

Service
Service
Service



241S4LSS/00	241S4LCS/00
241S4LSS/00(AP)	241S4LCS/00(AP)
241S4LSS/01	241S4LCS/01
241S4LSB/00	241S4LCB/00
241S4LSB/00(AP)	241S4LCB/00(AP)
241S4LSB/01	241S4LCB/01
241S4LSB/27	241S4LCB/27
241S4LSB/69	241S4LCB/69
241S4LSB/75	241S4LCB/75
241S4LSB/93	



Service Manual

Horizontal frequencies
30 - 83 kHz

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SAFETY NOTICE

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

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

REFER TO BACK COVER FOR IMPORTANT SAFETY GUIDELINES

Important Safety Notice

Proper service and repair is important to the safe, reliable operation of all Philips Consumer Electronics 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, 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 Consumer Electronics Company will be referred to as Philips. **

WARNING

Critical components having special safety characteristics are identified with a by the Ref. No. in the parts list and enclosed within a broken line

(where several critical components are grouped in one area) along with the safety symbol on the schematics or exploded views.

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.

Service 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 body are grounded through wrist band.
- 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 short circuit within the module.
- If the surface of panel become dirty, please wipe it off with a soft material. (Cleaning with a dirty or rough cloth may damage the panel.)

Technical Data

AUO

Type NR.	: AUO M240HW01 VD
Resolution	: 1920 x 1080 (FHD)
Outside dimensions	: 556.0(H) x 323.2(V) x 11.5(D) mm
Pitch (mm)	: 0.27675mm x 0.27675mm
Color pixel arrangement	: 1920 horiz. by 1080 vert. Pixels. RGB stripe arrangement
Display surface	: Hard coating (3H), Anti-glare treatment
Color depth	: 16.7 M colors 8-bit with A-FRC, 16.7M colors
Backlight	: WLED
Active area (W x H)	: 521.28mm (H) x 293.22mm (V) mm
View angle (CR=10)	: >=170 for Right/Left (Typ) : >=160 for Up/Down (Typ)
Contrast ratio	: >=1000:1 (Typ)
White luminance	: 250 (center, Typ)
Color gamut	: >=72% (Typ.)
Response time	: 5 ms (Typ)
Vertical frequency range	: 47~75 H z

Scanning frequencies

Hor.: 30 – 83 K Hz

Ver.: 50 - 76 Hz

Analog : Support RGB WUXGA 1920x1200@60,

2048x1152@60hz input for NT68668UMFG

205Mhz HPLL With 64 steps phase Adjust for RGB Channel in NT68668UMFG

Digital : Integrated Single Link TMDS Receiver up To 225MHz
deep color mode

Power range: FULL RANGE POWER SUPPLY 90 – 264 VAC

Ambient temperature: 0 °C - 40 °C

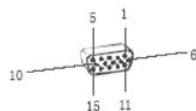
Power input connection

Power cord length : 1.8 M

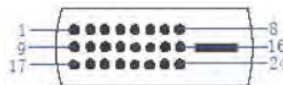
Power cord type : 3 leads power cord with protective earth plug.

Power management

Mode	HS YN C	VSYN C	Video	Pwr-con s.	Indication	Rec. time
Power-On	On	On	Active	<32W(max.) <45W(max.) EPA5.0 < 33.97W	White LED	--
Standby	Off	Off	Blanked	< 0.2W	Blinking white LED Period 1sec on 3sec off	<3s
DC Power Off			N/A	< 0.2 W	LED Off	



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



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)
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-

Susceptibility of display to external environment

Operating

- Temperature : 0 to 40 degree C
- Humidity : 80% max
- Altitude : 0-3658m
- Air pressure : 600-1100 mBAR

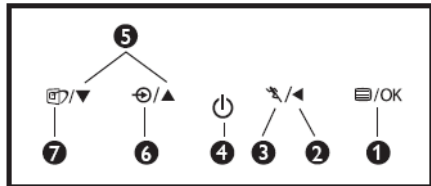
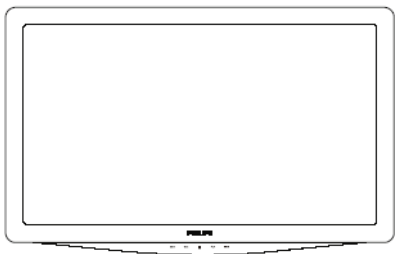
Storage

- 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 %

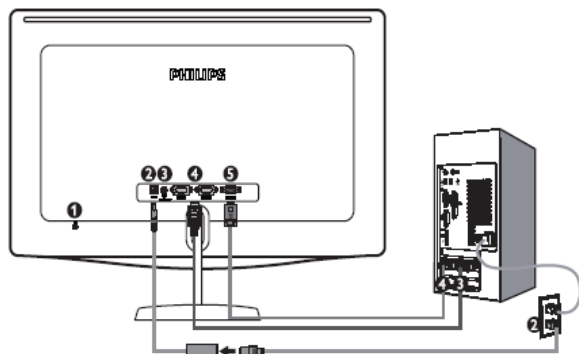
Installation

Front View Product Description



- 1** : To access OSD menu.
- 2** : Return to previous OSD level.
- 3** : To use the Turbo function.
- 4** : To switch monitor's power on and off.
- 5** : To adjust the OSD menu.
- 6** : To change the signal input.
- 7** : SmartImage. There are 7 modes to be selected: Text, Office, Photo, Movie, Game, Economy and Off.

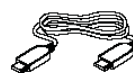
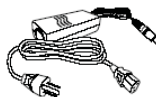
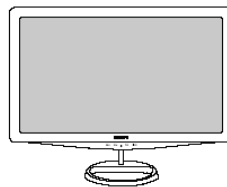
Rear View



- 1** Kensington anti-theft lock
- 2** DC power input
- 3** HDMI audio out
- 4** HDMI input
- 5** VGA input

Accessory Pack

Unpack all the parts



HDMI cable (optional)

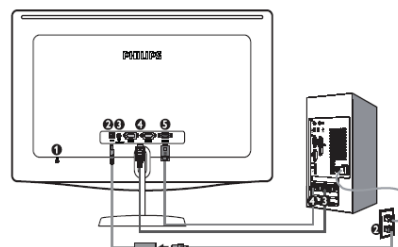
VGA signal cable (optional)



DVI cable (optional)

Connecting to Your PC

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



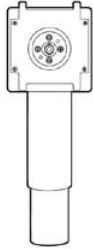
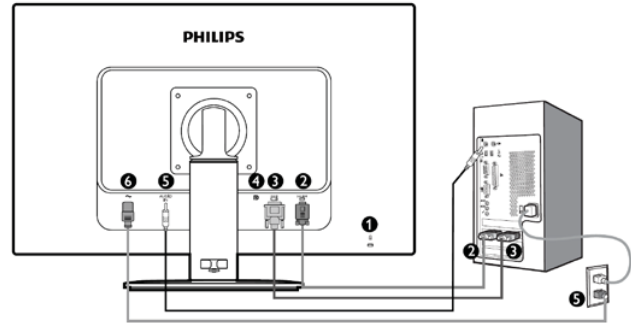
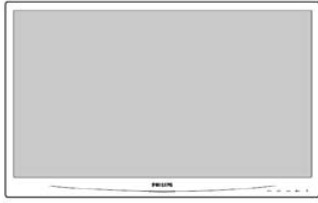
- 1** Kensington anti-theft lock
- 2** DC power input
- 3** HDMI audio out
- 4** HDMI input
- 5** VGA input

Connect to PC

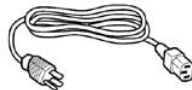
1. Connect the power adapter cable to the back of the monitor firmly.
2. Turn off your computer and unplug its power cable.
3. Connect the monitor signal cable to the video connector on the back of your computer.
4. Plug the power cable into the power adaptor and into a nearby outlet.
5. Turn on your computer and monitor. If the monitor displays an image, installation is complete.

Installation

241S4LC/241S4LY



- 1 Kensington anti-theft lock
- 2 VGA input
- 3 DVI-D input
- 4 Display port (241S4LY)
- 5 Audio input (241S4LA)
- 6 AC power input



Connect to PC



DVI (optional)



VGA (optional)

1. Connect the power cord to the back of the monitor firmly.
2. Turn off your computer and unplug its power cable.
3. Connect the monitor signal cable to the video connector on the back of your computer.
4. Connect the PC audio cable to the audio connector on the back of your computer.
5. Plug the power cord of your computer and your monitor into a nearby outlet.
6. Turn on your computer and monitor. If the monitor displays an image, installation is complete.

Connecting to Your PC

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

Troubleshooting

8 Troubleshooting & FAQs

8.1 Troubleshooting

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.

1 Common Problems

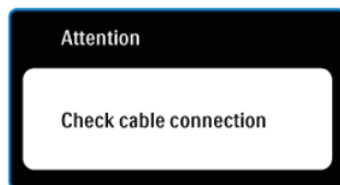
No Picture (Power LED not lit)

- 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 white blinking)

- Make sure the computer is turned on.
- Make sure the signal cable is properly connected to your computer.
- make sure the monitor cable has no bent pins on the connect side. If yes, repair or replace the cable.
- The Energy Saving feature may be activated

Screen says



- Make sure the monitor cable is properly connected to your computer. (Also refer to the Quick Start Guide).
- Check to see if the monitor cable has bent pins.
- Make sure the computer is turned on.

AUTO button doesn't function

- The auto function is applicable only in VGA-Analog mode. If the result is not satisfactory, you can do manual adjustments via the OSD menu.

Note

The Auto Function is not applicable in DVI-Digital mode as it is not necessary.

Visible signs of smoke or sparks

- Do not perform any troubleshooting steps
- Disconnect the monitor from mains power source immediately for safety
- Contact with Philips customer service representative immediately.

2 Imaging Problems

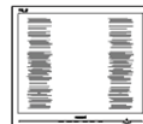
Image is not centered

- Adjust the image position using the "Auto" function in OSD Main Controls.
- Adjust the image position using the Phase/Clock of Setup in OSD Main Controls. It is valid only in VGA mode.

Image vibrates on the screen

- Check that the signal cable is properly securely connected to the graphics board or PC.

Vertical flicker appears



- Adjust the image using the "Auto" function in OSD Main Controls.
- Eliminate the vertical bars using the Phase/Clock of Setup in OSD Main Controls. It is valid only in VGA mode.

Troubleshooting

Horizontal flicker appears



- Adjust the image using the "Auto" function in OSD Main Controls.
- Eliminate the vertical bars using the Phase/Clock of Setup in OSD Main Controls. It is valid only in VGA mode.

Image appears blurred, indistinct or too dark

- Adjust the contrast and brightness on On-Screen Display.

An "after-image", "burn-in" or "ghost image" remains after the power has been turned off.

- Uninterrupted display of still or static images over an extended period may cause "burn in", also known as "after-imaging" or "ghost imaging", on your screen. "Burn-in", "after-imaging", or "ghost imaging" is a well-known phenomenon in monitor panel technology. In most cases, the "burned in" or "after-imaging" or "ghost imaging" will disappear gradually over a period of time after the power has been switched off.
- Always activate a moving screen saver program when you leave your monitor unattended.
- Always activate a periodic screen refresh application if your monitor will display unchanging static content.
- Severe "burn-in" or "after-image" or "ghost image" symptoms will not disappear and cannot be repaired. The damage mentioned above is not covered under your warranty.

Image appears distorted. Text is fuzzy or blurred.

- Set the PC's display resolution to the same mode as monitor's recommended screen native resolution.

Green, red, blue, dark, and white dots appears on the screen

- The remaining dots are normal characteristic of the liquid crystal used in today's technology. Please refer the pixel policy for more detail.

The "power on" light is too strong and is disturbing

- You can adjust "power on" light using the power LED Setup in OSD main Controls.

For further assistance, refer to the Consumer Information Centers list and contact Philips customer service representative.

On-Screen Display

Description of the On Screen Display

What is 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 :



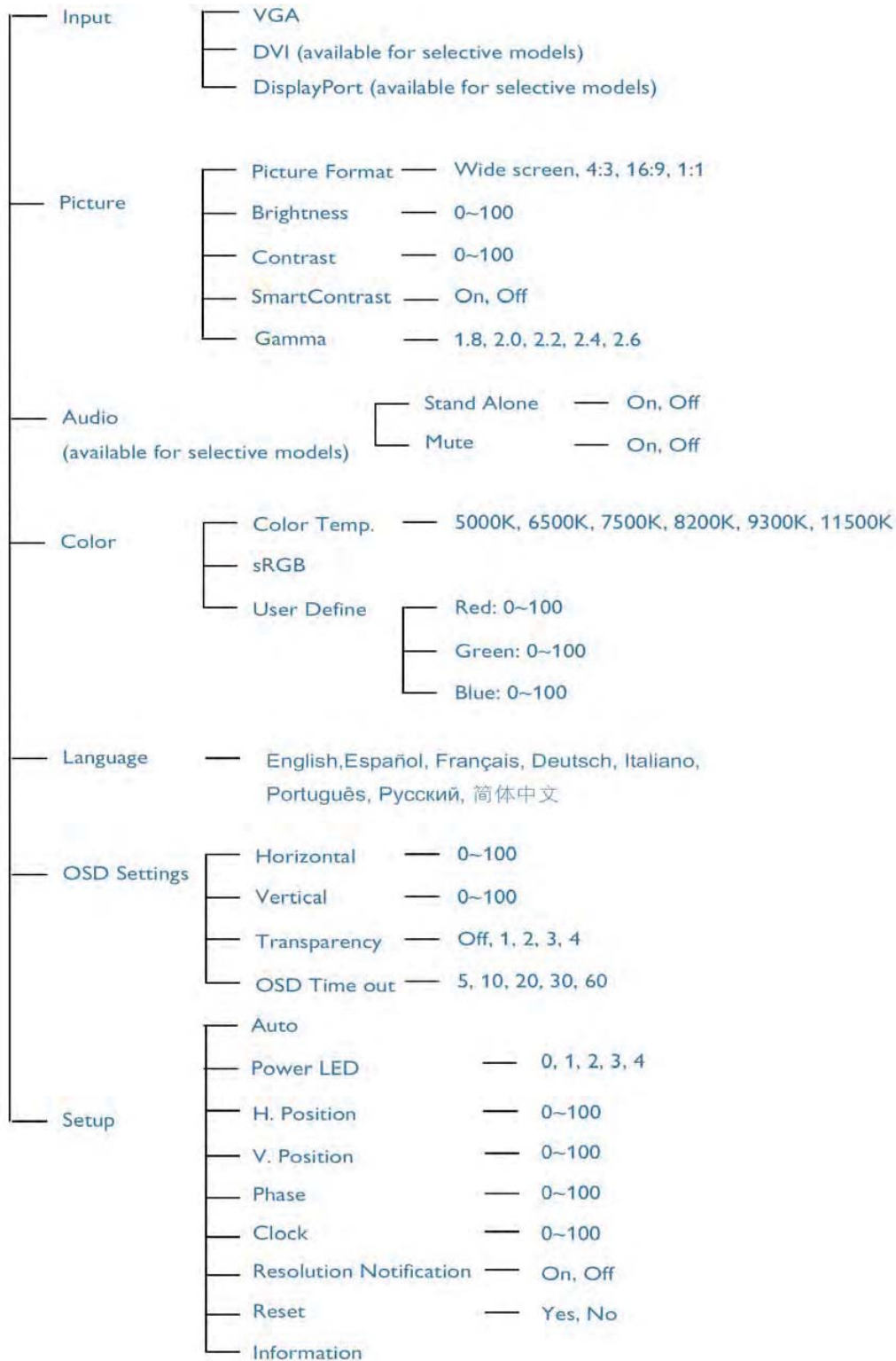
Basic and simple instruction on the control keys.

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

On-Screen Display

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.



Lock/Unlock, Aging, Factory Mode

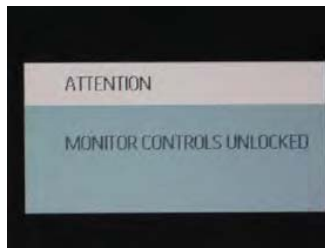
To lock/unlock OSD FUNCTION(User Mode)

The OSD function can be locked by pressing "OK" button(1) for more than 10 seconds, the screen shows following windows for 4 seconds. Every time when you press "OK" button, this message appears on the screen automatically .



Unlock OSD function

Unlocked OSD function can be released by pressing "OK" button for more than 10 seconds again.



Access Factory Mode

- 1). Turn off monitor.
- 2). [Push "EXIT" & "MENU" buttons at the same time and hold them]+[Press "power" button until comes out "Windows screen"] => then release all buttons
- 3). Press "MENU" button, wait until the OSD menu with Characters "MERIDIAN 241S4L V2.7 2011-08-12" (below OSD menu) come on the Screen of the monitor.



↑
Factory Mode indicator

Factory Menu

Cursor can move on gray color area
Hot key function: by pressing " UP " and " DOWN " key Simultaneously at User Mode (or Factory Mode) (PS: The Offset R G B function can be used on reduce or eliminate snowy noise on the background when the resolution of video signal is 1280*1024vertical 75Hz. Slightly increase or decrease the value until snowy noise completely disappear .

Access Aging Mode

- Step 1 : Access Factory Mode then enter Factory Menu.
- Step 2 : By pressing " UP" and " DOWN " key to Burning Icon. Press "MENU then press " UP" and "DOWN " key to turn on Aging Mode.



Step 3 : Disconnect interface cable between Monitor and PC.

After 3 seconds, bring up:

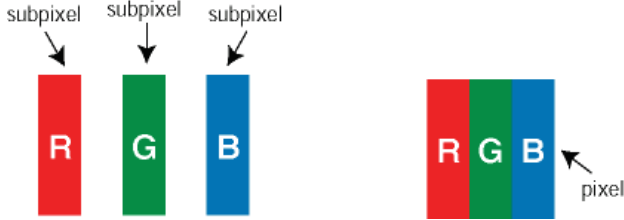


repeatedly
Connect Signal cable again=> go back to normal display

Philips 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:



Two adjacent lit sub pixels:

- Red + Blue =

One lit red, green or blue sub pixel

Purple

- Red + Green =

Yellow

- Green + Blue =

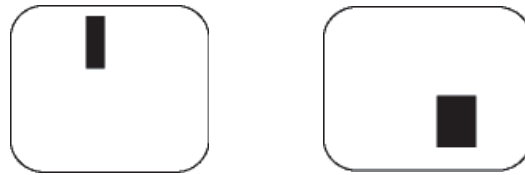
Cyan (Light Blue)

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	241S4L(C)(Y)
1 lit subpixel	3
2 adjacent lit subpixels	1
3 adjacent lit subpixels (one white pixel)	0
Distance between two bright dot defects*	>15mm
Total bright dot defects of all types	3

BLACK DOT DEFECTS	ACCEPTABLE LEVEL
MODEL	241S4L(C)(Y)
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	241S4L(C)(Y)
Total bright or black dot defects of all types	5 or fewer

Note:

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


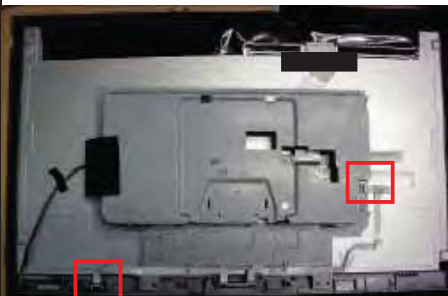



Mechanical Instruction

Preparation before disassemble



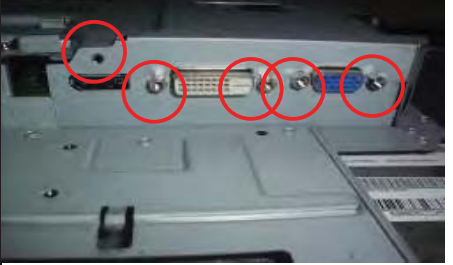
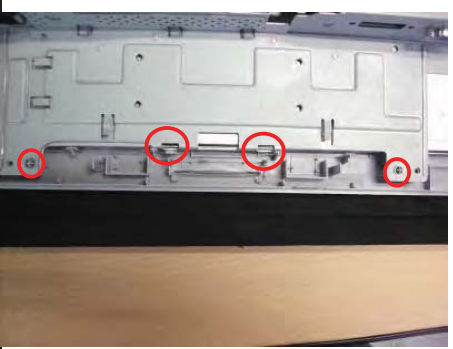
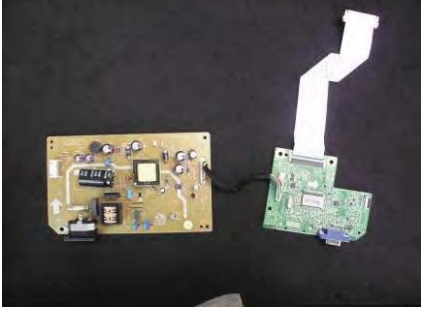
1. Clean the room for disassemble
2. Identify the area for monitor
3. Check the position that the monitors be placed and the quantity of the monitor ;prepare the area for material flow; according to the actual condition plan the disassemble layout
4. Prepare the implement, equipments, materials as bellow:
 - 1) Press-fixture
 - 2) working table
 - 3) Screw-driver
 - 4) knife*1
 - 5) gl ove
 - 6) cleaning cloth
 - 7) E SD protection

item	picture	Operation	Tool	Notes
1		<p>Disassemble the base and hinge</p> <p>Disassembly 4 screws, Take off the stand, then take off the RC .</p> <p>(For 241S4L model)</p>	Screw-driver	
2		<p>Disassemble the Stand.</p> <p>While keeping the release button pressed, tilt the base and slide it out.</p> <p>Disassembly 4 screws, Take off the RC.</p> <p>(For 241S4LC model)</p>	Screw-driver	
3		<p>Turn over the monitor , Bring the Bezel from the monitor</p>		<p>When disassembly the bezel , notice don't bend the C/B . man must wear glove The purpose is loose the BZL</p>

Mechanical Instruction

4		Remove the RC cover		Glove
5	 	Draw the control board cable	knife	Glove
6		Disassembly the Mylar on lamp cables and draw the lamp cables		Glove
7	 <div data-bbox="240 1596 535 1711" style="border: 1px solid red; border-radius: 50%; padding: 5px; display: inline-block;"> The locking-latch of FFC cable's housing </div>	Disassembly the tape on FFC cable and then Unlock the FFC by using two hands(see note).		Please carefully use two hands(one hand presses the locking- latch of FFC cable's housing, and at the same time another hand pulls out the FFC cable.) for this step to avoid from deforming the terminals of positive-locking type FFC cable.

