

# Service Manual

ViewSonic VG720  
Model No VS10791  
17" Color TFT LCD Display



**Manufacture Date: Aug-10-05**

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### Revision History

Revision	Date	Description of changes	Approval
<b>A00</b>	<b>Aug-10-05</b>	<b>Initial Release</b>	<b>YG.WANG</b>
<b>A01</b>	<b>Dec-28-05</b>	<b>Update the Handling and Placing Methods and the Circuit Description and the Adjustment Procedure</b>	<b>YG.WANG</b>

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## 1. Precautions And Safety Notices

### 1.1 SAFETY PRECAUTIONS

This monitor is manufactured and tested on a ground principle that a user's safety comes first. However, improper use or installation may cause damage to the monitor as well as the user. Carefully go over the following WARNINGS before installing and keep this guide handy.

#### WARNINGS

- . This monitor should be operated only at the correct power sources indicated on the label on the rear end of the monitor. If you're unsure of the power supply in your 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 your self as it contains no user-serviceable parts. This monitor should only be repaired by a qualified technician.
- . Do not remove the monitor cabinet. There is high-voltage parts inside that may cause electric shock to human bodies, even when the power cord is unplugged.
- . Stop using the monitor if the cabinet is damaged. Have it checked by a service technician.
- . Put your monitor only in a clean, dry environment. If it gets wet, unplug the power cable immediately and consult your service technician.
- . 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.
- . Keep the monitor away from magnetic objects, motors, TV sets, and transformer.
- . Do not place heavy objects on the monitor or power cord.

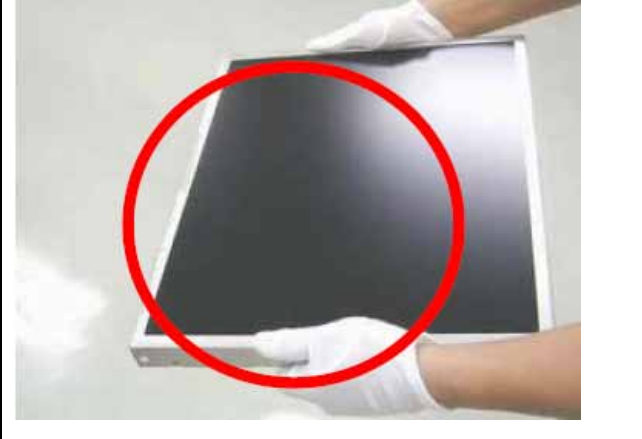





### 1.2 PRODUCT SAFETY NOTICE

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 voltages, 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.

### 1.3 SERVICE NOTES

1. When replacing parts or circuit boards, clamp the lead wires around terminals before soldering.
2. When replacing a high wattage resistor(more than 1W of metal oxide film resistor) in circuit board, keep the resistor about 5mm away from circuit board.
3. Keep wires away from high voltage, high temperature components and sharp edges.
4. Keep wires in their original position so as to reduce interference.
5. Usage of this product please refer to also user's manual.

**1.4 HANDING AND PLACING METHODS**

Correct Methods:	Incorrect Methods:
<p>Only touch the metal frame of the LCD panel or the front cover of the monitor. Do not touch the surface of the polarizer.</p>	<p>Surface of the LCD panel is pressed by fingers and that may cause "Mura."</p>
	
	
<p>Take out the monitor with cushions</p>	<p>Taking out the monitor by grasping the LCD panel. That may cause "Mura."</p>
	

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."



Place the monitor on the lap, the panel surface must be upwards.



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



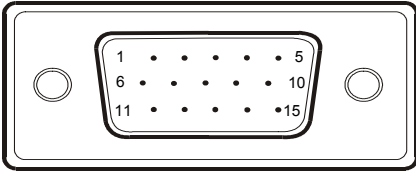
## 2. Specification

### 2.1 PRODUCT SPECIFICATIONS

LCD Panel	17.0" TFT
Recommend Resolution	1280 x1024@60Hz
Pixel Dimension	0.264(H) x 0.264(V)mm
LCD Display Color	16.2M Colors (RGB 6-bit+FRC data)
Viewing Angle	Horizontal: 140 ° Vertical: 125 °
Contrast Ratio	600 : 1 (Typ.)
Brightness	270 cd/m <sup>2</sup> (Typ.)
Response Time	8ms(Typ.)
Active Display Area	337.920(H) x 270.336(V)
Maximum Pixel Clock	135 MHz
Horizontal Frequency	30 – 82 kHz
Vertical Refresh Rate	50 – 75 Hz.
Temperature	Operating: 0°C to +40°C Storage: -20°C to +60°C
Power Management	Energy Star compliant VESA DPMS compatible <1 W
Power	Input Voltage : 90V~264V Consumption: 48 Watts(Max.) 43 Watts(Typ.)

## 2.2 INTERFACE DESCRIPTION

### D-SUB 15 PIN CONNECTOR



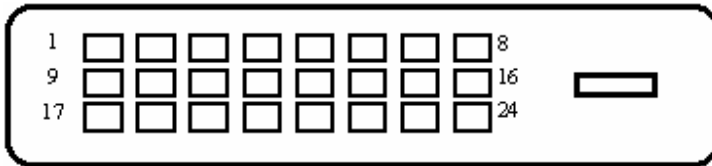
Pin Number	Pin Function
1	Red video input
2	Green video input
3	Blue video input
4	No Connection
5	Ground
6	Red video ground
7	Green video ground
8	Blue video ground
9	+5V
10	H/V sync ground
11	No connection
12	(SDA)
13	Horizontal sync (Composite sync)
14	Vertical sync
15	(SCL)

### SIGNAL LEVEL

CONNECTOR	SIGNAL	DESCRIPTION
R	RED	0.7vp-p(VIDEO)
G	GREEN	0.7vp-p(VIDEO)
B	BLUE	0.7vp-p(VIDEO)
H	H/SYNC	TTL positive or negative
V	V/SYNC	TTL positive or negative
SDA	DDC1/2B	TTL
SCL	DDC1/2B	TTL

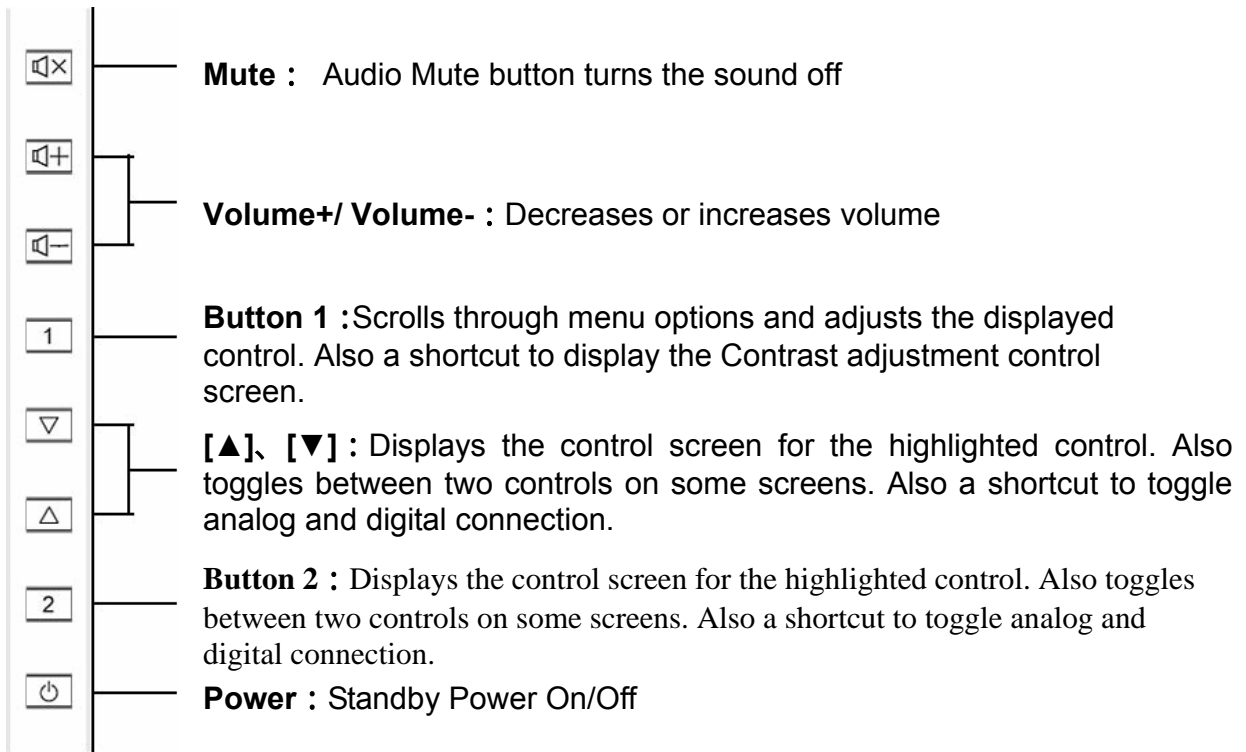
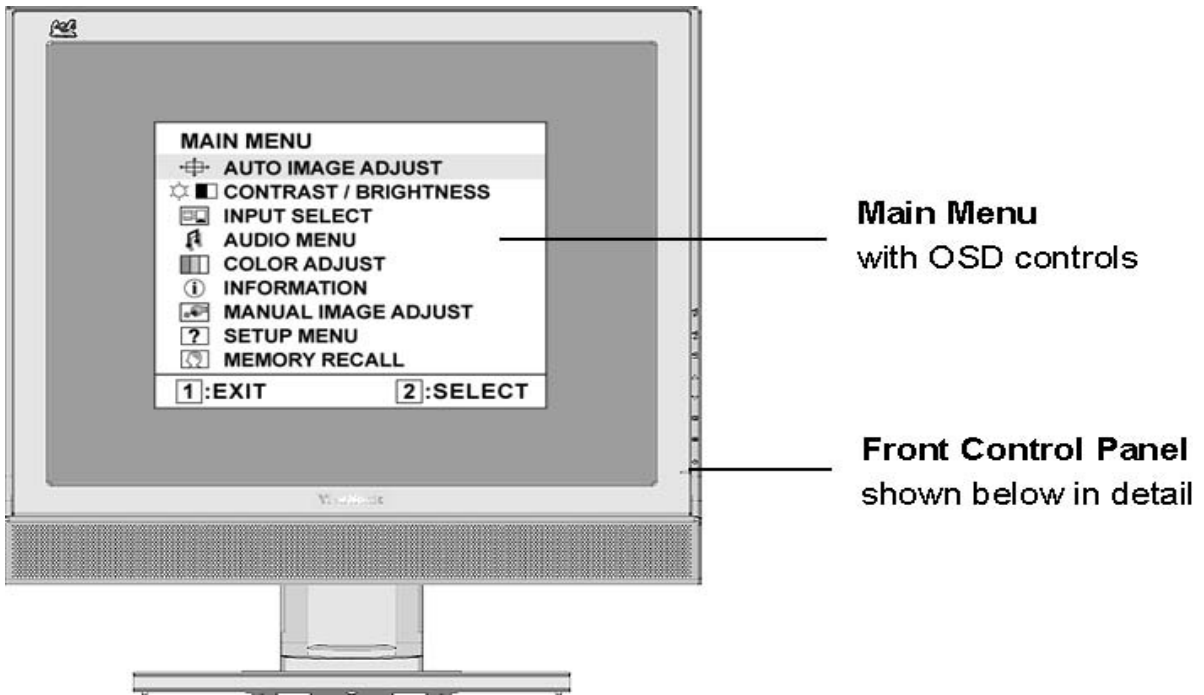


## DVI-D 24 PIN CONNECTOR



Pin No.	Signal Name	Description
1	RX2-	TMDS negative differential input, channel 2
2	RX2+	TMDS positive differential input, channel 2
3	GND	Logic Ground
4	Reserved 4	Reserved. No connection
5	Reserved 5	Reserved. No connection
6	DDC-CLK	DDC2B Clock
7	DDC-DAT	DDC2B Data
8	Reserved 8	Reserved. No connection
9	RX1-	TMDS negative differential input, channel 1
10	RX1+	TMDS positive differential input, channel 1
11	GND	Logic Ground
12	Reserved 12	Reserved. No connection
13	Reserved 13	Reserved. No connection
14	VCCX	Power
15	GND	Logic Ground
16	SENS	SENSE Pin, Pull High
17	RX0-	TMDS negative differential input, channel 0
18	RX0+	TMDS positive differential input, channel 0
19	GND	Logic Ground
20	Reserved 20	Reserved. No connection
21	Reserved 21	Reserved. No connection
22	GND	Logic Ground
23	RXC+	TMDS positive differential input, reference clock
24	RXC-	TMDS negative differential input, reference clock

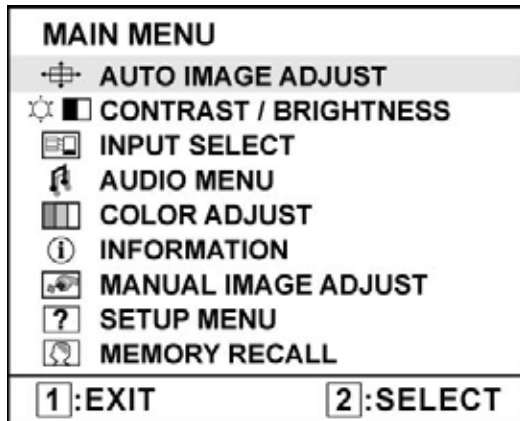
### 3. Front Panel Function Controls And Indicators



Power LED (Front Head)	Green – ON Orange – Active Off Dark = Soft Power Switch OFF
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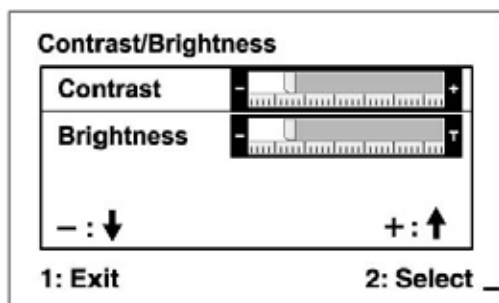
**Do the following to adjust the display setting:**

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.





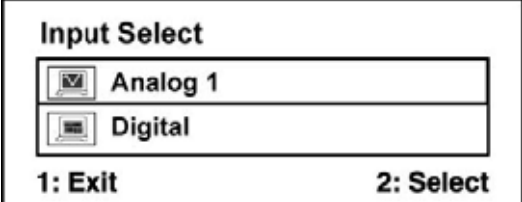


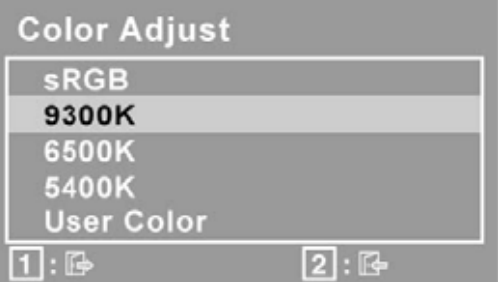
4. To adjust the setting, press the up ▼ or ▲ down T buttons.
5. To save the adjustments and exit the menu, press button [1] twice.


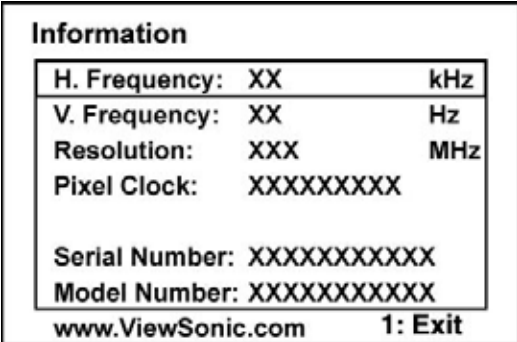

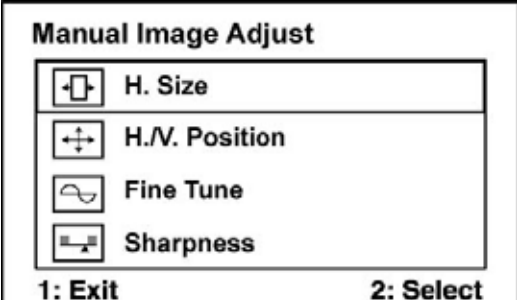


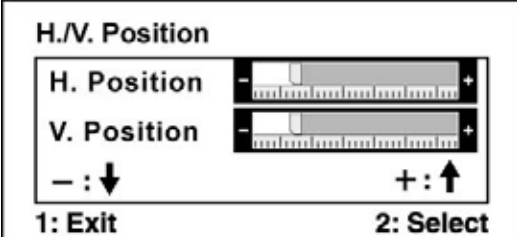


**The following tips may help you optimize your display:**

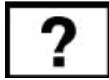
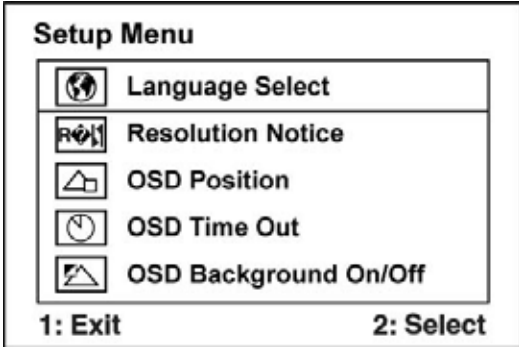


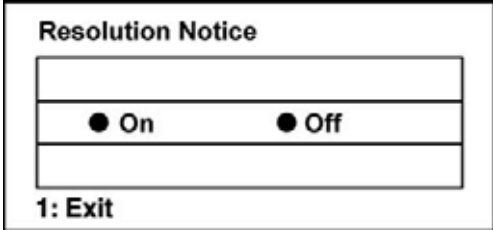
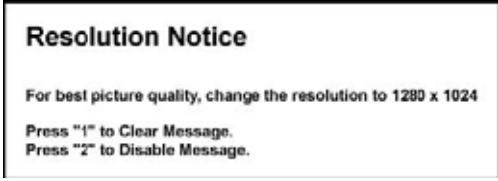




- Adjust the computer's graphics card so that it outputs a 1280 x 1024 @ 60Hz video signal to the LCD display. (Look for instructions on "changing the refresh rate" in the graphics card's user guide.)
- If necessary, make small adjustments using H. POSITION and V. POSITION until the screen image is completely 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
	<p><b>Auto Image Adjust</b> sizes and centers the screen image automatically.</p>
	<p><b>Contrast</b> adjusts the difference between the image background (black level) and the foreground (white level).</p>
	<p><b>Brightness</b> adjusts background black level of the screen image.</p>
	<p><b>Input Select</b> allows the user to toggle between an analog and a digital signal.</p> 
	<p><b>Audio Adjust</b>  <b>Volume</b> increases the volume, decreases the volume, and mutes the audio.  <b>Mute</b> temporarily silences audio output.</p>
	<p><b>Color Adjust</b> 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).</p>  <p><b>9300K</b>-Adds blue to the screen image for cooler white (used in most office settings with fluorescent lighting).  <b>6500K</b>-Adds red to the screen image for warmer white and richer red.  <b>5400K</b>-Adds green to the screen image for a darker color.  <b>User Color</b> Individual adjustments for red (R), green (G), and blue (B).  <b>1.</b> To select color (R, G or B) press button [2].  <b>2.</b> To adjust selected color, press ▼ and ▲.</p> <p><b>Important:</b> 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.</p>

	<p><b>Information</b> 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). <b>NOTE:</b> VESA 1280 x 1024 @ 60Hz (recommended) means that the resolution is 1280 x 1024 and the refresh rate is 60 Hertz.</p> 
	<p><b>Manual Image Adjust Sub-menu</b></p> 
	<p><b>H. Size (Horizontal Size)</b> adjusts the width of the screen image.</p>
	<p><b>H./V. Position (Horizontal/Vertical Position)</b> moves the screen image left or right and up or down.</p> 
	<p><b>Fine Tune</b> sharpens the focus by aligning text and/or graphics with pixel boundaries. <b>NOTE:</b> Try Auto Image Adjust first.</p>
	<p><b>Sharpness</b> adjusts the clarity and focus of the screen image.</p>

	<p><b>Setup Menu</b> displays the menu shown below:</p> 
	<p><b>Language Select</b> allows the user to choose the language used in the menus and control screens.</p>
	<p><b>Resolution Notice</b> allows the user to enable or disable this notice.</p>  <p>1: Exit</p> <p>If you enable the Resolution Notice shown above and your computer is set at a resolution other than 1280 x 1024, the following screen appears.</p> 
	<p><b>OSD Position</b> allows the user to move the OSD menus and control screens.</p>
	<p><b>OSD Timeout</b> 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.</p>
	<p><b>OSD Background</b> allows the user to turn the OSD background On or Off.</p>
	<p><b>Memory Recall</b> 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.</p>

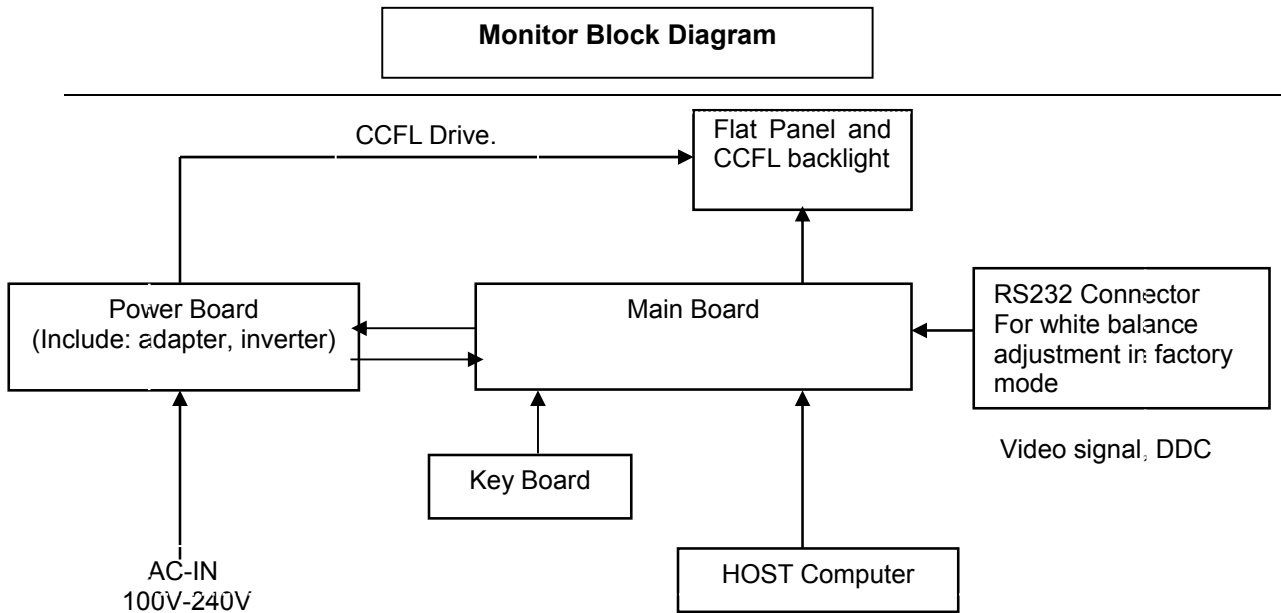
## SHORT CUTS FUNCTION FROM THE BUTTONS

[1]	Main Menu
[2]	Input toggle (Analog or Digital).
[▼] 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
[⏪+] or [⏩-]	To immediately activate Volume menu for audio volume.
[⏪+] + [⏩X]	Recall volume to default
[1] + [2]	toggle 720x400 and 640x400 mode when input 720x400 or 640x400 mode
[1] + [⏩X]	White Balance. (Not shown on user's guide)
[2] + [▼]	<ul style="list-style-type: none"> <li>• <b>Power Button Lock:</b> Press and hold "[2], &amp; ▼" for 10 seconds. If the power button is pressed the message <i>Power Button Locked</i> will display for 5 seconds. With or without this setting, after a power failure, your LCD display's power will automatically turn ON when power is restored.</li> <li>• <b>Power Button Unlock:</b> Press and hold "[2], &amp; ▼" again for 10 seconds.</li> </ul>
[1] + [▲]	<ul style="list-style-type: none"> <li>• <b>OSD Lock:</b> Press and hold "[1], &amp; (▲)" for 10 seconds. If any buttons are pressed the message <i>OSD Locked</i> will display for 5 seconds.</li> <li>• <b>OSD Unlock:</b> Press and hold "[1], &amp; ▲" again for 10 seconds.</li> </ul>
Remark : All the short cuts function are only available while OSD off	

## 4. Circuit Description

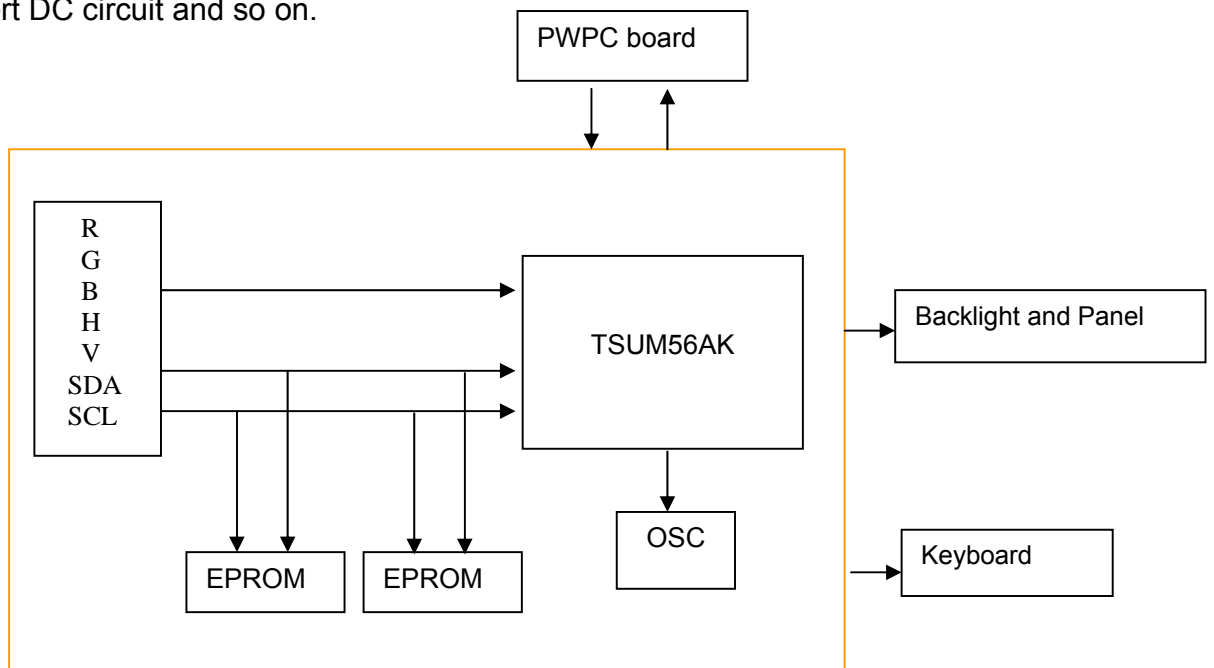
### 4.1 LCD MONITOR DESCRIPTION

The LCD MONITOR will contain a Main Board, an Power Board, Key Board which house the flat panel control logic, brightness control logic and DDC.



### 4.2 MAIN BOARD BLOCK FUNCTION DESCRIPTION

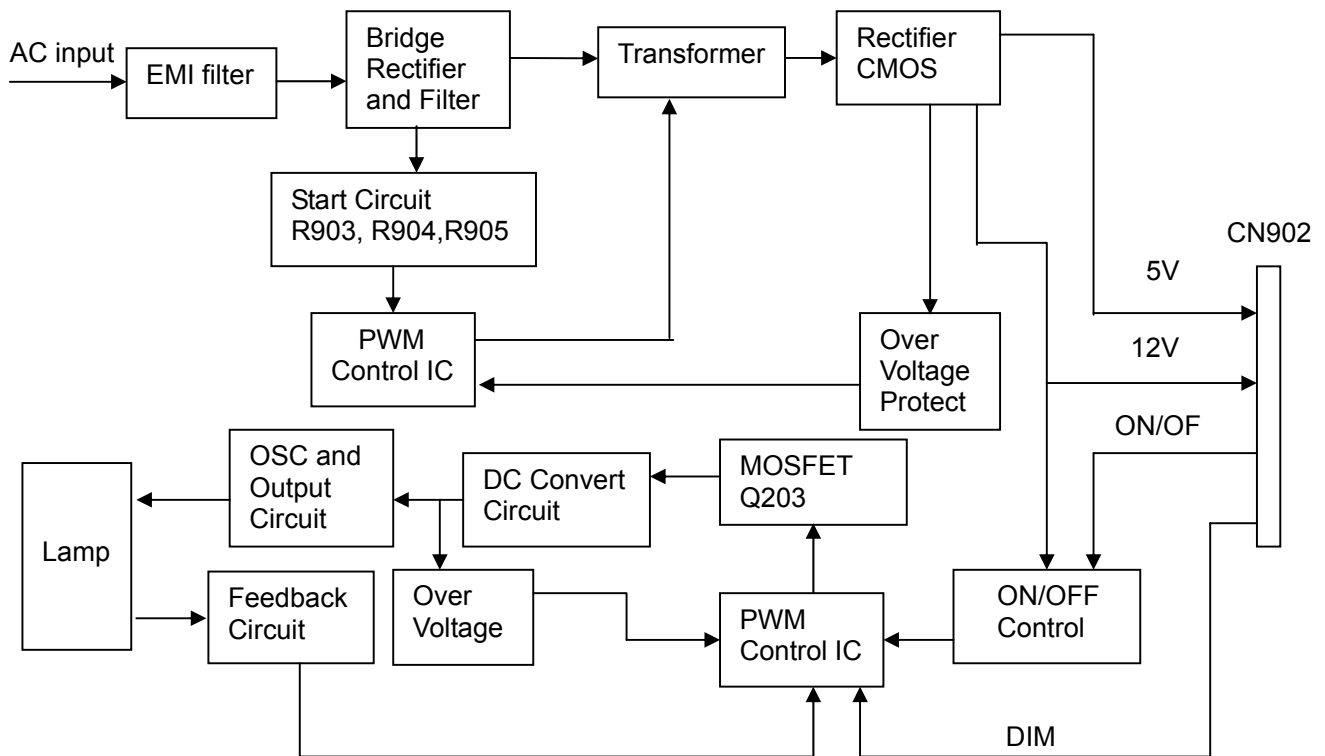
The main board contains panel control logic, brightness control logic, DDC and DC convert DC circuit and so on.





