

Service Manual

ViewSonic VX1935wm-3

Model No. VS11444

19" Color TFT LCD Display

(VX1935wm-3_SM Rev. 1a Oct. 2006)

ViewSonic 381 Brea Canyon Road, Walnut, California 91789 USA - (800) 888-8583

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Revision History

Revision	SM Editing Date	ECR Number	Description of Changes	Editor
1a	10/26/2006		Initial Release	Jamie Chang

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1. Precautions and Safety Notices

1. SAFETY PRECAUTIONS

This monitor is manufactured and tested on a ground principle that a user's safety comes first. However, improper used or installation may cause damage to the monitor as well as to the user.

WARNINGS:

- This monitor should be operated only at the correct power sources indicated on the label on the rear of the monitor. If you're unsure of the power supply in you residence, consult your local dealer or Power Company.
- Use only the special power adapter that comes with this monitor for power input.
- Do not try to repair the monitor by yourself, as it contains no user-serviceable parts. Only the qualified technician can repair it.
- Do not remove the monitor cabinet. There are high-voltage parts inside that may cause electric shock to human bodies.
- Stop using the monitor if the cabinet is damaged. Have it checked by a service technician.
- Put your monitor only in a lean, cool, dry environment. If it gets wet, unplug the power cable immediately and consult your closed dealer.
- Always unplug the monitor before cleaning it. Clean the cabinet with a clean, dry cloth. Apply non-ammonia based cleaner onto the cloth, not directly onto the glass screen.
- Do not place heavy objects on the monitor or power cord.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety visual inspections and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Before replacing any of these components read the parts list in this manual carefully. The use of substitute replacement parts, which do not have the same safety characteristics as specified in the parts list, may create shock, fire, or other hazards.

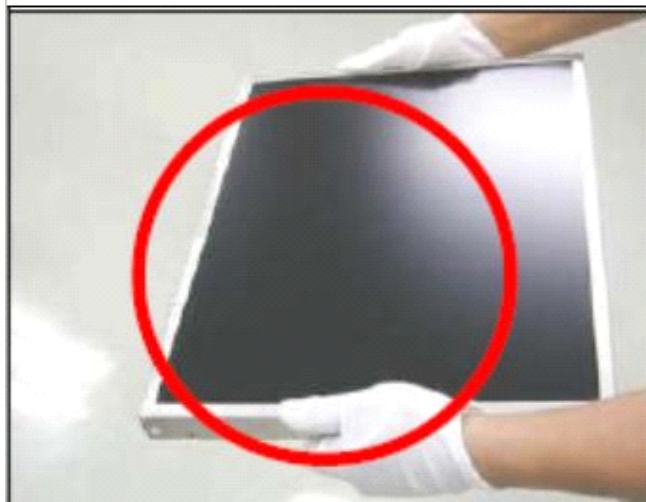
3. SERVICE NOTES

When replacing parts or circuit boards, clamp the lead wires around terminals before soldering. Keep wires away from high voltage, high temperature components and sharp edges. Keep wires in their original position so as to reduce interference. Adjustment of this product please refers to the user' manual.

Handling and Placing Methods

Correct Methods:

Only touch the metal frame of the LCD panel or the front cover of the monitor. Do not touch the surface of the polarizer

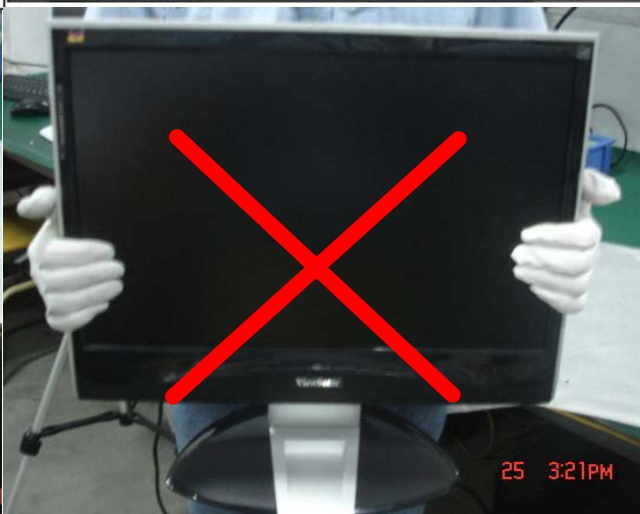


Take out the monitor with cushions



Incorrect Methods:

Surface of the LCD panel is pressed by fingers and that may cause "Mura"



Taking out the monitor by grasping the LCD panel. That may cause "Mura"



Place the monitor on a clean and soft foam pad.



Placing the monitor on foreign objects. That could scratch the surface of the panel or cause "Mura"



The panel is placed facedown on the lap. That may cause "Mura".



2. Specification

1. INTRODUCTION

FEATURES		VX1935wm-3
TFTLCD PANEL 1 st Innolux MT190AW01 V.0	Size	19 " wide
	Luminance (Typ)	300 cd/m ²
	Contrast Ratio (Typ)	700:1
	Colors	16.2 M (6 bits + 2 bits FRC)
	Response Time	5 ms(on/off)
	Viewing Angle (H/V)	160 ° / 160 °
	Recommend resolution	1440x900@60Hz
Input Signal	Analog	Yes (75ohms, 0.7/1.0 Vp-p)
	Digital	Yes
Sync Compatibility	Separate Sync	Yes
	Composite Sync	Yes
	Sync on Green	Yes
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)	42 W / 35 W
	Off Mode (Max)	≤ 1 W
Audio	2W / THD 10% (Max)	Yes
Ergonomics	Tilt (20 ° - -5 °)	Yes
	Swivel	No
	Pivot	No
	Height Adjust	No
OSD Control	[1] [2] [⏏] [▼] [▲]	Yes
Dimension	Physical (W x H x D)	450 x 434 x 209mm
	Package (W x H x D)	545*515*162mm
Weight	Physical (Net Weight)	5.2 Kg / 11.5 lbs
	Package (Gross Weight)	6.7 Kg / 14.8 lbs
Operating Condition	Temperature (°F/°C)	32°F-104°F / 0°C-40°C
	Humidity (%)	20 % - 80 %
Storage Condition	Temperature (°F/°C)	-4°F-140°F / -20°C-60°C
	Humidity (%)	10% - 90 %
Regulation	Global: CB, MPR II, WEEE, ROHS , ISO13406-2 VSA:UL, cUL, FCC-B, TUV-S, NOM, Energy Star VSE:TUV/ERGO,CE ,GOST-R+Hygienic ,SASO , ENERGY VSI: BSMI, CCC, PSB, C-TICK, MIC VSCN:CCC	

2. GENERAL specification

Test Resolution & Frequency	1440x900 @ 60Hz
Test Image Size	Full Size
Contrast and Brightness Controls	Factory Default: Contrast = 70%, Brightness = 100%

3. VIDEO INTERFACE

Analog Input Connector	DB-15 (Analog),
Digital Input Connector	DVI-D (Digital),
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 1/2B
Video Signals	1. Video RGB (Analog) Separate, Composite, and Sync on Green 2. TMDS (Digital)
Video Impedance	75 Ohms (Analog), 100 Ohms (Digital)
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 1/2B	Compliant with Revision 1.3
Sync Compatibility	Separate Sync, Composite Sync, SOG
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, 1152 x 870, 1280 x 720, 1280 x 960, 1280 x 1024, 1400 x 1050, 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

4. POWER SUPPLY

Internal Power Supply	Part Number: ILPI-024
Input Voltage Range	90 to 264 VAC (100~240VAC $\pm 10\%$)
Input Frequency Range	47 to 63 Hertz
Short Circuit Protection	Output can be shorted without damage
Over Current Protection	5.0 A typical at 14.0 VDC
Leakage Current	3.5mA (Max) at 254VAC / 60Hz

Efficiency (at 115VAC Full Load)	Typical: 80% Minimum: 75%												
Fuse	Internal and not user replaceable												
Power Output	35 Watts (typ)												
Ripple and Noise	Ripple: <3%												
Max Input AC Current	1.2 Arms @ 100VAC, 0.6 Arms @240VAC												
Inrush Current (Cold Start)	40 A (max) @ 120VAC 60 A (max) @ 220VAC												
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 ANSI/IEEE C62.41-1980 6000V 200 ampere ring wave transient test with no damage.												
Power Supply Line Surge Immunity	Shall be able to withstand 1.5 times nominal line voltage for one cycle 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.												
Power Saving Operation(Method)	VESA DPMS Signaling												
Power Consumption													
<table><tr><td>Mode</td><td>LED</td><td>Power Consumption</td></tr><tr><td>On</td><td>Green</td><td>35 W (Typ) 42 W (max)</td></tr><tr><td>Stand By</td><td>Amber</td><td>< 2 W</td></tr><tr><td>Active Off</td><td>Off</td><td>< 1 W</td></tr></table>		Mode	LED	Power Consumption	On	Green	35 W (Typ) 42 W (max)	Stand By	Amber	< 2 W	Active Off	Off	< 1 W
Mode	LED	Power Consumption											
On	Green	35 W (Typ) 42 W (max)											
Stand By	Amber	< 2 W											
Active Off	Off	< 1 W											
Recovery Time	On Mode = N/A, Active Off < 3 sec												

5. ELECTRICAL REQUIREMENT

Horizontal / Vertical Frequency

Horizontal Frequency	30 – 82 kHz
Vertical Refresh Rate	56 – 75 Hz
Maximum Pixel Clock	135 MHz
Sync Polarity	Independent of sync polarity

Timing Table

Item	Timing	Analog			Digital - TMDS	Remark
		Separated	Composite	SOG		
1	640 x 350 @ 70 Hz, 31.5 KHz	✓	✓	✓	✓	For Analog sync, the image vertical size image will be not full screen (Still at the center)
2	640 x 400 @ 60 Hz, 31.5 KHz	✓	✓	✓	✓	For Analog sync, the OSD will be 640x480@60Hz
3	640 x 400 @ 70 Hz, 31.5 KHz	✓	✓	✓	✓	For Analog sync, the image vertical size image will be not full screen (Still at the center), And the OSD will be 640x400/720x400 (primary=720x400).
4	640 x 480 @ 50 Hz, 24.7 KHz	✓	✓	✓		
5	640 x 480 @ 60 Hz, 31.5 KHz	✓	✓	✓	✓	
6	640 x 480 @ 67 Hz, 35 KHz	✓	✓	✓	✓	
7	640 x 480 @ 72 Hz, 37.9 KHz	✓	✓	✓	✓	
8	640 x 480 @ 75 Hz, 37.5 KHz	✓	✓	✓	✓	
9	640 x 480 @ 85 Hz, 43.3 KHz	✓	✓	✓	✓	
10	720 x 400 @ 70 Hz, 31.5 KHz	✓	✓	✓	✓	For Analog sync, the image vertical size image will be not full screen (Still at the center), And the OSD will be 640x400/720x400 (primary=720x400).
11	720 x 480 @ 60 Hz, 31.5 KHz	✓	✓	✓	✓	For Analog sync, the information OSD shows 640x480
12	720 x 576 @ 50 Hz, 31.3 KHz	✓	✓	✓	✓	
13	800 x 600 @ 56 Hz, 35.1 KHz	✓	✓	✓	✓	
14	800 x 600 @ 60 Hz, 37.9 KHz	✓	✓	✓	✓	
15	800 x 600 @ 72 Hz, 48.1 KHz	✓	✓	✓	✓	
16	800 x 600 @ 75 Hz, 46.9 KHz	✓	✓	✓	✓	
17	800 x 600 @ 85 Hz, 53.7 KHz	✓	✓	✓	✓	
18	832 x 624 @ 75 Hz, 49.7 KHz	✓	✓	✓	✓	
19	1024 x 768 @ 50 Hz, 39.6 KHz	✓	✓	✓	✓	For Analog sync, Switch 1024x768@50Hz and 1280x768@50Hz by [1]+[2] short cut key

20	1024 x 768 @ 60 Hz, 48.4 KHz	✓	✓	✓	✓	
21	1024 x 768 @ 70 Hz, 56.5 KHz	✓	✓	✓	✓	
22	1024 x 768 @ 75 Hz, 60 KHz	✓	✓	✓	✓	
23	1024 x 768 @ 75 Hz, 60.02 KHz	✓	✓	✓	✓	
24	1024 x 768 @ 85 Hz, 68.7 KHz	✓	✓	✓	✓	
25	1152 x 864 @ 75 Hz, 67.5 KHz	✓	✓	✓	✓	
26	1152 x 870 @ 75 Hz, 68.7 KHz	✓	✓	✓	✓	
27	1280 x 768 @ 50 Hz, 39.6 KHz	✓	✓	✓	✓	For Analog sync, Switch 1024x768@50Hz and 1280x768@50Hz by [1]+[2] short cut key
28	1280 x 768 @ 60 Hz, 47.4 KHz	✓			✓	
29	1280 x 768 @ 60 Hz, 47.8 KHz	✓	✓	✓	✓	
30	1280 x 768 @ 75 Hz, 60.3 KHz	✓	✓	✓	✓	For Analog sync, Switch 1024x768@75Hz and 1280x768@75Hz by [1]+[2] short cut key
31	1280 x 960 @ 50 Hz, 49.4 KHz	✓	✓	✓	✓	
32	1280 x 960 @ 60 Hz, 60.0 KHz	✓	✓	✓	✓	
33	1280 x 960 @ 75 Hz, 75.2 KHz	✓	✓	✓	✓	
34	1280 x 1024 @ 50 Hz, 52.7 KHz	✓	✓	✓	✓	
35	1280 x 1024 @ 60 Hz, 64 KHz	✓	✓	✓	✓	
36	1280 x 1024 @ 70 Hz, 74.8 KHz	✓	✓	✓	✓	
37	1280 x 1024 @ 72 Hz, 76.8 KHz				✓	
38	1280 x 1024 @ 75 Hz, 80 KHz	✓	✓	✓	✓	
39	1360 x 768 @ 60 Hz, 47.7 KHz	✓			✓	
40	1400 x 1050 @ 50 Hz, 54.1 KHz	✓	✓	✓	✓	
41	1400 x 1050 @ 60 Hz, 64.7 KHz	✓			✓	
42	1400 x 1050 @ 60 Hz, 65.3 KHz	✓	✓		✓	
43	1400 x 1050 @ 75 Hz, 82.3 KHz	✓	✓	✓	✓	
44	1440 x 900 @ 60 Hz, 55.5 KHz	✓			✓	
45	1440 x 900 @ 60 Hz, 55.9 KHz	✓	✓	✓	✓	
46	1440 x 900 @ 75 Hz, 70.6 KHz	✓	✓	✓	✓	

*1. Tolerance $\geq \pm 2\text{KHz}$.

*2. Any timing not in the list, it should display as normal or show on "OUT OF RANGE" OSD message without blanking.

*3. The image quality of 85Hz mode might be worse than 75Hz.

Primary Presets

1440x900 @ 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 : 5 seconds (Max), excluding "Auto Adjust" time
- Under DOS mode (640 x 350, 720 x 400 & 640 x 400), it should recall factory setting when execute "Auto Adjust"
- The monitor needs to do "Auto Adjust" the first time a new mode is detected (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)	Blue – ON Orange –Power Saving Mode Dark = Soft Power Switch OFF
Front Panel Controls (Head) [1][2][⏻][▼][▲]	[1] BUTTON 1 [2] Button 2 [⏻] Power [▼] DOWN ARROW BUTTON [▲] Up arrow button Note: Power Button, Button 1 and Button 2 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]	Input toggle (Analog or Digital)
[▼] or [▲]	To immediately activate Brightness /Contrast menu.
[▼]+ [▲]	Recall both of Contrast and Brightness to default
[1] + [2]	Toggle 720x400 and 640x400 mode when input 720x400 or 640x400 mode
[1] + [▼] + [▲] (Keep pushing 3 sec)	White Balance. (Not shown on user's guide)
[1] + [▼]	Power Lock
[1] + [▲]	OSD Lock
[2] + [⏻]	Factory Mode
Remark : All the short cuts function are only available while OSD off	

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. Recall white balance to factory setting
2. Set the factory defaults as shown in Section 4-8
3. Clean all the mode setting buffer
4. 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. For auto input select function, it shall meet the requirement in Appendix D.
3. 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

Factory Defaults

Item	Defaults	Item	Defaults
Contrast	70%	Input Priority	N/A
Brightness	100%	Resolution Notice	Enabled
Color Temperature	6500K	Volume	N/A
Sharpness	100%	Balance	N/A
OSD H. Position	50%	Treble	N/A
OSD V. Position	50%	Bass	N/A
OSD Time Out	15 Sec		
OSD Background	Enabled		

2.7 AUDIO INTERFACE (SPEAKER SPECIFICATION)

Line input signal	1 Vrms
Line input impedance	10 kOhm
Maximum Amp power output (Watt)	2.0 W (RL=8Ω)
Speaker Power rating(Ω/Watt)	8Ω/2 W (typ.) ; 8Ω/ 3 W (max)
THD	10% (Maxmum output @ 1KHZ)
Signal to Noise Ratio	75 dB
Frequency response	200 Hz – 20 Khz
SPL.	82 ± 3 dB
Line input connection	3.5 mm stereo jacks
Vibration	There should be no audible vibration resonance at volume=100% & treble / bass in def. value
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	Speakers stay Off when the rest of the monitor is in power saving Note: There is no guarantee <2 W at power consumption in Active Off mode, when the Audio Cable is connected

1	LCD PANEL 1 st panel source	Type: Pixel Pitch Color Filter Glass Viewing Angle Contrast Ratio Brightness Response Time Color Depth Backlight Life	INL CR > 10	19" wide Color TFT Active Matrix WXGA LCD. (MT190AW01 V.0) 0.285mm (H) x0.285mm(V) RGB Vertical Stripe Anti-Glare treatment and hard-coating 3H Horizontal = 140 Degrees (Min), Vertical = 140 Degrees (Min) Horizontal = 160 Degrees (Typ), Vertical = 160 Degrees (Typ) 700:1 (Typ), 500:1 (Min) 300 cd/m2 (Typ), 230 cd/m2 (Min), Tr = 1.5ms (Typ), Tf =3.5ms (Typ). Tr+Tf = Total = 5ms (Typ) Tr = 6.5ms (Max), Tf = 8.5ms (Max) Tr+Tf = Total = 15ms (Max) 16.2 million colors (6 bits + 2 bits FRC) 40,000 Hrs (Min)
2.	INPUT SIGNAL	Video Sync		RGB Analog (75 ohms, 0.7 Vp-p); DVI-D H/V Separated (TTL), Composite, SOG F _H :30~82kHz, F _V :50~85Hz

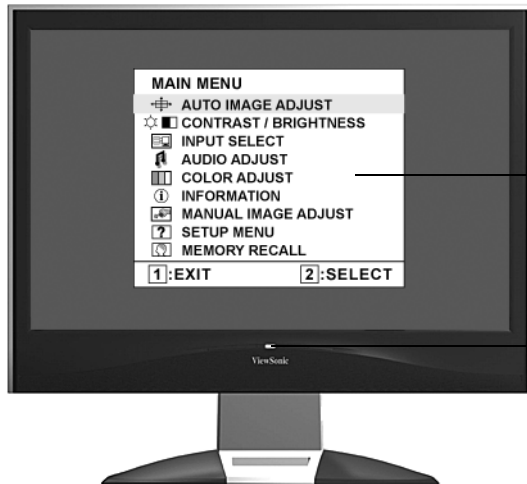
3.	COMPATIBILITY	PC Mac		VGA up to 1440 x 900 non-interlaced Power Macintosh up to 1440 x 900
	RESOLUTION	Max		1440 x 900 @ 60, 75 Hz NI 1400 x 1050 @ 60, 75 Hz NI 1280 x 1024 @ 60, 75,85 Hz NI 1024 x 768 @ 60, 75,85 Hz NI 800 x 600 @ 60, 75 ,85Hz NI 640 x 480 @ 60, 75 Hz NI
	CONNECTOR	Signal Power	Head Head	15 pin mini D-sub DVI-I Audio in stereo Jack 3 Pin AC Plug, (CEE22)
	POWER	Voltage Consumption	AC/DC Internal Power	AC 100 – 240 VAC 50-60 Hz (auto switch) 35W (Typ) / 43W (Max)
	SPEAKER	Stereo Speaker		2w x2 ,
	ERGONOMICS	Tilt	Down Up	5 Degrees 20 Degrees
	CONTROLS	Physical OSD	LCD Head Main Menu	[1], [2] , Power (Soft) , Down[▼], Up[▲] Auto Image Adjust ^{*1} Contrast/Brightness ^{*2*4} Input Select Analog, Digital Audio Adjust Volume ^{*4} , Mute ^{*4} Color Adjust SRGB, 9300K, 7500K,6500K(default), 5400, User Color [R, G, B] Information Resolution, H Frequency, V Frequency, Pixel Clock, Serial Number, Model Number, “www.ViewSonic.com” Manual Image Adjust Horizontal. Size ^{*1} , H/V. Position ^{*1} , Fine Tune ^{*1} , Sharpness ^{*3} Setup Menu Language [English, French, German, Italian, Spanish, Finnish, Japanese,

			Short Cut	Traditional Chinese, Simplified Chinese], Resolution Notice, OSD Position, OSD Timeout, OSD Background Memory Recall [1]: Main Menu [2]: Input Select [▲] or [▼]: Brightness/Contrast [▲] + [▼]: Recall Contrast and Brightness [1] and [▼]: Power lock/unlock [1] and [▲]: OSD lock/unlock *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 [▼]+[▲]
	BANDWIDTH	Pixel Clock		Digital 140 Mhz (Max) Analog 140 Mhz (Max)
	DISPLAY AREA			410.4 (H) x 256.5 (V)
	OPERATING CONDITION	Temperature Humidity		32°F to 104°F (0°C to 40°C) 20% to 80% (no condensation)
	STORAGE / SHIPPING CONDITION	Temperature Humidity		-4°F to 140°F (-20°C to 60°C) 10% to 90% (no condensation)
	DIMENSIONS	Physical Panel Only Packaging	W/o base	450 mm (W) x 434 mm (H) x 209 mm (D) 17.7" (W) x 17" (H) x 8.2" (D) 450 mm (W) x 341 mm (H) x 65.5mm (D) 17.7" (W) x 13.4" (H) x 2.6"(D) 545 mm (W) x 515 mm (H) x 162 mm (D) 21.5" (W) x 20.3" (H) x 6.4" (D)
	WEIGHT	Net Net(w/o stand) Gross		5.2kg (11.5 lbs) 4.7kg (10.4 lbs) 6.7kg (14.8 lbs)
	REGULATIONS			Global: CB, MPR II, WEEE,ROHS , ISO13406-2 VSA:UL, cUL, FCC-B, TUV-S, NOM, Energy Star VSE:TUV/ERGO,CE ,GOST-R+Hygienic ,SASO , ENERGY VSI: BSMI, CCC, PSB, C-TICK, MIC VSCN:CCC

	RELIABILITY	MTBF		100,000hrs (demonstrated) excluding Light source Light Source MTBF: 40K hrs (Min)
	POWER SAVING FUNCTION	"On" "Sleep" "Off"	Green Amber	Normal <2W <1W
	LOGISTICS	Container Load Pallet Load UPC-A Code ITF-14 Code Serial Format Country of Origin	20'/40' Air/Sea	560/1120 pcs (Palletized) 56/56 pcs 7 66907 21621 9 0 07 66907 21621 9 QCXyywwxxxxx China
	SECURITY			Kennsington lock on the bottom right side
	Wall Mount	VESA		100mm x 100mm
	ACCESSORI ES			Power Cable 15 Pin VGA Video Cable DVI-D Cable Audio Cable Quick Start Guide ViewSonic Wizard CD-ROM w/ 17 Language User Guide
	EU Packaging Information	1. Weight of the individual (empty) shipping carton. ----- Weight =903 g/box 2. Weight and materials of the poly foam ----- Weight = 200g/piece, 2 pieces per box, Material = EPS 3. Weight and material of the empty accessory plastic bags ----- Weight = 2g/bag, Material= PE 4. Weight and material of the plastic handle ----- Weight = 10 g/piece, Material=PE Plastic 5. Weight and material of the PE bag that covers the monitor ----- Weight = 19g/bag, Material=PE 6. Weight / Material of Pallets: 7. A/E/M/U/ S/G/J//K/P model -Weight =12+/-3kg, Material= Solid Wood (Fumigation)		

3. Front Panel Function Control Description

Adjusting the Screen Image



Main Menu
with OSD controls

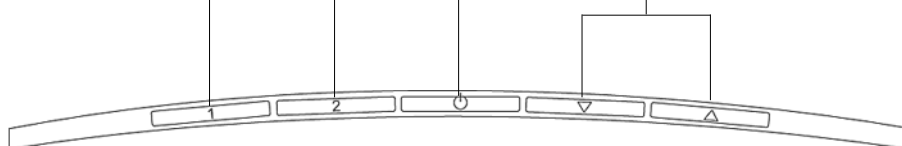
Front Control Panel
shown below in detail

Displays the control screen for the highlighted control.
Also toggles between two controls on some screens.
Also a shortcut to Auto Image Adjust.