Mechanical Instruction

8		<p>If the monitor have speaker remove it</p>		<p>Glove</p>
9		<p>Remove all the AL tapes and turn over the SHD</p>		
10		<p>Disassemble the D-SUB DVI and DP screws</p>	<p>Screw-driver</p>	
		<p>Take the Main-BKT out from the Bezel</p>		
9		<p>Take the PCBA out from Main-BKT and then put it on the cushion</p>		

Color Adjustment

Alignment procedure

1. Turn on the LCD monitor
2. Turn on the Timing/pattern generator. See Fig.1
3. Preset LCD color Analyzer CA-1 10
 - Remove the lens protective cover of probe CA-A30.
 - Set measuring/viewing selector to measuring position for reset analyzer .(zero calibration) as Fig.2
 - Turn on the color analyzer (CA-1 10)
 - Press 0-CAL button to starting reset analyzer .

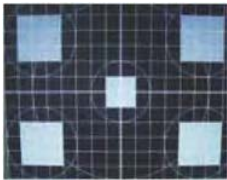


Fig. 1

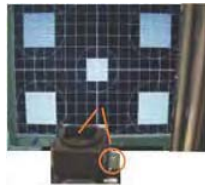


Fig.2

4. Access Factory Mode

- 1). Turn off monitor.
- 2). [Push "AUT O" & "MENU" buttons at the same time and hold them] +[Press "power" button untill comes out "Windows screen"] => then release all buttons
- 3).Press "MENU" button, wait until the OSD menu with Characters " MERIDIAN 241S4L V2.7 2011-08-13" (below OSD menu) come on the Screen of the monitor as shown in Fig3.



Factory Mode indicator

Fig. 3

- 4). Press button, then select factory mode indicator by "MENU" "LEFT" or "RIGHT" button .Press"MENU" button to bring up submenu windows as below:

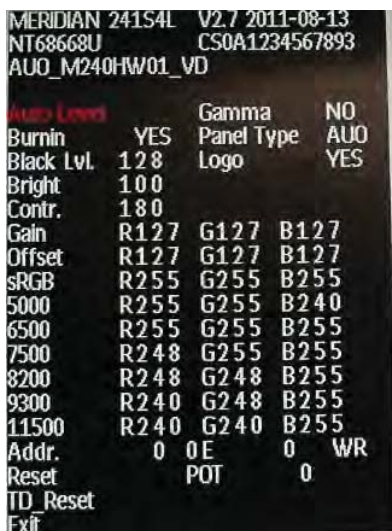


Fig. 4



Fig.5

5.Display

Press "UP" or "DOWN" button to select . Change the value by "UP" or "DOWN" key until the X, Y co-ordinates as below

5.1 Color temperature adjustment

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

Align by Philips PerfectTune (also called FGA) function.

Apply full white 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 = 0.270 ± 0.02 y = 0.281 ± 0.02	PerfectTune II
9300K	x = 0.283 ± 0.02 y = 0.297 ± 0.02	PerfectTune II
8200K	x = 0.291 ± 0.02 y = 0.306 ± 0.02	PerfectTune II
7500K	x = 0.298 ± 0.02 y = 0.314 ± 0.02	PerfectTune II
6500K/sRGB	x = 0.313 ± 0.02 y = 0.329 ± 0.02	PerfectTune II
sRGB	x = 0.313 ± 0.02 y = 0.329 ± 0.02	PerfectTune II
5000K	x = 0.345 ± 0.02 y = 0.357 ± 0.02	PerfectTune II

Production alignment spec

CIE coordinates	(x,y)	
11500K	x = 0.270 ± 0.006 y = 0.281 ± 0.006	PerfectTune II
9300K	x = 0.283 ± 0.006 y = 0.297 ± 0.006	PerfectTune II
8200K	x = 0.291 ± 0.006 y = 0.306 ± 0.006	PerfectTune II
7500K	x = 0.298 ± 0.006 y = 0.314 ± 0.006	PerfectTune II
6500K/sRGB	x = 0.313 ± 0.006 y = 0.329 ± 0.006	PerfectTune II
sRGB	x = 0.313 ± 0.006 y = 0.329 ± 0.006	PerfectTune II
5000K	x = 0.345 ± 0.006 y = 0.357 ± 0.006	PerfectTune II

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	

FAQs (Frequently Asked Questions)

8.3 General FAQs

Q1: When I install my monitor what should I do if the screen shows 'Cannot display this video mode'?

Ans.: Recommended resolution for this monitor:
1920x1080 @60Hz.

- Unplug all cables, then connect your PC to the monitor that you used previously.
- In the Windows Start Menu, select Settings/ Control Panel. In the Control Panel Window, select the Display icon. Inside the DisplayControl Panel, select the 'Settings' tab. Under the setting tab, in box labeled 'desktop area', move the sidebar to 1920x1080 pixels.
- Open 'Advanced Properties' and set the Refresh Rate to 60Hz, then click OK.
- Restart your computer and repeat step 2 and 3 to verify that your PC is set at 1920x1080@60Hz.
- Shut down your computer, disconnect your old monitor and reconnect your Philips monitor.
- Turn on your monitor and then turn on your PC.

Q2: What is the recommended refresh rate for monitor?

Ans.: Recommended refresh rate in monitors is 60Hz. In case of any disturbance on screen, you can set it up to 75Hz to see if that removes the disturbance.

Q3: What are the .inf and .icm files on the CD-ROM? How do I install the drivers (.inf and .icm)?

Ans.: These are the driver files for your monitor. Follow the instructions in your user manual to install the drivers. Your computer may ask you for monitor drivers (.inf and .icm files) or a driver disk when you first install your monitor. Follow the instructions to insert the (companion CD-ROM) included in this package. Monitor drivers (.inf and .icm files) will be installed automatically.

Q4: How do I adjust the resolution?

Ans.: Your video card/graphic driver and monitor together determine the available resolutions. You can select the desired resolution under Windows® Control Panel with the "Display properties".

Q5: What if I get lost when I am making monitor adjustments via OSD?

Ans.: Simply press the OK button, then select 'Reset' to recall all of the original factory settings.

Q6: Is the monitor screen resistant to scratches?

Ans.: In general it is recommended that the panel surface is not subjected to excessive shocks and is protected from sharp or blunt objects. When handling the monitor, make sure that there is no pressure or force applied to the panel surface side. This may affect your warranty conditions.

FAQs (Frequently Asked Questions)

Q7: How should I clean the monitor surface?

Ans.: For normal cleaning, use a clean, soft cloth. For extensive cleaning, please use isopropyl alcohol. Do not use other solvents such as ethyl alcohol, ethanol, acetone, hexane, etc.

Q8: Can I change the color setting of my monitor?

Ans.: Yes, you can change your color setting through OSD control as the following procedures,

- Press "OK" to show the OSD (On Screen Display) menu
- Press "Down Arrow" to select the option "Color" then press "OK" to enter color setting, there are three settings as below.
 1. Color Temperature; The six settings are 5000K, 6500K, 7500K, 8200K, 9300K and 11500K. With settings in the 5000K range the panel appears 'warm,' with a red-white color tone, while a 11500K temperature yields 'cool, blue-white toning.'
 2. sRGB; this is a standard setting for ensuring correct exchange of colors between different device (e.g. digital cameras, monitors, printers, scanners, etc)
 3. User Define; the user can choose his/her preference color setting by adjusting red, green blue color.

Note:

A measurement of the color of light radiated by an object while it is being heated. This measurement is expressed in terms of absolute scale, (degrees Kelvin). Lower Kelvin temperatures such as 2004K are red; higher temperatures such as 9300K are blue. Neutral temperature is white, at 6504K.

Q9: Can the Philips monitor be mounted on the wall?

Ans.: Yes, Philips monitors have this optional feature. Four standard VESA mount holes on the rear cover allows the user to mount the Philips monitor on most of the

VESA standard arms or accessories. We recommend you to contact your Philips sales representative for more information.

Q10: Can I connect my monitor to any PC, workstation or Mac?

Ans.: Yes. All Philips monitors are fully compatible with standard PCs, Macs and workstations. You may need a cable adapter to connect the monitor to your Mac system. Please contact your Philips sales representative for more information.

Q11: Are Philips monitors Plug-and- Play?

Ans.: Yes, the monitors are Plug-and-Play compatible with Windows 7/Vista/XP/NT, Mac OSX, Linux

Q12: What is Image Sticking, or Image Burn-in, or After Image, or Ghost Image in monitor panels?

Ans.: Uninterrupted display of still or static images over an extended period may cause "burn in", also known as "after-imaging" or "ghost imaging", on your screen. "Burn-in", "after-imaging", or "ghost imaging" is a well-known phenomenon in monitor panel technology. In most cases, the "burned in" or "after-imaging" or "ghost imaging" will disappear gradually over a period of time after the power has been switched off. Always activate a moving screen saver program when you leave your monitor unattended.

Always activate a periodic screen refresh application if your monitor will display unchanging static content.

Warning

Severe "burn-in" or "after-image" or "ghost image" symptoms will not disappear and cannot be repaired. The damage mentioned above is not covered under your warranty.

Electrical Instructions

Electrical characteristics

1. Interface signals

1.1 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

1.2 DVI-D Digital(optional for 241S4L / 241S4LA / 241S4LC / 241B4LP)

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

1.3 Display port (241S4LY / 241B4LPY)

2. Interface

2.1 D-Sub Cable

- Length : 1.8 M +/- 50 mm
- Fix with monitor when packing, with transplant pin protective cover.
- Connector type : D-Sub male with DDC2B pin assignments.
- Blue connector thumb-operated jack screws

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
- With transplant pin protective cover.

2.3 Display port cable

- Length : Please refer to cable bundle summary file
- Connector type : DP1.4 type A cable-connector

3. Timing requirement

3.1 Factory Preset mode definitions:

- 3.1.1 Perfect FOS while presenting those timings.
- 3.1.2 Will specify those timing in User's Manual

3.2 Preset mode definition:

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

3.3 User mode

- 3.3.1 Can save those timing that not in Preset mode and can be showed (not over scalar or Panel spec.)
- 3.3.2 It needs to reserve the 10 timings space in memory size.
- 3.3.3 Factory modes and preset modes are defined in the enclosed timing table file

Support Timing	Auto	241S4L Support Resolution	Pixel Rate (MHz)	Horizontal (MHz)	Vertical (Hz)	H. Total (Line)	Vertical (Hz)
1	OSD	640x350/70	25.175	31.4697	70.086	449	n.r.n
2	OSD	720x400/60	28.522	33.4689	70.081	449	n.r.n
3	DMT	640x480/60	25.175	31.4697	59.940	525	n.r.n
4	DMT	640x480/67	30.240	28.571	66.667	525	n.r.n
5	DMT	640x480/72	31.500	33.861	72.609	525	n.r.n
6	DMT	640x480/75	31.500	37.500	75.000	500	n.r.n
7	DMT	800x600/66	36.000	35.158	56.250	625	n.r.n
8	DMT	800x600/60	40.000	37.879	60.317	625	n.r.n
9	DMT	800x600/72	50.000	48.077	72.188	666	n.r.n
10	DMT	800x600/75	49.000	46.875	75.000	625	n.r.n
11	DMT	800x600/75	57.287	59.722	74.546	687	n.r.n
12	CVT	960x720/60	55.750	44.671	59.721	748	n.r.n
13	CVT	960x720/75	71.250	56.369	74.660	750	n.r.n
14	DMT	1024x600/60	48.964	37.320	60.000	622	n.r.n
15	DMT	640x480/60	65.000	46.353	60.004	606	n.r.n
16	DMT	640x480/75	75.000	56.473	70.269	606	n.r.n
17	DMT	640x480/75	76.750	60.023	75.009	600	n.r.n
18	CVT	1152x864/60	81.750	53.763	59.859	687	n.r.n
19	CVT	1152x864/70	94.499	63.851	70.012	912	n.r.n
20	DMT	1152x864/75	108.000	67.500	75.000	900	n.r.n
21	DMT	1152x864/75	100.000	66.482	74.969	918	n.r.n
22	DMT	1152x864/66	94.500	61.846	66.004	637	n.r.n
23	DMT	1152x864/76	108.000	71.809	76.149	942	n.r.n
24	CVT	1280x720/60	74.250	45.000	60.000	750	n.r.n
25	CVT	1280x720/70	89.040	52.500	70.000	750	n.r.n
26	CVT	1280x720/75	95.750	56.456	74.177	750	n.r.n
27	DMT	1280x768/60	79.500	47.776	59.870	798	n.r.n
28	DMT	1280x768/75	102.250	60.289	74.893	825	n.r.n
29	CVT	1280x800/60	83.500	49.702	59.870	825	n.r.n
30	CVT	1280x800/75	106.500	62.795	74.934	838	n.r.n
31	DMT	1280x800/60	108.000	60.000	60.000	1000	n.r.n
32	CVT	1280x800/75	132.000	75.231	74.617	1000	n.r.n
33	DMT	5:4 1280x1024/60	108.000	63.981	60.000	1066	n.r.n
34	OSD	5:4 1280x1024/75	138.233	76.020	71.447	1066	n.r.n
35	DMT	5:4 1280x1024/75	135.000	76.976	75.005	1066	n.r.n
36	DMT	1440x960/60	85.500	47.712	60.015	795	n.r.n
37	CVT	1440x960/75	109.000	60.288	74.891	825	n.r.n
38	DMT	1440x960/75	85.500	47.712	59.790	798	n.r.n
39	DMT	1440x960/60_3B	88.750	55.469	59.921	826	n.r.n
40	DMT	1440x960/60	106.500	59.935	59.887	924	n.r.n
41	DMT	1440x960/75	136.750	70.635	74.964	942	n.r.n
42	DMT	4:3 1440x1080/60	162.000	72.000	60.000	1200	n.r.n
43	DMT	16:10 1440x1080/60_3B	119.000	64.674	59.893	1080	n.r.n
44	DMT	16:10 1440x1080/60	146.250	65.290	59.954	1089	n.r.n
45	DMT	16:10 1440x1080/75	187.000	82.306	74.992	1089	n.r.n
46	CVT	16:9 1920x1080/60_3B	138.500	66.587	59.934	1111	n.r.n
47	DMT	16:9 1920x1080/60	148.500	67.000	60.000	1125	n.r.n
48	CVT	16:9 1920x1080/75	172.000	81.158	59.963	1125	n.r.n
49	DMT	16:10 1920x1200/60_3B	154.000	74.038	59.950	1235	n.r.n
50	DMT	16:10 1920x1200/75	193.250	74.526	59.885	1235	n.r.n
Extra Supported Video Timing (Video Timing Devt Care Picture Quality)							
51	576p	720x720/75	27.000	31.250	50.000	495	
52	576p	720x720/50	13.500	15.625	50.000	495	
53	720p	1280x720/50	74.250	37.500	50.000	750	
54	1080i	1920x1080/50	74.250	26.125	50.000	1125	
55	1080p	1920x1080/60	118.500	56.250	50.000	1125	
56	480p	720x480/60	27.000	31.468	60.000	525	
57	480i	720x480/60	13.500	15.734	60.000	525	
58	720p	1280x720/60	74.250	37.500	60.000	750	
59	1080i	1920x1080/60	74.250	26.125	60.000	1125	
60	1080p	1920x1080/60	118.500	61.500	60.000	1125	

Electrical Instructions

White color adjustment

There are three factory preset white color 9300K, 6500K, sRGB.

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 screencenter should be:

Product specification

CIE coordinates	(x,y)	
11500K	x = 0.270 ± 0.02 y = 0.281 ± 0.02	PerfecTune II
9300K	x = 0.283 ± 0.02 y = 0.297 ± 0.02	PerfecTune II
8200K	x = 0.291 ± 0.02 y = 0.306 ± 0.02	PerfecTune II
7500K	x = 0.298 ± 0.02 y = 0.314 ± 0.02	PerfecTune II
6500K/sRGB	x = 0.313 ± 0.02 y = 0.329 ± 0.02	PerfecTune II
sRGB	x = 0.313 ± 0.02 y = 0.329 ± 0.02	PerfecTune II
5000K	x = 0.345 ± 0.02 y = 0.357 ± 0.02	PerfecTune II

Production alignment spec.

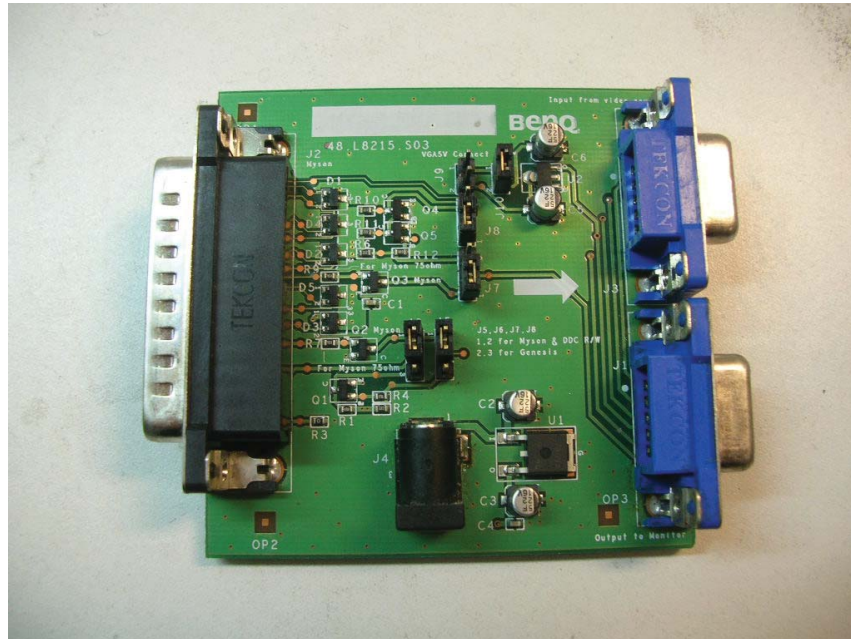
CIE coordinates	(x,y)	
11500K	x = 0.270 ± 0.006 y = 0.281 ± 0.006	PerfecTune II
9300K	x = 0.283 ± 0.006 y = 0.297 ± 0.006	PerfecTune II
8200K	x = 0.291 ± 0.006 y = 0.306 ± 0.006	PerfecTune II
7500K	x = 0.298 ± 0.006 y = 0.314 ± 0.006	PerfecTune II
6500K/sRGB	x = 0.313 ± 0.006 y = 0.329 ± 0.006	PerfecTune II
sRGB	x = 0.313 ± 0.006 y = 0.329 ± 0.006	PerfecTune II
5000K	x = 0.345 ± 0.006 y = 0.357 ± 0.006	PerfecTune II

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	

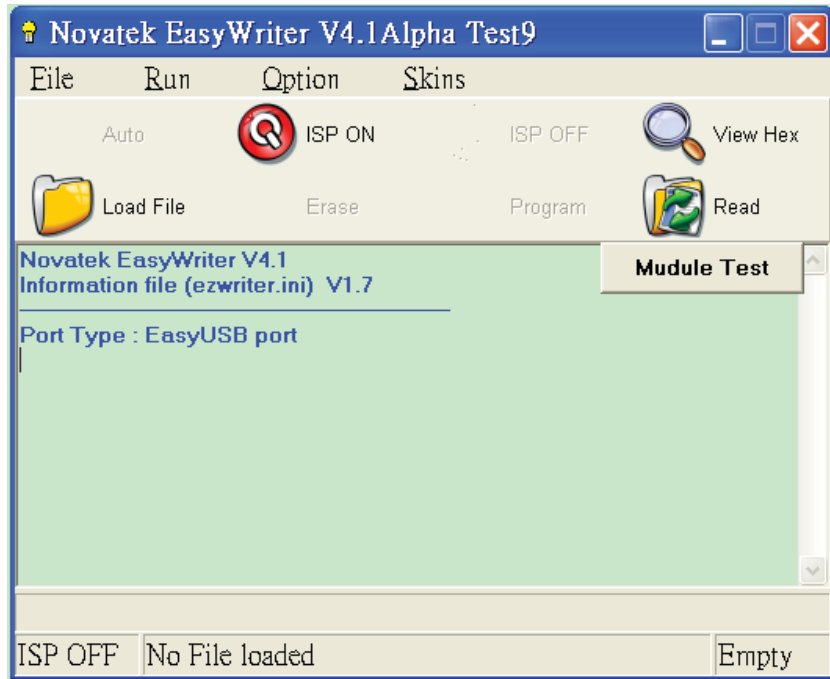
Service tool-Hardware

PCM code	12NC
5E.L8215.001	996510019769

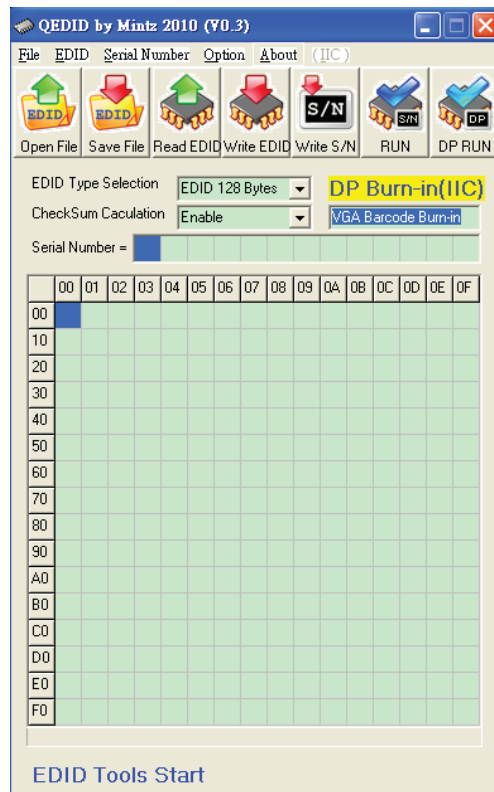


Service tool-Software

FW writing tool: Easy Writer **V4.54**



DDC writing tool: **Q-EDID-V30**



DDC Instructions

DDC Data Re-programming

In case the DDC data memory IC or main EEPROM which storage all factory settings were replaced due to a defect, the serial numbers have to be re-programmed "Analog DDC IC, Digital DDC IC & EEPROM".

It is advised to re-soldered DDC IC and main EEPROM 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

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.

Configuration and procedure

"PI-EDID" The software is provided by IMS to upgrade the firmware of CPU.

PI-EDID Tools is for the interface between "Parallel Port of PC" and "15 pin-D-SUB connector of Monitor".

It is a windows-based program, which cannot be run in MS-DOS.

