Service Manual

ViewSonic VA1912w-4

VA1912wb-4

Model No. VS10866

19” Color TFT LCD Display

(VA1912w-4_VA1912wb-4_SM Rev. 1a Aug. 2006)

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Revision History

Revision	SM Editing Date	ECR Number	Description of Changes	Editor
1a	8/8/2006		Initial Release	J. Chang

TABLE OF CONTENTS

1. Precautions and Safety Notices

1. Appropriate Operation

(1) Turn off the product before cleaning.
(2) Use only a dry soft cloth when cleaning the LCD panel surface.
(3) Use a soft cloth soaked with mild detergent to clean the display housing.
(4) Use only a high quality, safety approved AC/DC power cord.
(5) Disconnect the power plug from the AC outlet if the product will not be used for a long period of time.
(6) If smoke, abnormal noise, or strange odor is present, immediately switch the LCD display off.
(7) Do not touch the LCD panel surface with sharp or hard objects.
(8) Do not place heavy objects on the LCD display, video cable, or power cord.
(9) Do not use abrasive cleaners, waxes or solvents for your cleaning.
(10) Do not operate the product under the following conditions:
- Extremely hot, cold or humid environment.
- Areas containing excessive dust and dirt.
- Near any appliance generating a strong magnetic field.
- In direct sunlight.

2. Caution

No modification of any circuit should be attempted. Service work should only be performed after you are thoroughly familiar with all of the following safety checks and servicing guidelines.

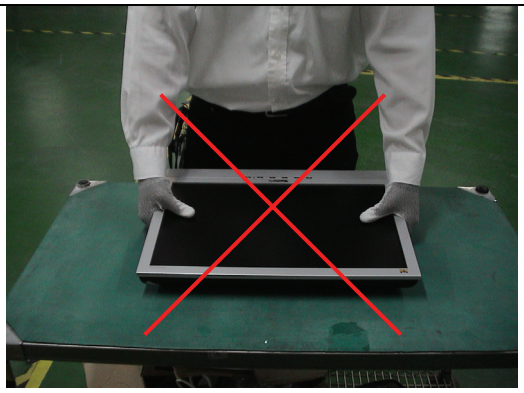
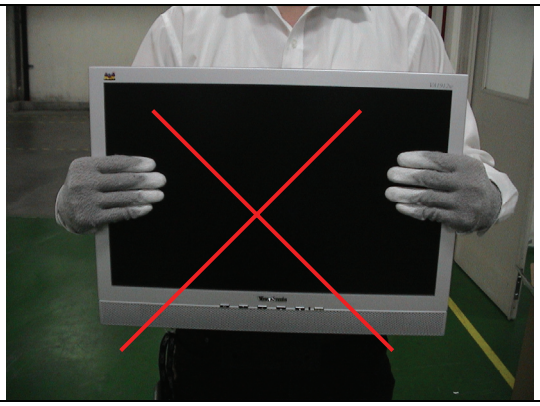
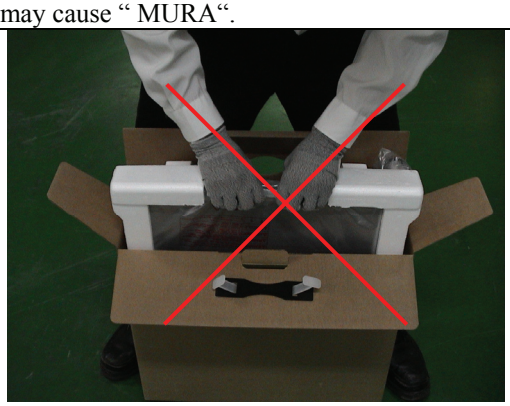
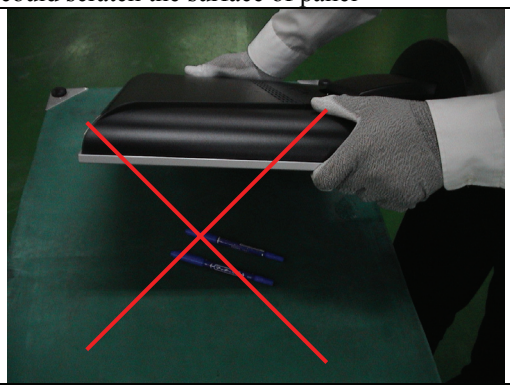
3. Safety Check

Care should be taken while servicing this LCD display. Because of the high voltage used in the inverter circuit, the voltage is exposed in such areas as the associated transformer circuits.

4. LCD Module Handling Precautions

4.1 Handling Precautions

(1) Since front polarizer is easily damaged, pay attention not to scratch it.
(2) Be sure to turn off power supply when connecting or disconnecting input connector.
(3) Wipe off water drops immediately. Long contact with water may cause discoloration or spots.
(4) When the panel surface is soiled, wipe it with absorbent cotton or other soft cloth.
(5) Since the panel is made of glass, it may break or crack if dropped or bumped on hard surface.
(6) Since CMOS LSI is used in this module, take care of static electricity and ensure human earth when handling.
(7) Do not open or modify the Module Assembly.
(8) Do not press the reflector sheet at the back of the module in any direction.
(9) In the event that a Module must be put back into the packing container slot after it was taken out of the container, do not press the center of the CCFL Reflector edge. Instead, press at the far ends of the CFL Reflector edge softly. Otherwise the TFT Module may be damaged.
(10) At the insertion or removal of the Signal Interface Connector, be sure not to rotate or tilt the Interface Connector of the TFT Module.
(11) After installation of the TFT Module into an enclosure (LCD monitor housing, for example), do not twist or bend the TFT Module even momentarily. When designing the enclosure, it should be taken into consideration that no bending/twisting forces may be applied to the TFT Module from outside. Otherwise the TFT Module may be damaged.
(12) The cold cathode fluorescent lamp in the LCD contains a small amount of mercury. Please follow local ordinances or regulations for disposal.
(13) The LCD module contains a small amount of materials having no flammability grade. The LCD module should be supplied with power that complies with the requirements of Limited Power Source (IEC60950 or UL1950), or an exemption should be applied for.
(14) The LCD module is designed so that the CCFL in it is supplied by a Limited Current Circuit (IEC60950 or UL1950). Do not connect the CCFL to a Hazardous Voltage Circuit

Correct methods :	Incorrect Methods :
Only touch the metal-frame of the panel or the front cover of the monitor. Do not touch the surface of the polarizer .	Surface of the panel is pressed by fingers & this may cause “ MURA “
	
	
Take out the monitor with cushion	Take out the monitor by grasping the LCD panel. That may cause “ MURA“.
	
Place the monitor on a clean & soft foam pad .	Place the monitor on foreign objects . That could scratch the surface of panel
	

2. Specification

2.1 INSTRUCTION

FEATURES		VA1912w / VA1912wb
TFTLCD PANEL	Size	19” wide
	Luminance (Typ, cd/㎡)	300 cd/㎡
	Contrast Ratio (Typ)	500:1
	Colors (6 bit + 2 bit FRC)	16.2 M colors
	Response Time (Typ)	8 ms
	Viewing Angle (H/V)	150 ° / 130 °
	Recommend resolution	1440 x 900@60Hz
Input Signal	Analog (75ohms, 0.7/1.0 Vp-p)	Yes
	Digital	No
Sync Compatibility	Separate Sync	Yes
	Composite Sync	No
	Sync on Green	No
Compatibility	PC	Yes
	Power Mac	Yes
	TV Box (NextVision 6)	Yes
Power Voltage	AC 100-240V, 50/60Hz	Yes
Power Consumption	On Mode(Max / Typ)	36W(max) / 32W(typ)
	Active Off Mode (Max)	2W
Audio	Amplifier / Speaker	1.5 W / 2.5W x 2
Ergonomics	Tilt (20 ° **to** -5 °)	Yes
	Swivel	No
	Pivot	No
	Height Adjust	No
OSD Control	[◀ X] [1] [▼] [▲] [2] [⏻]	Yes
Dimension	Physical (W x H x D mm)	451 x 391 x 197 (mm) 17.8 x 15.4 x 7.8 (in)
	Package (W x H x D mm)	538 x 470 x 158 (mm) 21.2 x 18.5 x 6.2 (in)
Weight	Physical (Net kg/lb)	4.5kg (9.9lb)
	Package (Gross Kg/lb)	6.2kg (13.7lb)
Operating Condition	Temperature (℉/℃)	41℉-95℉/+5℃-+35℃
	Humidity (%)	20 % - 80 %
Storage Condition	Temperature (℉/℃)	-4℉-131℉/-20℃-55℃
	Humidity (%)	20 % - 85 %
Regulation	CB / TCO03 / UL/cUL / FCC-B / ICES 003 / Argentina-TUV/S / NOM / EPA Energy Star / TUV/Ergo / ISO13406-2 / TUV/GS / CE / GOST-R / SASO / BSMI / PSB / C-Tick / Korea (MIC) / CCC	

2.2 GENERAL SPECTION

Test Resolution & Frequency	1440 x 900 @ 60Hz
Test Image Size	Full Size
Contrast and Brightness Controls	Factory Default: Contrast = 70%, Brightness = 100%

2.3 VIDEO INTERFACE

Analog Input Connector	DB-15 (Analog), refer the appendix A
Digital Input Connector	N/A
Default Input Connector	Defaults to the first detected input
Video Cable Strain Relief	Equal to twice the weight of the monitor for five minutes
Video Cable Connector DB-15 Pin out	Compliant DDC 2B
Video Signals	Video RGB (Analog) Separate
Video Impedance	75 Ohms (Analog)
Maximum PC Video Signal	950 mV with no damage to monitor
Maximum Mac Video Signal	1250 mV with no damage to monitor
Sync Signals	TTL
DDC 2B	Compliant with Revision 1.3
Sync Compatibility	Separate Sync
Video Compatibility	Shall be compatible with all PC type computers, Macintosh computers, and after market video cards
Resolution Compatibility	640 x 350*, 640 x 480, 720 x 400* (640 x 400*), 800 x 600, 832 x 624, 1024 x 768, 1152 x 864, 1280 x 768, 1280 x 960, 1280 x 1024, 1440 x 900 * The image vertical size might not be full screen. But the image vertical position should be at the center.
Exclusions	Not compatible with interlaced video

2.4 POWER SUPPLY

Power Supply (Adapter)	Part Number: 27-D003247
Input Voltage Range	90 to 264 VAC
Input Frequency Range	47 to 63 Hertz
Short Circuit Protection	OUTPUT CAN BE SHORTED WITHOUT DAMAGE
Over Current Protection	FUSE 3.15A TYPICAL AT 250 VAC
Leakage Current	75 MA (MAX) AT 240VAC / 50HZ
Efficiency	80 % TYPICAL AT 100VAC @60HZ
Fuse	INTERNAL AND NOT USER REPLACEABLE
Power Dissipation	36 WATTS
Max Input AC Current	1.6 ARMS @ nominal RANGE
Inrush Current (Cold Start)	80 A @ 240VAC , 50HZ
Power Supply Cold Start	SHALL START AND FUNCTION PROPERLY WHEN UNDER FULL LOAD, WITH ALL COMBINATIONS OF INPUT VOLTAGE, INPUT FREQUENCY, AND OPERATING TEMPERATURE
Power Supply Transient Immunity	SHALL BE ABLE TO WITHSTAND AN EN61000-4-4 ±2KV TRANSIENT TEST WITH NO DAMAGE
Power Supply Line Surge Immunity	Shall be able to withstand ±2KV (L-L) and ±2.3KV (L-PE) with no damage
Power Supply Missing Cycle Immunity	Shall be able to function properly, without reset or visible screen artifacts, when ½ cycle of AC power is randomly missing at nominal input
Power Supply Acoustics	The power supply shall not produce audible noise that would be detectable by the user. Audible shall defined to be in compliance with ISO 7779 (DIN EN27779:1991) Noise measurements of machines acoustics. Power Switch noise shall not be considered
US Type Power Cable	Separate 3-prong NEMA 5-15P type plug. Length = 1.8m. Connects to display. Color = Black
European Type Power Cable	Schuko CEE7-7 type plug. Length = 1.8m, Connects to display. Color = Black
CCC Type Power Cable	Separate 3-prong type plug. Length = 1.8m. Connects to display. Color = Black
PSE Type Power Cable	Separate 2-prong NEMA 1-15P type plug. Length = 1.8m. Connects to display. Color = Black
Power Saving Operation(Method)	VESA DPMS Signaling
Power Consumption	ON Mode < 36 W (max) / 32 W (typ) ACTIVE OFF < 1 W
Recovery Time	ON Mode = N/A, ACTIVE OFF < 5 sec

2.5 ELECTRICAL REQUIREMENT

Horizontal / Vertical Frequency

Horizontal Frequency	30 – 82 kHz
Vertical Refresh Rate	50 – 85* Hz.
Maximum Pixel Clock	135 MHz (EDID file is 140MHz)
Sync Polarity	Independent of sync polarity.

Timing Table

Item	Timing	Analog	Digital
1	640 x 350 @ 70Hz, 31.5kHz	Yes	No
2	640 x 400 @ 60Hz, 31.5kHz	Yes*	No
3	640 x 400 @ 70Hz, 31.5kHz	Yes	No
4	640 x 480 @ 60Hz, 31.5kHz	Yes	No
5	640 x 480 @ 67Hz, 35.0kHz	Yes	No
6	640 x 480 @ 72Hz, 37.9kHz	Yes	No
7	640 x 480 @ 75Hz, 37.5kHz	Yes	No
8	640 x 480 @ 85Hz, 43.27kHz	Yes	No
9	720 x 400 @ 70Hz, 31.5kHz	Yes	No
10	800 x 600 @ 56Hz, 35.1kHz	Yes	No
11	800 x 600 @ 60Hz, 37.9kHz	Yes	No
12	800 x 600 @ 75Hz, 46.9kHz	Yes	No
13	800 x 600 @ 72Hz, 48.1kHz	Yes	No
14	800 x 600 @ 85Hz, 53.7kHz	Yes	No
15	832 x 624 @ 75Hz, 49.7kHz	Yes	No
16	1024 x 768 @ 60Hz, 48.4kHz	Yes	No
17	1024 x 768 @ 70Hz, 56.5kHz	Yes	No
18	1024 x 768 @ 72Hz, 58.1kHz	Yes	No
19	1024 x 768 @ 75Hz, 60.0kHz	Yes	No
20	1024 x 768 @ 85Hz, 68.67kHz	Yes	No
21	1152 x 864@ 75Hz, 67.5kHz	Yes	No
22	1280 x 1024 @ 60Hz, 63.4kHz	Yes	No
23	1280 x 1024 @ 75Hz, 79.97kHz	Yes	No
24	1280x 768 @ 60Hz, 47.78kHz	Yes	No
25	1280 x 960 @60Hz, 60kHz	Yes	No
26	1440 x 900 @ 60Hz, 55.96kHz	Yes	No
*The image vertical size might not be full screen.			

Primary Presets

1440 x 900 @ 60Hz

User Presets

Number of User Presets (recognized timings) Available: 10 presets total in FIFO configuration

Changing Modes

- Maximum Mode Change Blank Time for image stability : 3 seconds (Max), excluding “Auto Adjust” time
- Under DOS mode (640 x 350, 720 x 400 & 640 x 400), there is no “Auto Adjust” feature.
- The monitor needs to do “Auto Adjust” the first time a new mode is detected but except the DOS mode 640 x 350, 720 x 400 & 640 x 400.(see section “0-Touch™ Function Actions”)
- While running Change Mode, Auto Adjust or Memory Recall, the image shall blank

2.6 FRONT PANEL CONTROLS AND INDICATORS

Front Panel Hardware Controls

Power Switch (Front Head)	Power Control, soft Power Switch.
Power LED (Front Head)	Green – ON Orange – Active Off Dark = Soft Power Switch OFF
Front Panel Controls (Head) [◄X] [1] [▼] [▲] [2] [⏻]	[⏻] Power [1] BUTTON 1 [2] Button 2 [▲] UP ARROW BUTTON [▼] DOWN ARROW BUTTON [◄ X] Audio Mute on/off Note: Power Button, Button 1 and Button 2 and Mute Button must be one-shot logic operation. (i.e. there should be no cycling)
Reaction Time	OSD must fully appear within 0.5s after pushing Button 1

Short Cuts Function from the button(s)

[1]	Main Menu
[2]	Adjust Brightness / Contrast
[▼] or [▲]	To immediately activate Contrast menu. It should be change to Brightness OSD by push button [2]
[▼] + [▲]	Recall both of Contrast and Brightness to default
[1] + [2]	Toggle 720x400 and 640x400 mode when input 720x400 or 640x400 mode
[1] + [▼] + [▲]	White Balance. (Not shown on user’s guide)
[1] + [▼]	Power Lock
[1] + [▲]	OSD Lock
[◄X]	Audio Mute on /off
Remark : All the short cuts function are only available while OSD off	

Main Menu Controls

Auto Image Adjust[*1]

Contrast/Brightness[*2][*4]

Audio Adjust

Volume[*4], Mute[*4]

Color Adjust

sRGB, 9300K, 6500K(default), 5400, 5000, User Color [R, G, B]

Information

H Frequency, V Frequency, Resolution, Pixel Clock, Serial Number,

Model Number, "www.ViewSonic.com"

Manual Image Adjust

H. Size[*1], H./V. Position[*1], Fine Tune[*1], Sharpness[*3]

Setup Menu

Language [English, French, German, Spanish, Italian, Finnish, Japanese, Traditional Chinese, Simplified Chinese],

Resolution Notice, OSD Position, OSD Timeout, OSD Background

Memory Recall

[*1] These functions are not available in Digital Mode

[*2] These functions are not available under sRGB Mode

[*3] These functions are not available under Native Resolution Mode

[*4] These functions setting can be recalled to default by [▼]+[▲]

[Remark] Please refer to the detail in the Appendix C

Function descriptions

OSD Lock short cuts function for the buttons

The OSD lock will be activated by pressing the front panel control buttons "(1), & (▲)" for 10 seconds. If the user then tries to access the OSD by pressing any of the buttons "1", "▼", "▲", "2" a message will appear on the screen for 3 seconds showing "OSD Locked". The OSD lock will be deactivated by pressing the front panel control buttons "(1), & (▲)" again for 10 seconds.

Note1: When the OSD is locked will lock all functions, including "Volume" and "Mute"

Note 2: Status bar indicating OSD Lock or Unlock is in progress and when complete it will indicate "OSD Locked"

Note 3: OSD Lock should not lock Power Button and Power Lock function

Power Lock short cuts function for the buttons

The power button lock will be activated by pressing the front panel control buttons "(1), & (▼)" for 10 seconds. Locking the power button means that the user won't be able to turn off the LCD while the power button is locked. If the user presses the power button while it is locked, a message will appear on the screen for 3 seconds showing "Power Button Locked". It also means that with the power button locked, the LCD would automatically turn back "On" when power is restored after a power failure. If the power button is not in the locked mode, then power should return to it's previous state when power is restored after a power failure. The power button lock will be deactivated by pressing the front panel control buttons "(1), & (▼)" again

for 10 seconds.

Note 1: Status bar indicating Power Button lock or unlock is in progress and when complete it will indicate “Power Button Locked”

Note 2: Power should only be lockable in the “On State”

Memory Recall Actions

Memory Recall action on the analog and digital mode as below

1. Set the factory defaults as shown in Section 4-8
2. Clean all the mode setting buffer
3. Execute Auto Image Adjust

Note: Memory Recall should have no effect for Language, Power Lock, User Color Settings or Input Priority

Resolution Notice Actions

1. Resolution Notice OSD should show on screen after changing to non-native mode for 30 sec
2. The OSD should disappear after 10 sec or by pushing button [1] or [2]

Resolution Notice function should be disabled when push button [2] under Resolution Notice OSD

0-Touch™ Function Actions

1. Execute Auto Image Adjust when new mode detected, and save the settings to buffer for further use
2. It should be reset by Memory Recall function

(Should not reset by power off, power unplug and others)

OSD Auto Save

The OSD shall save new settings when it is turned off by the user or when it times out. There shall not be a separate save

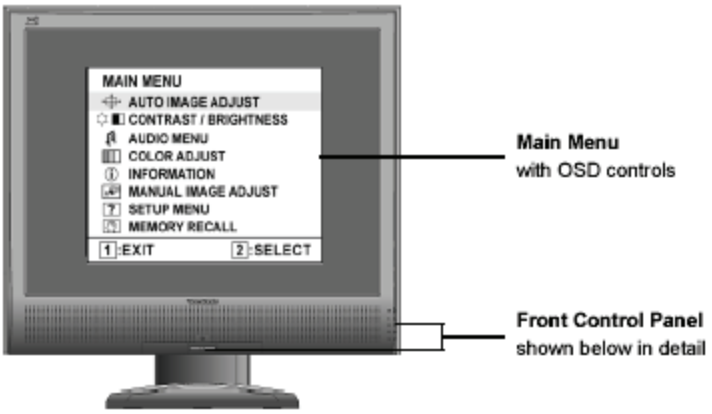
2.7 AUDIO INTERFACE (SPEAKER SPECIFICATION)

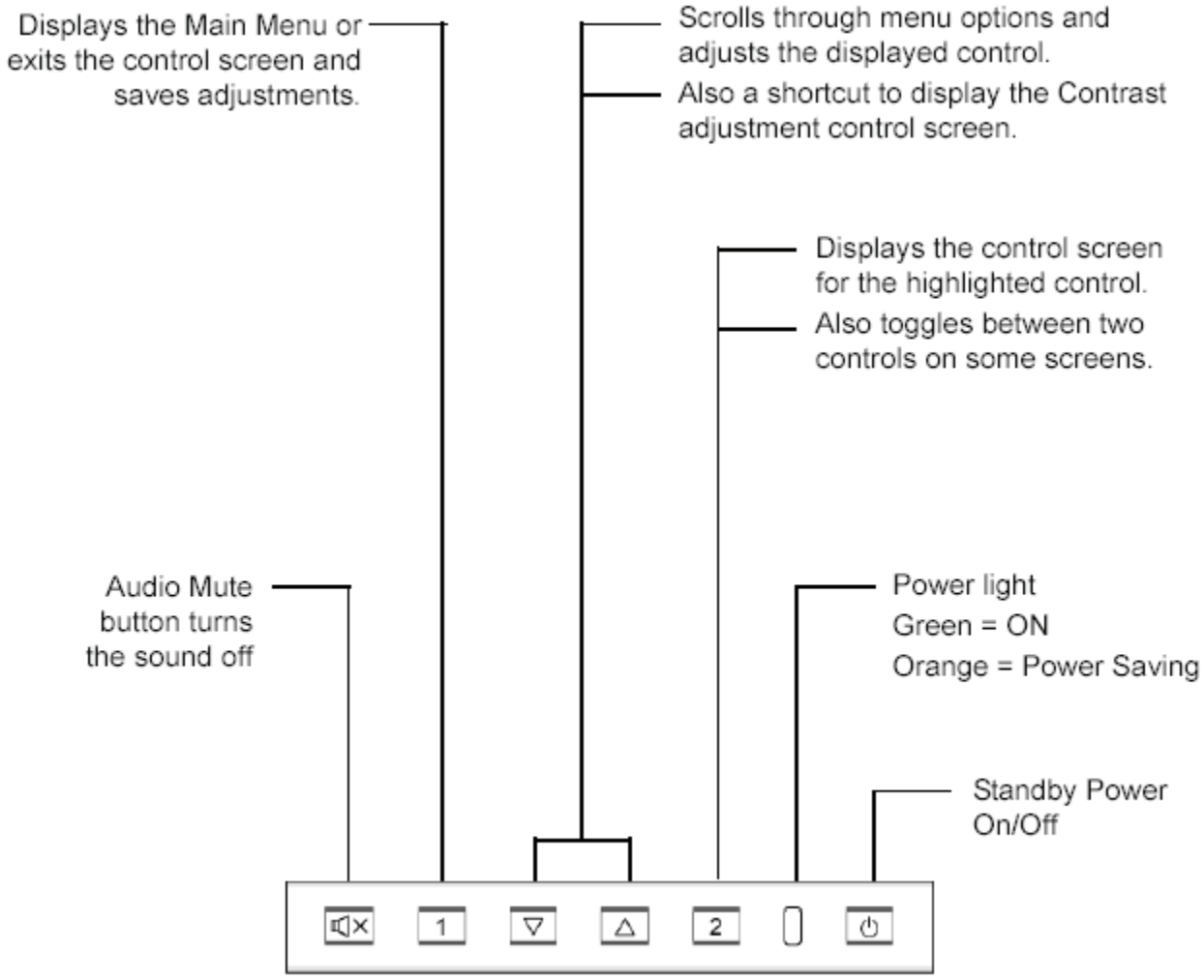
Line input connection	3.5 mm stereo jack
Line input signal	1 Vrms
Line input impedance	20k ohms
Maximum power output (Electric)	1.5W / CH
Signal to Noise Ratio	72 dB
Frequency response	300 TO 20KHZ
Distortion	8%@1kHz
Vibration	There should be no audible vibration with volume at 100%. (Input signal within 1 Vrms)
Screen image	There should be no affect on the screen image stability under any conditions
Connector PC99 requirement Audio in	Lime Green pantone # 577C
Cable type / length	3.5mm stereo cable / 1.8m length
Audio DPMS	NOTE: THERE IS NO GUARANTEE <1 W POWER CONSUMPTION IN ACTIVE OFF MODE, WHEN THE AUDIO CABLE IS CONNECTED

3. Front Panel Function Control Description

Adjusting the Screen Image

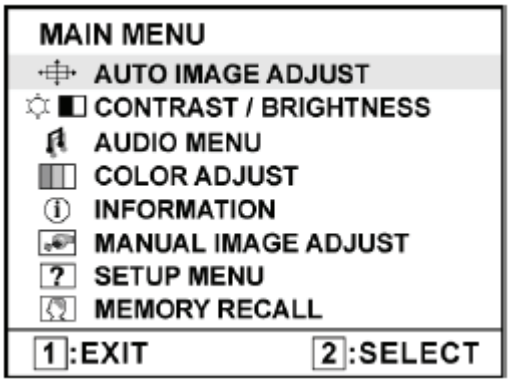
Use the buttons on the front control panel to display and adjust the OSD controls which display on the screen. The OSD controls are explained at the top of the next page and are defined in “Main Menu Controls” on page 10.





