402222	RST CHIPR 2.2 KOHM +-5% 1/16W	996510005707
R142	061G0402222	RST CHIPR 2.2 KOHM +-5% 1/16W	996510005707

R144	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	996510005702
R201	061G0402105	RST CHIPR 1MOHM +-5% 1/16W	996510005703
R202	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R206	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R211	061G0402000	RST CHIPR 0 OHM +-5% 1/16W	996510005699
R213	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R214	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R215	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R218	061G0402220	RST CHIPR 22 OHM +-5% 1/16W	996510005705
R220	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R221	061G0402471	RST CHIPR 470 OHM +-5% 1/16W	996510005710
R225	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R228	061G0402000	RST CHIPR 0 OHM +-5% 1/16W	996510005699
R234	061G0402221	RST CHIPR 220 OHM +-5% 1/16W	996510005706
R301	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	996510005702
R302	061G1206331	RST CHIPR 330 OHM +-5% 1/4W	996510005714
R303	061G1206331	RST CHIPR 330 OHM +-5% 1/4W	996510005714
R304	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R305	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R307	061G0402513	RST CHIP 51K 1/16W 5%	996510005712
R308	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R309	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R311	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	996510005702
R312	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	996510005702
R314	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R316	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R402	061G0402392	RST CHIP 3.9K 1/16W 5%	996510005709
R403	061G0402392	RST CHIP 3.9K 1/16W 5%	996510005709
R404	061G0402000	RST CHIPR 0 OHM +-5% 1/16W	996510005699
R407	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R410	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R412	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	996510005702
R415	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R416	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R417	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R418	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R421	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R431	061G0402000	RST CHIPR 0 OHM +-5% 1/16W	996510005699
R432	061G0402000	RST CHIPR 0 OHM +-5% 1/16W	996510005699
U203	705GQ756006	MCU ASS'Y	996510005729

U204	056G1133 56	M24C16-WMN6TP	996500037783
U301	056G 563 52	IC AP1117D33LA TO252-3L ATC	996510005697
U304	056G 56327A	IC AP1117E18LA SOT223-3L	996510005698
X201	093G 2251B	MXS12.000AC20F-KAB5 HC-49/US	996510005696
CN101	088G 35315F H	D-SUB 15PIN	996500035960
CN102	088G 35424F N	DVI 24PIN CONN F	996510005695
FB101	071G 56D121	B201209D121TT	996510005724
FB102	071G 56D121	B201209D121TT	996510005724
FB103	071G 59B300 K	BEAD 30	996500036934
FB104	071G 59B300 K	BEAD 30	996500036934
FB105	061G0805000	0 OHM 1/10W	996500042284
FB106	071G 59B300 K	BEAD 30	996500036934
FB107	071G 56D121	B201209D121TT	996510005724
FB202	071G 56D121 JA	CHIP BEAD 120 OHM 0805 1A	996510005725
FB203	071G 56D121	B201209D121TT	996510005724
FB204	071G 56D121	B201209D121TT	996510005724
FB205	071G 56D121	B201209D121TT	996510005724
FB206	071G 56D121 JA	CHIP BEAD 120 OHM 0805 1A	996510005725
FB207	071G 56D102 MA	CHIP HEAD 1000OHM 0805 1A	996510005723
ZD101	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
ZD102	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
ZD103	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
ZD104	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
ZD105	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
ZD106	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
ZD107	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
ZD201	093G 39G586	RLZ2.2B	996510005727
FQ023	AUPC7QB1	AUIDO BOARD	996510005730
C601	065G0603101 31	CER1 0603 NP0 50V 100P PM5 R	996500037323
C602	067G215S102 3N	KZE16VB1000-M-L10*20	996500037315
C603	065G0805105 37	CHIP 1UF 50V Y5V	996500037327
C604	065G0603101 31	CER1 0603 NP0 50V 100P PM5 R	996500037323
C605	067G215V221 4H	220UF	996510005731
C606	065G0603101 31	CER1 0603 NP0 50V 100P PM5 R	996500037323
C607	065G0603103 32	0.01UF -10% 50V X7R	996500036004
C608	065G0603474 17	CHIP CAP.CER 0.47UF -20% -80%	996500037326
C609	065G0603474 17	CHIP CAP.CER 0.47UF -20% -80%	996500037326
C610	065G0603474 17	CHIP CAP.CER 0.47UF -20% -80%	996500037326
C611	065G0603104 12	CER2 0603 X7R 16V 100N PM10 R	996500036918
C612	065G0603474 17	CHIP CAP.CER 0.47UF -20% -80%	996500037326

C613	065G0603474 17	CHIP CAP.CER 0.47UF -20% -80%	996500037326
C614	065G0603472 32	CHIP 4700PF 50V X7R	996500037325
C615	065G0805105 37	CHIP 1UF 50V Y5V	996500037327
C616	065G0603224 17	CAP:CER 0.22UF-20%-80% 10V SM	996500037324
C617	065G0603474 17	CHIP CAP.CER 0.47UF -20% -80%	996500037326
C618	065G0805105 37	CHIP 1UF 50V Y5V	996500037327
C619	065G0603474 17	CHIP CAP.CER 0.47UF -20% -80%	996500037326
C620	065G0805105 37	CHIP 1UF 50V Y5V	996500037327
C621	065G0603474 17	CHIP CAP.CER 0.47UF -20% -80%	996500037326
C622	067G215V221 4H	220UF	996510005731
C623	065G0603101 31	CER1 0603 NP0 50V 100P PM5 R	996500037323
C624	065G0603101 31	CER1 0603 NP0 50V 100P PM5 R	996500037323
C625	065G0603103 32	0.01UF -10% 50V X7R	996500036004
C626	065G0805105 37	CHIP 1UF 50V Y5V	996500037327
C627	065G0603101 31	CER1 0603 NP0 50V 100P PM5 R	996500037323
R601	061G0603153	RST CHIPR 15KOHM -5% 1/10W	996500042397
R602	061G0603000	RST CHIPR 0 OHM -5% 1/10W	996500042212
R603	061G0603103	RST CHIPR 10 KOHM -5% 1/10W	996500042214
R604	061G0603102	RST CHIP 1K 1/10W 5%	996500040053
R605	061G0603333	RST CHIPR 33KOHM -5% 1/10W	996500042254
R606	061G0603104	RST CHIPR 100 KOHM -5% 1/10W	996500042215
R607	061G0603683	RST CHIPR 68 KOHM -5% 1/10W	996500042256
R608	061G0603512	RST CHIPR 5.1 KOHM -5% 1/10W	996500042255
R609	061G0603104	RST CHIPR 100 KOHM -5% 1/10W	996500042215
R610	061G0603103	RST CHIPR 10 KOHM -5% 1/10W	996500042214
R611	061G0603103	RST CHIPR 10 KOHM -5% 1/10W	996500042214
R612	061G0603000	RST CHIPR 0 OHM -5% 1/10W	996500042212
R613	061G0603104	RST CHIPR 100 KOHM -5% 1/10W	996500042215
R614	061G0603183	RST CHIPR 18 KOHM -5% 1/10W	996500042253
R615	061G0603153	RST CHIPR 15KOHM -5% 1/10W	996500042397
R616	061G0603512	RST CHIPR 5.1 KOHM -5% 1/10W	996500042255
R617	061G0603102	RST CHIP 1K 1/10W 5%	996500040053
R618	061G0603000	RST CHIPR 0 OHM -5% 1/10W	996500042212
U601	056G 616 24	TPA6030A4PWPRG4	996500037316
CN601	088G 30214K	PHONE JACK 5PIN	996500037328
FB601	071G 56K121	CHIP BEAD	996500035993
FB602	071G 56K121	CHIP BEAD	996500035993
FB603	071G 56K121	CHIP BEAD	996500035993
FB604	071G 56K121	CHIP BEAD	996500035993
FB605	071G 56K121	CHIP BEAD	996500035993

