Service Manual

ViewSonic VA1716w-8

Model No. VS11754

17” Color TFT LCD Display

(VA1716w-8_SM Rev. 1a Apr. 2009)

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Product disposal at end of product life

The lamp in this product contains mercury. Please dispose of in accordance with local, state or federal laws.

Revision History

Revision	SM Editing Date	Description of Changes	Customer Model	TPV Model	Editor
1a	04/22/2009	Initial Release	VA1716w-8	T79HMRDYNWVWNC	

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1. Precautions and Safety Notices

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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 you 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.

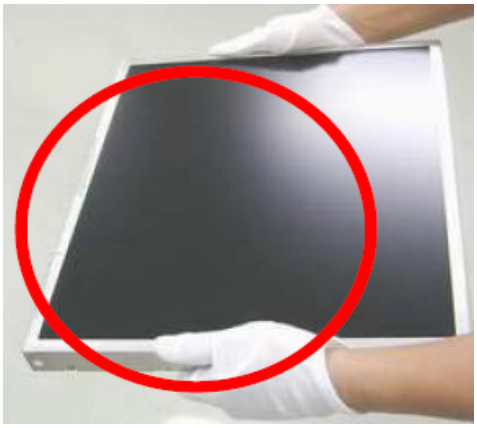
1.2 Product Safety Notice

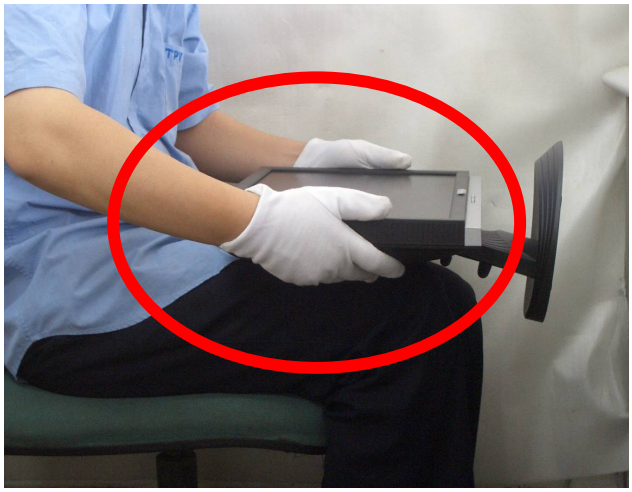
Many electrical and mechanical parts in this chassis have special safety visual inspections and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltages, wattage, etc. Before replacing any of these components read the parts list in this 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:
Only touch the metal frame of the LCD panel or the front cover of the monitor. Do not touch the surface of the polarizer.	Surface of the LCD panel is pressed by fingers and that may cause “Mura.”
	
	
Take out the monitor	Taking out the monitor by grasping the LCD panel. That may cause “Mura.”
	

Place the monitor on a clean and soft foam pad.	Placing the monitor on foreign objects. That could scratch the surface of the panel or cause “Mura.”
	
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

LCD	Type	17” (full 17" wide viewable diagonal area), TFT (Thin Film Transistor), WXGA+, 0.255 mm pixel pitch
	Color Filter	RGB vertical stripe
	Glass Surface	Anti-Glare
Input Signal	Video	RGB analog (0.7/1.0 Vp-p, 75 ohms)
	Sync	Separate Sync, f_h:30-82 kHz, f_v:50-75 Hz
Compatibility	PC	Up to 1440 x 900 Non-interlaced
	Macintosh[1]	Power Macintosh up to 1440 x 900
Resolution	Recommended and supported	1440 x 900 @ 60, 75 Hz 1280 x 1024 @ 60, 75 Hz 1024 x 768 @ 60, 70, 75 Hz 800 x 600 @ 56, 60, 72, 75 Hz 640 x 480 @ 60, 75 Hz 720 x 400 @ 70 Hz
Power	Voltage	100-240 VAC, 50/60 Hz (auto switch)
Display area	Full Scan	367.2 mm (H) x 229.5 mm (V) 14.45" (H) x 9.04" (V)
Operating conditions	Temperature	32° F to + 104° F (0° C to + 40° C)
	Humidity	10% to 90% (non-condensing)
	Altitude	To 10,000 feet
Storage conditions	Temperature	-4° F to + 140° F (-20° C to + 60° C)
	Humidity	10% to 90% (non-condensing)
	Altitude	To 40,000 feet
Dimensions	Physical	397.6 mm (W) x 357.1 mm (H) x 195 mm (D) 15.6" (W) x 14.1" (H) x 7.7" (D)
Weight	Physical	7.0 lb (3.2 kg)
Regulations		BSMI, VCCI, CCC, PSB, C-Tick, MIC, CE, GS, Ergo, Gost-R/Hygienic, Ukraine, MPR II, SASO, UL/cUL, FCC-B, ICES-B, NOM, TUV-S/IRAM/UL-AR S Mark, ENERGY STAR®
Power saving modes	On	22W (Typical) (blue LED)
	Off	<1W

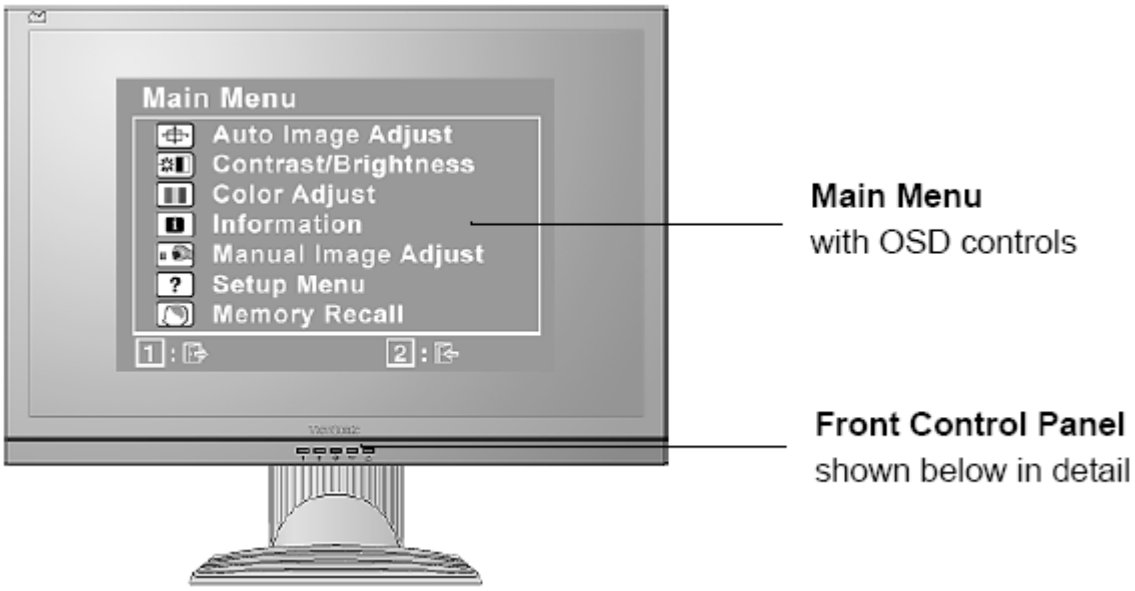
Preset Timing Mode (pre-adjusted to VESA® 1440 x 900 @ 60 Hz)

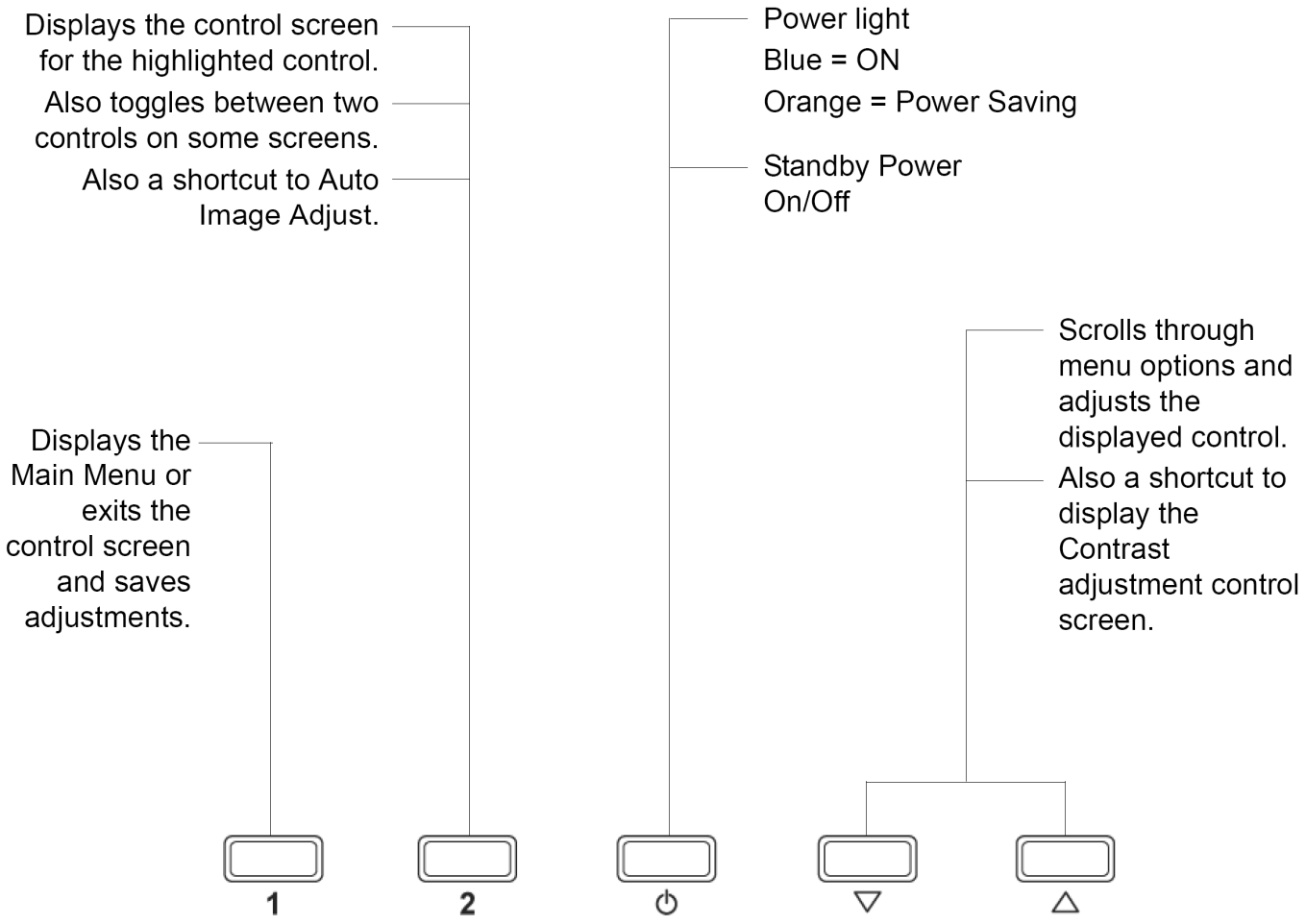
Warning: Do not set the graphics card in your computer to exceed these refresh rates; doing so may result in permanent damage to the LCD display.

[1] Macintosh computers older than G3 require a ViewSonic® Macintosh adapter. To order an adapter, contact ViewSonic.

3. Front Panel Function Control Description

Use the buttons on the front control panel to display and adjust the OSD controls which display on the screen.





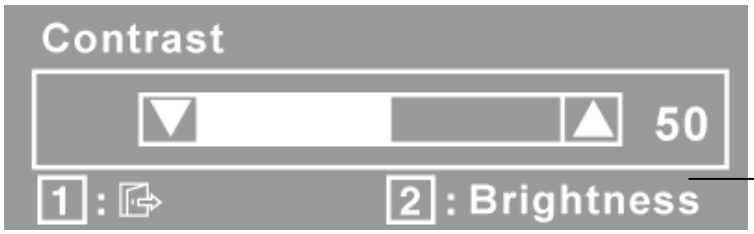
Do the following to adjust the display setting:

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

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

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

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



The line at the bottom of the screen shows the current functions of buttons 1 and 2: Exit or select the Brightness control.

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

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

The following tips may help you optimize your display:

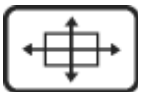
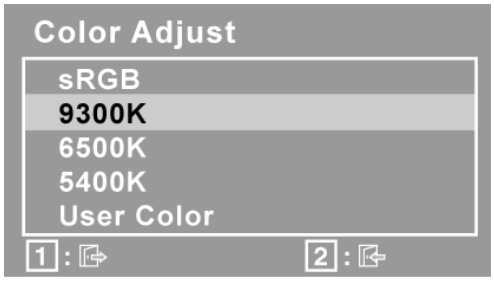
• Adjust the computer's graphics card so that it outputs a 1440 x 900@ 60Hz video signal to the LCD display. (Look for instructions on “changing the refresh rate” in the graphics card's user guide.)

• If necessary, make small adjustments using H. POSITION and V. POSITION until the screen image is completely visible. (The black border around the edge of the screen should barely touch the illuminated “active area” of the LCD display.)

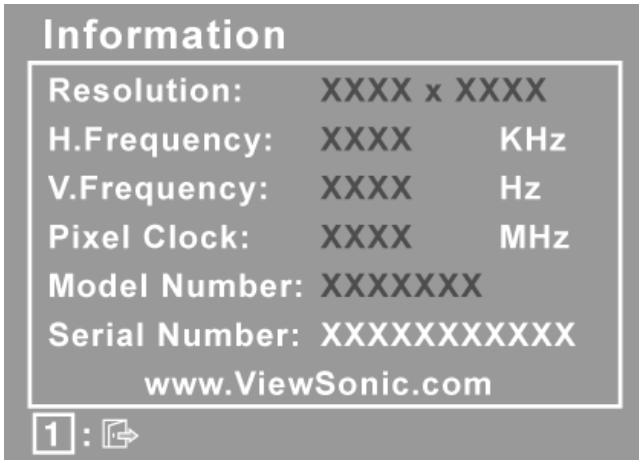
Main Menu Controls

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

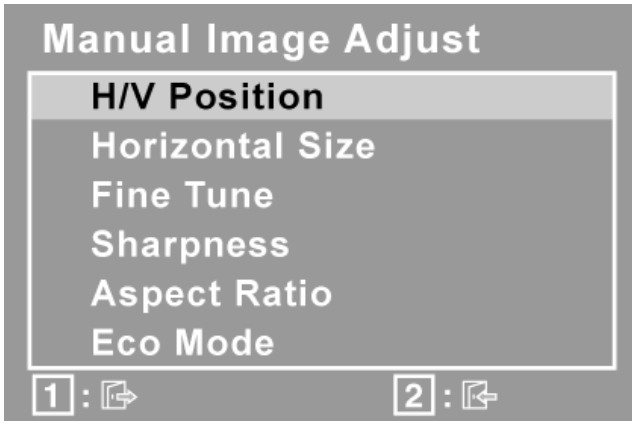
Control Explanation

Control	Explanation
	**Auto Image Adjust** automatically sizes, centers, and fine tunes the video signal to eliminate waviness and distortion. Press the [2] button to obtain a sharper image. **NOTE:** Auto Image Adjust works with most common video cards. If this function does not work on your LCD display, then lower the video refresh rate to 60 Hz and set the resolution to its pre-set value.
	**Contrast** adjusts the difference between the image background (black level) and the foreground (white level).
	**Brightness** adjusts background black level of the screen image.
	**Color Adjust** provides several color adjustment modes, including preset color temperatures and a User Color mode which allows independent adjustment of red (R), green (G), and blue (B). The factory setting for this product is 6500K (6500 Kelvin).  **sRGB-**This is quickly becoming the industry standard for color management, with support being included in many of the latest applications. Enabling this setting allows the LCD display to more accurately display colors the way they were originally intended. Enabling the intended. Enabling the sRGB setting will cause Contrast and Brightness adjustments to be disabled. **9300K-**Adds blue to the screen image for cooler white (used in most office settings with fluorescent lighting). **6500K-**Adds red to the screen image for warmer white and richer red. **5400K-**Adds green to the screen image for darker color. **User Color** Individual adjustments for red (R), green (G), and blue (B). **1.** To select color (R, G or B) press button [2]. **2.** To adjust selected color, press ▲ and▼. **Important:** If you select **RECALL** from the Main Menu when the product is set to a Preset Timing Mode, colors return to the 6500K factory preset.

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



Manual Image Adjust displays the Manual Image Adjust menu.



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

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

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

NOTE: Try Auto Image Adjust first.

Sharpness adjusts the clarity and focus of the screen image.

Aspect ratio Selects the image size for 4:3 and full screen.

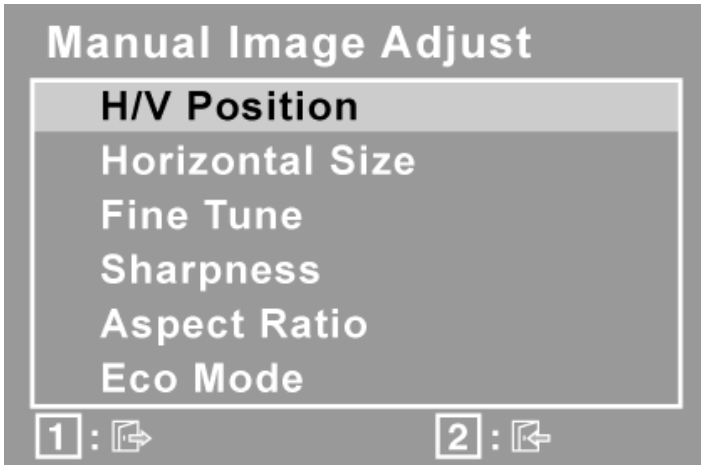
ECO Mode provides the lower power consumption by reducing the brightness.

Standard: The default brightness setting

Optimize: Decreases the brightness by 25 %

Conserve: Decreases the brightness by 50 %

NOTE: When the ECO Mode is set to "Optimize" or "Conserve", the Brightness, Contrast, and Dynamic Contrast cannot be adjusted.

?	**Setup Menu** displays the menu shown below:  **Language Select** allows the user to choose the language used in the menus and control screens. **Resolution Notice** advises the optimal resolution to use. **OSD Position** allows the user to move the OSD menus and control screens. **OSD Timeout** sets the length of time the OSD screen is displayed. For example, with a “15 second” setting, if a control is not pushed within 15 seconds, the display screen disappears. **OSD Background** allows the user to turn the OSD background On or Off.
	Memory Recall returns the adjustments back to factory settings if the display is operating in a factory Preset Timing Mode listed in the Specifications of this manual. **Exception:** This control does not affect changes made with the User Color control, Language Select or Power Lock setting.

4. Circuit Description

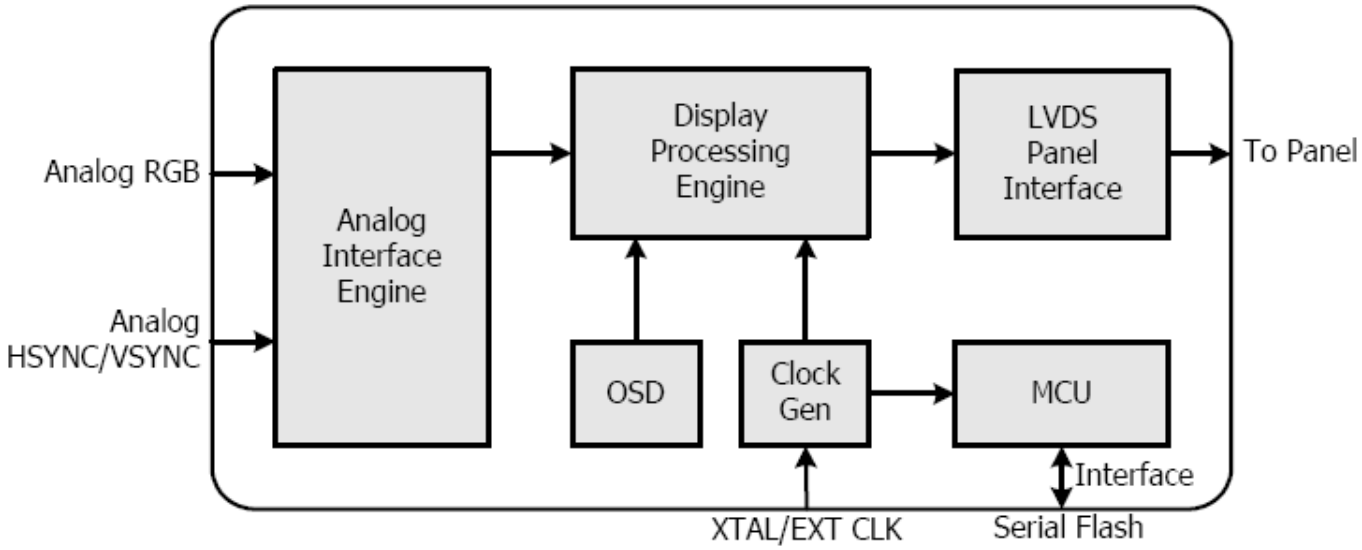
4.1 Main Board

Scalar TSUM1PFR (U401)

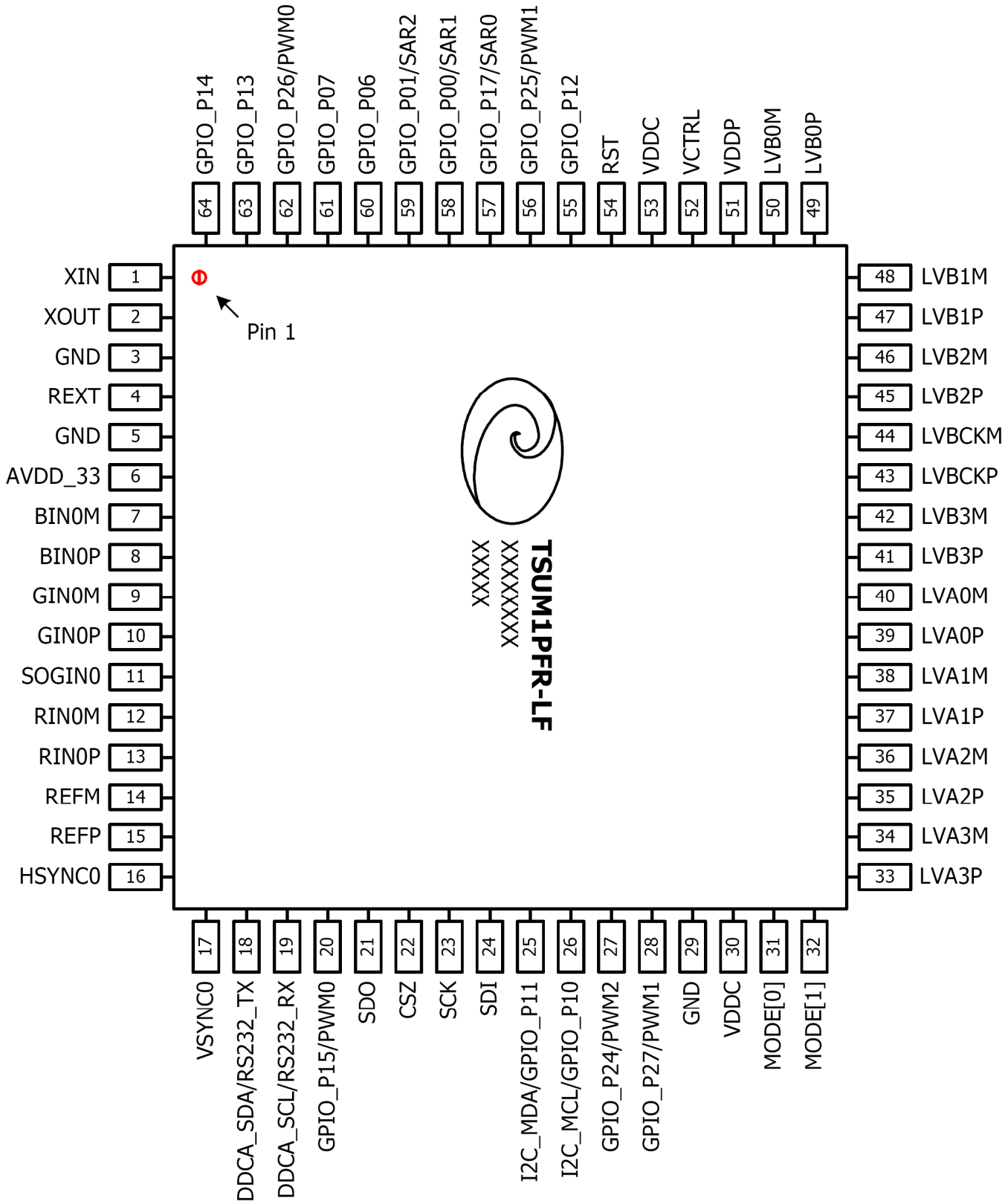
The TSUM1PFR is total solution graphics processing IC for LCD monitors with panel resolutions up to XGA+/SXGA+. It is configured with a high-speed integrated triple-ADC/PLL, a high quality display processing engine, an integrated micro-controller and output display interface that can support LVDS panel interface format. To further reduce system costs, the TSUM1PFR also integrates intelligent power management control capability for green-mode requirements and spread-spectrum support for EMI management.

