Service Manual

ViewSonic VE720m-1

VE720mb-1

Model No. VS10697

17” Color TFT LCD Display

(VE720m-1_VE720mb-1_SM Rev. 1b Aug. 2006)

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

Revision History

Revision	SM Editing Date	ECR Number	Description of Changes	Editor
1a	05/09/2006		Initial release	J. Chang
1b	8/28/2006		Add RSPL BOM EPL for VE720mb-1	Jamie 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.

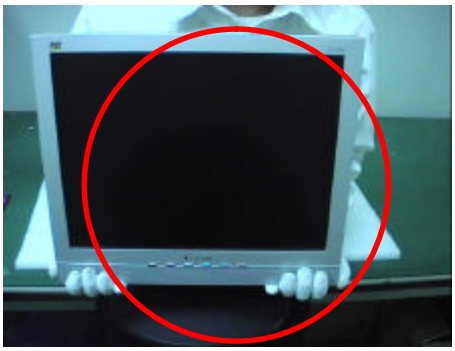
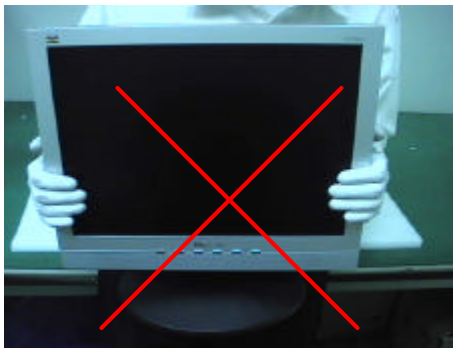
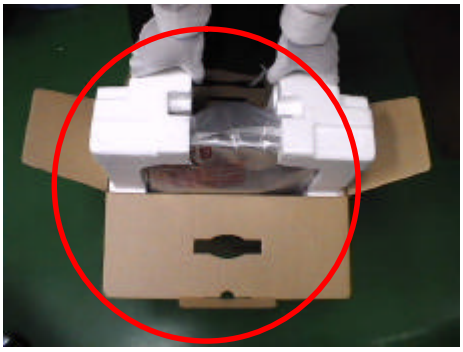
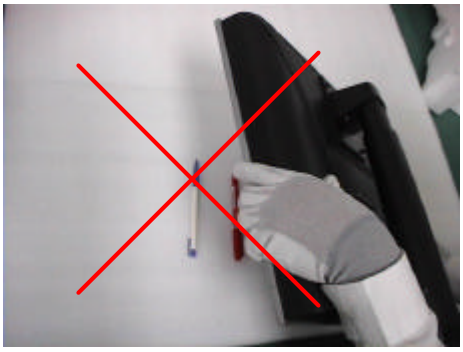
(10) At the insertion or removal of the Signal Interface Connector, be sure not to rotate or tilt the Interface Connector of the TFT Module.

(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

introduction

FEATURES		
TFTLCD PANEL	Size	17”
	Luminance (Typ, cd/㎡)	350 cd/㎡
	Contrast Ratio (Typ)	350:1
	Colors (6 bit + 2 bit FRC)	16.2 M colors
	Response Time (Typ)	8 ms
	Viewing Angle (H/V)	160 ° / 120 °
	Recommend resolution	1280x1024@60Hz
Input Signal	Analog (75ohms, 0.7/1.0 Vp-p)	Yes
	Digital	N/A
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)	60 W / 51 W
	Active Off Mode (Max)	≦2 W
Audio	1 W	Yes
Ergonomics	Tilt (20 ° **+-2°** - -5 °**+-1.5°**)	Yes
	Swivel	No
	Pivot	No
	Height Adjust	0~100mm
OSD Control	[◄ X] [1] [?] [?] [2] [⏻]	Yes
Dimension	Physical (W x H x D)	386 x 404 x 221 (mm) 15.2 x 15.9 x 8.7 (in)
	Package (W x H x D mm)	444 x 458 x 191 (mm) 17.5 x18.0 x 7.52 (in)
Weight	Physical (Net kg/lb)	4.3 kg (9.5 lb)
	Package (Gross Kg/lb)	5.9 kg (13.0 lb)
Operating Condition	Temperature (°F/°C)	41°F-95°F/+5°C-+35°C
	Humidity (%)	20 % - 80 %
Storage Condition	Temperature (°F/°C)	-4°F-131°F/-20°C-55°C
	Humidity (%)	20 % - 85 %
Regulation	UL, cUL, FCC-B, CB, CE, NOM, TUV/GS, TUV ERGO (covers ISO13406-2 & MPRII), TCO99, GOST-R + 20 ORIGINAL COPIES HYGIENIC, SASO, PCBC, VCCI, BSMI, CCC, (PSB), (C-TICK), TUV-S, Green Mark, Energy Star	

GENERAL specification

Test Resolution & Frequency	1280x1024 @ 60Hz
Test Image Size	Full Size
Contrast and Brightness Controls	Factory Default: Contrast = 70%, Brightness = 100%

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	1. 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 870, 1280 x 720, 1280 x 960, 1280 x 1024 * 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

POWER SUPPLY

Power Supply (Adapter)	Part Number: UP060B1190 or DA-60F19
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	3.476~4.74 A TYPICAL AT 18.05 VDC
Leakage Current	0.25MA (MAX) AT 264VAC / 60HZ
Efficiency	80 % TYPICAL AT 115VAC FULL LOAD
Fuse	INTERNAL AND NOT USER REPLACEABLE
Power Dissipation	60 WATTS (MAX) / 51 WATTS (TYP)
Max Input AC Current	1.6 ARMS @ 90VAC
Inrush Current (Cold Start)	80 A @ 120VAC, 80 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 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 < 60 W (max) / 51 W (typ) ACTIVE OFF < 2W
Recovery Time	ON Mode = N/A, ACTIVE OFF < 5 sec

ELECTRICAL REQUIREMENT

Horizontal / Vertical Frequency

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

Timing Table

Item	Timing	Analog
1	640 x 350 @ 70Hz, 31.5kHz	Yes
2	640 x 400 @ 60Hz, 31.5kHz	Yes
3	640 x 400 @ 70Hz, 31.5kHz	Yes
5	640 x 480 @ 60Hz, 31.5kHz	Yes
6	640 x 480 @ 67Hz, 35.0kHz	Yes

7	640 x 480 @ 72Hz, 37.9kHz	Yes
8	640 x 480 @ 75Hz, 37.5kHz	Yes
9	640 x 480 @ 85Hz, 43.27kHz	Yes
10	720 x 400 @ 70Hz, 31.5kHz	Yes
11	800 x 600 @ 56Hz, 35.1kHz	Yes
12	800 x 600 @ 60Hz, 37.9kHz	Yes
13	800 x 600 @ 75Hz, 46.9kHz	Yes
14	800 x 600 @ 72Hz, 48.1kHz	Yes
15	800 x 600 @ 85Hz, 53.7kHz	Yes
16	832 x 624 @ 75Hz, 49.7kHz	Yes
17	1024 x 768 @ 60Hz, 48.4kHz	Yes
18	1024 x 768 @ 70Hz, 56.5kHz	Yes
19	1024 x 768 @ 72Hz, 58.1kHz	Yes
20	1024 x 768 @ 75Hz, 60.0kHz	Yes
21	1024 x 768 @ 85Hz, 68.67kHz	Yes
22	1152 x 870 @ 75Hz, 68.7kHz	Yes
23	1280 x 1024 @ 60Hz, 63.4kHz	Yes
24	1280 x 1024 @ 75Hz, 79.97kHz	Yes
25	1280x 720 @ 60Hz, 45kHz (HDTV)	Yes
Note 1:When Vertical frequency at 85Hz or resolution, the vertical image size might not be full screen. But the vertical image position should be at the center.		

Primary Presets

1280x1024 @ 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

3. Front Panel Function Control Description

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]	Auto image adjust
[▼] 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. 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. 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

AUDIO INTERFACE (SPEAKER SPECIFICATION)

Line input connection	3.5 mm stereo jack
Line input signal	1.0 Vrms
Line input impedance	10 k Ohm
Maximum power output (Electric)	1 W @ < 8% DISTORTION
Signal to Noise Ratio	72 dB
Frequency response	500 Hz – 20 Khz
Distortion	< 8 % THD (@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

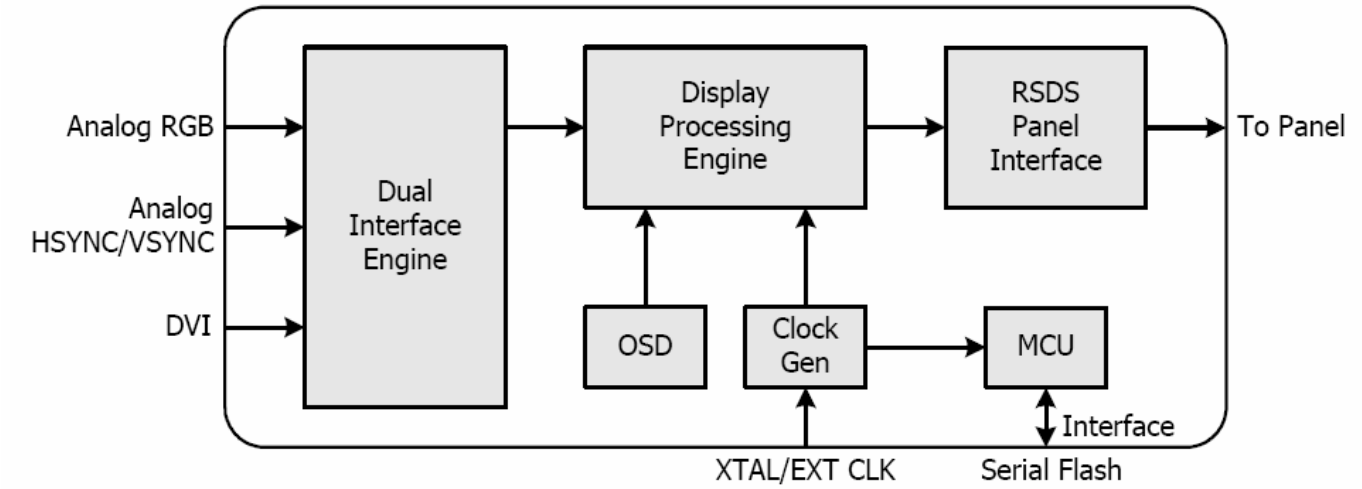
OSD Table

Layer 1	Layer 2	Layer 3
Auto Image Adjust		
Contrast/Brightness	Contrast (+ / -)	
	Brightness (+ / -)	
Audio Adjust	Volume (+ / -)	
	Mute	On/Off
Color Adjust	sRGB	
	9300K	
	6500K	
	5400K	
	5000K	
	User Color	Red (+ / -)
		Green (+ / -)
		Blue (+ / -)
Information		
Manual Image Adjust	Horizontal Size	+ / -
	H/V Position	H Position (+ / -)
		V Position (+ / -)
	Fine Tune	+ / -
	Sharpness	+ / -
Setup Menu	Language Select	English
		French
		German
		Spanish
		Italian
		Finnish
		Japanese
		Simplified Chinese
		Traditional Chinese
	Resolution Notice	On/Off
	Input Priority	On/Off
	OSD Position	H Position (+ / -)
		V Position (+ / -)
	OSD Time Out	5/15/30/60
	OSD Background	On/Off
Memory Recall		

4. Circuit Description

The TSUM57AK 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 TSUM57AK also integrates intelligent power management control capability for green-mode requirements and spread- spectrum support for EMI management.

The TSUM57AK 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 TSUM57AK 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

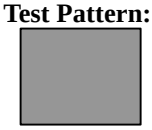
7. 25 Gray

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 (右→左，From 0 to 100% White)	Figure 1
2	Gray_Scale_0-100_H	Horizontal 64 (256) Gray Scale (上→下，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

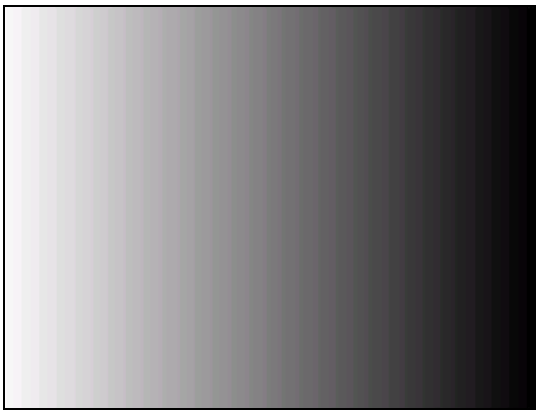


Figure 1

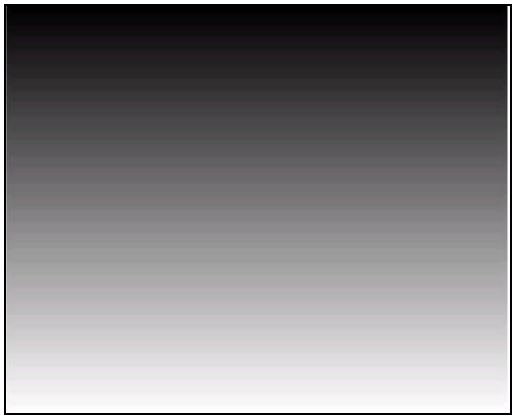


Figure 2

Figure 3

Figure 4

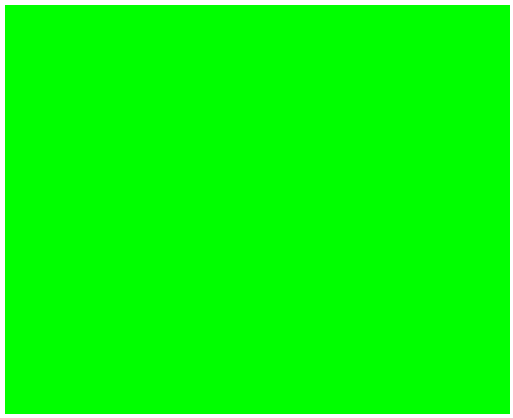


Figure 5

Figure 6

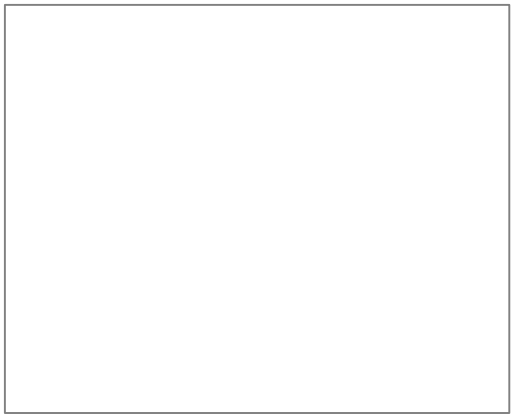


Figure 7

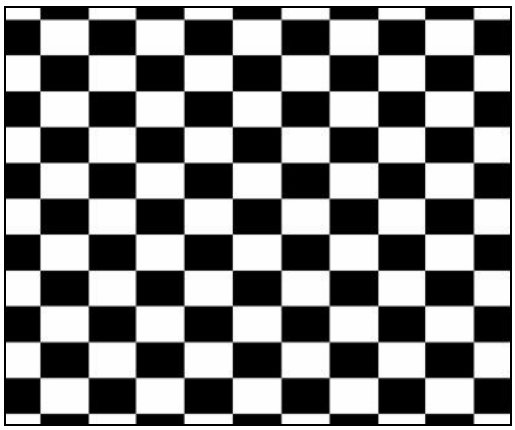


Figure 8

B BIOS update procedure

1. To setup ISP environment

Hardware:

PC or Notebook , Parallel(Printer) cable , ISP tool(Fig 1)

Software:

ISP driver .

If the O.S. was Win2000 or Win XP please have to install

PORT95NT.exe

Fig1

In order to ensure can execute ISP program, please set BIOS in PC or Notebook as Fig 2

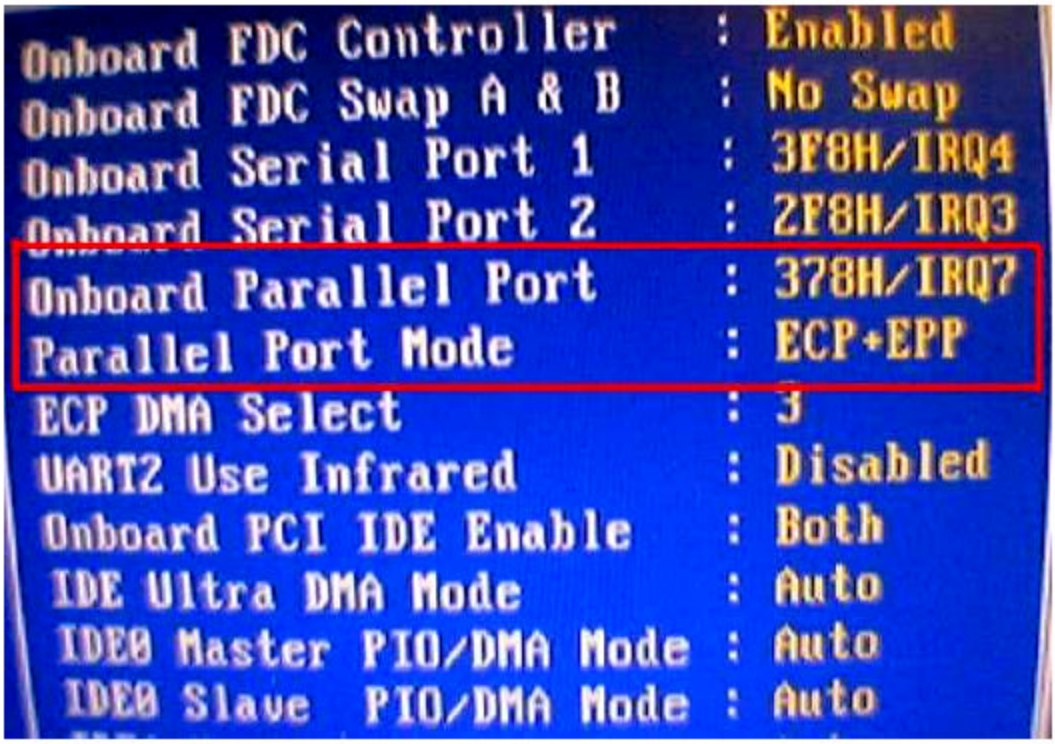


Fig 2

2. Install ISP

2.1 User could download ISP driver and PORT95NT install file from Myson Century website(//www.myson.com.tw)

2.2 After extracting the zip file, the total files list as Fig 2.2, and double click the file of setup.exe to install.

Fig 2.2

2.3 Press “ Next ” button to continue., see Fig 2.3

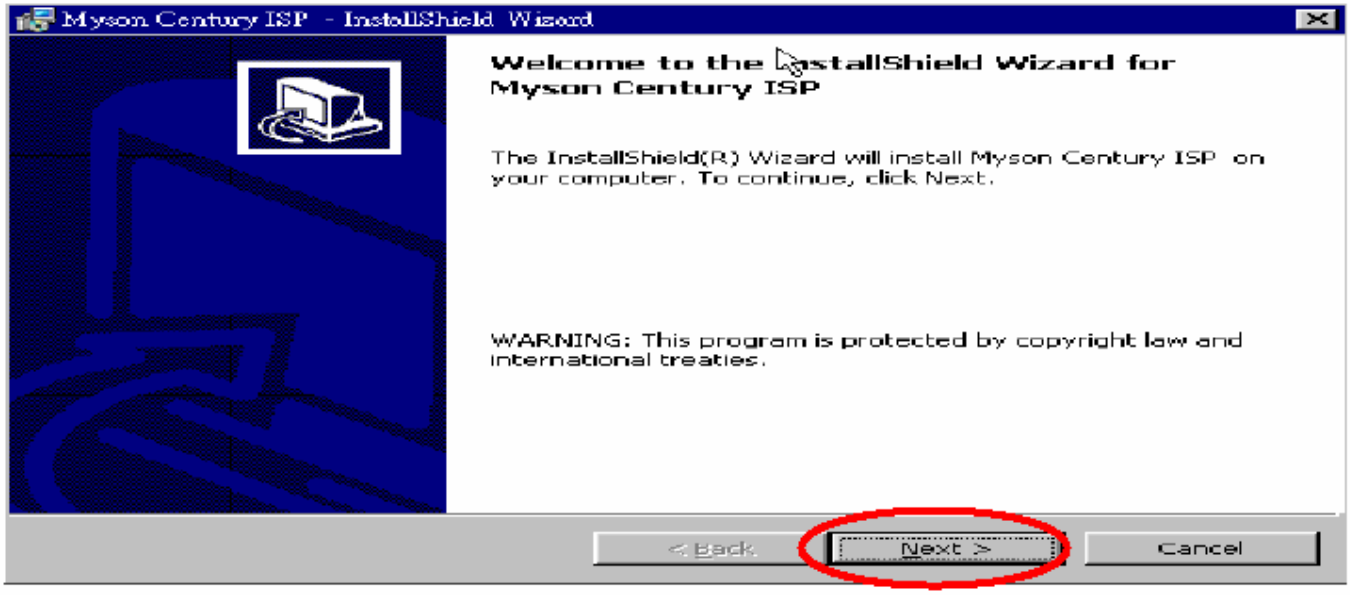


Fig 2.3

2.4 Keep default setting or press “ Change ” button for selecting the path that you want , and then press “ Next ” button to continue, see Fig 2.4.

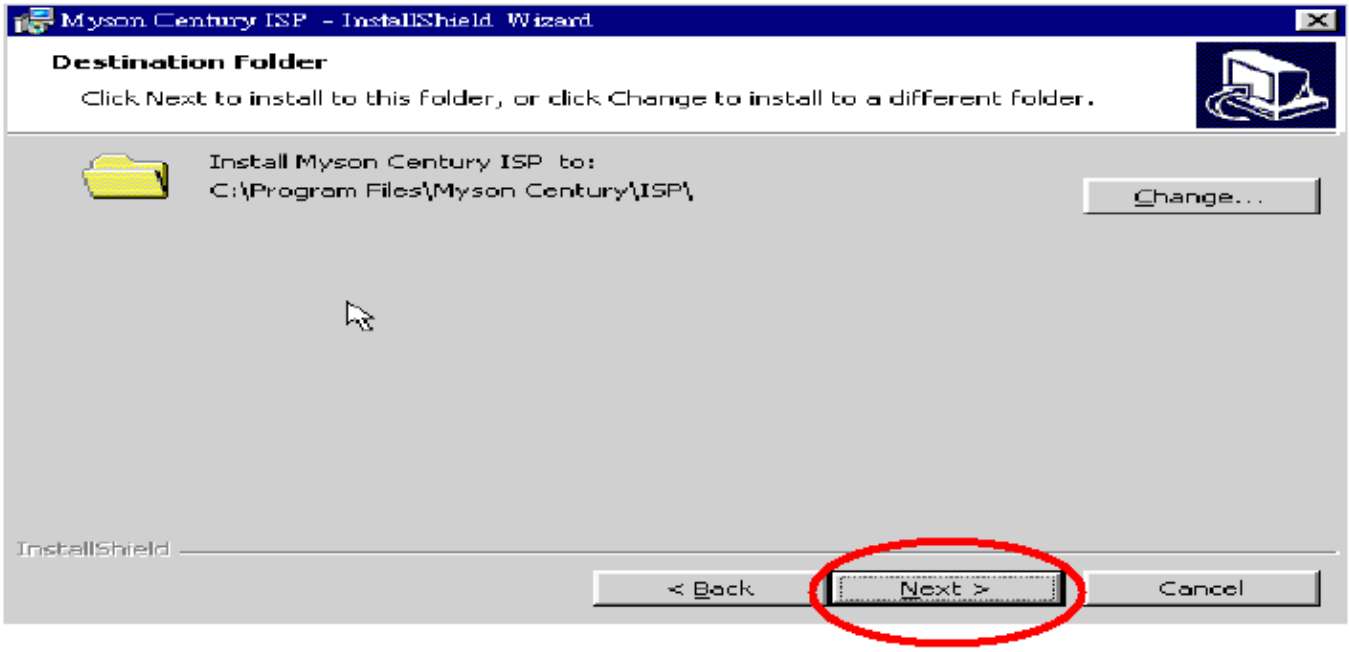


Fig 2.4

2.5 Press “ Install ” button to continue, see Fig 2.5

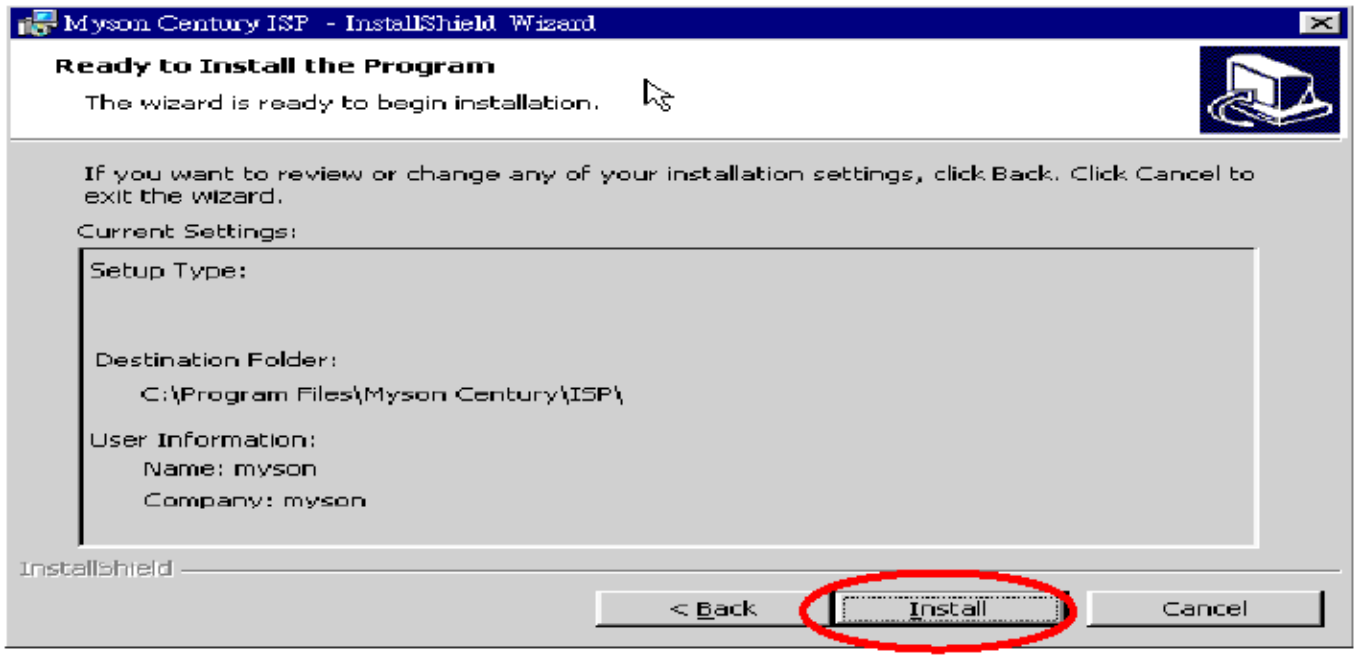


Fig 2.5

2.6 The Installer Information shows package warning, press “ Ignore ” button to continue, see Fig 2.6.

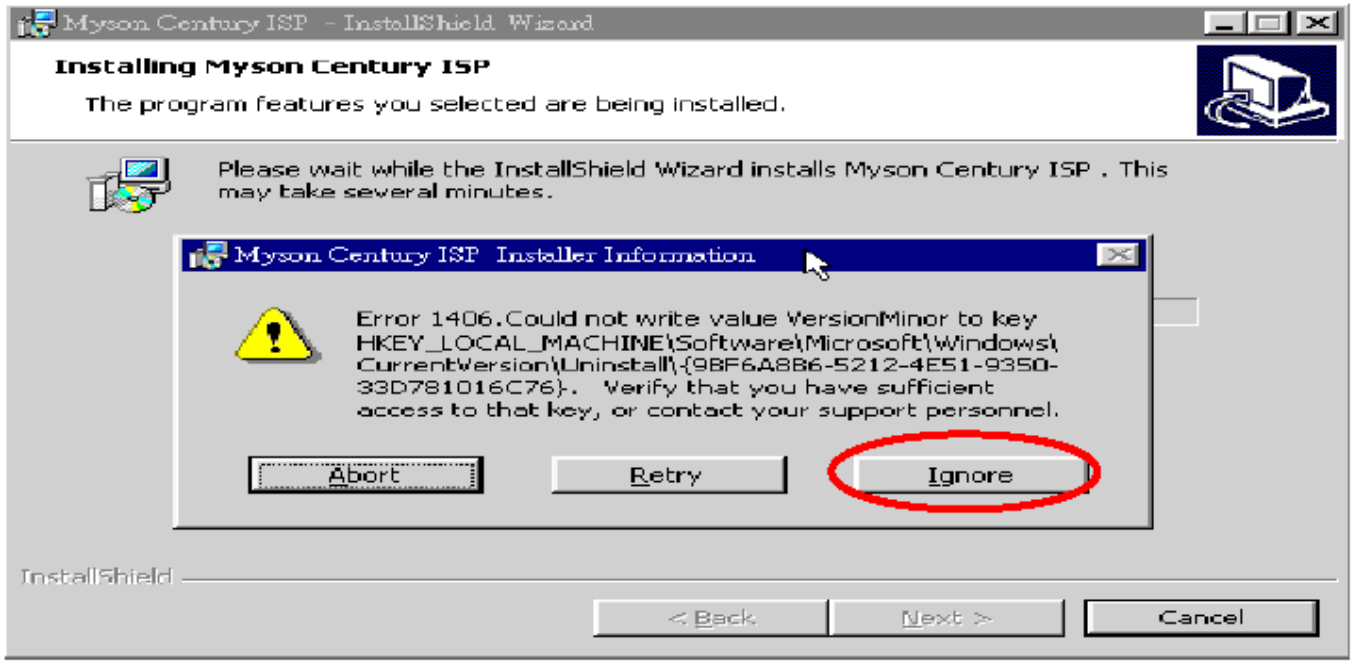


Fig 2.6

2.7 Installation has finished, press “ Finish ” button, see Fig 2.7.

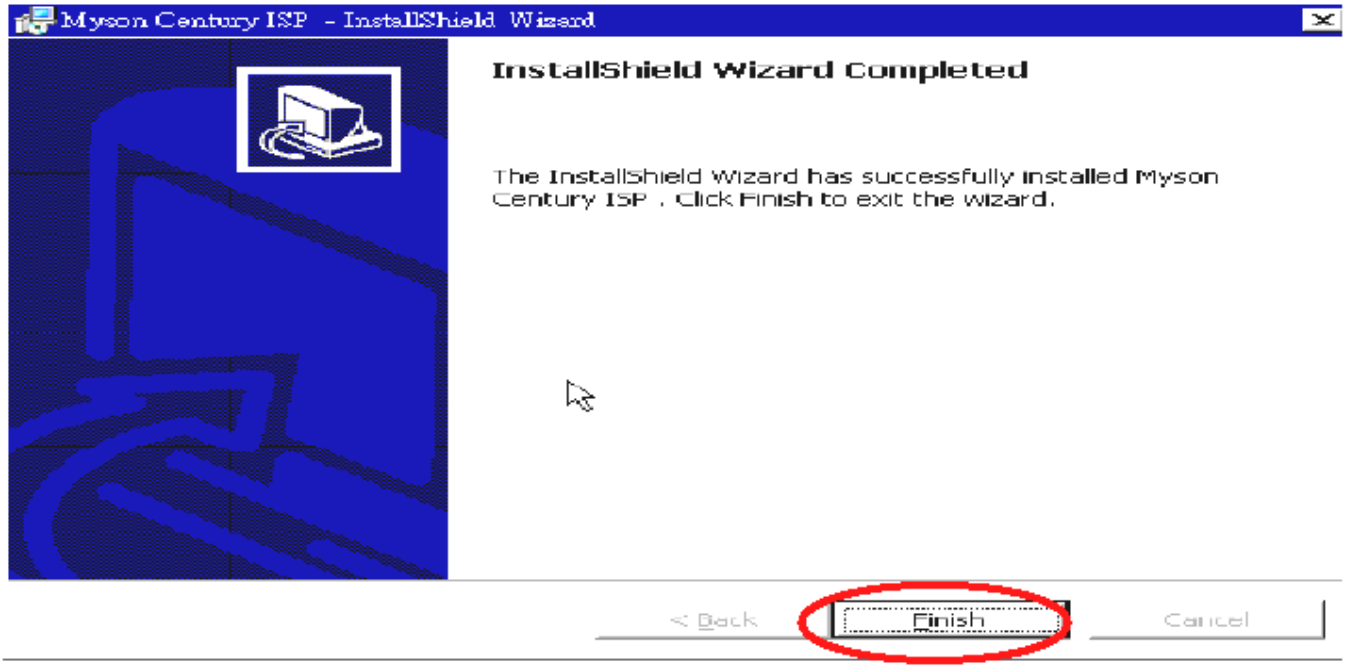


Fig 2.7

3. ISP security code

3.1 After installation, we could find the shortcut in the setting path or the program bar (default setting), see Fig 3.1.

