

Service Manual

ViewSonic VP930-2 VP930b-2

Model No. VS10725

19" Color TFT LCD Display

(VP930-2_VP930b-2_SM Rev. 1a Mar. 2006)

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Revision History

| Revision | SM Editing Date | ECR Number | Description of Changes | Editor |
|----------|-----------------|------------|------------------------|-------------|
| 1a | 03/20/06 | | Initial Release | Jamie Chang |
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1. Precautions and Safety Notices

1. Appropriate Operation

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

2. Caution

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

3. Safety Check







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

4. LCD Module Handling Precautions

4.1 Handling Precautions

- (1) Since front polarizer is easily damaged, pay attention not to scratch it.
- (2) Be sure to turn off power supply when connecting or disconnecting input connector.
- (3) Wipe off water drops immediately. Long contact with water may cause discoloration or spots.
- (4) When the panel surface is soiled, wipe it with absorbent cotton or other soft cloth.
- (5) Since the panel is made of glass, it may break or crack if dropped or bumped on hard surface.
- (6) Since CMOS LSI is used in this module, take care of static electricity and ensure human earth when handling.
- (7) Do not open or modify the Module Assembly.
- (8) Do not press the reflector sheet at the back of the module in any direction.
- (9) In the event that a Module must be put back into the packing container slot after it was taken out of the container, do not press the center of the CCFL Reflector edge. Instead, press at the far ends of the CFL Reflector edge softly. Otherwise the TFT Module may be damaged.
- (10) At the insertion or removal of the Signal Interface Connector, be sure not to rotate or tilt the Interface Connector of the TFT Module.

- (11) After installation of the TFT Module into an enclosure (LCD monitor housing, for example), do not twist or bend the TFT Module even momentarily. When designing the enclosure, it should be taken into consideration that no bending/twisting forces may be applied to the TFT Module from outside. Otherwise the TFT Module may be damaged.
- (12) The cold cathode fluorescent lamp in the LCD contains a small amount of mercury. Please follow local ordinances or regulations for disposal.
- (13) The LCD module contains a small amount of materials having no flammability grade. The LCD module should be supplied with power that complies with the requirements of Limited Power Source (IEC60950 or UL1950), or an exemption should be applied for.
- (14) The LCD module is designed so that the CCFL in it is supplied by a Limited Current Circuit (IEC60950 or UL1950). Do not connect the CCFL to a Hazardous Voltage Circuit.

| Correct Methods: | Incorrect Methods: |
|--|--|
| <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 will probably cause "Mura".</p> |
|  |  |
|  |  |
| <p>Take out the monitor with cushions</p>  | <p>Taking out the monitor by grasping the LCD panel. That will probably cause "Mura".</p>  |

Place the monitor on a clean and soft foam pad.



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



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



2.SPECIFICATIONS

GENERAL specification

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

VIDEO INTERFACE

| | |
|--|--|
| Input Connector (refer the appendix A) | D-Sub1 = DB-15 (Analog) D-Sub2 = DB-15 (Analog) DVI-D = DVI-I (Digital) |
| Default Input Connector | Defaults to the first detected input |
| Video Cable Strain Relief | Equal to twice the weight of the monitor for five minutes |
| Video Cable Connector DB-15 Pin out | Compliant DDC/CI |
| Video Signals | Video RGB (Analog) Separate Sync / Composite Sync / SOG TMDS (Digital) |
| Video Impedance | 75 Ohms (Analog), 100 Ohms (Digital) |
| Maximum PC Video Signal | 950 mV with no damage to monitor |
| Maximum Mac Video Signal | 1250 mV with no damage to monitor |
| Sync Signals | TTL |
| DDC/CI | Compliant with Revision 1.0 |
| Sync Compatibility | Separate Sync / Composite Sync / SOG |
| Video Compatibility | Shall be compatible with all PC type computers, Macintosh computers, and after market video cards |
| Resolution Compatibility | 640 x 350, 640 x 400, 640 x 480, 640 x 870, 720 x 400, 720 x 480, 720 x 576, 800 x 600, 832 x 624, 1024 x 768, 1152 x 864, 1152 x 870, 1280 x 720, 1280 x 768, 1280 x 960, 1280 x 1024 |
| Exclusions | Not compatible with interlaced video |

Horizontal / Vertical Frequency

| | |
|-----------------------|------------------------------|
| Horizontal Frequency | 24 – 82 KHZ |
| Vertical Refresh Rate | 50 – 85 HZ |
| Maximum Pixel Clock | 135 MHz |
| Sync Polarity | Independent of sync polarity |

Table : 15 pin D-sub connector pin assignment

| 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 | Ground |
| 11 | No connection |
| 12 | (SDA) |
| 13 | Horizontal sync (Composite sync) |
| 14 | Vertical sync |
| 15 | (SCL) |

Timing Table

| Item | Timing | Analog | Digital | Remark |
|------|-----------------------------|---------------|---------|---------|
| 1 | 640 x 350 @ 70 Hz, 31.5 KHz | Yes | Yes | DMT; |
| 2 | 640 x 400 @ 60 Hz, 31.5 KHz | Yes | Yes | DMT |
| 3 | 640 x 400 @ 70 Hz, 31.5 KHz | Yes | Yes | DMT |
| 4 | 640 x 480 @ 50 Hz, 24.7 KHz | Yes | Yes | DMT |
| 5 | 640 x 480 @ 60 Hz, 31.5 KHz | Yes | Yes | DMT; |
| 6 | 640 x 480 @ 67 Hz, 35.0 KHz | Yes | Yes | For MAC |
| 7 | 640 x 480 @ 72 Hz, 37.9 KHz | Yes | Yes | DMT |
| 8 | 640 x 480 @ 75 Hz, 37.5 KHz | Yes | Yes | DMT |
| 9 | 640 x 480 @ 85 Hz, 43.3 KHz | Yes | Yes | DMT |
| 10 | 640 x 870 @ 75 Hz, 68.9 KHz | Yes | Yes | MAC |
| 11 | 720 x 400 @ 70 Hz, 31.5 KHz | Separate Only | Yes | DMT |
| 12 | 720 x 480 @ 60 Hz, 31.5 KHz | Yes | Yes | DMT |
| 13 | 720 x 576 @ 50 Hz, 31.3 KHz | Yes | Yes | DMT" |
| 14 | 800 x 600 @ 56 Hz, 35.1 KHz | Yes | Yes | DMT |
| 15 | 800 x 600 @ 60 Hz, 37.9 KHz | Yes | Yes | DMT |

| | | | | | | | |
|----|-------------|---|--------|----------|---------------|-----|---------|
| 16 | 800 x 600 | @ | 72 Hz, | 48.1 KHz | Yes | Yes | DMT |
| 17 | 800 x 600 | @ | 75 Hz, | 46.9 KHz | Yes | Yes | DMT |
| 18 | 800 x 600 | @ | 85 Hz, | 53.7 KHz | Yes | Yes | DMT |
| 19 | 832 x 624 | @ | 75 Hz, | 49.7 KHz | Yes | Yes | MAC |
| 20 | 1024 x 768 | @ | 50 Hz, | 39.6 KHz | Yes | Yes | DMT; |
| 21 | 1024 x 768 | @ | 60 Hz, | 48.4 KHz | Yes | Yes | DMT |
| 22 | 1024 x 768 | @ | 70 Hz, | 56.5 KHz | Yes | Yes | DMT |
| 23 | 1024 x 768 | @ | 72 Hz, | 58.1 KHz | Yes | Yes | DMT |
| 24 | 1024 x 768 | @ | 75 Hz, | 60.0 KHz | Yes | Yes | DMT |
| 25 | 1024 x 768 | @ | 75 Hz, | 60.2 KHz | Yes | Yes | For MAC |
| 26 | 1024 x 768 | @ | 85 Hz, | 68.7 KHz | Yes | Yes | DMT |
| 27 | 1152 x 864 | @ | 75 Hz, | 67.5 KHz | Yes | Yes | DMT |
| 28 | 1152 x 870 | @ | 75 Hz, | 68.7 KHz | Yes | Yes | For MAC |
| 29 | 1280 x 720 | @ | 50 Hz, | 37.5 KHz | Yes | Yes | 720p |
| 30 | 1280 x 720 | @ | 60 Hz, | 45.0 KHz | Yes | Yes | 720p |
| 31 | 1280 x 768 | @ | 50 Hz, | 39.6 KHz | Yes | Yes | DMT |
| 32 | 1280 x 768 | @ | 60 Hz, | 47.8 KHz | Separate Only | Yes | DMT; |
| 33 | 1280 x 768 | @ | 75 Hz, | 60.3 KHz | Separate Only | Yes | DMT; |
| 34 | 1280 x 768 | @ | 85 Hz, | 68.6 KHz | Separate Only | Yes | DMT;” |
| 35 | 1280 x 960 | @ | 50 Hz, | 49.4 KHz | Yes | Yes | DMT |
| 36 | 1280 x 960 | @ | 60 Hz, | 59.7 KHz | Yes | Yes | DMT |
| 37 | 1280 x 960 | @ | 75 Hz, | 75.2 KHz | Yes | Yes | DMT |
| 38 | 1280 x 1024 | @ | 50 Hz, | 52.7 KHz | Yes | Yes | DMT |
| 39 | 1280 x 1024 | @ | 60 Hz, | 64.0 KHz | Yes | Yes | DMT |
| 40 | 1280 x 1024 | @ | 75 Hz, | 80.0 KHz | Yes | Yes | DMT |

*1. Tolerance $\geq \pm 2$ KHz.

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

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

Primary Presets

1280x1024 @ 60Hz

User Presets

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

Panel Characteristics

1st Source Panel

| | |
|---|--|
| Model number | AUO M190EN03 V.2 |
| Type | Active Matrix TFT, TN technology |
| Active Size | 19" |
| Pixel Arrangement | RGB Vertical Stripe |
| Pixel Pitch | 0.294 mm |
| Glass Treatment | Anti-Glare |
| # of Backlights | 4 CCFL |
| Backlight Life | 50000 Hrs (Typ) 30000 Hrs (Min) |
| Luminance (Center) – CT = 6500K, Contrast/ Brightness = Max | 250 cd/m2 (Typ after 30 minute warm up) 200 cd/m2 (Min after 30 minute warm up) |
| Brightness Uniformity | 80 % (Typ) / 75 % (Min) |
| Contrast Ratio | 1000 :1 (Typ) 750 : 1 (Min) |
| Color Depth | 16.7 million colors (8 bit panel) |
| Horizontal Viewing Angle | 170 degrees (Typ) / 150 degrees (Min) @ CR>10 |
| Vertical Viewing Angle | 130 degrees (Typ) / 110 degrees (Min) @ CR>10 |
| Response Time 10%-90% @ Ta=25°C | GTG 8ms (Avg) / 16ms (Max) |
| Mercury | 3.0 mg per lamp |
| Panel Defects | Please see Panel Quality Specifications. |

IMAGE PERFORMANCE

Factory Defaults

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

Dimension (Desktop)

| | |
|--------------------------------------|-----------------------------|
| Width | 412mm (16.2") |
| Height (Height adjust to the bottom) | 356mm (14") / 491mm (19.3") |
| Depth | 289mm (11.4") |
| Monitor Weight | 6.8 Kg (15 lbs) |

*Refer to Figure 1

Dimension (Head Only / Wall Mount)

| | |
|----------------|------------------|
| Width | 412mm (16.2") |
| Height | 336mm (13.2") |
| Depth | 61mm (2.4") |
| Monitor Weight | 4.2 Kg (9.3 lbs) |