The TSUM1PFR also incorporates a new Dynamic Frame Rate (DFR) generator1 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.

Block Diagram



Pin Diagram


XIN 1
XOUT 2
GND 3
REXT 4
GND 5
AVDD_33 6
BIN0M 7
BIN0P 8
GIN0M 9
GIN0P 10
SOGIN0 11
RIN0M 12
RIN0P 13
REFM 14
REFP 15
HSYNC0 16
Pin 1
XXXX
XXXXXXX
TSUM1PFR-LF
64 GPIO_P14
63 GPIO_P13
62 GPIO_P26/PWM0
61 GPIO_P07
60 GPIO_P06
59 GPIO_P01/SAR2
58 GPIO_P00/SAR1
57 GPIO_P17/SAR0
56 GPIO_P25/PWM1
55 GPIO_P12
54 RST
53 VDDC
52 VCTRL
51 VDDP
50 LVB0M
49 LVB0P
48 LVB1M
47 LVB1P
46 LVB2M
45 LVB2P
44 LVBCKM
43 LVBCKP
42 LVB3M
41 LVB3P
40 LVA0M
39 LVA0P
38 LVA1M
37 LVA1P
36 LVA2M
35 LVA2P
34 LVA3M
33 LVA3P
17 VSYNC0
18 DDCA_SDA/RS232_TX
19 DDCA_SCL/RS232_RX
20 GPIO_P15/PWM0
21 SDO
22 CSZ
23 SCK
24 SDI
25 I2C_MDA/GPIO_P11
26 I2C_MCL/GPIO_P10
27 GPIO_P24/PWM2
28 GPIO_P27/PWM1
29 GND
30 VDDC
31 MODE[0]
32 MODE[1]

Pin Description

Analog Interface

Pin Name	Pin Type	Function	Pin
HSYNC0	Schmitt Trigger Input w/ 5V-tolerant	Analog HSYNC Input	16
VSYNC0	Schmitt Trigger w/ 5V-tolerant Input	Analog VSYNC Input	17
REFP		Internal ADC Top De-Coupling Pin	15
REFM		Internal ADC Bottom De-Coupling Pin	14
RIN0P	Analog Input	Analog Red Input	13
RIN0M	Analog Input	Reference Ground for Analog Red Input	12
SOGIN0	Analog Input	Sync-On-Green Input	11
GIN0P	Analog Input	Analog Green Input	10
GIN0M	Analog Input	Reference Ground for Analog Green Input	9
BIN0P	Analog Input	Analog Blue Input	8
BIN0M	Analog Input	Reference Ground for Analog Blue Input	7
REXT		External Resistor 390 ohm to AVDD_33	4

Serial Flash Interface

Pin Name	Pin Type	Function	Pin
SDO	Input w/ 5V-tolerant	SPI Flash Serial Data Output	21
CSZ	Output	SPI Flash Chip Select	22
SCK	Output	SPI Flash Serial Clock	23
SDI	Output	SPI Flash Serial Data Input	24

LVDS Interface

Pin Name	Pin Type	Function	Pin
LVA0M	Output	LVDS A-Link Channel 0 Negative Data Output	40
LVA0P	Output	LVDS A-Link Channel 0 Positive Data Output	39
LVA1M	Output	LVDS A-Link Channel 1 Negative Data Output	38
LVA1P	Output	LVDS A-Link Channel 1 Positive Data Output	37
LVA2M	Output	LVDS A-Link Channel 2 Negative Data Output	36
LVA2P	Output	LVDS A-Link Channel 2 Positive Data Output	35
LVA3M	Output	LVDS A-Link Channel 3 Negative Data Output	34
LVA3P	Output	LVDS A-Link Channel 3 Positive Data Output	33
LVB0M	Output	LVDS B-Link Channel 0 Negative Data Output	50
LVB0P	Output	LVDS B-Link Channel 0 Positive Data Output	49
LVB1M	Output	LVDS B-Link Channel 1 Negative Data Output	48
LVB1P	Output	LVDS B-Link Channel 1 Positive Data Output	47

LVB2M	Output	LVDS B-Link Channel 2 Negative Data Output	46
LVB2P	Output	LVDS B-Link Channel 2 Positive Data Output	45
LVB3M	Output	LVDS B-Link Channel 3 Negative Data Output	42
LVB3P	Output	LVDS B-Link Channel 3 Positive Data Output	41
LVBCKM	Output	LVDS B-Link Negative Clock Output	44
LVBCKP	Output	LVDS B-Link Positive Clock Output	43

GPIO Interface

Pin Name	Pin Type	Function	Pin
GPIO_P15 / PWM0	I/O w/ 5V-tolerant	General Purpose Input/Output / Pulse Width Modulation Output; 4mA driving strength	20
GPIO_P24 / PWM2	I/O w/ 5V-tolerant	Pulse Width Modulation Output / General Purpose Input/Output; 4mA driving strength	27
GPIO_P27 / PWM1	I/O w/ 5V-tolerant	General Purpose Input/Output / Pulse Width Modulation Output; 4mA driving strength	28
GPIO_P12	I/O w/ 5V-tolerant	General Purpose Input/Output; 4mA driving strength	55
GPIO_P25 / PWM1	I/O w/ 5V-tolerant	Pulse Width Modulation Output / General Purpose Input/Output; 4mA driving strength	56
GPIO_P17 / SAR0	I/O w/ 5V-tolerant	General Purpose Input/Output; 4mA driving strength / SAR ADC Input	57
GPIO_P00 / SAR1	I/O w/ 5V-tolerant	General Purpose Input/Output; 4mA driving strength / SAR ADC Input	58
GPIO_P01 / SAR2	I/O w/ 5V-tolerant	General Purpose Input/Output; 4mA driving strength / SAR ADC Input	59
GPIO_P06	I/O w/ 5V-tolerant	General Purpose Input/Output; 6/12mA programmable driving strength	60
GPIO_P07	I/O w/ 5V-tolerant	General Purpose Input/Output; 6/12mA programmable driving strength	61
GPIO_P26 / PWM0	I/O w/ 5V-tolerant	Pulse Width Modulation Output / General Purpose Input/Output; 4mA driving strength	62
GPIO_P13	I/O w/ 5V-tolerant	General Purpose Input/Output; 4mA driving strength	63
GPIO_P14	I/O w/ 5V-tolerant	General Purpose Input/Output; 4mA driving strength	64

Misc. Interface

Pin Name	Pin Type	Function		Pin
VCTRL	Output	Regulator Control		52
RST	Input w/ 5V-tolerant	Chip Reset; High Reset		54
DDCA_SDA / RS232_TX	I/O w/ 5V-tolerant	DDC Data for Analog Interface / UART Transmitter / General Purpose Input/Output; 4mA driving strength		18
DDCA_SCL / RS232_RX	I/O w/ 5V-tolerant	DDC Clock for Analog Interface / UART Receiver/ General Purpose Input/Output; 4mA driving strength		19
I2C_MDA/ GPIO_P11	I/O w/ 5V-tolerant	I2C Master Data / General Purpose Input/Output; 4mA driving strength		25
I2C_MCL/ GPIO_P10	I/O w/ 5V-tolerant	I2C Master Clock / General Purpose Input/Output; 4mA driving strength		26
MODE[1:0]	Input	Chip Configuration Input		32,31
		MODE[1:0]	Chip Operation	
		00	Normal Operation	
XIN	Crystal Oscillator Input	Xin		1
XOUT	Crystal Oscillator Output	Xout		2

Power Pins

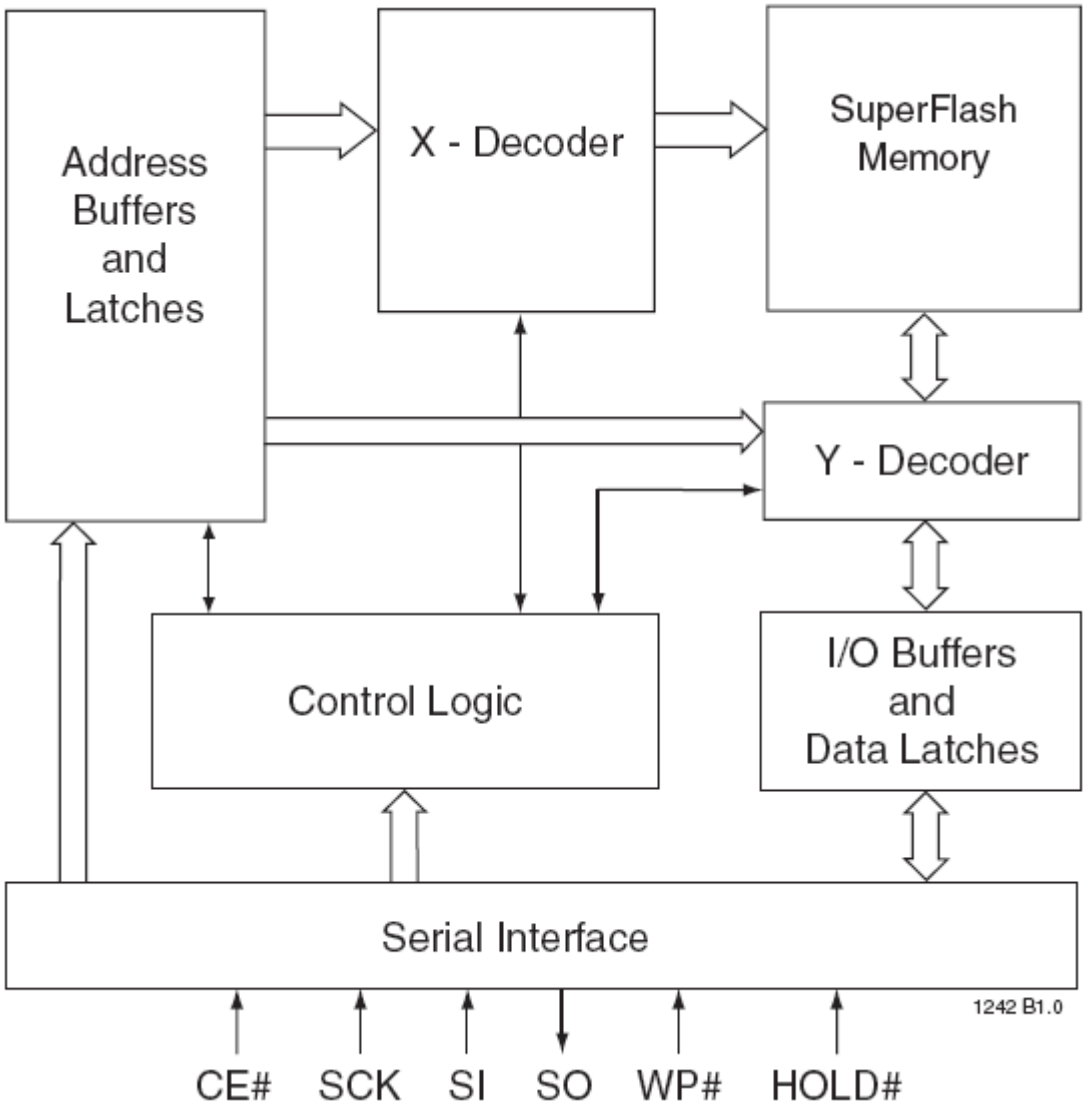
Pin Name	Pin Type	Function	Pin
AVDD_33	3.3V Power	Analog Power	6
VDDP	3.3V Power	Digital Output Power	51
VDDC	1.8V Power	Digital Core Power	30, 53
GND	Ground	Ground	3, 5, 29

Flash Memory SST25LF020A/040A(U402)

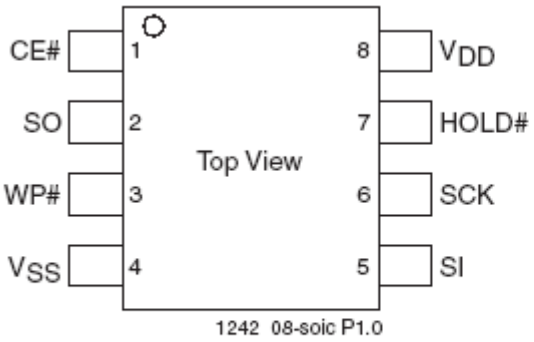
The SST25LF020A is accessed through the SPI (Serial Peripheral Interface) bus compatible protocol. The SPI bus consist of four control lines; Chip Enable (CE#) is used to select the device, and data is accessed through the Serial Data Input (SI), Serial Data Output (SO), and Serial Clock (SCK).

The SST25LF020A supports both Mode 0 (0,0) and Mode 3 (1,1) of SPI bus operations. The difference between the two modes, as shown in Figure 2, is the state of the SCK signal when the bus master is in Stand-by mode and no data is being transferred. The SCK signal is low for Mode 0 and SCK signal is high for Mode 3. For both modes, the Serial Data In (SI) is sampled at the rising edge of the SCK clock signal and the Serial Data Output (SO) is driven after the falling edge of the SCK clock signal.

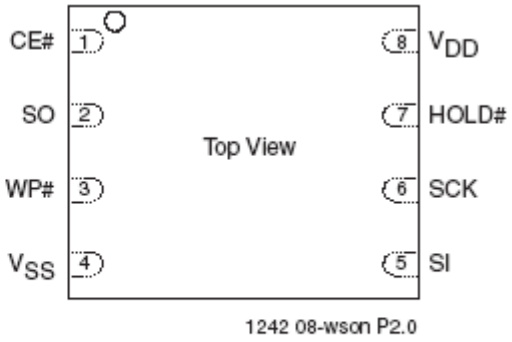
Block Diagram



Pin Description



8-LEAD SOIC



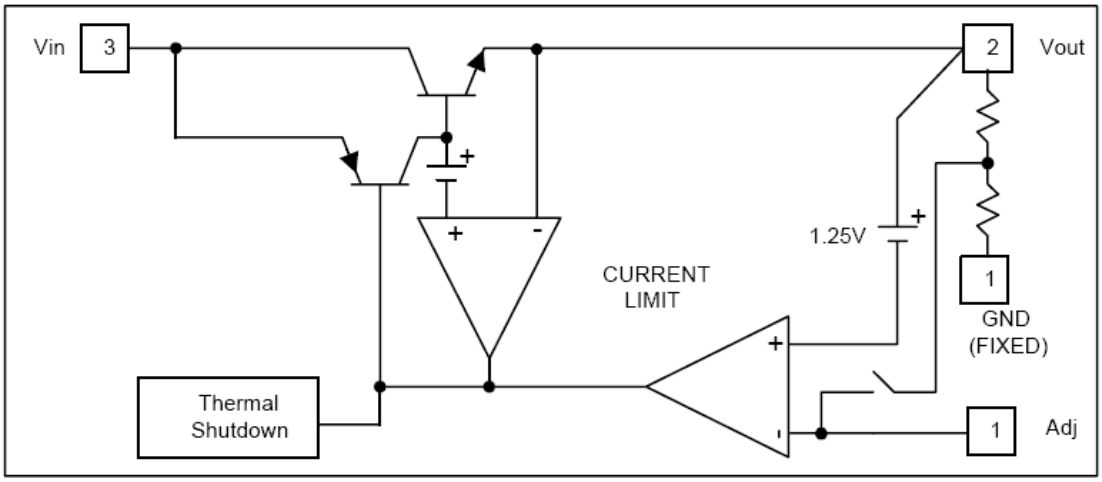
8-CONTACT WSON

Symbol	Pin Name	Functions
SCK	Serial Clock	To provide the timing of the serial interface.
		Commands, addresses, or input data are latched on the rising edge of the clock input, while output data is shifted out on the falling edge of the clock input.
SI	Serial Data	To transfer commands, addresses, or data serially into the device.
	Input	Inputs are latched on the rising edge of the serial clock.
SO	Serial Data	To transfer data serially out of the device.
	Output	Data is shifted out on the falling edge of the serial clock.
CE#	Chip Enable	The device is enabled by a high to low transition on CE#. CE# must remain low for the duration of any command sequence.
WP#	Write Protect	The Write Protect (WP#) pin is used to enable/disable BPL bit in the status register.
HOLD#	Hold	To temporarily stop serial communication with SPI flash memory without resetting the device.
VDD	Power Supply	To provide power supply (3.0-3.6V).
VSS	Ground	

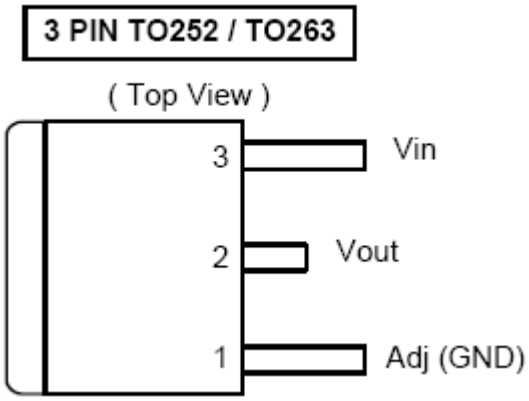
DC-DC AP1117D33L (U404)

AP1117 is a low dropout positive adjustable or fixed-mode regulator with 1A output current capability. The product is specifically designed to provide well-regulated supply for low voltage IC applications such as high-speed bus termination and low current 3.3V logic supply. AP1117 is also well suited for other applications such as VGA cards. AP1117 is guaranteed to have lower than 1.4V dropout at full load current making it ideal to provide well-regulated outputs of 1.25 to 5.0 with 6.4V to 18V input supply.

Block Diagrm



Connection Doagram



Pin Descriptions

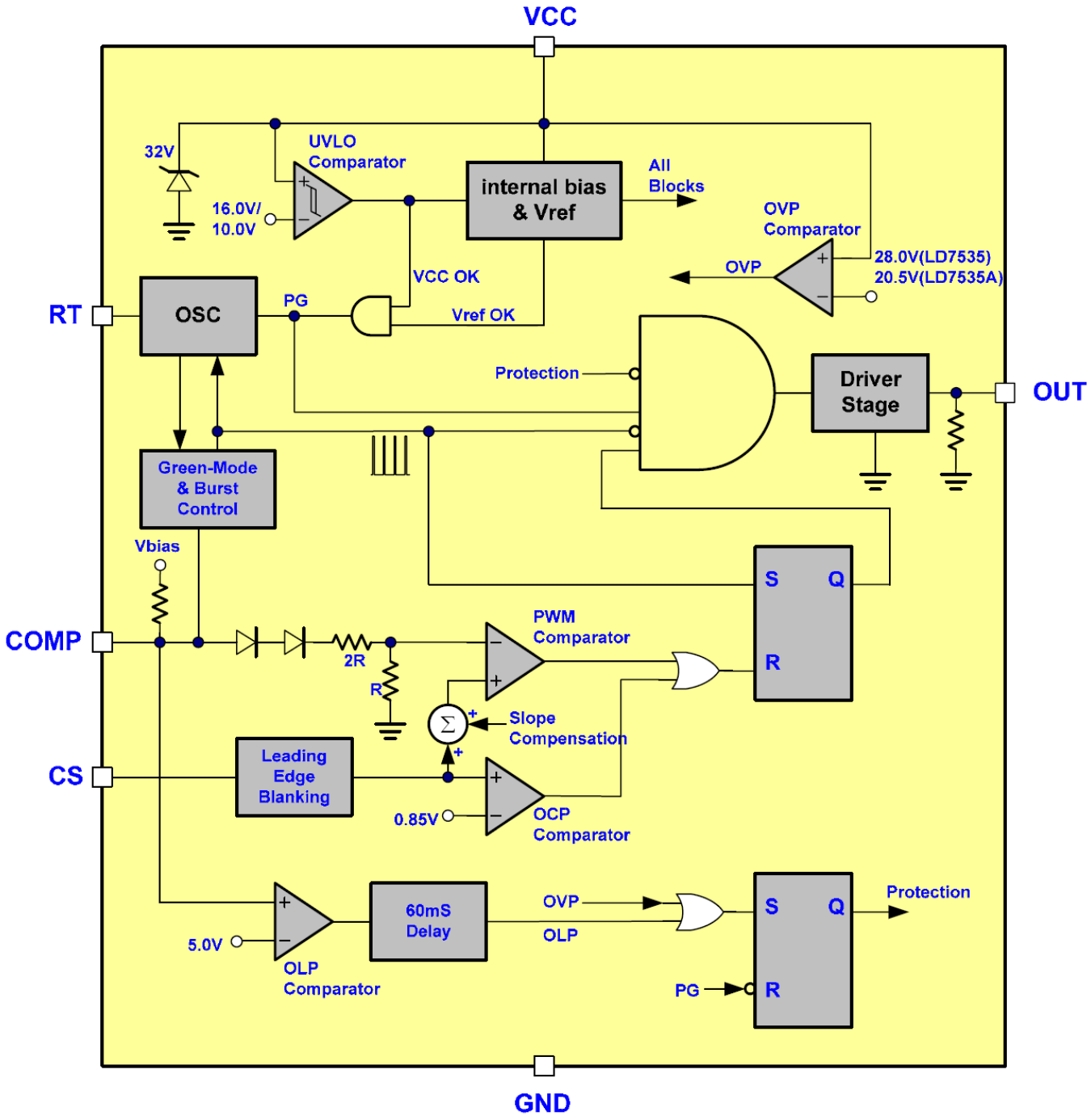
Name	I/O	Pin #	Function
Adj (GND)	I	1	A resistor divider from this pin to the Vout pin and ground sets the output voltage. (Ground only for Fixed-Mode)
Vout	O	2	The output of the regulator. A minimum of 10uF capacitor (0.15Ω ≤ESR ≤20Ω) must be connected from this pin to ground to insure stability.
Vin	I	3	The input pin of regulator. Typically a large storage capacitor (0.15Ω ≤ESR ≤20Ω) is connected from this pin to ground to insure that the input voltage does not sag below the minimum dropout voltage during the load transient response. This pin must always be 1.3V higher than Vout in order for the device to regulate properly.

4.2 Power Board

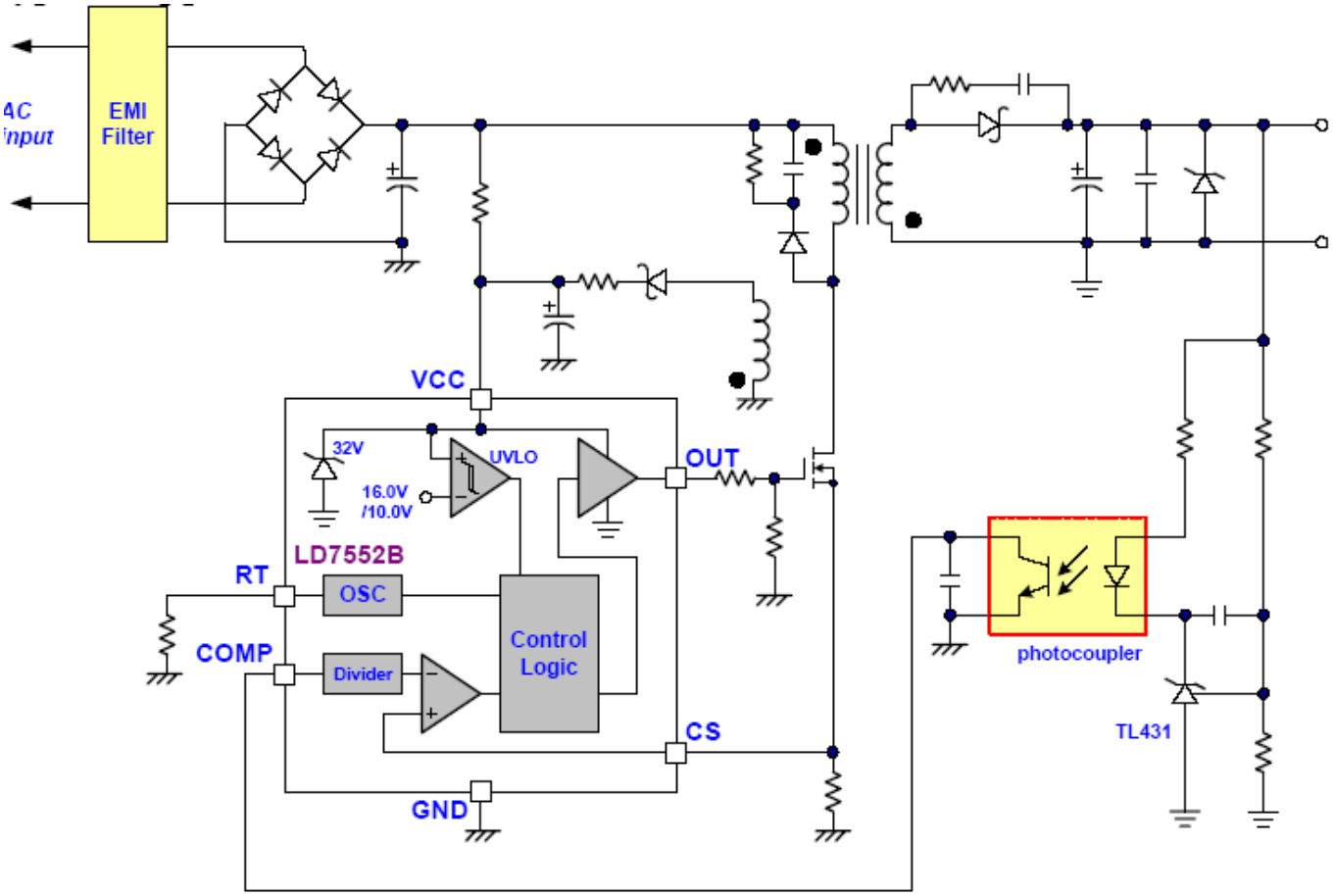
Adapter PWM Controller LD7552BPS (IC901)

The LD7552B are low cost, low startup current, current mode PWM controllers with green-mode power- saving operation. The integrated functions include the leading-edge blanking of the current sensing, internal slope compensation. They provide the users a superior AC/DC power application of higher efficiency, low external component counts, and lower cost solution. Furthermore, LD7552B feature more protections like OLP (Over Load Protection) and OVP (Over Voltage Protection) to eliminate the external protection circuits. It is designed for the switching adaptor with 30W~60W output, offered in both SOP-8 and DIP-8 package.

