18.5 inch WXGA TFT LCD Colour Monitor

Chassis: MERIDIAN 2

Service
Service
Service

192E2SB/00
192E2SB/10 (AP)
192E2SB/10
192E2SB/27
192E2SB/00 (AP)
192E2SB/69
192E2SB/71
192E2SB/73
192E2SB/94
192E2SB/75
192E2SB/93
192E2SB/70
192E2SB/96
192E2SB/01
192E2SB/67
192E2SB/62

ENERGY STAR

Service Manual

Horizontal frequencies
30 - 83 kHz

TABLE OF CONTENTS

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

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PHILIPS

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 a re 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 becarefully 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 servic etrade 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 servi ce 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. * *

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.

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.

Servicer assumes all liability.

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 as hort 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

SEC

Type NR.	: SEC LTM185AT01
Resolution	: 1366x768
Outside dimensions	: 430.4(H) x 254.6(V) x 16.5(D) mm
Pitch (mm)	: 0.300mm x 0.300mm
Color pixel arrangement	: 1366 horizontal By 768 vertical Pixels
Display surface	: Hard coating (3H), Anti-glare treatment
Color depth	: 16.7M (6 bit with H-FRC)
Backlight	: 2 CCFL
Active area (W x H)	: 409.8mm (H) ×230.4mm (V) mm
View angle (CR=10)	: >=160 for Right/Left (Typ) : >=160 for Up/Down (Typ)
Contrast ratio	: >=1000:1 (Typ)
White luminance	: 250 (center,Typ)
Color gamut	: >=72%
Gate IC	: LDI
Source IC	: N/A
Response time	: 5 ms (Typ)
Vertical frequency range	: 47~75Hz

Scanning frequencies

Hor.: 30 – 83 K Hz

Ver.: 56 - 76 Hz

Video dot rate: < 140 MHz for VGA and < 140 MHz for DVI

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

Power consumption: Normal on: < 30 W (max)

Functions:

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

(2) DVI digital Panel Link TMDS inputs, HDCP supported.

Ambient temperature: 0 °C - 40 °C

Power input connection

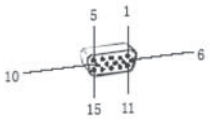
Power cord length : 1.8 M

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

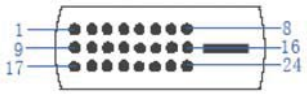
Power management

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

Mode	HSYNC	VSYNC	Video	Pwr-cons.	Indication	Rec. time
Power-On	On	On	active	<30 W (max.)	White LED	--
Power Saving	Off	Off	blanked	< 0.5W	Blinking White LED Period: 1sec On, 3sec Off	<3s
DC Power Off			N/A	< 0.5 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 %

Technical Data

CMO

Type NR.	: CMO M185B1-L02
Resolution	: 1366x768
Outside dimensions	: 430.4(H) x 254.6(V) x 16.25(D)
Pitch (mm)	: 0.300mm x 0.300mm
Color pixel arrangement	: 1366 horizontal By 768 vertical Pixels. RGB stripe
Display surface	: Hard coating (3H), Anti-glare treatment
Color depth	: 16.7M (6-bit with H-FRC)
Backlight	: 2 CCFL
Active area (W x H)	: 409.8mm (H) ×230.4mm (V) mm
View angle (CR=10)	: >=160 for Right/Left (Typ) : >=160 for Up/Down (Typ)
Contrast ratio	: >=1000:1 (Typ)
White luminance	: 250 (center,Typ)
Color gamut	: >=72%
Gate IC	: HiMax/Novatek
Source IC	: HiMax
Response time	: 5 ms (Typ)
Vertical frequency range	: 40~75Hz

Scanning frequencies

Hor.: 30 – 83 K Hz

Ver.: 56 - 76 Hz

Video dot rate: < 140 MHz for VGA and < 140 MHz for DVI

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

Power consumption: Normal on: < 30 W (max)

Functions:

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

(2) DVI digital Panel Link TMDS inputs, HDCP supported.

Ambient temperature: 0 °C - 40 °C

Power input connection

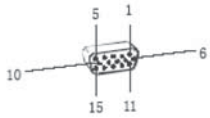
Power cord length : 1.8 M

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

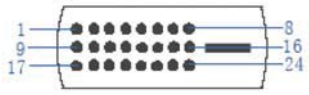
Power management

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

Mode	HSYNC	VSYNC	Video	Pwr-cons.	Indication	Rec. time
Power-On	On	On	active	<30 W (max.)	White LED	--
Power Saving	Off	Off	blanked	< 0.5W	Blinking White LED Period: 1sec On, 3sec Off	<3s
DC Power Off			N/A	< 0.5 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 %

Technical Data

AUO

Type NR.	: AUO M185XW01 VB
Resolution	: 1366x768
Outside dimensions	: 430.4(H) x 254.6(V) x 11(D) mm
Pitch (mm)	: 0.300mm x 0.300mm
Color pixel arrangement	: 1366 horizontal By 768 vertical Pixels
Display surface	: Hard coating (3H), Anti-glare treatment
Color depth	: 16.7M (6 bit with H-FRC)
Backlight	: 2 CCFL
Active area (W x H)	: 409.8mm (H) ×230.4mm (V) mm
View angle (CR=10)	: >=160 for Right/Left (Typ) : >=160 for Up/Down (Typ)
Contrast ratio	: >=1000:1 (Typ)
White luminance	: 250 (center,Typ)
Color gamut	: >=72%
Gate IC	: LDI
Source IC	: N/A
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Vertical frequency range	: 47~75Hz

Scanning frequencies

Hor.: 30 – 83 K Hz

Ver.: 56 - 76 Hz

Video dot rate: < 140 MHz for VGA and < 140 MHz for DVI

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

Power consumption: Normal on: < 30 W (max)

Functions:

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

(2) DVI digital Panel Link TMDS inputs, HDCP supported.

Ambient temperature: 0 °C - 40 °C

Power input connection

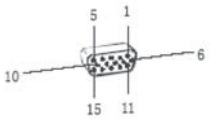
Power cord length : 1.8 M

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

Power management

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

Mode	HSYNC	VSYNC	Video	Pwr-cons.	Indication	Rec. time
Power-On	On	On	active	<30 W (max.)	White LED	--
Power Saving	Off	Off	blanked	< 0.5W	Blinking White LED Period: 1sec On, 3sec Off	<3s
DC Power Off			N/A	< 0.5 W	LED Off	



PIN No.	SIGNAL	PIN No.	SIGNAL
1	Red	9	DDC +3.3V or +5V
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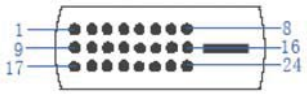


Pin No.	Description
1	T.M.D.S. data2-
2	T.M.D.S. data2+
3	T.M.D.S. data2 shield
4	No Connect
5	No Connect
6	DDC clock
7	DDC data
8	No Connect
9	T.M.D.S. data1-
10	T.M.D.S. data1+
11	T.M.D.S. data1 shield
12	No Connect
13	No Connect
14	+5V Power
15	Ground (for +5V)
16	Hot plug detect
17	T.M.D.S. data0-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

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 %

Technical Data

CPT

Type NR.	: CPT CLAA185WA03 V2
Resolution	: 1366x768
Outside dimensions	: 430.4(H) x 254.6(V) x 16.5(D)
Pitch (mm)	: 0.300mm x 0.300mm
Color pixel arrangement	: 1366 horizontal By 768 vertical Pixels. RGB stripe
Display surface	: Hard coating (3H), Anti-glare treatment
Color depth	: 16.7M (6-bit with H-FRC)
Backlight	: 2 CCFL
Active area (W x H)	: 409.8mm (H) ×230.4mm (V) mm
View angle (CR=10)	: >=160 for Right/Left (Typ) : >=160 for Up/Down (Typ)
Contrast ratio	: >=1000:1 (Typ)
White luminance	: 250 (center,Typ)
Color gamut	: >=72%
Gate IC	: HiMax/Novatek
Source IC	: HiMax
Response time	: 5 ms (Typ)
Vertical frequency range	: 40~75Hz

Scanning frequencies

Hor.: 30 – 83 K Hz

Ver.: 56 - 76 Hz

Video dot rate: < 140 MHz for VGA and < 140 MHz for DVI

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

Power consumption: Normal on: < 30 W (max)

Functions:

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

(2) DVI digital Panel Link TMDS inputs, HDCP supported.

Ambient temperature: 0 °C - 40 °C

Power input connection

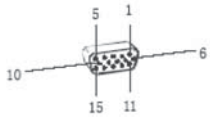
Power cord length : 1.8 M

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

Power management

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

Mode	HSYNC	VSYNC	Video	Pwr-cons.	Indication	Rec. time
Power-On	On	On	active	<30 W (max.)	White LED	--
Power Saving	Off	Off	blanked	< 0.5W	Blinking White LED Period: 1sec On, 3sec Off	<3s
DC Power Off			N/A	< 0.5 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
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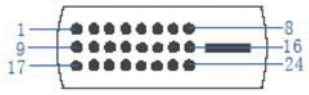


Pin No.	Description
1	T.M.D.S. data2-
2	T.M.D.S. data2+
3	T.M.D.S. data2 shield
4	No Connect
5	No Connect
6	DDC clock
7	DDC data
8	No Connect
9	T.M.D.S. data1-
10	T.M.D.S. data1+
11	T.M.D.S. data1 shield
12	No Connect
13	No Connect
14	+5V Power
15	Ground (for +5V)
16	Hot plug detect
17	T.M.D.S. data0-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

Susceptibility of display to external environment

Operating

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

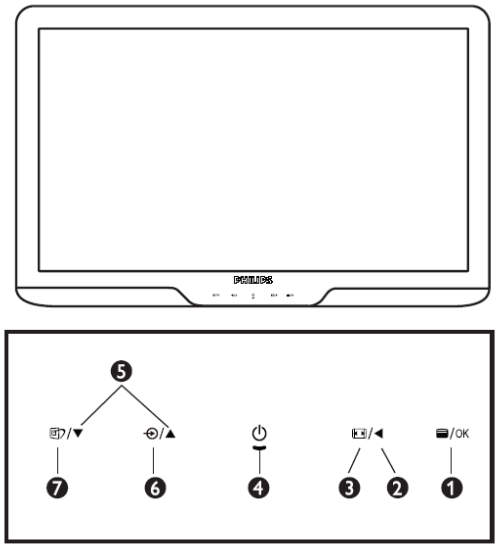
Storage

- 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 %

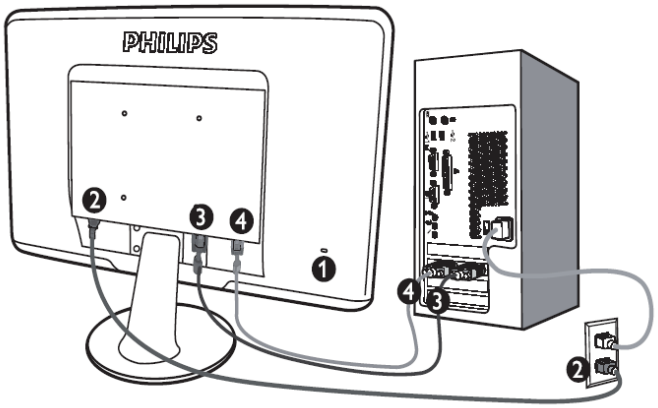
Installation

Front View Product Description



1. /OK: To access OSD menu.
2. ◄ : Return to previous OSD level.
3. : Change to 4:3 display.
4. : To switch monitor's power on and off.
5. ▲▼ : To adjust the OSD menu.
6. : To change the signal input.
7. : SmartImage Lite. There are 3 modes to be selected: Office, Standard, Internet and Game.

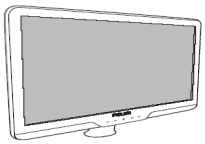
Rear View



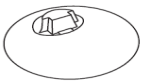
1. Kensington anti-thief lock
2. AC power input
3. DVI-D input (available for selecting model)
4. VGA input

Accessory Pack

Unpack all the parts

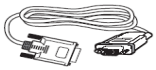

Monitor

Quick start guide


Base stand


EDFU CD

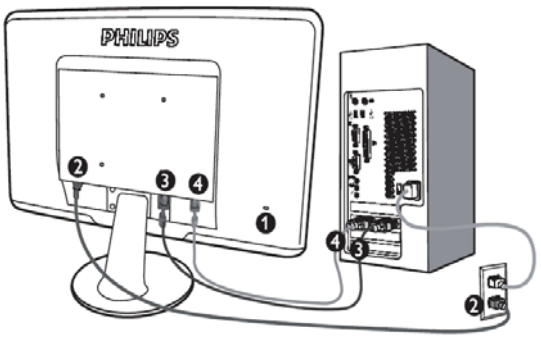

Power cord


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-thief lock
2. AC power input
3. DVI-D input (available for selecting model)
4. VGA input

Connect to PC

1. Connect the power cord to the back of the montior 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 cord of your computer and your monitor into a nearby outlet.
5. Turn on your computer and monitor. If the monitor displays an image, installation is complete.

7 Troubleshooting & FAQs

7.1 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

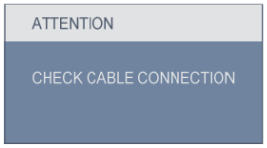
No Picture (Power LED not lit)

- 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 Set-Up 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 LCD 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 LCD 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 :

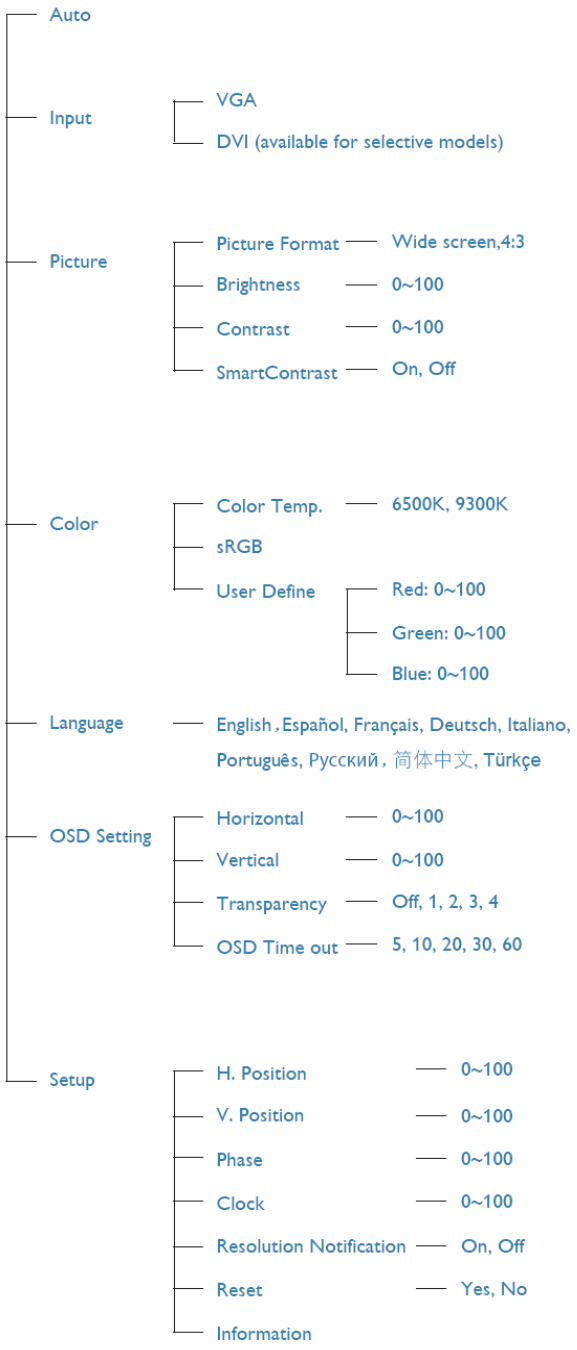
Basic and simple instruction on the control keys.

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.



Resolution notification

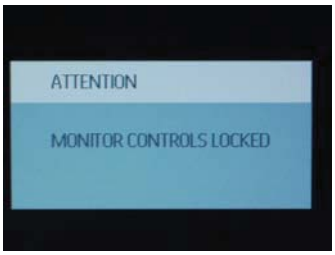
This monitor is designed for optimal performance at its native resolution, 1920X1080@60Hz. When the monitor is powered on at a different resolution, an alert is displayed on screen: Use 1920X1080@60Hz for best results.

Display of the native resolution alert can be switched off from Setup in the OSD (On Screen Display) menu.

Lock/Unlock,Aging,Factory Mode

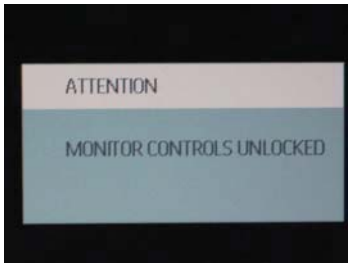
To lock/unlock OSD FUNCTION(User Mode)

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 .



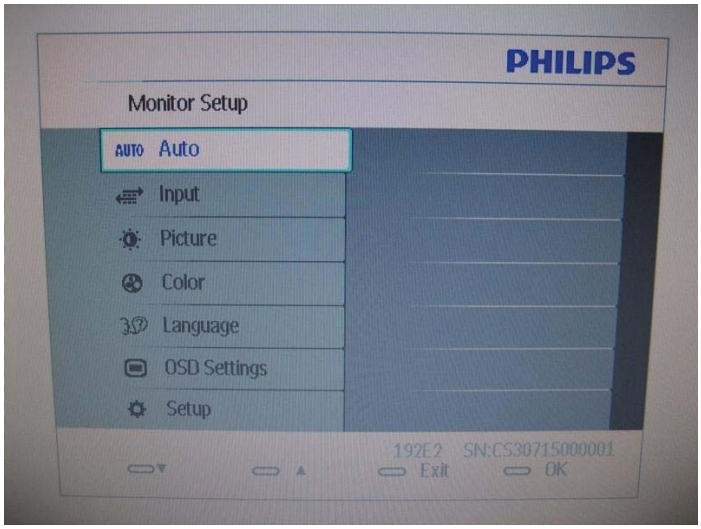
Unlock OSD function

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 192E2 V1.0 2010-05-14" (below OSD menu) come on the Screen of the monitor.



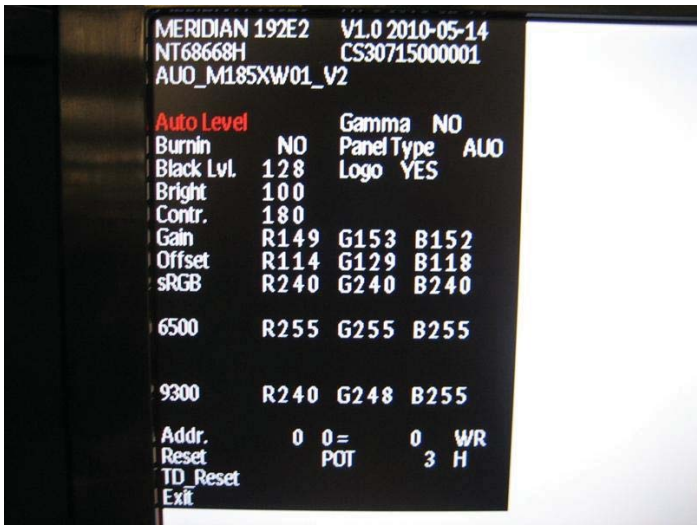
Factory Mode indicator

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 Of fset R G B function can be used on reduce or eliminate snowy noise on the background when the resolution of video signal is 1680*1050vertical 60Hz. Slightly increase or decrease the value until snowy noise completely disappear .

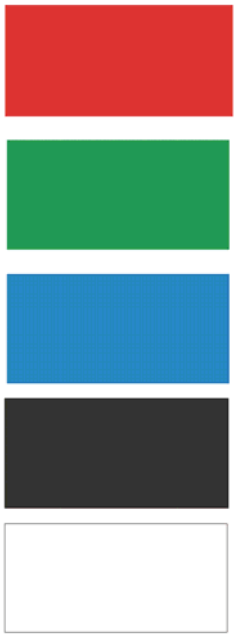
Access Aging Mode

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:

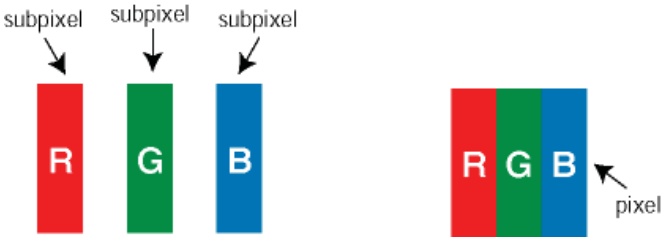


repeatly
Connect Signal cable again=> go back to normal display

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.



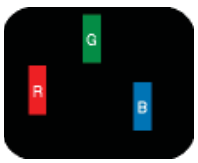
Pixels and Sub pixels

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.

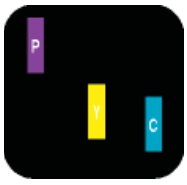
Types of Pixel Defects

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:



One lit red, green or blue sub pixel



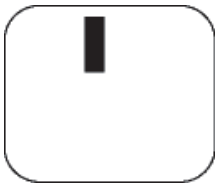
Two adjacent lit sub pixels:

- Red + Blue = Purple
- Red + Green = Yellow
- Green + Blue = Cyan (Light Blue)

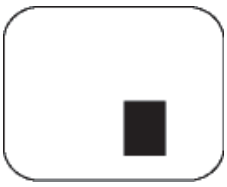
Three adjacent lit sub pixels (one white pixel)

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

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



One dark sub pixel



Two or three adjacent dark sub pixels

Proximity of Pixel Defects

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

Pixel Defect Tolerances

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

BRIGHT DOT DEFECTS	ACCEPTABLE LEVEL
MODEL	**192E2**
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	**192E2**
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	**192E2**
Total bright or black dot defects of all types	5 or fewer

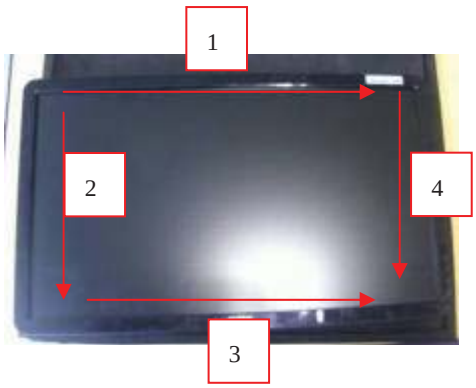
Note:

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

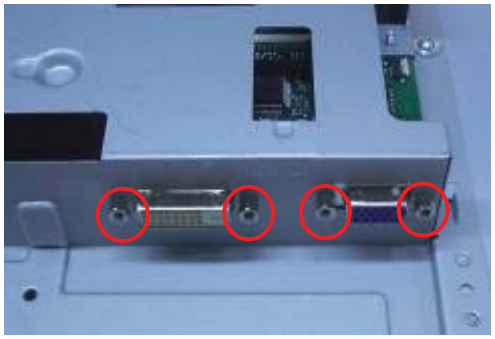
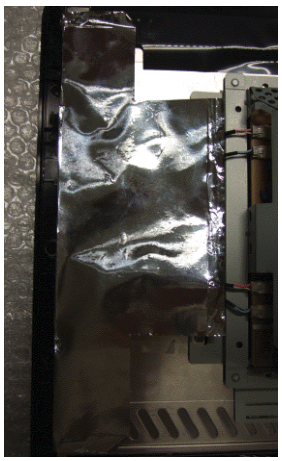
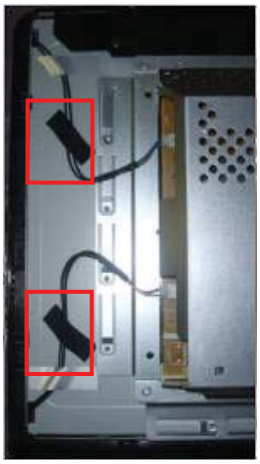
Mechanical Instruction

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:

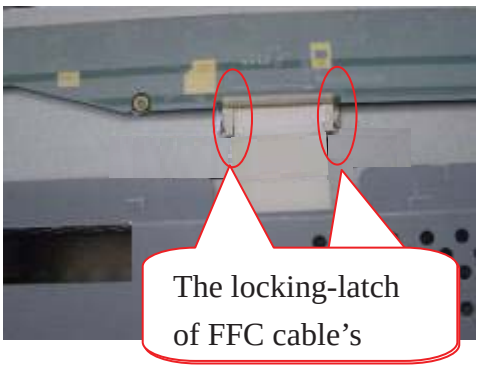
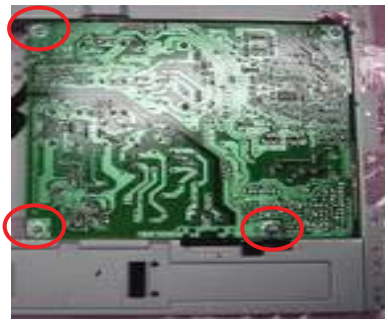
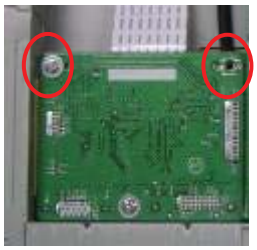
1) Press-fixture
2) working table
3) Screw-driver
4) knife*1
5) glove
6) cleaning cloth
7) ESD protection

item	picture	Operation	Tool	Notes
1		Tear off four piece of Mylar Disassemble the stand → 4 screws	Screw-driver	
2		disassembly the bezel from the monitor, notice the disassembly order : 1.Top (1) parts of bezel 2.Left (2) parts of bezel 3.Bottom (3) parts of bezel 4. Right (4) parts of bezel Don't draw the BZL		When disassembly the bezel , notice don't bend the C/B . man must wear glove The purpose is loose the BZL
3		Turn over the monitor , Bring the Rear cover from the monitor		

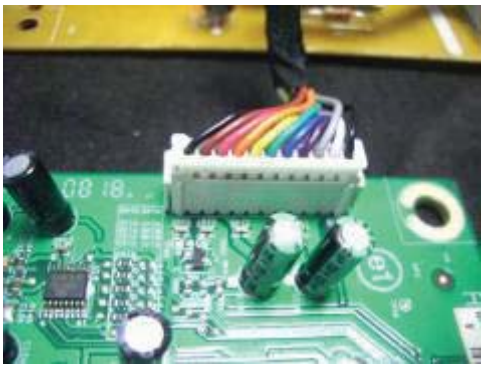
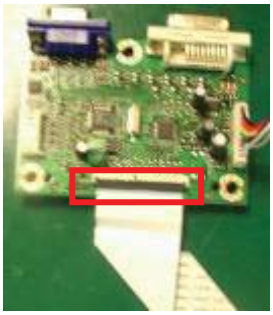
Mechanical Instruction

4		Draw the control board cable Take the entire internal mechanism from Bezel and then put it on the cushion		
5		Disassembled the Main-BKT : hexagonal screw *4	Screw-driver	
6		Tear off al foil on the left of Main-BKT		
7		Tear off the acetic tape Pull out the lamp cables		Notes the below PIC Then the designed Main-BKT will help to pull out the wires Man can raise the Lock of Lamp and then Pull out the lamp easily

Mechanical Instruction

8		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.
9	 	Tear off the iron sheet which cover the AC-SOCKET Disassemble the Power board → 3 screws	Screw-driver	
10		Disassemble the ITF-board → 2 screws	Screw-driver	

Mechanical Instruction

11		Take the PCBA from Main-BKT and then put it on the cushion		
12		Pull out the cable of Power board		Notes: Pull the connect upright
13		Draw the ffc cable		
14		Take the panel out of the bezel and then tear off a piece of Mylar AL foil on the left		

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 .