*Refer to Figure 1

Ergonomics

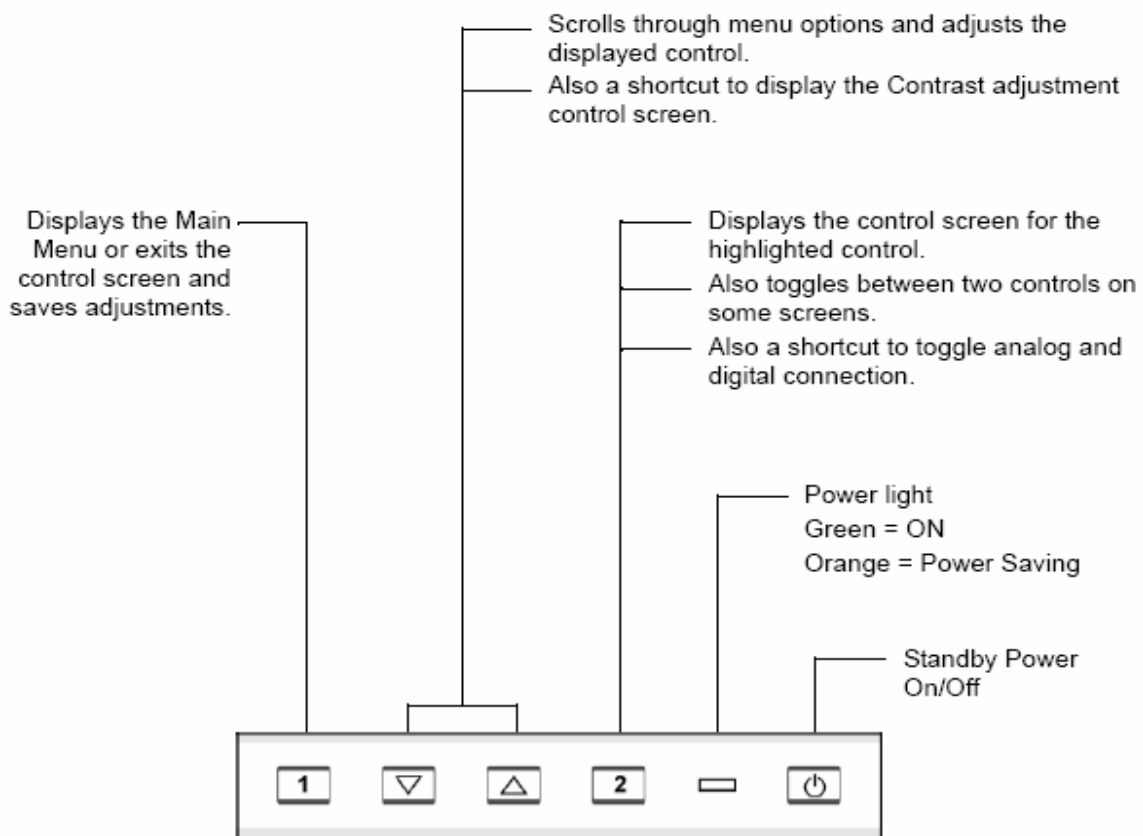
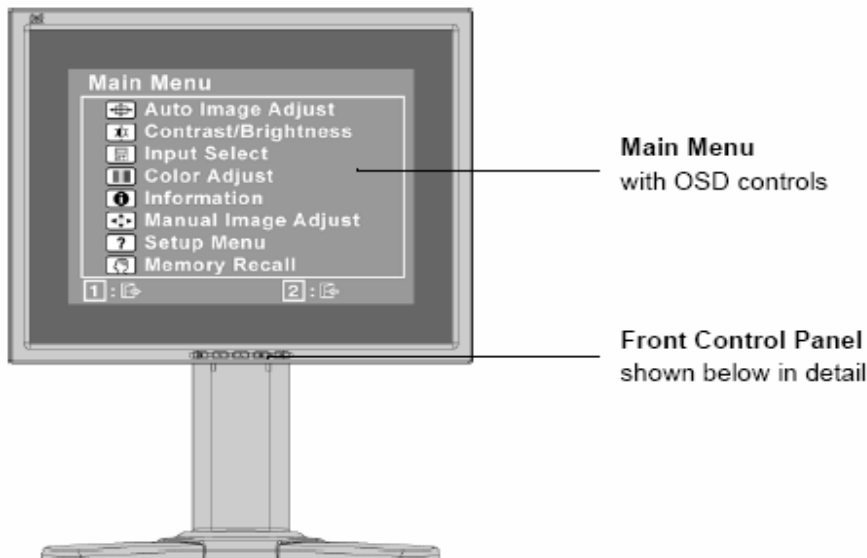
| | |
|---------------|---|
| Tilt Up | $\geq 20^\circ$ |
| Tilt Down | From 0° down to $-3^\circ \sim -5^\circ$ |
| Swivel Right | $\geq 135^\circ$ |
| Swivel Left | $\geq 135^\circ$ |
| Height Adjust | $0 \sim \geq 135$ mm |
| Pivot | $0 \sim 90$ degrees (Clockwise) |

3. Front Panel Function Control Description

3.1 Location of Controls

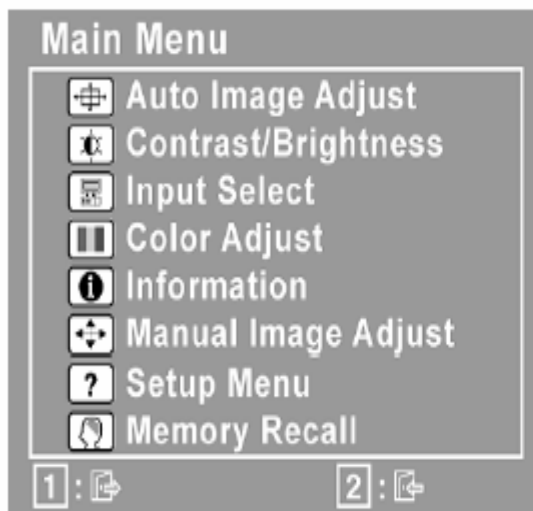
Adjusting the Screen Image

Use the buttons on the front control panel to display and adjust the OSD controls which display on the screen. The OSD controls are explained at the top of the next page and are defined in "Main Menu Controls" on page 11.



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

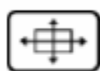
The following tips may help you optimize your display:

- Adjust the computer's graphics card so that it outputs a 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

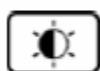
Adjust the menu items shown below by using the up▲ and down▼ buttons.

| Control | Explanation |
|---------|-------------|
|---------|-------------|



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.



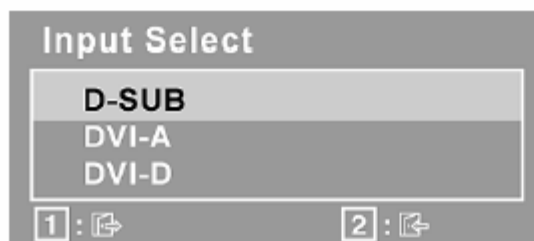
Contrast adjusts the difference between the image background (black level) and the foreground (white level).



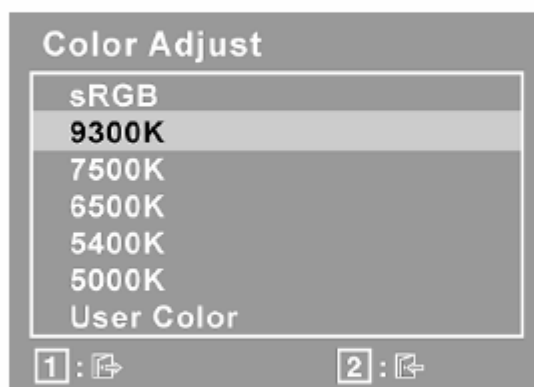
Brightness adjusts background black level of the screen image.



Input Select allows the user to toggle between an analog and a digital signal.



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



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

Control Explanation

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

7500K - Adds blue to the screen image for cooler white (used in most office settings with fluorescent lighting).

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

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

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

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

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

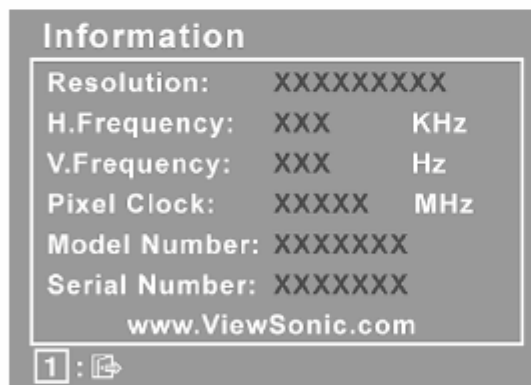
2. To adjust selected color, press ▲ or ▼.

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.

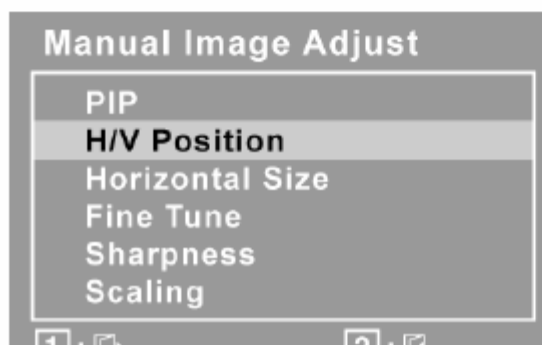


Information displays the timing mode (video signal input) coming from the graphics card in the computer, the LCD model number, the serial number, and the ViewSonic® website URL. See your graphics card's user guide for instructions on changing the resolution and refresh rate (vertical frequency).

NOTE: VESA 1280 x 1024 @ 60Hz (recommended) means that the resolution is 1280 x 1024 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.

Horizontal Size adjusts the width of the screen image.

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

Sharpness adjusts the clarity and focus of the screen image.

Scaling adjusts the video input signal to the screen size other than 1280 x 1024 using the following options.

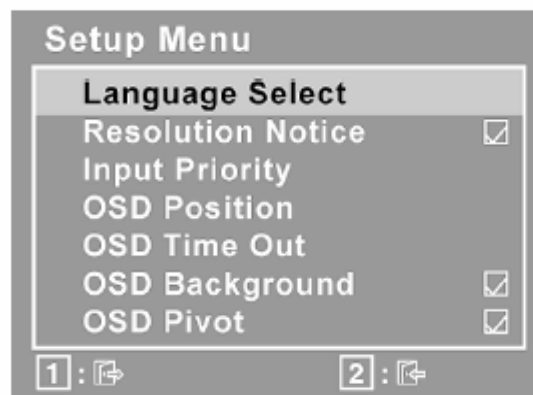
1:1 adjusts the video signal so that the height and width of the picture are the same.

Fill all adjusts the video signal to fill the screen.

Fill Aspect Ratio maintains the correct video signal proportions for different resolutions.



Setup Menu displays the menu shown below:



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

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

Input Priority If multiple computers will be connected to the display, this function can be used to select which computer has priority depending on the selected Input Priority, the display will do a one time detection for available inputs when first powered on.

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

| Control | Explanation |
|---------|-------------|
|---------|-------------|

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.

OSD Pivot This function is used to rotate the OSD menu, changing the OSD screen to Landscape or Portrait mode.



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.

Hot Key for Function Controls

| Buttons: | Functions: |
|---|---|
| [1] | Main menu |
| [2] | Input Select |
| [Up] or [Dn] | To immediately activate Contrast menu. It should be change to Brightness OSD by push button [2] |
| [Up] + [Dn] | Recall both of Contrast and Brightness to default |
| [1] + [2] | Toggle 720x400 and 640x400 mode when input 720x400 or 640x400 mode. |
| [1] + [Up] + [Dn] | Auto White Balance.(Not shown on user's guide) |
| [1] + [Dn] | Power Lock |
| [1] + [Up] | OSD Lock |
| [1] + [Dn] + [2] | Didable Theft Defence function |
| [Up] + [PW] + Main Power On | All reset |
| No signal + [PW] +[2] + Main Power on | Burning mode |
| Signal + [PW] +[2] + Main Power on | Factory Mode |
| Remark : All the short cuts function are only available while OSD off | |

4. Circuit Description

1. WORKING THEOREM

A. Scaler

The TSU66AJ is total solution graphics processing IC for LCD monitors with panel resolutions up to SXGA. It is configured with a high-speed integrated triple-ADC/PLL, an integrated DVI receiver, a high quality display processing engine, and an integrated output display interface that can support LVDS panel interface format. To further reduce system costs, the TSU66AJ also integrates intelligent power management control capability for green-mode requirements and spread-spectrum support for EMI management. The TSU66AJ incorporates the world's first coherent oversampled RGB graphics ADC in a monitor controller system¹. The oversampling ADC samples the input RGB signals at a frequency that is much higher than the signal source pixel rate. This can preserve details in the video signal that ordinarily would be lost due to input signal jitter or bandwidth limitations in non-oversampled systems. The TSU66AJ also incorporates a new Dynamic Frame Rate (DFR) generator² 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.

?

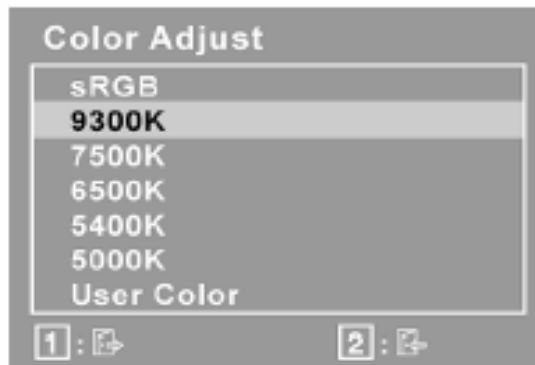
B. MCU:

The MTV416M micro-controller is an 8051 CPU core embedded device targeted for LCD Monitor or LCD TV application. It includes an 8051 CPU core, a 128K-byte internal program Flash-ROM, a 768-byte SRAM, 4 channels of PWM DAC, 4 channels of 6-bit ADC, and a built-in sync-processor. It also includes two IIC Slave B ports, supporting VESA DDC/CI for both D-sub and DVI interfaces, and a Boot-Code-Free ISP (In System Programming).