FB606	071G 56K121	CHIP BEAD	996500035993
FB607	071G 56K121	CHIP BEAD	996500035993
FB608	071G 56K121	CHIP BEAD	996500035993
ZD601	093G 6021652T	DIODE 1N5819 WILLAS	996500037317
FQ024	KEPC7QBB	KEY BOARD	996510005732
SW2	077G 600 1GCJ	TACT SWITCH	996510002796
SW3	077G 600 1GCJ	TACT SWITCH	996510002796
SW4	077G 600 1GCJ	TACT SWITCH	996510002796
SW5	077G 600 1GCJ	TACT SWITCH	996510002796
SW6	077G 600 1GCJ	TACT SWITCH	996510002796
SW7	077G 600 1GCJ	TACT SWITCH	996510002796
C101	065G0603103 32	0.01UF -10% 50V X7R	996500036004
C102	065G0603103 32	0.01UF -10% 50V X7R	996500036004
C103	065G0603103 32	0.01UF -10% 50V X7R	996500036004
C104	065G0603103 32	0.01UF -10% 50V X7R	996500036004
C105	065G0603103 32	0.01UF -10% 50V X7R	996500036004
C106	065G0603103 32	0.01UF -10% 50V X7R	996500036004
C107	065G0603103 32	0.01UF -10% 50V X7R	996500036004
C108	065G0603103 32	0.01UF -10% 50V X7R	996500036004
C109	065G0603102 32	1000PF -10% 50V X7R	996500037517
C110	065G0603102 32	1000PF -10% 50V X7R	996500037517
C111	065G0603102 32	1000PF -10% 50V X7R	996500037517
L102	061G0603101	RST CHIPR 100 OHM -5% 1/10W	996500042213
L103	061G0603101	RST CHIPR 100 OHM -5% 1/10W	996500042213
LED1	081G 12 1 GP	GP32032ME	996500036001
R101	061G0603101	RST CHIPR 100 OHM -5% 1/10W	996500042213
R102	061G0603430 1F	RST CHIPR 4.3 KOHM +-1% 1/10W	996510005736
R103	061G0603910 0F	RST CHIPR 910 OHM +-1% 1/10W	996510005737
R104	061G0603240 1F	RST CHIPR 2.4 KOHM +-1% 1/10W	996510005735
R106	061G0603430 1F	RST CHIPR 4.3 KOHM +-1% 1/10W	996510005736
R107	061G0603910 0F	RST CHIPR 910 OHM +-1% 1/10W	996510005737
R108	061G0603240 1F	RST CHIPR 2.4 KOHM +-1% 1/10W	996510005735
R109	061G0603000	RST CHIPR 0 OHM -5% 1/10W	996500042212
R110	061G0603101	RST CHIPR 100 OHM -5% 1/10W	996500042213
CN101	033G380213H	WAFER 13P RIGHT ANGLE PITCH	996510005734
CN102	088G 30237B	PHONE JACK	996500037333
CN103	033G3802 2 BH F	CONNECTOR	996510005733
CN104	033G3802 2 BH F	CONNECTOR	996510005733
FQ025	PWPC942GR1P	POWER ASSY	996500041051
C801	065G 6J1006ET	10PF 5% SL 6KV	996500036942

C802	065G 3J5096ET	5PF 5% SL 3KV	996500036941
C803	065G 3J5096ET	5PF 5% SL 3KV	996500036941
C806	065G 6J1006ET	10PF 5% SL 6KV	996500036942
C807	065G 3J5096ET	5PF 5% SL 3KV	996500036941
C808	065G 3J5096ET	5PF 5% SL 3KV	996500036941
C811	065G0805105 22	CHIP 1UF 25V X7R 0805	996500036073
C812	065G0805104 22	0.1UF -10% 25V X7R 080	996500036040
C813	065G0805561 31	CHIP 560PF 50V NPO 0805	996500036997
C819	065G0805103 22	CHIP 0.01uF 25V X7R 0805	996500036039
C820	067G215D471 4K	ED 470UF 25V	996500036007
C821	065G0805105 22	CHIP 1UF 25V X7R 0805	996500036073
C822	065G0805222 32	CHIP 2200PF 25V X7R 0805	996500037334
C823	065G0805222 32	CHIP 2200PF 25V X7R 0805	996500037334
C831	065G0805331 32	CHIP 330P 50V X7R 0805	996500036994
C832	065G0805104 22	0.1UF -10% 25V X7R 080	996500036040
C838	065G0805102 31	1000PF 50V NPO	996500036991
C840	067G215D471 4K	ED 470UF 25V	996500036007
C841	065G0805105 22	CHIP 1UF 25V X7R 0805	996500036073
C842	065G0805222 32	CHIP 2200PF 25V X7R 0805	996500037334
C843	065G0805222 32	CHIP 2200PF 25V X7R 0805	996500037334
C846	065G0805105 22	CHIP 1UF 25V X7R 0805	996500036073
C847	065G0805223 22	CHIP 0.022UF 25V X7R 0805	996500036043
C858	065G0805391 31	CHIP 390PF 50V	996500036996
C860	065G0805221 22	CHIP 220PF 25V X7R 0805	996500036993
C861	065G0805102 31	1000PF 50V NPO	996500036991
C865	065G0805333 32	CHIP 0.033UF 50V	996500036995
C874	065G0805105 22	CHIP 1UF 25V X7R 0805	996500036073
C880	065G0805104 22	0.1UF -10% 25V X7R 080	996500036040
C881	065G0805103 22	CHIP 0.01uF 25V X7R 0805	996500036039
C883	065G0805103 22	CHIP 0.01uF 25V X7R 0805	996500036039
C885	065G0805103 22	CHIP 0.01uF 25V X7R 0805	996500036039
C887	065G0805103 22	CHIP 0.01uF 25V X7R 0805	996500036039
C900	065G305M1022BP	Y2 1000PF M 250VAC Y5P	996500036943
C901	065G305M1022BP	Y2 1000PF M 250VAC Y5P	996500036943
C907	67G 40Z10115K	CAP 105℃ 100UF M 450V	996500036086
C908	063G 10747410S	Film capacitor	996500037794
C912	065G305M2222BP	2200PF -20%	996500036944
C913	065G0805104 22	0.1UF -10% 25V X7R 080	996500036040
C914	065G0805105 22	CHIP 1UF 25V X7R 0805	996500036073
C915	065G0805123 22	CHIP 12nF 25V X7R 0805	996500036992

C917	065G0805334 22	0.33UF -10% 25V X7R 0805	996500036074
C920	065G 1K102 5T	1000PF/1KV	996500036999
C927	067G 3056804KT	ELCAP 68UF M 25V 105_KINGNIC	996500037001
C931	065G517K332 2T	3.3NF 500V	996500037000
C932	067G215S102 4K	ED1000UF 25V	996500036946
C933	067G215S102 4K	ED1000UF 25V	996500036946
C936	067G215D2222KV	105_2200UF M 10V	996500036945
C936	067G215D222 2K	105 2200UF M 10V	996500040057
C941	065G0805562 21	5600PF/25V/NPO/J	996500036998
C951	065G0805104 22	0.1UF -10% 25V X7R 080	996500036040
C952	067G215B2214KT	LOW E,S,R 220UF -20% 25V	996500036076
C955	065G0805104 22	0.1UF -10% 25V X7R 080	996500036040
C956	067G215B2214KT	LOW E,S,R 220UF -20% 25V	996500036076
D831	093G 64 33	DIO SIG SM BAV99 (PHSE)R	996500035994
D833	093G 64 42 PP	BAV70 SOT-23	996500035995
D851	093G 64 33	DIO SIG SM BAV99 (PHSE)R	996500035994
D853	093G 64 42 PP	BAV70 SOT-23	996500035995
D881	093T 64 44 S	LL4148WP	996510005242
D883	093T 64 44 S	LL4148WP	996510005242
D885	093T 64 44 S	LL4148WP	996510005242
D887	093T 64 44 S	LL4148WP	996510005242
D901	093G 6026T52T	RECTIFIER DIODE FR107	996500036030
D919	093G 6038T52T	FR103	996500036095
D926	093G 6038T52T	FR103	996500036095
D926	093G 64 5152T	RGP10-DO-204AL	996500040067
D931	093G 60901	MBRF10H100CT ITO-220AB	996500040064
D931	093G 60267	SP10100	996500036957
D935	093G 60240	YG802C06R TO-220F15	996500037337
D935	093G1506 2	FMW-2156	996500036958
D935	093G 60526	SCHOTTKY MBRF1060CT ITO-220AB	996510002528
F901	084G 55 7 GP	FUSE 3.15A 250V	996500037006
F902	084G 55 4	FOSE 382-5A 250V SICKMANN	996500037005
L901	073G 174 65 LS	LINE FILTER BY LISHIN	996500036025
L901	073G 174 65 H	LINE FILTER	996500036088
L902	071G 55 24	FERRITE BEAD	996500036947
L903	071G 55 24	FERRITE BEAD	996500036947
L951	073G 253902 YS	IND CHOKE 0.8uH MIN TOP NATION	996500040060
L951	073G 253902 S	IND CHOKE 0.8uH TAICHANG	996500040059