Displays the Main Menu or exits the control screen and saves adjustments.

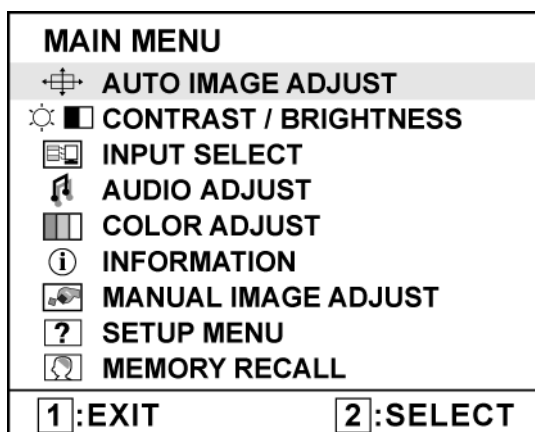
Standby Power On/Off
Power light
Blue = ON
Orange = Power Saving

Scrolls through menu options and adjusts the displayed control.
Also a shortcut to display the Contrast adjustment control screen.



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 to adjust, press ▲ or ▼ to scroll up or down in the Main Menu.
3. After the desired 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.

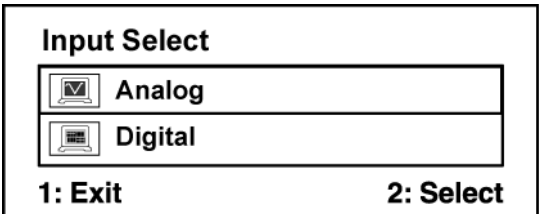
4. To adjust the setting, press the up ▲ or down ▼ buttons.
5. To save the adjustments and exit the menu, press button [1] *twice*.

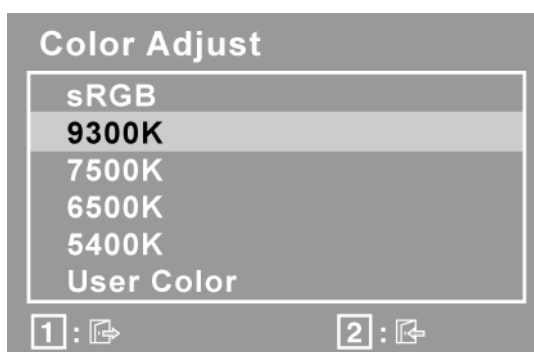
The following tips may help you optimize your display:

- 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.
	Input Select toggles between inputs if you have more than one computer connected to the VX1935wm.
	
	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).



sRGB-This is quickly becoming the industry standard for color management, with support being included in many of the latest applications. Enabling this setting allows the LCD display to more accurately display colors the way they were originally intended. Enabling the sRGB setting will cause the Contrast and Brightness adjustments to be disabled.

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

7500K - 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.

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.



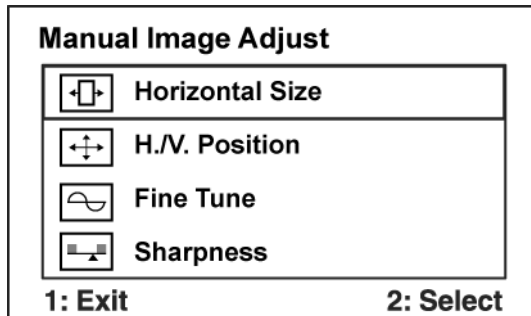
Information displays the timing mode (video signal input) coming from the graphics card in the computer, the LCD model number, the serial number, and the ViewSonic® website URL. See your graphics card's user guide for instructions on changing the resolution and refresh rate (vertical frequency).

NOTE: VESA 1440 x 900 @ 60Hz (recommended) means that the resolution is 1440 x 900 and the refresh rate is 60 Hertz.

Information		
H. Frequency:	XX	kHz
V. Frequency:	XX	Hz
Resolution:	XXX	MHz
Pixel Clock:	XXXXXXXXXX	
Serial Number:	XXXXXXXXXXXX	
Model Number:	XXXXXXXXXXXX	
www.ViewSonic.com		1: Exit



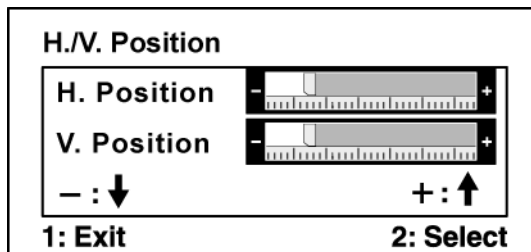
Manual Image Adjust Sub-menu



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.

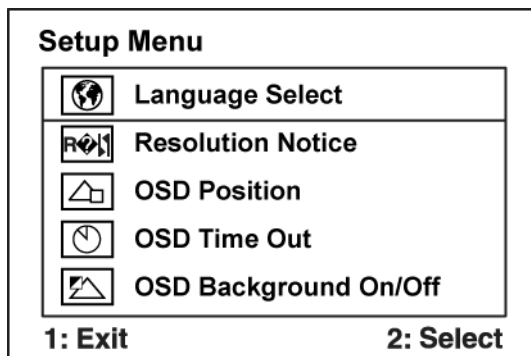
NOTE: Try Auto Image Adjust first.



Sharpness adjusts the clarity and focus of the screen image.



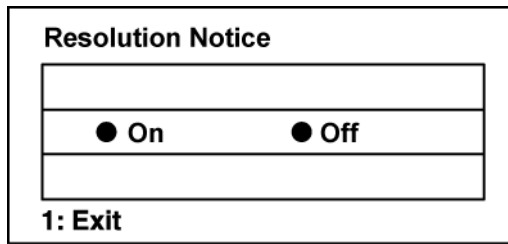
Setup Menu displays the menu shown below:



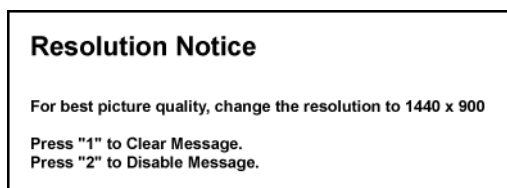
Language Select allows the user to choose the language used in the menus and control screens.



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

4.1 Switching Mode Power Supply

4.1.1 AC Current Input Circuit

P801 is a connector for connecting AC Power. F801 is a fuse to protect all the circuit. AC input voltage is from 90v to 264V. R801 and R802 joined between two inputting main circuit to prevent man from shock. L801 is used to clear up low frequency wave. C801 and C802 are used to discharge the waves that L801 produced. High frequency waves are damped by C801 and C802. D801 is a rectifier which composed of 4 build-in diodes, it inverts AC to DC.

4.1.2 High Voltage to Low Voltage Control Circuit

C804 is used to smooth the wave from rectifier. IC802 is a highly integrated PWM controller. When rectified DC high voltage is applied to the HV pin during start-up, the MOSFET Q804 is initially off, and the Vcc pin capacitor is charged. When the Vcc pin voltage reaches approximately 10V, the control circuitry is activated and the soft-start begins. The soft-start circuit gradually increases the duty cycle of the MOSFET from zero to the maximum value over approximately 4ms. If no external feedback/supply current is fed into the FB pin by the end of the soft-start, the current Setpoint will be above the fault level, FAULT flag is raised, if the FAULT duration exceeds 80ms, the output controller disable

Resistor R808, R809, R810, R811 are for line over voltage shutdown(OVP)

When PWM is turned off, the main current flow will be consumed through R804 and D802, This will prevent MOSFET Q804 from being damaged under large current impulse and voltage spike.

D803 and C807 to provide internal Auxiliary voltage to Vcc pin during normal operation. Otherwise, error amplifier and feedback current input the FB pin for duty cycle control.

4.1.3 DC 5V and DC 14V Output Circuit

For DC 5V, D805 is used to rectify the inducted current. R828 and C814 are used to store energy when current is reversed. The parts including C818, C822, C820, L803 are used to smooth the current waves.

For DC 14V, D803 is used to rectify the inducted current. R827 and C813 are used to store energy when current is reversed. The parts including C815, C817 and L802 are used to smooth the current waves.

4.1.4 Feedback and OVP Protect Circuit

Pin R of IC803 is supplied 2.5-v stable voltage. It connects to 5V and 14V output through R822, R823 and R824. R822, R823 and R824 are output sampling resistor. When the sampling voltage more than 2.5V or less than 2.5V, current of FB IC802 will change, this can change the voltage from T801.

OVP Protect Circuit: When output is overvoltage, the auxiliary winding voltage will be increased, when it reaches about 14V. Q803 is triggered . It makes the IC802 Pin 1 exceed 5V, then the IC802 output will be disabled.

Q801, R816, R817 and ZD803 make up of dummy loading circuit. For start-up sequence, during 5V output take place high loading first, this dummy loading circuit operated to insure 14V

not be increased.

4.2 Inverter Circuit

1R503, ZD501, R502, Q501 components convert +14V voltage into +5.0V voltage, and the voltage supply to IC501. The extra PWM pulse signal (BRIGHTNESS signal) input to control IC through R512, R514, C510, The LCT pin is set to a DC voltage of 0.7V by using a resistor divider (R507, R516), change the duty of PWM pulse, will regulate the lamp current. The ON/OFF voltage connect to pin10 of IC501 through D501, R501, A voltage of 2V to pin10 of IC501 enables the IC and activates the striking timer. The SSTCMP pin of IC501 performs the soft function, the C511 set the time of SST. The operation frequency determined by external capacitor C512, C521 and resistor R508 connected at CT pin of IC501. C515 connect the TIMER pin of IC501, the capacitor to set striking time and shunt down delay time. DRV1, DRV2 output for power MOSFET U501, U502.

2.OZ9938 provides two drive signals for U501, U502, and they work in push pull topology driving, two transformers are connected in parallel with each transformer driving two lamps in series. Turning each N-Channel MOSFET “on/off” complementarily, produces an alternating current through the transformer primary and secondary. The “on” duration of the switches determines the amount of energy delivered to the CCFLs. R504, C504, R505, C505, R532, C529, R530, C522 are snubber networks, they suppress Voltage transient spike in drain of power MOSFET.

3. R506, R510, C509, C513, C514, R525, R531, C528, C525, and C527 are connected between high voltage output connector and ground, the divided AC voltage is inverted DC voltage through D502, D503, D508, and D509. The sense voltage feedback to VSEN (pin 6 of IC501) for an over voltage/over current condition during normal operation. R528, R533 are current sense resistor, current sense signal feed back to Isense (pin 5 of IC501) for lamp “ON” detection.

4.3 I/F Board Circuit

4.2.1 Power Input

+5V is from the power board and supply for U101(LD1117AL-3.3V), U105(TSUM56AL-1) and panel. +3.3V output is generated from +5V through C101 and C103 filtering, and U101 outputs. +3.3V is used for U105 (MCU & Scaler: TSUM16AL). +1.8V output is generated from +3.3V through U102 outputs. +1.8V is only used for U105.

4.2.2 MCU & Scaler(TSUM16AL)

The frequency of XTAL1 is 14.318MHz. U105 # 48 is defined as panel-enable. When the I/O port is high, Q101 and Q103 are conducted. And then after C108 and C109 filtering, obtain the voltage of VLCD, which will be connected to CN104. U105 # 85 is defined as CCFL-enable. When the I/O port is low, Q106 is pulled up and the backlights are on; When the I/O port is high, Q106 is conducted and the backlights are off. U105 # 35 is defined as DET-VGA, connected with CN103 #5. U105 # 84 is a pin of hardware reset. U105 # 54-# 55, # 58-# 65, # 67-# 74, # 77-# 78 output LVDS digital data of 8 bit to panel control circuit through CN104. U105 # 86 generates a PWM waveform by regulating the duty to control the brightness of the backlights.

U103 is EEPROM used for saving EDID data, which is connected by SCL and SDA pins with # 31 and # 30 of TSUM56AL-1.

U106 is a flash memory, U106 # 2, # 1, # 6, # 5 are the communications with U105 # 37-# 40.

U108 is EEPROM used for saving user's OSD setting. U108 is connected by SCL and SDA pin with # 44 and # 43 of TSUM16AL.

4.2.3 VGA Input

Signal R, G, B input through CN103 #1, #2, #3, and C112, C113 and C114 filtering the high frequency

noise. Signal HSYNC and VSYNC input through CN103 #13 and #14, and C125, R137, C126, R136 filtering. Then the analog signal enters U105, and then U104 deals with it internally. In addition, TVS101, TVS102, TVS103, TVS104 (the four are BAV99), ZD101, ZD105, ZD106, ZD107, ZD108 (they are constant voltage diode of 5V6) are ESD protector. Signal DDC-SCL inputs via CN103 #15, and then passes through ZD101 for ESD protection, goes into EDID EEPROM IC U103. Signal DDC-SDA inputs via CN103 #12, and then passes through ZD107 for ESD protection, goes into EDID EEPROM IC U103. CN103 #5 is defined as cable detect pin, this detector realizes via R124 and U105 # 35. The PC-5V of U103 is supplied by PC via CN103 #9 with D103 for ESD protection, or supplied by Monitor self via D103. U103 is an EEPROM IC, which is a kind of memory and used for saving EDID data.

4.2.4 Button Control

Button “Key-Power” is defined as power on/off, which is connected to U105 # 90 through CN105 # 6.

Button “Key-2” is defined as two functions of selecting and adjustment, which is connected to U105 #94 through CN105 # 5.

Button “Key-Up” is defined as plus, which is connected to U105 # 95 through CN105 # 8.

Button “Key-Down” is defined as minus, which is connected to U105 # 99 through CN105 # 7.

Button “Key-1” is defined as two functions of menu and exit, which is connected to U105 # 89 through CN105 # 4.

LED indicator on the front bezel is defined as follows:

- a. When press button “Key-Power”, U105 # 91 is pulled down and U105 # 92 is pulled high, so Q102 is conducted and the LED indicator is green.
- b. When in power-saving mode, U105 # 91 is pulled high and U105 # 92 is pulled down, so Q105 is conducted and the LED indicator is orange.

4.4 FACTORY PRESET TIMING TABLE

TIMING	F _H (KHz) F _V (Hz)	Sync Polarity	Total (Dot/Line)	Active (Dot/Line)	Sync Width (Dot/Line)	Back Porch (Dot/Line)	Pixel Freq.(MHz)
640*350@70Hz	31.469	+	800	640	96	48	25.175
	70.086	–	449	350	2	60	
IBM 640*400@70Hz	31.469	–	800	640	96	48	25.175
	70.086	+	449	400	2	35	
IBM 720*400@70Hz	31.469	–	900	720	108	54	28.322
	70.087	+	449	400	2	35	
640*480@50Hz	24.700	–	800	640	96	48	19.760
	50.000	–	494	480	2	8	
VESA 640*480@60Hz	31.469	–	800	640	96	40	25.175
	59.940	–	525	480	2	25	
640*480@67Hz	35.000	–	864	640	64	96	30.240
	66.667	–	525	480	3	39	
VESA 640*480@72Hz	37.861	–	832	640	40	120	31.500
	72.809	–	520	480	3	20	
VESA 640*480@75Hz	37.500	–	840	640	64	120	31.500
	75.000	–	500	480	3	16	
VESA 640*480@85Hz	43.269	–	832	640	56	80	36.000
	85.008	–	509	480	3	25	
VESA 800*600@56Hz	35.156	+	1024	800	72	128	36.000
	56.250	+	625	600	2	22	
VESA 800*600@60Hz	37.879	+	1056	800	128	88	40.000
	60.317	+	628	600	4	23	
VESA 800*600@72Hz	48.077	+	1040	800	120	64	50.000
	72.188	+	666	600	6	23	
VESA 800*600@75Hz	46.875	+	1056	800	80	160	49.500
	75.000	+	625	600	3	21	
VESA 800*600@85Hz	53.674	+	1048	800	64	152	56.250
	85.061	+	631	600	3	27	
MAC 832*624@75Hz	49.725	–	1152	832	64	224	57.283
	74.550	–	667	632	3	39	
VESA 1024*768@60Hz	48.363	–	1344	1024	136	160	65.000
	60.004	–	806	768	6	29	
VESA 1024*768@70Hz	56.476	–	1328	1024	136	144	75.000
	70.069	–	806	768	6	29	
VESA 1024*768@75Hz	60.023	+	1312	1024	96	176	78.750
	75.029	+	800	768	3	28	

VESA	68.677	+	1376	1024	96	208	94.500
1024*768@85Hz	84.997	+	808	768	3	36	
1024*768@72Hz	57.700	–	1360	1024	136	144	78.472
	72.125	–	800	768	6	26	
VESA	67.500	+	1600	1152	128	256	108.000
1152*864@75Hz	75.000	+	900	864	3	32	
MAC	68.681	–	1456	1152	128	144	100.000
1152*870@75Hz	75.062	–	915	870	3	39	
VESA	60.000	+	1800	1280	112	312	108.000
1280*960@60Hz	60.000	+	1000	960	3	36	
1280*960@75Hz	75.000	+	1800	1280	112	312	130.000
	75.000	+	1000	960	3	36	
VESA	63.981	+	1688	1280	112	248	108.000
1280*1024@60Hz	60.020	+	1066	1024	3	38	
VESA	79.976	+	1688	1280	144	248	135.000
1280*1024@75Hz	75.025	+	1066	1024	3	38	
	75.025	+	1066	1024	3	38	

4.5 Power On/Off Sequence

4.5.1 Hardware Power ON

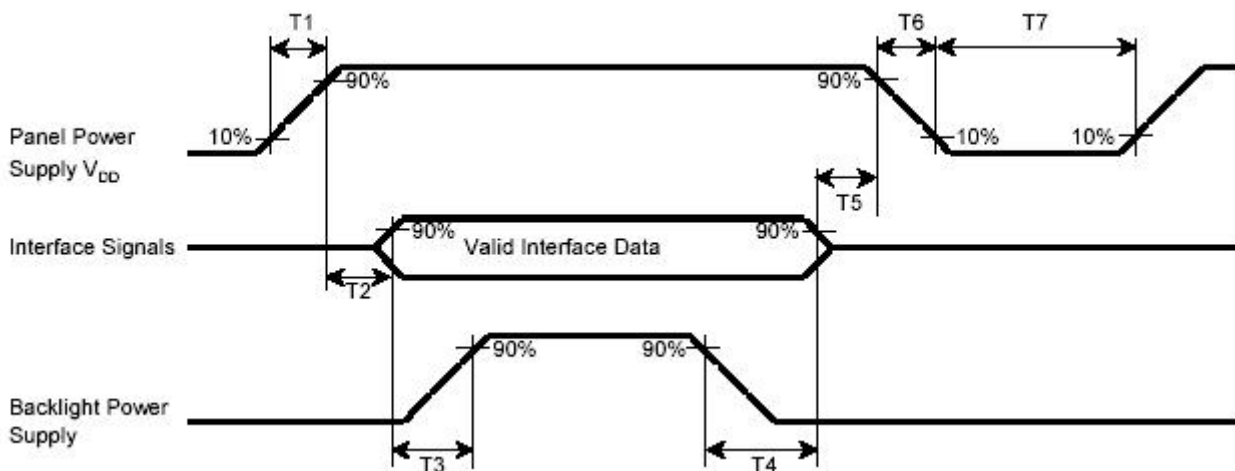
When power cord is plugged into AC socket, SMPS starts work and provides U105 with VCC5V. When VCC5V inputs, U105 resets circuit active, sets U105 all registers to preset modes, and then monitor goes into stand-by mode. That means hardware power on has been completed.

4.5.2 Software Power ON/OFF

When press power key, U105 # 90 recieves low pulse, and then U105 will do the power on/off.

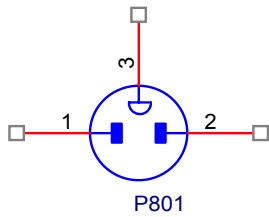
- If Power ON, U105 # 91(LED_Green) will send out Low potential, and then LED green on.
- If Power OFF, U105 # 91(LED_Green) will send out High potential, and then LED Off.

The Panel_Vcc, Backlight_En, CLK/DATA output to panel will follow the following sequency.