System and equipment requirements

1. An Pentium (or above) personal computer or compatible.
2. Microsoft operation system Windows 95/98/2000/XP and Port95NT.exe.
3. EDID Software "QEDID.exe"
4. ISP boardas shown in Fig. 1

And I2C Board Jump wire should follow J10 (short), J9 (open), J5/J6/ (1 and 2 pin short) J7/J8 (1 and 2 pin short)

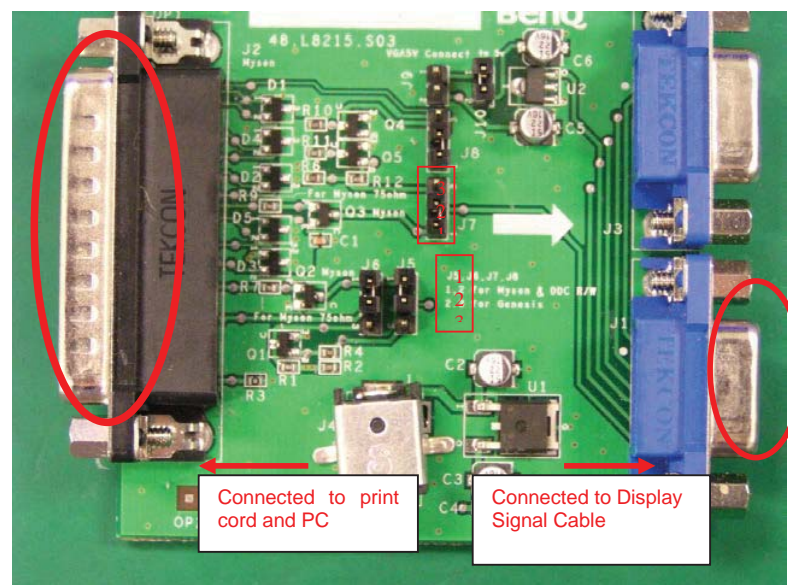


Fig.1

DDC Instructions

5. Connect and Mains cord to Monitor as shown in Fig.2.

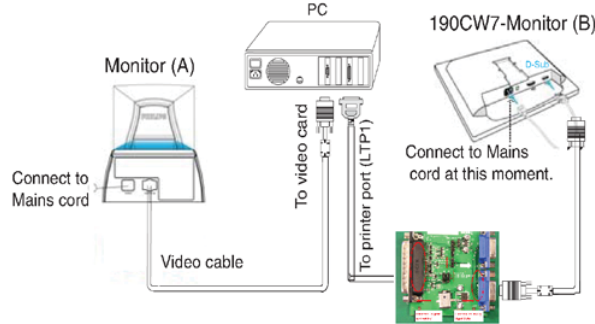
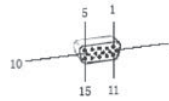


Fig.2

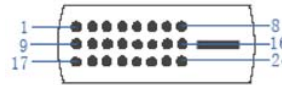
Pin assignments:

A. 15-pin D-Sub Connector



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

B. Input DVI-D Connector pin



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)
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-

DDC Instructions

6. Setup the Philips-IMS EDID Tools program

Step 1: Open Q-EDID **V030** Software into your folder as shown in Fig.3. and Fig.4.

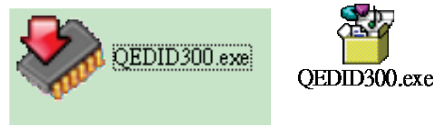


Fig.3

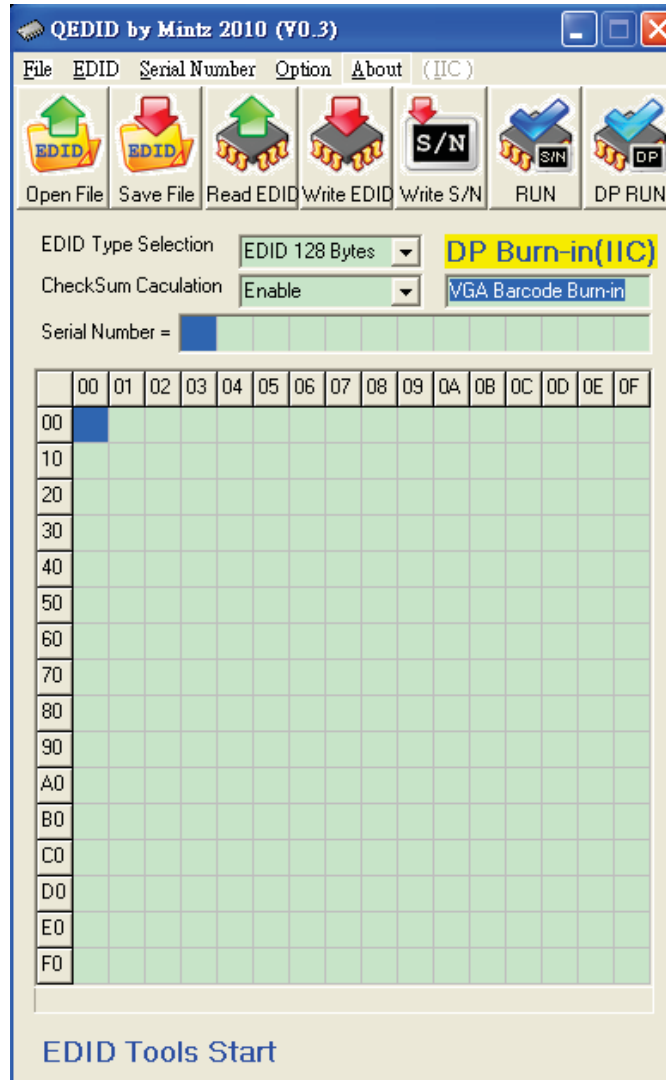


Fig.4

DDC Instructions

Step 2: Press “Open File” then choose
241S4L DDC FILE

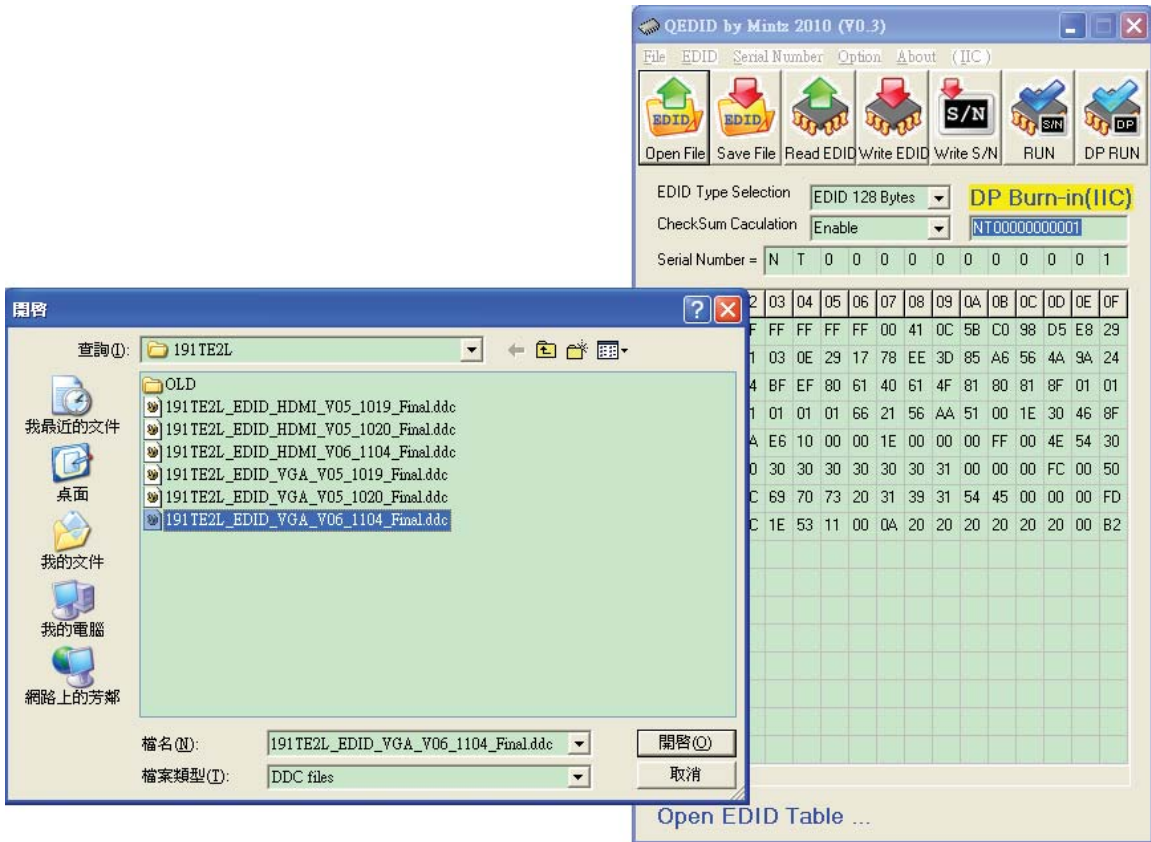


Fig.5

DDC Instructions

Step 3 : Load DDC file success as shown in Fig. 6 .

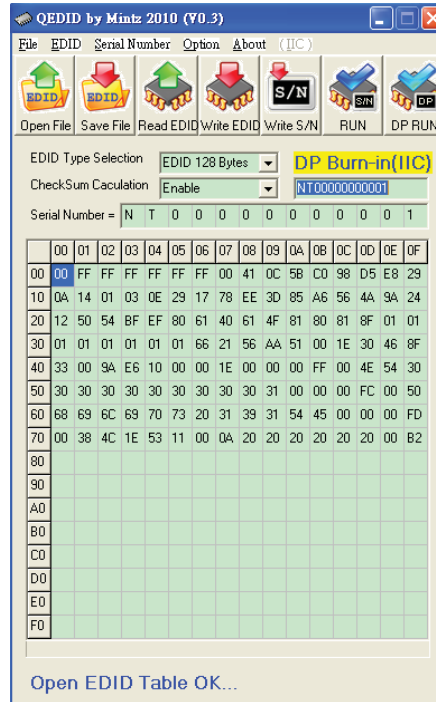


Fig.Step 4 : update Serial number and press enter to correct S/N number shown as Fig.7 .

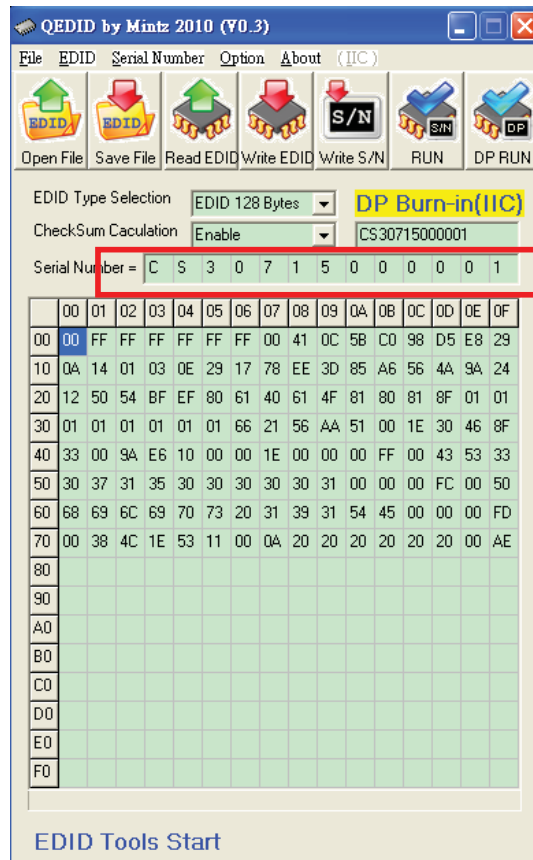


Fig.7

DDC Instructions

Step 5 : Press “RUN” to write EDID and serial number shown as Fig.8 .

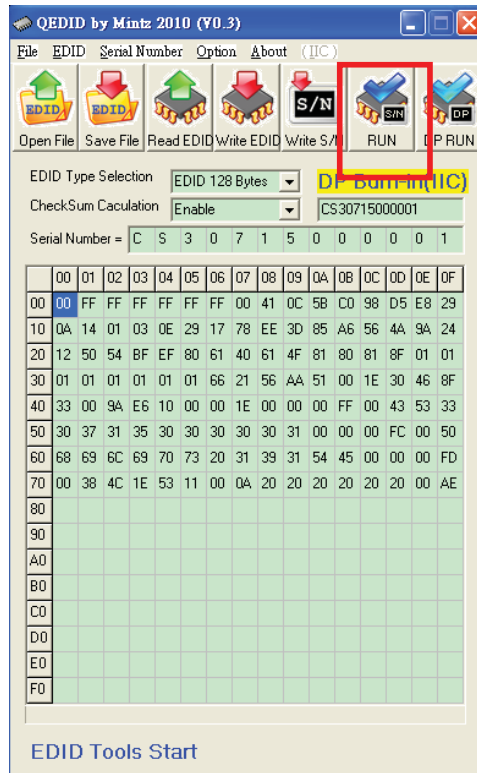


Fig.8

Step 6 : EDID and serial number update success shown as Fig.9

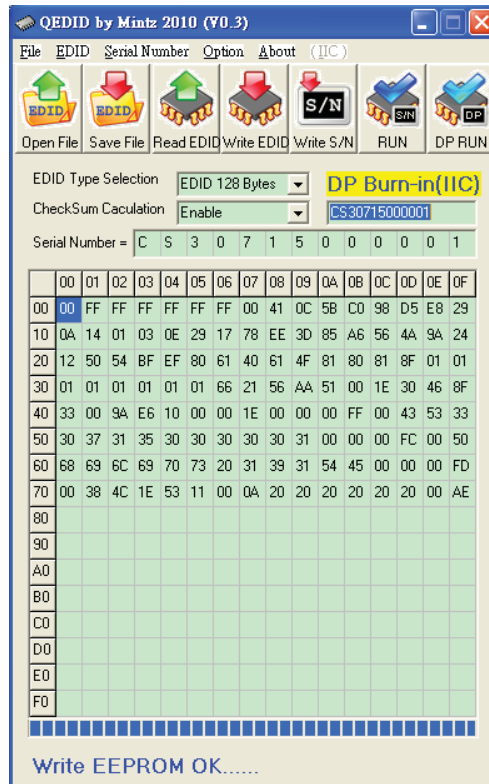


Fig.9

DDC Instructions

- Press "Read EDID" to read EDID and serial number shown as Fig.10 . and check Serial number is the same as we set.

Note: If not the same, please rewrite EDID S/N again.

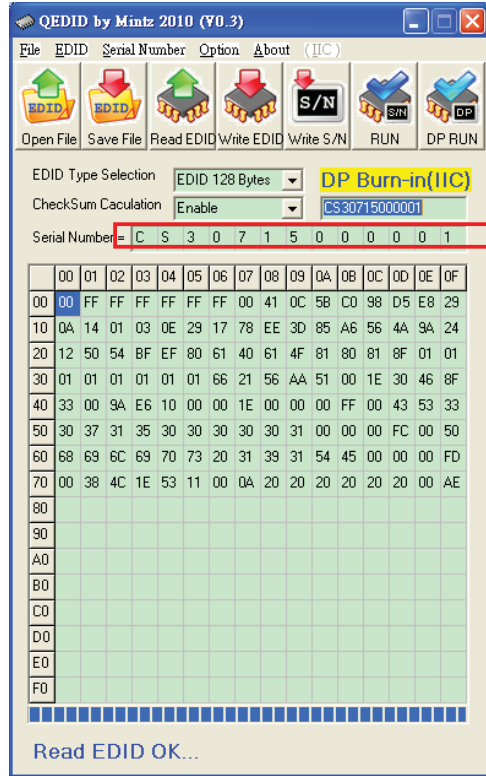


Fig.10

Serial Number Definition

PANEL TYPE

1: AUO	2: CPT
3: LGD(LPL)	4: SEC
5: CMO(CMI)	6: HannStar(HSD)
7: SVA(TMS)	8: BOE
9: IVO(MTD)	A: BMS(Qisda)
	B: LnT

SSPSYYWWXXXXXX

Site code
DL: Suzhou
CS: Taiwan
FE: Czech

Week

Sequence number 000001~999999
(Please reset and start from 00001,
when hit the limit 99999)

Service Version

x1x/x2x	Analog	A
x4x/x5x	Display Port	B
xSx/xBx	Dual	B

Year: 2010
2011
2012

DDC DATA

Analog DDC

128 bytes EDID Data (Hex):

```

BUS_SLOT =
PCI00000.PCI00004.PCI00008.PCI0000C.PCI00010.PCI00014.
PCI00018.PCI0001C
00000000 =
06911106.22100006.060000C4.00000800.E0000008.00000000.
00000000.00000000
00000008 =
85981106.22300007.06040000.00010000.00000000.00000000.
00010100.00008080
00000038 =
06861106.02100087.06010040.00800000.00000000.00000000.
00000000.00000000
00000039 =
05711106.02900007.01018A06.00002000.00000000.00000000.
00000000.00000000
0000003A =
30381106.02100117.0C03001A.00004008.00000000.00000000.
00000000.00000000
0000003C =
30571106.02900000.0C050040.00000000.00000000.00000000.
00000000.00000000
0000003D =
30581106.02100001.04010050.00000000.0000DC01.0000D801.
.0000D401.00000000
00000050 =
30381106.02100117.0C030061.00804008.00000000.00000000.
00000000.00000000
00000051 =
30381106.02100117.0C030061.00804008.00000000.00000000.
00000000.00000000
00000052 =
31041106.02100117.0C032063.00804008.DFFFFFF00.00000000.
.00000000.00000000
00000060 =
813910EC.02900105.02000010.00004000.0000C401.DFFFFFFE0.
0.00000000.00000000
00000100 =
025910DE.02B00007.030000A3.0000F800.DE000000.D0000000.
8.DDC80008.00000000
-----
01020000 =
00FFFFFF.FFFFFFF00.410CB008.01000000.18150103.0E351E7.
8.CE9265A6.55559F28
00000020 =
0D5054BF.EF807140.81C08180.9500B300.01010101.0101023.
A.80187138.2D40582C
00000040 =
4500132B.2100001E.000000FF.00435330.41313233.34353637.
38390000.00FC0050
00000060 =
68696C69.70732032.3431534C.000000FD.00384C1E.5315000.
A.20202020.202000EB

```

Monitor #1 [Real-time 0x0021]

```

Model name..... Philips 241SL
Manufacturer..... Philips
Plug and Play ID..... PHL08B0
Serial number..... CS0A123456789
Manufacture date..... 2011, ISO week 24

```

```

EDID revision..... 1.3
Input signal type..... Analog 0.700,0.300 (1.0V p-p)
Sync input support..... Separate, Composite, Sync-on-green
Display type..... RGB color
Screen size..... 530 x 300 mm (24.0 in)
Power management..... Standby, Suspend
Extension blocs..... None

```

```

-----
DDC/CI..... Supported
MCCS revision..... 2.2
Display technology..... TFT
Controller..... Novatek 0x0
Firmware revision..... 0.1
Active power on time..... 2 hours
Current frequency..... 67.50kHz, 60.00Hz

```

Color characteristics

```

Default color space..... sRGB
Display gamma..... 2.20
Red chromaticity..... Rx 0.650 - Ry 0.333
Green chromaticity..... Gx 0.332 - Gy 0.623
Blue chromaticity..... Bx 0.157 - By 0.053
White point (default).... Wx 0.313 - Wy 0.329
Additional descriptors... None

```

Timing characteristics

```

Horizontal scan range.... 30-83kHz
Vertical scan range..... 56-76Hz
Video bandwidth..... 210MHz
CVT standard..... Not supported
GTF standard..... Not supported
Additional descriptors... None
Preferred timing..... Yes
Native/preferred timing.. 1920x1080p at 60Hz (16:9)
Modeline..... "1920x1080" 148.500 1920 2008 2052
2200 1080 1084 1089 1125 +hsync +vsync

```

Standard timings supported

```

720 x 400p at 70Hz - IBM VGA
640 x 480p at 60Hz - IBM VGA
640 x 480p at 67Hz - Apple Mac II
640 x 480p at 72Hz - VESA
640 x 480p at 75Hz - VESA
800 x 600p at 56Hz - VESA
800 x 600p at 60Hz - VESA
800 x 600p at 72Hz - VESA
800 x 600p at 75Hz - VESA
832 x 624p at 75Hz - Apple Mac II
1024 x 768p at 60Hz - VESA
1024 x 768p at 70Hz - VESA
1024 x 768p at 75Hz - VESA
1280 x 1024p at 75Hz - VESA
1152 x 870p at 75Hz - Apple Mac II
1152 x 864p at 60Hz - VESA STD
1280 x 720p at 60Hz - VESA STD
1280 x 1024p at 60Hz - VESA STD
1440 x 900p at 60Hz - VESA STD
1680 x 1050p at 60Hz - VESA STD

```

Report information

```

Date generated..... 2011/5/31
Software revision..... 2.11.0.752
Raw data.....
00,FF,FF,FF,FF,FF,FF,00,41,0C,B0,08,01,00,00,00,18,15,01,03,0
E,35,1E,78,CE,92,65,A6,55,55,9F,28,
-----
0D,50,54,BF,EF,80,71,40,81,C0,81,80,95,00,B3,00,01,01,01,01,
01,01,02,3A,80,18,71,38,2D,40,58,2C,
-----
45,00,13,2B,21,00,00,1E,00,00,00,FF,00,43,53,30,41,31,32,33,3
4,35,36,37,38,39,00,00,00,FC,00,50,
-----
68,69,6C,69,70,73,20,32,34,31,53,4C,00,00,00,FD,00,38,4C,1E,
53,15,00,0A,20,20,20,20,20,20,00,EB

```

DDC DATA

DVI DDC

EDID BYTES:

BUS_SLOT =

PCI0000.PCI0004.PCI0008.PCI000C.PCI0010.PCI00
14.PCI0018.PCI001C

00000000 =

06911106.22100006.060000C4.00000800.E0000008.000000
00.00000000.00000000

00000008 =

85981106.22300007.06040000.00010000.00000000.000000
00.00010100.00008080

00000038 =

06861106.02100087.06010040.00800000.00000000.000000
00.00000000.00000000

00000039 =

05711106.02900007.01018A06.00002000.00000000.000000
00.00000000.00000000

0000003A =

30381106.02100117.0C03001A.00004008.00000000.000000
00.00000000.00000000

0000003C =

30571106.02900000.0C050040.00000000.00000000.000000
00.00000000.00000000

0000003D =

30581106.02100001.04010050.00000000.0000DC01.0000D
801.0000D401.00000000

00000050 =

30381106.02100117.0C030061.00804008.00000000.000000
00.00000000.00000000

00000051 =

30381106.02100117.0C030061.00804008.00000000.000000
00.00000000.00000000

00000052 =

31041106.02100117.0C032063.00804008.DFFFFFF00.00000
000.00000000.00000000

00000060 =

813910EC.82900105.02000010.00004000.0000C401.DFFF
FE00.00000000.00000000

00000100 =

025910DE.02B00007.030000A3.0000F800.DE000000.D000
0008.DDC80008.00000000

01010000 =

00FFFFFF.FFFFFFF0.410CB008.01000000.18150103.8035
1E78.CE9265A6.55559F28

00000020 =

0D5054BF.EF807140.81C08180.9500B300.01010101.01010
23A.80187138.2D40582C

00000040 =

4500132B.2100001E.000000FF.00435330.41313233.343536
37.38390000.00FC0050

00000060 =

68696C69.70732032.3431534C.000000FD.00384C1E.53110
00A.20202020.2020007D

Monitor #1 [Real-time 0x0011]

Model name..... Philips 241SL

Manufacturer..... Philips

Plug and Play ID..... PHL08B0

Serial number..... CS0A123456789

Manufacture date..... 2011, ISO week 24

EDID revision..... 1.3

Input signal type..... Digital

Color bit depth..... Undefined

Display type..... RGB color

Screen size..... 530 x 300 mm (24.0 in)

Power management..... Standby, Suspend

Extension blocs..... None

DDC/CI..... Supported

MCCS revision..... 2.2

Display technology..... TFT

Controller..... Novatek 0x0

Firmware revision..... 0.1

Active power on time..... 2 hours

Current frequency..... 67.50kHz, 60.00Hz

Color characteristics

Default color space..... sRGB

Display gamma..... 2.20

Red chromaticity..... Rx 0.650 - Ry 0.333

Green chromaticity..... Gx 0.332 - Gy 0.623

Blue chromaticity..... Bx 0.157 - By 0.053

White point (default).... Wx 0.313 - Wy 0.329

Additional descriptors... None

Timing characteristics

Horizontal scan range.... 30-83kHz

Vertical scan range..... 56-76Hz

Video bandwidth..... 170MHz

CVT standard..... Not supported

GTF standard..... Not supported

Additional descriptors... None

Preferred timing..... Yes

Native/preferred timing.. 1920x1080p at 60Hz (16:9)

Modeline..... "1920x1080" 148.500 1920 2008

2052 2200 1080 1084 1089 1125 +hsync +vsync

Standard timings supported

720 x 400p at 70Hz - IBM VGA

640 x 480p at 60Hz - IBM VGA

640 x 480p at 67Hz - Apple Mac II

640 x 480p at 72Hz - VESA

640 x 480p at 75Hz - VESA

800 x 600p at 56Hz - VESA

800 x 600p at 60Hz - VESA

800 x 600p at 72Hz - VESA

800 x 600p at 75Hz - VESA

832 x 624p at 75Hz - Apple Mac II

1024 x 768p at 60Hz - VESA

1024 x 768p at 70Hz - VESA

1024 x 768p at 75Hz - VESA

1280 x 1024p at 75Hz - VESA

1152 x 870p at 75Hz - Apple Mac II

1152 x 864p at 60Hz - VESA STD

1280 x 720p at 60Hz - VESA STD

1280 x 1024p at 60Hz - VESA STD

1440 x 900p at 60Hz - VESA STD

1680 x 1050p at 60Hz - VESA STD

Report information

Date generated..... 2011/5/31

Software revision..... 2.11.0.752

Raw data.....