L951	073G 253902 H	IND CHOKE 0.8uH MIN DADONG	996500040058
L951	073G 253902 T	CKOLE COIL 0.8uH	996500036948
L955	073G 253902 T	CKOLE COIL 0.8uH	996500036948
L955	073G 253902 YS	IND CHOKE 0.8uH MIN TOP NATION	996500040060
L955	073G 253902 S	IND CHOKE 0.8uH TAICHANG	996500040059
L955	073G 253902 H	IND CHOKE 0.8uH MIN DADONG	996500040058
Q801	057G 759 2	RK7002	996500036033
Q821	057G 763 14	AM9945N	996500036100
Q821	057G 600 55	P5506 HVG SO-8	996500036032
Q821	057G 763 6	AO4828L	996500039748
Q841	057G 763 6	AO4828L	996500039748
Q841	057G 763 14	AM9945N	996500036100
Q841	057G 600 55	P5506 HVG SO-8	996500036032
Q871	057G 759 2	RK7002	996500036033
Q873	057G 760 4B	PDTA144WK SOT346	996500036962
Q874	057G 417 12 T	KEC 2N3904S-RTK/PS	996500036961
Q880	057G 759 2	RK7002	996500036033
Q881	057G 759 2	RK7002	996500036033
Q883	057G 759 2	RK7002	996500036033
Q885	057G 759 2	RK7002	996500036033
Q886	057G 759 2	RK7002	996500036033
Q901	057G 667 22	FQPF8N80C	996500040063
Q901	057G 600 35	STP8NK80ZFP	996500036959
R801	061L0805103	CHIPR 10K OHM -5% 1/10W	996500036964
R802	061L0805104	CHIPR 100K OHM -5% 1/10W	996500036965
R804	061L0805103	CHIPR 10K OHM -5% 1/10W	996500036964
R807	061L0805103	CHIPR 10K OHM -5% 1/10W	996500036964
R811	061L0805335	3.3M 0805	996500036978
R812	061L0805624	CHIP 620KOHM 5% 0805 1/8W	996500036980
R813	061L0805330 2F	CHIP 33KOHM 1/8W 1%	996500036975
R815	061L0805303	CHIP 30K OHM 1/8W	996500036974
R816	061L0805203	CHIPR 20KOHM -5% 1/8W	996500036972
R819	061L0805105	CHIP 1M OHM 5% 1/8W	996500036013
R822	061L0805100	CHIPR 10 OHM -5% 1/10W	996500036012
R823	061L0805100	CHIPR 10 OHM -5% 1/10W	996500036012
R825	061L0805752	CHIP 7.5K OHM 1/10W	996500036981
R829	061L0805000	CHIPR 0OHM -5% 1/10W	996500035984
R831	061L0805102	CHIPR 1K OHM -5% 1/10W	996500036963
R833	061L0805122	1.2KOHM -5%,1/8W,0805	996500036967

R835	061L0805100 2F	CHIP 10K OHM 1/8W 1%	996500036020
R836	061L0805100 2F	CHIP 10K OHM 1/8W 1%	996500036020
R837	061L0805752	CHIP 7.5K OHM 1/10W	996500036981
R839	061G212Y625 KT	MGFR 6.2MOHM -5% 1/2W	996500036083
R842	061L0805100	CHIPR 10 OHM -5% 1/10W	996500036012
R843	061L0805100	CHIPR 10 OHM -5% 1/10W	996500036012
R849	061L0805000	CHIPR 0OHM -5% 1/10W	996500035984
R851	061L0805102	CHIPR 1K OHM -5% 1/10W	996500036963
R853	061L0805122	1.2KOHM -5%,1/8W,0805	996500036967
R855	061L0805100 2F	CHIP 10K OHM 1/8W 1%	996500036020
R856	061L0805100 2F	CHIP 10K OHM 1/8W 1%	996500036020
R859	061G212Y625 KT	MGFR 6.2MOHM -5% 1/2W	996500036083
R861	061G203S10452T	RST MFLM 100K 0.6W 1%	996510005738
R861	061G 20010452T	100K OHM 1/4W 1%	996500036989
R863	061G203S33352T	RST MFLM 33K 0.6W 1%	996500045324
R863	061G 20033352T	33KOHM 1% 1/4W	996500036990
R865	061L0805232 0F	CHIP 232OHM	996500036973
R871	061G 17210352T	CFR 10KOHM -5% 1/4W	996500036988
R872	061L0805104	CHIPR 100K OHM -5% 1/10W	996500036965
R873	061L0805202	CHIP 2KOHM 1/8W	996500036971
R874	061L0805331	CHIP 330 OHM 5% 1/10W	996500036976
R880	061L0805103	CHIPR 10K OHM -5% 1/10W	996500036964
R881	061L0805104	CHIPR 100K OHM -5% 1/10W	996500036965
R882	061L0805102	CHIPR 1K OHM -5% 1/10W	996500036963
R883	061L0805104	CHIPR 100K OHM -5% 1/10W	996500036965
R884	061L0805102	CHIPR 1K OHM -5% 1/10W	996500036963
R885	061L0805104	CHIPR 100K OHM -5% 1/10W	996500036965
R886	061L0805102	CHIPR 1K OHM -5% 1/10W	996500036963
R887	061L0805104	CHIPR 100K OHM -5% 1/10W	996500036965
R888	061L0805102	CHIPR 1K OHM -5% 1/10W	996500036963
R900	061L1206684	CHIPR 680K OHM -5% 1/8W	996500036024
R901	061L1206684	CHIPR 680K OHM -5% 1/8W	996500036024
R902	061L1206684	CHIPR 680K OHM -5% 1/8W	996500036024
R904	061L1206155	1.5M/0805	996500036983
R905	061G152M104 64	100KOHM 5% 2W	996500036939
R907	061L1206103	CHIP 10KOHM 5% 1/4W	996500036016
R910	061L1206155	1.5M/0805	996500036983
R912	061L0805105	CHIP 1M OHM 5% 1/8W	996500036013
R914	061L0805124 1F	CHIP 1.24K OHM 1/10W 1%	996500036969
R915	061G 17210052T	100HM 5% 1/4W	996500036987

R916	061L0805152	CHIPR 1.5K OHM -5% 1/10W	996500036970
R917	061L0805333	CHIP 33KOHM 1% 1/8W	996500036977
R918	061L1206000	CHIPR 0 OHM -5% 1/8W	996500036067
R920	061G152M208 64	0.20 OHM 2W	996500036940
R923	061L0805123	CHIP 12KOHM 1/8W	996500036968
R926	061L1206000	CHIPR 0 OHM -5% 1/8W	996500036067
R927	061L1206472	CHIP 4.7KOHM 5% 1/4W	996500036986
R931	061L1206229	CHIP 2.2OHM 5% 1/8W	996500036985
R932	061L1206229	CHIP 2.2OHM 5% 1/8W	996500036985
R937	061L1206182	CHIP 1.8KOHM	996500036984
R941	061L0805102	CHIPR 1K OHM -5% 1/10W	996500036963
R943	061L0805510 1F	CHIP 5.1K OHM 1/10W 1%	996500036979
R944	061L0805910 1F	CHIP 9.1K OHM 1/10W 1%	996500036982
R945	061L0805910 1F	CHIP 9.1K OHM 1/10W 1%	996500036982
R946	061L0805110 3F	110KOHM 1% 1/10W	996500036966
R952	061G 17210052T	100HM 5% 1/4W	996500036987
R954	061L0805100	CHIPR 10 OHM -5% 1/10W	996500036012
T901	080GL17T900 L	XFMR FOR POWER LITAI	996500040061
T901	080GL17T900 N	XFMR FOR POWER YUVA	996500040062
T901	080GL17T900 T	X'FMR SRW28LEC-T93H016	996500036950
T901	S80GL17T900V	XFMR FOR POWER LITAI	996500040065
U811	056G 608 10	0Z9938	996500036059
BD901	093G 50460 16	U4KB80R	996500036951
BD901	093G 50460 10	GBU405	996500040054
FB901	071G 55901	FERRITE CORE 2.5*3*1 BF30TA-2	996500040066
FB901	071G 55 29	FERRITE BEAD	996500036053
FB902	071G 55 23	BEAD	996510005739
FB902	071G 55 23 S	BEAD	996500037004
FB903	071G 55 23 S	BEAD	996500037004
FB903	071G 55 23	BEAD	996510005739
FB905	071G 55 23 S	BEAD	996500037004
FB905	071G 55 23	BEAD	996510005739
IC901	056G 564911	IC TEA1532AT S08	996500036960
IC902	056G 139 3A	PC123Y22FZOF	996500036055
IC902	056G 139 3B	PC123 Y82FZ0F	996500040055
IC902	056G 139 5A	TCET1103G	996500040056
IC941	056G 158 4 T	H431BA	996500040068
IC941	056G 158 10 T	IC AZ431AZ-AE1 TO-92 BY AAC	996510002780
NR901	061G 5810T	8 OHM 4A NTCR BY THINKING	996500036938
PT801	080GL19T 8DN1	X'FMR DARFONTK.2006M.101	996500036093

PT802	080GL19T 8DN1	X'FMR DARFONTK.2006M.101	996500036093
RJ801	061L0805000	CHIPR 0OHM -5% 1/10W	996500035984
RJ804	061L1206000	CHIPR 0 OHM -5% 1/8W	996500036067
RJ827	061L0805000	CHIPR 0OHM -5% 1/10W	996500035984
ZD874	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
ZD951	093G 39A3552T	ZENER DIODE P6KE8.2A ZOWIE	996500037007
ZD951	093G 3990352T	ZD P6KE8.2A	996500037335
ZD975	093G 39S 25 T	RLZ5.1B LLDS	996500037002
FQ026	USB7QB1	USB BOARD	996510005635