### 4.3 PWPC BOARD BLOCK FUNCTION DESCRIPTION

PWPC board combines to adapter and inverter, Adapter which commonly consists of bridge rectifier and filter, start circuit, PWM control circuit, protection circuits and convert to 12V, 5V DC voltage by input 90V-240V AC voltage that provide power supply for each chips in the main board and inverter. Inverter is DC TO AC circuit. It changes the 12v DC of power supply to about 600-800v AC that drives the backlight. It mostly consists of starting circuit, PWM controller, DC changing circuit, LC surging circuit, output circuit and protection circuit etc.



#### 4.4 INTRODUCTION OF IC

**STUM56AK(U401):** integrate ADC, OSD, SCALER, MCU, LVDS, convert analog RGB into digital and room and shrink scaling output to LCD panel.

##### PIN Function:

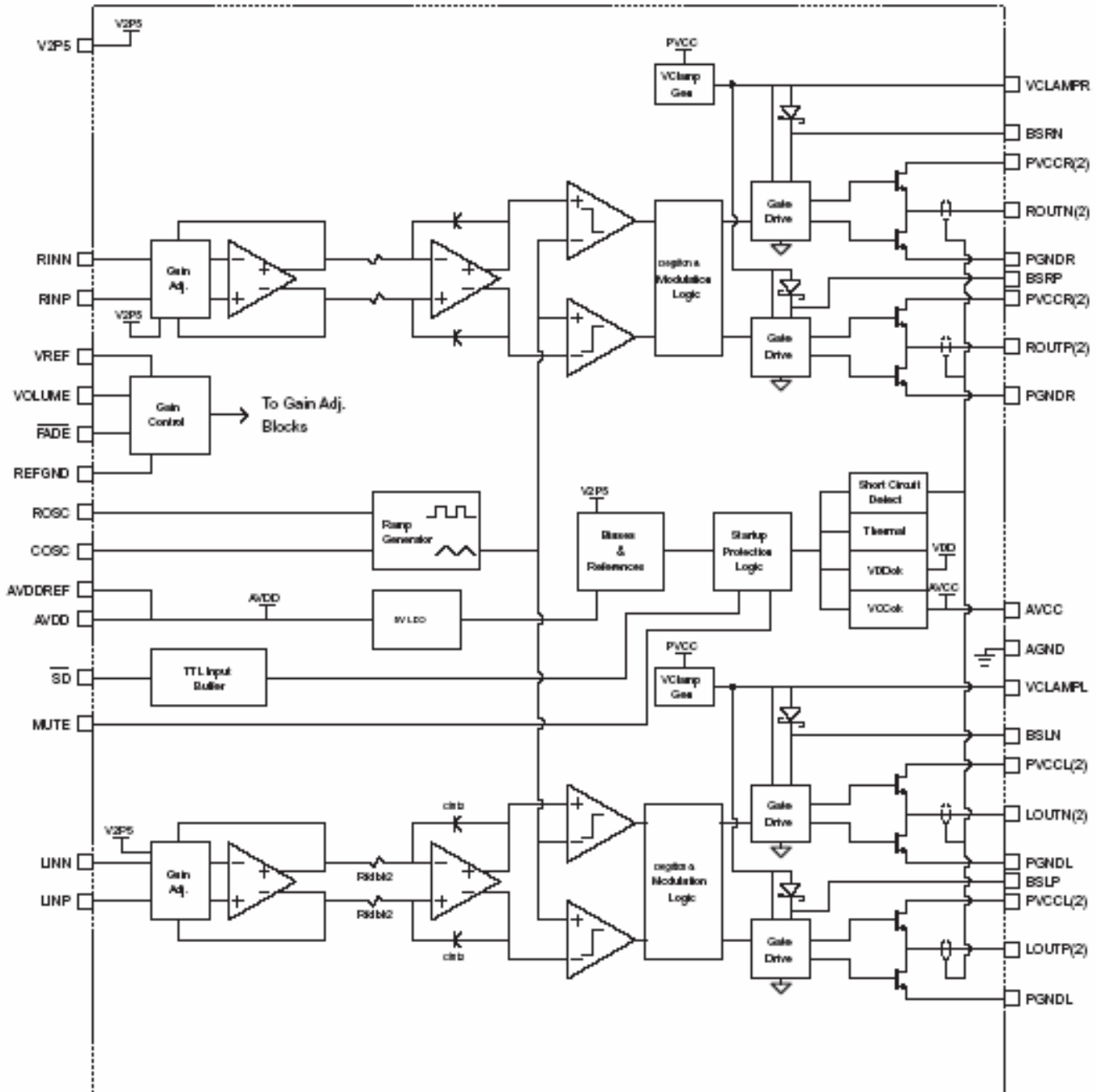
Pin	Symbol	Description
70	SDO	SPI flash serial data output; Input w/5V-tolerant
71	CSZ	SPI flash chip select; output
72	SCK	SPI flash serial select; output
73	SDI	SPI flash serial data input; output
65	DDCA_SDA/RS232_TX	DDC data for analog interface; 4mA driving strength/UART transmitter/GPIO; I/O w/5V-tolrant
66	DDCA_SDA/RS232_RX	DDC data for analog interface/UART transmitter/GPIO;Input w/5V-tolrant
36	DDCD_SDA	DDC data for DVI interface; 4mA driving strength; I/O w/5V-tolerant
37	DDCD_SCL	DDC clock for DVI interface; Input w/5V-tolerant
19	RST	Chip reset; High reset; Input w/5V-tolerant
22	RSTN	Chip reset; Low reset; Input w/5W-toerant
11	VCTRL	Regulator control; Output
63	HSYNCO	Analog HSYNC input
64	VSYNCO	Analog VSYNC input
62	REFP	Internal ADC top de-coupling pin
61	REFM	Internal ADC bottom de-coupling pin
51	REXT	External resistor 390 ohm to AVDD__DVI
21	PWM1	PWM1; 4mA driving strength; Output
29	PWM0	PWM0; 4mA driving strength; Output
4	BYPASS	For External Bypass Capacitor
33	XIN	Xin; Crystal Oscillator Input
34	XOUT	Xout; Crystal Oscillator Output
44、 50	AVDD__DVI	DVI Power 3.3V
60	AVDD__ADC	ADC Power 3.3V
52	AVDD__PLL	PLL Power 3.3V
34	AVDD__MPLL	MPLL Power 3.3V
14、 67、 95、 103、 115	VDDP	Digital Output Power 3.3V
13、 38、 41、 47、 96、 116	VDDC	Digital Core Power <b>1.8V</b>

**AIC1084-33PM (U702):** DC power convert, used to 5v convert 3.3v.

**LT1117-18(U701):** DC power convert, used to 5v convert 3.3v.

**TPA3003D2 (U601):** The TPA3003D2 is a audio amplifier IC,3-W efficient, driving speakers as low as 8  $\Omega$ , range of gain from -40dB to 36 dB. The function of each pin and the inside circuit diagram are as follows:

**Circuit Diagram**

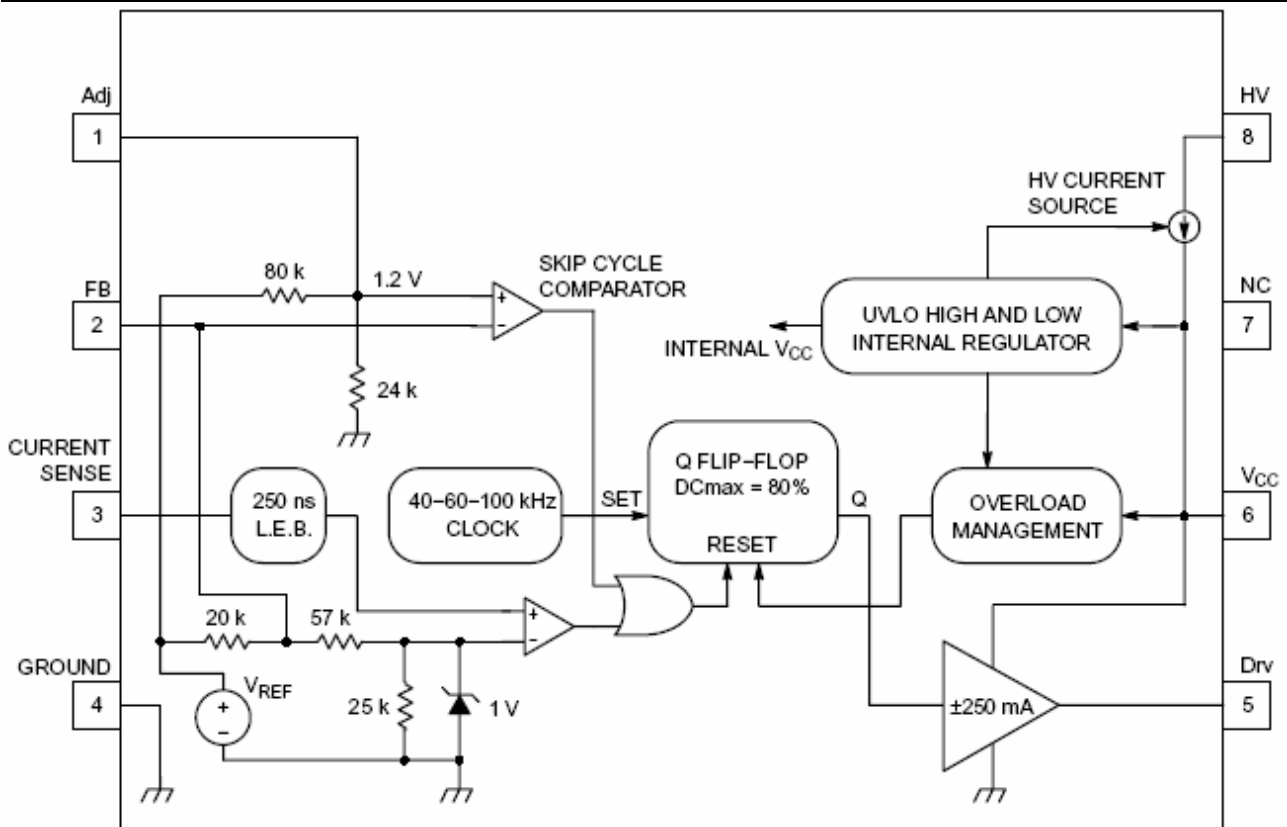


## PIN Function

TERMINAL NO.	TERMINAL NAME	I/O	DESCRIPTION
AGND	9,10,26	-	Analog ground for digital/analog cells in core
AVcc	33	-	High-voltage analog power supply (8.5V to 14V)
AVDD	29	O	5-V Regulated output
AVDDREF	7	O	5-V Reference output-provided for connection to adjacent VREF terminal.
BSLN	13	I/O	Bootstrap I/O for left channel, negative high-side FET
BSLP	24	I/O	Bootstrap I/O for left channel, positive high-side FET
BSRN	48	I/O	Bootstrap I/O for right channel, negative high-side FET
BSRP	37	I/O	Bootstrap I/O for right channel, positive high-side FET
COSC	28	I/O	I/O for charge/discharging currents onto capacitor for ramp generator triangle wave biased at V2P5
FADE	30	I	Input for controlling volume ramp rate when cycling <b>SD</b> or during power-up. A logic low on this pin places the amplifier in fade mode. A logic high on this pin allows a quick transition to the desired volume setting.
LINN	6	I	Negative differential audio input for left channel
LINP	5	I	Positive differential audio input for left channel
LOUTN	16,17	O	Class-D 1/2-H-bridge negative output for left channel
LOUTP	20,21	O	Class-D 1/2-H-bridge positive output for left channel
MUTE	34	I	A logic high on this pin disables the outputs. A low on this pin enables the outputs.
NC	31,32,35	-	Not internally connected
PGNDL	18,19	-	Power ground for left channel H-bridge
PGNDR	42,43	-	Power ground for right channel H-bridge
PVCCCL	14,15	-	Power supply for left channel H-bridge(tied to pins 22 and 23 internally), not connected to PVCCR or AVcc
PVCCCL	22,23	-	Power supply for left channel H-bridge(tied to pins 14 and 15 internally), not connected to PVCCR or AVcc
PVCCR	38,39	-	Power supply for right channel H-bridge(tied to pins 46 and 47 internally), not connected to PVCCCL or AVcc
PVCCR	46,47	-	Power supply for right channel H-bridge(tied to pins 38 and 39 internally), not connected to PVCCCL or AVcc
REFGND	12	-	Ground for gain control circuitry. Connect to AGND. If using a DAC to control the volume, connect the DAC ground to this terminal.
RINP	3	I	Positive differential audio input for right channel
RINN	2	I	Negative differential audio input for right channel
ROSC	27	I/O	Current setting resistor for ramp generator. Nominally equal to $1/8 \cdot V_{cc}$
ROUTN	44,45	O	Class-D 1/2-H-bridge negative output for right channel
ROUTP	40,41	O	Class-D 1/2-H-bridge positive output for right channel
SD	1	I	Shutdown signal for IC (low=shutdown, high=operational). TTL logic levels with compliance to Vcc.
VCLAMPL	25	-	Internally generated voltage supply for left channel bootstrap capacitors.
VCLAMPR	36	-	Internally generated voltage supply for right channel bootstrap capacitors.
VOLUME	11	I	DC voltage that sets the gain of the amplifier.
VREF	8	I	Analog reference for gain control section.
V2P5	4	O	2.5-V Reference for analog cells, as well as reference for unused audio input when using single-ended inputs.

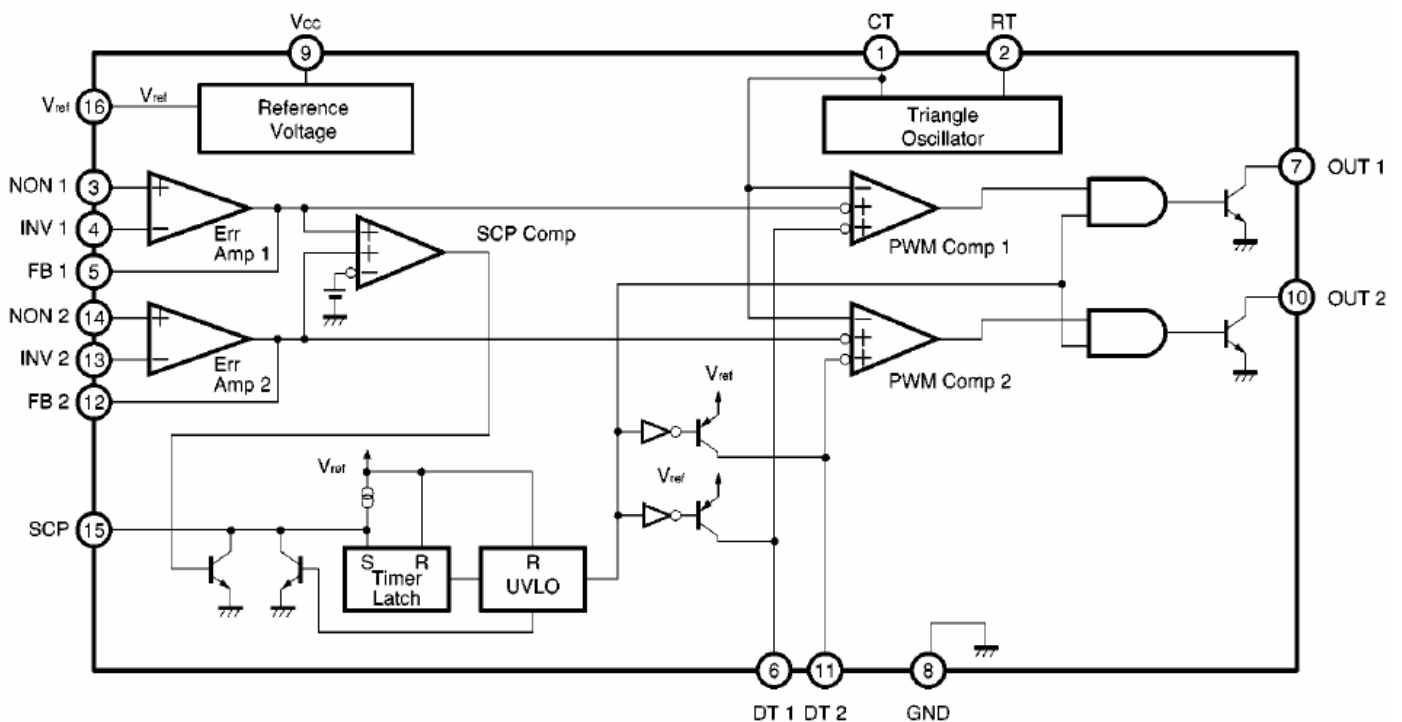
**NCP1203D60R2G (IC901):** PWM control, high-voltage startup current. The circuit unit has functions such as over-current protection, over-voltage protection, output short-circuit protection and etc. The function of each pin and the inside circuit diagram are as follows:

Pin No.	Pin Name	Function	Pin Description
1	Adj	Adjust the skipping peak current	This pin lets you adjust the level at which the cycle skipping process takes place. Shorting this pin to ground, permanently disables the skip cycle feature.
2	FB	Sets the peak current setpoint	By connecting an optocoupler to this pin, the peak current setpoint is adjusted accordingly to the output power demand. Skip cycle occurs when FB falls below $V_{pin1}$ .
3	CS	Current sense input	This pin senses the primary current and routes it to the internal comparator via an L.E.B.
4	GND	The IC ground	-
5	Drv	Driving pulses	The driver's output to an external MOSFET.
6	VCC	Supplies the IC	This pin is connected to an external bulk capacitor of typically 22 $\mu$ F.
7	NC	-	This unconnected pin ensures adequate creepage distance.
8	HV	Ensure a clean and lossless startup sequence	Connected to the high-voltage rail, this pin injects a constant current into the VCC capacitor during the startup sequence.



**TL1451 (IC201):** PWM control, voltage range for working: 3.6~35V, Has such functions as short-voltage protection, Over-voltage protection, over-current protection and etc. The function of each pin and the circuit diagram inside are as follows:

Pin	Symbol	Description	Pin	Symbol	Description
1	CT	External timing capacitor	9	VCC	Power supply
2	RT	External timing resistor	10	2OUT	Output 2
3	1IN+	Positive input for error amplifier 1	11	2DTC	Output 2 dead time/soft start setting
4	1IN-	Positive input for error amplifier 2	12	2FBK	Error amplifier 2 output
5	1FBK	Error amplifier 1 output	13	2IN+	Positive input for error amplifier
6	1DTC	Output 1 dead time/soft start setting	14	2IN-	Positive input for error amplifier
7	1OUT	Output 1	15	SCP	Timing latch setting
8	GND	Ground	16	REF	Reference voltage output (2.5v)



## 5. Adjustment Procedure

### 5.1 ADJUSTMENT CONDITIONS AND PRECAUTIONS

1. Approximately 30 minutes should be allowed for warm up before proceeding.
2. Adjustments should be undertaken only on those necessary elements since most of them have been carefully preset at the factory.
3. ESD protection is needed before adjustment.

### 5.2 MAIN ADJUSTMENTS

NO.	FUNCTIONS	DESIGNATION
1.	White Balance	Function Key
2.	Geometry	Function Key

### 5.3 ALIGNMENT PROCEDURES

**Approximately 30 minutes should be allowed for warm up before proceeding White-Balance adjustment.**

#### 1. Adjust of White Balance

1.)How to do the Chroma-7120 MEM .Channel setting

- A、 Reference to chroma 7120 user guide
- B、 Use “**SC**” key and “**NEXT**” key to modify xyY value and use “**ID**” key to modify the TEXT description Following is the procedure to do white-balance adjust

2.)Setting the color temp. You want

- A、 MEM.CHANNEL9 ( 9300 color):  
9300 color temp. parameter is  $W_x = 0.283 \pm 0.03$ ;  $W_y = 0.298 \pm 0.03$ ;  
 $Y = 250 \pm 20 \text{ cd/m}^2$ .
- B、 MEM.CHANNEL10 ( 6500 color):  
6500 color temp. parameter is  $W_x = 0.313 \pm 0.03$ ;  $W_y = 0.329 \pm 0.03$ ;  
 $Y = 260 \pm 20 \text{ cd/m}^2$ .
- C、 MEM.CHANNEL 11 ( 5400 color):  
5400 color temp. parameter is  $W_x = 0.335 \pm 0.03$ ;  $W_y = 0.350 \pm 0.03$ ;  
 $Y = 250 \pm 20 \text{ cd/m}^2$ .
- D、 MEM.CHANNEL10 ( SRGB color):  
6500 color temp. parameter is  $W_x = 0.313 \pm 0.03$ ;  $W_y = 0.329 \pm 0.03$ ;  
 $Y = 220 \pm 20 \text{ cd/m}^2$ .

### 3.)Into factory mode of VG720

- A、 First Power off, then press Switch 2 button along with press Power button will activate the factory mode, then MCU will do AUTO LEVEL automatically. Meanwhile press MENU the OSD screen will located at **LEFT TOP OF PANEL**.

### 4.)Bias adjustment :

Set the **Contrast**  to 70

Adjust the **Brightness**  to 100.

### 5.)Gain adjustment :

Move cursor to “-F-” and press MENU key

#### A、 Adjust 9300 color-temperature

- (1)、 Switch the Chroma-7120 to **RGB-Mode** (with press “MODE” button )
- (2)、 Switch the MEM. channel to Channel 9 ( with up or down arrow on chroma 7120 )
- (3)、 The LCD-indicator on chroma 7120 will show  $x = 0.283 \pm 0.03$ ,  $y = 0.298 \pm 0.03$ ,  
 $Y = 250 \pm 20 \text{ cd/m}^2$
- (4)、 Adjust the RED of color1 on factory window until chroma 7120 indicator reached the value  $R=100$
- (5)、 Adjust the GREEN of color1 on factory window until chroma 7120 indicator reached the value  $G=100$
- (6)、 Adjust the BLUE of color1 on factory window until chroma 7120 indicator reached the value  $B=100$
- (7)、 Repeat above procedure ( item 4,5,6) until chroma 7120 RGB value meet the tolerance  $=100 \pm 5$

#### B、 Adjust 6500 color-temperature

- (1)、 Switch the chroma-7120 to **RGB-Mode** (with press “MODE” button )
- (2)、 Switch the MEM .channel to Channel 10( with up or down arrow on chroma 7120 )
- (3)、 The LCD-indicator on chroma 7120 will show  $x = 0.313 \pm 0.03$ ,  $y = 0.329 \pm 0.03$ ,  $Y = 260 \pm 20 \text{ cd/m}^2$
- (4)、 Adjust the RED of color3 on factory window until chroma 7120 indicator reached the value  $R=100$
- (5)、 Adjust the GREEN of color3 on factory window until chroma 7120 indicator reached the value  $G=100$
- (6)、 Adjust the BLUE of color3 on factory window until chroma 7120 indicator reached the value  $B=100$
- (7)、 Repeat above procedure ( item 4,5,6) until chroma 7120 RGB value meet the tolerance  $=100 \pm 5$



### C、 Adjust 5400 color-temperature

- (1) Switch the chroma-7120 to **RGB-Mode** (with press “MODE” button )
- (2)、 Switch the MEM .channel to Channel 11( with up or down arrow on chroma 7120 )
- (3)、 The LCD-indicator on chroma 7120 will show  $x = 0.335 \pm 0.03$ ,  $y = 0.350 \pm 0.03$ ,  $Y = 250 \pm 20 \text{ cd/m}^2$
- (4)、 Adjust the RED of color3 on factory window until chroma 7120 indicator reached the value  $R=100$
- (5)、 Adjust the GREEN of color3 on factory window until chroma 7120 indicator reached the value  $G=100$
- (6)、 Adjust the BLUE of color3 on factory window until chroma 7120 indicator reached the value  $B=100$
- (7)、 Repeat above procedure ( item 4,5,6) until chroma 7120 RGB value meet the tolerance  $=100 \pm 5$

### D、 Adjust SRGB color-temperature

- (1)、 Switch the chroma-7120 to **RGB-Mode** (with press “MODE” button )
- (2)、 Switch the MEM .channel to Channel 10( with up or down arrow on chroma 7120 )
- (3)、 The LCD-indicator on chroma 7120 will show  $x = 0.313 \pm 0.03$ ,  $y = 0.329 \pm 0.03$ ,  $Y = 220 \pm 20 \text{ cd/m}^2$
- (4)、 Adjust the RED of color3 on factory window until chroma 7120 indicator reached the value  $R=100$
- (5)、 Adjust the GREEN of color3 on factory window until chroma 7120 indicator reached the value  $G=100$
- (6)、 Adjust the BLUE of color3 on factory window until chroma 7120 indicator reached the value  $B=100$
- (7)、 Repeat above procedure ( item 4,5,6) until chroma 7120 RGB value meet the tolerance  $=100 \pm 5$

E、 Press reset key and Turn the Power-button “off to on” to quit from factory mode.

## 2. Geometry

- 1).Set cross-hatch pattern and preset timing as timing table listed.
- 2).Change to each mode in turn and wait for the monitor finish auto-alignment and save press before change to next mode.
- 3).Until all of modes are adjusted,exit OSD menu and press POWER OFF to exit factory mode.