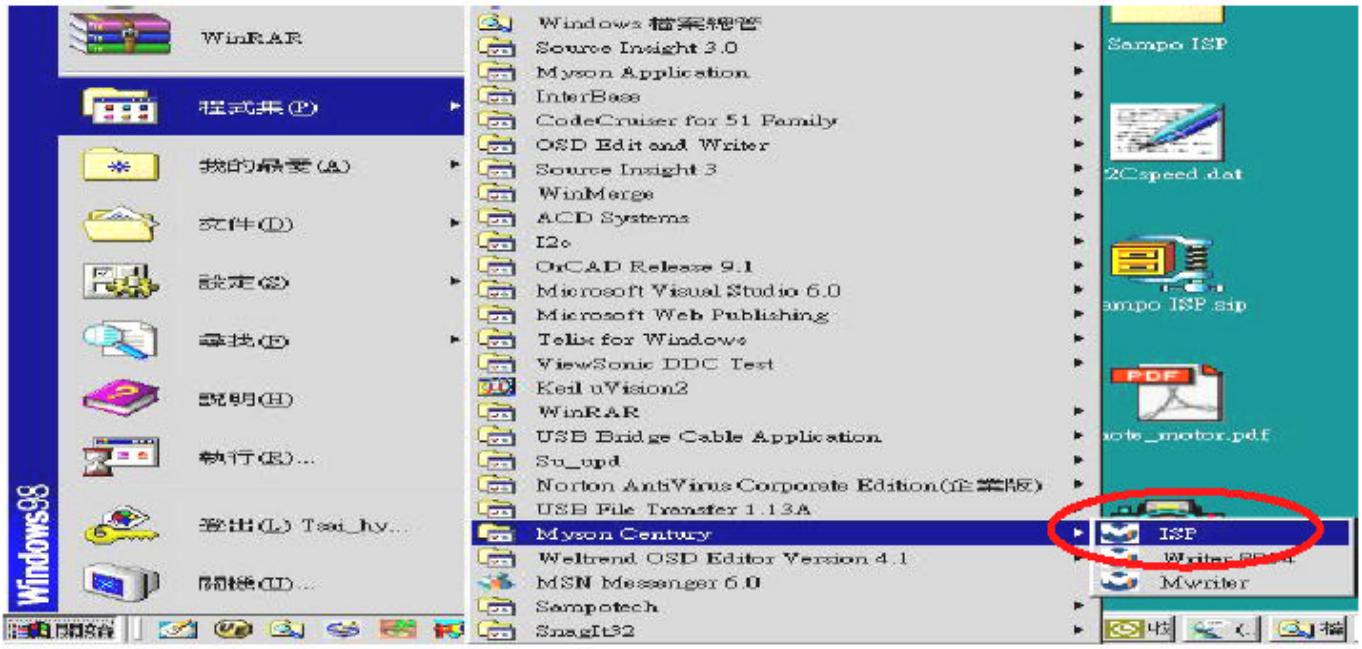


Fig 3.1

2.2 Security file is a key to use ISP function, press “**確定**” button, see Fig 3.2.

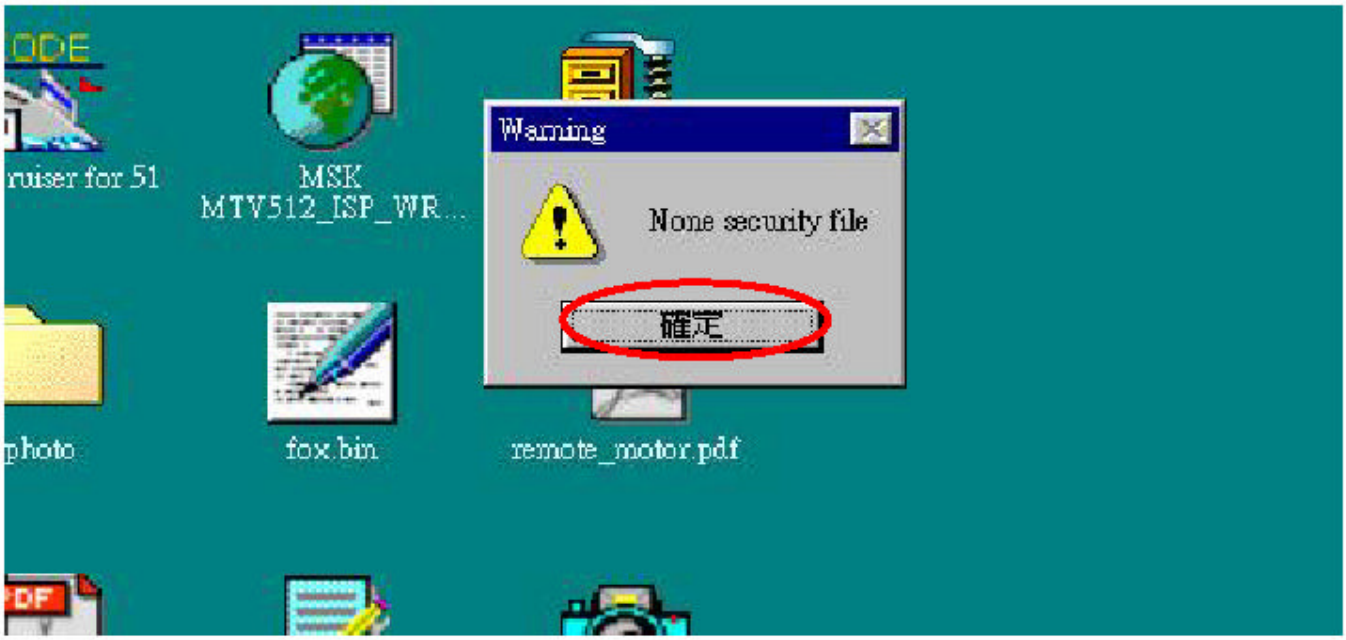


Fig 3.2

3.3 The warning is used to remind user of that different CPU rate may cause ISP function fail(it is limited by IIC protocol), press “**確定**” button, see Fig 3.3.

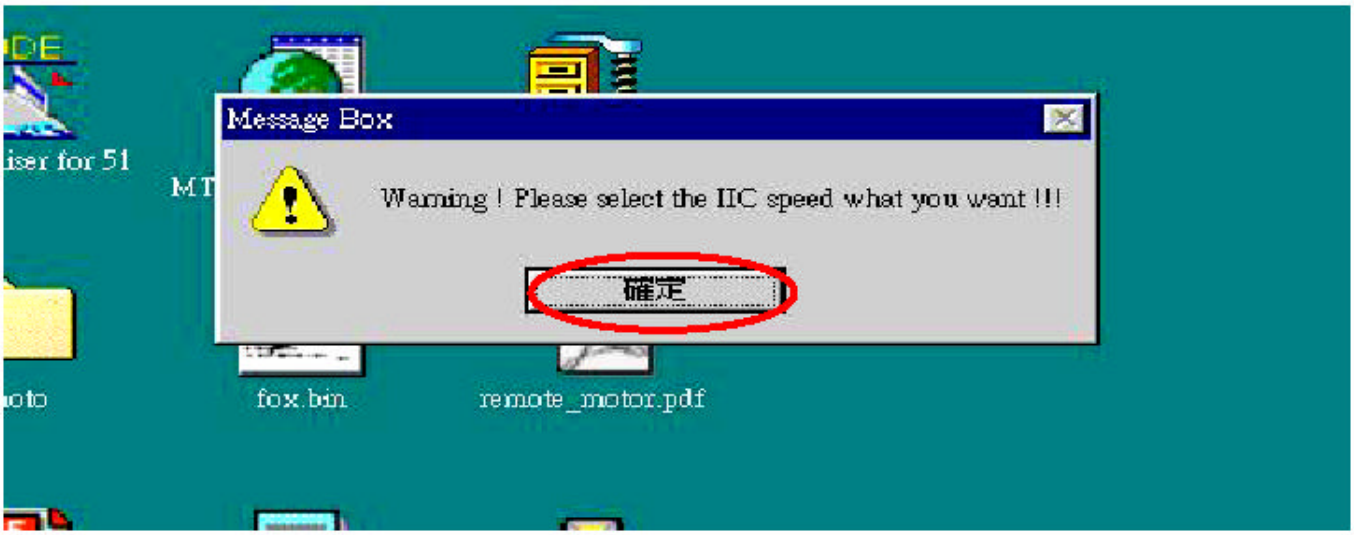


Fig 3.3

2.4 Press “Create Security File” button to key in **security code**. Adjusting bar to decrease **speed of IIC bus**, see Fig 3.4.

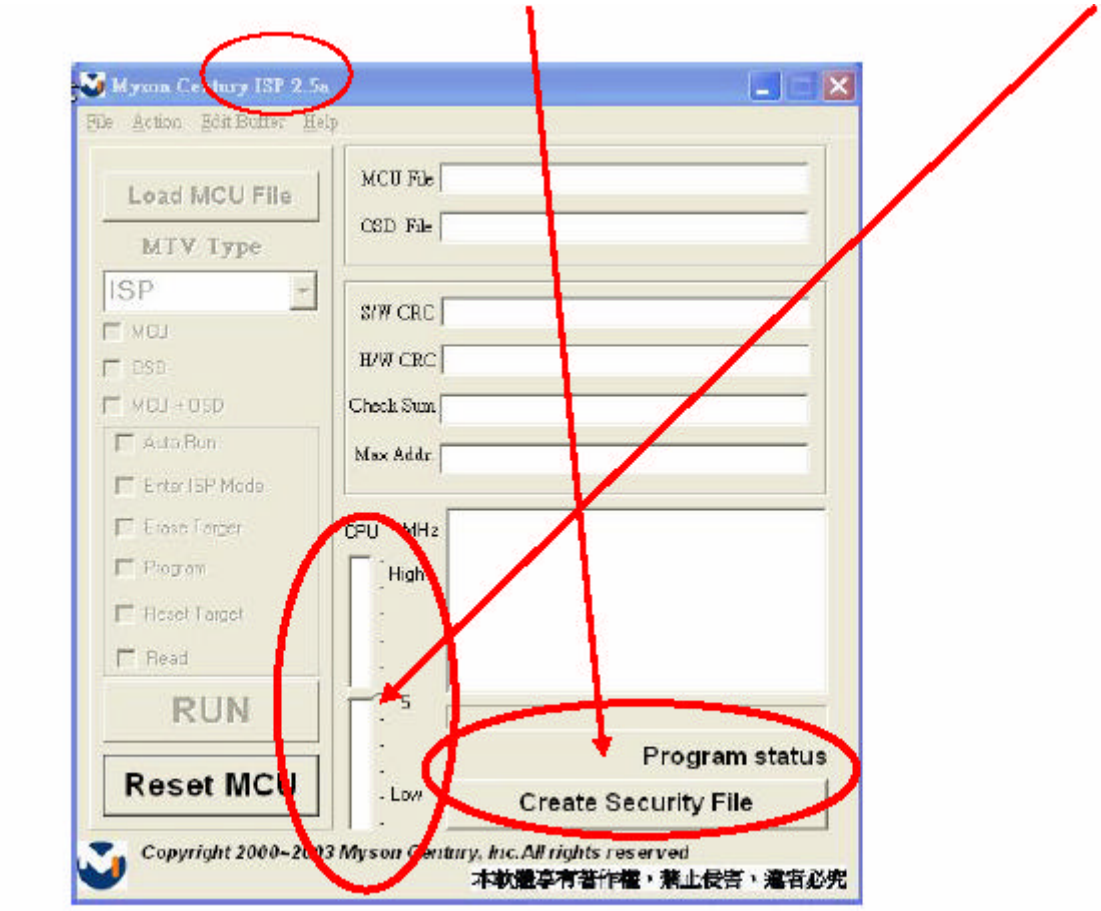


Fig 3.4

3.5 At least 2 Command No of security code, see Fig 3.5, and different security code between hardware ISP and software ISP. The security code of software ISP is set by user while coding, but the security code of hardware ISP is set by Myson Century.

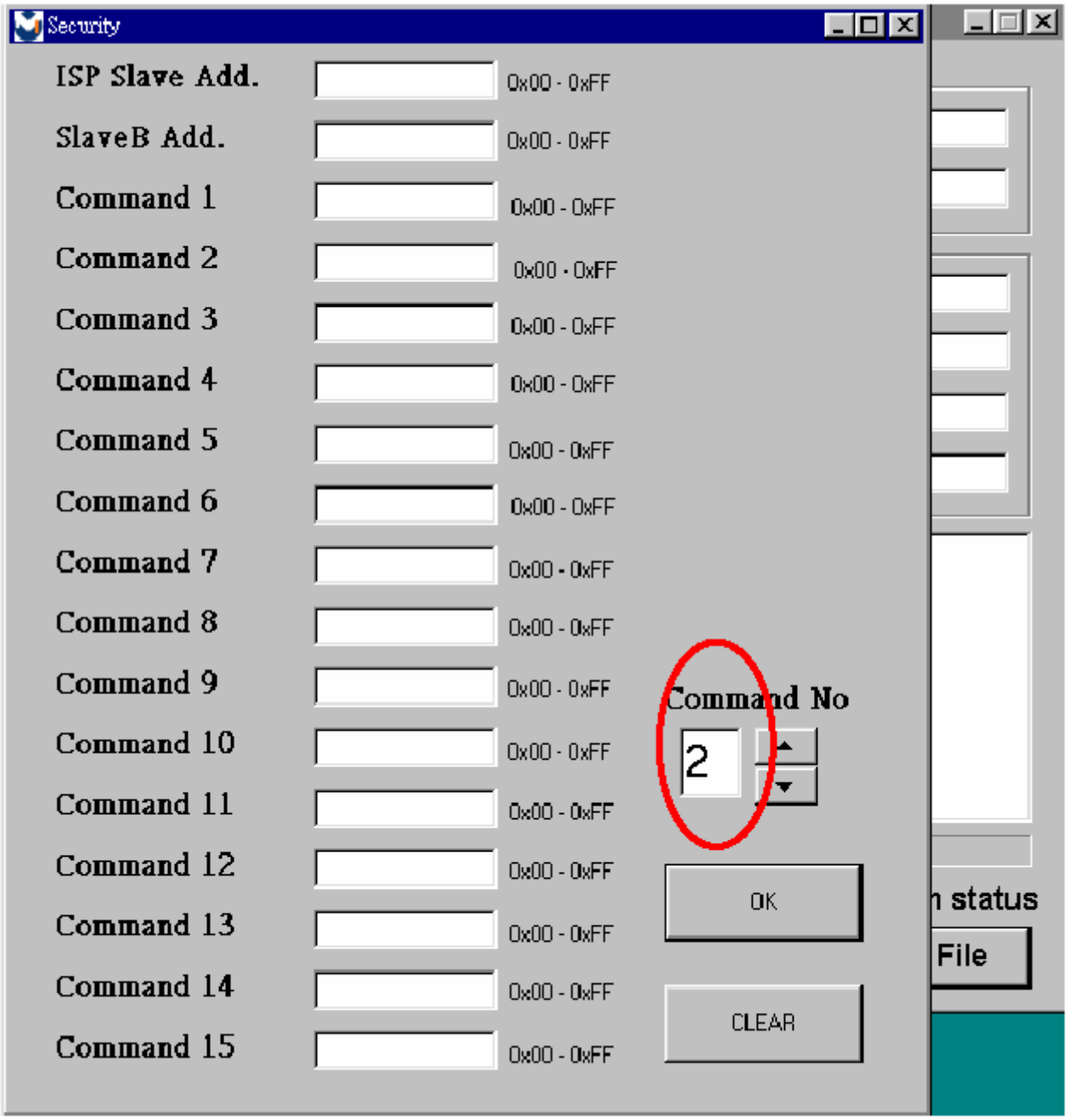


Fig 3.5

3.6 Fig 3.6 shows the setting for security code of **hardware ISP**, it needs **4** Command No, and key in command sequentially for **94, 94, AC, CA, 53**.

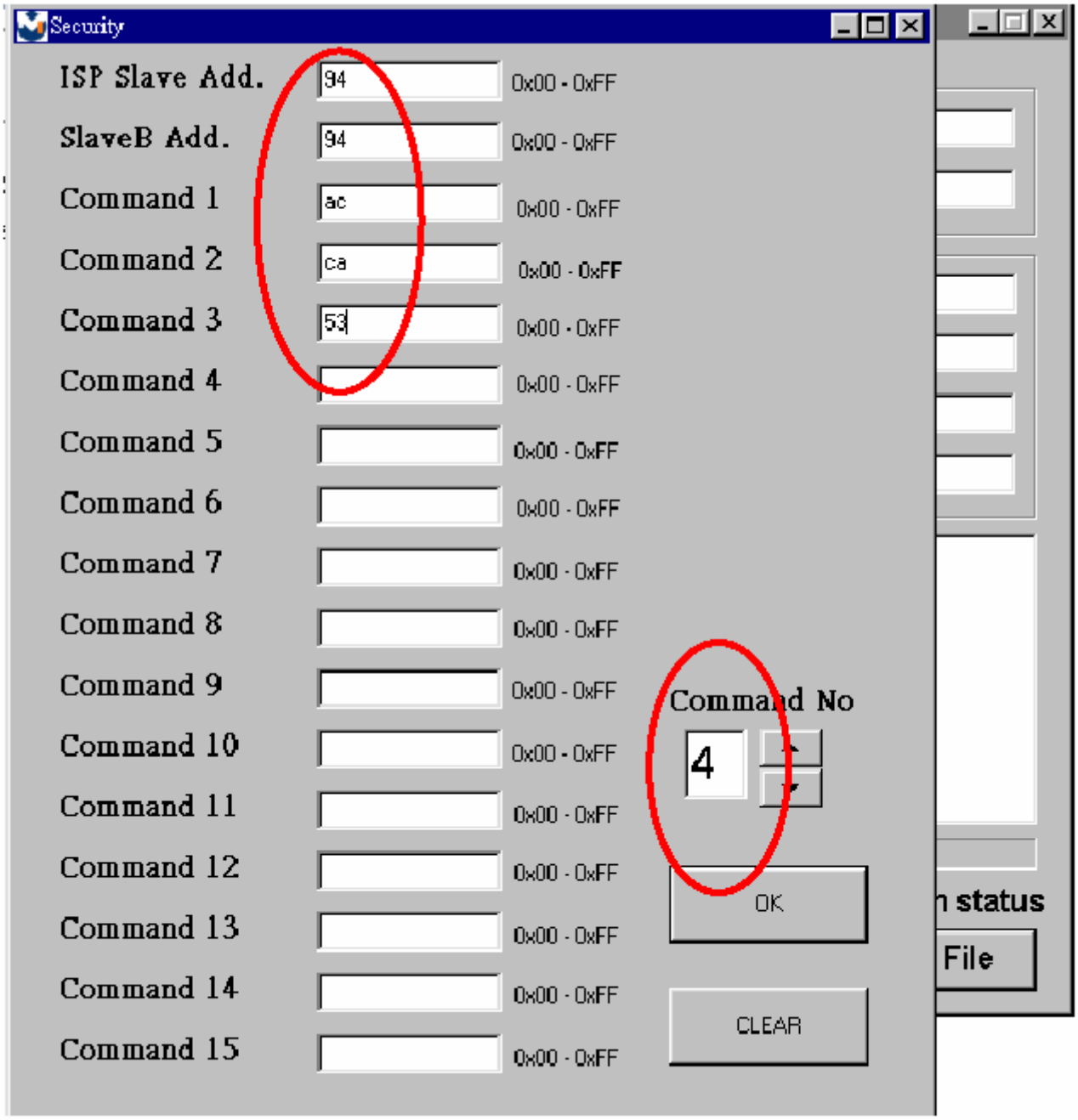


Fig 3.6

3.7 Fig 3.7 shows the setting for security code of **software ISP**, it needs **2** Command No, and key in command sequentially for **7C, 4C, 77**. The Command No and command must be set by user while coding. About the detail of setting, please refer to Section 6 Boot code of ISP.

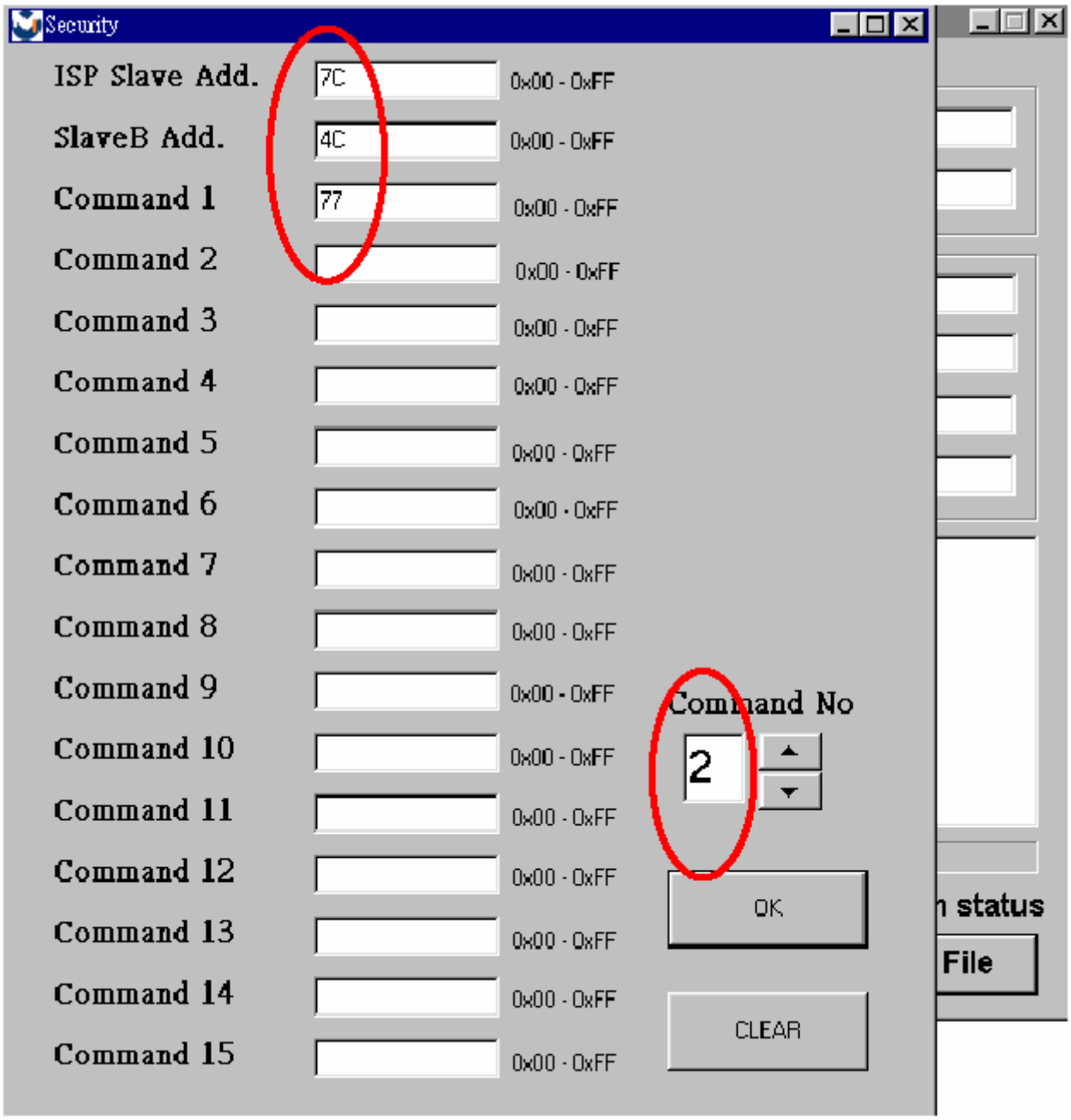


Fig 3.7

4. Use ISP to program MCU

4.1 Select MTV type first, load the binary or Intel hex file that you want to program into the MCU, and select “Auto” item, then press “RUN” button, see Fig 4.1.

4.2 If user changes the MTV type, it must load file again, or the buffer of load file will be cleared.

4.3 CRC (cyclic redundancy check): the host can check CRC register’s result instead of reading every byte in flash. The message of Check MCU CRC OK means that the Host verify ok for the progress of program.