Do the following to adjust the display setting:

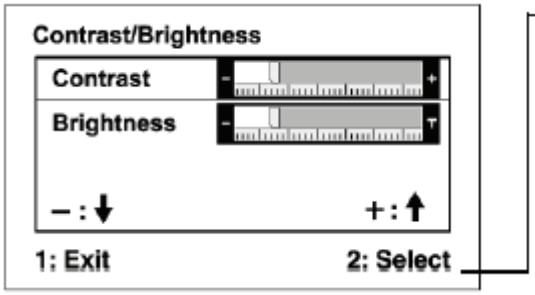
1. To display the Main Menu, press button [1].



NOTE: All OSD menus and adjustment screens disappear automatically after about 15 seconds. This is adjustable through the OSD timeout setting in the setup menu.

2. To select a control you want to adjust, press ▲ or ▼ to scroll up or down the Main Menu.

3. After the control is selected, press button [2]. A control screen like the one shown below appears.



The command line at the bottom of the control screen tells what to do next from this screen. You can toggle between control screens, adjust the selected option, or exit the screen.

4. To adjust the setting, press the up ▲ or down ▼ buttons.

5.To save the adjustments and exit the menu, press button [1] *twice*.

The following tips may help you optimize your display:

- Adjust the computer's graphics card so that it outputs a 1440 x 900 @ 60Hz video signal to the LCD display. (Look for instructions on “changing the refresh rate” in the graphics card's user guide.)
- If necessary, make small adjustments using H. POSITION and V. POSITION until the screen image is completely visible. (The black border around the edge of the screen should barely touch the illuminated “active area” of the LCD display.)

Main Menu Controls

Adjust the menu items shown below by using the up ▲ and down ▼ buttons.

Control Explanation

Auto Image Adjust sizes and centers the screen image automatically.

Contrast adjusts the difference between the image background (black level) and the foreground (white level).

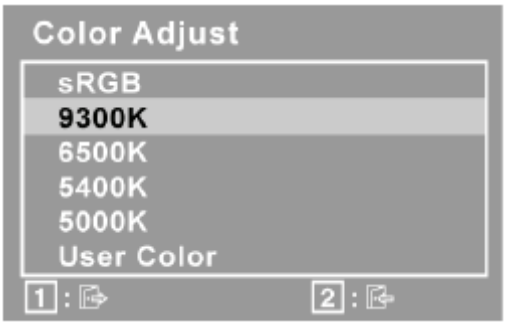
Brightness adjusts background black level of the screen image.

Audio Adjust

Volume increases the volume, decreases the volume, and mutes the audio.

Mute temporarily silences audio output.

Color Adjust provides several color adjustment modes, including preset color temperatures and a User Color mode which allows independent adjustment of red (R), green (G), and blue (B). The factory setting for this product is 6500K (6500 Kelvin).



9300K-Adds blue to the screen image for cooler white (used in most office settings with fluorescent lighting).

6500K-Adds red to the screen image for warmer white and richer red.

5400K-Adds green to the screen image for a darker color.

5000K-Adds blue and green to the screen image for a darker color.

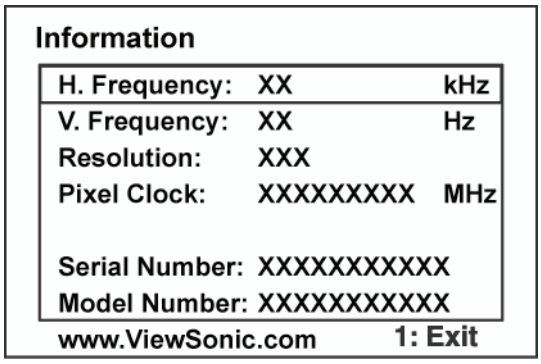
User Color Individual adjustments for red (R), green (G), and blue (B).

1. To select color (R, G or B) press button [2].

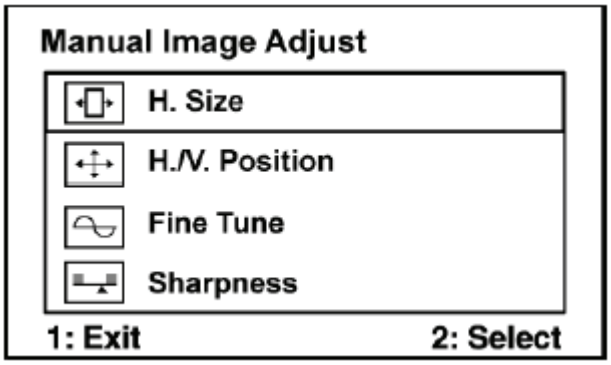
2. To adjust selected color, press ▲ and ▼

Important: If you select RECALL from the Main Menu when the product is set to a Preset Timing Mode, colors return to the 6500K factory preset.

Information displays the timing mode (video signal input) coming from the graphics card in the computer, the LCD model number, the serial number, and the ViewSonic® website URL. See your graphics card's user guide for instructions on changing the resolution and refresh rate (vertical frequency).
NOTE: VESA 1440 x 900 @ 60Hz (recommended) means that the resolution is 1440 x 900 and the refresh rate is 60 Hertz.

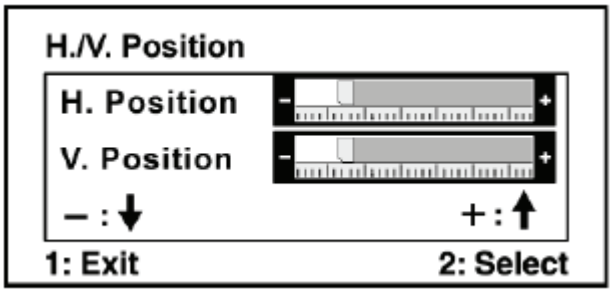


Manual Image Adjust Sub-menu



H. Size (Horizontal Size) adjusts the width of the screen image.

H./V. Position (Horizontal/Vertical Position) moves the screen image left or right and up or down.

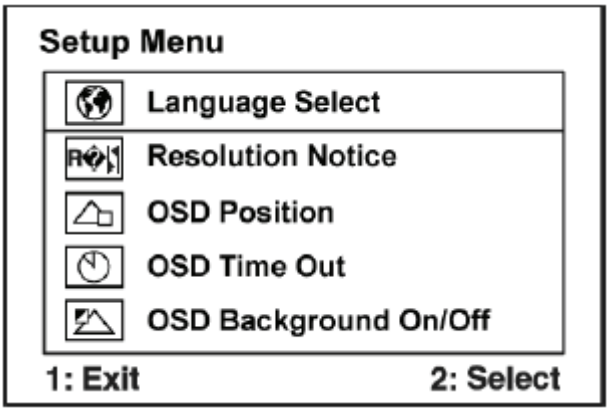


Fine Tune sharpens the focus by aligning text and/or graphics with pixel boundaries.

NOTE: Try Auto Image Adjust first.

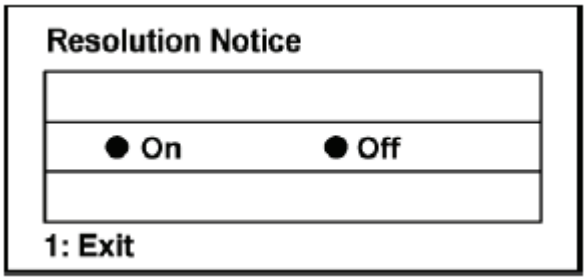
Sharpness adjusts the clarity and focus of the screen image.

Setup Menu displays the menu shown below:

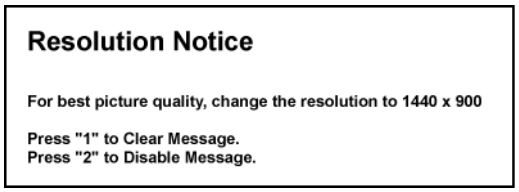


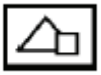
Language Select allows the user to choose the language used in the menus and control screens.

Resolution Notice allows the user to enable or disable this notice.



If you enable the Resolution Notice shown above and your computer is set at a resolution other than 1440 x 900, the following screen appears.





OSD Position allows the user to move the OSD menus and control screens.

OSD Timeout sets the length of time the OSD screen is displayed. For example, with a "30 second" setting, if a control is not pushed within 30 seconds, the display screen disappears.

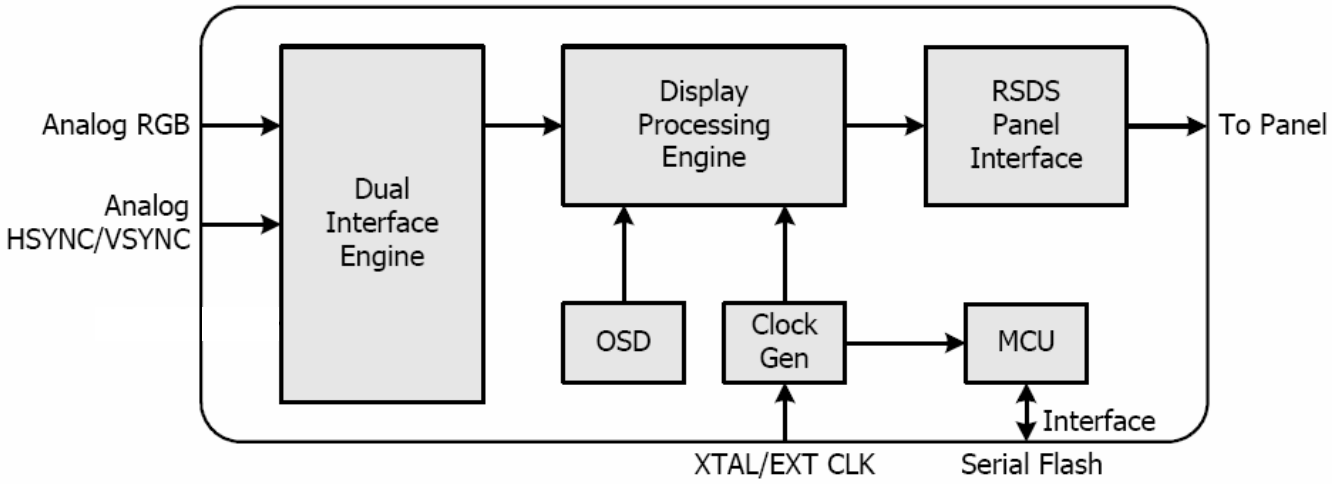
OSD Background allows the user to turn the OSD background On or Off.

Memory Recall returns the adjustments back to factory settings if the display is operating in a factory Preset Timing Mode listed in the Specifications of this manual.

4. Circuit Description

The TSUM17AK is total solution graphics processing IC for LCD monitors with panel resolutions up to SXGA. It is configured with a high-speed integrated triple-ADC/PLL,, a high quality display processing engine, and an integrated output display interface that can support RSDS panel interface format. To further reduce system costs, the TSUM17AK also integrates intelligent power management control capability for green-mode requirements and spread- spectrum support for EMI management.

The TSUM17AK incorporates the world's first coherent oversampled RGB graphics ADC in a monitor controller system. The oversampling ADC samples the input RGB signals at a frequency that is much higher than the signal source pixel rate. This can preserve details in the video signal that ordinarily would be lost due to input signal jitter or bandwidth limitations in non-oversampled systems. The TSUM17AK also incorporates a new Dynamic Frame Rate (DFR) generator for the digital output video to the display panel that preserves the advantages of a fixed output clock rate, while eliminating the output end of frame short-line.



5. Adjustment Procedure

A. Function Test and Alignment Procedure

1. All Modes Reset

You should do "All Model Reset" (Refer to Chap 3. Hot Keys for Function Controls) first. This action will allow you to erase all end-user's settings and restore the factory defaults.

2. Auto Image Adjust

The Auto Adjust is aimed to offer a best screen quality by built-in ASIC. For optimum screen quality, the user has to adjust each function manually.

A.Turn the computer and LCD monitor on.

B. Press the '**Auto**' button on monitor keypad to Auto Adjust.

C. The LCD monitor will start the Auto Adjust process automatically and run for 10 consecutive seconds, during which time you will notice the image change.

3. Firmware

Test Patten: Burn in Model (Refer to Chap3. Hot Keys for Function Control)
-Make sure the F/W is the latest version.

4. DCC

Test Patten: EDID program
-Make sure it can pass test program.

5. Window Shut Down

Test Signal: 1280*1024@60Hz
Test Pattern:

Checkered Pattern Every One Pixel (50%Green & 50%Blue)
Inspection Item: Flicker, Mura

6. Window BG

Test Signal: 1280*1024@60Hz
Test Pattern:

Window standard pattern
Inspection Item: Line Defect, Function Defect & Mura

7. 25 Gray

Test Signal: 1280*1024@60Hz
Test Pattern:

Full Screen 25% White (Gray)
Inspection Item: Particle, Line Defect & Mura

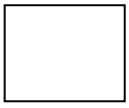
8. 50 Gray

Test Signal: 1280*1024@60Hz
Test Pattern:

Full Screen 50% White (Gray)
Inspection Item: Bright Dot, Particle, Line Defect & Mura

9. White Box

Test Signal: 1280*1024@60Hz
Test Pattern:



Window standard pattern
Inspection Item: Particle, Line Defect, Power, Image Remain & Mura

10. Black Box
Test Signal: 1280*1024@60Hz
Test Pattern:

Window standard pattern
Inspection Item: Bright Dot, Line Defect & Power

11. RED
Test Signal: 1280*1024@60Hz
Test Pattern:

Full Screen Red
Inspection Item: Bright Dot, Partial & Line Defect

12. Green
Test Signal: 1280*1024@60Hz
Test Pattern:

Full Screen Green
Inspection Item: Bright Dot, Partial & Line Defect

13. Blue
Test Signal: 1280*1024@60Hz
Test Pattern:

Full Screen Green
Inspection Item: Bright Dot, Partial & Line Defect

14. Gray_Scale_0-100_V64
Test Signal: 1280*1024@60Hz
Test Pattern:

Vertical 64 (256) Gray Scale (Right → Left，From 0 to 100% White)
Inspection Item: Line Defect & Function Defect

15. Function Test Display pattern

Item	Pattern	Description	Remark
1	Gray_Scale_0-100_V	Vertical 64 (256) Gray Scale (right→left，From 0 to 100% White)	Figure 1
2	Gray_Scale_0-100_H	Horizontal 64 (256) Gray Scale (up→down，From 0 to 100% White)	Figure 2
3	Black	Full Screen Black	Figure 3
4	Red	Full Screen 50% Red	Figure 4
5	Green	Full Screen 50% Green	Figure 5
6	Blue	Full Screen 50% Blue	Figure6
7	White	Full Screen White	Figure7
8	Black_Tile	Black Tile Under White Background	Figure 8

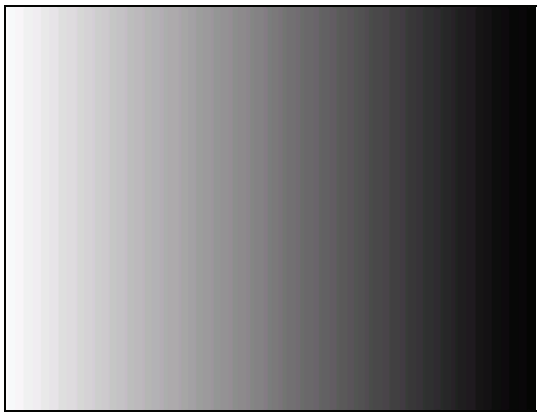


Figure 1

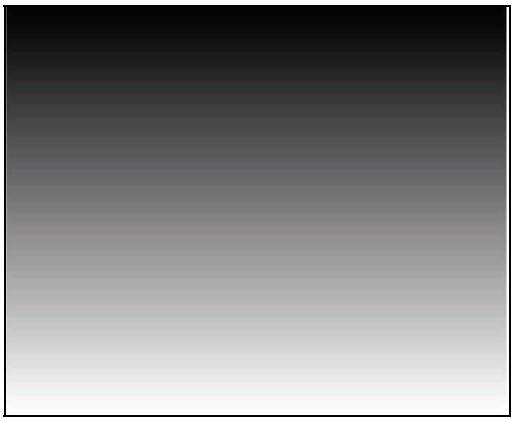


Figure 2

Figure 3

Figure 4

Figure 5

Figure 6

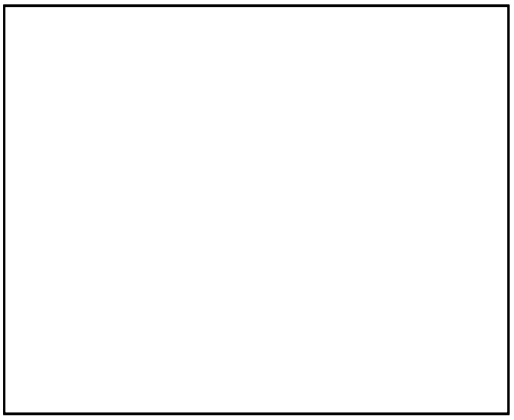


Figure 7

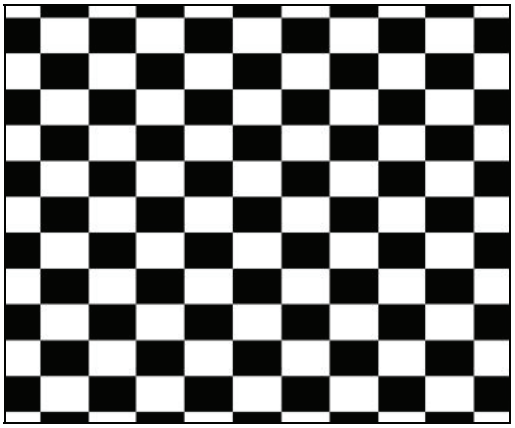
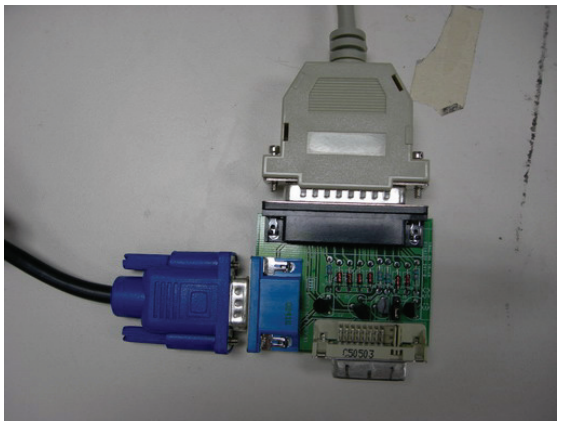


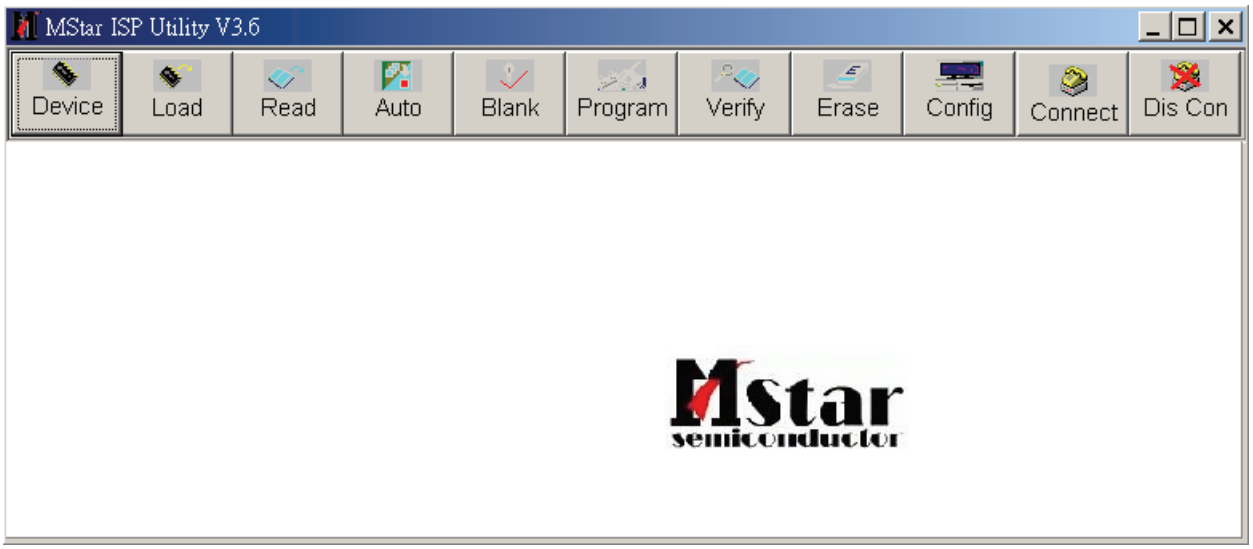
Figure 8

Mstar ISP Tool User Manual

Setp1:
Take the cable of Print Port to connect Print Port of PC and Print Port of fixture(and EDID burn in the same fixture) to connect VGA Cable between D-sub of fixture and D-sub of AD Board of monitor，the monitor must be turned on the power。