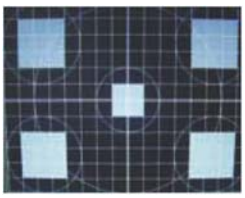


Fig. 1

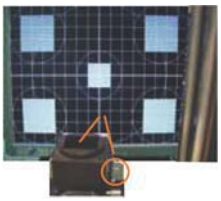


Fig.2

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 192E2 V1.0 2010-05-14" (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 PerfecTune (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		**Production alignment spec.**	
	x = 0.283 ± 0.02	9300K	x = 0.283 ± 0.006
9300K	y = 0.297 ± 0.02	6500K/sRGB	y = 0.297 ± 0.006
6500K/sRGB	x = 0.313 ± 0.02		x = 0.313 ± 0.006
	y = 0.329 ± 0.02		y = 0.329 ± 0.006
	x = 0.313 ± 0.02	sRGB	x = 0.313 ± 0.006
sRGB	y = 0.329 ± 0.02	9300K	y = 0.329 ± 0.006
9300K	x = 0.283 ± 0.02		x = 0.283 ± 0.006
	y = 0.297 ± 0.02		y = 0.297 ± 0.006
	x = 0.313 ± 0.02	6500K/sRGB	x = 0.313 ± 0.006
6500K/sRGB	y = 0.329 ± 0.02	sRGB	y = 0.329 ± 0.006
sRGB	x = 0.313 ± 0.02		x = 0.313 ± 0.006
	y = 0.329 ± 0.02		y = 0.329 ± 0.006

Quality Inspection specification:

9300K	x = 0.283 ± 0.015
6500K/sRGB	y = 0.297 ± 0.015
	x = 0.313 ± 0.015
	y = 0.329 ± 0.015
sRGB	x = 0.313 ± 0.015
9300K	y = 0.329 ± 0.015
	x = 0.283 ± 0.015
	y = 0.297 ± 0.015
6500K/sRGB	x = 0.313 ± 0.015
sRGB	y = 0.329 ± 0.015
	x = 0.313 ± 0.015
	y = 0.329 ± 0.015

FAQs (Frequently Asked Questions)

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

Ans.: Recommended resolution for Philips 21.5": 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 Display Control Panel, select the 'Settings' tab. Under the setting tab, in box labeled 'desktop area', move the sidebar to 1920x1080 pixels (21.5").
- 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 (21.5").
- Shut down your computer, disconnect your old monitor and reconnect your Philips LCD monitor.
- Turn on your monitor and then turn on your PC.

Q2: What does the recommended refresh rate for LCD monitor?

Ans.: Recommended refresh rate in LCD 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 LCD 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 LCD 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 2 settings are 6500K, and 9300K.
  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 Kevin temperatures such as 2004K are red; higher temperatures such as 9300K are blue. Neutral temperature is white, at 6504K.

Q9: Can the Philips LCD Monitor be mounted on the wall?

Ans.: Yes. Philips LCD 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 LCD monitor to any PC, workstation or Mac?

Ans.: Yes. All Philips LCD 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 LCD monitors Plug-and- Play?

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

Q12: What kind of wide-angle technology is available?

Ans.: Currently, the IPS type panels offer the best Contrast Ratio, compared to MVA, or PVA technologies. TN panels have improved over the years, but IPS panel still gives superior results over TN panel.

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
   Sync on green video 0.3 Vp-p Negative (Video 0.7 Vp-p Positive)
   1.2 DVI-D Digital
   Input signal: Single TMDS link (Three channels: RX0-/+, RX1-/+, RX2-/+)

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.
3. Timing requirement
   3.1 Factory Preset mode definition:
   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	Factory Preset Timing	Resolution			Pixel Rate (MHz)	Horizontal (KHz)	Vertical (Hz)	V_Total (Line)	Polarity (H / V)
*		DOS		640x350/70	25.18	31.47	70.09	449	p / n
*	*	DOS		720x400/70	28.32	31.47	70.09	449	n / p
*	*	DMT	4:3	640x480/60	25.18	31.47	59.94	525	n / n
*		MAC		640x480/67	30.24	35.00	66.67	525	n / n
*		DMT	4:3	640x480/72	31.50	37.86	72.81	520	n / n
*	*	DMT	4:3	640x480/75	31.50	37.50	75.00	500	n / n
		DMT	4:3	640x480/85	36.00	43.27	85.01	509	n / n
*		DMT	4:3	800x600/56	36.00	35.16	56.25	625	p / p
*	*	DMT	4:3	800x600/60	40.00	37.88	60.32	628	p / p
*		DMT	4:3	800x600/72	50.00	48.08	72.19	666	p / p
*	*	DMT	4:3	800x600/75	49.50	46.88	75.00	625	p / p
		DMT	4:3	800x600/85	56.25	53.67	85.06	631	p / p
*		MAC		832x624/75	57.28	47.73	74.55	667	n / n
*	*	DMT	4:3	1024x768/60	65.00	48.36	60.00	806	n / n
*		DMT	4:3	1024x768/70	75.00	56.48	70.07	806	n / n
*	*	DMT	4:3	1024x768/75	78.75	60.02	75.03	800	p / p
		IBM		1024x768/75	80.19	61.19	75.89	803	p / p
		DMT		1024x768/85	94.50	68.68	85.00	808	p / p
				1152x864/60	79.90	54.00	60.00	900	p / p
				1152x864/70	94.50	63.90	70.00	912	p / p
*		DMT		1152x864/75	108.00	67.50	75.00	900	p / p
*		MAC		1152x870/75	100.00	68.68	75.06	915	n / n
*		SUN		1152x900/66	92.94	61.80	65.95	937	p / p
*		SUN		1152x900/76	105.50	71.71	76.06	942	p / p
*		CVT	16:9	1280x720/60	74.50	44.77	59.86	748	n / p
*		CVT	16:9	1280x720/75	95.75	56.46	74.78	755	n / p
		CVT	16:9	1280x720/85	110.25	64.40	84.85	759	n / p
*		CVT	15:9	1280x768/60	79.50	47.78	59.87	798	n / p
*		CVT	15:9	1280x768/75	102.25	60.29	74.89	805	n / p
		CVT	15:9	1280x768/85	117.50	68.63	84.84	809	n / p
*		CVT		1280x800/60	83.50	49.70	59.81	831	n / p
*		CVT		1280x800/75	106.50	62.80	74.93	838	n / p
		CVT		1280x800/85	122.50	71.55	84.88	843	n / p
*		DMT	4:3	1280x960/60	108.00	60.00	60.00	1000	p / p
		CVT	4:3	1280x960/75	130.00	75.23	74.86	1005	n / p
		DMT	4:3	1280x960/85	148.50	85.94	85.00	1011	p / p
*	*	DMT	5:4	1280x1024/60	108.00	63.89	60.02	1066	p / p
*		SUN	5:4	1280x1024/66	117.00	71.70	67.00	1067	p / p
		DOS	5:4	1280x1024/72	130.22	76.00	72.00	1064	p / p
*	*	DMT	5:4	1280x1024/75	135.00	79.98	75.03	1066	p / p
*		SUN	5:4	1280x1024/76	138.01	81.10	76.00	1066	n / n
		DMT	5:4	1280x1024/85	157.50	91.15	85.02	1072	p / p
*		DMT	16:9	1360x768/60	85.50	47.71	60.02	795	p / p
*		CVT	16:9	1360x768/75	109.00	60.29	74.89	805	n / p
*	*	CVT	16:9	1366x768/60	85.50	47.71	59.79	798	p / p
		CVT		1440x900/60_RB	88.75	55.47	59.90	926	p / n
		CVT		1440x900/60	106.50	55.94	59.89	934	n / p
		CVT		1440x900/75	136.75	70.64	74.98	942	n / p
		CVT		1440x900/85	157.00	80.43	84.84	948	n / p
				1600x1000/60					
		DMT	4:3	1600x1200/60	162.00	75.00	60.00	1250	p / p
		CVT	16:10	1680x1050/60_RB	119.00	64.67	59.88	1080	p / n
		CVT	16:10	1680x1050/60	146.25	65.29	59.95	1089	n / p
		CVT	16:9	1920x1080/60_RB	138.50	66.59	59.93	1111	p / n
		CVT	16:10	1920x1200/60_RB	154.00	74.04	59.95	1235	p / n

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)	
9300K	x = 0.283 ± 0.02 y = 0.297 ± 0.02	PerfectuneII
6500K/sRGB	x = 0.313 ± 0.02 y = 0.329 ± 0.02	PerfectuneII
sRGB	x = 0.313 ± 0.02 y = 0.329 ± 0.02	PerfectuneII

Production alignment spec.

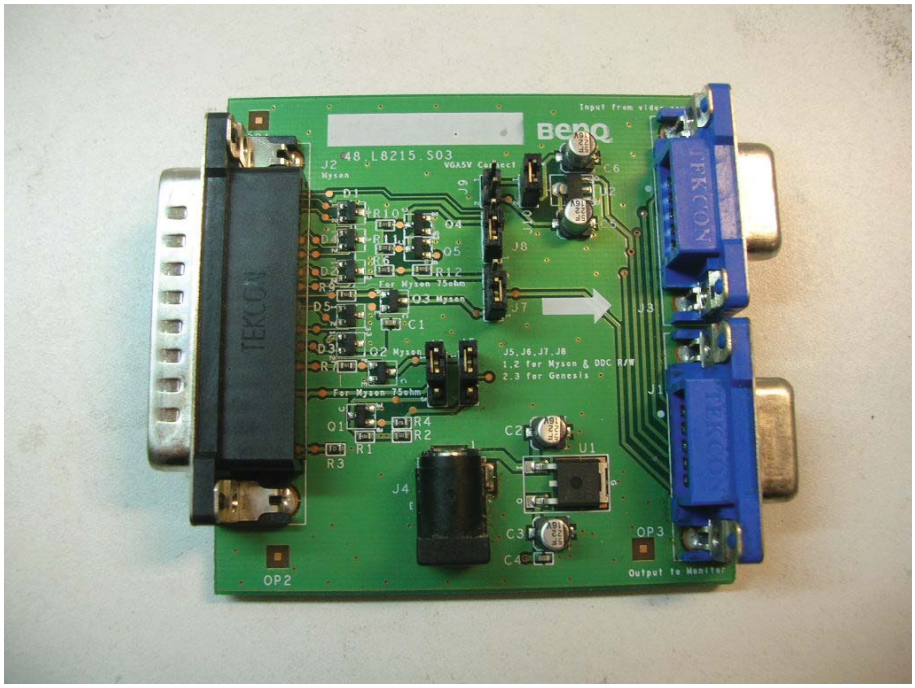
CIE coordinates	(x,y)	
9300K	x = 0.283 ± 0.006 y = 0.297 ± 0.006	PerfectuneII
6500K/sRGB	x = 0.313 ± 0.006 y = 0.329 ± 0.006	PerfectuneII
sRGB	x = 0.313 ± 0.006 y = 0.329 ± 0.006	PerfectuneII

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	

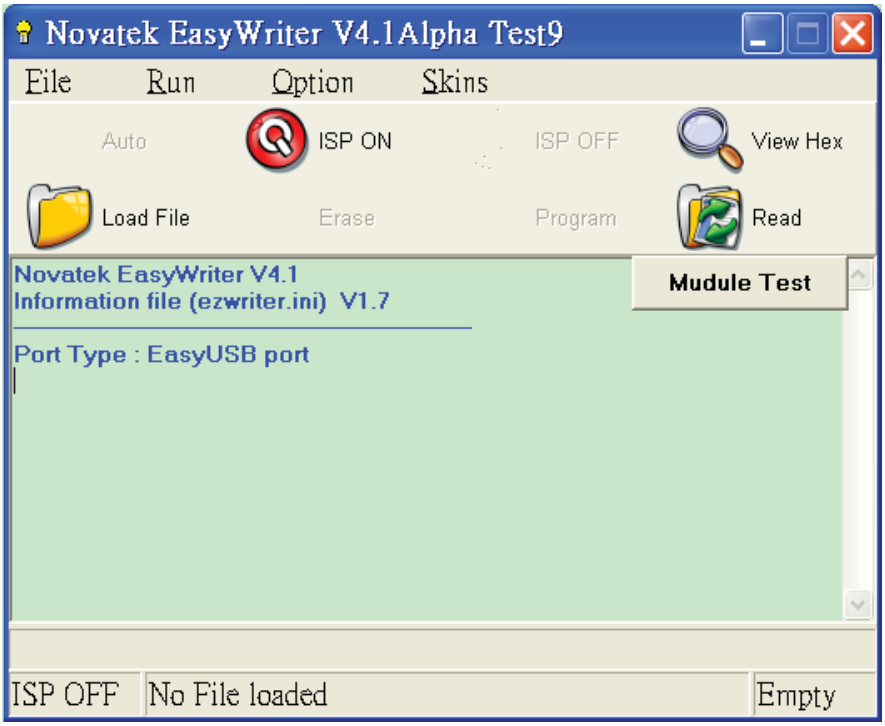
Service tool-Hardware

PCM code	12NC
5E.L8215.001	996510019769

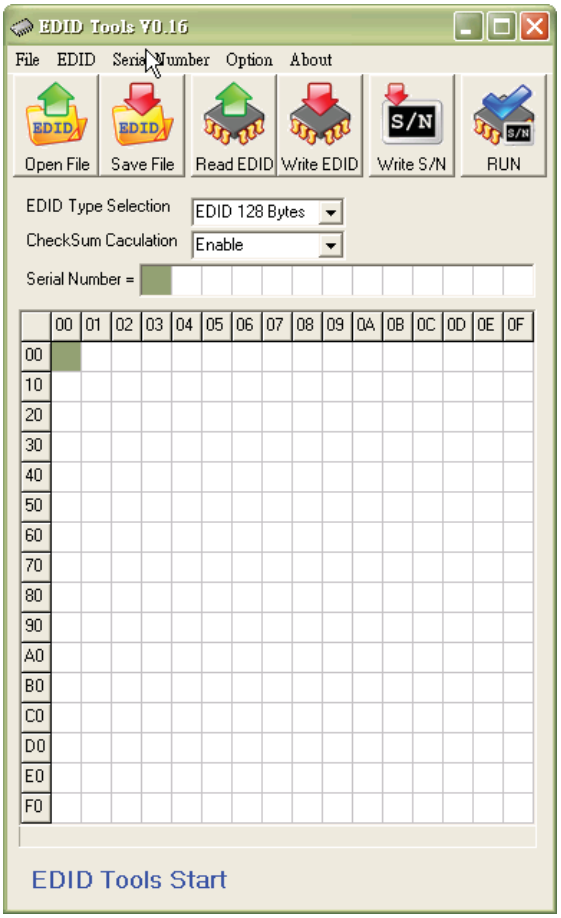


Service tool-Software

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



DDC writing tool: Q-EDID-V16



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 "PI-EDID.exe"
4. ISP boardas shown in Fig. 1

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

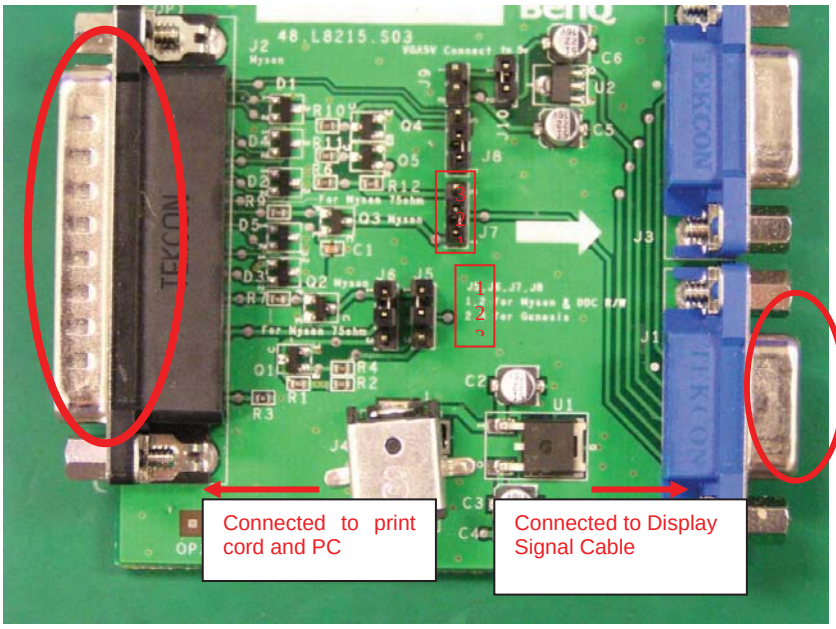


Fig.1

DDC Instructions

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

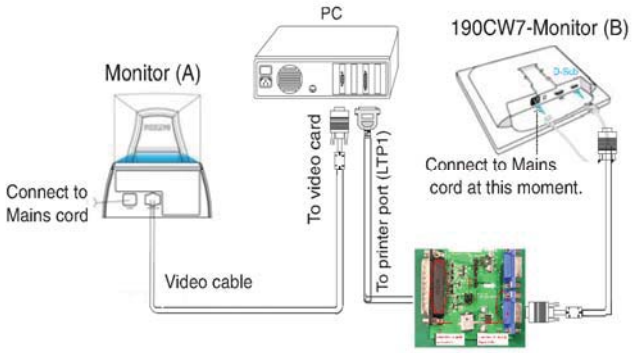
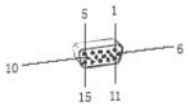


Fig.2

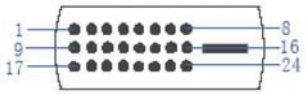
Pin assignments :

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 Software into your folder as shown in Fig.3. and Fig.4.

Fig.3

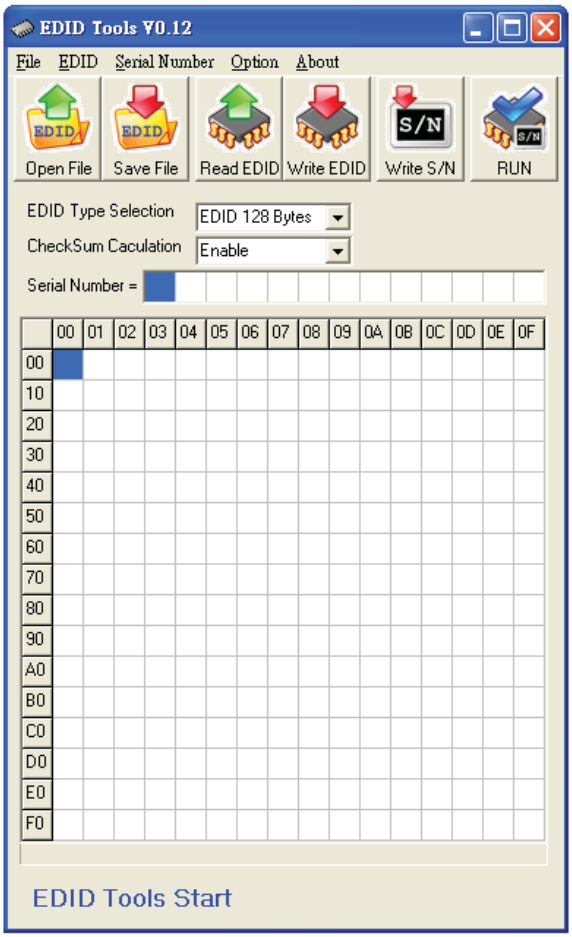


Fig.4

DDC Instructions

Step 2: Press “Open File” then choose
LCD_Analog.ddc or LCD_DVI.ddc as shown in Fig. 5 .