Block Diagrm



Typical Applicaion



Pin Configurations

SOP-8 & DIP-8 (TOP VIEW)

YY: Year code (D: 2004, E: 2005.....)
WW: week code
PP: production code

Pin Description

Pin	Name	Function
1	GND	Ground
2	COMP	Voltage feedback pin (same as the COMP pin in UC384X), By connecting a photo-coupler to close the control loop and achieve the regulation.
3	VCC	Supply voltage pin
4	RT	This pin is to program the switching frequency. to set the switching frequency. By connecting a resistor to ground
5	NC	Unconnected pin
6	CS	Current sense pin, connect to sense the MOSFET current
7	VCC	Supply voltage pin
8	OUT	Gate drive output to drive the external MOSFET

Inverter PWM Controller OZ9938GN-B (IC801)

The OZ9938 is a high performance, cost-effective CCFL (Cold Cathode Fluorescent Lamp) controller designed for driving large-size Liquid Crystal Display (LCD) applications requiring 2 to 6 CCFLs.

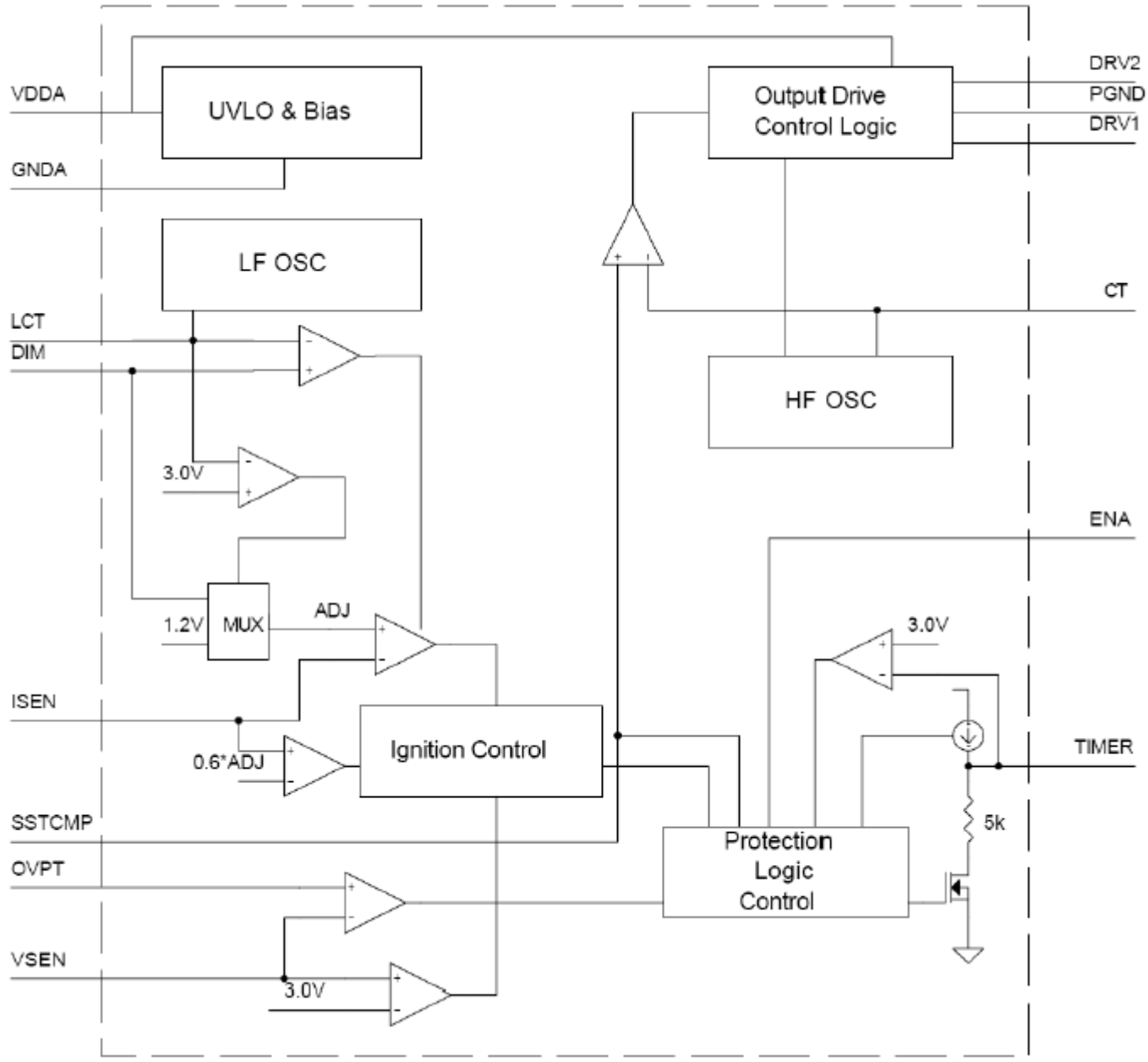
The controller converts unregulated DC voltages into a nearly sinusoidal lamp voltage and current waveforms.

The OZ9938 provides two drive signals for most power conversion topologies while maintaining high-efficiency operation.The PWM controller provides a soft-start operation, current and voltage regulation, over-voltage and over-current protection, high drive capability and multiple dimming functions (internal PWM or external PWM or analog dimming functions).

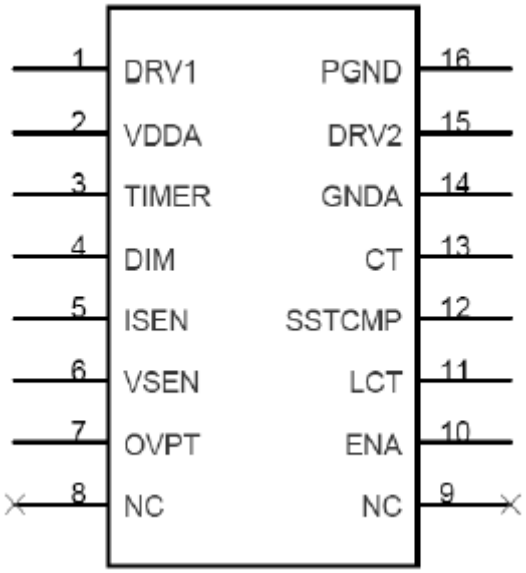
The control logic provides a regulated ignition voltage and appropriate protection features for over-voltage or over-current conditions.

The OZ9938 offers a high level of integration, while maintaining flexibility and high-efficiency operation that reduces external component heating, resulting in higher reliability and longer CCFL life. The proprietary design technique provides a simple, low-cost system solution.

Function Block Diagram



Pin Diagram



Pin Description

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

5. Adjustment Procedure

Setting the Timing Mode

Setting the timing mode is important for maximizing the quality of the screen image and minimizing eye strain. The **timing mode** consists of the **resolution** (example 1440 x 900) and **refresh rate** (or vertical frequency; example 60 Hz). After setting the timing mode, use the OSD (On-screen Display) controls to adjust the screen image.

For the best picture quality set your LCD display timing mode to:

VESA 1440 x 900 @ 60Hz.

To set the Timing Mode:

1. Set the resolution: Right-click on the Windows desktop > Properties > Settings > set the resolution.

2. Set the refresh rate: See your graphic card's user guide for instructions.

WARNING: Do not set the graphics card in your computer to exceed the maximum refresh rate of 75Hz; doing so may result in permanent damage to your LCD display.

OSD and Power Lock Settings

• **OSD Lock:** Press and hold [1] and the up arrow ▲ for 10 seconds. If any buttons are pressed the message *OSD Locked* will display for 5 seconds.

• **OSD Unlock:** Press and hold [1] and the up arrow ▲ again for 10 seconds.

• **Power Button Lock:** Press and hold [1] and the down arrow ▼ for 10 seconds. If the power button is pressed the message *Power Button Locked* 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.

• **Power Button Unlock:** Press and hold [1] and the down arrow ▼ again for 10 seconds.

5.1 White Balance, Luminance Adjustment

Approximately 2 Hours should be allowed for warm up before proceeding White-Balance adjustment.

Before started adjust white balance, please setting the Chroma-C7120 **MEM. Channel 3 to 9300K**;

MEM.Channel 4 to 6500K; MEM.Channel 9 to 5400K; MEM.Channel 10 to SRGB.

9300K parameter is x=283±30, y=297±30;

6500K parameter is x =313±30, y=329±30;

5400K parameter is x = 335 ±30, y =350±30;

SRGB parameter is x=313±30, y=329±30.

How to setting MEM channel you can reference to Minolta-CA210 user guide or simple use " **SC"** key and " **NEXT"** key to modify x, y, Y value and use **"ID"** key to modify the TEXT description Following is the procedure to do white-balance adjust

Enter into Burn in mode:

AC ON the monitor with no signal ,and press "power" button to DC OFF the monitor, then press"1" and "power" button at the same time to enter to **Burn/in mode**;

Enter into the factory mode:

AC ON the monitor **with signal connected,** and press “power” button to DC OFF the monitor, then press”1” and “power” button at the same time to enter **factory mode**;

Gain adjustment:

Move cursor to “Factory” and press “2” key.

Move cursor to “ Auto Level” and press “2” key to adjust Gain and Offset automatically;

(notice：this monitor do auto level must in T144(1440X900@60Hz) P48(32 Grays))

a. Adjust 9300K color-temperature:

1. Switch the Chroma-C7120 to **RGB-mode** (with press “MODE” button)
2. Switch the MEM.channel to Channel 3 (with up or down arrow on Chroma-C7120)
3. The LCD-indicator on Minolta-CA210 will show x = 283 ±30, y = 297±30.

b. Adjust 6500K color-temperature:

1. Switch the Chroma-C7120 to **RGB-mode** (with press “MODE” button)
2. Switch the MEM.channel to Channel 4 (with up or down arrow on Chroma-C7120)
3. The LCD-indicator on Minolta-CA210 will show x = 313 ±30, y = 329 ±30.

c. Adjust 5400K color-temperature:

1. Switch the Chroma-C71200 to **RGB-mode** (with press “MODE” button)
2. Switch the MEM.channel to Channel 9 (with up or down arrow on Chroma-C7120)
3. The LCD-indicator on Minolta-CA210 will show x = 335 ±30, y =350±30.

d. Adjust SRGB color-temperature:

1. Switch the Chroma-C7120 to **RGB-mode** (with press “MODE” button)
2. Switch the MEM.channel to Channel 10 (with up or down arrow on Chroma-C7120)
3. The LCD-indicator on Minolta-CA210 will show x = 313 ±30, y = 329 ±30.

Press “1” key to save adjust value and exit .

Turn the POWER-button off to on to quit from factory mode,and reset the monitor.

5.2 Firmware Upgrade Procedure

5.2.1 Equipment needed:

1) An i486 (or above) personal computer or compatible.

2) Microsoft operation system Windows 95/98/2000/XP.

3) “ISP_Tool V4.4.2.7” program(or other version)

4) Software ISP SN Alignment kits

The kit contents:

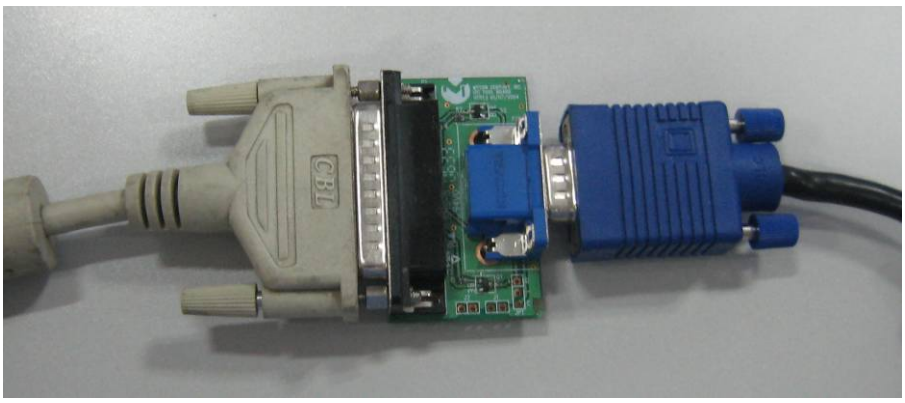
a) ISP BOARD x1

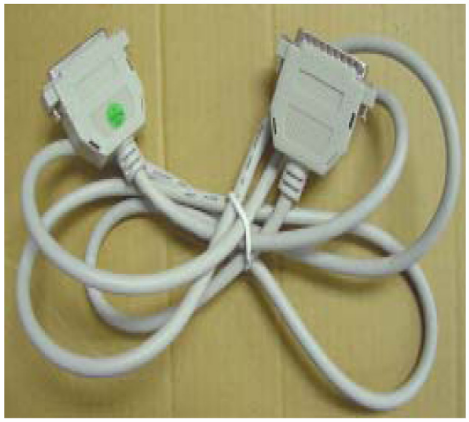
b) LPT cablex1

c) VGA CABLE X1

VA1716w-8

ISP Board





LPT Cable

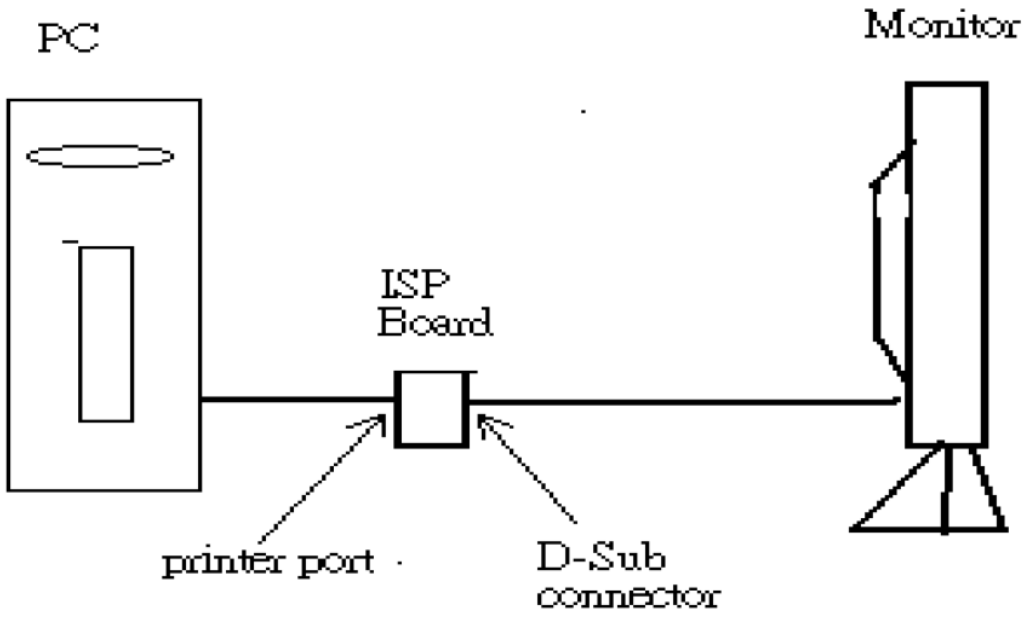
VGA Cable

Hardware Connect status

a Connect ISP_Tool with PC by LPT Cable.

b Connect Power Cord to Monitor.

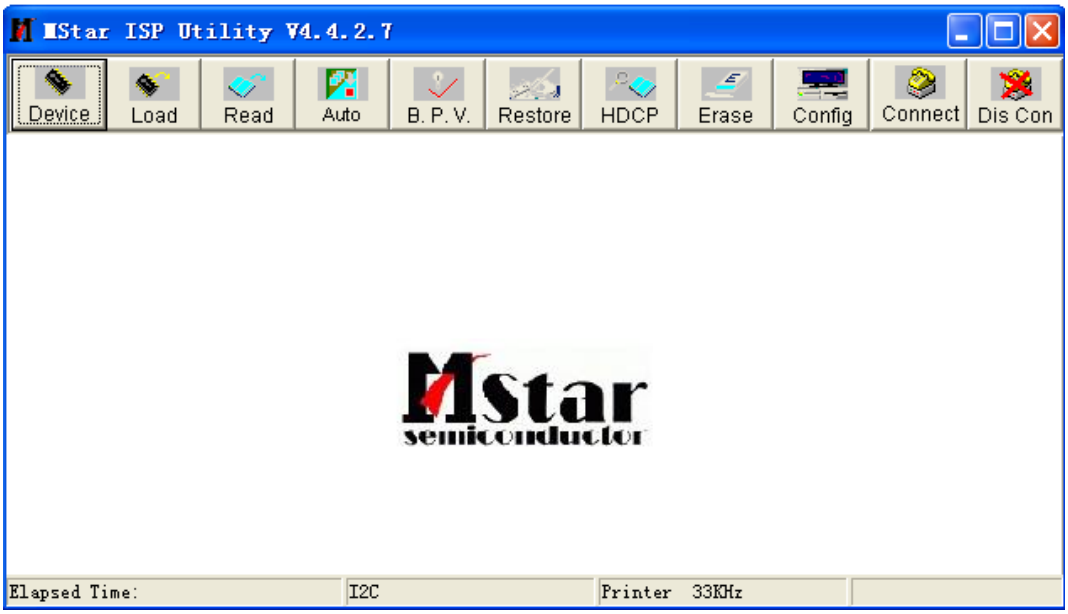
c Connect monitor to the ISP_Tool by VGA cable.



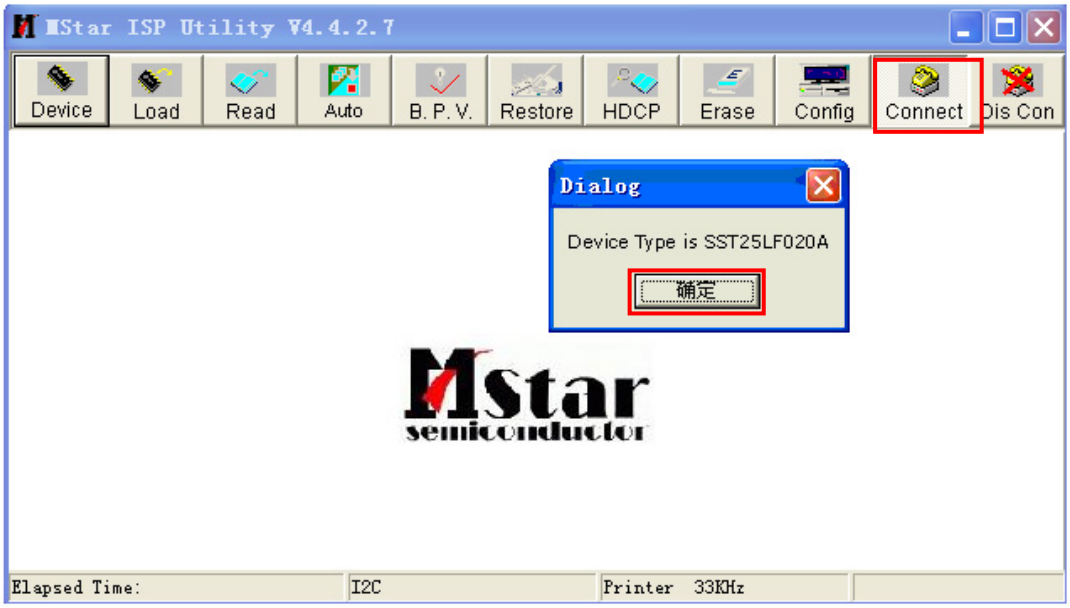
5.2.2 The process of ISP write is as follows

a. Double-click 

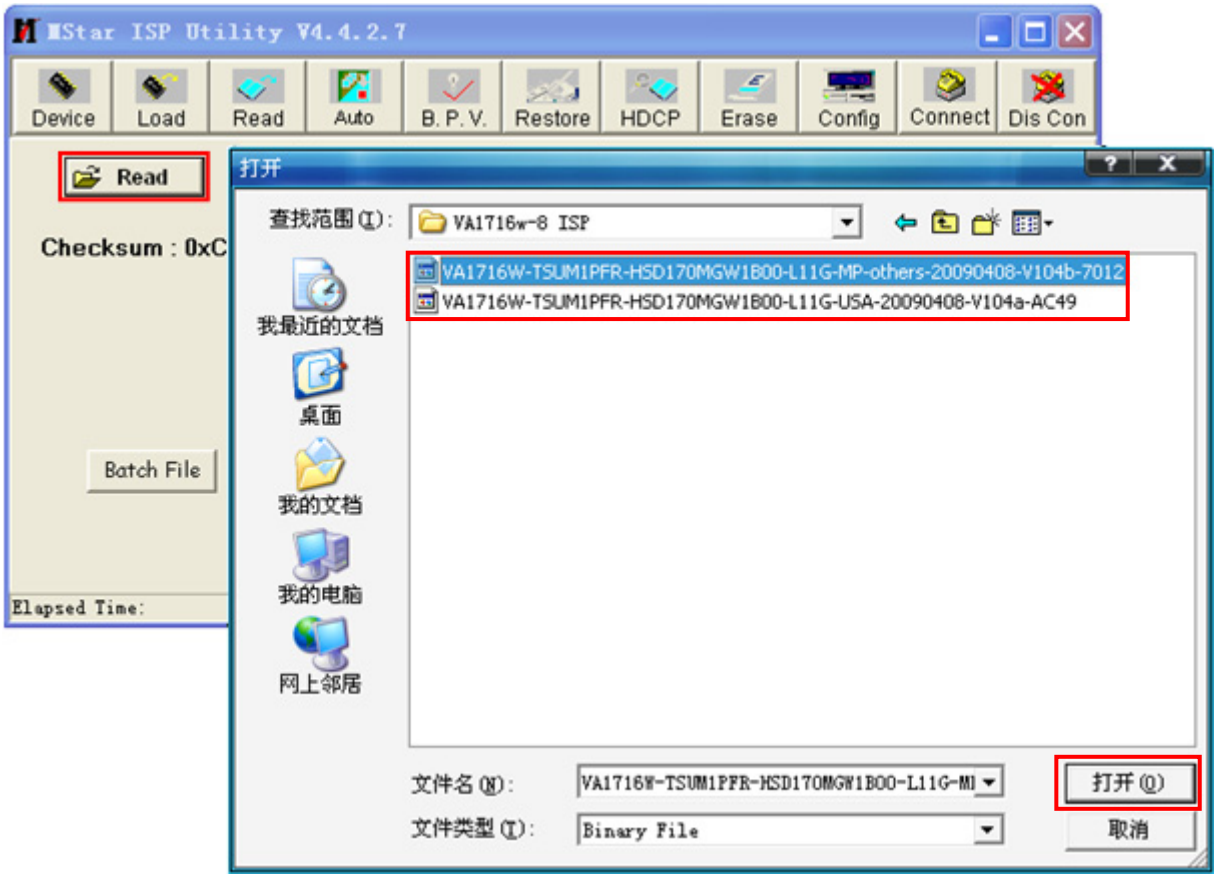
,running the program as follows:



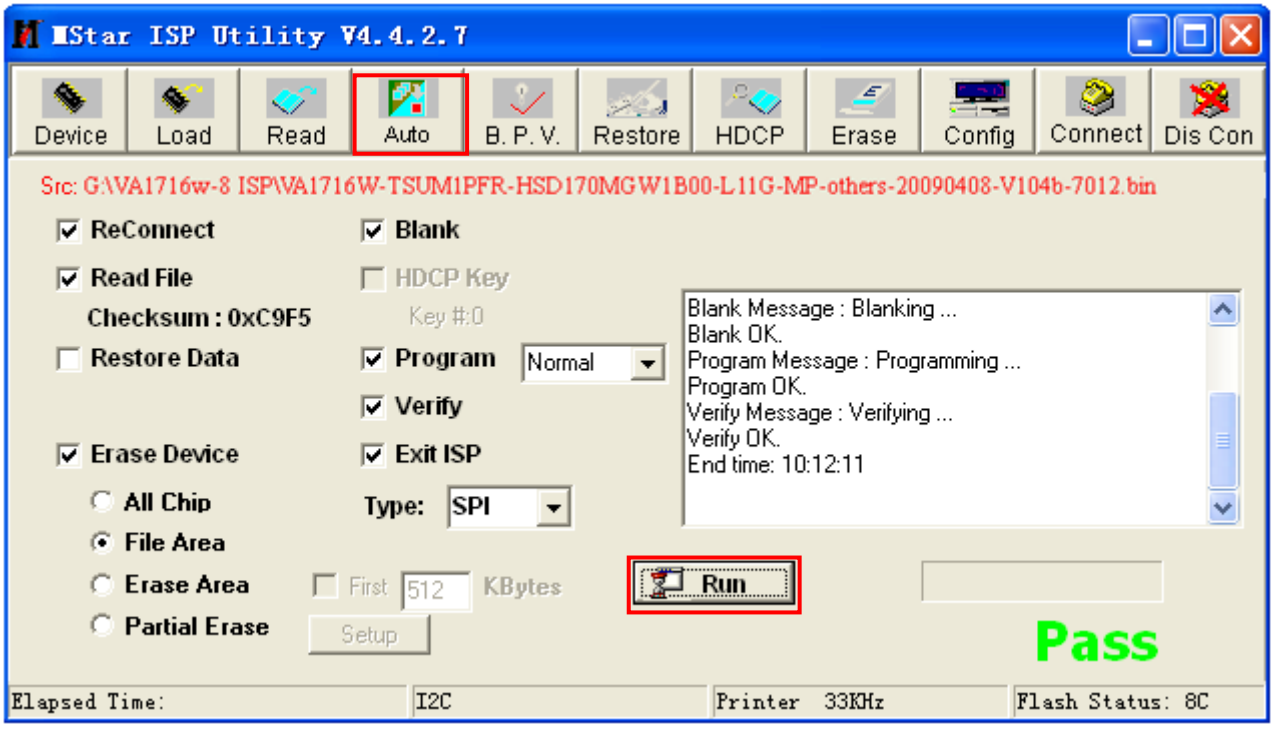
b. Press the “Connect” button to connect ISP Mode, if connects success, it will show as the follow picture:



c. Click the “Read” item, and then load the correct firmware, it will show as follow picture:



d. Click “Auto” item, and then click” Run”, it will auto run. If it burn in success, it will show as the follow picture:



5.3 DDC Key in Procedure

Note:

1. Every time after replacing the main board, you have to do the DDC key in.
2. If you find the DDC does not conform to the LCD monitor, you have to do the DDC key in.