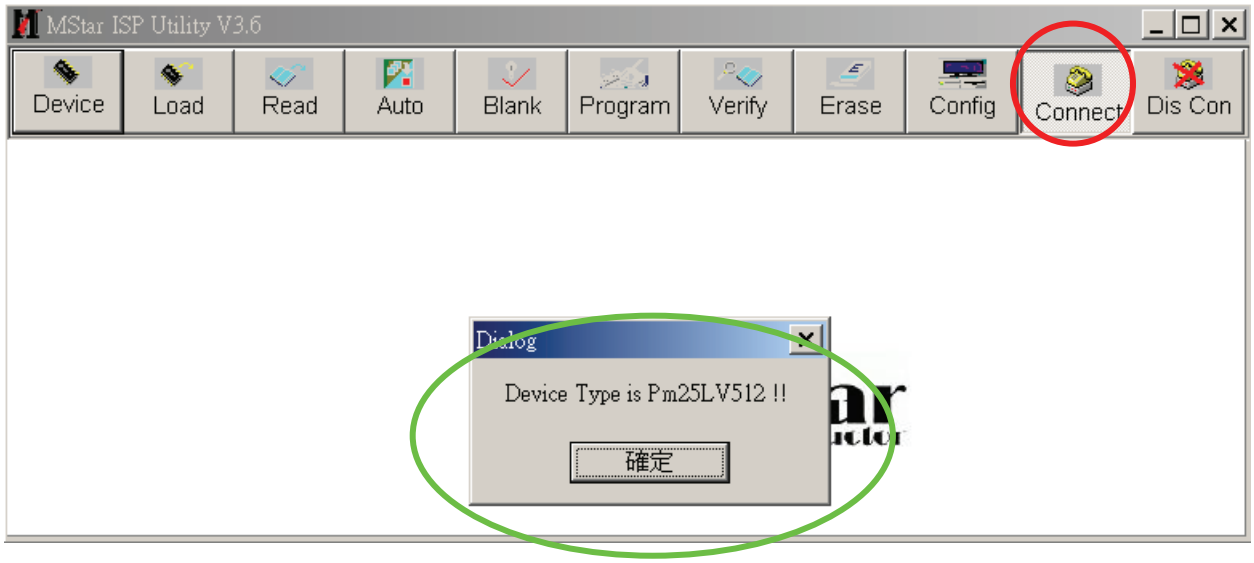


Step 2 :
Open ISP Tool



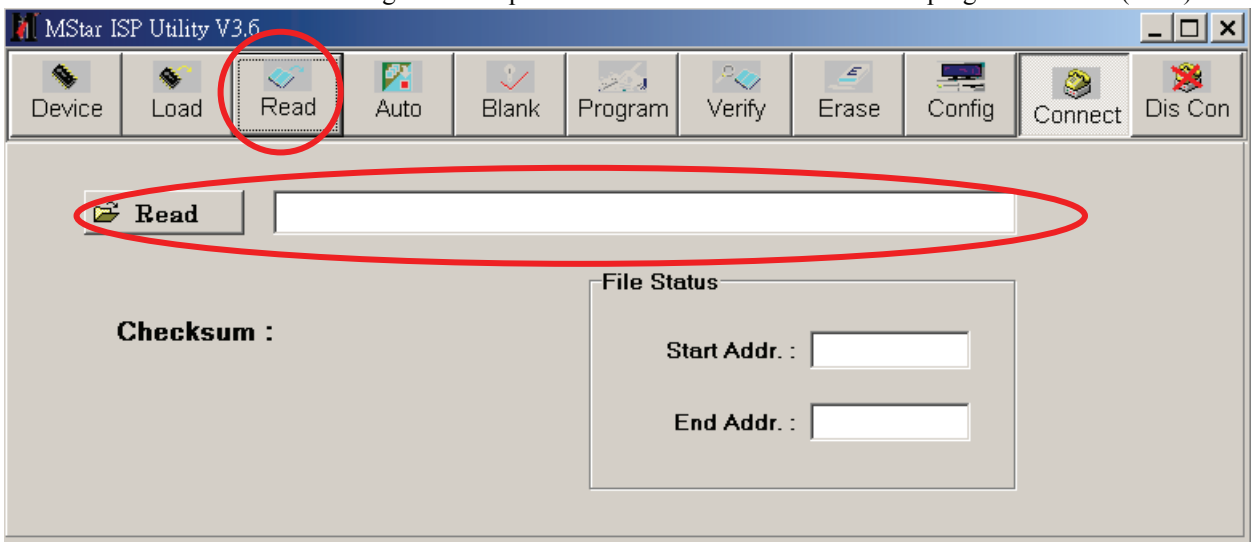
Step 3 :

Press ”connect” into ISP mode，display the model of Flash，The dialog of figure is displayed “Device Type is Pm25LV512” then press ”確定”。

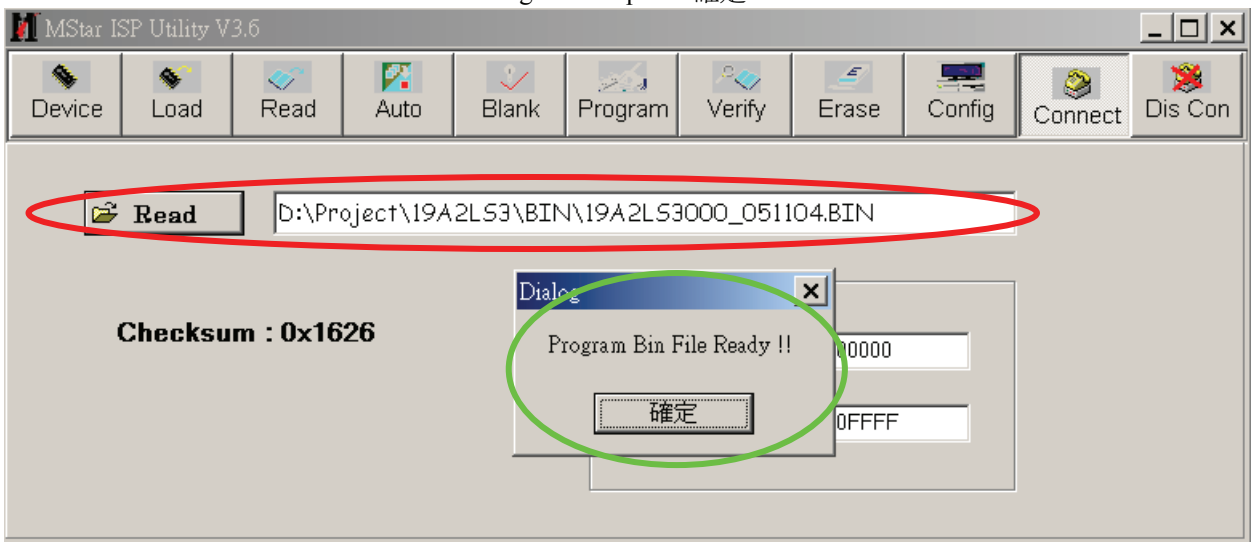


Step 4:

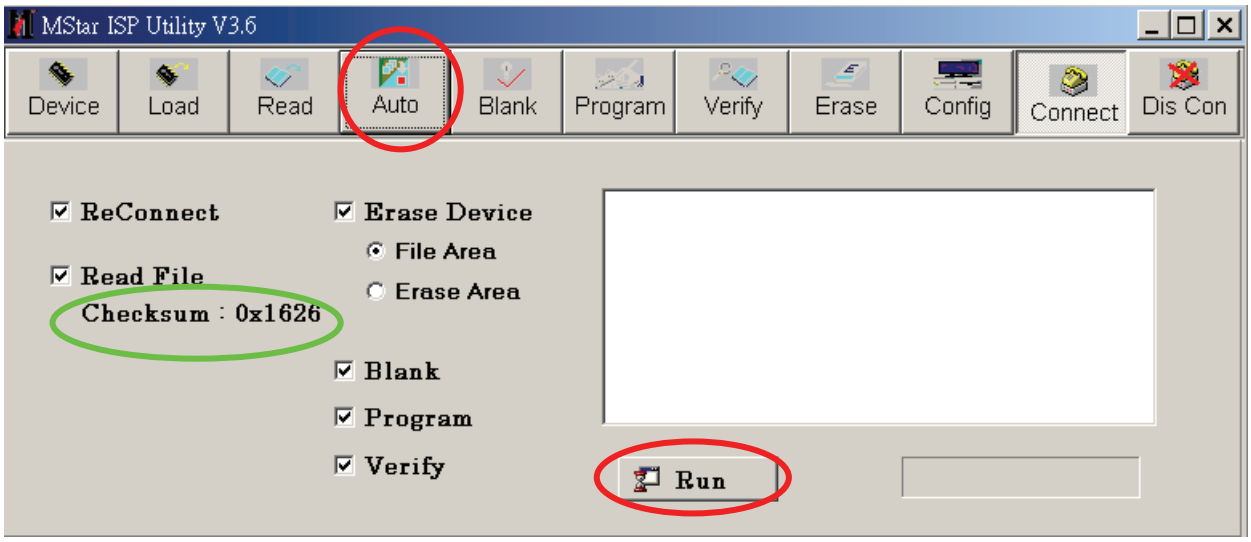
Press ”Read” then enter as below figure，then press  to down load the program of BIOS (*.bin)。



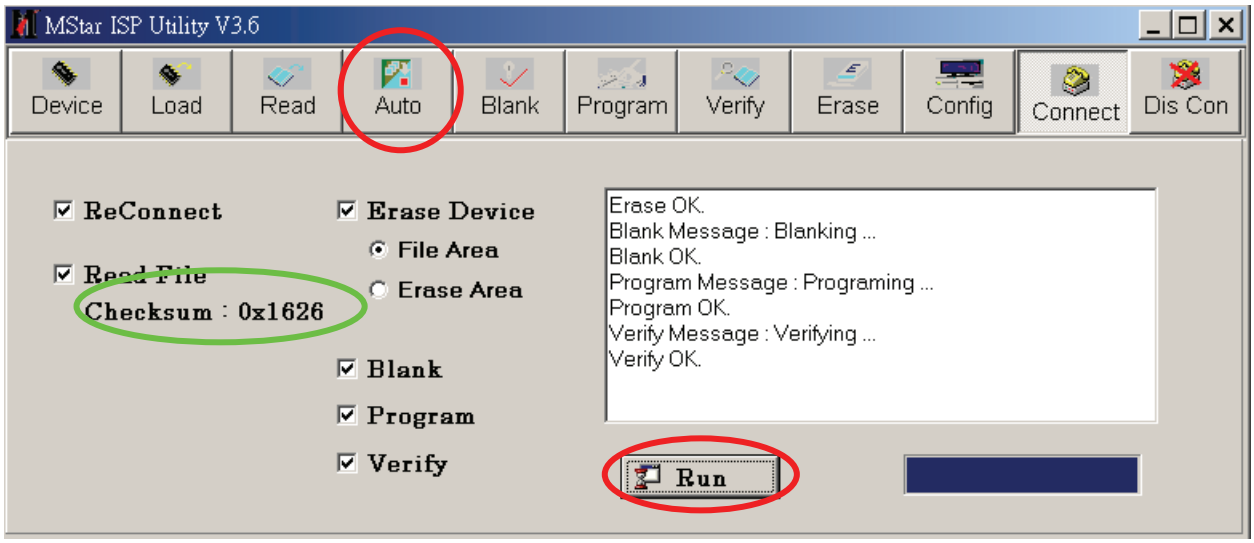
If down load BIOS that is successful as below figure then press”確定”。



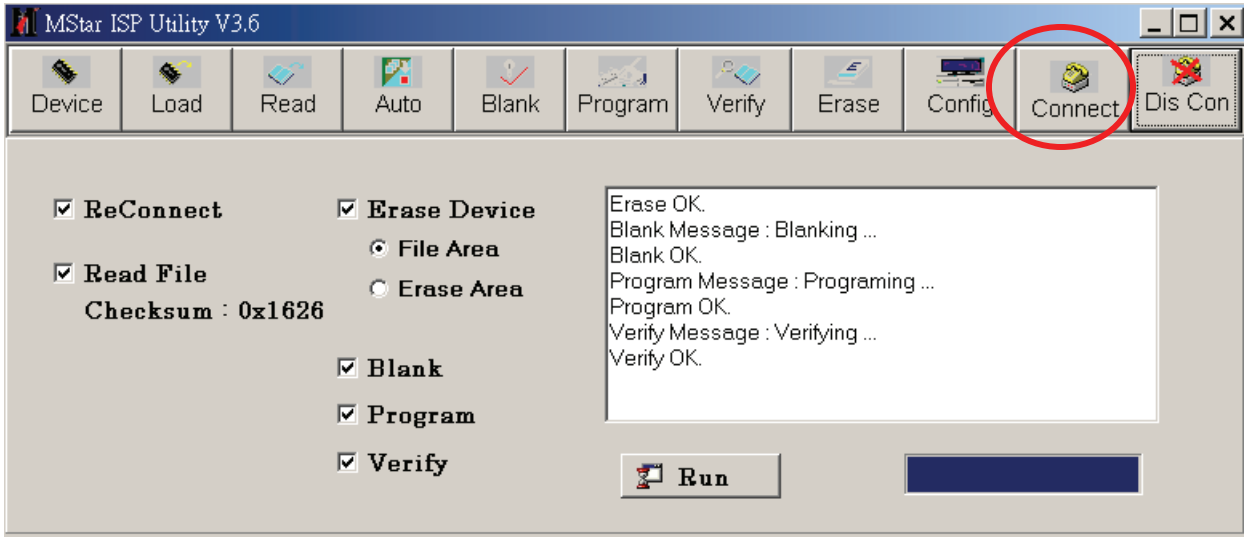
Step 5 :
Press ”Auto” into below figure that display the value of BIOS Checksum below figure is displayed “0x1626” then press ”Run” to execute the BIOS procedure。



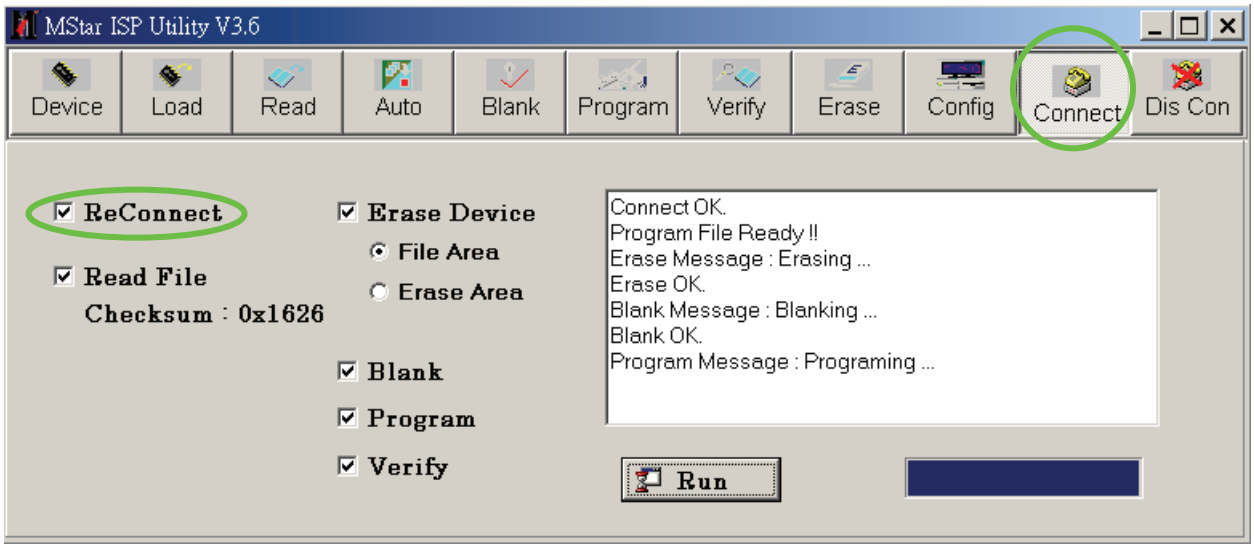
The BIOS procedure is displayed the message ”Verify OK” that the BIOS procedure is successful。



Step 6 :
Press ”Dis Con” then leave the mode of ISP。



Step 7：
When select ”ReConnect” and press “Run” then repeat to connect the mode of ISP into next the action of BIOS procedure



Packing For Shipping And Disassembly Procedure

Packing For Shipping

1. Packing Procedure

1.1 Paste protection film to protect the monitor. (Figure 1)

1.2 Put the monitor in the PE bag and seal the bag with tape. (Figure 2)

Figure 1

Figure 2

1.3 Put the cushions on the monitor. (Figure 3)

1.4 Place the monitor into the carton and then put all the accessories into the carton. As last, close the carton and seal it with tape. (Figure 4)

Figure 3

Figure 4

Monitor Assembly and Disassembly

1 Separate Stand Assy

1.1 Remove Stand Cover

Step 1 :

Remove the Seat Assy

Step 2 :

Remove the Stand Cover.

Step 3 :

Loose and remove 4 screws

Step4 :

Remove the Stand Assy

Step 5 :

Completed.

2 Separate Rear Cover (Rear Case Assy)

Separate Bezel hooks to take Bezel and Rear Cover apart.

Step 1 :

Loose and remove 2 screws.

Step 2 :

Separate Bezel hooks to take Bezel and Rear Cover apart.

Step 3 :

Remove Rear Cover.

Step 4 :

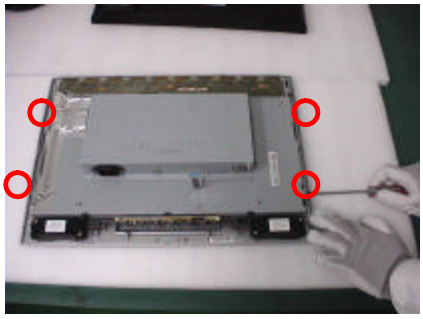
Completed.

3 Remove Power Board and AD Board

3.1 Remove Metal Cover

Step 1 :
Remove FFC from OSD Board.

Step 2 :
Loose and remove 4 screws.



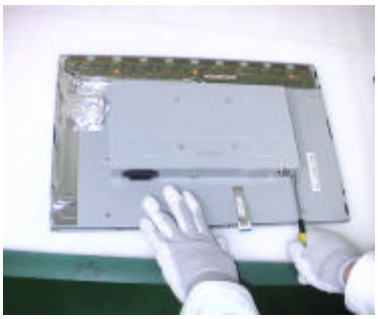
Step 3 :
Lift up LCD module and remove bezel.

Step 4 :
Remove 2 pieces of Backlight wires.

Step 5 :
Remove 2 pieces of Backlight wires.

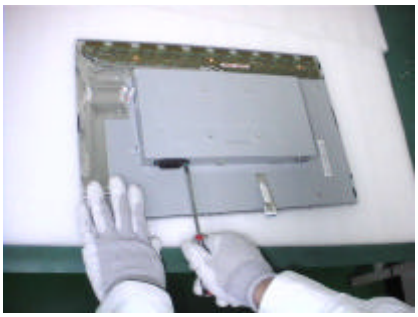
Step 6 :

Loose and remove 2 screws.



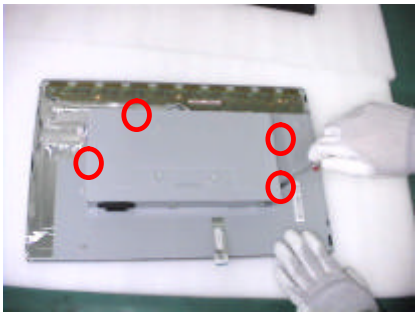
Step 7 :

Loose and remove 2 screws.



Step 8 :

Loose and remove 4 screws.

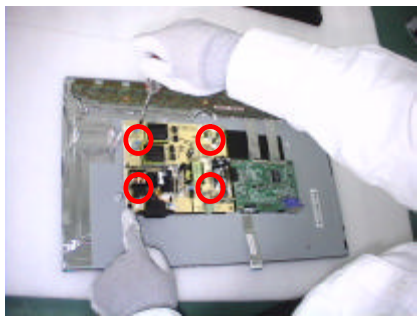


Step 9 :

Remove the PCBA Cover

3.2 Remove Power Board and AD Board

Step 1 :
Loose and remove 4 screws.

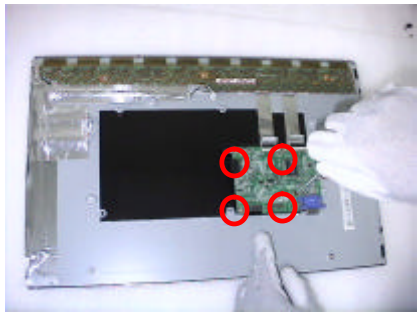


Step 2 :
Remove Lips Board

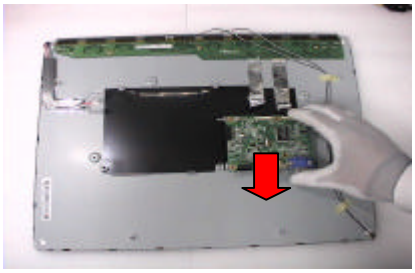
Step 3 :
Remove 2 pieces of FFCs.

Step 4 :
Remove the FFC.

Step 5 :
Loose and remove 4 screws.

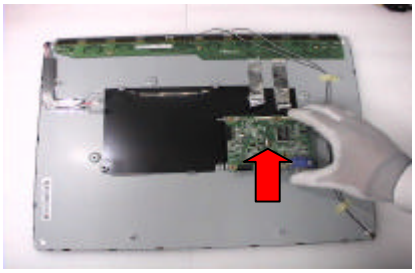


Step 6 :
Remove AD PCBA.

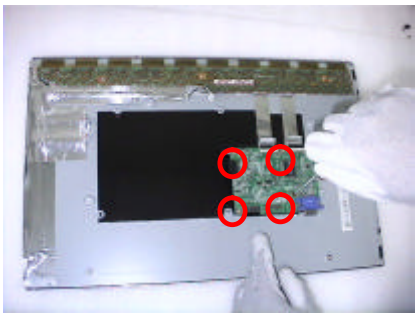


Step7 :
Completed.

4 Change New AD Board and Power Board



Step 1 :
Place new AD Board.
And fasten 4 fixed screws.