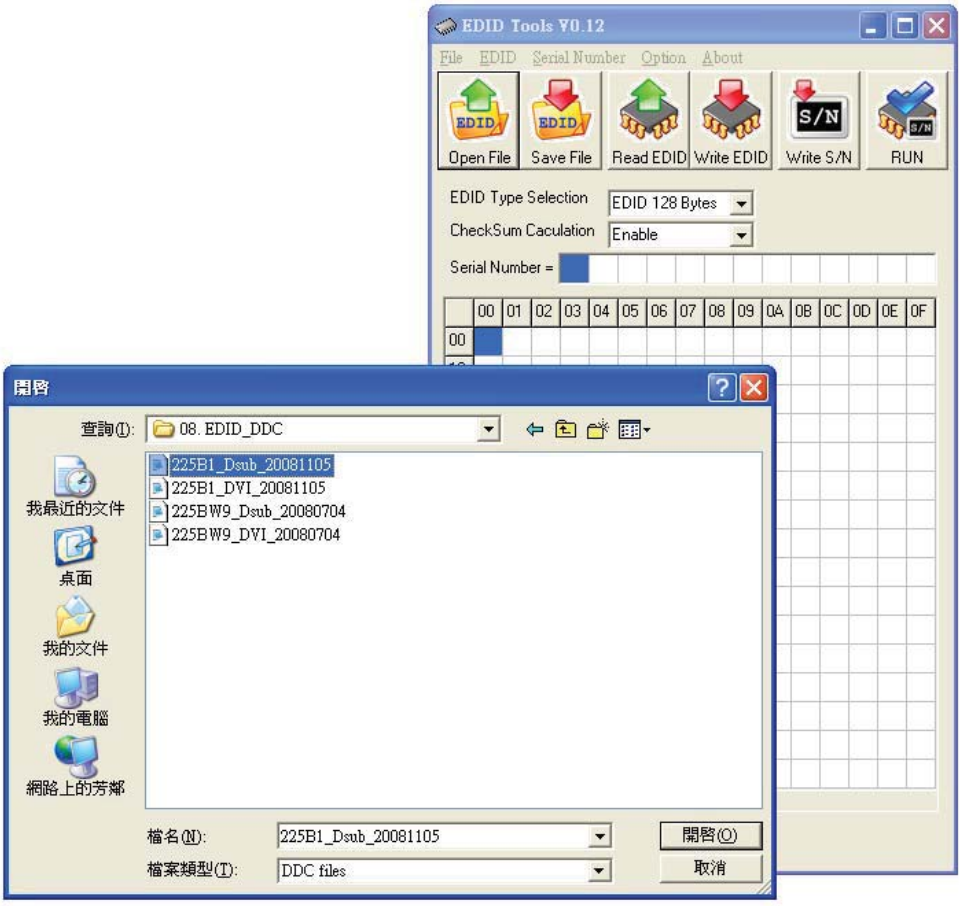


Fig.5

DDC Instructions

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

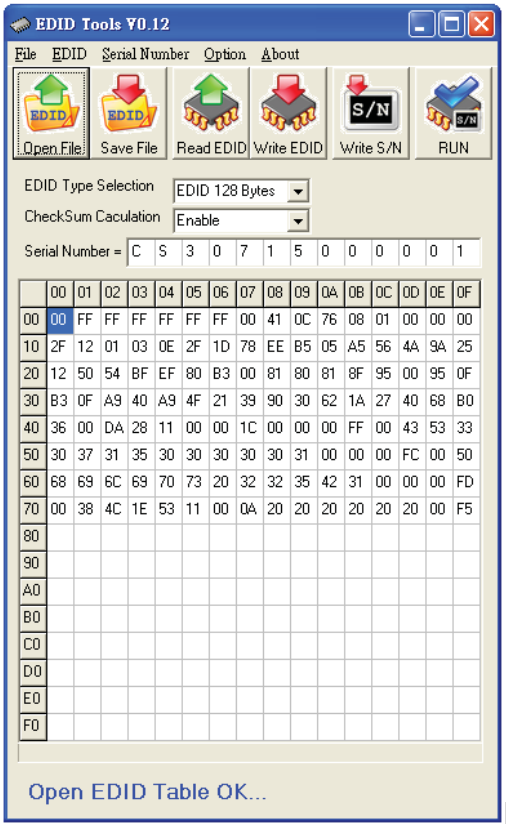


Fig.6

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

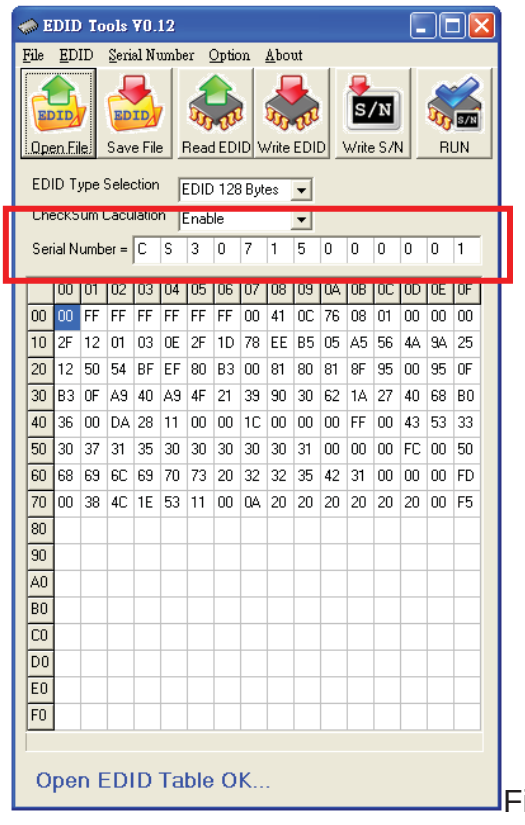


Fig.7

DDC Instructions

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

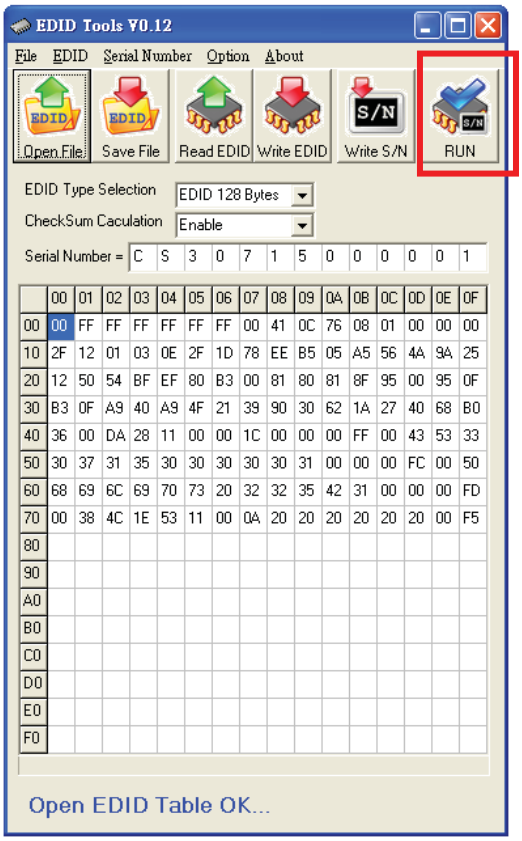


Fig.8

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

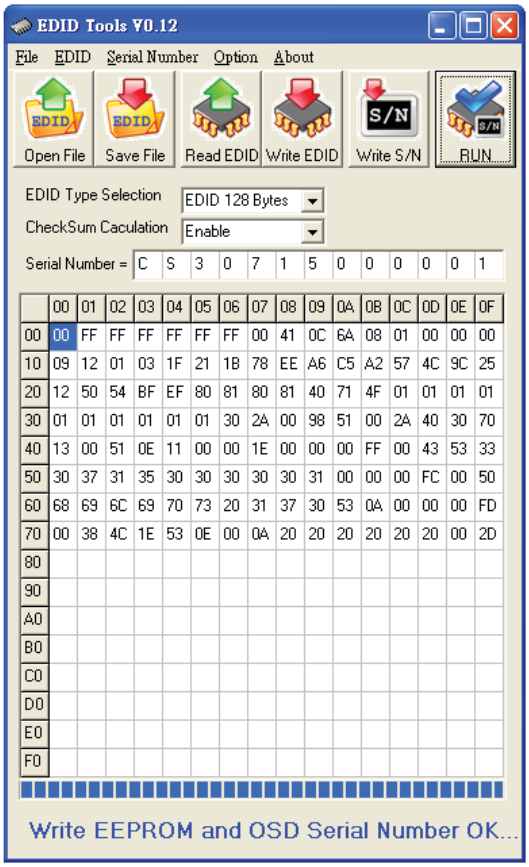


Fig.9

DDC Instructions

8. Press Monitor Menu Key to check OSD Serial number is the same as PI-EDID write data as shown in Fig.10

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

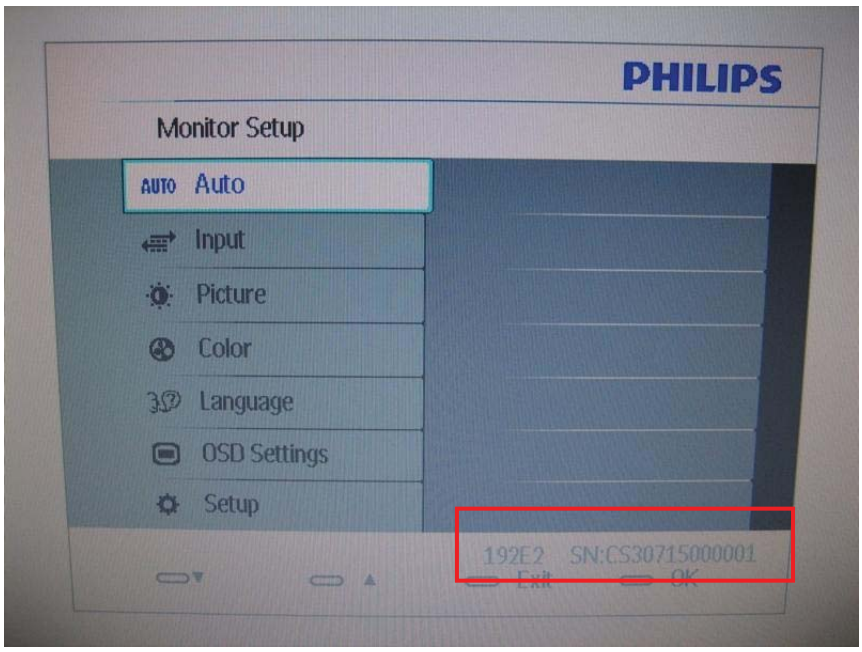
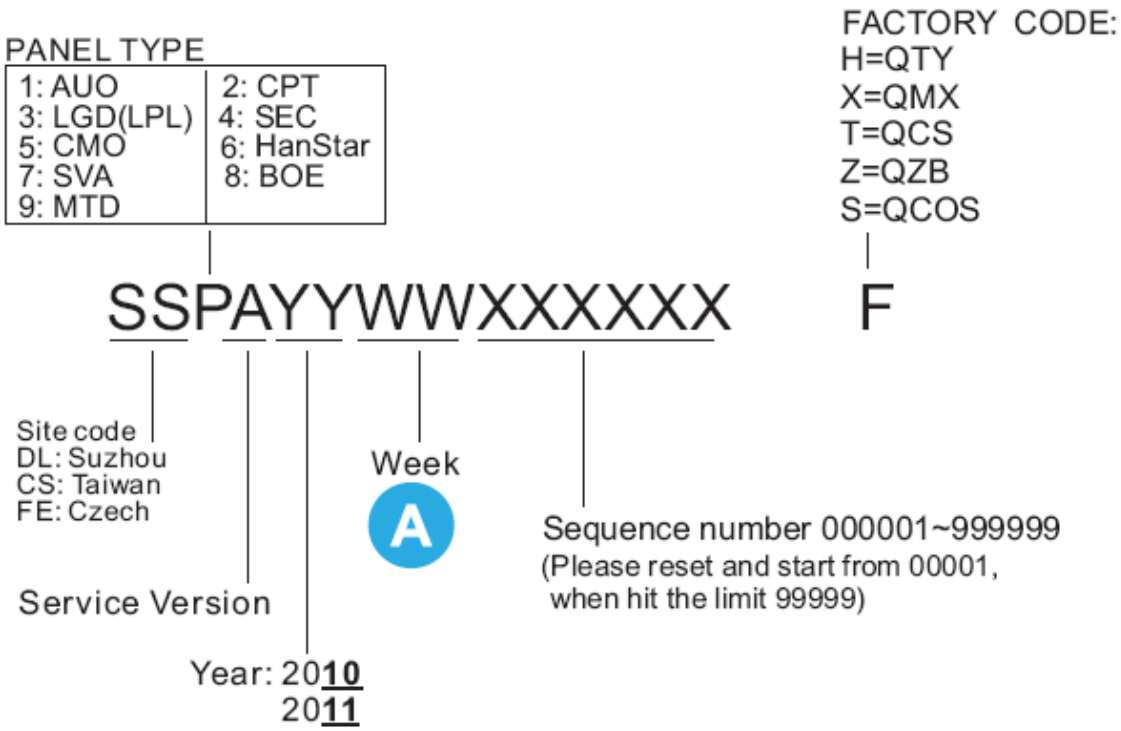


Fig.14

9 Turn off the monitor, exit the factory mode.

Serial Number Definition



DDC DATA

Analog DDC

//////////Displaying Monitor EDID//////////

128 bytes EDID Data (Hex):

0 1 2 3 4 5 6 7 8 9

00,FF,FF,FF,FF,FF,FF,00,41,0C,4E,C0,01,00,00,00,0B,14,
01,03,6E,29,17,78,EE,EE,95,A3,54,4C,99,26,
.....
0F,50,54,BF,EF,80,61,40,61,4F,81,80,81,8F,01,01,01,01,0
1,01,01,01,66,21,56,AA,51,00,1E,30,46,8F,
.....
33,00,9A,E6,10,00,00,1E,00,00,00,FF,00,43,53,33,30,37,
31,35,30,30,30,30,30,31,00,00,00,FC,00,50,
.....
68,69,6C,69,70,73,20,31,39,32,45,4C,00,00,00,FD,00,38,
4C,1E,53,0E,00,0A,20,20,20,20,20,20,00,25

Decoded EDID data

Model name..... Philips 192E
Manufacturer..... Philips
Plug and Play ID..... PHLC04D
Serial number..... CS30715000001
Manufacture date..... 2010, ISO week 11

EDID revision..... 1.3
Input signal type..... Analog 0.700,0.000 (0.7V p-p)
Sync input support. Separate, Composite,
Sync-on-green
Display type..... RGB color
Screen size..... 410 x 230 mm (18.5 in)
Power management..... Standby, Suspend, Active
off/sleep
Extension blocs..... None

DDC/CI..... Supported
MCCS revison..... 2.1
Display technology..... TFT
Controller..... Novatek 0x0
Firmware revision..... 0.112
Active power on time..... 43 hours
Current frequency..... 47.70kHz, 59.80Hz

Color characteristics
Default color space..... sRGB
Display gamma..... 2.20
Red chromaticity..... Rx 0.640 - Ry 0.330
Green chromaticity..... Gx 0.300 - Gy 0.600
Blue chromaticity..... Bx 0.150 - By 0.060
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..... 140MHz
CVT standard..... Not supported
GTF standard..... Not supported
Additional descriptors... None
Preferred timing..... Yes
Native/preferred timing.. 1366x768p at 60Hz (16:9)
Modeline..... "1366x768" 85.500 1366 1436
1579 1792 768 771 774 798 +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
1024 x 768p at 60Hz - VESA STD
1024 x 768p at 75Hz - VESA STD
1280 x 1024p at 60Hz - VESA STD
1280 x 1024p at 75Hz - VESA STD

DDC DATA

DVI DDC

//////////Displaying Monitor EDID//////////

128 bytes EDID Data (Hex):

0 1 2 3 4 5 6 7 8 9

00,FF,FF,FF,FF,FF,FF,00,41,0C,4E,C0,01,00,00,00,0B,14,
01,03,80,29,17,78,EE,EE,95,A3,54,4C,99,26,
.....
0F,50,54,BF,EF,80,61,40,61,4F,81,80,81,8F,01,01,01,01,0
1,01,01,01,66,21,56,AA,51,00,1E,30,46,8F,
.....
33,00,9A,E6,10,00,00,1E,00,00,00,FF,00,43,53,33,30,37,
31,35,30,30,30,30,30,31,00,00,00,FC,00,50,
.....
68,69,6C,69,70,73,20,31,39,32,45,4C,00,00,00,FD,00,38,
4C,1E,53,0E,00,0A,20,20,20,20,20,20,00,13

Monitor #1 [Real-time 0x0011]
Model name..... Philips 192E
Manufacturer..... Philips
Plug and Play ID..... PHLC04D
Serial number..... CS30715000001
Manufacture date..... 2010, ISO week 11

EDID revision..... 1.3
Input signal type..... Digital
Color bit depth..... Undefined
Display type..... RGB color
Screen size..... 410 x 230 mm (18.5 in)
Power management..... Standby, Suspend, Active off/sleep
Extension blocs..... None

DDC/CI..... Supported
MCCS revison..... 2.1
Display technology..... TFT
Controller..... Novatek 0x0
Firmware revision..... 0.112
Active power on time..... 43 hours
Current frequency..... 47.70kHz, 59.80Hz

Color characteristics
Default color space..... sRGB
Display gamma..... 2.20
Red chromaticity..... Rx 0.640 - Ry 0.330
Green chromaticity..... Gx 0.300 - Gy 0.600
Blue chromaticity..... Bx 0.150 - By 0.060
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..... 140MHz
CVT standard..... Not supported
GTF standard..... Not supported
Additional descriptors... None
Preferred timing..... Yes
Native/preferred timing.. 1366x768p at 60Hz (16:9)
Modeline..... "1366x768" 85.500 1366 1436 1579 1792 768 771 774 798 +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
1024 x 768p at 60Hz - VESA STD
1024 x 768p at 75Hz - VESA STD
1280 x 1024p at 60Hz - VESA STD
1280 x 1024p at 75Hz - VESA STD

Firmware Upgrade for CPU

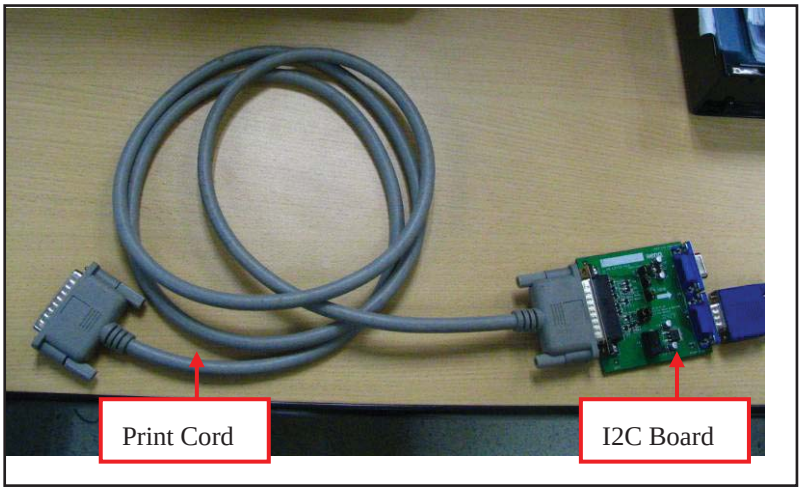
1. Hardware Requirement:

1.1. I2C board x 1 (a.Print Board b. I2C Board)

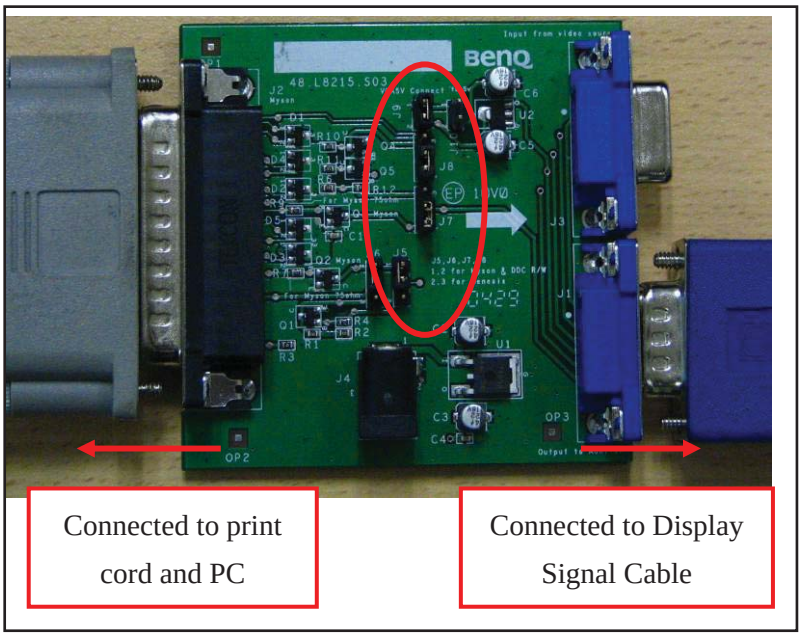
1.2. DSUB VGA cables x 2

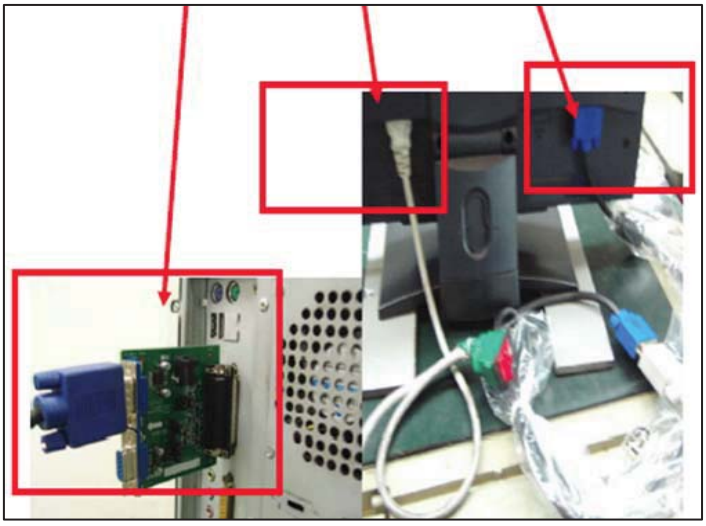
1.3. Printer cable (with one male connector and another female connector) x 1.

1.4. PC or Notebook with parallel (printer) port x1.



1.5 Check the Jumpers on the I2C circuit board (make sure J5/J6/J7/J8 are set at Pin 1 & Pin 2 short)





Firmware Upgrade for CPU

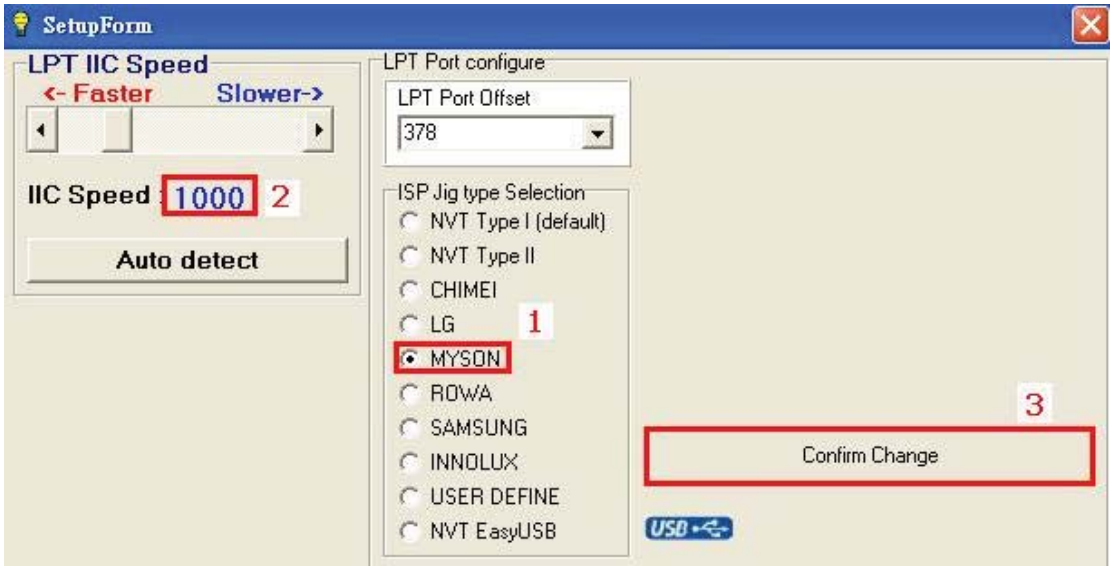
2. Software prepare

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

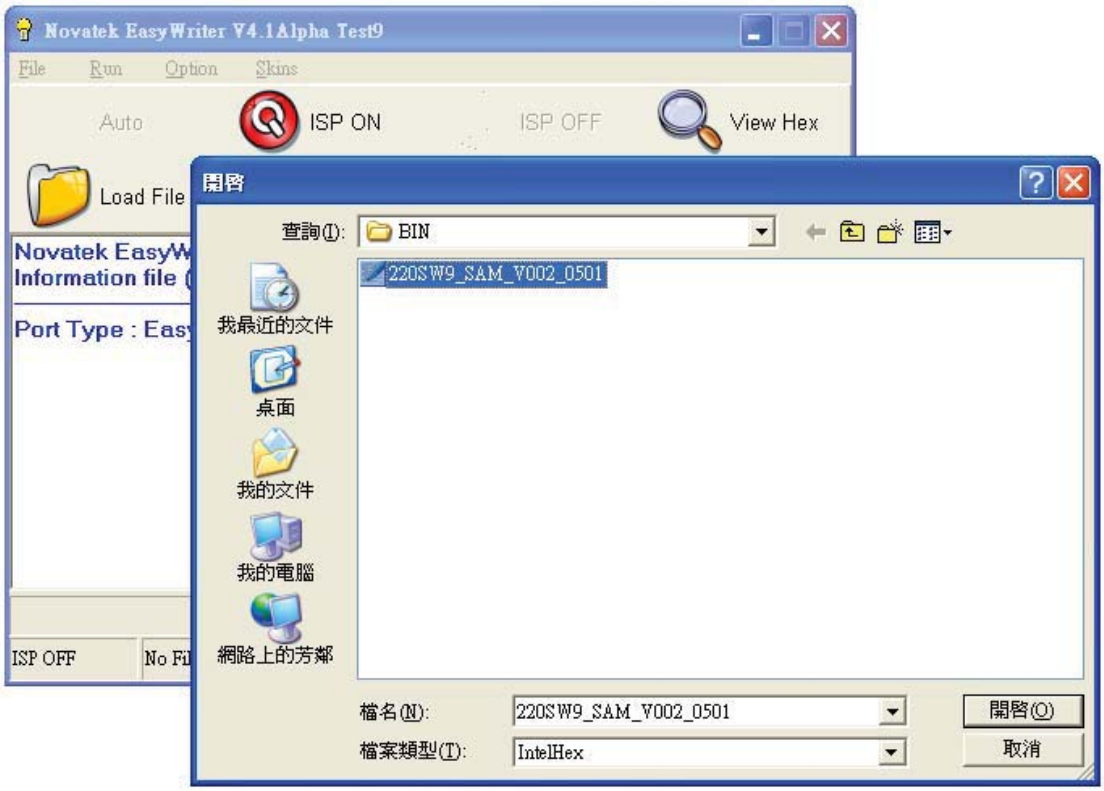
Step 2: Double click NOVATEK Tool

Option:

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

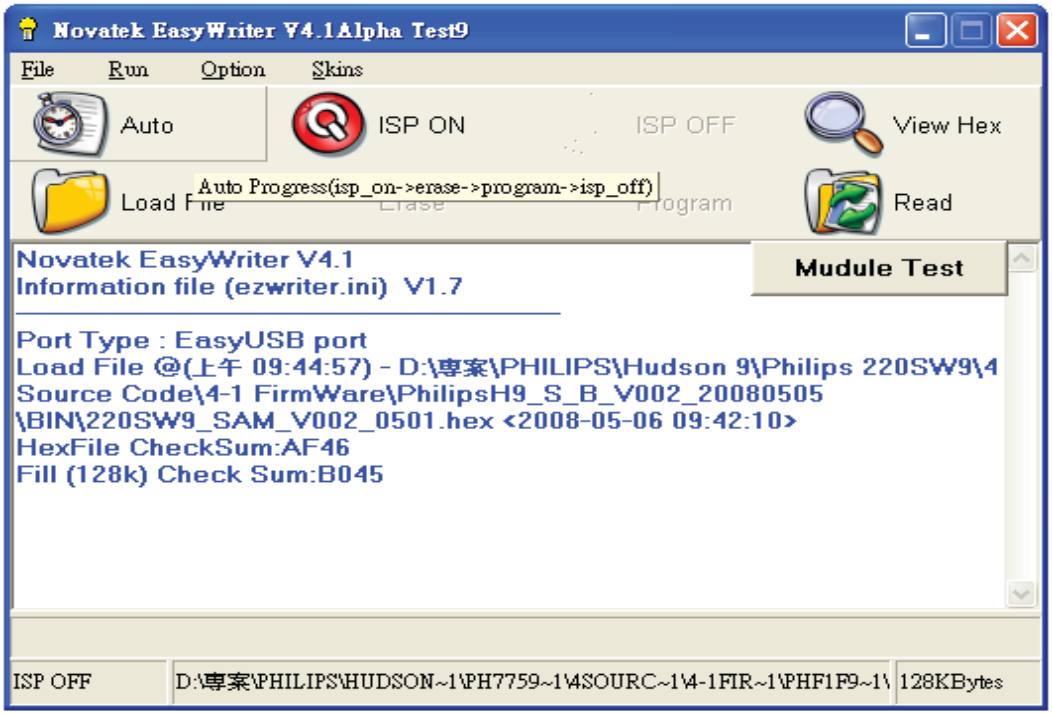


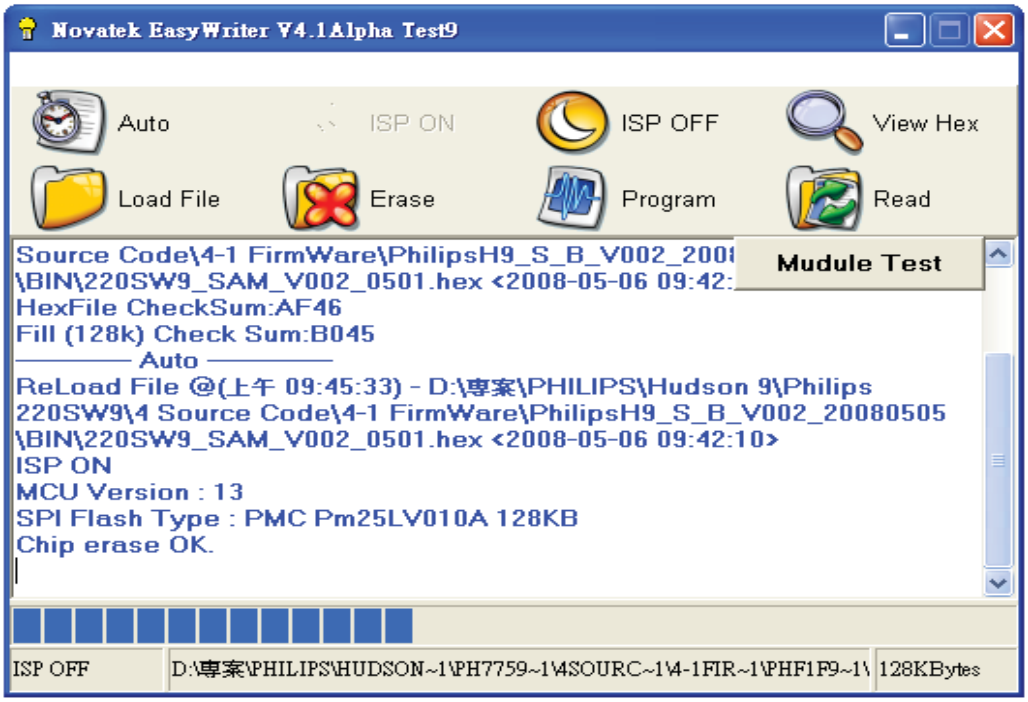
Step 3: Press Load File and choose *.hex