00,FF,FF,FF,FF,FF,FF,00,41,0C,B0,08,01,00,00,00,18,15,01,
03,80,35,1E,78,CE,92,65,A6,55,55,9F,28,

0D,50,54,BF,EF,80,71,40,81,C0,81,80,95,00,B3,00,01,01,01,
01,01,01,02,3A,80,18,71,38,2D,40,58,2C,

45,00,13,2B,21,00,00,1E,00,00,00,FF,00,43,53,30,41,31,32,3
3,34,35,36,37,38,39,00,00,00,FC,00,50,

68,69,6C,69,70,73,20,32,34,31,53,4C,00,00,00,FD,00,38,4C,
1E,53,11,00,0A,20,20,20,20,20,00,7D

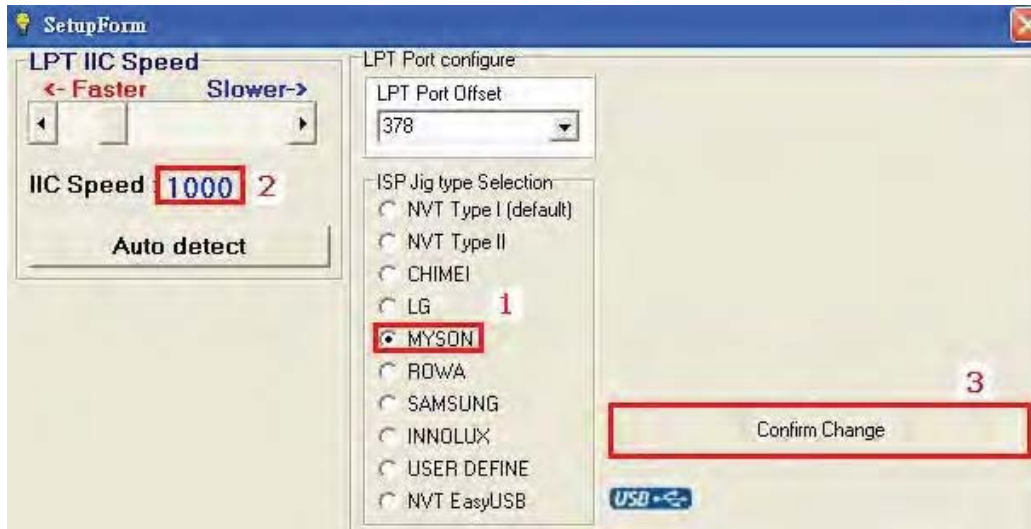
Firmware Upgrade for CPU

Step 1: Install Port95nt.exe. Re-star computer

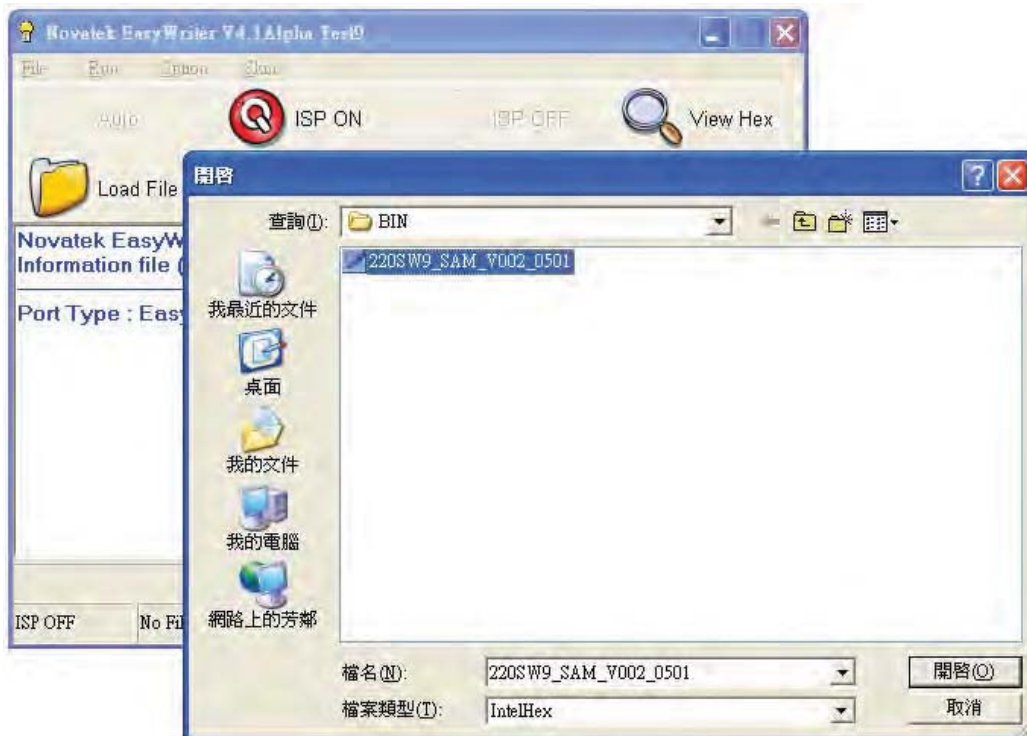
Step 2: Double click NOVATEK Tool

Option:

1. Choose "MYSON"
2. IIC Speed: 1000
3. Press confirm change



Step 3: Press Load File and choose *.hex



Firmware Upgrade for CPU

Step 4: Press "Auto" to upgrade FW




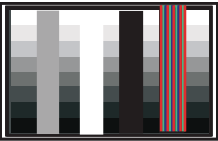
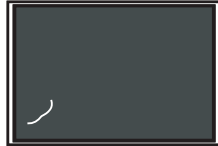
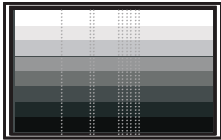
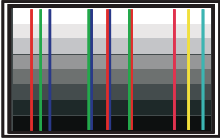



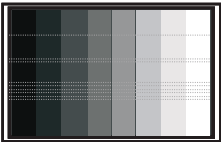

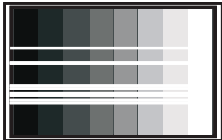
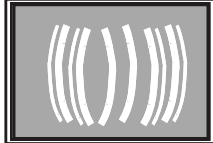
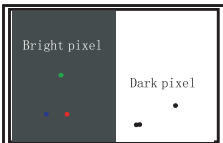

Step 5: Upgrade OK



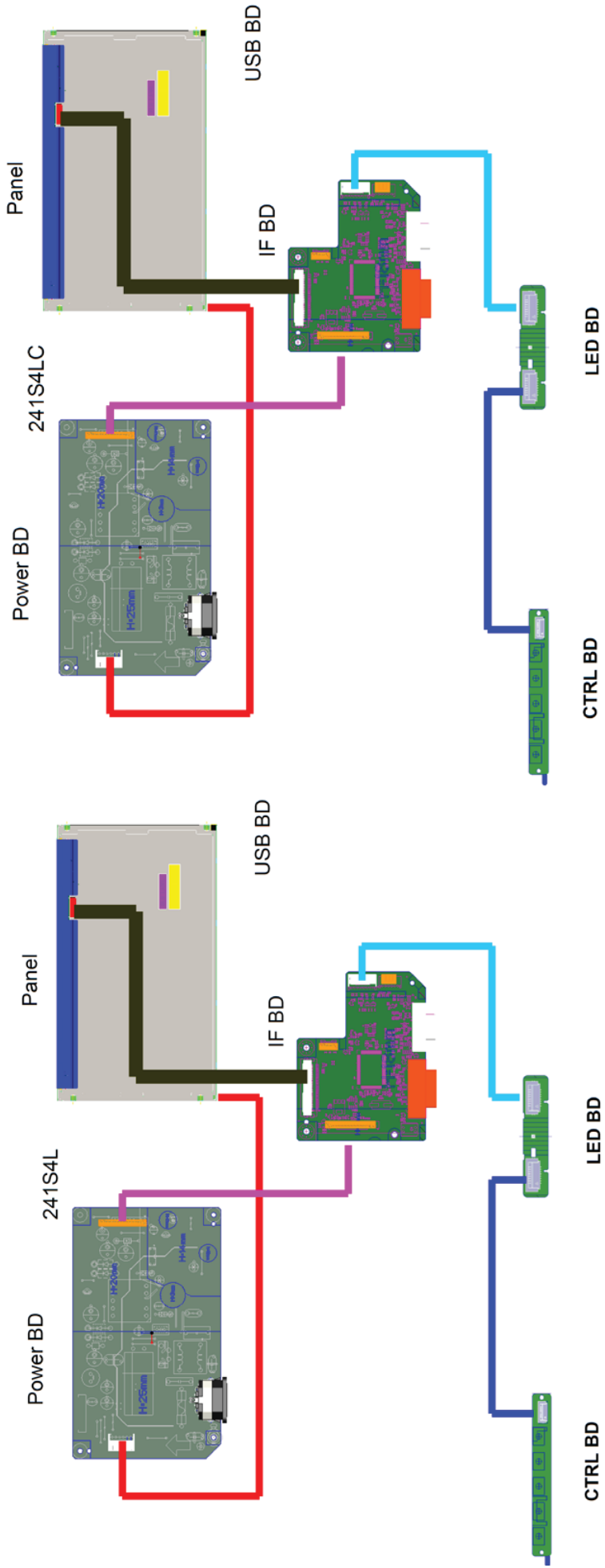
Failure Mode Of Panel

Quick reference for failure mode of LCD panel

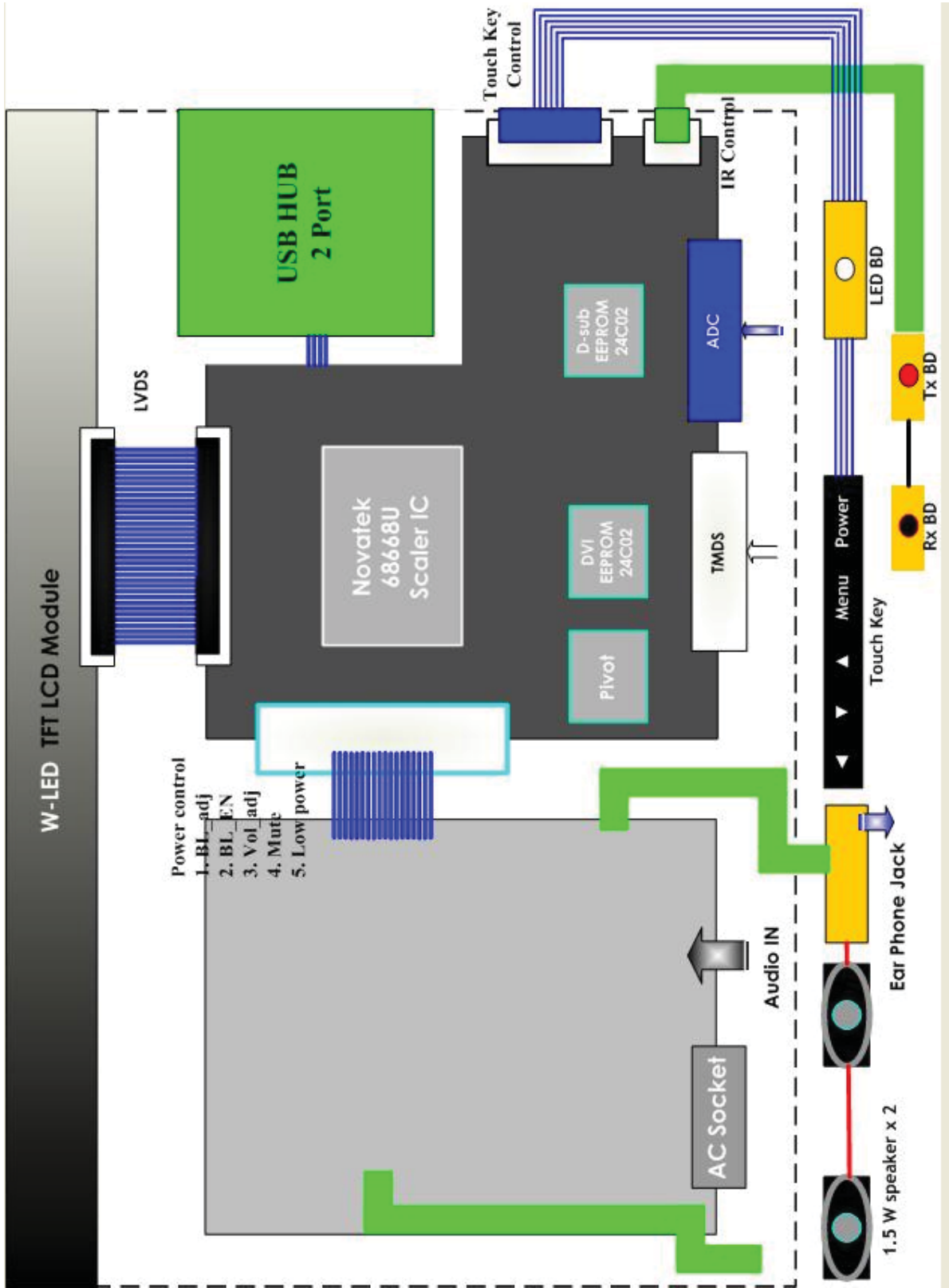
this page presents problems that could be made by LCD panel.
It is not necessary to repair circuit board. Simply follow the mechanical instruction on this manual to eliminate failure by replace LCD panel.

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

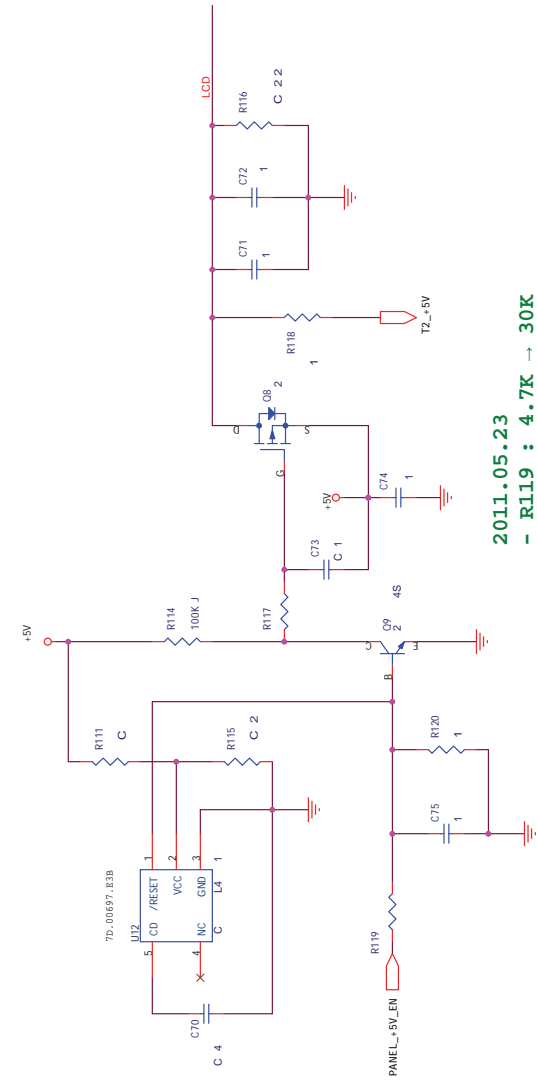
Wiring Diagram



Block Diagram

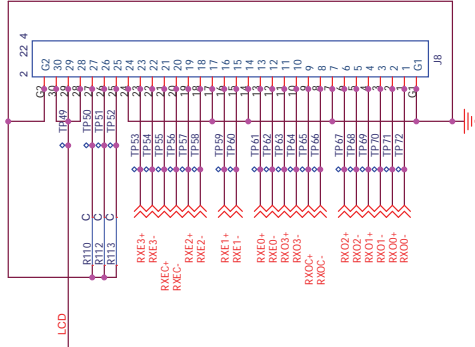


Scalar Diagram & C.B.A

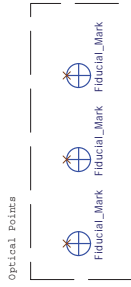
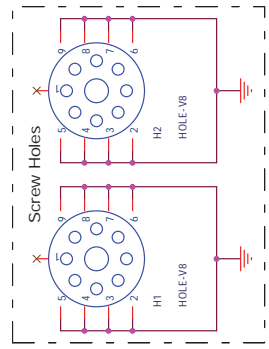
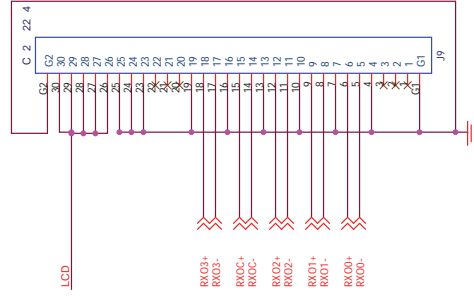


2011.05.23

- R119 : 4.7K → 30K
- R120 : NC_10K → 15K
- R114 : 4.7K → 100K
- C73 : NC
- R117 : 15K → 0J
- C71 : NC □?SMD 10U
- C75 : NC_4.7U → 1.0U