5.3.1 Equipment and Kit Requirment

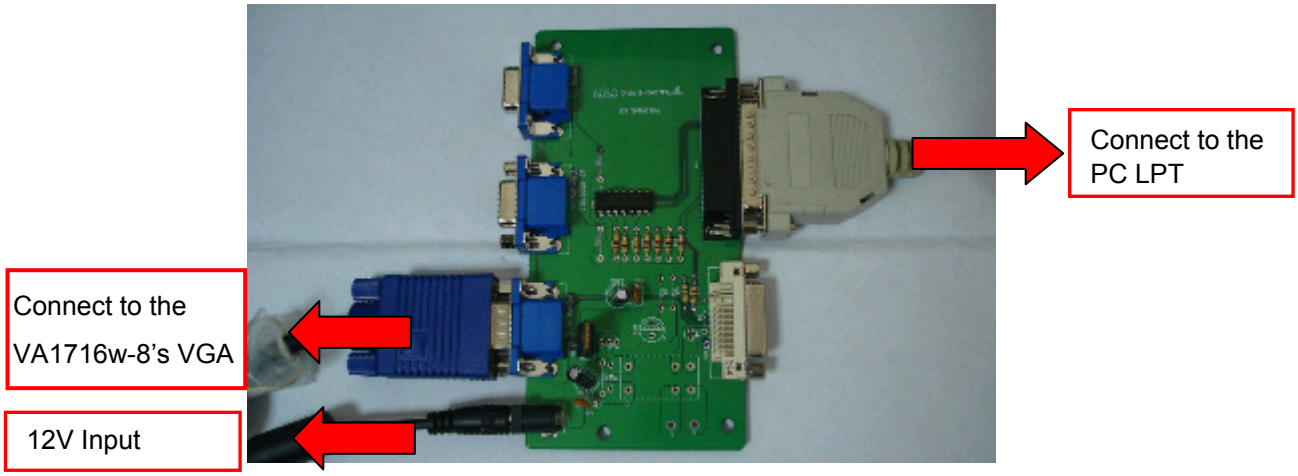
- VA1716w-8
- PC (Personal computer)
- DDC board
- Firmware upgrade program
- 12V DC
- VGA Cable
- LPT cable

5.3.2 Software Installation

You must install the  PORT95NT.EXE
PackageForTheWeb Stub
InstallShield Software Corpora... at the first.

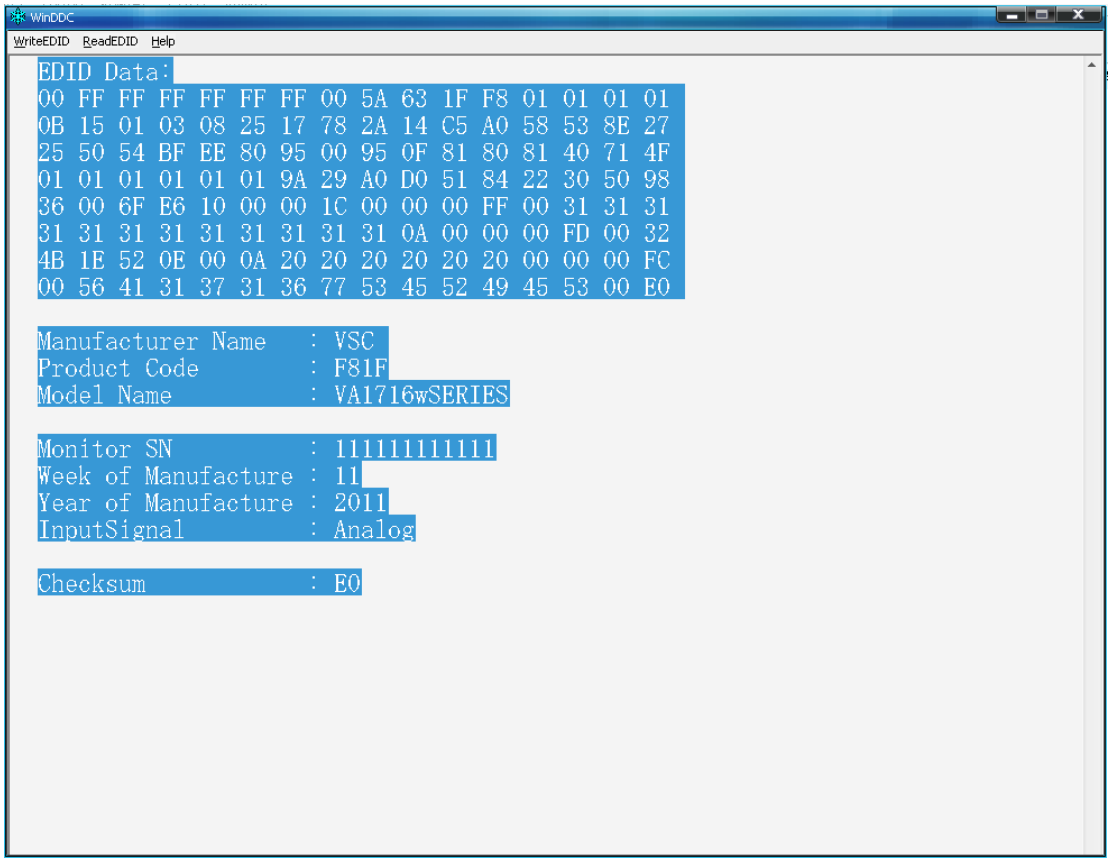
Note: After installation, you must restart the PC to take the setup to effect.

5.3.3 Connect the DDC card as follow:



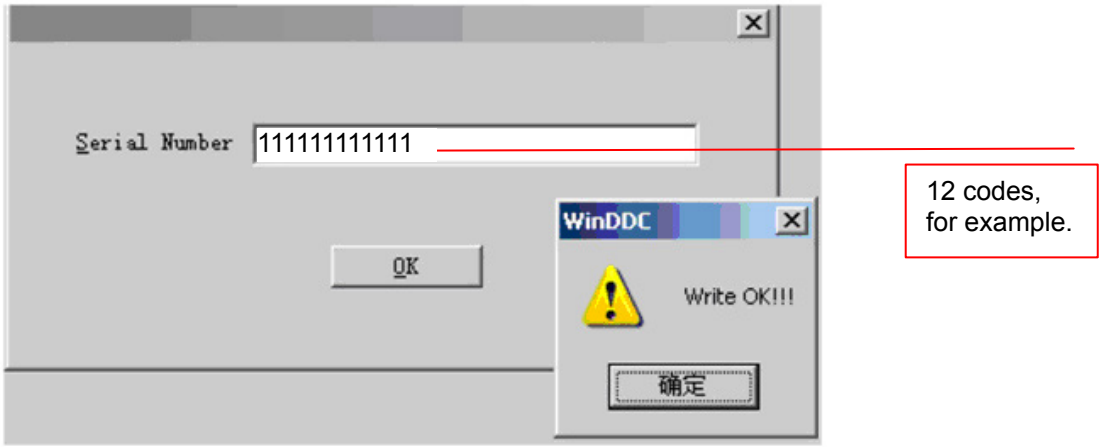
For analog

a. Double-click WinDDC.exe，appear as follow Figs:

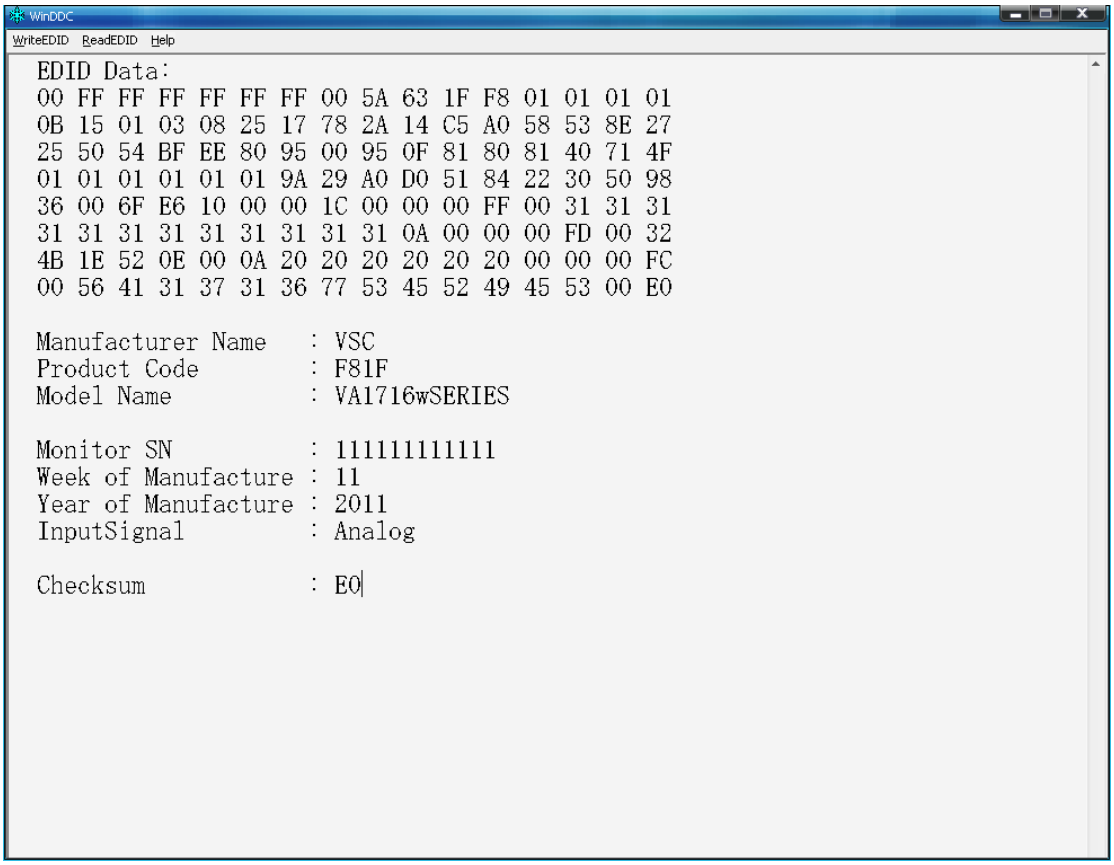


b. Click WriteEDID on the top left conner of the WinDDC.

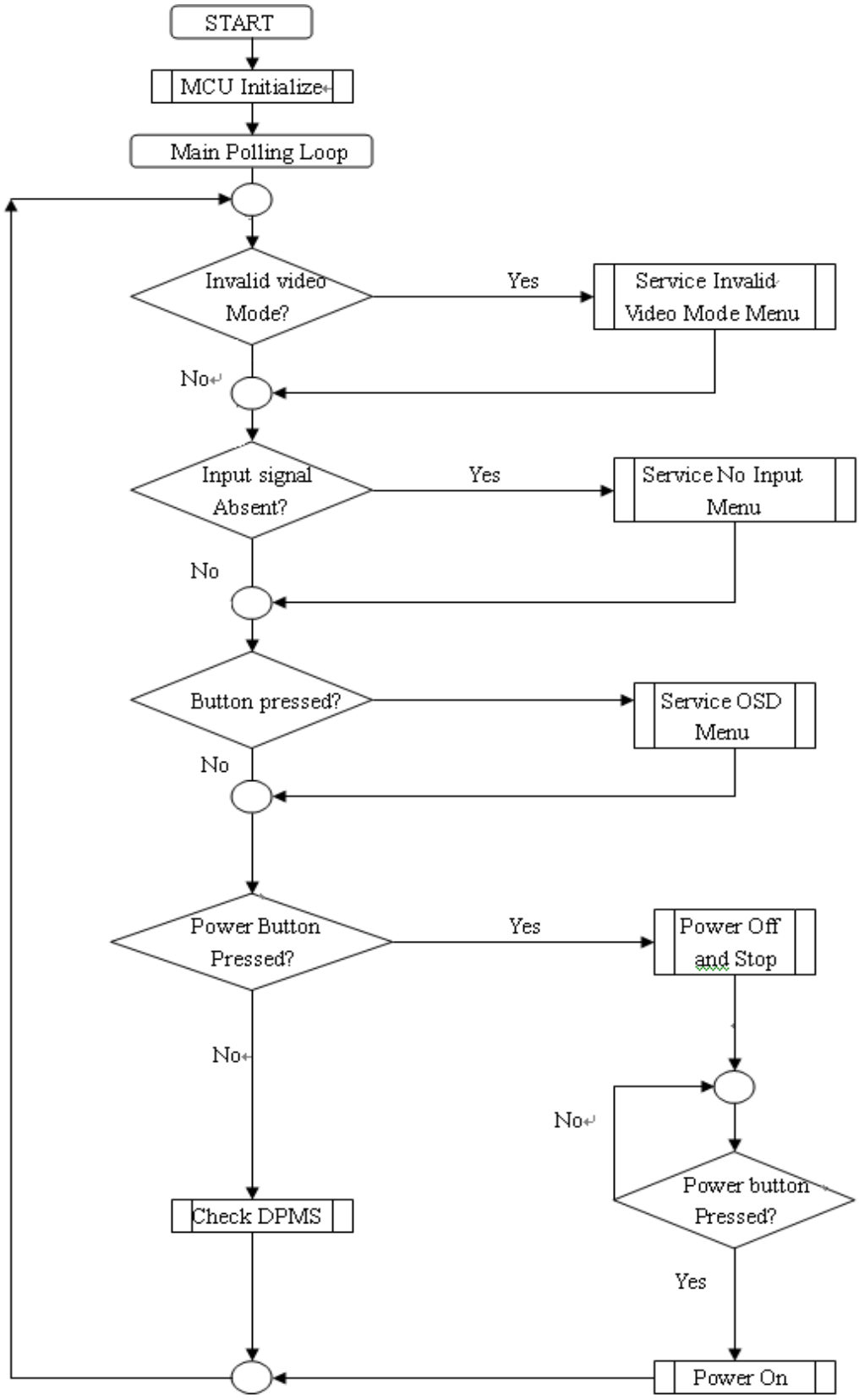
c. Key in the Serial Number printed on the barcode label, then click “OK”



d. Unit appears the following Fig, writer completed.