Firmware Upgrade for CPU

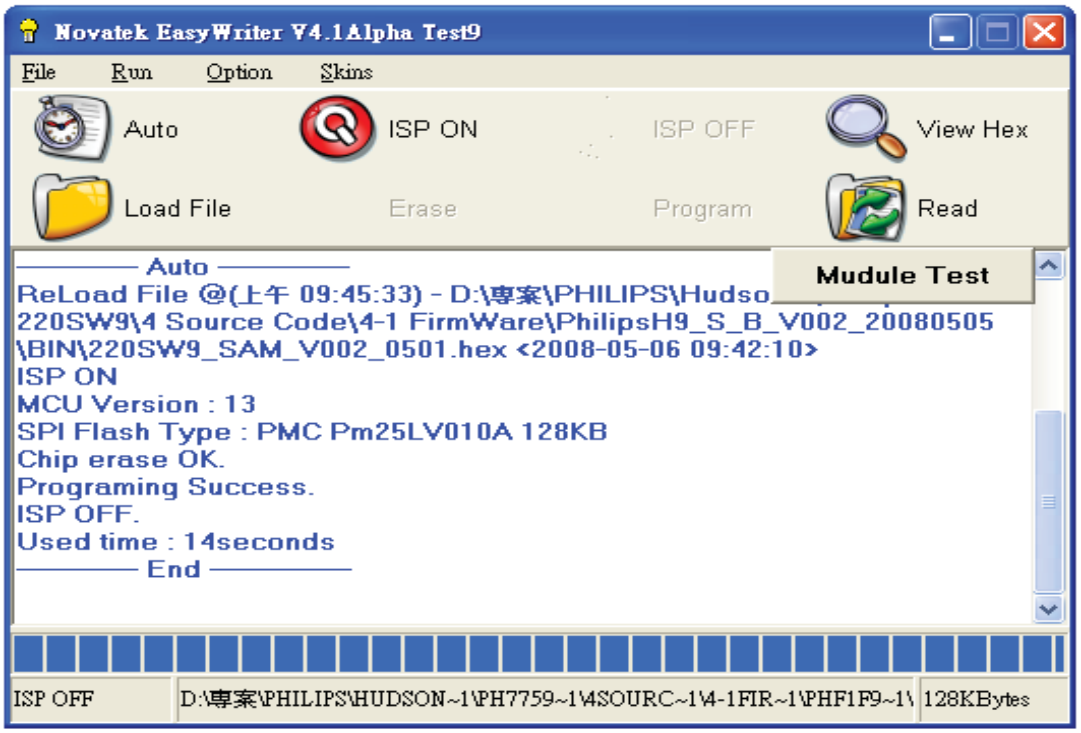
Step 4: Press “Auto” to upgrade FW





Firmware Upgrade for CPU

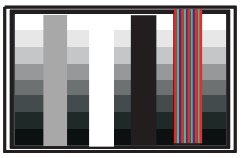
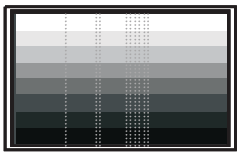
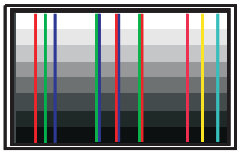
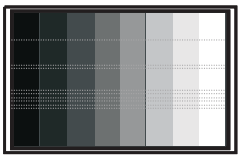
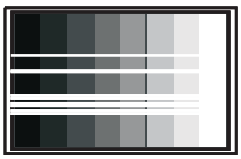
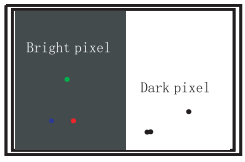
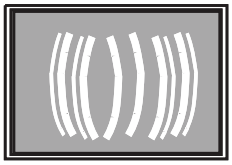
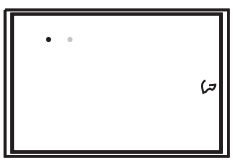
Step 5: Upgrade OK



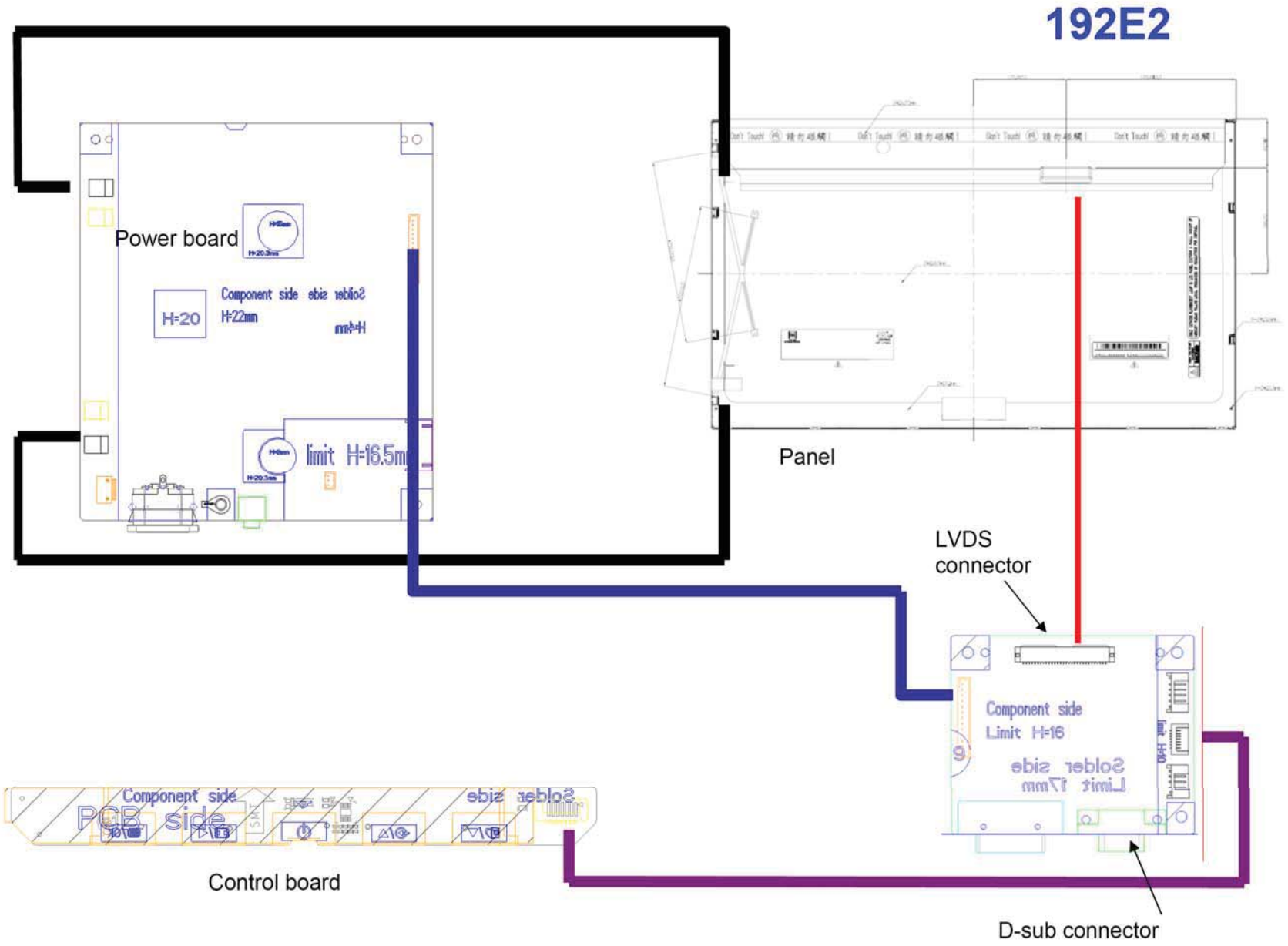
Failure Mode Of Panel

Quick reference for failure mode of LCD panel

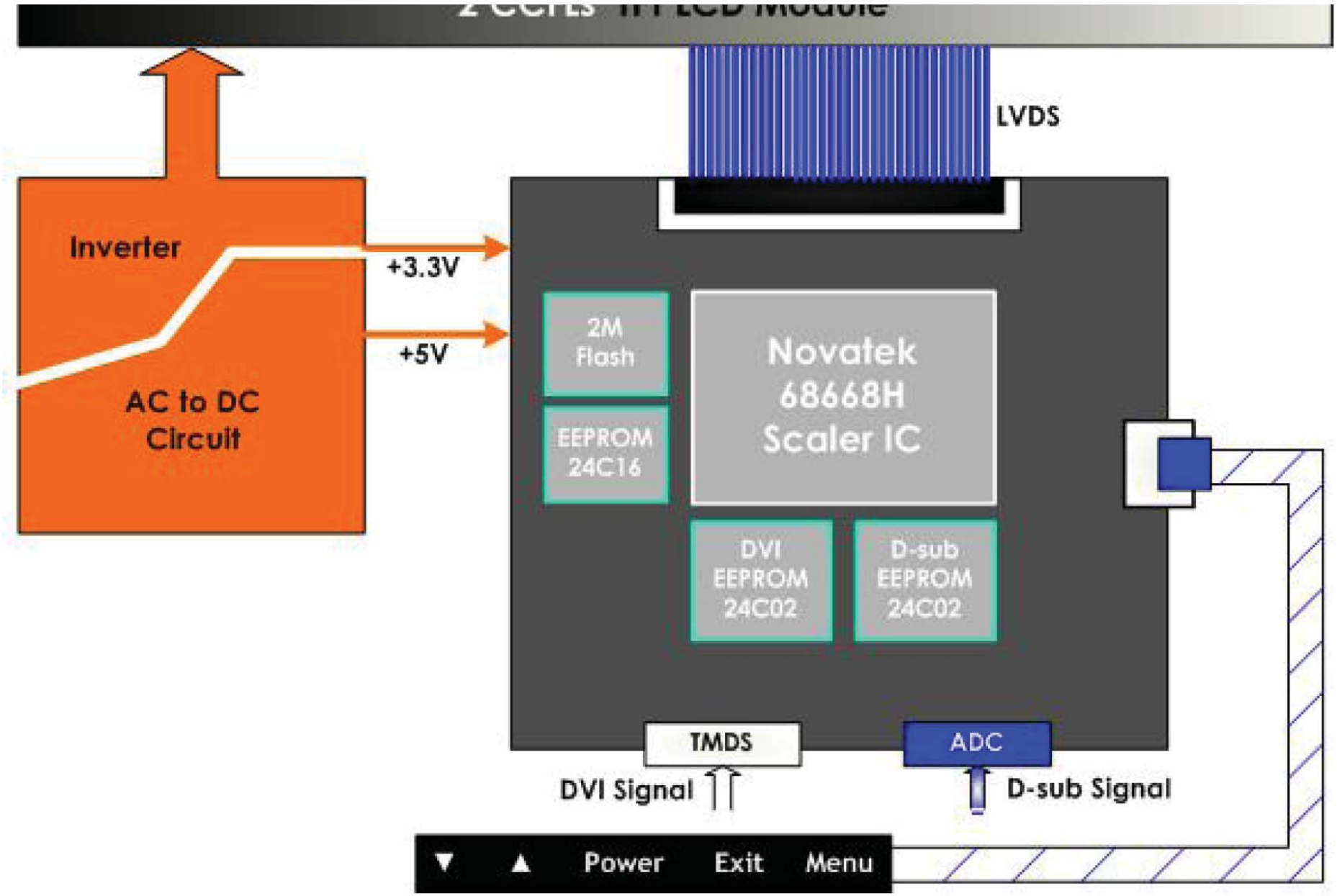
this page presents problems that could be made by LCD panel.
It is not necessary to repair circuit board. Simply follow the mechanical instruction on this manual to eliminate failure by replace LCD panel.