For Single Channel LVDS



4

4

2

2

1

1

C

C

D

D

1

1

2

2

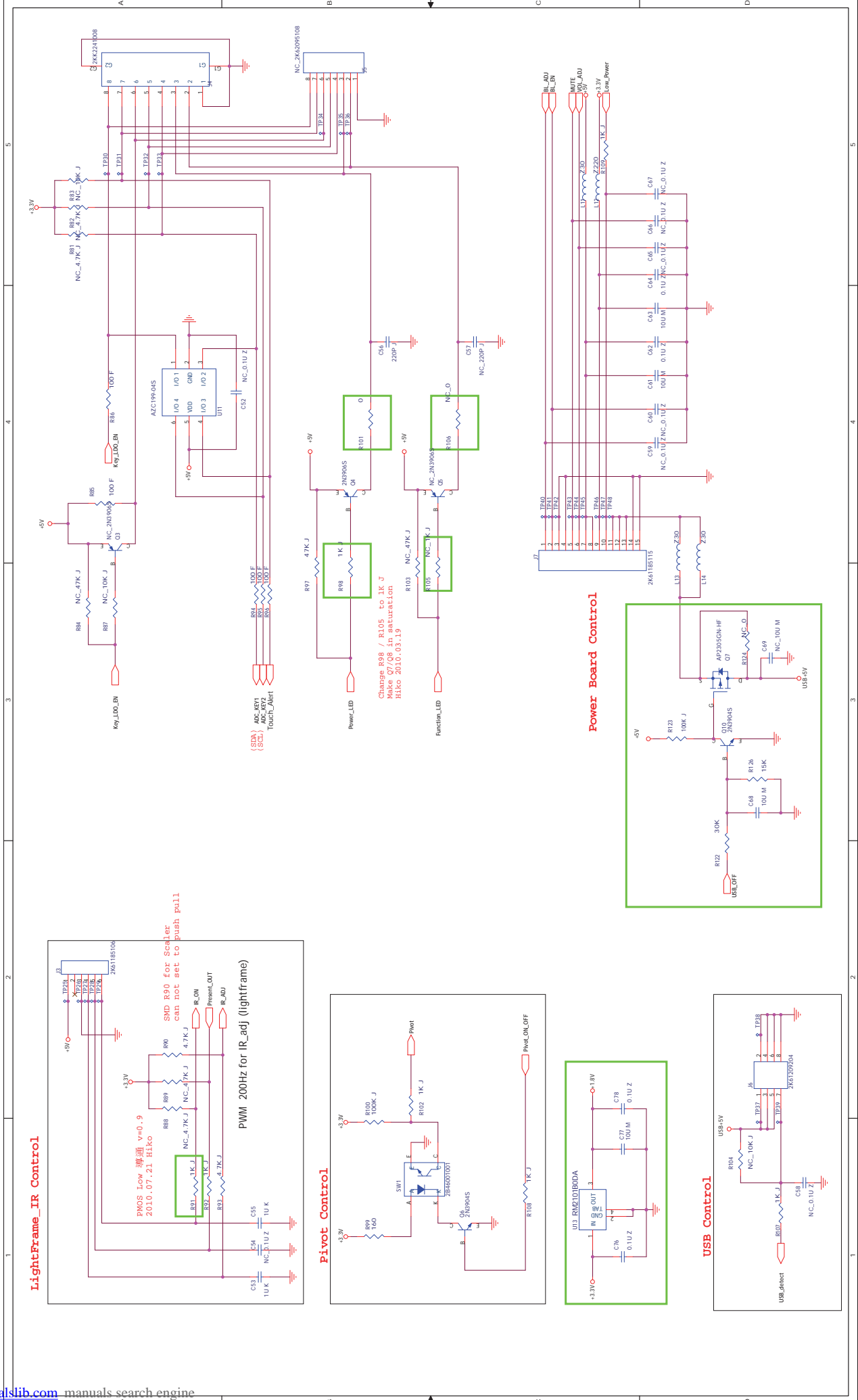
C

C

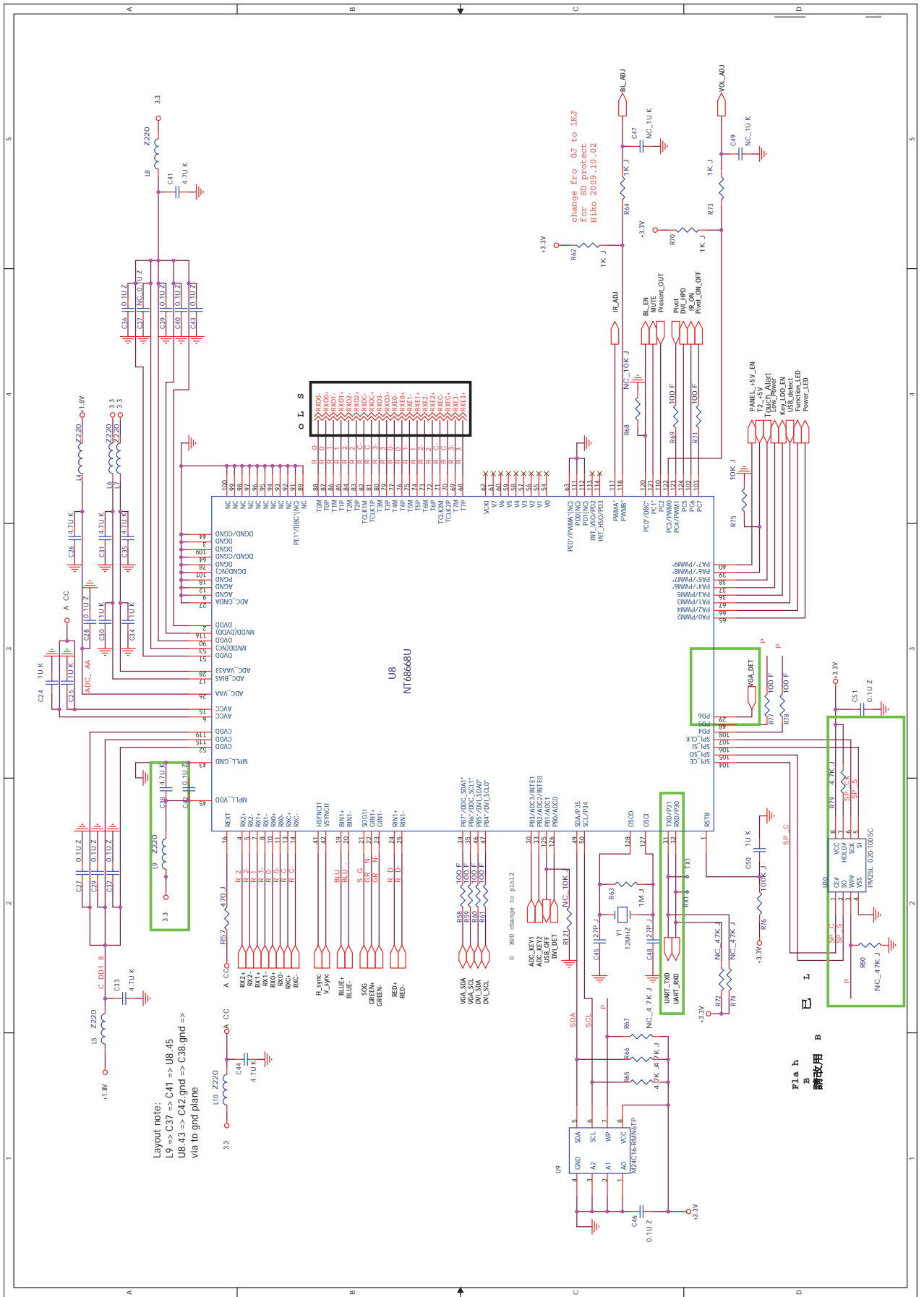
D

D

Scalar Diagram & C.B.A



Scalar Diagram & C.B.A

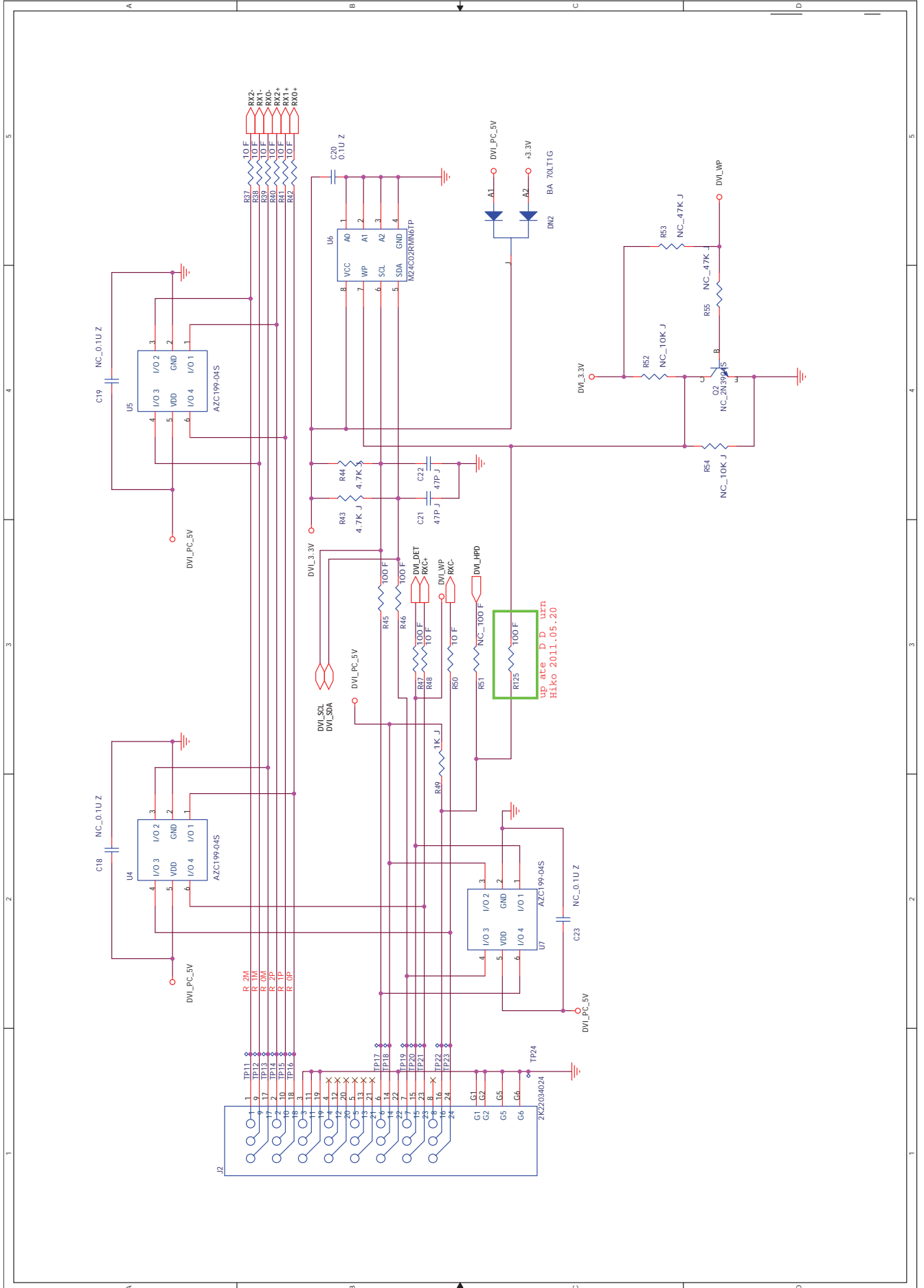


Layout note:
U8 -> C37 => C41 => U8_45
U8_43 => C42.gnd => C38.gnd => via to gnd plane

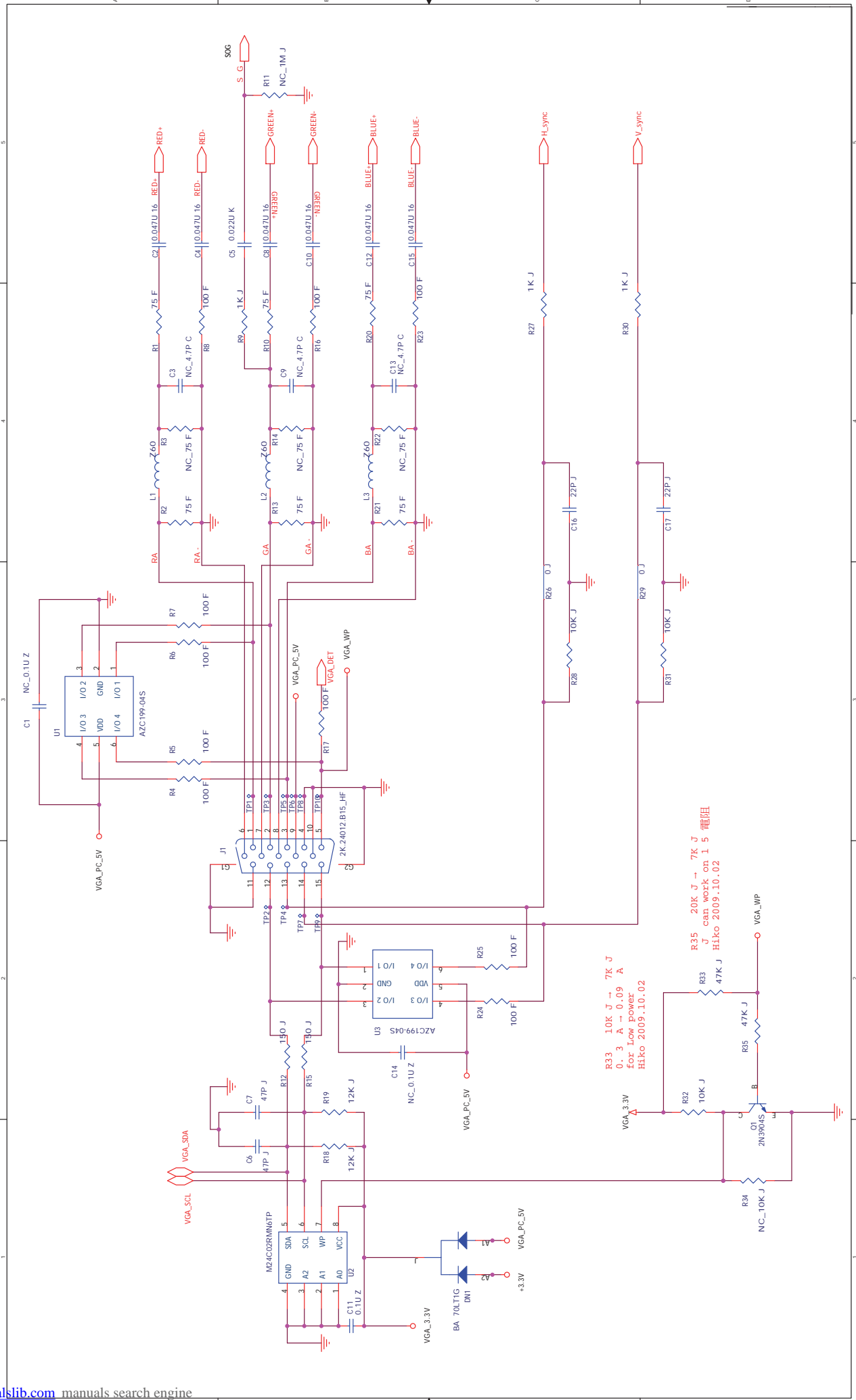
E3 a h B
請改用

change fto 07 to 1k7
for SD protect
Hiko 2009.10.02

Scalar Diagram & C.B.A



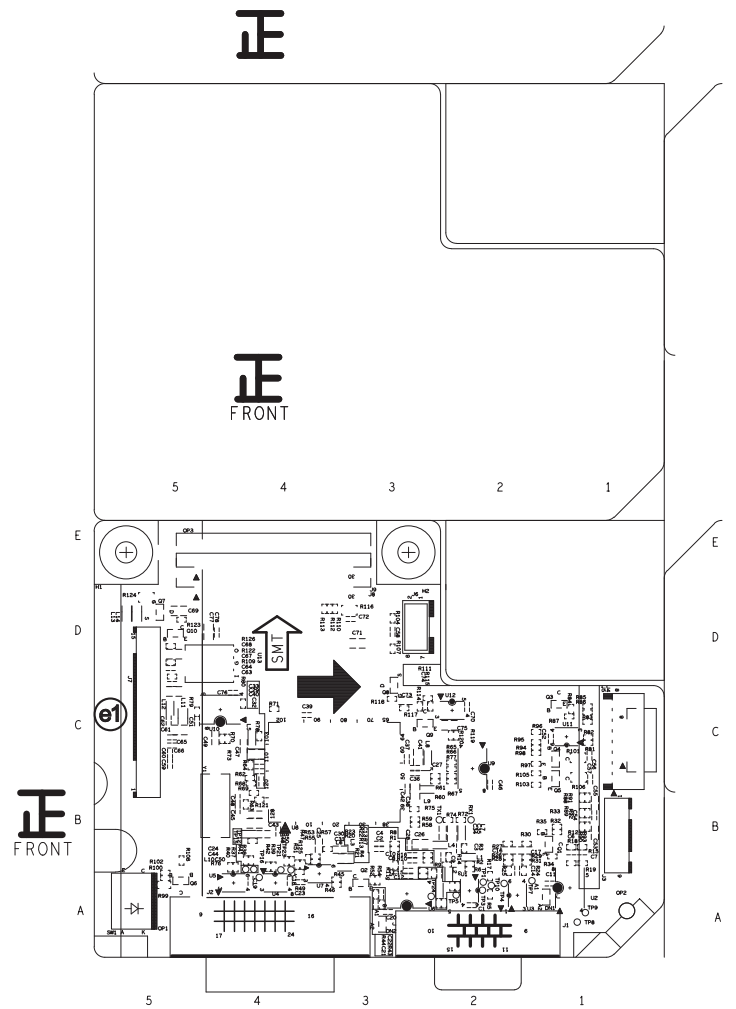
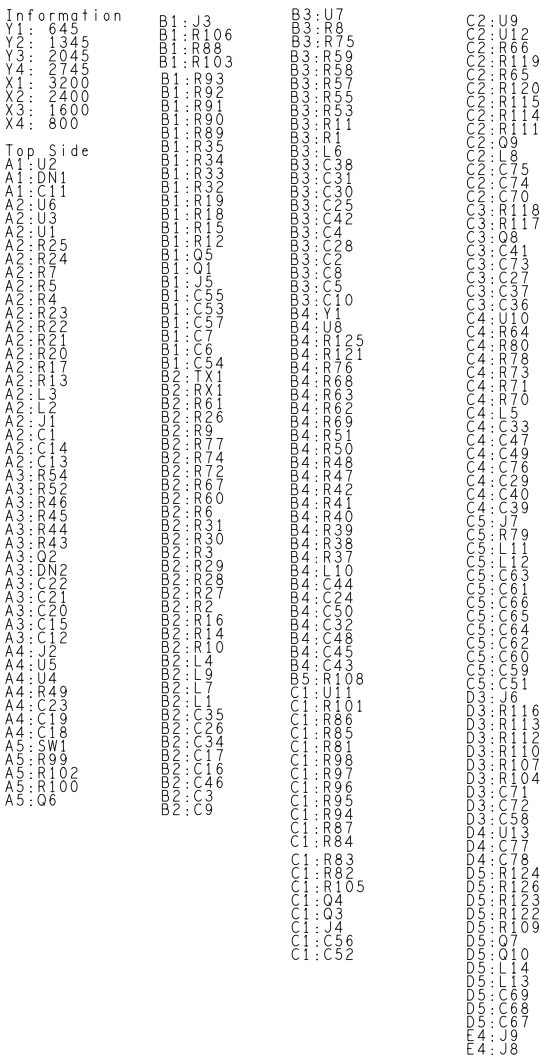
Scalar Diagram & C.B.A



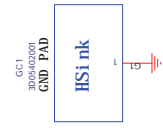
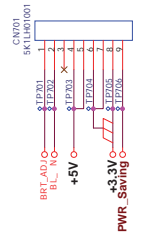
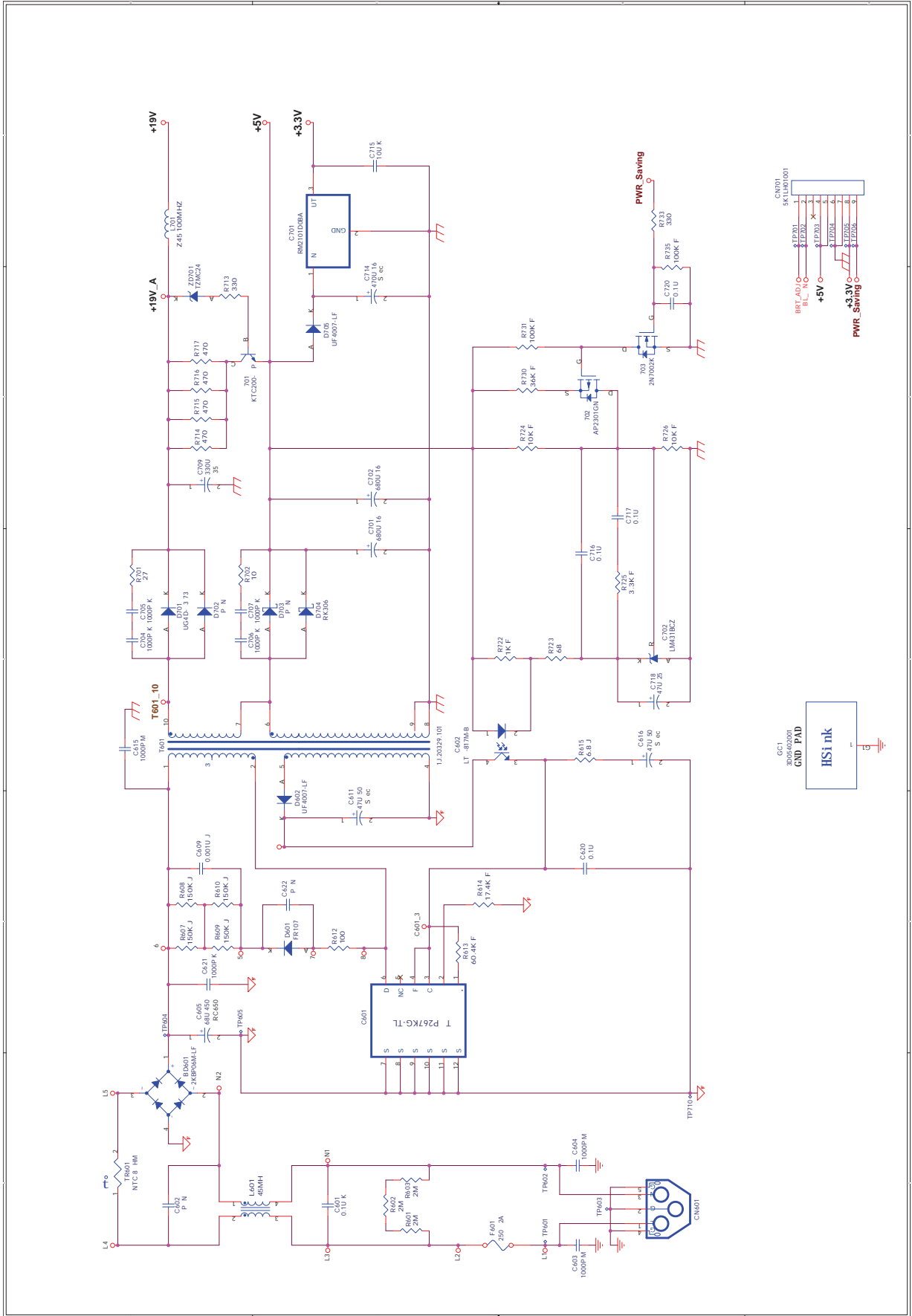
R33 10K J → 7K J
 0.3 A → 0.09 A
 For Low power
 Hiko 2009 .10.02

R35 20K J → 7K J
 J can work on 1.5 電阻
 Hiko 2009 .10.02

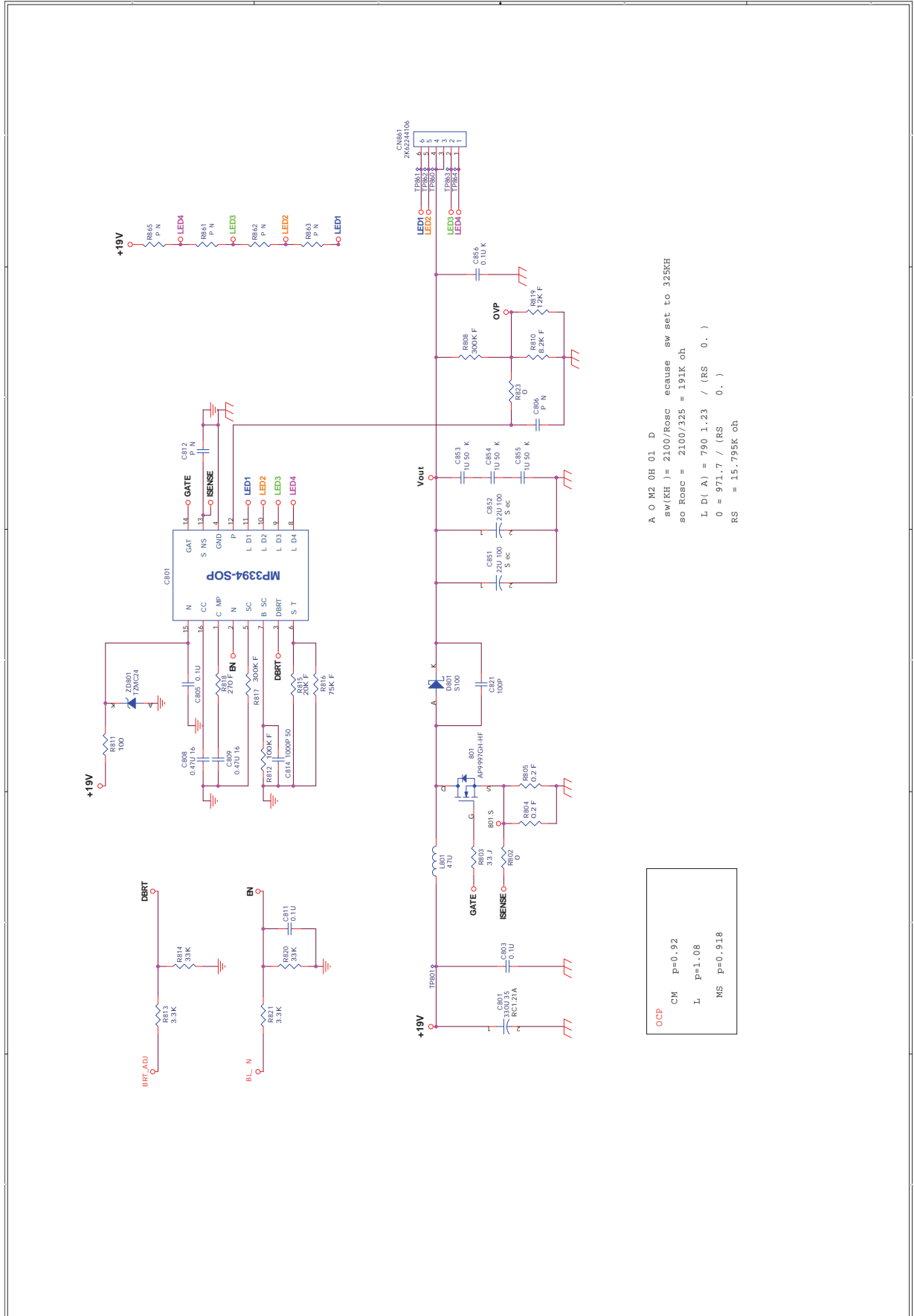
Scalar Diagram & C.B.A



Po e r D r C.B.A



Power C.B.A



A 0 M2 0H 01 D
 sw(KH) = 2100/Rosc ecause sw set to 325KH
 so Rosc = 2100/325 = 191K oh
 L D(A) = 790 1.23 / (RS 0.)
 0 = 971.7 / (RS 0.)
 RS = 15.795K oh