T1 (ms)	T2 (ms)	T3 (ms)	T4 (ms)	T5 (ms)	T6 (ms)	T7 (ms)
0.1~10	0.5~10	>200	>100	0~50	0.1~25	>1000

4.6 AC Outlet Pin Assignment



Pin	Symbol	Description
1	L	Live
2	N	Neutral
3	E	GND

4.7 Inner Connector Pin Assignment

4.7.1 CN501, CN502, CN503, CN504 (Connect to Panel Backlight, SM02B-BHSS-1-TB or equivalent)

Pin	Symbol	Description
1	H.V.	High voltage for lamp
2	L.V.	Low voltage for lamp

4.7.2 CN101 (Power BD to Interface BD)

Pin No.	Symbol	Description
1	VCC5V	+5.1V INPUT
2	VCC5V	+5.1V INPUT
3	GND	GND
4	ON/OFF	CCFL on/off control
5	BRIGHTNESS	Panel luminance control (CCFL brightness)
6	GND	Ground
7	VOL	Volume control input
8	MUTE	Mute control input

4.7.3 CN105 (Interface BD to Keypad)

Pin No.	Symbol	Description
1	LED_ GREEN	Orange LED lighting control
2	LED_ ORANGE	Green LED lighting control
3	GND	Ground
4	KEY_POWER	DC power on/off control,
5	KEY_UP&▲	OSD “▲” control to adjust value to increase,
6	KEY_DOWN&2	Select control and auto adjustment control,
7	GND	OSD “▼” control to adjust value to decrease
8	KEY_1	OSD menu and exit

4.7.4 CN104 (Connect I/F BD to panel, FI-X30S-H or Equivalent)

Pin No.	Symbol	Function
1	RX00-	minus signal of odd channel 0(LVDS)
2	RX00+	plus signal of odd channel 0(LVDS)
3	RX01-	minus signal of odd channel 1(LVDS)
4	RX01+	plus signal of odd channel 1(LVDS)
5	RX02-	minus signal of odd channel 2(LVDS)
6	RX02+	plus signal of odd channel 2(LVDS)
7	GND	Ground
8	RXOC-	minus signal of odd clock channel (LVDS)
9	RXOC+	plus signal of odd clock channel (LVDS)
10	RX03-	minus signal of odd channel 3(LVDS)
11	RX03+	plus signal of odd channel 3(LVDS)
12	RXE0-	minus signal of even channel 0(LVDS)
13	RXE0+	plus signal of even channel 0(LVDS)
14	GND	Ground
15	RXE1-	minus signal of even channel 1(LVDS)
16	RXE1+	plus signal of even channel 1(LVDS)
17	GND	Ground
18	RXE2-	minus signal of even channel 2(LVDS)
19	RXE2+	plus signal of even channel 2(LVDS)
20	RXEC-	minus signal of even clock channel (LVDS)
21	RXEC+	plus signal of even clock channel (LVDS)
22	RXE3-	minus signal of even channel 3(LVDS)
23	RXE3+	plus signal of even channel 3(LVDS)
24	GND	Ground
25	GND	Ground
26	GND	Ground or Open
27	GND	Ground
28	VCC	Power supply (5.0 V)
29	VCC	Power supply (5.0 V)
30	VCC	Power supply (5.0 V)

4.7.5 CN103 (D-SUB Connector)

Pin	Symbol	Pin	Symbol	Pin	Symbol
1	Red video input	6	Red GND	11	GND
2	Green video input	7	Green GND	12	Serial data (SDA)
3	Blue video input	8	Blue GND	13	H / H+V SYNC
4	GND	9	+5V(from PC)	14	VSYSN
5	Cable Detect	10	GND	15	Data clock line (SCL)

4.8 Key Parts Pin Assignment

4.8.1 IC802 (NCP1337, Power Control IC)

Pin	Symbol	I/O	Description
1	BO	I	Brown-out and external triggering
2	FB	I	Sets the peak current setpoint
3	CS	I	Current sense input and overpower compensation adjustment
4	GND		IC ground
5	DRV	O	Output driver
6	Vcc	I	IC supply
7	NC	N/A	N/A
8	HV	I	High-voltage pin

4.8.2 IC501 (OZ9938GN, CCFL inverter controller IC)

Pin No.	Symbol	I/O	Description
1	DRV1	O	Drive output
2	VDDA	I	Supply voltage input
3	TIMER	I	Timing capacitor to set striking time and shut down delay time
4	DIM	I	Analog dimming or Internal LPWM dimming or external PWM pulse input for dimming function
5	ISEN	I	Current sense feedback
6	VSEN	I	Voltage sense feedback
7	OVPT	I	Over-voltage/over-current protection threshold setting pin
8	NC		
9	NC		
10	ENC	I	ON/OFF control of IC
11	LCT	I	Timing capacitor to set internal PWM dimming frequency and also a pin for analog dimming selection
12	SSTCMP	I	Capacitor for soft start time and loop compensation
13	CT	I	Timing resistor and capacitor for operation and striking frequency
14	GNDA		Ground for analog signals
15	DRV2	O	Drive output
16	PGND		Ground for power paths

4.8.3 U105(TSUM56AL-1)

Pin	Symbol	I/O	Description
1	NC		Not connected
2	GND		Ground
3	NC		Not connected
4	NC		Not connected

5	GND		Ground
6	NC		Not connected
7	NC		Not connected
8	AVDD_DC	I	ADC Power
9	NC		Not connected
10	NC		Not connected
11	GND		Ground
12	NC		Not connected
13	NC		Not connected
14	AVDD_DC	I	ADC Power
15	REXT		External resistor 390 ohm to AVDD_ADC
16	AVDD_PLL	I	PLL Power
17	BIN0M	I	Reference ground for analog blue input
18	BIN0P	I	Analog blue input
19	GIN0M	I	Reference ground for analog green input
20	GIN0P	I	Analog green input
21	SOGIN0	I	Sync-on-green input
22	RIN0M	I	Reference ground for analog red input
23	RIN0P	I	Analog red input
24	AVDD_ADC	I	ADC Power
25	REFM		Internal ADC bottom de-coupling pin
26	REFP		Internal ADC top de-coupling pin
27	HSYNC0	I	Analog HSYNC input
28	VSYNC0	I	Analog VSYNC input
29	GND		Ground
30	DDCA_SDA/RS232_TX	I/O	DDC Data for Analog Interface; 4mA driving strength/UART Transmitter/GPIO
31	DDCA_SCL/RS232_RX	I/O	DDC Clock for Analog Interface/UART Receiver/GPIO
32	VDDP	I	Digital Output Power
33	GND		Ground
34	VDDC	I	Digital Core Power
35	GPIO_P15/PWM0	I/O	General Purpose Input/Output; 4mA driving strength/Pulse Width Modulation Output; 4mA driving strength
36	NC		Not Connected
37	SDO	I	SPI Flash Serial Data Output
38	SCZ	O	SPI Flash Chip Select
39	SCK	O	SPI Flash Serial Clock
40	SDI	O	SPI Flash Serial Data Input
41	NC		Not Connected
42	NC		Not Connected

43	GPIO_P11/I2C_MDA	I/O	General Purpose Input/Output; 4mA driving strength/I2C Master Data
44	GPIO_P10/I2C_MCL	I/O	General Purpose Input/Output; 4mA driving strength/I2C Master Clock
45	NC		Not Connected
46	NC		Not connected
47	NC		Not connected
48	GPIO_P27/PWM1	I/O	General Purpose Input/Output; 4mA driving strength/Pulse Width Modulation Output; 4mA driving strength
49	VDDP	I	Digital Output Power
50	GND		Ground
51	VDDC	I	Digital Core Power
52	MODE[0]	I	Chip Configuration Input
53	MODE[1]	I	Chip Configuration Input
54	LVA3P	O	A-Link Positive LVDS Differential Data Output
55	LVA3M	O	A-Link Negative LVDS Differential Data Output
56	VDDP	I	Digital Output Power
57	GND		Ground
58	LVACKP	O	A-Link Positive LVDS Differential Clock Output
59	LVACKM	O	A-Link Negative LVDS Differential Clock Output
60	LVA2P	O	A-Link Positive LVDS Differential Data Output
61	LVA2M	O	A-Link Negative LVDS Differential Data Output
62	LVA1P	O	A-Link Positive LVDS Differential Data Output
63	LVA1M	O	A-Link Negative LVDS Differential Data Output
64	LVA0P	O	A-Link Positive LVDS Differential Data Output
65	LVA0M	O	A-Link Negative LVDS Differential Data Output
66	VDDC	I	Digital Core Power
67	LVB3P	O	B-Link Positive LVDS Differential Data Output
68	LVB3M	O	B-Link Negative LVDS Differential Data Output
69	LVBCKP	O	B-Link Positive LVDS Differential Clock Output
70	LVBCKM	O	B-Link Negative LVDS Differential Clock Output
71	LVB2P	O	B-Link Positive LVDS Differential Data Output
72	LVB2M	O	B-Link Negative LVDS Differential Data Output
73	LVB1P	O	B-Link Positive LVDS Differential Data Output
74	LVB1M	O	B-Link Negative LVDS Differential Data Output
75	VDDP	I	Digital Output Power
76	GND		Ground
77	LVB0P	O	B-Link Positive LVDS Differential Data Output
78	LVB0M	O	B-Link Negative LVDS Differential Data Output
79	GND		Ground
80	BYPASS		For External Bypass Capacitor

81	NC		Not connected
82	VDDC	I	Digital Core Power
83	GND		Ground
84	RST	I	Chip Reset; High Reset
85	GPIO_P12	I/O	General Purpose Input/Output; 4mA driving strength
86	PWM1/GPIO_P25	I/O	Pulse Width Modulation Output; 4mA driving strength/General Purpose Input/Output; 4mA driving strength
87	RSTN	I	Chip Reset; Low Reset
88	GPIO_P00/SAR1	I/O	General Purpose Input/Output; 4mA driving strength/SAR ADC Input
89	GPIO_P01/SAR2	I/O	General Purpose Input/Output; 4mA driving strength/SAR ADC Input
90	GPIO_P02/SAR3	I/O	General Purpose Input/Output; 4mA driving strength/SAR ADC Input
91	GPIO_P06	I/O	General Purpose Input/Output; 6/12mA programmable driving strength
92	GPIO_P07	I/O	General Purpose Input/Output; 6/12mA programmable driving strength
93	PWM0/GPIO_P26	I/O	Pulse Width Modulation Output; 4mA driving strength/General Purpose Input/Output; 4mA driving strength
94	GPIO_P13	I/O	General Purpose Input/Output; 4mA driving strength
95	GPIO_P14	I/O	General Purpose Input/Output; 4mA driving strength
96	XIN	I	Crystal Oscillator Input
97	XOUT	O	Crystal Oscillator Output
98	AVDD_MPLL	I	MPLL Power
99	GPIO_P16/PWM2	I/O	General Purpose Input/Output; 4mA driving strength/ Pulse Width Modulation Output; 4mA driving strength
100	NC		Not connected

5. Adjustment Procedure

5.1 Key Function Description

CONTROL KEY	KEYS FUNCTION
[AUTO] [2]	By pressing [AUTO] key, "Auto Image Adjust" is performed
[MENU] [1]	By pressing [MENU] key, Main menu display
[▼] [▲]	A. When "MENU OSD" display, press these keys to change the contents of an adjustment item, or change an adjustment value B. When "MENU OSD" is un-display, press these keys to change brightness and contrast
[POWER]	Power on or power off the monitor

5.2 Hot Key Operation

Hot Key Function	
Item	Function Detail
[▲] + [▼]	Recall Contrast or Brightness while in the Contrast or Brightness adjustment;
	Recall both Contrast and Brightness when the OSD is not open
[1] + [2]	Toggle 720x400 and 640x400 mode when input 720x400 or 640x400 mode
[1] + [▼] + [▲] (keep pushing 5 sec)	White Balance (Not shown on user's guide)
[1] + [▼]	Power Lock
[1] + [▲]	OSD Lock
[▼] + [▲] + [🔄]	Enter Factory Mode
Remark: All the function above are only available while OSD off	

5.3 OSD Control

5.3.1 OSD table

Layer 1	Layer 2	Layer 3
Auto Image Adjust		
Contrast/Brightness	Contrast (+ / -)	
	Brightness (+ / -)	
Audio	Volume	Volume (+ / -)
	Mute	On/Off
Color Adjust	sRGB	
	9300K	
	6500K	
	5400K	
	User Color	Red (+ / -)
		Green (+ / -)
		Blue (+ / -)

Information		
Manual Image Adjust	H/V Position	H Position (+ / -)
		V Position (+ / -)
	H Size	+ / -
	Fine Tune	+ / -
	Sharpness	+ / -
Setup Menu	Language Select	English
		French
		German
		Italian
		Spanish
		Finnish
		Japanese
		Simplified Chinese
		Traditional Chinese
	Resolution Notice	On/Off
	OSD Position	H Position (+ / -)
		V Position (+ / -)
	OSD Time Out	
	OSD Background	On/Off
Memory Recall		

5.3.2 OSD lock Menu function

OSD Lock Menu Function Check		
Item	Method	Phenomenon
Activate OSD lock	[1] + [▲] 10S	Press any of buttons "1", "▼", "▲", "2" will appear "OSD Locked" 3s
Deactivate OSD lock:	[1] + [▲] 10S(again)	
NOTICE: When the OSD is locked will lock all functions. Status bar indicating OSD Lock or Unlock is in progress and when complete it will indicate "OSD Locked" OSD Lock should not lock Power Button and Power Lock function		

5.3.3 Power lock Menu function

Power Lock Menu Function Check		
Item	Method	Phenomenon
Activate Power Lock	[1] + [▼] 10S	Can not turn off the LCD; Press the power button will appear "Power Button Locked" OSD 3s; LCD would automatically turn back "On" when power is restored after a power failure
Deactivate Power Lock	[1] + [▼] 10S(again)	
NOTICE: Status bar indicating Power Button lock or unlock is in progress and when complete it will indicate "Power Button Locked" Power should only be lockable in the "On State"		

5.3.4 Resolution notice function

Resolution Notice Menu		
Item	Method	Phenomenon
Activate Resolution Notice Menu	Resolution Notice OSD should show on screen after changing to non-native mode for 30 sec, And it should disappear after 10s or by pushing button [1] or [2]	-----
Deactivate Resolution Notice Menu	Push button [2] under Resolution Notice OSD, select Disable	-----

5.3.5 Factory Mode Introduction

When input the signal, press "power key" to turn off the monitor. Press " [▼] + [▲] + [○] " at the same time so as to enter factory mode. After power on, press "Menu[1]" key, you can see the Factory menu.

INL-V0 : Currently using panel model name
 V3 060922 : Currently using firmware version information.
 Auto Color : Automatically calibrate chip ADC parameter by using chip internal DAC
 Color Temperature : The R, G, B of 9300K and 6500K and 5400K and User Mode
 Colors are all generated from scaling back end.

5.4 Burn-in pattern

If it is a new monitor, and in factory mode, if no VGA signal input, Burn-in pattern will self generate automatically. Burn in patterns are: full Red, Green, Blue, White and Black. You can not escape from Burn-in pattern until plug in VGA Cable or press the power key to turn the monitor off and then turn it on.

5.5 Auto Color (Automatically calibrate chip ADC parameter by using chip internal DAC)

If it is a new-built set and it is first time to do the “auto color”, please confirm the following steps:

- Connect the VGA cable with the standard video pattern generator and display 5-mosaic pattern on the monitor.
- Press “Power” to power off the monitor.
- Press “ [▼] + [▲] + [⏻] ” simultaneously to enter factory mode.
- Press “Menu[1]”, then press “Auto[2]” to execute Auto color item.
- After the “Auto Color” process finished, please press “Power” to restart monitor.

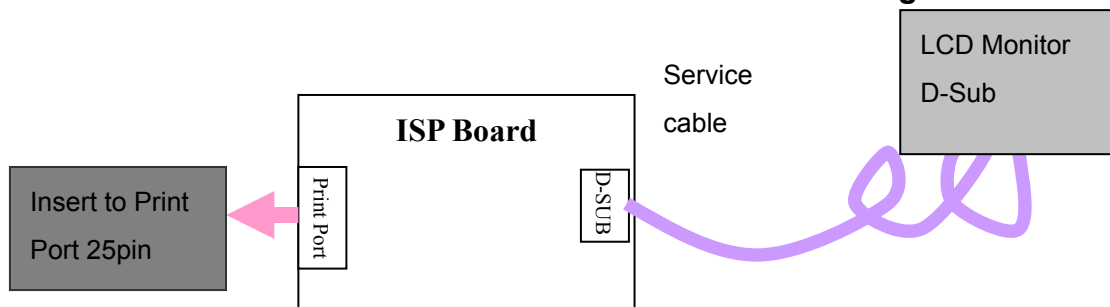
5.6 EDID (Rewrite EDID data to EEPROM)

If we need to rewrite the EEPROM data, please confirm the following steps.

1. Plug in VGA Cable; we can rewrite the EDID data to EEPROM by using “EDID Rewrite” program.
2. If the “EDID Rewrite” process finished, please pull out VGA cable and press “2”+”▲” at the same time.
3. Pull out AC power cable or press power key to restart.

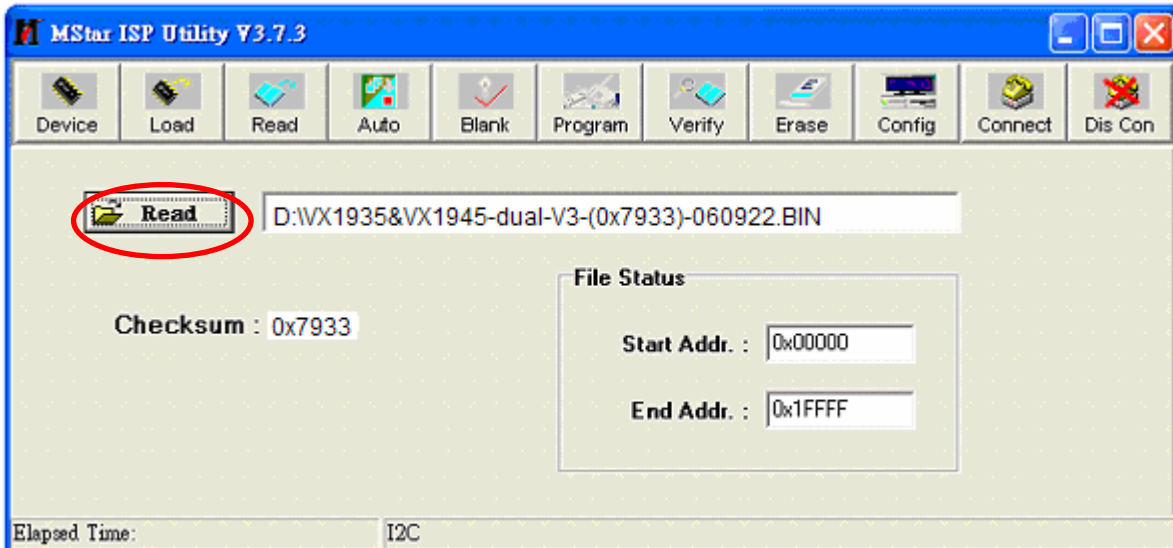
5.7 Upload firmware to MCU via VGA Cable

5.7.1 Connect ISP board between monitor and PC as below configure

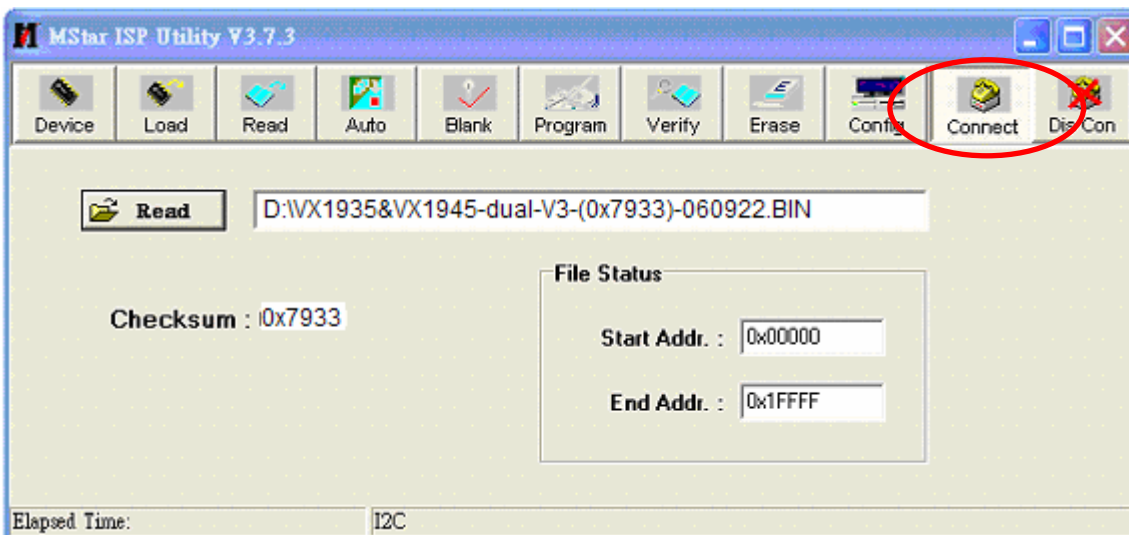


5.7.2 Using mStar ISP Tool Update FW:

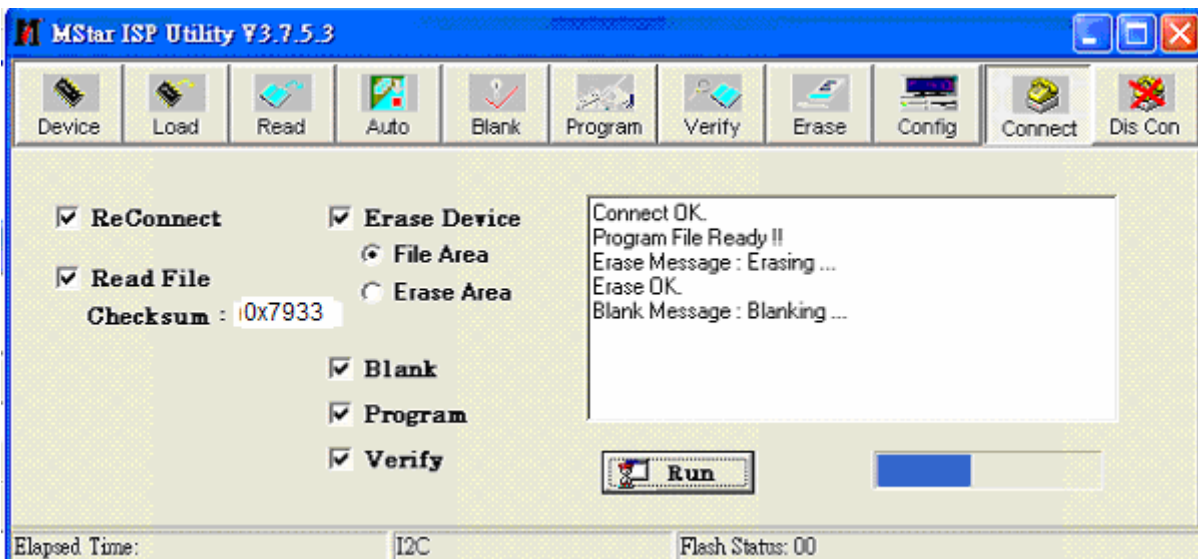
(1). Select “Read”, Choose the corresponding firmware, load to MCU.