5. Adjusting Procedure



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



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

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

2. To adjust selected color, press▲or▼.

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.

5-1.1 Product

17" LCD Monitor

5-1.2 Test Equipment

Color Video Signal & Pattern (or PC with SXGA resolution)

5-1.3 Test Condition

Before function test and alignment, each LCD Monitor should be run-in and 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=43.27 kHz, V=85Hz)
800*600 (H=53.7 kHz, V=85Hz)
1024*768 (H=68.67 kHz, V=85Hz)
1280*1024(H=80.0KHz, V=75Hz)

5-1.4 Test Display Modes & Pattern

5-1.4.1 Compatible Modes

Analog Digital

| Item | Timing |
|------|------------------------------|
| 1 | 640 x 350 @ 70 Hz, 31.5 KHz |
| 2 | 640 x 400 @ 60 Hz, 31.5 KHz |
| 3 | 640 x 400 @ 70 Hz, 31.5 KHz |
| 4 | 640 x 480 @ 50 Hz, 24.7 KHz |
| 5 | 640 x 480 @ 60 Hz, 31.5 KHz |
| 6 | 640 x 480 @ 67 Hz, 35.0 KHz |
| 7 | 640 x 480 @ 72 Hz, 37.9 KHz |
| 8 | 640 x 480 @ 75 Hz, 37.5 KHz |
| 9 | 640 x 480 @ 85 Hz, 43.3 KHz |
| 10 | 640 x 870 @ 75 Hz, 68.9 KHz |
| 11 | 720 x 400 @ 70 Hz, 31.5 KHz |
| 12 | 720 x 400 @ 85 Hz, 37.9 KHz |
| 13 | 720 x 480 @ 60 Hz, 31.5 KHz |
| 14 | 720 x 576 @ 50 Hz, 31.3 KHz |
| 15 | 800 x 600 @ 50 Hz, 24.7 KHz |
| 16 | 800 x 600 @ 56 Hz, 35.1 KHz |
| 17 | 800 x 600 @ 60 Hz, 37.9 KHz |
| 18 | 800 x 600 @ 72 Hz, 48.1 KHz |
| 19 | 800 x 600 @ 75 Hz, 46.9 KHz |
| 20 | 800 x 600 @ 85 Hz, 53.7 KHz |
| 21 | 832 x 624 @ 75 Hz, 49.7 KHz |
| 22 | 1024 x 768 @ 50 Hz, 39.6 KHz |
| 23 | 1024 x 768 @ 60 Hz, 48.4 KHz |
| 24 | 1024 x 768 @ 70 Hz, 56.5 KHz |
| 25 | 1024 x 768 @ 72 Hz, 58.1 KHz |
| 26 | 1024 x 768 @ 75 Hz, 60.0 KHz |
| 27 | 1024 x 768 @ 75 Hz, 60.2 KHz |
| 28 | 1024 x 768 @ 85 Hz, 68.7 KHz |
| 29 | 1152 x 864 @ 75 Hz, 67.5 KHz |
| 30 | 1152 x 870 @ 75 Hz, 68.7 KHz |
| 31 | 1280 x 720 @ 50 Hz, 37.5 KHz |
| 32 | 1280 x 720 @ 60 Hz, 45.0 KHz |
| 33 | 1280 x 768 @ 50 Hz, 39.6 KHz |
| 34 | 1280 x 768 @ 60 Hz, 47.4 KHz |
| 35 | 1280 x 768 @ 60 Hz, 47.8 KHz |
| 36 | 1280 x 768 @ 75 Hz, 60.3 KHz |
| 37 | 1280 x 768 @ 85 Hz, 68.6 KHz |
| 38 | 1280 x 960 @ 50 Hz, 49.4 KHz |
| 39 | 1280 x 960 @ 60 Hz, 59.7 KHz |

| | |
|----|-------------------------------|
| 40 | 1280 x 960 @ 75 Hz, 75.2 KHz |
| 41 | 1280 x 1024 @ 50 Hz, 52.7 KHz |
| 42 | 1280 x 1024 @ 60 Hz, 64.0 KHz |
| 43 | 1280 x 1024 @ 75 Hz, 80.0 KHz |

5-1.5.2 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.

5-1.5.3 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.

5-1.5.4 DDC

Test Pattern: EDID program

- Make sure it can pass test program.

5-1.5.5 Fine Tune and Sharpness

Test Signal: 1280 x 1024 @ 60.0kHz

Test Pattern: Line Moiré 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.

5-1.5.6 White Balance

Test Signal: 640*480@60Hz

Test Pattern: Full White and Black Pattern

5-1.5.7 R, G, B, Colors Contrast

Test Signal: 1280 x 1024 @ 60.0kHz

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

- Check and see if each color is normal and distinguishable.

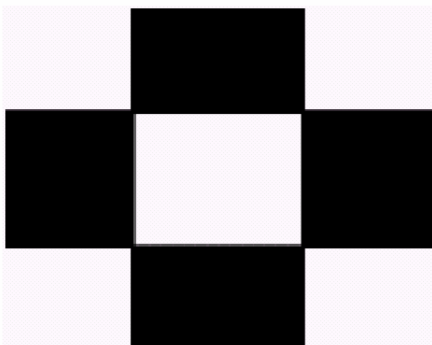
- If not, please return the unit to repair area.

5-1.5.8 Screen Uniformity and Flicker

Test Signal: 1280 x 1024 @ 60.0kHz

Test Pattern: Full White Pattern

- Check and see if it is in normal condition.



5-1.5.9 Dead Pixel and Line

Test Signal: 1280 x 1024 @ 60.0kHz

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.

5-1.5.10 Mura

Test Pattern: White, RGB, Black, & Grey

Test Tool: 10 % ND Filter

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

5-1.5.11 Check for Secondary Display Modes

Test Signal:

Analog: 640*350@70Hz; 640*400@60Hz;640*480@50/60/67/72/75/85Hz;

720*400@70Hz/85Hz; 720*480@60Hz; 720*576@50Hz; 800*600@56/60/72/75/85Hz;

832*624@75Hz, 1024*768@50/60/70/72/75/85Hz; 1152*864@75Hz; 1152*870@75Hz;

1280*720@50/60Hz; 1280*768@50/60/75/85Hz; 1280*960@50/60/75Hz; 1280*1024@50/60/75Hz

Digital: 640*350@70Hz; 640*400@60Hz;640*480@50/60/67/72/75/85Hz;

720*400@70Hz/85Hz; 720*480@60Hz; 720*576@50Hz; 800*600@56/60/72/75/85Hz;

832*624@75Hz, 1024*768@50/60/70/72/75/85Hz; 1152*864@75Hz; 1152*870@75Hz;

1280*720@50/60Hz; 1280*768@50/60/75/85Hz; 1280*960@50/60/75Hz; 1280*1024@50/60/75Hz

- Normally when the primary mode 1280*1024@60Hz is well adjusted and compliant with the specification, the secondary display modes will be great possible to 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.

5-1.5.12 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.

5-1.5.13 Power off Monitor

Turn off the monitor by pressing "Power" button.

5-2. Firmware Upgrade Procedure

5-2.1 Equipment Needed

- VP930 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

Printer Port

VP930

5.3 . EDID Procedure

DDC User's manual

1. Hardware installation

- A. The EDID cable has equipped 2 different terminals;
one is male 25 pin printer connector and another side is male 15 pin D-sub connector.
- B. Connect the EDID cable from PC Printer port to monitor D-sub connector.
- C. **Make sure the monitor was working under power saving mode and keep it at "Power Saving state" during DDC process.**



2. Programming procedure

A. Normally, you received a EDID zip file of new model. You need to unzipped it.

B. There will need the following files for DDC program: (VP730 is an example)

1. DPS.EXE
2. VP930.BAT
3. VP930.DDC
4. VP930.CFG
5. VP930.DPS

C. Execute the **VP930.BAT** (for VP930 monitor only) from Programming PC. Below screen will display.

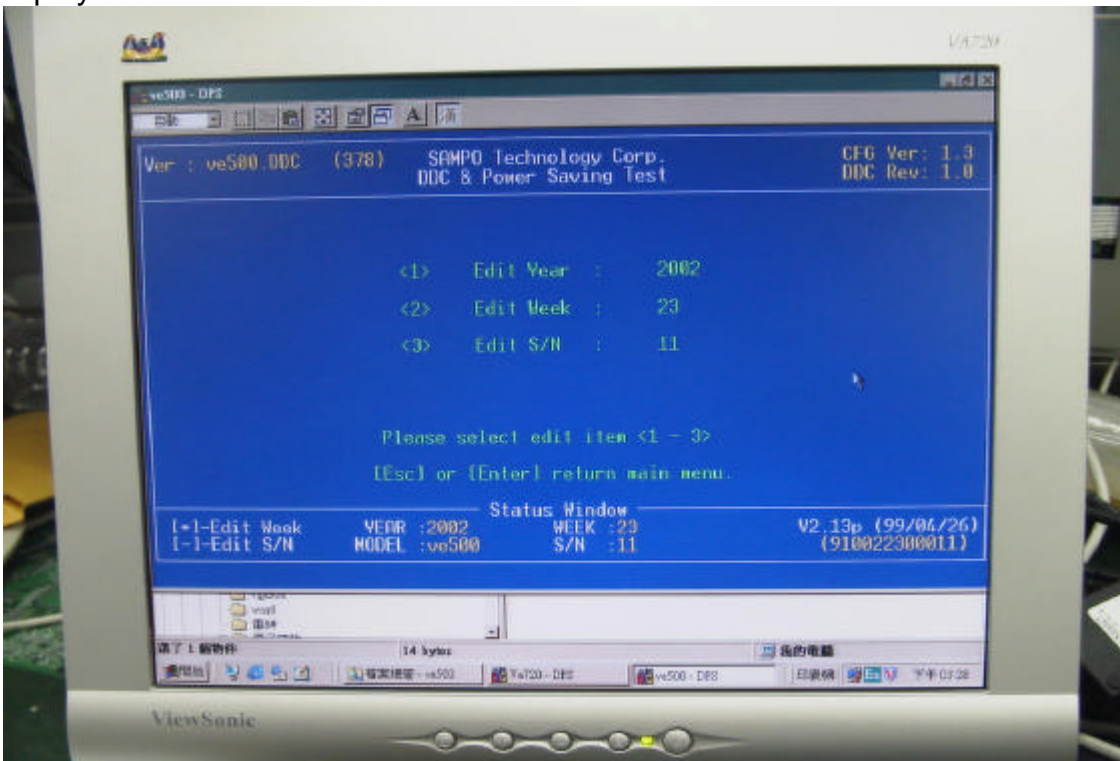


Fig-DDC1

Refer to Fig-DDC1; you have to select the required item if the display data was not you want.

Press 1: For year, the cursor will move to the column behind “Edit Year” than you can key in the data you want after that press enter to exit and return. (It needs 4 numbers for this data)

Press 2: For week, the cursor will move to the column behind “Edit Week” than you can key in the data you want after that press enter to exit and return. (This data is within 1 ~ 53.)

Press 3: For S/N,, the cursor will move to the column behind “Edit S/N” than you can key in the data you want after that press enter to exit and return. (This data is within 0 ~ 99999, 5 numbers max.)

D. Press “ESC” or “Enter” key to return main menu, the Fig-DDC2 will be displayed and the correct serial number will show on right corner of screen.

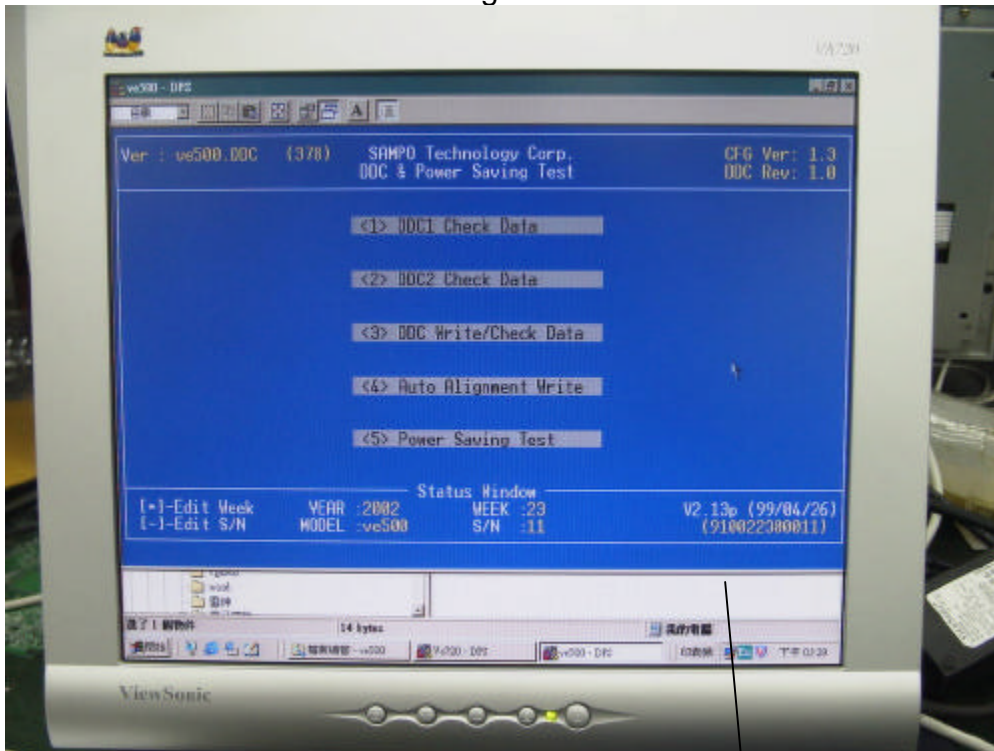


Fig-DDC2

Display updated serial number.