OCP
 CM p=0.92
 L p=1.08
 MS p=0.918

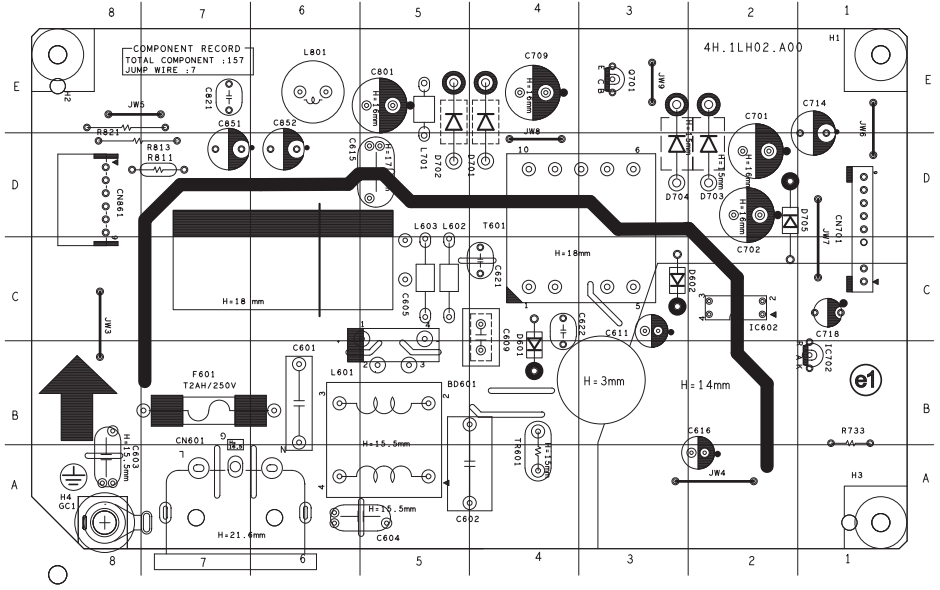
1	LED1	TP861
2	LED2	TP862
3	LED3	TP863
4	LED4	TP864

CN804
 2K6224106

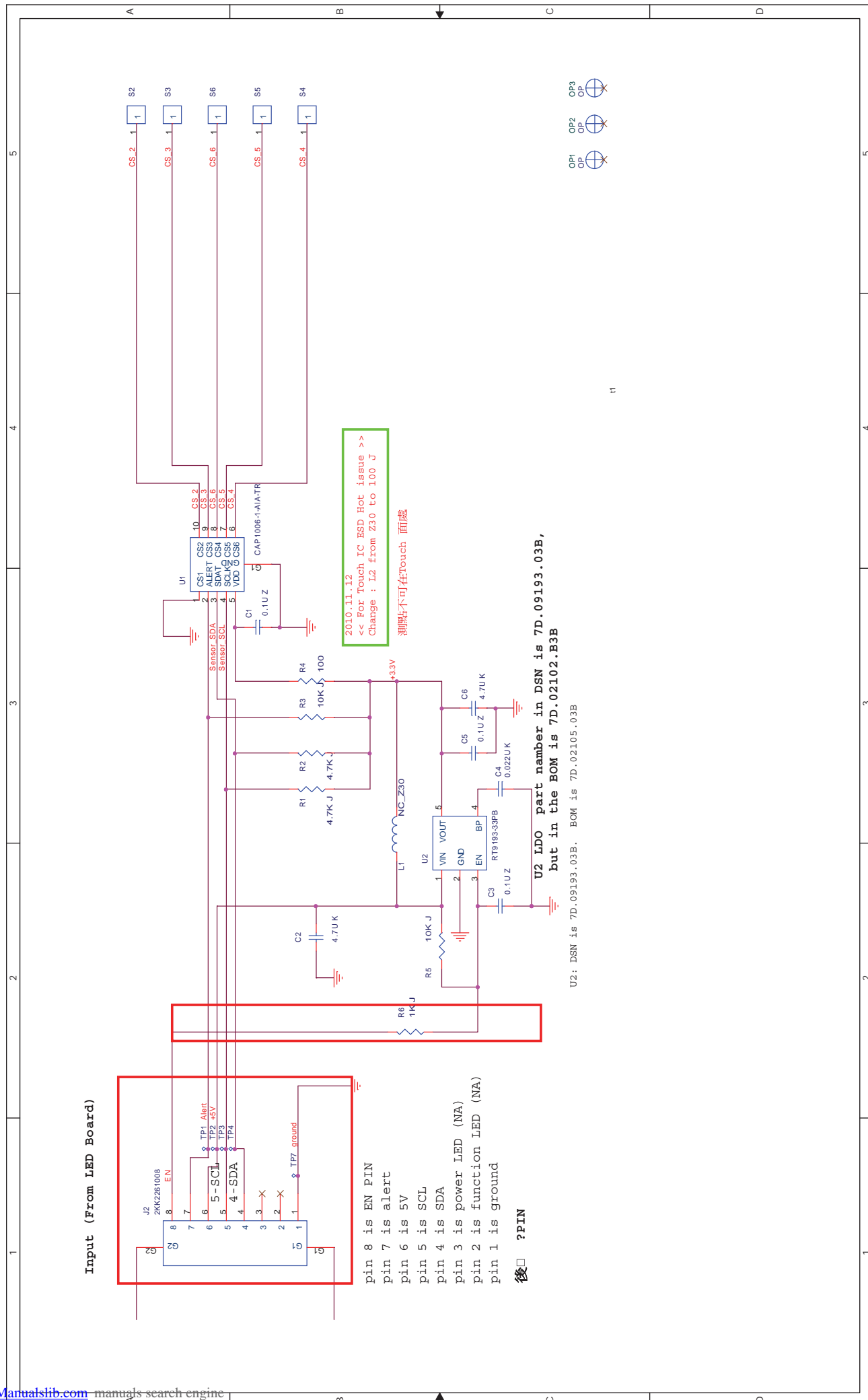
Information
 Y1: 78334
 Y3: 156503
 Y4: 313334
 X1: 577011
 X2: 49455
 X3: 41261
 X4: 2472
 X5: 1648
 X6: 8243

Top Side
 A2: C616
 A3: JW4
 A4: TR601
 A4: C602
 A5: C604
 A7: CN601
 A8: GC1
 B1: R753
 B1: IC702
 B4: C622
 B4: D601
 B4: L601
 B4: C601
 B4: F601
 B8: JW3
 B8: C603
 B8: CN701
 C1: JW7
 C2: IC602
 C3: C611
 C3: D602
 C4: C602
 C4: L603
 C4: L602
 C5: L602
 C5: C605
 C5: BD601
 D1: JW6
 D2: C714
 D2: D703
 D2: D705
 D2: C702
 D2: C701
 D3: T601
 D4: D704
 D4: JW8
 D5: C615
 D6: C652
 D7: C651
 D8: R808
 D8: R813
 D8: CN8361
 D8: Q701
 E3: JW9
 E4: D701
 E4: C709
 E4: L701
 E4: D702
 E5: C801
 E6: L801
 E6: C802
 E6: R821
 E6: JW5

FRONT



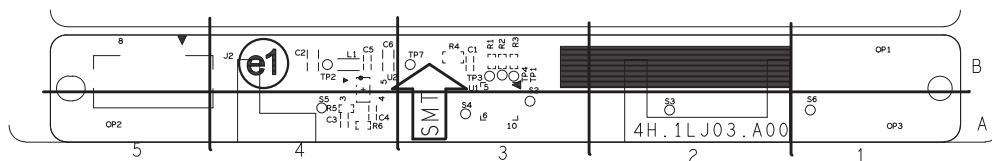
Control Diagram & C.B.A.



Control Diagram & C.B.A.

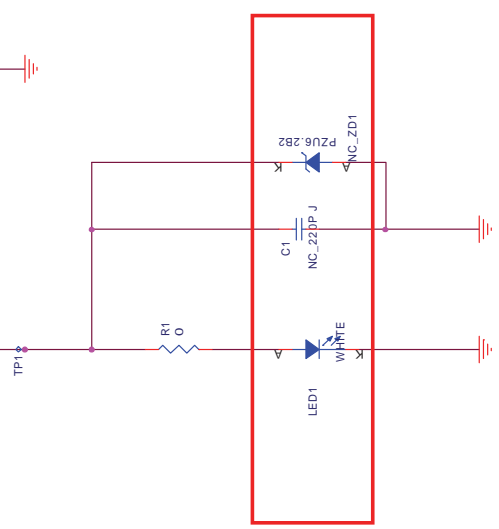
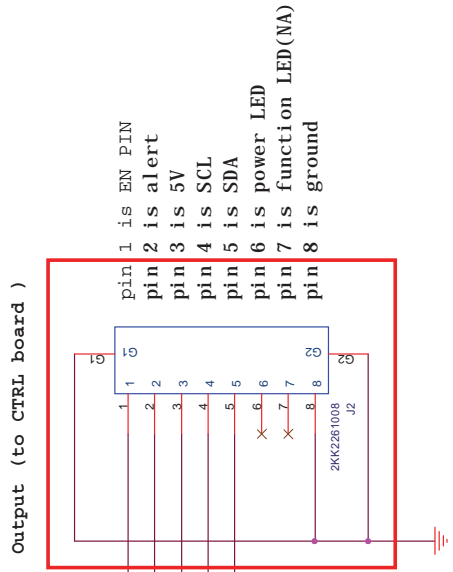
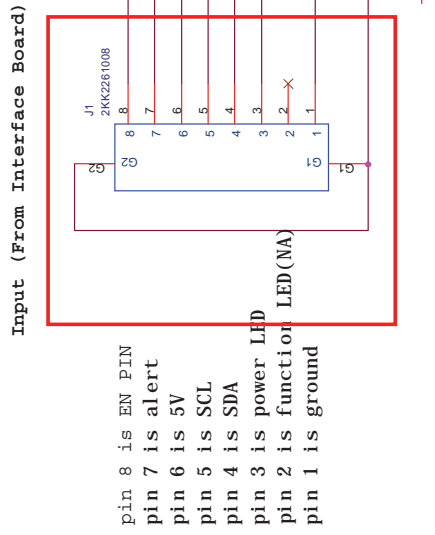
Information	Information
Y1: 240	Y1: 240
X1: 3540	X1: 3540
X2: 2575	X2: 2575
X3: 1660	X3: 1660
X4: 762.5	X4: 762.5
Bottom Side	Top Side
A1: S6	B3: R4
A2: S3	B3: R3
A3: U1	B3: R2
A3: S4	B3: R1
A3: S2	B4: U1
A4: S5	B4: T1
A4: R6	B4: T6
A4: R5	B4: C6
A4: C4	B4: C5
A4: C3	B5: J2
B3: R4	
B3: R3	
B3: R2	
B3: R1	
B4: U1	
B4: T1	
B4: T6	
B4: C6	
B4: C5	
B5: J2	

正
FRONT



L D D r C.B.A

1 2 3 4 5



OP1 OP2 OP3

Change FIDUCIAL_CEM to FIDUCIAL for two layer PCB willi_2011.01.25

1 2 3 4 5

L D D r C.B.A

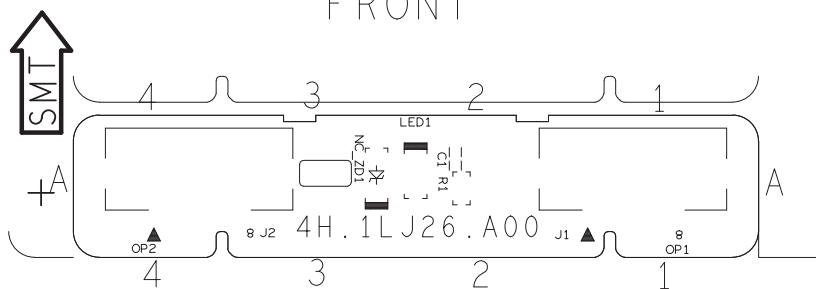
正
FRONT

Information

Y1 : 425
X1 : 1500
X2 : 1000
X3 : 500

Top Side

A1 : J1
A2 : LED1
A2 : R1
A2 : C1
A3 : NC_ZD1
A4 : J2-



M4 - 241S4L / 241S4LA / 241S4LC / 241B4LP
241S4LY / 241B4LPY
 GENERAL PRODUCT
 SPECIFICATION

Issued by: Argent Chan/Paul Tsai

Revision History

Ver.	Date (yy.mm.dd)	Author	Brief Description
0.1	2011.01.13	UC Hsu	Initial version

Blue: Changes than last version

Red: TBD

M4 Series Quick Specification table:

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I FOREWORD

This specification describes a multi-scan color TFT LCD monitor .

All optical characteristics are determined according to panel specification after warming up longer than 30 minutes.

2 PRODUCT PROFILE

2.1 EDID Header

241S4L / 241S4LA / 241S4LC

1	User visible strings on .inf file	Philips 241SL (24inch Wide LCD MONITOR 241S4L)
2	Manufacturer ID (EDID data)	PHL
3	Product ID, "xxxx" 4 codes	MSB(byte 12): 08
		LSB (byte 11): B0
4	maximum resolution	1920x1080
5	Horizontal Frequency Range	30-83 KHz
6	Vertical Frequency Range	56-76Hz
7	Monitor Name (13 characters max.)	Philips 241SL

241S4LY

1	User visible strings on .inf file	Philips 241SLY (24inch Wide LCD MONITOR 241S4LY)
2	Manufacturer ID (EDID data)	PHL
3	Product ID, "xxxx" 4 codes	MSB(byte 12): 08
		LSB (byte 11): B1
4	maximum resolution	1920x1080
5	Horizontal Frequency Range	30-83 KHz
6	Vertical Frequency Range	56-76Hz
7	Monitor Name (13 characters max.)	241SLY

241B4LP

1	User visible strings on .inf file	Philips 241BLP (24inch Wide LCD MONITOR 241B4LP)
2	Manufacturer ID (EDID data)	PHL
3	Product ID, "xxxx" 4 codes	MSB(byte 12): 08
		LSB (byte 11): B2
4	maximum resolution	1920x1080
5	Horizontal Frequency Range	30-83 KHz
6	Vertical Frequency Range	56-76Hz
7	Monitor Name (13 characters max.)	241BLP

241B4LPY

1	User visible strings on .inf file	Philips 241BLPY (24inch Wide LCD MONITOR 241B4LPY)
2	Manufacturer ID (EDID data)	PHL
3	Product ID, "xxxx" 4 codes	MSB(byte 12): 08

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		LSB (byte 11): B3
4	maximum resolution	1920x1080
5	Horizontal Frequency Range	30-83 KHz
6	Vertical Frequency Range	56-76Hz
7	Monitor Name (13 characters max.)	241BLPY

Panel

Suppliers to offer panel specifications.

Panel incoming specification: Follow Philips' specification.

AUO M240HW01 VD

Type NR.	: AUO M240HW01 VD
Resolution	: 1920 x 1080 (FHD)
Outline dimensions	: 556.0(H) x 323.2(V) x 11.5(D) mm
Pixel Pitch (mm)	: 0.27675mm x 0.27675mm
Color pixel arrangement	: 1920 horiz. by 1080 vert. Pixels. RGB stripe arrangement
Display surface treatment	: Hard coating (3H), anti-glare treatment of the front polarizer.
Color depth	: 16.7 M colors 8-bit with A-FRC, 16.7M colors
Backlight	: WLED
Active area (W x H)	: Vertical 531.36mm x Horizontal 298.89 mm
View angle (CR>10)	: >=170/160 for H/V
Contrast ratio	: 1000:1(Typ.)
White luminance	: 250 nit(Typ.)
Color gamut	: 72% (Typ.)

2.2 Scanning frequencies

Hor. : 30 - 83 KHz

Ver. : 50 - 76 Hz

Video dot rate:

241S4L / 241S4LA / 241S4LC / 241B4LP :

Analog : Support RGB WUXGA 1920x1200@60, 2048x1152@60hz input for NT68668UMFG
205Mhz HPLL With 64 steps phase Adjust for RGB Channel in NT68777UMFG

Digital : Integrated Single Link TMDS Receiver up To 225MHz deep color mode

241S4LY / 241B4LPY :

Analog: RTD 2486D Integrated 8-bit triple-channel 210MHz ADC/PLL (over 2048x1152@60hz input), High resolution true 64 phase ADC PLL, YPbPr support up to HDTV 1080p resolution.

Digital: DVI Single link on-chip TMDS receiver up to 165MHz; DP Support 4 lanes digital input, each lanes speed up to 1.62Gbps Hz and 2.7Gbps Hz

Power input: 90-264 V AC, 50/60 ± 3 Hz

Power consumption:

On mode: < 32W (max.) for 241S4L, 241S4LC, 241S4LY

< 45W (max.) for 241S4LA, 241B4LP, 241B4LPY

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EPA 5.0 spec. < 33.97 watt
 EPA 5.0 measure data < 25 watt

2.3 Ambient temperature:

0 °C - 40 °C

2.4 Power Range

FULL RANGE POWER SUPPLY 90 – 264 VAC

3 Electrical characteristics

Scaler should be capable of below items.

- 1) Scaler must support color engine for Image enhancement feature (SmartImage)
- 2) Scaler must have enough memory to support PerfectTune feature and Philips OSD
- 3) Scaler must support SmartContrast, 20M:1 SCR preferred
- 4) VGA signal Auto adjustment:

Monitor automatically adjusts and optimizes resolution and frequency based on input signal defined by "Source" function. "NO VIDEO INPUT" message to be displayed on screen while no signal is detected. Monitor will automatically optimize resolution and frequency whenever connected to different signal source. When press the "Auto", the screen also show a status bar. During adjustment period, a status bar will show on screen from 0% to 100% to indicate the progress of adjustment.

Auto adjustment :

New timing & preset modes (non- factory preset mode) should do auto adjustment at first time detection and save the related data into memory.

Resolution ≤ 800x600 , do not do auto auto adjustment.

Interface signals

- 1). D-Sub Analog

Input signal : Video, H/V sync
 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)

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2). DVI-D Digital (optional for 241S4L / 241S4LA / 241S4LC / 241B4LP)
 Input signal: Single TMDS link (Three channels: RX0-/+, RX1-/+, RX2-/+)

3). Display port (241S4LY / 241B4LPY)

3.1 Interface

3.1.1 D-Sub Cable

Length : Please refer to M4 cable bundle summary file
 Fix with monitor when packing, with transplant pin protective cover.

Connector type : D-Sub male with DDC2B pin assignments.
 Blue connector thumb-operated jack screws

Pin assignments:

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

3.1.2 DVI Cable

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

Length : Please refer to cable bundle summary file

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

White connector thumb-operated jackscrews with transplant pin protective cover.

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

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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)
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-

3.1.3 Display port cable

Length : Please refer to cable bundle summary file
 Connector type : DP1.4 type A cable-connector
 Pin Assignment :

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Pin Number	Signal Type	Pin Name	Mating Row Contact Location	Vertically Opposed Connector's Front View
1	In	ML Lane 3(n)	Top	Yellow
2	GND	GND	Bottom	Dark Blue
3	In	ML Lane 3 (p)	Top	Yellow
4	In	ML Lane 2 (n)	Bottom	Yellow
5	GND	GND	Top	Dark Blue
6	In	ML Lane 2 (p)	Bottom	Yellow
7	In	ML Lane 1 (n)	Top	Yellow
8	GND	GND	Bottom	Dark Blue
9	In	ML Lane 1 (p)	Top	Yellow
10	In	ML Lane 0 (n)	Bottom	Yellow
11	GND	GND	Top	Dark Blue
12	In	ML Lane 0 (p)	Bottom	Yellow
13	CONFIG (see note 1)	CONFIG1	Top	Dark Blue
14	CONFIG (see note 1)	CONFIG2	Bottom	Dark Blue
15	I/O	AUX CH (p)	Top	Yellow
16	GND	GND	Bottom	Dark Blue
17	I/O	AUX CH (n)	Top	Yellow
18	Out	Hot Plug Detect	Bottom	Light Blue
19	RTN	Return	Top	Dark Blue
20	Power Out (see note 2)	DP_PWR	Bottom	Red

Notes:

- 1) Pins 13 and 14 must be connected to ground through a pull-down device. External devices and cable assemblies must be designed to not rely on a low impedance ground path from these pins.
- 2) Pin 20, PWR Out, must provide +3.3 volts ± 10% with a maximum current of 500 mA and a minimum power capability of 1.5 watts.

Figure 4-14 shows the wiring of an external cable connector assembly. The standard external cable connector assembly must not have a wire on pin 20, DP_PWR.

3.2 Timing requirement

Factory Preset mode definition:

1. Perfect FOS while presenting those timings.
2. Will specify those timing in User's Manual

Preset mode definition:

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

User mode

1. Can save those timing that not in Preset mode and can be showed (not over scaler or Panel spec.)
2. It needs to reserve the 10 timings space in memory size.