## 5.4 Factory Defaults

Item	Defaults	Item	Defaults
Contrast	70%	Sharpness	33%
Brightness	100%	OSD H. Position	50%
Volume	50%	OSD V. Position	50%
Balance	50%	OSD Time Out	15 Sec
Bass	50%	OSD Background	On
Treble	50%	OSD PIVOT	Off
Color Temperature	6500K	Resolution Notice	Enabled
		720x400/640x400	720x400

## 5.5 Function Test

- 1 Product: 17" LCD Monitor
- 2 Test Equipment: Color Video Signal & Pattern (or PC with SXGA resolution and a sound card)
- 3 Test Condition: Before function test and alignment, each LCD Monitor should be warmed up for at least 30 minutes with the following conditions:
  - (a) In room temperature,
  - (b) With full-white screen, RGB, and Black
  - (c) With cycled display modes,
    - 640\*480 (H=43.27kHz, V=85Hz)
    - 800\*600 (H=53.7kHz, V=85Hz)
    - 1024\*768 (H=68.67kHz, V=85Hz)
    - 1280\*1024 (H=79.97kHz, V=75Hz)
- 4 Test Display Modes & Pattern

### Compatible Modes

Analog	Digital
640 x 350 @ 70Hz, 31.5kHz	640 x 350 @ 70Hz, 31.5kHz
640 x 400 @ 70Hz, 31.5kHz	640 x 400 @ 70Hz, 31.5kHz
640 x 480 @ 60Hz, 31.5kHz	640 x 480 @ 60Hz, 31.5kHz
640 x 480 @ 67Hz, 35.0kHz	640 x 480 @ 67Hz, 35.0kHz
640 x 480 @ 72Hz, 37.9kHz	640 x 480 @ 72Hz, 37.9kHz
640 x 480 @ 75Hz, 37.5kHz	640 x 480 @ 75Hz, 37.5kHz
720 x 400 @ 70Hz, 31.5kHz	720 x 400 @ 70Hz, 31.5kHz
800 x 600 @ 56Hz, 35.1kHz	800 x 600 @ 56Hz, 35.1kHz
800 x 600 @ 60Hz, 37.9kHz	800 x 600 @ 60Hz, 37.9kHz
800 x 600 @ 75Hz, 46.9kHz	800 x 600 @ 75Hz, 46.9kHz
800 x 600 @ 72Hz, 48.1kHz	800 x 600 @ 72Hz, 48.1kHz
832 x 624 @ 75Hz, 49.7kHz	832 x 624 @ 75Hz, 49.7kHz
1024 x 768 @ 60Hz, 48.4kHz	1024 x 768 @ 60Hz, 48.4kHz

1024 x 768 @ 70Hz, 56.5kHz 1024 x 768 @ 72Hz, 58.1kHz 1024 x 768 @ 75Hz, 60.0kHz 1280 x 1024 @ 60Hz, 63.4kHz 1280 x 1024 @ 75Hz, 79.97kHz 1280x 720 @ 60Hz, 45kHz	1024 x 768 @ 70Hz, 56.5kHz 1024 x 768 @ 72Hz, 58.1kHz 1024 x 768 @ 75Hz, 60.0kHz 1280 x 1024 @ 60Hz, 63.4kHz 1280 x 1024 @ 75Hz, 79.97kHz 1280x 720 @ 60Hz, 45kHz
--	--

**Function Test Display Pattern**

Item	Test Content	Pattern	Specification	Remark
1	Frequency & Tracking	Fine Line Moire	Eliminate visual wavy noise.	Figure 1
2	Contrast/Brightness	16 Gray Scale	16 gray levels sh should be distinguishable.	Figure 2
3	Boundary	Horizontal&Vertical Thickness	Horizontal and Vertical position of video should be adjustable to be within the screen frame.	Figure 3
4	RGB Color Performance	RGB Color Intensities	Contrast of each R, G, B, color should be normal.	Figure 4,5,6
5	Screen Uniformity & Flicker	Full White	Should be compliant with the spec.	Figure 7
6	Dead Pixel/Line	White Screen & Dark Screen	The numbers of dead pixels should be compliant with the spec.	Figure 7,8
7	White Balance	White & Black Pattern	The screen must have the pure white and black pattern, no other color.	Figure 9



Fine Line Moire Pattern (Figure1)



Gray Scale Pattern (Figure2)



Horizontal & Vertical Thickness Pattern (Figure 3)



R. Color Pattern (Figure 4)



G. Color Pattern (Figure 5)



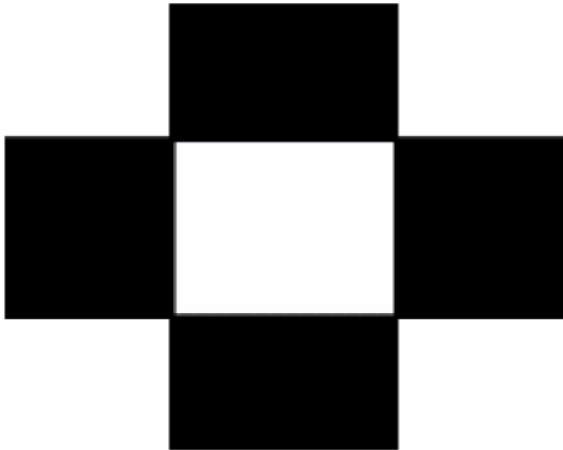
B. Color Pattern (Figure 6)



Full White Pattern (Figure 7)



Dark Screen Pattern (Figure 8)



Black-White Pattern (Figure 9)

### 4.3 Function Test and Alignment Procedure

#### All Modes Reset

You should do “All Mode Reset” (Refer to Chapter III-3. Hot Keys for Function Controls) first. This action will allow you to erase all end-user’s settings and restore the factory defaults.

#### Auto Image Adjust

Please select and enter “Auto Image Adjust” function on Main Menu to see if it is workable. The “Auto Image Adjust” function is aimed to offer a better screen quality by built-in ASIC. For optimum screen quality, the user has to adjust each function manually.

#### Firmware

Test Pattern: Burn In Mode (Refer to Chapter III-3. Hot Keys for Function Controls)

- Make sure the F/W is the latest version.

#### DDC

Test Pattern: EDID program

Make sure it can pass test program.

#### Fine Tune and Sharpness

Test Signal: 1280\*1024@60Hz

Test Pattern: Line Moire Pattern

Check and see if the image has noise and focus performs well. Eliminate visual line bar.

If not, readjust by the following steps:

- (a) Select and enter “Fine Tune” function on “Manual Image Adjust” to adjust the image to eliminate visual wavy noise.
- (b) Then, select and enter “Sharpness” function to adjust the clarity and focus of the screen image.

#### Boundary

Test Signal: 1280\*1024@60Hz

Test Pattern: Horizontal & Vertical Line Thickness Pattern

Check and see if the image boundary is within the screen frame.

If not, readjust by the following steps:

- (a) Select and enter “Manual Image Adjust” function on OSD Main Menu.

(b)Then, select and enter “Horizontal Size” or “Horizontal/Vertical Position” function to adjust the video boundary to be full scanned and within screen frame.

#### **White Balance**

Test Signal: 640\*480@60Hz

Test Pattern: White and Black Pattern

1.5.8 R, G, B, Colors Contrast

Test Signal: 1280\*1024@60Hz

Test Pattern: R, G, B, Color Intensities Pattern and 16 Gray Scale Pattern

- Check and see if each color is normal and distinguishable.
- If not, please return the unit to repair area.

#### **Screen Uniformity and Flicker**

Test Signal: 1280\*1024@60Hz

Test Pattern: Full White Pattern

- Check and see if it is in normal condition.

1.5.10 Dead Pixel and Line

Test Signal: 1280\*1024@60Hz

Test Pattern: Dark and White Screen Pattern

- Check and see if there are dead pixels on LCD panel with shadow gauge and filter film.
- The total numbers and distance of dead pixels should be compliant with the spec.

#### **Mura**

Test Pattern: White, RGB, Black, & Grey

Test Tool: 10% ND Filter

- Check if the Mura can pass 10% ND Filter.

#### **Audio**

Test Signal: Voice signal (optional, depend on model)

Test Pattern: liberty

- Make sure there is audio output.
- Make sure that audio function (volume 80%) is working without noise and resonance.
- Make sure that the sound of right and left speakers are in balance.

#### **Check for Secondary Display Modes**

Test Signal:

Analog: 640\*350@70Hz; 640\*480@60/67/72/75/85Hz;

720\*400@70Hz; 800\*600@56/60/72/75/85Hz;

832\*624@75Hz, 1024\*768@60/70/72/75/85Hz;

1280\*1024@60/75Hz

Digital: 640\*350@70Hz; 640\*480@60/72/75/85Hz;

720\*400@70Hz; 800\*600@56/60/72/75/85Hz;

1024\*768@60/70/72/75/85Hz; 1152\*870@75Hz,

1280\*720@60Hz, 1280\*1024@60Hz

- Normally when the primary mode 1280\*1024@60Hz is well adjusted and compliant with the specification, the secondary display modes will also be compliant with the spec. But we still have to check with the general test pattern to make sure every secondary is compliant with the specification.

-

### All Modes Reset

After final QC step, we have to erase all saved changes again and restore the factory defaults. You should do “All Mode Reset” again.

### Power Off Monitor

Turn off the monitor by pressing “Power” button.

## 5.6 Firmware Upgrade Procedure

When you receive the returned monitor, please check whether the firmware version is the latest. If not, please do the following procedures to upgrade it to the latest version.

### 1 Equipment Needed

- VG720/VG920 Monitor
- Fixture for Firmware Upgrade
- Power Adapter (P/N: 47.58201.001) \*1 for Fixture
- VGA Cable (P/N: 42.59901.003) \*1(Pin 4, 11 should be connected to GND)
- PC (Personal Computer)
- LPT Cable (P/N: 42.59906.001) \*1
- Firmware Upgrade Program
- One additional monitor for checking the program execution



PC



Fixture



VG720/VG920



Power Adapter for Fixture  
(P/N: 47.58201.001)



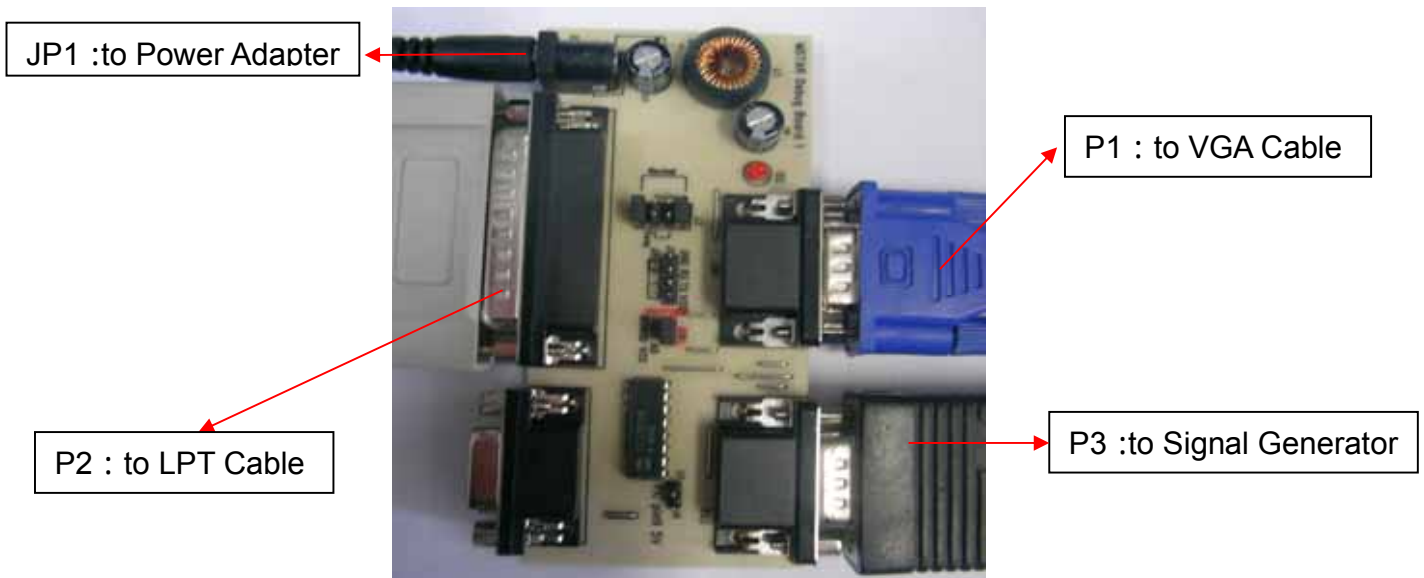
LPT Cable  
(P/N: 42.59906.001)



VGA Cable  
(P/N: 42.59901.003)

## 2 Setup Procedure

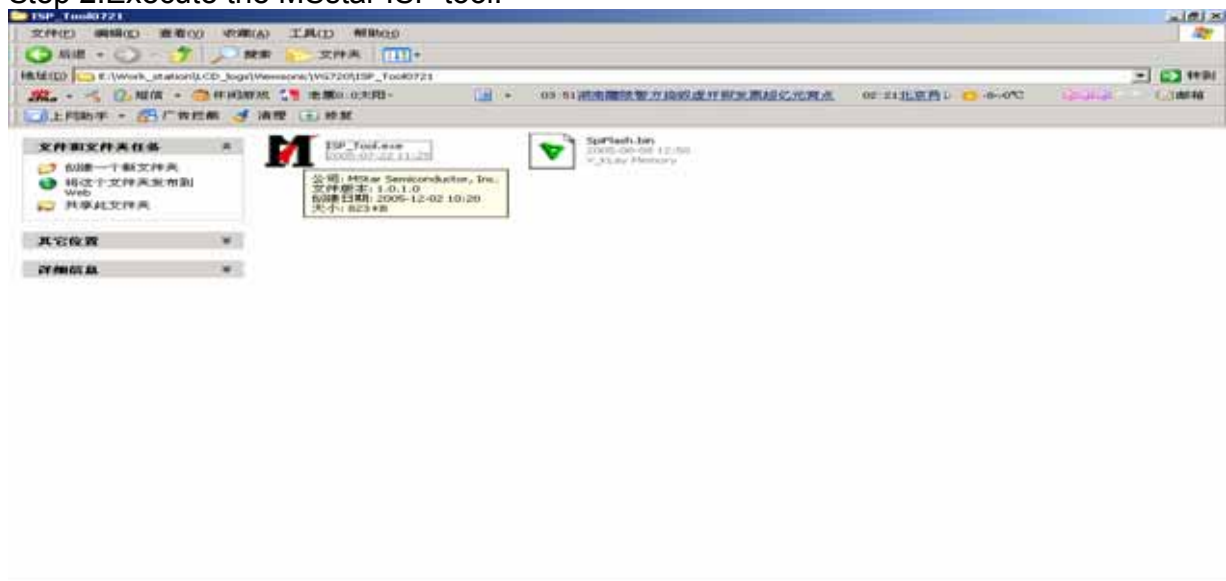
- 2.1 Connect P2 of Fixture with printer port of PC by LPT Cable.
- 2.2 Connect P1 of Fixture with VG720/VG920 Monitor by VGA Cable.
- 2.3 Plug Power Adapter to Fixture.
- 2.4 Connect Power Cord to VG720/VG920 Monitor.
- 2.5 Connect P3 to the Signal Generator (eg.Chroma2326) for verifying it after the operation being completed.
- 2.6 Connect PC to the additional monitor.



## 3 Firmware Upgrade Procedure

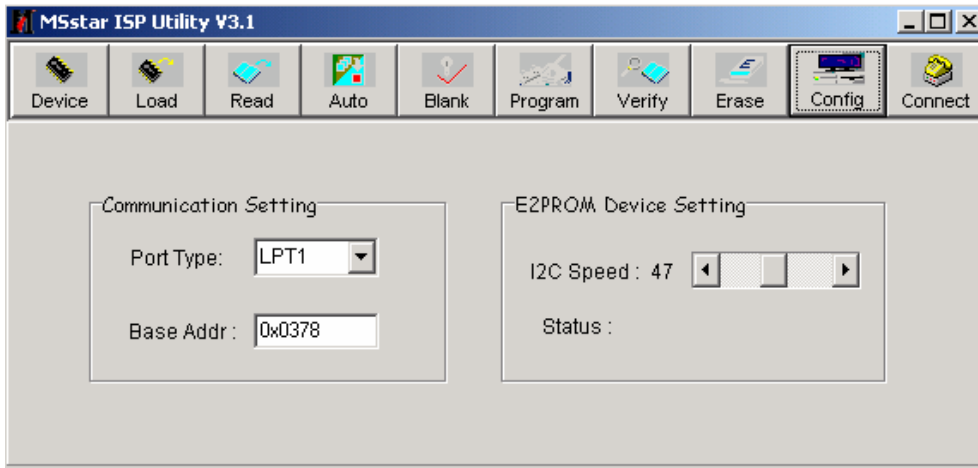
Step 1. Let VG720/VG920 set to be connected with AC cable and VGA cable.

Step 2. Execute the MSstar ISP tool.

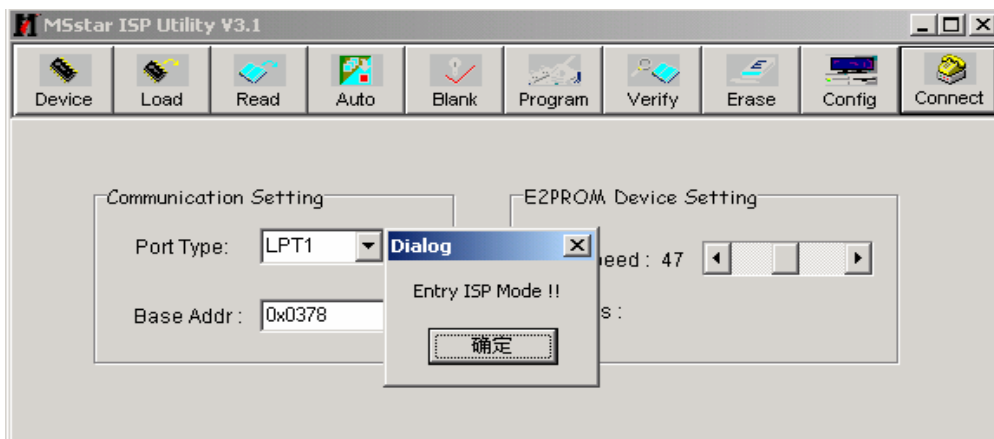




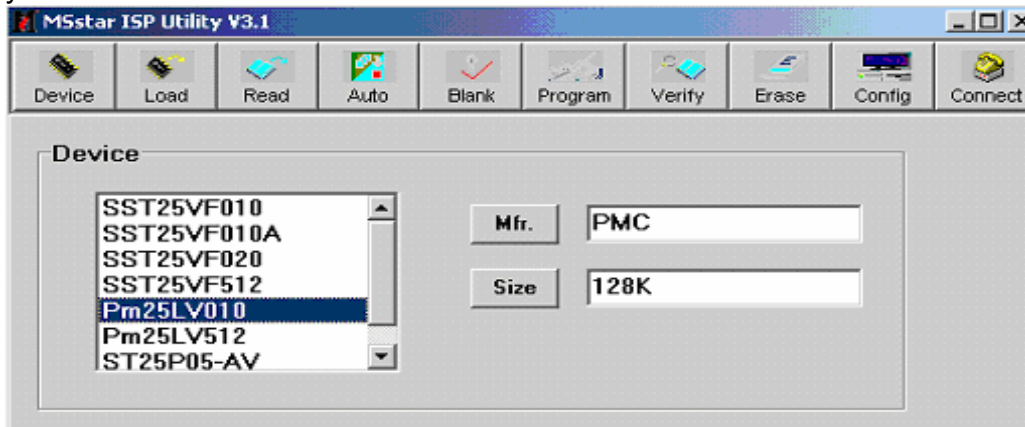
Step 3. Click “Config” button . Select the Port Type: LPT1 and the Base Addr : 0x378 on “Communication Setting” frame,and then the Speed: 47 on “E2PROM Device Setting” frame



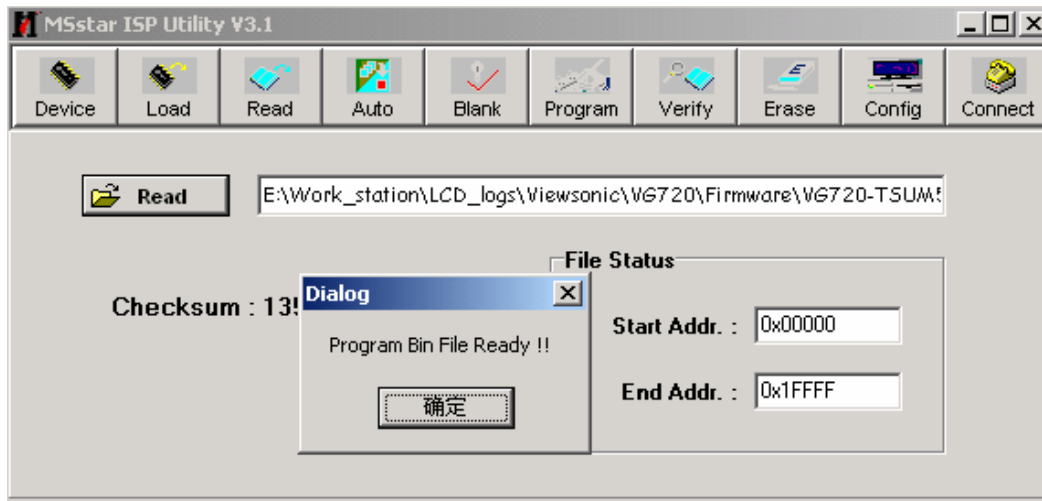
Step 4. Click “Connect” button. (On this step, if the connection is successful, the “Entry ISP Mode” Dialog will be showed. If not, the error dialog will be done.)



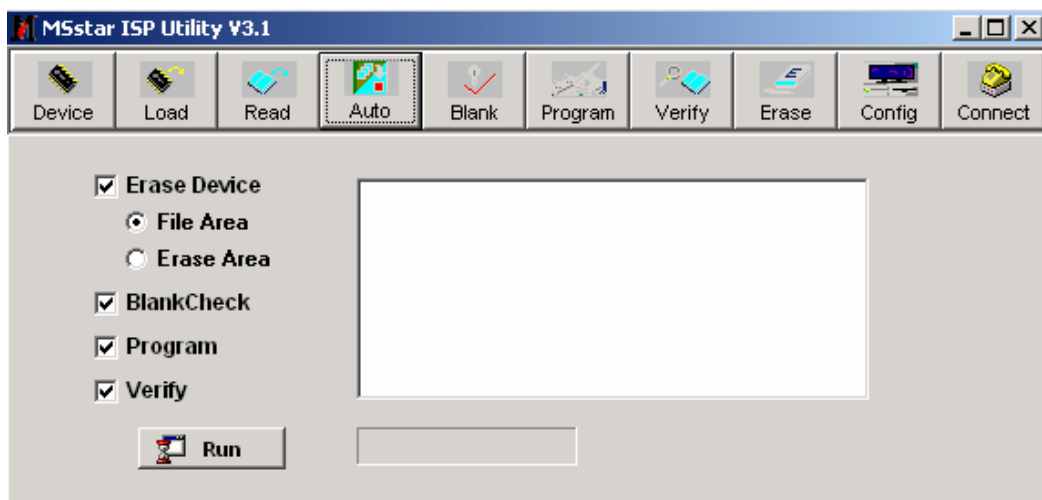
Step 5. Click “Device” button. Select the “PMC25LV010” or “SST25VF010” viewed on your set.



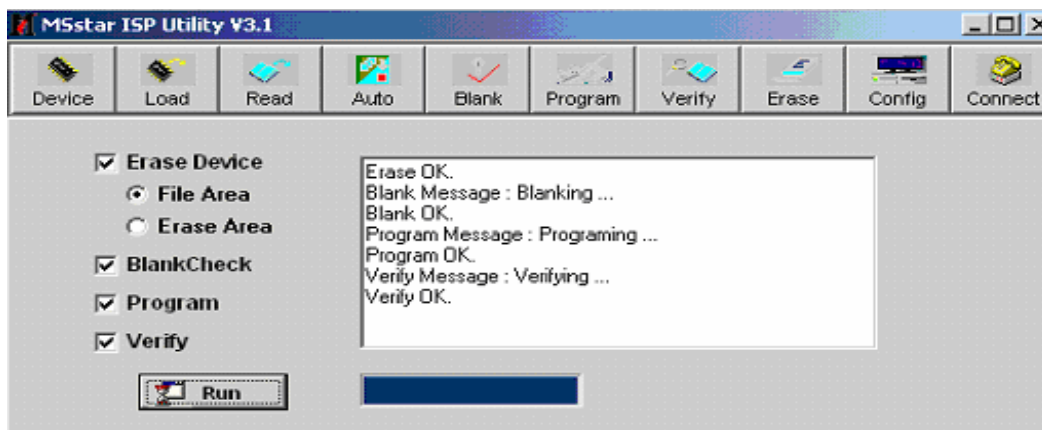
Step 6. Click “Read” button. Select the object bincode on your corresponding directory.



Step 7. Click “Auto” button. Execute the flashing action by clicking the “Run” button.



Step 8. If the flashing F/W has been completed, “Ok” message will be showed on the right TextBox.



Step 9. Unplug and replug power cord of VG720/VG920 set and then check the OSD operation and image on screen.

Step 10. At last, do "Memory Recall."

### 3.2 Setup Procedure

3.2.1 Connect P2 and P4 of Fixture with VGA ports of VG720 VG720/VG920by VGA Cable.

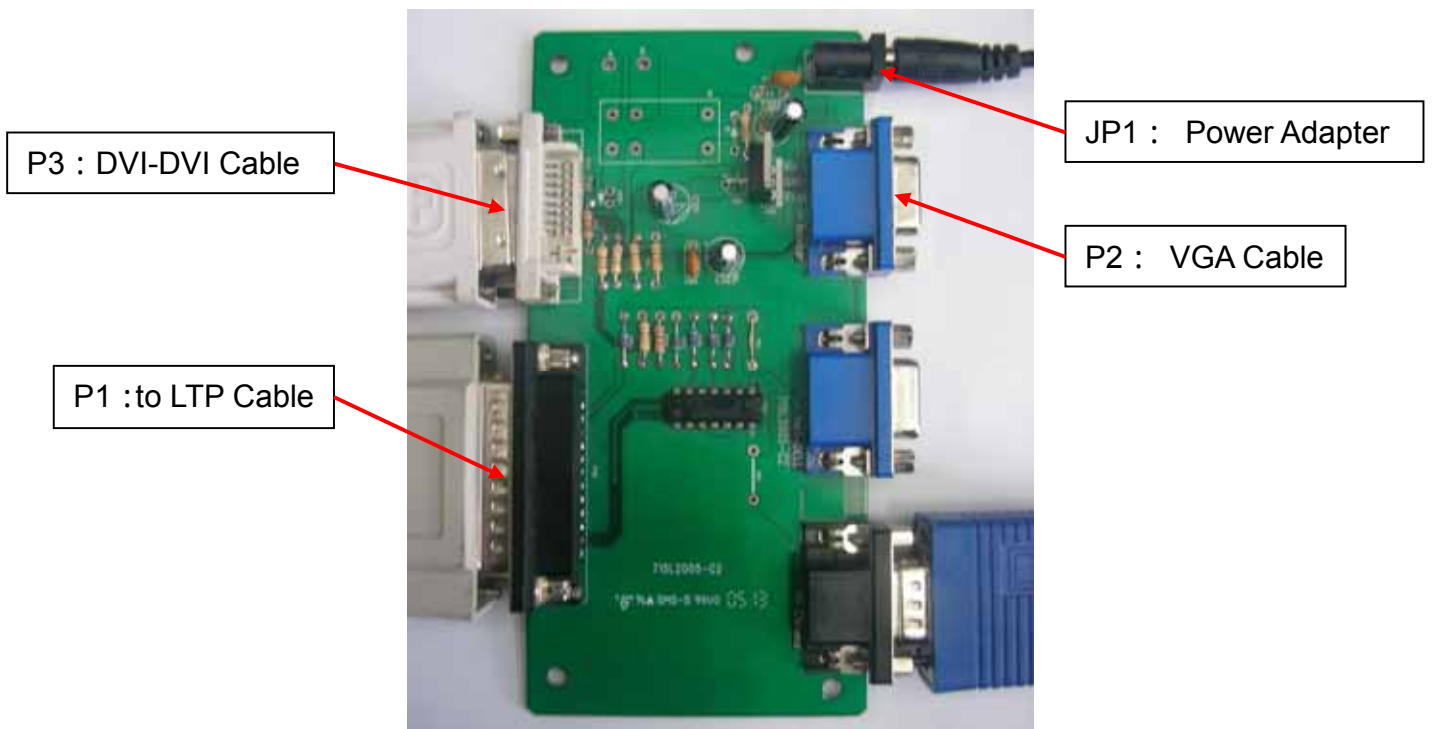
3.2.2 Connect P3 of Fixture with DVI port of VG720 by DVI-DVI Cable.

3.2.3 Connect P1 of Fixture with [Printer port](#) of PC by LPT Cable.

3.2.4 Plug Power Adapter to Fixture.

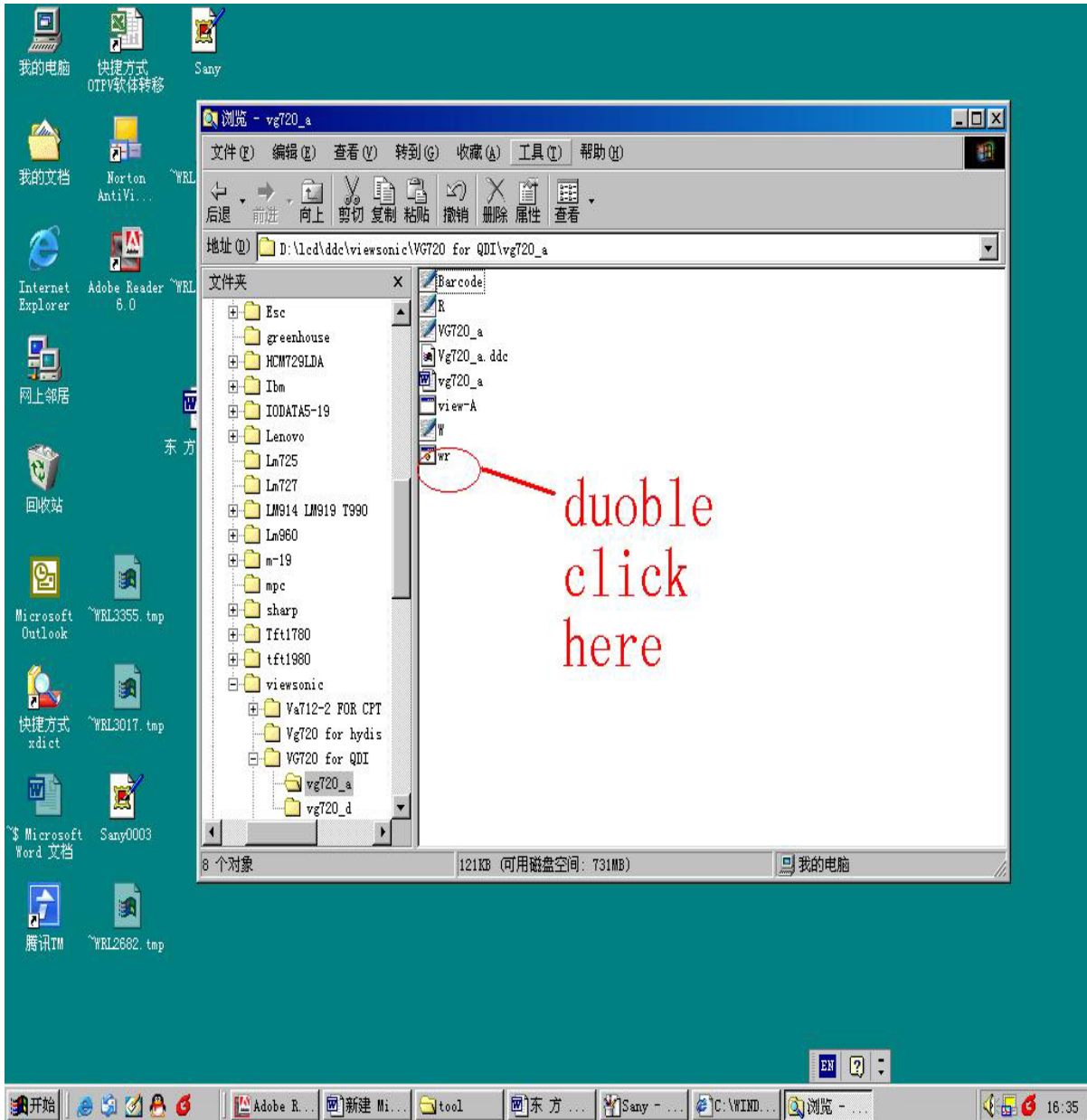
3.2.5 Connect Power Cord to VG720/VG920 Monitor.