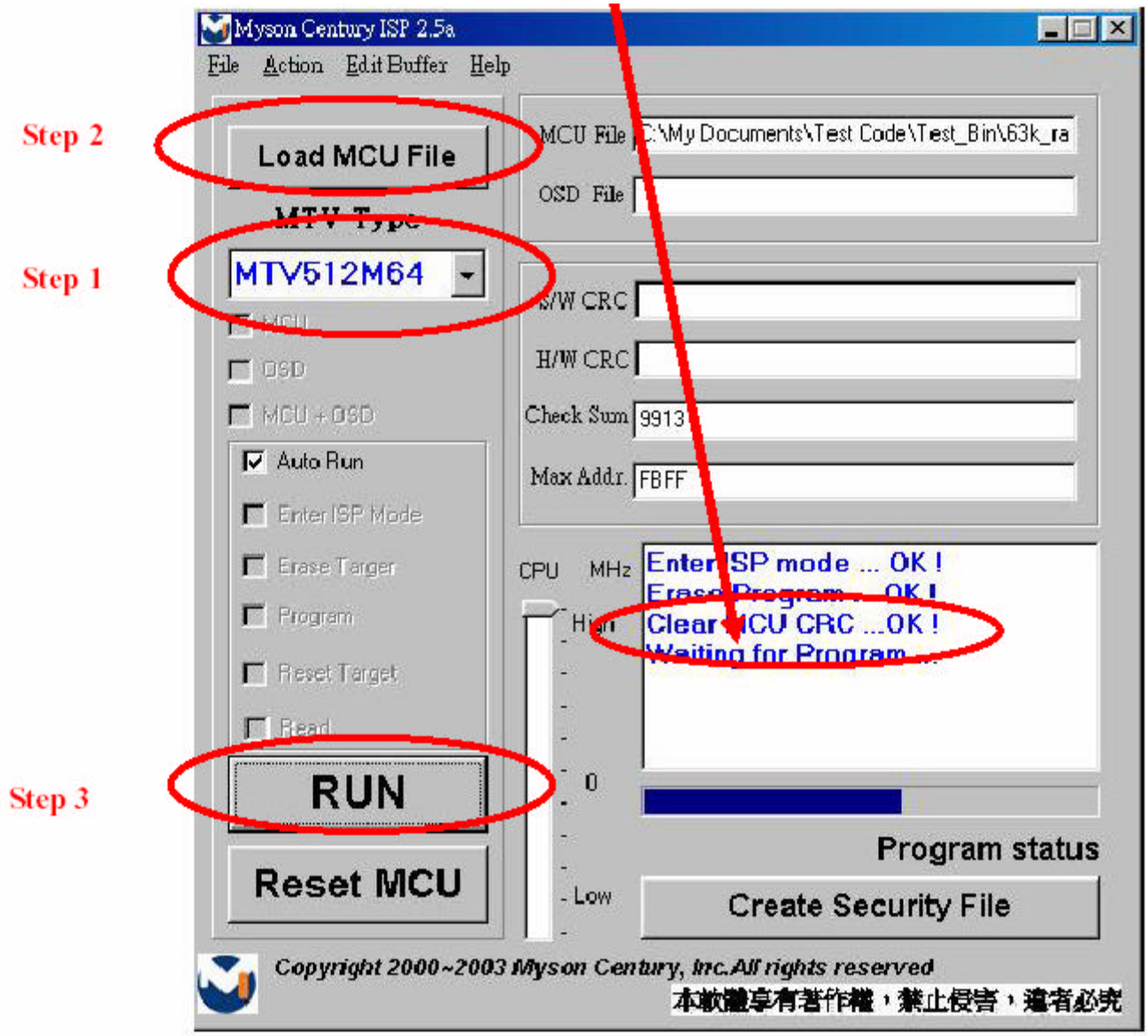
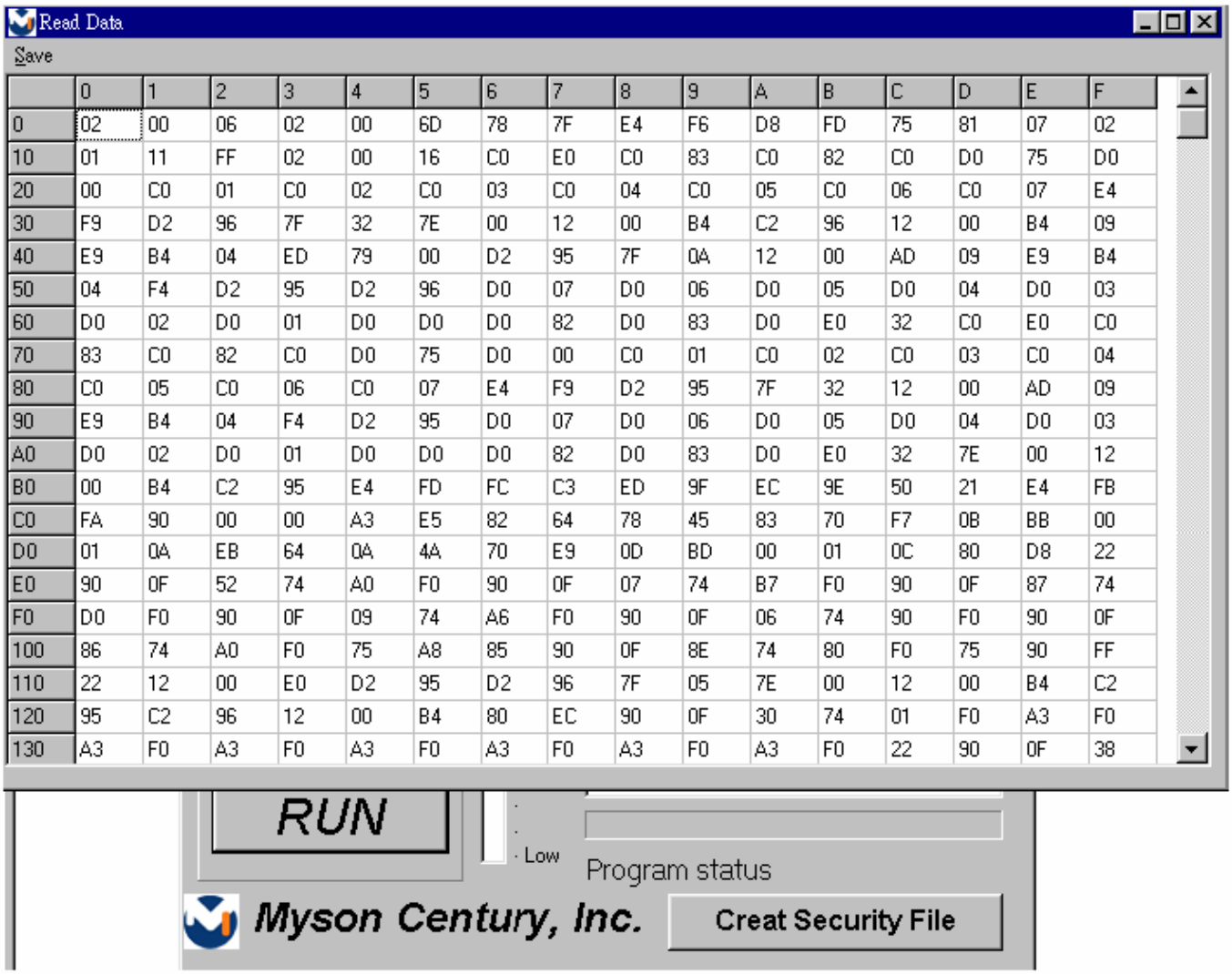


Fig 4.1

5 Use ISP to read MCU content

5.1 Only software ISP could read the MCU content, it is according to program the boot code while coding. The limitation is used for the security of customer ’s code. Select “ Read Target ” item, and press “ RUN ” button, the MCU content will show as Fig 5.1.



	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	02	00	06	02	00	6D	78	7F	E4	F6	D8	FD	75	81	07	02
10	01	11	FF	02	00	16	C0	E0	C0	83	C0	82	C0	D0	75	D0
20	00	C0	01	C0	02	C0	03	C0	04	C0	05	C0	06	C0	07	E4
30	F9	D2	96	7F	32	7E	00	12	00	B4	C2	96	12	00	B4	09
40	E9	B4	04	ED	79	00	D2	95	7F	0A	12	00	AD	09	E9	B4
50	04	F4	D2	95	D2	96	D0	07	D0	06	D0	05	D0	04	D0	03
60	D0	02	D0	01	D0	D0	D0	82	D0	83	D0	E0	32	C0	E0	C0
70	83	C0	82	C0	D0	75	D0	00	C0	01	C0	02	C0	03	C0	04
80	C0	05	C0	06	C0	07	E4	F9	D2	95	7F	32	12	00	AD	09
90	E9	B4	04	F4	D2	95	D0	07	D0	06	D0	05	D0	04	D0	03
A0	D0	02	D0	01	D0	D0	D0	82	D0	83	D0	E0	32	7E	00	12
B0	00	B4	C2	95	E4	FD	FC	C3	ED	9F	EC	9E	50	21	E4	FB
C0	FA	90	00	00	A3	E5	82	64	78	45	83	70	F7	0B	BB	00
D0	01	0A	EB	64	0A	4A	70	E9	0D	BD	00	01	0C	80	D8	22
E0	90	0F	52	74	A0	F0	90	0F	07	74	B7	F0	90	0F	87	74
F0	D0	F0	90	0F	09	74	A6	F0	90	0F	06	74	90	F0	90	0F
100	86	74	A0	F0	75	A8	85	90	0F	8E	74	80	F0	75	90	FF
110	22	12	00	E0	D2	95	D2	96	7F	05	7E	00	12	00	B4	C2
120	95	C2	96	12	00	B4	80	EC	90	0F	30	74	01	F0	A3	F0
130	A3	F0	A3	F0	A3	F0	A3	F0	A3	F0	A3	F0	22	90	0F	38

Fig 5.1

5.2 If user uses hardware ISP to read MCU content, it shows as Fig 5.2.

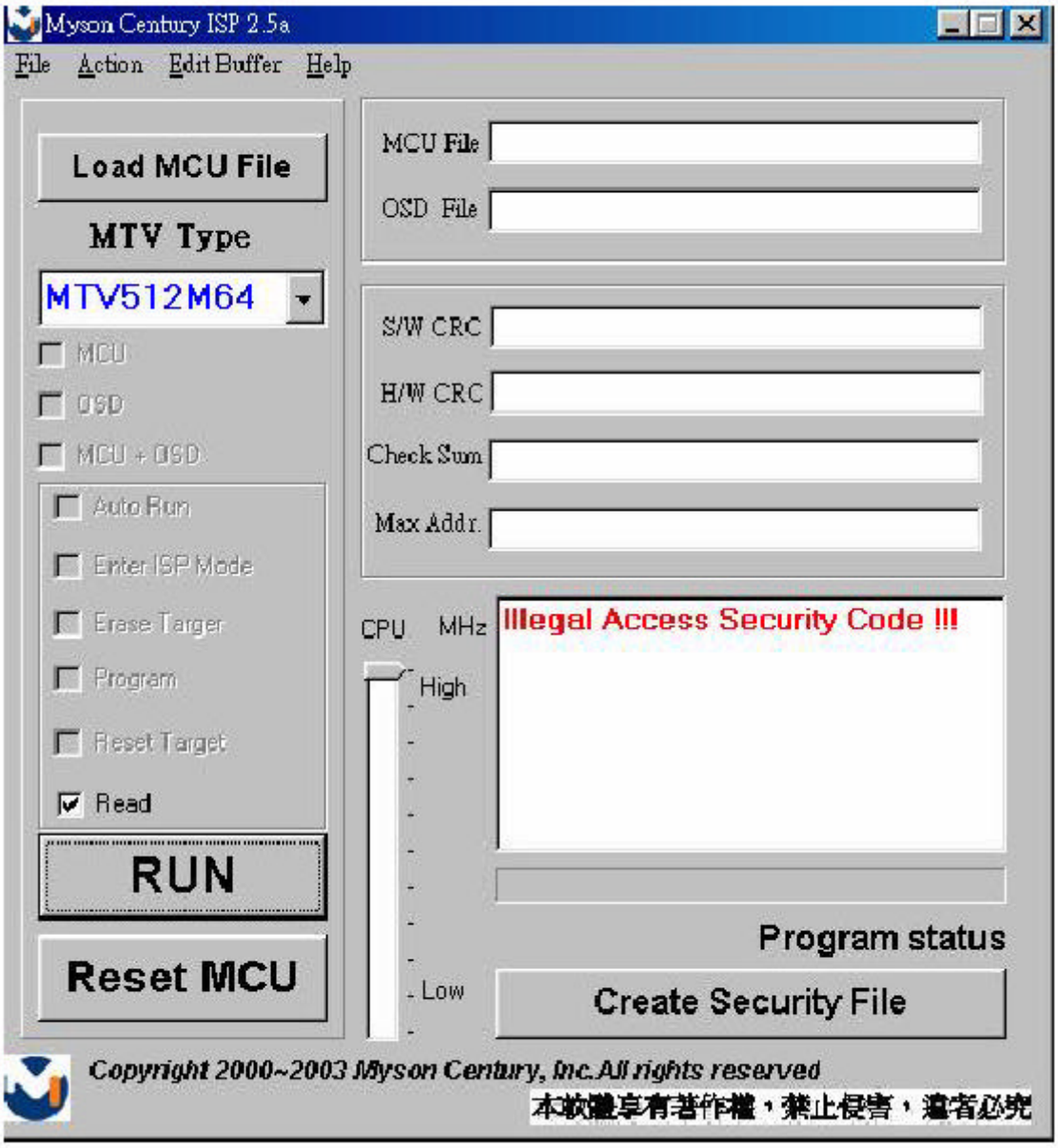
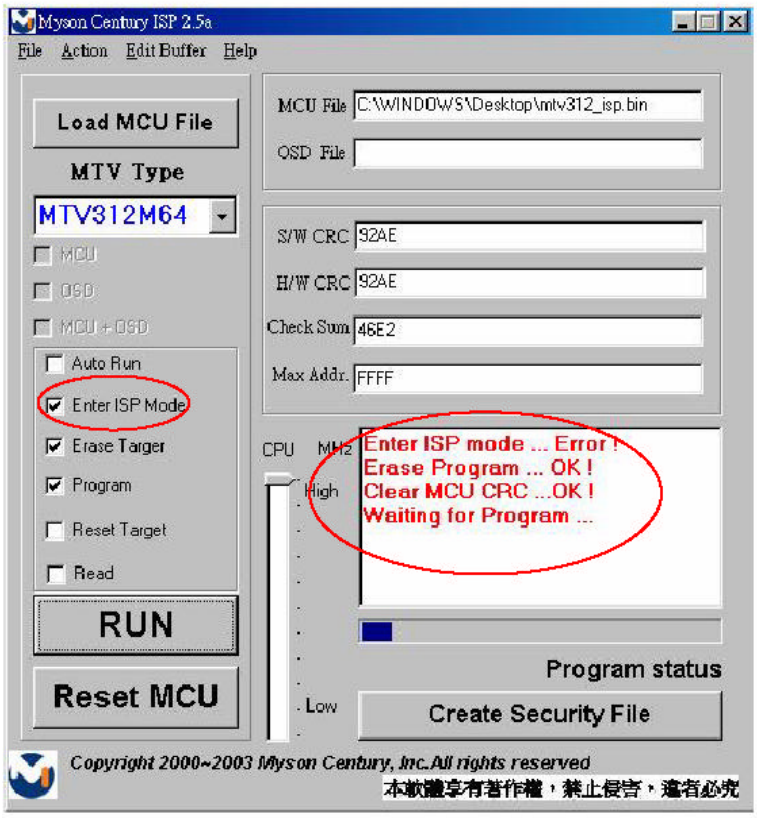
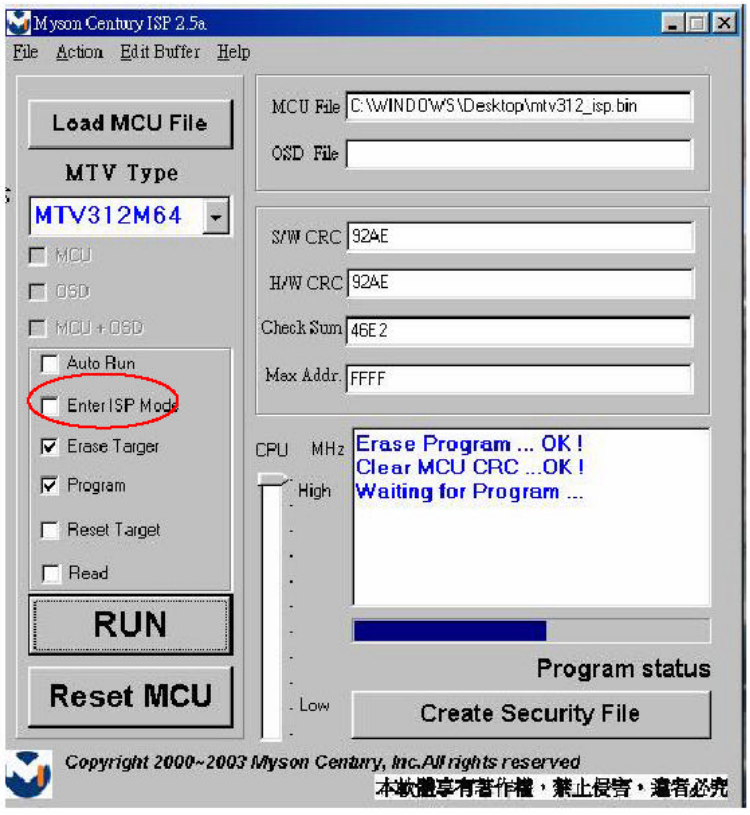


Fig 5.2

6 Re-entry the ISP Mode

When you could not select or click ‘ **Reset MCU** ’ button and enter ISP mode again, you refer the message as below:





Note:

(1)Disable the ‘ Enter ISP Mode ’ option to avoid the error message display.

(2)If you using the MTV312M64 or before MCU serials, the MCU will always in ‘ ISP Mode ’ even programming fail or erase MCU that instead of select or press ‘ Reset MCU ’.

7. Boot code of ISP

7.1 Hardware ISP

(1) Without boot code

(2) Fixed security code: 94, 94, AC, CA, 53

(3) Attention to the pin of HSCL (1) and HSDA (1) should keep in enable

(4) MTV412M, MTV512M, CS8954 support hardware ISP

7.2 Software ISP

(1) With boot code

(2) User define the security code

(3) Attention to the pin of HSCL (1) and HSDA (1) should keep in enable

(4) Only software ISP could read the MCU content

(5) MTV212M, MTV312M, MTV230M, MTV412M, MTV512M, CS8954 support software ISP

7.3 Boot code of software ISP

(1) Initialize MCU

(a) Define the I/O pin to HSCL (1) and HSDA (1)

(b) Define the slave B address

(c) Enable 8051 INT1 (ISR 2)

(2) Coding for INT1 while get into ISP mode

(a) Clear watchdog to prevent reset during ISP period

(b) Disable all interrupt to prevent CPU wake-up

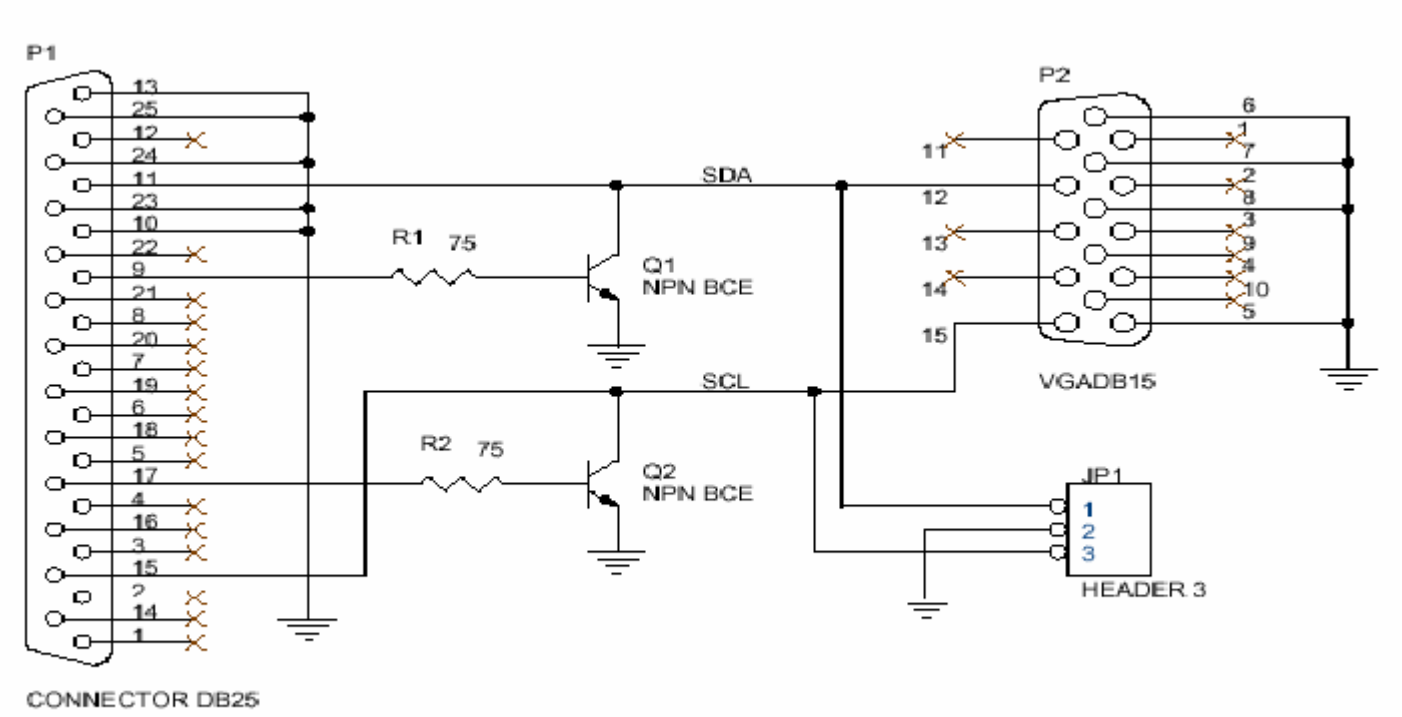
(c) Write ISP slave address

(d) Write 93h to ISP enable address to enable ISP

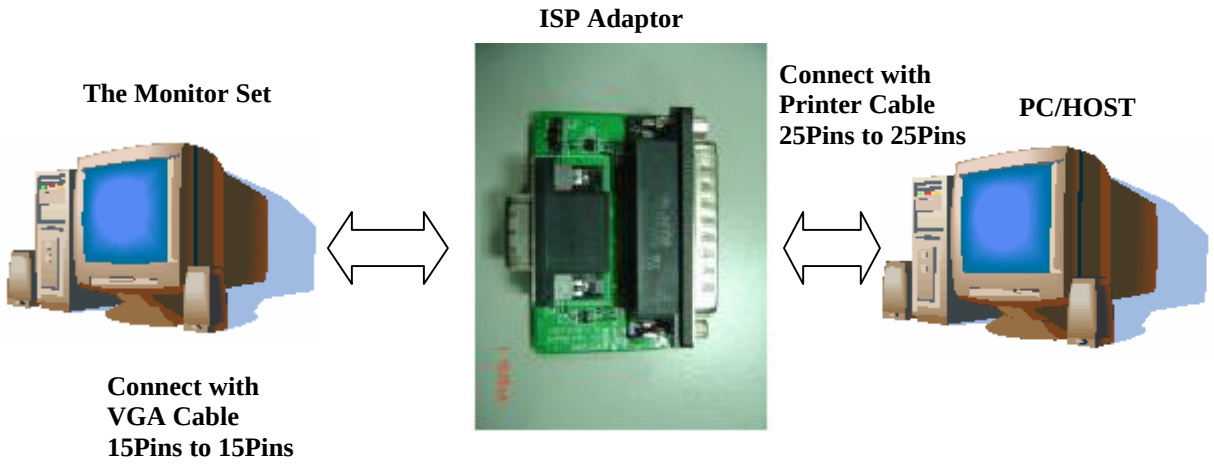
(e) Enter 8051 idle mode

7.4 The followings show the relationship between the code and the security code.

8. ISP Adaptor Schematic



9. Adaptor Linking



Packing For Shipping And Disassembly Procedure

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

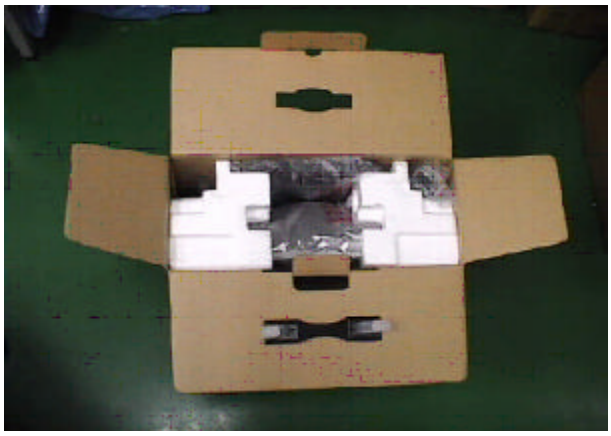


Figure 4

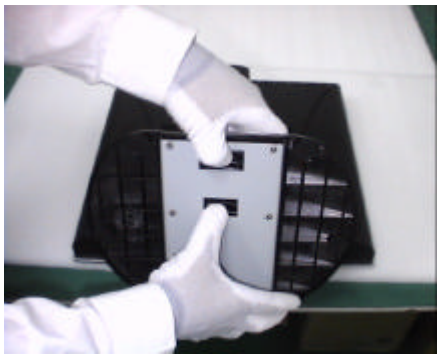
Monitor Assembly and Disassembly

1 Separate Stand Assy

1.1 Remove Stand Cover

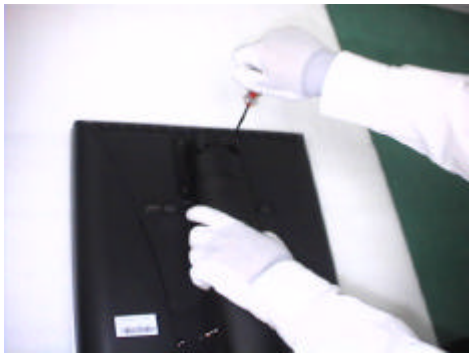
Step 1 :

Remove Seat Assy



Step 2 :

Loose and Remove 4 screws



Step 3:

Remove Stand Assy

Step 4:

Completed

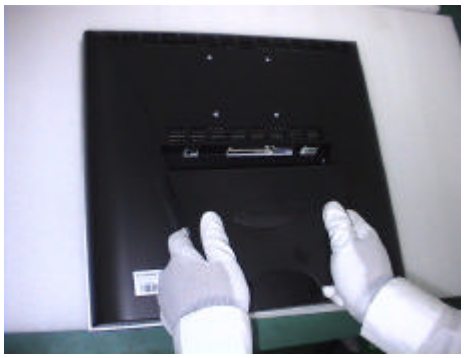
2 Separate Rear Cover (Rear Case Assy)

Loosen and remove 5 screws.

Separate Bezel hooks to take Bezel and Rear Cover apart.

Step 1:

Remove Cover Hinges



Step 2 :

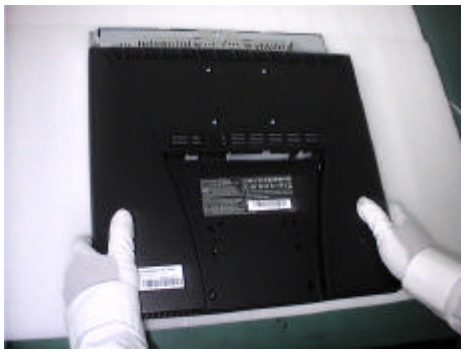
Loose and remove 2 screws.

Step 3 :

Separate Bezel hooks to take Bezel and Rear Cover apart.