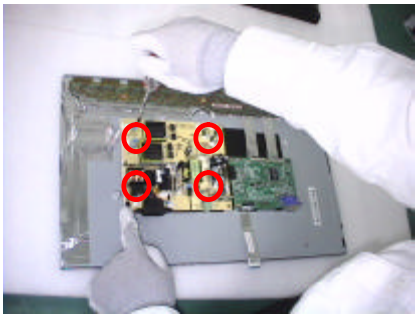
Step 2 :
Fasten 4 fixed screws.

Step 3 :
Insert FFC.

Step 4 :
Insert 2 pieces of FFCs .

Step 5 :
Insert new Lips Board.

Step 6 :
Fasten 4 fixed screws.



Step 7 : Completed.

5. Remove OSD Board

Step 1 :
Separate both Audio Cable.

Step 2 :
Take OSD Board apart.

Step 3:
Completed.

6.Change New OSD Board

Step 1 :
Place New OSD Board.

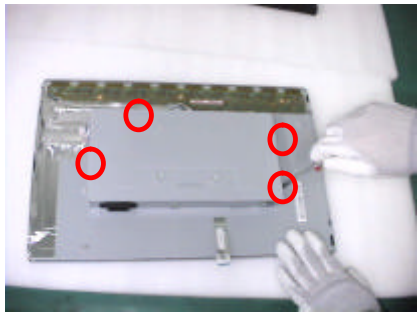
Step 2 :
Insert Audio cable to connectors of New OSD Board.

Step 3:
Completed.

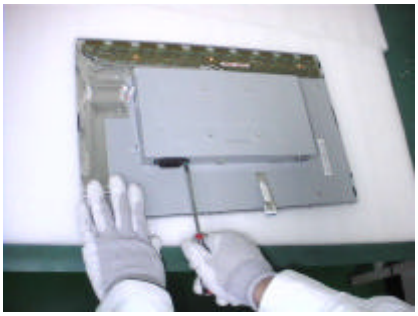
7. Add Cover to AD PCB Heatsink

Step 1 :
Join the PCB Cover.

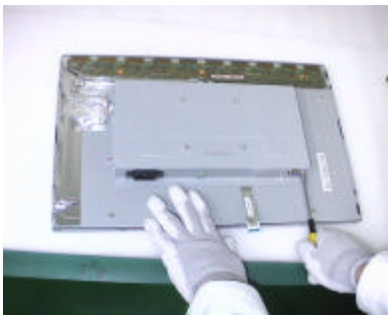
Step 2 :
Fasten 4 fixed screws.



Step 3 :
Fasten 2 fixed screws



Step 4 :
Fasten 2 fixed screws.



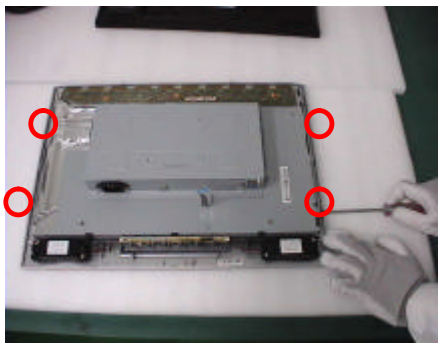
Step 5 :
Insert 2 pieces of Backlight wires.

Step 6 :
Insert 2 pieces of Backlight. wires.

Step 7 :
Join LCD module and remove bezel.

Step 8 :

Fasten 4 fixed screws.



Step 9 :

Insert FFC.

Step 10 :

Completed.

8. Rear Assy & Stand Assembly

Step 1 :

Place Rear Cover.

Step 2 :

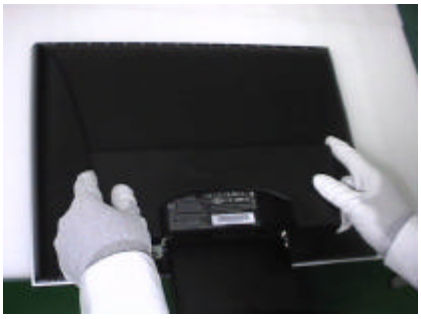
Fasten 2 fixed screws.

Step 3 :

Place the Stand Assy.

Step 4 :
Fasten 4 fixed screws.

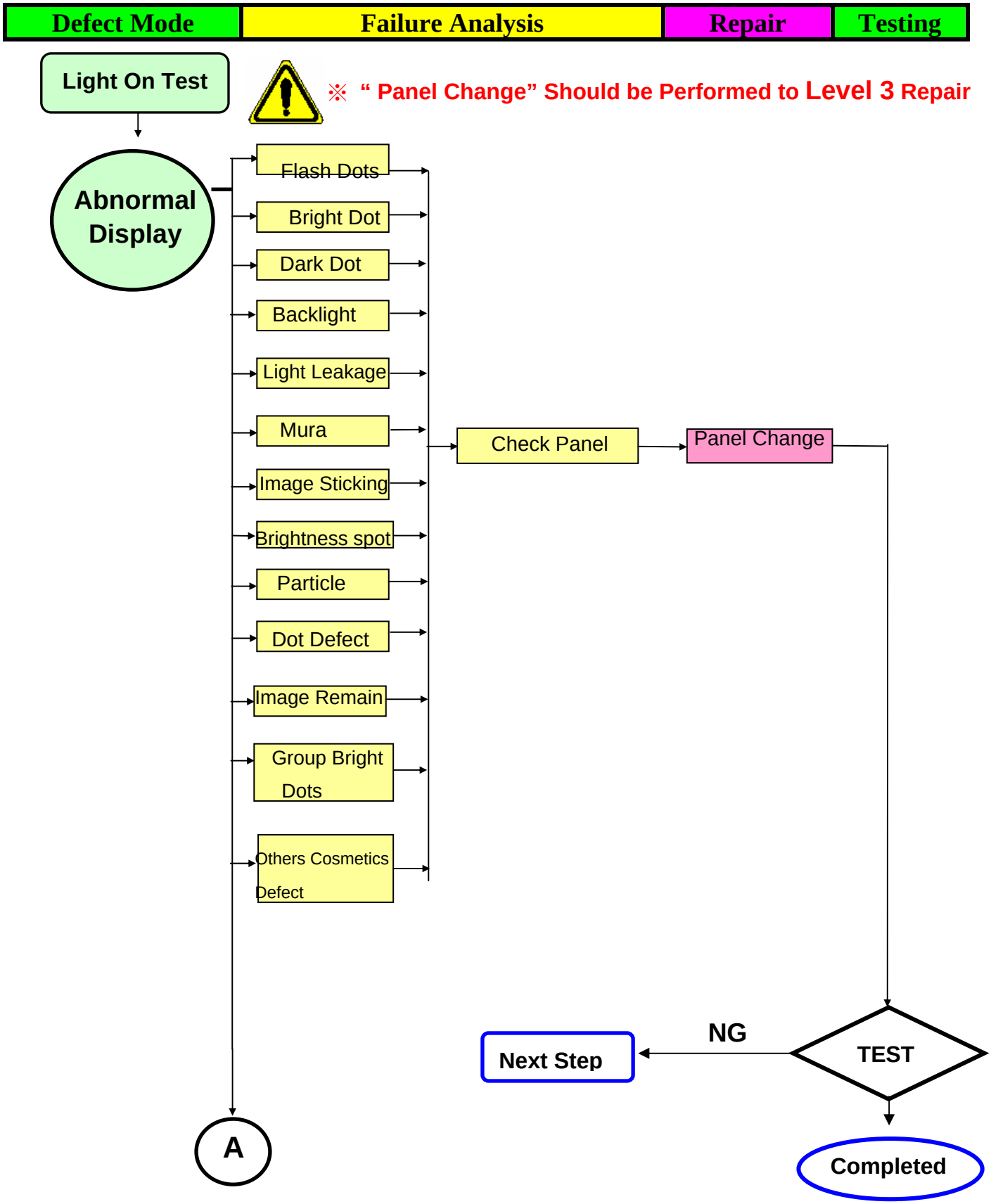
Step 5 :
Join the Stand Cover.



Step 6 :
Join the Seat Assy

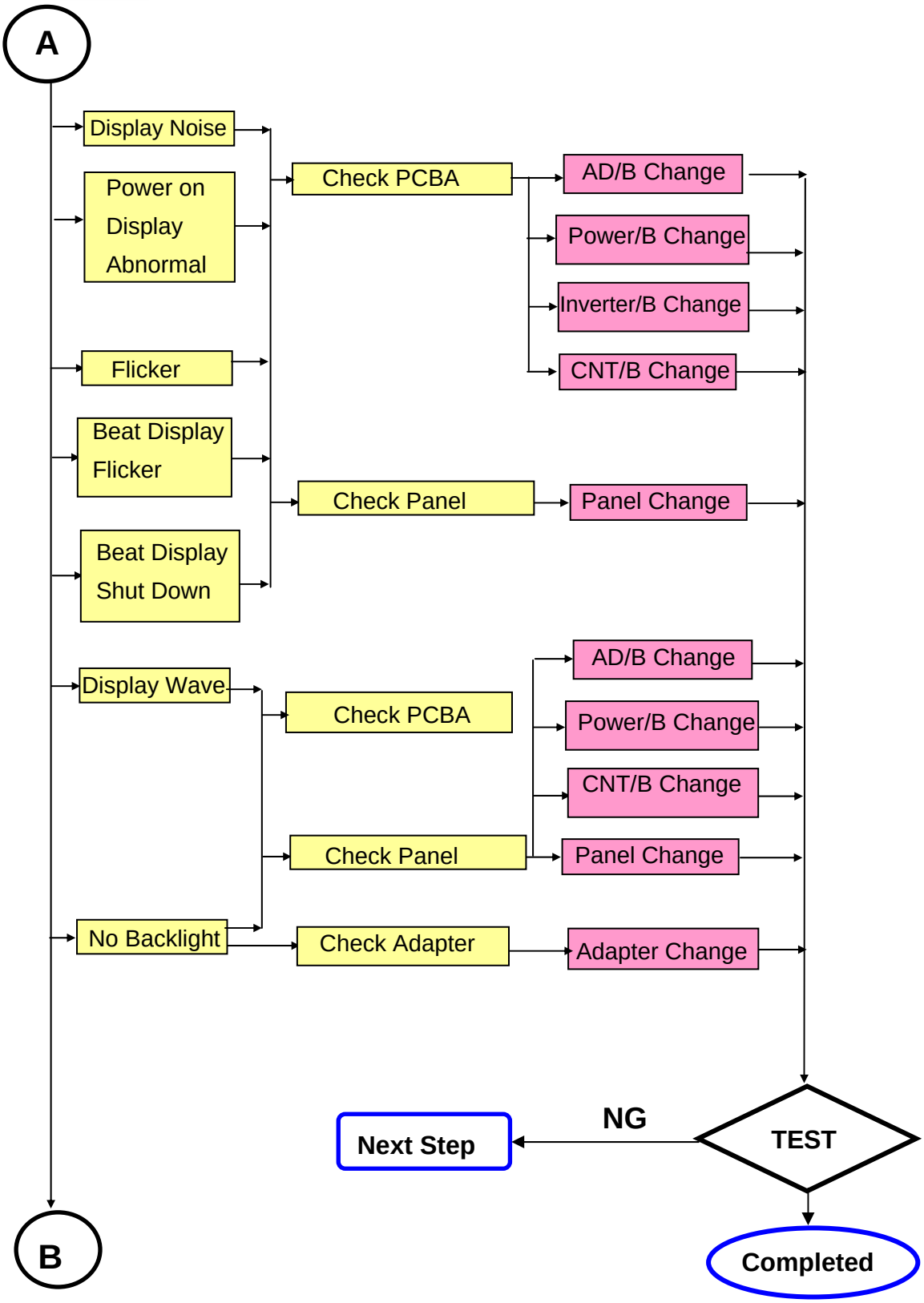
Step 7 :
Completed.

6. Troubleshooting Flow Chart

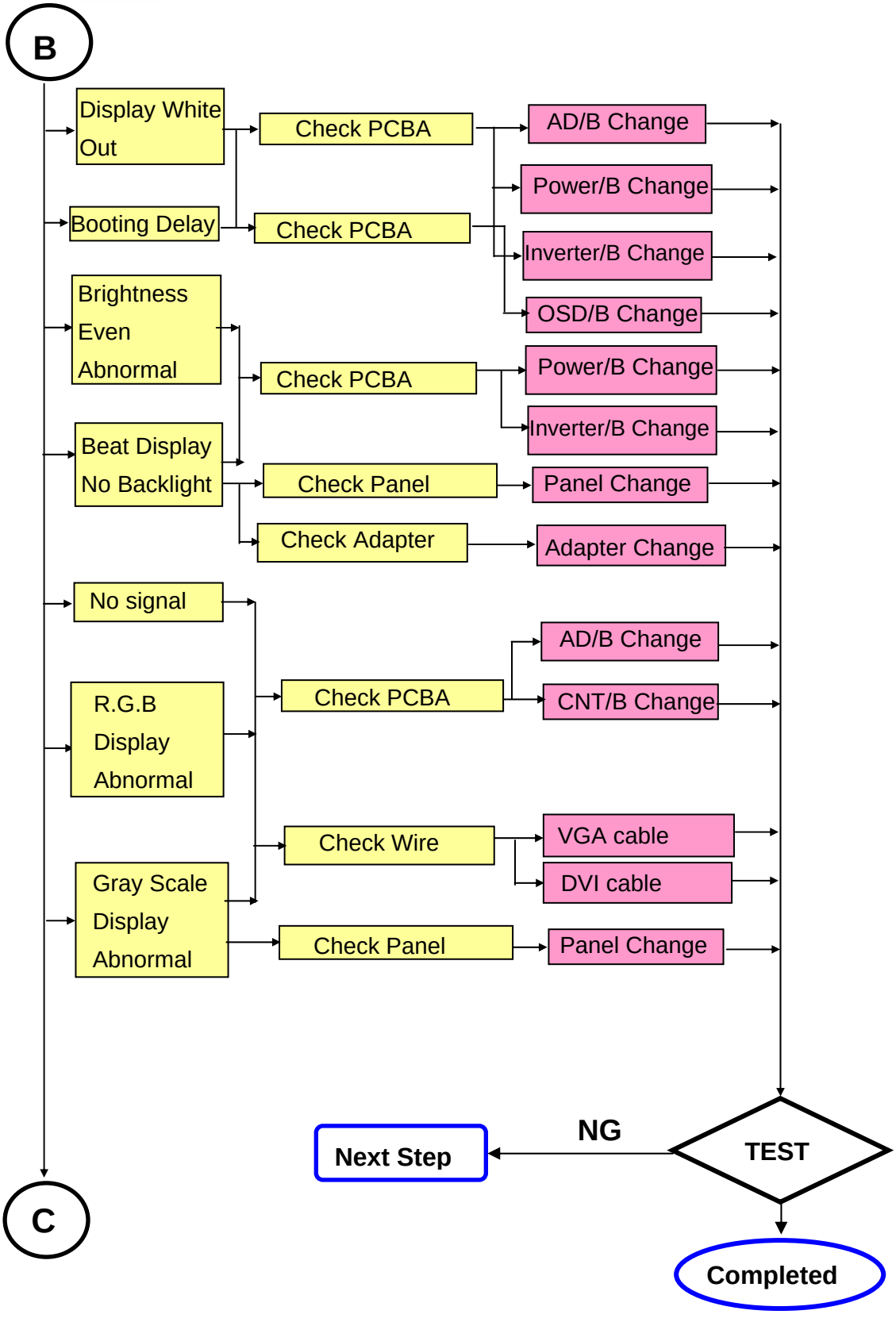


Defect Mode	Failure Analysis	Repair	Testing

※ " Panel Change" Should be Performed to Level 3 Repair

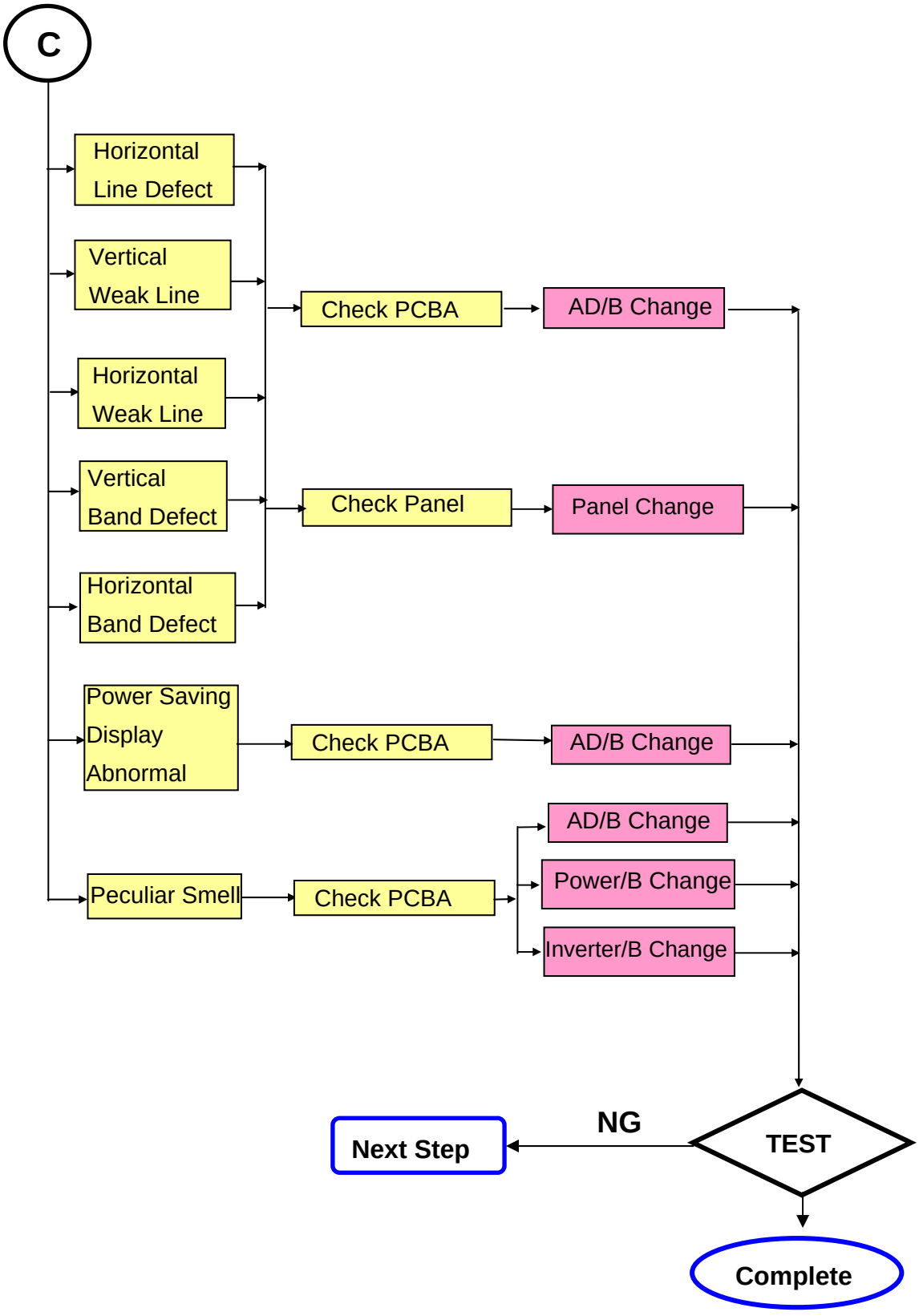


※ " Panel Change" Should be Performed to Level 3 Repair



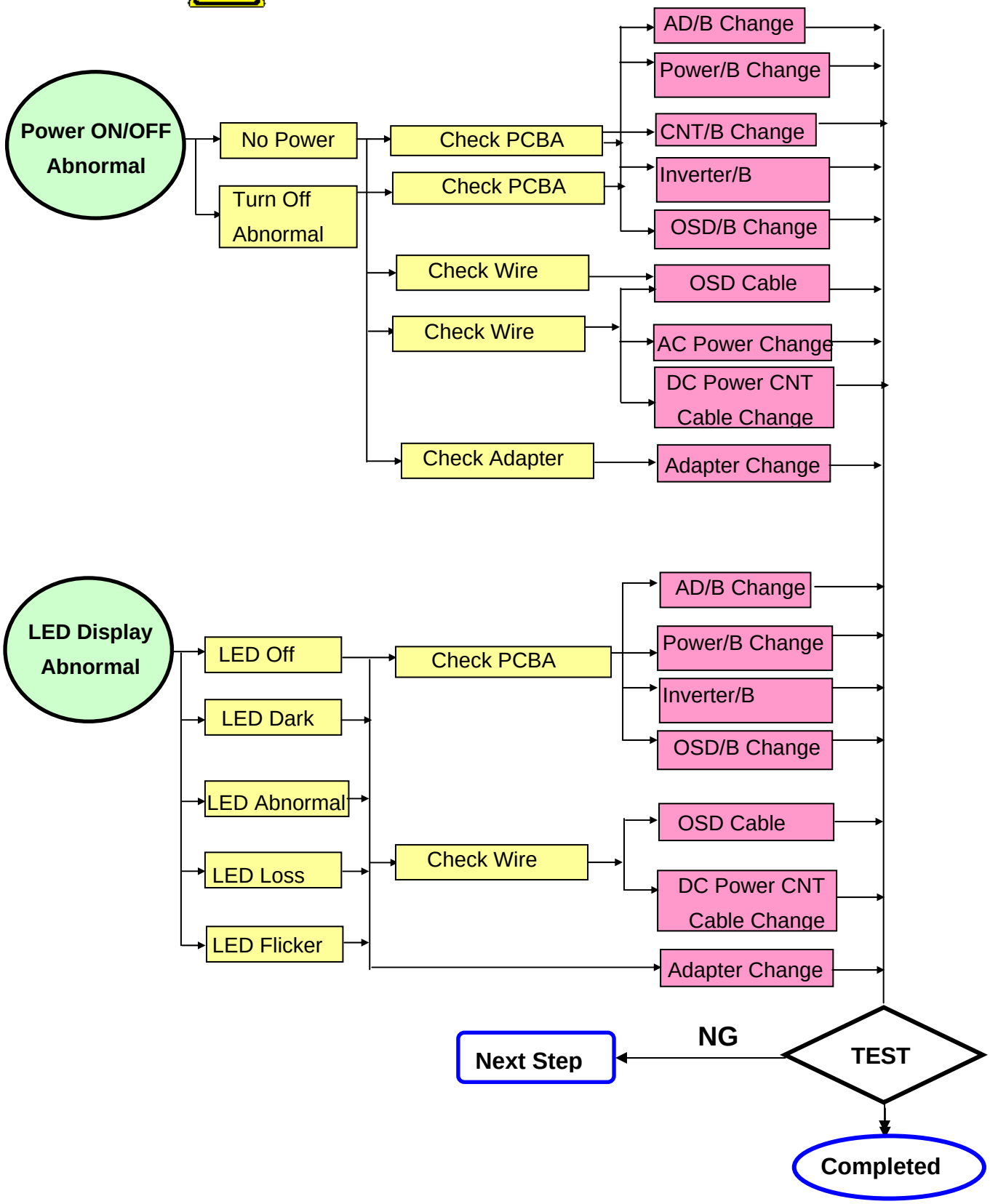
Defect Mode	Failure Analysis	Repair	Testing