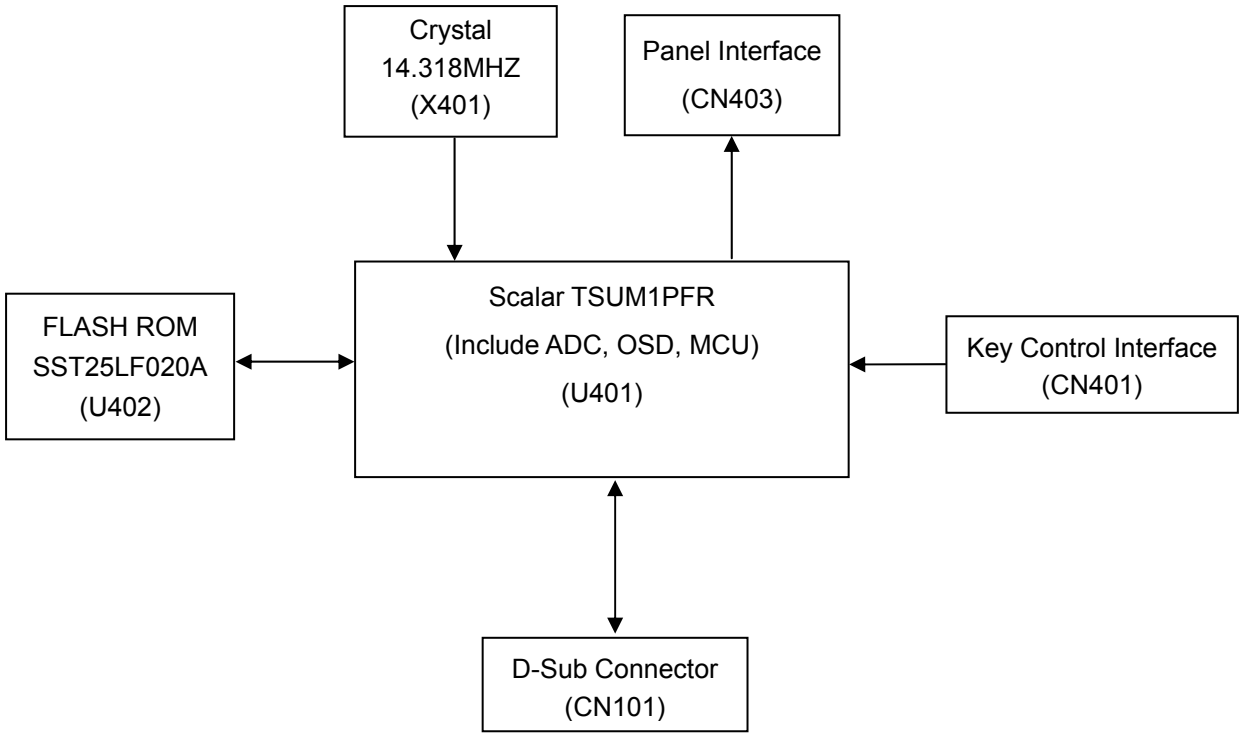


6. Troubleshooting Flow Chart

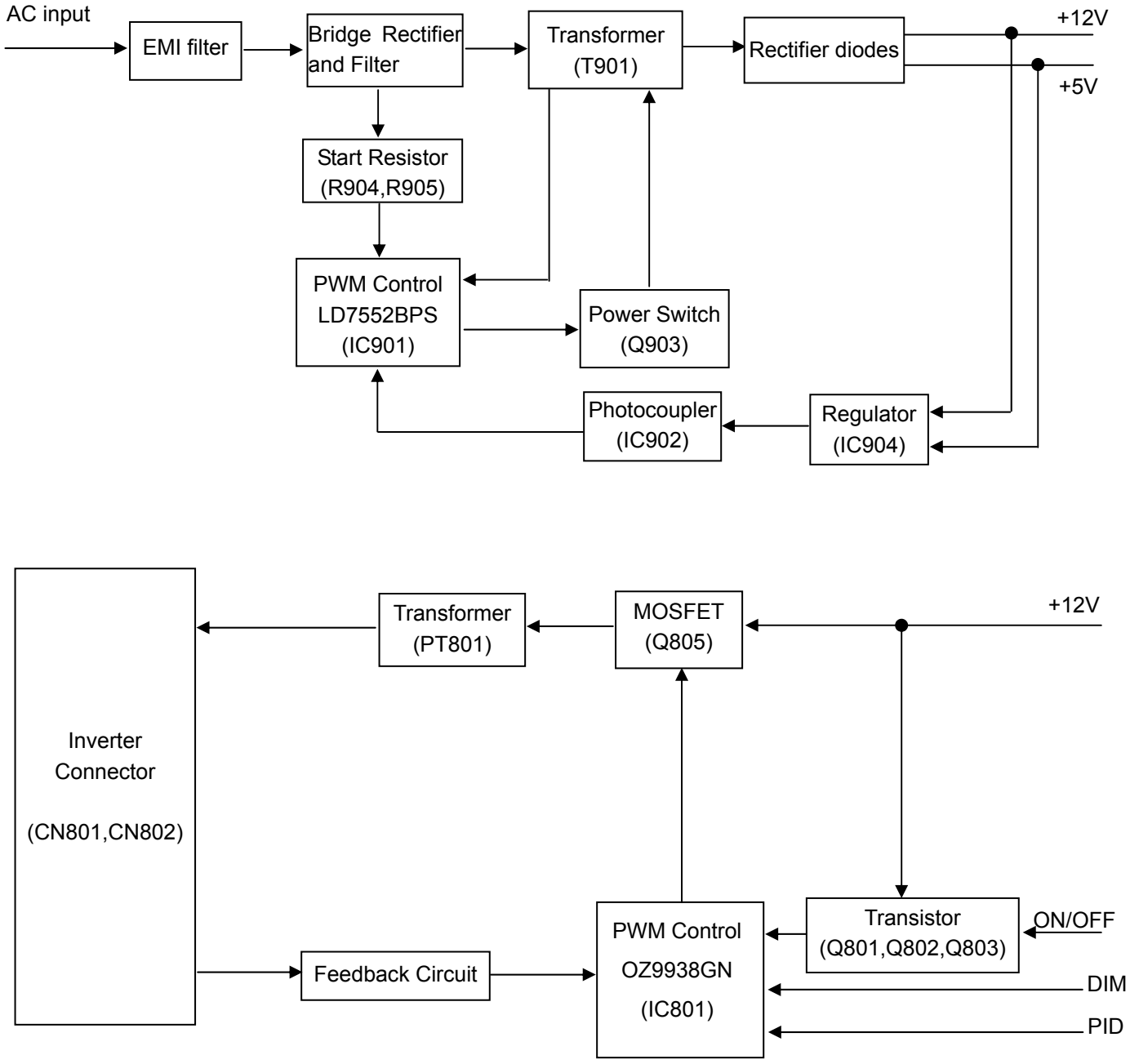


7. Block Diagram

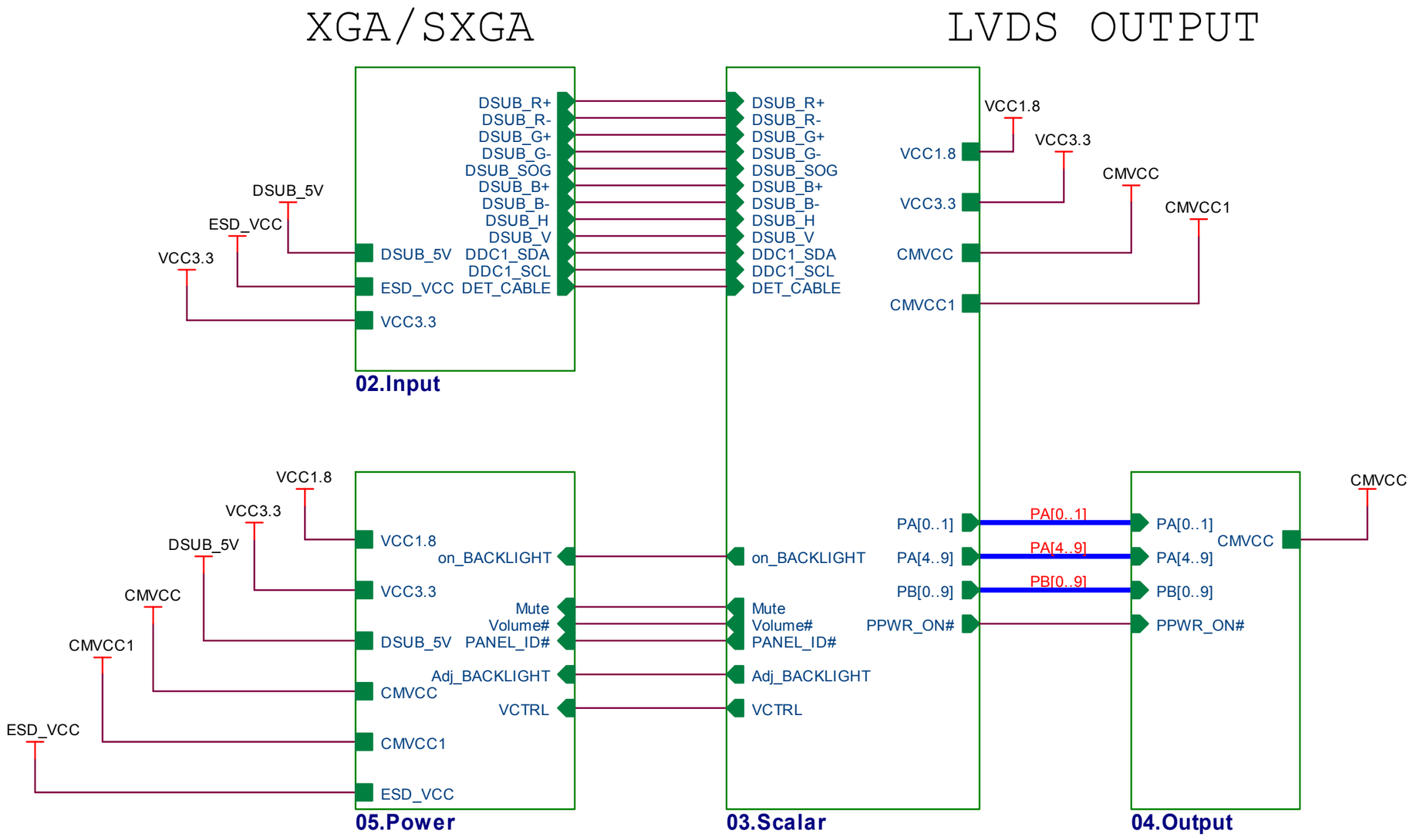
7.1 Main Board



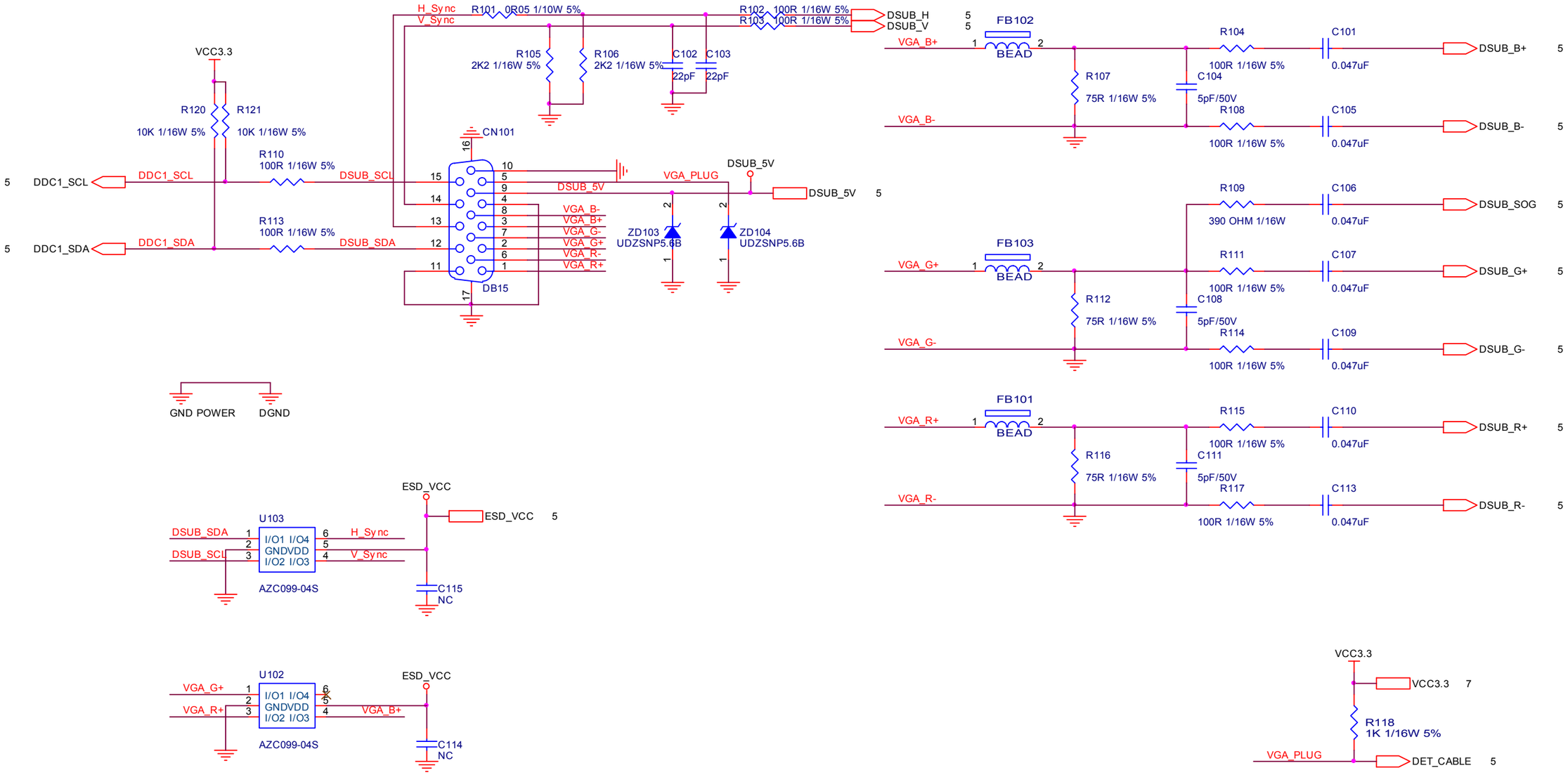
7.2 Power Board



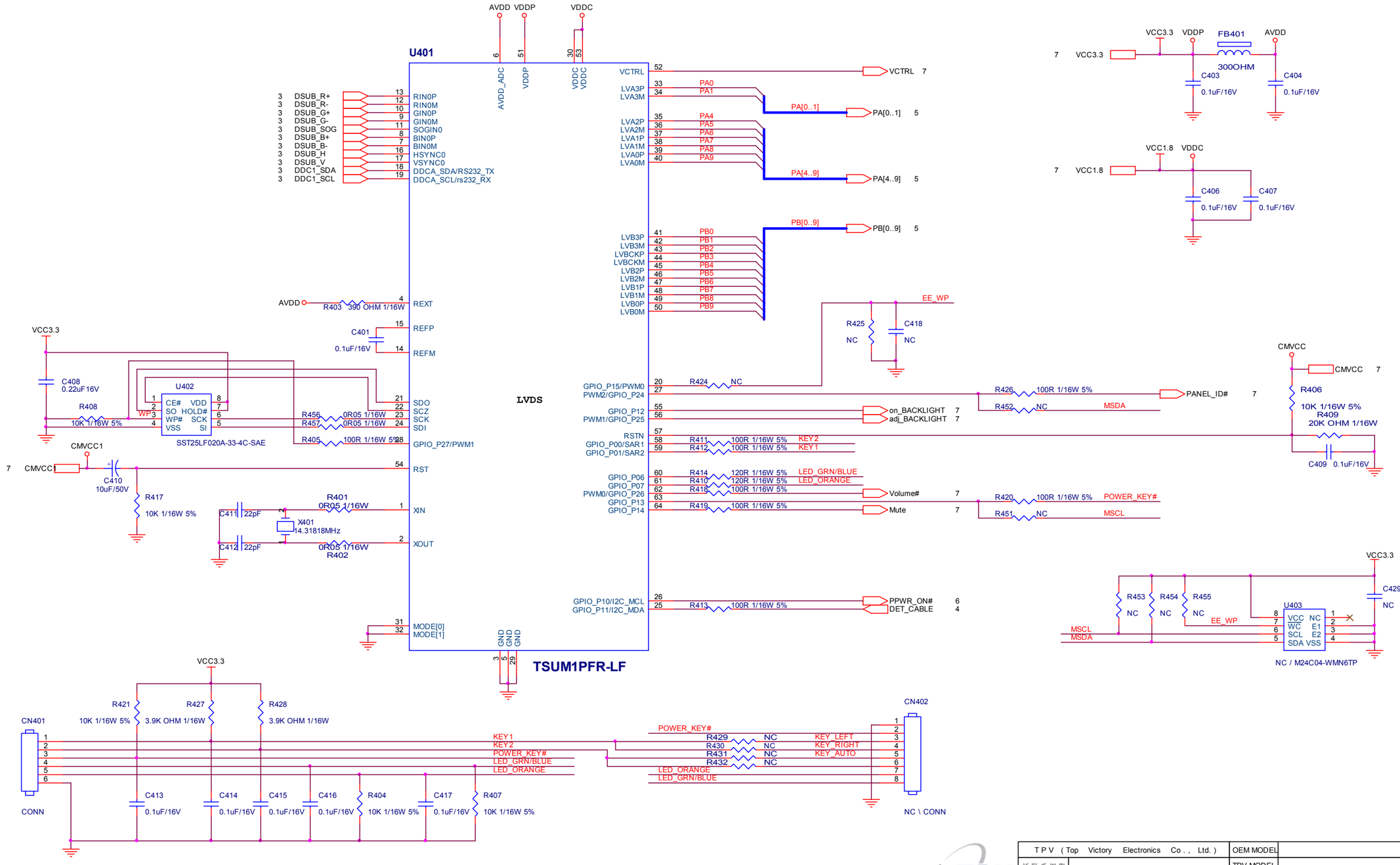
TSUM1PFR SCHEMATIC



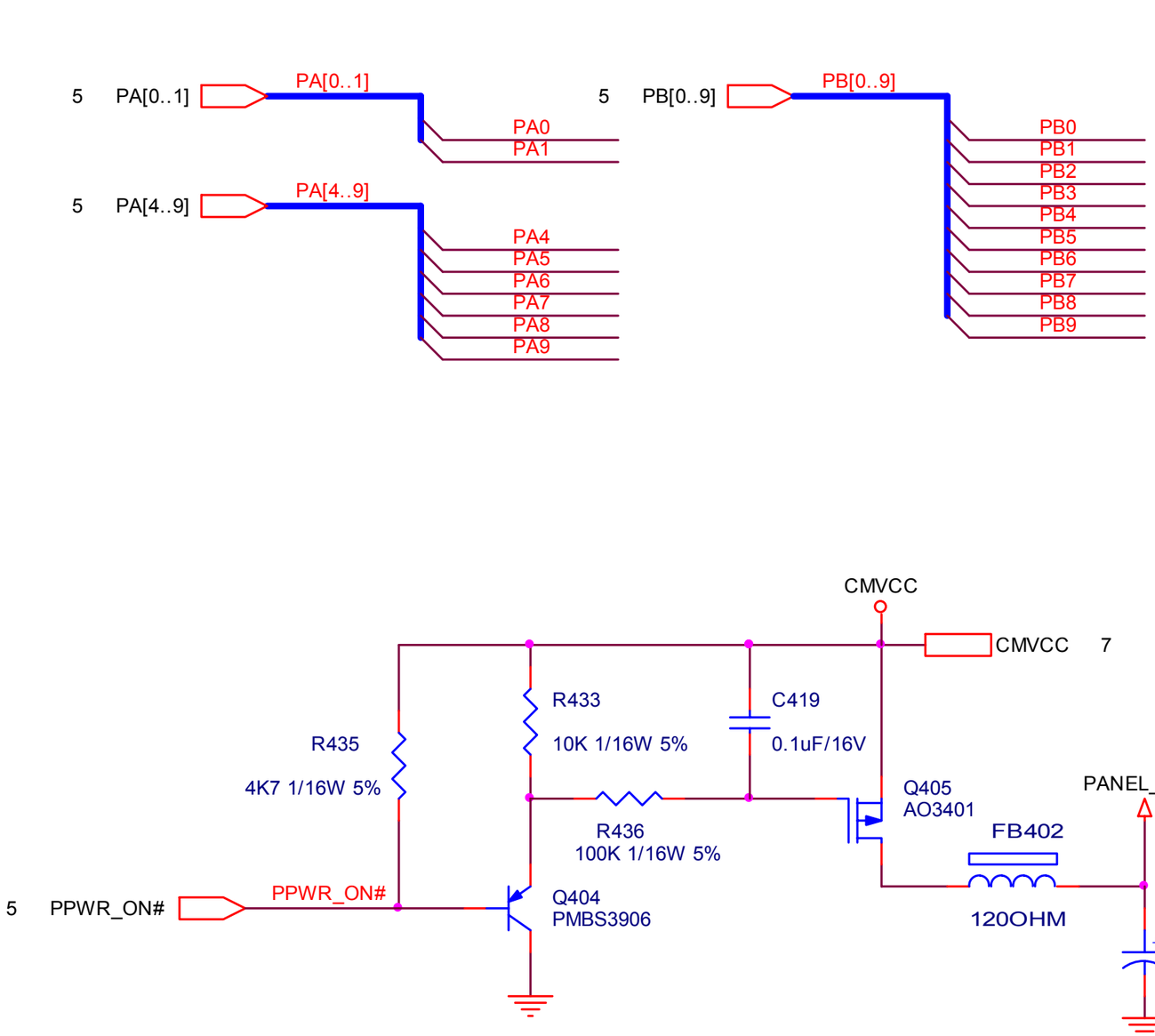
T P V （Top Victory Electronics Co . , Ltd. ）		OEM MODEL		Size	A
結 隔 瓜 綑 腹	RDG2904-1-X-1-080530	TPV MODEL		Rev	1.3
Key Component	01.Top	PCB NAME	715G2904-1	称爹	
Date	Friday , May 30, 2008	Sheet	1 of 7		

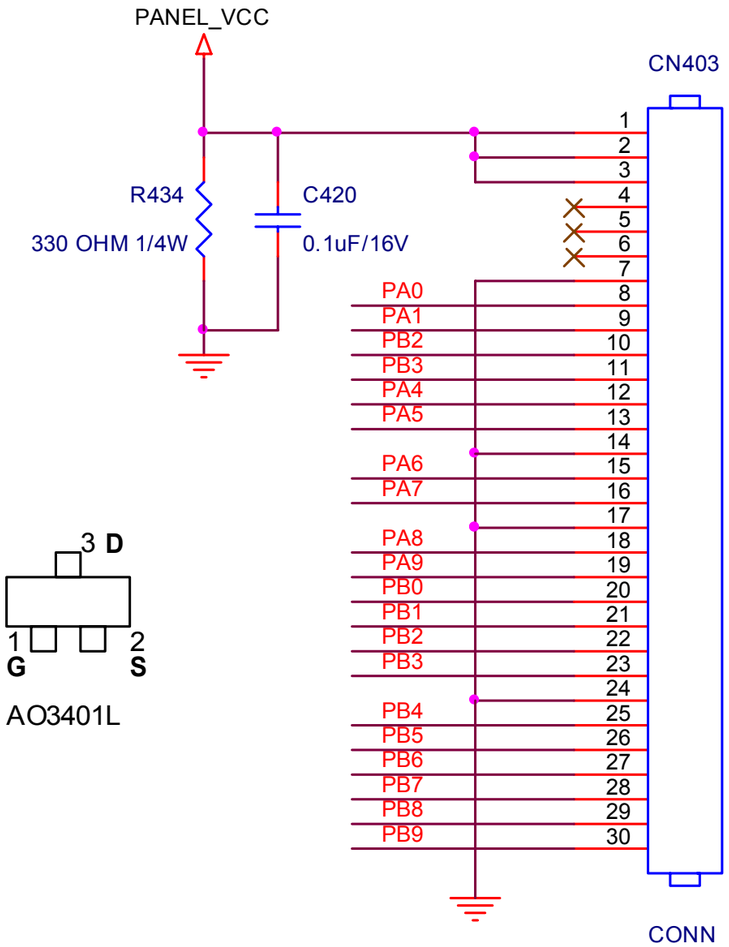


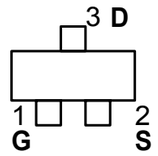
T P V （Top Victory Electronics Co . , Ltd. ）		OEM MODEL		Size	B
結 隔 爪 綱 腹		TPV MODEL		Rev	1
Key Component	02.Input	PCB NAME	715G2904-1	称 爹	<称爹>
Date	Thursday , April 24, 2008	Sheet	4 of 7		



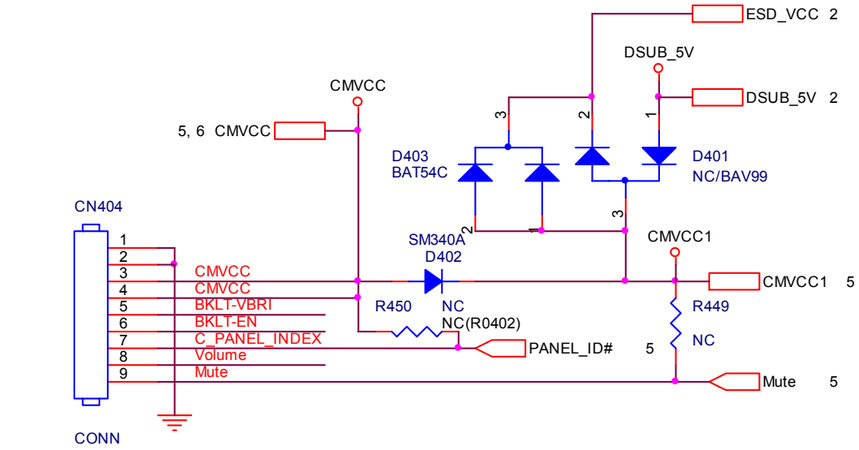
T P V （Top Victory Electronics Co . , Ltd. ）		OEM MODEL		Size	C
紙隔瓜貓腹		TPV MODEL		Rev	1
Key Component	03.Scalar	PCB NAME	715G2904-1	称爹	<称爹>
Date	Tuesday , April 08, 2008	Sheet	5 of 7		

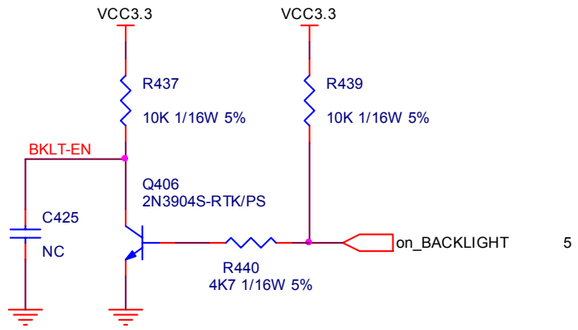


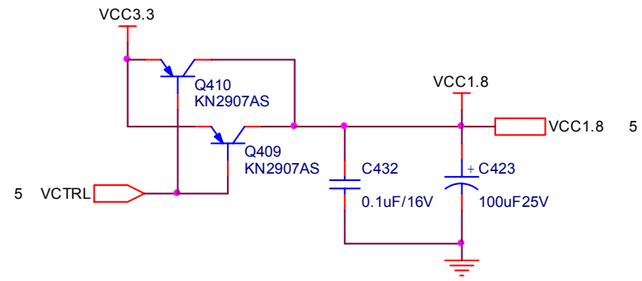


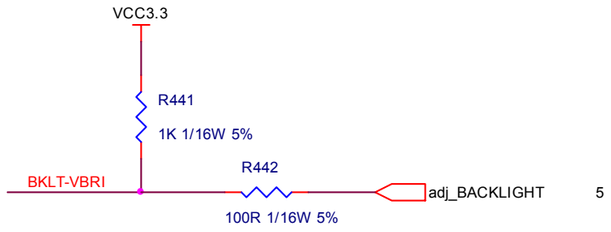


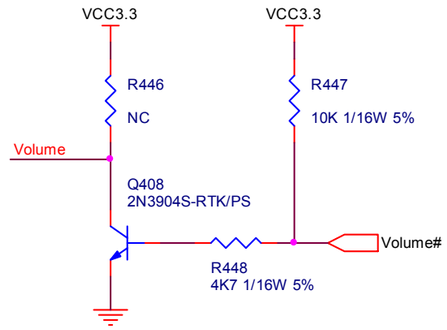
T P V （Top Victory Electronics Co . , Ltd. ）		OEM MODEL		Size	A
結 隔 瓜 綑 腹		TPV MODEL		Rev	1
Key Component	04.Output	PCB NAME	715G2904-1	称 爹	<称爹>
Date	Tuesday , April 08, 2008	Sheet	6 of 7		

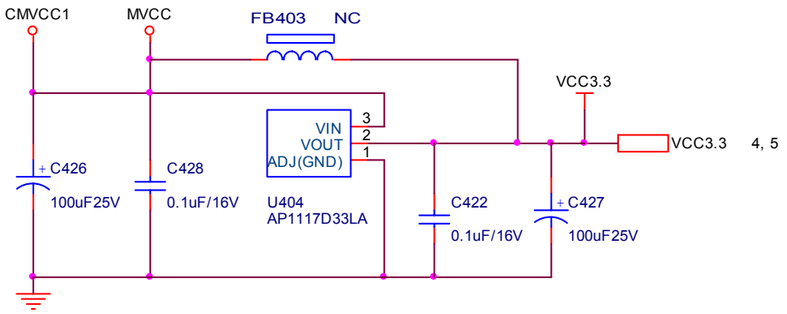








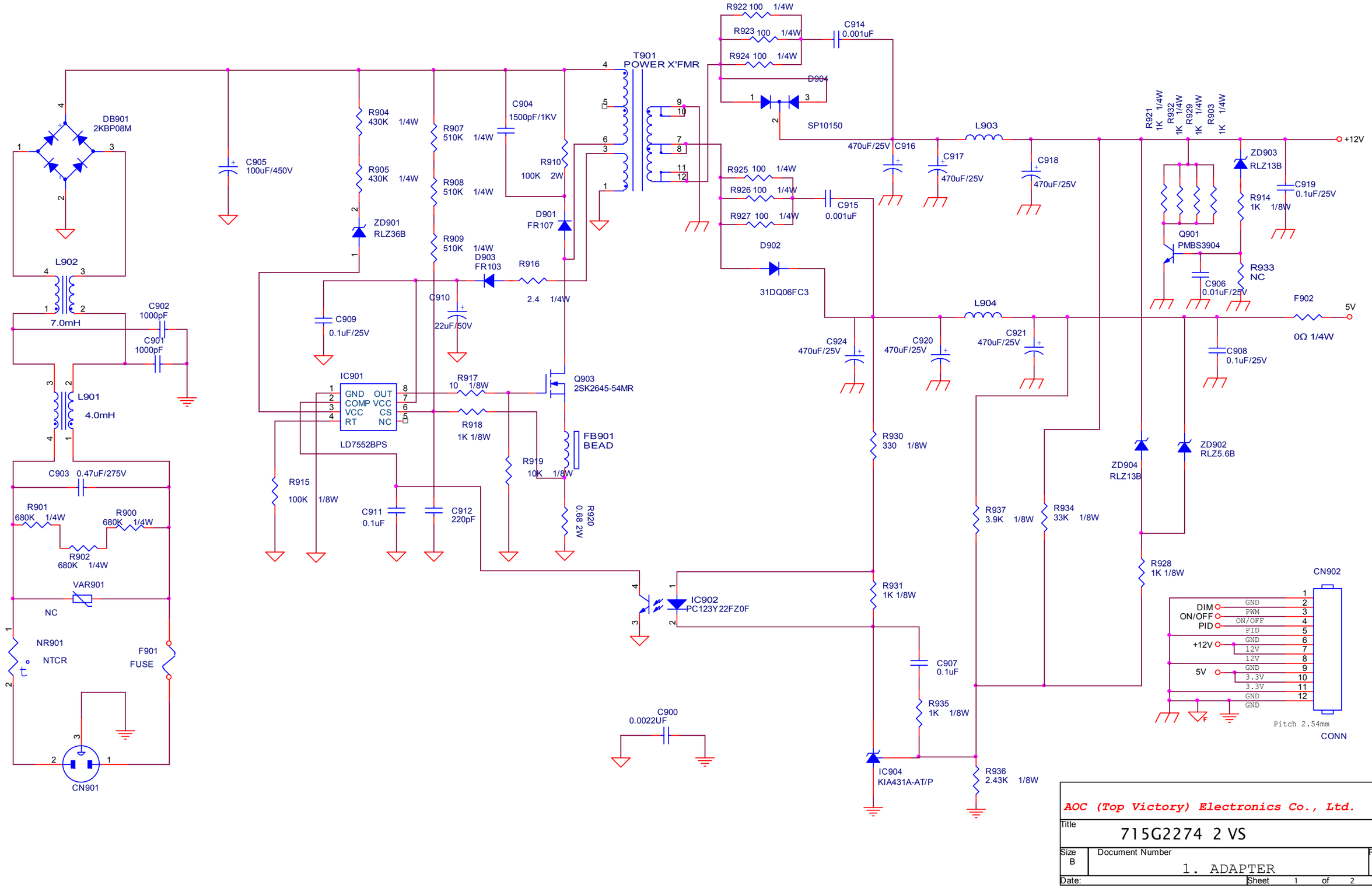




T P V （Top Victory Electronics Co.， Ltd.）		OEM MODEL		Size	B
結 隔 瓜 細 腹		TPV MODEL		Rev	1
Key Component	05.Power	PCB NAME	715G2904-1	称 爹	<称爹>
Date	Tuesday, April 08, 2008	Sheet	7 of 7		

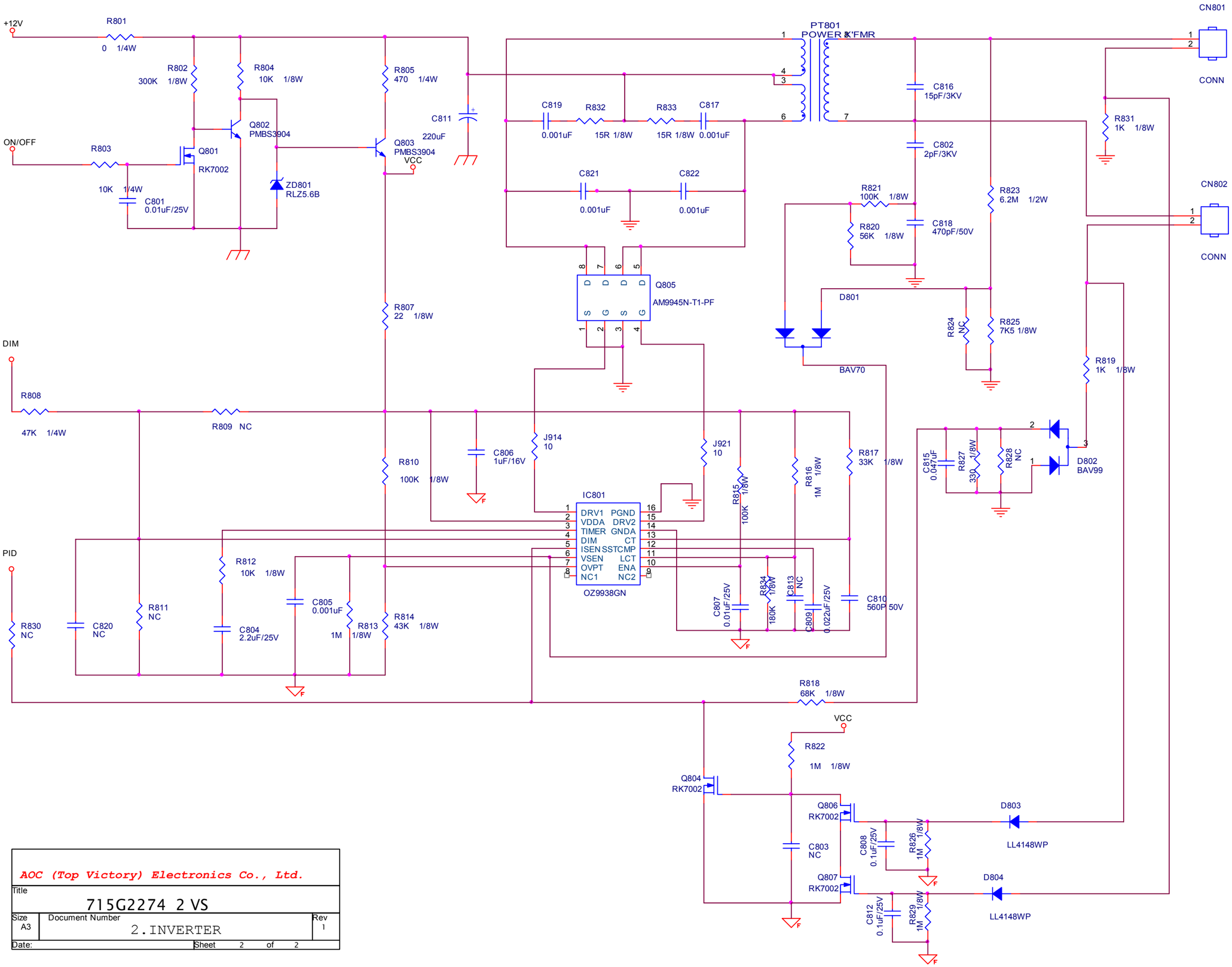
8.2 Power Board

715G2274 2 VS



AOC (Top Victory) Electronics Co., Ltd.