3.2.6 Connect PC to the additional monitor.

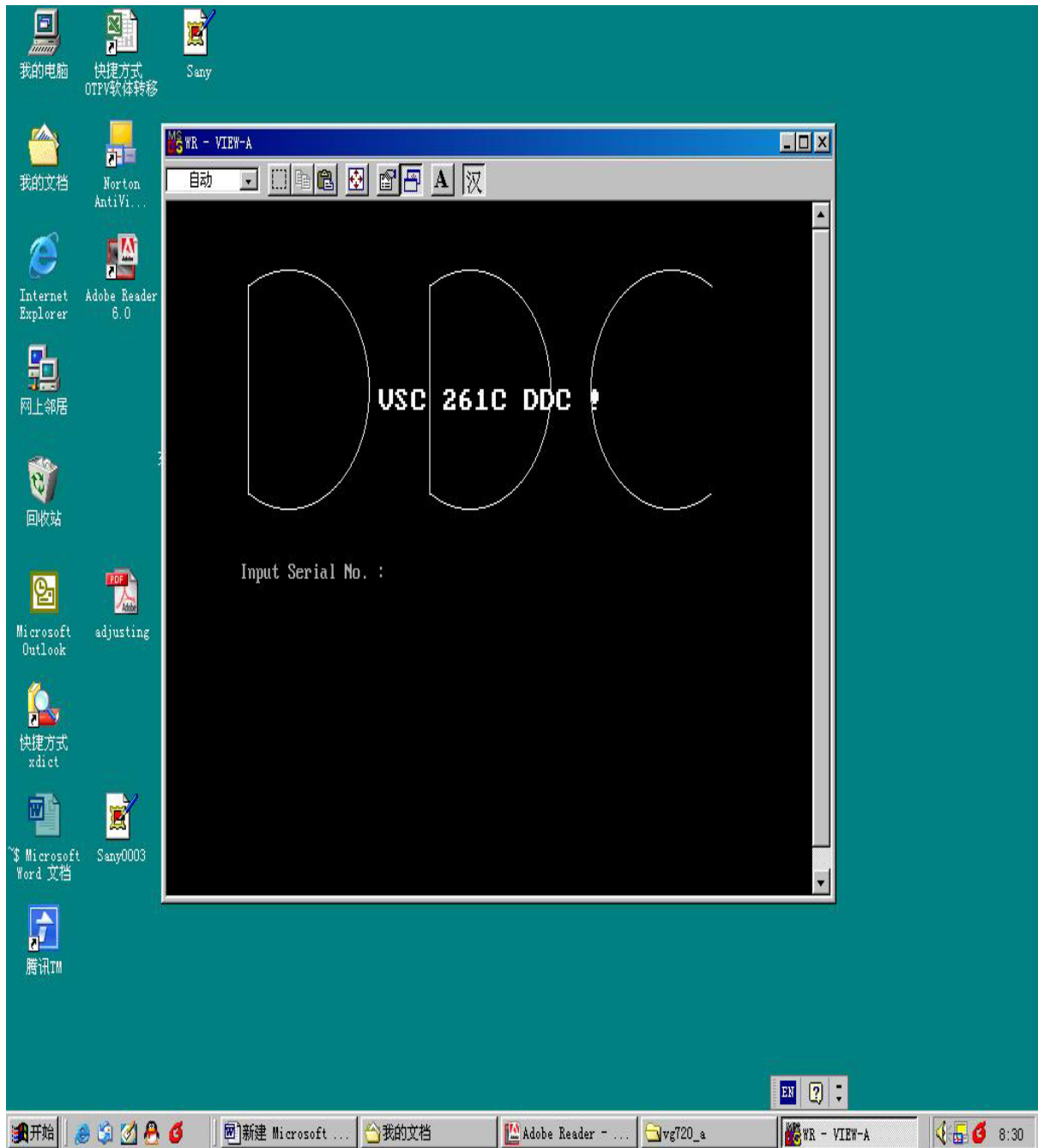


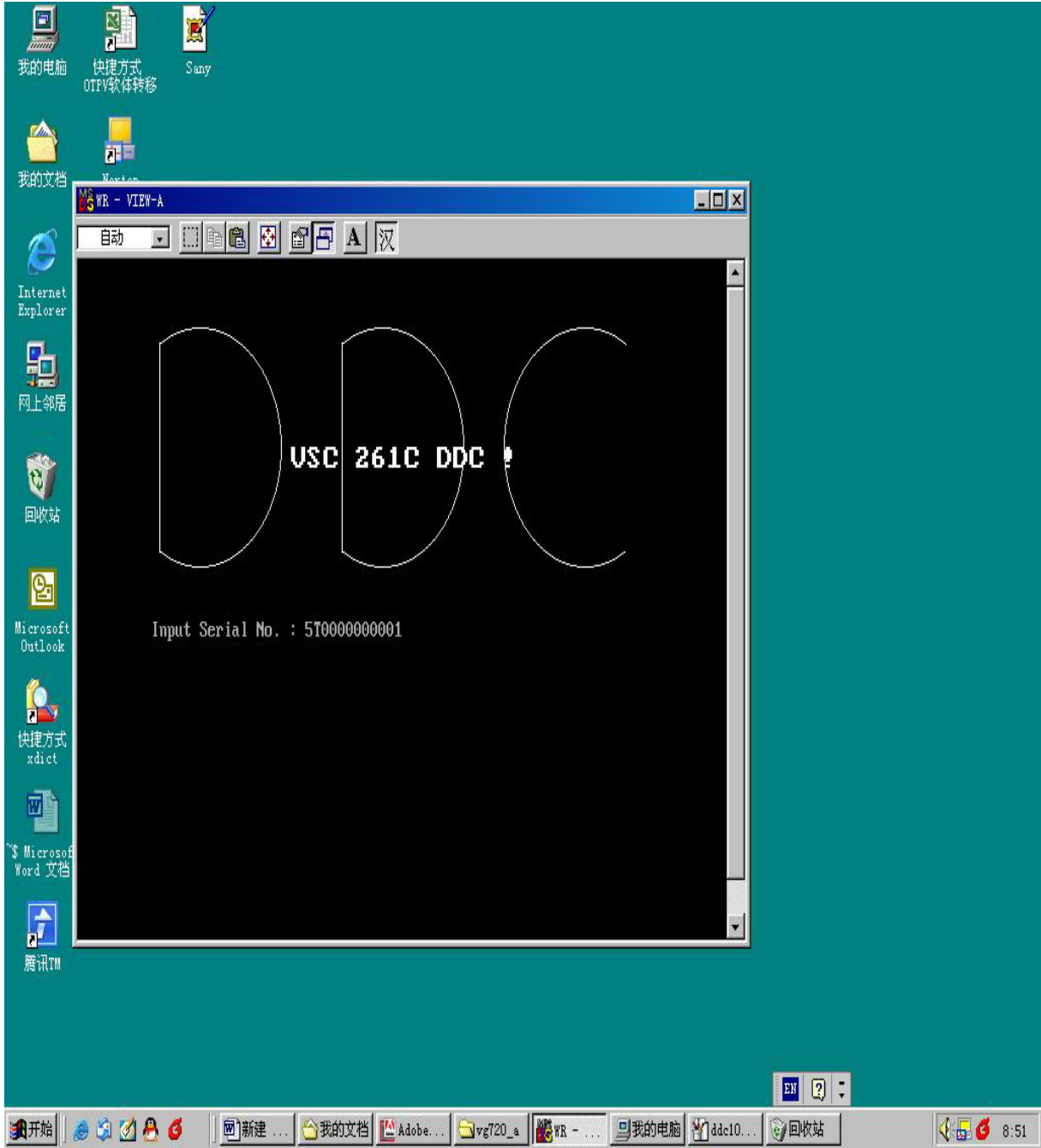
### 3.3 DDC Key In Procedure

#### Sep1.Select and execute DDc Key In program

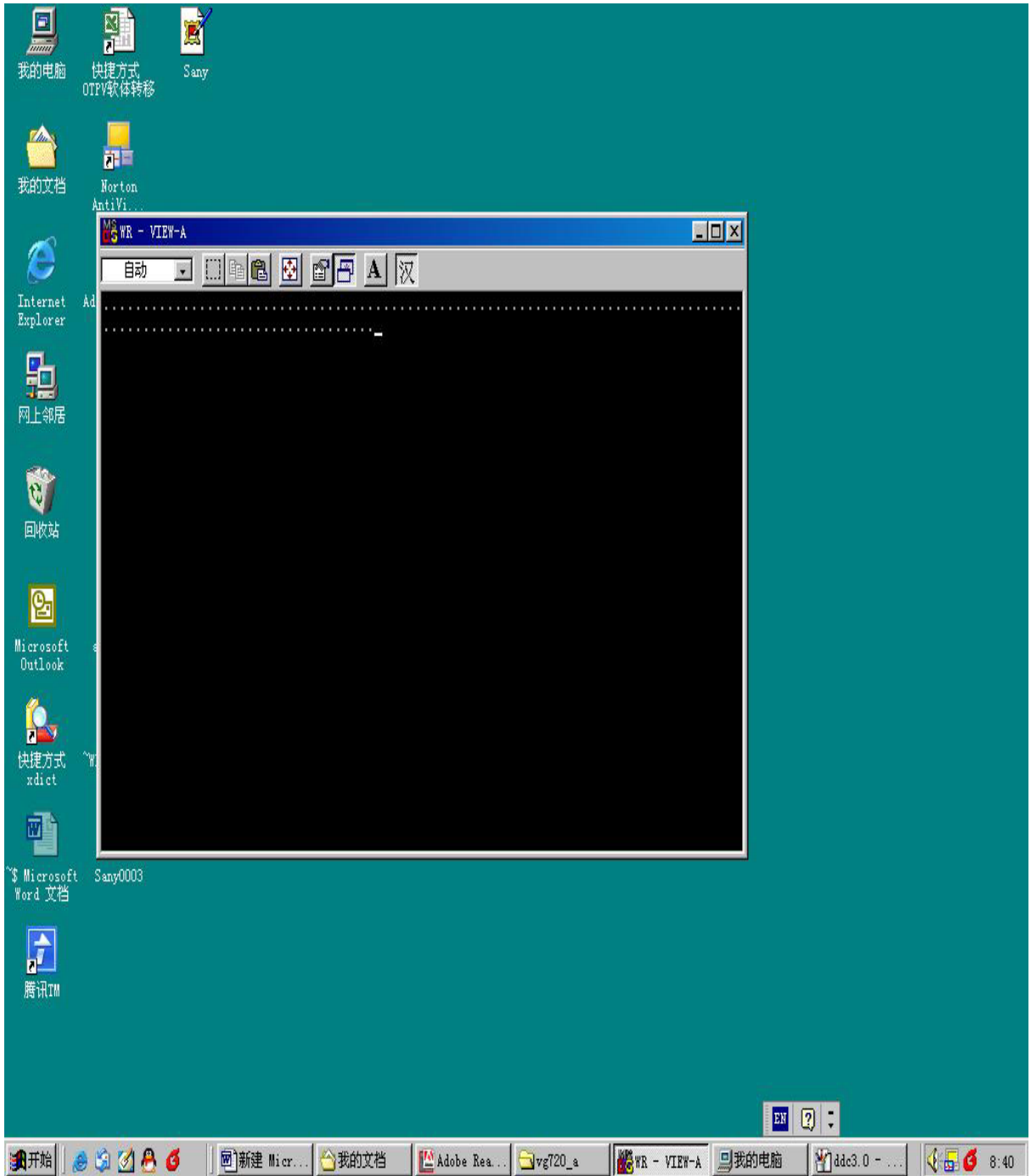


Sep2:Inpute the S/N and execute “Enter”

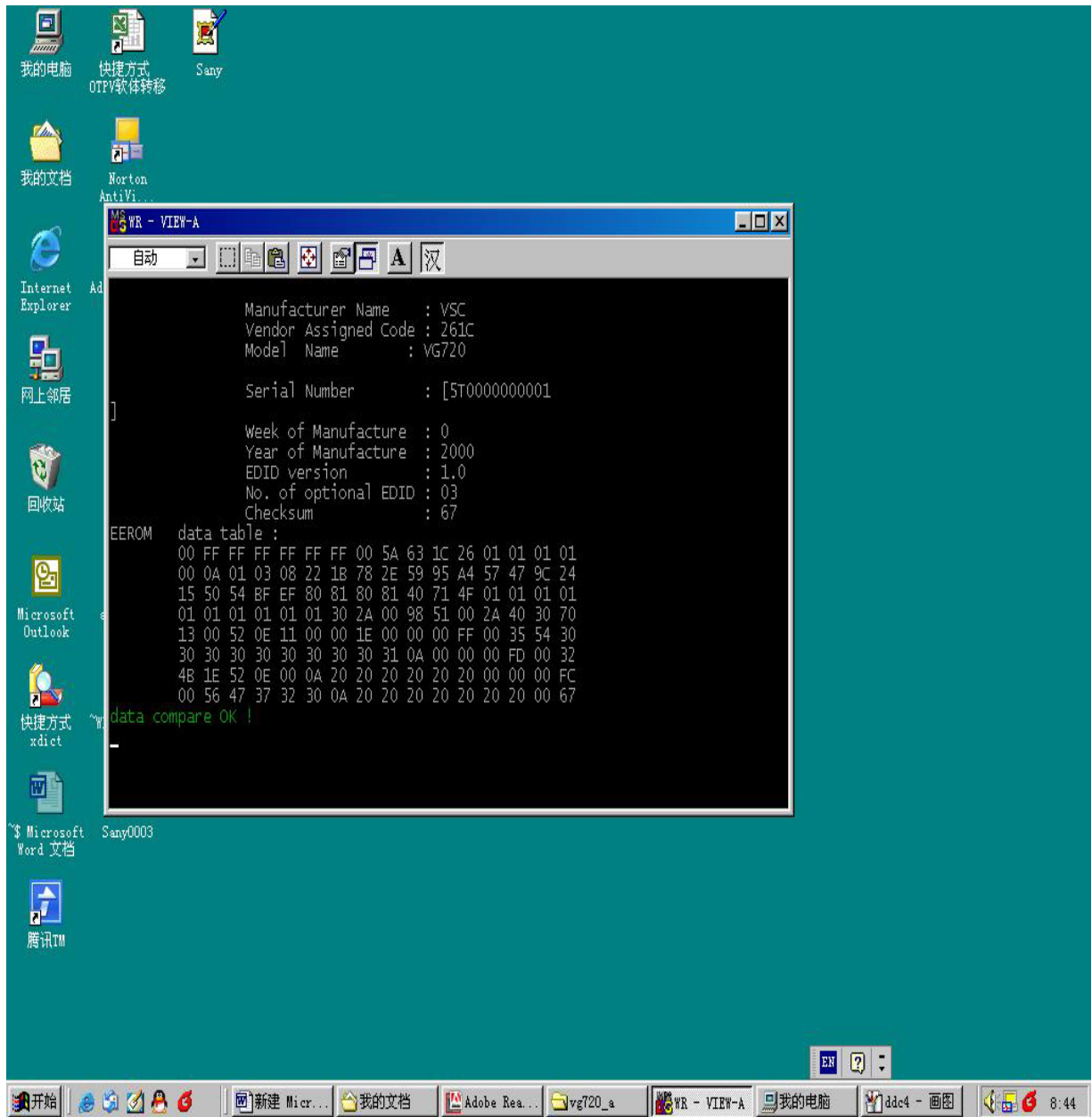




Sep3:Key the “Enter” and write the data

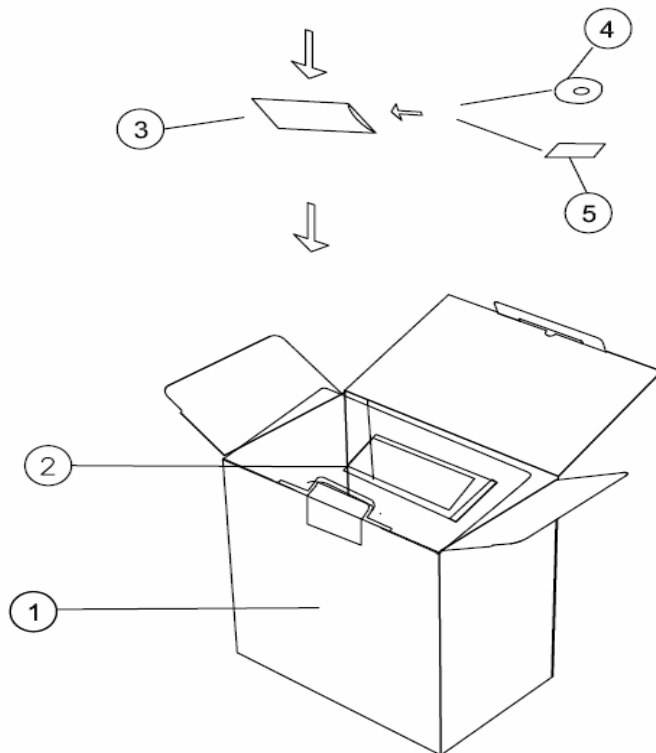
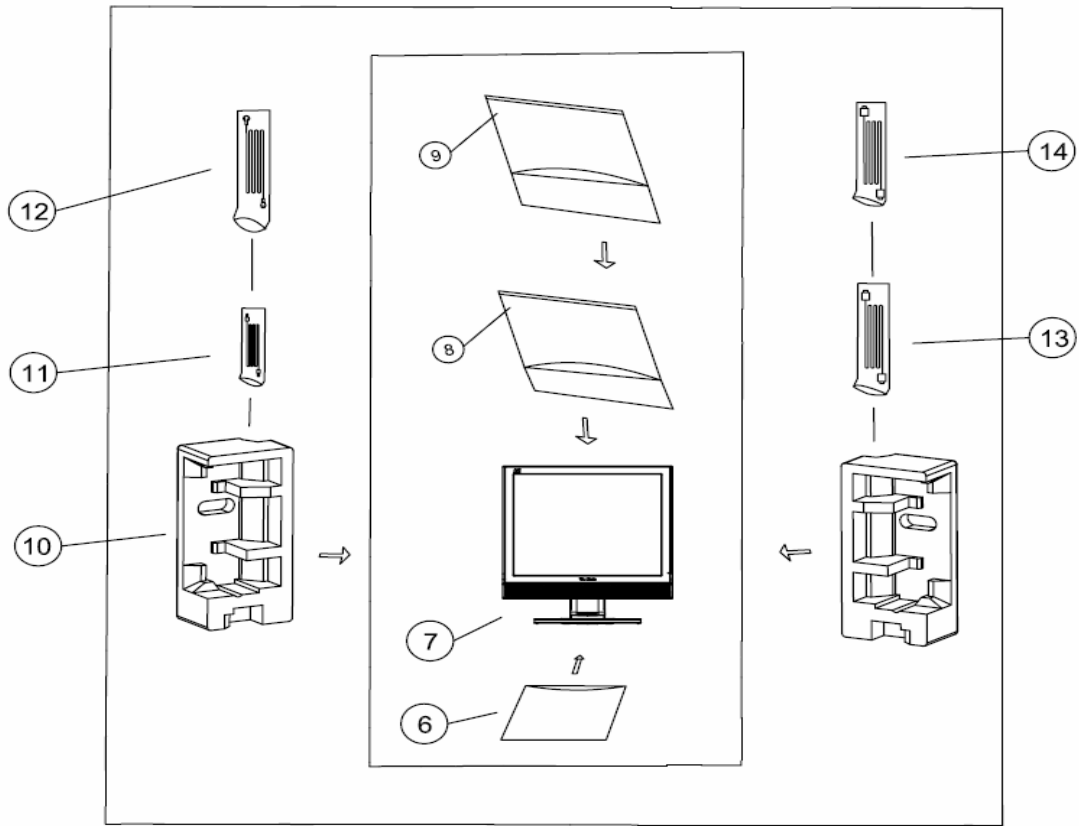


Sep4:If ddc program OK and show “data compare ok”





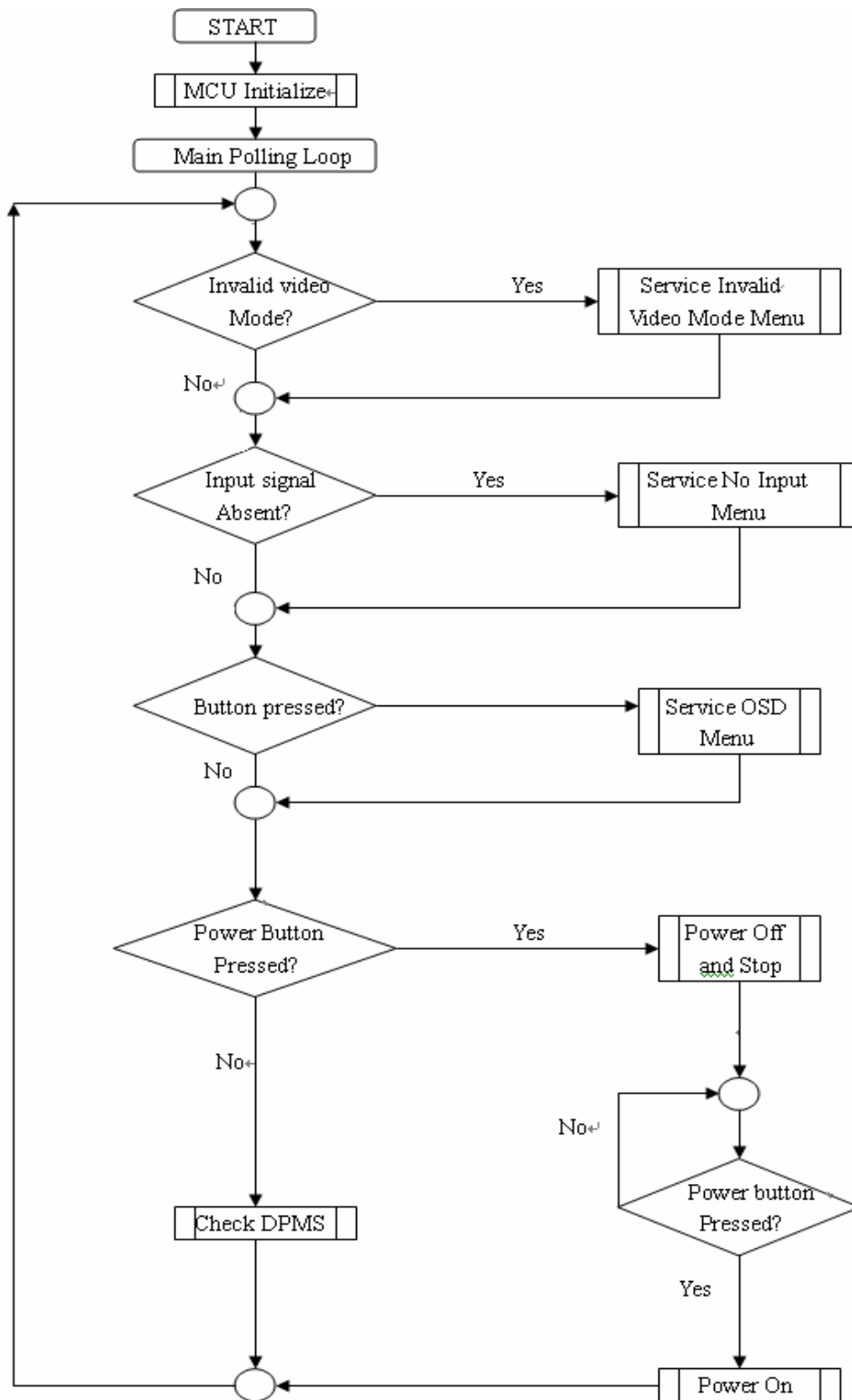
## 5.7 Packing For Shipping



**Packing Part List**

<b>ITEM</b>	<b>DESCRIPITON</b>	<b>PART NUMBER</b>	<b>Q'TY</b>
<b>1</b>	CARTON	C 44G3778709 1A	1
<b>2</b>	HANDLE1	50G 600 2	1
	HANDLE2	50G 600 3	1
<b>3</b>	PE BAG	45G 76 28 V3	1
<b>4</b>	CD MANUAL	70G1701709 5B	1
<b>5</b>	QSG	41G7801709 4A	1
<b>6</b>	EPE COVER	45G 88609 4	1
<b>7</b>	MONITOR	T780KQ6HKGWVWABP	1
<b>8</b>	EPE COVER	45G 88609 B	1
<b>9</b>	PE BAG	45G 88607	1
<b>10</b>	EPS	44G3778 1	1
		44G3778 2	1
<b>11</b>	AUDIO CABLE	89G 173 56507	1
<b>12</b>	POWER CORD	89G402A18N LS	1
<b>13</b>	SIGNAL CABLE	89G 728GAA902	1
<b>14</b>	DVI CABLE	89G1748GAA 11	1

## 6. Troubleshooting Flow Chart



7. Recommended Spare Part List (VG720 BOM list—T780KQ6HKGWVABP)

Item	ViewSonic P/N	Ref. P/N	Description	Location	Universal number#	Q'ty
1		AUPC980A8P	AUPC BOARD			1
2		CBPC780KQ6VWP	CONVERSINON BOARD			1
3		KEPC980KB8SMTP	KEY BOARD			1
4		PWPC1742QDV1P	POWER BOARD			1
5		7G 1 S 16	WOODEN PALLET			0.025
6		11G 800 1	SPACER SUPPORT (RCU-3)			1
7		11G6054 1	PIN CONNECTOR			4
8		12G 434 2	RUBBER PAD			4
9		12G 437 1	THER MAL PAD			1
10		12G8000 2	FOOT PAD			2
11		15G8004 1	ROLLER PIN			4
12		15G8237 1	VESA COVER			1
13		15G8238 1	MAIN FRAME			1
14		15G8239 1	Kensington bracket			1
15		19G6014 2	塑料打包固定夹			0.2
16		20G 036 1	BASE DIE CASTING			1
17		23G3178709 4A	VSC17-LCD FRONT LOGO			1
18		23G3178709 6A	BIRD LOGO (E015-006)			1
19		33G4915 KR L	FUNCTION BUTTON			1
20		33G4916 1	POWER LENS			0
21		33G4917 KR X	ROLLER			4
22		33G4918 KR X	CABLE CLIP			2
23		34G1691 KR B	VESA COVER			1
24		34G1694 KD B	BASE FRONT TOP			1
25		34G1695 KD B	BASE FRONT BOTTOM			1
26		34G1696 KR B	BASE			1
27		34G1697 KR X	SWIVEL COVER			1
28		34G1698AKR B	BEZEL			1
29		34G1699 KR B	REAR COVER			1
30		34G1700AKD B	COMESTIC TOP			1
31		34G1701 KD B	COMESTIC BOTTOM			1
32		34G1702 KR B	STAND FRONT			1
33		34G1703 KR B	STAND REAR			1
34		37G 548 1	HINGE			1
35		40G 45760819A	机种标签			1
36		40G 459709 1B	CARTON LABEL			1
37		40G 459709 2B	S/N LABEL			1
38		40G 459709 4A	H/V WARNING LABEL			1