3.2.1 Mode storing capacity

Factory preset modes : Refer to Timing table
 preset modes : Refer to Timing table
 User modes : Refer to Timing table
 Timing pixel clock over H/W limitation do not support.

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

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3.3 OSD/Keypad functions

ITEM			
1	OSD/keypad definition	<p>M4 OSD Button definition _ 2011060:</p>	Reset - No : Exit Yes : Auto adjustment for displaying timing mode and recall factory preset
2	OSD Translation	<p>OSD_String_M4_20110520</p>	8 LANGUAGES, w/o Turkish.
3	Power On logo	<p>Philips_Logo_1920x1080.bmp</p>	Power On Logo: Power On Show up Philips logo 3 seconds → Change to input signal. This picture is reference only. The official drawing will send out by PM.

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 : please refer to M4 cable bundle summary file
 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.

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Mode	HSYNC	VSYNC	Video	Pwr-cons.	Indication	Rec. time
Power-On	On	On	Active	241S4L, 241S4LC, 241S4LY <32W(max.) 241S4LA, 241B4LP, 241B4LPY <45W(max.) EPA5.0 < 33.97W	White LED	--
Standby	Off	Off	Blanked	< 0.2W	Blinking white LED Period 1sec on 3sec off	< 3 s
DC Power Off			N/A	< 0.2W	LED Off	

3.8 VGA Display identification

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

3.9 DVI 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 Display port identification

3.11 USB support (option , refer to Quick specification table)

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.

3.12 DDC /CI Support and Smart Manage/Control

In accordance with VESA DDC/CI and MCCS ver.2.0, the monitor should be workable with Philips SmartManage, SmartControl V6.1, and Protrait Display Tune at least.

3.13 Pivot function (option , refer to Quick specification table)

It needs to support AUTO PIVOT function with SmartControl PC application tool.

3.14 Hot-key definition



M4 OSD Button
definition_20110605

3.15 Smart Image



SmartImage Profile
Definitions(M3)

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3.16 PerfectTune II (formerly FGA, FACTORY GAMMA Alignment)

- A. PerfectTune must be done after warming 30 minutes at least.
- B. PerfectTune must be performed after Auto Color.
- C. PerfectTune must be conducted through DVI or scaler embedded patterns.
- D. Delta E < 2.5

3.17 PowerSensor (option, refer to Quick specification table)



Power Sensor
Functional Requireme

3.18 Smart Power (option)

To reduce the power by adjusting backlight, contrast and color.

Algorithm is provided by Supplier.

3.19 SmartResponse (not required for M4 models)

To enhance the Response time when Gary to Gary.

When SmartResponse= on, Response time = 2 mSec (typ.)

OD will only work after 3 frames pass to pretend user see side effect.

When smart Image set to off and color temp set to User define, OD function will work immediately.

SPEAKER

- 1) Input signal: 1000 mVrms

Loudspeaker (Impedance: 5.25 [F1] Ohm +/-15%): 1.5W+ 1.5 W (typical) , stereo for

RMS

- 2) earphone

Stereo, > 50mVrms for headphone of 32Ω. The loudspeakers are muted when earphone is plugged in.

4 Visual characteristics

4.1 Test conditions

Unless otherwise specified, this specification is defined in following conditions.

- (1) Input signal : As defined in 3.3, 1920 x 1080 non-interlaced mode (1920 x 1080 @60 Hz), signal sources must have 75 ohm output impedance.
- (2) Luminance setting : controls to be set to 300 nits with full screen 100 % duty cycle white signal
- (3) Warm up: more than 30 minutes after power on with signal supplied.

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- (4) Ambient light: 400 -- 600 lux.
- (5) Ambient temperature: 20 ± 5 °C

4.2 Brightness

Follow Panel specification.

4.3 Color temperature adjustment

There are three factory preset white color 9300K, 6500K, sRGB.

Apply full white 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 = 0.270 ± 0.02 y = 0.281 ± 0.02	PerfectTune II
9300K	x = 0.283 ± 0.02 y = 0.297 ± 0.02	PerfectTune II
8200K	x = 0.291 ± 0.02 y = 0.306 ± 0.02	PerfectTune II
7500K	x = 0.298 ± 0.02 y = 0.314 ± 0.02	PerfectTune II
6500K/sRGB	x = 0.313 ± 0.02 y = 0.329 ± 0.02	PerfectTune II
sRGB	x = 0.313 ± 0.02 y = 0.329 ± 0.02	PerfectTune II
5000K	x = 0.345 ± 0.02 y = 0.357 ± 0.02	PerfectTune II

Production alignment spec.

CIE coordinates	(x,y)	
11500K	x = 0.270 ± 0.006 y = 0.281 ± 0.006	PerfectTune II
9300K	x = 0.283 ± 0.006 y = 0.297 ± 0.006	PerfectTune II
8200K	x = 0.291 ± 0.006 y = 0.306 ± 0.006	PerfectTune II
7500K	x = 0.298 ± 0.006 y = 0.314 ± 0.006	PerfectTune II
6500K/sRGB	x = 0.313 ± 0.006 y = 0.329 ± 0.006	PerfectTune II
sRGB	x = 0.313 ± 0.006 y = 0.329 ± 0.006	PerfectTune II
5000K	x = 0.345 ± 0.006 y = 0.357 ± 0.006	PerfectTune II

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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

< 1.2mm (Typ.)

5.5 Location of Control icons -

Per Philips Graphic sheet

5.6 Color for resin/paint -

Per Philips make-up sheet

5.7 Fire enclosure request

Shielding Cover should fulfill international standard

5.8 Resins

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

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5.9 If paint is used

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

5.10 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.
- China RoHS mark requested.

5.11 Plastics flammability

- All Plastics to be Flame Retardant UL 94-HB or Better.
- Base / Pedestal to be Flame Retardant UL 94-HB.
- All major plastic parts (bezel, back cover) need to be molded from same resin.
- Plastic resin type selection should be referred to "plastic-Philips Pool monitor".

5.12 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".
- Glossy surface > = 80 gloss units

5.13 Tilt and swivel base

- Tilt angle : -5 ° +2/- 0 ° (forward)
+20 ° + 0/- 3 ° (backward)
- Swivel angle : nil
- High Adjustment : nil
- Portrait Display : nil

5.14 Kensington Lock

- Must meet Kensington_slot.spec "TYE-M0004".
- MMD request metal plate in Kensington hole.

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5.15 Product dimension / Weight (Refer to Philips approved SHT 191/SHT560)

241S4L/241S4LA

- Unit dimension : 437*565*207
- Packed unit dimension: 476*605*139 mm (WW)
- Net weight : 5.3kg
- Gross weight : 6.8kg

241S4LY/241S4LC/241B4LP/241B4LPY

- Unit dimension : 403*565*227
- Packed unit dimension: 405*624*172 mm (WW)
- Net weight : 6.3 kg
- Gross weight : 8.3 kg

5.16 Transportation

Transportation standards refer to UAN-D1534/00/01/02.

5.16.1 Transportation packages

- Net weight 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 UAN-D1534/00/01/02.
- The cushion material shall be constructed using EPS material.
- The doggy hole is requested.

5.16.2 Transportation Test

Overall tests refer to UAN-D1534/00/01/02.

Vibration, drop test should be performed at ambient temperature (20°C to 23°C) and relative humidity (40% to 65%).

A. Transportation test specification for all regions

- 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)

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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 (Refer to Philips approved SHT 560)

Transportation standards refer to TYE-M0002 ,UAN-D1534 and UAW-0309.

- Air shipment -
 - 241S4L/241S4LA A: L1220*W983 mm
 - 241S4LY/241S4LC/241B4LP/241B4LPY A: L1150*W978 mm
- Sea container 20'(pallet/slip sheet)

Container Table

a) 241S4LY/241S4LC/241B4LP/241B4LPY Shipping Container (WW)

Stowing Type		Quantity of products (sets)	Quantity of Products (sets)	Quantity of pallet (sets)
		(Every container)	(Every Pallet)	(Every Container)
With Slip sheet	20'	636	A: 53	A: 12
	40'	1272	A: 53	A: 24
	40' HQ	1440	A: 60	A: 24
With pallet	20'	600	A: 50	A: 12
	40'	1200	A: 50	A: 24
	40' HQ	1344	A: 56	A: 24

b) 241S4LY/241S4LC/241B4LP/241B4LPY Shipping Container (China)

Stowing Type		Quantity of products (sets)	Quantity of Products (sets)	Quantity of pallet (sets)
		(Every container)	(Every Pallet)	(Every Container)
With pallet	20'	516	A: 60	A: 8
			B: 18	B: 2
	40'	1080	A: 60	A: 18
	40' HQ	1224	A: 68	A: 18

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c) 241S4L/241S4LA Shipping Container (**WW**)

Stowing Type		Quantity of products (sets)	Quantity of Products (sets)	Quantity of pallet (sets)
		(Every container)	(Every Pallet)	(Every Container)
With Slip sheet	20'	640	A: 64	A: 10
	40'	1408	A: 64	A: 22
	40' HQ	1628	A: 74	A: 22
With pallet	20'	600	A:60	A:10
	40'	1320	A:60	A:22
	40' HQ	1540	A:70	A:22

d) 241S4L/241S4LA Shipping Container (**China**)

Stowing Type		Quantity of products (sets)	Quantity of Products (sets)	Quantity of pallet (sets)
		(Every container)	(Every Pallet)	(Every Container)
With pallet	20'	600	A:60	A:10
			A:60	A:20
	40'	1221	B:21	B:1
			A:70	A:20
	40' HQ	1421	B:21	B:1

- Sea container 40'(pallet/slip sheet)
Refer to Container Table
- Sea container 40' High Cube (pallet/slip sheet)
Refer to Container Table
- Land 45' Truck and Trailer (800X1200mm pallet)
nill
- Land 45' Truck and Trailer (1000X1200mm pallet) for UK
241S4L/241S4LA : 1560
241S4LY/241S4LC/241B4LP/241B4LPY : 1300
- Truck shipment-

Stacking request in different transportation for all regions except EU/UK(SHT560)

A. Air shipment

241S4L/241S4LA Air Transport

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Transport Type	Pallet A		Quantity of Products(sets)
Shipping Pallet	Length	605*2+10=1220	7*2*2(layers)=28
Dimension(mm)	Width	139*7+10=983	
	Height	476*2+120=1072	

241S4LY/241S4LC/241B4LP/241B4LPY Air Transport

Transport Type	Pallet A		Quantity of Products(sets)
Shipping Pallet	Length	624*1+172*3+10=1150	10*3(layers)=30
Dimension(mm)	Width	172*2+624*1+10=978	
	Height	405*3+120=1335	

B. Truck shipment-

Stacking request in different transportation for EU/UK(SHT560)

A. Land 45' Truck and Trailer (800X1200mm pallet) for EU

Nil

B. Land 45' Truck and Trailer (1000X1200mm pallet) for UK

241S4L/241S4LA : 1560

241S4LY/241S4LC/241B4LP/241B4LPY : 1300

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 40 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 %

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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

Rev : 0.1

Type : M4 241S4 / 241B4

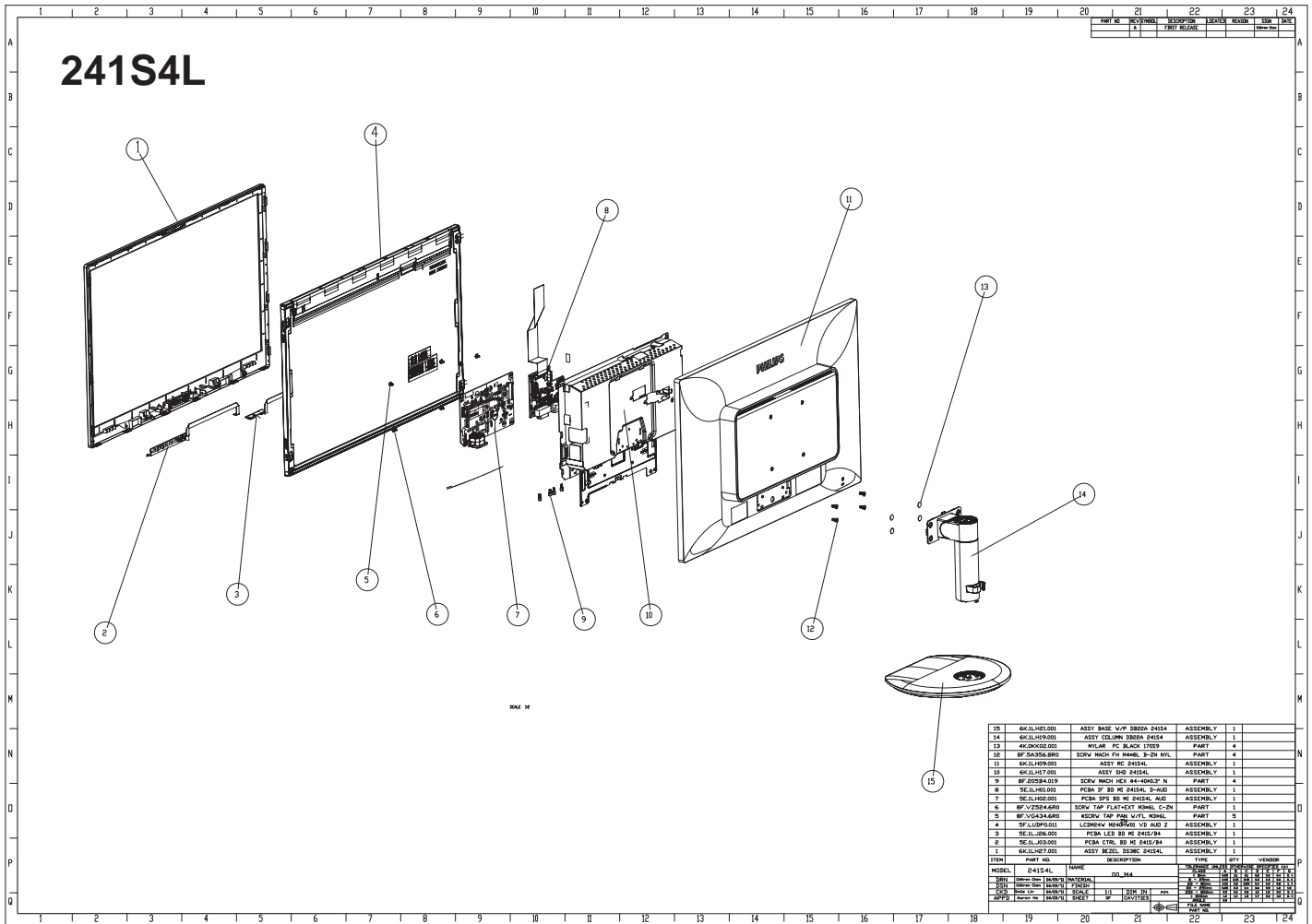
24" Wide 16:9 LCD Monitor

Date : 2011/07/12

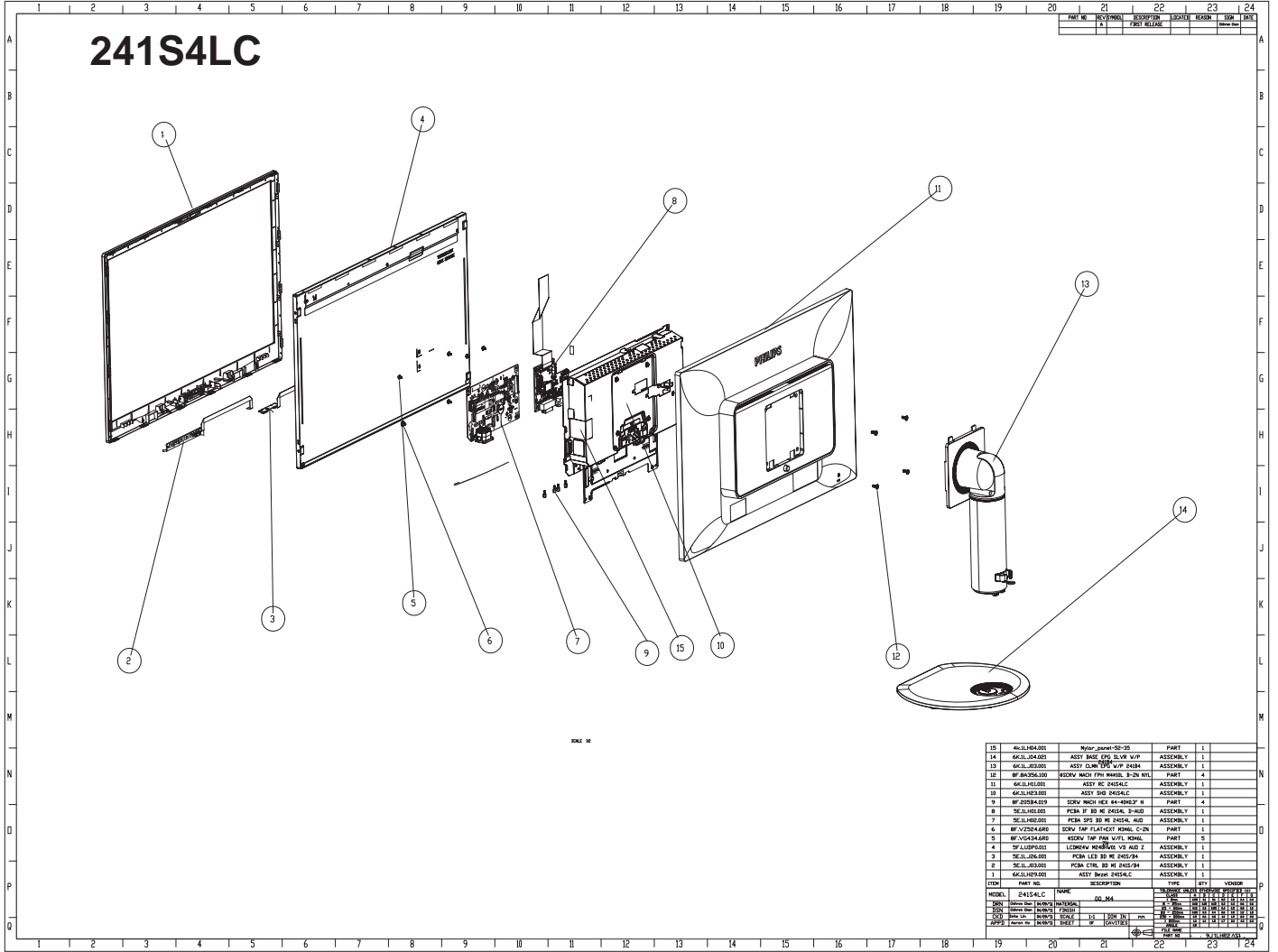
Brand : PHILIPS

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ITEM	PART NO.	DESCRIPTION	QTY	VENDOR
15	6KLL04000	W/SP-241S4LC-00	1	
14	6KLL04000	ASST BMD-SP-241S4LC-00	1	
13	6KLL03000	ASST CLM-SP-241S4LC-00	1	
12	6KLL02000	ASST BMD-SP-241S4LC-00	1	
11	6KLL01000	ASST BMD-SP-241S4LC-00	1	
10	6KLL00000	ASST BMD-SP-241S4LC-00	1	
9	6KLL00000	ASST BMD-SP-241S4LC-00	1	
8	6KLL00000	ASST BMD-SP-241S4LC-00	1	
7	6KLL00000	ASST BMD-SP-241S4LC-00	1	
6	6KLL00000	ASST BMD-SP-241S4LC-00	1	
5	6KLL00000	ASST BMD-SP-241S4LC-00	1	
4	6KLL00000	ASST BMD-SP-241S4LC-00	1	
3	6KLL00000	ASST BMD-SP-241S4LC-00	1	
2	6KLL00000	ASST BMD-SP-241S4LC-00	1	
1	6KLL00000	ASST BMD-SP-241S4LC-00	1	

Service Part List

Model:241S4L

☉ Spare parts change rule:

Gray color: old parts can be ALT to new parts

Gray color with delete line: old parts can not be used to this model

☉ Spare parts upgrade rule: last number +1 --> Latest version parts number

Example old : 6K.0QC01.011 /
new : 6K.0QC01.012

Panel+PCBA Styling		Model												
loc to	De cr to	PCM co e	Ph I	12NC	AS1	AS5	ASM	AB1	AB5	ABM	AB9	AB7	AB6	AB4
9J	1LH72	25PCS												
8	MAN F B ARD ASS	5												
7	P R B ARD ASS	5												
3	L D BD ASS	5												
4	LCDM24 M240H 01 D AU Z AU	5F												
31	FFC CABL 30P	5K												

Mechanical Styling		Model												
loc to	De cr to	PCM co e	Ph I	12NC	AS1	AS5	ASM	AB1	AB5	ABM	AB9	AB7	AB6	AB4
15	BAS ASS	6K												
14	STAND ASS	6K												
1	FR NT B Z L ASS Bl c with CTRL BD	6K												
	FR NT B Z L ASS Sl er with CTRL BD	6K												
11	R AR C R ASS	6K												

Packing Styling		Model												
loc to	De cr to	PCM co e	Ph I	12NC	AS1	AS5	ASM	AB1	AB5	ABM	AB9	AB7	AB6	AB4
100	CUSH N FR NT	4G												
	CUSH N FR NT CN	4G												
110	CUSH N BACK	4G												
	CUSH N BACK CN	4G												
120	CART N	4D												
	CART N CN	4D												

Accessory Styling		Model												
loc to	De cr to	PCM co e	Ph I	12NC	AS1	AS5	ASM	AB1	AB5	ABM	AB9	AB7	AB6	AB4
200	SG M4241S 1 241S4	4J												
210	CD M4241SB 1 241S4 241B4	5B												
	C RD H05 -F 10A250 UR 1.8M	2G												
	Alt C RD H05 F3G 16A250 U HL N	2G												
	C RD H05 -F 13A 1.8M UK	2G												
	Alt C RD H05 -F 13A 1.8M UK	2G												
	C RD S T125 SH US 1.8M -S	2G												
	C RD 3ASL 75DU- N 250 1.8M AUS	2G												
	ALT C RD 3ASL 75DU- N 250 1.8M AUS	2G												
	C RD CTF 7A125 1.8M CNS-T	2G												
	C RD R 250 1.8M BLK CH NA	2G												
	ALT C RD R 250 1.8M BLK CH NA	2G												
33	CABL S GNAL C H D 5.5 1.8M	5K												