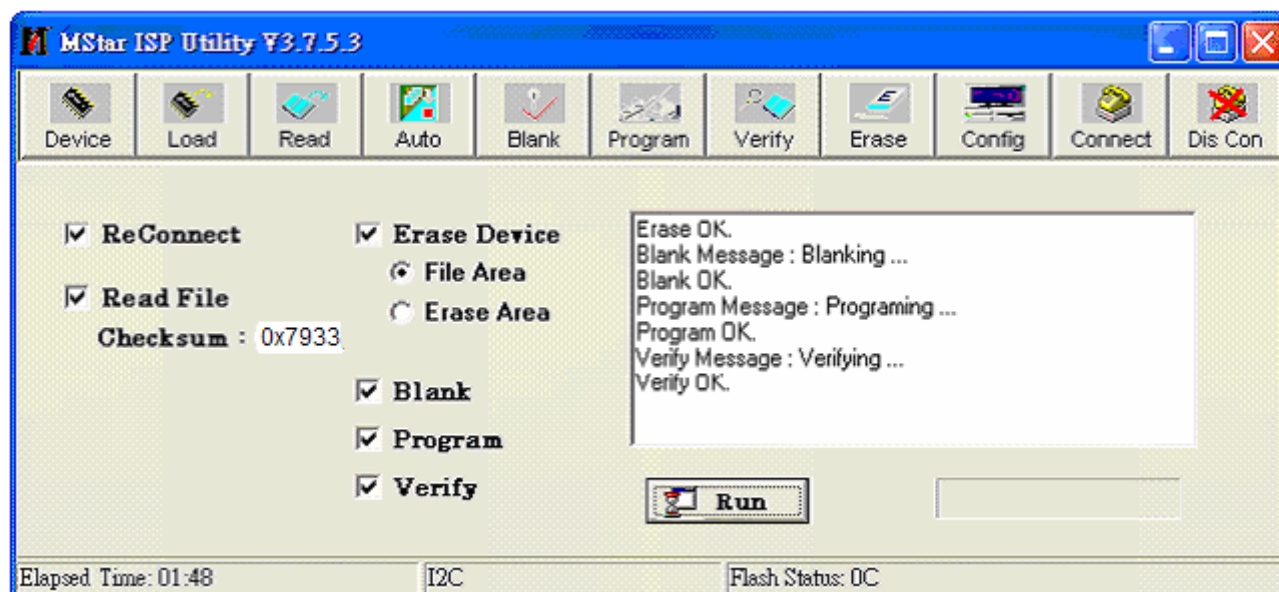
(2). Select “Connect”, auto connect for ISP.



(3). Select “Run”, start ISP.



(4). When the picture show “Verify OK”, ISP finished.



5.7.3 After repair, to ensure the quality you should do the following test and adjustment

Item	Content	Equipment
Test OSD function	1.Signal is set as 1280x1024@60Hz 2. LCM button are from left to right, checking whether each single function key and compound function key can be worked.	Chroma Signal Generator
Contrast Check	1. Set input mode to 1280x1024@60Hz 2. Set Pattern to 32 gray shades 3. Set contrast to the max. The brightest 6~8 shades brightness cannot be distinguished.	Chroma Signal Generator
Color Temperature	1. Do “Auto color” at 640 x 480@60Hz, 5-Mosaic pattern 2. Measure color temperature, check it complies with the following temperature: 5400K x=0.335 +/- 0.02, y=0.350 +/- 0.02 6500K x=0.313 +/- 0.02, y=0.329 +/- 0.02 9300K x=0.283 +/- 0.02, y=0.298 +/- 0.02	Chroma Signal Generator and color analyzer
Modes switching check	1. Use Chroma Pattern Generator to make sequence. VESA (640x480 800x600 1024x768 1280x1024), MAC 832x624 DOS (640x350 720x400), the detail supported modes and power saving signal. 2. Confirm the above timing modes must be full screen and the picture must be normal. 3. LED is Orange at power saving mode.	Chroma Signal Generator

Y measurement at default setting	1. Set brightness to default value 100 and contrast to default value 70 at 6500K 2. At full white patter, Measure Y, which should be $\geq 250\text{cd/m}^2$	Chroma Signal Generator and Color Analyzer												
Panel Flicker check	1. Mode: 1280x1024@60Hz 2. Set Brightness& contrast to default value 3. Do "Auto Image Adjust" 4. Shut down PC to check whether there's glitter on the center of the picture.	Equipment:: Chroma Signal Generator & PC												
Power saving	1. Mode: 1440x900@60Hz 2. Pattern: full white 3. Brightness: Max. 4. Contrast: Default 5. Check power consumption at each modes <table border="1"> <thead> <tr> <th>State</th><th>Power Consumption</th><th>LED color</th></tr> </thead> <tbody> <tr> <td>Normal</td><td>$\leq 42\text{W}$</td><td>Blue</td></tr> <tr> <td>Stand By</td><td>$< 2\text{W}$</td><td>Orange</td></tr> <tr> <td>Power Key Off</td><td>$< 1\text{W}$</td><td>No</td></tr> </tbody> </table>	State	Power Consumption	LED color	Normal	$\leq 42\text{W}$	Blue	Stand By	$< 2\text{W}$	Orange	Power Key Off	$< 1\text{W}$	No	Chroma signal generator and Power meter AC input: 230V/50Hz
State	Power Consumption	LED color												
Normal	$\leq 42\text{W}$	Blue												
Stand By	$< 2\text{W}$	Orange												
Power Key Off	$< 1\text{W}$	No												

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.
- 1.4. Place the monitor into the carton and then put all the accessories into the carton. At last, close the carton and seal it with tape. (Figure 3)

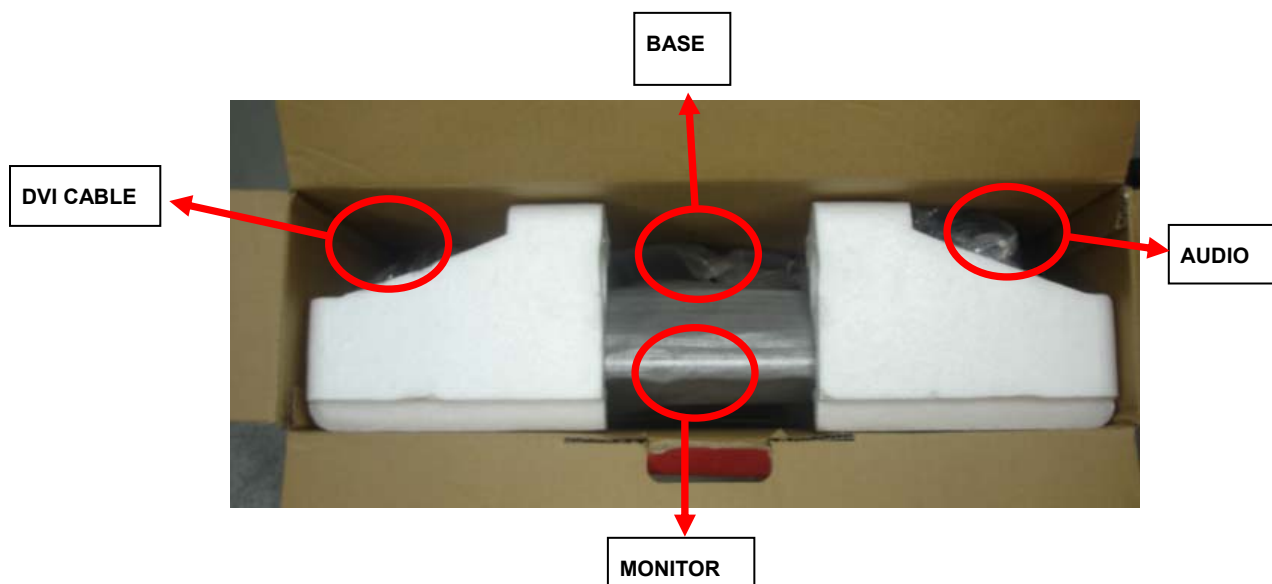


Figure 3

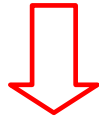
Disassembly Procedure



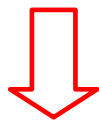
BASE



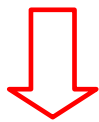
HINGE COVER

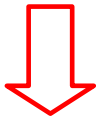


STAND

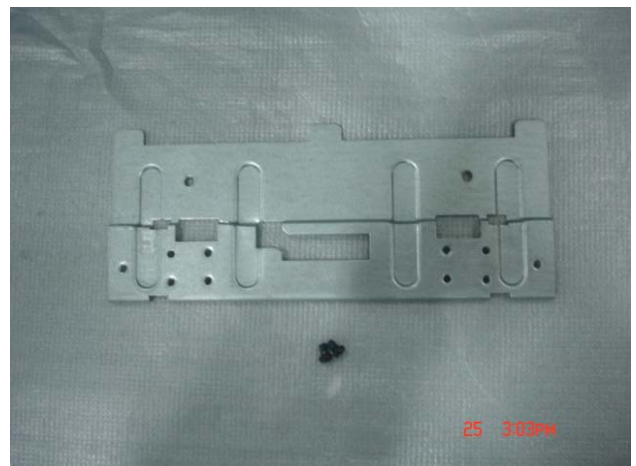
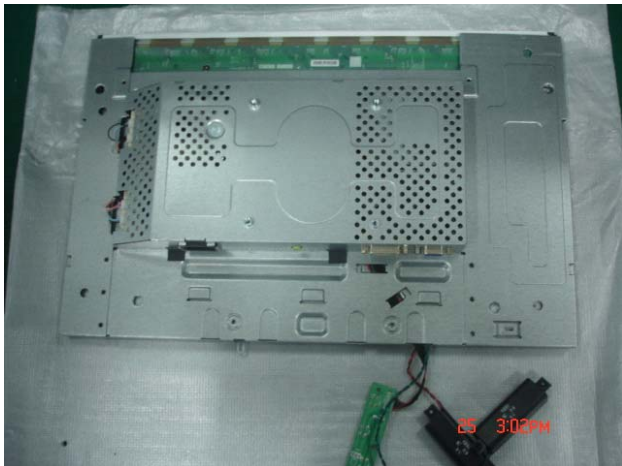
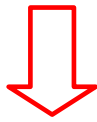


FRONT COVER





BACK COVER



PANEL



CHASSIS



I/F BOARD



P/I BOARD



KEYPAD BOARD



SPEAKER



LVDS



KEY-POWER CABLE

6. Troubleshooting Flow Chart

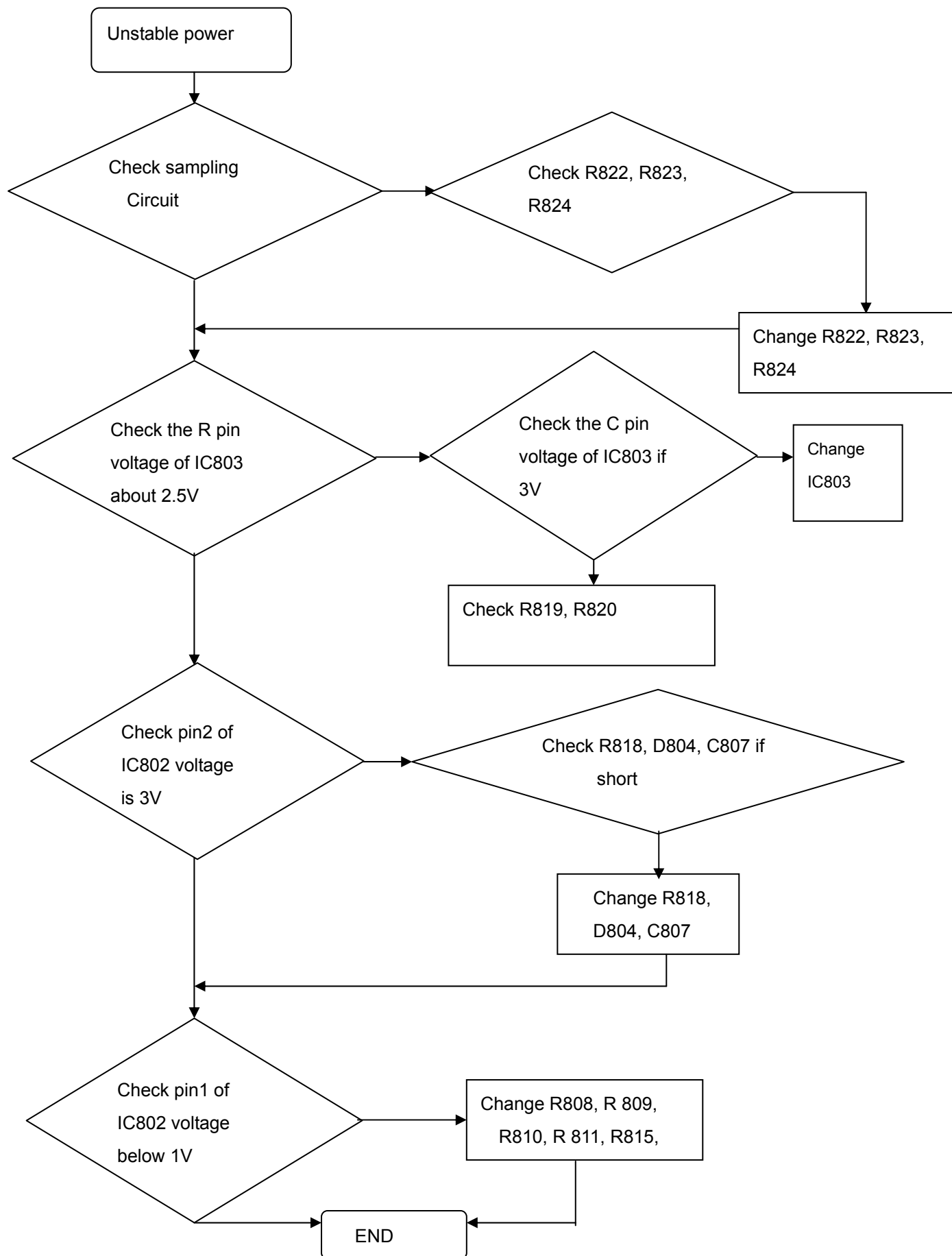
1. Common Acknowledge

- If you change the interface board, be sure that the U103, U105, U106 and U108 these three components also changed to the new I/F board because there was program inside. If not, please re-write EDID and upload firmware into U106 via VGA Cable.
- If you adjust clock and phase, please do it at the condition of Windows shut down pattern.
- If you confirm the R.G.B. color is normal or not, please do it under 16-grey scalar pattern.
- This LCM is analog interface. So if the entire screen is an abnormal color that means the problem happen in the analog circuit part, if only some scale appears abnormal color that stand the problem happen in the digital circuit part.
- If you check the H/V position, please use the crosshatch pattern.
- This LCM support more than 30 timing modes, if the input timing mode is out of specification, the picture may appears abnormally.
- If brightness uneven, repairs Inverter circuit or change a new panel.
- If you find the vertical line or horizontal line lost on the screen, please change panel.
- If you find the speaker don't working, please don't plug in audio cable, unless change new speaker.