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

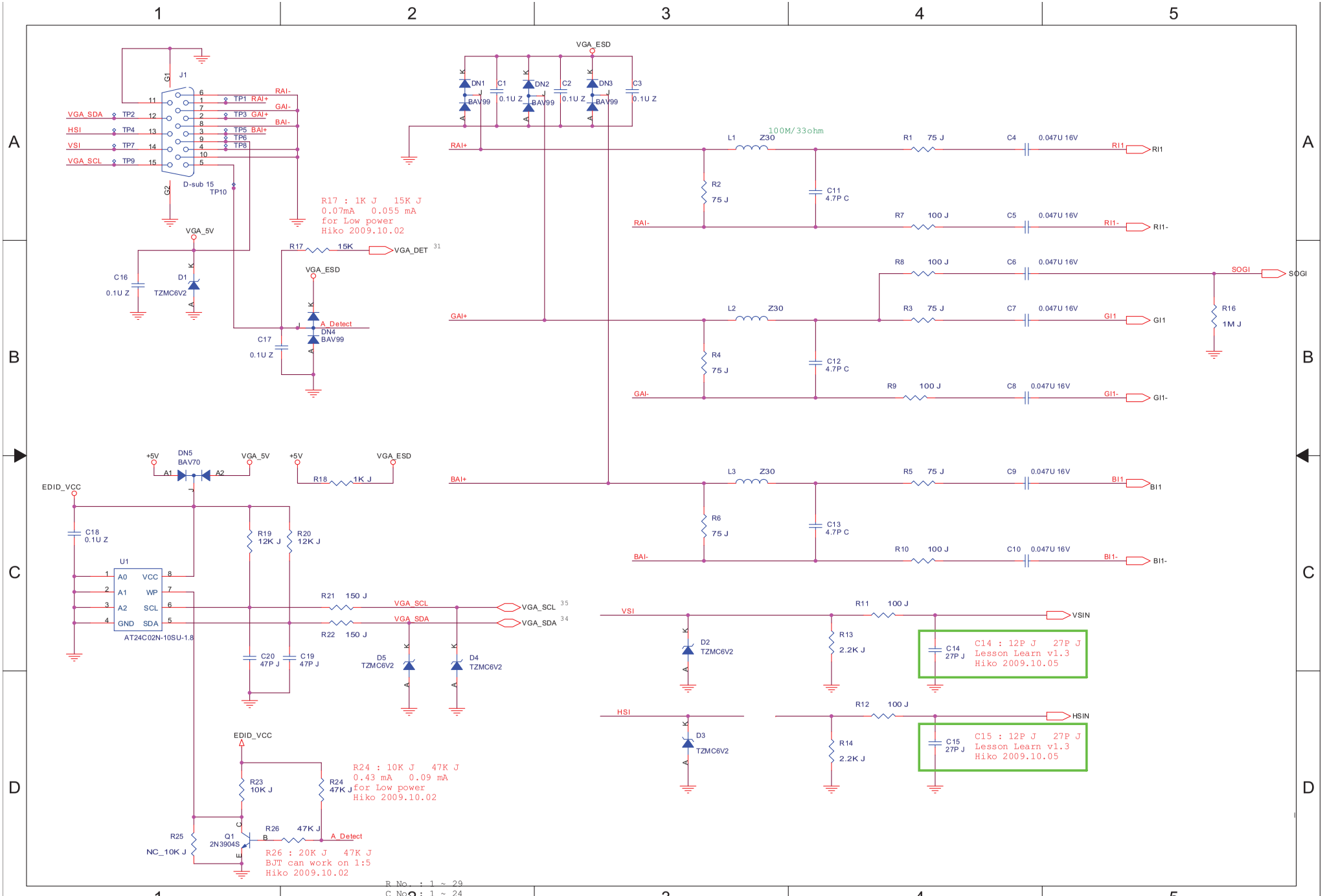
Wiring Diagram



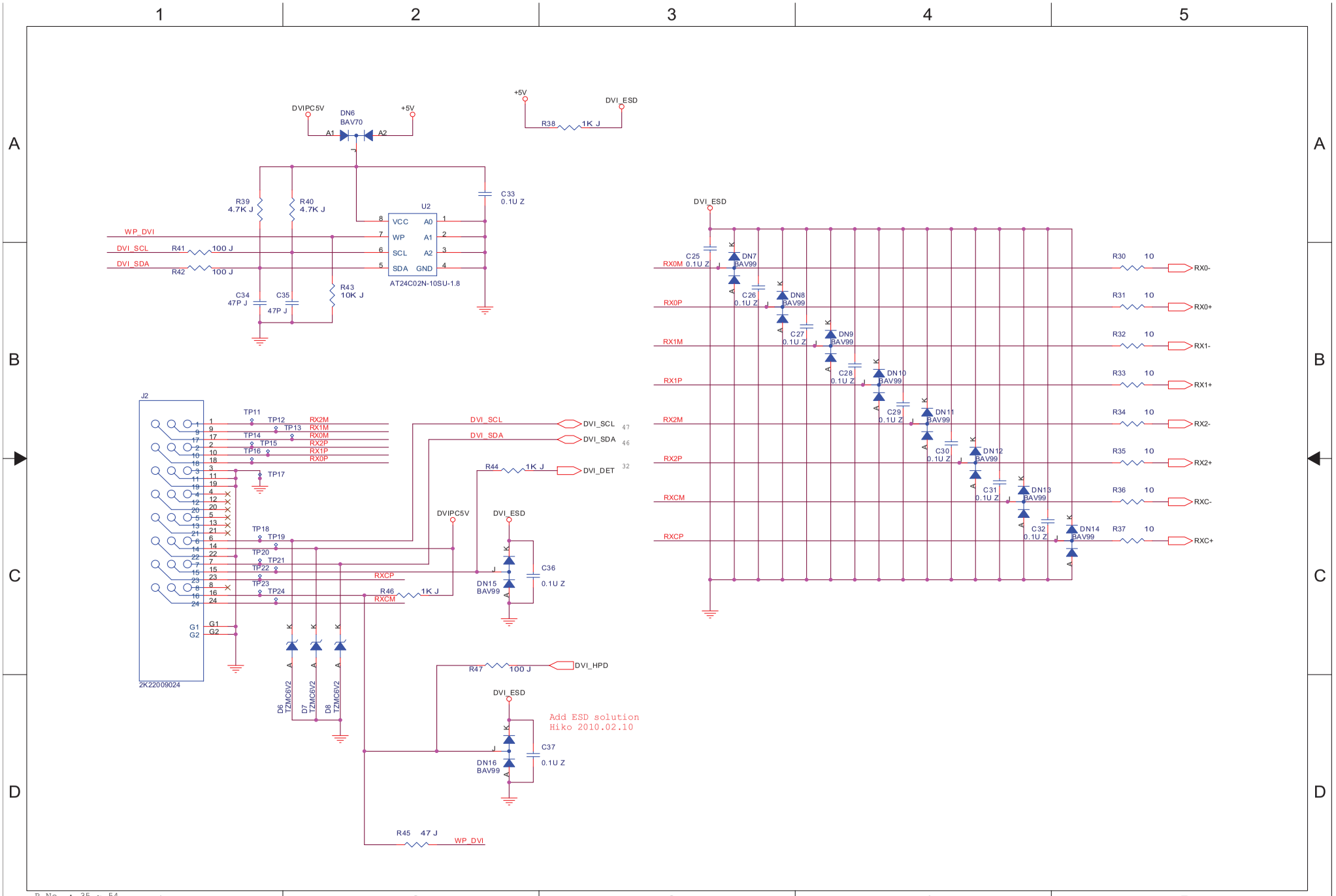
Block Diagram



Scalar Diagram & C.B.A

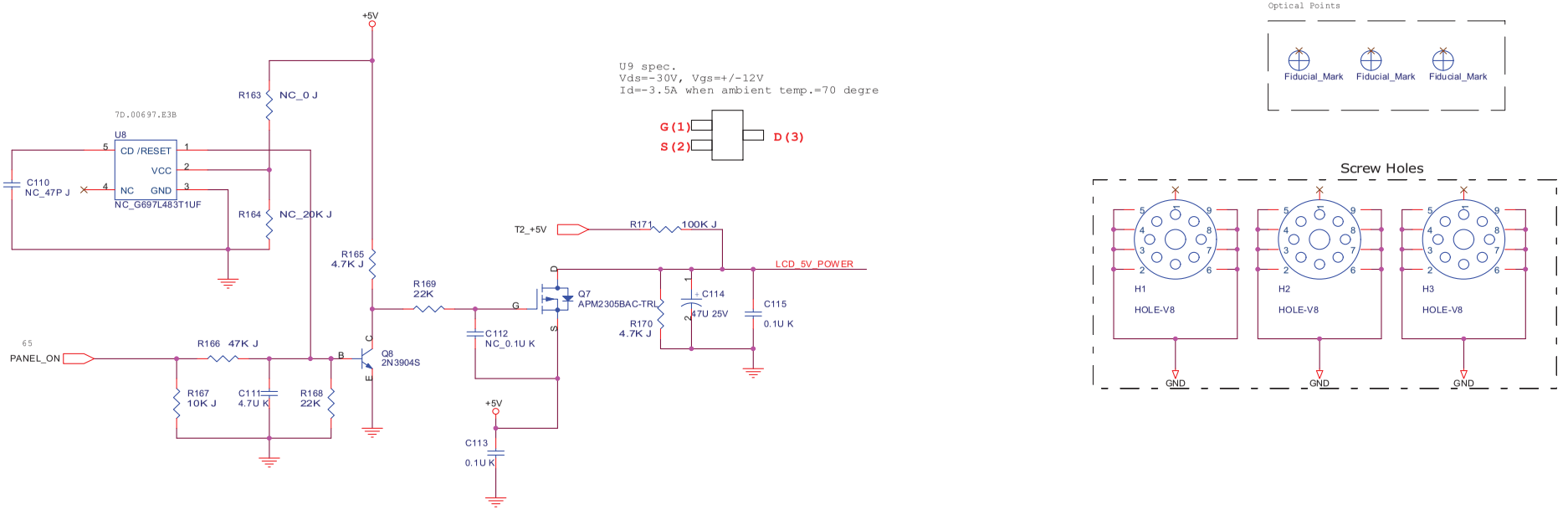


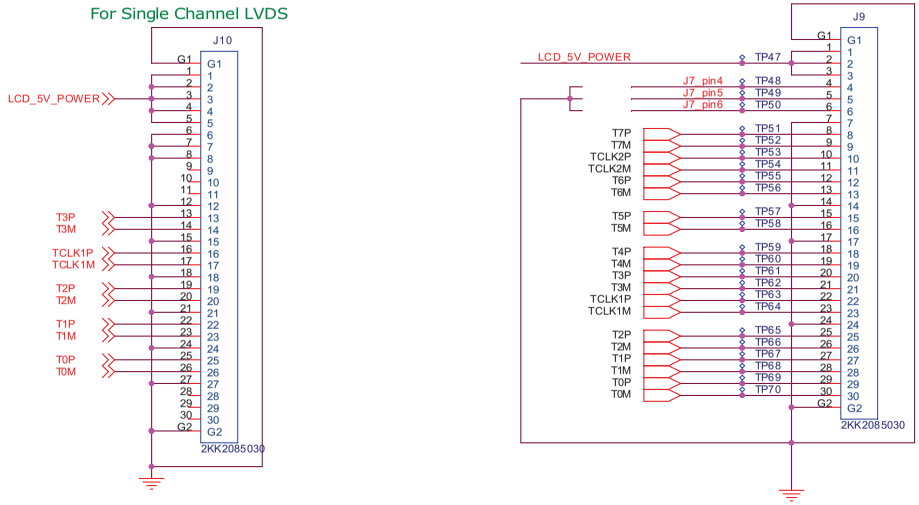
Scalar Diagram & C.B.A



R No. : 35 ~ 54
C No. : 25 ~ 39

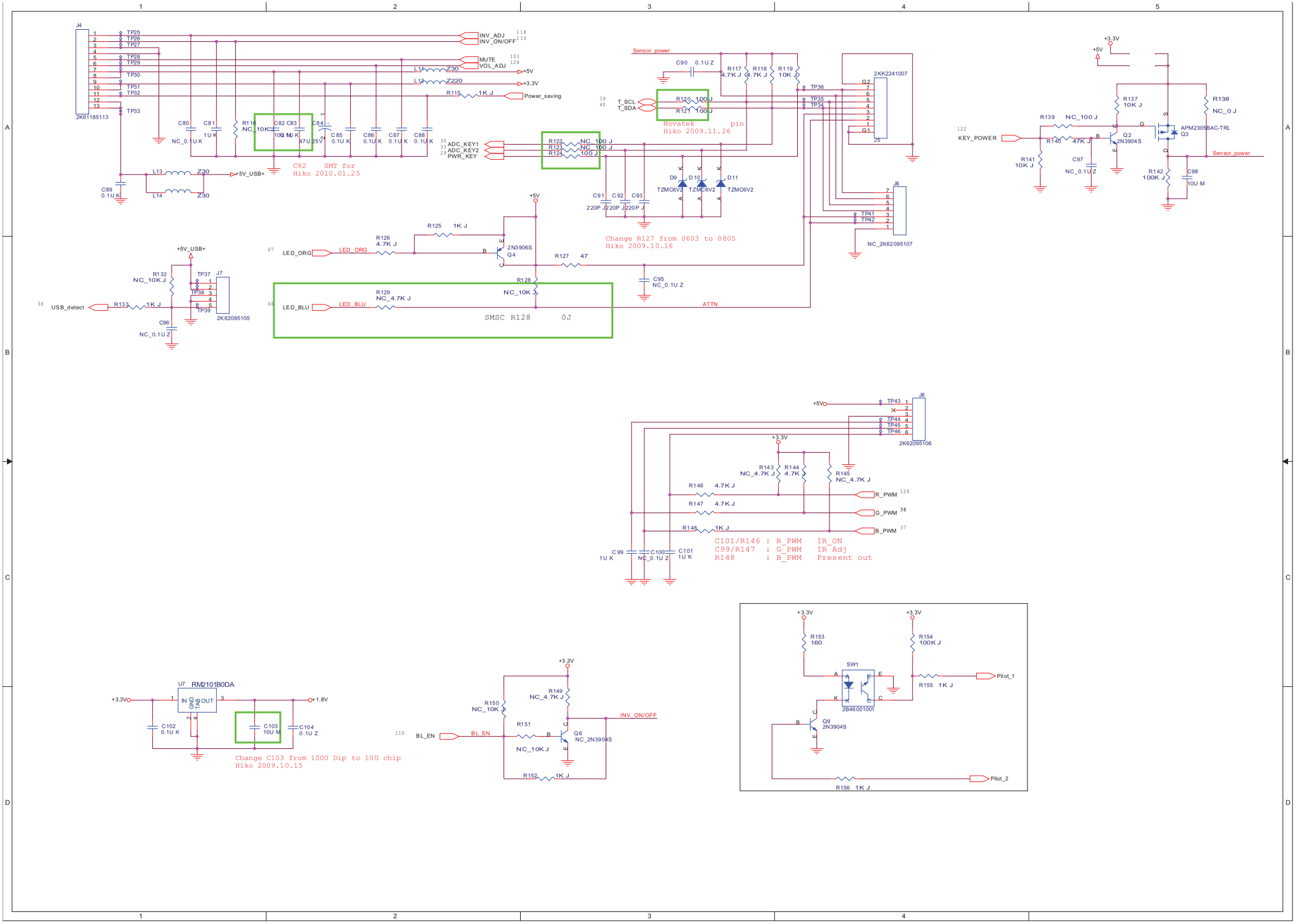
Scalar Diagram & C.B.A



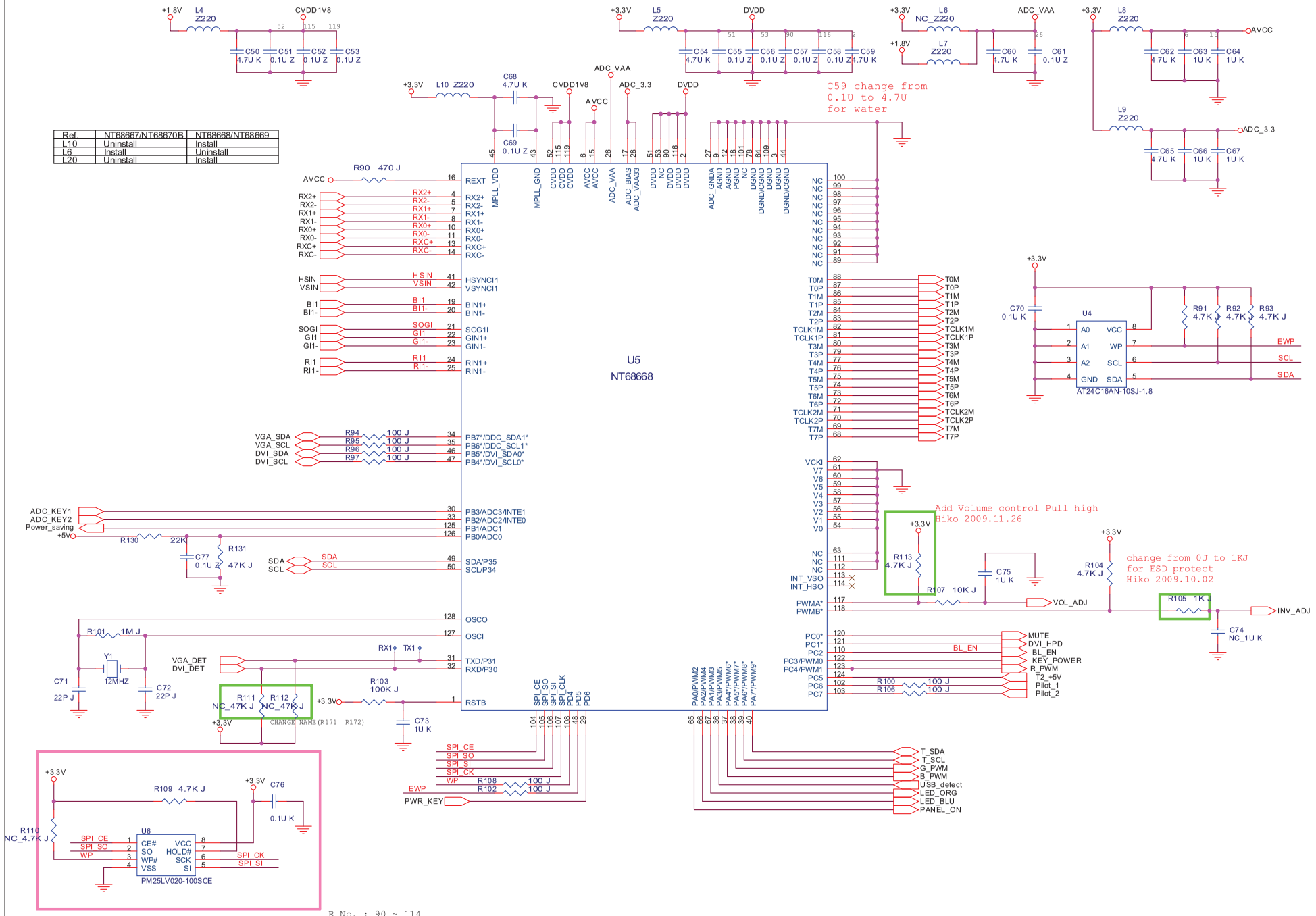


R No. : 160 ~ 175
C No. : 110 ~ 119

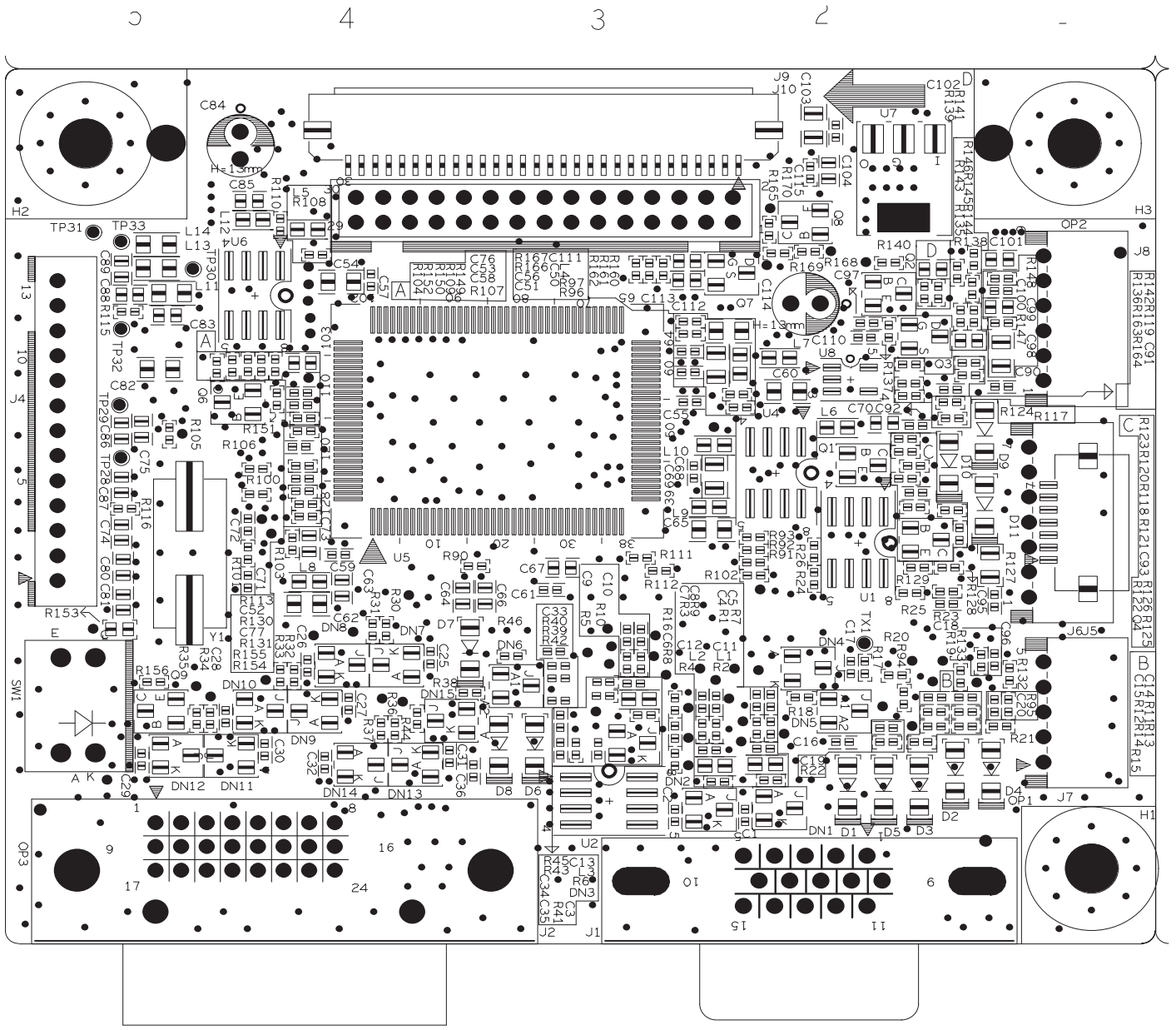
Scalar Diagram & C.B.A



Scalar Diagram & C.B.A



Scalar Diagram & C.B.A



Information
Y1: 690
Y2: 1380
Y3: 2070
X1: 2700
X2: 2025
X3: 1350
X4: 675

Top Side

A1:R21
A1:R15
A1:R14
A1:R13
A1:J7
A1:D4
A2:D2
A2:R9
A2:R7
A2:R4
A2:R3
A2:R22
A2:R2
A2:R1
A2:L2
A2:L1
A2:J1
A2:DN1
A2:D5
A2:D3
A2:D1
A2:C19
A2:C16
A2:C12
A2:C11
A2:C1
A3:U2
A3:R8
A3:R41
A3:DN3
A3:DN2
A3:DN15
A3:D8
A3:D6
A3:C6
A3:C36
A3:C35
A3:C3
A3:C2
A4:R37
A4:R36
A4:J2
A4:DN14
A4:DN13
A4:DN11
A4:C32
A4:C31
A4:C30
A5:DN12
A5:C29

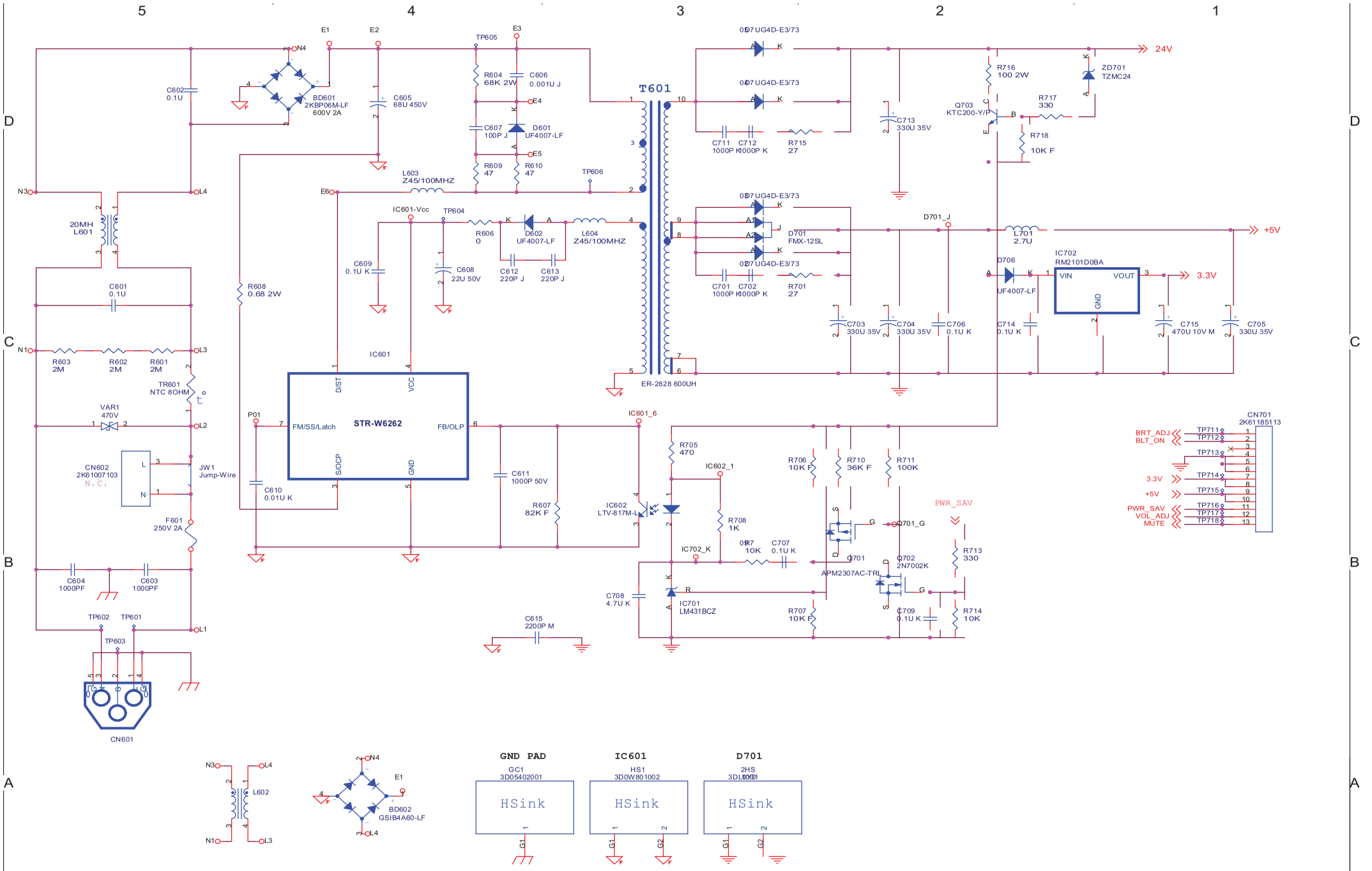
B1:R127
B1:R128
B1:R95
B1:R23
B1:R19
B1:R133
B1:R132
B1:R126
B1:R125
B1:R12
B1:R11
B1:J6
B1:J5
B1:C96
B1:C95
B1:C20
B1:C18
B1:C15
B1:C14
B2:U1
B2:TX1
B2:R94
B2:R93
B2:R92
B2:R91
B2:R26
B2:R25
B2:R24
B2:R22
B2:R18
B2:R17
B2:R129
B2:R122
B2:R102
B2:Q4
B2:L9
B2:DN5
B2:DN4
B2:C65
B2:C8
B2:C7
B2:C5
B2:C4
B2:C17
B3:RX1
B3:R112
B3:R111
B3:R90
B3:R6
B3:R5
B3:R46
B3:R45
B3:R43
B3:R42
B3:R40
B3:R39
B3:R38
B3:R16
B3:R10
B3:J3
B3:DN6
B3:D7
B3:C67
B3:C66
B3:C9
B3:C61
B3:C34
B3:C33
B3:C13
B3:C10
B4:U5
B4:R44
B4:R33
B4:R32
B4:R31
B4:R30
B4:R154
B4:R103
B4:R101
B4:L8
B4:DN9
B4:DN8
B4:DN7
B4:DN10
B4:C62
B4:C73
B4:C64
B4:C63
B4:C72
B4:C71
B4:C59
B4:C27
B4:C26
B4:C25
B5:SW1
B5:Y1
B5:R153
B5:R35
B5:R34
B5:R156
B5:R116
B5:Q9
B5:C81
B5:C80
B5:C74
B5:C28

C1:J8
C1:R136
C1:R147
C1:R145
C1:R144
C1:R142
C1:R135
C1:R124
C1:R119
C1:R117
C1:D9
C1:D11
C1:D10
C1:C98
C1:C99
C1:C91
C1:C90
C1:C100
C2:U8
C2:U4
C2:R97
C2:R96
C2:R164
C2:R163
C2:R137
C2:R136
C2:R123
C2:R121
C2:R120
C2:R118
C2:Q3
C2:Q1
C2:L7
C2:L6
C2:L4
C2:L10
C2:C114
C2:C68
C2:C60
C2:C50
C2:C111
C2:C70
C2:C97
C2:C93
C2:C92
C2:C110
C3:R167
C3:C69
C3:C56
C3:C55
C3:C51
C3:R166
C4:R130
C4:R113
C4:R155
C4:R151
C4:R150
C4:R149
C4:R109
C4:R107
C4:R106
C4:R100
C4:Q6
C4:C76
C4:C77
C4:C58
C4:C53
C4:C52
C5:R152
C5:R115
C5:R105
C5:R104
C5:L11
C5:J4
C5:C82
C5:C88
C5:C87
C5:C86
C5:C83
C5:C75

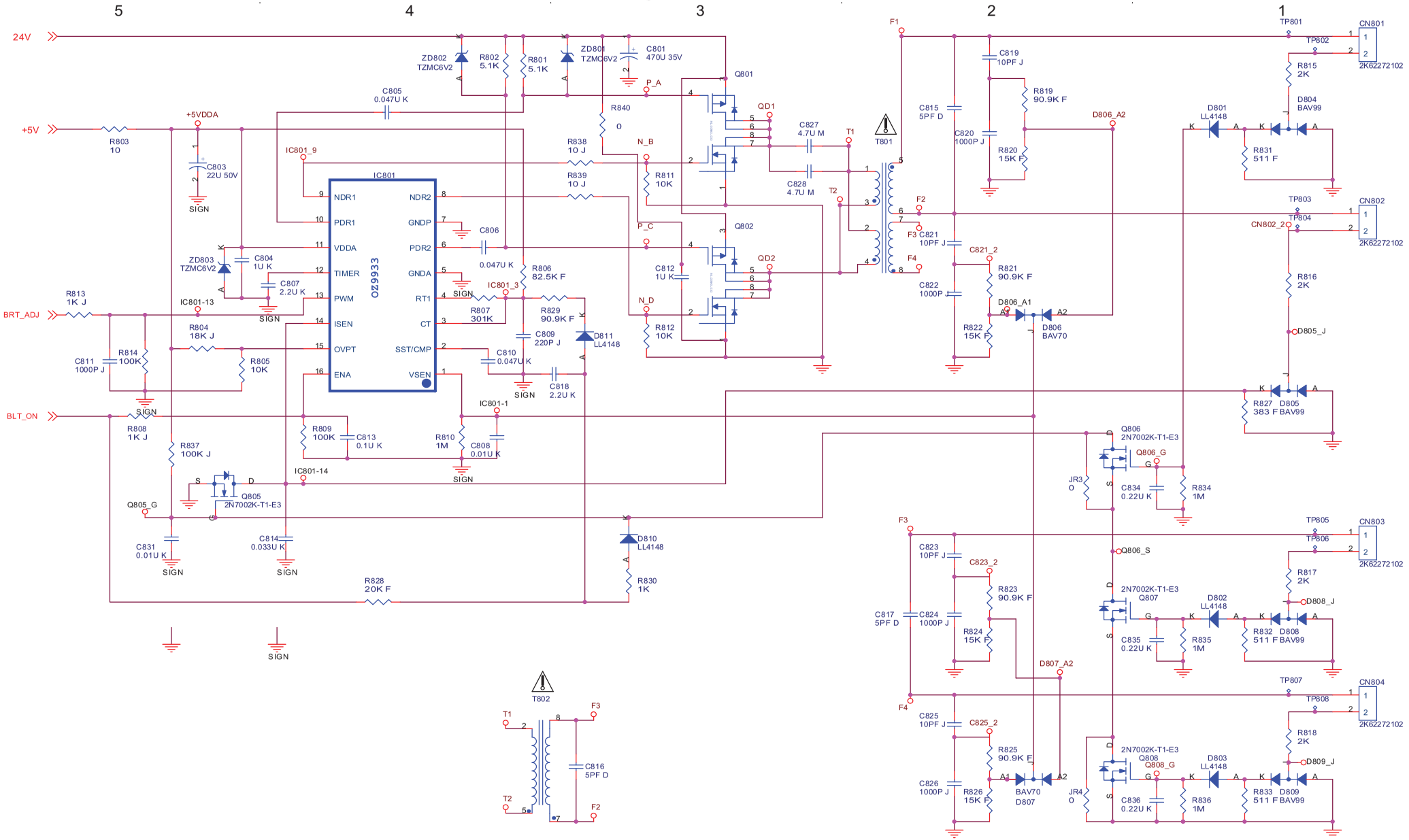
D1:R148
D1:R146
D1:R143
D1:R141
D1:C102
D1:C101
D2:U7
D2:R170
D2:R169
D2:R168
D2:R165
D2:R140
D2:R139
D2:Q7
D2:Q8
D2:Q2
D2:J9
D2:C103
D2:C115
D2:C104
D3:J10
D3:R162
D3:R161
D3:R160
D3:C113
D3:C112
D4:U6
D4:R110
D4:R108
D4:L5
D4:L12
D4:C84
D4:C54
D4:C85
D4:C57
D5:L14
D5:L13
D5:C89

FRONT

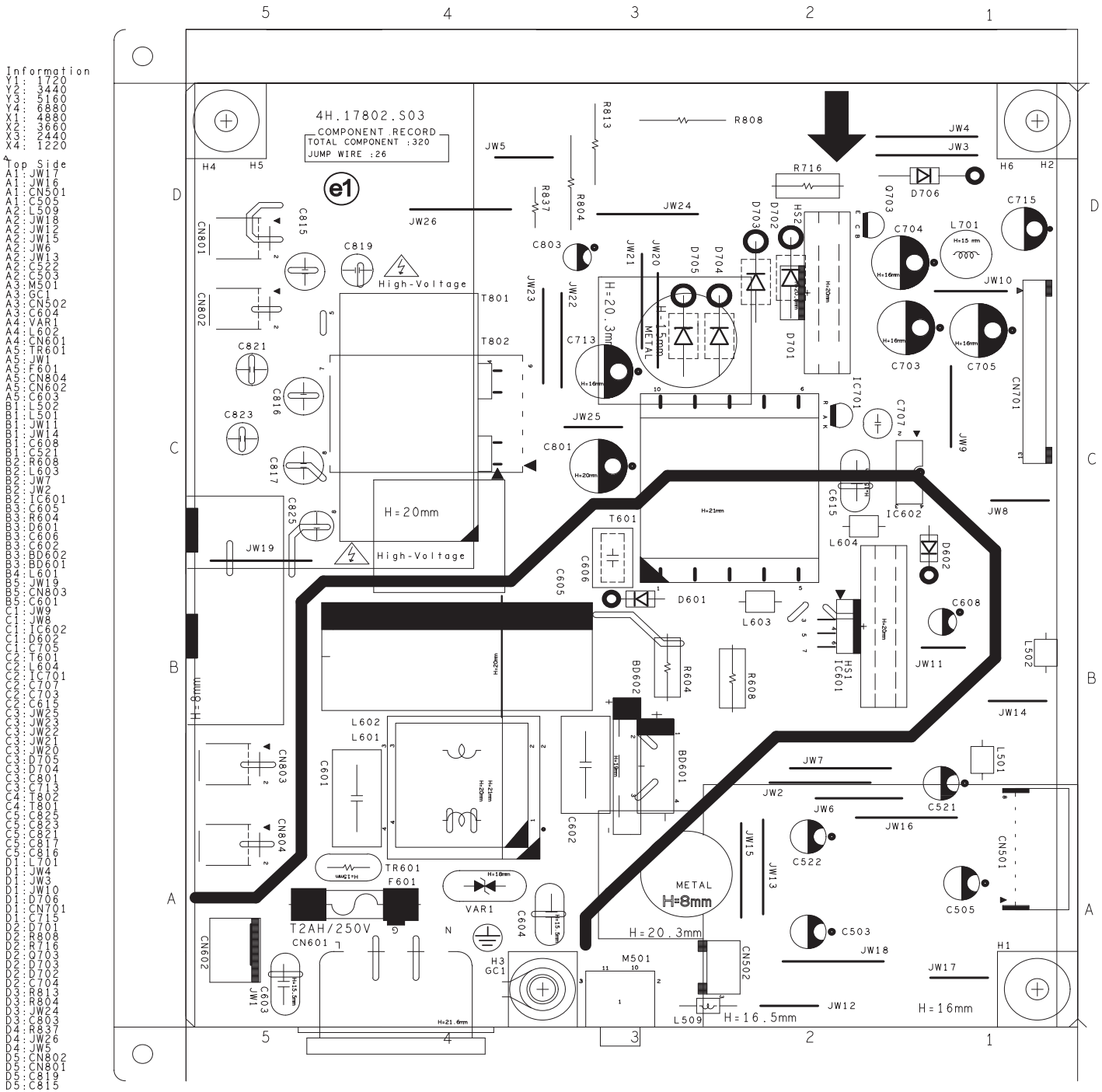
Power Diagram & C.B .A



Power Diagram & C.B .A



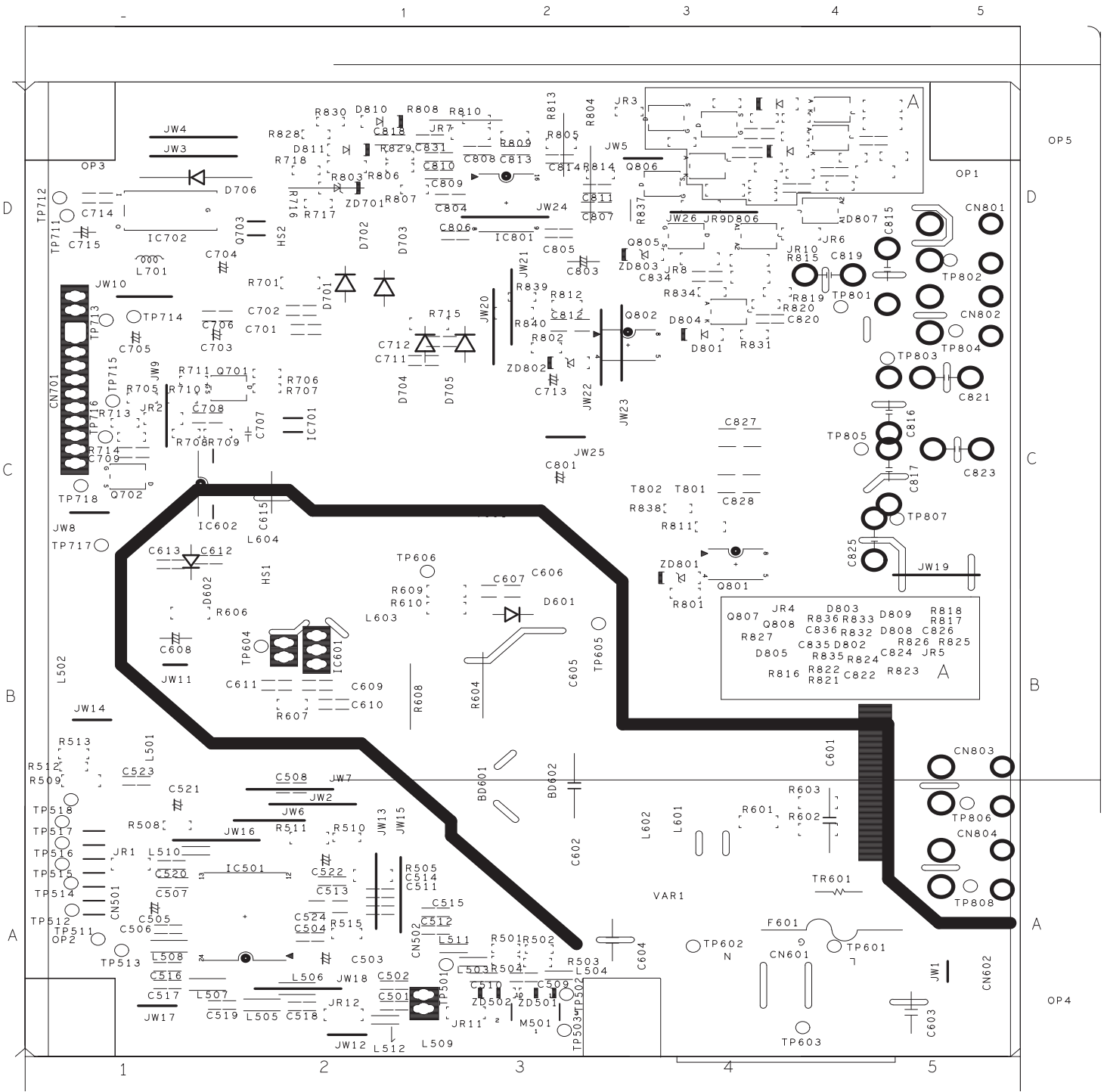
Power Diagram & C.B .A



Information
Y1: 1720
Y2: 3440
Y3: 5160
Y4: 6880
X1: 4880
X2: 3660
X3: 2440
X4: 1220