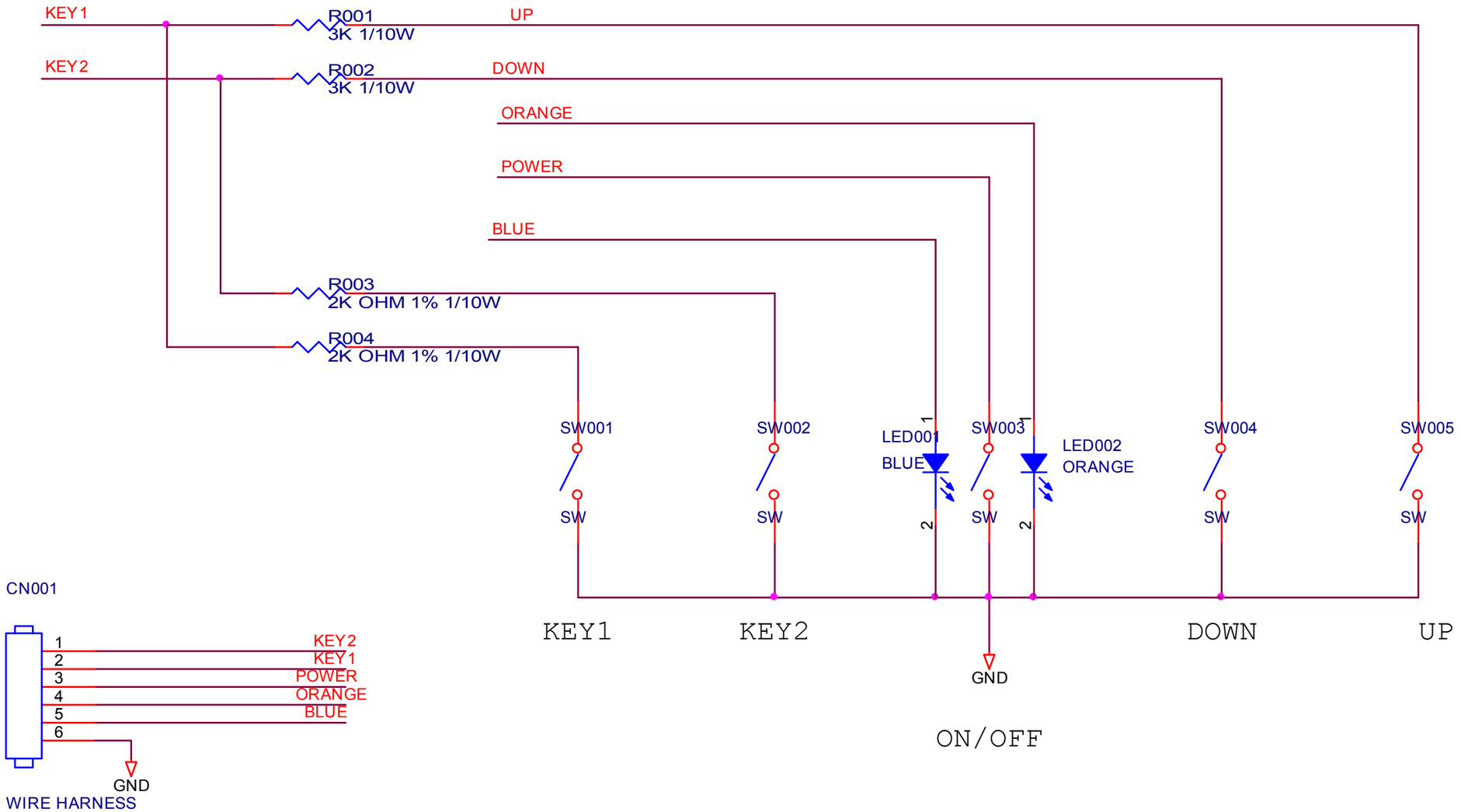
Title: 715G2274 2 VS		
Size: B	Document Number: 1. ADAPTER	Rev: 1
Date:	Sheet 1 of 2	



AOC (Top Victory) Electronics Co., Ltd.		
Title: 715G2274 2 VS		
Size: A3	Document Number: 2.INVERTER	Rev: 1
Date:	Sheet 2 of 2	

8.3 Key Board

715G2622 3



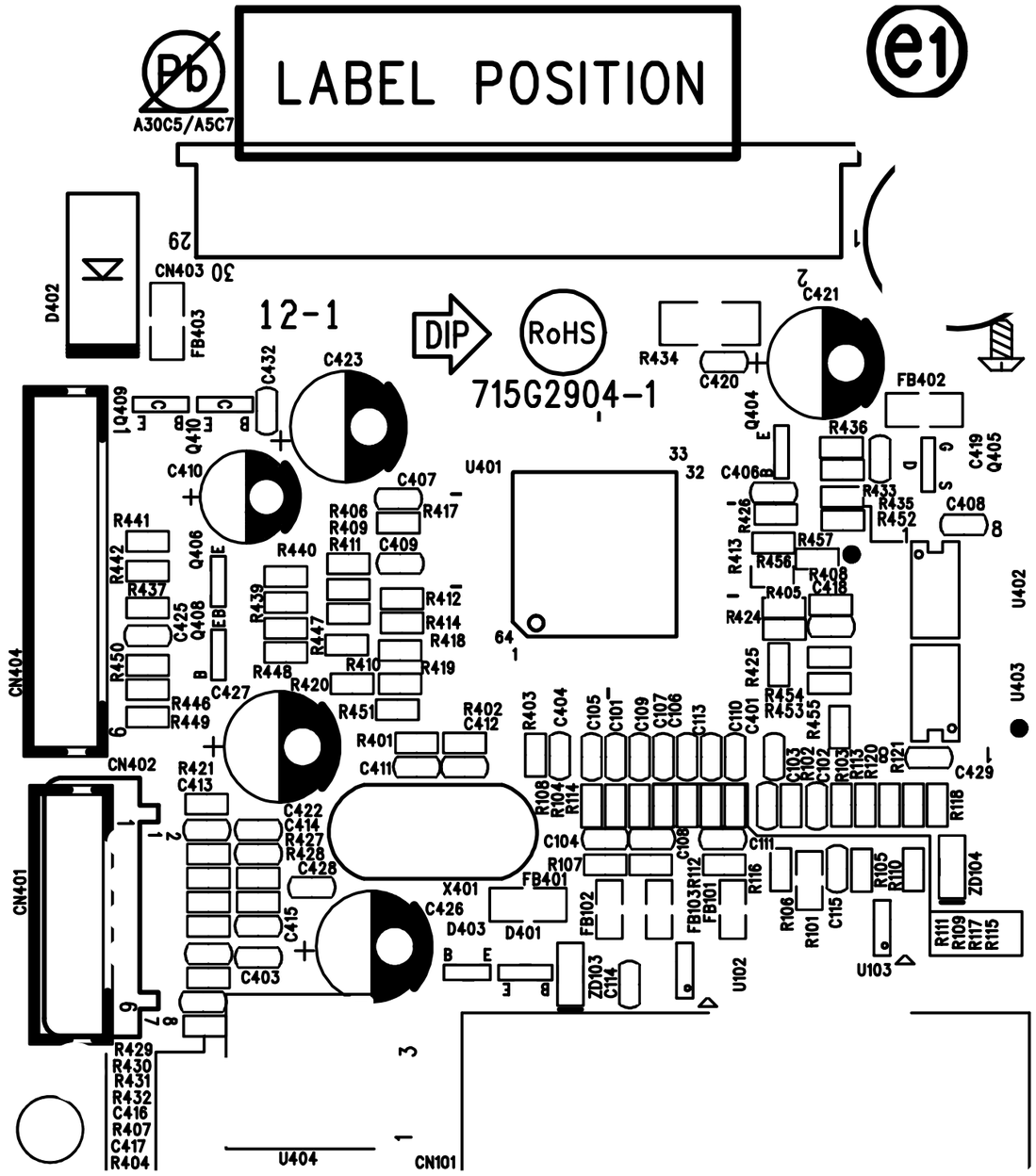
CN101 use wire harness dip.

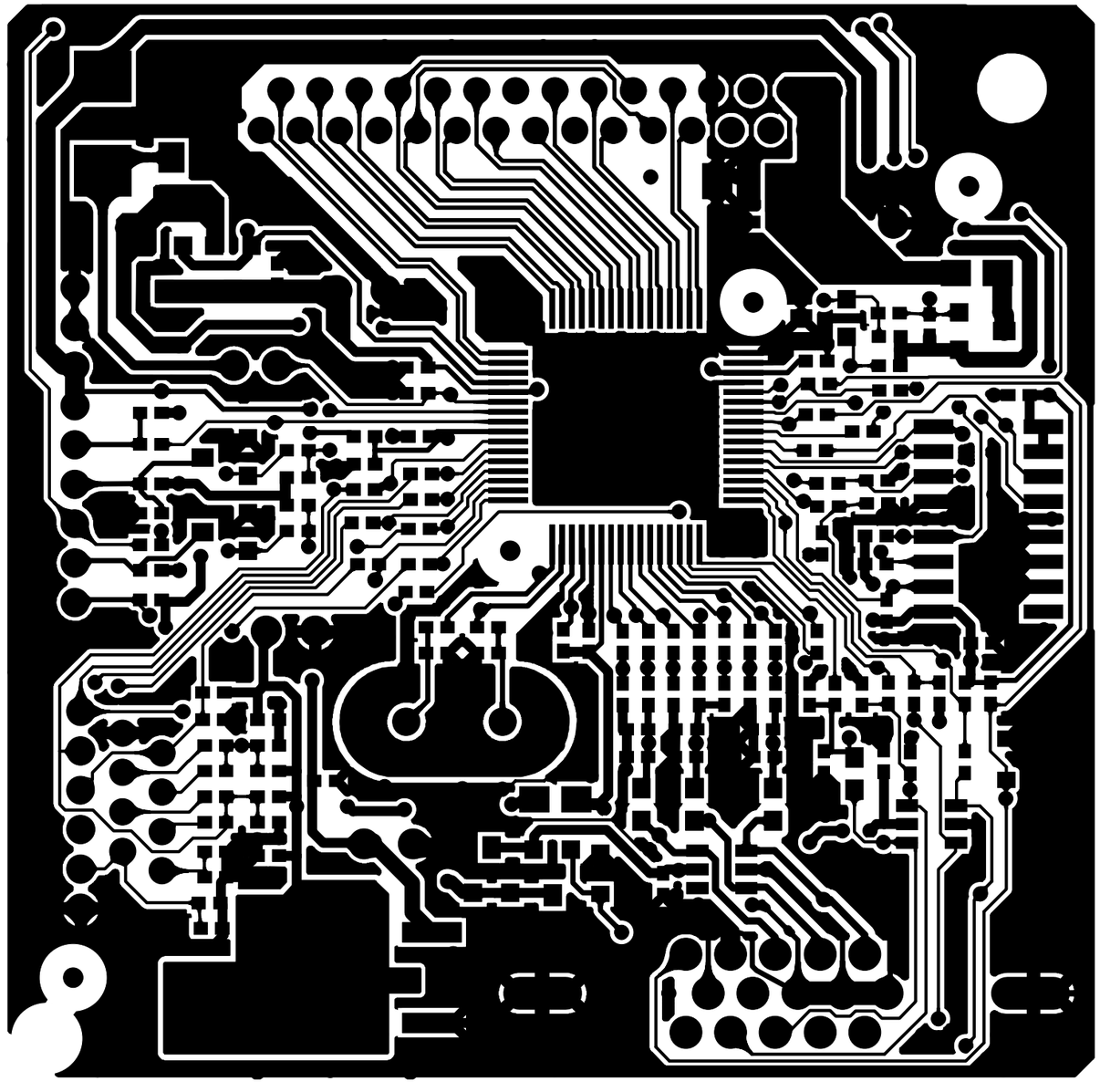
T P V （Top Victory Electronics Co . , Ltd. ）		OEM MODEL	VSC VA1716w	Size	A
結 隔 瓜 綑 腹	G2622-3-X-X-2-081124	TPV MODEL		Rev	3
Key Component	Key board	PCB NAME	715G2622-3	称 爹	N/A
Date	Monday , Nov ember 24, 2008	Sheet	1 of 1		