Under Fig-DDC2, you could change the “Week” data by press “*” key and the “S/N” data by press “-” key.

Press 3 “DDC Writer/Check Data”: The Kit will start to program new data of EDID into monitor, all DDC data will display on the screen after programming. Please refer to Fig-DDC3 below, the DDC process is finished.

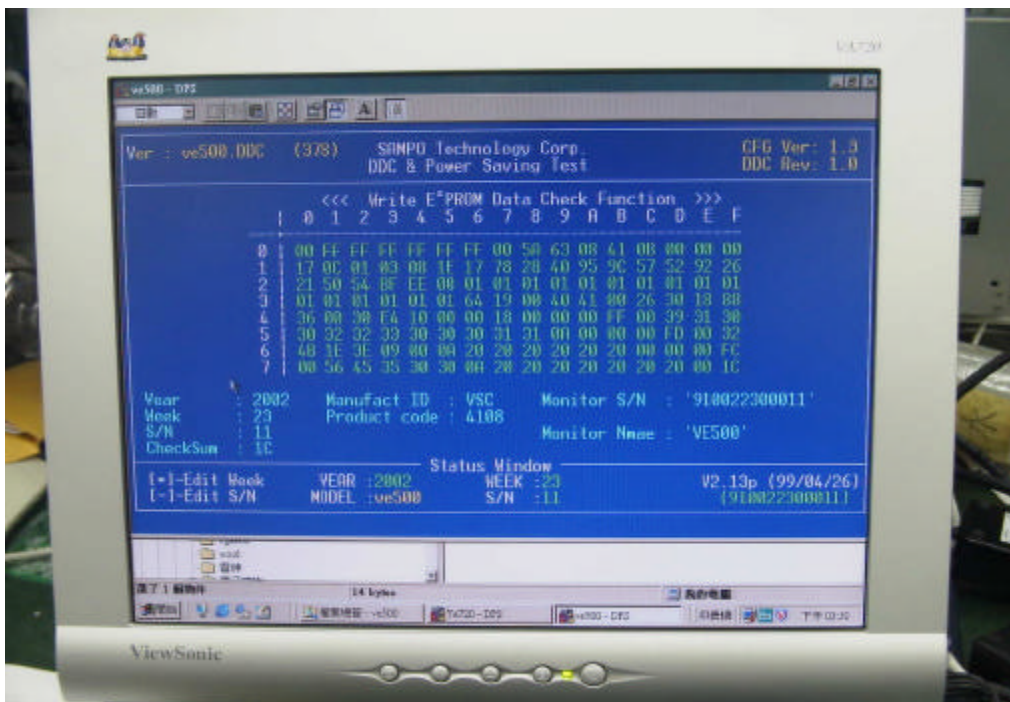
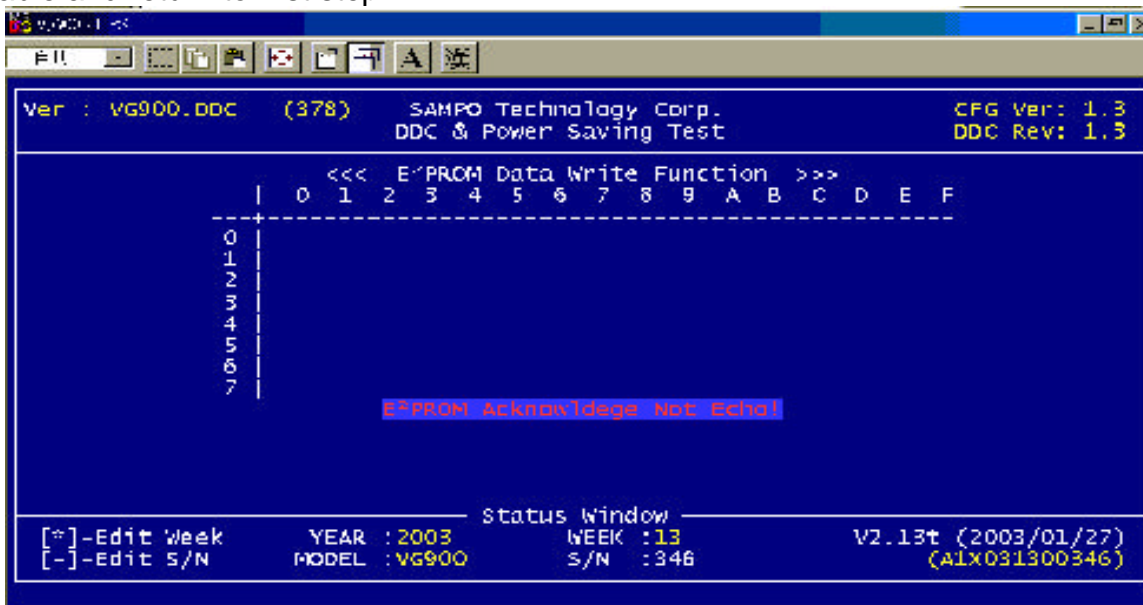


Fig-DDC3

The message (E2PROM Acknowledge Not Echo) will display on the screen if there is any error detected by Programming PC. If error message is happened, please re-check the connection of cable and return to first step.



Please refer to the Viewsonic EDID data format that was printing on ID label.

PPPYWxxxxx

PPP = Viewsonic Regional Product ID Code, EX. VE500 is "910", VE700 is "A10" and VG900 is "A1C".

YY= 2 digits of Manufacturing year. (range 1996-2015).

WW = 2 digits of Manufacturing week (range 01-54).

xxxxx = 5 digits of Sequence number. (range 00001-99999).

5.4 . ISP procedure

Connection of I S P Kit :

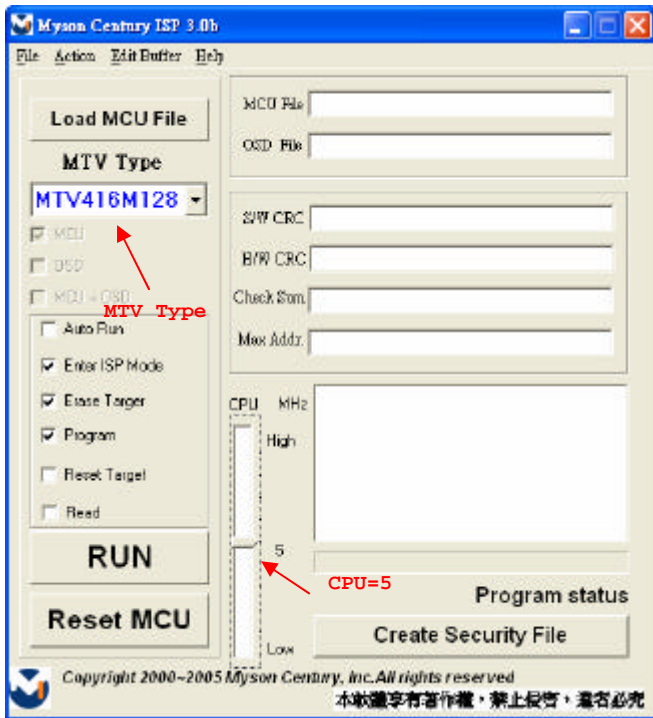
Using ISP cable connect PC Print port

Using VGA cable connect monitor (destination).

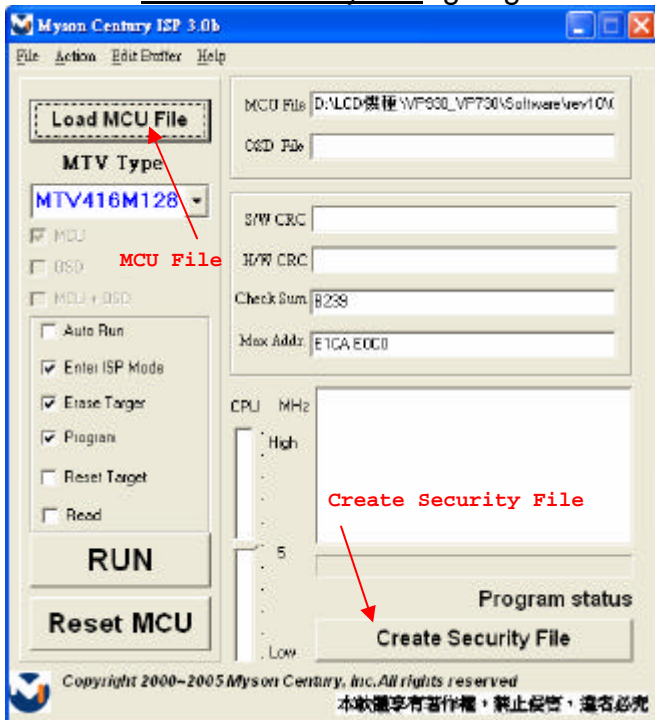


Setting of ISP program on PC

1. Setup MYSON ISP program,
2. Execute ISP program to get the window below
3. Select "MTV416M128" MCU type,
4. Select CPU=5 MHz

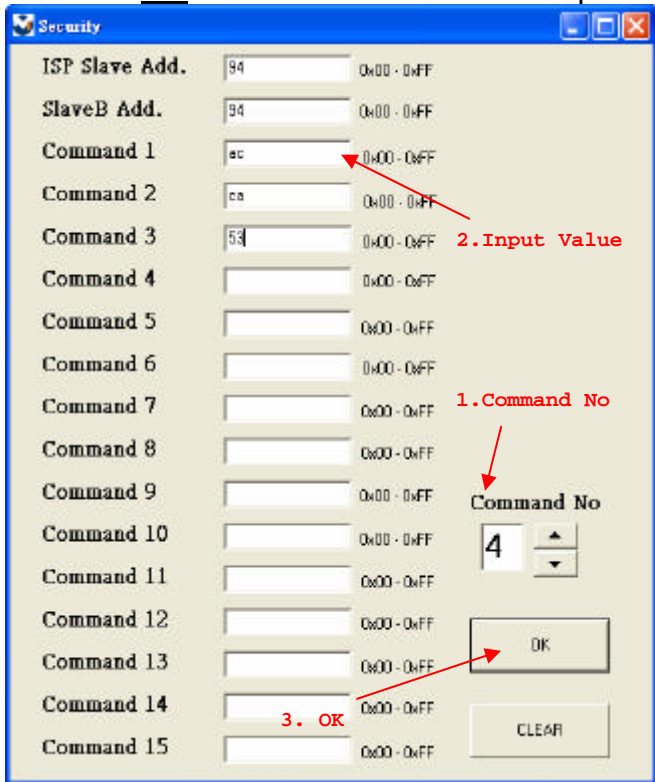


5. Click "Load MCU file" and then find the updated firmware code.
6. Click "Create Security File" going to next window

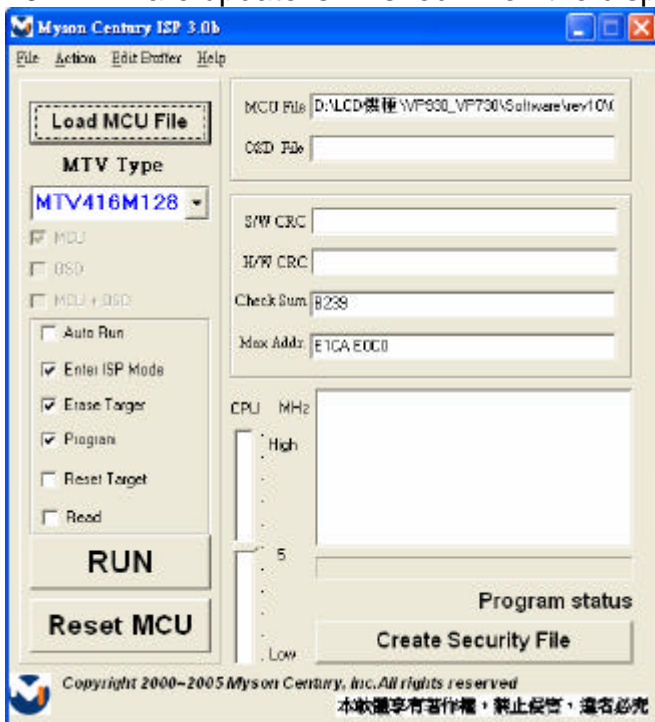


7. Select Command No=4

8. Put ISP Slave Add=94 ; Slave B Add=94 ; Command 1=ac ; Command 2=ca ; Command 3=53
9. Click "OK" to start ISP function and update the firmware into Monitor.