Step 4 :

Remove Rear Cover

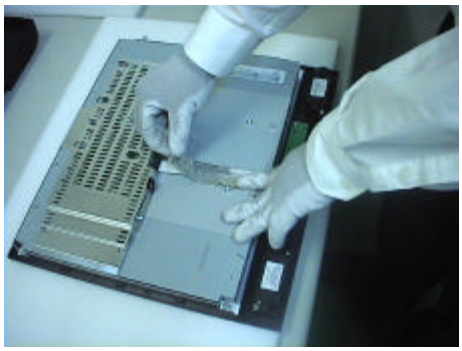


Step 5 :

Completed

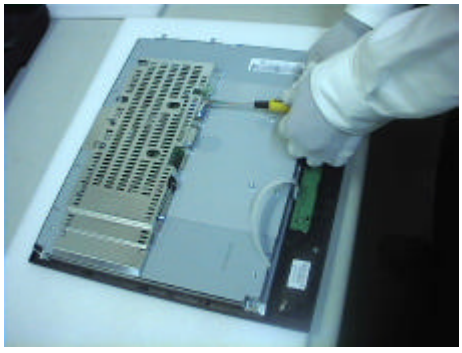
3 Remove Power Board

3.1 Remove the Tinfoil



3.2 Remove FFC

3.3 Remove Metal Cover



Step 1 :
Loose and remove 4 screws

Step 2 :
Loose and remove 6 screws

Step 3 :
Remove the Cover of X-PCB

Step 4 :
Completed

3.4 Remove Power PCBA

Step 1 :
Loose and remove 3 screws

Step 2 :
Remove Power PCBA

Step 3 :
Completed

4 Change New Power Board

Step 1 :
Insert New Power PCBA

Step 2 :
Fasten 3 fixed screws of Power PCBA

Step 3 :
Completed

5 Remove AD PCBA

5.1 Remove FFC

Step 1 :
Remove 2 FFC from AD PCBA

Step 2 :
Completed

5.2 Remove AD PCBA

Step 1 :
Loose and remove 1 screw

Step 2 :
Remove AD PCBA

Step 3 :
Completed

6 Change New AD PCBA

Step 1 :
Place New AD PCBA

Step 2 :
Fasten 1 screw

Step 3 :
Insert 2 FFC

Step 4 :
Completed

7 Metal Cover Assembly

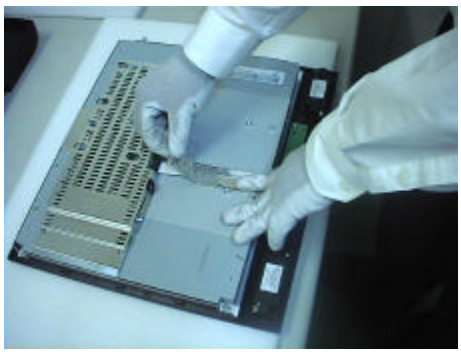
Step 1 :
Join the cover hooks of X-PCB

Step 2 :
Fasten the 6 screws

Step 3 :
Fasten 2 screws

Step 4 :
Insert FFC

Step 5 :
Attach the Tinfoil



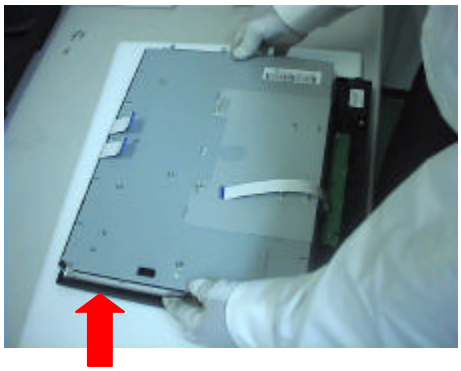
Step 6 :
Completed

8 Separate Bezel Assy

Step 1 :
Loose and remove 4 screws

Step 2 :
Lift up LCD module and remove Bezel

Step 3 :
Completed

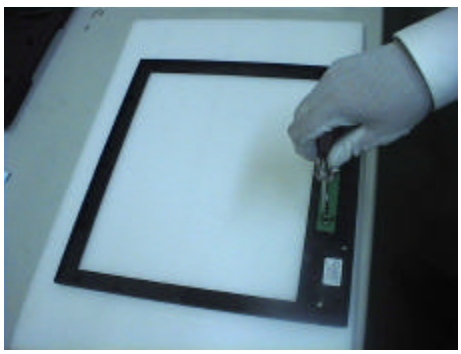


9 Remove OSD PCBA

Step 1 :
Remove FFC

Step 2 :
Separate both Audio Cable

Step 3 :
Loose and remove 2 screws



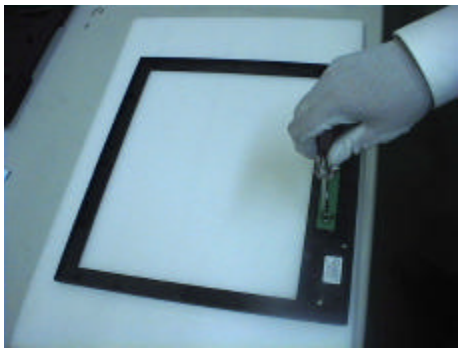
Step 4 :
Take OSD PCBA apart

Step 5 :
Completed

10 Change New OSD PCBA

Step 1 :
Place New OSD PCBA

Step 2 :
Fasten 2 screws

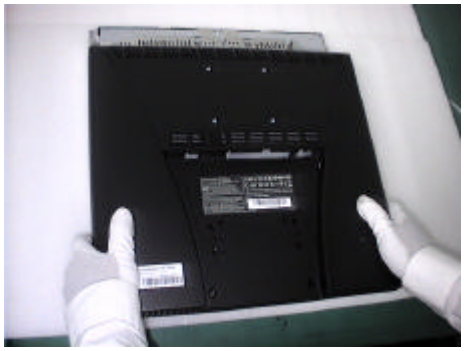


Step 3 :
Insert Audit Cable to connectors of OSD PCBA

Step 4 :
Completed

11 Rear Cover Assy Assembly

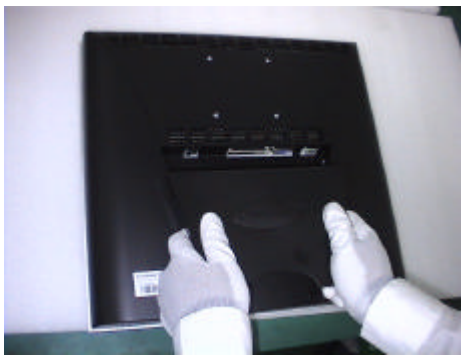
Step 1 :
Place Rear Cover



Step 2 :
Join Rear Cover with Bezel

Step 3 :
Fasten 2 screws

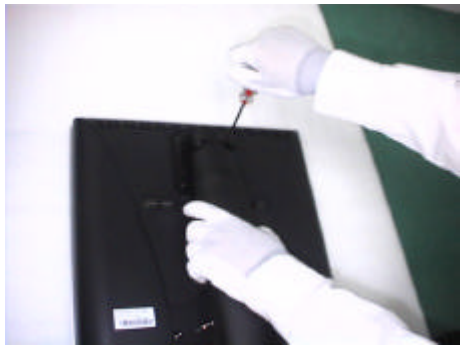
Step 4 :
Join Cover Hinge



12 Stand Assy Assembly

Step 1 :
Place Stand Assy

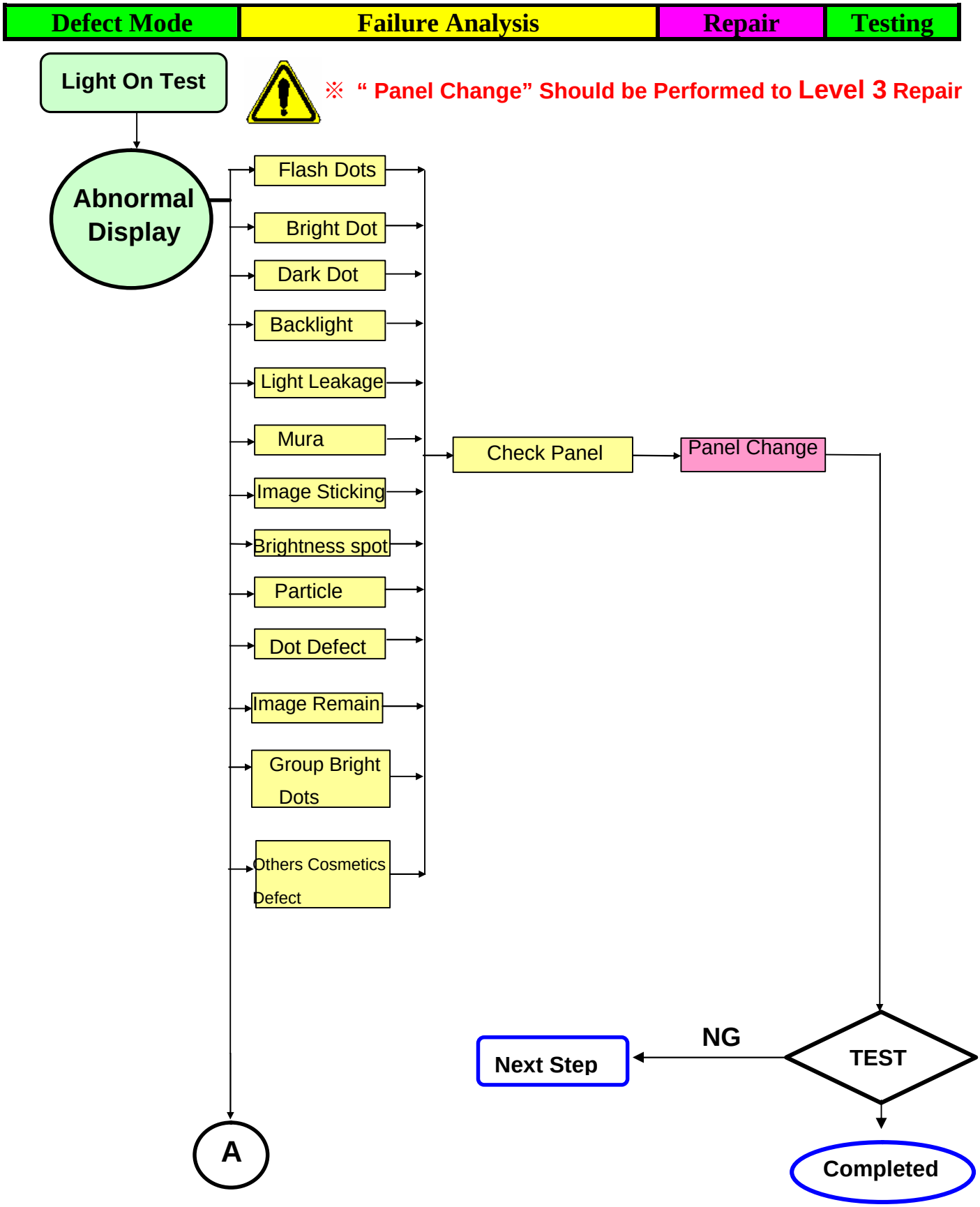
Step 2 :
Fasten 4 screws to fixed Stand Assy



Step 3 :
Join Seat Assy

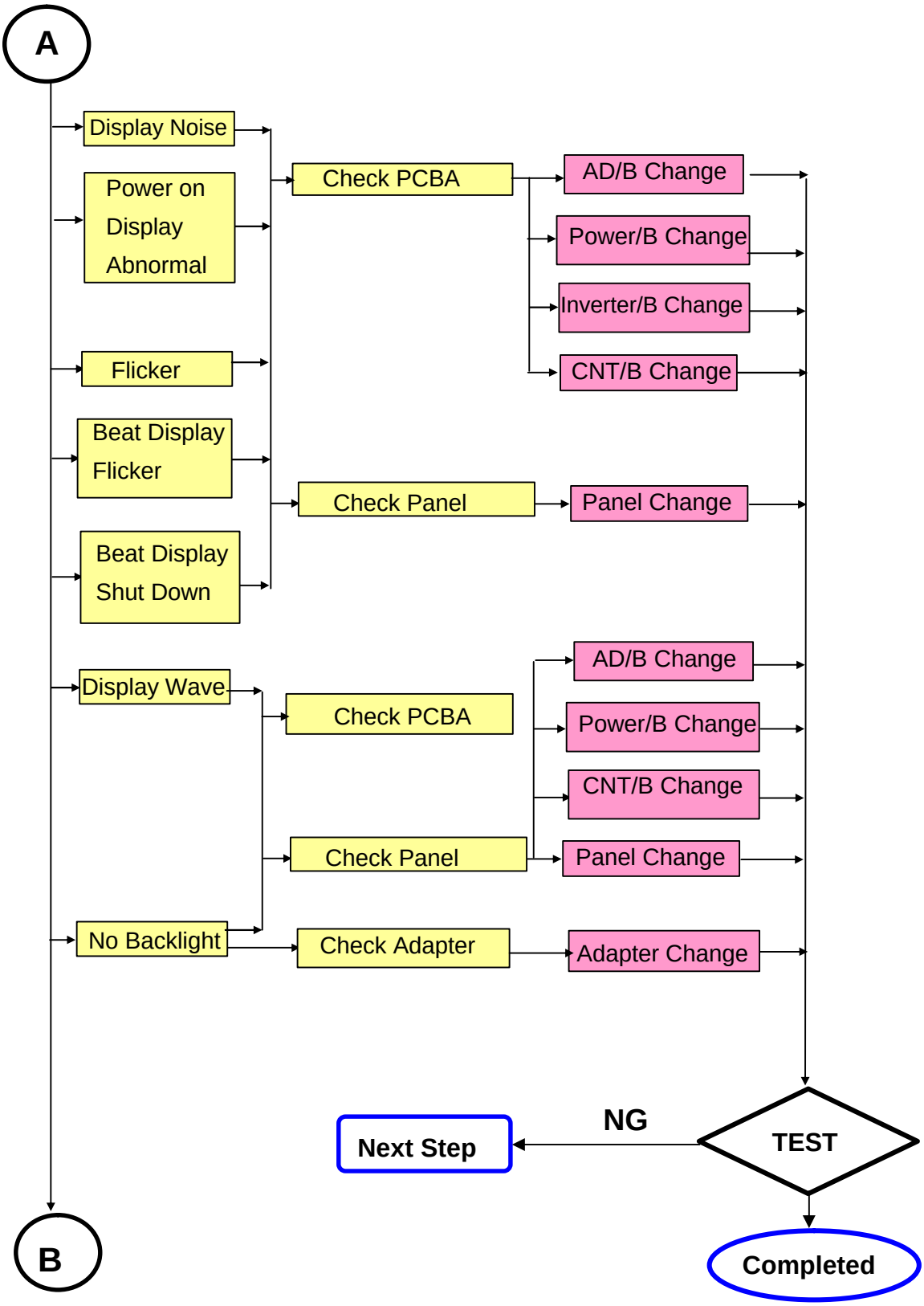
Step 4 :
Completed

6. Troubleshooting Flow Chart

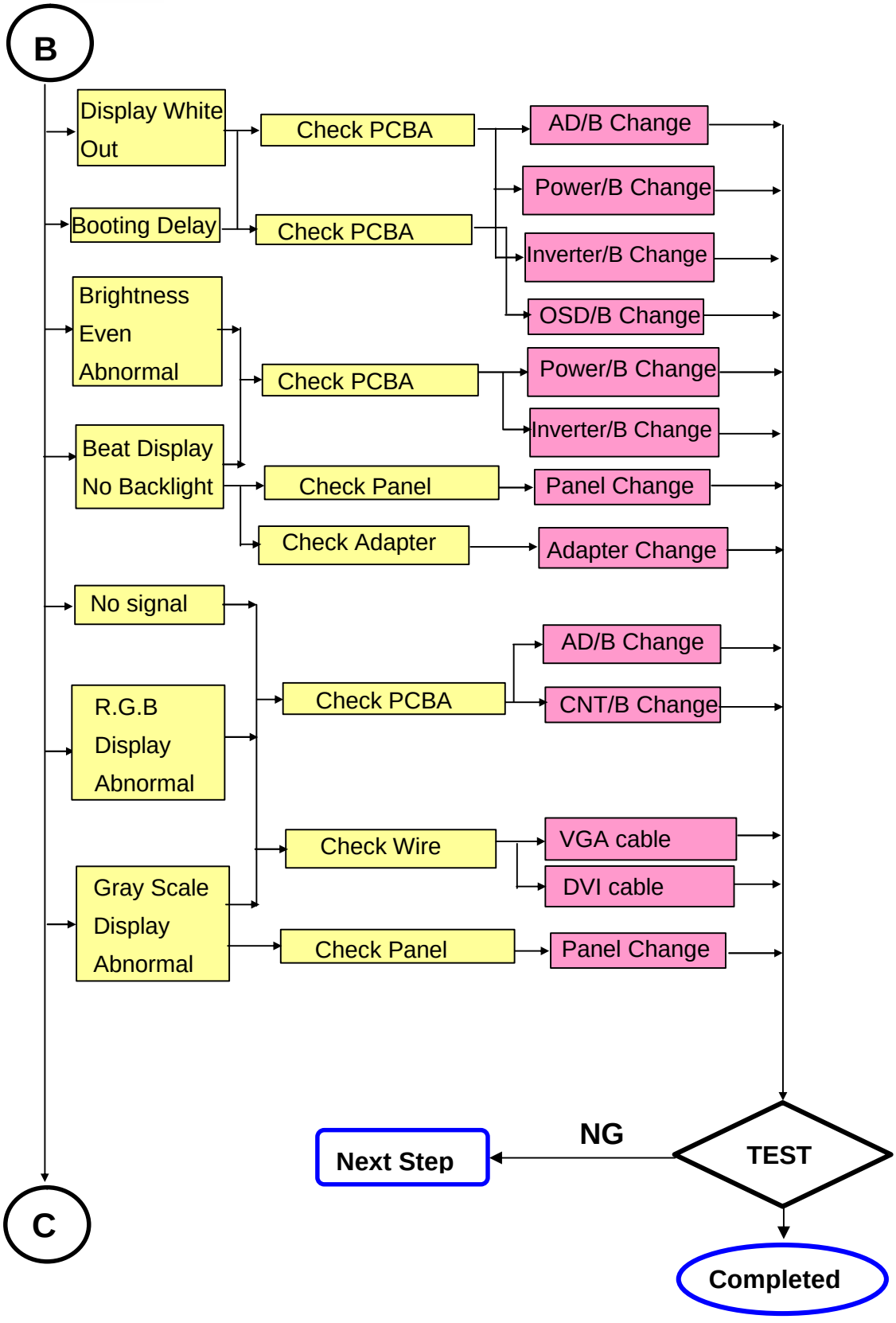


Defect Mode	Failure Analysis	Repair	Testing

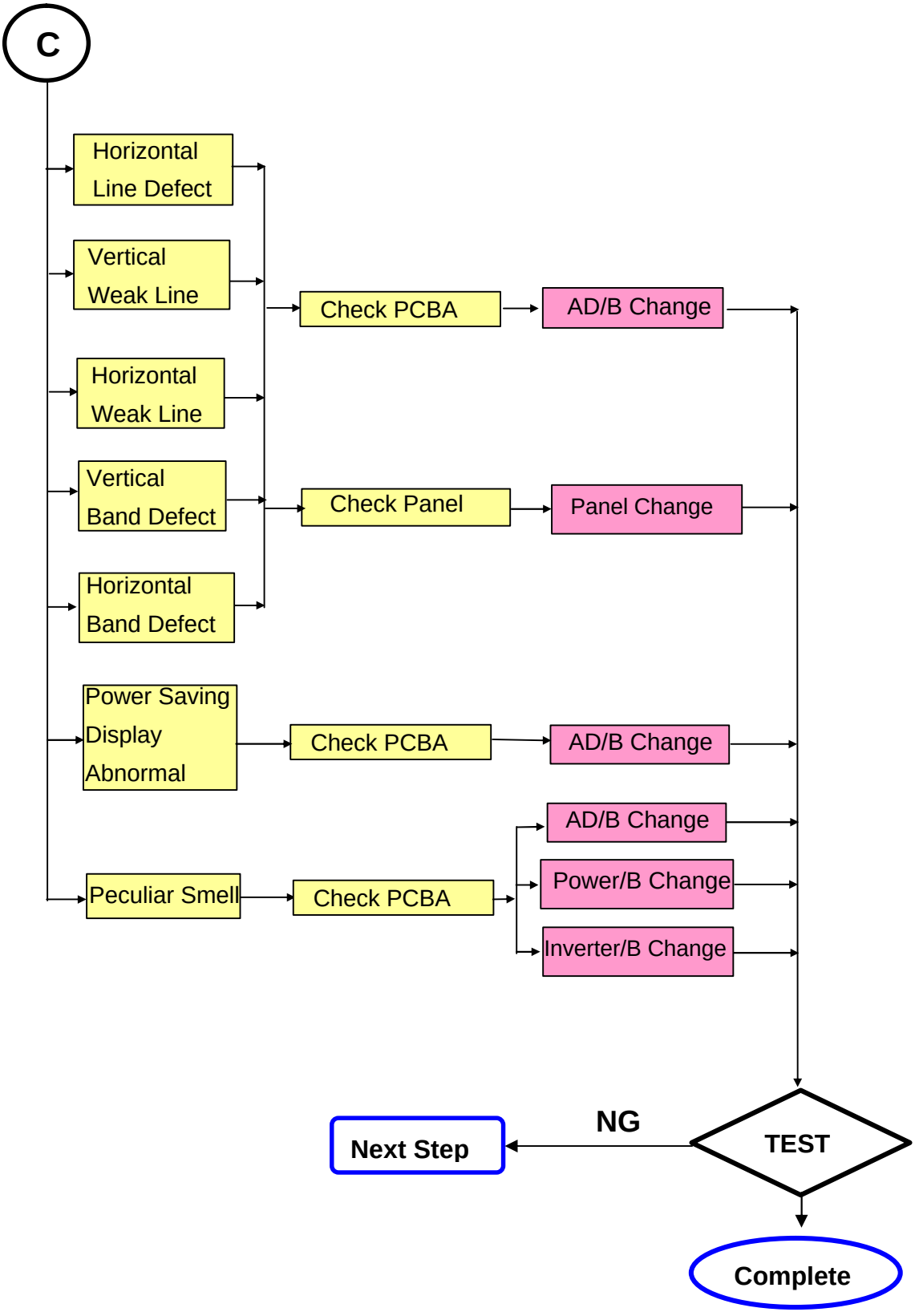
※ " Panel Change" Should be Performed to Level 3 Repair



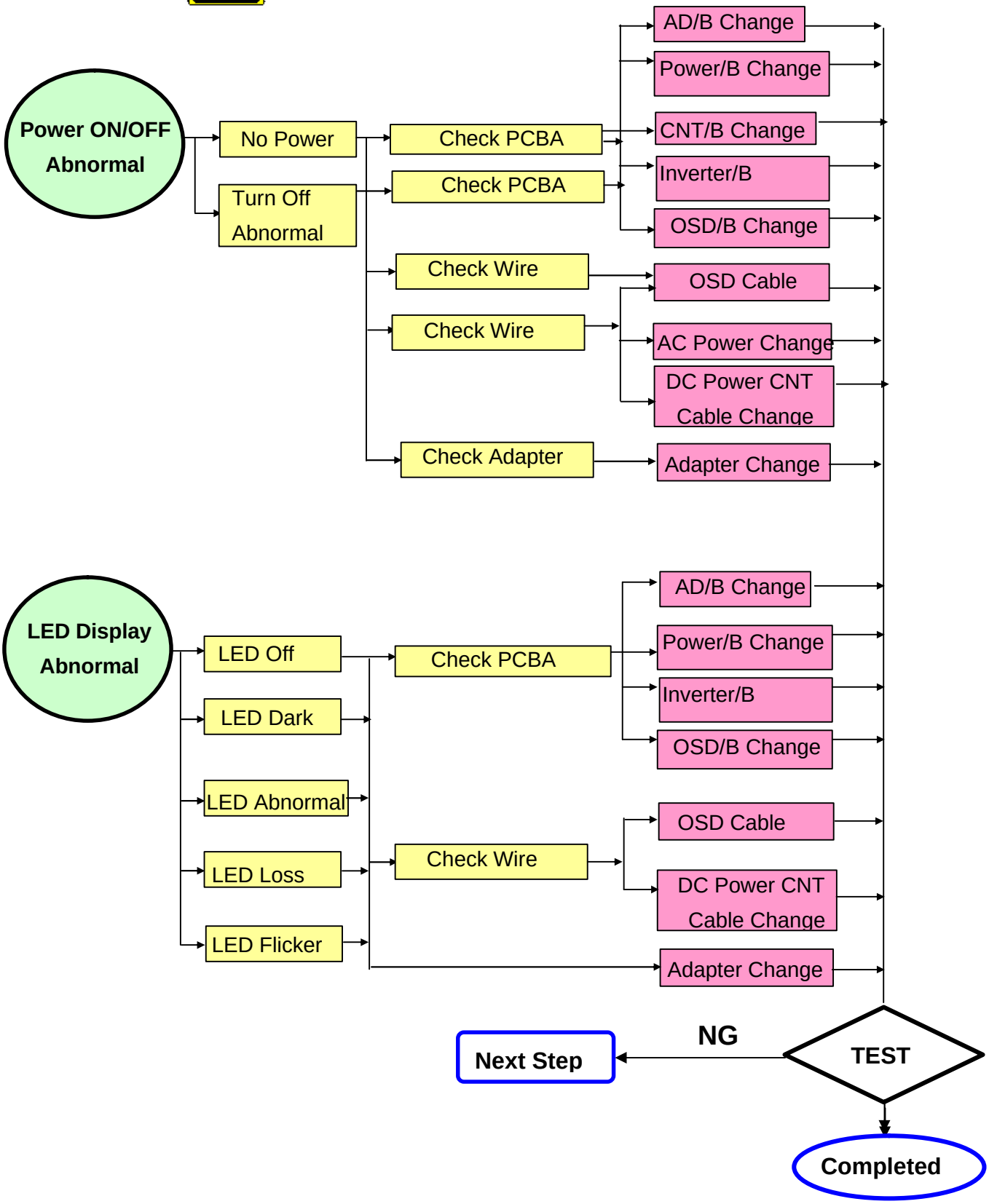
※ " Panel Change" Should be Performed to Level 3 Repair

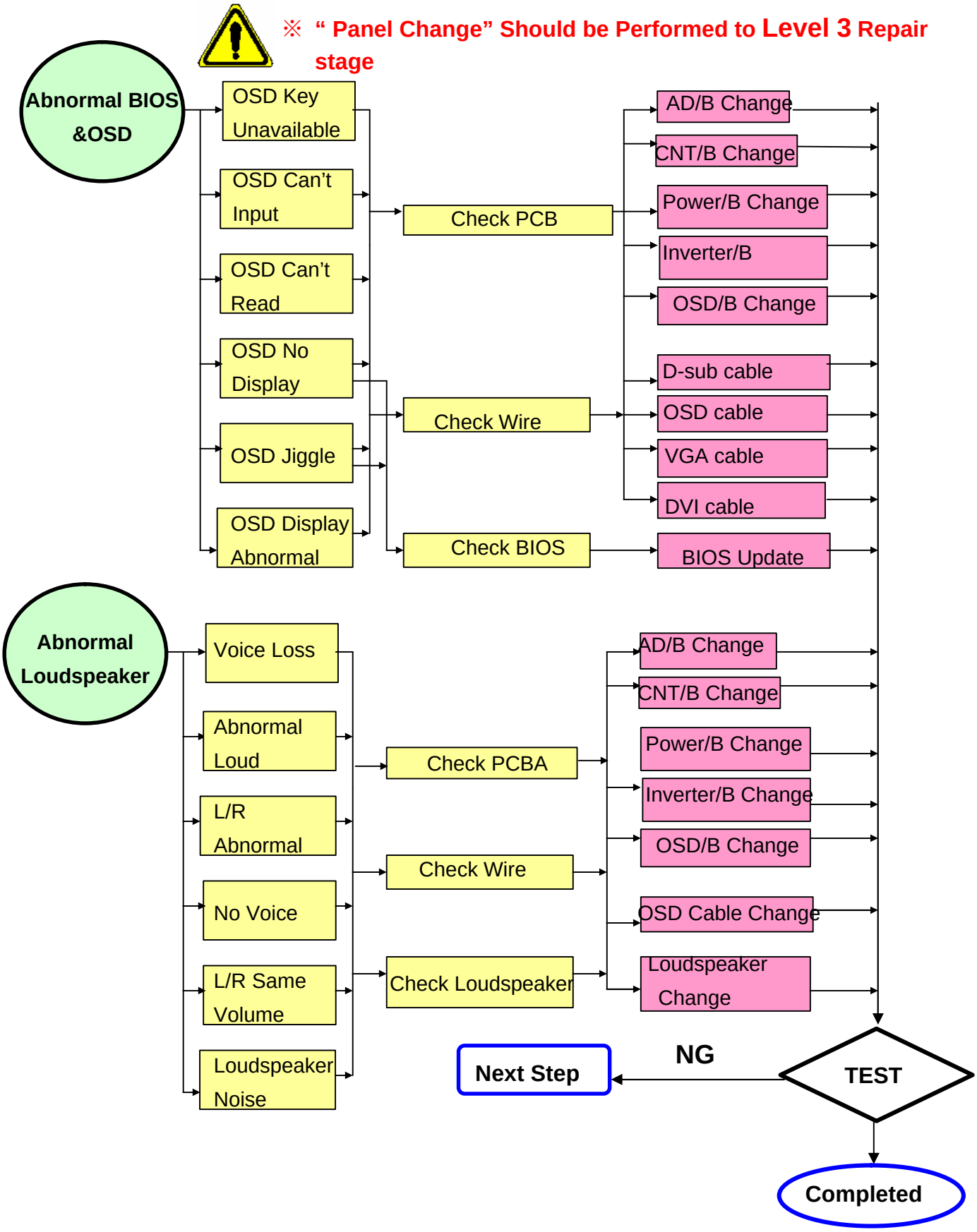


※ " Panel Change" Should be Performed to Level 3 Repair

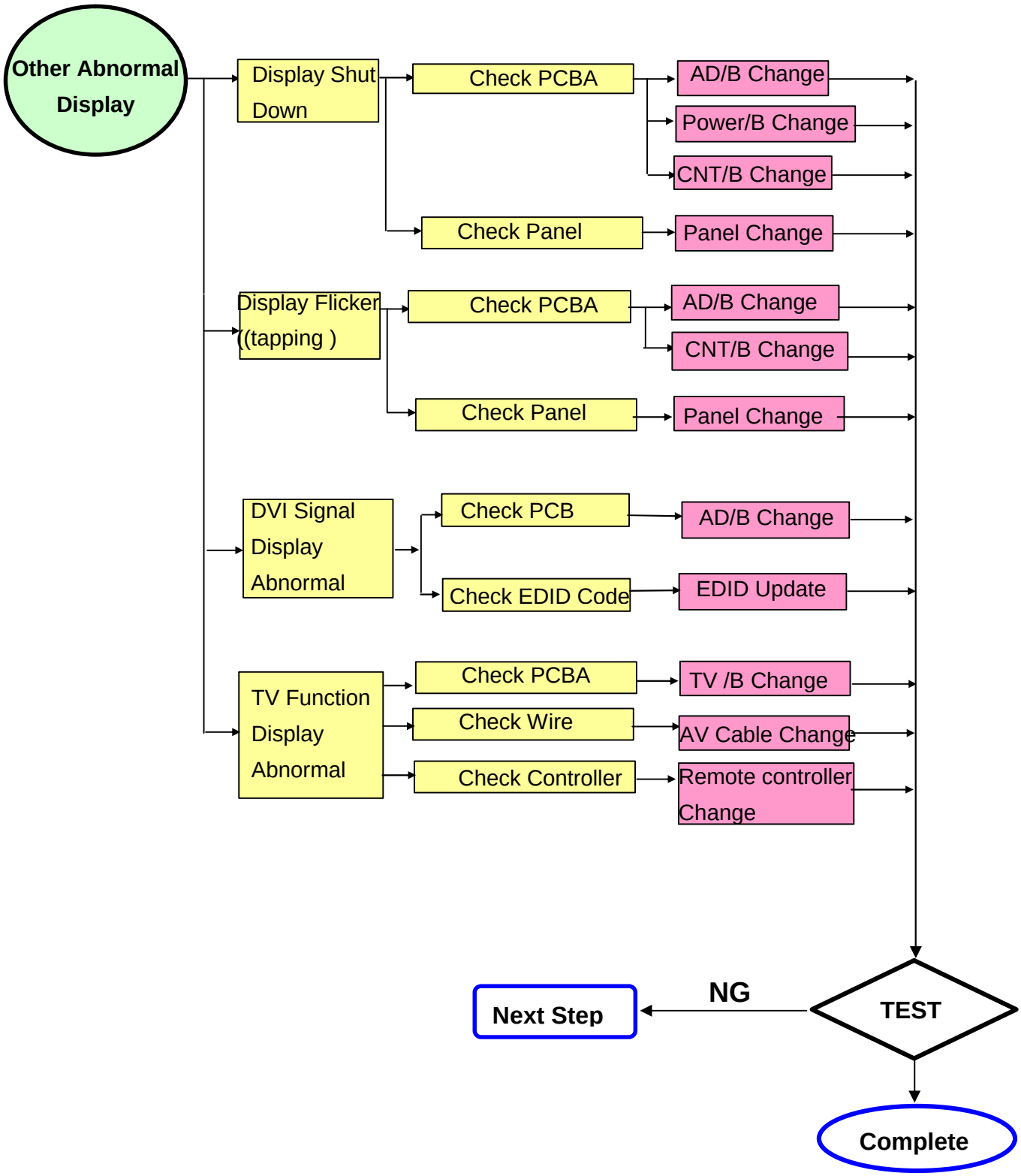


※ " Panel Change" Should be Performed to Level 3 Repair




※ " Panel Change" Should be Performed to Level 3 Repair stage
Abnormal BIOS &OSD
OSD Key Unavailable
OSD Can't Input
OSD Can't Read
OSD No Display
OSD Jiggle
OSD Display Abnormal
Check PCB
Check Wire
Check BIOS
AD/B Change
CNT/B Change
Power/B Change
Inverter/B
OSD/B Change
D-sub cable
OSD cable
VGA cable
DVI cable
BIOS Update
Abnormal Loudspeaker
Voice Loss
Abnormal Loud
L/R Abnormal
No Voice
L/R Same Volume
Loudspeaker Noise
Check PCBA
Check Wire
Check Loudspeaker
AD/B Change
CNT/B Change
Power/B Change
Inverter/B Change
OSD/B Change
OSD Cable Change
Loudspeaker Change
TEST
NG
Next Step
Completed