※ " Panel Change" Should be Performed to Level 3 Repair

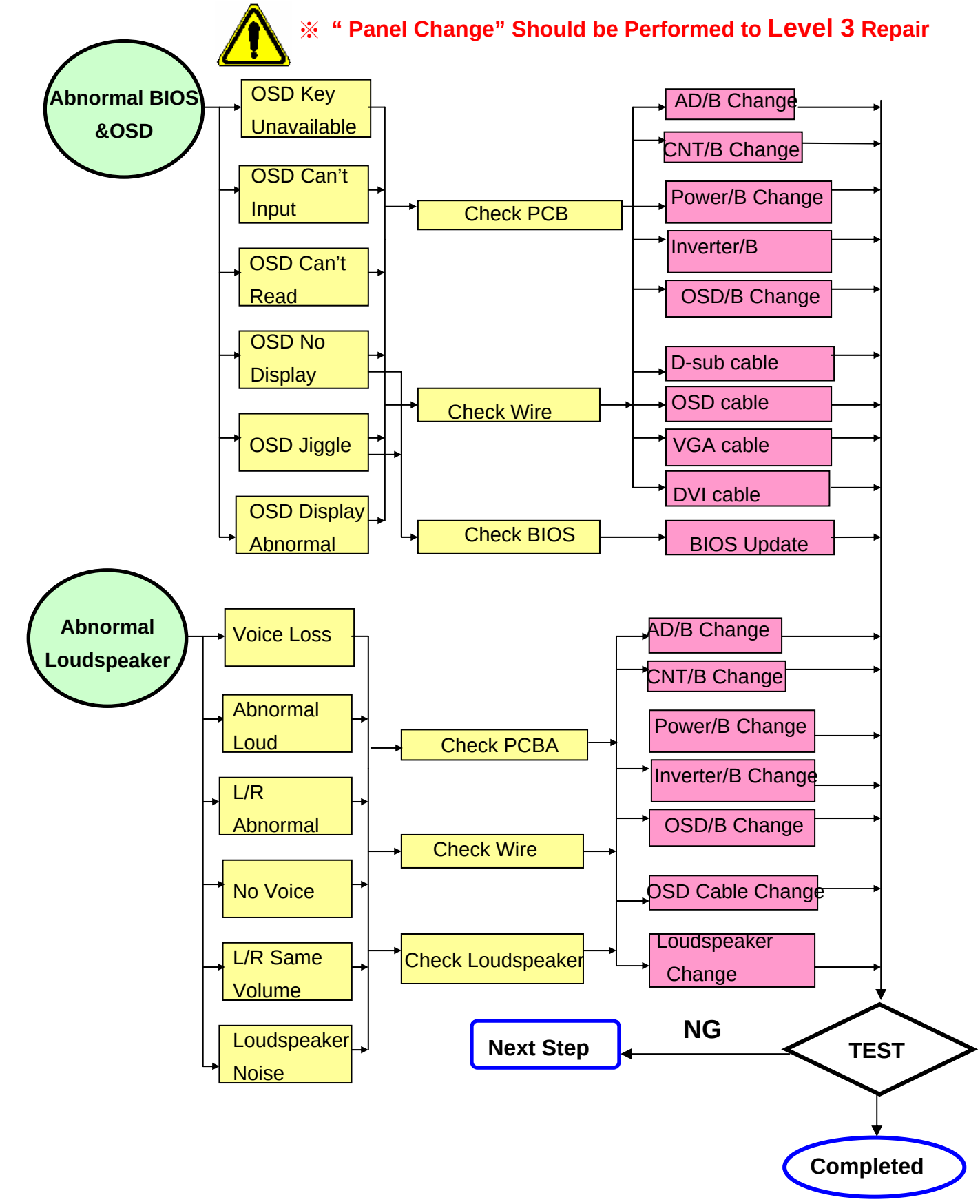


Defect Mode	Failure Analysis	Repair	Testing

※ " Panel Change" Should be Performed to Level 3 Repair

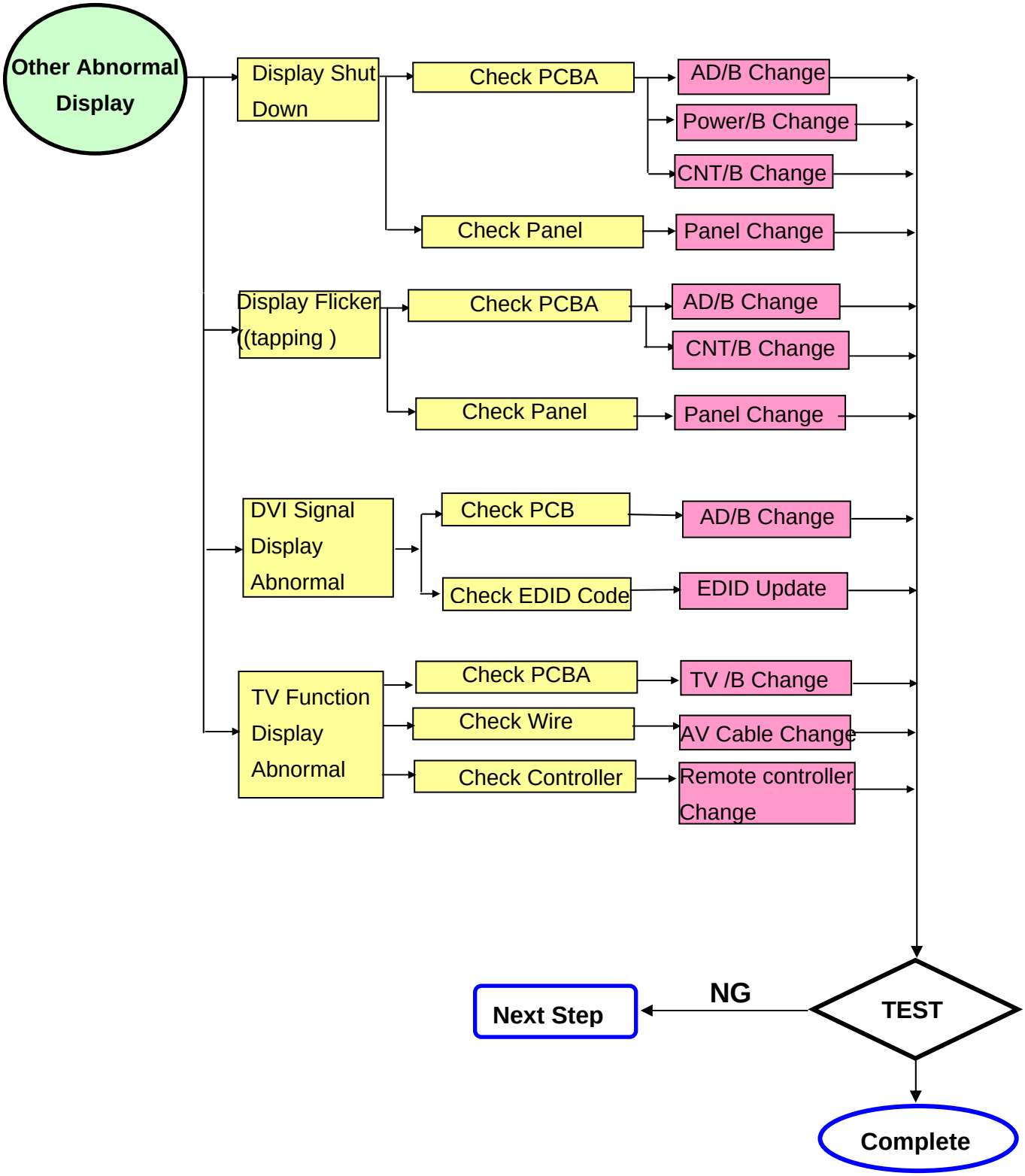


Defect Mode	Failure Analysis	Repair	Testing



Defect Mode	Failure Analysis	Repair	Testing

※ " Panel Change" Should be Performed to Level 3 Repair



Trouble Shooting Analysis

Check the information in this section to see if the problems can be solved before requesting repair.

Note：The consumers are only allowed to solve the problems described as below. Any unauthorized product modification, or failure to follow instructions supplied with the product will end the warranty immediately.

- **No image**
  - Make sure power button is ON.
  - Check whether the LCD monitor and computer power cords are plugged and whether there is a supply of power.
- **No Signal Input**
  - Check the signal connection between the computer and LCD monitor.
- **“Out of Range”**
  - Check the computer image output resolution and frequency and compare the value with the preset values (Please refer to [Appendix-Display Mode]).
- **Fuzzy Image**
  - Adjust Phase.
- **Image too bright**
  - Adjust brightness and contrast by OSD.
- **Image too dark**
  - Adjust brightness and contrast by OSD.
- **Irregular image**
  - Check the signal connection between the computer and LCD monitor.
  - Perform Auto Adjust.
- **Distorted image**
  - Reset the LCD monitor
  - Take off extra accessories (such as signal extension cord).
- **Image is not centered**
  - Use OSD Image Menu to adjust H_Position and V_Position.
  - Check image size setting.
  - Perform Auto Adjust.
- **Size is not appropriate**
  - Use OSD Image Menu to adjust H_Position and V_Position.
  - Check image size setting.
  - Perform Auto Adjust.
- **Uneven color**
  - Use OSD Color Menu to adjust color setting.
- **Color too dark**
  - Use OSD Color Menu to adjust color setting.
- **Dark area distorted**
  - Use OSD Color Menu to adjust color setting.
- **White color is not white**
  - Use OSD Color Menu to adjust color setting.

7. Recommended Spare Parts List

RECOMMENDED SPARE PARTS LIST (VA1912W-4)

ViewSonic Model Number: VS10866

Serial No. Prefix: QBL **Rev: 1a**

Item	Description		ECR/ECN	ViewSonic P/N	Ref. P/N	Location	Universal number#	Q'ty
1	**Accessories:**	Power Cord,UL,SVT#18/3C,75°C,LP-30B+LS-13,L=1830+/-50mm,Black,Linetek,18AWG,,No Bag,Green I		A-00008008	32E1818015			1
2	**PC Board Assembly:**	PCBA for ,A190A2-A02-T,A190A2-A02-H-S1,1206-04,Rev.04,ODM,Green II		B-00005599	35-D005694			1
3		PCBA for ,A190A2-H,A190A2-H-K3,106-02,Rev.02,USI/ITC,ODM,Green II		B-00005600	35-D005166			1
4		Lips With Audio,DAC-12M030 A,Ver:0F,5 V/3 A,12 V/0.7 A,I TYPE,7 mA,1710 V,Delta Dongguan_Inverter/Delta Jiangsu_Adaptor,RoHS		B-00008008	27-D007836			1
5	**Cabinets:**	Bezel Assy,A190A2-H05,ABS PA757N,Silver(Pantone877C),Fuking		C-00004281	40-D004255			1
6		Rear Assy,A190A2-H05,ABS PA757N,Black(J91A11B5),Fuking		C-00004282	40-D004257			1
7		Cover Hinge,A190A2-H05,ABS PA757N,Black(J91A11B5),Fuking		C-00004284	40-D004250			1
8		Seat Assy,A190A2-H05,ABS PA757N,Black(J91A11B5),Hontech Precision		C-00004285	40-D004259			1
9	**Cables:**	Audio Cable,A150X2,18AWG,180cm,Black,JCE,Green I		CB-00000544	32F2818004			1
10		Accessory Cable,D-Sub,BLACK,Johnson Components & Equipments,A150X2,Green I		CB-00004287	32F3018003			1
11		FFC,A190A2-H05,15 Pins,Tennsure/Young Shin,L=108.5		CB-00004288	32-D004533			1
12		FFC,FFCX816,36 Pins,Tennsure,package AL_Foil,Green II		CB-00005742	32-D005773			1
13	**Documentation:**	Label,Pallet Barcode Label,75x40,A190E2-H03,VSC,Non Green		DC-00000586	7741999141			1
14		Safety Label for ,A190A2-H05,120 mmx50 mm,VSC_VA1912w-2 Ver.2,Green II		DC-00008013	77-D012198			1
16		Carton Label for ,A190A2-H0576.2 mmx76.2 mm,VSC_VA1912w-4,Green II		DC-00008014	77-D011735			1
17		MENU for A190A2-H05,Complex,1C,VSC_VA1912w/wb-4 +Caution Card,Green II		DC-00008015	76-D011750			1
18	**Hardware:**	SCREW,M3,P=0.5 mm,L=4 mm,Pan Head,Phillips Cross Recess,Green I		HW-00000553	42A9930008			2000
19		Screw,M3*P1.27*12,φ5.5*2,Steel,Green I		HW-00000556	42A9990005			2000
20		SCREW,M4,P=0.7 mm,L=15 mm,Pan Head,Phillips Cross Recess,Green I		HW-00000590	42A9930013			2000
21		SCREW,M4,P=0.7 mm,L=8 mm,Round Head,Phillips Cross Recess,plate color Zn,Screw_with_Washer,Shye Ching/Hama Naka Motogawa,head D8,Green I		HW-00004042	42-D000649			2000
22		SCREW,M4,P=0 mm,L=11.8 mm,Hexagon Stand Off,Socket,Green I		HW-00006041	42A9940007			2000
23	**Miscellaneous:**	Tape,Security Tape,OPP,L900xW50x0.045mm,VSC,Non Green		M-00000560	7345511002			1
15	**Packing Material:**	Bag,570 mmx600 mmx0.13 mm,White,Non Green		P-00000595	7841919921			1
24		Cushion,A190A2-T05,EPS,WHITE,450 mmx160 mmx145 mm,Sing Home,PS FOAM (Left),Green II		P-00004295	78-D004392			1
25		Cushion,A190A2-T05,EPS,WHITE,450 mmx160 mmx145 mm,Sing Home,PS FOAM (Right),Green II		P-00004296	78-D004388			1
26		Carton,A190A2-H05,538 mmx158 mmx470 mm,Paper),VSC_VA1912w-4 for Analog		P-00008013	78-D011687			1

Remark 1: Above listed items are examples, supplier can expand the rows to add more necessary items.

Remark 2: All revised RSPLs with newly added items or any change made should be highlighted and correlated with the ECN/ECR approved by ViewSonic Corporation. This is to eliminate repeated cross checks of each item between this version and prior versions.

RECOMMENDED SPARE PARTS LIST (VA1912WB-4)

ViewSonic Model Number: VS10866

Serial No. Prefix: QBP **Rev: 1a**

Item	Description		ECR/ECN	ViewSonic P/N	Ref. P/N	Location	Universal number#	Q'ty
1	**Accessories:**	Power Cord, PC-323+COC-01, Black, CCC, 1830 mm, Green I		A-00002058	32E1818013			1
2	**PC Board Assembly:**	PCBA for , A190A2-H, A190A2-H-K3, 106-02, Rev.02, USI/ITC, ODM, Green II		B-00005600	35-D005166			1
3		PCBA for , A190A2-A02-T, A190A2-A02-T-S1, 1208-05, Rev.04, Green II		B-00006727	35-D008185			1
4		Lips With Audio, DAC-19M008 AF, 0F, 5 V/3 A, 13.8 V0.7 A, I TYPE, 7 mA, 1710 V, Green II		B-00008008	27-D007836			1
5	**Cabinets:**	Bezel Assy, A190A2-H05, ABS PA757N, Green I		C-00004276	40-D004254			1
6		Rear Assy, A190A2-H05, ABS PA757N, Green I		C-00004277	40-D004253			1
7		Cover Hinge, A190A2-H05, ABS PA757N, Green I		C-00004279	40-D004258			1
8		Seat Assy, A190A2-H05, ABS PA757N, Green I		C-00004280	40-D004256			1
9	**Cables:**	Audio Cable, A150X2, 18AWG, 180cm, Black, JCE, Green I		CB-00000544	32F2818004			1
10		Accessory Cable, D-Sub, BLACK, Johnson Components & Equipments, A150X2, Green I		CB-00004287	32F3018003			1
11		FFC, A190A2-H05, 15 Pins, Tennsure/Young Shin, L=108.5		CB-00004288	32-D004533			1
12		FFC, FFCX816, 36 Pins, Tennsure, package AL_Foil, Green II		CB-00005742	32-D005773			1
13	**Documentation:**	Safety Label for , A190A2-H05, 120 mmx50 mm, VA1912wb Ver.3, Green II		DC-00008016	77-D012194			1
14		SN Label for , A190A2-H05, 50 mmx25 mm, VA1912wb-4 for China, Green II		DC-00008025	77-D011746			1
15		Carton Label for , A190A2-H05, 76.2 mmx76.2 mm, VA1912wb-4, Green II		DC-00008026	77-D011734			1
16		MENU for A190A2-H05, VA1912w/wb-4, Green II		DC-00008027	76-D011752			1
17	**Hardware:**	SCREW, M3, P=0.5 mm, L=4 mm, Pan Head, Phillips Cross Recess, Green I		HW-00000533	42A9930008			2000
18		Screw, M3*P1.27*12, φ5.5*2, Steel, Green I		HW-00000556	42A9990005			2000
19		SCREW, M4, P=0.7 mm, L=15 mm, Pan Head, Phillips Cross Recess, Green I		HW-00000590	42A9930013			2000
20		SCREW, M4, P=0.7 mm, L=8 mm, Round Head, Phillips Cross Recess, plate color Zn, Screw_with_Washer, Shye Ching/Hama Naka Motogawa, head D8, Green I		HW-00004042	42-D000649			2000
21		SCREW, M4, P=0 mm, L=11.8 mm, Hexagon Stand Off, Socket, Green I		HW-00006041	42A9940007			2000
22	**Miscellaneous:**	Tape, Security Tape, OPP, L900xW50x0.045mm, VSC, Non Green		M-00000560	7345511002			1
23	**Packing Material:**	Bag, 570 mmx600 mmx0.13 mm, White, Non Green		P-00000595	7841919921			1
24		Cushion, A190A2-T05, EPS, WHITE, 450 mmx160 mmx145 mm, Sing Home, PS FOAM (Left), Green II		P-00004295	78-D004392			1
25		Cushion, A190A2-T05, EPS, WHITE, 450 mmx160 mmx145 mm, Sing Home, PS FOAM (Right), Green II		P-00004296	78-D004388			1
26		Carton, A190A2-H05, 538 mmx158 mmx470 mm, VA1912wb-4 for Analog 5ms, Green II		P-00008017	78-D011689			1

Remark 1: Above listed items are examples, supplier can expand the rows to add more necessary items.

Remark 2: All revised RSPLs with newly added items or any change made should be highlighted and correlated with the ECN/ECR approved by ViewSonic Corporation. This is to eliminate repeated cross checks of each item between this version and prior versions.

BOM LIST (VA1912W-4)

ViewSonic Model Number: VS1(
Rev: 1a
Serial No. Prefix: QBL

Item	ViewSonic P/N	Ref. P/N	Description	Location	Universal number#	Q'ty
1	N/A	MJ0A10DK01	19" Wide, Common BOM(Semi-Product), A190A2, 1440X900, TN, 5ms			1
2	N/A	36X8636401	Driver IC, Scan, HX8636APD400(TSMC), 300Channel, , RoHS, Green I			3
3	N/A	L3J009XXXX	19" wide PS TN Asahi 0.7mm glass Cr BM(Panel Base)			1
4	N/A	74-D002212	Polarizer, TFT, Degree 135, 414 mmx259.7 mmx0.215 mm, NWF-LESEG, M190A1, Green I			1
5	N/A	74-D002213	Polarizer, CF, Degree 135, 415.84 mmx262.15 mmx0.215 mm, NWF-LESEGAGS1, M190A1, Green I			1
6	N/A	73-C000047	ACF, COG, AC-8405Z-23 1.5mmX100M, 100000 mmx1.5 mm, COG-ACF, Green I			0.00168
7	N/A	7344191017	ACF, AC-4251FY-16, 100M/RL, Green I			0.0044
8	N/A	36-D002378	Driver IC, COF, Data, M190A1-L01, HX8018-A050CBAK, Reel, 6 bit, 432Channel, RoHS, Green I			10
9	N/A	73-D002676	ACF, PCB, AC-9825R-35, 100000 mmx1.5 mm, PCB-ACF, Green I			0.0044
10	N/A	35-D004361	PCBA for , A190A2-H, A190A2-A02-H-X, 1206-01, Rev.01, Green I			1
11	N/A	7349951002	Silicone, TORAY/-9187L, 330g			0.4
12	HW-00000553	42A9930008	SCREW, M3, P=0.5 mm, L=4 mm, Pan Head, Phillips Cross Recess, Green I			16
13	HW-00006041	42A9940007	SCREW, M4, P=0 mm, L=11.8 mm, Hexagon Stand Off, Socket, Green I			2
14	N/A	41-D000643	Metal Frame Front, M190A1-L01/A190A2/M190A1-L03, SECC 0.6t, 19"wide			1
15	HW-00004042	42-D000649	SCREW, M4, P=0.7 mm, L=8 mm, Round Head, Phillips Cross Recess, plate color Zn, Screw_with_Washer, head D8, Green I			1
16	N/A	73-D002886	Conductive Tape, PET+Adhesive, 409 mmx58.55 mmx0.05 mm, Mylar_Cover_PcbaX_a190a2, Green I			1
17	B-00006039	27-D003247	Lips With Audio, DAC-12M030 A, Ver:0F, 5 V/3 A, 12 V/0.7 A, I TYPE, 7 mA, 1710 V, RoHS			1
18	N/A	44-D003584	Backlight Unit, A190A2, Green I			1
19	C-00005686	41-D003772	Cover AD Assy, A190A2, SECC, without Dvi-D Hole, Green II			1
20	N/A	35-D008185	PCBA for , A190A2-A02-T, A190A2-A02-T-S1			1
21	CB-00005742	32-D005773	FFC, FFCX816, 36 Pins, package AL_Foil, Green II			2
22	CB-00000544	32F2818004	Audio Cable, A150X2, 18AWG, 180cm, Black, JCE, Green I			1
23	CB-00004287	32F3018003	Accessory Cable, D-Sub, BLACK, A150X2, Green I			1
24	A-00008008	32E1818015	Power Code, UL, LP-30B+LS-13, L=1830+/-50mm, Black, Linetek, 18AWG, No Bag, Green I			1
25	A-00002058	32E1818013	Power Cord, CCC, 300/500V, 0.75mm2, 3C, PC-323+COC-01, L=1830+/-50mm, Black, Linetek, 18AWG, No Bag, Green I			1
26	A-00002059	32E1818018	Power Cord, SP-023+IS-14, Black, CEE, 1800 mm, Green I			1
27	A-00002057	32E1818060	Power Cord, BSI, H05VV-F, 0.75mm2, 3C, LP-60L+LS-60, L=1830+/-50mm, Black, 18AWG, PSB Mark, Linetek, No Bag, Green I			1
28	A-00004047	32-D001922	Power Cord, VCTF 3G 0.75mm^2 CNS CT-08, Black, BSMI, 1800 mm, GreenII			1
29	HW-00000590	42A9930013	SCREW, M4, P=0.7 mm, L=15 mm, Pan Head, Green I			4
30	HW-00000555	42A9930014	Screw, M3*P0.5*6, Green I			4
31	HW-00000556	42A9990005	Screw, M3*P1.27*12, φ5.5*2, Steel, Green I			2
32	C-00004284	40-D004250	Cover Hinge, A190A2-H05, ABS PA757N, Black(J91A11B5)			1
33	C-00004282	40-D004257	Rear Assy, A190A2-H05, ABS PA757N, Black(J91A11B5)			1
34	C-00004281	40-D004255	Bezel Assy, A190A2-H05, ABS PA757N, Silver(Pantone877C)			1
35	CB-00004288	32-D004533	FFC, A190A2-H05, 15 Pins, L=108.5			1
36	B-00005600	35-D005166	PCBA for , A190A2-H, A190A2-H-K3, 106-02, Rev.02, ODM, Green II			1
37	C-00004283	40-D004252	Stand Assy, A190A2-H05, ABS PA757N, Black(J91A11B5)			1
38	PL-00006048	73-D005900	Panel Protector Film, A190A2-H05, XG-536 T=0.1, With_Print, Green II			1
39	DC-00008013	77-D012198	Safety Label for , A190A2-H05			1
40	N/A	77-D011745	SN Label for , A190A2-H05			1
41	HW-00002076	7841595111	Corner Protector, paper, 50 mmx50 mmx1850 mm, Green I			1
42	N/A	7841595191	Separator, 紙板(AA), 1120*820*11mm, A150X2-T01, Non Green			0.025
43	P-00000595	7841919921	Bag, 570 mmx600 mmx0.13 mm, White, Non Green			1
44	DC-00000586	7741999141	Label, Pallet Barcode Label, 75x40, A190E2-H03, VSC, Non Green			0.021
45	M-00000560	7345511002	Tape, Security Tape, OPP, L900xW50x0.045mm, VSC, Non Green			0.3
46	N/A	77-D000114	Customer Label, A170E1-H0G, 180 mm, 100 mm, Green I			1
47	N/A	77-D000118	Customer Label, A170E1-H0G, 130 mm, 80 mm, Green I			1
48	N/A	78-D000275	Warranty Card, A170E1-H0G, 143 mmx210 mm, VSC_VA712, Green I			1
49	DC-00005603	77-D000576	Carton Label for , A190E2-H06, 20 mmx20 mm, VSC_VA912_for Europe, Green I			1
50	N/A	77-D001323	Customer Label for , A170E1-H0G, 15 mmx15 mm, QC Pass Label_VSC_for China, Green I			1
51	N/A	78-D001492	Pallet, A150X2-T01, Wooden, 1150 mmx840 mmx138 mm, Green I			0.02
52	C-00004285	40-D004259	Seat Assy, A190A2-H05, ABS PA757N, Black(J91A11B5)			1
53	P-00004295	78-D004392	Cushion, A190A2-T05, EPS, WHITE, 450 mmx160 mmx145 mm, PS FOAM (Left), Green II			1
54	P-00004296	78-D004388	Cushion, A190A2-T05, EPS, WHITE, 450 mmx160 mmx145 mm, PS FOAM (Right), Green II			1
55	N/A	79-D004425	Shipping Package Information for , A190A2-H05, ViewSonic			1
56	DC-00008014	77-D011735	Carton Label for , A190A2-H05			1
57	P-00008013	78-D011687	Carton, A190A2-H05			1
58	N/A	76-D011752	MENU for A190A2-H05			1