Critical components		Model												
loc to	De cr to	PCM co e	Ph I	12NC	AS1	AS5	ASM	AB1	AB5	ABM	AB9	AB7	AB6	AB4
U8	C CTRL NT68668UFG C FP 128P	7A												
U2 U6	C PR M M24C02RMN6TP S N8P	7B												Sc ler C
U9	C PR M M24C16-RMN6TP S -N8	7B												DDC or D- u or D
U10	C FLASH PM25L 020-100SC S N8	7B												DDC or D- u or D
U5 U7 U11	D D ARRA AZC199-04S T23	8C												Put Fr re
U13	C LR RM2101B0DA 1.8 S T-223	7D												For SD
L801	CH K 47UH DR12 11	1J												For 3.3 to 1.8 LDC
C601	C P R S T P267KG-TL S P.12	7D												Dc to DC co l
C801	C L D CTRL MP3394 S-LF-Z S N	7A												Po er C
														L D Dr er C

Service Part List

Model:241S4LC

☉ Spare parts change rule:

Gray color: old parts can be ALT to new parts

Gray color with delete line: old parts can not be used to this model

☉ Spare parts upgrade rule: last number +1 --> Latest version parts number

Example old : 6K.0QC01.011 /
new : 6K.0QC01.012

Panel+PCBA Styling		Model											
loc to	De cr to	PCM co e	Ph I	12NC	AU	AU	AU	AU	AU	AU	AU	AU	AU
9	J1LHP2	25PCS											
5	1LH01.005												
7	1LH02.001												
3	1LJ26.001												
4	LCDM24 M240H 01 D AU Z AU	5F.LUDPO.011											
31	FFC CABL 30P	5K.1LH05.0C1											






Mechanical Styling		Model											
loc to	De cr to	PCM co e	Ph I	12NC	AU	AU	AU	AU	AU	AU	AU	AU	AU
14	BAS ASS	6 .1LJ02.021											
13	STAND ASS	6 .1LJ01.001											
1	FR NT B Z L ASS Bl c with CTRL BD	6K.1LH44.001											
11	FR NT B Z L ASS SI er with CTRL BD	6K.1LH52.001											
	R AR C R ASS	6K.1LH11.001											

Packing Styling		Model											
loc to	De cr to	PCM co e	Ph I	12NC	AU	AU	AU	AU	AU	AU	AU	AU	AU
100	CUSH N FR NT	4G.1LJ01.001											
110	CUSH N BACK	4G.1LJ02.001											
120	CART N	4D.1LJ01.031											

Accessory Styling		Model											
loc to	De cr to	PCM co e	Ph I	12NC	AU	AU	AU	AU	AU	AU	AU	AU	AU
200	SG.M4241SC 1 241S4L 241S4L	4J.1LH02.001											
210	CD.M4241SB 1 241S4 241B4	5B.1LH01.001											
30	C RD H05 -F 10A250 UR 1.8M	2G.00921.001											
	Alt C RD H05 F3G 16A250 U HL N	2G.00921.161											
	C RD H05 -F 13A 1.8M UK	2G.03149.021											
	Alt C RD H05 -F 13A 1.8M UK	2G.03149.02H											
	C RD S T125 SH US 1.8M -S	2G.01111.001											
	C RD 3ASL 75DU- N 250 1.8M AUS	2G.01343.001											
	ALT C RD 3ASL 75DU- N 250 1.8M AUS	2G.01343.051											
	C RD CTF 7A125 1.8M CNS-T	2G.04811.001											
	C RD R 250 1.8M BLK CH NA	2G.04245.001											
	ALT C RD R 250 1.8M BLK CH NA	2G.04245.00H											
33	CABL S GNAL C H D 5.5 1.8M	5K.L2H06.511											

Critical components		Model											
loc to	De cr to	PCM co e	Ph I	12NC	AU	AU	AU	AU	AU	AU	AU	AU	AU
U8	C CTRL NT68668UFGC FP 128P	7A.68668.A0											Sc ler C
U2 U6	C PR M M24C02RMN6TP S N8P	7B.02402.01											DDC or D- u or D
U9	C PR M M24C16-RMN6TP S -N8	7B.02416.R01											DDC or D- u or D
U10	C FLASH PM25L 020-100SC S N8	7B.25020.G01											Put Fr re
U5 U7 U11	D D ARRA AZC199-04S T23	8C.00199.0A1											For SD
U13	C LR RM2101B0DA 1.8 S T-223	7D.02101.B3C											For 3.3 to 1.8 LDC
L801	CH K 47UH DR12 11	1J.40243.031											Dc to DC coil
C601	C P R S T P267KG-TL S P 12	7D.00267.090											Po er C
C801	C L D CTRL MP3394 S-LF-Z S N	7A.03394.001											L D Dr er C

P el PCBA hoto

T M	PCM	De cr to	
1	5F.LUDP0.011	LCDM24 M240H 01 D AU Z AU	
2	5 .1LH01.001	MA N F B ARD ASS	
3	5 .1LH02.001	P R B ARD ASS	
4	5 .1LJ26.001	L D BD ASS	
5	5 .1LJ03.001 u er BZL 6K.1LH42.001	ASS CTRL BD u er BZL _FR NT B Z L ASS Bl c th CTRL L D BD	

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0. r

All C other e -co uctor re u ce t le to electro t t c h r e SD . C rele h l ur re rc re u ce l e r t c l l . he re r e ure th t ou re co ecte th the e o t e t l the o the u t r t r thre t ce. Kee co o e t tool l o t the e o t e t l

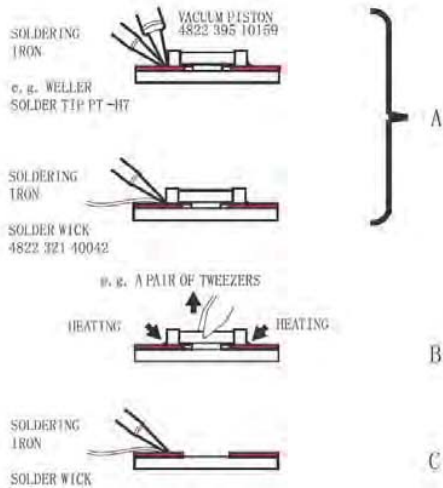
1. Ser c o SMD Sur ce Mou te De ce

1.1 Ge er l c u t o o h l tor e
 - to o the ter l o SMD re ult oor ol er .
 Do o h le SMD th re h .
 - A o u tor e l ce th t re e t e t o o t u ch l ce th ul hu r o h l o r e r e c t u l h t h h t e r t u r e o r h h e r e e o h u t . The c t c e o r r e t c e l u e o the SMD e e c t e th .
 - Rou h h l o c r u t o r c o t SMD c u e e t o the co o e t e l l the c r u t o r . C r u t o r c o t SMD h o u l e e r e e t o r l e e . D e r e t c r u t o r t e r l e c o t r c t t e r e t r t e h e t e o c o o l e the co o e t o r o l e r c o e c t o e e e u e t o the t r e . N e e r r u o r c r e c h c o o e t th c u e the l u e o the co o e t t o h e .
 S l r l o o t l e the c r u t o r c r o u r c e .

1.2 Re o l o SMD

- He t the ol er o r 2-3 e c o t e c h t e r l o the ch . B e o l t r e l h t h o r o t l o r c e l l c o o e t c e r e o e th the ol er r o .
 The c l o e r e o e th ol er u c e r e e F . 1A

Fig. 1 DISMOUNTING



h l e h o l the SMD th r o t e e r t e t o e t l u the ol er r o h e t l e t o e c h t e r l e e F . 1B .
 - R e o e t h e c e o l e r o the ol er l e o l t r e o r ol er u c e r e e F . 1C .

h l e h o l the SMD th r o t e e r t e t o e t l u the ol er r o h e t l e t o e c h t e r l e e F . 1B .
 - R e o e t h e c e o l e r o the ol er l e o l t r e o r ol er u c e r e e F . 1C .

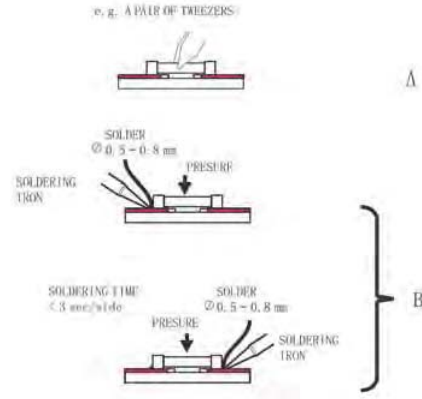
1.3 C u t o o r e o l

- he h l the ol er . r o . u e u t l e r e u r e e c r e u l .
 - he r e o the ch o t u e u e o r c e th the r o t e e r .
 - The ol er r o t o e u e r o . 30 h o u l r e e r l e e u e th th e r l c o t r o l o l e r t e e r t u r e 225 t o 250 C .

1.4 Att ch e t o SMD

- L o c t e the SMD o the ol er l e e o t e e r o l e r the co o e t o e e . ure th t the co o e t o t o e c o r r e c t l o the ol er l e e F . 2A .
 - N e t c o l e t e the ol er o the ter l o the co o e t e e F . 2B .

Fig. 2 MOUNTING



2. C u t o h e t t c h SMD

- he ol er the SMD ter l o o t t o u c h the r e c t l th the ol er r o . The ol er h o u l e o e u c l o l e c r e u t e t e t o o e t o the ter l o the SMD the e l e .
 - K e e the SMD o c o t c t th the r t e o r h e ol er .
 - The ol er r o t o e u e r o . 30 h o u l r e e r l e e u e th th e r l c o t r o l o l e r t e e r t u r e 225 t o 250 C .
 - S o l e r h o u l o t e o e o u t e the ol er l .
 - S o l e r l u o r o e u e u t h o u l o t e c c .
 - A t e r o l e r l e t the SMD c o o l o r u l l t r o o t e e r t u r e .
 - The u t t o o l e r u t e r o r t o l t o the e o the ol er l . the u t t o o r e t the SMD h t c r c o r the ol er l h t e t o r l o o e r o the r t e o r e e F . 3 .

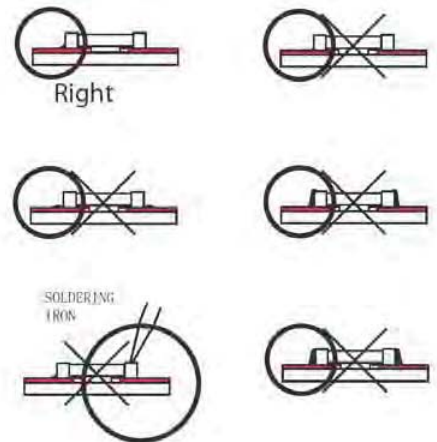


Fig.3 Examples

i i

3. Le -ree ro uct e t c to

ouc e t le -ree ro uct Phi -le -ree lo o o PCB.



4. Le -ree ro uct re r tructo

4.1 U e o l le -ree Sol er Allo 0622 149 00106 1.2 SAC305 or 0622 14900108 1.0 SAC305 .
Re r Forle ree ol er ter l le e t . l h et l .co e te or et l .Th reco e e Phi .

4.2 U e o l e u te ol er tool l c le or le -ree ol er -t .The ol er tool u t e le to re ch t le t ol er-te er ture o 400 to
t l e the u te te er ture t the ol er-t to e ch e ol er-t or ere t l c to .
S ll P e Act e to ere o e th ther l t ee er
Auto te te or C BGA re r M cro co e C er Be l to tc Co uter Pro r er He t co troller cuu te L er
o ter Sol er H -Tool A u t le te er ture he ht Te er ture h ll ehel co t t Fle let

4.3 A u t our ol er tool o th t te er ture rou 360-380 re che t l e t the ol er o t .
He t -t e o the ol er-o t hou l o t e cee 4 ec. A o te er ture o e 400 other e e r-out o t ll r e r t c ll lu -lu ll
e e t r o e .Corro o o Tool-S e c e o e he u SAC305 te er ture o le th 400.

4.4 M o le -ree ol er-t r t th le e ol er -t r t o le ut ot reco e e . ot to o cle c re ull the ol er-o t ro ol
t re-ol er th e t .

4.5 U e o l or l re- r t l te the Ser ce-M u l .St r - ter l co u le c l o e urch e te ter l co e .

4.6 S ec l or to or le -ree BGA- C th C ll e el ere o-c lle r - c to ro tect the C t o ture th le -ree
lo o o t .Th c o l e o e e hortl e o r t u e ol ere . ther e the o o the C et e ur the he t
t e the tructure o the C ll e e t r o e ue to h h te - re ure. the c o e e e o r u e the Ch to e he te u or
o e hour rou 90 or r T e tte to or SD- ro tecto

5. Re or o BGA B ll Gr Arr C

Ge er l
Althou h LF BGA e l el re er h h there t ll e re ure e t or co o e t r e or .B re or e e the ro ce o re o
the co o e t r o the P B re l c t th e co o e t . LF BGA re o e r o P B the ol er ll o the co o e t r e
e or e r t c ll o there o e LF BGA h to e c r e .

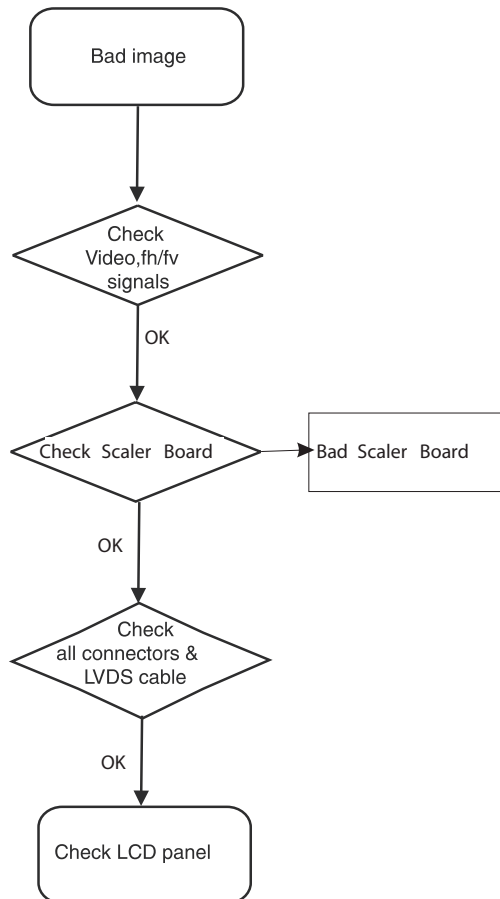
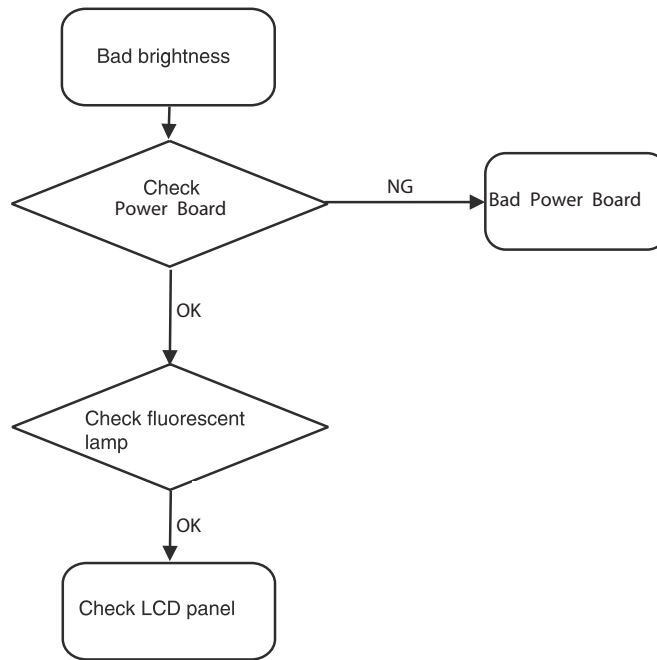
De ce Re o l
A the c e th co o e t th t t e e t l he re o LF BGA the o r t r c ol er l or urrou co o e t r e ot
e .To re o e LF BGA the o r u t e u or l he te to te er ture clo e to the re lo ol er te er ture. A u or te er ture
re u ce the ch ce o r the P B.
To o th e reco e th t the o r he te u t l t cert th t ll the o t re ol te .The c re ull ull the co o e t o the o r th
cuu o le. For the r o r te te er ture ro le ee the C t heet.

Are Pre r to
he the co o e th ee re o e the c t C re u t e cle e e o r e r e l c the LF BGA. Re o C o te le e r
ou t o ol er o the ou t l .Th e ce e ol er c e re o e th ether ol er uc er or ol er c .The re lu c e
re o e th ru h cle e t .A ter the o r r o r l cle e ecte l lu o the ol er l o the co ect o ll o
the LF BGA
Note Do ot l ol er te th h ho to re ult ro le ur re-ol er .

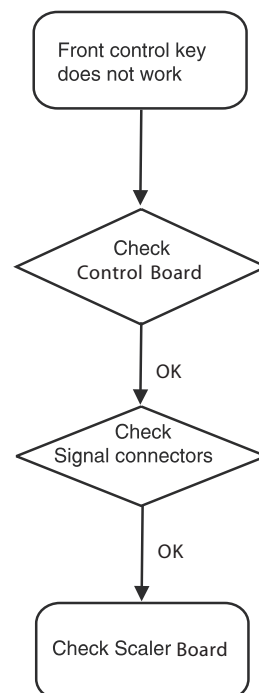
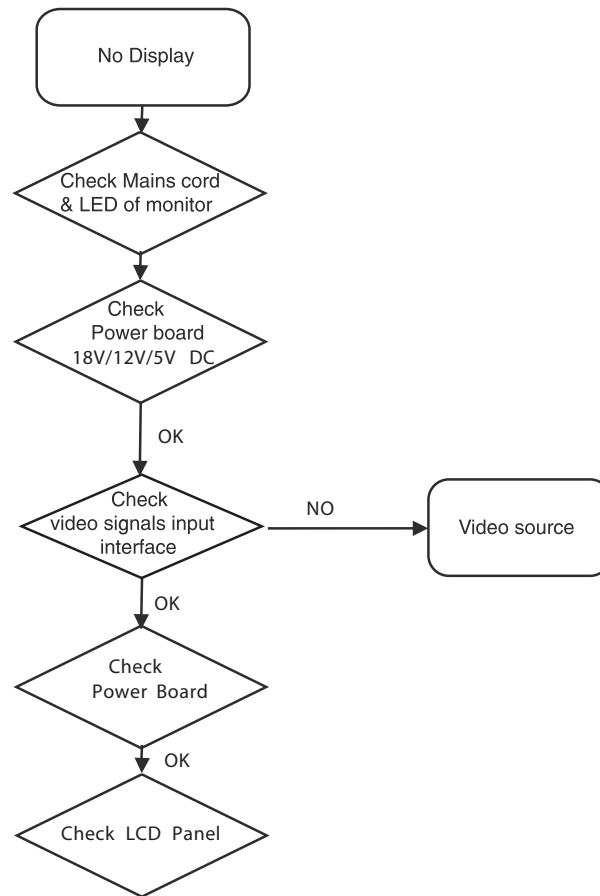
De ce Re l ce e t
The l t te the re r ro ce to ol er the e co o e t o the o r . e ll the LF BGA hou l e l e u er cro co e or
l . th ot o le t r to l the LF BGA th o r r er .To re lo the ol er l te er ture ro le ccor to
the C t heet. So ot to e e h our co o e t t e e ce r to re u ce o e te er ture t e .

More or to
For ore or to o ho to h le BGA e ce t th URL htt . t our er ce. ce. hl .co ee u cr to .A ter lo elect
M e the o to or ho or to .Here ou ll or to o ho to e l th BGA-C .

Re r Flo Ch rt



Repair Flow Chart



Set Test Requirements

All units that return error codes or error messages to the operator must be tested. Set test requirements of the H-Pot Group Controller.

HP-TT-STRUCT-N

1. A lot of requirements

- 1.1 All other test products of the H-Pot test are the structure.
- 1.2 The test error after the correction is related to the error code or code of the product.

2. Test method

- 2.1 Connect code to
 - 2.1.1 The test code is the parallel connection of the test code.
 - 2.1.2 Before carrying out the test, the connection code is checked through the test error.
 - 2.1.3 The test code is the N code.
- 2.2 Test Requirements
 - All products of the H-Pot Group Controller

Code	H-Pot Test or product here the 220 AC	H-Pot Test or product here the 110 AC	Group Controller Test Requirements
Test voltage	2820 DC 2000 AC	1700 DC 1200 AC	Test current 25A AC Test 3 eco
Test	3 eco	1 eco	Resistance 0.09 Roh Resistance of the
Test current	Set 100uA or M I t Set 0.1uA or M I t.	5 A	Resistance of the 91 220C 9 LCD
Test	Set 2 eco		

- 2.2.1 The test unit or unit control is used.
- 2.2.2 The test voltage is the test voltage 5.
- 2.2.3 The test error is the test.
- 2.2.4 The resistance or resistance of the test is checked.

3. Use of Controller

- 3.1. Use of Controller
 - For example
 - Zentech 9032 PR GRAMMABL AUT SAF T T STR

3.2. Controller

Turn the other side of the H-Pot Group Controller.



(Zentech 9032 tester)

Clip

Connect the clip to the monitor.

Connect the power cord to the monitor.

Power outlet
(Rear view of monitor)

4. Record

H-Pot Group Controller record is to be recorded every 10 minutes.

Philips Monitor Bezel and CTRL BD replace SOP

or er to e the touch u ct o ore e t e.
For er ce re r le ere l ce the hole o ule.

he rece e the o tor ether Be el or CTRL BD out o u ct o
le ere r the hole o ule.



Mo ule P N e o re rt l to er ce u l t l heet

Ph I M3 M4 Ser e Auto Color S P

Ste 1

Setu ut t 1280 1024 75H e ter ctor o e re Me u
Do Po er utto t the e t e to tur o o tor .



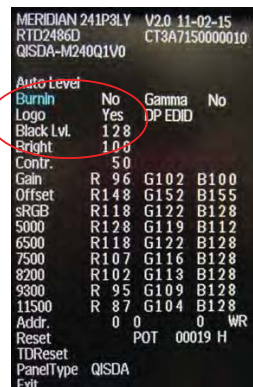
Ste 2

Mo e cur or to Bur - Mo e elect e to e le ur - o e.

Mo e cur or to Auto Le el re Me u utto . t ll ho o
e AUT C L R K



Ste 3 Be ore ou le e the ctor o e le e re e er to o e cur or
to Bur - Mo e elect No

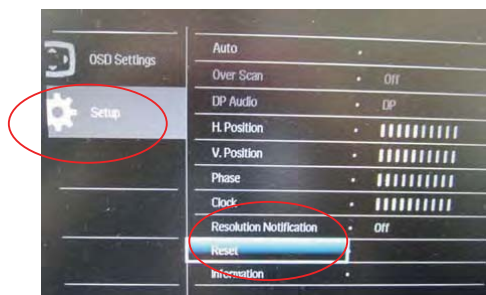


Philips M3 M4 Serie User Reference Sheet

Step 1

Turn on Monitor. Press **Menu** button to enter menu.

Choose **Setup** - **Reset** - **Yes**.



Step 2 Run **Auto Adjust**