39		40G 459709 5A	HI -POT LABEL FOR 17-LCD			1
40		40G 581 26704	唛头纸 FOR CARTON/PALLET			0.01
41		40G 58162435A	MANUAL P/N LABEL			1.05
42		40G 58170918D	PALLET LABEL			0.25
43		40G 970709 5B	ID			1
44		40G457B709 1A	Hg LABEL			1
45		40G581B709 3A	8ms STICKER			1
46		41G7801709 4A	QSG			1
47		44G3231 15547	EVA WASHER			1
48		44G3778 1	EPS(L)			1
49		44G3778 2	EPS(R)			1
50		44G6002 S 14	PAPER PLATE			0.025
51		44G6002 S 15	PAPER PLATE			0.025
52		44G9003210	CORNER PAPER			0.1
53		45G 76 28 V3	PE BAG			1
54		45G 77 3	TRANSPARENT SHEET			173
55		45G 88607	PE BAG			1
56		45G 88609 4	EPE COVER			1
57		45G 88609 B	EPE COVER			1
58		50G 600 1 W	白色机用打包带			74
59		50G 600 2	HANDLE1			1
60		50G 600 3	HANDLE2			1
61		52G 1185 24	TAPE			65
62		52G 1216 A	铝箔胶带			1
63		52G 1219 A	铝箔胶带			1
64		52G 2191 D	美纹胶带			75
65		52G6019 1	YELLOW TAPE			5
66		52G6020 1	PROTECT FILM			1
67		52G6022 20	SMALL TAPE			100
68		52G6025 11907	Mylar sheet top			1
69		52G6025 11909	MYLAR BOTTOM			1
70		70G1701709 5B	CD MANUAL			1
71		78G 334 5	LCD 内置无源喇叭箱 ( 8 欧姆			1
72		85G 713 1	MAIN SHIELD			1
73		89G 173 56507	AUDIO CABLE			1
74		89G 728GAA902	SIGNAL CABLE			0
75		89G 728HAA902	SIGNAL CABLE			1
76		89G1748GAA 11	DVI CABLE			1
77		89G1748HAA 11	DVI SIGNAL CABLE			0
78		89G1748LAA 11	DVI CABLE			0

79		89G402A18N IS	POWER CABLE			0
80		89G402A18N LS	POWER CORD			1
81		95G8014 16921	WIRE HARNESS 16P-11P 3			1
82		95G8018 30 95	HARNESS 30P-24P 130MM			1
83		M1G 130 6120	SCREW			4
84		M1G 130 6120	SCREW			2
85		M1G 140 8120	SCREW M4X8			4
86		M1G 140 10120	SCREW M4X10			5
87		M1G 330 4128	SCREW			2
88		M1G1030 6225	SCREW M3X6			1
89		M1G1140 6128	SCREW			1
90		M1G1730 6128	SCREW			3
91		M1G1730 6128	SCREW			4
92		M1G1730 6128	SCREW			2
93		M1G2940 10225	M4*10			4
94		Q1G 130 6 47	SCREW			3
95		Q1G 130 8120	SCREW			3
96		Q1G 130 12120	SCREW			1
97		Q1G 330 6120	SCREW M3X6MM			4
98		Q1G 330 6120	SCREW M3X6MM			2
99		Q1G 330 8120	SCREW			2
100		Q1G1030 10120	M3*10			4
101		Q1G1030 12120	M3*12			2
102		750GLQ70L07 61	LCD PANEL QD17EL07 Rev1			1
103		750GLQ70L07 62	QD17EL07 17" LCD PANEL			0
104		C 44G3778709 1A	CARTON			1
105		AUPC980A8P	AUPC BOARD			
106		AUPC980A8SMTP	AUPC BOARD SMT			1
107		33G3802 4H	WAFER 4P RIGHT ANGLE	CN603		1
108		33G802414C H	WAFER	CN602		1
109		51G6002 1	导热胶			0.2
110		67G215B471 3H	LOW ESR CAP 470UF 16V 8	C620		1
111		67G305V100 7N GP	10UF50V KME50VB10-M-TP5	C601		1
112		67G305V100 7N GP	10UF50V KME50VB10-M-TP5	C605		1
113		67G305V100 7N GP	10UF50V KME50VB10-M-TP5	C617		1
114		67G305V100 7N GP	10UF50V KME50VB10-M-TP5	C625		1
115		88G 30214K	PHONE JACK 5PIN	CN601		1
116		90G6119 1	HEATSINK			1
117		AUPC980A8SMTP	AUPC BOARD SMT			
118		56G 616 6	ID TPA3003D2PF BRG4 TQF	U601		1

119		61L0603000	CHIPR 00HM +-5% 1/10W	R602		1
120		61L0603102	CHIPR 1KOHM +-5% 1/10W	R608		1
121		61L0603103	CHIPR 10KOHM+-5% 1/10W	R601		1
122		61L0603103	CHIPR 10KOHM+-5% 1/10W	R609		1
123		61L0603103	CHIPR 10KOHM+-5% 1/10W	R610		1
124		61L0603124	CHIP 120KOHM 1/10W	R604		1
125		61L0603124	CHIP 120KOHM 1/10W	R607		1
126		61L0603393	39K OHM 1/10W	R611		1
127		61L0603393	39K OHM 1/10W	R612		1
128		65G0603101 31	CHIP 100P 50V NPO	C612		1
129		65G0603101 31	CHIP 100P 50V NPO	C615		1
130		65G0603102 32	CHIP 1000PF 50 X7R	C602		1
131		65G0603102 32	CHIP 1000PF 50 X7R	C603		1
132		65G0603102 32	CHIP 1000PF 50 X7R	C604		1
133		65G0603102 32	CHIP 1000PF 50 X7R	C630		1
134		65G0603102 32	CHIP 1000PF 50 X7R	C631		1
135		65G0603102 32	CHIP 1000PF 50 X7R	C632		1
136		65G0603103 32	0.01UF 50V X7R	C607		1
137		65G0603103 32	0.01UF 50V X7R	C608		1
138		65G0603103 32	0.01UF 50V X7R	C626		1
139		65G0603103 32	0.01UF 50V X7R	C629		1
140		65G0603104 12	MLCC	C606		1
141		65G0603104 12	MLCC	C609		1
142		65G0603104 12	MLCC	C618		1
143		65G0603104 12	MLCC	C621		1
144		65G0603104 12	MLCC	C627		1
145		65G0603104 12	MLCC	C628		1
146		65G0603105 12	CHIP CAP 1UF .	C610		1
147		65G0603105 12	CHIP CAP 1UF .	C611		1
148		65G0603105 12	CHIP CAP 1UF .	C613		1
149		65G0603105 12	CHIP CAP 1UF .	C614		1
150		65G0603105 12	CHIP CAP 1UF .	C616		1
151		65G0603105 12	CHIP CAP 1UF .	C619		1
152		65G0603105 12	CHIP CAP 1UF .	C623		1
153		65G0603105 12	CHIP CAP 1UF .	C624		1
154		65G0603221 32	220PF/50V X7R	C622		1
155		71G 56G301 EA	CHIP BEAD	FB602		1
156		71G 56G301 EA	CHIP BEAD	FB604		1
157		71G 56G301 EA	CHIP BEAD	FB610		1
158		71G 56G301 EA	CHIP BEAD	FB612		1

159		71G 57G301 EA	CHIP BEAD 600 OHM 1206	FB605		1
160		71G 57G301 EA	CHIP BEAD 600 OHM 1206	FB606		1
161		71G 57G601	贴片磁珠	FB601		1
162		71G 57G601	贴片磁珠	FB607		1
163		71G 57G601	贴片磁珠	FB608		1
164		71G 57G601	贴片磁珠	FB609		1
165		715G1566 1	AUDIO			1
166		CBPC780KQ6VWP	CONVERSINON BOARD			
167		AIC780KQ6VWP	MAIN BOARD			1
168		33G801714H H	PIN2*7	\$ CN404		1
169		33G801724A H	PIN 24P 2.0MM RIGHT ANG	\$ CN101		1
170		33G8027 12	WAFER 2*6P 2.0MM R/A	\$ CN701		1
171		33G8027 16	WAFER 16PIN 2.0MM DIP	\$ CN403		1
172		40G 45762412B	CBPC LABEL	\$		1.03
173		51G6002 1	导热胶			0.2
174		67G215L101 4N	LOW ESR EC 100UF 25V NC	C707		1
175		67G215L101 4N	LOW ESR EC 100UF 25V NC	C710		1
176		67G215L101 4N	LOW ESR EC 100UF 25V NC	C712		1
177		67G309V100 3	Electrolytic CAP	C408		1
178		67G309V100 3	Electrolytic CAP	C717		1
179		67G309V109 3	1UF +-20% 16V	C705		1
180		67G309V479 3	4.7UF +-20% 16V	C403		1
181		67G309V479 3	4.7UF +-20% 16V	C702		1
182		88G 35315F H	D-SUB 15PIN	CN405		1
183		88G 35315F HJ	D-SUB 15PIN	CN405		0
184		88G 35424F H	DVID CONN 24P FEMALE 90	CN406		1
185		90G6250 1 GP	散热片			1
186		93G 22 53	CRYSTAL 14.31818MHZ HC-	X401		1
187		AIC780KQ6VWP	MAIN BOARD			
188		56G 562108	TSUM56AK-LF PQFP-100	U401		1
189		56G 563 7	AIC1084-33PM TO-263	U702		1
190		56G 643 6	IC MICROPROCESSOR MAX81	U406		1
191		56G1133 34	IC M24C02-WMN6TP	U404		1
192		56G1133 34	IC M24C02-WMN6TP	U405		1
193		56G1133 63QA1	PM25LV010-25SCE	U402		1
194		56G1133 74QA1	SST25VF010A-33-4C-SAE S	U402		0
195		56G113356A	24LC16B/SNG SOIC-8PIN	U403		1
196		57G 417 4	PMBS3904/PLILIPS	Q402		1
197		57G 417 4	PMBS3904/PLILIPS	Q404		1
198		57G 417 4	PMBS3904/PLILIPS	Q701		1



199		57G 417 4	PMBS3904/PLILIPS	Q703		1
200		57G 417 4	PMBS3904/PLILIPS	Q706		1
201		57G 417 6	PMBS3906 PNP	Q401		1
202		57G 417 6	PMBS3906 PNP	Q403		1
203		57G 417 17 T	PZT2907A SOT-223	Q702		1
204		57G 763 1	A03401L	Q704		1
205		61L0603000	CHIPR 00HM +-5% 1/10W	FB410		1
206		61L0603000	CHIPR 00HM +-5% 1/10W	FB411		1
207		61L0603000	CHIPR 00HM +-5% 1/10W	FB412		1
208		61L0603000	CHIPR 00HM +-5% 1/10W	R419		1
209		61L0603000	CHIPR 00HM +-5% 1/10W	R421		1
210		61L0603000	CHIPR 00HM +-5% 1/10W	R431		1
211		61L0603000	CHIPR 00HM +-5% 1/10W	R432		1
212		61L0603000	CHIPR 00HM +-5% 1/10W	R720		1
213		61L0603000	CHIPR 00HM +-5% 1/10W	R721		1
214		61L0603100	CHIPR 10 OHM 1/10W	R462		1
215		61L0603100	CHIPR 10 OHM 1/10W	R463		1
216		61L0603100	CHIPR 10 OHM 1/10W	R464		1
217		61L0603100	CHIPR 10 OHM 1/10W	R465		1
218		61L0603100	CHIPR 10 OHM 1/10W	R466		1
219		61L0603100	CHIPR 10 OHM 1/10W	R467		1
220		61L0603100	CHIPR 10 OHM 1/10W	R468		1
221		61L0603100	CHIPR 10 OHM 1/10W	R469		1
222		61L0603100 1F	CHIP 1KOHM 1/10W 1%	R478		1
223		61L0603100 1F	CHIP 1KOHM 1/10W 1%	R479		1
224		61L0603101	CHIPR 1000HM +-5% 1/10W	R411		1
225		61L0603101	CHIPR 1000HM +-5% 1/10W	R418		1
226		61L0603101	CHIPR 1000HM +-5% 1/10W	R420		1
227		61L0603101	CHIPR 1000HM +-5% 1/10W	R427		1
228		61L0603101	CHIPR 1000HM +-5% 1/10W	R428		1
229		61L0603101	CHIPR 1000HM +-5% 1/10W	R429		1
230		61L0603101	CHIPR 1000HM +-5% 1/10W	R441		1
231		61L0603101	CHIPR 1000HM +-5% 1/10W	R442		1
232		61L0603101	CHIPR 1000HM +-5% 1/10W	R443		1
233		61L0603101	CHIPR 1000HM +-5% 1/10W	R445		1
234		61L0603101	CHIPR 1000HM +-5% 1/10W	R453		1
235		61L0603101	CHIPR 1000HM +-5% 1/10W	R454		1
236		61L0603101	CHIPR 1000HM +-5% 1/10W	R455		1
237		61L0603101	CHIPR 1000HM +-5% 1/10W	R456		1
238		61L0603101	CHIPR 1000HM +-5% 1/10W	R458		1

239		61L0603101	CHIPR 100OHM +-5% 1/10W	R704		1
240		61L0603102	CHIPR 1KOHM +-5% 1/10W	R430		1
241		61L0603102	CHIPR 1KOHM +-5% 1/10W	R446		1
242		61L0603102	CHIPR 1KOHM +-5% 1/10W	R447		1
243		61L0603102	CHIPR 1KOHM +-5% 1/10W	R470		1
244		61L0603102	CHIPR 1KOHM +-5% 1/10W	R476		1
245		61L0603102	CHIPR 1KOHM +-5% 1/10W	R477		1
246		61L0603102	CHIPR 1KOHM +-5% 1/10W	R701		1
247		61L0603103	CHIPR 10KOHM+-5% 1/10W	R406		1
248		61L0603103	CHIPR 10KOHM+-5% 1/10W	R408		1
249		61L0603103	CHIPR 10KOHM+-5% 1/10W	R412		1
250		61L0603103	CHIPR 10KOHM+-5% 1/10W	R413		1
251		61L0603103	CHIPR 10KOHM+-5% 1/10W	R415		1
252		61L0603103	CHIPR 10KOHM+-5% 1/10W	R416		1
253		61L0603103	CHIPR 10KOHM+-5% 1/10W	R424		1
254		61L0603103	CHIPR 10KOHM+-5% 1/10W	R425		1
255		61L0603103	CHIPR 10KOHM+-5% 1/10W	R426		1
256		61L0603103	CHIPR 10KOHM+-5% 1/10W	R450		1
257		61L0603103	CHIPR 10KOHM+-5% 1/10W	R451		1
258		61L0603103	CHIPR 10KOHM+-5% 1/10W	R452		1
259		61L0603103	CHIPR 10KOHM+-5% 1/10W	R457		1
260		61L0603103	CHIPR 10KOHM+-5% 1/10W	R459		1
261		61L0603103	CHIPR 10KOHM+-5% 1/10W	R460		1
262		61L0603103	CHIPR 10KOHM+-5% 1/10W	R461		1
263		61L0603103	CHIPR 10KOHM+-5% 1/10W	R471		1
264		61L0603103	CHIPR 10KOHM+-5% 1/10W	R484		1
265		61L0603103	CHIPR 10KOHM+-5% 1/10W	R485		1
266		61L0603103	CHIPR 10KOHM+-5% 1/10W	R487		1
267		61L0603103	CHIPR 10KOHM+-5% 1/10W	R708		1
268		61L0603103	CHIPR 10KOHM+-5% 1/10W	R711		1
269		61L0603103	CHIPR 10KOHM+-5% 1/10W	R714		1
270		61L0603103	CHIPR 10KOHM+-5% 1/10W	R717		1
271		61L0603103	CHIPR 10KOHM+-5% 1/10W	R727		1
272		61L0603121	CHIPR 120 OHM 1/10W	R409		1
273		61L0603121	CHIPR 120 OHM 1/10W	R414		1
274		61L0603150 1F	CHIP 1.5KOHM 1/16W 1%	R480		1
275		61L0603202	CHIPR 2KOHM+-5%1/10W	R703		1
276		61L0603203	CHIPR 20KOHM +-5% 1/10W	R417		1
277		61L0603222	CHIPR 2.2KOHM+-5%1/10W	R448		1
278		61L0603222	CHIPR 2.2KOHM+-5%1/10W	R449		1

279		61L0603223	CHIPR 22K OHM +-5% 1/10	R405		1
280		61L0603390 0F	3900HM +-1%	R403		1
281		61L0603392	CHIP 3.9K OHM 1/10W	R474		1
282		61L0603392	CHIP 3.9K OHM 1/10W	R475		1
283		61L0603471	CHIPR 4700HM+-5%1/10W	R437		1
284		61L0603472	CHIP 4.7KOHM +-5% 1/10	R422		1
285		61L0603472	CHIP 4.7KOHM +-5% 1/10	R423		1
286		61L0603472	CHIP 4.7KOHM +-5% 1/10	R705		1
287		61L0603472	CHIP 4.7KOHM +-5% 1/10	R707		1
288		61L0603472	CHIP 4.7KOHM +-5% 1/10	R712		1
289		61L0603472	CHIP 4.7KOHM +-5% 1/10	R725		1
290		61L0603510	CHIP 510HM 5% 1/10W	R702		1
291		61L0603513	CHIP 51K OHM	R723		1
292		61L0603560	CHIPR 56 OHM +-5% 1/10W	R434		1
293		61L0603560	CHIPR 56 OHM +-5% 1/10W	R435		1
294		61L0603560	CHIPR 56 OHM +-5% 1/10W	R436		1
295		61L0603750	CHIPR 750HM+-5%1/10W	R438		1
296		61L0603750	CHIPR 750HM+-5%1/10W	R439		1
297		61L0603750	CHIPR 750HM+-5%1/10W	R440		1
298		65G0603104 32	CHIP 0.1UF 50V X7R	C401		1
299		65G0603104 32	CHIP 0.1UF 50V X7R	C404		1
300		65G0603104 32	CHIP 0.1UF 50V X7R	C405		1
301		65G0603104 32	CHIP 0.1UF 50V X7R	C406		1
302		65G0603104 32	CHIP 0.1UF 50V X7R	C407		1
303		65G0603104 32	CHIP 0.1UF 50V X7R	C409		1
304		65G0603104 32	CHIP 0.1UF 50V X7R	C410		1
305		65G0603104 32	CHIP 0.1UF 50V X7R	C411		1
306		65G0603104 32	CHIP 0.1UF 50V X7R	C412		1
307		65G0603104 32	CHIP 0.1UF 50V X7R	C413		1
308		65G0603104 32	CHIP 0.1UF 50V X7R	C414		1
309		65G0603104 32	CHIP 0.1UF 50V X7R	C415		1
310		65G0603104 32	CHIP 0.1UF 50V X7R	C416		1
311		65G0603104 32	CHIP 0.1UF 50V X7R	C417		1
312		65G0603104 32	CHIP 0.1UF 50V X7R	C419		1
313		65G0603104 32	CHIP 0.1UF 50V X7R	C420		1
314		65G0603104 32	CHIP 0.1UF 50V X7R	C422		1
315		65G0603104 32	CHIP 0.1UF 50V X7R	C424		1
316		65G0603104 32	CHIP 0.1UF 50V X7R	C425		1
317		65G0603104 32	CHIP 0.1UF 50V X7R	C426		1
318		65G0603104 32	CHIP 0.1UF 50V X7R	C427		1

319		65G0603104 32	CHIP 0.1UF 50V X7R	C428		1
320		65G0603104 32	CHIP 0.1UF 50V X7R	C429		1
321		65G0603104 32	CHIP 0.1UF 50V X7R	C430		1
322		65G0603104 32	CHIP 0.1UF 50V X7R	C439		1
323		65G0603104 32	CHIP 0.1UF 50V X7R	C440		1
324		65G0603104 32	CHIP 0.1UF 50V X7R	C441		1
325		65G0603104 32	CHIP 0.1UF 50V X7R	C444		1
326		65G0603104 32	CHIP 0.1UF 50V X7R	C445		1
327		65G0603104 32	CHIP 0.1UF 50V X7R	C446		1
328		65G0603104 32	CHIP 0.1UF 50V X7R	C447		1
329		65G0603104 32	CHIP 0.1UF 50V X7R	C448		1
330		65G0603104 32	CHIP 0.1UF 50V X7R	C449		1
331		65G0603104 32	CHIP 0.1UF 50V X7R	C450		1
332		65G0603104 32	CHIP 0.1UF 50V X7R	C451		1
333		65G0603104 32	CHIP 0.1UF 50V X7R	C452		1
334		65G0603104 32	CHIP 0.1UF 50V X7R	C453		1
335		65G0603104 32	CHIP 0.1UF 50V X7R	C454		1
336		65G0603104 32	CHIP 0.1UF 50V X7R	C706		1
337		65G0603104 32	CHIP 0.1UF 50V X7R	C709		1
338		65G0603104 32	CHIP 0.1UF 50V X7R	C711		1
339		65G0603104 32	CHIP 0.1UF 50V X7R	C713		1
340		65G0603104 32	CHIP 0.1UF 50V X7R	C714		1
341		65G0603104 32	CHIP 0.1UF 50V X7R	C715		1
342		65G0603104 32	CHIP 0.1UF 50V X7R	C718		1
343		65G0603220 32	Chip Cap 22PF	C421		1
344		65G0603220 32	Chip Cap 22PF	C423		1
345		65G0603221 32	220PF/50V X7R	C443		1
346		65G0603330 32	CHIP 33PF 50V NPO	C442		1
347		65G0603473 32	CHIP 47NF 50V X7R	C432		1
348		65G0603473 32	CHIP 47NF 50V X7R	C433		1
349		65G0603473 32	CHIP 47NF 50V X7R	C434		1
350		65G0603473 32	CHIP 47NF 50V X7R	C435		1
351		65G0603473 32	CHIP 47NF 50V X7R	C436		1
352		65G0603473 32	CHIP 47NF 50V X7R	C437		1
353		65G0603473 32	CHIP 47NF 50V X7R	C438		1
354		65G0805105 37	CHIP 1UF 50V Y5V	C708		1
355		71G 56Z601	2.0X1.2 100M=6000HM	FB401		1
356		71G 56Z601	2.0X1.2 100M=6000HM	FB402		1
357		71G 56Z601	2.0X1.2 100M=6000HM	FB403		1
358		71G 56Z601	2.0X1.2 100M=6000HM	FB404		1

359		71G 56Z601	2.0X1.2 100M=6000HM	FB405		1
360		71G 56Z601	2.0X1.2 100M=6000HM	FB406		1
361		71G 56Z601	2.0X1.2 100M=6000HM	FB407		1
362		71G 56Z601	2.0X1.2 100M=6000HM	FB408		1
363		71G 56Z601 M	CHIP BEAD 0805 6000HM	FB401		0
364		71G 56Z601 M	CHIP BEAD 0805 6000HM	FB402		0
365		71G 56Z601 M	CHIP BEAD 0805 6000HM	FB403		0
366		71G 56Z601 M	CHIP BEAD 0805 6000HM	FB404		0
367		71G 56Z601 M	CHIP BEAD 0805 6000HM	FB405		0
368		71G 56Z601 M	CHIP BEAD 0805 6000HM	FB406		0
369		71G 56Z601 M	CHIP BEAD 0805 6000HM	FB407		0
370		71G 56Z601 M	CHIP BEAD 0805 6000HM	FB408		0
371		71G 59B121	贴片磁珠	FB409		1
372		93G 39147SEM	ZMM5V6	D414		1
373		93G 39147SEM	ZMM5V6	D415		1
374		93G 39147SEM	ZMM5V6	D416		1
375		93G 39147SEM	ZMM5V6	D426		1
376		93G 39149	ZENER MLL5232B BY FULL	D406		1
377		93G 39149	ZENER MLL5232B BY FULL	D408		1
378		93G 39149	ZENER MLL5232B BY FULL	D409		1
379		93G 39149	ZENER MLL5232B BY FULL	D410		1
380		93G 39149	ZENER MLL5232B BY FULL	D411		1
381		93G 39149	ZENER MLL5232B BY FULL	D412		1
382		93G 64 42 P	BAV70 DIODE	D407		1
383		93G 64 42 P	BAV70 DIODE	D413		1
384		93G 6432P	LL4148 MINI-MELF/LL-34	D701		1
385		93G 6432P	LL4148 MINI-MELF/LL-34	D702		1
386		93G 6433P	BAV99 SOT-23	D403		1
387		93G 6433P	BAV99 SOT-23	D404		1
388		93G 6433P	BAV99 SOT-23	D405		1
389		93G 6433P	BAV99 SOT-23	D417		1
390		93G 6433P	BAV99 SOT-23	D418		1
391		93G 6433P	BAV99 SOT-23	D419		1
392		93G 6433P	BAV99 SOT-23	D420		1
393		93G 6433P	BAV99 SOT-23	D421		1
394		93G 6433P	BAV99 SOT-23	D422		1
395		93G 6433P	BAV99 SOT-23	D423		1
396		93G 6433P	BAV99 SOT-23	D424		1
397		93G 39S 45 T	RLZ36B ZENER DIODE	D401		1
398		93G 39S 45 T	RLZ36B ZENER DIODE	D402		1

399		93G 39S 45 T	RLZ36B ZENER DIODE	D425		1
400		93G1004 4	SCHOTTKY DIODE 1A 40V S	D704		1
401		715G1558 1 2	MAIN BOARD			1
402		KEPC980KB8SMTP	KEY BOARD			
403		33G803411C	WAFER 1.0MM SMT 11P	\$ CN001		1
404		77G 604 2 T0	TACT SWITCH	SW001		1
405		77G 604 2 T0	TACT SWITCH	SW002		1
406		77G 604 2 T0	TACT SWITCH	SW003		1
407		77G 604 2 T0	TACT SWITCH	SW004		1
408		77G 604 2 T0	TACT SWITCH	SW005		1
409		77G 604 2 T0	TACT SWITCH	SW006		1
410		77G 604 2 T0	TACT SWITCH	SW007		1
411		77G 604 2 T0	TACT SWITCH	SW008		1
412		81G 14501 KT	KTL-HKBGE33B-TRB	LED001		1
413		715G1602 1	KEPC			1
414		PWPC1742QDV1P	POWER BOARD			
415		PW1742QDV1SMTP	MAIN BOARD FOR SMT			1
416		33G8021 2D U	CON.2PR/A	\$ CN201		1
417		33G8021 2D U	CON.2PR/A	\$ CN202		1
418		33G8021 2D U	CON.2PR/A	\$ CN203		1
419		33G8021 2D U	CON.2PR/A	\$ CN204		1
420		33G8021 2D AC	WAFER	\$ CN201		0
421		33G8021 2D AC	WAFER	\$ CN202		0
422		33G8021 2D AC	WAFER	\$ CN203		0
423		33G8021 2D AC	WAFER	\$ CN204		0
424		33G8029 3A	WAFER 3.96MM	\$ CN901		1
425		40G 45762412B	CBPC LABEL	\$		1
426		51G 6 4503	RTV 胶			2
427		56G 139 3	PC123FY2 BY SHARP	IC902		0
428		56G 139 3A	PC123Y22FZOF	IC902		1
429		57G 417 11	KTC5103L-Y-U/P IPAK	Q206		1
430		57G 417 11	KTC5103L-Y-U/P IPAK	Q207		1
431		57G 761 7	TRANSISTOR KTD1691/P	Q206		0
432		57G 761 7	TRANSISTOR KTD1691/P	Q207		0
433		61G 58080 WT	NTCR	NR901		1
434		61G152M398 64	RES.	R918		1
435		63G 10747410S	0.47UF +-10% 250VAC	C903		1
436		63G210J3342B2	0.33uF 250V PMS TAIYANG	C221		0
437		63G211J334 AB	0.33UF 5% 160V	C221		1
438		65G 2K152 5A	1500PE 10% Y5P 2KV	C905		1

439		65G 3J1206EM	12PF 5% SL 3KV MURATA	C211		1
440		65G 3J1206EM	12PF 5% SL 3KV MURATA	C212		1
441		65G 3J1206EM	12PF 5% SL 3KV MURATA	C213		1
442		65G 3J1206EM	12PF 5% SL 3KV MURATA	C214		1
443		65G 3J1206ET	12PF 5% SL 3KV TDK	C211		0
444		65G 3J1206ET	12PF 5% SL 3KV TDK	C212		0
445		65G 3J1206ET	12PF 5% SL 3KV TDK	C213		0
446		65G 3J1206ET	12PF 5% SL 3KV TDK	C214		0
447		65G305M1022BJ	1000PF Y2 400V 20% BY J	C901		0
448		65G305M1022BJ	1000PF Y2 400V 20% BY J	C902		0
449		65G305M1022EM	1000pF Y2 250V 20% BY M	C901		1
450		65G305M1022EM	1000pF Y2 250V 20% BY M	C902		1
451		65G306M1022BM GP	Y1.CAP.001UF 250VAC MUR	C935		1
452		65G306M1022BP	1000PF 400VAC/250VAC Y1	C935		0
453		65G306M2222BM GP	2200PF +-20% 250V AC	C900		1
454		65G306M2222BP	2200PF Y1 400 20% BY UK	C900		0
455		67G215H102 3N	KY16VB1000M-1 10*20	C924		0
456		67G215L101 4N	LOW ESR EC 100UF 25V NC	C906		1
457		67G215L102 3N	KY16VB1000M-1 10*20	C924		0
458		67G215L102 3R	LOW ESR 1000UF +-20% 16	C924		1
459		67G215L102 4N	LOW ESR 1000UF 25V	C923		0
460		67G215L102 4N	LOW ESR 1000UF 25V	C931		0
461		67G215L102 4R	1000UF/25V	C923		1
462		67G215L102 4R	1000UF/25V	C931		1
463		67G215L470 4N	47UF/25V	C909		1
464		67G215L471 4N	470UF25V KY25VB470-M-L	C203		0
465		67G215L471 4N	470UF25V KY25VB470-M-L	C925		0
466		67G215L471 4R	470UF/25V	C203		1
467		67G215L471 4R	470UF/25V	C925		1
468		67G215P102 3K	LOW ESR EC 1000UF 16V	C924		0
469		67G215P102 4K	LOW ESR EC 1000UF 25V	C923		0
470		67G215P102 4K	LOW ESR EC 1000UF 25V	C931		0
471		67G215P471 3K	LOW ESR EC 470UF 16V	C926		0
472		67G215P471 4K	LOW ESR EC 470UF 25V	C203		0
473		67G215P471 4K	LOW ESR EC 470UF 25V	C925		0
474		67G215S10115K	LOW ESR EC 100uF 450V	C904		1
475		67G215S10115N	1000/450PAG450VB100M-L	C904		0
476		67G215V102 3N GP	KY10VB1000M-L10*16	C924		0