BOM LIST (VA1912WB-4)

ViewSonic Model Number: VS10866

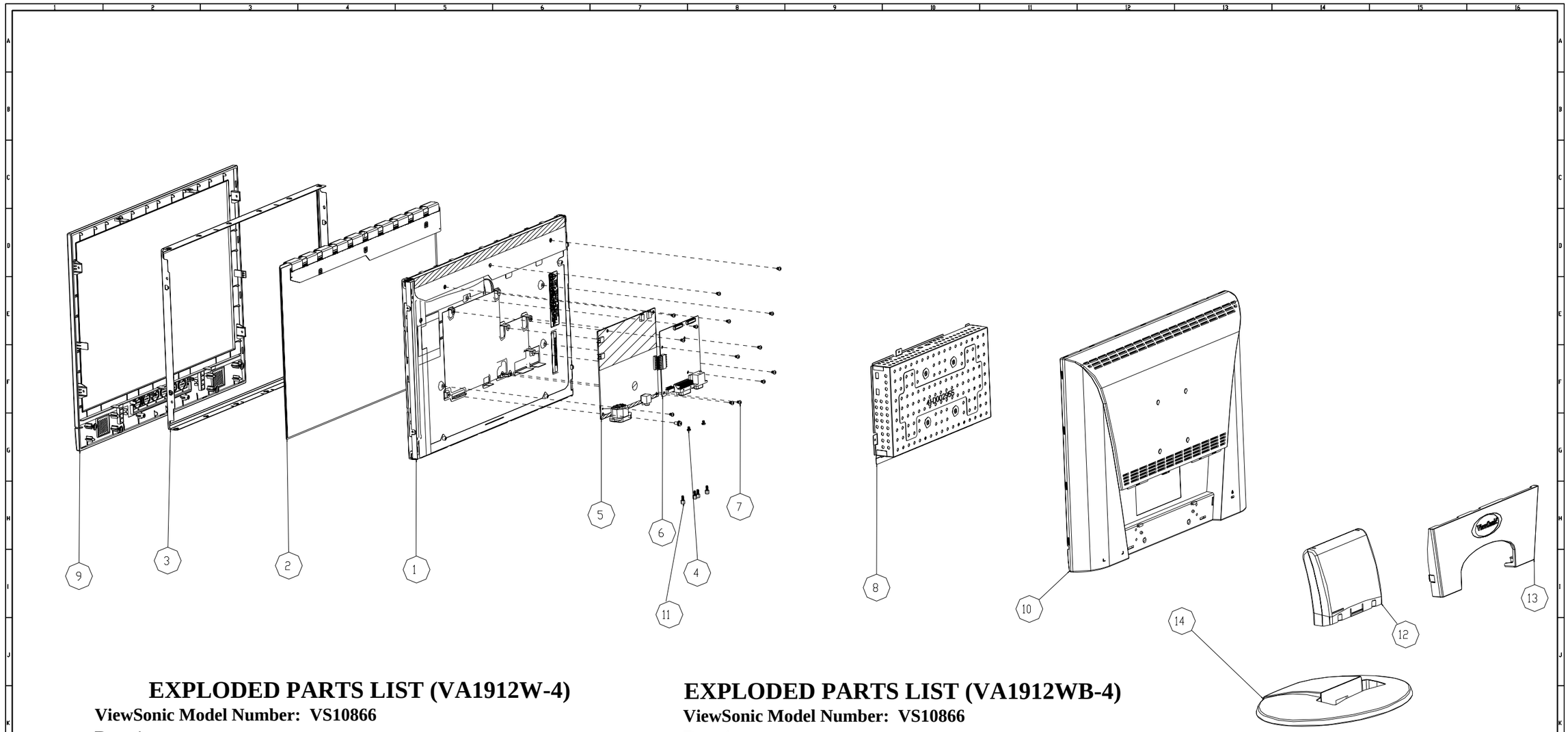
Rev: 1a

Serial No. Prefix: QBP

Item	ViewSonic P/N	Ref. P/N	Description	Location	Universal number#	Q'ty
1	N/A	MJ0A10DK01	Olympic, 19" Wide, Common BOM(Semi-Product), A190A2, 1440X900, TN, 5ms			1
2	N/A	36X8636401	Driver IC, Scan, HX8636APD400(TSMC), 300Channel, , RoHS, Green I			3
3	N/A	L3J009XXXX	19" wide PS TN Asahi 0.7mm glass Cr BM(Panel Base)			1
4	N/A	74-D002212	Polarizer, TFT, Degree 135, 414 mmx259.7 mmx0.215 mm, NWF-LESEG, M190A1, Green I			1
5	N/A	74-D002213	Polarizer, CF, Degree 135, 415.84 mmx262.15 mmx0.215 mm, NWF-LESEGAGS1, M190A1, Green I			1
6	N/A	73-C000047	ACF, COG, AC-8405Z-23 1.5mmX100M, 100000 mmx1.5 mm, COG-ACF, Green I			0.00168
7	N/A	7344191017	ACF, AC-4251FY-16, 100M/RL, Green I			0.0044
8	N/A	36-D002378	Driver IC, COF, Data, M190A1-L01, HX8018-A050CBAK, Reel, 6 bit, 432Channel, RoHS, Green I			10
9	N/A	73-D002676	ACF, PCB, AC-9825R-35, 100000 mmx1.5 mm, Hitachi Chemical, PCB-ACF, Green I			0.0044
10	N/A	35-D004361	PCBA for , A190A2-H, A190A2-A02-H-X, 1206-01, Rev.01, Green I			1
11	N/A	7349951002	Silicone, TORAY/-9187L, 330g			0.4
12	N/A	PJ0AFT0Q04	Olympic, 19"W, Function BOM, D-sub+Audio, Morning Star, TSUM17AK			1
13	HW-00000533	42A9930008	SCREW, M3, P=0.5 mm, L=4 mm, Pan Head, Phillips Cross Recess, Green I			16
14	HW-00006041	42A9940007	SCREW, M4, P=0 mm, L=11.8 mm, Hexagon Stand Off, Socket, Green I			2
15	N/A	41-D000643	Metal Frame Front, M190A1-L01/A190A2/M190A1-L03, SECC 0.6t, 19"wide			1
16	HW-00004042	42-D000649	SCREW, M4, P=0.7 mm, L=8 mm, Round Head, Phillips Cross Recess, plate color Zn, Screw_with_Washer, head D8, Green I			1
17	N/A	73-D002886	Conductive Tape, PET+Adhesive, 409 mmx58.55 mmx0.05 mm, Mylar_Cover_PcbaX_a190a2, Green I			1
18	B-00008008	27-D007836	Lips With Audio, DAC-19M008 AF, 0F, 5 V/3 A, 13.8 V0.7 A, I TYPE, 7 mA, 1710 V, , Green II			1
19	N/A	44-D003584	Backlight Unit, A190A2, Green I			1
20	C-00005686	41-D003772	Cover AD Assy, A190A2, SECC, without Dvi-D Hole, Green II			1
21	B-00008011	35-D008184	PCBA for , A190A2-A02-H, A190A2-A02-H-S1, 1206-05, Rev.04, IGreen II			1
22	CB-00005742	32-D005773	FFC, FFCX816, 36 Pins, package AL_Foil, Green II			2
23	N/A	PJ0EACS000	Olympic, 19", Accessory BOM, D-sub+Audio, China 3 pin, Black, Power built-in;RoHS			1
24	CB-00000544	32F2818004	Audio Cable, A150X2, 18AWG, 180cm, Black, JCE, Green I			1
25	CB-00004287	32F3018003	Accessory Cable, D-Sub, BLACK, A150X2, Green I			1
26	A00002058	32E1818013	Power Cord, CCC, 300/500V, 0.75mm2, 3C, PC-323+COC-01, L=1830+/-50mm, Black, Linetek, 18AWG, No Bag, Green I			1
27	N/A	PJ0AFT0Q08	Olympic, 19"W, Function BOM, D-sub+Audio, Morning Star, 5ms			1
28	HW-00000590	42A9930013	SCREW, M4, P=0.7 mm, L=15 mm, Pan Head, Green I			4
29	HW-00000555	42A9930014	Screw, M3*P0.5*6, Green I			4
30	HW-00000556	42A9990005	Screw, M3*P1.27*12, φ5.5*2, Steel, Green I			2
31	C-00004279	40-D004258	Cover Hinge, A190A2-H05, ABS PA757N, Green I			1
32	C-00004277	40-D004253	Rear Assy, A190A2-H05, ABS PA757N, Green I			1
33	C-00004276	40-D004254	Bezel Assy, A190A2-H05, ABS PA757N, Green I			1
34	CB-00004288	32-D004533	FFC, A190A2-H05, 15 Pins, L=108.5			1
35	B-00005600	35-D005166	PCBA for , A190A2-H, A190A2-H-K3, 106-02, Rev.02, ODM, Green II			1
36	C-00004278	40-D004251	Stand Assy, A190A2-H05, ABS PA757N, Green I			1
37	PL-00006048	73-D005900	Panel Protector Film, A190A2-H05, XG-536 T=0.1, With_Print, Green II			1
38	DC-00008016	77-D012194	Safety Label for , A190A2-H05, 120 mmx50 mm, VA1912wb Ver.3, Green II			1
39	DC-00008025	77-D011746	SN Label for , A190A2-H05, 50 mmx25 mm, VA1912wb-4 for China, Green II			1
40	HW-00002076	7841595111	Corner Protector, paper, 50 mmx50 mmx1850 mm, Green I			1
41	N/A	7841595191	Separator, 紙板(AA), 1120*820*11mm, A150X2-T01, Non Green			0.025
42	P-00000595	7841919921	Bag, 570 mmx600 mmx0.13 mm, White, Non Greer			1
43	DC-00000586	7741999141	Label, Pallet Barcode Label, 75x40, A190E2-H03, VSC, Non Green			0.021
44	M-00000560	7345511002	Tape, Security Tape, OPP, L900xW50x0.045mm, VSC, Non Green			0.3
45	N/A	77-D000114	Customer Label, A170E1-H0G, 180 mm, 100 mm, Green I			1
46	N/A	77-D000118	Customer Label, A170E1-H0G, 130 mm, 80 mm, Green I			1
47	N/A	78-D010933	Warranty Card, A170E1-H0G, 143 mmx210 mm, VA712 Ver.2, Green II			1
48	DC-00008026	77-D011734	Carton Label for , A190A2-H05, 76.2 mmx76.2 mm, VA1912wb-4, Green II			1
49	P-00008017	78-D011689	Carton, A190A2-H05, 538 mmx158 mmx470 mm, VA1912wb-4 for Analog 5ms, Green II			1
50	N/A	77-D000114	Customer Label for , A170E1-H0G, , Green IVA712 Ver.2, Green II			1
51	N/A	78-D001492	Pallet, A150X2-T01, Wooden, 1150 mmx840 mmx138 mm, Green I			0.02

Item	ViewSonic P/N	Ref. P/N	Description	Location	Universal number#	Q'ty
52	C-00004280	40-D004256	Seat Assy, A190A2-H05, ABS PA757N, Green I			1
53	P-00004295	78-D004392	Cushion, A190A2-T05, EPS, WHITE, 450 mmx160 mmx145 mm, PS FOAM (Left), Green II			1
54	P-00004296	78-D004388	Cushion, A190A2-T05, EPS, WHITE, 450 mmx160 mmx145 mm, PS FOAM (Right), Green II			1
55	N/A	79-D004425	Shipping Package Information for , A190A2-H05, ViewSonic			1
56	DC-00008027	76-D011752	MENU for A190A2-H05, VA1912w/wb-4, Green II			1

8. Exploded Diagram and Exploded Parts List



EXPLODED PARTS LIST (VA1912W-4)

ViewSonic Model Number: VS10866

Rev: 1a

Serial No. Prefix: QBL

Item	ViewSonic P/N	Ref. P/N	Description	Q'ty
1	N/A	44-D003584	BACKLIGHT UNIT	1
2	N/A	L3J009XXXX	PANEL ASSY	1
3	N/A	41-D000643	BACKLIGHT FRONT COVER	1
4	HW-00000553	42A9930008	SCREW M3*4L	2
5	B-00006039	27-D003247	POWER PCB ASSY	1
6	B-00005599	35-D005694	AD PCB ASSY	1
7	HW-00000553	42A9930008	SCREW M3*4L	7
8	C-00005686	41-D003772	AD COVER	1
9	C-00004281	40-D004255	BEZEL ASSY	1
10	C-00004282	40-D004257	REAR ASSY	1
11	N/A	42A9230001	SCREW D3*8L	4
12	C-00004283	40-D004252	STAND ASSY	1
13	C-00004284	40-D004250	COVER HINGE	1
14	C-00004285	40-D004259	SEAT ASSY	1

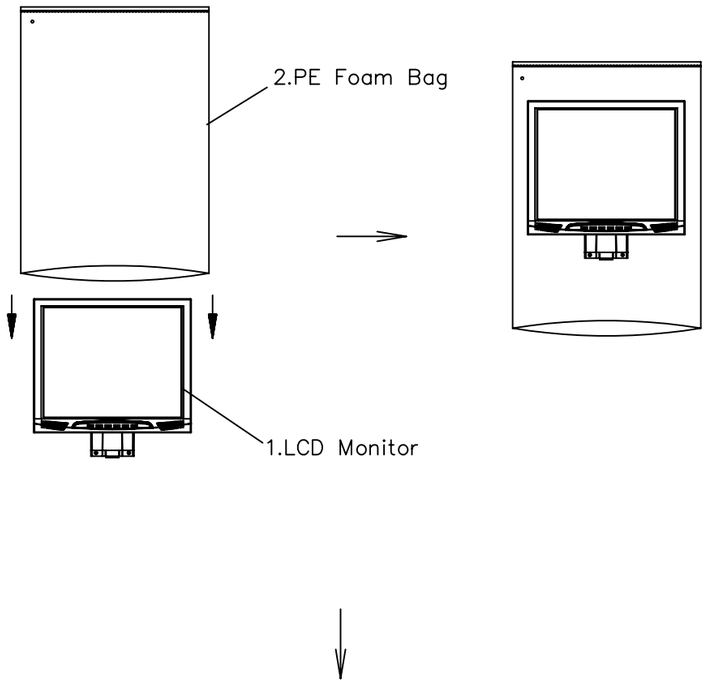
EXPLODED PARTS LIST (VA1912WB-4)

ViewSonic Model Number: VS10866

Rev: 1a

Serial No. Prefix: QBP

Item	ViewSonic P/N	Ref. P/N	Description	Q'ty
1	N/A	44-D003584	BACKLIGHT UNIT	1
2	N/A	L3J009XXXX	PANEL ASSY	1
3	N/A	41-D000643	BACKLIGHT FRONT COVER	1
4	HW-00000533	42A9930008	SCREW M3*4L	2
5	B-00006039	27-D003247	POWER PCB ASSY	1
6	B-00005599	35-D005694	AD PCB ASSY	1
7	HW-00000533	42A9930008	SCREW M3*4L	7
8	C-00005686	41-D003772	AD COVER	1
9	C-00004281	40-D004255	BEZEL ASSY	1
10	C-00004282	40-D004257	REAR ASSY	1
11	N/A	42A9230001	SCREW D3*8L	4
12	C-00004283	40-D004252	STAND ASSY	1
13	C-00004284	40-D004250	COVER HINGE	1
14	C-00004285	40-D004259	SEAT ASSY	1



PACKING PART LIST (VA1912W-4)

ViewSonic Model Number: VS10866

Rev: 1a

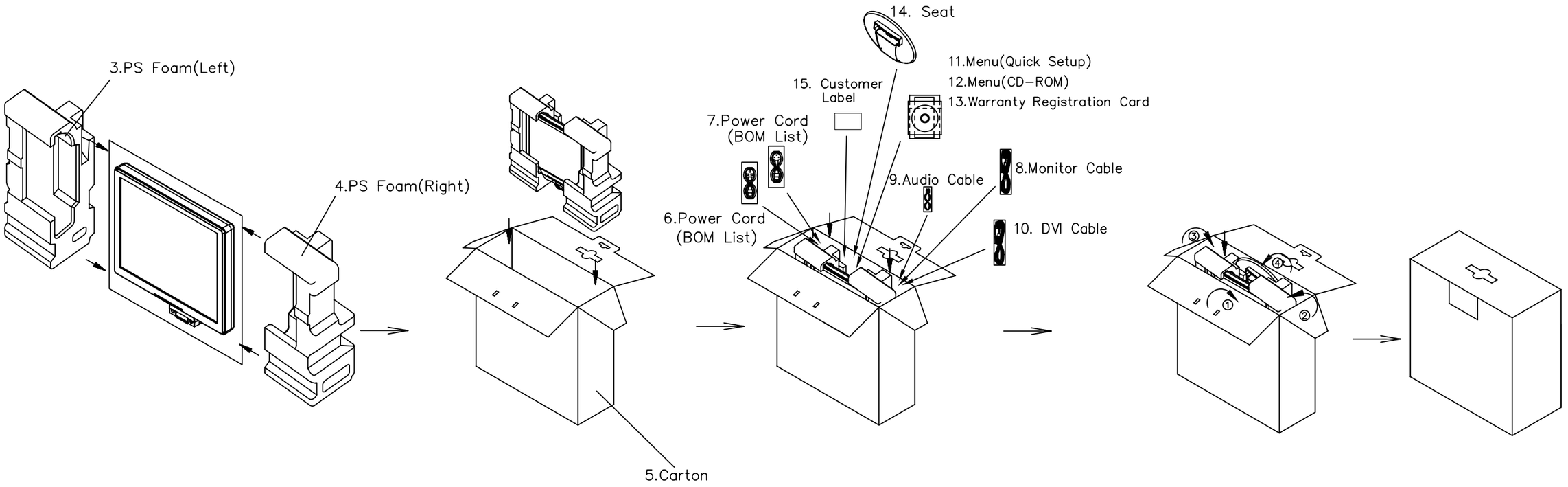
Item	ViewSonic P/N	Ref. P/N	Location	Q'ty
1	N/A	VA1912W-2	LCD Monitior	1
2	P-00000595	7841919921	PE Foam Bag	1
3	P-00004295	78-D004392	PS Foam (Left)	1
4	P-00004296	78-D004388	PS Foam(Right)	1
5	N/A	Different region (refer to BOM)	Carton	1
6	N/A	Different region (refer to BOM)	Power Cord	1
7	N/A	Different region (refer to BOM)	Power Cord	1
8	CB-00004287	32F3018003	Monitor Cable	1
9	CB-00000544	32F2818004	Audio Cable	1
10	N/A	N/A	DVI Cable (N/A)	1
11	N/A	Different region (refer to BOM)	Menu (Quick Setup)	1
12	N/A	Different region (refer to BOM)	Menu (CD-ROM)	1
13	N/A	Different region (refer to BOM)	Warranty Registration card	1
14	C-00004285	40-D004259	Seat	1
15	N/A	Different region (refer to BOM)	Customer Label	1

PACKING PART LIST (VA1912WB-4)