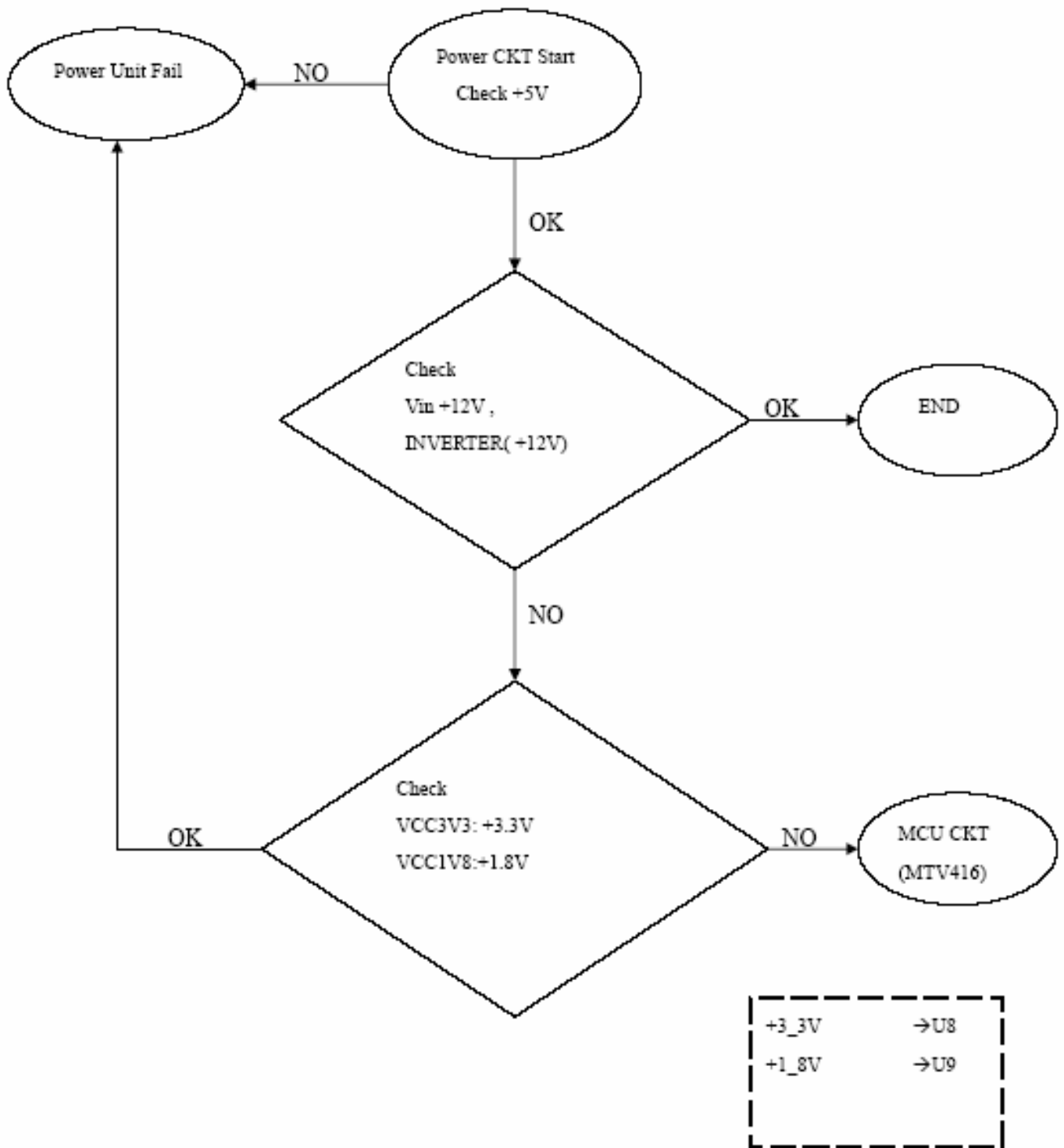


10. Firmware update is finished when the display backed to the window below.

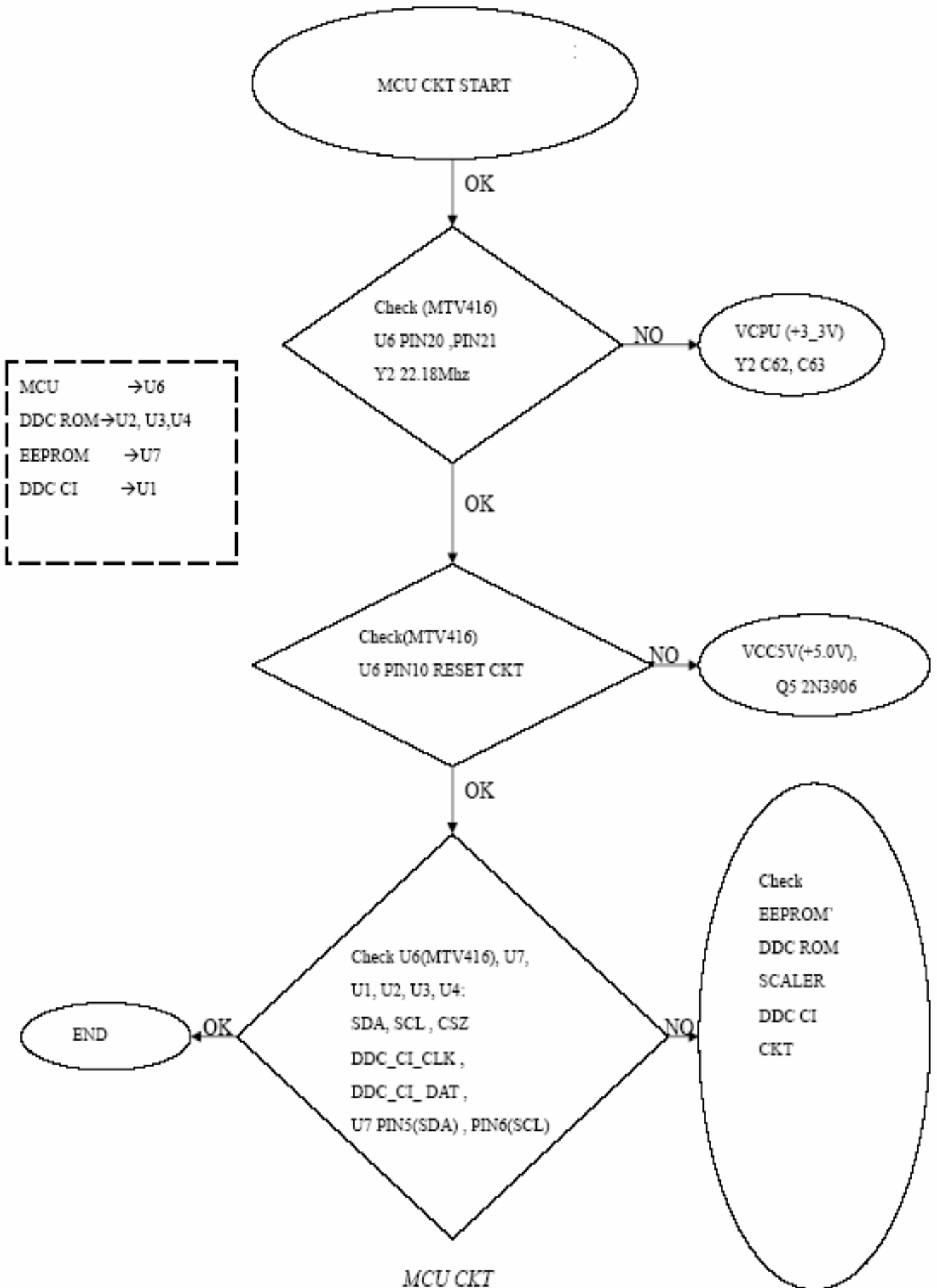


6.TROUBLE SHOOTING FLOW CHART

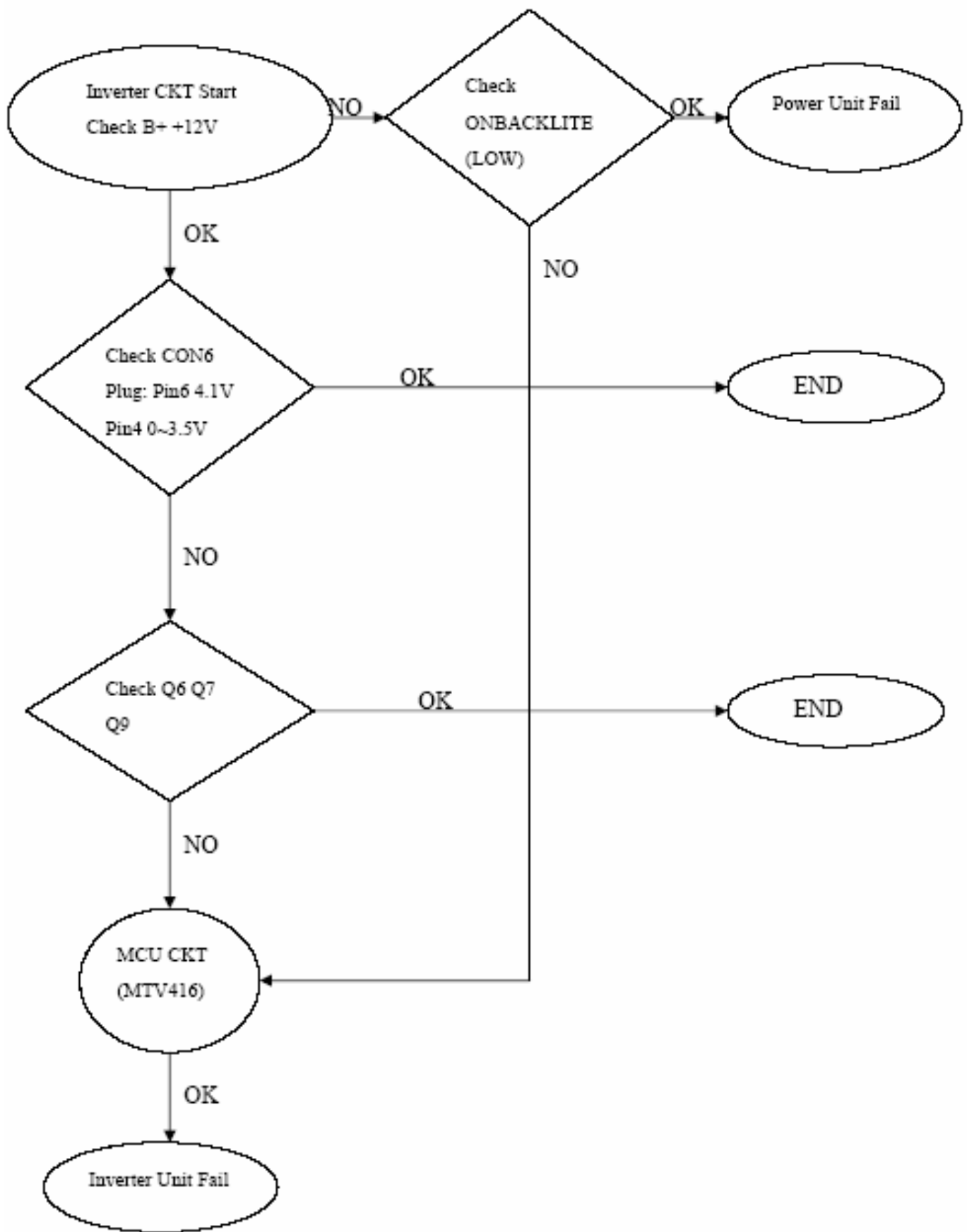
Trouble Shooting



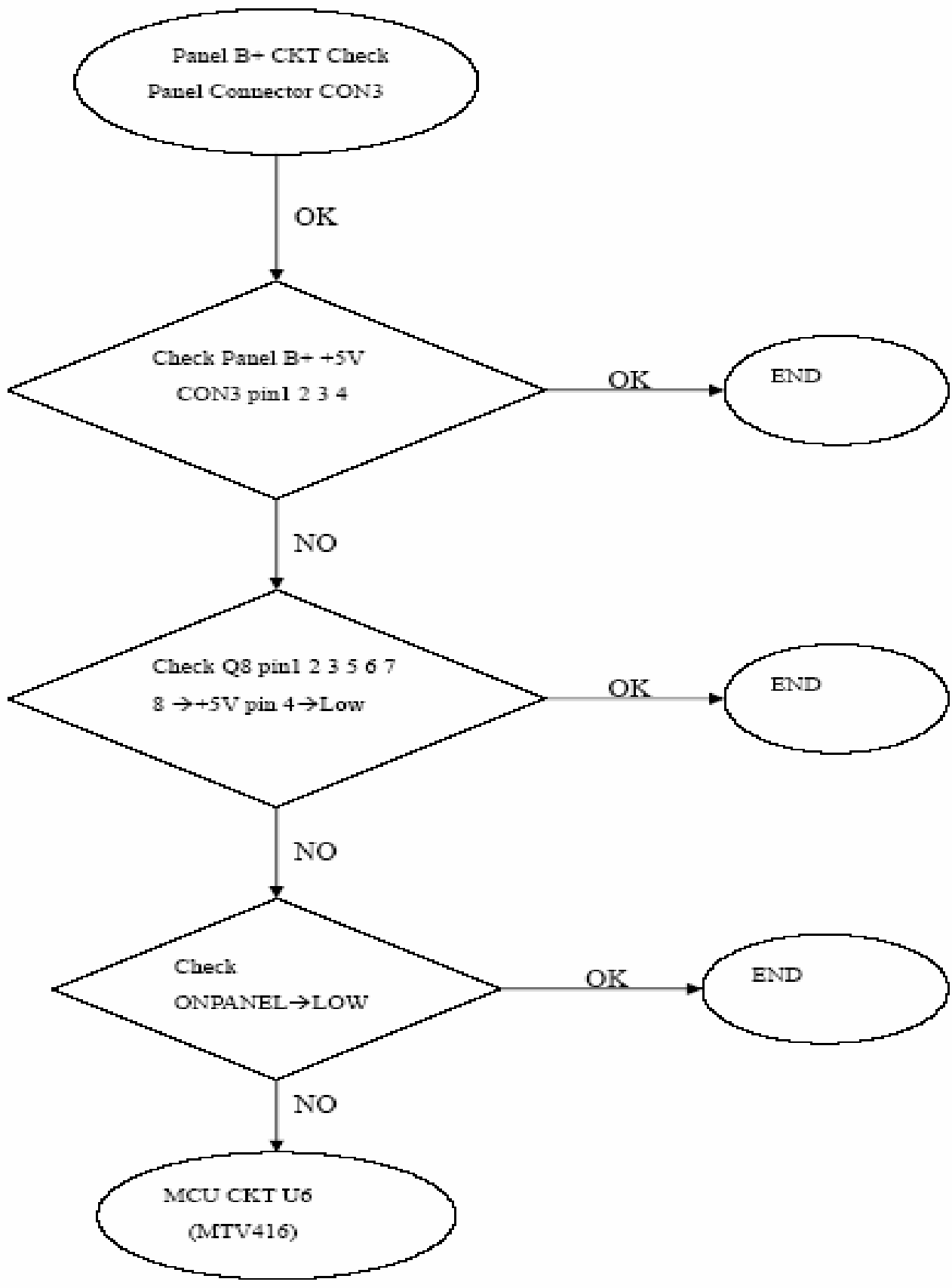
POWER CKT



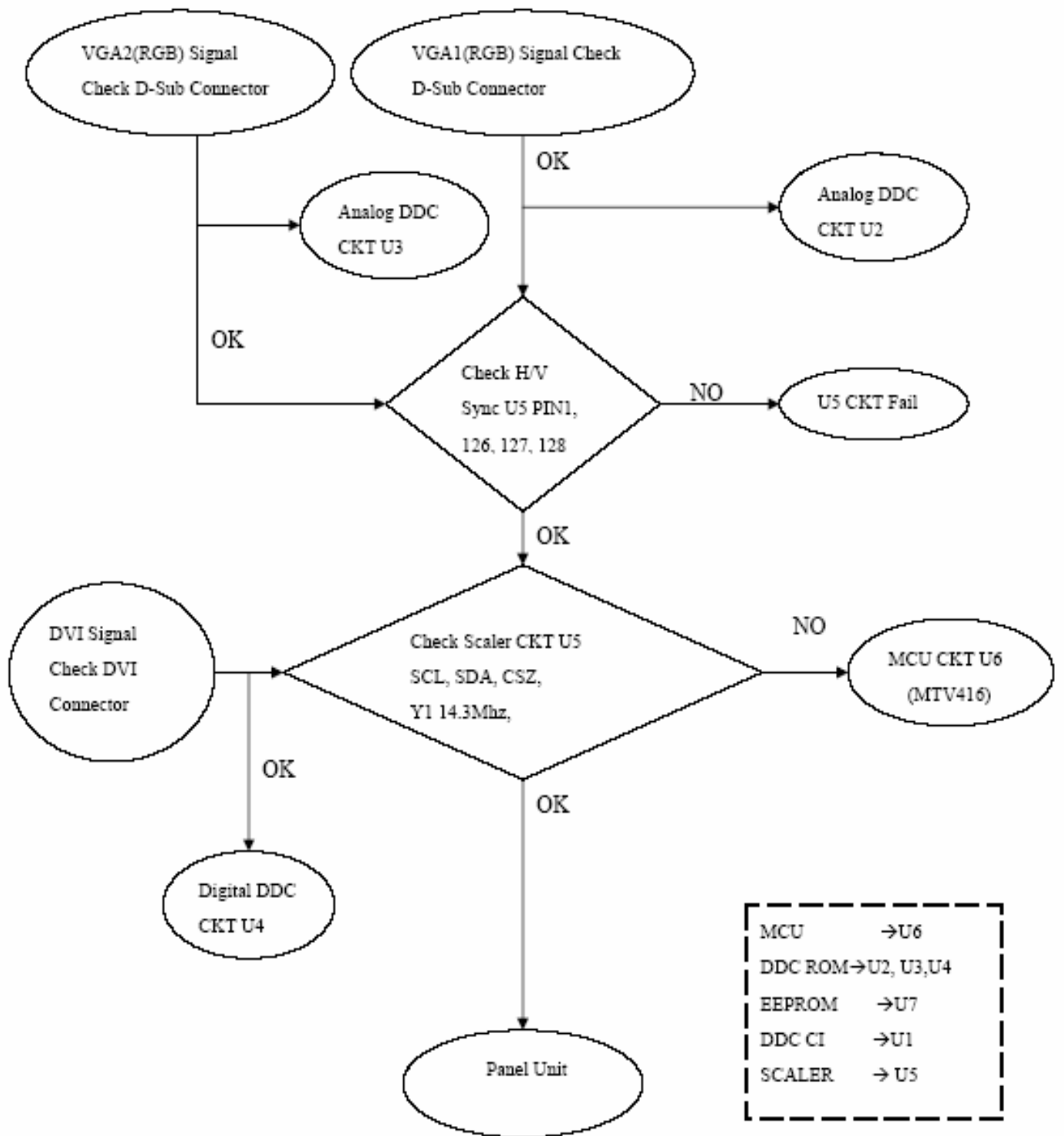
| | |
|---------|------------|
| MCU | →U6 |
| DDC ROM | →U2, U3,U4 |
| EEPROM | →U7 |
| DDC CI | →U1 |



INVERTER CKT



Panel B+ CKT



DVI & VGA CKT

7. Recommended Spare Parts List

RECOMMENDED SPARE PARTS LIST (VP930-2U)

ViewSonic Model Number: VS10725

Rev: 1A

Serial No. Prefix: Q8G

| Item | Description | ECR/ECN | ViewSonic P/N | Ref. P/N | Location | Universal number# | Q'ty |
|------|---|---------|---------------|-------------|----------|-------------------|------|
| 1 | Accessories: AC POWER CORD QACC-1126D8D SAMPO | | A-00005316 | 2427190002P | P951 | | 1 |
| 2 | Board Assembly: INVERTER BOARD RUNTP5655T8 (INVERTER) SAMPO | | B-00005310 | 2200501200P | U901 | | 1 |
| 3 | POWER BOARD RUNTP5654T8 (POWER/B) SAMPO | | B-00005311 | 2200501400P | U801 | | 1 |
| 4 | MAINE BOARD DPWBN5718T8V (MAIN/B) SAMPO | | B-00005312 | 2200501600P | U101 | | 1 |
| 5 | KEY BOARD DPWBN5722T8 (KEY/B) SAMPO | | B-00005313 | 2200501700P | U701 | | 1 |
| 6 | Cables: I/O CABLE D15/D15 20276(5.8) 1.83M BLACK | | CB-00005317 | 2427501196P | P961 | | 1 |
| 7 | I/O CABLE (DVI) QCODS1641D8D-A 1.8M BLK SAMPO | | CB-00005318 | 2427590004P | P971 | | 1 |
| 8 | FFC CABLE QCOPD1229T8 SAMPO | | CB-00005319 | 2420390001P | P980 | | 1 |
| 9 | Documentation: CD-OWNER GUIDE VP930 QSG TINSE3194T8 | | DC-00005307 | 2002370009P | 6P82 | | 1 |
| 10 | CD-Wizard (CD-Rom) VP930 CD DDSKC0058T8 | | DC-00005308 | 2438570006P | 6P80 | | 1 |
| 11 | CD-OWNER GUIDE VP930 CD-DRIVER DDSKC00628T8 | | DC-00005309 | 2438570007P | 6P81 | | 1 |
| 12 | Electronic Components: LCD PANEL M190EN03-V2 AUO | | E-00005320 | 2212090100P | V901 | | 1 |
| 13 | Packing Material: CARTON BOX VP930-2 VS10725 TCO03 | | P-00005321 | 2011091102P | 6P01 | | 1 |
| 14 | POLYFOAM SPAKA6617T8F VP930B | | P-00005322 | 2012186700P | 6P20 | | 1 |
| 15 | Plastics: STAND GSTN-27957T8K---BLK | | PL-00005315 | 2028262002P | 5B01 | | 1 |