17. Different Parts List

Diversity of 190B8CS/00 compared with 190B8CB/69						
Location	190B8CS/00			190B8CB/69		
	Part No.	Description	Philips 12NC	Part No.	Description	Philips 12NC
E089C	089G404A18N YH	POWER CABLE		089G410A18N IS	POWER CORD	996500037340
FQ005	705GQ9K0S34VO1	BASE ASSY		705GQ9K0S34VB1	BASE ASSY	996500038119
FQ007	P33G4984 VPB1C	CONTORL BUTTON		P33G4984 VQB1C	CONTORL BUTTON	996510005686
FQ010	P34G1865 VOC1T	BEZEL(19")		P34G1865 VBC1T	BEZEL(19")	996510005687
FQ011	P34G1866 VO 1T	MID_COVER		P34G1866 VB 1T	MID_COVER	996500038126
FQ012	P34G1867 VB 1T 1	REAR COVER		P34G1867 VB 1T 2	REAR COVER	996510005688
FQ013	P37G 567 2 VO	HINGE		P37G 567 2 VB	HINGE	
U203	705GQ756005	MCU ASS'Y		705GQ756006	MCU ASS'Y	996510005729

Diversity of 190B8CB/27 compared with 190B8CB/69						
Location	190B8CB/27			190B8CB/69		
	Part No.	Description	Philips 12NC	Part No.	Description	Philips 12NC
FQ027	089G1748HAA AC	DVI CABLE				
E089C	089G402A18N YH	POWER CABLE		089G410A18N IS	POWER CORD	996500037340
FQ004	095G801413D643	WIRE HARNESS		095G801413D641	WIRE HARNESS	996510005681
FQ017	Q40G 19N81321A	RATING LABEL		Q40G 19N81318A	RATING LABEL	
LED1	081G 12 1F GP	LED		081G 12 1 GP	GP32032ME	996500036001
CN102	088G 30237B CL	PHONE JACK 3.5mm BLACK		088G 30237B	PHONE JACK	996500037333

Diversity of 190B8CB/75 compared with 190B8CB/69						
Location	190B8CB/75			190B8CB/69		
	Part No.	Description	Philips 12NC	Part No.	Description	Philips 12NC
E089C	089G412A18NIS3	POWER CORD WALL-OUT	996500037345	089G410A18N IS	POWER CORD	996500037340
LED1	081G 12 1F GP	LED GP32032M/R003-ZY-33	996500036001	081G 12 1 GP	GP32032ME	996500036001

Diversity of 190B8CS/27 compared with 190B8CB/69						
Location	190B8CS/27			190B8CB/69		
	Part No.	Description	Philips 12NC	Part No.	Description	Philips 12NC
FQ027	089G1748HAA AC	DVI CABLE				
E089C	089G402A18N YH	POWER CABLE		089G410A18N IS	POWER CORD	996500037340
FQ004	095G801413D643	WIRE HARNESS		095G801413D641	WIRE HARNESS	996510005681
FQ005	705GQ9K0S34VO1	BASE ASSY		705GQ9K0S34VB1	BASE ASSY	996500038119
FQ007	P33G4984 VPB1C	CONTORL BUTTON		P33G4984 VQB1C	CONTORL BUTTON	996510005686
FQ010	P34G1865 VOC1T	BEZEL(19")		P34G1865 VBC1T	BEZEL(19")	996510005687
FQ011	P34G1866 VO 1T	MID_COVER		P34G1866 VB 1T	MID_COVER	996500038126
FQ012	P34G1867 VB 1T 1	REAR COVER		P34G1867 VB 1T 2	REAR COVER	996510005688
FQ013	P37G 567 2 VO	HINGE		P37G 567 2 VB	HINGE	
FQ017	Q40G 19N81321A	RATING LABEL		Q40G 19N81318A	RATING LABEL	
LED1	081G 12 1F GP	LED		081G 12 1 GP	GP32032ME	996500036001
CN102	088G 30237B CL	PHONE JACK 3.5mm BLACK		088G 30237B	PHONE JACK	996500037333

18. General Product Specification

CONTENTS

1. FOREWORD

This specification describes a 19" SXGA multi-scan color TFT LCD monitor with maximum resolution up to 1280 x 1024 /75 Hz non-interlaced. All optical characteristics (including WHITE-D, Brightness, and so on) are determined according to panel specification after warming up approximate 30 minutes that brightness stability is optimal, and follow strictly after panel specification.

2. PRODUCT PROFILE

This display monitor unit is a color display monitor enclosed in PHILIPS styling cabinet which has an integrated tilt/ high adjustment base.

2.1 LCD

Priority : 1. LPL/HSD

Type : TN

Supplier offer the Panel specification.

Panel incoming specification : Follow Philips' specification.

LPL

Type NR.	: LM190E08-TLL1/TLL4 (TN)
Resolution	: 1280x1024 (SXGA)
Outside dimensions	:
Pitch (mm)	: 0.294 mm x 0.294 mm
Color pixel arrangement	: RGB vertical stripes
Display surface	: low reflection, antiglare with hard coating
Color depth	: 16.7 M colors (6 bits + Hi FRC)
Backlight	: CCFL edge light system
Active area(WxH)	:
View angle (CR>10)	: 160/160 (typ) for H/V
Contrast ratio	:800:1 (typ)
White luminance	: 300 nit (typ)
Color gamut	:72% (typ)
Gate IC	:
Source IC	
Response time	: 5 ms

HSD

Type NR.	: HSD HSD190MEN3-A (TN)
Resolution	: 1280x1024 (SXGA)
Outside dimensions	:
Pitch (mm)	: 0.294 mm x 0.294 mm
Color pixel arrangement	: RGB vertical stripes
Display surface	: low reflection, antiglare with hard coating
Color depth	: 16.7 M colors (8 bits 6 bits + Hi FRC)
Backlight	: CCFL edge light system
Active area(WxH)	:

View angle (CR>10) : >=160/160 (typ) for H/V

Contrast ratio : >=1000:1 (typ)

White luminance : >=300 nit (typ)

Color gamut : >=72% (typ)

Gate IC :

Source IC :

Response time : 5 ms

2.2 Scanning frequencies

Hor. : 30 – 83 K Hz

Ver.: 56 - 76 Hz

Video dot rate: 165 MHz

Power input: 90-264 V AC, 50/60 ± 2 Hz

Power consumption : : 36 W typical

Functions:

(1)D-SUB analog R/G/B separate inputs, H/V sync separated, Composite (H+V) TTL level, SOG sync

(2) DVI digital Panel Link TMDS inputs

2.3 Ambient temperature: 0 °C - 40 35°C

3. Electrical characteristics

3.1 Interface signals

1). D-Sub Analog

Input signal : Video, Hsync., Vsync

Video : 0.7 Vp-p, input impedance, 75 ohm @DC

Sync. : Separate sync TTL level , input impedance 2.2k ohm terminate

Hsync Positive/Negative

Vsync Positive/Negative

Composite sync TTL level, input impedance 2.2k ohm terminate (Positive/Negative)

Sync on green video 0.3 Vp-p Negative (Video 0.7 Vp-p Positive)

2). DVI-D Digital

Input signal: Single TMDS link (Three channels: RX0-/+, RX1-/+, RX2-/+)

3). Audio (Not required in this product)

Input signal: 1000 mVrms

Loudspeaker (Impedance: 16 Ohm +/-15%): 21.5W+21.5W stereo for RMS Power

Frequency range: 360 450Hz - 20KHz

Headphone connection will mute speakers

4). USB PLUG 2.0 (Not required in this product)

Input signal: Upstream input (VBUS, D+, D-, GND) via USB-B receptacle.

Output signal: Downstream output (VBUS, D+, D-, GND) through USB-A receptacle

3.2 Interface

3.2.1 D-Sub Cable

Length : 1.8 M +/- 50 mm

Connector type : D-Sub male with DDC2B pin assignments.

Blue connector thumb-operated jack screws

Pin No.	Signal
1	Red
2	Green/ SOG
3	Blue
4	Sense (GND)
5	Cable Detect (GND)
6	Red GND
7	Green GND
8	Blue GND
9	DDC +3.3V or +5V
10	Logic GND
11	Sense (GND)
12	Bi-directional data
13	H/H+V sync
14	V-sync
15	Data clock

3.2.2 DVI Cable

The input signals are applied to the display through DVI-D cable.

Length. : 1.8 M +/- 50 mm

Connector type . : DVI-D male with DDC-2B pin assignments

White connector thumb-operated jackscrews

Pin Assignment:

Pin No.	Description
1	T.M.D.S. data2-
2	T.M.D.S. data2+
3	T.M.D.S. data2 shield
4	No Connect
5	No Connect
6	DDC clock
7	DDC data
8	No Connect
9	T.M.D.S. data1-
10	T.M.D.S. data1+
11	T.M.D.S. data1 shield
12	No Connect
13	No Connect
14	+5V Power
15	Ground (for +5V) – Cable detect
16	Hot plug detect
17	T.M.D.S. data0-
18	T.M.D.S. data0+
19	T.M.D.S. data0 shield
20	No Connect
21	No Connect
22	T.M.D.S clock shield
23	T.M.D.S. clock+
24	T.M.D.S. clock-

3.3 Timing requirement

Factory Preset mode definition :

1. Perfect FOS (except PHASE) while presenting all required timings.
2. Required timings need to be specified in User's Manual

Preset mode definition :

1. Need to support those timings.
   - Perfect FOS after auto adjustment.

User mode

1. Can save those timing that not in Preset mode and can be showed (not over scalar or Panel spec.)
2. It needs to reserve the 12 timings space in memory size.