Top Side
A1:JW17
A1:JW16
A1:CN501
A1:C505
A2:L509
A2:JW18
A2:JW12
A2:JW15
A2:JW6
A2:JW13
A2:C522
A2:C503
A3:M501
A3:GC1
A3:CN502
A3:C604
A4:VAR1
A4:L602
A4:CN601
A5:TR601
A5:JW1
A5:F601
A5:CN804
A5:CN602
A5:C603
B1:L502
B1:L501
B1:JW11
B1:JW14
B1:C608
B1:C521
B2:R608
B2:L603
B2:JW7
B2:JW2
B2:IC601
B3:C605
B3:R604
B3:D601
B3:C606
B3:C602
B3:BD602
B3:BD601
B4:L601
B5:JW19
B5:CN803
B5:C601
C1:JW9
C1:JW8
C1:IC602
C1:D602
C1:C705
C2:T601
C2:L604
C2:IC701
C2:C707
C2:C703
C2:C615
C3:JW25
C3:JW23
C3:JW22
C3:JW21
C3:JW20
C3:D705
C3:D704
C3:C801
C3:C713
C4:T802
C4:T801
C5:C825
C5:C823
C5:C821
C5:C817
C5:C816
D1:L701
D1:JW4
D1:JW3
D1:JW10
D1:D706
D1:CN701
D1:C715
D2:D701
D2:R808
D2:R716
D2:Q703
D2:D703
D2:D702
D2:C704
D3:R813
D3:R804
D3:JW24
D3:C803
D4:R837
D4:JW26
D4:JW5
D5:CN802
D5:CN801
D5:C819
D5:C815

Power Diagram & C.B .A

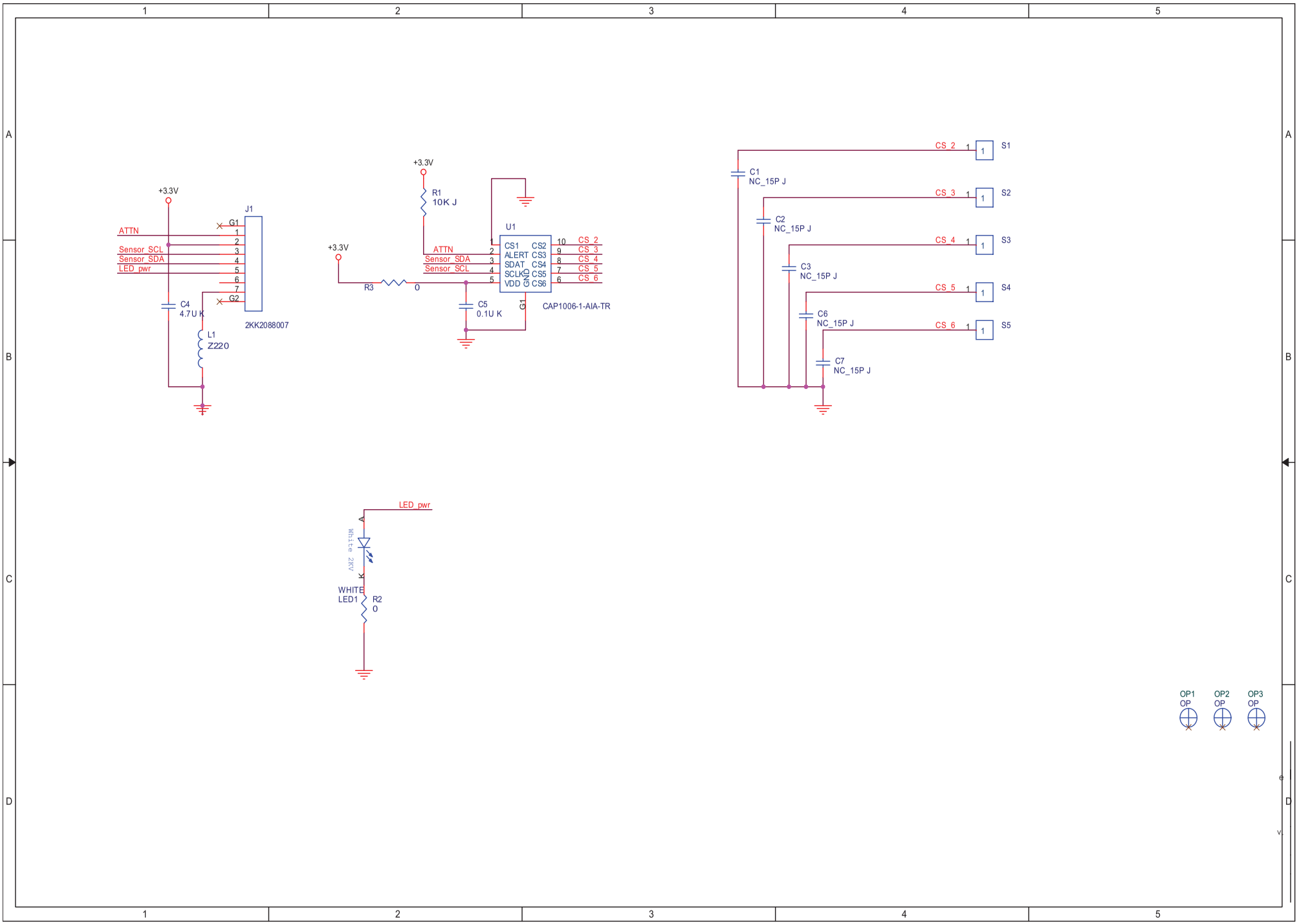


Information
Y1: 1720
Y2: 3440
Y3: 5160
Y4: 6880
X1: 4880
X2: 3660
X3: 2440
X4: 1220

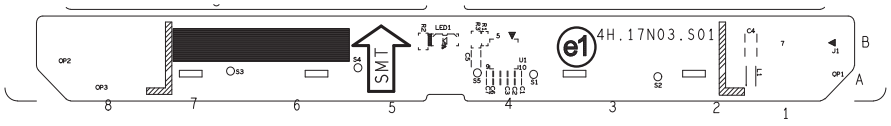
Bottom Side

D1:IC702 A1:L508
D1:C714 A1:L507
D1:C706 A1:L510
D2:ZD701 A1:JR1
D2:R803 A1:R508
D2:R701 A1:C507
D2:R718 A1:C520
D2:R830 A1:C519
D2:R829 A1:C517
D2:R828 A1:C516
D2:R807 A1:C506
D2:R806 A2:R515
D2:R717 A2:L506
D2:D811 A2:L505
D2:D810 A2:L512
D2:C702 A2:JR12
D2:C818 A2:R511
D3:R805 A2:R505
D3:R804 A2:R501
D3:IC801 A2:IC501
D3:R715 A2:C524
D3:JR7 A2:C502
D3:R839 A2:C501
D3:R814 A2:C518
D3:R810 A2:C514
D3:R809 A2:C513
D3:IC801 A2:C511
D3:C812 A2:C504
D3:C807 A3:ZD502
D3:C804 A3:ZD501
D3:C831 A3:L511
D3:C814 A3:L504
D3:C813 A3:L503
D3:C811 A3:JR11
D3:C810 A3:R504
D3:C809 A3:R503
D3:C808 A3:R502
D3:C806 A3:R501
D3:C805 A3:C515
D4:ZD803 A3:C512
D4:Q808 A3:C510
D4:Q807 A3:C509
D4:Q806 A4:R602
D4:Q805 A4:R601
D4:R816 B1:R513
D4:R815 B1:R606
D4:JR9 B1:R509
D4:JR8 B1:R512
D4:JR6 B1:C523
D4:JR10 B2:R607
D4:JR4 B2:C611
D4:JR3 B2:C610
D4:R836 B2:C609
D4:R835 B2:C508
D4:R834 B3:R610
D4:R833 B3:R609
D4:R832 B3:C607
D4:R827 B4:ZD801
D4:R824 B4:R801
D4:R822 B4:R603
D4:R821 C1:R710
D4:R820 C1:R705
D4:R819 C1:Q702
D4:D807 C1:JR2
D4:D806 C1:R714
D4:D805 C1:R713
D4:D804 C1:R711
D4:D803 C1:R709
D4:C836 C1:R708
D4:C835 C1:C709
D4:C824 C1:C706
D5:R818 C1:C613
D5:R817 C1:C612
D5:JR5 C2:R707
D5:R826 C2:R706
D5:R825 C2:C701
D5:R823 C3:ZD503
D5:D809 C3:ZD502
D5:D808 C3:R802
D5:C826 C4:R712
D5:C824 C4:R811
C4:Q802
C4:Q801
C4:R838
C4:R831
C4:D801

Control Diagram & C.B.A.



Control Diagram & C.B.A.



Information
Y1: 256
Y2: 805
X1: 5229
X2: 4550
X3: 3900
X4: 3250
X5: 2600
X6: 1950
X7: 1300
X8: 650

Top Side
A3:L1
A4:S2
A5:C2
A5:C1
A5:C7
A5:C6
A5:C3
A5:S1
A5:S5
A6:S4
A8:S3
B2:J1
B3:C4
B5:C5
B5:R3
B5:U1
B5:R1
B6:R2
B6:LED1

General Product Specification

Meridian 2-192E2/192EL2 GENERAL PRODUCT SPECIFICATION

Issued by: Argent Chan/Paul Tsai

Revision History

Ver.	Date (yy.mm.dd)	Author	Brief Description

Blue: Changes than last version

Red: TBD

General Product Specification

ANALOG AND DIGITAL (optional) DUAL INPUT

. AUTO PICTURE ADJUSTMENT

. 43 PRESET MODES WHICH CAN BE RECOVERED TO PRESET MODES

. USER FRIENDLY OSD DISPLAY FOR MODE IDENTIFICATION /ADJUSTMENT

. MAX. RESOLUTION 1366 x 768 NON-INTERLACED AT 60 Hz

. 18.5" COLOR TFT LCD FLAT PANEL

. FULL RANGE POWER SUPPLY 90 – 264 VAC

. CE ENVIRONMENTAL POLICY

. ANTI-GLARE TO REDUCE LIGHT REFLECTION

. POWER MANAGEMENT CAPABILITY

. SOG SUPPORT

. Windows Vista Premium Logo Certification

. HDCP support

. SMART CONTROL & SMART MANAGEMENT REQUIREMENT

. SMARTContrast 2CCFL : 500,000:1 ; WLED : 20,000,000:1 (Typical)

. SMART Image Lite

. PrefectTune I (formerly FGA, FACTORY GAMMA Alignment)

. PHILIPS LOGO displayed while power on

. WEEE REQUIREMENT

. RoHS REQUIREMENT

. TCO 5.0 REQUIREMENT

General Product Specification

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General Product Specification

General Product Specification

General Product Specification

1 FOREWORD

This specification describes a 18.5" WXGA multi-scan color TFT LCD monitor with maximum resolution up to 1366 x 768 /60Hz non-interlaced. This model uses 250nits panel.

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

2 PRODUCT PROFILE

2.1 EDID header

1	User visible strings on .inf file	Philips 192E (19inch WIDE LCD MONITOR 192E2) Philips 192EL (19inch WIDE LCD MONITOR 192EL2)
2	Manufacturer ID (EDID data)	PHL
3	Product ID, "xxxx" 4 codes	MSB(byte 12): C0
		LSB (byte 11): 192E2:4D ; 192EL2:4E
4	maximum resolution	1366x768
5	Horizontal Frequency Range	30~83 KHz
6	Vertical Frequency Range	56~76Hz
7	Monitor Name (13 characters max.)	Philips 192E Philips 192EL

* Detail timing description in **DVI** EDID: Reduced blanking 1366 x768@60Hz

2.2 Panel spec

Suppliers to offer panel specifications.

Panel incoming specification: Follow Philips' specification.

192E2

SEC

Type NR. : SEC LTM185AT01
Resolution : 1366x768
Outline dimensions : 430.4(H) x 254.6(V) x 16.5(D) mm
Pixel Pitch (mm) : 0.300mm x 0.300mm
Color pixel arrangement :1366 horizontal By 768 vertical Pixels. RGB stripe arrangement
Display surface treatment : Hard coating (3H), Anti-glare treatment of the front polarizer
Color depth : 16.7 M colors 6-bit with H-FRC, 16.7M colors
Backlight : 2 CCFL
Active area (W x H) : Vertical 409.8mm x Horizontal 230.4mm
View angle (CR>10) : >=160 for H/V
Contrast ratio : 1000:1(Typ.)

General Product Specification

White luminance	: 250 nit(Typ.)
Color gamut	: >=72%
Gate IC	: LDI
Source IC	: N/A
Response time	: 5 ms
Vertical frequency range	: 47~75 Hz

CMO

Type NR.	: CMO M185B1-L02
Resolution	: 1366x768
Outline dimensions	: 430.4(H) x 254.6(V) x 16.25(D) mm
Pixel Pitch (mm)	: 0.300mm x 0.300mm
Color pixel arrangement	:1366 horizontal By 768 vertical Pixels. RGB stripe arrangement
Display surface treatment	: Hard coating (3H), Anti-glare treatment of the front polarizer
Color depth	: 16.7 M colors 6-bit with H-FRC, 16.7M colors
Backlight	: 2 CCFL
Active area (W x H)	: Vertical 409.8mm x Horizontal 230.4mm
View angle (CR>10)	: >=170/160 for H/V
Contrast ratio	: 1000:1(Typ.)
White luminance	: 250 nit(Typ.)
Color gamut	: >=72%
Gate IC	: HiMax/Novatek
Source IC	: HiMax
Response time	: 5 ms
Vertical frequency range	: 40~75 Hz

AUO

Type NR.	: AUO M185XW01 VB
Resolution	: 1366x768
Outline dimensions	: 430.4(H) x 254.6(V) x 11(D) mm
Pixel Pitch (mm)	: 0.300mm x 0.300mm
Color pixel arrangement	:1366 horizontal By 768 vertical Pixels. RGB stripe arrangement
Display surface treatment	: Hard coating (3H), Anti-glare treatment of the front polarizer
Color depth	: 16.7 M colors 6-bit with H-FRC, 16.7M colors
Backlight	: 2 CCFL
Active area (W x H)	: Vertical 409.8mm x Horizontal 230.4mm
View angle (CR>10)	: >=160 for H/V
Contrast ratio	: 1000:1(Typ.)
White luminance	: 250 nit(Typ.)
Color gamut	: >=72%
Gate IC	: LDI
Source IC	: N/A
Response time	: 5 ms
Vertical frequency range	: 47~75 Hz

General Product Specification

CPT

Type NR.	: CPT CLAA185WA03 V2
Resolution	: 1366x768
Outline dimensions	: 430.4(H) x 254.6(V) x 16.5(D) mm
Pixel Pitch (mm)	: 0.300mm x 0.300mm
Color pixel arrangement	:1366 horizontal By 768 vertical Pixels. RGB stripe arrangement
Display surface treatment	: Hard coating (3H), Anti-glare treatment of the front polarizer
Color depth	: 16.7 M colors 6-bit with H-FRC, 16.7M colors
Backlight	: 2 CCFL
Active area (W x H)	: Vertical 409.8mm x Horizontal 230.4mm
View angle (CR>10)	: >=160/160 for H/V
Contrast ratio	: 1000:1(Typ.)
White luminance	: 250 nit(Typ.)
Color gamut	: >=72%
Gate IC	: HiMax/Novatek
Source IC	: HiMax
Response time	: 5 ms
Vertical frequency range	: 40~75 Hz

192EL2

AUO

Type NR.	: AUO M185WX01 V6
Resolution	: 1366x768
Outline dimensions	: 430.4(H) x 254.6(V) x 9.9(D) mm
Pixel Pitch (mm)	: 0.300mm x 0.300mm
Color pixel arrangement	:1366 horizontal By 768 vertical Pixels. RGB stripe arrangement
Display surface treatment	: Hard coating (3H), Anti-glare treatment of the front polarizer
Color depth	: 16.7 M colors 6-bit with H-FRC, 16.7M colors
Backlight	: WLED
Active area (W x H)	: Vertical 409.8mm x Horizontal 230.4mm
View angle (CR>10)	: >=170/160 for H/V
Contrast ratio	: 1000:1(Typ.)
White luminance	: 250 nit(Typ.)
Color gamut	: >=72%
Gate IC	: Raydium/Novatek
Source IC	: GOA
Response time	: 5 ms
Vertical frequency range	: 50~75 Hz

SEC

Type NR.	: SEC LTM185AT04
Resolution	: 1366x768
Outline dimensions	: 430.37(H) x 254.6(V) x 12.3(D) mm
Pixel Pitch (mm)	: 0.300mm x 0.300mm
Color pixel arrangement	:1366 horizontal By 768 vertical Pixels. RGB stripe arrangement

General Product Specification

Display surface treatment	: Hard coating (3H), Anti-glare treatment of the front polarizer
Color depth	: 16.7 M colors 6-bit with H-FRC, 16.7M colors
Backlight	: WLED
Active area (W x H)	: Vertical 409.8mm x Horizontal 230.4mm
View angle (CR>10)	: >=170/160 for H/V
Contrast ratio	: 1000:1(Typ.)
White luminance	: 250 nit(Typ.)
Color gamut	: >=72%
Gate IC	: Raydium/Novatek
Source IC	: GOA
Response time	: 5 ms
Vertical frequency range	: 50~75 Hz

AUO

Type NR.	: AUO M185WX01 VD
Resolution	: 1366x768
Outline dimensions	: 430.4(H) x 254.6(V) x 9.9(D) mm
Pixel Pitch (mm)	: 0.300mm x 0.300mm
Color pixel arrangement	:1366 horizontal By 768 vertical Pixels. RGB stripe arrangement
Display surface treatment	: Hard coating (3H), Anti-glare treatment of the front polarizer
Color depth	: 16.7 M colors 6-bit with H-FRC, 16.7M colors
Backlight	: WLED
Active area (W x H)	: Vertical 409.8mm x Horizontal 230.4mm
View angle (CR>10)	: >=170/160 for H/V
Contrast ratio	: 1000:1(Typ.)
White luminance	: 250 nit(Typ.)
Color gamut	: >=72%
Gate IC	: Raydium/Novatek
Source IC	: GOA
Response time	: 5 ms
Vertical frequency range	: 50~75 Hz

CPT

Type NR.	: CPT CLAA185WA04 V2
Resolution	: 1366x768
Outline dimensions	: 430.4(H) x 254.6(V) x 11(D) mm
Pixel Pitch (mm)	: 0.300mm x 0.300mm
Color pixel arrangement	:1366 horizontal By 768 vertical Pixels. RGB stripe arrangement
Display surface treatment	: Hard coating (3H), Anti-glare treatment of the front polarizer
Color depth	: 16.7 M colors 6-bit with H-FRC, 16.7M colors
Backlight	: WLED
Active area (W x H)	: Vertical 409.8mm x Horizontal 230.4mm
View angle (CR>10)	: >=160/160 for H/V
Contrast ratio	: 1000:1(Typ.)
White luminance	: 250 nit(Typ.)
Color gamut	: >=72%
Gate IC	: Raydium/Novatek
Source IC	: GOA

General Product Specification

Response time	: 5 ms
Vertical frequency range	: 50~75 Hz

CMI

Type NR.	: CMI M185B3LA1
Resolution	: 1366x768
Outline dimensions	: 430.4(H) x 254.6(V) x 10.5(D) mm
Pixel Pitch (mm)	: 0.300mm x 0.300mm
Color pixel arrangement	:1366 horizontal By 768 vertical Pixels. RGB stripe arrangement
Display surface treatment	: Hard coating (3H), Anti-glare treatment of the front polarizer
Color depth	: 16.7 M colors 6-bit with H-FRC, 16.7M colors
Backlight	: WLED
Active area (W x H)	: Vertical 409.8mm x Horizontal 230.4mm
View angle (CR>10)	: >=160/160 for H/V
Contrast ratio	: 1000:1(Typ.)
White luminance	: 250 nit(Typ.)
Color gamut	: >=72%
Gate IC	: Raydium/Novatek
Source IC	: GOA
Response time	: 5 ms
Vertical frequency range	: 50~75 Hz

2.3 Scanning frequencies

Hor. : 30 – 83 K Hz
Ver. : 56 - 76 Hz
Video dot rate: < 140 MHz for VGA and < 140 MHz for DVI, warning message must be displayed while over 165 MHz (supplier to provide accurate scalar bandwidth number)
Power input: 90-264 V AC, 50/60 ± 2 Hz
Power consumption:
On mode: < 30W (max.), 24W (typ.)
EPA 5.0 spec. < 16.5 watt
EPA 5.0 measure data < 16.5 watt

Functions:
(1) D-SUB analog R/G/B separate inputs, H/V sync separated, Composite (H+V) TTL level, SOG sync
(2) DVI digital Panel Link TMDS inputs, HDCP supported.

2.4 Ambient temperature:

0 °C - 40 °C

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 PerfecTune feature and Philips OSD

General Product Specification

3) Scaler must support smart contrast

2CCFL model 500,000:1 . WLED model : 20,000,000:1

3.1 Interface signals

1). D-Sub Analog

Input signal : Video, Hsync., Vsync
Video : 0.7 Vp-p, input impedance, 75 ohm @DC
Sync. : Separate sync TTL level, input impedance 2.2k ohm terminate
Hsync Positive/Negative
Vsync Positive/Negative

Composite sync TTL level, input impedance 2.2k ohm terminate (Positive/Negative)
Sync on green video 0.3 Vp-p Negative (Video 0.7 Vp-p Positive)

2). DVI-D Digital

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

3). USB HUB

N/A

4). Audio

N/A

3.2 Interface

3.2.1 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

General Product Specification

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

3.2.2 DVI Cable

The input signals are applied to the display through DVI-D cable.
Length : 1.8 M +/- 50 mm
Connector type : DVI-D male with DDC-2B pin assignments
White connector thumb-operated jackscrews. With transplant pin protective cover.

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-

General Product Specification

3.3 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.

3.3.1 Mode storing capacity

Preset modes : 43

192E(L)2 Timing Table.xls

Video timing mode (internal firmware support) ,

60Hz: 480p/720p/1080i/1080p

50Hz: 576p/720p/1080i/1080p

For these video timings , can only approve shown on screen, but not make sure has right picture quality.

General Product Specification

3.3.3 Software control functions via OSD / control adjustable functions:

Please refer to following M1 OSD definitions, if any deviation, then refer to PVT Exit sample.

ITEM			
1	OSD DEFINITIONS	 Hudson 8 OSD Definition - v14.doc	Reset - No: Exit Yes: Auto adjustment for displaying timing mode and recall factory preset
2	OSD LANGUAGES	 H8 OSD translation - 20070425 - Final.xls  H9 new item translation _ 2008041	8 LANGUAGES
3	OSD TREE	 M2 OSD Button definition _ 20100125	
4	POWER ON LOGO	 19W_1366x768_new .bmp	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.
5	Audio Selection	Stand-alone – On: Isolate video and audio control input Stand-alone – Off: Integrate video and audio control input Mute – On: Turn off audio Mute – Off: Turn on audio	

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

General Product Specification

3.6 Power input connection

Power cord length : 1.5 M
Power cord type : 3 leads power cord with protective earth plug.

3.7 Power management

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

Mode	HSYNC	VSYNC	Video	Pwr-cons.	Indication	Rec. time
Power-On	On	On	Active	<24W (typ.) < 30W(max.) EPA5.0<16.5W	White LED	--
Standby	Off	Off	Blanked	< 0.5W	Blinking white LED Period 1sec on 3sec off	< 3 s
DC Power Off			N/A	< 0.5W	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 USB support

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

3.11 DDC /CI Support and Smart Manage/Control

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

3.12 Hot-key definition

D:\ENG\monitor projects\spec\H8\hot k

3.13 Smart contrast

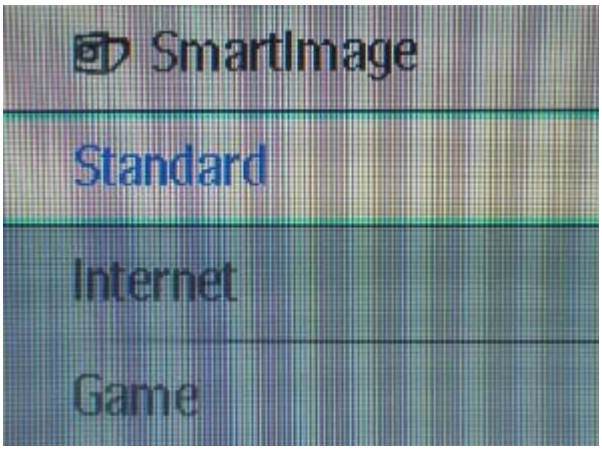
Smart Contrast is a kind of dynamic backlight control.

This function changes the panel backlight dynamically according to the frame brightness histogram. 2CCFL model 500,000:1 . WLED model : 20,000,000:1

General Product Specification

3.14 Smart image

3.14.1 Smart Image OSD outlook



3.14.1.1 Position

The position of the button is at the bottom center of the screen.

3.14.1.2 Smart Image Logo & Banner

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

3.14.1.3 Icon of each profile

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

3.14.1.4 User Operation Procedure

A. 3 different modes are switched to next in the sequence from 1 to 3 then back to 1 while pressing this button: 1) Standard 2) Internet 3)Game. The default setting is ‘Standard”.

B. The FOS optimization will be changed in real time by which profile to be scrolled, users don’t need to confirm to enable.

C. The SmartImage Lite OSD will remain on screen for 5 seconds after user last action. Or user can also press [MENU] to close the Smart Image OSD immediately.

D. Except using [MENU] button to scroll down profile. If Smart Image OSD already launched onscreen. User is allowed to use up/down key to choose profile and press [MENU] to confirm selection and close the Smart Image OSD.

General Product Specification

E. If the model has multiple inputs including VGA , DVI each input has their own set of profiles. When user switch input, the profile to be applied will also change.

F. Each input can memorize their individual “SmartImage Lite” profile status.

For example, SmartImage is on with “Game” profile at VGA input, when switch to DVI input, the Smart Image will revert to previous profile of DVI.

In the input switching process the “SmartImage” OSD will also show up to present which profile is selected if “Smart Image” is enabled at that input.

The Smart Image status will also be stored after the monitor is resumed from AC on/off or power switch on/off.

3.14.1.5 Linkage between Smart Image OSD and main OSD

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

i. Brightness

ii. Contrast

iii. Color Temperature

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

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

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

A. Standard

i. Purpose: Default out of box settings, No optimization by SmartImage.

ii. Design:

1. This will follow user OSD setting. If any change by user, it will be saved. When switch back from other SmartImage profiles, it will go back to last saved setting.
2. Default out of box settings.
3. Same as OFF mode settings in SmartImage.

General Product Specification

B. Internet

i. Purpose: Design for Internet application, especially web browsing.
The screen is mixed by text & picture. Desktop publish could use this profile also.

ii. Enhancement Point:

1. The enhancement will be mostly based on the "Image viewing" settings that are also under definition, made milder by the higher probability of strong compression typical of the Internet photos and clips.
2. Color temperature should be 6500° K.
3. Brightness level should be around 90%
4. SmartResponse set to “Low”.
5. Smart Contrast set to “Off”.

C. Game

i. Purpose: Design for PC game software and game boxes, e.g. PS3 and Xbox. The screen is dominated by artificial animation with rich color.

ii. Enhancement Point:

1. Dynamic contrast enhancement by histogram analysis should be implemented.
2. Sharpness enhanced 90%.
3. Color enhancement set as the same with Video.
4. Color temperature set to panel native(original color temp).
5. Brightness level sets to maximum
6. SmartResponse set to “High”.
7. Gamma Table turn off to achieve fastest response time.
8. SmartContrast set to “On”.