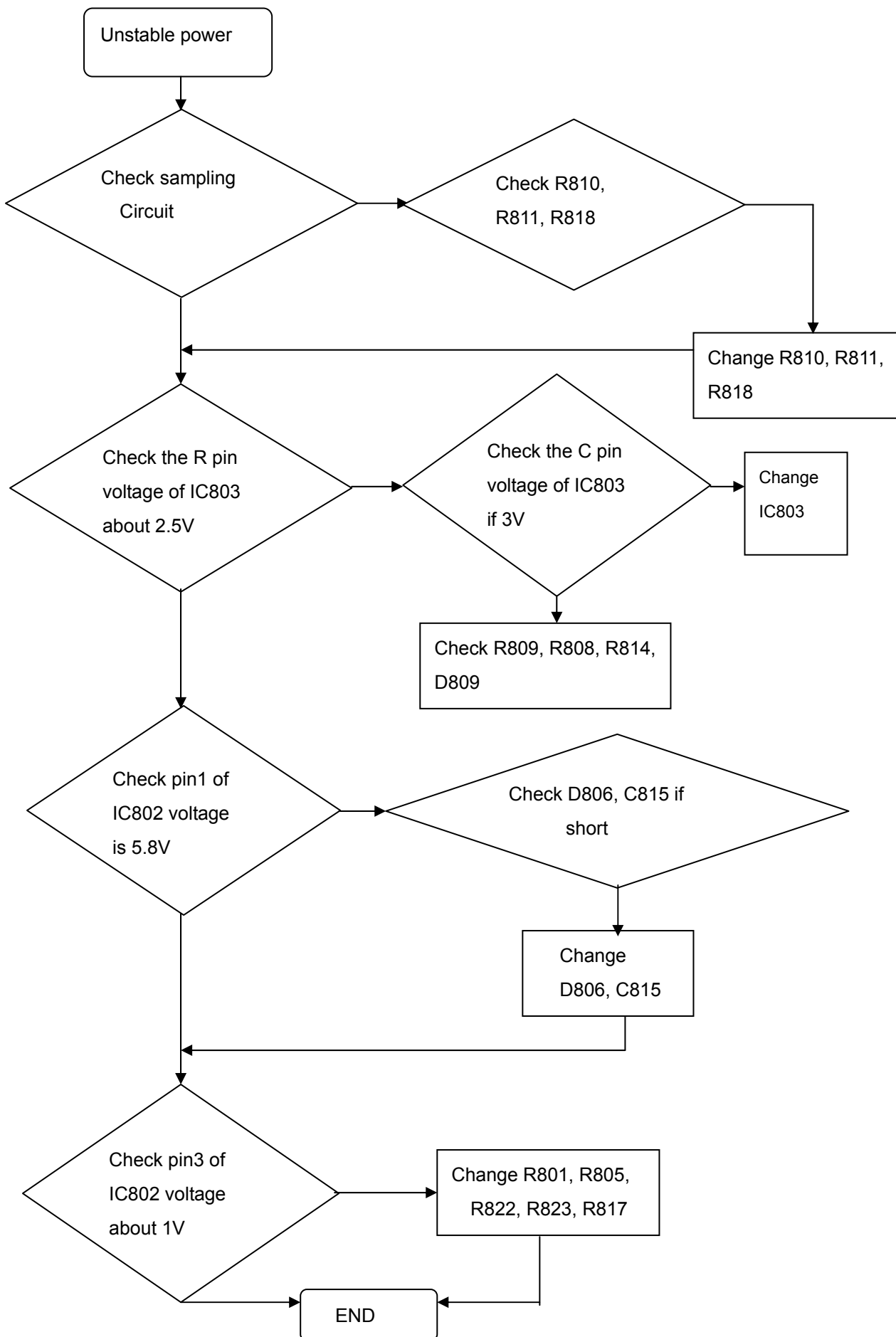
2. No Power & Power LED Off



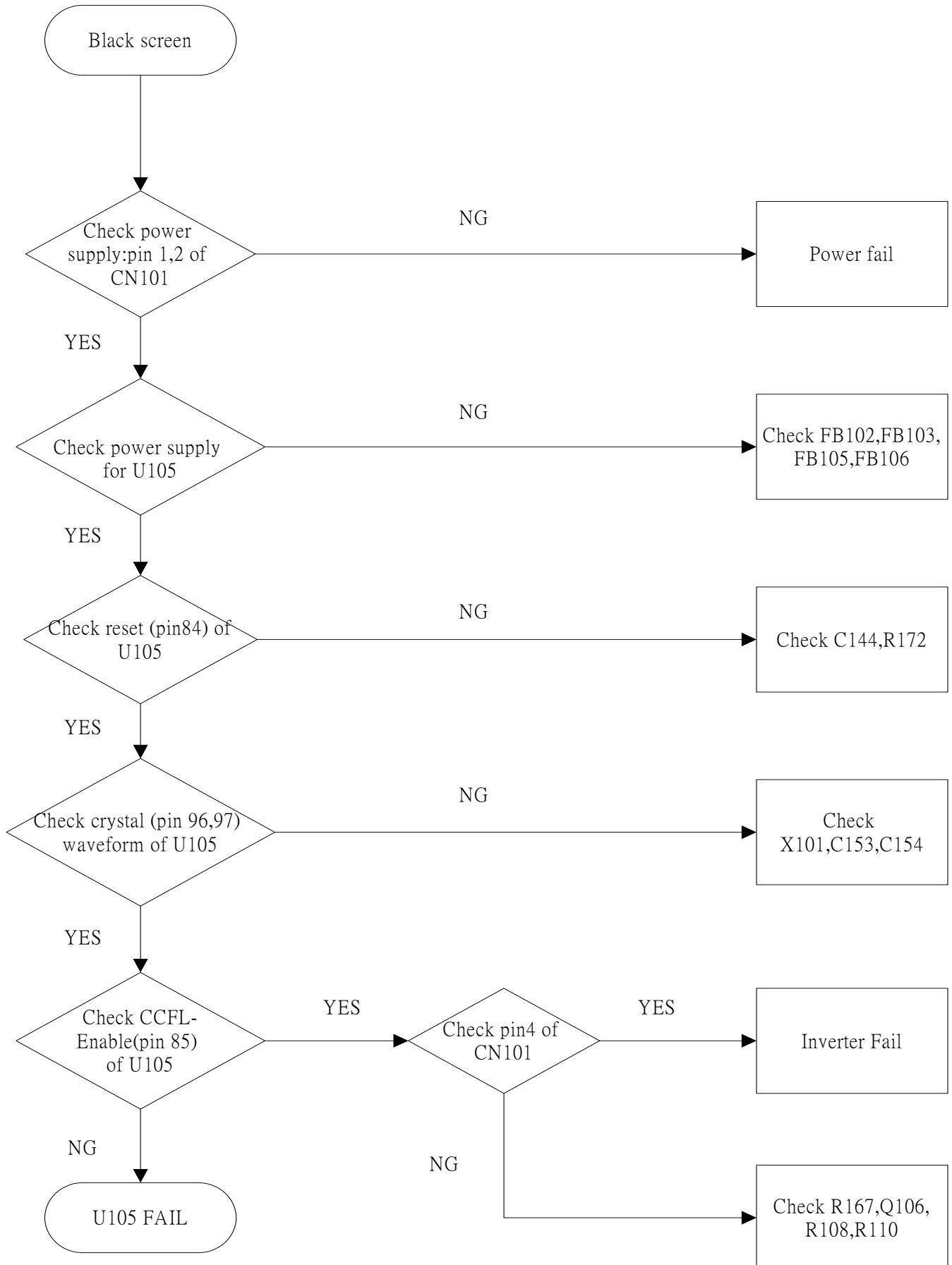
3. DC output voltage is unstable



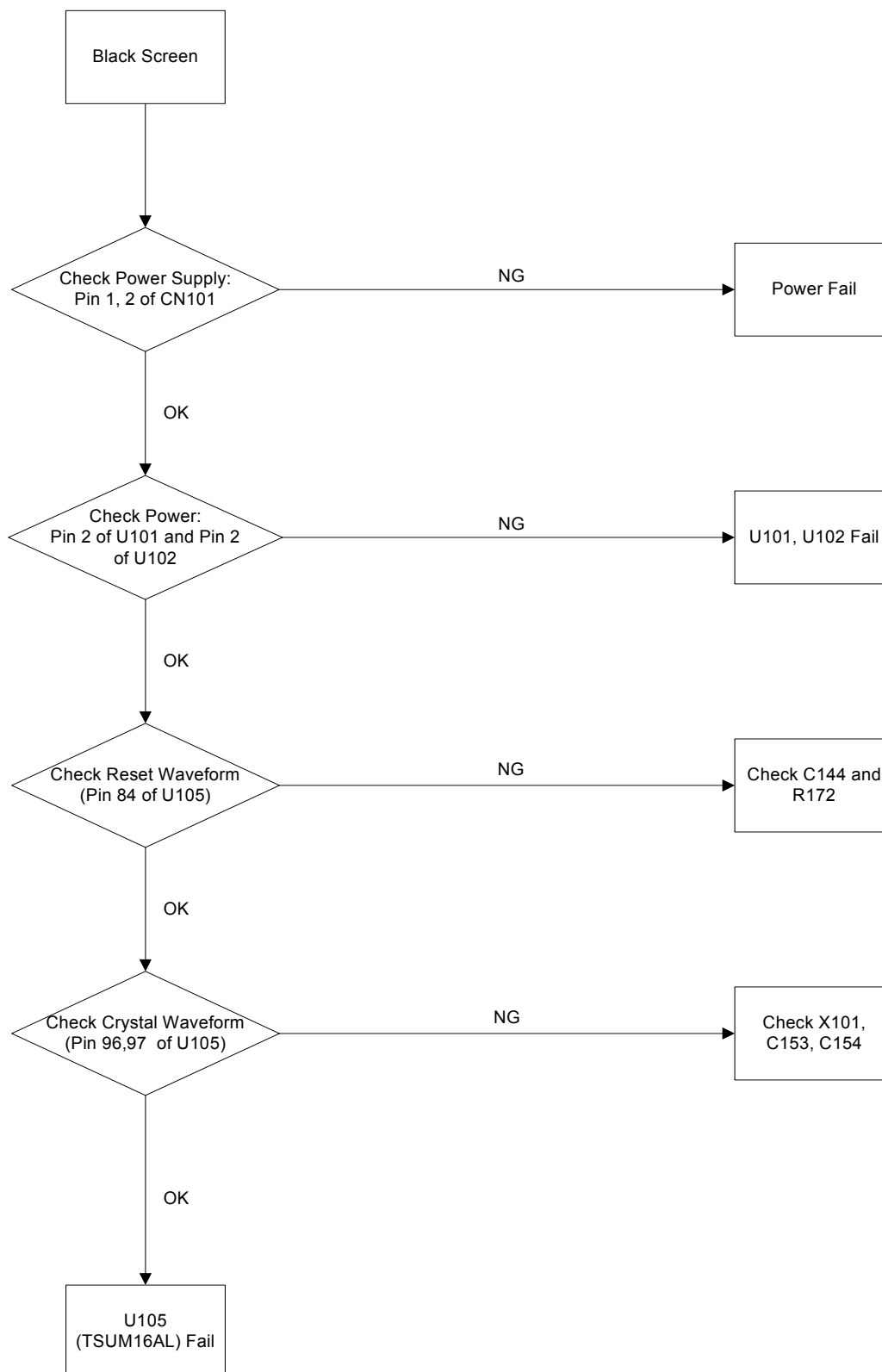
4. Output power is unstable



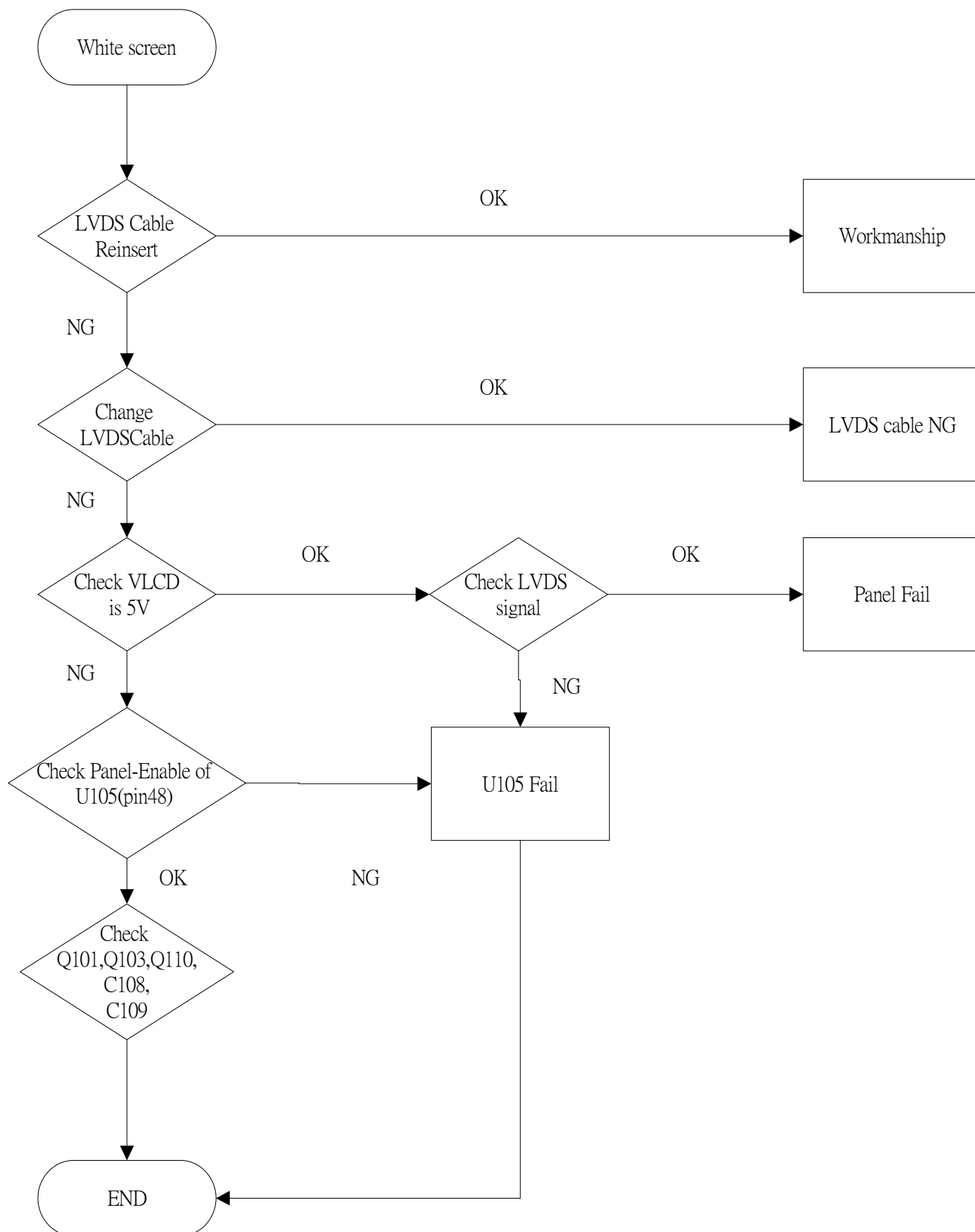
5. Backlight can't be turned on



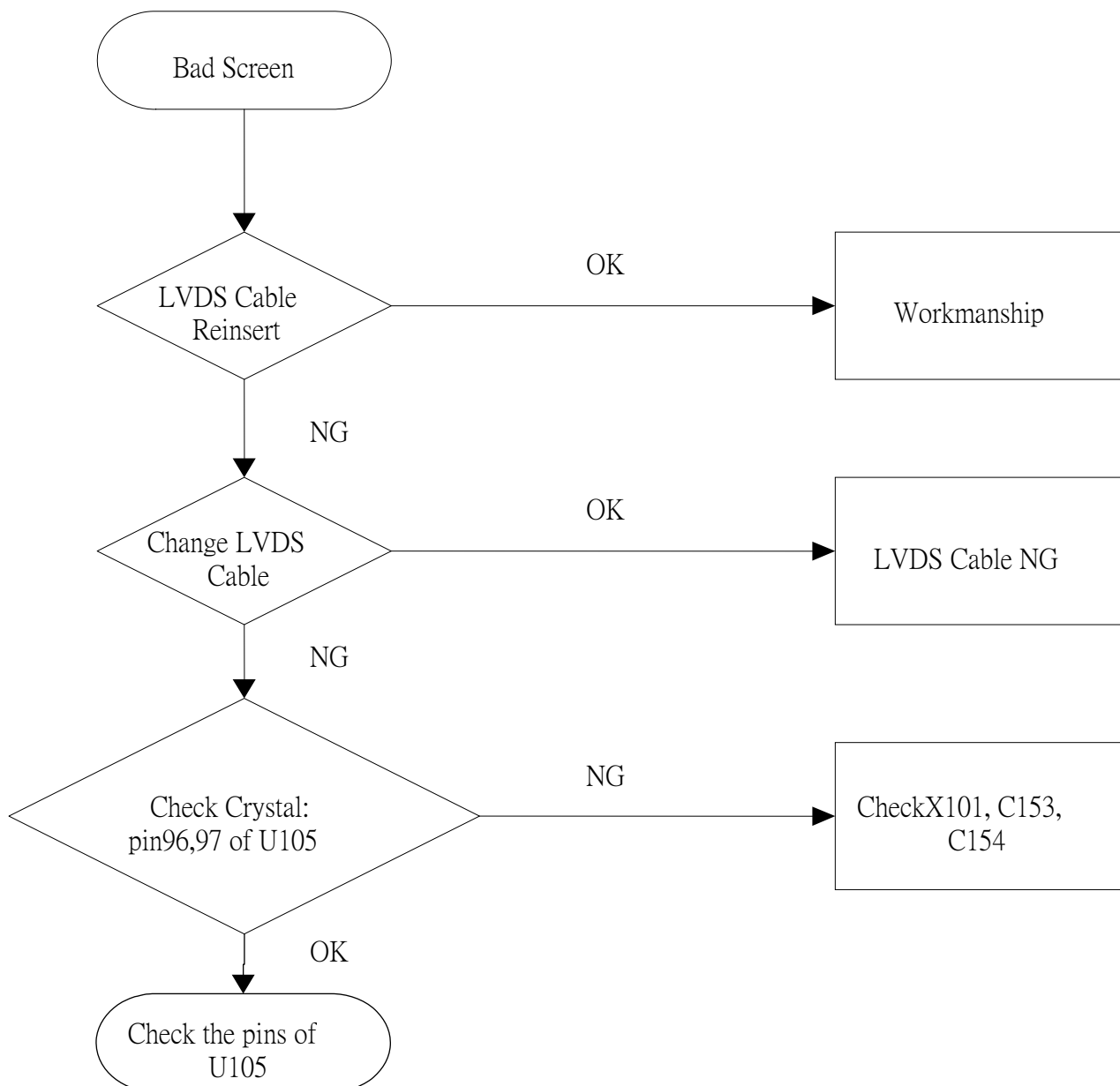
6. Black Screen and backlight turn on



7. White Screen



8. Bad Screen



7. Recommended Spare Parts List

RECOMMENDED SPARE PARTS LIST (VX1935wm-3)

ViewSonic Model Number: VS11444

Serial No. Prefix: QCX

Rev: 1a

Item	Description	ECR/ECN	ViewSonic P/N	Ref. P/N	Location	Universal number#
1	Accessories:					
2	Power Cord - 10A/250V BLK 6FT CHINA		A-00005255	453070800170R		
3	Kit Accessory (VX1935)		A-00008065	70300003600R		
4	PC Board					
5	Interface Board		B-00008169	790741300600R		
6	Assembly:					
7	Key Board		B-00008170	790741500000R		
8	PCBA,P/I BOARD, LP1909-612		B-00008171	790741400600R		
9	Cabinets:					
10	Cover - Left Hinge		C-00008187	501020210410R		
11	Cover - Right Hinge		C-00008188	501020210510R		
12	Base Assembly		C-00008189	714020007910R		
13	Front Panel		C-00008190	714030007910R		
14	Back Cover		C-00008191	714050007910R		
15	Cables:					
16	CABLE,D-SUB 15P MALE 6FT BLACK/BLUE,SZ40		CB-00005254	453010100100R		
17	Audio Cable - 1P 6FT BLACK/GREEN CP03B06P0		CB-00008002	453030300120R		
18	Video Cable - DVI-D 18+1P MALE 6FT		CB-00008070	453030300180R		
19	Flat Cable - LVDS FFC 30P 158mm, ROHS		CB-00008071	430303000690R		
20	Wire - 8P 200mm UL1571#28 ROHS		CB-00008072	430300800800R		
21	Electronic					
22	LCD PANEL 19" MT190AW01-V0-G1,AM19000040		E-00008016	631102090600R		
23	Components:					
24	Speaker - 2.0W 8Ω 370mm, R/G/B W/CASE		E-00008137	618100200120R		
25	Packing Material:					
26	EPE+PE Bag - L540xW500xT0.05mm		P-00008032	506120302400R		
27	Craft Box		P-00008177	506020012500R		
28	Foam - EPS Left		P-00008178	506040010100R		
29	Foam - EPS Right		P-00008179	506040010110R		
30	Foam - EPS Top		P-00008180	506040010111R		
31	BAG,PLASTIC - W(545+165)xL1100xT0.05mm		P-00008181	506120006200R		
32	Generic Foam Set		P-00001347	30833		
33	Generic Box		P-00002515	20653		
34	EPE+PE Bag - W330xL300xT0.3mm		P-00008182	506120303000R		
35	Plastics:					
36	Pedestal - (Stand)		PL-00008048	714010007910R		

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 (VX1935wm-3)

ViewSonic Model Number: VS11444

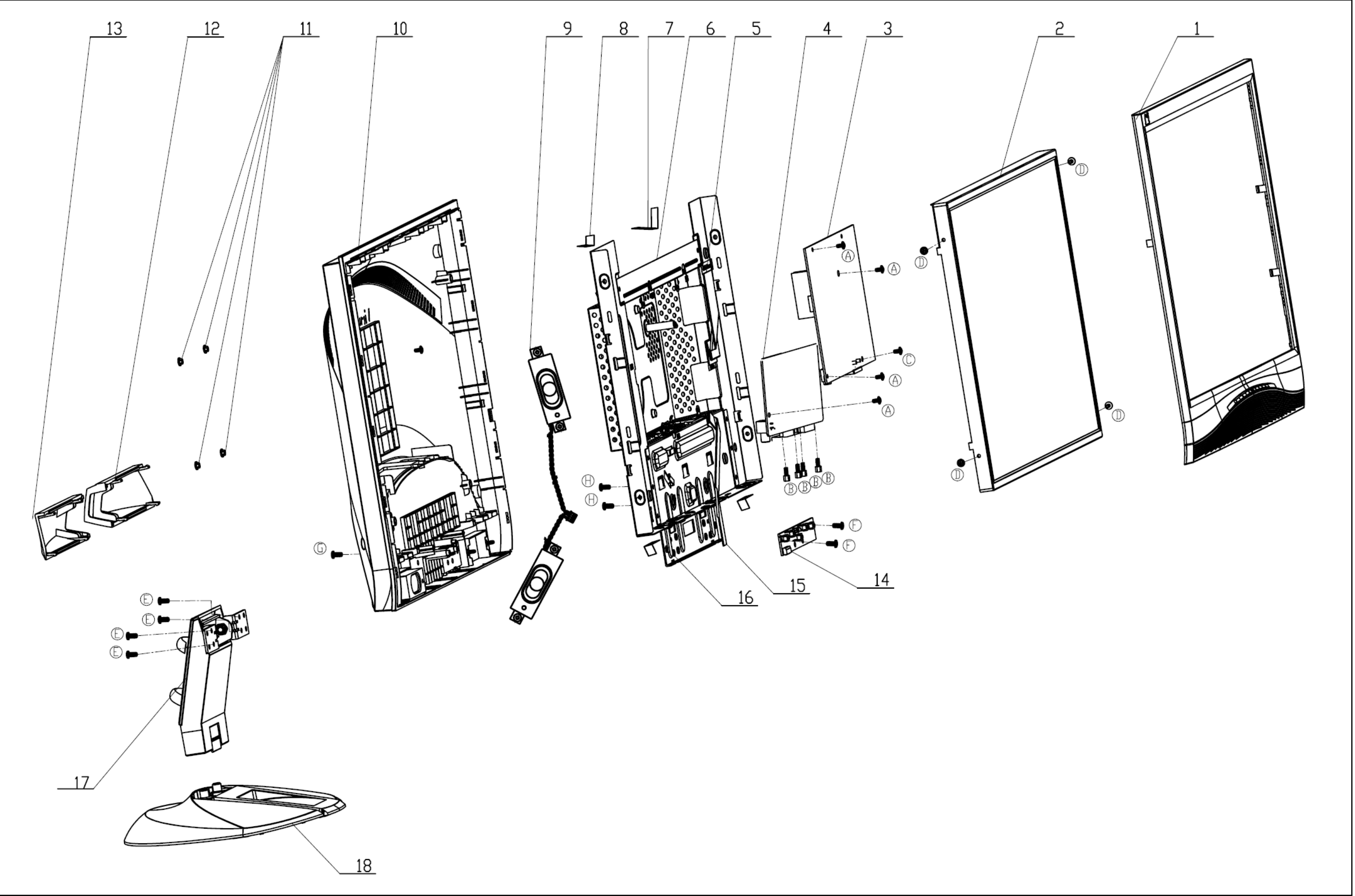
Rev: 1a

Serial No. Prefix: QCX

Item	ViewSonic P/N	Ref. P/N	Description	Location	Universal number#	Q'ty
1	N/A	506380002100R	TAPE,WRAPPING TYPE(VIEWSONIC),50mmx75M,L			0.513
2	N/A	506380001800R	TAPE,WRAPPING TYPE,48mmx50M ROHS LE1915			1.6
3	P-00008032	506120302400R	BAG,EPE+PE,L540xW500xT0.05mm,PRINTED, LE			100
4	P-00008181	506120006200R	BAG,PLASTIC,W(545+165)xL1100xT0.05mm,LE1			100
5	P-00008182	506120303000R	BAG,EPE+PE,W330xL300xT0.3mm,CYCLE PRINTE			100
6	N/A	506431003100R	FILM,PROTECTION,UNPRINTED,430x280x0.1mm,			100
7	N/A	506431000300R	FILM,PE 500mmx900M ROHS			0.3
8	P-00008177	506020012500R	CARTON,VIEWSOINIC(VX1935), LP1909			100
9	P-00008178	506040010100R	CUSHION,EPS-L,VX1935, LP1909			100
10	P-00008179	506040010110R	CUSHION,EPS-R,VX1935, LP1909			100
11	P-00008180	506040010111R	CUSHION,EPS-TOP,VX1935, LP1909			100
12	N/A	506150002630R	PALLET,L1150xW1110xH120mm,LP1909			1,389
13	N/A	506039005600R	CORNER PAPER,2035x50x50xT3mm,LP1702			5,556
14	N/A	506039005000R	CORNER PAPER,870x50x50xT5mm,ROHS LE1918			5,556
15	N/A	506038004800R	CARDBOARD,L1150xW1110xT4mm ROHS LP1909			3.57
16	N/A	506440002600R	LABEL,BLANK,210x65mm,LE1709(PALLET)			3.57
17	N/A	506250011100R	LBL,AGENCY, VX1935wm LP1909			100
18	N/A	506390210400R	LABEL,CARTON(5ms),L89xW58 LE1941			100
19	N/A	506440002300R	LABEL,BLANK,76.2x76.2mm,LE1709(UPC)			100
20	N/A	506440003000R	LABEL,BLANK,35x10mm, LE1709 ROHS			200
21	N/A	506390000600R	LABEL,HI-POT PASS, LE1709			100
22	N/A	506091000500R	LABEL,WARRANTY, LE1709			100
23	N/A	506390000500R	LABEL,QC-PASS, LE1709			100
24	CB-00005254	453010100100R	CABLE,D-SUB 15P MALE 6FT BLACK/BLUE,SZ40			100
25	CB-00008002	453030300120R	CABLE,AUDIO 1P 6FT BLACK/GREEN CP03B06P0			100
26	CB-00008070	453030300180R	CABLE,DVI-D 18+1P MALE 6FT PC99(BLACK)SA			100
27	A-00005255	453070800170R	PWRCORD 10A/250V BLK 6FT CHINA.RVV 3Gx0.			100
28	N/A	506092001400R	CARD,WARRANTY, LE1709			100
29	N/A	506030200200R	CARD,AFTER SERVICE, LE1709,L130xW80			100
30	A-00008065	703000003600R	KIT,ACCESSORY,LP1909(VX1935)			100
31	N/A	714078660000R	ASSY,FINAL(B,V0/G1&2&3),W/SPK,LP1909-6I2			100
32	N/A	506440002400R	LABEL,BLANK,50x25mm,LE1709(S/N)			100
33	N/A	714078660000R	ASSY,FINAL(B,V0/G1&2&3),W/SPK,LP1909-6I2			
34	N/A	509116608510R	SCREW,P,CROSS,M4*8,BLACK,NL(NYLOK)			400
35	N/A	509112308100R	SCREW,P,CROSS,T.T-3*8,Zn ROHS REV:A			200
36	N/A	509112310100R	SCREW,P,CROSS,T.T-3*10,Zn			100
37	N/A	503040000310R	RUBBER,COVER(B), LE1534			400
38	C-00008187	501020210410R	COVER,HINGE-L, LP1909			100
39	C-00008188	501020210510R	COVER,HINGE-R, LP1909			100
40	E-00008137	618100200120R	SPEAKER 2.0W 8Ω 370mm, R/G/B W/CASE			100
41	PL-00008048	714010007910R	ASSY,STAND, LP1909			100
42	C-00008189	714020007910R	ASSY,BASE,VX1935, LP1909			100
43	C-00008190	714030007910R	ASSY,BEZEL, LP1909			100
44	C-00008191	714050007910R	ASSY,BACK COVER, LP1909			100
45	N/A	714078661000R	ASSY,PANEL(V0/G1&2&3),W/SPK,LP1909-6I2			100
46	PL-00008048	714010007910R	ASSY,STAND, LP1909			
47	N/A	501260203510R	STAND,FRONT, LP1909			100
48	N/A	501260203610R	STAND,REAR, LP1909			100
49	N/A	501040200410R	CLIP,CABLE,UP, LP1909			100
50	N/A	501040200510R	CLIP,CABLE,DOWN, LP1909			100
51	N/A	502060003410R	HINGE, LP1909			100
52	N/A	509112608100R	SCREW,P,CROSS,T.T-4*8,Zn ROHS			200
53	N/A	509116618100R	SCREW,P,CROSS,M4*18,Zn ROHS			100
54	C-00008189	714020007910R	ASSY,BASE,VX1935, LP1909			
55	N/A	501240204910R	BASE, LP1909			100
56	N/A	501020210310R	COVER,BASE, LP1909			100
57	N/A	502170000310R	PLATE,BASE, LP1909			100
58	N/A	509112606100R	SCREW,P,CROSS,T.T-4*6,Zn			300
59	N/A	503060002410R	GASKET,EMI,W8xH12xL12mm(TWO-SIDED ADHESI			100
60	N/A	503020004010R	RUBBER,FOOT,FRONT, LP1909			100
61	N/A	503020002700R	RUBBER,FOOT,L14.8*W9.6*T3.5mm,ROHS LE171			400
62	N/A	506431003500R	FILM-1,PROTECTION,FOR BASE LP1909			100
63	N/A	506431003510R	FILM-2,PROTECTION,FOR BASE LP1909			100
64	N/A	506431003520R	FILM-3,PROTECTION,FOR BASE LP1909			100
65	N/A	506431003530R	FILM-4,PROTECTION,FOR BASE LP1909			100
66	C-00008190	714030007910R	ASSY,BEZEL, LP1909			
67	N/A	501010208310R	BEZEL, LP1909			100
68	N/A	501030205010R	BUTTON,FUNCTION KEY, LP1909			100
69	N/A	501120104910R	LENS, LP1909			100
70	N/A	506102000400R	LOGO PLATE,VIEWSOINIC, LE1709(THREE BIRDS			100
71	N/A	506102000300R	LOGO PLATE,VIEWSOINIC, LE1709			100
72	N/A	506431003400R	FILM,PROTECTION,FOR BEZEL-TOP LP1909			100
73	N/A	506431003410R	FILM,PROTECTION,FOR BEZEL-MIDDLE LP1909			200
74	N/A	506431003420R	FILM,PROTECTION,FOR BEZEL-BOTTOM LP1909			100