3.3.1 Mode storing capacity

Factory preset modes : 11

Preset modes : 45

User define modes : 12

Note: 1. Screen displays perfect picture at 11 factory-preset modes.

2. Screen displays visible picture with OSD warning when input modes are the 45 preset modes.

3.3.2 Factory preset modes (11 modes)

Factory modes and preset modes are defined in the enclosed timing table file.

Item	H.Freq. (KHz)	Mode	Resolution	V.Freq. (Hz)	BW(MHz)	
1	31.469	IBM VGA 10H	640x350	70.086	25.175	Y
2	31.469	IBM VGA 3H	720x400	70.087	28.322	Y
3	31.469	IBM VGA 12H	640x480	59.94	25.175	Y
4	35	MACINTOSH	640x480	66.667	30.24	Y
5	37.861	VESA	640x480	72.809	31.5	Y
6	37.5	VESA	640x480	75	31.5	Y
7	43.269	VESA	640x480	85.008	36	Y
8	35.156	VESA	800x600	56.25	36	Y
9	37.879	VESA	800x600	60.317	40	Y
10	48.077	VESA	800x600	72.188	50	Y
11	46.875	VESA	800x600	75	49.5	Y
12	53.674	VESA	800x600	85.061	56.25	Y
13	49.725	MACINTOSH	832x624	74.55	57.283	Y
14	56.4	-	960x720	75		N
15	44.75	-	960x720	60		N
16	48.363	VESA	1024x768	60.004	65	Y
17	56.476	VESA	1024x768	70.069	75	Y
18	60.023	VESA	1024x768	75.029	78.75	Y
19	61.08	IBM XGA-2	1024x768	75.782	86.001	Y
20	68.677	VESA	1024x768	84.997	94.5	Y
21	47.396	CVT 2.3MA	1280 x768	59.995	68.25	Y
22	60.289	CVT 2.3MA	1280 x768	74.893	102.25	Y
23	53.7		1152x864	60	81.624	Y
24	63.851	VESA	1152x864	70.012	94.5	Y
25	67.5	VESA	1152x864	75	108	Y
26	68.681	MACINTOSH	1152x870	75.62	100	Y
27	61.82	SUN WS	1152x900	65.977	92.978	Y
28	71.713	SUN WS	1152x900	76.047	105.561	Y
29	60	VESA	1280x960	60	108	Y

30	75.171	VESA	1280x960	75.021	129.895	Y
31	63.981	VESA	1280x1024	60.02	108	Y
32	71.691	SUN WS	1280x1024	67.189	117	Y
33	76.754	DOS/V	1280x1024	72.001	129.56	Y
34	79.976	VESA	1280x1024	75.025	135	Y
35	81.13	SUN WS	1280x1024	76.107	135	Y
36	91.146	VESA	1280x1024	85.24	157.5	Y
37	44.772	-	1280x720	59.855	74.5	Y
38	56.456	-	1280x720	74.777	95.75	Y
39	64.744	CVT-reduced	1400x1050	59.948	101	N
40	82.278	CVT	1400x1050	74.867	156	N
41	93.881	CVT	1400x1050	84.96	179.5	N
42	55.469	VESA-reduced	1440x900	59.901	88.75	Y
43	55.935	VESA	1440x900	59.887	106.5	Y
44	70.635	VESA	1440x900	74.984	136.75	Y
45	75	VESA	1600x1200	60	162	Y
46	66.587	CVT 2.3MA-R	1920x1080	59.934 (for	138.5	Y
47	65.29	CVT1.76MW	1680x1050	59.954	146.25	Y
48	64.674	CVT1.76MW-R	1680x1050	59.883	119	Y
49	74.038	CVT 2.3MA-R	1920x1200	59.95 (for	154	Y
50	61.648		1600x1000	59.91	108.5	Y

3.3.3 Software control functions via OSD / control adjustable functions:

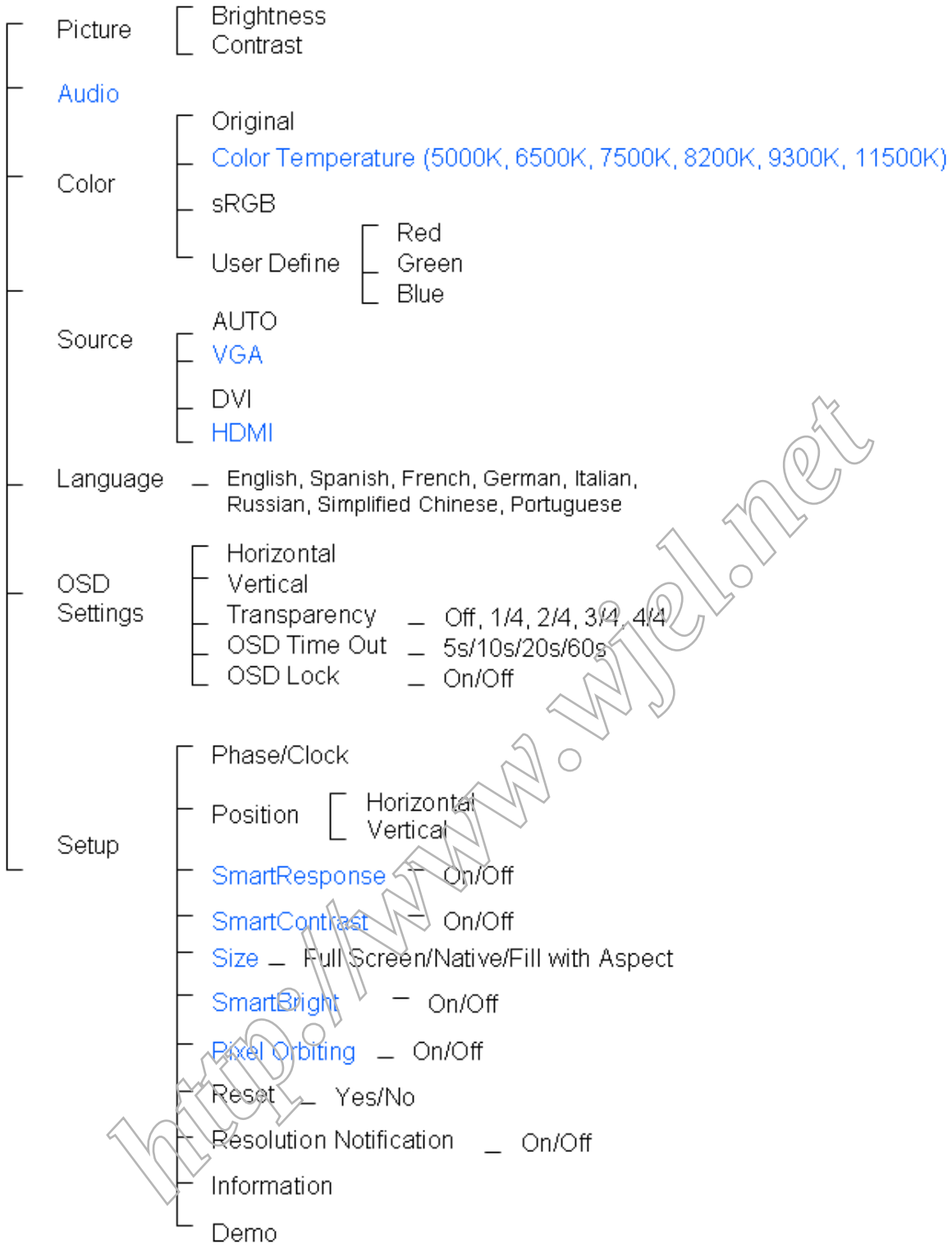
Please refer to following Hudson8 OSD definitions

Reset - No: Exit

Yes: Auto adjustment for displaying timing mode and recall factory preset

OSD Languages –8

OSD Tree



3.4 Horizontal scanning

Sync polarity : Positive or Negative

Scanning frequency : **30 – 83 K Hz**

3.5 Vertical scanning

Sync polarity : Positive or Negative

Scanning frequency : **56 - 76 Hz**

3.6 Power input connection

Power cord length : 1.8 M

Power cord type : 3 leads power cord with protective earth plug.

3.7 Power management

The monitor must comply with the Microsoft On Now specification, and meet EPA requirements.