477		67G215V102 3R GP	LOW E.S.R 100UF +-20% 1	C924		0
478		67G215Y1014KT	LOW ESR EC 100UF 25V	C906		0
479		67G215Y4704KT	LOW ESR EC 47UF 25V	C909		0
480		67G215Y471 3N	470UF 16V KY16VB470M-L	C926		0
481		67G215Y4713NV	KY16VB470M-CC3 8*15MM	C926		0
482		67G215Y4713RV	LOW E.S.R 470UF +-20% 1	C926		1
483		73G 174 64 L	LINE FILTER LF-004057-1	L902		1
484		73G 174 64 LS	LINE FILTER	L902		0
485		73G 174 64 YS	LINE FILTER	L902		0
486		73G 253 91 H	阻流圈	L903		0
487		73G 253 91 H	阻流圈	L904		0
488		73G 253 91 L	CHOKE BY LI TA	L903		1
489		73G 253 91 L	CHOKE BY LI TA	L904		1
490		73G 253 91 LS	CHOKE COIL	L903		0
491		73G 253 91 LS	CHOKE COIL	L904		0
492		73G 253166 L	CHOKE	L201		0
493		73G 253166 LS	CHOKE COIL	L201		0
494		73G 253166 YS	CHOKE	L201		1
495		73L 174 50 LH	LINE FILTER	L901		1
496		73L 174 50LSH	LINE FILTER	L901		0
497		80GL17T 28 DN	TRANSFORMER	PT201		0
498		80GL17T 28 DN	TRANSFORMER	PT202		0
499		80GL17T 28 YS	X'FMR YAO SHENG	PT201		1
500		80GL17T 28 YS	X'FMR YAO SHENG	PT202		1
501		80GL17T 29 L	X'FMR PT-004046	T901		1
502		80GL17T 29 V	XFMR	T901		0
503		80GL17T 29 LS	POWER TRANS	T901		0
504		93G 50460 13	KBP206G 2A 600V	DB901		1
505		93G 50460502	BRIDGE KBP206G 2A 800V	DB901		0
506		93G1100 1052T	BA159GPT D0-41 DIODE 1A	D901		1
507		95G8014 12 35	WIRE HARNNESS	CN902		1
508		705G 780 5720P	D921/D922 ASS'Y			1
509		705G 780 5721P	Q901 ASS'Y			1
510		705G 780 5722P	R908 ASS'Y			1
511		705G 780 5725P	CN901 ASS'Y			1
512		705G 780 5733P	Q203 ASS'Y			1
513		PW1742QDV1SMT	MAIN BOARD FOR SMT			
514		PW1742QDV1AIP	PWPC BOARD FOR AI			1
515		56G 379 54	NCP1203D60R2G S01C-8 IC	IC901		1
516		56G 608 1	TL1451ACD S01C-16	IC201		1



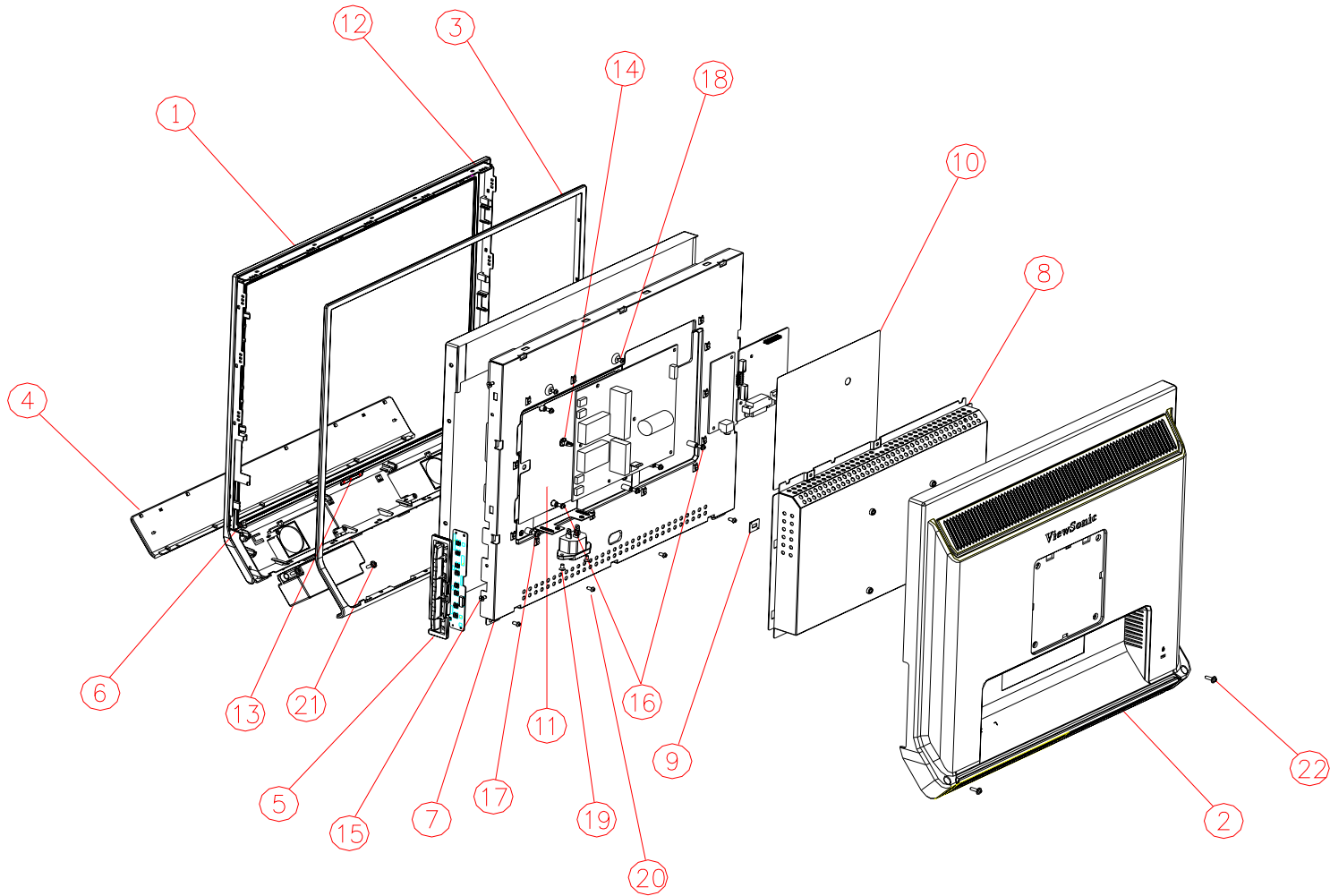
517		57G 417 4	PMBS3904/PLILIPS	Q204		1
518		57G 417 6	PMBS3906 PNP	Q205		1
519		57G 417 12 T	2N3904S-RTK/PS SOT-23	Q204		0
520		57G 417 13 T	2N3906S-RTK/PS SOT-23	Q205		0
521		57G 760 4	DTA144WKA	Q202		1
522		57G 760 5	DTC144WKA	Q201		1
523		57G 760 4C	RT1P44HC-T112-1 SC-59BY	Q202		0
524		57G 760 5C	RT1N44HC-T112-1 SC-59BY	Q201		0
525		61L0805000	Chip Resistors 00HM	R208		1
526		61L0805000	Chip Resistors 00HM	R209		1
527		61L0805101	CHIPR 1000HM+-5%1/8W	R912		1
528		61L0805102	CHIPR 1K OHM +-5% 1/8W	R924		1
529		61L0805102	CHIPR 1K OHM +-5% 1/8W	R931		1
530		61L0805102	CHIPR 1K OHM +-5% 1/8W	R932		1
531		61L0805103	CHIPR 10KOHM+-5%1/8W	R207		1
532		61L0805103	CHIPR 10KOHM+-5%1/8W	R917		1
533		61L0805123	CHIP 12K OHM 1/8W	R206		1
534		61L0805123	CHIP 12K OHM 1/8W	R214		1
535		61L0805123	CHIP 12K OHM 1/8W	R231		1
536		61L0805163	CHIP 16KOHM 1/8W	R205		1
537		61L0805203	CHIPR 20KOHM +-5% 1/8W	R919		1
538		61L0805220	CHIP 220HM 5% 1/8W	R915		1
539		61L0805221	CHIPR 220 OHM +-5% 1/8W	R202		1
540		61L0805221	CHIPR 220 OHM +-5% 1/8W	R916		1
541		61L0805222	CHIPR 2.2K OHM +-5% 1/8	R910		1
542		61L0805240 1F	CHIPR 2.4KOHM +-1% 1/8W	R201		1
543		61L0805240 1F	CHIPR 2.4KOHM +-1% 1/8W	R203		1
544		61L0805240 1F	CHIPR 2.4KOHM +-1% 1/8W	R933		1
545		61L0805330 2F	CHIP 33KOHM 1/8W/1%	R929		1
546		61L0805360 1F	CHIP 3.6KOHM 1/8W 1%	R930		1
547		61L0805362	CHIP 3.6KOHM 1/8W	R911		1
548		61L0805471	CHIPR 470 OHM +-5% 1/8W	R204		1
549		61L0805471	CHIPR 470 OHM +-5% 1/8W	R230		1
550		61L0805472	CHIPR 4.7K OHM +-5% 1/8	R213		1
551		61L0805472	CHIPR 4.7K OHM +-5% 1/8	R914		1
552		61L0805473	CHIPR 47K OHM +-5% 1/8W	R210		1
553		61L0805510 2F	CHIP 51KOHM 1/8W 1%	R232		1
554		61L0805623	CHIPR 62K OHM +-5% 1/8W	R212		1
555		61L0805680	CHIP 680HM 1/8W	R909		1
556		61L0805681	CHIP 6800HM 1/8W	R229		1

557		61L0805753	75K 1/8W	R913		1
558		61L1206000	CHIPR 00HM+-5% 1/4W	F902		1
559		61L1206000	CHIPR 00HM+-5% 1/4W	R925		1
560		61L1206332	CHIP 3.3KOHM 5% 1/4W	R903		1
561		61L1206332	CHIP 3.3KOHM 5% 1/4W	R904		1
562		61L1206332	CHIP 3.3KOHM 5% 1/4W	R905		1
563		61L1206334	330K 1/4W	R900		1
564		61L1206334	330K 1/4W	R901		1
565		61L1206334	330K 1/4W	R902		1
566		65G0805102 32	CHIP 1000PF 50V X7R 080	C912		1
567		65G0805104 22	CHIP 0.1UF 25VX7R 0805	C201		1
568		65G0805104 22	CHIP 0.1UF 25VX7R 0805	C202		1
569		65G0805104 22	CHIP 0.1UF 25VX7R 0805	C204		1
570		65G0805104 22	CHIP 0.1UF 25VX7R 0805	C208		1
571		65G0805104 32	CHIP 0.1UF 50V X7R 0805	C907		1
572		65G0805104 32	CHIP 0.1UF 50V X7R 0805	C927		1
573		65G0805104 32	CHIP 0.1UF 50V X7R 0805	C928		1
574		65G0805104 32	CHIP 0.1UF 50V X7R 0805	C929		1
575		65G0805105 22	CHIP 1UF 25V X7R 0805	C205		1
576		65G0805105 22	CHIP 1UF 25V X7R 0805	C210		1
577		65G0805105 22	CHIP 1UF 25V X7R 0805	C223		1
578		65G0805331 31	330PF 50V NPO	C207		1
579		65G0805471 31	CHIP 470PF 50V NPO	C911		1
580		65G0805474 22	CHIP 0.47UF 25V Y5V 080	C222		1
581		65G0805474 22	CHIP 0.47UF 25V Y5V 080	C932		1
582		93G 60264	B340A DO-214AC	D201		0
583		93G 6432S	1N4148W DIODE	D210		1
584		93G 6432S	1N4148W DIODE	D903		1
585		93G 6432S	1N4148W DIODE	D923		1
586		93G 6432S	1N4148W DIODE	D924		1
587		93G 6432V	DIODE LL4148 GS08	D210		0
588		93G 6432V	DIODE LL4148 GS08	D903		0
589		93G 6432V	DIODE LL4148 GS08	D923		0
590		93G 6432V	DIODE LL4148 GS08	D924		0
591		93G 39S 8 T	RLZ11B LLDS	ZD201		1
592		93G 39S 25 T	RLZ5.1B ROHM	ZD902		1
593		93G 39S 25 T	RLZ5.1B ROHM	ZD905		1
594		93G 39S 38 T	PTZ9.1B ROHM	ZD903		1
595		93G 39S 40 T	RLZ13B ROHM	ZD904		1
596		93G 39S 44 T	RLZ18B LLDS	ZD901		1

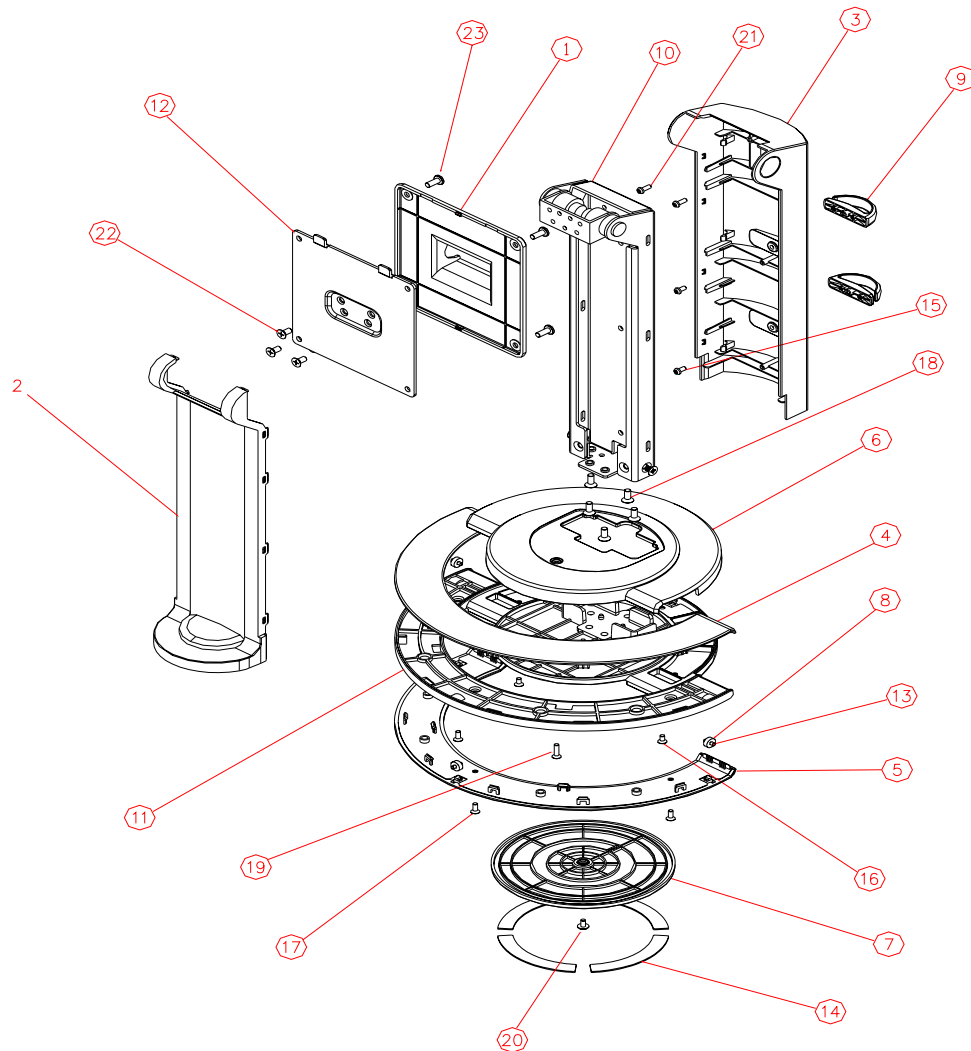
597		93G3004 4	DIODE RB050L-40	D201		1
598		PW1742QDV1AIP	PWPC BOARD FOR AI			
599		6G 31502	1.5MM RIVET			16
600		71G 55 9 T	铁氧体磁珠	J914		1
601		84G 56 1	FUSE 2A 250V BY WICKMAN	F901		1
602		93G1020 752T	UF4003PT DO-41 DIODE 1A	D902		1
603		715G1492 1	PWPC			1
604		95G 90 23	TINCOATEDCOPPER	J900		1
605		95G 90 23	TINCOATEDCOPPER	J901		1
606		95G 90 23	TINCOATEDCOPPER	J902		1
607		95G 90 23	TINCOATEDCOPPER	J903		1
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613		95G 90 23	TINCOATEDCOPPER	J911		1
614		95G 90 23	TINCOATEDCOPPER	J912		1
615		95G 90 23	TINCOATEDCOPPER	J915		1
616		95G 90 23	TINCOATEDCOPPER	J916		1
617		95G 90 23	TINCOATEDCOPPER	J917		1
618		95G 90 23	TINCOATEDCOPPER	J918		1
619		95G 90 23	TINCOATEDCOPPER	J919		1
620		95G 90 23	TINCOATEDCOPPER	J921		1
621		61G 17210252T	1KOHM 5% 1/4W	R225		1
622		61G 17210252T	1KOHM 5% 1/4W	R226		1
623		61G 17210252T	1KOHM 5% 1/4W	R227		1
624		61G 17210252T	1KOHM 5% 1/4W	R228		1
625		61G 17218252T	1.8KOHM 5% 1/4W	R221		1
626		61G 17218252T	1.8KOHM 5% 1/4W	R222		1
627		61G 17218252T	1.8KOHM 5% 1/4W	R223		1
628		61G 17218252T	1.8KOHM 5% 1/4W	R224		1
629		61G 17256152T	5600HM 5% 1/4W	R923		1
630		61G175L47052T	470HM +-5% 1/2W	R921		1
631		61G175L47052T	470HM +-5% 1/2W	R922		1
632		65G517K102 5T	1000PF 10% Y5P 500V	C922		1
633		67G 2151007NT	10UF 50V	C908		1
634		67G 215330 3T	33UF +-20% 50V 105 L0	C209		1
635		67G215Y1007KT	LOW ESR EC10UF 50V	C908		0
636		93G 64 1152T	DIODE 1N4148 DO-35	D202		1

637		93G 64 1152T	DIODE 1N4148 DO-35	D203		1
638		93G 64 1152T	DIODE 1N4148 DO-35	D204		1
639		93G 64 1152T	DIODE 1N4148 DO-35	D205		1
640		93G 64 1152T	DIODE 1N4148 DO-35	D206		1
641		93G 64 1152T	DIODE 1N4148 DO-35	D207		1
642		93G 64 1152T	DIODE 1N4148 DO-35	D208		1
643		93G 64 1152T	DIODE 1N4148 DO-35	D209		1
644		56G 158 10 T	IC AZ431AZ-AE1 TO-92	IC903		0
645		56G 158 12	KIA431A-AT/P TO-92 IC	IC903		1
646		57G 419 PP T	2PC945P	Q903		1
647		57G 420 PP T	TRANSISTOR 2PA733P	Q902		1
648		65G517K102 5T	1000PF 10% Y5P 500V	C921		1
649		705G 780 5720P	D921/D922 ASS'Y			
650		51G 200 1	散热油			2
651		90G6240 2	HEAT SINK			1
652		93G 60236	FMB-26L TO-220 DIODE	D922		1
653		93G 60238	DIODE 10A 150V FCH10A15	D921		0
654		93G 60239	DIODE FME-210B TO-220	D921		1
655		93G1506 2	DIODE 15A 60V FMW-2156	D922		0
656		M1G1730 8128	SCREW			2
657		705G 780 5721P	Q901 ASS'Y			
658		51G 200 1	散热油			2
659		57G 667 30	2SK2645-54MR TO-220F	Q901		1
660		57G 724 11	STP9NK65ZFP TO-220FP MO	Q901		0
661		90G6240 1	HEAT SINK			1
662		M1G1730 8128	SCREW			1
663		705G 780 5722P	R908 ASS'Y			
664		61G152M10458G	100K OHM 5% 2W	R908		1
665		96G 29 6	SHRINK TUBE UL/CSA			1
666		705G 780 5725P	CN901 ASS'Y			
667		87G 501 7 RF GP	AC SOCKET			1
668		95G 900584	WIRE HARNESS			1
669		95G8021 3 11	HARNESS 100M			1
670		96G 29 6	SHRINK TUBE UL/CSA			1
671		705G 780 5733P	Q203 ASS'Y			
672		15G6284 1	PLATE			1
673		51G 200 1	散热油			0.2
674		57G 763 12	AOU401L TO-251	Q203		1
675		90G6259 1	HEAT SINK			1
676		AM1G1730 6128	SCREW			1

## 8. Exploded Diagram And Spare Parts List



ITEM	DESCRIPTION	PART NUMBER	Q'TY
1	BEZEL	34G1698-KR-B	1
2	REAR COVER	34G1699-KR-B	1
3	COSMETIC TOP	34G1700-AKD-B	1
4	COSMETIC BOTTOM	34G1701-KD-B	1
5	FUNCTION BUTTON	33G4915-KR-L	1
6	POWER LENS	33G4916-1	1
7	MAINFRAME	15G8238-1	1
8	MAIN SHIELD	85G713-1	1
9	KENSINGTON BRACKET	15G8239-1	1
10	MYLAR SHEET TOP	52G6025-11-907	1
11	MYLAR SHEET BOTTOM	52G6025-11-908	1
12	BIRD LOGO (E015-006)	23G3178709-6A	1
13	VIEWSONIC LOGO (E015-016-1)	23G3178709-4A	1
14	SPACER SUPPORT	11G800-1	1
15	SCREW M3X6	M1G130-6-120	4
16	SCREW M3X6	M1G170-6-128	9
17	SCREW M4X6	M1G1140-6-128	1
18	SCREW M3X4	M1G330-4-128	2
19	SCREW M3X6	M1G130-6-120	2
20	SCREW M3X6	Q1G1030-6-120	4
21	SCREW M3X10	Q1G1030-10-120	4
22	SCREW M3X10	Q1G1030-10-120	2



ITEM	DESCRIPTION	PART NUMBER	Q'TY
1	VESA COVER	34G1691-KR-B	1
2	STAND FRONT	34G1702-KR-B	1
3	STAND REAR	34G1703-KR-B	1
4	BASE FRONT TOP	34G1694-KR-B	1
5	BASE FRONT BOTTOM	34G1695-KR-B	1
6	BASE	34G1696-KR-B	1
7	SWIVEL COVER	34G1697-KR-X	1
8	ROLLER	33G4917-KR-X	1
9	CABLE CLIP	33G4918-KR-X	1
10	HINGE ASSY	37G548-1	1
11	BASE DIECASTING	20G036-1	1
12	VESA PLATE	15G8237-1	1
13	ROLLER SHAFT	15G8004-1	4
14	RUBBER PAD	12G434-1	4
15	SCREW-M3X6	Q1G330-6-120	2
16	SCREW-M3X6	Q1G130-6-47	3
17	SCREW-M3X8	Q1G130-8-120	3
18	SCREW-M4X10	M1G140-10-120	5
19	SCREW-M3X12	Q1G130-12-120	1
20	SCREW-M3X6	M1G1030-6-225	1
21	SCREW-M3X8	Q1G330-8-120	2
22	SCREW-M4X8	M1G140-8-120	4
23	SCREW-M4X10	M1G2940-10-225	4

## 9. Disassemble Process

### 9.1 Units Disassemble Process

#### 9.1.1 Tools



- ✧ Glove
- ✧ Big cross screwdriver
- ✧ Small cross screwdriver
- ✧ Prize equipment or abandoned IC card
- ✧ Screw box
- ✧ Cushion
- ✧ Six angle sleeve spanner

#### 9.1.2 Disassemble process

- 1、Tide up the worktable, spread straight cushion, put the monitor on it, the front side adown.(**Picture 1**)
- 2、Disassemble the 4 screws that fix the stand, remove the stand..(**Picture 2, 3, 4**)
- 3、Disassemble the 2 screws of the back cover. ( **Picture 5** )
- 4、Use equipment or abandoned IC card to prize up the bezel through the bottom flute, as showed in the following the **picture 6**, and rip up the back cover downwards.( as showed in the following the **picture 7,8**)
- 5、Disassemble the 6 screw M3\*6MM through six angle sleeve spanner, showed in the following **picture 9**.
- 6、Disassemble the 2 fixed screws in the shield, remove the shield as the direction arrowhead showed, refer to the following **picture ,10**.
- 7、Disassemble the 5 screws and 4 pins of the PWPC board, remove the PWPC board.(symbolized the following **picture 11** with red color)
- 8、Disassemble the 3 screws and 3 pins of the main board, remove the main board. (symbolized the following **picture 11** with blue color)
- 9、Disassemble the 2 screws of the audio board, remove the audio board. (symbolized the following **picture 11,12** with yellow color)
- 10、Disassemble the 4 screws of the speaker, remove the speaker, refer to the following **picture 13**
- 11、Disassemble the 4 fixed screws of the main frame, as showed in the following the **picture 14**
- 12、Disassemble the connect pins of the key board, as showed in the following the **picture 15**. remove the bezel as the direction arrowhead showed, refer to the following **picture ,16,17**.
- 13、Disassemble the 4 fixed screws of the panel, remove the main frame, as showed in the following the **picture 18,19**. Do not damage the cable of the panel.
- 14、That's all. The disassemble process of the unit is over.