※ " 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 (VE720m-1)

ViewSonic Model Number: VS10697

Serial No. Prefix: Q7S **Rev: 1a**

Item	Description		ECR/ECN	ViewSonic P/N	Ref. P/N	Location	Universal number#	Q'ty
1	**Accessories:**	Adapter,DA-60F19-AEV,19 V,3.16 A,60 W,Black,Asian Power Devices,CD,For VSC,RoHS		A-00003831	27-D003094			1
2		Power Code,UL,SVT#18/3C,75,LP-30B+LS-13,L=1830+/-50mm,Black,Linetek,18AWG,No Bag (for China)		A-00005853	32E1818013(AH0E1TBC2P)			1
3		Power Code,UL,SVT#18/3C,75C,LP-30B+LS-13,L=1830+/-50mm,Black,Linetek,18AWG,No Bag,Green I		A-00005854	32E1818015(AH0E1TBA2P)			1
4		Power Code,UL,SVT#18/3C,75,LP-30B+LS-13,L=1830+/-50mm,Black,Linetek,18AWG,No Bag (for Europe)		A-00005855	32E1818018(AH0E1TBE2P/K2P)			1
5		Power Code,UL,SVT#18/3C,75,LP-30B+LS-13,L=1830+/-50mm,Black,Linetek,18AWG,No Bag (for UK)		A-00005856	32E1818060(AH0E1TBK2P)			1
6		Power Cord,LP-53 & VCTF 0.75mm^2 3C 6' BLACK & LS-13J,BLACK,BSMI,1800 mm		A-00005857	32-D002330(AH0E1TBW2P)			1
7	**PC Board Assembly:**	PCBA,A170E2-T,A170E2-H-S1,202-08,X7,USI/OSE,ODM,RoHS		B-00003613	35A17S0236			1
8		DC/AC Inverter,TWS-444-1019,1A,5.5mA,2560 V,Sumida_Inverter,RoHS	Inverter Board	B-00005846	27-D001561			1
9		PCBA for ,A170E1-E02-T,A170E1-E02-H-K,1205-02,Rev.02,USI/ITC,ODM,Green II		B-00005888	35-D006774			1
10	**Cabinets:**	Cover Hinge Assy,A170E1-H0G,ASSY,J91A11B4 BLACK,Injex_Plastic,Green I	Cover	C-00002064	40-D000212			1
11		Seat Assy,A170E1-H0P,ASSY,Black,Cherng Jyieh,Green II	Cover	C-00005847	40-D008680			1
12		BACK COVER ,A170E1-H0P,ASSY,Black,Injex_Plastic,Green II	Back cover	C-00005848	40-D008679			1
13		Bezel Assy,A170E1-H0P,ASSY,Silver,Injex_Plastic,Analog,Green II	Front panel	C-00005849	40-D008791			1
14		Stand Assy,A170E1-H0P,ASSY,Black,Cherng Jyieh ,Green II	base assembly	C-00005882	40-D008682			1
15	**Cables:**	Audio Cable,A150X2,18AWG,180cm,Black,JCE,Green I		CB-00000544	32F2818004			1
16		FFC,1x15x180xc(3.5/3.5/5.0)x(0.035x0.3),15 Pins,Shanghai Hitachi/Young Shin,Green I		CB-00000546	3241700001			1
17		Flat Cable,0545055LQ231/CHM-05F45A2,45 Pins	flat cable	CB-00005850	32-D000504			1
18		Accessory Cable,D-Sub,JV-4777,Black,Pins-Pins,Jhen Vei,30AWG,Reduce Shield Rate,Green I		CB-00005851	32-D002132 (AH0E1TBA2P/C2P/E2P/K2P)			1
19		Accessory Cable,D-Sub,BLACK,Johnson Components & Equipments,A150X2,Green I		CB-00005852	32F3018003(AH0E1TBW2P)			1
20	**Documentation:**	Safety Label for ,A170E1-H0P,120 mmx50 mm,Chang Huang,VSC_VE720m-1,Green II		DC-00005858	77-D008911			1
21		Carton Label for ,A170E1-H0P,76.2 mmx76.2 mm,Chang Huang,VSC_VE720m-1,Green II		DC-00005859	77-D008915			1
22		MENU for A170E1-H0P,Complex,1C,Yi Ching,VSC_VE720m-1含CD-ROM,Green II		DC-00005881	76-D008916 (AH0E1TBC2P/E2P/K2P/W2P)			1
23		MENU for A170E1-H0P,Complex,1C,Yi Ching,VSC_VE720m-1+Caution Card,Green II		DC-00005883	76-D008910(AH0E1TBA2P)			1
24	**Hardware:**	Screw,M3*P0.5*4,φ5.5*2,Steel		HW-00000554	42A9930008			2000
25		Screw,φ3*P1.27*8,φ5.5*2,Steel		HW-00000557	42A9930017			2000
26		Screw,φ3*P1.12*10,φ5.5*2,Steel,Delta PT		HW-00002516	42A9930009			2000
27		SCREW,M4,P=0.7 mm,L=15 mm,Round Head,Phillips Cross Recess,Zn(Black),Screw_with_Washer,Hama Naka Motogawa/Shye Ching,Green I		HW-00005884	42-D001756			2000
28	**Miscellaneous:**	Stand-Off 4 #-40*11.8		M-00000559	42A9940007			2000
29		TAPE-CONDUCTIVE,AL,125*30*0.08,A170E1-H01,3M:AL-35R		M-00000561	7344711002			1
30	**Packing Material:**	Bag,570 mmx600 mmx0.13 mm,White,Non Green		P-00000595	7841919921			1
31		CRAFT FOAM ,438 mmx185 mmx195 mm (Left),Green II		P-00005885	78-D008864			1
32		CRAFT FOAM (RIGHT) ,438 mmx185 mmx195 mm,Green II		P-00005886	78-D008863			1
33		GENERIC FOAM (SET)		P-00001347	30833			
34		CRAFT BOX - 444 mmx191 mmx458 mm,Green II		P-00005887	78-D008919			1
35		GENERIC BOX		P-00002515	206536			

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 (VE720mb-1)

ViewSonic Model Number:VS10697
Rev: 1a
Serial No. Prefix: QEH

Item		Description	ECR/ECN	ViewSonic P/N	Ref. P/N	Location	Universal number#	Q'ty
1	**Accessories:**	Power Cord, No Bag (for China)		A-00002058	32E1818013			1
2		Adapter, Asian Power Devices		A-00003831	27-D003094			1
3	**PC Board Assembly:**	Audio Control Board		B-00003613	35A17S0236			1
4		DC/AC Inverter		B-00005846	27-D001561			1
5		Audio Control Board		B-00008014	35-D004239			1
6	**Cabinets:**	Cover		C-00008023	40-D004678			1
7		Base Assembly		C-00008024	40-D009030			1
8		Cover		C-00008025	40-D009026			2000
9		Front Panel		C-00008026	40-D012372			2000
10	**Cables:**	Audio Cable		CB-00000544	32F2818004			2000
11		FFC,1x15x180xc(3.5/3.5/5.0)x(0.035x0.3),15 Pins,Shanghai Hitachi/Young Shin,Green I		CB-00000546	3241700001			1
12		FFC,0545055LQ231/CHM-05F45A2,45 Pins,Shanghai Hitachi/Young Shin,with Al tape and double tape		CB-00005850	32-D000504			1
13		Accessory Cable,D-Sub		CB-00008006	32-D002132			1
14	**Documentation:**	Safety Label		DC-00008028	77-D012476			1
15		Carton Label		DC-00008029	77-D012467			1
16		User Guide		DC-00008030	76-D008914			1
17	**Hardware:**	Screw,M3*P0.5*4,φ5.5*2		HW-00000533	42A9930008			1
18		SCREW,M4,P=0.7 mm,L=15 mm,Round Head,		HW-00005884	42-D001756			1
19		Stand-Off 4 #-40*11.8		HW-00006041	42A9940007			1
20	**Miscellaneous:**	TAPE-CONDUCTIVE,AL,125*30*0.08,A170E1-H01,3M:AL-35R		M-00000561	7344711002			1
21	**Packing Material:**	PE Bag		P-00000595	7841919921			1
22		Generic Foam Set		P-00001347	30833			1
23		Generic Box		P-00002515	20653			
24		Foam(Left)		P-00005885	78-D008864			
25		Foam(Right)		P-00005886	78-D008863			1
26		Craft Box,444 mmx191 mmx458 mm,		P-00008018	78-D012471			1
27	**Plastics:**	Pedestal		PL-00008006	40-D009024			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 (VE720m-1)

ViewSonic Model Number: VS10697

Rev: 1a

Serial No. Prefix: Q7S

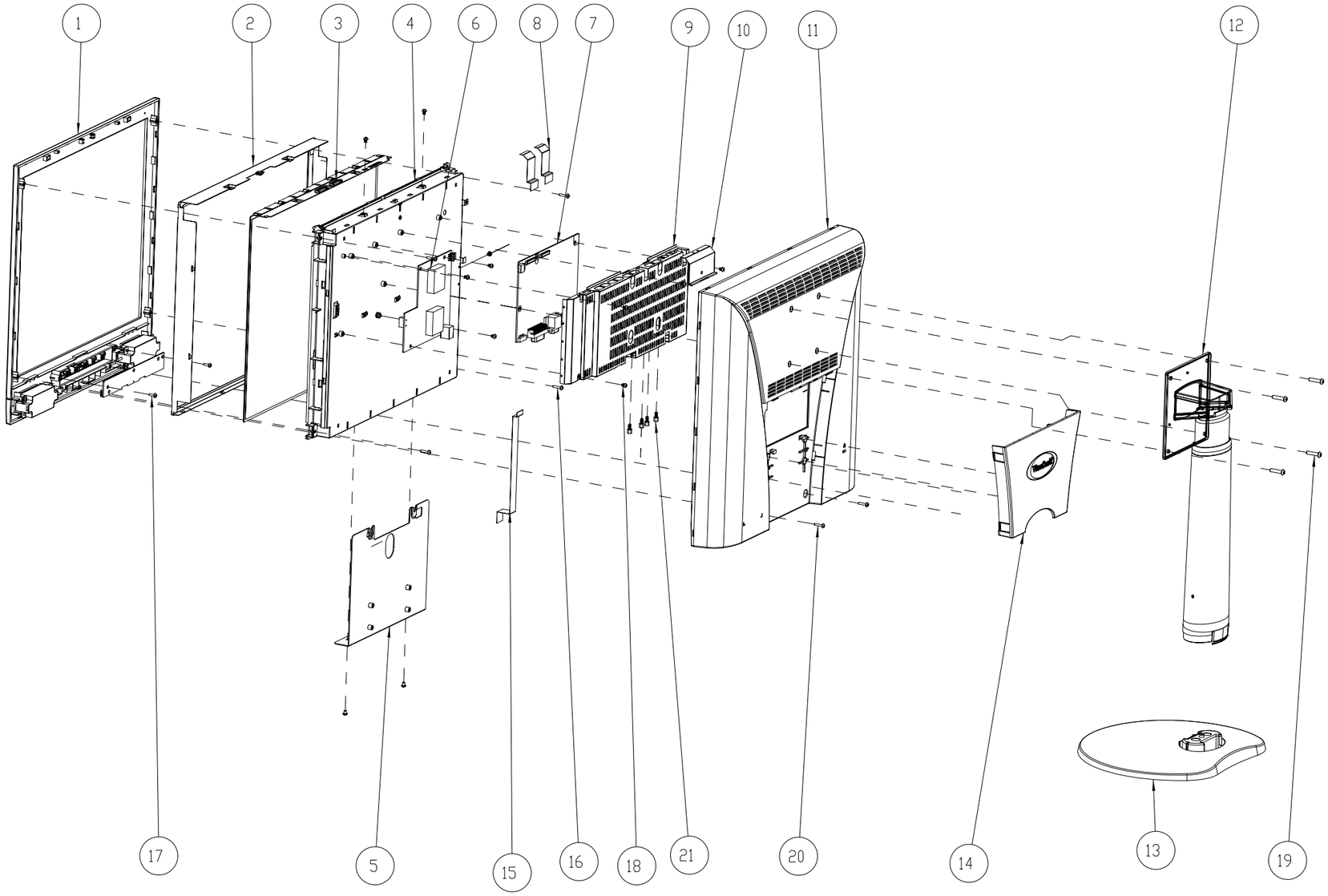
Item	ViewSonic P/N	Ref. P/N	Description	Location	Universal number#	Q'ty
1	N/A	MH0E50FK01	Olympic,17",Common BOM,E5, 72%, Scan COG, TFT Rev.C (10ms, COF)			1
2	N/A	L3H007XXX7	LCD Panel,17 in	Common		1
3	N/A	73-C000047	ACF,COG,AC-8405Z-23 1.5mmX100M,100000 mmx1.5 mm,COG-ACF,Green I	Common	7344191016	0.00225
4	N/A	36-D001185	Driver IC,Scan,N150P5,JBT6L96-AS,263Channel,Thickness=400um,Green I	Common	36-D001339	4
5	N/A	7344191017	ACF,AC-4251FY-16,100M/RL,Green I	Common		0.0036
6	N/A	36-D001073	Driver IC,COF,Data,A170E1,LH16AMJ1,SOF,384Channel,SMIC,Green II	Common	36X8016641	10
7	N/A	73-D002676	ACF,PCB,AC-9825R-35,100000 mmx1.5 mm,PCB-ACF,Green I	Common	7344191004 7344191011	0.0036
8	N/A	35-D003788	PCBA for ,A170E2-H,A170E2-H-X1,201-15,Rev.08,ODM,not for repair line,Green II	Common		1
9	N/A	7349951002	Silicone,TORAY/-9187L,330g	Common		0.4
10	N/A	PH0EFTEQ03	Olympic,A170E1,Function BOM,D-sub+Audio,Morning Star,(For VSC use			1
11	HW-00005679	42A9930008	Screw,M3*P0.5*4,φ5.5*2,Steel	Common		12
12	M-00000559	42A9940007	Stand-Off 4 #-40*11.8	Common		2
13	M-00000558	41A1769104	Metal Frame Front Assy,A170E1,Tin Plate,t=0.4mm,For New Pane	Common	41-D001884	1
14	B-00003613	35A17S0236	PCBA,A170E2-T,A170E2-H-S1,202-08,X7ODM,RoHS	Common		1
15	N/A	41-D000954	Cover AD Assy,A170E1,ASSY,Auto-Assy, D-Sub Only, With Warning Mark	Common	41-D002527	1
16	B-00005846	27-D001561	DC/AC Inverter,TWS-444-1019,1A,5.5mA,2560 V,RoHS	Common	27-D002381 27-D002479	1
17	CB-00005850	32-D000504	FFC,0545055LQ231/CHM-05F45A2,45 Pins,with Al tape and double tape	Common		2
18	N/A	44-D006493	Backlight Unit,A170E1,FOR ROHS,Green II	Common		1
19	N/A	PH0EAAM000(A2P) PH0EACJ000(C2P) PH0EAES000(E2P) PH0EAKN000(K2P) PH0EAW7000(W2P)	Olympic,17",Accessory BOM,D-sub+Audio,USA/Taiwan 3 pin,Black,For VSC Olympic,17",Accessory BOM,D-sub+Audio,China 3 pin,Black,For VSC Olympic,17",Accessory BOM,D-sub+Audio,European / Korea 2 pin,Black,For VSC Olympic,17",Accessory BOM,D-sub+Audio,UK / HK 3 pin,Black,For VSC Olympic,17",Accessory BOM,D-sub+Audio,Taiwan 3 pin,Black,For VSC use			1
20	A-00000458	32E1818015	Power Cord,UL,SVT#18/3C,LP-30B+LS-13,L=1830+/-50mm,Black,Linetek,18AWG,No Bag,Green I	A2P	32E1818019	1
21	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	C2P	32E1818021	1
22	A-00002059	32E1818018	Power Cord,SP-023+IS-14,Black,CEE,1800 mm,Green I	E2P,K2P	32E1818016	1
23	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	K2P	32E1818020	1
24	A-00005071	32-D002330	Power Cord,LP-53 & VCTF 0.75mm^2 3C 6 BLACK & LS-13J,BLACK,BSMI,1800 mm,Green I	W2P	32-D001922	1
25	CB-00000544	32F2818004	Audio Cable,A150X2,18AWG,180cm,Black,JCE,Green	Common	32F2818011	1
26	CB-00005851	32-D002132	Accessory Cable,D-Sub,JV-4777,Black,Pins-Pins,30AWG,Reduce Shield Rate,Green	A2P,C2P,E2P,K2P	32F3018003	1
27	CB-00004287	32F3018003	Accessory Cable,D-Sub,BLACK,A150X2,Green I	W2P	32-D002132	1
28	A-00003831	27-D003094	Adapter,DA-60F19-AEV,19 V,3.16 A,60 W,Black,CD,For VSC,RoHS	Common		1
29	N/A	PH0EI2P004(A2P) PH0EI2P001(C2P) PH0EI2P000(E2P) PH0EI2P002(K2P) PH0EI2P003(W2P)	Olympic,17",ID BOM,D-sub+Audio,USA,Silver Black,VSC,(Height adjustable model) Olympic,17",ID BOM,D-sub+Audio,China,Silver Black,VSC, Olympic,17",ID BOM,D-sub+Audio,European,Silver Black,VSC, Olympic,17",ID BOM,D-sub+Audio,UK,Silver Black,VSC, Olympic,17",ID BOM,D-sub+Audio,TWN,Silver Black,VSC,			1
30	HW-00002516	42A9930009	SCREW,M3,P=1.12 mm,L=10 mm,Pan Head,Phillips,Non Green	Common		6
31	CB-00000546	3241700001	FFC,1x15x180xc(3.5/3.5/5.0)x(0.035x0.3),15 Pins,Green I	Common		1
32	M-00000561	7344711002	Conductive Tape,125 mmx30 mmx0.08 mm,A170E1-H01,3M:AL-35R,Green I	Common		1
33	HW-00000557	42A9930017	SCREW,3,P=1.27 mm,L=8 mm,Pan Head,Phillips Cross Recess,Green I	Common		2
34	M-00000560	7345511002	Tape,Security Tape,OPP,L900xW50x0.045mm,VSC,Non Green	A2P,K2P		1
35	C-00002064	40-D000212	Cover Hinge Assy,A170E1-H0G,ASSY,J91A11B4 BLACK,Green I	Common		1
36	HW-00005884	42-D001756	SCREW,M4,P=0.7 mm,L=15 mm,Round Head,Phillips Cross Recess,Zn(Black),Screw_with_Washer,Green I	Common		4
37	B-00005888	35-D006774	PCBA for ,A170E1-E02-T,A170E1-E02-H-K,1205-02,Rev.02,ODM,Green II	Common	35-D004239	1
38	C-00005848	40-D008679	Rear Assy,A170E1-H0P,ASSY,Black,Green II	Common		1
39	C-00005849	40-D008791	Bezel Assy,A170E1-H0P,ASSY,Silver,Analog,Green I	Common		1
40	C-00005882	40-D008682	Stand Assy,A170E1-H0P,ASSY,Black,Green II	Common		1
41	N/A	7341311051	Isolated Tape	Common		1
42	DC-00005858	77-D008911	Safety Label for ,A170E1-H0P,VSC_VE720m-1,Green II	Common		1
43	N/A	77-D008912	SN Label for ,A170E1-H0P,50 mmx25 mm,VSC_VE720m-1,Green II	A2P,E2P,K2P,W2P		1
44	N/A	77-D008909	SN Label for ,A170E1-H0P,VSC_VE720m-1 for China,Green I	C2P		1
45	HW-00002076	7841595111	Corner Protector,paper,50 mmx50 mmx1850 mm,Green I	Common		0.1
46	N/A	7841595171	Separte paper sheet AA),1140 mm,900 mm,11 mm,Non Green	Common		0.021
47	P-00000595	7841919921	Bag,570 mmx600 mmx0.13 mm,White,Non Green	Common		1
48	DC-00000586	7741999141	Label,Pallet Barcode Label,75x40,A190E2-H03,VSC,Non Green	Common		0.025
49	M-00000560	7345511002	Tape,Security Tape,OPP,L900xW50x0.045mm,VSC,Non Green	C2P,E2P,W2P		0.01
50	N/A	77-D000114	Customer Label,A170E1-H0G,180 mm,100 mm,Green I	C2P		1
51	N/A	77-D000118	Customer Label,A170E1-H0G,130 mm,80 mm,Green I	C2P		1
52	N/A	78-D000275	Warranty Card,A170E1-H0G,143 mmx210 mm,VSC_VA712,Green I	C2P		1
53	N/A	77-D001323	Customer Label for ,A170E1-H0G,15 mmx15 mm,QC Pass Label_VSC_for China,Green	C2P		1
54	N/A	78-D001493	Pallet,A170E1-H01,Wooden,1150 mmx920 mmx135 mm,Green I	Common		0.021
55	C-00005847	40-D008680	Seat Assy,A170E1-H0P,ASSY,Black,Cherng Jyieh ,Green I	Common		1
56	N/A	79-D008865	Shipping Package Information for ,A170E1-H0P,Viewsoni	Common		0.021
57	P-00005885	78-D008864	Cushion,A170E1-H0P,EPS,White,438 mmx185 mmx195 mm,PS_Foam(Left),Green I	Common		1
58	P-00005886	78-D008863	Cushion,A170E1-H0P,EPS,White,438 mmx185 mmx195 mm,PS_Foam(Right),Green II	Common		1
59	N/A	76-D008910	MENU for A170E1-H0P,Complex,1C,VSC_VE720m-1+Caution Card,Green I	A2P		1
60	N/A	76-D008916	MENU for A170E1-H0P,Complex,1C,VSC_VE720m-1 w/CD-ROM,Green II	C2P,E2P,K2P,W2P		1
61	P-00005887	78-D008919	Carton,A170E1-H0P,444 mmx191 mmx458 mm,VSC_VE720m-1,Green II	Common		1
62	DC-00005859	77-D008915	Carton Label for ,A170E1-H0P,76.2 mmx76.2 mm,VSC_VE720m-1,Green I	Common		1

BOM LIST (VE720mb-1)

ViewSonic Model Number : VS10697
Rev.:1a
Serial No. Prefix: QEH

Item	ViewSonic P/N	Ref. P/N	Description	Q'ty
1	N/A	PH0EACJ000	Olympic,17",Accessory BOM,D-sub+Audio,China 3 pin,Black	1
2	A-00002058	32E1818013	Power Cord,PC-323+COC-01,Black,CCC,1830 mm,Green I	1
3	CB-00000544	32F2818004	Accessory Cable,Audio,NONE,Black,Pins-Pins,Green I	1
4	CB-00008006	32-D002132	Accessory Cable,D-Sub,JV-4777,Black,Pins-Pins,30AWG,Reduce Shield Rate,Green I	1
5	A-00003831	27-D003094	Adapter,DA-60F19-AEV,19 V,3.16 A,60 W,Black,CD,For VSC,RoHS,Green II	1
6	N/A	MH0E50FK01	Olympic,17",Common BOM,E5, 72%, Scan COG, TFT Rev.C (10ms, COF)	1
7	N/A	7349951002	Silicone	0.4
8	N/A	7344191017	ACF,AC-4251FY-16,100M/RL,Green I	0.0036
9	N/A	L3H007XXX7	LCD Panel,17 in	1
10	N/A	36-D001073	Driver IC,COF,Data,A170E1,Green II	10
11	N/A	73-C000047	ACF,COG,AC-8405Z-23 1.5mmX100M,100000 mmx1.5 mm,COG-ACF,Green I	0.00225
12	N/A	73-D002676	ACF,PCB,AC-9825R-35,100000 mmx1.5 mm,PCB-ACF,Green I	0.0036
13	N/A	35-D003788	PCBA for ,A170E2-H,A170E2-H-X1,201-15,Rev.08,ODM,not for repair line,Green II	1
14	N/A	36-D001185	Driver IC,Scan,N150P5,Thickness=400um,Green II	4
15	N/A	PH0EFTEQ03	Olympic,A170E1,Function BOM,D-sub+Audio,Morning Star	1
16	HW-00000553	42A9930008	SCREW,3,P=0.5 mm,L=4 mm,Pan Head,,Green I	12
17	HW-00006041	42A9940007	SCREW,4,P=0 mm,L=11.8 mm,Hexagon Stand Off,Socket,Green I	2
18	M-00000558	41A1769104	Metal Frame Front Assy,A170E1,Tinplate,Green I	1
19	B-00003613	35A17S0236	PCBA,A170E2-T,A170E2-H-S1,202-08,X7,ODM,Green II	1
20	N/A	41-D000954	Cover AD Assy,A170E1,ASSY,Auto-Assy, D-Sub Only, With Warning Mark,Green I	1
21	B-00005846	27-D001561	DC/AC Inverter,TWS-444-1019,1A,5.5mA,2560 V,RoHS,Green I	1
22	CB-00005850	32-D000504	FFC,0545055LQ231/CHM-05F45A2,45 Pins,with Al tape and double tape	2
23	N/A	44-D006493	Backlight Unit,A170E1,FOR ROHS,Green II	1
24	N/A	10-D009089	Software (EDID_D-SUB),A170E1,VSC021EA00,VSC,Checksum(77),VSC 17 Analog Port,Green II	1
25	N/A	10-D010698	Software (BIOS),A170E2,17E2TSG002,Checksum(0xABFC), MTV312, Analog+Audio,Green II	1
26	N/A	PH0EI1P000	Olympic,17",ID BOM,D-sub+Audio,Black	1
27	HW-00002516	42A9930009	SCREW,3,P=1.12 mm,L=10 mm,Pan Head,Green I	6
28	CB-00000546	3241700001	FFC,1x15x180xc(3.5/3.5/5.0)x(0.035x0.3),15 Pins,Green I	1
29	N/A	7341311051	Isolated Tape	1
30	P-00000595	7841919921	Bag,570 mmx600 mmx0.13 mm,Default,Green I	1
31	M-00000560	7345511002	Tape,A170E1-H0P,900 mmx50 mmx0 mm,OPP	0.01
32	HW-00005884	42-D001756	SCREW,M4,P=0.7 mm,L=15 mm,Round Head,Green I	4
33	N/A	78-D002023	Pallet,A170E1-H0M,N/A,1150 mmx920 mmx135 mm,Green I	0.021
34	N/A	78-D002031	Separato,A170E1-H0M,1140 mmx900 mmx11 mm,Green I	0.021
35	N/A	77-D002070	SN Label for ,A170E1-H0M,75 mmx40 mm,Pallet Bar Code Label, A170E1-H0M,Green I	0.025
36	N/A	42-D002093	SCREW,M3,P=1.27 mm,L=8 mm,Pan Head,Green I	2
37	N/A	73-D002108	Conductive Tape,AL,125 mmx30 mmx0.08 mm,A170E1-H01,Green I	1
38	B-00008014	35-D004239	PCBA for ,A170E2-T,A170E2-H-K,202-02,Rev.02,Green II	1
39	C-00008023	40-D004678	Cover Hinge,A170E1-H0G,ABS PA-757N-J01,BLACK,Green II,Green II	1
40	N/A	78-D004864	Corner Protector,Paper,M190A1,50 mmx50 mmx1780 mm,3mm,Green II	0.1
41	N/A	77-D005180	Customer Label for ,A170E1-H0G,180 mmx100 mm,Green II	1
42	N/A	77-D005193	Customer Label for ,A170E1-H0G,15 mmx15 mm,Green II	1
43	N/A	77-D005191	Customer Label for ,A170E1-H0G,130 mmx80 mm,Green II	1
44	N/A	79-D008865	Shipping Package Information for ,A170E1-H0P	0.021
45	P-00005885	78-D008864	Cushion,A170E1-H0P,EPS,White,438 mmx185 mmx195 mm,PS_Foam(Left),Green I	1
46	P-00005886	78-D008863	Cushion,A170E1-H0P,EPS,White,438 mmx185 mmx195 mm,PS_Foam(Right),Green I	1
47	DC-00008030	76-D008914	MENU for A170E1-H0P,Green II	1
48	C-00008024	40-D009030	Seat Assy,A170E1-H0P,ASSY,2nd,Green II	1
49	C-00008025	40-D009026	Rear Assy,A170E1-H0P,ASSY,Black,2nd,Green II	1
50	PL-00008006	40-D009024	Stand Assy,A170E1-H0P,ASSY,Black,2nd,Green II	1
51	N/A	78-D010933	Warranty Card,A170E1-H0G,VA712 Ver.2,Green II	1
52	C-00008026	40-D012372	Bezel Assy,A170E1-H0P,ASSY,Black,2nd,Green II	1
53	P-00008018	78-D012471	Carton,A170E1-H0P,VE720mb,Green II	1
54	DC-00008029	77-D012467	Carton Label for ,A170E1-H0P,76.2 mmx76.2 mm,VE720mb,Green II	1
55	DC-00008028	77-D012476	Safety Label for ,A170E1-H0P,VE720mb,Green II	1
56	N/A	77-D012474	SN Label for ,A170E1-H0P,50 mmx25 mm,VE720mb,Green II	1

8. Exploded Diagram and Exploded Parts List



ViewSonic Corporation		
Model		
Title		
Date		Rev:

EXPLODED PARTS LIST (VE720m-1)