Mode	HSYNC	VSYNC	Video	Power-cons.	Indication	Rec. time
Power-On	On	On	active	36W typical	Green LED	--
Off	Off	Off	blanked	< 1 W	Amber LED	< 3 s
DC Power Off			N/A	< 1 W	LED Off	

3.8 Analog Display identification

In accordance with VESA Display Channel Standard Ver.1.0 and DDC 2B capability

3.9 DVI- D Display identification

In accordance with DVI requirement (DDWG digital Visual Interface revision 1.0)

use DDC-2B, DDC/CI, and EDID V1.3

3.10 USB Plug support

Connect the upstream port of the monitor to host PC's USB port via USB cable, then attach external device to the downstream port of the monitor. Check if the device can work properly.

3.11 DDC/ CI Support

In accordance with VESA DDC/CI and MCCS ver.2.0, the monitor should be workable with Protrait Display Tune at least.

3.12 EDID

	Data for EDID & .inf file	
1	User visible strings on .inf file	Philips 190B (19inch LCD MONITOR 190B8)
2	Manufacturer ID (EDID data)	PHL
3	Product ID, "xxxx" 4 codes	MSB(byte 12): 08
		LSB (byte 11): 5A
4	maximum resolution	1280x1024
5	Horizontal Frequency Range	30~83 KHz
6	Vertical Frequency Range	56~76Hz
7	Monitor Name (13 characteries max.)	Philips 190B

3.13 Hot-key definition

	Key	Key Press Time	OSD Timeout
Monitor Controls Lock	OK(Menu)	6 sec (lock/unlock)	3 sec
Factory Mode	AUTO+ OK+ Power On	Keep pressing when power on	
Demo mode for smart image	Smart Image Key	3 sec (Enter/Quit)	
DDC/CI On/OFF for VISTA	MENU+DOWN	6 sec (lock/unlock)	3 sec

3.14 Smart Bright --Dynamic Brightness Control (DBC) (Not required for this product)

DCR controlled by Scaler

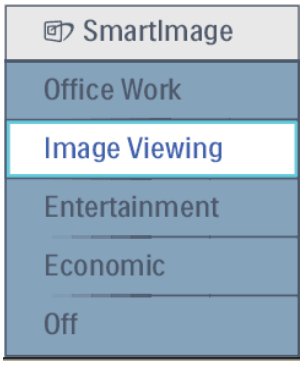
DCR function ON , contrast ≧ 2X original contrast specification.

3.15 Smart contrast (Dynamic contrast ratio)

Smart Contrast is a kind of dynamic backlight control. This function changes the panel backlight dynamically according to the frame brightness histogram. The contrast ratio is 3000:1 (typical).

3.16 Smart Image

3.16.1Smart Image OSD outlook



3.16.1.1 Position

Pressing the “Smart Image” button, the position is in the bottom center of the screen.

3.16.1.2 Smart Image Logo & Banner

As design to keep the Light Frame logo at header but change the name to “SmartImage” with bitmap format.

3.16.1.3 Icon of each profile

Each profile will use text instead of icon & text before.

3.16.1.4 User Operation Procedure

A. 5 different modes are switched to next in the sequence from 1 to 5 then back to 1 while pressing this button: 1) Office Work 2) Image Viewing 3) Entertainment 4) Economy 5) Off. The default setting is ‘Off”.
B. The FOS optimization will be changed in real time by which profile to be scrolled, users don’t need to confirm to enable.
C. The Smart Image OSD will remain on screen for 5 seconds after user last action. Or user can also press [MENU] to close the Smart Image OSD immediately.
D. Except using [MENU] button to scroll down profile. If Smart Image OSD already launched onscreen. User is allowed to use up/down key to choose profile and press [MENU] to confirm selection and close the Smart Image OSD.
E. If the model has multiple inputs including VGA and DVI, each input has their own set of profiles. When user switch input, the profile to be applied will also change.
F. Each input can memorize their individual “Smart Image” profile status.

For example, Smart Image is on with “Office” profile at VGA input, when switch to DVI input, the Smart Image will revert to previous profile of DVI. In the input switching process the “Smart Image” OSD will also show up to present which profile is selected if “Smart Image” is enabled at that input. The Smart Image status will also be stored after the monitor is resumed from AC on/off or power switch on/off.

3.16.1.5Linkage between Smart Image OSD and main OSD

A. Settings within main OSD have linkage with Smart Image OSD.

i. Brightness

ii. Contrast

iii. Color Temperature

B. Because each preset profiles will define default setting of these 3 parameters. Users can understand what is the value of that in preset profile by open the main OSD.

C. When any SmartImage Lite profile had been enabled. The parameters in main OSD are still available for user to adjust. But these adjustments are temporary only. If users switch to another profile and then go back. The setting in main OSD will show preset values of that Smart Image profile enabled.

3.16.1.5 Profile Definitions (system integrators to input at design stages)

A. Office Work

i Purpose: Design for general office application, like word processing, Spreadsheet and email. The screen is dominated by text.

ii. Enhancement point:

1.A little sharpness for increasing the details of e.g. an excel grid. No other type of enancement as it won't bring value.

1. Color temperature remains in 6500°K.

2. Brightness level should be 70%.

3. Smart Response set to “Off”.

4. Smart Contrast set to “Off”.

B. Entertainment

i. Purpose: Design for video application, Like Microsoft Media Player or Real Player. The screen is dominated by video.

ii Enhancement Point:

1. Dynamic contrast enhancement by histogram analysis (DLC) should be implemented.

2. Sharpness enhanced 90%.

3. Color enhancement set as the same with Video.

4. Color temperature set to 7500° (Based on final PQ settings) (if higher)

5. Brightness level sets to maximum.

6. SmartResponse set to “High”.(N/A for this model)

7. Gamma Table turn off to achieve

8. Fastest response time. (N/A for this model)

9. Smart Contrast set to “On”

C. Image Viewing

i. Purpose: Design for image viewing application, especially in slide show. The screen is dominated by picture. Powerpoint presentation could use this profile also.

ii. Enhancement Point:

1.Dynamic contrast enhancement by histogram analysis (DLC) should be off.

1. Sharpness and color to be enhanced 75%.

2. Color temperature 6500°K

3. Brightness level sets to maximum.

4. Smart Response set to “Off”. (N/A for this model)

5. Smart Contrast set to “Off”.

D. Economy

i.Purpose: Adjust brightness level for reducing power consumptions

ii.No optimization by Smart Image.

iii.Design:

1. Brightness level set to 70%, a little higher brightness level than laptop PC, fine tune brightness level before DVT exit.
2. Color temperature set to 6500K.
3. Gamma Table is turn on.

E. Off

i. Purpose: No optimization by SmartImage.

ii. Design:

1. This will follow user OSD setting. If any change by user, it will be saved. When switch back from other SmartImage profiles, it will go back to last saved setting.
2. Gamma Table is turn on to reduce bad color tracking.

3.16.1.7Demo mode

A. Purpose: Built-in demo mode for sales in-store demo.

B. Design:

i. Dynamically split screen to 2 vertical frames with one vertical white line. The line width is 2 pixels. The left frame will be enhanced by SmartImage and right frame remains original performance.

ii. There is OSD showing “SmartImage On” in left frame and “SmartImage Off ” in right frame.

iii. The OSD word color is white with transparent background.

C. The demo profile will be “entertainment profile setting.

D. Hot keys to trigger:

Press [SmartImage] 3 seconds or more to trigger the demo mode. When demo mode is On, press 3 seconds or more to turn off the demo mode. When the demo mode is enabled, the blue LED will flash until demo mode disabled.(N/A for this model)

3.17 Smart Response (Not required for this product)

Gray to Gray Response time : ?ms (max.)

4. Visual characteristics

4.1 Test conditions

Unless otherwise specified, this specification is defined under the following conditions.

(1) Input signal : As defined in 3.3, 1280 x 1024 non-interlaced mode (1280 x 1024@60Hz 108MHz), signal sources must have 75 ohm output impedance.

(2) Luminance setting : controls to be set to 300 nits (typical) with full screen 100 % duty cycle white signal

(3) Warm up: more than 30 minutes after power on with signal supplied.

(4) Ambient light: 400 -- 600 lux.

(5) Ambient temperature: 20 ± 5 °C

4.2 Brightness

Follow Panel specification.

4.3 Image size

Actual display size 376.3 x 301.1 mm

4.4 Brightness uniformity

Set contrast at 100% and turn the brightness at 100%.

Apply the Fig 1, it should comply with the following formula:

$$\frac{B\_min}{B\_max} \times 100\% > 75\%$$

Where B_max =Maximum brightness, B_min = Minimum brightness

4.5 Check Cross talk (S)

Apply Pattern 2. Set contrast and brightness at 100 %.

Measure YA. Then output Pattern 3 and measure YB.

the cross talk value :

$$\frac{ABS(YA - YB)}{YA} \times 100\% < 1.5\ \%$$

4.6 White color adjustment

There are seven factory preset white color 11500K, 9300K, 8200K, 7500K, 6500K, sRGB, 5000K

Apply full gray64 pattern, with brightness in 100 % position and the contrast control at 50 % position.