3.14.1.7 Demo mode

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

B. Design:

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

ii. There is OSD showing “SmartImage Lite & SmartResponse Demonstration” in left frame and “Original Image” in right frame.

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

iv. The demo profile will be “Video Playback” profile with “High” ODC setting.

v. The current SmartContrast value also be shown on the bottom of the screen.

C. Hot keys to trigger:

Press [Smart Image] 3 seconds or more to trigger the demo mode.

When demo mode is On, press 3 seconds or more to turn off the demo mode.

When the demo mode is enabled, the blue LED will flash until demo mode disabled.

3.15 PerfectTune

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

4 Visual characteristics

4.1 Test conditions

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

(1) Input signal : As defined in 3.3, 1366 x 768 non-interlaced mode (1366 x 768@06Hz), signal sources must have 75 ohm output impedance.

(2) Luminance setting : controls to be set to 250 nits with full screen 100 % duty cycle white signal

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

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

(5) Ambient temperature: 20 ± 5 °C

4.2 Brightness

Follow Panel specification.

4.3 Image size

Actual display size 337.920 mm x 270.336 mm

General Product Specification

4.4 Brightness uniformity

Set contrast at 100% and turn the brightness to get average above 300 nits at centre of the screen.

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

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

Where B_max = Maximum brightness
B_min = Minimum brightness

4.5 Check Cross talk (S)

Apply Pattern 2. Set contrast and brightness at 100 %.
Measure YA. Then output Pattern 3 and measure YB.
the cross talk value :

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

4.6 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)	
9300K	x = 0.283 ± 0.02 y = 0.297 ± 0.02	PerfecTune I
6500K/sRGB	x = 0.313 ± 0.02 y = 0.329 ± 0.02	PerfecTune I

General Product Specification

Production alignment spec

CIE coordinates	(x,y)	
9300K	x = 0.283 ± 0.006 y = 0.297 ± 0.006	PerfecTune I
6500K/sRGB	x = 0.313 ± 0.006 y = 0.329 ± 0.006	PerfecTune I

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	

General Product Specification

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

< 1.0mm (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.

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”.

General Product Specification

- 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".
- < = 20 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.

5.15 Label

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

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

- Unit dimension : 457.44mm(W) * 363.27mm(H) * 180.02mm(D)
- Packed unit dimension: WW—503mm(W) * 416mm(H) * 141mm(D)

General Product Specification

China—510mm(W) * 418mm(H) * 160mm(D)

- Net weight : 3.9 Kg
- Gross weight : 5.0 Kg(WW) ; 5.1 Kg(China)

5.17 Transportation

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

5.17.1 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.

5.17.2 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
  4. Half sine shock test (non operation)
  5. B. Transportation test specification for China/India
  6. Package test
  7. Random Vibration test
  8. Drop test
  9. Cold Drop test (for design reference)
  10. Un-package test
  11. Sine vibration (operating)

General Product Specification

12. Half sine shock test (non operation)

5.18 Pallet / Container loading (Refer to Philips approved SHT 560)

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

- Air shipment - A: W1138*L1016 ; B: W1138*L513 (WW)
  B: W1130*L1030 ; B: W1130*L520 (China)
- Sea container 20'(pallet/slip sheet) – 10/2
- Sea container 40'(pallet/slip sheet) – 22/2
- Sea container 40' High Cube (pallet/slip sheet) – 22/2
- Land 45‘ Truck and Trailer (800X1200mm pallet) - NA
- Land 45‘ Truck and Trailer (1000X1200mm pallet) for UK - 26
- Truck shipment-

Transportation request for all regions except China/India

A. Air shipment

B. 20’/40’/40’HQ Container loading for WW – 848/1808/1984 (Pallet)
848/1808/2160 (Slipsheet)

Transportation request for China and India

A. Container loading for China and India – 742/1582/1670 (Pallet)
742/1582/1890 (Slipsheet)

B. Truck loading

Transportation request for EU

A. Land 45‘ Truck and Trailer (800X1200mm pallet)

B. Land 45‘ Truck and Trailer (1000X1200mm pallet) for UK - 2080

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

General Product Specification

- Humidity : 80% max
- Altitude : 0-3658m
- Air pressure : 600-1100 mBAR

Storage

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

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

6.2 Transportation tests

Refer to 5.15.2

6.3 Display disturbances from external environment

According to IEC 801-2 for ESD disturbances

6.4 Display disturbances to external environment

7 Reliability

7.1 Mean Time between Failures

System MTBF (Including the LCD panel and CCFL) : 30,000 hrs

8 Quality assurance requirements

8.1 Acceptance test

According to MIL-STD-1916D Control III level

AQL: NA
(Please also refer to annual quality agreement)
Customer acceptance criteria: UAW0377/00

General Product Specification

9 Philips' Flat Panel Monitors Pixel Defect Policy

Philips' Flat Panel Monitors Pixel Defect Policy

BRIGHT DOT DEFECTS	**ACCEPTABLE LEVEL**		
MODEL	**192E2/192EL 2**		
1 lit sub-pixel	3		
2 adjacent lit sub-pixels	1		
3 adjacent lit sub-pixels (one white pixel)	0		
Distance between two bright dots	15mm		
Bright dot defects within 20 mm circle	0		
Total bright dot defects of all type	3		

BLACK DOT DEFECTS	**ACCEPTABLE LEVEL**		
MODEL	**192E2/192EL 2**		
1 dark sub-pixel	5		
2 adjacent dark sub-pixels	2		
3 adjacent dark sub-pixels (one white pixel)	1		
Distance between two black dots	15mm		
Black dot defects within 20 mm circle*	1		
Total black dot defects of all type	5		

TOTAL DOT DEFECTS	**ACCEPTABLE LEVEL**		
MODEL	**192E2/192EL 2**		
Total bright or black dot defects of all type	5		

General Product Specification

Fig 1: Measurement locations of Brightness Uniformity

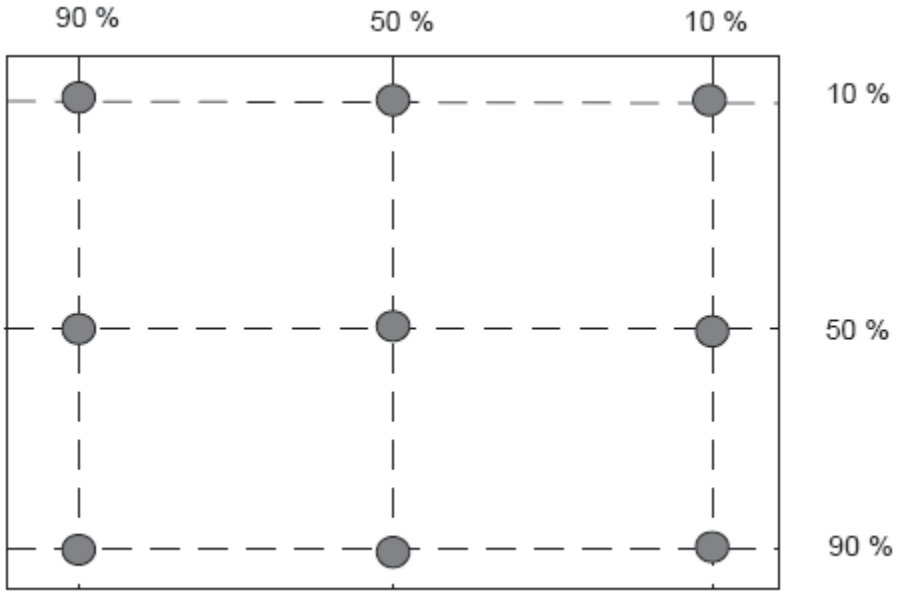


Fig 2: Cross talk pattern
Gray level 46 (64 Gray level)

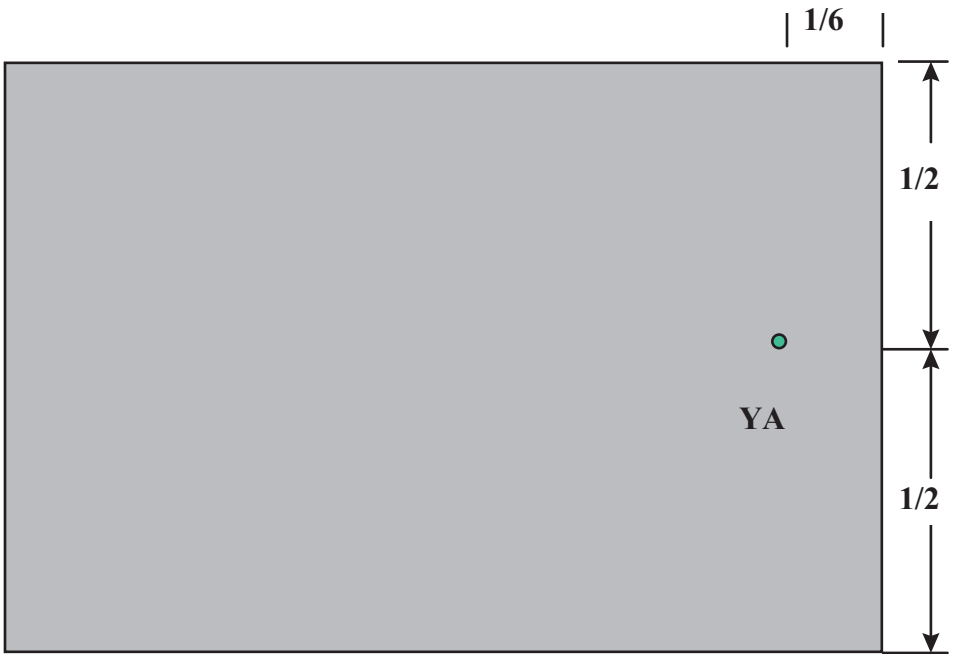
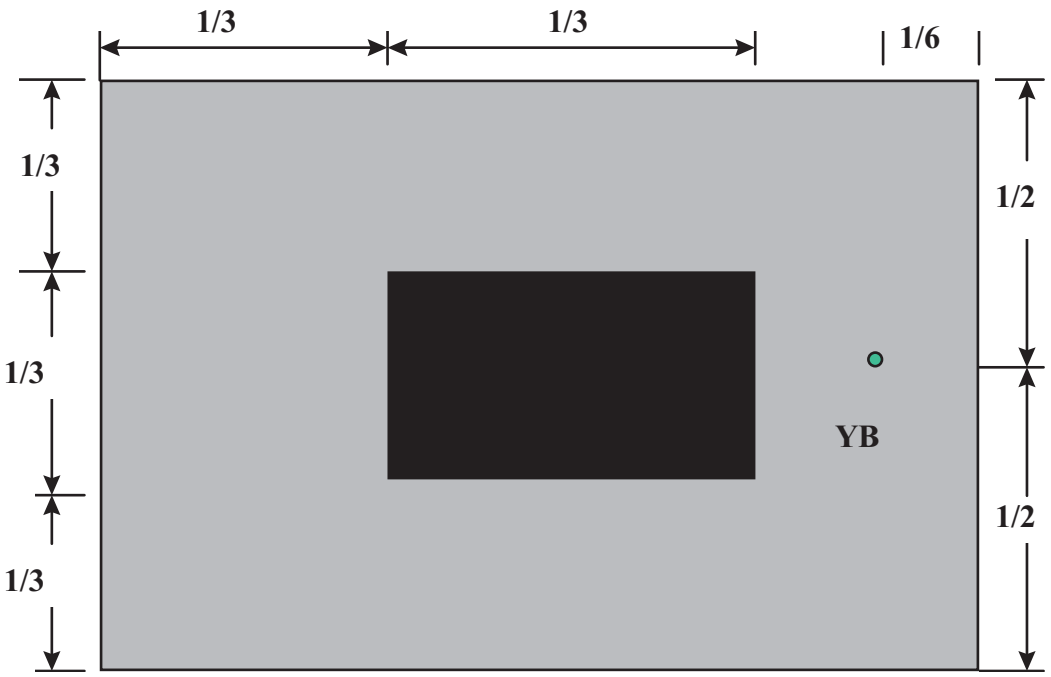


Fig 3: Cross talk Pattern
Center at Gray level 0 (Black)



General Product Specification

REGULATORY COMPLIANCE

9.1 Worldwide Regulatory

TYE-A0004 LCD
Monitor Approbation

9.2 EMC Requirements

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

9.3 RoHS

Restriction on the use of certain hazardous substances.

Lead, Cadmium, Mercury, Hexavalent Chromium, Polybrominated Bipheny1 (PBB) and Polybrominated Bipheny1 Ether (PBDE)(flame retardant).

9.4 WEEE

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

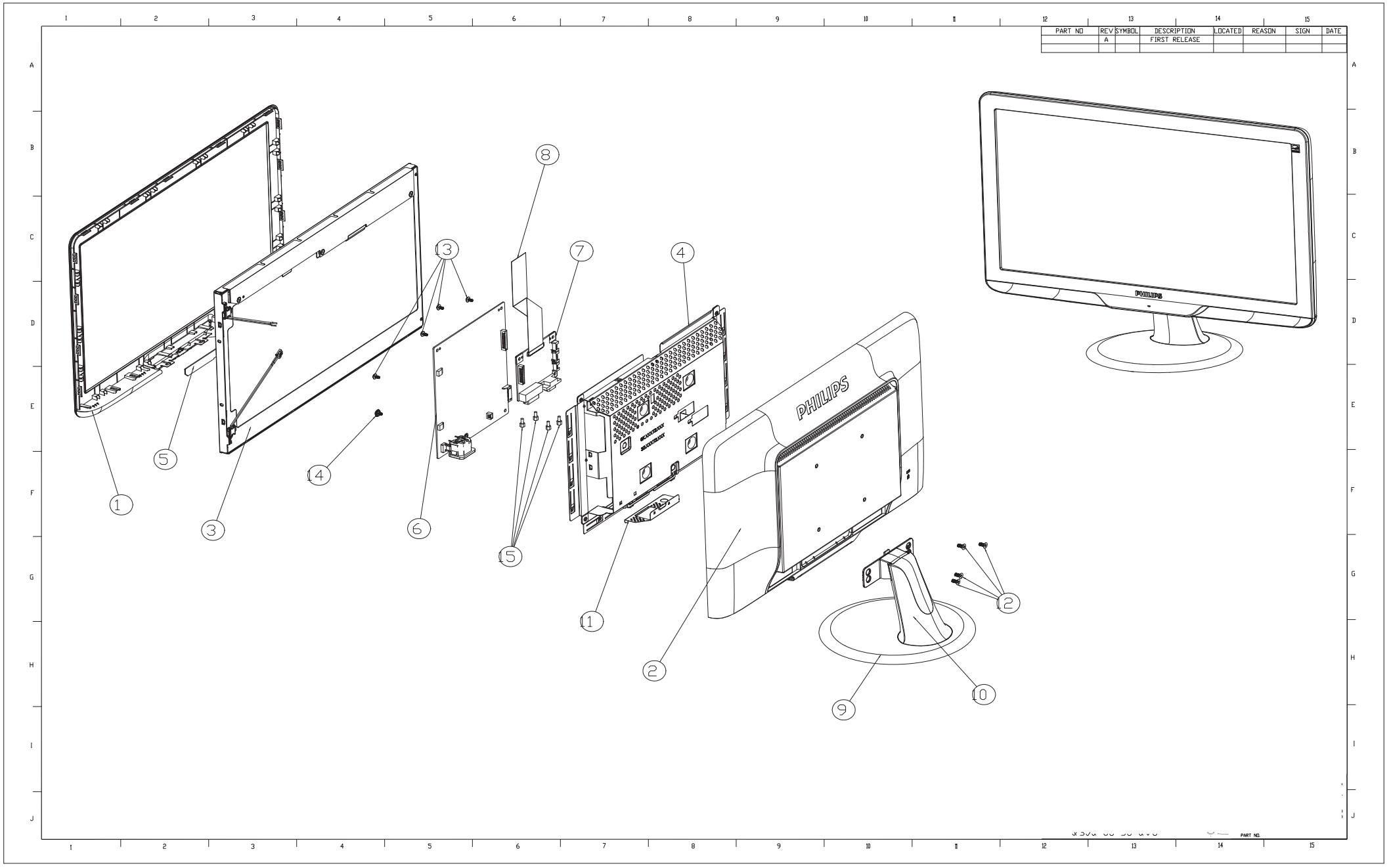
--System implemented.

--Collection and recycle targets.

9.5 Ongoing Regulatory

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

Exploded View



Spare / Recommended Parts List

Model:192E2

◎ 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	192E2SB/00				192E2SB/10(EU) 1A				192E2SB/10(AP) 1A				192E2SB/62 1A				192E2SB/27				192E2SB/27				192E2SB/00(AP)			
		9J.17N72.***	SB1	CB1	AB1	PB1	S2A	C2A	A2A	P2A	S2D	C2D	A2D	P2D	S28	C28	A28	P28	SB9	CB9	AB9	PB9	SBP	CBP	ABP	PBP	SB5	CB5	AB5	PB5
location	Description	PCM code	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT
7	MAIN (I/F) BOARD ASS'Y	5E.17N01.001	V	V															V	V			V	V			V	V		
		5E.17N01.011			V	V															V	V			V	V			V	V
	MAIN (I/F) BOARD ASS'Y (Analog)	5E.17N01.002					V	V			V	V			V	V														
		5E.17N01.012							V	V			V	V			V	V												
6	POWER BOARD ASS'Y	5E.17N02.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
		5E.17N02.002																												
5	CTRL BD ASS'Y	5E.17N03.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
3	LCDM18.5W M185B1-L02 P (CMO)	5F.LM8PP.011		V				V				V				V				V				V				V		
	LCDM18.5W M185XW01-VB Z (AUO)	5F.LUHV0.051			V				V				V				V				V				V				V	
	LCDM185W CLAA185WA03 CPT P (CPT)	5F.LTHPP.011				V				V				V				V				V				V				V
8	FFC CABLE 30P 16TH	5K.17N02.N01	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V

Mechanical Styling		Model	192E2SB/00				192E2SB/10(EU) 1A				192E2SB/10(AP) 1A				192E2SB/62 1A				192E2SB/27				192E2SB/27				192E2SB/00(AP)			
location	Description	PCM code	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT
9	BASE ASS'Y	6K.17N11.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
10	COLUMN ASS'Y	6K.17N10.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
1	FRONT BEZEL ASS'Y (Black)	6K.17N01.001	V	V		V	V	V		V	V	V		V	V	V		V	V	V		V	V	V		V	V	V		V
		6K.17N16.001			V				V				V				V				V				V				V	
2	REAR COVER ASS'Y	6K.17N04.001	V	V															V	V			V	V			V	V		
		6K.17N02.001			V																V				V				V	
		6K.17N06.001				V																V				V				V
	REAR COVER ASS'Y (analog)	6K.17N05.001					V	V			V	V			V	V														
		6K.17N03.001							V				V				V													
		6K.17N07.001								V				V				V												

Packing Styling		Model	192E2SB/00				192E2SB/10(EU) 1A				192E2SB/10(AP) 1A				192E2SB/62 1A				192E2SB/27				192E2SB/27				192E2SB/00(AP)			
location	Description	PCM code	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT
100	CUSHION FRONT	4G.17N02.001	V	V			V	V							V	V			V	V			V	V			V	V		
		4G.17N06.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
		4G.17N04.001																												
		4G.17N08.001																												
110	CUSHION BACK	4G.17N03.001	V	V			V	V							V	V			V	V			V	V			V	V		
		4G.17N07.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
		4G.17N05.001																												
		4G.17N09.001																												
120	CARTON	4D.17N01.001	V	V			V	V							V	V			V	V			V	V			V	V		
		4D.17N01.002	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
		4D.17N02.001																												
		4D.17N02.002																												

Accessory Styling		Model	192E2SB/00				192E2SB/10(EU) 1A				192E2SB/10(AP) 1A				192E2SB/62 1A				192E2SB/27				192E2SB/27				192E2SB/00(AP)			
location	Description	PCM code	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT
200	QSG PHILIPS 192E2/192EL2	4J.17N01.001	V	V			V	V							V	V			V	V			V	V			V	V		
		4J.17N01.002	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
210	CD PHILIPS 192E2/192EL2 EDFU	5B.17N01.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
		5B.17N01.002	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
30	CORD H05VV-3G 10A250V 1500 EUR	2G.02718.051	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V									V	V	V	V
	<ALT>CORD H05VV-3G 10A250V 1500 EU	2G.02718.05H	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V									V	V	V	V
	CORD SVT125V WO/SH 1.5M US	2G.01111.031																	V	V	V	V	V	V	V	V				
	CORD H05VV-F 13A250V 1.5M UK	2G.03131.031																												
	CORD VCTF 2P W/G PSE 1.5M JAP	2G.03513.031																												
	CORD H05VV 250V 1.8M BLK INDIA	2G.04133.001																												
	CORD 3ASL/75DU-IN 250V1.5M AUS	2G.01343.031																												
	<ALT>CORD 3ASL/75DU-IN 250V1.5M AU	2G.01343.061																												
	CORD RVV300/500 10A25V1.5MM 3C	2G.03745.001																												
	<ALT>CORD RVV300/500 10A25V1.5MM	2G.03745.00H																												
	CORD VCTF 7A 125V 1.5M CNS-TW	2G.04811.021																												
31	CABLE SIGNAL/C H+V OD_5.5 1.8M	5K.L2H06.501	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V

Critical components		Model	192E2SB/00				192E2SB/10(EU) 1A				192E2SB/10(AP) 1A				192E2SB/62 1A				192E2SB/27				192E2SB/27				192E2SB/00(AP)			
location	Description	PCM code	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT
IC601	IC SR STR-W6262 T0220-6P	0D.06262.030	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
C605	#CAP 68U 450V RC490BC7.5 18*32	0J.6861M.L83	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
T601	XFORM PWR 850U ER2828 V223HQ	1J.20273.401	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
T802	XFORM INV 1147MH/270MH EEL-18	1J.26049.221	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
IC801	#IC PWM CTRL OZ9933GN SON-16P	7A.09933.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
U5	IC CTRL NT68668HFG QFP128P V:C	7A.68668.00E	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
U4	LED WHITE LTW-008ZDL 2.5*0.8	7B.02402.C01	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
U1 U2	#FET MOS RM4614H0R SON 8P	7B.02416.R01	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V

Spare / Recommended Parts List

Model:192E2

◎ 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	192E2SB/69				192E2SB/71(Philipp				192E2SB/73(S. Afric				192E2SB/94				192E2SB/75				192E2SB/93				192E2SB/70			
		9J.17N72.***	SB7	CB7	AB7	PB7	SBC	CBC	ABC	PBC	SBF	CBF	ABF	PBF	SBN	CBN	ABN	PBN	SB6	CB6	AB6	PB6	SB4	CB4	AB4	PB4	SBK	CBK	ABK	PBK
location	Description	PCM code	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT
7	MAIN (I/F) BOARD ASS'Y	5E.17N01.001	V	V			V	V			V	V			V	V			V	V			V	V			V	V		
		5E.17N01.011			V	V			V	V			V	V			V	V			V	V			V	V			V	V
	MAIN (I/F) BOARD ASS'Y (Analog)	5E.17N01.002																												
		5E.17N01.012																												
6	POWER BOARD ASS'Y	5E.17N02.001	V	V	V	V	V	V	V	V	V	V	V	V	~~V~~	~~V~~			V	V	V	V	V	V	V	V	V	V	V	V
		5E.17N02.002													V	V	V	V												
5	CTRL BD ASS'Y	5E.17N03.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
3	LCDM18.5W SEC LTM185AT01 P ZBD (SEC)	5F.LSHPP.001	V				V				V				V				V				V				V			
	LCDM18.5W M185B1-L02 P (CMO)	5F.LM8PP.011		V				V				V				V				V				V				V		
	LCDM18.5W M185XW01-VB Z (AUO)	5F.LUHV0.051			V				V				V				V				V				V				V	
	LCDM185W CLAA185WA03 CPT P (CPT)	5F.LTHPP.011				V				V				V				V				V				V				V
8	FFC CABLE 30P 16TH	5K.17N02.N01	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V

Mechanical Styling		Model	192E2SB/69				192E2SB/71(Philipp				192E2SB/73(S. Afric				192E2SB/94				192E2SB/75				192E2SB/93				192E2SB/70			
location	Description	PCM code	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT
9	BASE ASS'Y	6K.17N11.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
10	COLUMN ASS'Y	6K.17N10.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
1	FRONT BEZEL ASS'Y (Black)	6K.17N01.001	V	V		V	V	V		V	V	V		V	V	V		V	V	V		V	V	V		V	V	V		V
		6K.17N16.001			V				V				V				V				V				V				V	
2	REAR COVER ASS'Y	6K.17N04.001	V	V			V	V			V	V			V	V			V	V			V	V			V	V		
		6K.17N02.001			V				V				V				V				V				V				V	
		6K.17N06.001				V				V				V				V				V				V				V
	REAR COVER ASS'Y (analog)	6K.17N05.001																												
		6K.17N03.001																												
		6K.17N07.001																												

Packing Styling		Model	192E2SB/69				192E2SB/71(Philipp				192E2SB/73(S. Afric				192E2SB/94				192E2SB/75				192E2SB/93				192E2SB/70			
location	Description	PCM code	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT
100	CUSHION FRONT	4G.17N02.001	V	V			V	V			V	V			V	V			V	V							V	V		
		4G.17N06.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V					V	V	V	V
		4G.17N04.001																					V	V						
		4G.17N08.001																					V	V	V	V				
110	CUSHION BACK	4G.17N03.001	V	V			V	V			V	V			V	V			V	V							V	V		
		4G.17N07.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V					V	V	V	V
		4G.17N05.001																					V	V						
		4G.17N09.001																					V	V	V	V				
120	CARTON	4D.17N01.001	V	V			V	V			V	V			V	V			V	V							V	V		
		4D.17N01.002	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V					V	V	V	V
		4D.17N02.001																					V	V						
		4D.17N02.002																					V	V	V	V				

Accessory Styling		Model	192E2SB/69				192E2SB/71(Philipp				192E2SB/73(S. Afric				192E2SB/94				192E2SB/75				192E2SB/93				192E2SB/70			
location	Description	PCM code	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT
200	QSG PHILIPS 192E2/192EL2	4J.17N01.001	V	V			V	V			V	V			V	V			V	V			V	V			V	V		
		4J.17N01.002	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
210	CD PHILIPS 192E2/192EL2 EDFU	5B.17N01.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
		5B.17N01.002	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
30	CORD H05VV-3G 10A250V 1500 EUR	2G.02718.051									V	V	V	V													V	V	V	V
	<ALT>CORD H05VV-3G 10A250V 1500 EU	2G.02718.05H									V	V	V	V													V	V	V	V
	CORD SVT125V WO/SH 1.5M US	2G.01111.031																												
	CORD H05VV-F 13A250V 1.5M UK	2G.03131.031	V	V	V	V																								
	CORD VCTF 2P W/G PSE 1.5M JAP	2G.03513.031					V	V	V	V																				
	CORD H05VV 250V 1.8M BLK INDIA	2G.04133.001													V	V	V	V												
	CORD 3ASL/75DU-IN 250V1.5M AUS	2G.01343.031																	V	V	V	V								
	<ALT>CORD 3ASL/75DU-IN 250V1.5M AU	2G.01343.061																	V	V	V	V								
	CORD RVV300/500 10A25V1.5MM 3C	2G.03745.001																					V	V	V	V				
	<ALT>CORD RVV300/500 10A25V1.5MM	2G.03745.00H																					V	V	V	V				
	CORD VCTF 7A 125V 1.5M CNS-TW	2G.04811.021																												
31	CABLE SIGNAL/C H+V OD_5.5 1.8M	5K.L2H06.501	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V