| 16 | Cabinets: CAB-A GCABA2369T8F---- PS-7604B | | C-00005327 | 2024272902P | 1F01 | | 1 |
| 17 | CAB-B GCABB1883T8F---- BLK | | C-00005328 | 2022267502P | 2C01 | | 1 |
| 18 | BACK COVER GCOVD2626T8F---- BLK | | C-00005326 | 2022267402P | 2C02 | | 1 |

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

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

RECOMMENDED SPARE PARTS LIST (VP930b-2)

ViewSonic Model Number: VS10725

Rev: 1A

Serial No. Prefix: Q8H

| Item | Description | ECR/ECN | ViewSonic P/N | Ref. P/N | Location | Universal number# | Q'ty |
|------|---|---------|---------------|-------------|----------|-------------------|------|
| 1 | Accessories: AC POWER CORD QACC-1126D8D SAMPO | | A-00005316 | 2427190002P | P951 | | 1 |
| 2 | Board Assembly: INVERTER BOARD RUNTP5655T8 (INVERTER) SAMPO | | B-00005310 | 2200501200P | U901 | | 1 |
| 3 | POWER BOARD (SR)RUNTP5654T8 (POWER/B) SAMPO | | B-00005311 | 2200501400P | U801 | | 1 |
| 4 | MAIN BOARD DPWBN5718T8V (MAIN/B) SAMPO | | B-00005312 | 2200501600P | U101 | | 1 |
| 5 | KEY BOARD DPWBN5722T8 (KEY/B) SAMPO | | B-00005313 | 2200501700P | U701 | | 1 |
| 6 | Cabinets: CAB-A GCABA2369T8F VP930B | | C-00005324 | 2603307945 | | | 1 |
| | BACK COVER GCOVD2626T8F VP930B | | C-00005331 | 2022267401P | 2C02 | | 1 |
| | CAB-B GCABB1883T8F VP930B | | C-00005329 | 2022267501P | 2C01 | | 1 |
| 7 | Cables: I/O CABLE D15/D15 20276(5.8) 1.83M BLACK | | CB-00005317 | 2427501196P | P961 | | 1 |
| 8 | I/O CABLE (DVI) QCODS1641D8D-A 1.8M BLK SAMPO | | CB-00005318 | 2427590004P | P971 | | 1 |
| 9 | FLAT CABLE (FFC) QCOPD1229T8 SAMPO | | CB-00005319 | 2420390001P | P980 | | 1 |
| 10 | Documentation: Quick Start Guide CD VP930 QSG TINSE3194T8 | | DC-00005307 | 2002370009P | 6P82 | | 1 |
| 11 | CD-Owner (CD-Rom) VP930 CD DDSKC0058T8 | | DC-00005308 | 2438570006P | 6P80 | | 1 |
| 12 | CD-OWNER GUIDE VP930 CD-DRIVER DDSKC00628T8 | | DC-00005309 | 2438570007P | 6P81 | | 1 |
| 13 | Electronic Components: LCD PANEL M190EN03-V2 AUO | | E-00005320 | 2212090100P | V901 | | 1 |
| 14 | Packing Material: PACKING FOAM SPAKA6617T8F VP930B | | P-00005322 | 2012186700P | 6P20 | | 1 |
| 15 | BOX CARTON VP930b BOX SPAKC3715T8 | | P-00005325 | 2011091101P | 6P01 | | 1 |
| 16 | Plastics: STAND GSTN-2957T8 VP930B | | PL-00005323 | 2028262001P | 5B01 | | 1 |