The 1931 CIE Chromaticity (color triangle) diagram (x ,y) coordinate for the screen center should be:

Product specification

CIE coordinates	(x,y)	
11500K	x = 0.272 ± 0.02 y = 0.283 ± 0.02	
9300K	x = 0.283 ± 0.02 y = 0.297 ± 0.02	
8200K	x = 0.292 ± 0.02 y = 0.307 ± 0.02	
7500K	x = 0.299 ± 0.02 y = 0.315 ± 0.02	
6500K/sRGB	x = 0.313 ± 0.02 y = 0.329 ± 0.02	
sRGB	x = 0.313 ± 0.02 y = 0.329 ± 0.02	
5000K	x = 0.346 ± 0.02 y = 0.359 ± 0.02	

Production alignment spec.

CIE coordinates	(x,y)	
11500K	x = 0.272 ± 0.005 y = 0.283 ± 0.005	
9300K	x = 0.283 ± 0.005 y = 0.297 ± 0.005	
8200K	x = 0.292 ± 0.005 y = 0.307 ± 0.005	
7500K	x = 0.299 ± 0.005 y = 0.315 ± 0.005	
6500K/sRGB	x = 0.313 ± 0.005 y = 0.329 ± 0.005	
sRGB	x = 0.313 ± 0.005 y = 0.329 ± 0.005	
5000K	x = 0.346 ± 0.005 y = 0.359 ± 0.005	

Quality Inspection specification:

CIE coordinates	(x,y)	
9300K	x = 0.283 ± 0.015 y = 0.297 ± 0.015	
6500K/sRGB	x = 0.313 ± 0.015 y = 0.329 ± 0.015	
sRGB	x = 0.313 ± 0.015 y = 0.329 ± 0.015	

5. Mechanical characteristics

5.1 Cosmetic - Philips ID

5.2 Mechanical data files - ProE files required

5.3 Location of Philips logo - Per Philips make-up sheet

5.4 Gap between panel and front bezel < 0.8 (typ) mm

5.5 Location of Control icons - Per Philips Graphic sheet

5.6 Color for resin/paint - Per Philips make-up sheet

5.7 Resins

- RoHS required
- WEEE required.
- Resin type/selection refer to Project Book Section 7.2 Plastic material.

5.8 If paint is used

- RoHS required
- WEEE require
- If new painting type need to implement, refer to UN-D 1235.

5.9 Plastic mold tooling

- Tooling to be designed to minimize cosmetic defects induced by molding process (sink, blush, weld lines, gate marks, ejector marks, etc.). Refer to “TYV61-90007”.
- Painting to cover up cosmetic defects due to molding is strongly discouraged.

5.10 Plastics flammability

- All Plastics to be Flame Retardant UL 94-V0 or Better (if monitor weighs less than 18kg; UL94-V0 is OK).
- Base / Pedestal to be Flame Retardant UL 94-HB.
- All major plastic parts (bezel, back cover, base) need to be molded from same resin.
- ABS V0 is allowed to implement in China region for monitor body major plastic parts (bezel, back cover, base).
- Plastic resin type selection should be referred to “TY R83-2-9002-1”s.

5.11 Texture/Glossing of housing

- The texture area and texture no should follow Philips make-up sheet.
- The exterior surfaces shall have a uniform texture.
- Philips must approve the mold texturing.
- Detail document for texture refer to “UN-D249”, “UN-D 600”.
- < = 20 gloss units

5.12 Tilt and swivel base

- Tilt angle : -5 ° +2/- 0 ° (forward)
- +20 °+3/-0 ° (backward)
- Swivel angle : ±60°
- High Adjustment : Should be 60mm.
- Portrait Display : -1° +1/-0°~+91° +0/-1° CCW (not required in this product)

5.13 Kensington Lock

- Must meet Kensington_slot.spec “TYE-M0004”.
- MMD request metal plate in Kinsington hole.

5.14 Label

- Regulatory label / Carton label should follow Philips requirement.
- China RoHS label
- Detail document refer to Philips Engineering Reference Book.

5.15 Product dimension / Weight (Refer to SHT 191)

- Unit dimension : 422 mm (W) * 410.5 mm(H) * 198.8 mm(D)
- Packed unit dimension : 503 mm(W) * 198mm(H) * 507mm(D) for WW
  : 513mm(W) * 208mm(H) * 517mm(D) for China
- Net weight : 6.1 Kg (Including I/F cable 300g)
- Gross weight : 7.6 Kg for WW
  : 7.7 Kg for China

5.16 Transportation

Transportation standards refer to TYE-M0002.

5.16.1 Transportation packages

Packaging and wrapping shall be sufficient to protect the product against damage or loss during shipment from the supplier to the destination specified in the purchase order. All packaging materials are subject to test and evaluation per TYE-M0002. The cushion material shall be constructed using EPS material.

5.16.2 Transportation Test

The overall test refer to TYE-M0002.
Vibration, drop test should be performed at ambient temperature(20°C to 23oC) and relative humidity (40% to 65%).

A. Transportation test specification for all regions except China/India

- Package test
  1. Random Vibration test
  2. Drop test
  3. Cold Drop test (for design reference)
- Un-package test
  1. Half sine shock test (non operation)

B. Transportation test specification for China/India

- Package test
  1. Random Vibration test
  2. Drop test
  3. Cold Drop test (for design reference)
- Un-package test
  1. Sine vibration (operating)
  2. Half sine shock test (non operation)

5.17 Pallet / Container loading

Transportation standards refer to TYE-M0002.

- Air shipment -
- Sea container 20'(pallet/slip sheet)
- Sea container 40'(pallet/slip sheet)
- Sea container 40' High Cube (pallet/slip sheet)
- Truck shipment-

Transportation request for all region except China/India

A. Air shipment

B. Container loading for WW

Transportation request for China and India

A. Container loading for China and India

B. Truck loading

6. Environmental characteristics

The following sections define the interference and susceptibility condition limits that might occur between external environment and the display device.

6.1 Susceptibility of display to external environment

Operating

- Temperature : 0 to 35 degree C
- Humidity : 80% max
- Altitude : 0-3658m
- Air pressure : 600-1100 mBAR

Storage

- Temperature : -20 to 60 degree C
- Humidity : 95% max
- Altitude : 0-12192m
- Air pressure : 300-1100 mBAR

Note: recommend at 5 to 35°C, Humidity less than 60 %

6.2 Transportation tests

Refer to 5.15.2

6.3 Display disturbances from external environment

According to IEC 801-2 for ESD disturbances

6.4 Display disturbances to external environment

7. Reliability

7.1 Mean Time Between Failures

System MTBF (Including the LCD panel and CCFL) : 50,000 hrs

8. Quality assurance requirements

8.1 Acceptance test

According to MIL-STD-105D Control II level

AQL: 0.4 (major)

1.5 (minor)

(Please also refer to annual quality agreement)

Customer acceptance criteria: UAW0377/00

9. Philips' Flat Panel Monitors Pixel Defect Policy

Philips' Flat Panel Monitors Pixel Defect Policy

BRIGHT DOT DEFECTS	**ACCEPTABLE LEVEL**		
MODEL	**190B8**		
1 lit sub-pixel	0		
2 adjacent lit sub-pixels	0		
3 adjacent lit sub-pixels (one white pixel)	0		
Distance between two bright dots	15mm		
Bright dot defects within 20 mm circle	0		
Total bright dot defects of all type	0		

BLACK DOT DEFECTS	**ACCEPTABLE LEVEL**		
MODEL	**190B8**		
1 dark sub-pixel	5		
2 adjacent dark sub-pixels	2		
3 adjacent dark sub-pixels (one white pixel)	1		
Distance between two black dots	15mm		
Black dot defects within 20 mm circle*	1		
Total black dot defects of all type	5		

TOTAL DOT DEFECTS	**ACCEPTABLE LEVEL**		
MODEL	**190B8**		
Total bright or black dot defects of all type	5		

Fig 1: Measurement locations of Brightness Uniformity

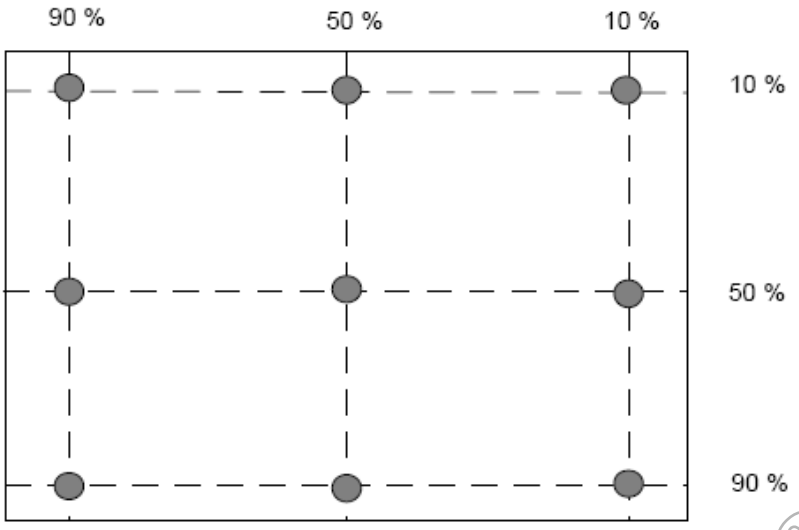


Fig 2: Cross talk pattern

Gray level 46 (64 Gray level)