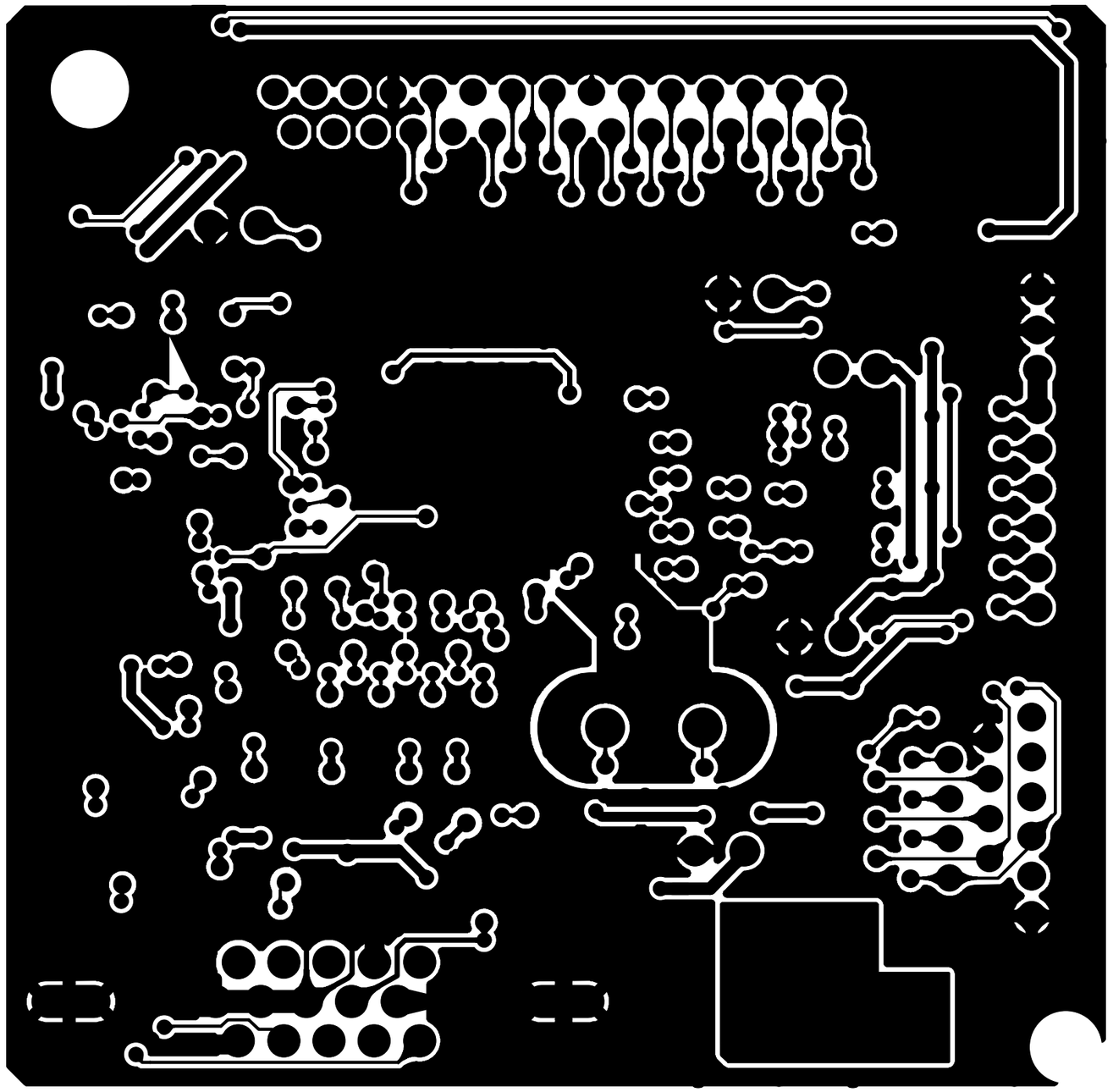
9. PCB Layout Diagrams

9.1 Main Board

715G2904 1

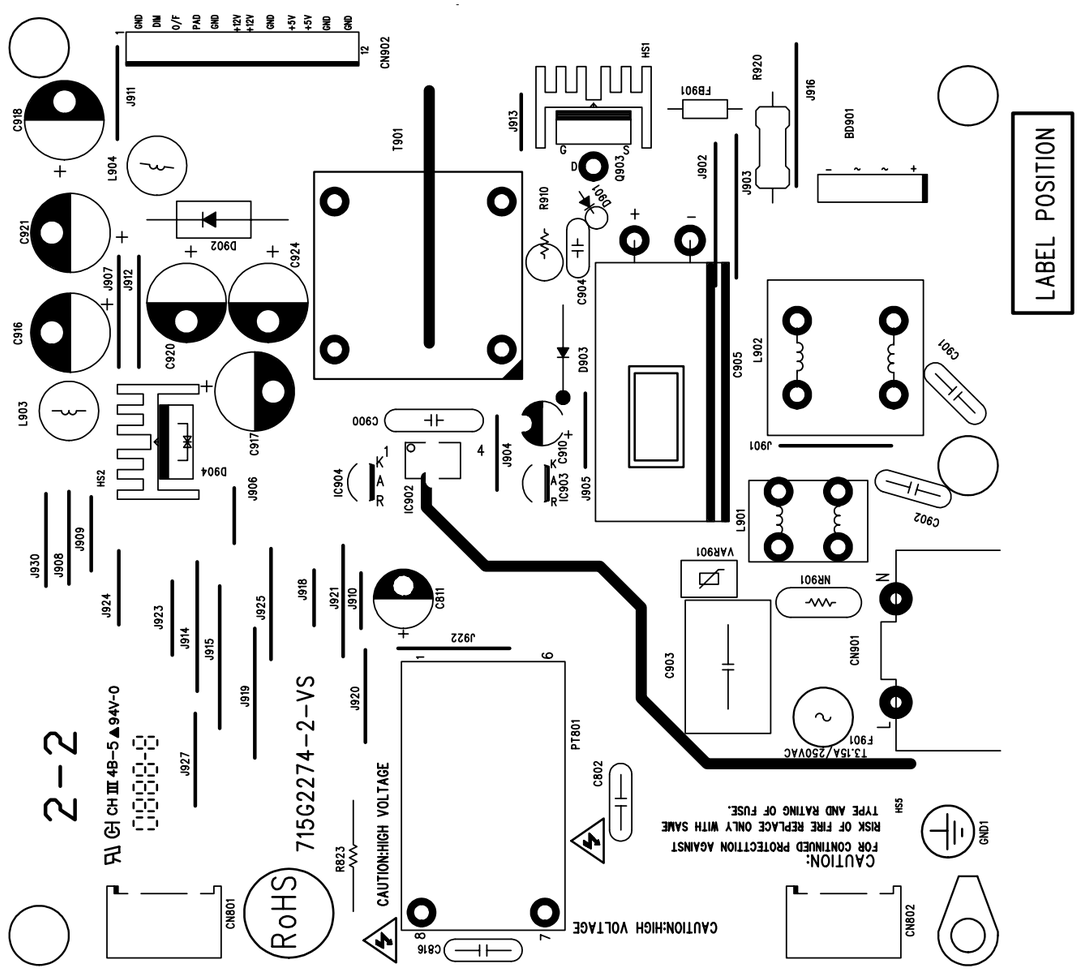


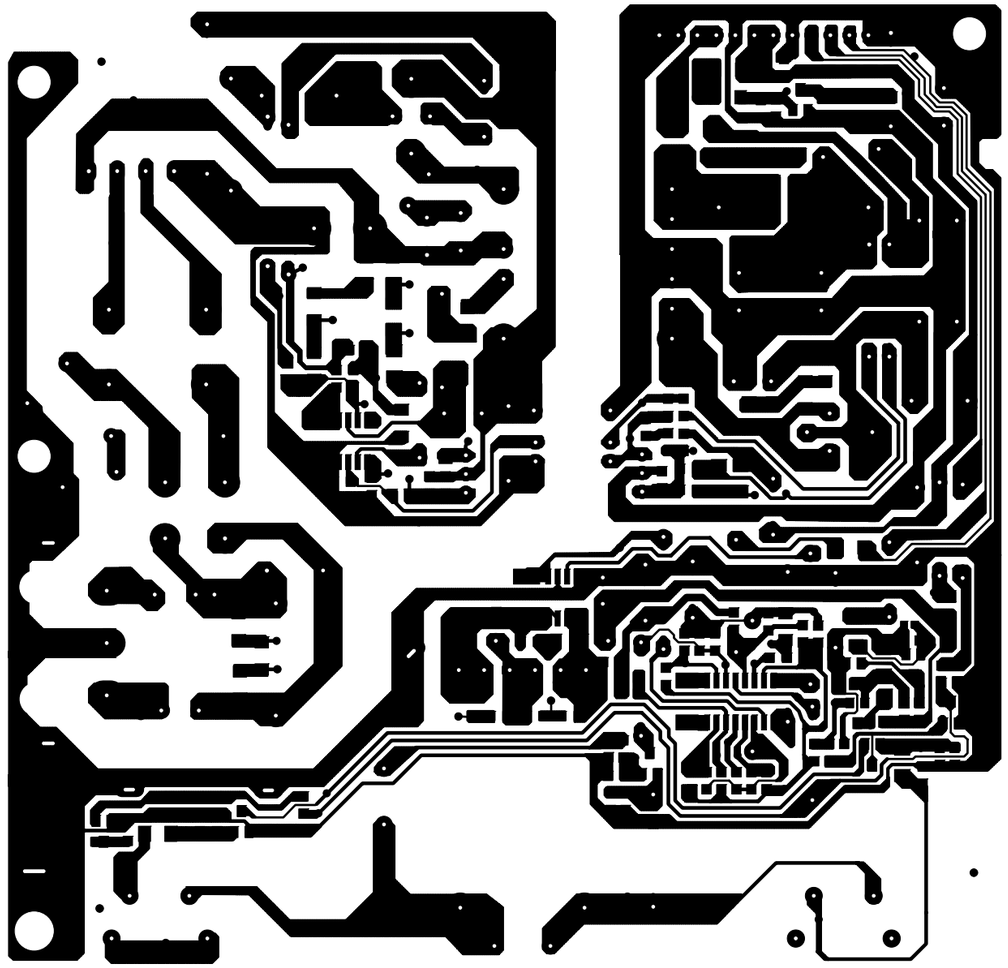




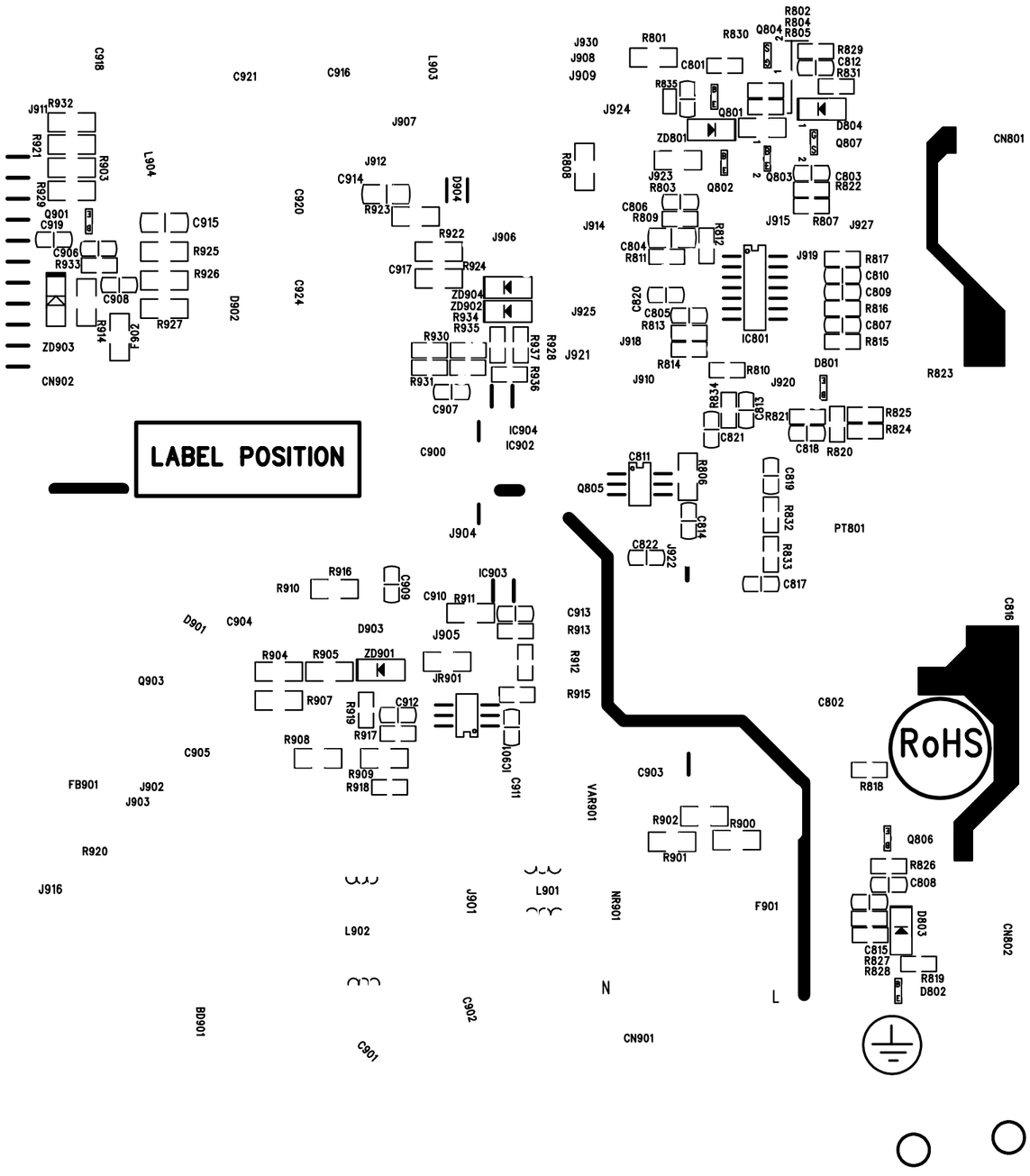
9.2 Power Board

715G2274 2 VS



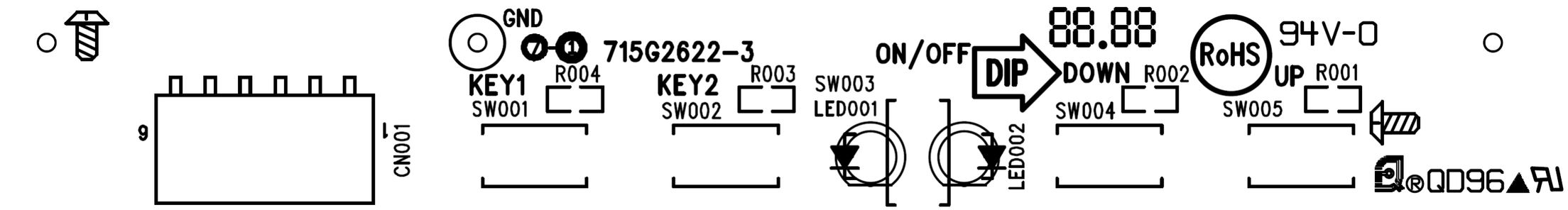


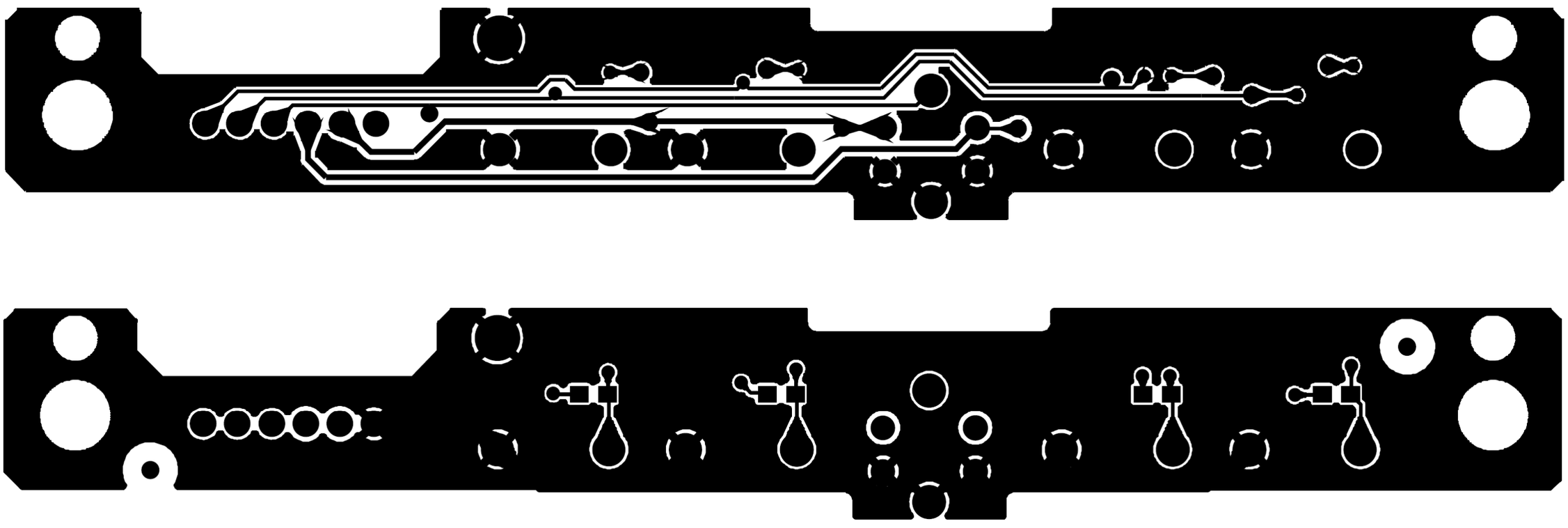
715G2274-2-VS



9.3 Key Board

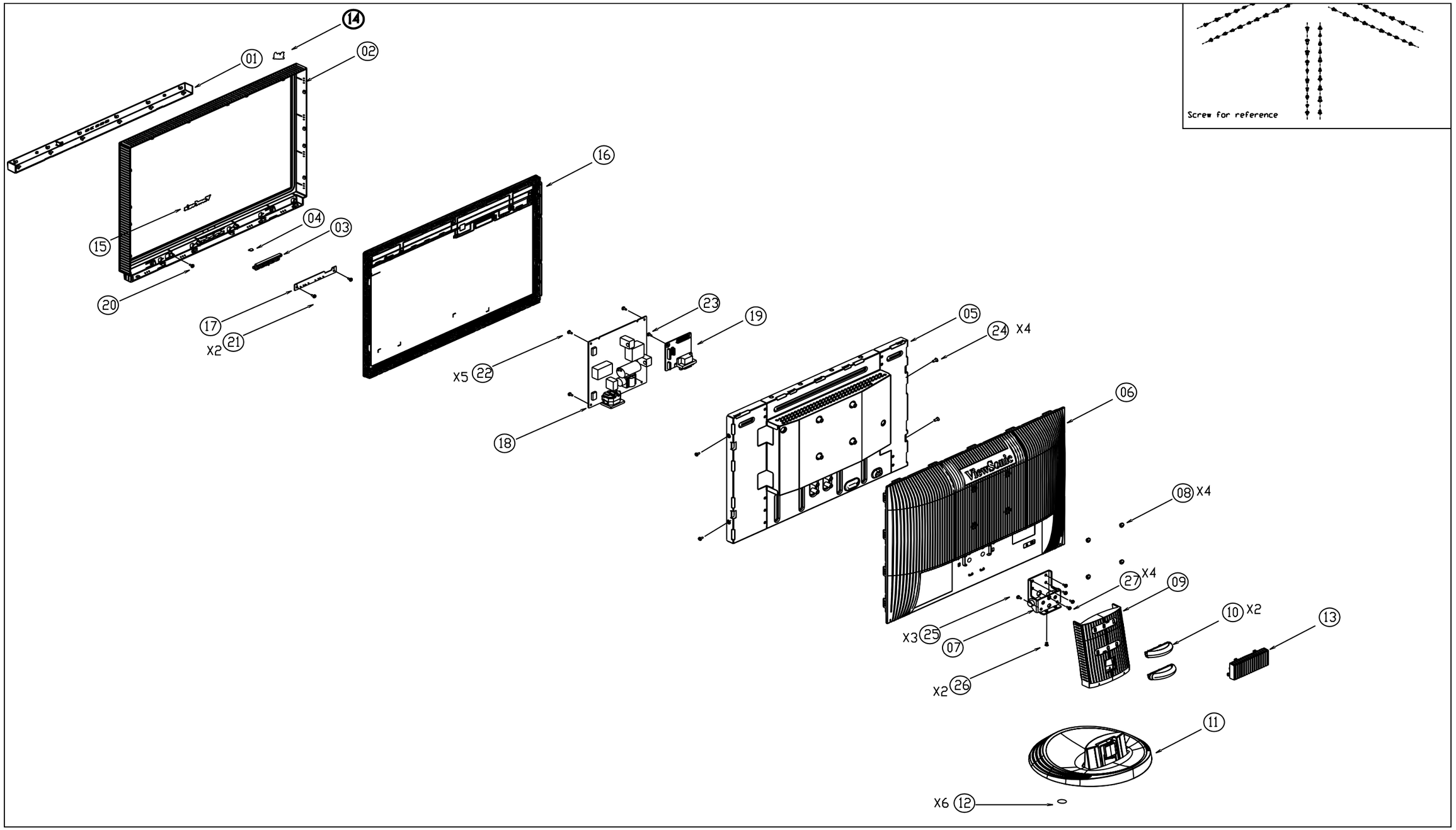
715G2622 3





10. Exploded Diagram and Spare Parts List

10.1 EPL

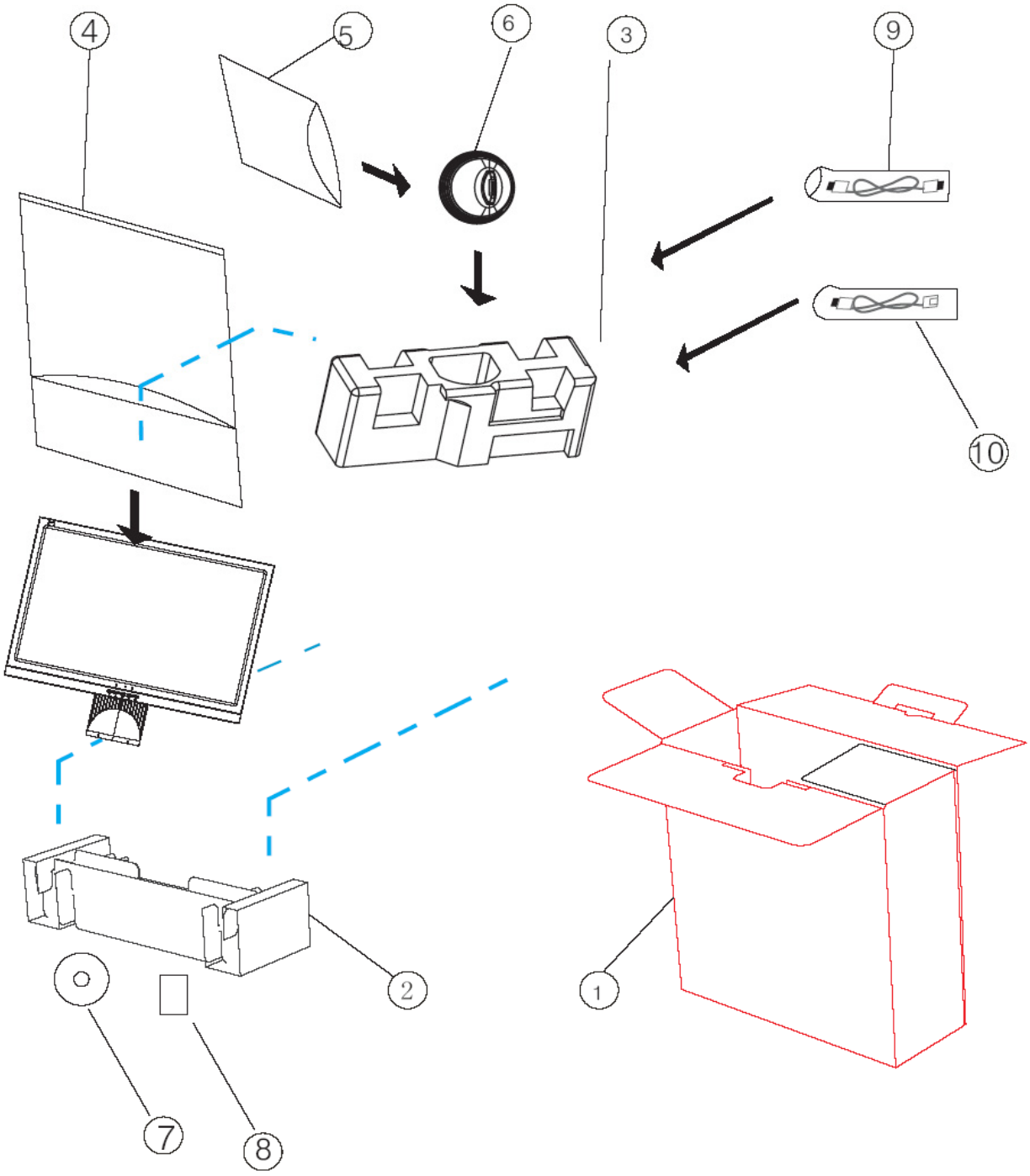


Exploeded Parts List

Item	Description	P/N	Q'ty
1	BUTTON COVER	NA	1
2	BEZEL	NA	1
3	KEY PAD	NA	1
4	LENS_POWER	NA	1
5	MAIN FRAME	NA	1
6	REAR COVER	NA	1
7	HINGE	NA	1
8	RUBBER VESA	NA	4
9	STAND	NA	1
10	CABLE CLIP	NA	2
11	BASE	NA	1
12	FOOT	NA	6
13	HINGE COVER	NA	1
14	LOGO	NA	1
15	LCD FRONT LOGO	NA	1
16	PANEL	NA	1
17	KEY BOARD	NA	1
18	POWER BOARD	NA	1
19	MAIN BOARD-CBPCRMRVWQ1	NA	1
20	SCREW(BEZEL/BUTTON COVER)	0Q1G 930 8120	1
21	SCREW(BEZEL/KEY BOARD)	0Q1G 930 8120	2
22	SCREW(MAIN FRAME/POWER BOARD)	0M1G1730 6120	5
23	SCREW(MAIN FRAME/MAIN BOARD)	0M1G1730 6120	1
24	SCREW(MAIN FRAME/PANEL)	0M1G1730 6120	4
25	SCREW(HINGE/STAND)	0Q1G1040 8120	3
26	SCREW(STAND/HINGE)	0M1G 940 8 47 CR3	2
27	SCREW(HINGE/MAIN FRAME)	0M1G1740 10 47 CR3	4

Remark: For the detailed P/N,please refer to the “10.2 Spare Parts List”.

PPL



Packing Part List

Item	Descripiton	P/N	Q'ty
1	CARTON	NA	1
2	EPS	NA	1
3	EPS	NA	1
4	PE BAG FOR MONITOR	NA	1
5	PE BAG FOR BASE	NA	1
6	BASE	NA	1
7	CD MANUAL	NA	1
8	QSG&BASE PROCSDURE CARD	NA	1
9	POWER CORD	NA	1
10	SIGNAL CABLE	NA	1

Remark: For the detailed P/N,please refer to the "10.2 Spare Parts List".

10.2 Spare Parts List

T79HMRDYNWVWNC

Location	Part No.	Description	Remark
	019G6014 1	TIE FOR STRAP	
	023G3178709 3A	LOGO	
	023G3178709 4A	VSC17-LCD FRONT LOGO	
	041G 68508 A	CONTROL CARD	
	044G6002815 1A	PAPER BOARD	
	044G9003214	CORNER PAPER	
	045G 77501	BARCODE RIBBON	
	049G 51 1A	ERADICATOR	
	050G 600 1 W	WHITE STRAP	
	050G 600 2	HANDLE1	
	050G 600 3	HANDLE2	
	052G 1185	MIDDLE TAPE	
	052G 1185	MIDDLE TAPE	
	052G 1185 24	VSC TAPE	
	052G 1186	SMALL TAPE	
	052G 1210 A	ALUMINIUM TAPE	
	052G 1211527	ALUMINIUM TAPE	
	052G 2191 A	PAPER TAPE	
	052G6019 1	INSULATING TAPE	
E08902	089G 728CAA902	SIGNAL CABLE 1.8M	2nd source
E08902	089G 728GAA902	SIGNAL CABLE	2nd source
E08902	089G 728HAA902	SIGNAL CABLE	
E08907	089G179E30H723	FFC CABLE 30PIN P1.0 170MM	2nd source
E08907	089G179J30H723	FFC CABLE 30PIN P1.0 170MM	
E08901	089G414A18N IS	POWER CORD 32E1818021	2nd source
E08901	089G414A18N YH	POWER CORD(32E1818021)	
	0M1G 130 5120	SCREW	
	0M1G1140 6120	SCREW	
	0M1G1730 6120	SCREW,42-D020523	
	0M1G1730 6120	SCREW,42-D020523	
	0M1G1740 10 47 CR3	SCREW	
	0Q1G 330 10 47 CR3	SCREW	
	0Q1G 930 8120	SCREW	
	705GQ934008	17" LCD STAND/BASE ASS'Y	
	0M1G 940 8 47 CR3	SCREW	
	0Q1G1040 8120	SCREW	
	A33G0246 KR 1B	CABLE CLIP	

	A34G0367 KR 1B0130	BASE	
	A34G0368 KR 1B	STAND	
	J37G0070 1	HINGE	
E750	750GLH70GWB12N	PANEL HSD170MGW1 B00 NJ HSD	2nd source
E750	750GLH70GWB12N000V	PANEL HSD170MGW1-B00 NJ HSD	
E750	750GLH70GWB1WN000V	PANEL HSD170MGW1-B00 WH HSD	2nd source
	756GQ8CB VV058	MAIN BOARD-CBPCRMRVWQ1	
SMTCR-U402	100GVMH7001N31	MCU ASS'Y-056G1133 81	
U402	056G1133 81	SST25LF020A-33-4C-SAE	
	A33G0216 KD 2B0100	KEY PAD	
	A33G0217 2	LENS_POWER	
	A33G0218 KR 1B	HINGE COVER	
	A34G0364 KRA1B0130	BEZEL L17W-7VSC3	
	A34G0365 KR 2B0130	REAR COVER	
	A34G0366 KD 1B0100	BUTTON COVER	
	040G 45762412B	CBPC LABEL	
CN401	033G3802 6	WAFER	
CN404	033G3802 9	WAFER 9P RIGHT ANELE PITCH	
CN403	033G801930F BH JF	WAFER 30PIN FFC CONNECTOR	
C421	067G 3151014KV	EC 105℃ CAP 100UF M 25V	
C427	067G 3151014KV	EC 105℃ CAP 100UF M 25V	
C426	067G 3151014KV	EC 105℃ CAP 100UF M 25V	
C423	067G 3151014KV	EC 105℃ CAP 100UF M 25V	
C410	067G215V100 7R	LOW E.S.R 10UF M 50V	
CN101	088G 35315F H	D-SUB 15PIN	2nd source
CN101	088G 35315F HD	D-SUB CONN F ATTACHED SCREW	
CN101	088G 35315F HJ	SOC SUBD H 15P F	2nd source
CN101	088G 35315F XH	D-SUB 15PIN VERTICAL CONN WITH SCREW	2nd source
X401	093G 22 53 H	14.31818MHZ/30PF/49US	
	709G2904 QM001	CONSUMPTIVE ASS'Y	
	049G 51 1A	ERADICATOR	
	052G 2191 A	PAPER TAPE	
	055G 2	ALCOHOL	
	055G 23524	WELDING FLUX WITHOUT PB	
	Q55G 100622	TIN STICK(SAC0507)	
	Q55G 100625	TIN STICK_LOW ARGENTUM	
U401	056G 562557	IC TSUM1PFR-LF	
U404	056G 563 52	IC AP1117D33L-13 TO252-3L DIODES	
U103	056G 662 13	IC AZC099-04S SOT23-6L	
U102	056G 662 13	IC AZC099-04S SOT23-6L	

U402	056G1133 81	SST25LF020A-33-4C-SAE	
Q404	057G 417 6	PMBS3906/PHILIPS-SMT(06)	
Q406	057G 417 12 T	KEC 2N3904S-RTK/PS	
Q409	057G 417 22 T	TRA KN2907AS -60V/-0.6A SOT-23	
Q410	057G 417 22 T	TRA KN2907AS -60V/-0.6A SOT-23	
Q405	057G 763 1	A03401 SOT23 BY AOS(A1)	
R457	061G0402000	RST CHIP MAX 0R05 1/16W	
R456	061G0402000	RST CHIP MAX 0R05 1/16W	
R402	061G0402000	RST CHIP MAX 0R05 1/16W	
R401	061G0402000	RST CHIP MAX 0R05 1/16W	
R102	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R103	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R104	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R108	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R110	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R111	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R113	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R114	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R442	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R420	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R413	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R412	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R411	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R405	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R117	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R115	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	
R118	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	
R441	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	
R439	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R437	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R433	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R421	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R417	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R408	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R407	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R406	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R404	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R121	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R120	061G0402103	RST CHIPR 10 KOHM +-5% 1/16W	
R436	061G0402104	RST CHIPR 100 KOHM +-5% 1/16W	