Item	ViewSonic P/N	Ref. P/N	Description	Location	Universal number#	Q'ty
75	N/A	506390500100R	LABEL,ENERGY STAR, LE1709			100
76	C-00008191	714050007910R	ASSY,BACK COVER, LP1909			
77	N/A	501020210210R	COVER,BACK, LP1909			100
78	N/A	506430300003R	FILM,PET,L115xW30xT0.05mm, LE1741			100
79	N/A	714078661000R	ASSY,PANEL(V0/G1&2&3),W/SPK,LP1909-612			
80	HW-00005270	509000000700R	BOLT,#4-40x11.8,Ni FOR D-SUB/DVI CONN.RO			400
81	N/A	509146304200R	SCREW,P,CROSS,W/WAS,M3*4,Zn-Cc,ROHS			400
82	HW-00005269	509146305300R	SCREW,PW,CROSS,W/WAS,M3*5,NI			400
83	N/A	509146306102R	SCREW,P,CROSS W/W-SPR,M3*6,Zn,ROHS			100
84	E-00008016	631102090600R	LCD PANEL 19" MT190AW01-V0,AM19000040, Main Source			100
85	N/A	631102090610R	LCD PANEL 19" MT190AW01-V0,AM19000040, 3nd Source			
86	N/A	631102090720R	LCD PANEL 19" MT190AW01-V0,AM19000040, 2nd Source			
87	B-00008169	790741300600R	PCBA,I/F BOARD, LP1909-612			100
88	B-00008170	790741500000R	PCBA,KEYPAD BOARD, LP1909			100
89	B-00008171	790741400600R	PCBA,P/I BOARD, LP1909-612			100
90	CB-00008071	430303000690R	HRN LVDS FFC 30P 158mm, ROHS			100
91	CB-00008072	430300800800R	HRN ASS'Y 8P 200mm UL1571#28 ROHS			100
92	N/A	701000002300R	ASSY,CHASSIS, LP1909			100
93	N/A	701000002300R	ASSY,CHASSIS, LP1909			
94	N/A	502090304510R	CHASSIS, LP1909			100
95	N/A	502080000110R	SUPPORT,HINGE, LP1909			100
96	N/A	509116606510R	SCREW,P,CROSS,M4*6,BLACK,NL ROHS (NYLOK)			200
97	N/A	505040503100R	INSULATOR,PP,22x20x12X0.3mm,GLUE(3M), LE			100
98	N/A	505040503400R	INSULATOR,PP,10x15x10X0.3mm,GLUE(3M), LE			300

8. Exploded Diagram and Exploded Parts List



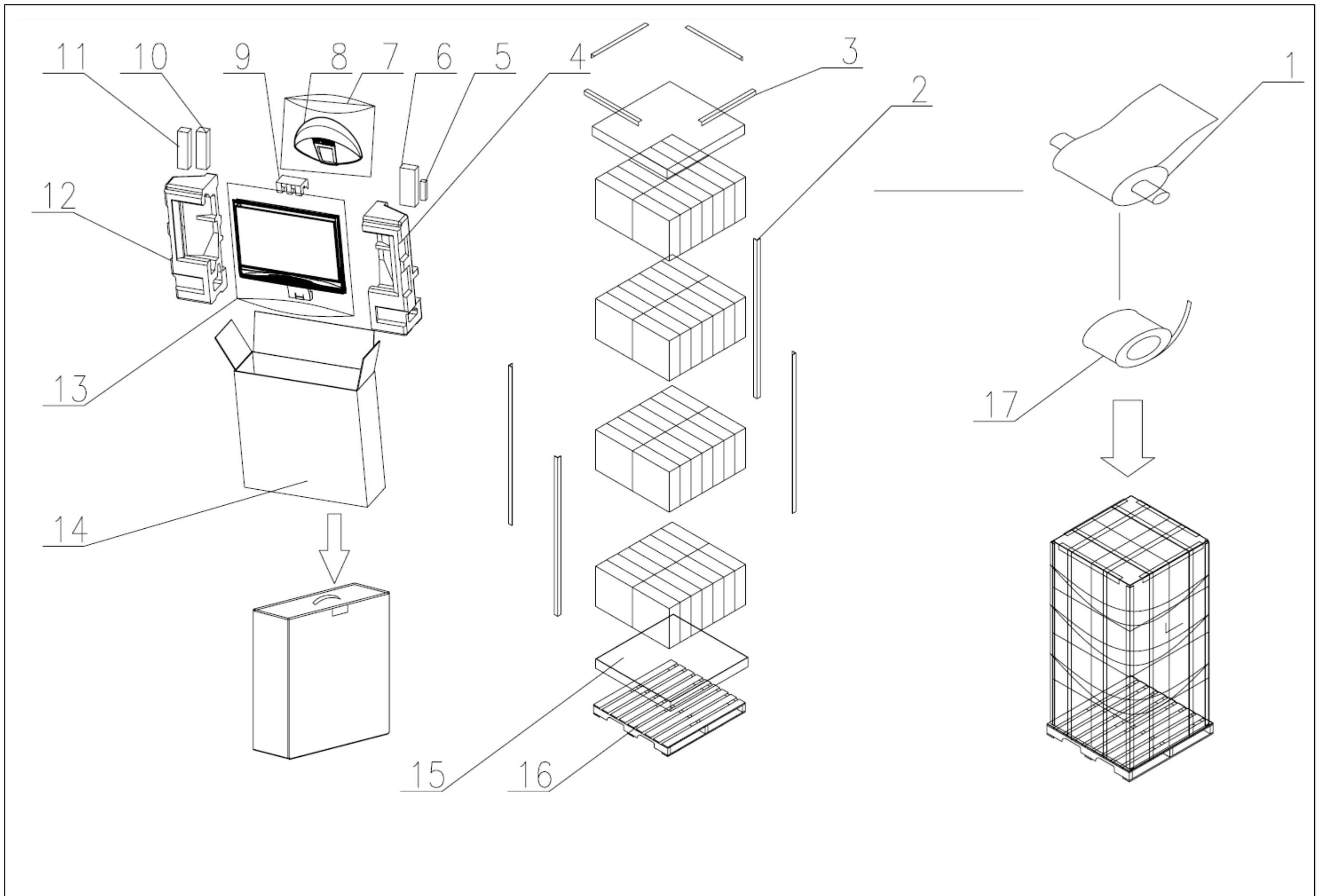
EXPLODED PARTS LIST (VX1935wm-3)

ViewSonic Model Number: VS11444

Rev: 1a

Serial No. Prefix: QCX

Item	ViewSonic P/N	Ref. P/N	Description	Q'ty
1	C-00008190	714030007910R	ASSY, BEZEL,LP1909	1
2	E-00008016	631102090600R	LCD PANEL 19" MT190AW01-V0-G1,AM19000040	1
3	B-00008171	790741400600R	PCBA,P/I BOARD, LP1909-612	1
4	B-00008169	790741300600R	PCBA,I/F BOARD, LP1909-612	1
5	CB-00008071	430303000690R	HRN LVDS FFC 30P 158mm, ROHS	1
6	N/A	701000002300R	ASSY, CHASSIS, LP1909	1
7	N/A	505040503100R	INSULATOR, PP, 22*20*0.3mm, GLUE(3M)	1
8	N/A	505040503400R	INSULATOR, PP, 10*15*10*0.3mm, GLUE(4M)	3
9	E-00008137	618100200120R	SPEAKER 2.0W 8Ω 370mm, R/G/B W/CASE	1
10	C-00008191	714050007910R	ASSY, BACK COVER, LP1909	1
11	N/A	503040000310R	RUBBER, COVER,(B),LE1534	4
12	C-00008187	501020210410R	COVER, HINGE-L,LP1909	1
13	C-00008188	501020210510R	COVER, HINGE-R,LP1909	1
14	B-00008170	790741500000R	PCBA,KEYPAD BOARD, LP1909	1
15	CB-00008072	430300800800R	HRN ASS'Y 8P 200mm UL1571#28 ROHS	1
16	N/A	502080000110R	SUPPORT,HINGE,LP1909	1
17	PL-00008048	714010007910R	ASSY,STAND,LP1909	1
18	C-00008189	714020007910R	ASSY,BASE,VX1935,LP1909	1
A	HW-00005269	509146305300R	SCREW,PW,CROSS,W/WAS,M3*5,Ni	4
B	HW-00005270	509000000700R	BOLT,#4-40*11.8,Ni	4
C	N/A	509146306102R	SCREW,P,CROSS,W/W-SPR,,M3*6,Zn,ROHS	1
D	N/A	509146304200R	SCREW,P,CROSS,W/WAS,M3*4,Zn-Cc,ROHS	4
E	N/A	509116608510R	SCREW,P,CROSS,M4*8,BLACK,NL(NYLOK)	4
F	N/A	509112308100R	SCREW,P,CROSS,T3*8, Zn	2
G	N/A	509112340100R	SCREW,P,CROSS,T,T3*10,Zn,ROHS	1
H	N/A	509116606510R	SCREW,P,CROSS,M4*6,BLACK,NL ROHS	2



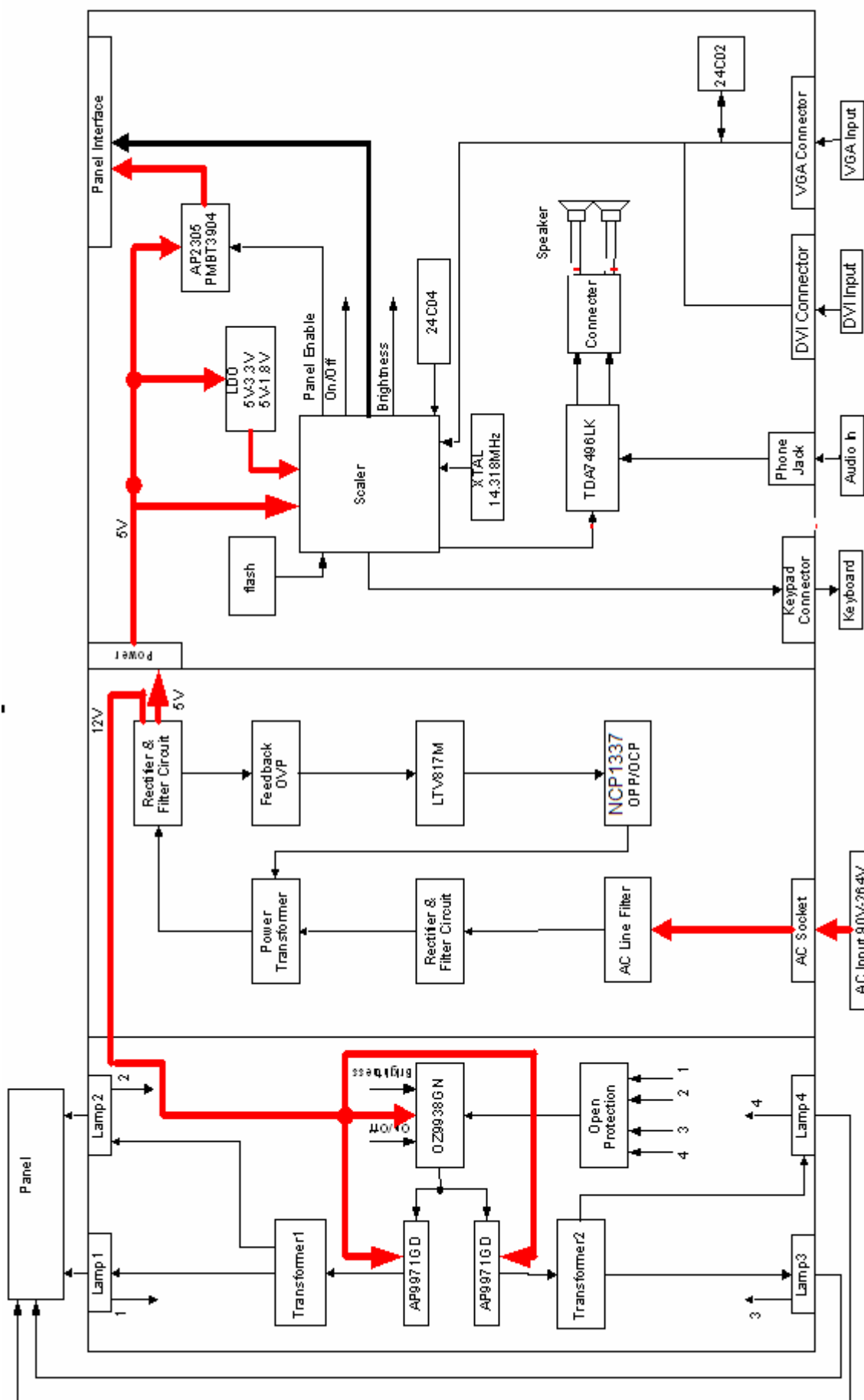
PACKING PART LIST (VX1935wm-3)

ViewSonic Model Number: VS11444

Rev: 1a

Item	ViewSonic P/N	Ref. P/N	Location	Q'ty
1	N/A	506431000300R	FILM, PE500mm*900M ROHS	0.0018
2	N/A	506039004600R	CORNER PAPER,2035*50*50*T3mm	4/56
3	N/A	506039005000R	CORNER PAPER,870*50*50*T5mm, LE1918	4/56
4	P-00008179	506040010110R	CUSHION, EPS-R,VX1935,LP1909	1
5	CB-00008002	453030300120R	CABLE,AUDIO 1P 6FT BLACK/GREEN CP03B06P0	1
6	A-00005255	453070800170R	PWRCORD 10A/250V BLK 6FT CHINA.RVV 3Gx0.	1
7	P-00008182	506120303000R	BAG,EPE+PE,W330*L300*T0.3mm,CYCLE PRINTED LP1909	1
8	C-00008189	714020007910R	ASSY,BASE,VX1935,LP1909	1
9	P-00008180	506040010111R	CUSHION, EPS-TOP,VX1935,LP1909	1
10	CB-00008070	453030300180R	CABLE,DVI-D 18+1P MALE 6FT PC99(BLACK)SA	1
11	CB-00005254	453010100100R	CABLE,D-SUB 15P MALE 6FT BLACK/BLUE,SZ40	1
12	P-00008178	506040010100R	CUSHION,EPS-L,VX1935,LP1909	1
13	P-00008032	506120302400R	BAG,EPE+PE,L540*W500*T0.05mm,PRINTED,LE1939	1
14	P-00008177	506020012500R	CARTON,VIEWSONIC(VX1935),LP1909	1
15	N/A	506038004800R	CARDBOARD,L1150*W1110*T4mm ROHS LP1909	2/56
16	N/A	506150002630R	PALLET,L1150*W1110*H120mm,LP1909	1/56
17	N/A	506380002100R	TAPE,WRAPPING TYPE(VIEWSONIC), 50mm*75M,LE1708	0.016