9.1.3 Show pictures :



( Picture 1 )



( Picture 2 )



( Picture 3 )



( Picture 4 )



( Picture 5 )



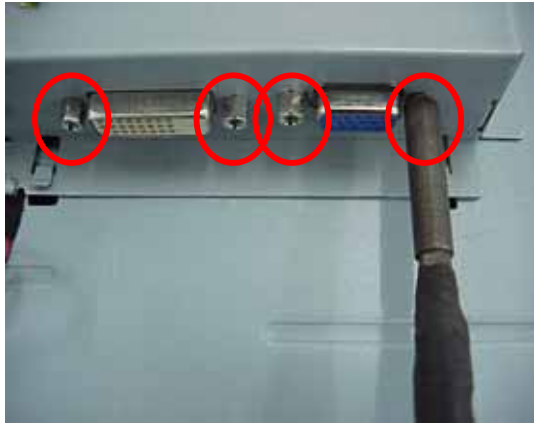
( Picture 6 )



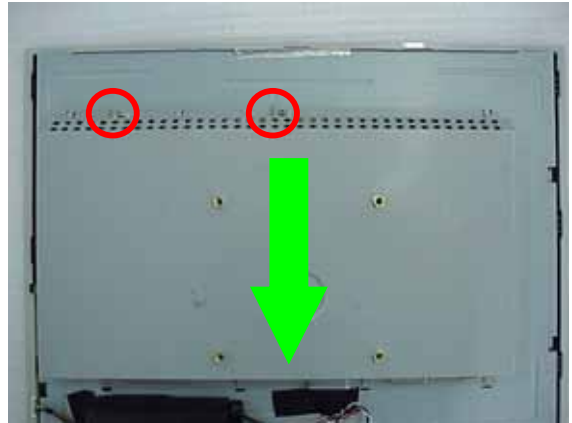
( Picture 7 )



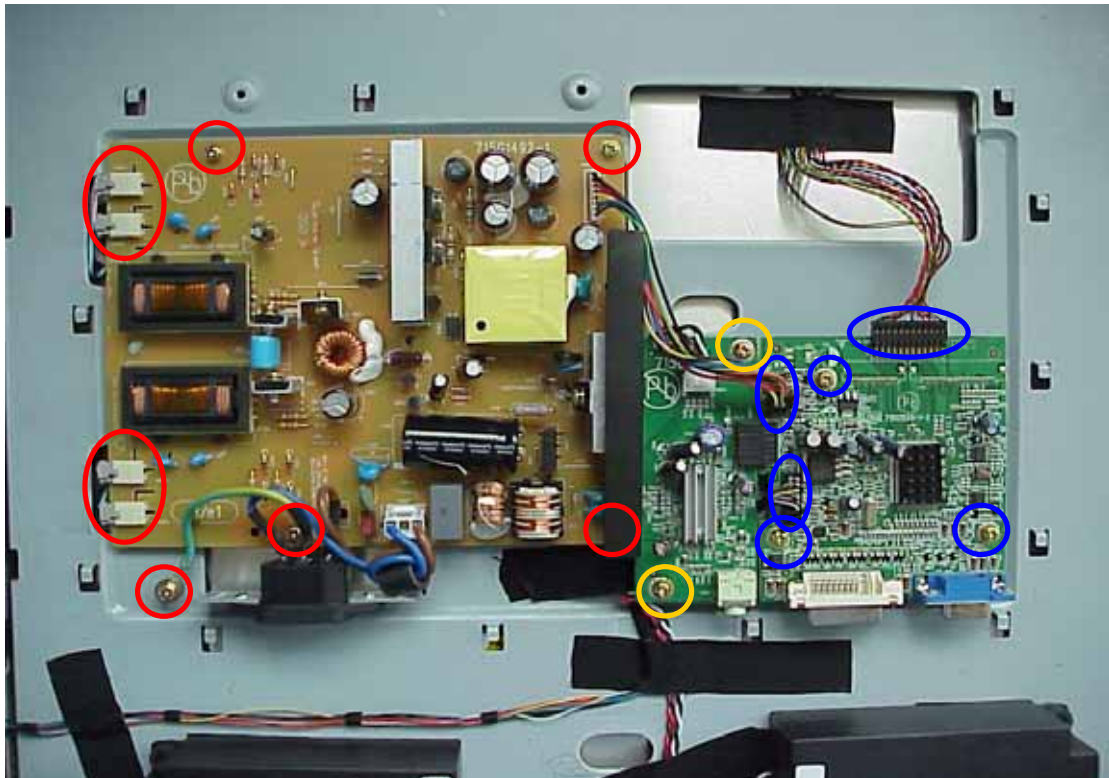
( Picture 8 )



( Picture 9 )



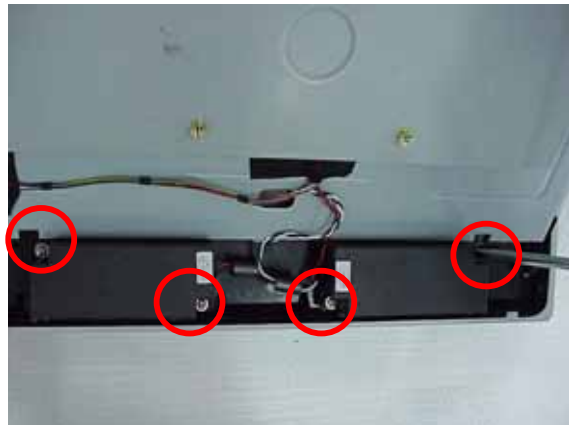
( Picture 10 )



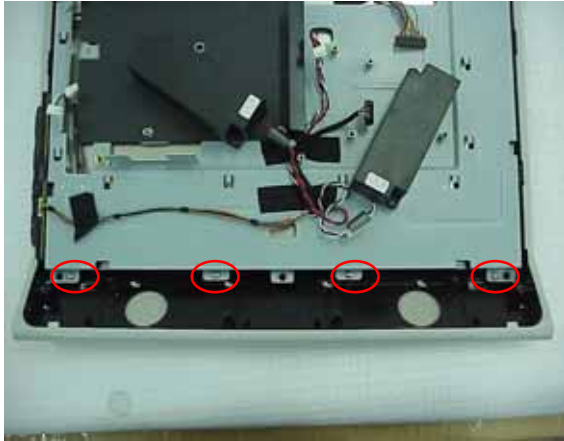
( Picture 11 )



( Picture 12 )



( Picture 13 )



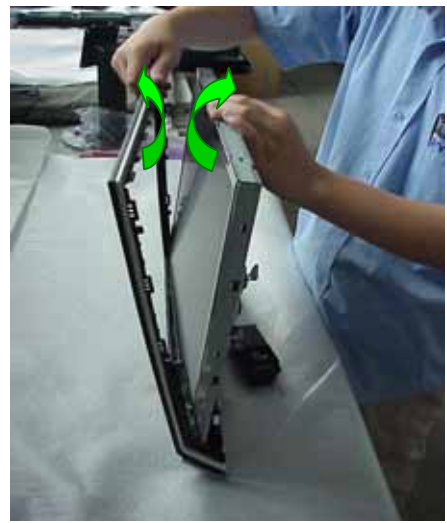
( Picture 14 )



( Picture 15 )



( Picture 16 )



( Picture 17 )



( Picture 18 )



( Picture 19 )

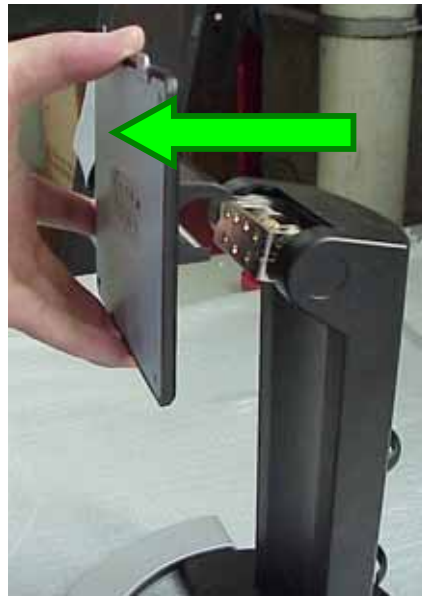


( Picture 20 )

## 9.2 Stand A'ssy Disassemble Process



( Picture 1 )



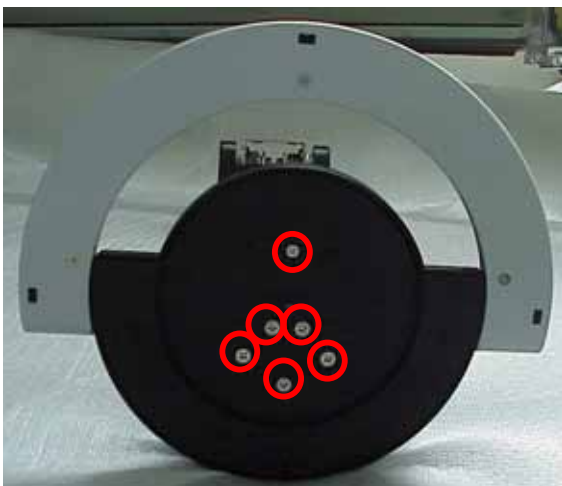
( Picture 2 )



( Picture 3 )



( Picture 4 )



( Picture 5 )



( Picture 6 )



( Picture 7 )



( Picture 8 )



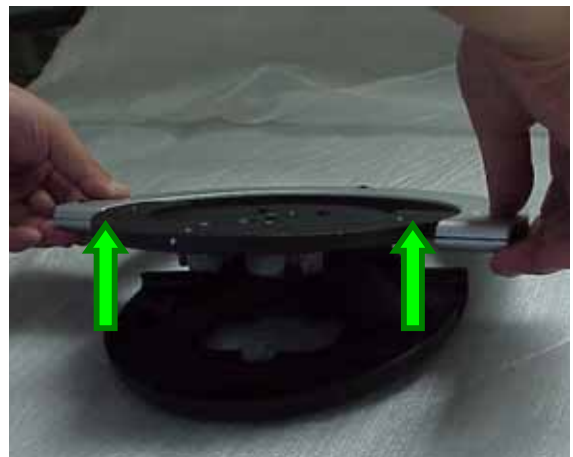
( Picture 9 )



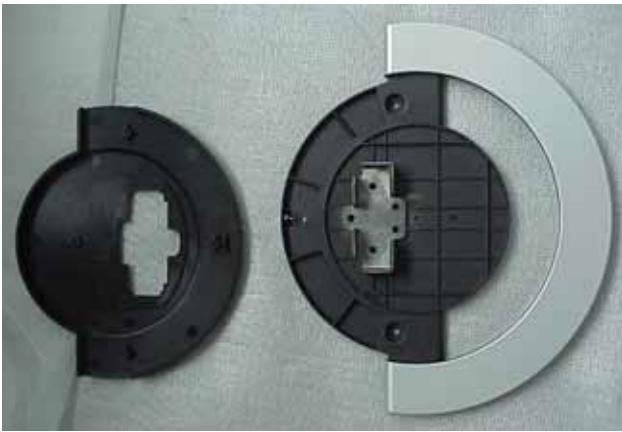
( Picture 10 )



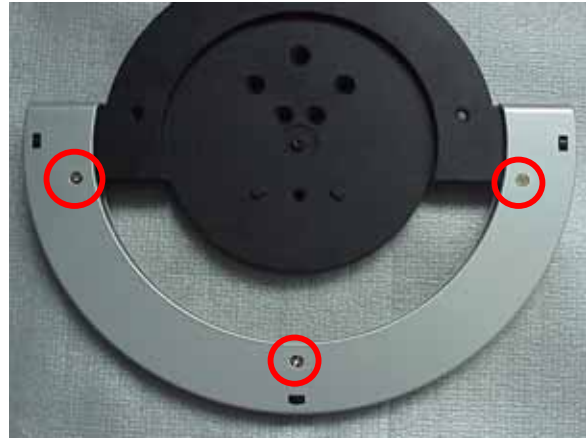
( Picture 11 )



( Pictures 12 )



( Picture 13 )



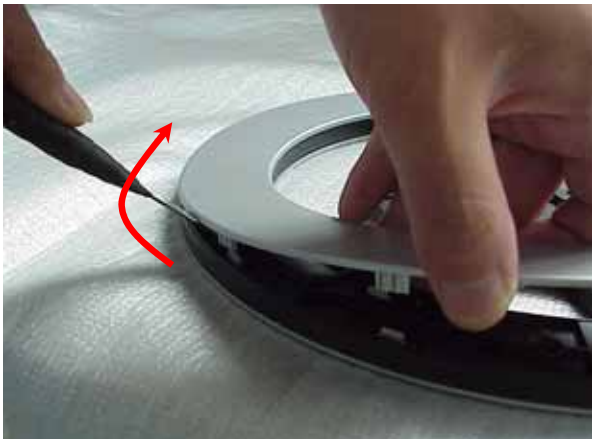
( Picture 14 )



( Picture 15 )



( Picture 16 )

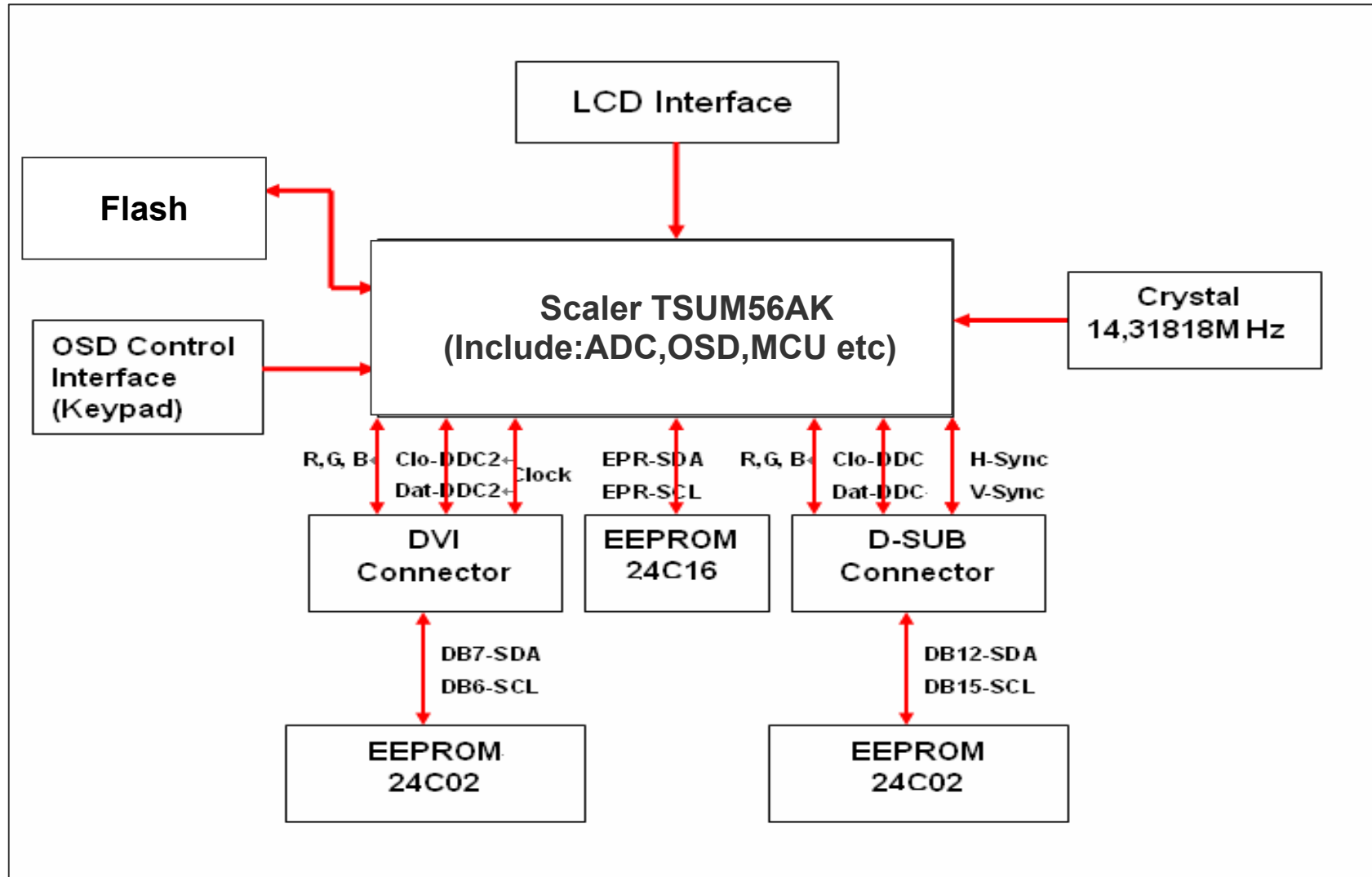


( Picture 17 )



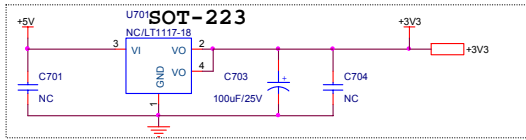
( Picture 17 )

10. Block Diagram



# 11. Schematic Diagram

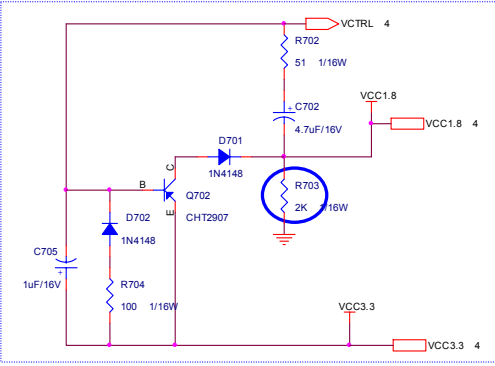
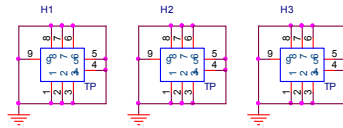
## 11.1 Power



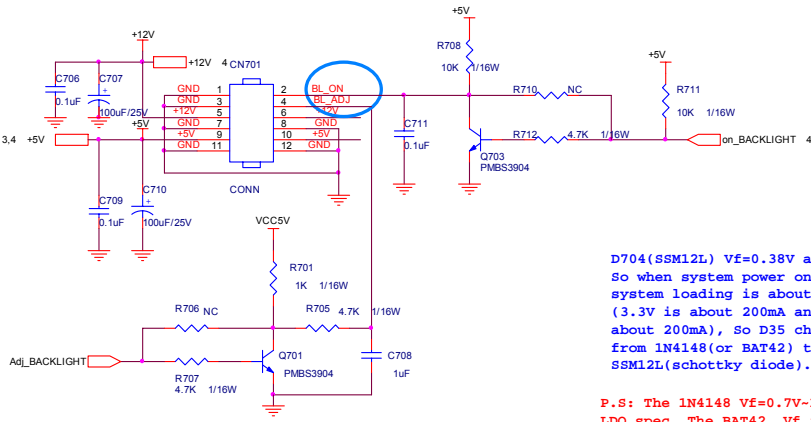
BL_ADJ[DC]	R31	C51	R32	R29	R33	Q4
DV - 3.3V	4.7K	10F	0	X	X	X
DV - 5V	4.7K	10F	X	1K	4.7K	MMBT3904

BL_ADJ	R31	C32
P W M	47	N.C
D C	4K7	10F

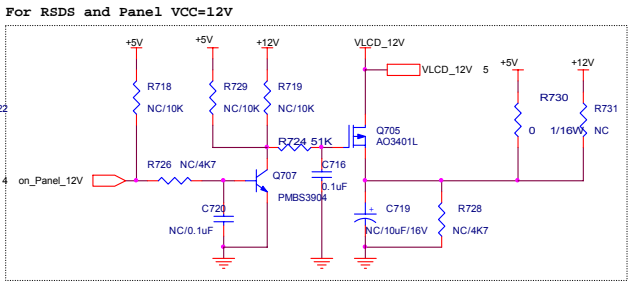
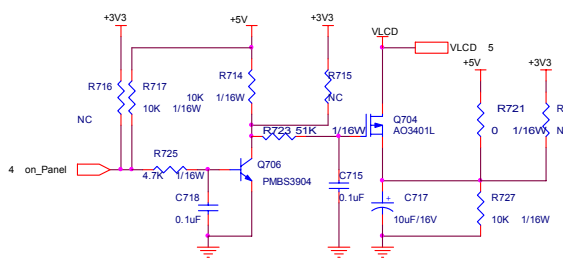
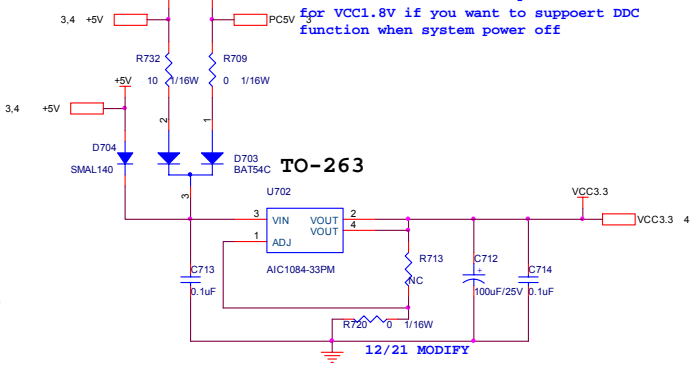


Recommend to use "Blue" parts circuit for VCC1.8V if you want to support DDC function when system power off



D704(SSM12L) Vf=0.38V and If=1A. So when system power on, the system loading is about 400mA (3.3V is about 200mA and 1.8V is about 200mA), So D35 changed from 1N4148(or BAT42) to SSM12L(schottky diode).

P.S: The 1N4148 Vf=0.7V-1V can't meet LDO spec. The BAT42, Vf is OK but the If=200mA(forward current) can not meet current spec.

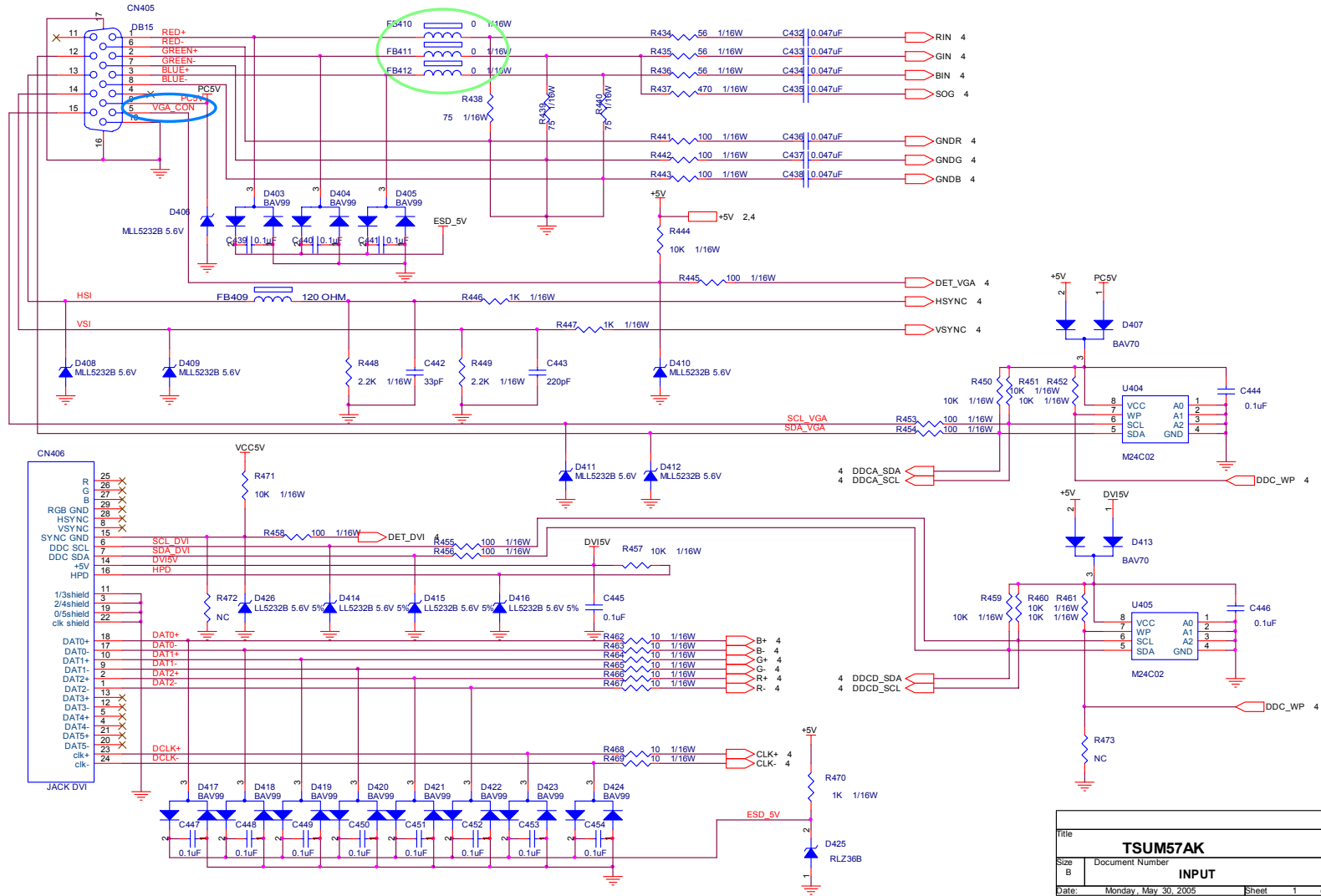


Title		
<b>TSUM57AK</b>		
Size	Document Number	Rev
B	<b>POWER</b>	A
Date:	Monday, May 30, 2005	Sheet 1 of 5



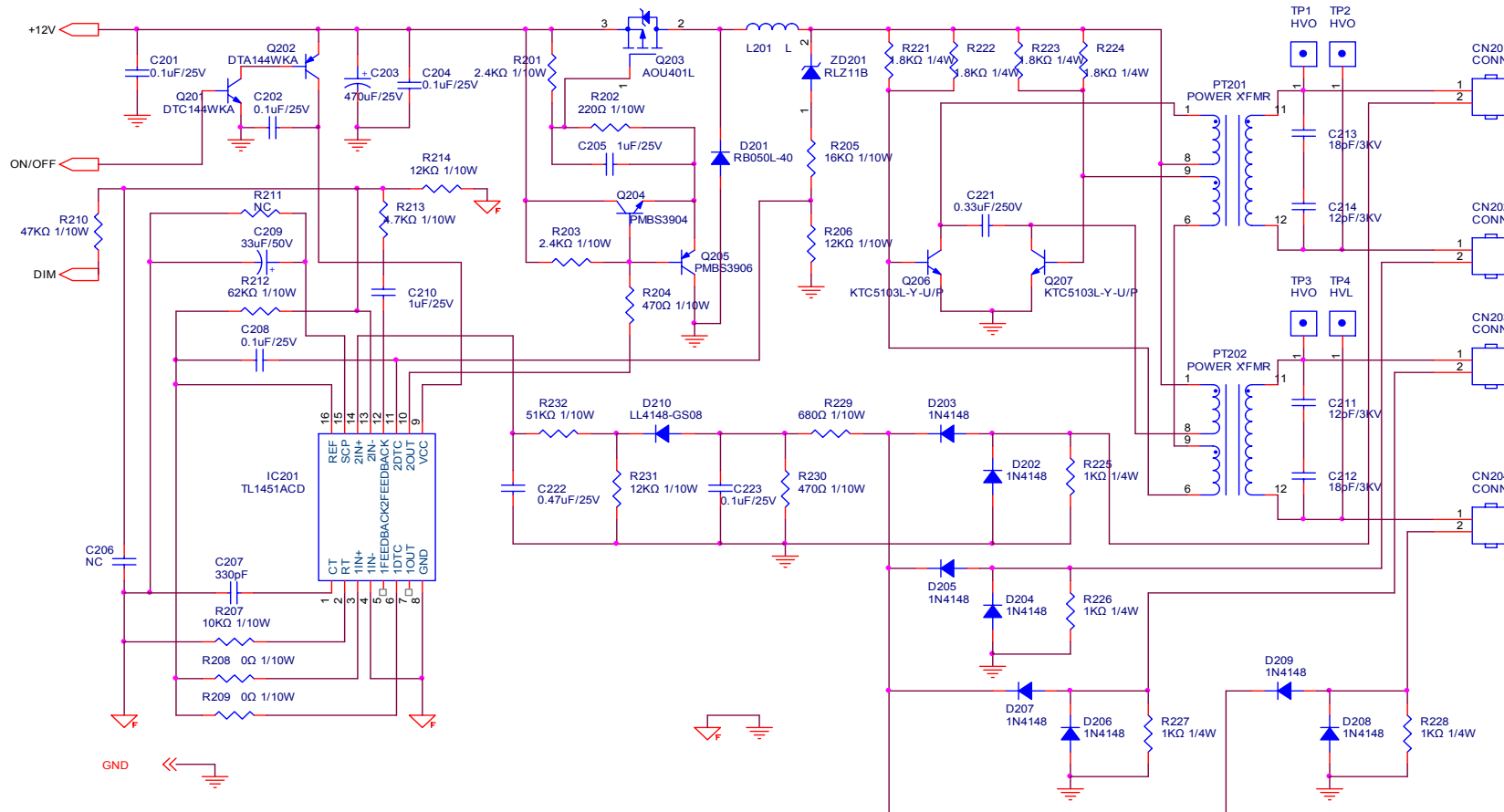


### 11.3 INPUT



Title		
<b>TSUM57AK</b>		
Size	Document Number	Rev
B	<b>INPUT</b>	<b>A</b>
Date:	Monday, May 30, 2005	Sheet 1 of 5

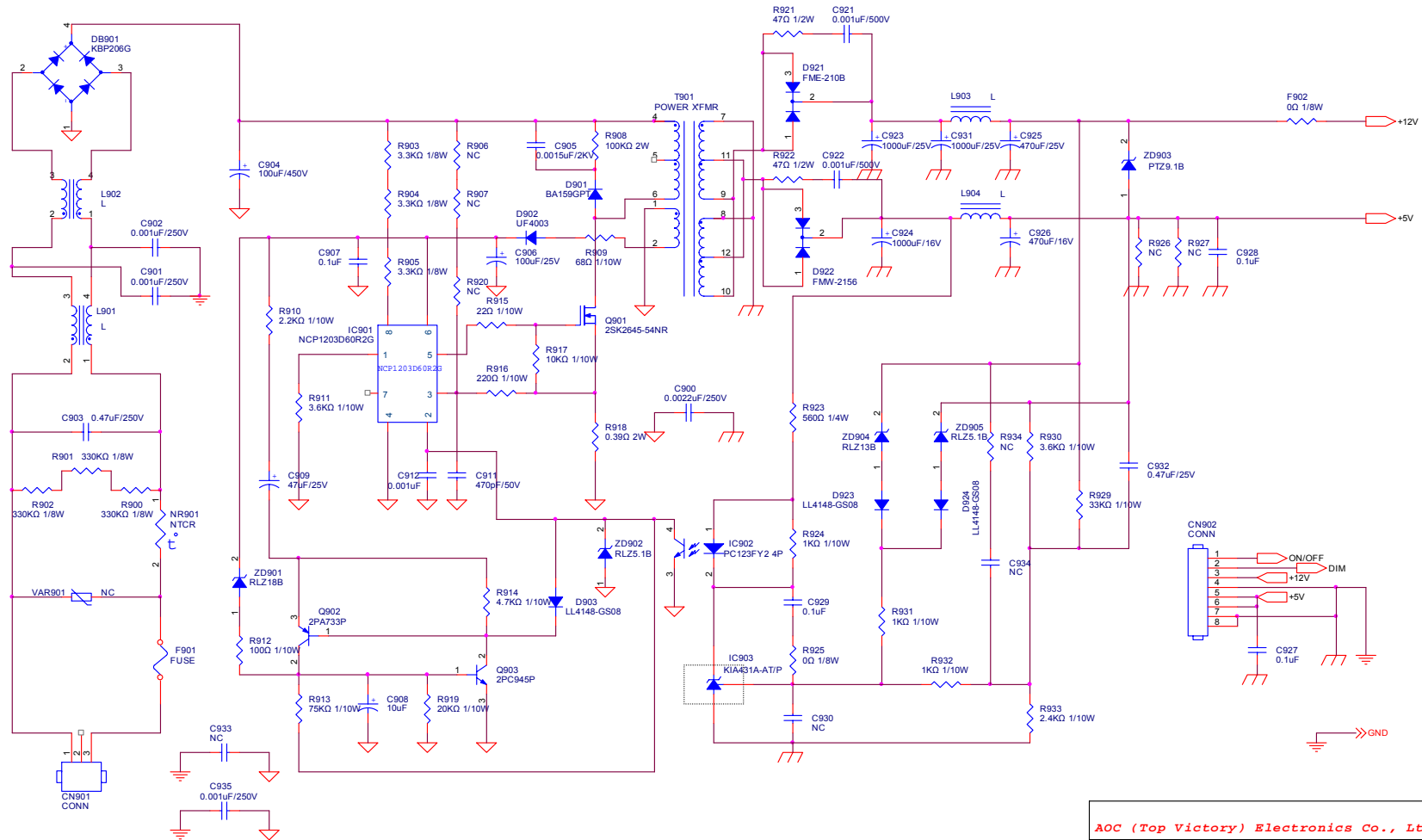
# 11.4 Inverter



AOC (Top Victory) Electronics Co., Ltd.		
Title 2. FOR 17" 4 LAMPS INVERTER		
Size	Document Number PWPC1742QDV1P(715G1492-1)	Rev A
Date: Tuesday, July 05, 2005	Sheet 2 of 2	