ViewSonic Model Number: VS10697

Rev: 1a

Serial No. Prefix: Q7S

Item	ViewSonic P/N	Ref. P/N	Description	Q'ty
1	C-00005849	40-D008791	BEZEL ASSY	1
2	M-00000558	41A1769104	METAL FRAME FRONT	1
3	N/A	L3H007XXX7	PANEL	1
4	N/A	44-D006493	BACKLIGHT UNIT	1
5	HW-00002078	41-D000130	SUPPORT PLATE	1
6	B-00005846	27-D001561	INVERTOR PCBA	1
7	B-00003613	35A17S0236	AD PCBA	1
8	CB-00000546	3241700001	FFC X-PCBA TO AD-PCBA	2
9	N/A	41-D000954	COVER AD	1
10	CB-00000546	3241700001	COVER FFC	1
11	C-00005848	40-D008679	REAR ASSY	1
12	C-00005882	40-D008682	STAND ASSY	1
13	C-00005847	40-D008680	SEAT ASSY	1
14	C-00002064	40-D000212	COVER HINGE	1
15	CB-00005850	32-D000504	FFC AD-PCBA TO OSD-PCBA	1
16	HW-00002516	42A9930009	SCREW M3*PITCH1.27*12	6
17	N/A	2A9930017	SCREW M3*PITCH1.27*8	2
18	HW-00005679	42A9930008	SCREW M3*PITCH0.5*4	15
19	HW-00005884	42-D001756	SCREW M4*PITCH1.2*20	4
20	HW-00005884	42-D001756	SCREW M4*PITCH0.7*10	2
21	C-00005847	40-D008680	SEAT OFF	4

EXPLODED PARTS LIST (VE720mb-1)

ViewSonic Model Number: VS10697

Rev: 1a

Serial No. Prefix: QEH

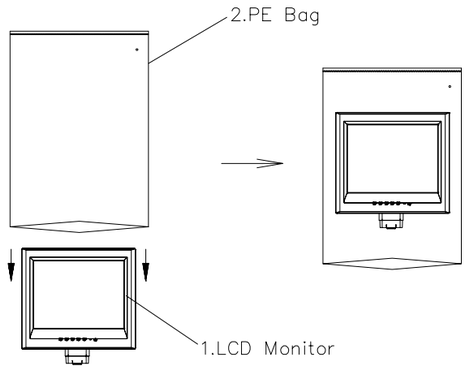
Item	ViewSonic P/N	Ref. P/N	Description	Q'ty
1	C-00008026	40-D012372	BEZEL ASSY	1
2	M-00000558	41A1769104	METAL FRAME FRONT	1
3	N/A	L3H007XXX7	PANEL	1
4	N/A	44-D006493	BACKLIGHT UNIT	1
5	HW-00002078	41-D000130	SUPPORT PLATE	1
6	B-00005846	27-D001561	INVERTOR PCBA	1
7	B-00003613	35A17S0236	AD PCBA	1
8	CB-00000546	3241700001	FFC X-PCBA TO AD-PCBA	2
9	N/A	41-D000954	COVER AD	1
10	CB-00000546	3241700001	COVER FFC	1
11	C-00005848	40-D008679	REAR ASSY	1
12	C-00005882	40-D008682	STAND ASSY	1
13	C-00005847	40-D008680	SEAT ASSY	1
14	C-00002064	40-D000212	COVER HINGE	1
15	CB-00005850	32-D000504	FFC AD-PCBA TO OSD-PCBA	1
16	HW-00002516	42A9930009	SCREW M3*PITCH1.27*12	6
17	N/A	2A9930017	SCREW M3*PITCH1.27*8	2
18	HW-00000553	42A9930008	SCREW M3*PITCH0.5*4	15
19	HW-00005884	42-D001756	SCREW M4*PITCH1.2*20	4
20	HW-00005884	42-D001756	SCREW M4*PITCH0.7*10	2
21	C-00005847	40-D008680	SEAT OFF	4

PACKING PART LIST (VE720m/mb-1)

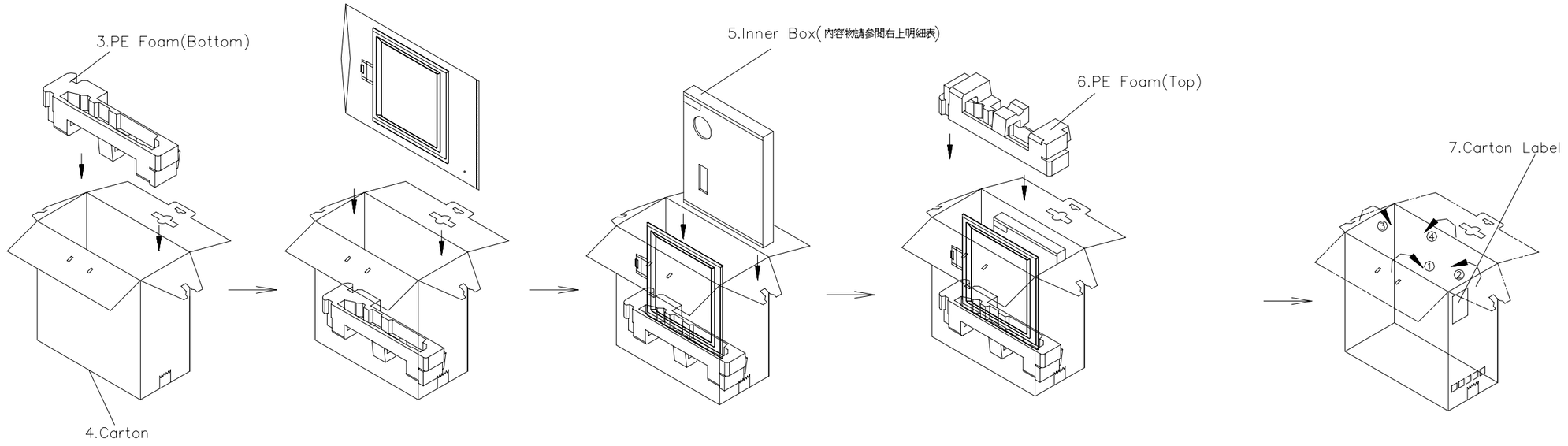
ViewSonic Model Number: VS10697

Rev: 1a

Item	ViewSonic P/N	Ref. P/N	Location	Q'ty
1	E-00000565	L3H007XXXX	LCD Panel , For 17.0" LCM, SXGA	1
2	P-00000564	7841719911	PE Foam Bag,Protector,490*560*0.13,A170E1-H09,White	1
3	P-00000565	7841749915	PE FOAM(Bottom),EPE,445*130*45mm,A170E1-H0A	1
4	P-00000562	7841725265	Carton,450x140x466, A170E1-H0E,VSC	1
5	P-00000563	7841535161	Inner Box,348*290*38,A150X2-T05	1
6	P-00000566	7841749914	PE FOAM(Top),EPE,445*130*45mm,A170E1-H0A	1
7	DC-00000550	7741729166	Label,Carton Label,76.2*76.2, A170E1-H0E,VSC	1

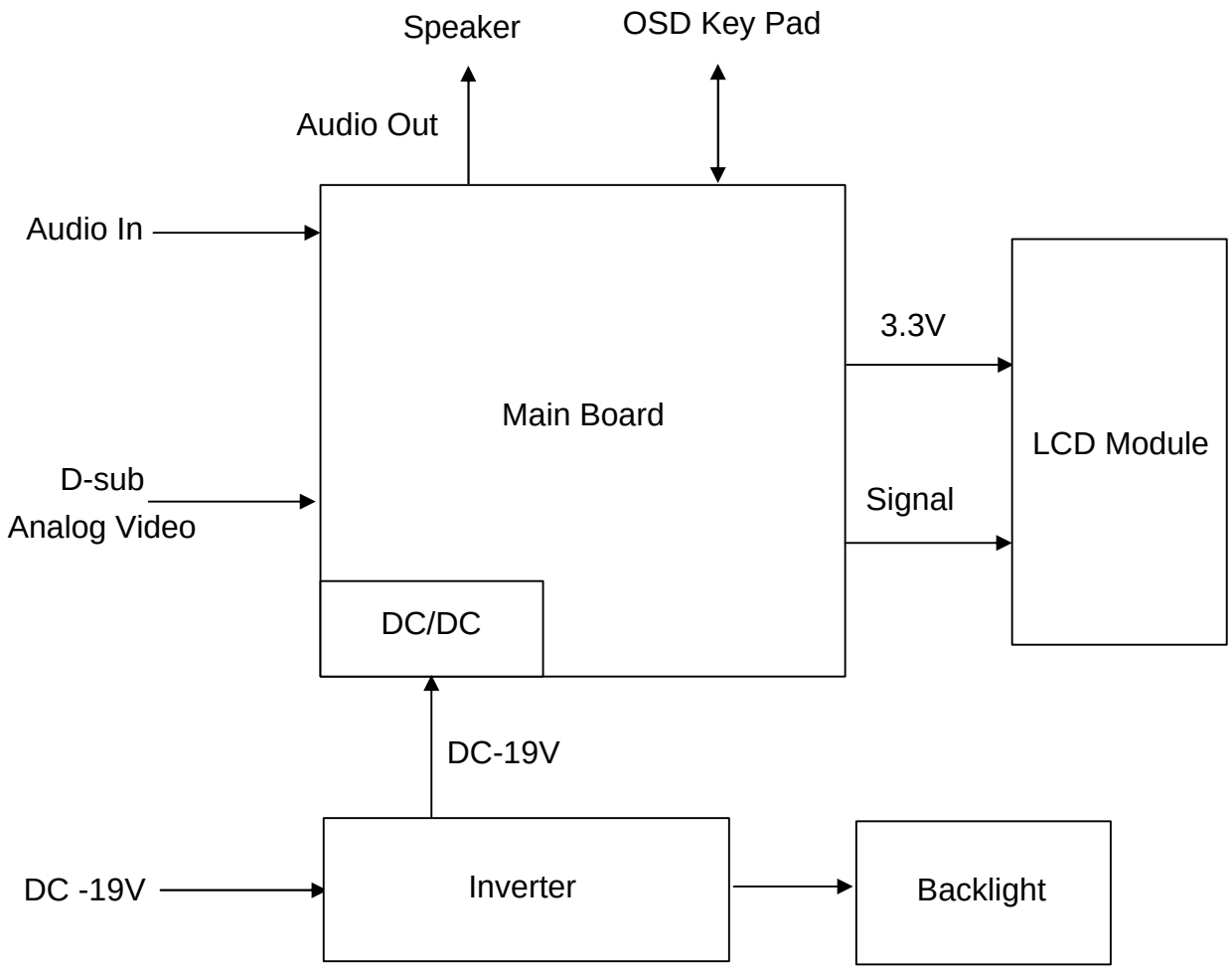


Carton dimensions: 450(L)x140(W)x466(H)mm

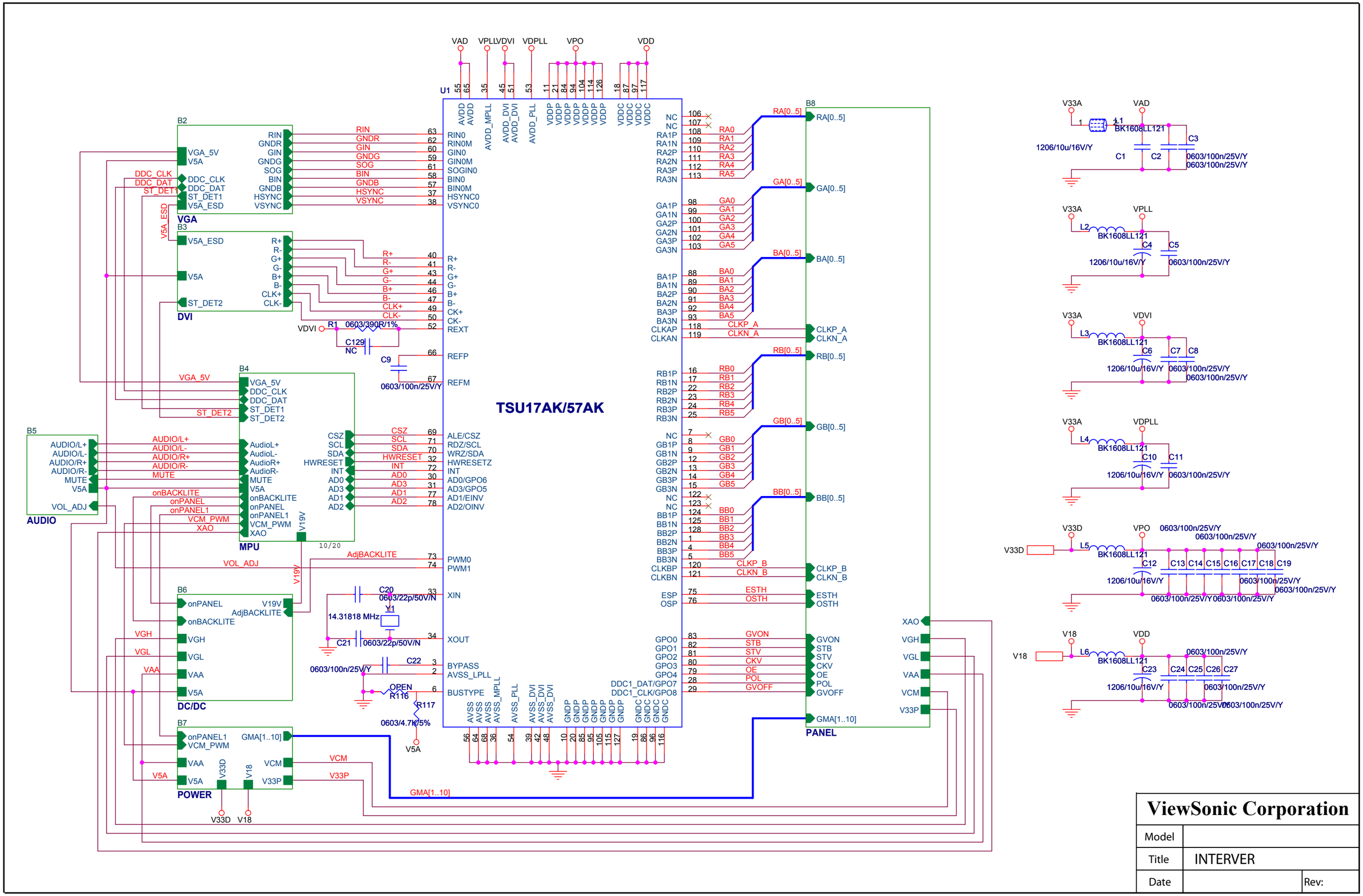


ViewSonic Corporation		
Model		
Title		
Date		Rev:

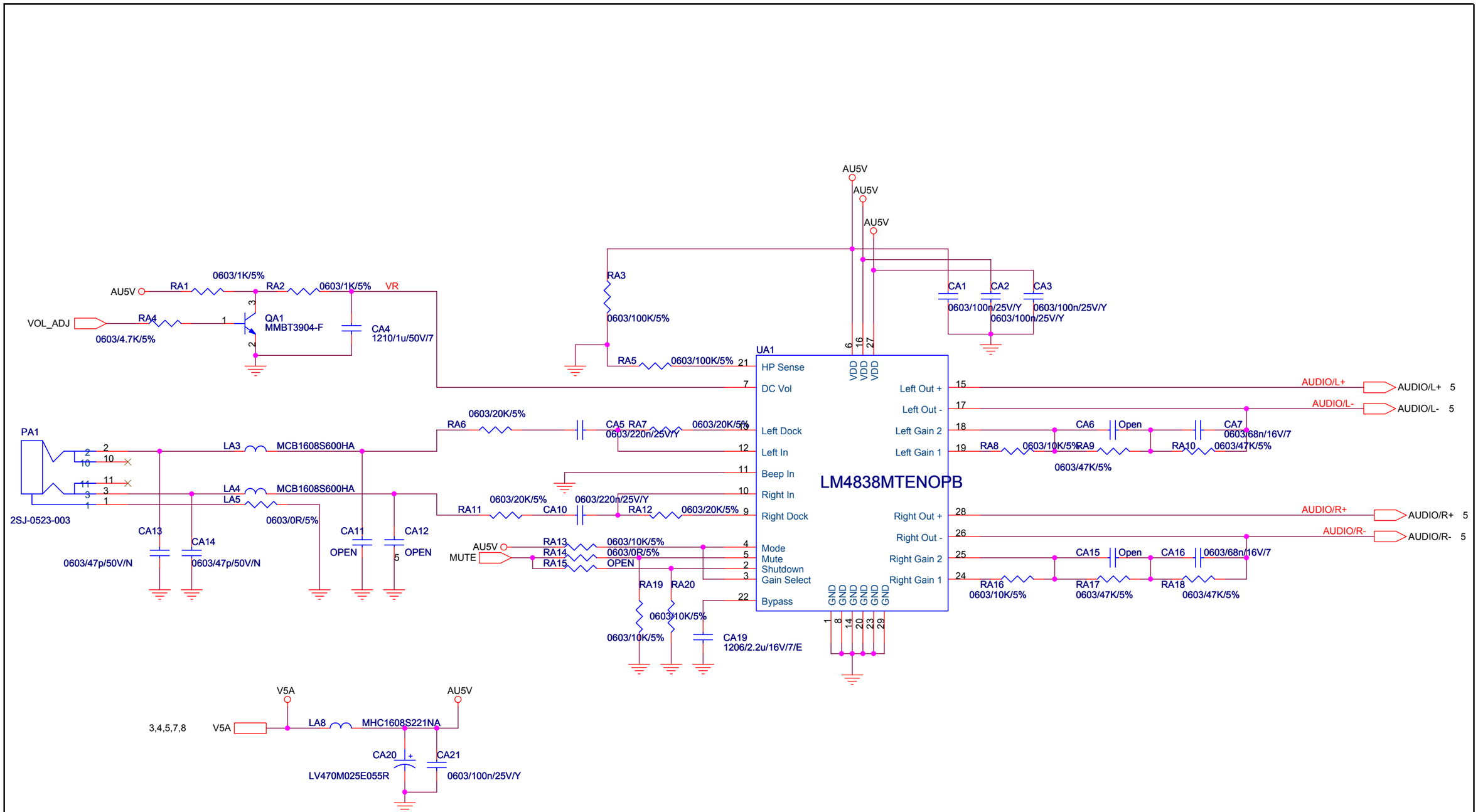
9. Block Diagram



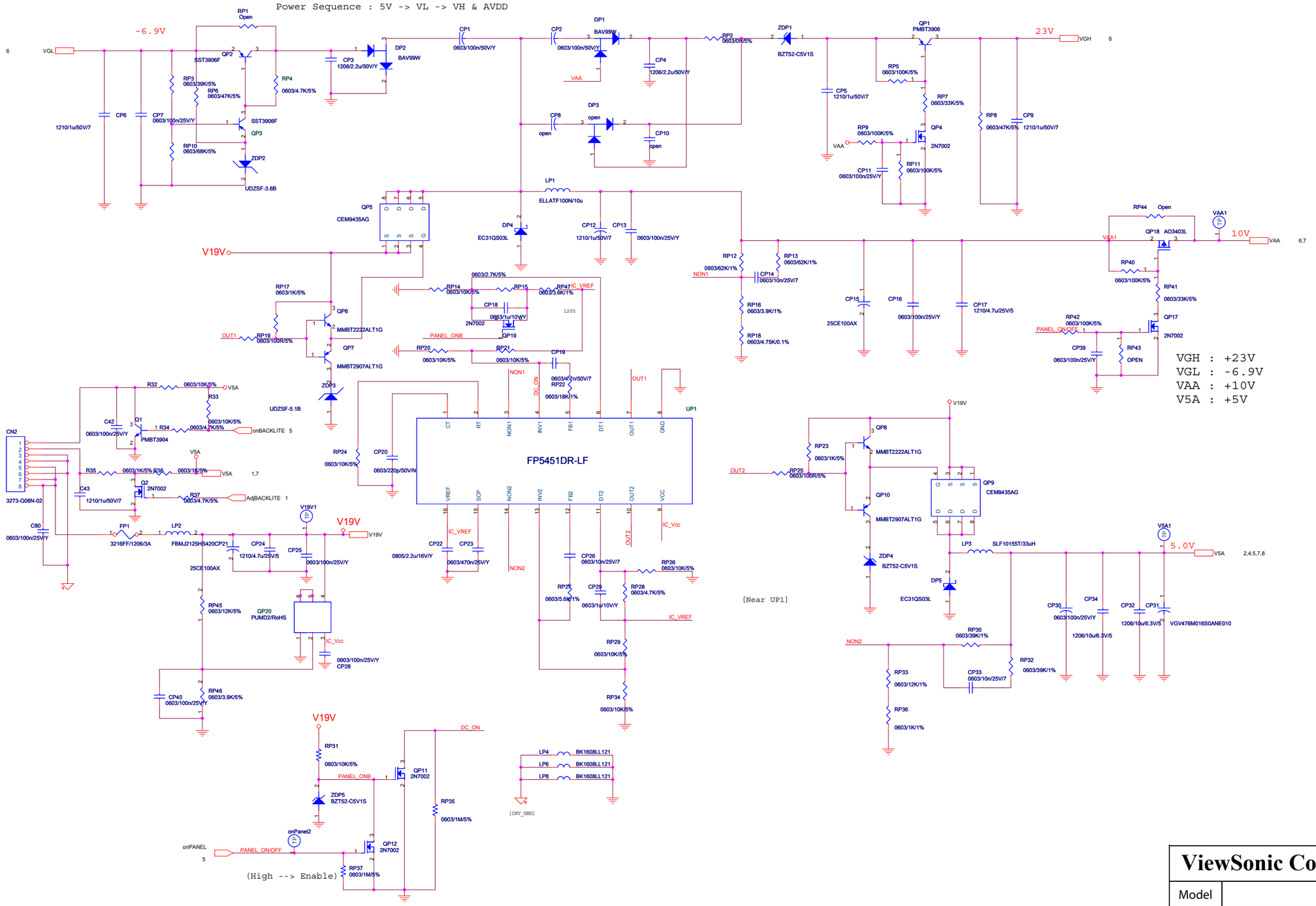
10. Schematic Diagram



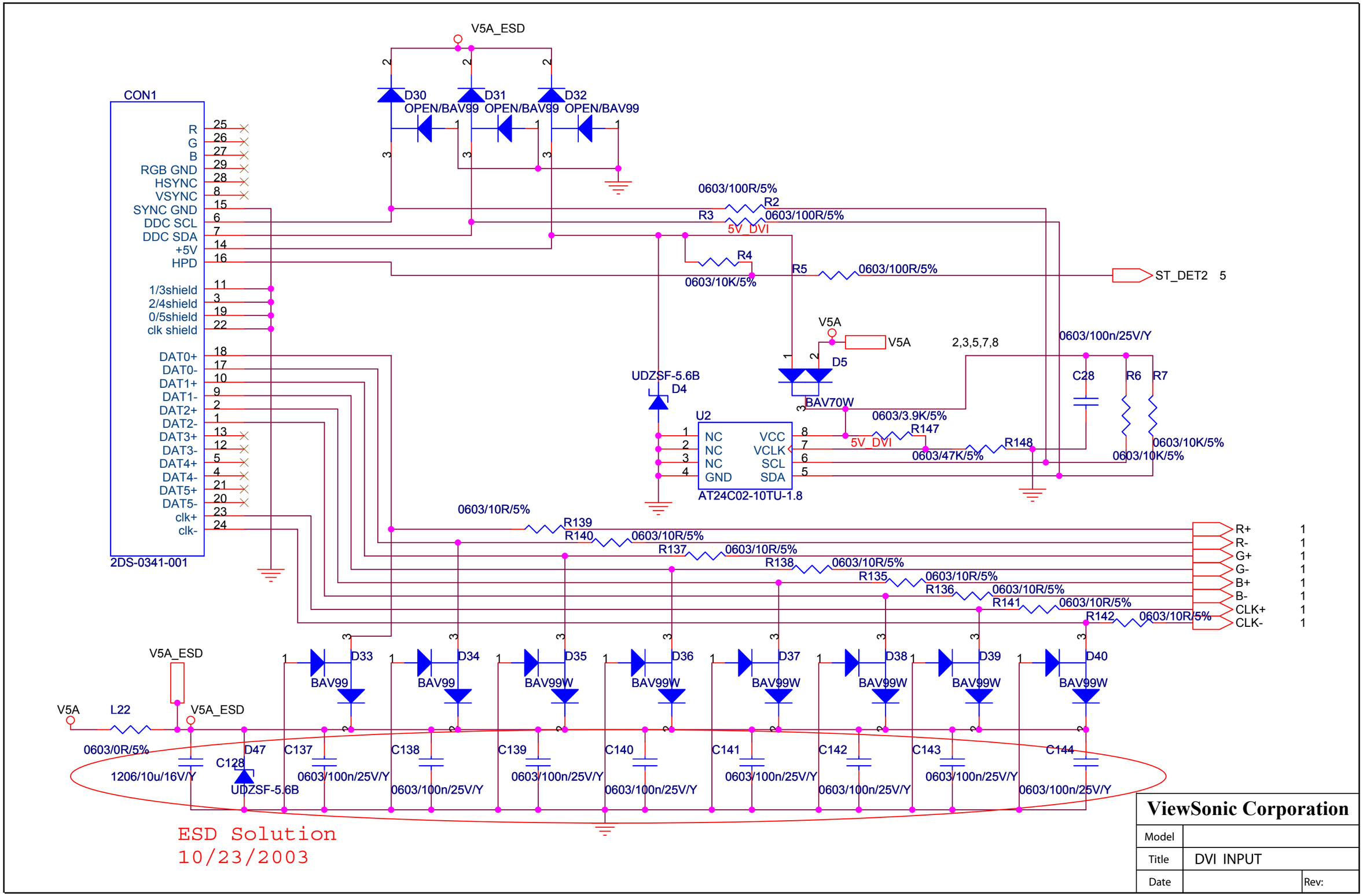
ViewSonic Corporation		
Model		
Title	INTERVER	
Date		Rev:

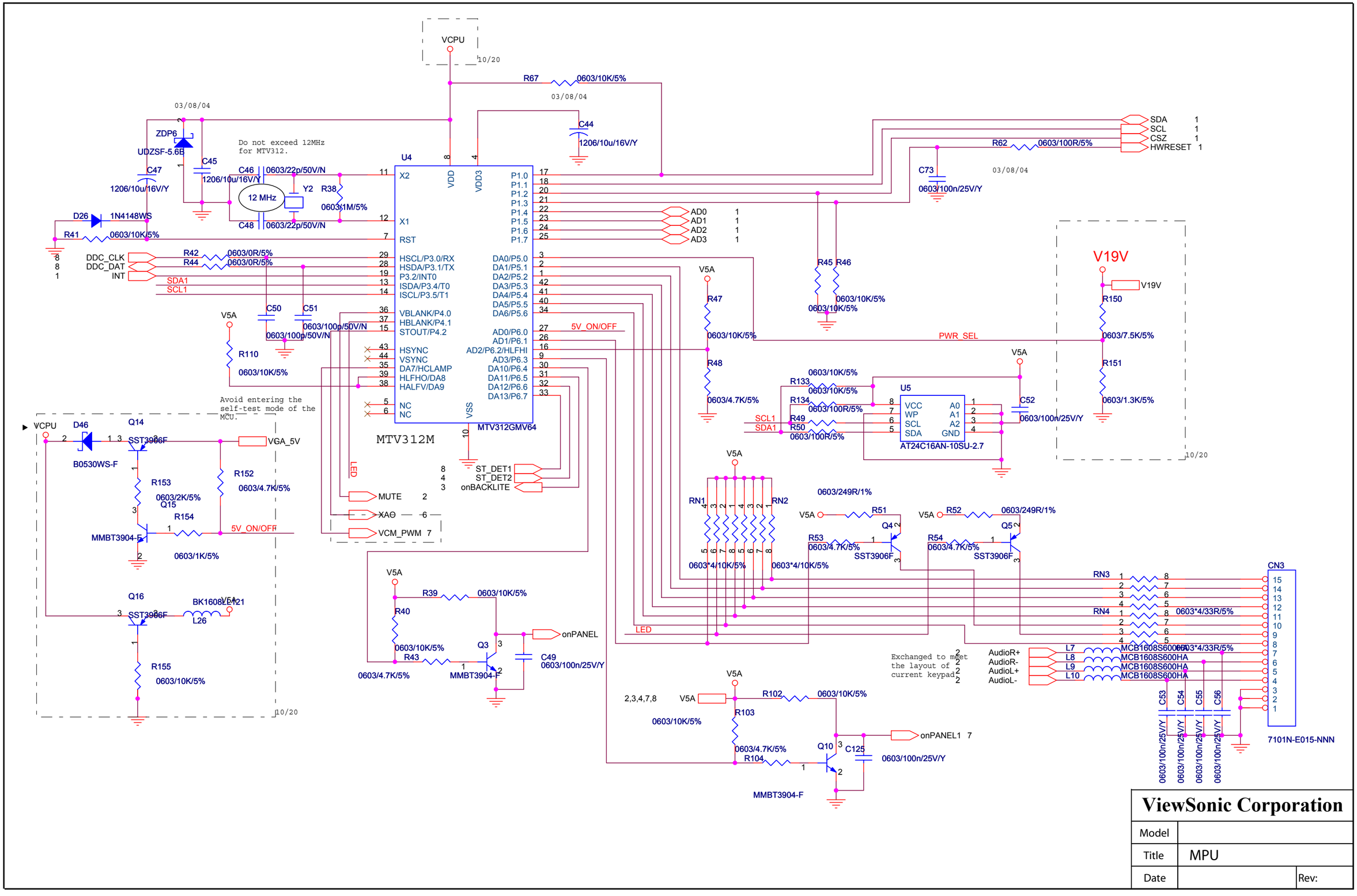


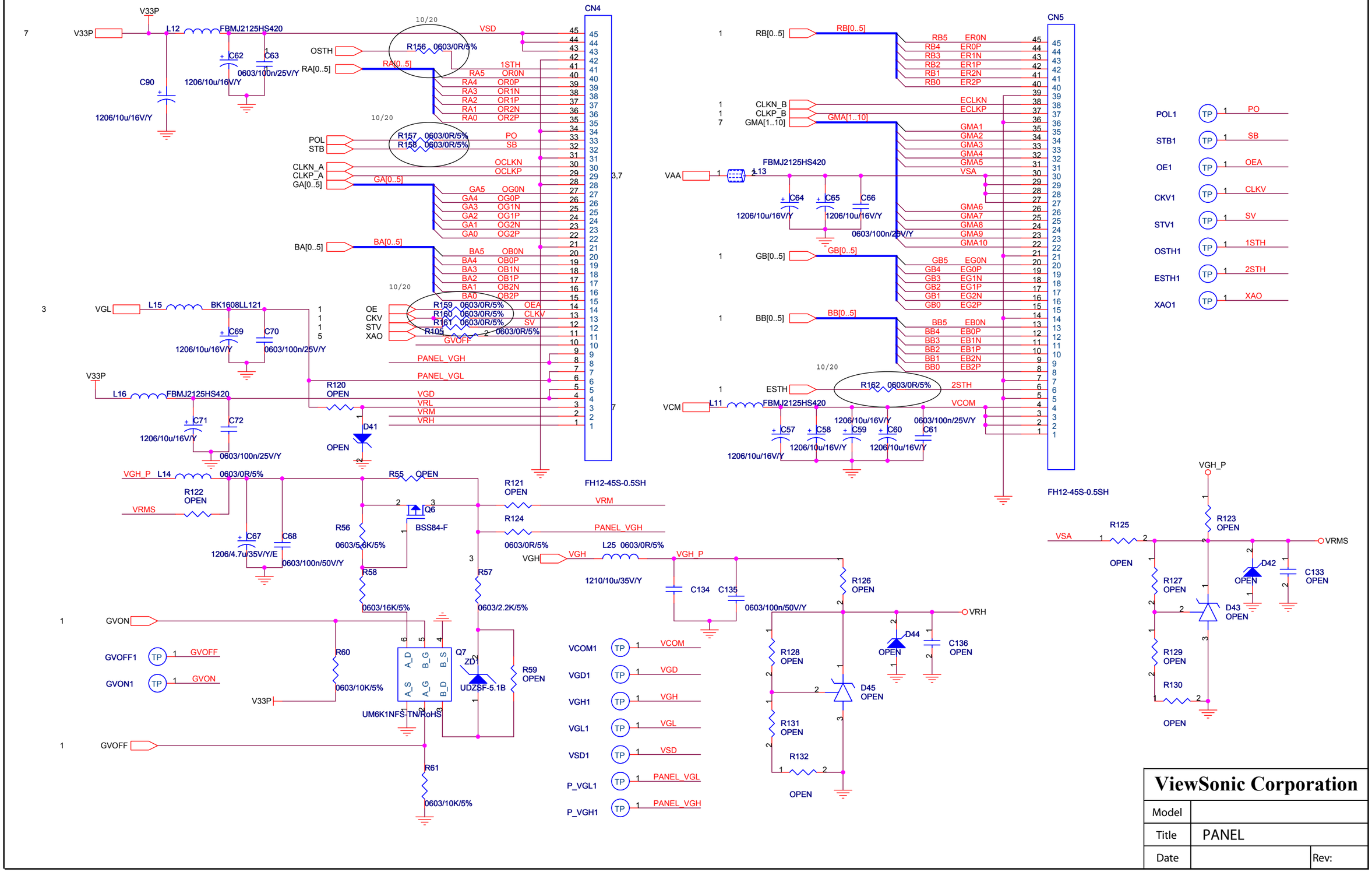
ViewSonic Corporation		
Model		
Title	AUDIO	
Date		Rev:

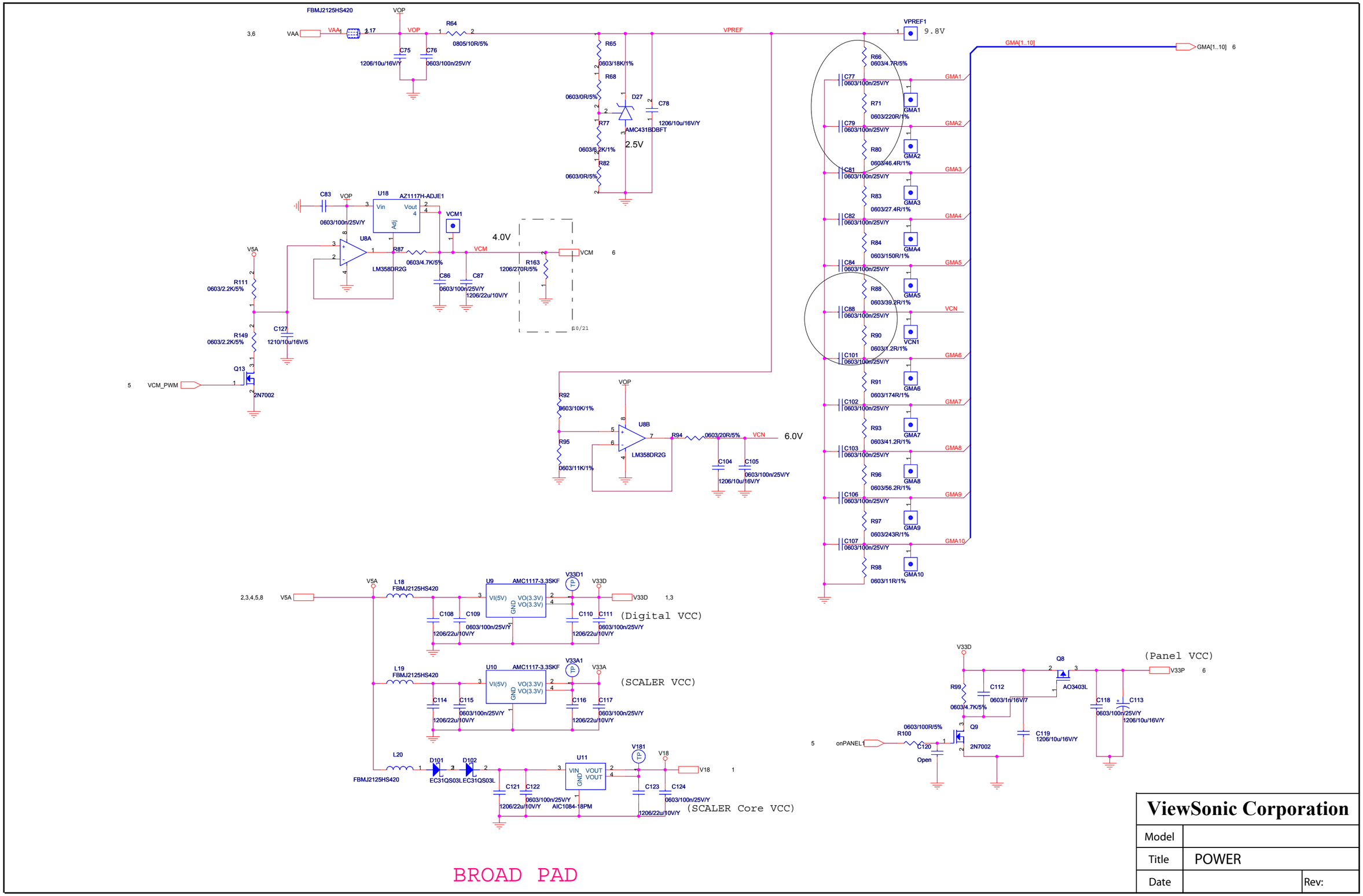


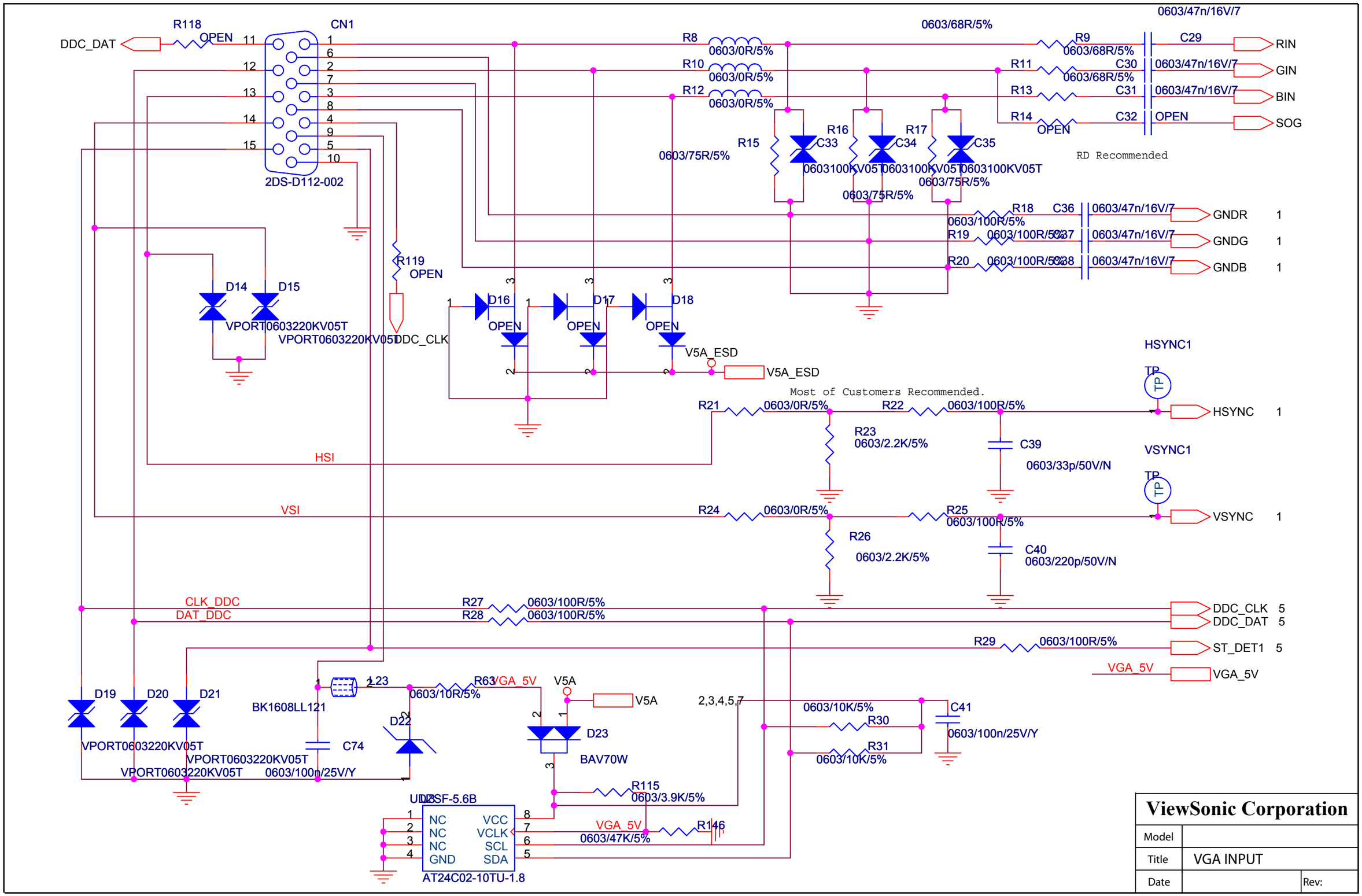
ViewSonic Corporation		
Model		
Title	DC	
Date		Rev:


V5A_ESD
D30 OPEN/BAV99
D31 OPEN/BAV99
D32 OPEN/BAV99
CON1
R
G
B
RGB GND
HSYNC
VSYNC
SYNC GND
DDC SCL
DDC SDA
+5V
HPD
1/3shield
2/4shield
0/5shield
clk shield
DAT0+
DAT0-
DAT1+
DAT1-
DAT2+
DAT2-
DAT3+
DAT3-
DAT4+
DAT4-
DAT5+
DAT5-
clk+
clk-
2DS-0341-001
0603/100R/5%
R2
R3
5V_DVI
R4
0603/10K/5%
R5
ST_DET2 5
V5A
D5
BAV70W
UDZSF-5.6B
D4
U2
NC
NC
NC
GND
VCC
VCLK
SCL
SDA
AT24C02-10TU-1.8
2,3,5,7,8
0603/100n/25V/Y
C28
R6
R7
0603/3.9K/5%
R147
R148
0603/47K/5%
0603/10R/5%
R139
R140
R137
R138
R135
R136
R141
R142
R+
R-
G+
G-
B+
B-
CLK+
CLK-
V5A_ESD
D33 BAV99
D34 BAV99
D35 BAV99W
D36 BAV99W
D37 BAV99W
D38 BAV99W
D39 BAV99W
D40 BAV99W
V5A
L22
V5A_ESD
0603/0R/5%
C128
1206/10u/16V/Y
D47
UDZSF-5.6B
C137
C138
C139
C140
C141
C142
C143
C144
0603/100n/25V/Y
ESD Solution
10/23/2003
ViewSonic Corporation
Model
Title
DVI INPUT
Date
Rev:


VCPU
10/20
R67 0603/10K/5%
03/08/04
C44 1206/10u/16V/Y
ZDP6
UDZSF-5.6B
C45 1206/10u/16V/Y
C47 1206/10u/16V/Y
Do not exceed 12MHz for MTV312.
C46 0603/22p/50V/N
12 MHz
Y2
R38 0603/1M/5%
C48 0603/22p/50V/N
D26 1N4148WS
R41 0603/10K/5%
U4
X2
X1
RST
VDD
VDD3
VSS
MTV312M
MTV312GMV64
P1.0
P1.1
P1.2
P1.3
P1.4
P1.5
P1.6
P1.7
AD0
AD1
AD2
AD3
SDA
SCL
CSZ
HWRESET
R62 0603/100R/5%
C73 0603/100n/25V/Y
DDC_CLK
DDC_DAT
INT
R42 0603/0R/5%
R44 0603/0R/5%
SDA1
SCL1
HSCL/P3.0/RX
HSDA/P3.1/TX
P3.2/INT0
ISDA/P3.4/T0
ISCL/P3.5/T1
VBLANK/P4.0
HBLANK/P4.1
STOUT/P4.2
HSYNC
VSYNC
DA7/HCLAMP
HLFHO/DA8
HALFV/DA9
NC
NC
DA0/P5.0
DA1/P5.1
DA2/P5.2
DA3/P5.3
DA4/P5.4
DA5/P5.5
DA6/P5.6
AD0/P6.0
AD1/P6.1
AD2/P6.2/HLFHI
AD3/P6.3
DA10/P6.4
DA11/P6.5
DA12/P6.6
DA13/P6.7
5V_ON/OFF
V5A
C50 0603/100p/50V/N
C51 0603/100p/50V/N
R110 0603/10K/5%
R47 0603/10K/5%
R48 0603/4.7K/5%
R45 R46 0603/10K/5%
PWR_SEL
V19V
R150 0603/7.5K/5%
R151 0603/1.3K/5%
R133 0603/10K/5%
R134 0603/100R/5%
R49 R50 0603/100R/5%
U5
AT24C16AN-10SU-2.7
C52 0603/100n/25V/Y
Avoid entering the self-test mode of the MCU.
VCPU
D46 B0530WS-F
Q14 SST3906F
VGA_5V
R153 0603/2K/5%
R152 0603/4.7K/5%
Q15 MMBT3904-F
R154 0603/1K/5%
5V_ON/OFF
Q16 SST3906F
BK1608LL121
L26
R155 0603/10K/5%
LED
MUTE
XAO
VCM_PWM
ST_DET1
ST_DET2
onBACKLITE
R39 0603/10K/5%
R40
R43 0603/4.7K/5%
Q3 MMBT3904-F
onPANEL
C49 0603/100n/25V/Y
RN1
RN2
0603/249R/1%
R51
R52 0603/249R/1%
R53 0603/4.7K/5%
R54 0603/4.7K/5%
Q4 SST3906F
Q5 SST3906F
0603*4/10K/5%
RN3
RN4
0603*4/33R/5%
CN3
7101N-E015-NNN
Exchanged to meet the layout of current keypad
AudioR+
AudioR-
AudioL+
AudioL-
L7 MCB1608S600HA
L8 MCB1608S600HA
L9 MCB1608S600HA
L10 MCB1608S600HA
C53 C54 C55 C56 0603/100n/25V/Y
2,3,4,7,8
R102 0603/10K/5%
R103 0603/10K/5%
R104 0603/4.7K/5%
Q10 MMBT3904-F
C125 0603/100n/25V/Y
onPANEL1
ViewSonic Corporation
Model
Title MPU
Date
Rev:

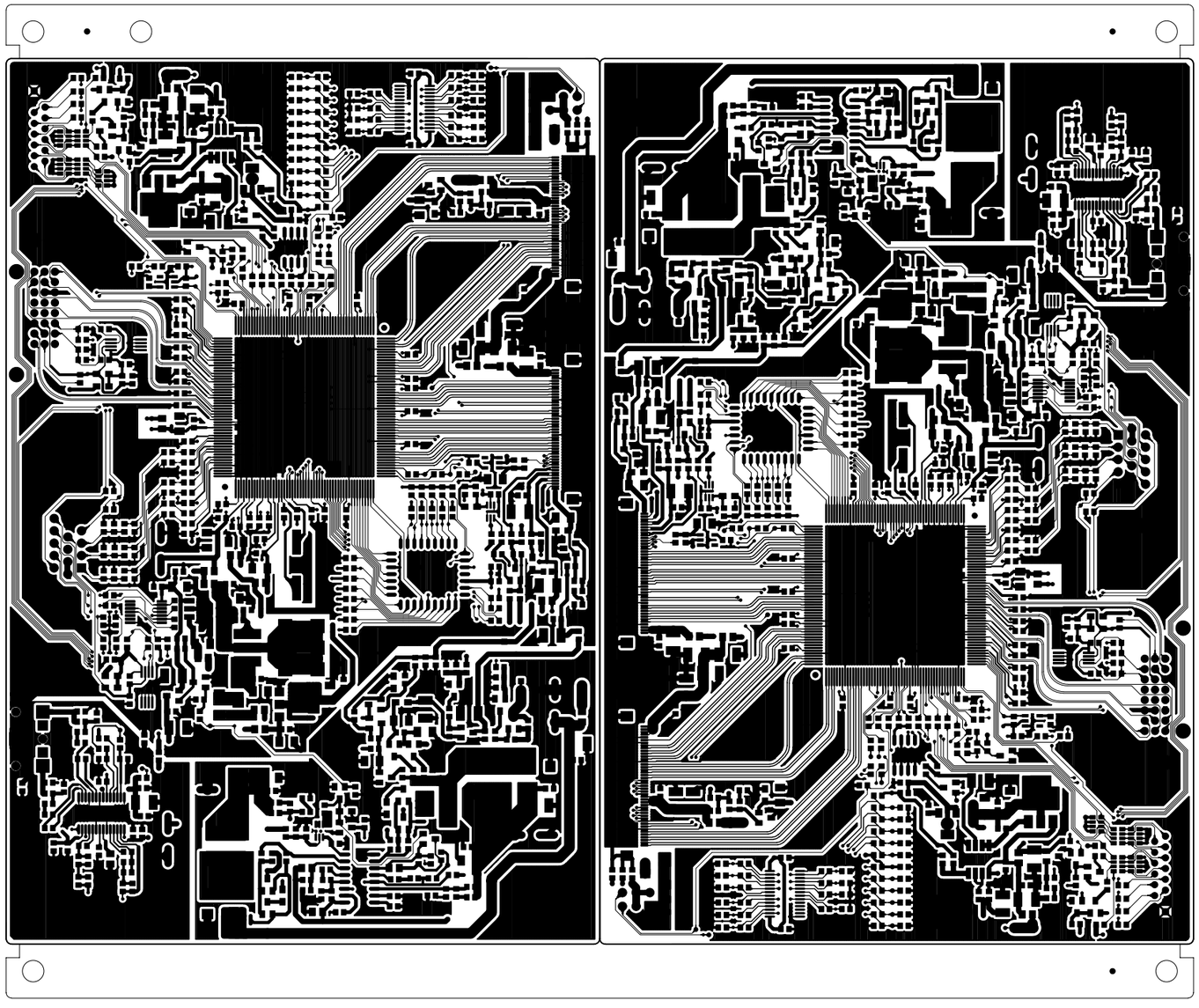

CN4
CN5
V33P
L12
FBMJ2125HS420
C62
C63
C90
1206/10u/16V/Y
0603/100n/25V/Y
VSD
OSTH
RA[0..5]
R156 0603/0R/5%
1STH
RA5 OR0N
RA4 OR0P
RA3 OR1N
RA2 OR1P
RA1 OR2N
RA0 OR2P
POL
STB
R157 0603/0R/5%
R158 0603/0R/5%
PO
SB
CLKN_A
CLKP_A
GA[0..5]
OCLKN
OCLKP
GA5 OG0N
GA4 OG0P
GA3 OG1N
GA2 OG1P
GA1 OG2N
GA0 OG2P
BA[0..5]
BA5 OB0N
BA4 OB0P
BA3 OB1N
BA2 OB1P
BA1 OB2N
BA0 OB2P
OE
CKV
STV
XAO
R159 0603/0R/5%
R160 0603/0R/5%
R161 0603/0R/5%
R105 0603/0R/5%
OEA
CLKV
SV
GVOFF
VGL
L15
BK1608LL121
C69
C70
PANEL_VGH
PANEL_VGL
VGD
VRL
VRM
VRH
R120
OPEN
L16
C71
C72
D41
VGH_P
L14
R122
OPEN
VRMS
R55 OPEN
R56
0603/5.6K/5%
R58
0603/16K/5%
R57
0603/2.2K/5%
C67
1206/4.7u/35V/Y/E
C68
0603/100n/50V/Y
Q6
BSS84-F
R121
OPEN
R124
0603/0R/5%
VGH
L25 0603/0R/5%
1210/10u/35V/Y
VGH_P
C134
C135
GVON
GVOFF1
GVON1
R60
0603/10K/5%
Q7
ZD1
UDZSF-5.1B
R59
OPEN
UM6K1NFS-TN/RoHS
R61
0603/10K/5%
VCOM1
VGD1
VGH1
VGL1
VSD1
P_VGL1
P_VGH1
RB[0..5]
RB5 ER0N
RB4 ER0P
RB3 ER1N
RB2 ER1P
RB1 ER2N
RB0 ER2P
CLKN_B
CLKP_B
GMA[1..10]
ECLKN
ECLKP
GMA1
GMA2
GMA3
GMA4
GMA5
VSA
GMA6
GMA7
GMA8
GMA9
GMA10
VAA
FBMJ2125HS420
C64
C65
C66
GB[0..5]
GB5 EG0N
GB4 EG0P
GB3 EG1N
GB2 EG1P
GB1 EG2N
GB0 EG2P
BB[0..5]
BB5 EB0N
BB4 EB0P
BB3 EB1N
BB2 EB1P
BB1 EB2N
BB0 EB2P
ESTH
R162 0603/0R/5%
2STH
VCM
L11
VCOM
C57
C58
C59
C60
C61
R126
OPEN
R128
OPEN
R131
OPEN
R132
D44
D45
C136
OPEN
POL1
STB1
OE1
CKV1
STV1
OSTH1
ESTH1
XAO1
PO
SB
OEA
CLKV
SV
1STH
2STH
XAO
R123
OPEN
R125
R127
OPEN
R129
OPEN
R130
D42
D43
C133
OPEN
VRMS
ViewSonic Corporation
Model
Title
PANEL
Date
Rev:


FBMJ2125HS420
VOP
3,6
VAA
VAA1
1.17
VOP
R64
0805/10R/5%
C75
1206/10u/16V/Y
C76
0603/100n/25V/Y
VPREF
R65
0603/18K/1%
R68
0603/0R/5%
D27
AMC431BDBFT
2.5V
C78
1206/10u/16V/Y
R77
0603/6.2K/1%
R82
0603/0R/5%
VPREF1
9.8V
GMA[1..10]
GMA[1..10] 6
R66
0603/4.7R/5%
C77
0603/100n/25V/Y
GMA1
R71
0603/220R/1%
C79
0603/100n/25V/Y
GMA2
R80
0603/46.4R/1%
C81
0603/100n/25V/Y
GMA3
R83
0603/27.4R/1%
C82
0603/100n/25V/Y
GMA4
R84
0603/150R/1%
C84
0603/100n/25V/Y
GMA5
R88
0603/39.2R/1%
C88
0603/100n/25V/Y
VCN
R90
0603/1.2R/1%
VCN1
C101
0603/100n/25V/Y
GMA6
R91
0603/174R/1%
C102
0603/100n/25V/Y
GMA7
R93
0603/41.2R/1%
C103
0603/100n/25V/Y
GMA8
R96
0603/56.2R/1%
C106
0603/100n/25V/Y
GMA9
R97
0603/243R/1%
C107
0603/100n/25V/Y
GMA10
R98
0603/11R/1%
C83
0603/100n/25V/Y
VOP
U18
AZ1117H-ADJE1
Vin
Vout
Adj
VCM1
4.0V
U8A
LM358DR2G
R87
0603/4.7K/5%
VCM
VCM 6
R163
1206/270R/5%
C86
0603/100n/25V/Y
C87
1206/22u/10V/Y
10/21
V5A
R111
0603/2.2K/5%
R149
0603/2.2K/5%
C127
1210/10u/16V/5
Q13
2N7002
5
VCM_PWM
R92
0603/10K/1%
U8B
LM358DR2G
R95
0603/11K/1%
R94
0603/20R/5%
VCN
6.0V
C104
1206/10u/16V/Y
C105
0603/100n/25V/Y
2,3,4,5,8
V5A
L18
FBMJ2125HS420
U9
AMC1117-3.3SKF
VI(5V)
VO(3.3V)
VO(3.3V)
GND
V33D1
V33D
V33D 1,3
C108
1206/22u/10V/Y
C109
0603/100n/25V/Y
C110
1206/22u/10V/Y
C111
0603/100n/25V/Y
(Digital VCC)
L19
FBMJ2125HS420
U10
AMC1117-3.3SKF
V33A1
V33A
C114
1206/22u/10V/Y
C115
0603/100n/25V/Y
C116
1206/22u/10V/Y
C117
0603/100n/25V/Y
(SCALER VCC)
L20
FBMJ2125HS420
D101
EC31QS03L
D102
EC31QS03L
U11
VIN
VOUT
VOUT
GND
V181
V18
V18 1
C121
1206/22u/10V/Y
C122
0603/100n/25V/Y
AIC1084-18PM
C123
1206/22u/10V/Y
C124
0603/100n/25V/Y
(SCALER Core VCC)
V33D
Q8
AO3403L
(Panel VCC)
V33P 6
R99
0603/4.7K/5%
C112
0603/1n/16V/7
C118
0603/100n/25V/Y
C113
1206/10u/16V/Y
R100
0603/100R/5%
Q9
2N7002
C119
1206/10u/16V/Y
5
onPANEL1
C120
Open
BROAD PAD
ViewSonic Corporation
Model
Title
POWER
Date
Rev:


R118
OPEN
DDC_DAT
CN1
11
12
13
14
15
1
6
2
7
3
8
4
9
5
10
2DS-D112-002
R119
OPEN
DDC_CLK
D14
D15
VPORT0603220KV05T
VPORT0603220KV05T
HSI
VSI
R8
R10
R12
0603/0R/5%
0603/68R/5%
R9
R11
R13
R14
C29
C30
C31
C32
0603/47n/16V/7
OPEN
RIN
GIN
BIN
SOG
R15
0603/75R/5%
R16
R17
C33
C34
C35
0603100KV05T
0603100KV05T
0603100KV05T
0603/75R/5%
RD Recommended
R18
R19
R20
C36
C37
C38
0603/100R/5%
GNDR
GNDG
GNDB
D16
D17
D18
OPEN
V5A_ESD
Most of Customers Recommended.
HSYNC1
TP
HSYNC
R21
0603/0R/5%
R22
0603/100R/5%
R23
0603/2.2K/5%
C39
0603/33p/50V/N
VSYNC1
R24
R25
R26
C40
0603/220p/50V/N
VSYNC
CLK_DDC
DAT_DDC
R27
R28
0603/100R/5%
DDC_CLK
DDC_DAT
R29
ST_DET1
VGA_5V
D19
D20
D21
VPORT0603220KV05T
VPORT0603220KV05T
VPORT0603220KV05T
BK1608LL121
C74
0603/100n/25V/Y
R63
0603/10R/5%
D22
D23
BAV70W
V5A
2,3,4,5,7
0603/10K/5%
R30
R31
C41
0603/100n/25V/Y
R115
0603/3.9K/5%
U23
SF-5.6B
NC
NC
NC
GND
VCC
VCLK
SCL
SDA
AT24C02-10TU-1.8
R146
0603/47K/5%
ViewSonic Corporation
Model
Title
VGA INPUT
Date
Rev:

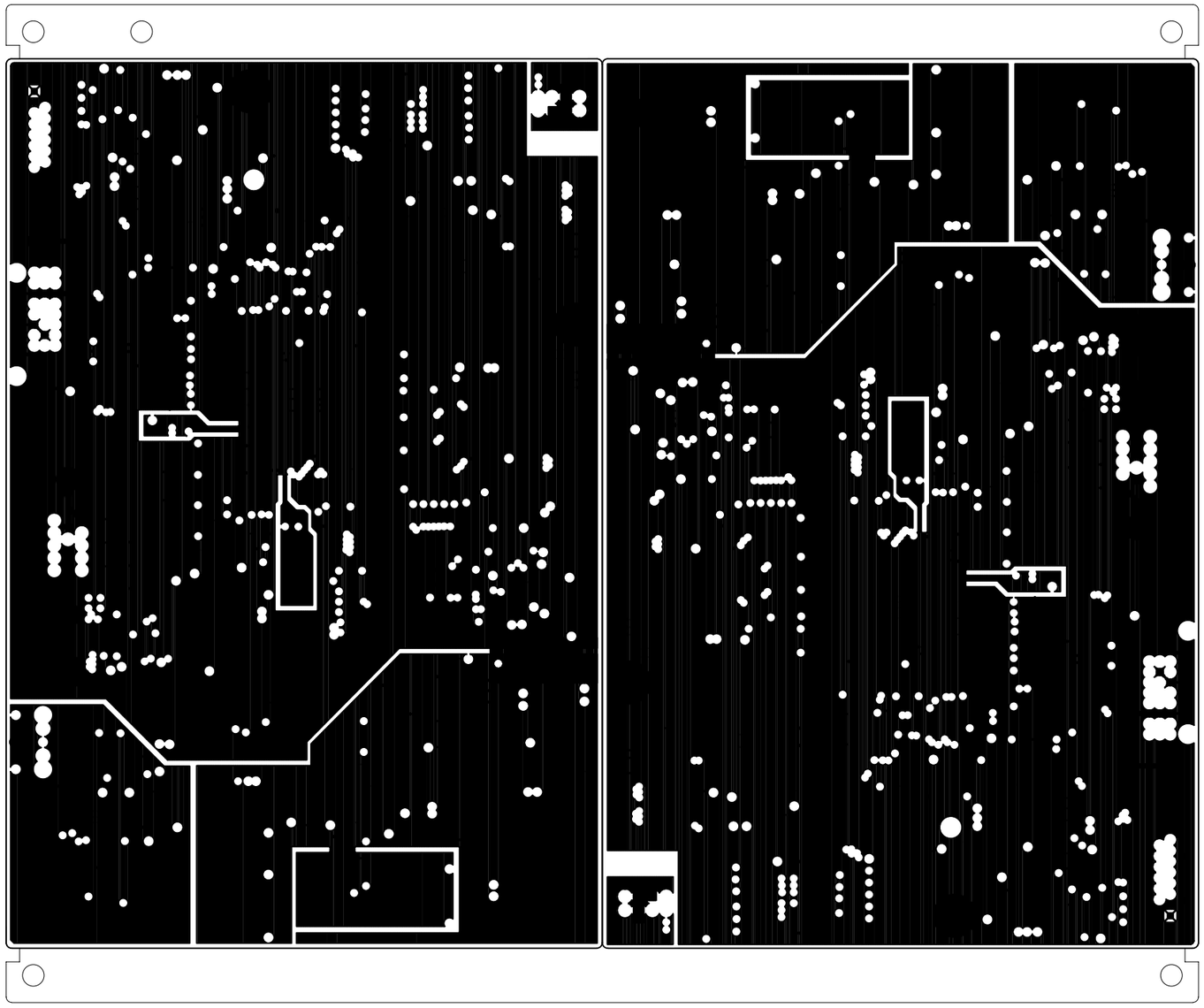
11. PCB Layout Diagrams

TOP



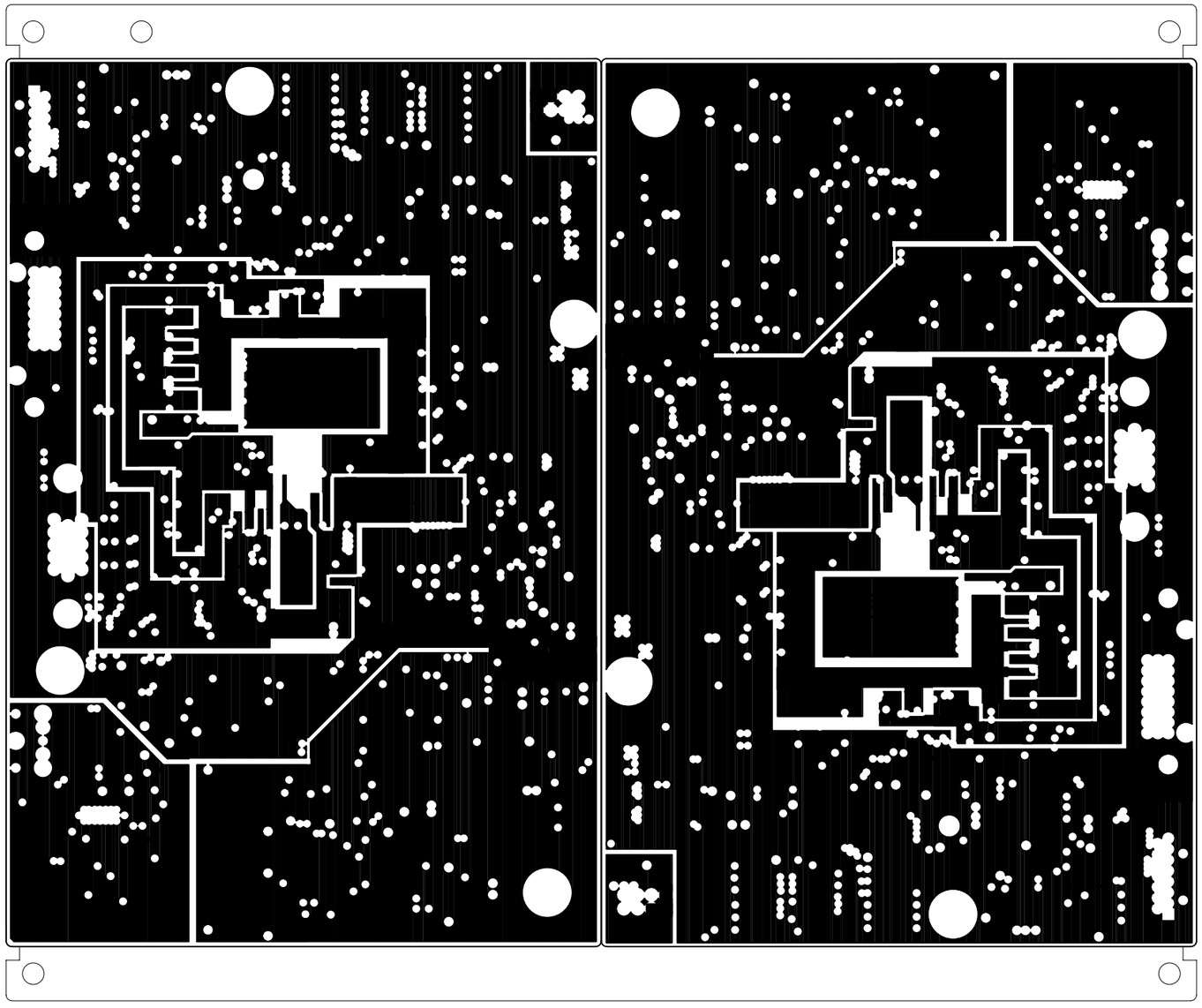
ViewSonic Corporation		
Model		
Title	TOP	
Date		Rev:

INT2



ViewSonic Corporation		
Model		
Title	INT2	
Date		Rev:

INT3



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Model		
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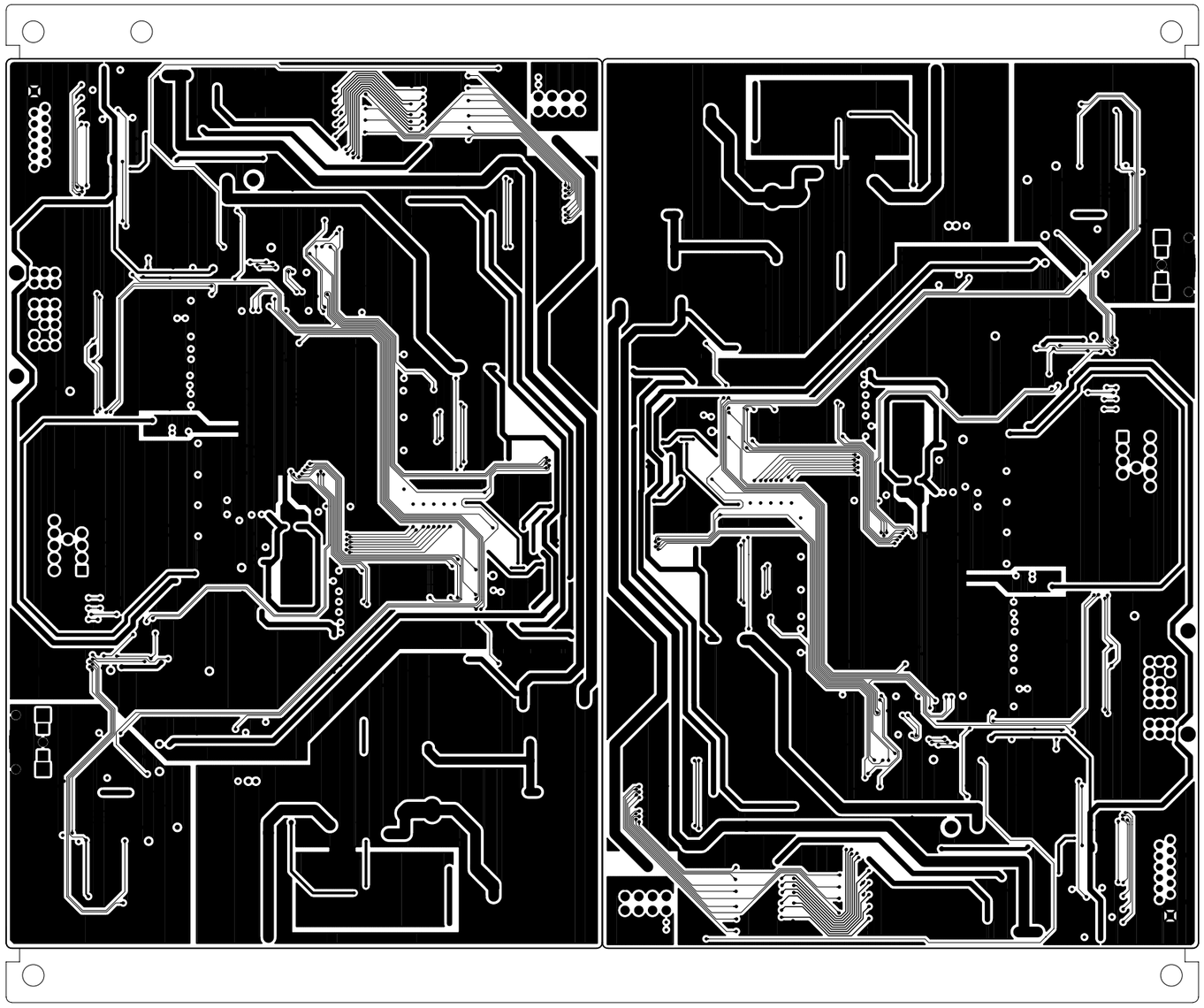
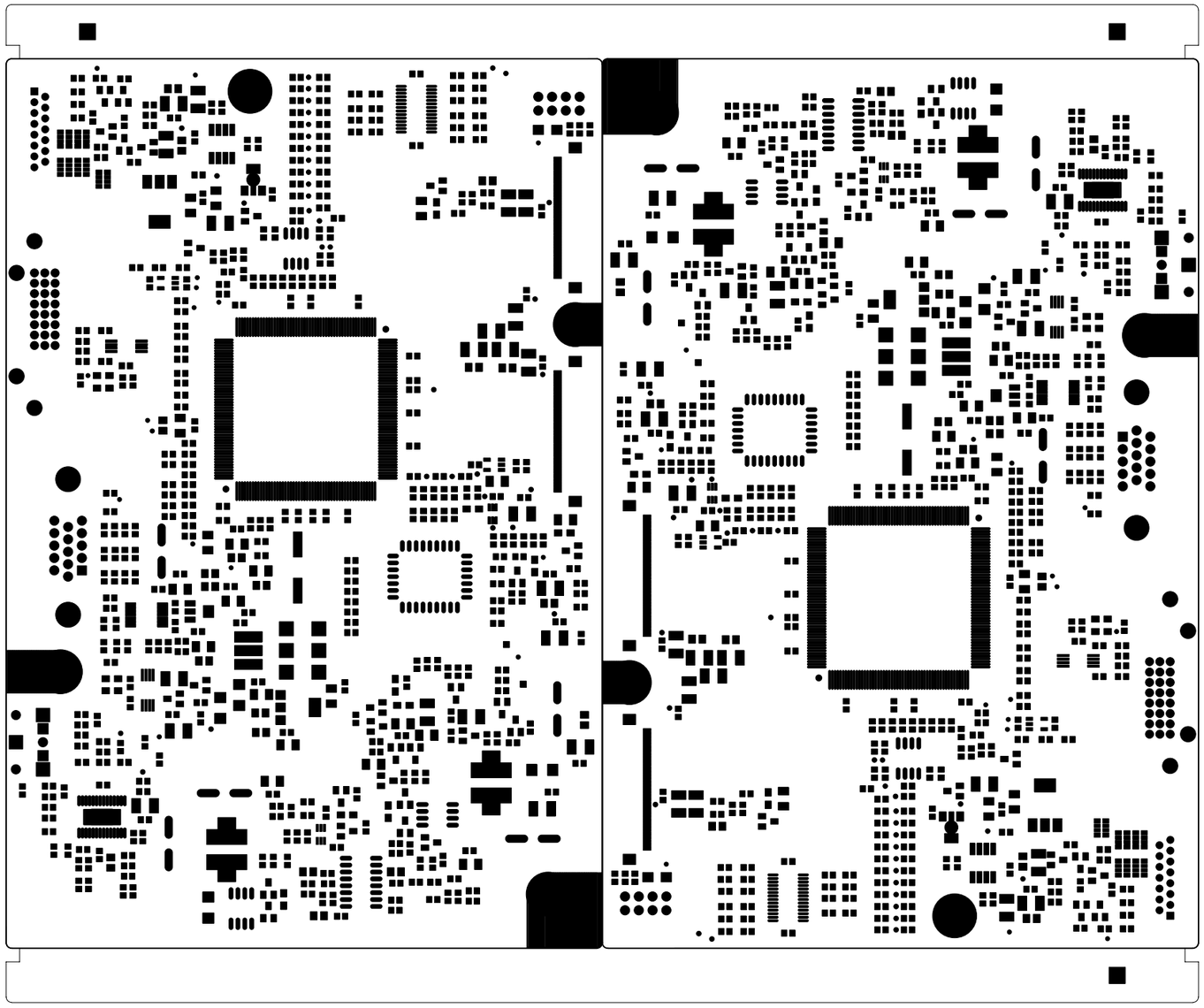
Date		Rev:

BOT



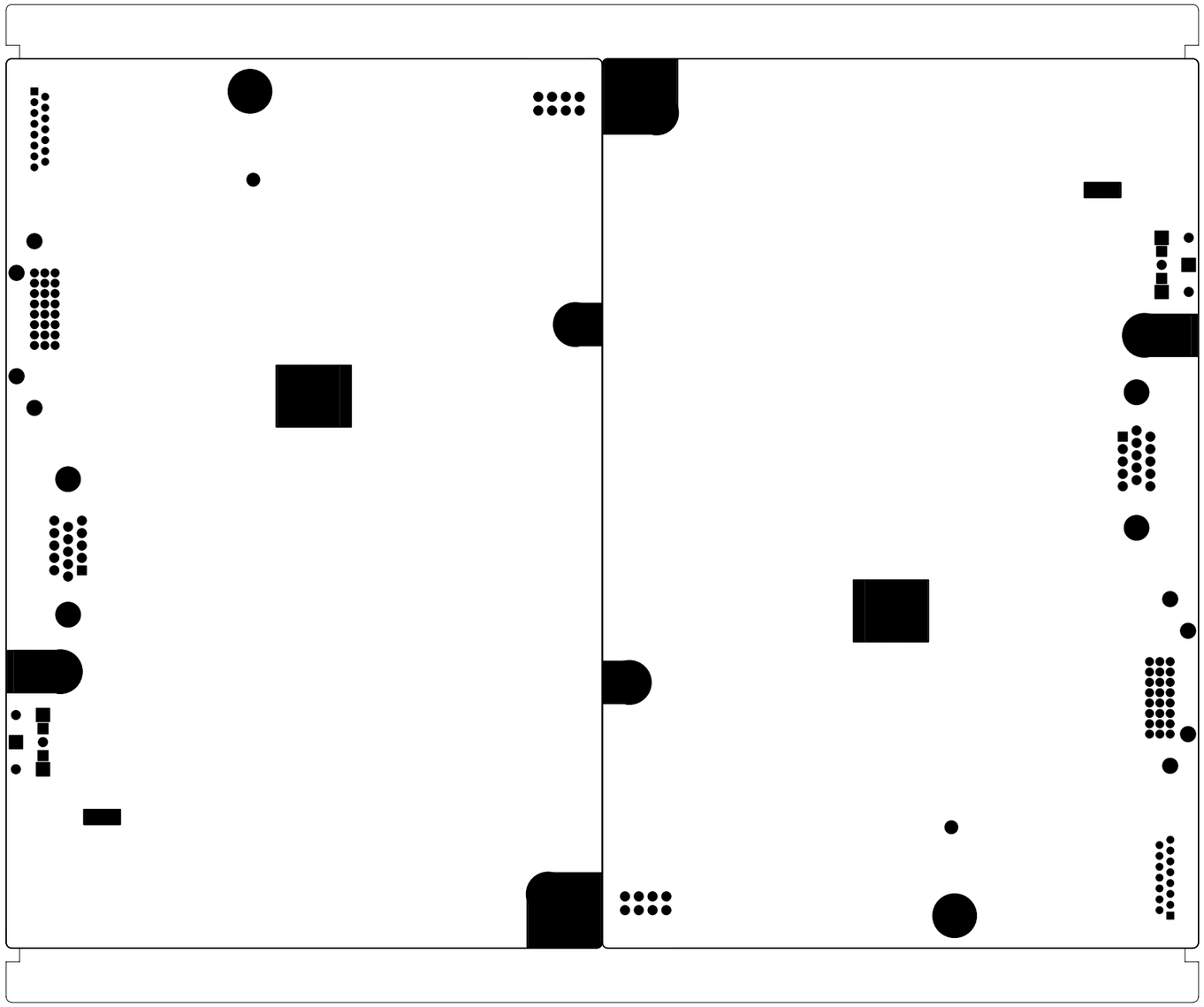
ViewSonic Corporation		
Model		
Title	BOT	
Date		Rev:

TMASK



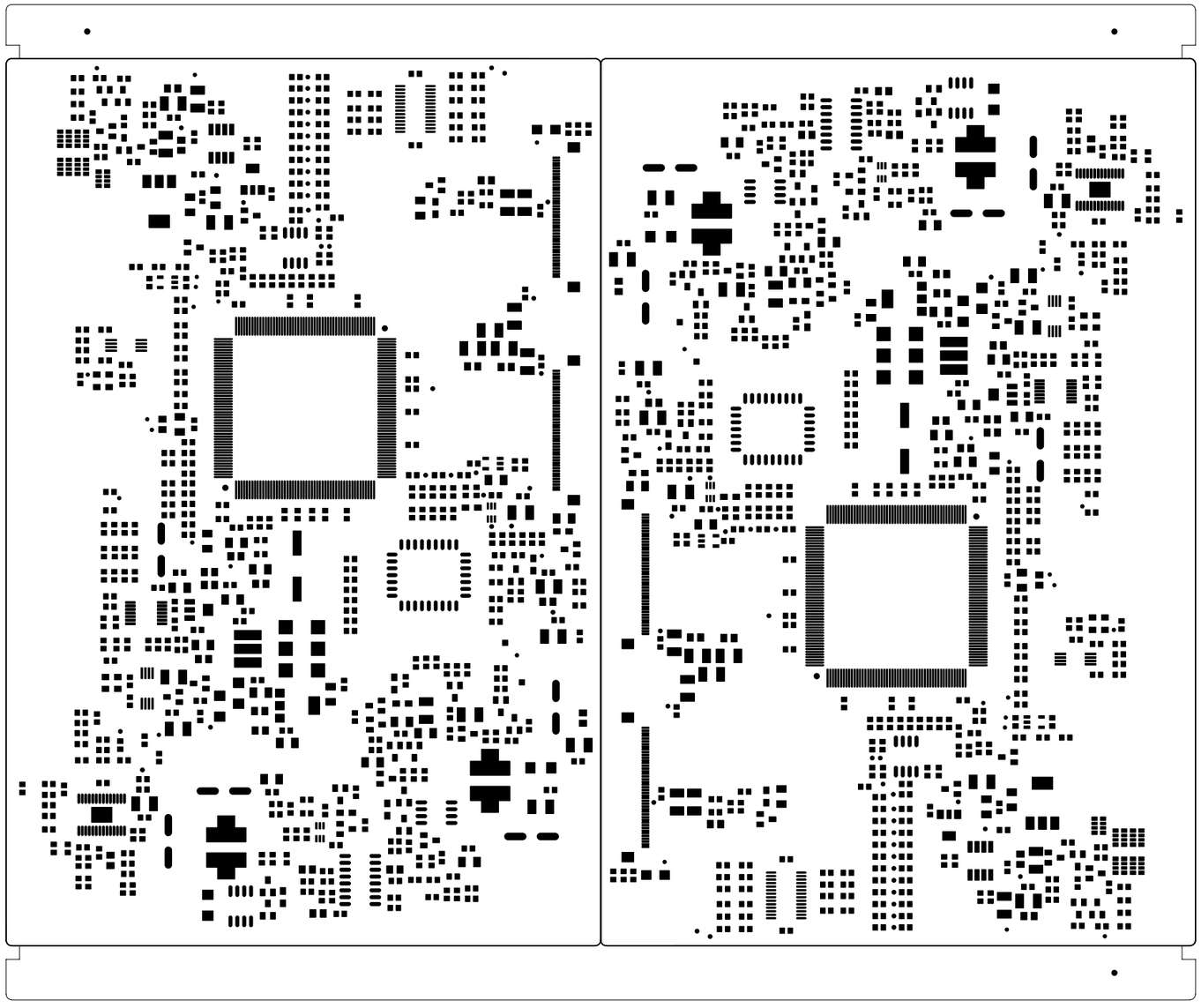
ViewSonic Corporation		
Model		
Title	TMASK	
Date		Rev:

BMASK



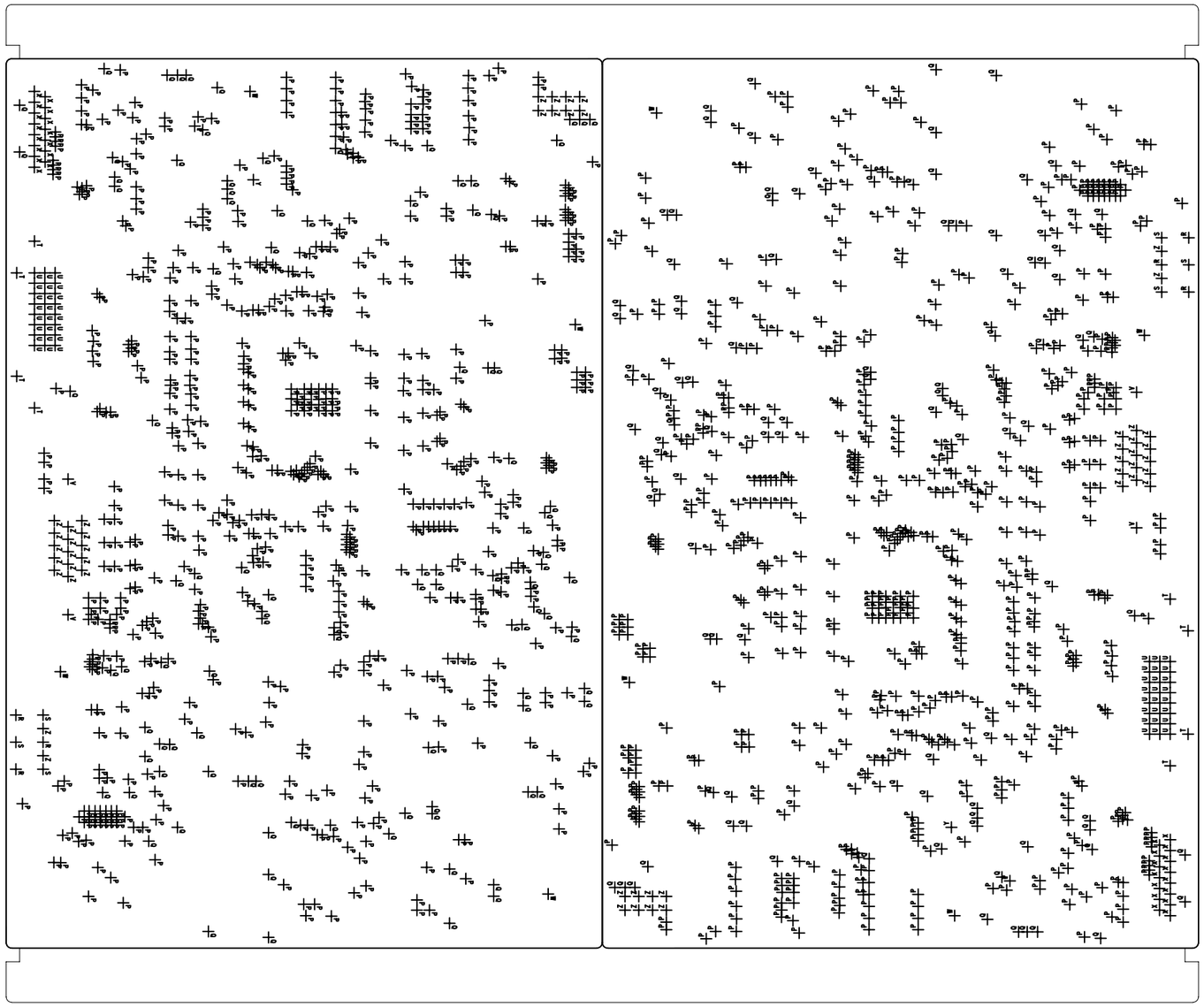
ViewSonic Corporation		
Model		
Title	BMASK	
Date		Rev:

TPASTE



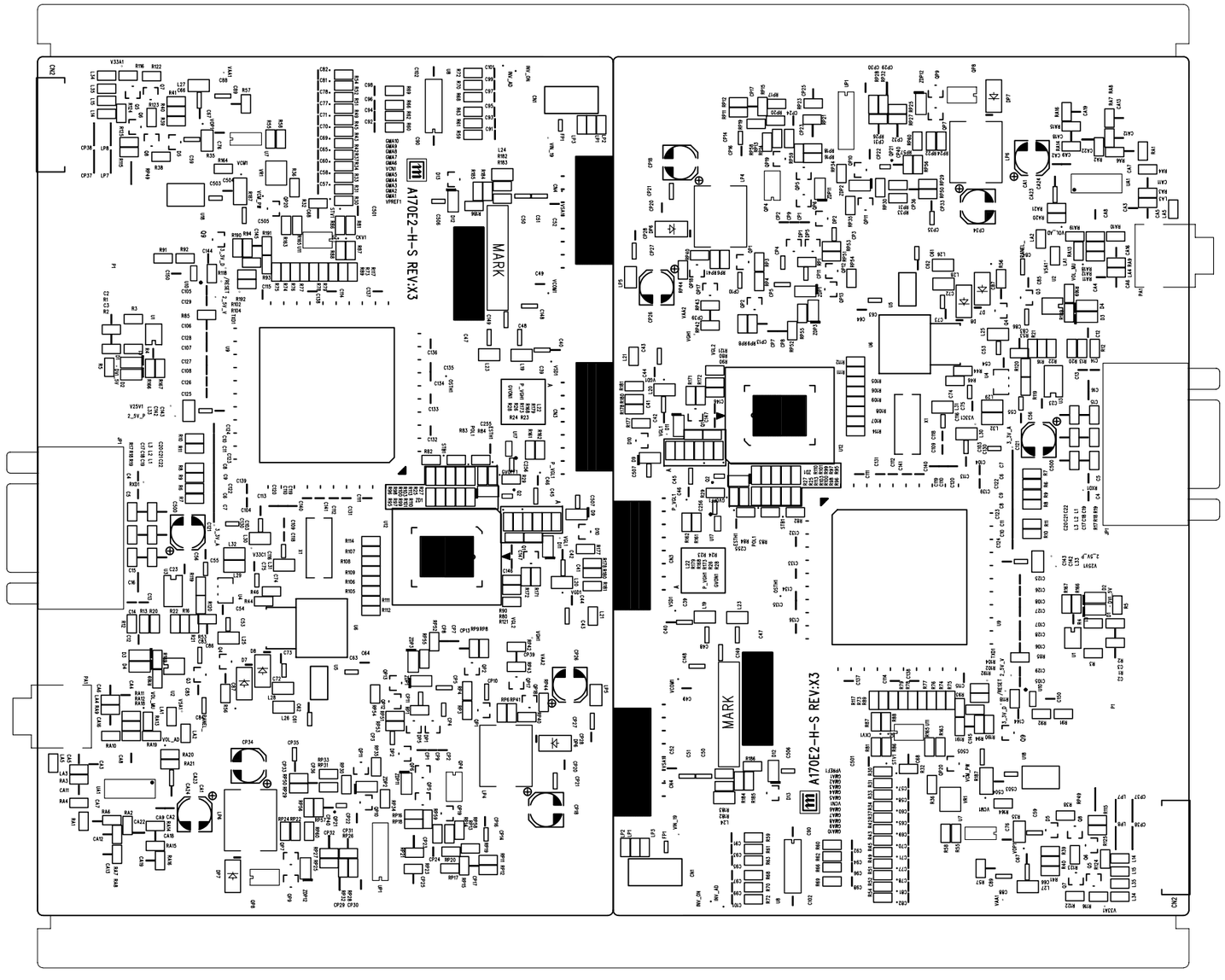
ViewSonic Corporation		
Model		
Title	TPASTE	
Date		Rev:

DRILL



ViewSonic Corporation		
Model		
Title	DRILL	
Date		Rev:

TSILK



ViewSonic Corporation		
Model		
Title	TSILK	
Date		Rev:

* 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)