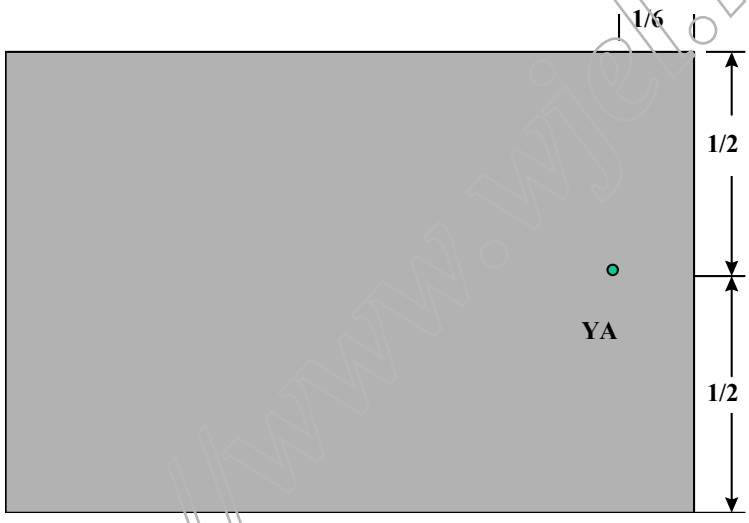
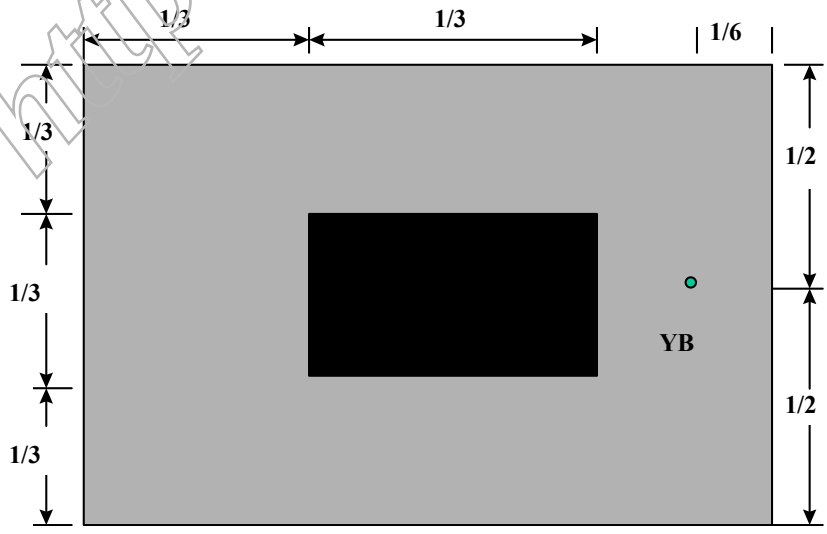
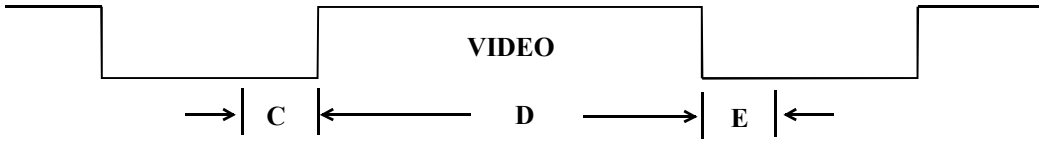


Fig 3: Cross talk Pattern

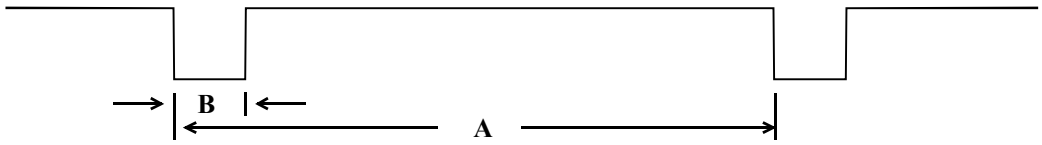
Center at Gray level 0 (Black)



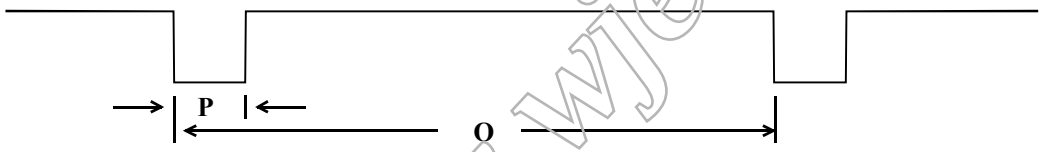
SEPARATE SYNC.



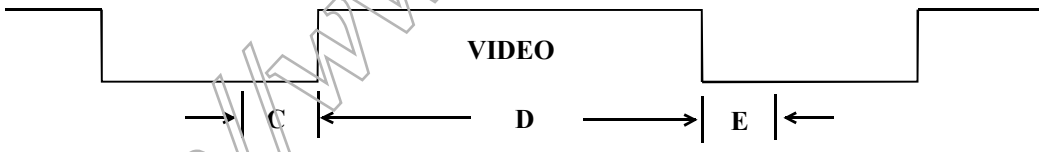
HORIZONTAL



VERTICAL



COMPOSITE SYNC.



HORIZONTAL

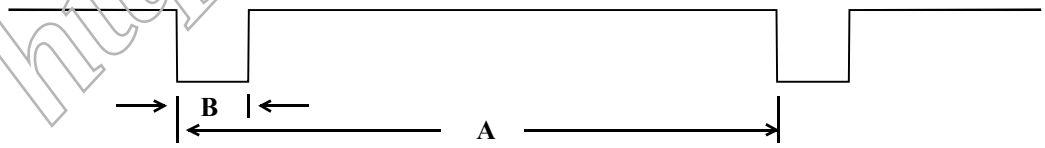


FIG-4 TIMING CHART -1

10. REGULATORY COMPLIANCE

10.1 Worldwide Regulatory

Country	Domain	Safety / EMC / Ergonomics / Standards	Documents
International	Sa	IEC60950-1:2001. Group -and national differences of all countries listed in CB Bulletin No. 107A	CB Report and CB certificate
Europe	Sa	European Low Voltage Directives 73/23/EEC and 93/68/EEC	Declaration of Conformity
	E	European Electromagnetic Compatibility Directive 89/336/EEC amended by the directive 93/68/EEC. EN 55022:1998 Class B	Declaration of Conformity and Full EMC/CE test report
		EN 55024: 1998	
		EN 61000-3-2: 2000	
		IEC 61000-3-3: 1994/EN61000-3-3: 1995	
		CISPR 22:1997 Class B International EMC standard	
Germany	Sa	EN60950-1:2001	TUV certificate
	O	ISO 13406-2: 2001 & prEN 50279:1998	TUV-ERG certificate
	O	GS-Mark / EK1-ITB 2000	TUV-GS certificate
Sweden	Sa	EN60950-1:2001	SEMKO certificate
	O	TCO 99 (TCO03)	TCO99 (TCO03) report + certificate
Russia	Sa	GOST R 50377-1992	GOST certificate

South Africa	Sa	SABS IEC 60950	Certificate of Conformity
USA	Sa	UL 60950-1: 2003	UL certificate
	E	FCC Part 15 Class B	FCC ID grant
	O	Energy Star	EPA registration
Canada	Sa	CSA C22.2 No 60950	CSA certificate
	E	ICES-003 issue 3	Statement on label
Mexico	Sa	NOM-019-SCFI-1994	NOM certificate
Korea	Sa	Korean Safety Control law IEC 60950	eK certificate
	E	Regulations laws: EMI 1996-78, 80. EMS 1996-79,81	MIC certificate
Singapore	Sa	IEC60950	PSB certificate
China	Sa	GB4943-2001	CCC certificate
	E	GB9254-1998; 17625.1-2003	
Taiwan	Sa	CNS-14336 (IEC 60950-1)	BSMI certificate
	E	CNS-13438 (CISPR22) Class B	

10.2 EMC Requirements

Supplier DVT EMI test result must be submitted prior to DVT samples delivery, and PVT EMI test result must be submitted again prior to PVT samples delivery, which also has to meet Philips' immunity testing specification.

10.3 RoHS

Restriction on the use of certain hazardous substances. Lead, Cadmium, Mercury, Hexavalent Chromium, Polybrominated Bipheny1 (PBB) and Polybrominated Bipheny1 Ether (PBDE)(flame retardant).

10.4 WEEE

Producer (Philips) responsible for retailer take back schemes and recycling.

--System implemented.

--Collection and recycle targets.

10.5 Ongoing Regulatory

There's a possibility that other regulatory certificates will be required during the life of the product. It is the responsibility of the supplier to provide related documentation.