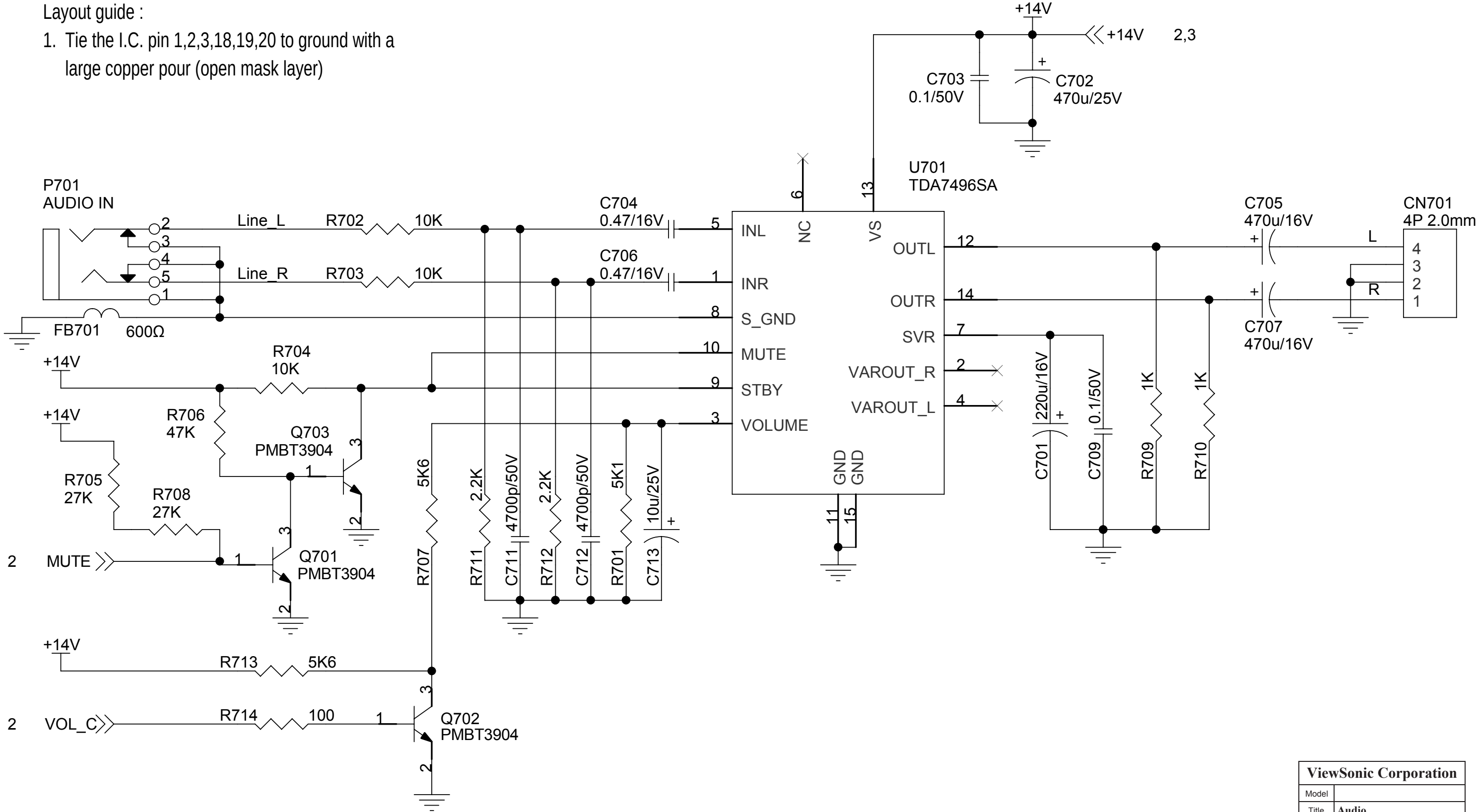
9. Block Diagram



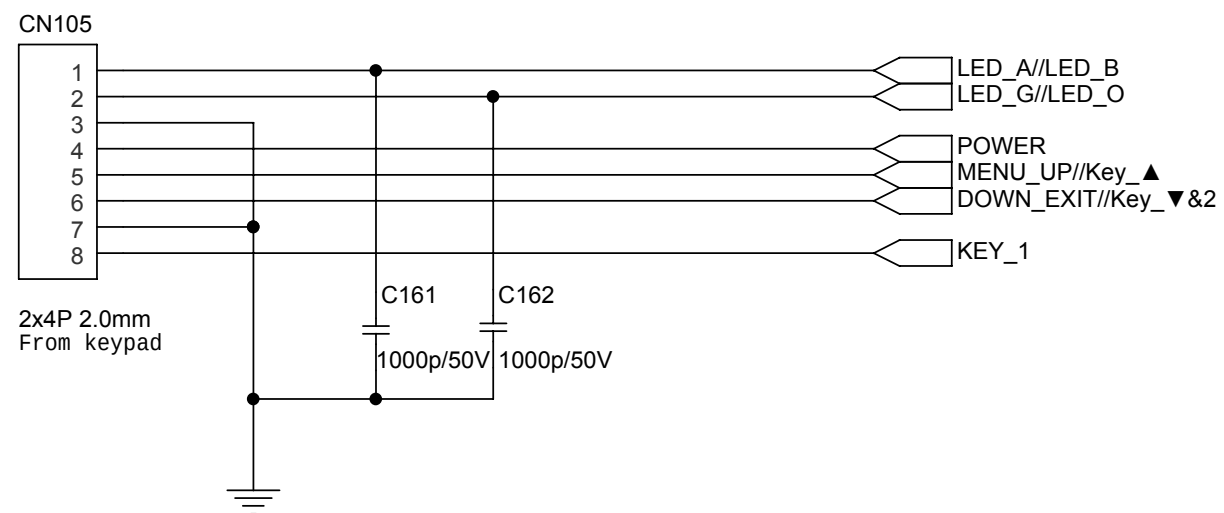
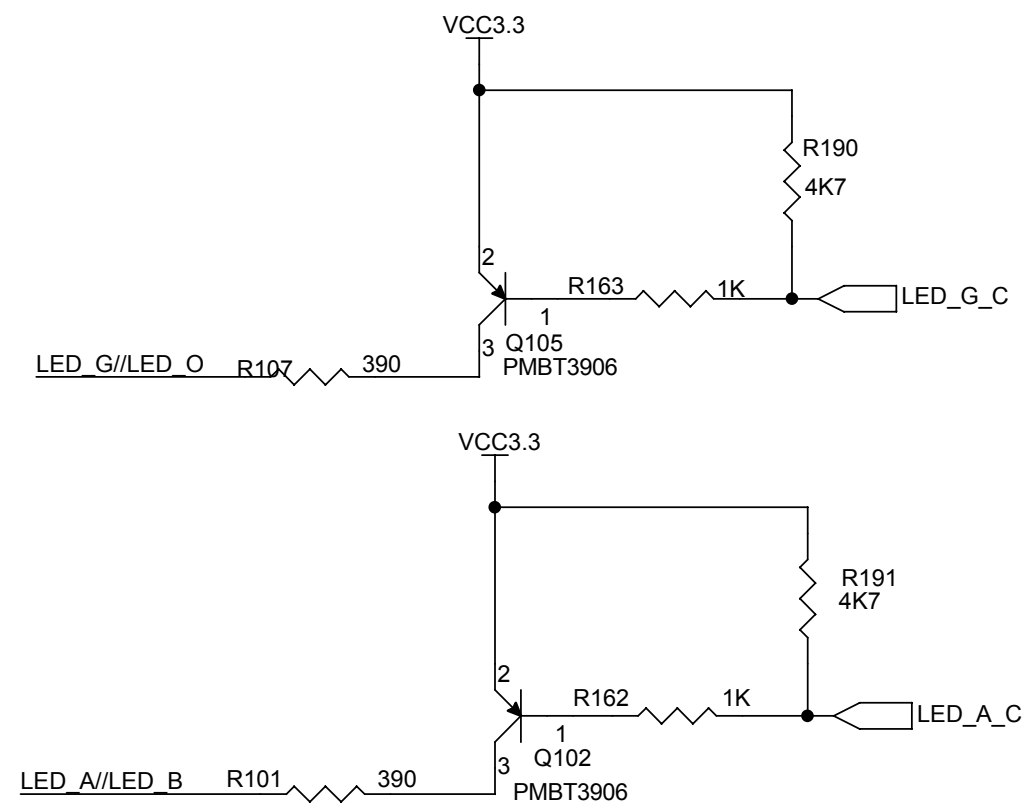
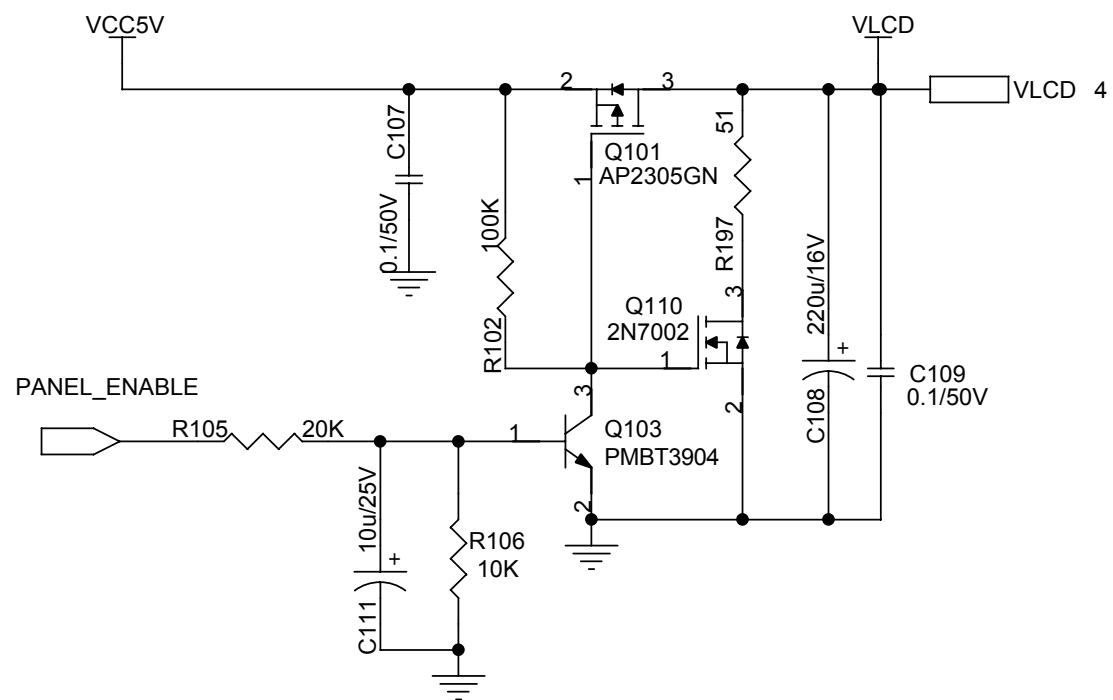
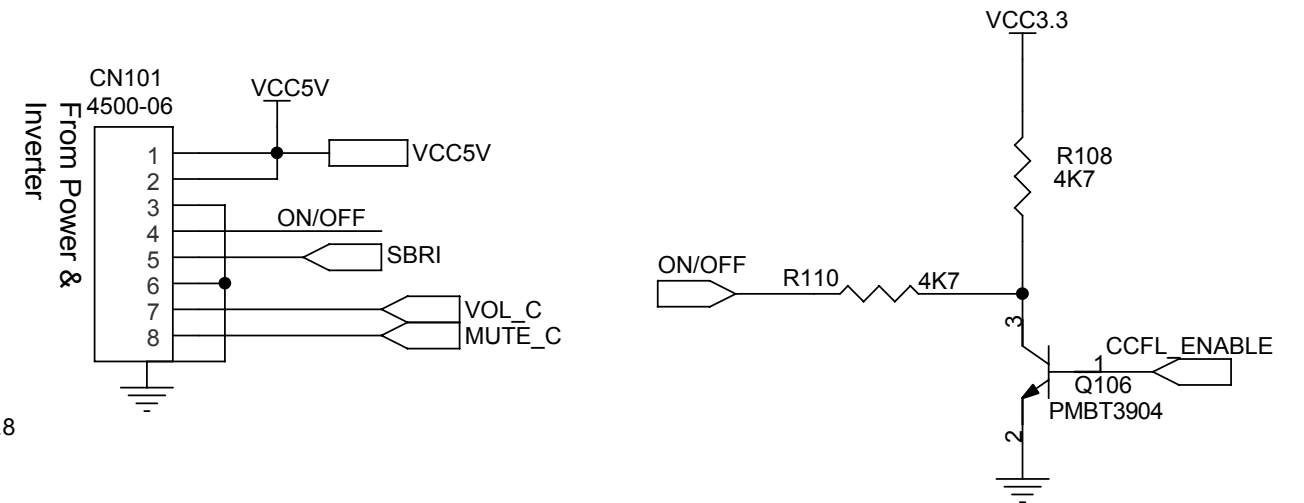
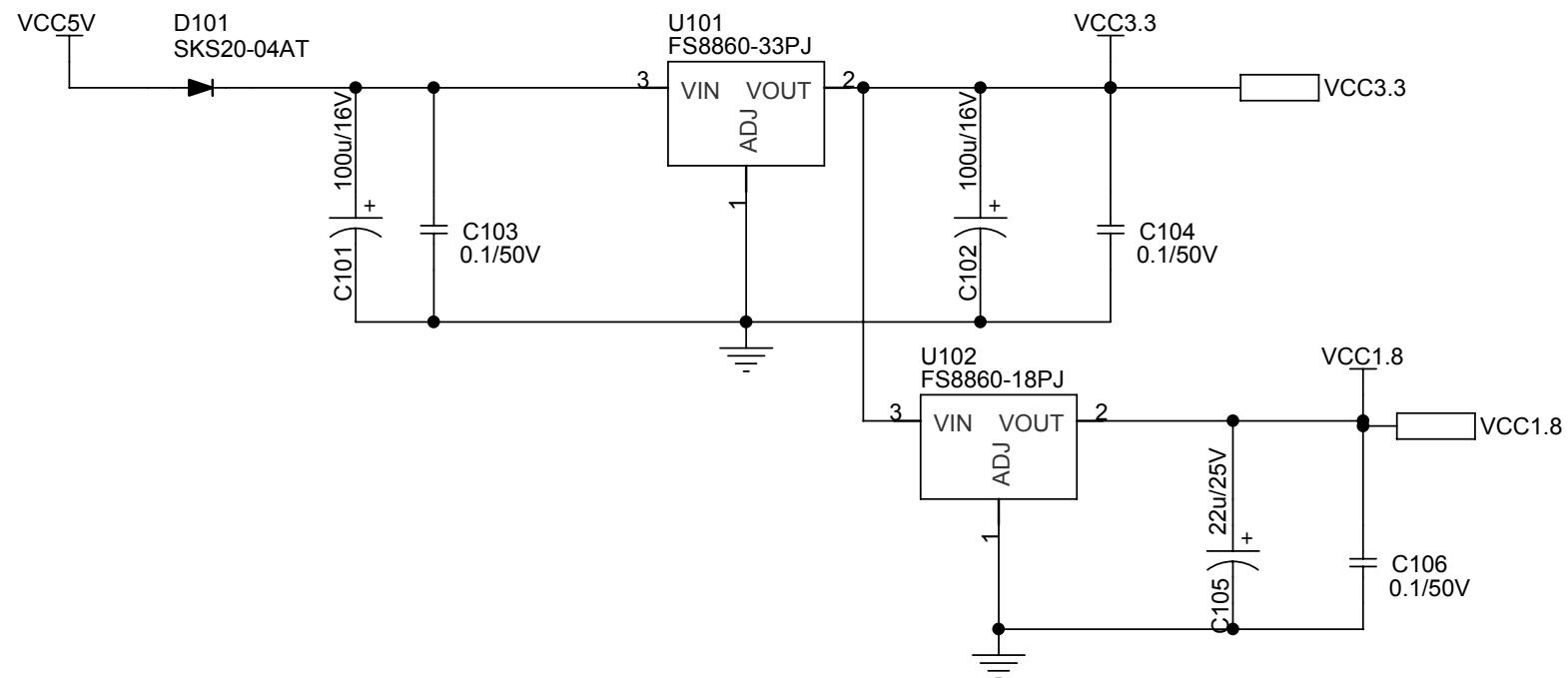
10. Schematic Diagrams

Layout guide :

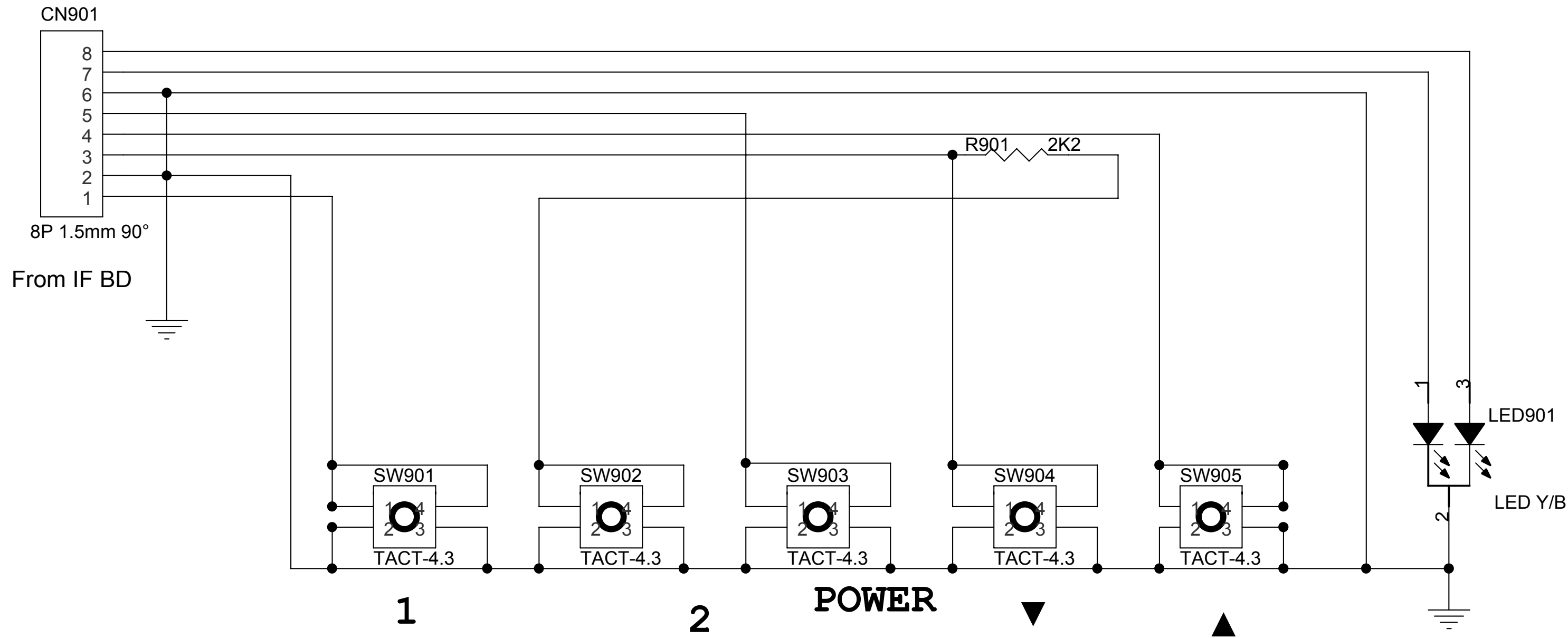
- 1. Tie the I.C. pin 1,2,3,18,19,20 to ground with a large copper pour (open mask layer)

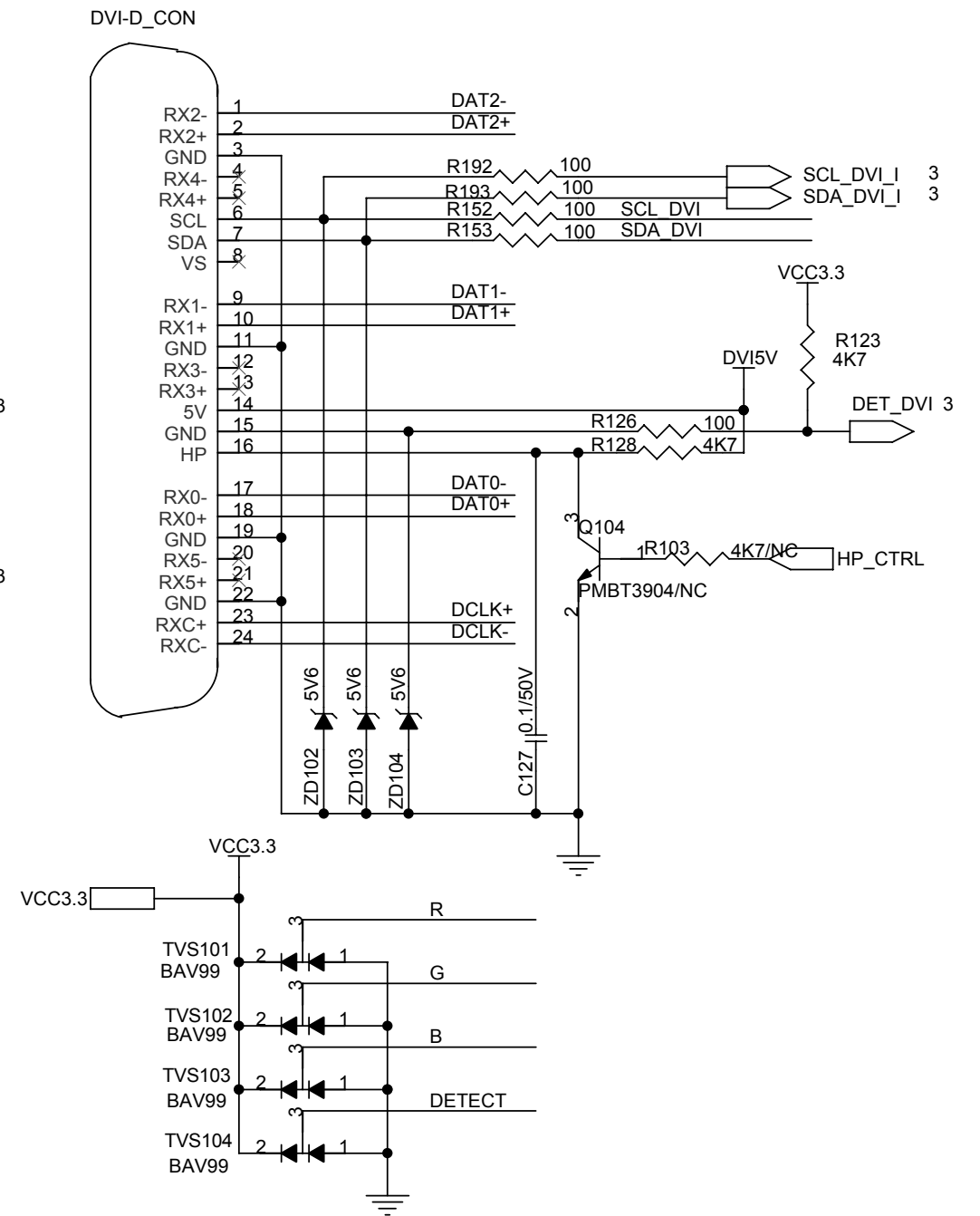
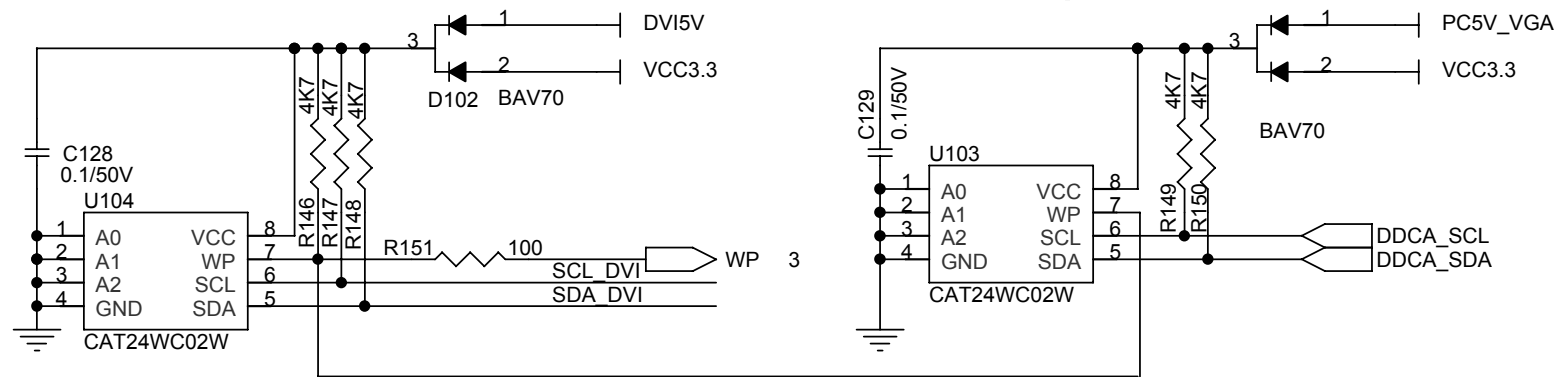
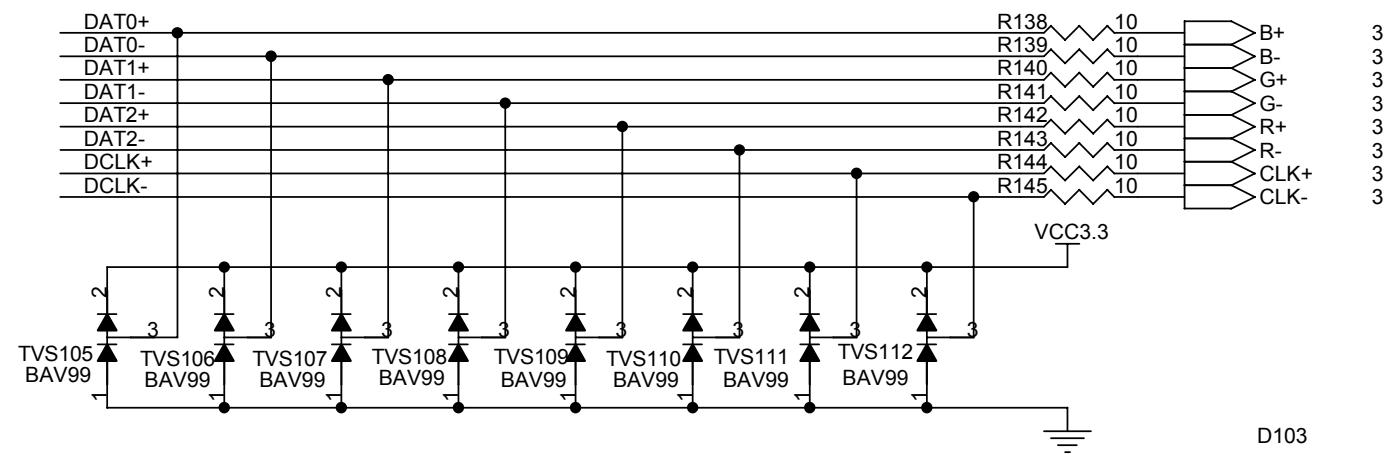
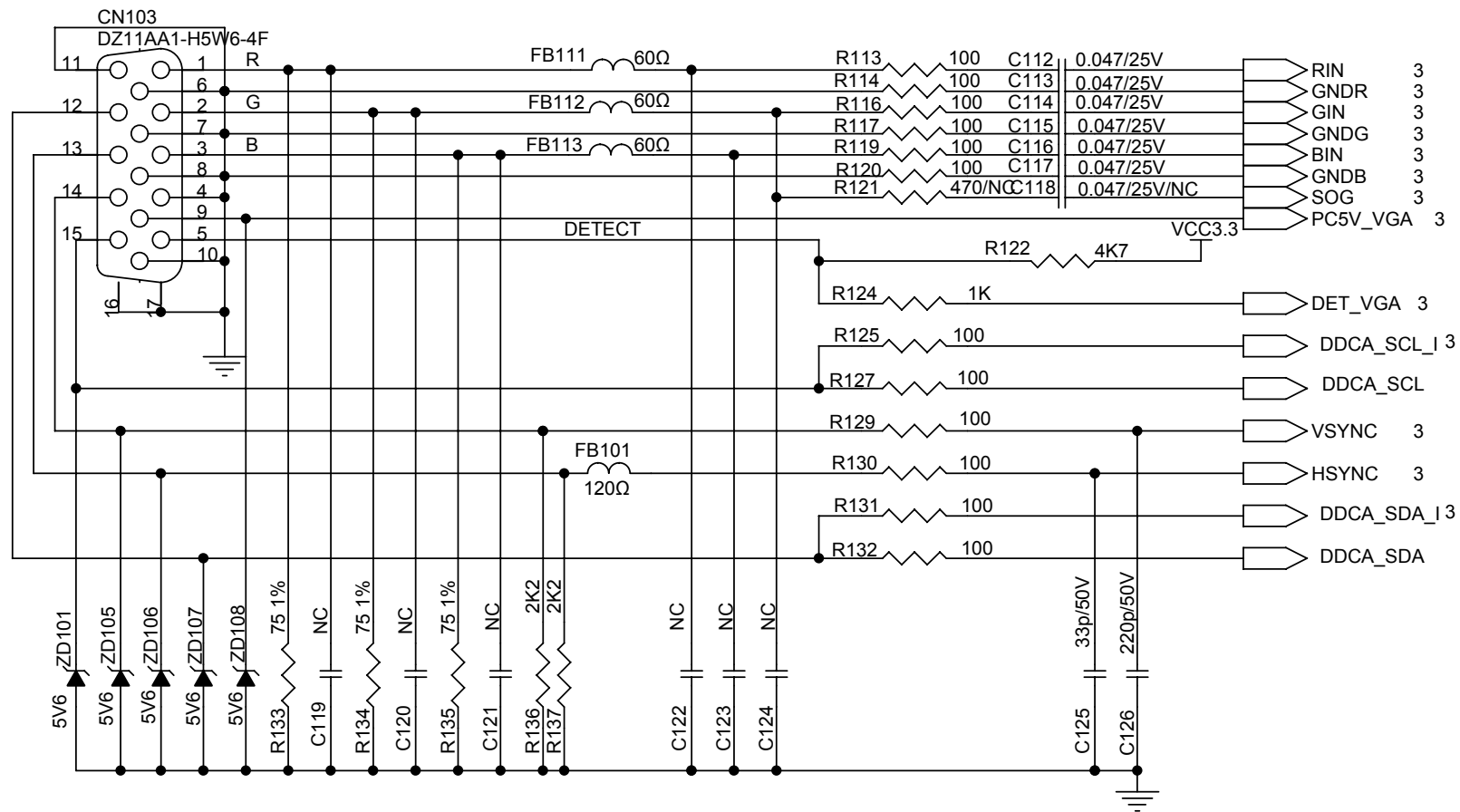


ViewSonic Corporation		
Model		
Title	Audio	
Date		Rev:

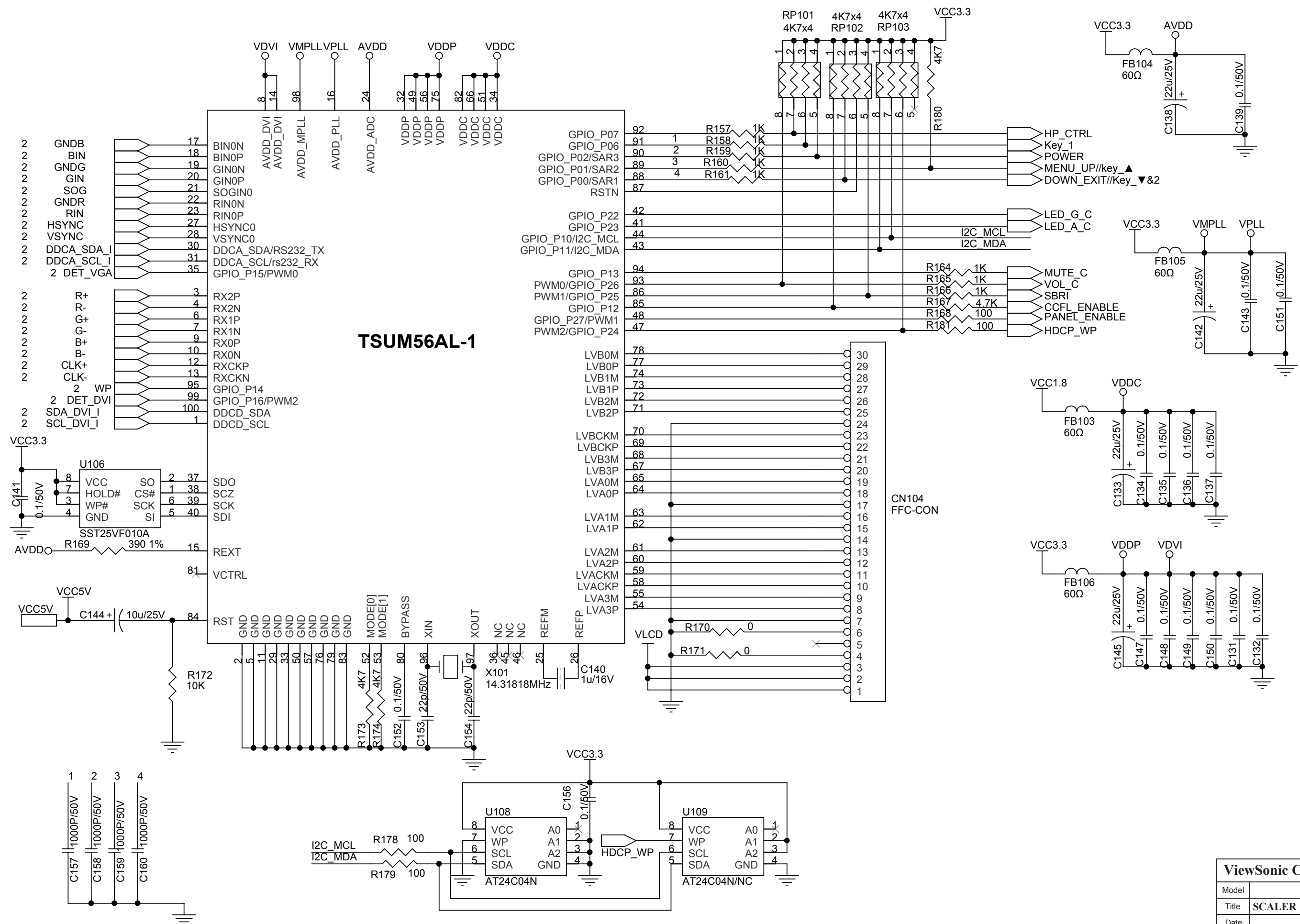


ViewSonic Corporation			
Model			
Title	DC to DC		
Date		Rev:	

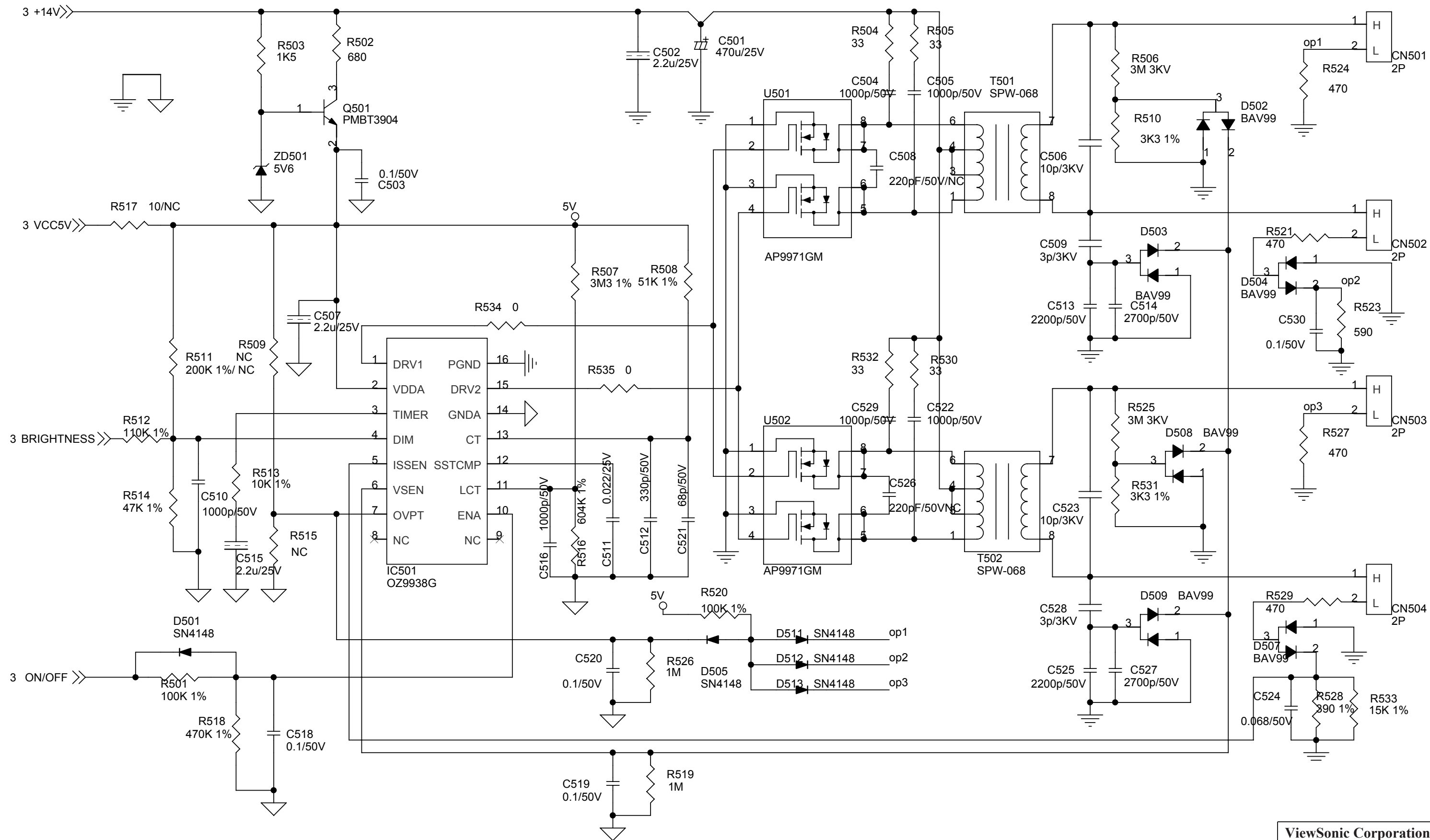




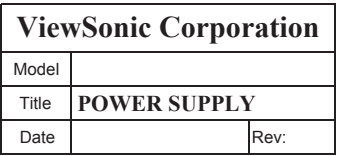
ViewSonic Corporation			
Model			
Title	Input		
Date		Rev:	

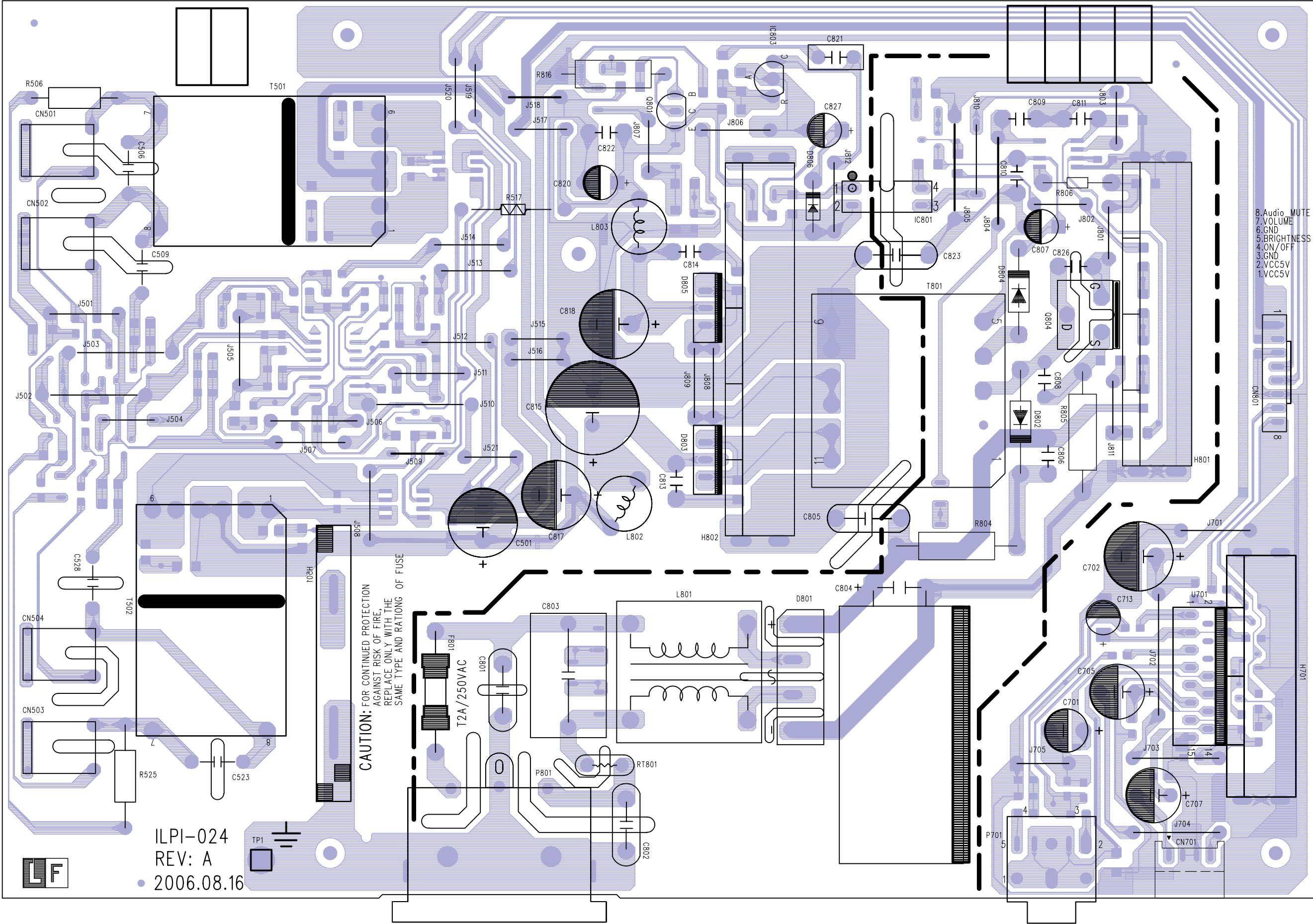


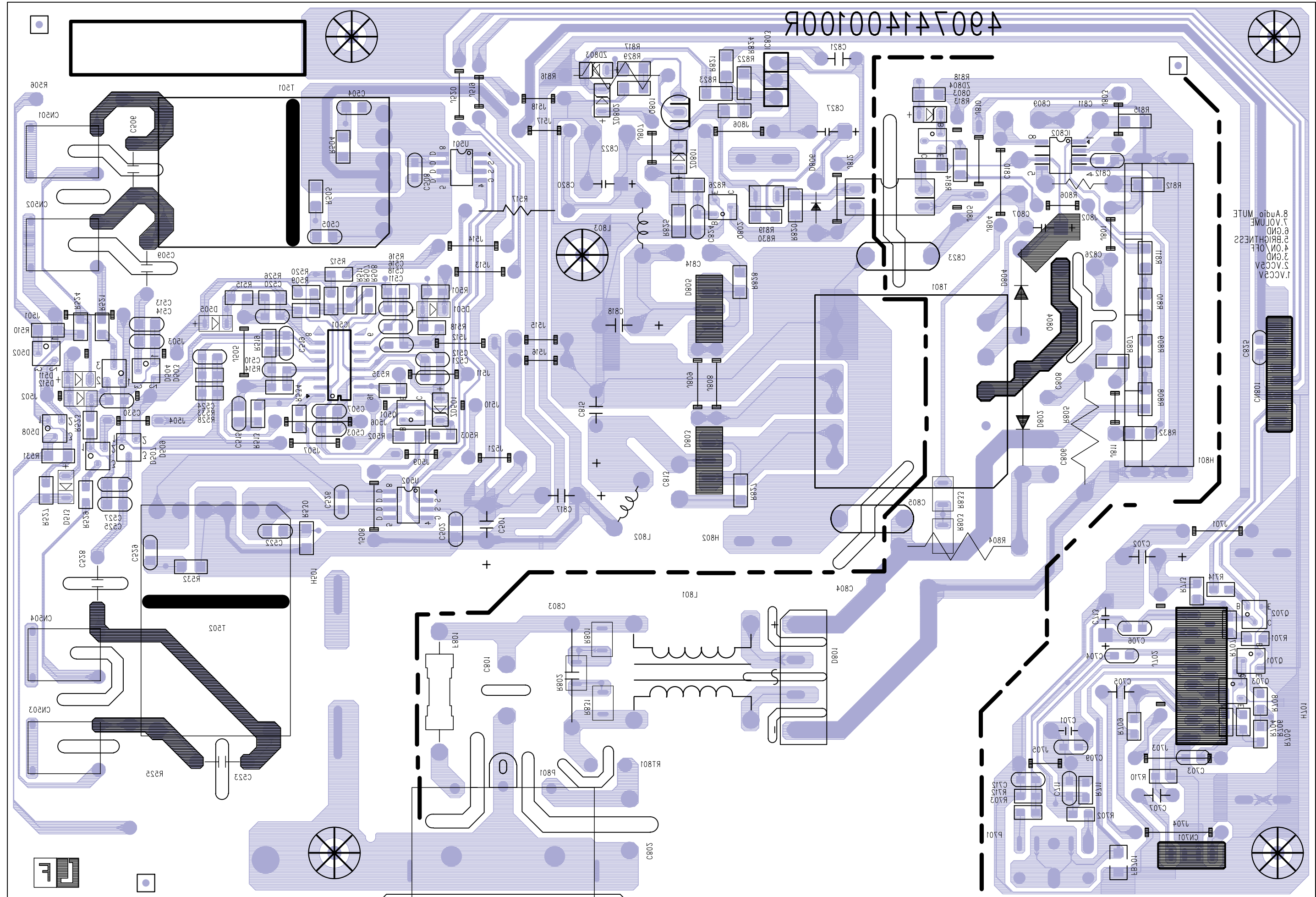
ViewSonic Corporation			
Model			
Title	SCALER		
Date			Rev:



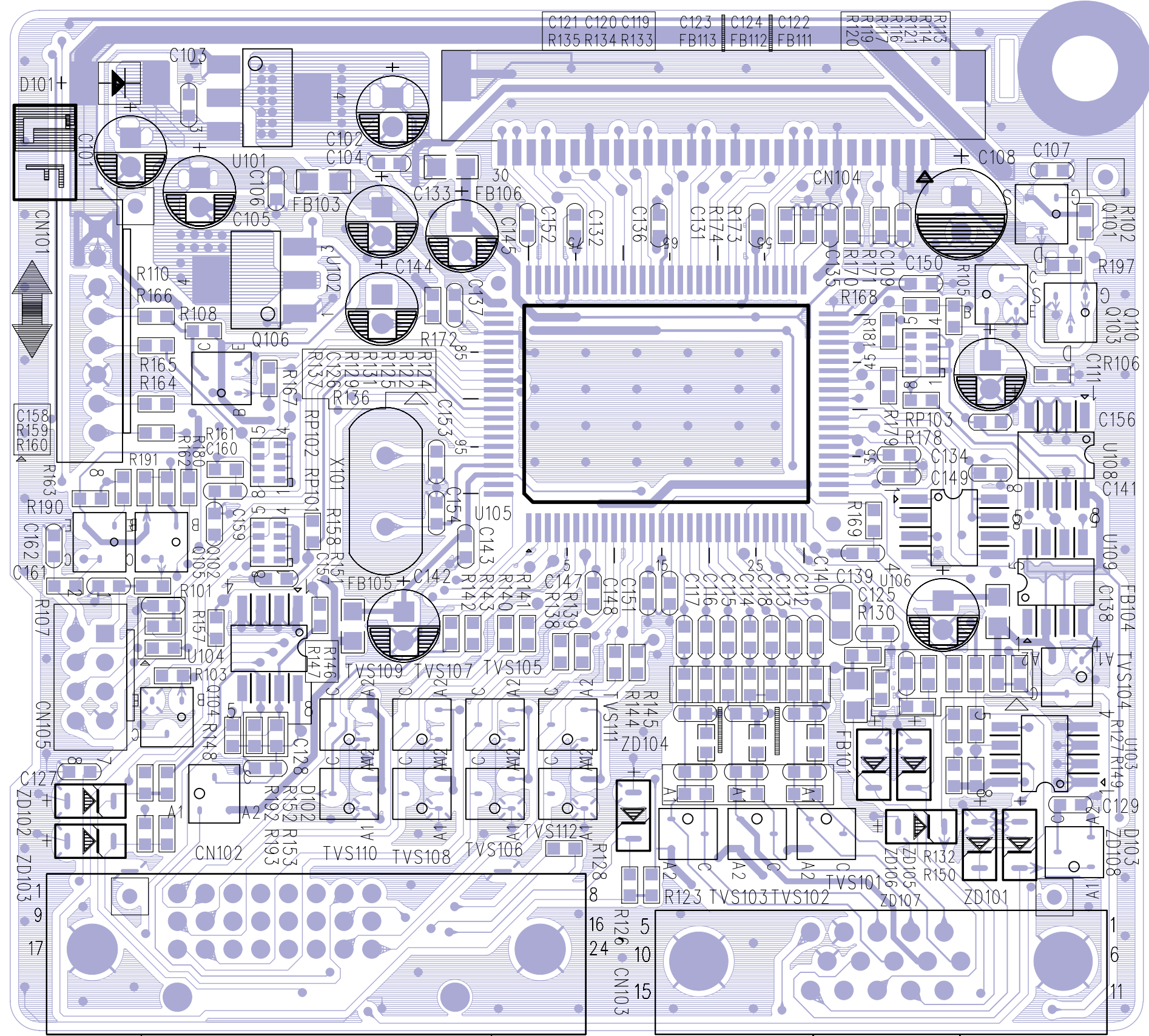
ViewSonic Corporation			
Model			
Title	Interter		
Date			Rev:

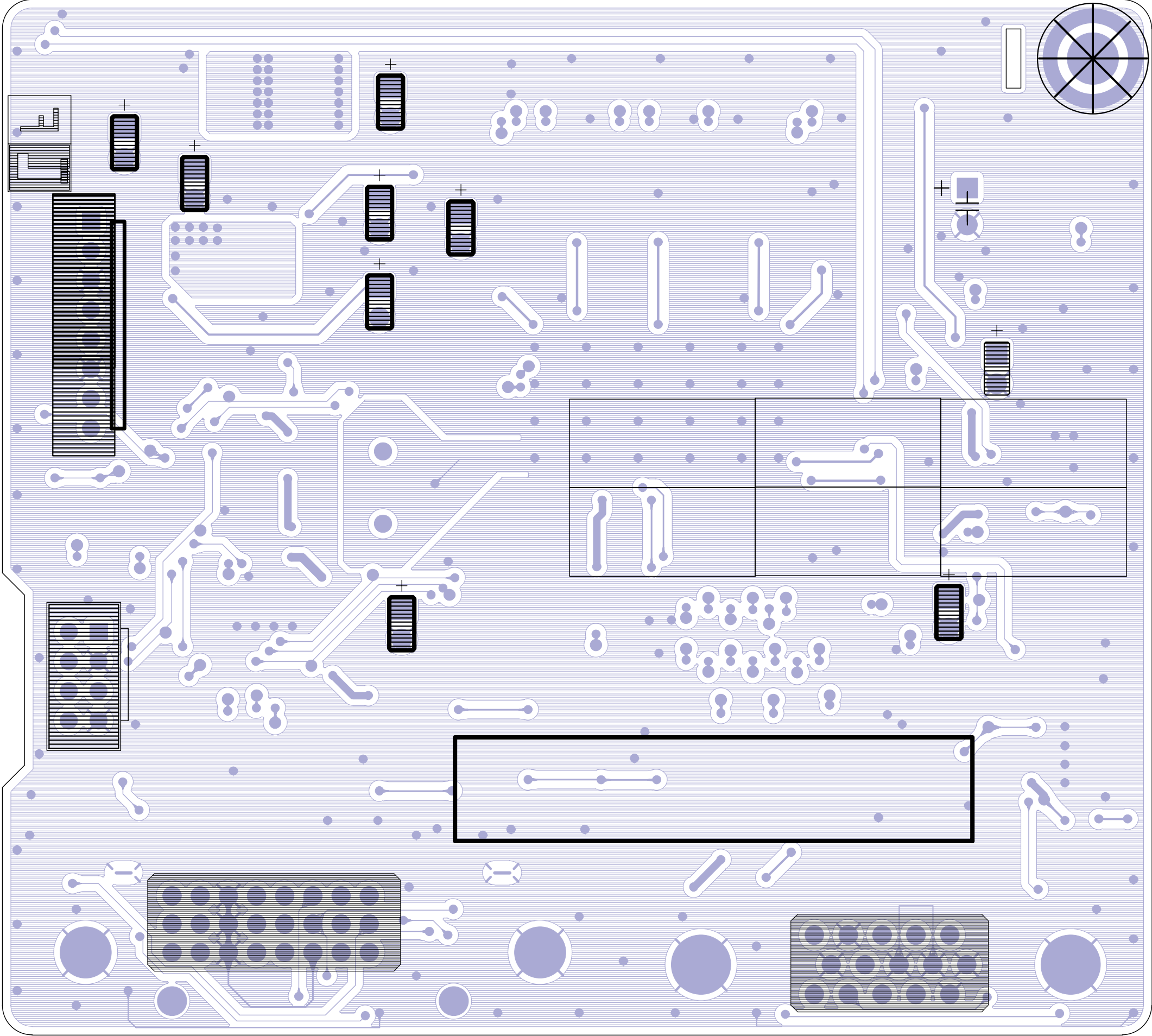






SILKSCREEN TOP





*** 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?

<i>Unit</i>	<i>Excellent</i>	<i>Good</i>	<i>Fair</i>	<i>Bad</i>
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?

<i>Item</i>	<i>Excellent</i>	<i>Good</i>	<i>Fair</i>	<i>Bad</i>
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 data:

Name:		Title:	
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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)