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

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

BOM LIST (VP930-2)

ViewSonic Model Number: VS10725

Rev: 1a

Serial No. Prefi Q8G

| Item | ViewSonic P/N | Ref. P/N | Description | Location | Universal number# | Q'ty |
|------|----------------|-------------|---|---------------------|-------------------|--------|
| 1 | C-00005327 | 2024272902P | FRONT BEZELGCABA2369T8F---- PS-7604B | 1F01 | | 1 |
| 2 | #N/A | 2053756001P | LED INDIC.-PWRHDECP2012T8F VP930 | 1F02 | | 1 |
| 3 | #N/A | 2044269101P | FUNCTION KEY JKNBP2392T8F VP930B | 1F03 | | 1 |
| 4 | #N/A | 2051354900P | NAME PLATE HBDGE1393T8 VP930B | 1F04 | | 1 |
| 5 | #N/A | 2071881100P | BRACKET,FXLANGF2194T8---A VP930 | 1F10 | | 4 |
| 6 | #N/A | 2061456100P | BUSHING PCUSG1647T8 VP930B | 1F11 | | 2 |
| 7 | #N/A | 2061456200P | BUSHING PCUSG1674T8 VP930B | 1F12 | | 1 |
| 8 | #N/A | 2071979700P | METAL FITTGLANGF2227T8 VP930B | 1F16 | | 1 |
| 9 | #N/A | 2071881300P | BRACKET,FXLANGF2232T8 VP930B | 1F17 | | 2 |
| 10 | #N/A | 2080006400P | SCREW,SPE XBBSN30P04000- (M3*4) VP930B | 1F18 | | 4 |
| 11 | #N/A | 2080006300P | SCREW,SPE LBOSM1069DB VP930B | 1F22 | | 6 |
| 12 | #N/A | 2061456300P | BUSHING PCUSG1687T8 VP930B | 1F23 | | 3 |
| 13 | #N/A | 2080006600P | SCREW,SPE XHISE40P08TV0-- (M4*8) VP930B | 1F24 | | 1 |
| 14 | #N/A | 2061456400P | BUSHING PCUSG1651T8--- | 1F25 | | 1 |
| 15 | #N/A | 2061456500P | BUSHING PISLS1177d8---- | 1F26 | | 1 |
| 16 | #N/A | 2072461300P | INSULATOR PISLV0262T8---- | 1F27 | | 1 |
| 17 | C-00005329 | 2022267501P | CABI BACK GCABB1883T8F VP930B | 2C01 | | 1 |
| 18 | C-00005331 | 2022267401P | CABI BACK GC0VD2626T8F VP930B | 2C02 | | 1 |
| 19 | #N/A | 2080006200P | SCREW,SPE XBMSB30P06000 VP930B | 2C03 | | 4 |
| 20 | #N/A | 2071881200P | BRACKET,FXLANGF206-3D8---B VP930B | 2C04 | | 1 |
| 21 | #N/A | 2080006500P | SCREW,SPE XBMSB30P05000-- (M3*5) VP930B | 2C05 | | 11 |
| 22 | #N/A | 2080006800P | SCREW,SPE SCREW, FOR BASE MENTAL | 2C06 | | 4 |
| 23 | PL-00005323 | 2028262001P | STANDGSTN-2957T8 VP930B | 5B01 | | 1 |
| 24 | #N/A | 2080006100P | SCREW,SPE XBPSB40P10J50 (M4*10) VP930B | 5B02 | | 4 |
| 25 | P-00005321 | 2011091102P | CARTON BOX VP930-2 VS10725 TCO03 | 6P01 | | 1 |
| 26 | #N/A | 2055670026P | LABELVP930-2 VS10725 (E) AUO | 6P02 | | 1 |
| 27 | #N/A | 2055613281P | LABELVIEWSONIC NO.2 STICKER | 6P03 | | 1 |
| 28 | #N/A | 2055613441P | LABELVIEWSONIC 8ms STICKER 89X58mm | 6P04 | | 2 |
| 29 | #N/A | 2055690023P | LABELVP930-2 VS10725 SMALL LABEL | 6P05 | | 1 |
| 30 | M-LB-0813-0856 | 2055613379P | LABELVIEWSONIC CONTAINER LABEL | 6P11 | | 0.028" |
| 31 | #N/A | 2055690014P | LABELVP930 HI-POT TLAB-5657T8 | 6P13 | | 1 |
| 32 | #N/A | 2055690015P | LABELVP930 HIGHVOLTAGE TLABZ4916T8 | 6P14 | | 1 |
| 33 | P-00005322 | 2012186700P | POLYFOAMSPAKA6617T8F VP930B | 6P20 | | 1 |
| 34 | #N/A | 2063302400P | PROTECTOR PISL-1351T8 VP930B | 6P23 | | 1 |
| 35 | #N/A | 2055170060P | LABELVP930-2 VS10725 TCO03 | 6P50 | | 1 |
| 36 | M-LB-0813-0002 | 2056603050P | SERIAL LABEL VIEWSONIC LCD SERIAL LABEL | 6P51 | | 1 |
| 37 | M-LB-0813-0528 | 2055103400P | LABELJK0936F WEN | 6P52 | | 1 |
| 38 | #N/A | 2013054030P | POLYETHY BAG VP930 LCD BAG SSAKH1356D8-T-B | 6P60 | | 1 |
| 39 | #N/A | 2438570011P | CD-OWNER GUIDEVP930-2 SERIES VS10725 AUO | 6P80 | | 1 |
| 40 | DC-00005309 | 2438570007P | CD-OWNER GUIDEVP930 CD-DRIVER DDSKC00628T8 | 6P81 | | 1 |
| 41 | DC-00005307 | 2002370009P | GUARANT CARD VP930 QSG TINSE3194T8 | 6P82 | | 1 |
| 42 | #N/A | 2013054031P | POLYETHY BAG VP930 UG BAG SSAKD0010-1-T | 6P83 | | 1 |
| 43 | #N/A | 2433312131P | SHIELDING FOAMW12*H3*L13mm | K901 | | 1 |
| 44 | #N/A | 2433301010P | SHIELDING FOAMW10*H8*L10mm | K902 | | 1 |
| 45 | #N/A | 2434425070P | AL SHIELDING TAPEW25*L70mm (AL) | K903 K904 K905 K906 | | 4 |
| 46 | #N/A | 2434425040P | AL SHIELDING TAPEW25*L40mm (AL) | K907 K908 | | 2 |
| 47 | #N/A | 2434450160P | AL SHIELDING TAPEW50*L160mm (AL) | K915 | | 1 |
| 48 | M-MS-0808-6571 | 2433303010P | SHIELDING FOAMW10*H10.5*L10mm | K916 K917 K918 | | 3 |
| 49 | #N/A | 2434416030P | AL SHIELDING TAPEW16*L30mm (AL) | K919 | | 1 |
| 50 | #N/A | 2427490001P | WIRE HARNESS QCOPD1230T8 (KEY) SAMPO | P701 | | 1 |
| 51 | #N/A | 2427190003P | AC POWER CORD QACC-1228T8D-F SAMPO | P951 | | 1 |
| 52 | CB-00005317 | 2427501196P | I/O CABLE D15/D15 20276(5.8) 1.83M BLACK | P961 | | 1 |
| 53 | CB-00005318 | 2427590004P | I/O CABLE (DVI) QCODS1641D8D-A 1.8M BLK SAMPO | P971 | | 1 |
| 54 | CB-00005319 | 2420390001P | FFC CABLE QCOPD1229T8 SAMPO | P980 | | 1 |
| 55 | #N/A | 2427490002P | WIRE HARNESS QCNWS0907T8021 (POWER)SAMPO | P981 | | 1 |
| 56 | #N/A | 2427490003P | WIRE HARNESS QCNWS0906T8038 INVERTER SAMPO | P982 | | 1 |
| 57 | B-00005312 | 2200501600P | PC BOARD ASS'YDPWBNS5718T8V (MAIN/B)SAMPO | U101 | | 1 |
| 58 | B-00005313 | 2200501700P | PC BOARD ASS'Y SMD DPWBNS5722T8 (KEY/B) SAMPO | U701 | | 1 |
| 59 | B-00005311 | 2200501400P | PC BOARD ASS'Y SMD RUNTP5654T8 (POWER/B)SAMPO | U801RA | | 1 |
| 60 | #N/A | 2200501500P | PC BOARD ASS'Y SMD RUNTP5656T8 (POWER/B)SAMPO | U801RB | | 1 |
| 61 | #N/A | 2200501300P | PC BOARD ASS'Y SMD RUNTP5663T8 (INVERTER) SAMPO | U901RA | | 1 |
| 62 | B-00005310 | 2200501200P | PC BOARD ASS'Y SMD RUNTP5655T8 (INVERTER) SAMPO | U901RB | | 1 |
| 63 | E-00005320 | 2212090100P | LCD PANEL M190EN03-V2 AUO | V901 | | 1 |

BOM LIST (VP930b-2)