ViewSonic Model Number: VS10866

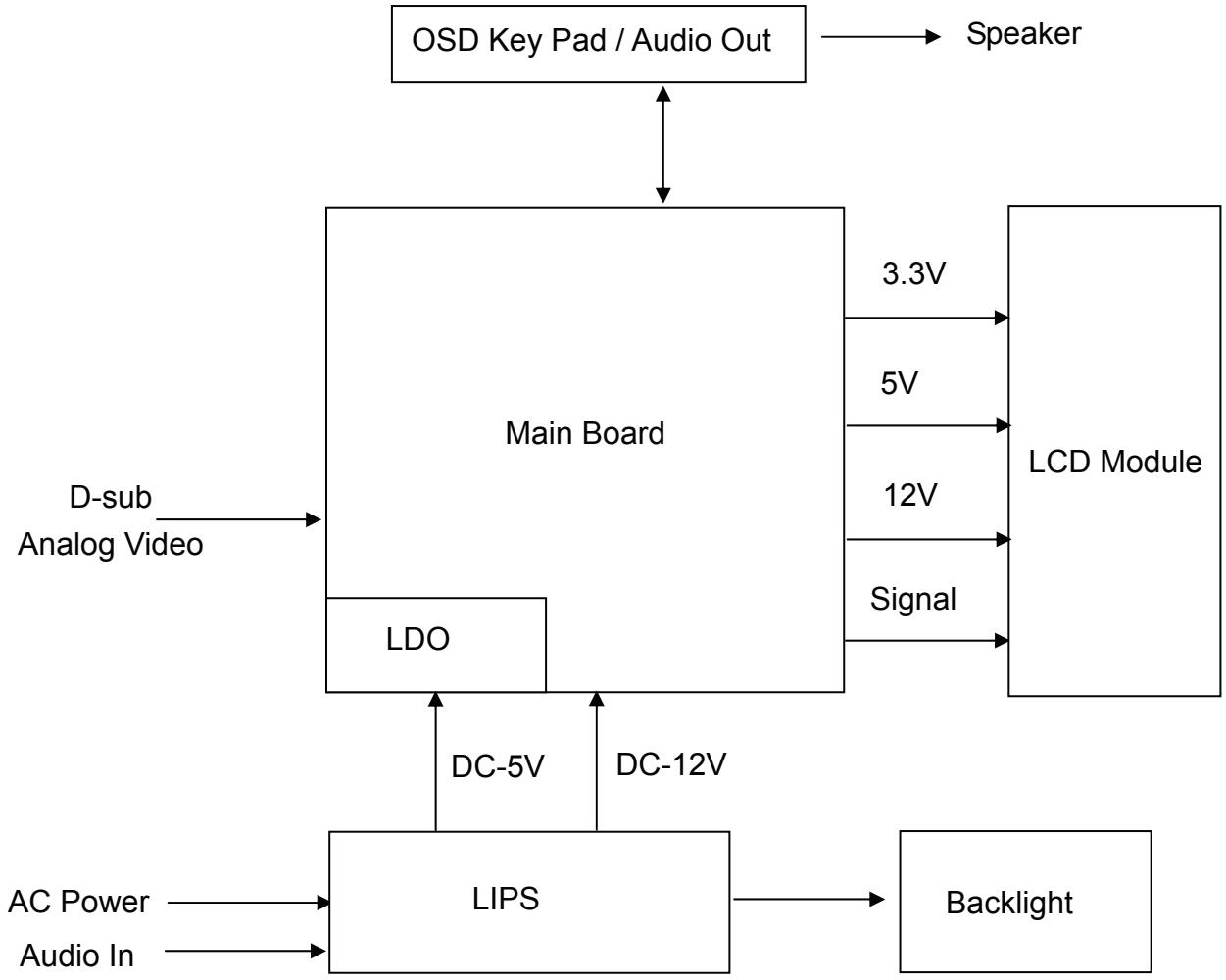
Rev: 1a

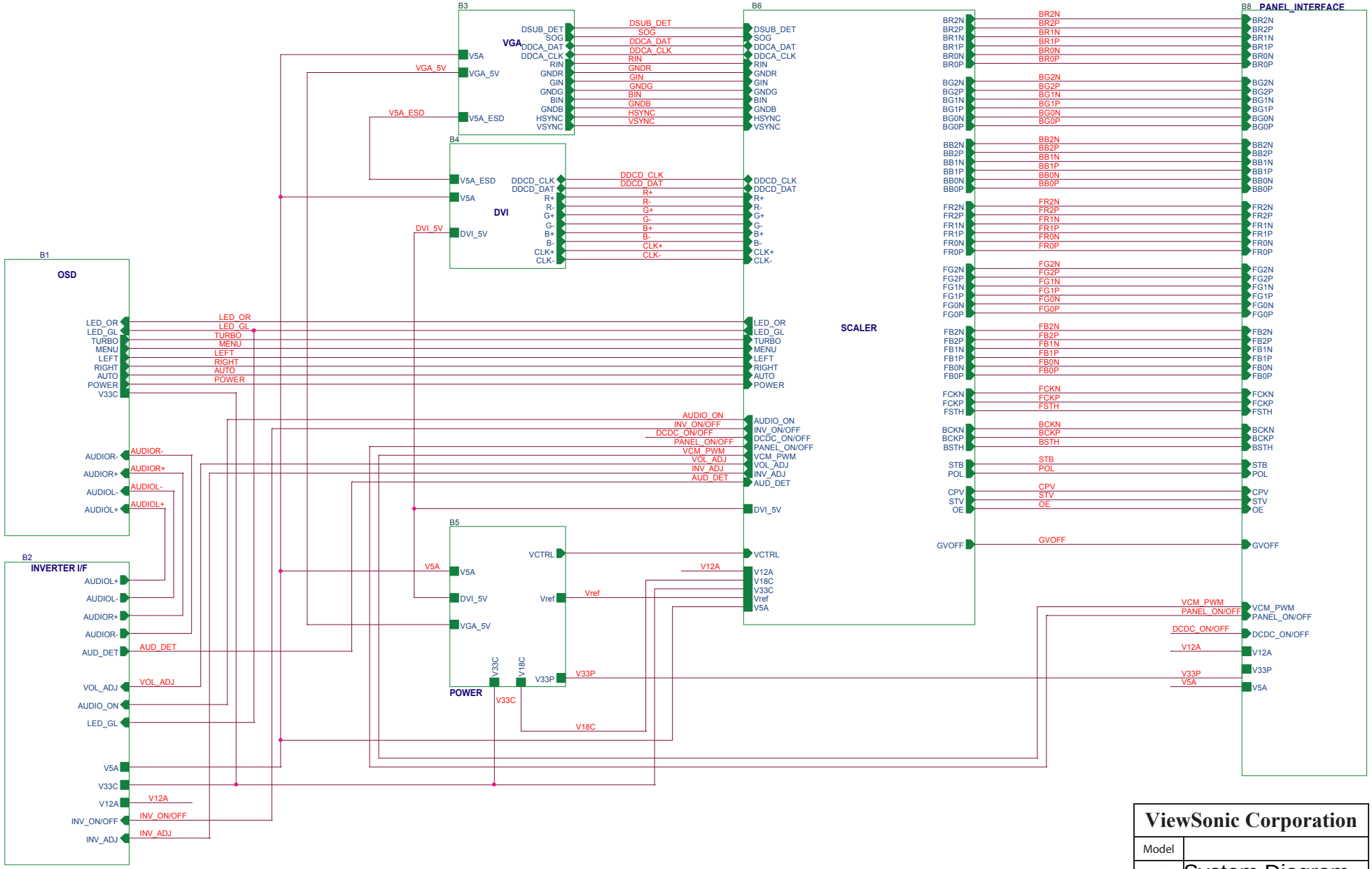
Item	ViewSonic P/N	Ref. P/N	Location	Q'ty
1	N/A	VA1912W-2	LCD Monitior	1
2	P-00000595	7841919921	PE Foam Bag	1
3	P-00004295	78-D004392	PS Foam (Left)	1
4	P-00004296	78-D004388	PS Foam(Right)	1
5	N/A	Different region (refer to BOM)	Carton	1
6	N/A	Different region (refer to BOM)	Power Cord	1
7	N/A	Different region (refer to BOM)	Power Cord	1
8	CB-00004287	32F3018003	Monitor Cable	1
9	CB-00000544	32F2818004	Audio Cable	1
10	N/A	N/A	DVI Cable (N/A)	1
11	N/A	Different region (refer to BOM)	Menu (Quick Setup)	1
12	N/A	Different region (refer to BOM)	Menu (CD-ROM)	1
13	N/A	Different region (refer to BOM)	Warranty Registration card	1
14	C-00004285	40-D004259	Seat	1
15	N/A	Different region (refer to BOM)	Customer Label	1



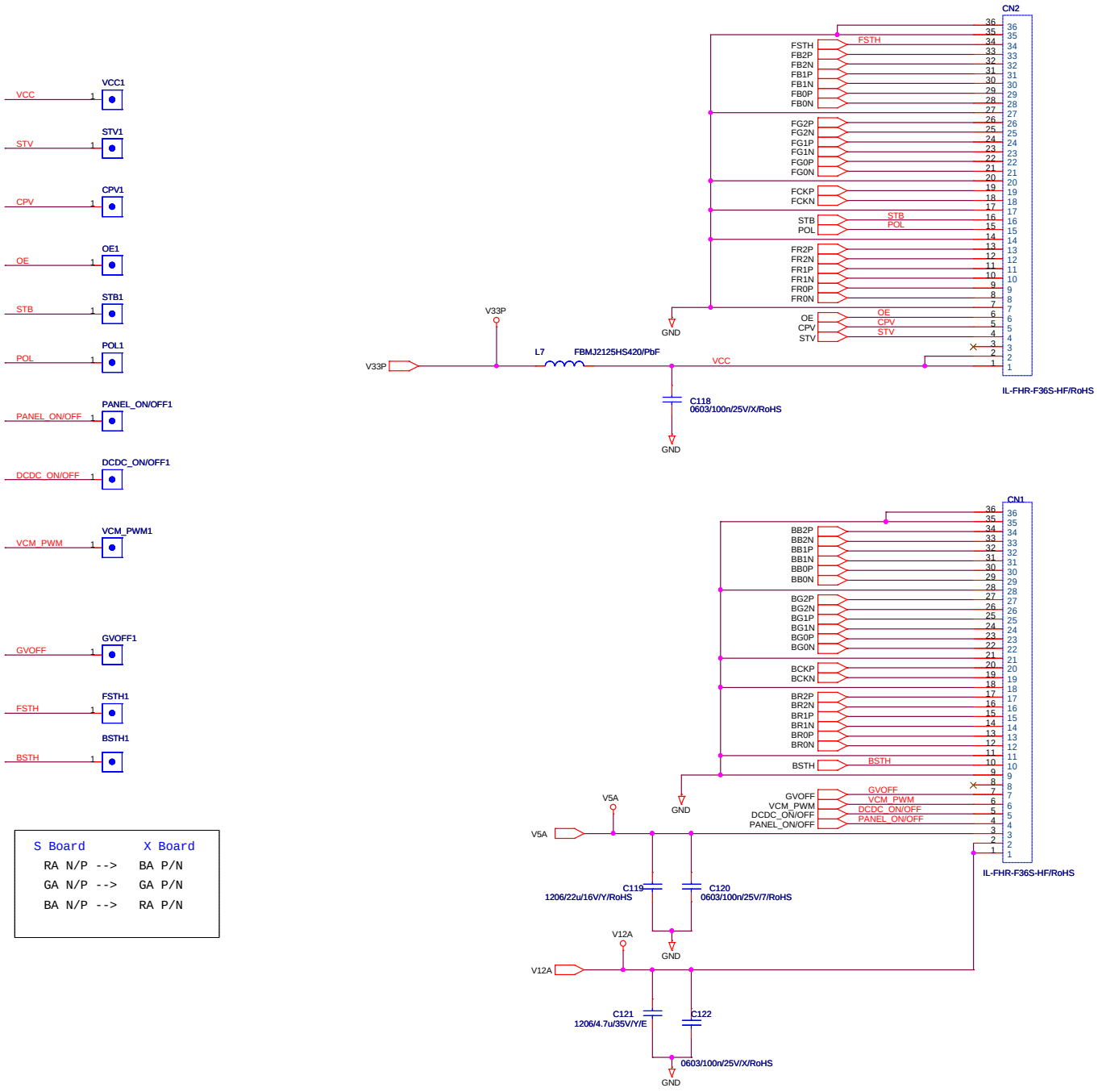
Carton dimensions: 538(L)x158(W)x470(H)mm

9. Block Diagram

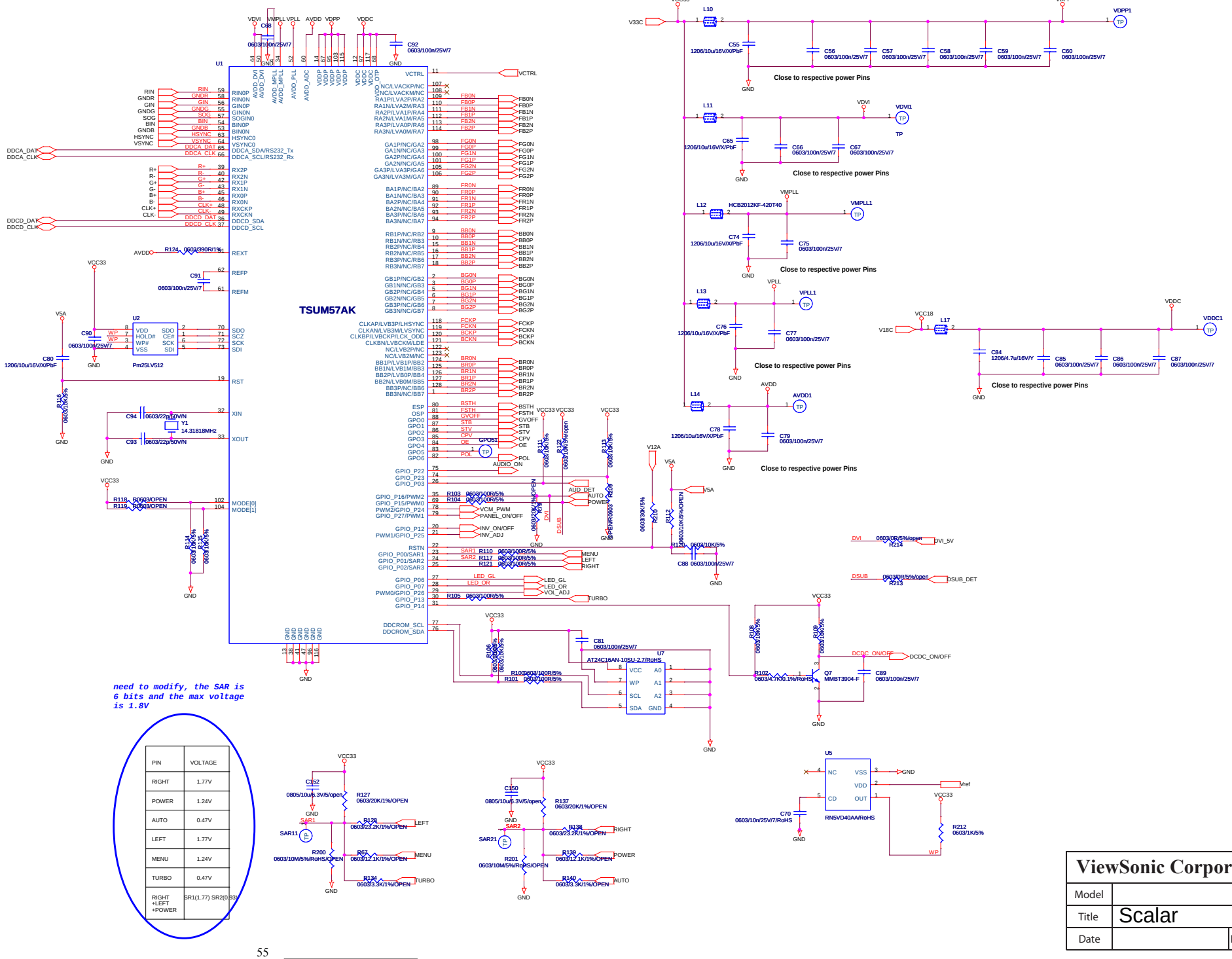




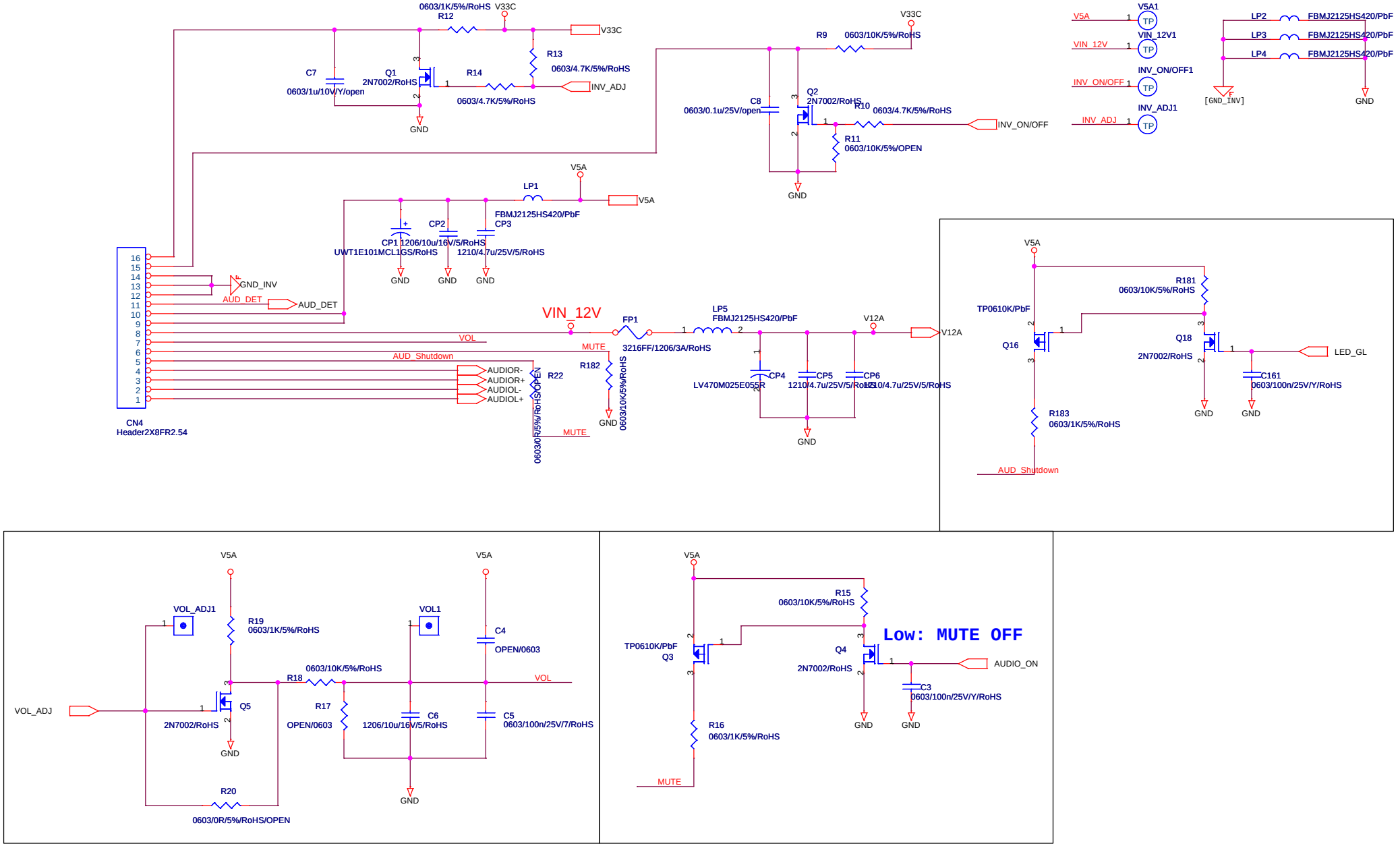
ViewSonic Corporation		
Model		
Title	System Diagram	
Date		Rev:



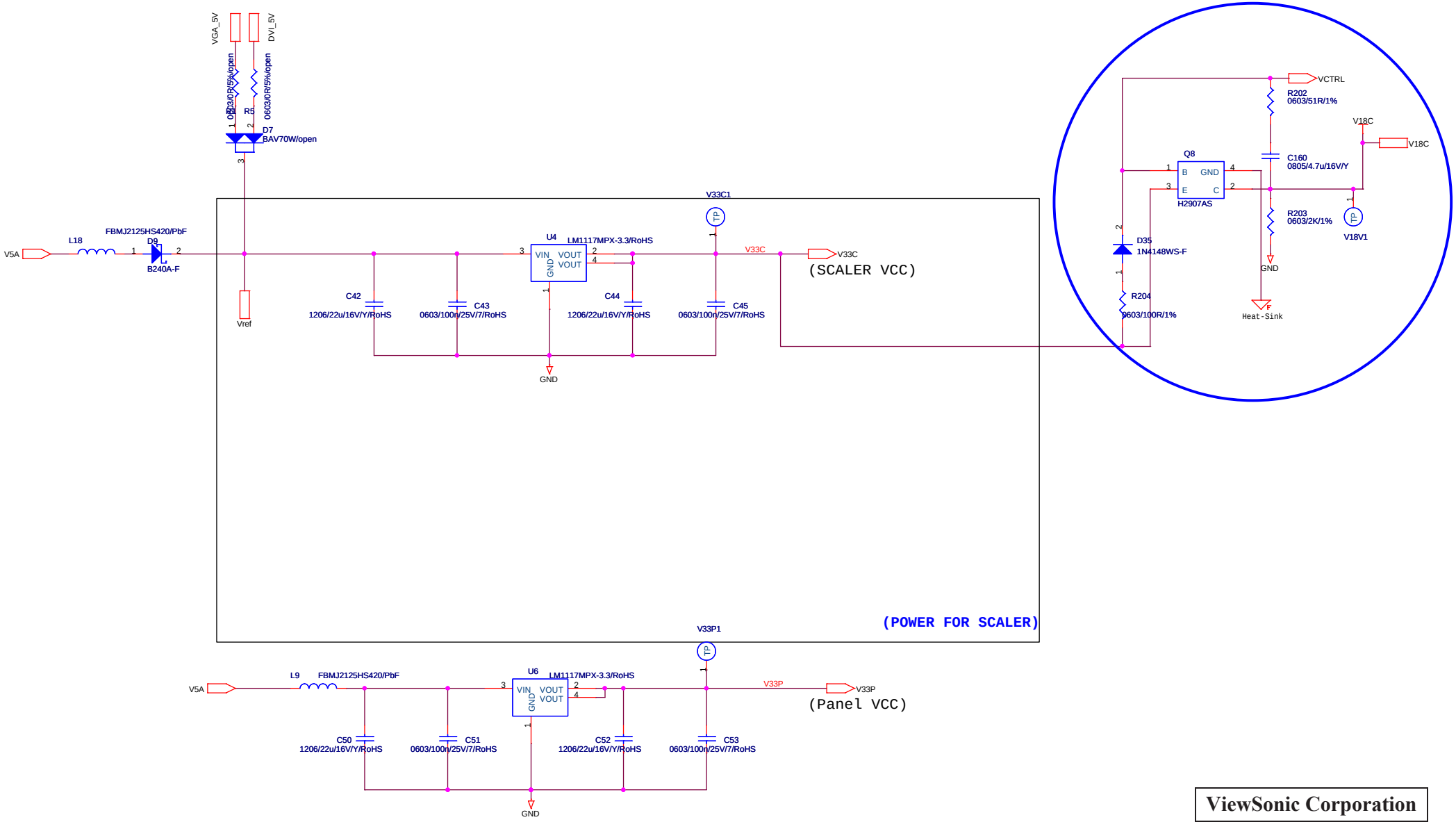
ViewSonic Corporation		
Model		
Title	Panel Interface	
Date		Rev:



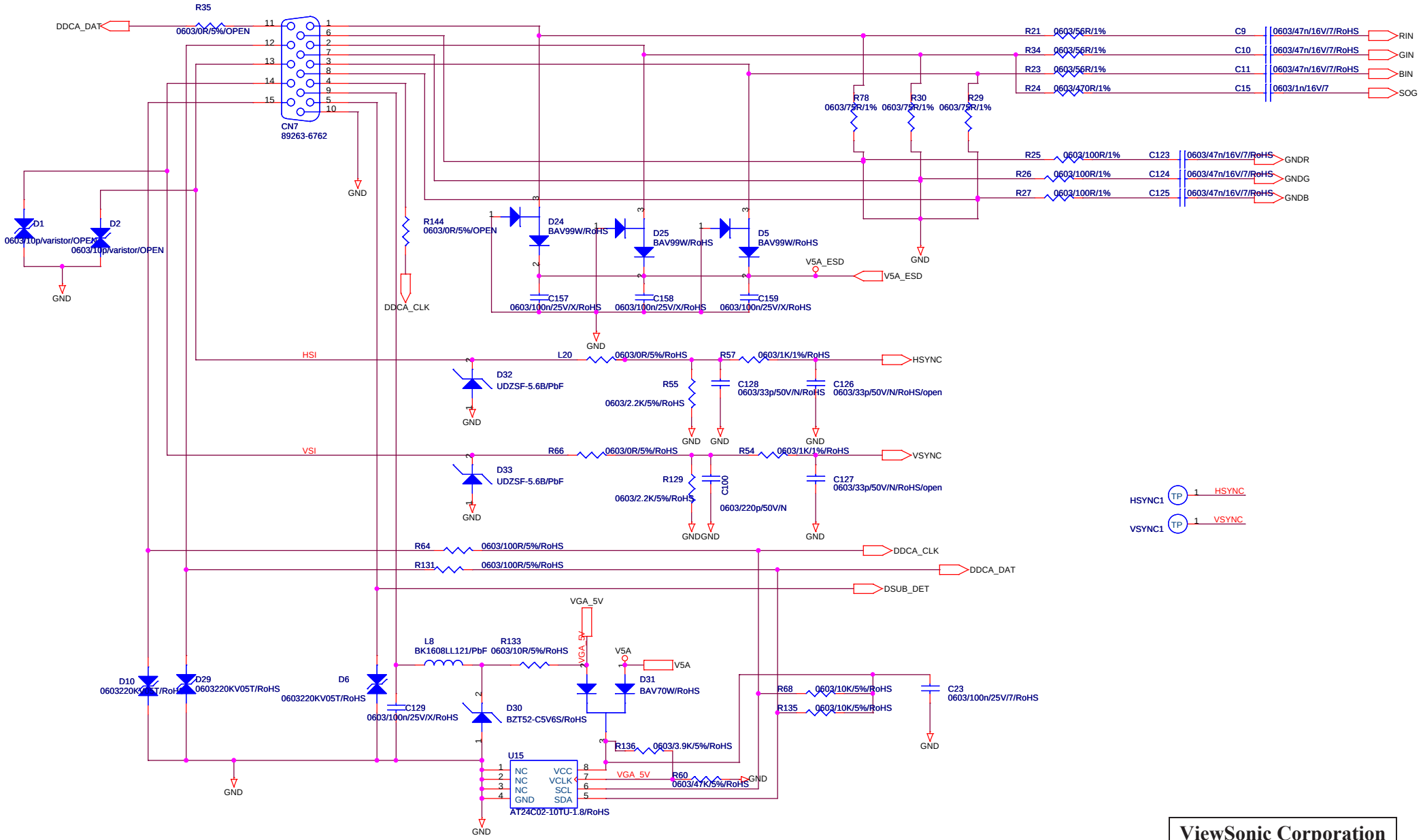
ViewSonic Corporation	
Model	
Title	Scalar
Date	Rev:



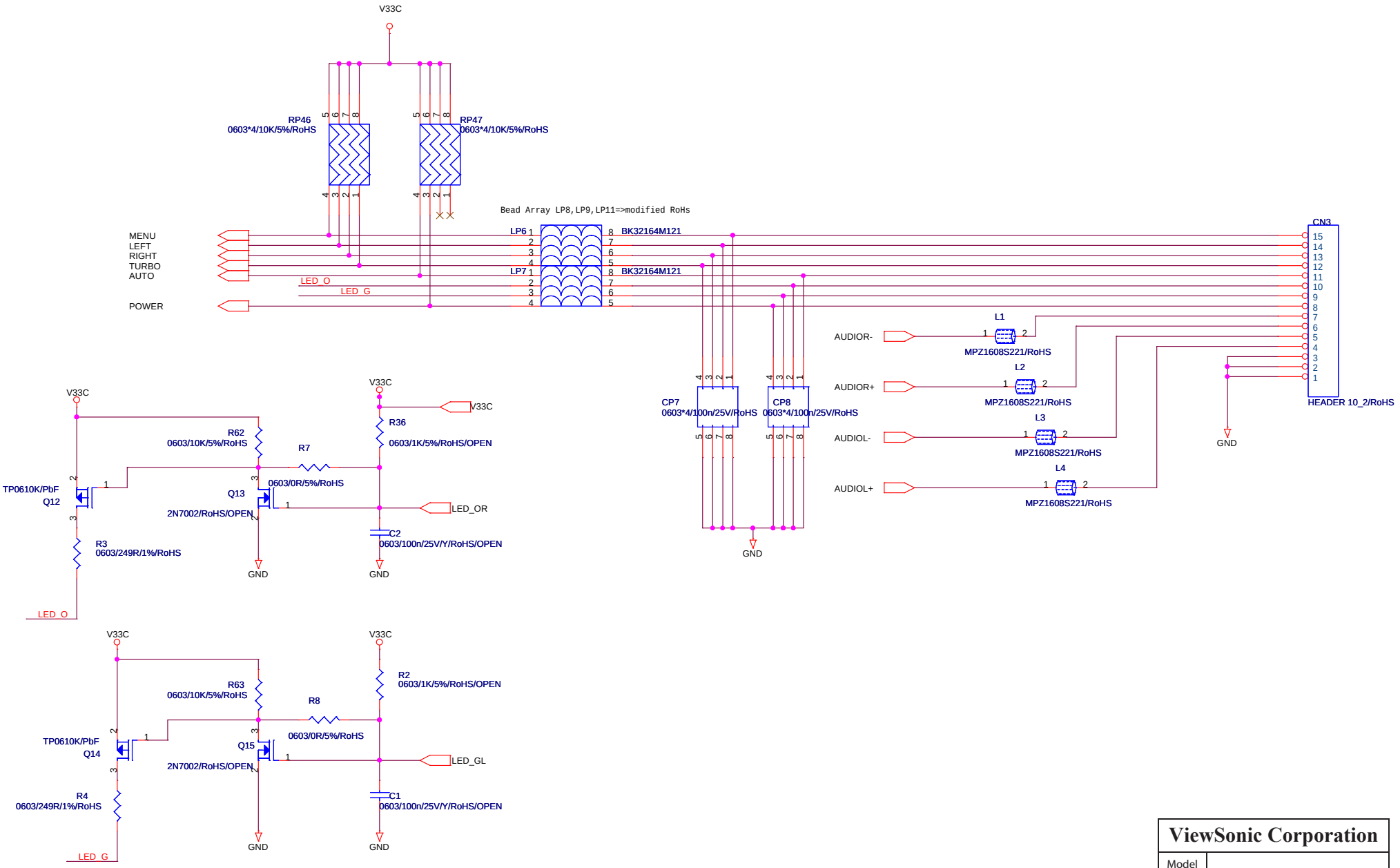
ViewSonic Corporation	
Model	
Title	Inverter Interface
Date	Rev:



ViewSonic Corporation		
Model		
Title	Power	
Date		Rev:

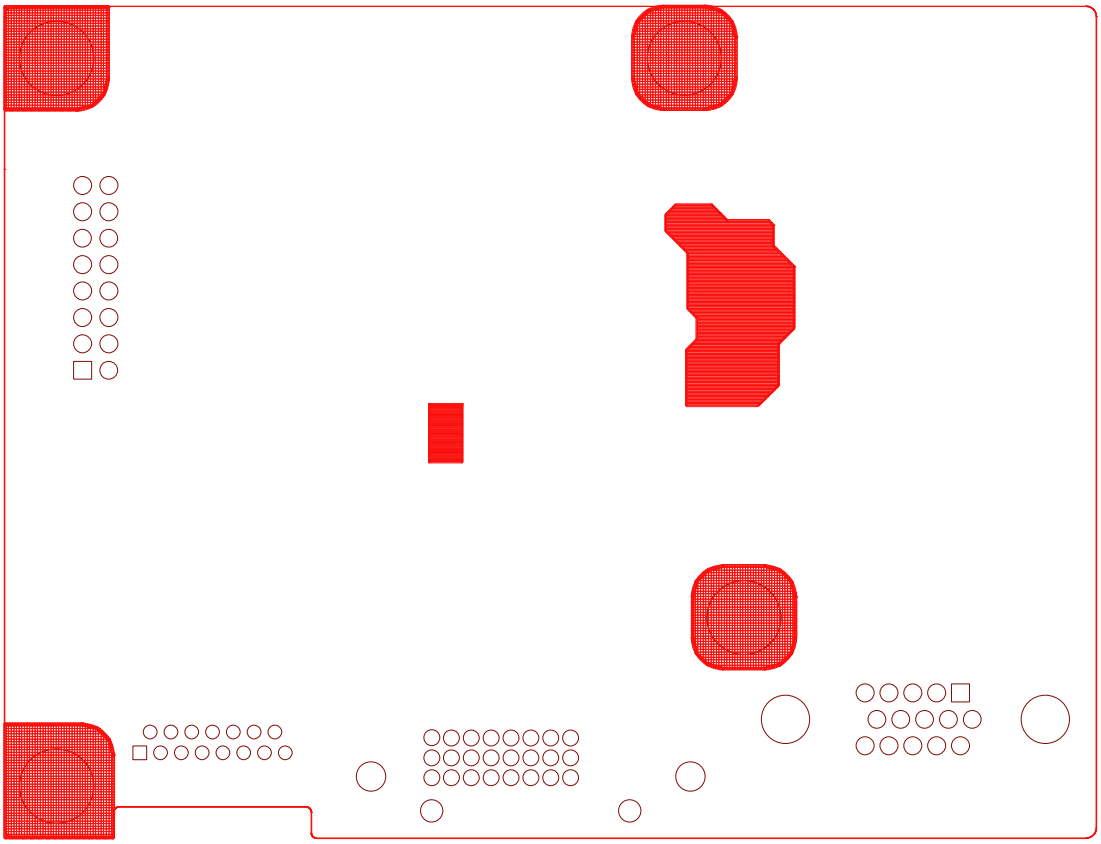


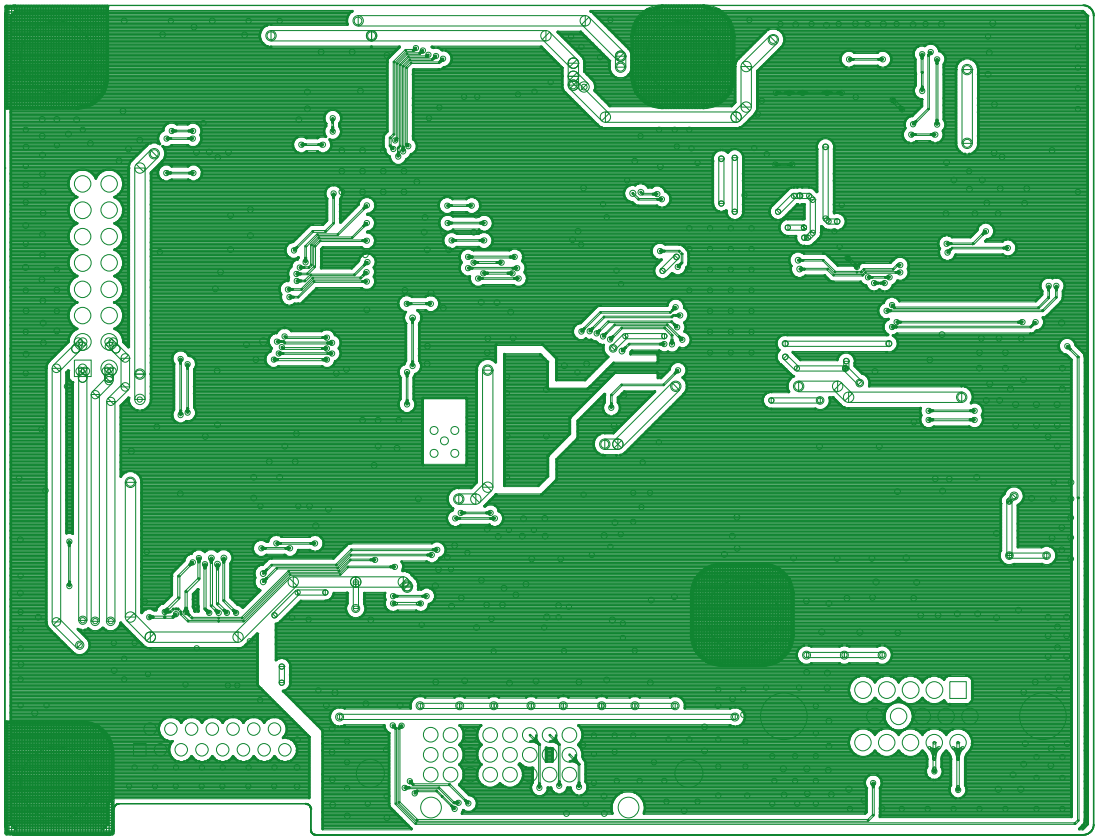
ViewSonic Corporation		
Model		
Title	VSA	
Date		Rev:

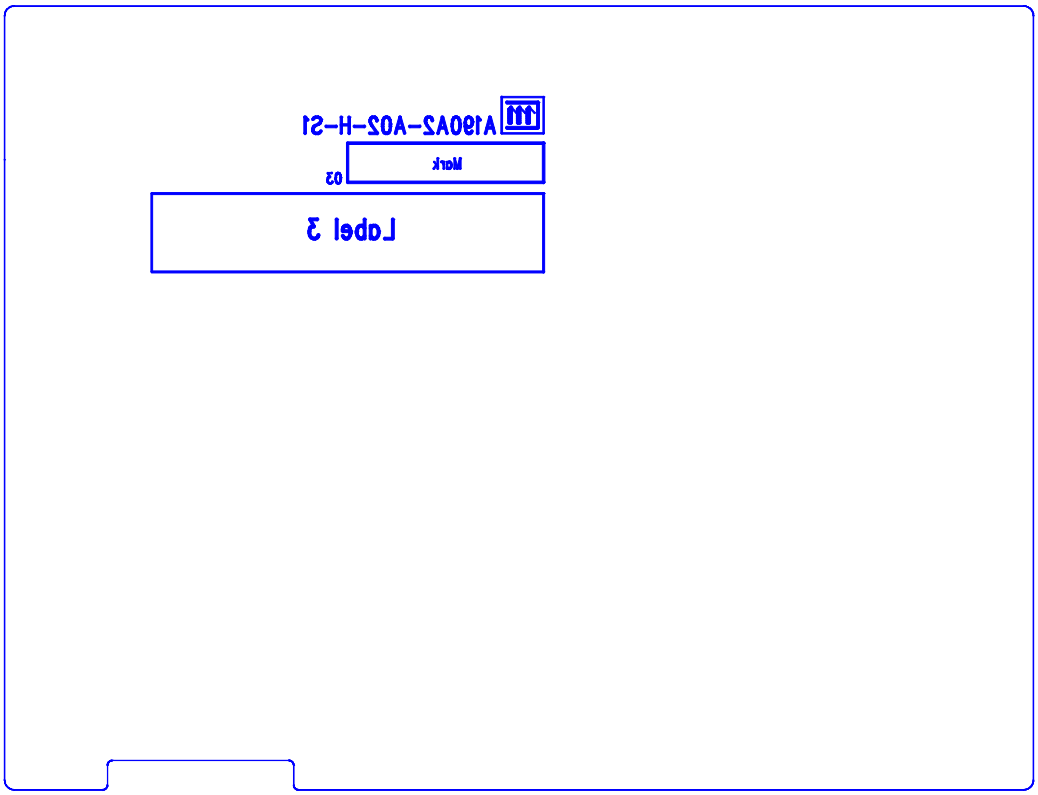


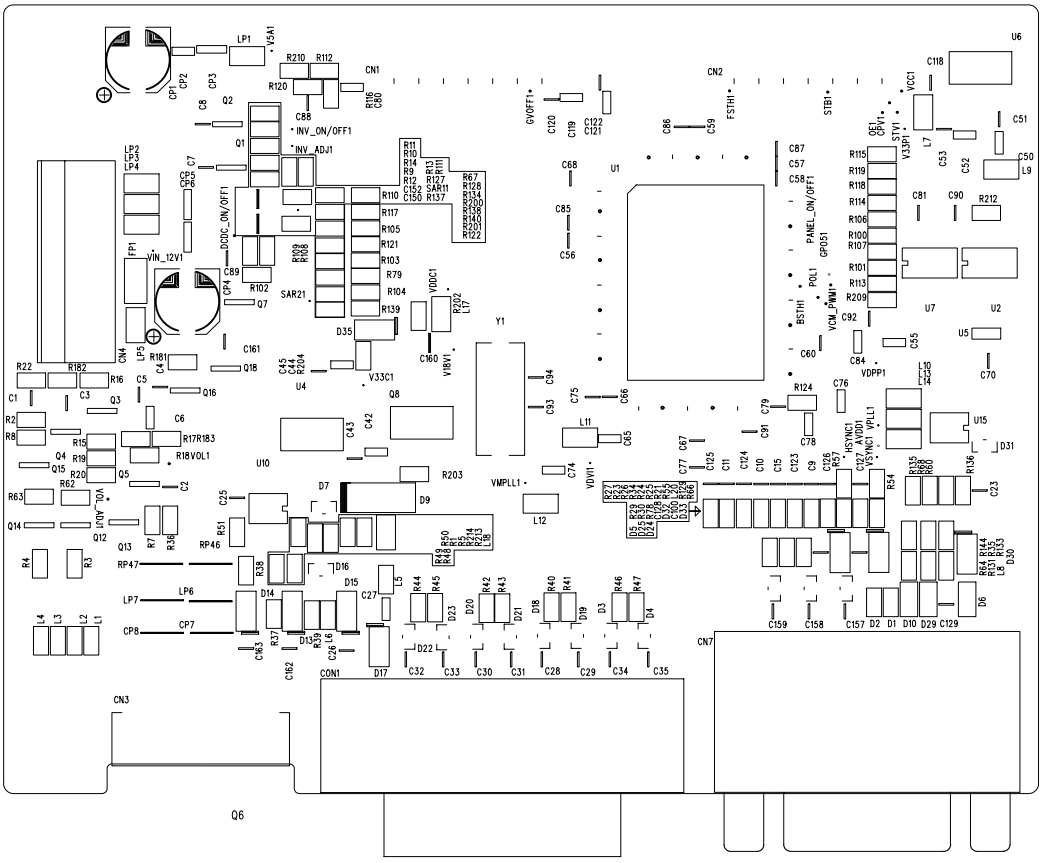
ViewSonic Corporation		
Model		
Title	OSD	
Date		Rev:

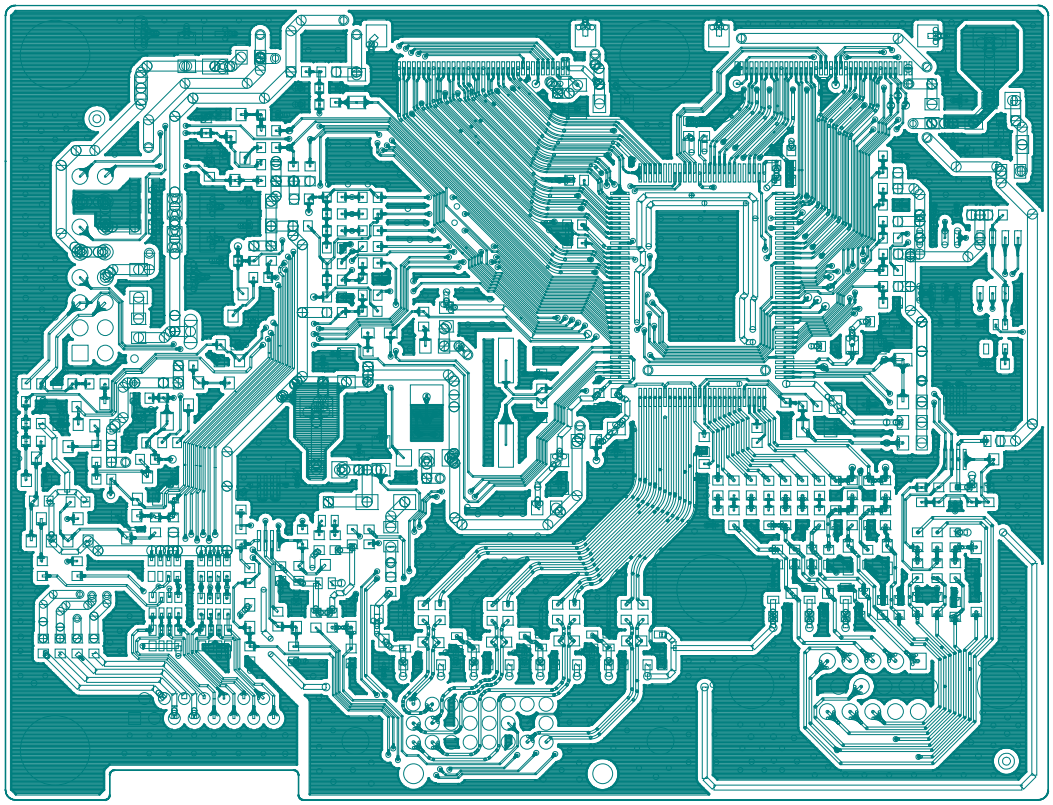
11. PCB Layout Diagrams






A190A2-A02-H-S1
Mark
03
Label 3





* Reader's Response*

Dear Readers:

Thank you in advance for your feedback on our Service Manual, which allows continuous improvement of our products. We would appreciate your completion of the Assessment Matrix below, for return to ViewSonic Corporation.

Assessment

A. What do you think about the content of this Service Manual?

Unit	*Excellent*	*Good*	*Fair*	*Bad*
1. Precautions and Safety Notices				
2. Specification				
3. Front Panel Function Control Description				
4. Circuit Description				
5. Adjustment Procedure				
6. Troubleshooting Flow Chart				
7. Recommended Spare Parts List				
8. Exploded Diagram and Exploded Parts List				
9. Block Diagrams				
10. Schematic Diagrams				
11.PCB Layout Diagrams				

B. Are you satisfied with this Service Manual?

Item	*Excellent*	*Good*	*Fair*	*Bad*
1. Service Manual Content				
2. Service Manual Layout				
3. The form and listing				

C. Do you have any other opinions or suggestions regarding this service manual?

Reader's basic dada:

Name:		**Title:**	
Company:			
Add:			
Tel:		**Fax:**	
E-mail:			

After completing this form, please return it to ViewSonic Quality Assurance in the USA at facsimile 1-909-839-7943. You may also e-mail any suggestions to the Director, Quality Systems & Processes (marc.maupin@viewsonic.com)