R414	061G0402121	RST CHIP 120R 1/16W 5%	
R409	061G0402203	RST CHIP 20K 1/16W 5%	
R410	061G0402220	RST CHIPR 22 OHM +-5% 1/16W	
R105	061G0402222	RST CHIPR 2.2 KOHM +-5% 1/16W	
R106	061G0402222	RST CHIPR 2.2 KOHM +-5% 1/16W	
R109	061G0402390 0F	RST CHIP 390R 1/16W 1%	
R403	061G0402390 0F	RST CHIP 390R 1/16W 1%	
R427	061G0402390 1F	RST CHIPR 3.9KOHM +-1% 1/16W	
R428	061G0402390 1F	RST CHIPR 3.9KOHM +-1% 1/16W	
R435	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	
R440	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	
R107	061G0402750	RST CHIPR 75 OHM +-5% 1/16W	
R112	061G0402750	RST CHIPR 75 OHM +-5% 1/16W	
R116	061G0402750	RST CHIPR 75 OHM +-5% 1/16W	
R101	061G0603000	RST CHIP MAX 0R05 1/10W	
R434	061G1206331	RST CHIPR 330 OHM +-5% 1/4W	
C401	065G0402104 15	MLCC 0402 0.1UF K 16V X5R	
C403	065G0402104 15	MLCC 0402 0.1UF K 16V X5R	
C404	065G0402104 15	MLCC 0402 0.1UF K 16V X5R	
C406	065G0402104 15	MLCC 0402 0.1UF K 16V X5R	
C407	065G0402104 15	MLCC 0402 0.1UF K 16V X5R	
C409	065G0402104 15	MLCC 0402 0.1UF K 16V X5R	
C413	065G0402104 15	MLCC 0402 0.1UF K 16V X5R	
C414	065G0402104 15	MLCC 0402 0.1UF K 16V X5R	
C415	065G0402104 15	MLCC 0402 0.1UF K 16V X5R	
C416	065G0402104 15	MLCC 0402 0.1UF K 16V X5R	
C417	065G0402104 15	MLCC 0402 0.1UF K 16V X5R	
C420	065G0402104 15	MLCC 0402 0.1UF K 16V X5R	
C422	065G0402104 15	MLCC 0402 0.1UF K 16V X5R	
C428	065G0402104 15	MLCC 0402 0.1UF K 16V X5R	
C432	065G0402104 15	MLCC 0402 0.1UF K 16V X5R	
C412	065G0402220 31	CHIP 22PF 50V NPO	
C411	065G0402220 31	CHIP 22PF 50V NPO	
C103	065G0402220 31	CHIP 22PF 50V NPO	
C102	065G0402220 31	CHIP 22PF 50V NPO	
C408	065G0402224 17	CAP CER 0.22UF -20%-80%	
C419	065G0402224 A5	MLCC 0402 CAP 0.22UF K 10V X5R	
C105	065G0402473 12	CHIP 0.047UF 16V X7R	
C106	065G0402473 12	CHIP 0.047UF 16V X7R	
C107	065G0402473 12	CHIP 0.047UF 16V X7R	

C109	065G0402473 12	CHIP 0.047UF 16V X7R	
C101	065G0402473 12	CHIP 0.047UF 16V X7R	
C113	065G0402473 12	CHIP 0.047UF 16V X7R	
C110	065G0402473 12	CHIP 0.047UF 16V X7R	
C111	065G0402509 31	CHIP 5PF 50V NPO	
C108	065G0402509 31	CHIP 5PF 50V NPO	
C104	065G0402509 31	CHIP 5PF 50V NPO	
FB402	071G 56K121 M	CHIP BEAD	
FB402	071G 56K121 M GP	120 OHM 6A	
FB401	071G 56V301 B	CHIP BEAD FCM2012VF-301T07 BULLWILL	
FB401	071G 56V301 M	CHIP BEAD 2012 300 OHM	
FB101	071G 59K190 B	19 OHM BEAD	
FB102	071G 59K190 B	19 OHM BEAD	
FB103	071G 59K190 B	19 OHM BEAD	
D401	093G 64 33	DIO SIG SM BAV99 (PHSE)R	
D401	093G 6433S	DIODE BAV99 SEMTECH	
ZD103	093G 39S 34 T	UDZSNP5.6B ROHM	
ZD104	093G 39S 34 T	UDZSNP5.6B ROHM	
D402	093G1004 3	SS14	
	715G2904 1	MAIN PCB 57X64X1.6MM DS	
U404	056G 563916	IC LD1117DT33TR DPAK	
	709G2904 QS001	CONSUMPTIVE ASS'Y	
	052G 2191 A	PAPER TAPE	
	052G6026 3	MESH PRINTTING PAPER	
	055G 23520	IPA	
	055G 100610	TIN CREAM W/O PB	
	Q05G6054 1	SHEET	
	Q09G6012 1	PIN	
Q406	057G 417518	TRA LMBT3904LT1G 200MA/40V SOT-23 LRC	
Q404	057G 417517	TRA LMBT3906LT1G -200MA/-40V SOT-23 LRC	
	040G 45762420A	LABEL 25X6MM	
ZD103	093G 39S501 T	LUDZS5.6BT1G BY LRC	
ZD104	093G 39S501 T	LUDZS5.6BT1G BY LRC	
	J12G 394800	FOOT	
	J12G 808 1 J	RUBBER VESA	
	J15G1720 1	MAIN FRAME	
	J52G6020VSC 2	PROTECT FILM	
	KEPC8QI5	KEY BOARD	
SW005	077G 603 2C TO	TACT SWITCH	

SW004	077G 603 2C TO	TACT SWITCH	
SW003	077G 603 2C TO	TACT SWITCH	
SW002	077G 603 2C TO	TACT SWITCH	
SW001	077G 603 2C TO	TACT SWITCH	
LED001	081G 13 B GH	LED GHB713A GUANGHONG	
LED002	081G 13 Y GH	LED GHY713C GUANGHONG	
CN001	095G8014 6648 W	WIRE HARNESS	
CN001	095G8014 6D648	WIRE HARNESS 6P(PH)-6P(SANW) 150MM	
CN001	095G8014 6X648	WIRE HARNESS	
R004	061G0603200 1F	RST CHIPR 2 KOHM +-1% 1/10W	
R003	061G0603200 1F	RST CHIPR 2 KOHM +-1% 1/10W	
R002	061G0603300 1F	RST CHIPR 3 KOHM +-1% 1/10W	
R001	061G0603300 1F	RST CHIPR 3 KOHM +-1% 1/10W	
	715G2622 3	KEPC PCB	
	PWPC8721HQWC	POWER BOARD	
	040G 45762412B	CBPC LABEL	
GND1	009G6005 1	GROUND TERMINAL	
CN801	033G8020 2F F	CONN.2P DIP	
CN802	033G8020 2F F	CONN.2P DIP	
CN801	033G8020 2F U	CONNECTOR 2P DIP R/A	
CN802	033G8020 2F U	CONNECTOR 2P DIP R/A	
IC902	056G 139 7 1	IC EL817MA M-TYPE	
IC902	056G 139 3A	IC PC123Y22FZ0F	
NR901	061G 58120 WT	NTCR 12OHM 20% 2A SCK-122	
R910	061G152M10458G	100K OHM 5% 2W	
R920	061G152M688 64	0.68OHM +-5% 2W	
C903	063G107K334 US	X2.MKP.0.33UF,275VAC+-10%EUROP	
C802	065G 3J2096ET	2PF 5% SL 3KV	
C816	065G 6J1506ET	15PF 5% SL 6KV	
C901	065G305M1022E2	1000P 400VAC/250VAC	
C902	065G305M1022E2	1000P 400VAC/250VAC	
C901	065G305M1022EM	Y2 1000PF +-20% 250VAC	
C902	065G305M1022EM	Y2 1000PF +-20% 250VAC	
C900	065G306M2222BP	2200PF +-20% 250VAC	
C905	067G 40Z10115K	CAP 105℃ 100UF M 450V	
C924	067G215D4714KV	E.C 105℃ CAP 470UF M 25V ED SERIES	
C921	067G215D4714KV	E.C 105℃ CAP 470UF M 25V ED SERIES	
C920	067G215D4714KV	E.C 105℃ CAP 470UF M 25V ED SERIES	
C916	067G215D4714KV	E.C 105℃ CAP 470UF M 25V ED SERIES	
C917	067G215D4714KV	E.C 105℃ CAP 470UF M 25V ED SERIES	

C918	067G215D4714KV	E.C 105℃ CAP 470UF M 25V ED SERIES	
C905	067G215S10115N	PAG450VB100-M-L18*35.5MM	
C916	067G215V471 4N	470UF +-20% 25V	
C917	067G215V471 4N	470UF +-20% 25V	
C918	067G215V471 4N	470UF +-20% 25V	
C920	067G215V471 4N	470UF +-20% 25V	
C921	067G215V471 4N	470UF +-20% 25V	
C924	067G215V471 4N	470UF +-20% 25V	
C918	067G215V471 4R	LOW E.S.R 470UF +/-20% 25V	
C917	067G215V471 4R	LOW E.S.R 470UF +/-20% 25V	
C916	067G215V471 4R	LOW E.S.R 470UF +/-20% 25V	
C920	067G215V471 4R	LOW E.S.R 470UF +/-20% 25V	
C921	067G215V471 4R	LOW E.S.R 470UF +/-20% 25V	
C924	067G215V471 4R	LOW E.S.R 470UF +/-20% 25V	
C811	067G415V221 6K	CAP 105℃ 220UF M 35V	
L902	073G 174 65 H	LINE FILTER	
L904	073G 253 91 H	CHOKE COIL	
L903	073G 253 91 H	CHOKE COIL	
L903	073G 253 91 V	CHOKE COIL 3.5UH+-10%	
L904	073G 253 91 V	CHOKE COIL 3.5UH+-10%	
L901	073L 174 50 HH	LINE FITER	
L901	073L 174 50 VH	LINE FILTER 4.0MH MIN	
T901	080GL15T 32 T	X'FMR 770UH SRW24LQ-TXXH016	
PT801	080GL19T 18 H	XFMR FOR INVERTER DADON	
PT801	080GL19T 18 DN	X'FMR100.3UH TK.2048M.101	
CN901	087G 501 37 S	AC INLET ST-01DG-B2K-K	
BD901	093G 50460 28	BRIDGE DIODE KBP208G LITEON	
BD901	093G 50460502	KBP206G	
D901	093G 6026T52T	RECTIFIER DIODE FR107	
D902	093G3006 1 1	31DQ06FC3 NIHON INTER	
CN902	095G 825 12712 Q	WIRE HARNESS	
CN902	095G 825 12712 W	WIRE HARNESS	
CN902	095G 825 12712 X	WIRE HARNESS	
	096G 29 8	TUBE	
R910	096G 29 8	TUBE	
	096G 29 10 CB	H.S.TUBE CHANGBAO-102	
	705GQ5K0 57001	Q903 ASS'Y	
Q903	057G 667 30	2SK2645	
Q903	057G 724 11	STP9NK65ZFP	
	090G6084 1	HEAT SINK	

	0M1G1730 8120	SCREW	
	705GQ5K0 93001	D904 ASS'Y	
	090G6084 1	HEAT SINK	
D904	093G 60239	FME-210B T0-220	
D904	093G 60245	SP10150 10A 150V ITO-220 BY SECOS	
	0M1G1730 8120	SCREW	
	705GQ851003	OIL FOR DISAPPEAR ASS'Y	
	051G 200 1	OIL FOR DISAPPEAR	
	052G 2191 A	PAPER TAPE	
	709G2274 QM001	CONSUMPTIVE ASS'Y	
	049G 51 1A	ERADICATOR	
	052G 2191 A	PAPER TAPE	
	055G 2	ALCOHOL	
	055G 23524	WELDING FLUX WITHOUT PB	
	Q51G 6 4509	GLUE_RTV	
	Q55G 100622	TIN STICK(SAC0507)	
	Q55G 100625	TIN STICK_LOW ARGENTUM	
IC901	056G 379 76	IC LD7552BPS SOP-8	
IC801	056G 608 10	IC OZ9938GN-B SOIC-16	
Q901	057G 417 12 T	KEC 2N3904S-RTK/PS	
Q803	057G 417 12 T	KEC 2N3904S-RTK/PS	
Q802	057G 417 12 T	KEC 2N3904S-RTK/PS	
Q807	057G 759 2	RK7002FD5T116 SOT-23 BY ROHM	
Q806	057G 759 2	RK7002FD5T116 SOT-23 BY ROHM	
Q804	057G 759 2	RK7002FD5T116 SOT-23 BY ROHM	
Q801	057G 759 2	RK7002FD5T116 SOT-23 BY ROHM	
Q805	057G 763 64	FET APM9945KC-TRL 3A/60V SOP-8	
R917	061G0805100	RST CHIPR 10 OHM +-5% 1/8W	
R918	061G0805100 1F	RST CHIPR 1K OHM +-1% 1/8W	
R928	061G0805100 1F	RST CHIPR 1K OHM +-1% 1/8W	
R931	061G0805100 1F	RST CHIPR 1K OHM +-1% 1/8W	
R804	061G0805100 2F	RST CHIPR 10KOHM +-1% 1/8W	
R812	061G0805100 2F	RST CHIPR 10KOHM +-1% 1/8W	
R828	061G0805100 2F	RST CHIPR 10KOHM +-1% 1/8W	
R919	061G0805100 2F	RST CHIPR 10KOHM +-1% 1/8W	
R810	061G0805100 3F	RST CHIPR 100KOHM +-1% 1/8W	
R815	061G0805100 3F	RST CHIPR 100KOHM +-1% 1/8W	
R821	061G0805100 3F	RST CHIPR 100KOHM +-1% 1/8W	
R915	061G0805100 3F	RST CHIPR 100KOHM +-1% 1/8W	
R819	061G0805102	RST CHIPR 1K OHM +-5% 1/8W	

R831	061G0805102	RST CHIPR 1K OHM +-5% 1/8W	
R935	061G0805102	RST CHIPR 1K OHM +-5% 1/8W	
R813	061G0805105	RST CHIPR 1M OHM +-5% 1/8W	
R816	061G0805105	RST CHIPR 1M OHM +-5% 1/8W	
R822	061G0805105	RST CHIPR 1M OHM +-5% 1/8W	
R826	061G0805105	RST CHIPR 1M OHM +-5% 1/8W	
R829	061G0805105	RST CHIPR 1M OHM +-5% 1/8W	
R832	061G0805150	15 0805	
R833	061G0805150	15 0805	
R834	061G0805184	RST CHIPR 180K OHM +-5% 1/8W	
R807	061G0805220	RST CHIPR 22 OHM +-5% 1/8W	
R936	061G0805243 1F	RST CHIPR 2.43 KOHM +-1% 1/8W	
R802	061G0805304	RST CHIPR 300K OHM +-5% 1/8W	
R930	061G0805330 0F	RST CHIPR 330 OHM +-1% 1/8W	
R817	061G0805330 2F	RST CHIPR 33K OHM +-1% 1/8W	
R934	061G0805330 2F	RST CHIPR 33K OHM +-1% 1/8W	
R827	061G0805390 0F	RST CHIPR 390 OHM +-1% 1/8W	
R937	061G0805390 1F	RST CHIPR 3.9 KOHM +-1% 1/8W	
R814	061G0805433	RST CHIPR 43 KOHM +-5% 1/8W	
R820	061G0805563	RST CHIPR 56K OHM +-5% 1/8W	
R818	061G0805680 2F	RST CHIPR 68 KOHM +-1% 1/8W	
R825	061G0805752	RST CHIPR 7.5 KOHM +-5% 1/8W	
JR901	061G1206000	RST CHIP MAX 0R05 1/4W	
R801	061G1206000	RST CHIP MAX 0R05 1/4W	
F902	061G1206000 4	RST CHIP MAX 0R05 1/4W	
R927	061G1206101	RST CHIPR 100 OHM +-5% 1/4W	
R926	061G1206101	RST CHIPR 100 OHM +-5% 1/4W	
R925	061G1206101	RST CHIPR 100 OHM +-5% 1/4W	
R924	061G1206101	RST CHIPR 100 OHM +-5% 1/4W	
R923	061G1206101	RST CHIPR 100 OHM +-5% 1/4W	
R922	061G1206101	RST CHIPR 100 OHM +-5% 1/4W	
R903	061G1206102	RST CHIPR 1K OHM +-5% 1/4W	
R914	061G1206102	RST CHIPR 1K OHM +-5% 1/4W	
R921	061G1206102	RST CHIPR 1K OHM +-5% 1/4W	
R929	061G1206102	RST CHIPR 1K OHM +-5% 1/4W	
R932	061G1206102	RST CHIPR 1K OHM +-5% 1/4W	
R803	061G1206103	RST CHIPR 10K OHM +-5% 1/4W	
R916	061G1206249	RST CHIPR 2.4 OHM +-5% 1/4W	
R905	061G1206434	RST CHIPR 430 KOHM +-5% 1/4W	
R904	061G1206434	RST CHIPR 430 KOHM +-5% 1/4W	

R805	061G1206471	RST CHIPR 470 OHM +-5% 1/4W	
R808	061G1206473	RST CHIPR 47KOHM +-5% 1/4W	
R907	061G1206514	RST CHIPR 510 KOHM +-5% 1/4W	
R908	061G1206514	RST CHIPR 510 KOHM +-5% 1/4W	
R909	061G1206514	RST CHIPR 510 KOHM +-5% 1/4W	
R902	061G1206684	RST CHIPR 680K OHM +-5% 1/4W	
R901	061G1206684	RST CHIPR 680K OHM +-5% 1/4W	
R900	061G1206684	RST CHIPR 680K OHM +-5% 1/4W	
C822	065G0805102 32	CHIP 1000P 50VX7R 0805	
C821	065G0805102 32	CHIP 1000P 50VX7R 0805	
C819	065G0805102 32	CHIP 1000P 50VX7R 0805	
C817	065G0805102 32	CHIP 1000P 50VX7R 0805	
C805	065G0805102 32	CHIP 1000P 50VX7R 0805	
C906	065G0805103 22	CHIP 0.01UF 25V X7R 0805	
C807	065G0805103 22	CHIP 0.01UF 25V X7R 0805	
C801	065G0805103 22	CHIP 0.01UF 25V X7R 0805	
C911	065G0805104 22	0.1UF +-10% 25V X7R 080	
C919	065G080510422T	CAP 0805 0.1UF K 25V X7R TAIYO YUDEN	
C909	065G080510422T	CAP 0805 0.1UF K 25V X7R TAIYO YUDEN	
C908	065G080510422T	CAP 0805 0.1UF K 25V X7R TAIYO YUDEN	
C907	065G080510422T	CAP 0805 0.1UF K 25V X7R TAIYO YUDEN	
C812	065G080510422T	CAP 0805 0.1UF K 25V X7R TAIYO YUDEN	
C808	065G080510422T	CAP 0805 0.1UF K 25V X7R TAIYO YUDEN	
C806	065G0805105 12	1UF +-10% 16V X7R	
C912	065G0805221 32	CHIP 220PF 50V X7R 0805	
C809	065G0805223 22	CHIP 0.022UF 25V X7R 080	
C818	065G0805471 31	CHIP 470PF 50V NPO	
C815	065G0805473 32	CHIP 0.047UF 50V X7R	
C810	065G080556131G	MLCC 0805 560PF G 50V NPO	
C915	065G1206102 72	CAP CHIP 1206 1000PF K 500V X7R	
C914	065G1206102 72	CAP CHIP 1206 1000PF K 500V X7R	
C804	065G1206225 22	2.2UF 25V X7R 1206	
D801	093G 64 42 P	BAV70 SOT23 BY PAN JIT	
D804	093G 6432S	1N4148W	
D803	093G 6432S	1N4148W	
D802	093G 6433P	BAV99	
ZD903	093G 39GA28 T	ZENER DIODE RLZ13B SEMTECH	
ZD902	093G 39S 24 T	RLZ 5.6B LLDS	
ZD801	093G 39S 24 T	RLZ 5.6B LLDS	
ZD904	093G 39S 40 T	RLZ 13B LLDS	

ZD901	093G 39S 45 T	DIODE ZENER RLZ36B ROHM	
CN901	006G 31500	EYELET	
C905	006G 31502	1.5MM RIVET	
L901	006G 31502	1.5MM RIVET	
L902	006G 31502	1.5MM RIVET	
PT801	006G 31502	1.5MM RIVET	
Q903	006G 31502	1.5MM RIVET	
T901	006G 31502	1.5MM RIVET	
IC904	056G 158 10 T	IC AS431AZTR-E1 TO-92	
J914	061G 60210052T	10 OHM 5% 1/6W	
J921	061G 60210052T	10 OHM 5% 1/6W	
R823	061G212Y62552T SY	RST MGFR 6.2MOHM +-5% 1/2W FUTABA	
C904	065G 1K152 1T	1.5NF/1KV Z5F+-10%	
C910	067G215Y2207KT	CAP 105℃ 22UF M 50V KINGNICHI	
J908	071G 55 9 T	FERRITE BEAD	
FB901	071G 55 29	FERRITE BEAD	
F901	084G 55 7W	FUSE 3.15A 250V WICKMANN	
D903	093G 6038T52T	FR103	
J915	095G 90 23	JUMPER WIRE	
J916	095G 90 23	JUMPER WIRE	
J918	095G 90 23	JUMPER WIRE	
J919	095G 90 23	JUMPER WIRE	
J920	095G 90 23	JUMPER WIRE	
J922	095G 90 23	JUMPER WIRE	
J930	095G 90 23	JUMPER WIRE	
J925	095G 90 23	JUMPER WIRE	
J927	095G 90 23	JUMPER WIRE	
J924	095G 90 23	JUMPER WIRE	
J923	095G 90 23	JUMPER WIRE	
J913	095G 90 23	JUMPER WIRE	
J912	095G 90 23	JUMPER WIRE	
J911	095G 90 23	JUMPER WIRE	
J910	095G 90 23	JUMPER WIRE	
J909	095G 90 23	JUMPER WIRE	
J907	095G 90 23	JUMPER WIRE	
J906	095G 90 23	JUMPER WIRE	
J905	095G 90 23	JUMPER WIRE	
J904	095G 90 23	JUMPER WIRE	
J903	095G 90 23	JUMPER WIRE	
J901	095G 90 23	JUMPER WIRE	

J902	095G 90 23	JUMPER WIRE	
	715G2274 2 VS	POWER PCB	
IC904	056G 158 12	KIA431A-AT/P TO-92	
	709G2274 QA001	CONSUMPTIVE ASS'Y	
	052G 2191 A	PAPER TAPE	
	095G 90 23	JUMPER WIRE	
ZD903	093G 39S 40 T	RLZ 13B LLDS	
ZD902	093G 39GA01 T	RLZ5.6B	
ZD801	093G 39GA01 T	RLZ5.6B	
D801	093G 64 42 PP	BAV70 SOT-23	
C919	065G080510422W	CAP 0805 0.1UF K 25V X7R WALSIN	
C909	065G080510422W	CAP 0805 0.1UF K 25V X7R WALSIN	
C908	065G080510422W	CAP 0805 0.1UF K 25V X7R WALSIN	
C808	065G080510422W	CAP 0805 0.1UF K 25V X7R WALSIN	
C812	065G080510422W	CAP 0805 0.1UF K 25V X7R WALSIN	
C907	065G080510422W	CAP 0805 0.1UF K 25V X7R WALSIN	
Q805	057G 763 14	AM9945N	
Q805	057G 600 55	P5506 HVG SO-8	
Q802	057G 417 4	PMBS3904/PHILIPS-SMT(04)	
Q803	057G 417 4	PMBS3904/PHILIPS-SMT(04)	
Q901	057G 417 4	PMBS3904/PHILIPS-SMT(04)	
	709G2274 QS001	CONSUMPTIVE ASS'Y	
	Q05G6054 1	SHEET	
	Q09G6012 1	PIN	
	052G 2191 A	PAPER TAPE	
	Q51G 100502	GLUE_RED_MALER	
L902	S73G17465V	LINE FILTER ASS'Y	
L902	S73G17465VW	LINE FILTER ASS'Y	
T901	S80GL15T32V	TRANSFORMER ASS'Y	
	071FPL24108 01	PC47 LQ24/25-A398	
PT801	S80GL19T18V	TRANSFORMER ASS'Y	
	034FPE19P03	CASE EEL19	
	Q07G 1 5V92	WOODEN PALLET	
	Q40G 58170930A	LABEL	
	Q40G 58170931A	HT POT LABEL	
	Q40G0001624 4A	PALLET LABEL	
	Q40G000270926A	MANUFACTURE ADDRESS STICKER	
	Q40G000270927A	EPA LABEL	
	Q40G000270942A	CARTON STICKER CEL LABEL FOR VA1716W-2	

	Q41G2401709 4A	WARRANTY CARD	
	Q44G6000 223A	EMPTY CARTON FOR PALLET	
	Q44G6002CP130A	PAPER CAP	
	Q44G7110101	EPS	
	Q44G7110201	EPS	
	Q44G7110709 1A	17"LCD CARTON	
	Q45G 77 5	PE PACKING	
	Q45G 88606 R	PE BAG FOR BASE	
	Q45G 88607 R	PE BAG FOR MONITOR	
	Q45G2007C0103A	PE BAG FOR CARTON	
	Q50G 4 10	TIE	
	Q41G5000709 4A	ROHS CARD	
	Q41G780070950A	QSG & BASE PROCSDURE CARD	
	Q45G 76 28 RN R	PE BAG MANUAL	
	Q70G7008709 2A	CD FOR VA1716W	
	040G 581 26704	SHIPPING LABEL	
	040G 58162435A	P/N LABEL FOR MANUAL PE BAG	
	040G 58170912A	S/N LABEL	
	Q40G 17N709 3A	RATING LABEL	
	Q40G 581709 1B	CARTON LABEL	
	Q40G0001709 2A	SN LANEL	
	P40GD000813 9A	FAMILY SHEET	
	040G 58160811A	GREEN DOT LABEL	

11. Recommended Spare Parts List

NA

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. Block Diagrams				
8. Schematic Diagrams				
9.PCB Layout Diagrams				
10. Exploded Diagram and Exploded Parts List				
11. Recommended Spare Parts List				

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:			
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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)