Critical components		Model	192E2SB/69				192E2SB/71(Philipp				192E2SB/73(S. Afric				192E2SB/94				192E2SB/75				192E2SB/93				192E2SB/70			
location	Description	PCM code	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT
IC601	IC SR STR-W6262 T0220-6P	0D.06262.030	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
C605	#CAP 68U 450V RC490BC7.5 18*32	0J.6861M.L83	V	V	V	V	V	V	V	V	V	V	V	V	~~V~~	~~V~~			V	V	V	V	V	V	V	V	V	V	V	V
T601	XFORM PWR 850U ER2828 V223HQ	1J.20273.401	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
T802	XFORM INV 1147MH/270MH EEL-18	1J.26049.221	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
IC801	#IC PWM CTRL OZ9933GN SON-16P	7A.09933.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
U5	IC CTRL NT68668HFG QFP128P V:C	7A.68668.00E	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
U4	LED WHITE LTW-008ZDL 2.5*0.8	7B.02402.C01	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
U1 U2	#FET MOS RM4614H0R SON 8P	7B.02416.R01	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V

Spare / Recommended Parts List

Model:192E2

◎ Spare parts change rule:
Gray color: old parts can be ALT to new parts
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Example old : 6K.0QC01.011 /
new : 6K.0QC01.012

Panel+PCBA Styling		Model	192E2SB/01				192E2SB/67				192E2SB/96				192E2SB/96				192E2SB/96				192E2SB/96			
		9J.17N72.***	SBM	CBM	ABM	PBM	SBH	CBH	ABH	PBH	SB3	CB3	AB3	PB3	SBG	CBG	ABG	PBG	SBJ	CBJ	ABJ	PBJ	SBQ	CBQ	ABQ	PBQ
location	Description	PCM code	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT
7	MAIN (I/F) BOARD ASS'Y	5E.17N01.001	V	V			V	V			V	V			V	V			V	V			V	V		
		5E.17N01.011			V	V			V	V			V	V			V	V			V	V			V	V
	MAIN (I/F) BOARD ASS'Y (Analog)	5E.17N01.002																								
		5E.17N01.012																								
6	POWER BOARD ASS'Y	5E.17N02.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
		5E.17N02.002																								
5	CTRL BD ASS'Y	5E.17N03.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
3	LCDM18.5W M185B1-L02 P (CMO)	5F.LSHPP.001	V				V				V				V				V				V			
		5F.LM8PP.011		V				V				V				V				V				V		
	LCDM18.5W M185XW01-VB Z (AUO)	5F.LUHV0.051			V				V				V				V				V				V	
	LCDM185W CLAA185WA03 CPT P (CPT)	5F.LTHPP.011				V				V				V				V				V				V
8	FFC CABLE 30P 16TH	5K.17N02.N01	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V

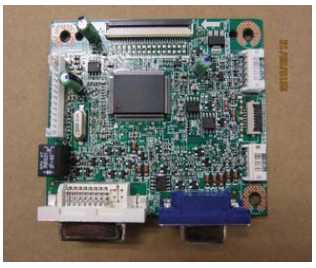
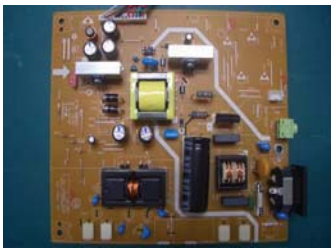
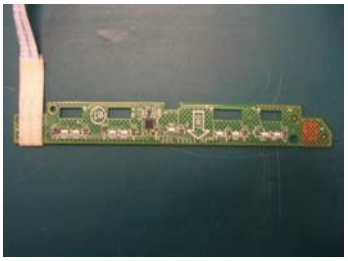
Mechanical Styling		Model	192E2SB/01				192E2SB/67				192E2SB/96				192E2SB/96				192E2SB/96				192E2SB/96			
location	Description	PCM code	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT
9	BASE ASS'Y	6K.17N11.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
10	COLUMN ASS'Y	6K.17N10.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
1	FRONT BEZEL ASS'Y (Black)	6K.17N01.001	V	V		V	V	V		V	V	V		V	V	V		V	V	V		V	V	V		V
		6K.17N16.001			V				V				V				V				V				V	
2	REAR COVER ASS'Y	6K.17N04.001	V	V			V	V			V	V			V	V			V	V			V	V		
		6K.17N02.001			V				V				V				V				V				V	
		6K.17N06.001				V				V				V				V				V				V
	REAR COVER ASS'Y (analog)	6K.17N05.001																								
		6K.17N03.001																								
		6K.17N07.001																								

Packing Styling		Model	192E2SB/01				192E2SB/67				192E2SB/96				192E2SB/96				192E2SB/96				192E2SB/96			
location	Description	PCM code	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT
100	CUSHION FRONT	4G.17N02.001																								
		4G.17N06.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
		4G.17N04.001																								
		4G.17N08.001																								
110	CUSHION BACK	4G.17N03.001																								
		4G.17N07.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
		4G.17N05.001																								
		4G.17N09.001																								
120	CARTON	4D.17N01.001																								
		4D.17N01.002	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
		4D.17N02.001																								
		4D.17N02.002																								

Accessory Styling		Model	192E2SB/01				192E2SB/67				192E2SB/96				192E2SB/96				192E2SB/96				192E2SB/96			
location	Description	PCM code	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT
200	QSG PHILIPS 192E2/192EL2	4J.17N01.001																								
		4J.17N01.002	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
210	CD PHILIPS 192E2/192EL2 EDFU	5B.17N01.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V				
		5B.17N01.002	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
30	CORD H05VV-3G 10A250V 1500 EUR	2G.02718.051	V	V	V	V	V	V	V	V																
	<ALT>CORD H05VV-3G 10A250V 1500 EU	2G.02718.05H	V	V	V	V	V	V	V	V																
	CORD SVT125V WO/SH 1.5M US	2G.01111.031																								
	CORD H05VV-F 13A250V 1.5M UK	2G.03131.031																								
	CORD VCTF 2P W/G PSE 1.5M JAP	2G.03513.031																								
	CORD H05VV 250V 1.8M BLK INDIA	2G.04133.001																								
	CORD 3ASL/75DU-IN 250V1.5M AUS	2G.01343.031																								
	<ALT>CORD 3ASL/75DU-IN 250V1.5M AU	2G.01343.061																								
	CORD RVV300/500 10A25V1.5MM 3C	2G.03745.001																								
	<ALT>CORD RVV300/500 10A25V1.5MM	2G.03745.00H																								
	CORD VCTF 7A 125V 1.5M CNS-TW	2G.04811.021									V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
31	CABLE SIGNAL/C H+V OD_5.5 1.8M	5K.L2H06.501	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V

Critical components		Model	192E2SB/01				192E2SB/67				192E2SB/96				192E2SB/96				192E2SB/96				192E2SB/96				
location	Description	PCM code	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	SEC	CMO	AUO	CPT	
IC601	IC SR STR-W6262 T0220-6P	0D.06262.030	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	Power PWM IC
C605	#CAP 68U 450V RC490BC7.5 18*32	0J.6861M.L83	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	Filter Capacitor
T601	XFORM PWR 850U ER2828 V223HQ	1J.20273.401	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	Power transformer
T802	XFORM INV 1147MH/270MH EEL-18	1J.26049.221	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	Inverter Transformer
IC801	#IC PWM CTRL OZ9933GN SON-16P	7A.09933.001	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	Inverter controller IC
U5	IC CTRL NT68668HFG QFP128P V:C	7A.68668.00E	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	Scaler IC
U4	LED WHITE LTW-008ZDL 2.5*0.8	7B.02402.C01	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	DDC for D-sub or DVI
U1 U2	#FET MOS RM4614H0R SON 8P	7B.02416.R01	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	It's EEPROM to record HDCP key, FGA data and other paramete

Panel & PCBA photos

ITEM	PCM	Description	Photo
1	5F.LSHPP.001	LCDM19W SEC LTM185AT01 P ZBD (SEC)	
2	5F.LM8PP.011	LCDM18.5W M185B1-L02 P (CMO)	
3	5E.17N01.001	MAIN (I/F) BOARD ASS'Y	
4	5E.17N02.001	POWER BOARD ASS'Y	
5	5E.17N03.001	CTRL BD ASS'Y	

Repair Tips

0. Warning

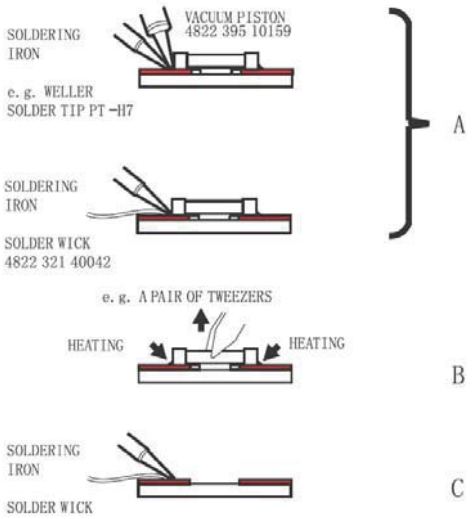
All ICs and many other semi -conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically . When repairing, make sure that you are connected with the same potential as the mass of the unit via a wrist wrap with resistance. Keep components and tools also at the same potential!

1. Servicing of SMDs (Surface Mounted Devices)

1.1 General cautions on handling and storage
- Oxidation on the terminals of SMDs results in poor soldering.
Do not handle SMDs with bare hands.
- Avoid using storage places that are sensitive to oxidation such as places with sulphur or chlorine gas, direct sunlight, high temperatures or a high degree of humidity. The capacitance or resistance value of the SMDs may be affected by this.
- Rough handling of circuit boards containing SMDs may cause damage to the components as well as the circuit boards. Circuit boards containing SMDs should never be bent or flexed. Different circuit board materials expand and contract at different rates when heated or cooled and the components and/or solder connections may be damaged due to the stress. Never rub or scrape chip components as this may cause the value of the component to change.
Similarly, do not slide the circuit board across any surface.

1.2 Removal of SMDs
- Heat the solde r (for 2-3 seconds) at each terminal of the chip. By means of litz wire and a slight horizontal force, small components can be removed with the soldering iron.
They can also be removed with a solder sucker (see Fig. 1A)

Fig. 1 DISMOUNTING



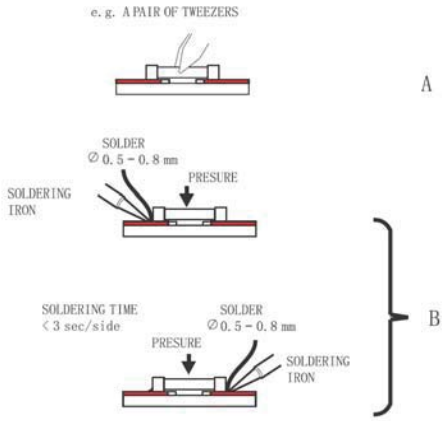
While holding the SMD with a pair of tweezers, take it off gently using the soldering iron's heat applied to each terminal (see Fig. 1 B).
- Remove the excess solder on the solder lands by means of litz wire or a solder sucker (see Fig. 1C).

While holding the SMD with a pair of tweezers, take it off gently using the soldering iron's heat applied to each terminal (see Fig. 1 B).
- Remove the excess solder on the solder lands by means of litz wire or a solder sucker (see Fig. 1C).

1.3 Caution on removal
- When handling the soldering.iron. use suitable pressur e and be careful.
- When removing the chip, do not use undue force with the pair of tweezers.
- The soldering iron to be used (approx. 30 W) should preferably be equipped with a thermal control (soldering temperature: 225 to 250 C).
- The chip, once removed, must never be reused.

1.4 Attachment of SMDs
- Locate the SMD on the solder lands by means of tweezers and solder the component on one side. Ensure that the component is positioned correctly on the solder lands (see Fig.2A).
- Next complete the soldering of the terminals of the component (see Fiq. 2B).

Fig. 2 MOUNTING



2. Caution when attaching SMDs

- When soldering the SMD terminals, do not touch them directly with the soldering iron. The soldering should be done as quickly as possible, care must be taken to avoid damage to the terminals of the SMDs themselves.
- Keep the SMD's body in contact with the printed board when soldering.
- The soldering iron to be used (approx. 30 W) should preferably be equipped with a thermal control (soldering temperature: 225 to 250 C).
- Soldering should not be done outside the solder land.
- Soldering flux (of rosin) may be used, but should not be acidic.
- After soldering, let the SMD cool down gradually at room temperature.
- The quantity of solder must be proportional to the size of the solder land. If the quantity is too great, the SMD might crack or the solder lands might be torn loose from the printed board (see Fig. 3).

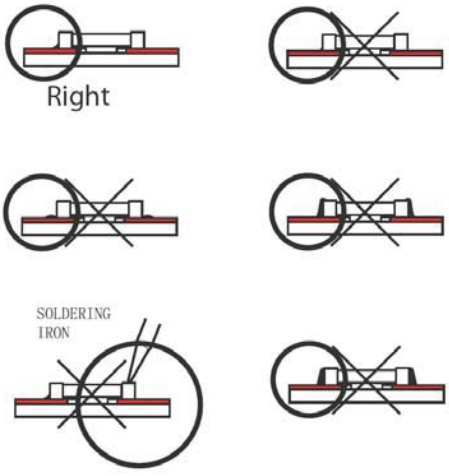


Fig.3 Examples

Repair Tips

3. Lead-free product identification

You can identify lead-free product by Philips-lead-free logo on PCB.

4. Lead-free product repair instruction

4.1 Use only lead-free Solder Alloy 0622 149 00106(1.2mm SAC305) or 0622 14900108(1.0mm SAC305).
Remark: For lead free soldering material, please visit www.alphametals.com website for details. This is recommended by Philips.

4.2 Use only adequate solder tools applicable for lead-free soldering-tin. The solder tool must be able to reach at least a solder-temperature of 400, to stabilize the adjusted temperature at the solder-tip and to exchange solder-tips for different applications.
Small Passives/Actives to be removed with thermal tweezers
Automated system for IC and BGA repair (Microscope, Camera, Beam split optics, Computer, Programmer, Heat controllers, Vacuum system, Laser pointer) Solder Hand-Tool (Adjustable in temperature height, Temperature shall be held constant, Flexible tips)

4.3 Adjust your solder tool so that a temperature around 360 -380 is reached and stabilized at the solder joint.
Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400 otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed. Corrosion of Tool-Spikes can be avoided when using SAC305 and a temperature of less than 400.

4.4 Mix of lead-free solder-tin/parts with leaded soldering-tin/parts is possible but not recommended. If not to avoid clean carefully the solder-joint from old tin and re-solder with new tin.

4.5 Use only original spare-parts listed in the Service-Manuals. Standard-material (consumables) can also be purchased at external companies.

4.6 Special information for lead-free BGA-ICs: this ICs will be delivered in so-called dry-packaging to protect the IC against moisture and with lead-free logo on it. This packaging may only be opened shortly before it is used (soldered). Otherwise the body of the IC gets wet inside and during the heating time the structure of the IC will be destroyed due to high (steam-) pressure. If the packaging was opened before usage the IC has to be heated up for some hours (around 90) for drying (Take attention for ESD-protection!)

5. Rework on BGA (Ball Grid Array) ICs

General
Although (LF)BGA assembly yields are very high, there may still be a requirement for component rework. By rework, we mean the process of removing the component from the PWB and replacing it with a new component. If an (LF) BGA is removed from a P WB, the solder balls of the component are deformed drastically so the removed (LF)BGA has to be discarded.

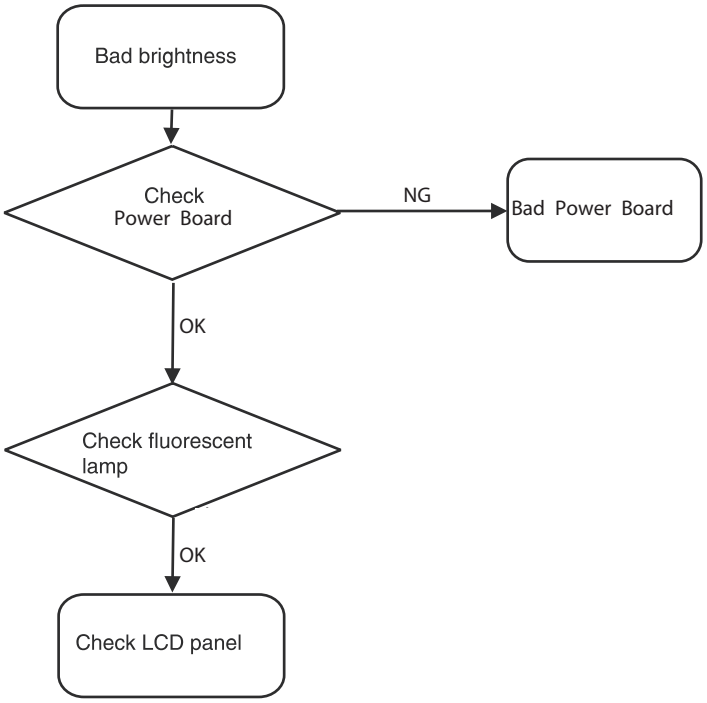
Device Removal
As is the case with any component that, it is essential when removing an (LF) BGA, the board, tracks, solder lands, or surrounding components are not damaged. To remove an (LF)BGA, the board must be uniformly heated to a temperature close to the reflow soldering temperature. A uniform temperature reduces the chance of warping the PWB.
To do this, we recommend that the board is heated until it is certain that all the joints are molten. Then carefully pull the component off the board with a vacuum nozzle. For the appropriate temperature profiles, see the IC data sheet.

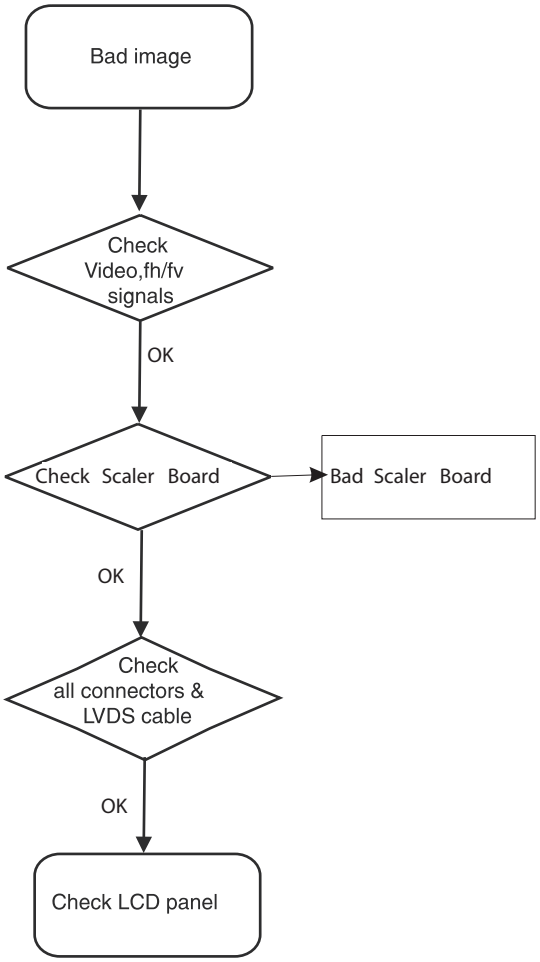
Area Preparation
When the component has been removed, the vacant IC area must be cleaned before replacing the (LF) BGA. Removing an IC often leaves varying amounts of solder on the mounting lands. This excessive solder can be removed with either a solder sucker or solder wick. The remaining flux can be removed with a brush and cleaning agent. After the board is properly cleaned and inspected, apply flux on the solder lands and on the connection balls of the (LF)BGA
Note: Do not apply solder paste, as this has shown to result in problems during re-soldering.

Device Replacement
The last step in the repair process is to solder the new component on the board. Ideally, the (LF) BGA should be aligned under a microscope or magnifying glass. If this is not possible, try to align the (LF)BGA with any board markers. To reflow the solder , apply a temperature profile according to the IC data sheet. So as not to damage neighbouring components, it may be necessary to reduce some temperatures and times.

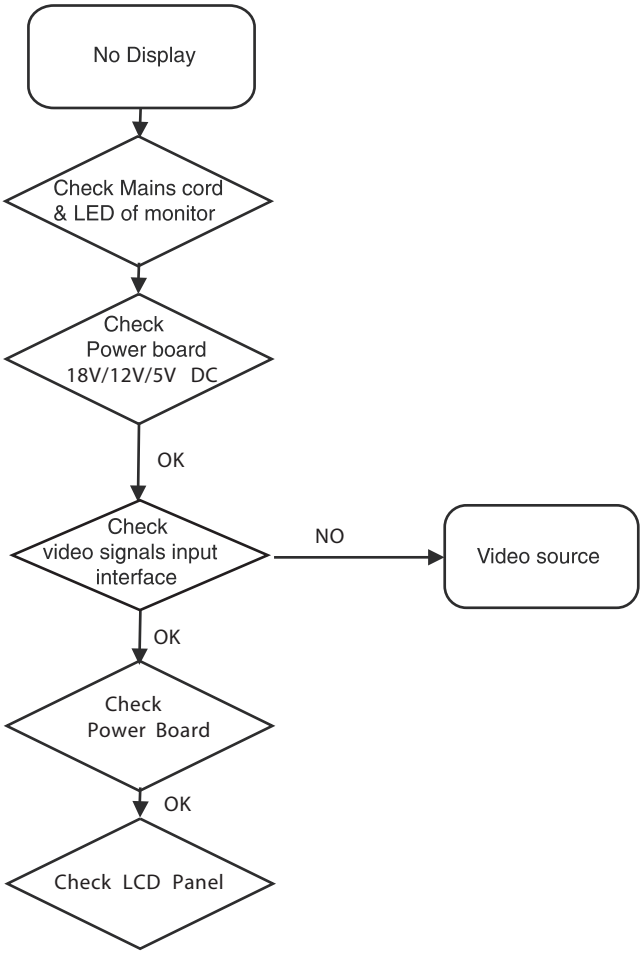
More Information
For more information on how to handle BGA devices, visit this URL: http://www.atyourservice.ce.philips.com (needs subscription). After login, select Magazine, then go to Workshop Information. Here you will find Information on how to deal with BGA-ICs.

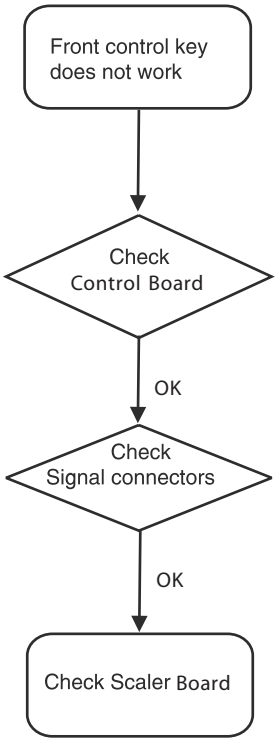
Repair Flow Chart





Repair Flow Chart





Safety Test Requirements

All units that are returned for service or repair must pass the original manufactures safety tests. Safety testing requires both Hipot and Ground Continuity testing.

HI-POT TEST INSTRUCTION

1.Application requirements
1.1 All mains operated products must pass the Hi-Pot test as described in this instruction.
1.2 This test must be performed again after the covers have been refitted following the repair , inspection or modification of the product.

2. Test method
2.1 Connecting conditions
2.1.1 The test specified must be applied between the parallel blade plug of the main scord and all accessible metal parts of the product.
2.1.2 Before carrying out the test, reliable conductive connections must be ensured and thereafter be maintained throughout the test period.
2.1.3 The mains switch(es) must be in the "ON" position.
2.2 Test Requirements
All products should be HiPot and Ground Continuity tested as follows:

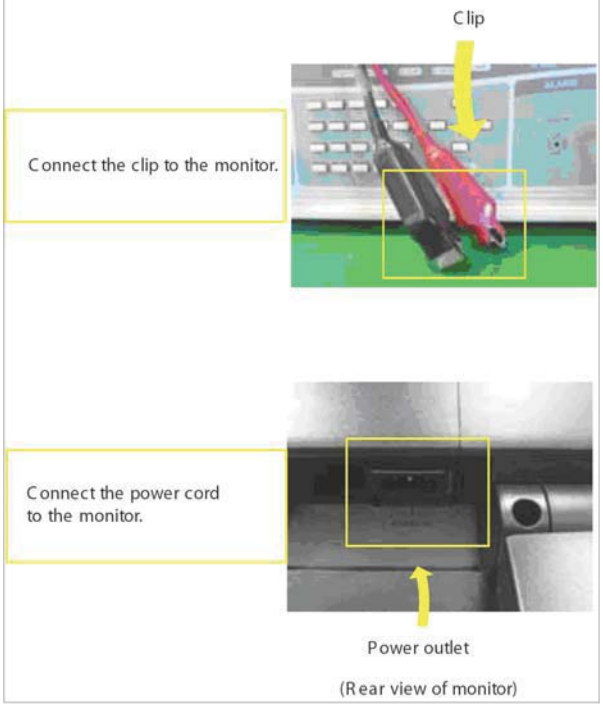
Condition	Hi-Pot Test for products where the mains input is 220V AC	Hi-Pot Test for products where the mains input is 110V AC	Ground Continuity Test requirement
Test voltage	2820VDC (2000VAC)	1700VDC (1200VAC)	Test current: 25A, AC Test time: 3 seconds Resistance required: <=0.09+Rohm, R is the resistance of the mains cord. 91 220CW9 LCD
Test time	3 seconds	1 seconds	
Trip current (Tester)	Set at 100uA for Max limit; Set at 0.1uA for Min limit.	5mA	
Ramp time (Tester)	Set at 2 seconds	X	

2.2.1 The minimum test duration for Quality Control Inspector must be 1 minute.
2.2.2 The test voltage must be maintained within the specified voltage + 5%.
2.2.3 There must be no breakdown during the test.
2.2.4 The grounding blade or pin of mains plug must be conducted with accessible metal parts.

3. Equipments and Connection
3.1. Equipments
For example :
- Zentech 9032 PROGRAMMABLE AUT O SAFETY TESTER

3.2. Connection
* Turn on the power switch of monitor before Hipot and Ground Continuity testing.

(Zentech 9032 tester)



4. Recording
Hipot and Ground Continuity testing records have to be kept for a period of 10 years.