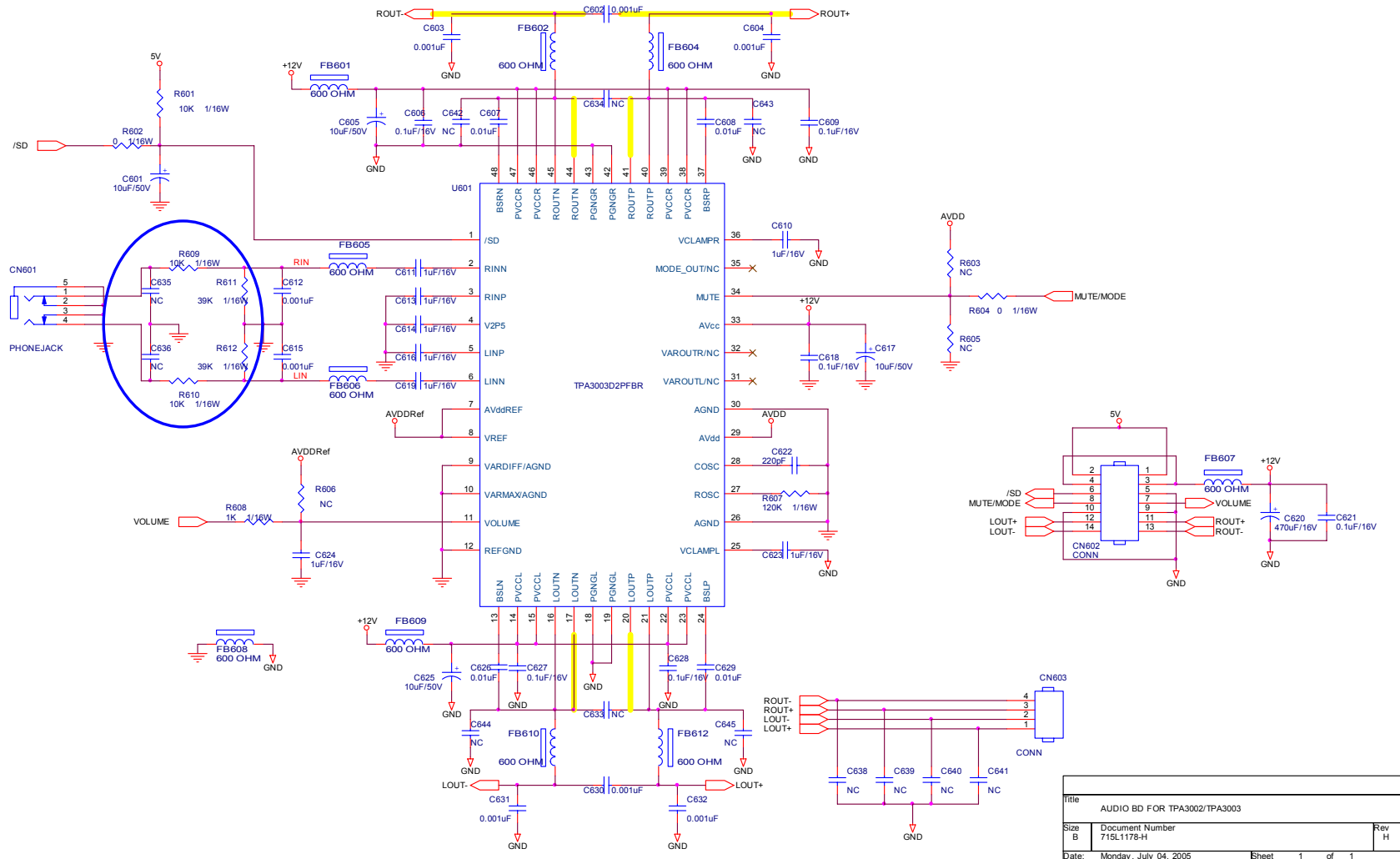
⏏ is power GND  
 ⏏ is signal GND

# 11.5 A-D Power



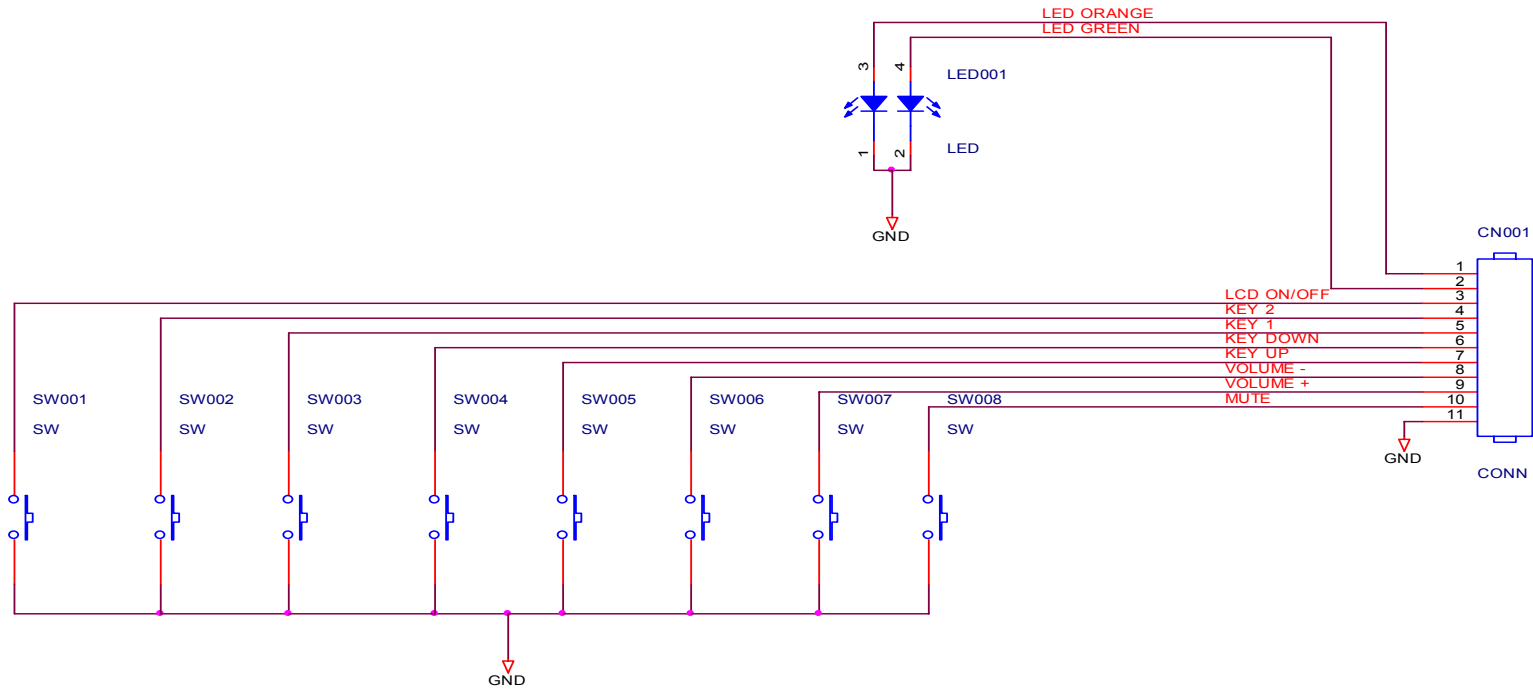
AOC (Top Victory) Electronics Co., Ltd.			
Title 1.POWER OUTPUT 12V & 5 V			
Size B	Document Number	Rev A	
	PWPC1742QDV1P(715G1492-1)		
Date: Tuesday, July 05, 2005	Sheet	1	of 2

# 11.6 Audio



Title		
AUDIO BD FOR TPA3002/TPA3003		
Size	Document Number	Rev
B	715L1178-H	H
Date:	Monday, July 04, 2005	Sheet 1 of 1

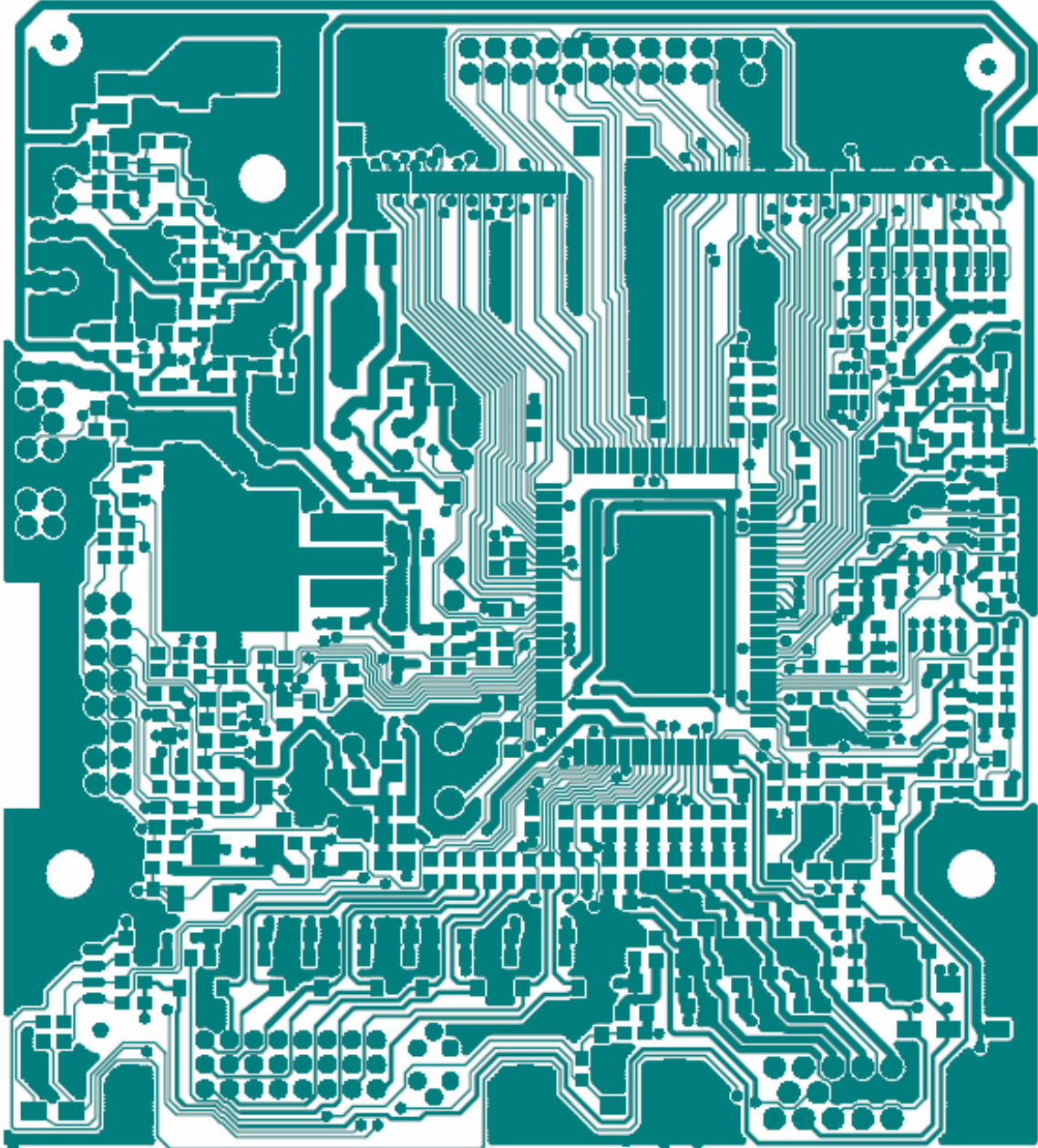
## 11.7 Key Pad



<b><i>AOC (Top Victory) Electronics Co., Ltd.</i></b>		
Title		
<b>KEY PAD (For Viewsonic)</b>		
Size A	Document Number CONTROL KEY PAD (Switch)	Rev B
Date:	Thursday, May 05, 2005	Sheet 1 of 1

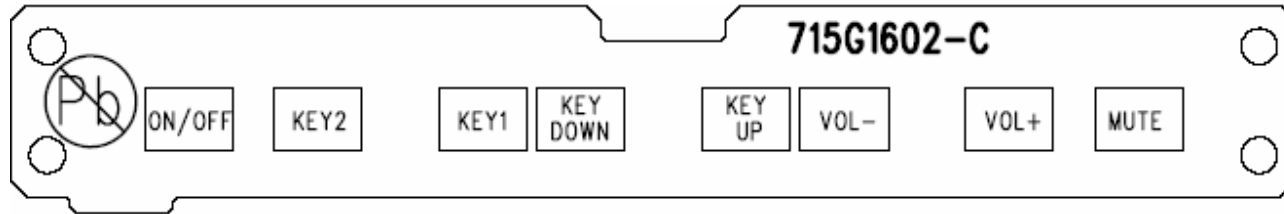


**12.2 MAIN BOARD PCB BUTTON VIEW**





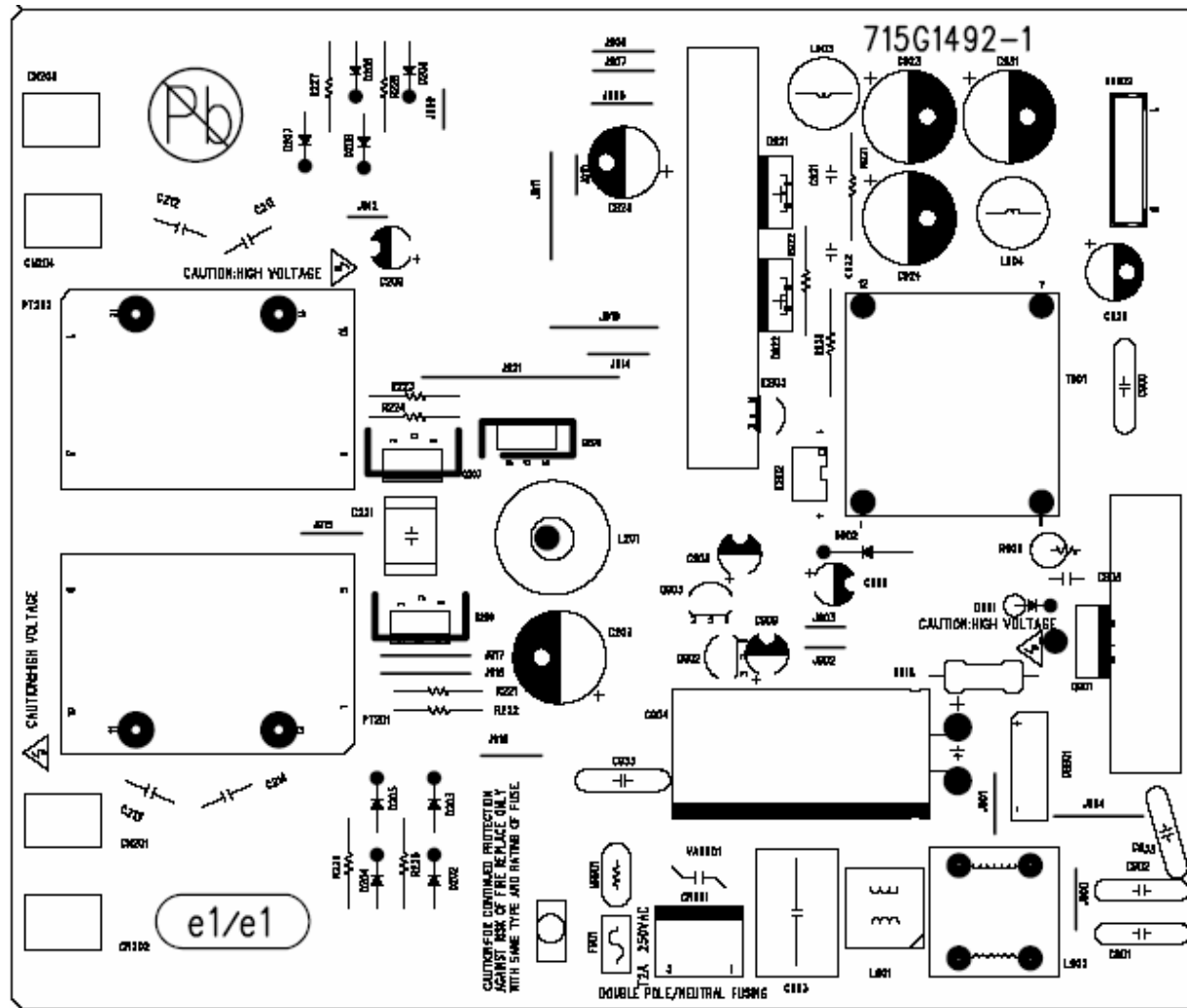
### 12.3 KEYBOARD TOP VIEW



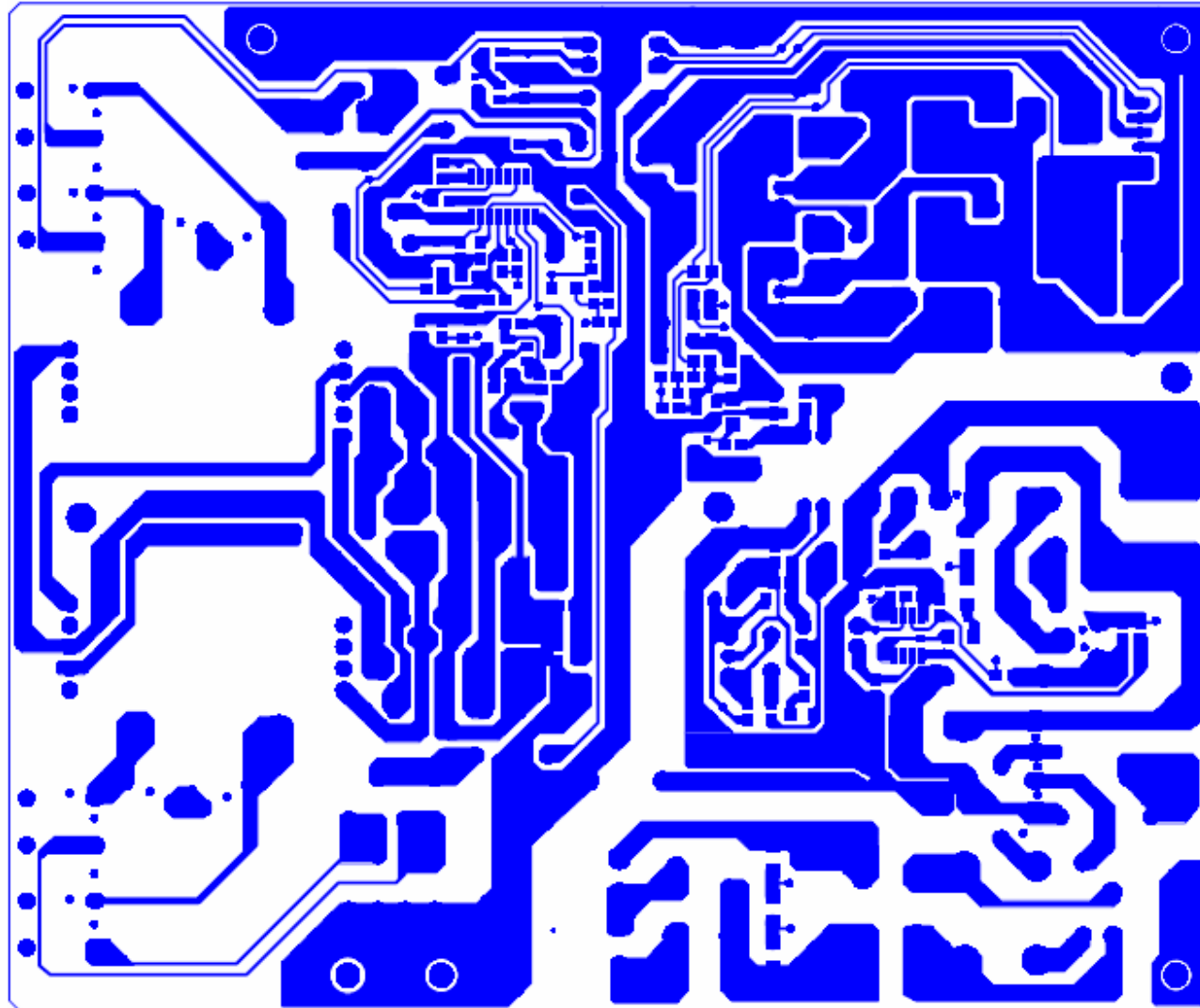
### 12.4 KEYBOARD BUTTON VIEW



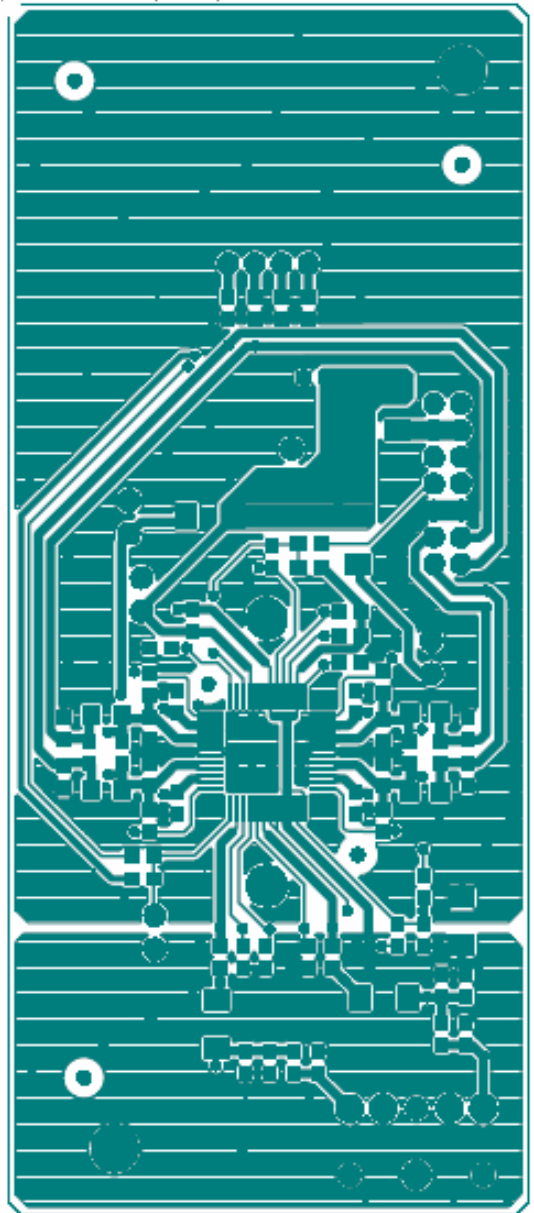
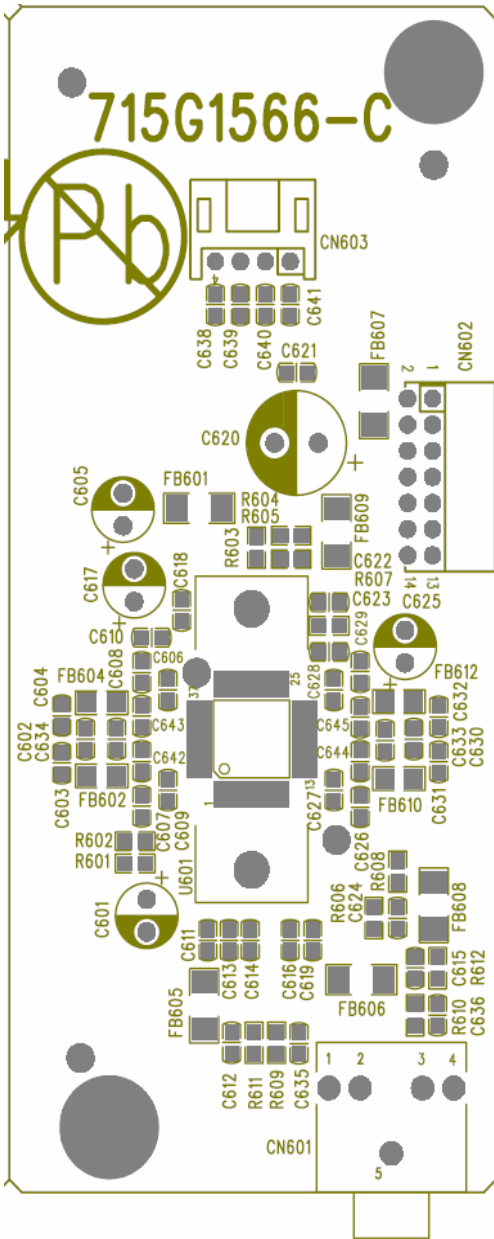
## 12.5 POWER PCB TOP VIEW



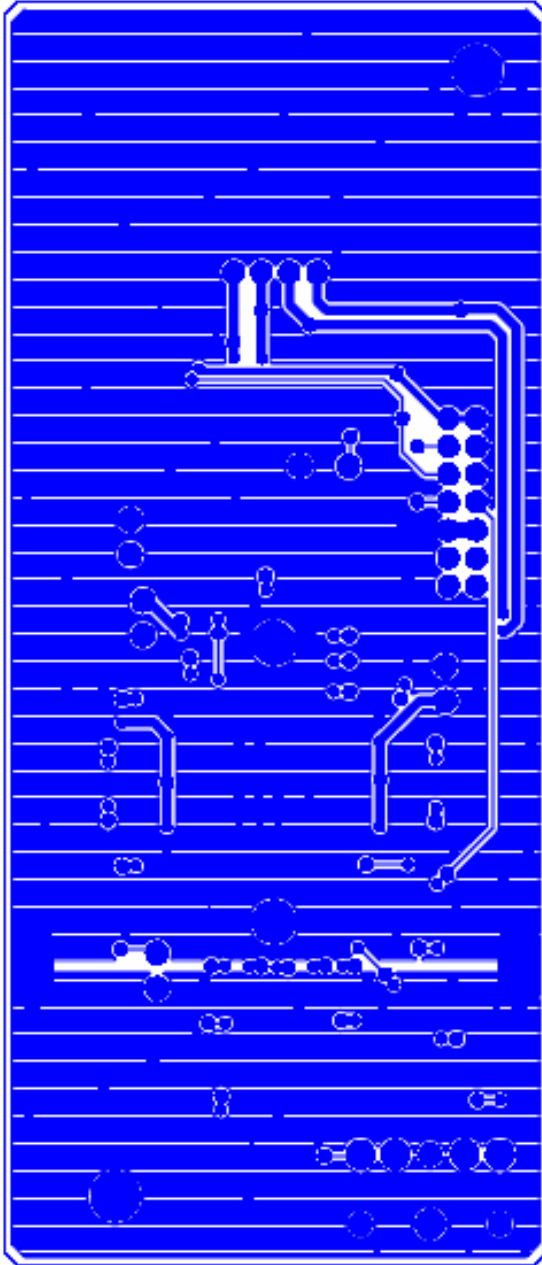
12.6 POWER PCB BUTTON VIEW



12.6 AUDIO PCB TOP VIEW



## 12.6 AUDIO PCB BUTTON VIEW



\* 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 after reading **VG720** Service Manual?

<b>Unit</b>	<b>Excellent</b>	<b>Good</b>	<b>Fair</b>	<b>Bad</b>
1. Precautions And Safety Notice				
2. Specification				
3. Front Panel Control and Indicators				
4. Circuit Description				
5. Adjustment Procedure				
6. Troubleshooting Flow Chart				
7. Recommended Spare Parts List				
8. Exploded Diagram And Spare Parts List				
9. Block Diagram				
10. Schematic Diagram				
11. PCB Layout Diagram				

B. Are you satisfied with the **VG720** Service Manual?

<b>Item</b>	<b>Excellent</b>	<b>Good</b>	<b>Fair</b>	<b>Bad</b>
1. Service Manual Content				
2. Service Manual Layout				
3. The form and listing				

C. Do you have any opinion and suggestion about this Service Manual?

**Reader's Basic Data:**

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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 suggestion to the Director, Quality System & Process (marc.maupin@viewsonic.com)