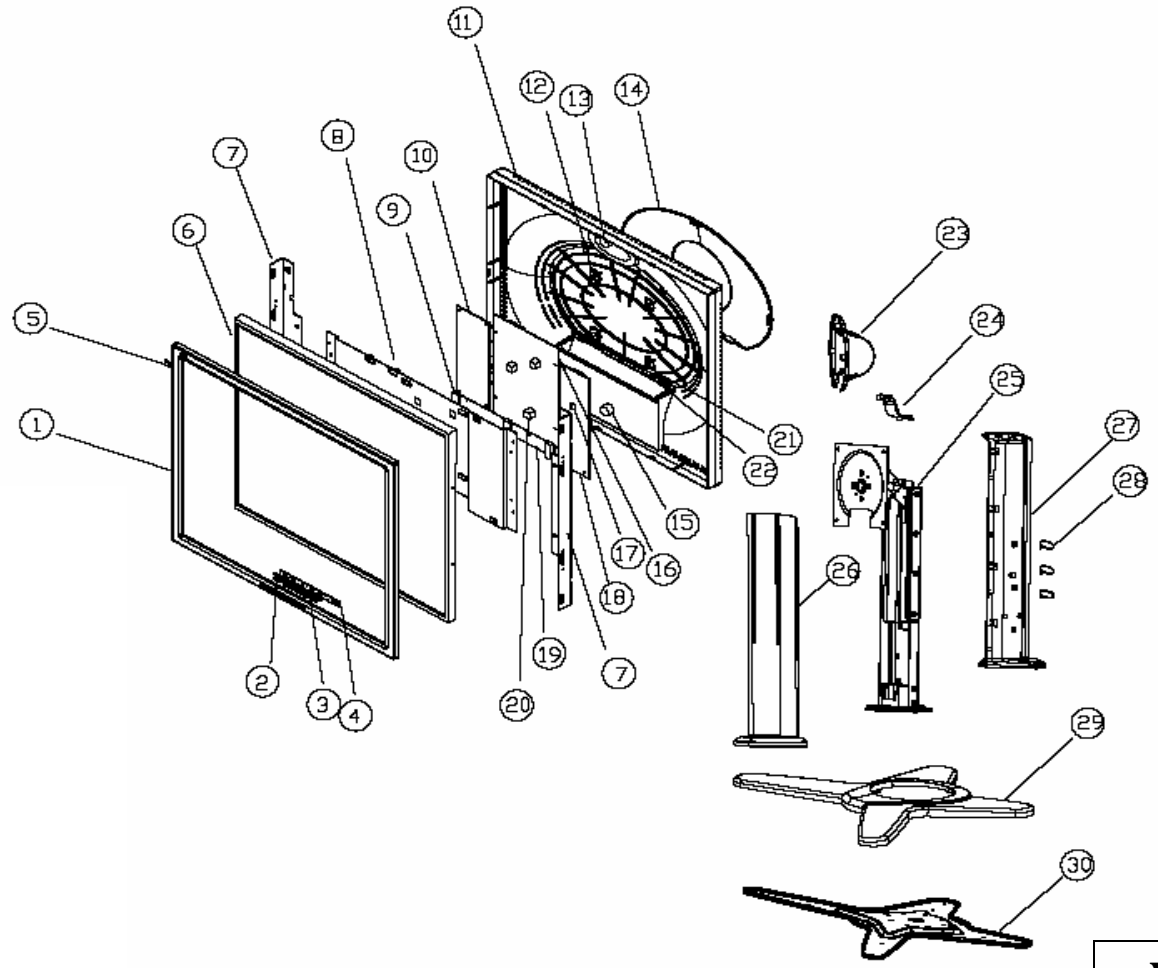
ViewSonic Model Number: VS10725

Rev: 1a

Serial No. Prefi Q8H

| Item | ViewSonic P/N | Ref. P/N | Description | Location | Universal number# | Q'ty |
|------|----------------|-------------|---|---------------------|-------------------|-------|
| 1 | #N/A | 2024272901P | FRONT BEZEL GCABA2369T8F VP930B | 1F01 | | 1 |
| 2 | #N/A | 2053756001P | LED INDIC.-PWR HDECP2012TSF VP930 | 1F02 | | 1 |
| 3 | #N/A | 2044269101P | FUNCTION KEY JKNBP2392T8F VP930B | 1F03 | | 1 |
| 4 | #N/A | 2051354900P | NAME PLATE HBDGE1393T8 VP930B | 1F04 | | 1 |
| 5 | #N/A | 2071881100P | BRACKET_FIX LANGF2194T8---A VP930 | 1F10 | | 4 |
| 6 | #N/A | 2061456100P | BUSHING PCUSG1647T8 VP930B | 1F11 | | 2 |
| 7 | #N/A | 2061456200P | BUSHING PCUSG1674T8 VP930B | 1F12 | | 1 |
| 8 | #N/A | 2071979700P | METAL FITTG LANGF2227T8 VP930B | 1F16 | | 1 |
| 9 | #N/A | 2071881300P | BRACKET_FIX LANGF2232T8 VP930B | 1F17 | | 2 |
| 10 | #N/A | 2080006400P | SCREW_SPE XBBSN30P04000- (M3*4) VP930B | 1F18 | | 4 |
| 11 | #N/A | 2080006300P | SCREW_SPE LBOSM1069DB VP930B | 1F22 | | 6 |
| 12 | #N/A | 2061456300P | BUSHING PCUSG1687T8 VP930B | 1F23 | | 3 |
| 13 | #N/A | 2080006600P | SCREW_SPE XHISE40P08TV0-- (M4*8) VP930B | 1F24 | | 1 |
| 14 | #N/A | 2061456400P | BUSHING PCUSG1651T8--- | 1F25 | | 1 |
| 15 | #N/A | 2061456500P | BUSHING PISL1177d8---- | 1F26 | | 1 |
| 16 | #N/A | 2072461300P | INSULATOR PISLV0262T8---- | 1F27 | | 1 |
| 17 | C-00005329 | 2022267501P | CABI BACK GCABB1883T8F VP930B | 2C01 | | 1 |
| 18 | C-00005331 | 2022267401P | CABI BACK GC0VD2626T8F VP930B | 2C02 | | 1 |
| 19 | #N/A | 2080006200P | SCREW_SPE XBMSB30P06000 VP930B | 2C03 | | 4 |
| 20 | #N/A | 2071881200P | BRACKET_FIX LANGF206-3D8--B VP930B | 2C04 | | 1 |
| 21 | #N/A | 2080006500P | SCREW_SPE XBMSB30P05000-- (M3*5) VP930B | 2C05 | | 11 |
| 22 | #N/A | 2080006800P | SCREW_SPE SCREW_FOR BASE MENTAL | 2C06 | | 4 |
| 23 | PL-00005323 | 2028262001P | STAND GSTN-2957T8 VP930B | 5B01 | | 1 |
| 24 | #N/A | 2080006100P | SCREW_SPE XBPSB40P10JS0 (M4*10) VP930B | 5B02 | | 4 |
| 25 | P-00005325 | 2011091101P | CARTON BOX VP930b BOX SPAKC3715T8 | 6P01 | | 1 |
| 26 | #N/A | 2055670015P | LABEL VP930b UPC LABEL TLABZ3903D8 | 6P02 | | 1 |
| 27 | #N/A | 2055613441P | LABEL VIEWSONIC 8ms STICKER 89X58mm | 6P04 | | 2 |
| 28 | #N/A | 2055670016P | LABEL VP930b SMALL LABEL TLAB-5532D8 | 6P05 | | 1 |
| 29 | DC-00001586 | 2055613435P | LABEL VIEWSONIC INSET PAGE-1280X1024 | 6P06 | | 1 |
| 30 | M-LB-0813-0856 | 2055613379P | LABEL VIEWSONIC CONTAINER LABEL | 6P11 | | 0.028 |
| 31 | #N/A | 2055690014P | LABEL VP930 H1-POT TLAB-5657T8 | 6P13 | | 1 |
| 32 | #N/A | 2055690015P | LABEL VP930 HIGHVOLTAGE TLABZ4916T8 | 6P14 | | 1 |
| 33 | P-00005322 | 2012186700P | POLYFOAM SPAKA6617T8F VP930B | 6P20 | | 1 |
| 34 | #N/A | 2063302400P | PROTECTOR PISL-1351T8 VP930B | 6P23 | | 1 |
| 35 | #N/A | 2055170034P | LABEL VP930b SET LABEL TLABM4485T8 | 6P50 | | 1 |
| 36 | #N/A | 2056670001P | SERIAL LABEL VP930 SN LABEL TLAB-5523D8 | 6P51 | | 1 |
| 37 | #N/A | 2013054030P | POLYETHY BAG VP930 LCD BAG SSAKH1356D8-T-B | 6P60 | | 1 |
| 38 | DC-00005308 | 2438570006P | CD-OWNER GUIDE VP930 CD DDSKC0058T8 | 6P80 | | 1 |
| 39 | DC-00005309 | 2438570007P | CD-OWNER GUIDE VP930 CD-DRIVER DDSKC00628T8 | 6P81 | | 1 |
| 40 | DC-00005307 | 2002370009P | GUARANT CARD VP930 QSG TINSE3194T8 | 6P82 | | 1 |
| 41 | #N/A | 2013054031P | POLYETHY BAG VP930 UG BAG SSAKD0010-1-T | 6P83 | | 1 |
| 42 | #N/A | 2001970003P | ATTACH SHEET VP930 CD CORRECT PAGE | 6P84 | | 1 |
| 43 | #N/A | 2433312131P | SHIELDING FOAM W12*H3*L13mm | K901 | | 1 |
| 44 | #N/A | 2433301010P | SHIELDING FOAM W10*H8*L10mm | K902 | | 1 |
| 45 | #N/A | 2434425070P | AL SHIELDING TAPE W25*L70mm (AL) | K903 K904 K905 K906 | | 4 |
| 46 | #N/A | 2434425040P | AL SHIELDING TAPE W25*L40mm (AL) | K907 K908 | | 2 |
| 47 | #N/A | 2434450160P | AL SHIELDING TAPE W50*L160mm (AL) | K915 | | 1 |
| 48 | M-MS-0808-6571 | 2433303010P | SHIELDING FOAM W10*H10.5*L10mm | K916 K917 K918 | | 3 |
| 49 | #N/A | 2434416030P | AL SHIELDING TAPE W16*L30mm (AL) | K919 | | 1 |
| 50 | #N/A | 2427490001P | WIRE HARNESS QCOPD1230T8 (KEY) SAMPO | P701 | | 1 |
| 51 | A-00005316 | 2427190002P | AC POWER CORD QACC-1126D8D SAMPO | P951 | | 1 |
| 52 | CB-00005317 | 2427501196P | I/O CABLE D15/D15 20276(5.8) 1.83M BLACK | P961 | | 1 |
| 53 | CB-00005318 | 2427590004P | I/O CABLE (DVI) QCODS1641D8D-A 1.8M BLK SAMPO | P971 | | 1 |
| 54 | CB-00005319 | 2420390001P | FFC CABLE QCOPD1229T8 SAMPO | P980 | | 1 |
| 55 | #N/A | 2427490002P | WIRE HARNESS QCNWS0907T8021 (POWER) SAMPO | P981 | | 1 |
| 56 | #N/A | 2427490003P | WIRE HARNESS QCNWS0906T8038 INVERTER SAMPO | P982 | | 1 |
| 57 | B-00005312 | 2200501600P | PC BOARD ASS'Y DPWBN5718T8V (MAIN/B) SAMPO | U101 | | 1 |
| 58 | B-00005313 | 2200501700P | PC BOARD ASS'Y SMD DPWBN5722T8 (KEY/B) SAMPO | U701 | | 1 |
| 59 | B-00005311 | 2200501400P | PC BOARD ASS'Y SMD RUNTP5654T8 (POWER/B) SAMPO | U801 RA | | 1 |
| 60 | #N/A | 2200501500P | PC BOARD ASS'Y SMD RUNTP5656T8 (POWER/B) SAMPO | U801 RB | | 1 |
| 61 | #N/A | 2200501300P | PC BOARD ASS'Y SMD RUNTP5663T8 (INVERTER) SAMPO | U901 RA | | 1 |
| 62 | B-00005310 | 2200501200P | PC BOARD ASS'Y SMD RUNTP5655T8 (INVERTER) SAMPO | U901 RB | | 1 |
| 63 | E-00005320 | 2212090100P | LCD PANEL M190EN03-V2 AUO | V901 | | 1 |

8.Exploded Diagram And Spare Parts List



| | | |
|------------------------------|--|-------------|
| ViewSonic Corporation | | |
| Model | | |
| Title | | |
| Date | | Rev: |

EXPLODED PARTS LIST (VP930-2)

ViewSonic Model Number: VS10725-2E

Rev: 1a

Serial No. Prefix: Q8G

| Item | ViewSonic P/N | Ref. P/N | Description | Q'ty |
|------|---------------|-----------------|------------------|------|
| 1 | C-00004132 | GCABA2369T8F--- | CAB-A | 1 |
| 2 | PL-00004130 | JKNBP2392T8F--- | KNOB | 1 |
| 3 | PL-00004124 | HDECP2012T8F--- | LENS | 1 |
| 4 | B-00004103 | DPWBN5722T8---- | KEY BOARD | 1 |
| 5 | PL-00004125 | HBDGE1393T8---- | LOGO PLATE | 1 |
| 6 | E-00000927 | VVLM190EN02V2-- | 19" AUO PANEL | 1 |
| 7 | HW-00004137 | LANGF2232T8---- | METAL FOR PANEL | 2 |
| 8 | HW-00004121 | LANGF2227T8---- | METAL BRACKET | 1 |
| 9 | N/A | PCUSG1687T8---- | RUBBER | 1 |
| 10 | B-00005001 | RUNTP5654T8---- | POWER BOARD | 1 |
| 11 | C-00004133 | GCABB1883T8F--- | CAB-B | 1 |
| 12 | N/A | LANGF2194T8---A | VESA-FIX | 4 |
| 13 | M-00003927 | PCUSG1671T8---- | RUBBER | 1 |
| 14 | C-00004126 | GCOVD2626T8F--- | BACK COVER | 1 |
| 15 | N/A | PCUSG1674T8---- | RUBBER | 1 |
| 16 | B-00004101 | DPWBN5718T8V--- | I/F BOARD | 1 |
| 17 | N/A | PCUSG1651T8---- | BUBBER | 1 |
| 18 | B-00004102 | RUNTP5663T8---- | INVERTER BOARD | 1 |
| 19 | N/A | PISLV0262T8---- | DECORATION MYLAR | 1 |
| 20 | N/A | PCUSG1395D8---- | SPONGE | 3 |
| 21 | N/A | PCUS-1443T8---A | VESA METAL USE | 1 |
| 22 | N/A | PCUSS1588T8---- | SPONGE | 1 |
| 23 | N/A | GCOVD2632T8F--- | HINGE COVER | 1 |
| 24 | N/A | GCOVD2633T8F--- | HINGE COVER | 1 |
| 25 | N/A | MHNGM0067T8---- | HINGE BODAY | 1 |
| 26 | N/A | GCOVD2630T8F--- | NECK FRONT | 1 |
| 27 | N/A | GCOVD2631T8F--- | NECK BACK | 1 |
| 28 | N/A | GCOVD2634T8F--- | CABLE FIED | 3 |
| 29 | N/A | GSTN-2950T8F--- | 19" BASE | 1 |
| 30 | N/A | LANGF2229T8---- | 19" BASE-METAL | 1 |

EXPLODED PARTS LIST (VP930b-2)

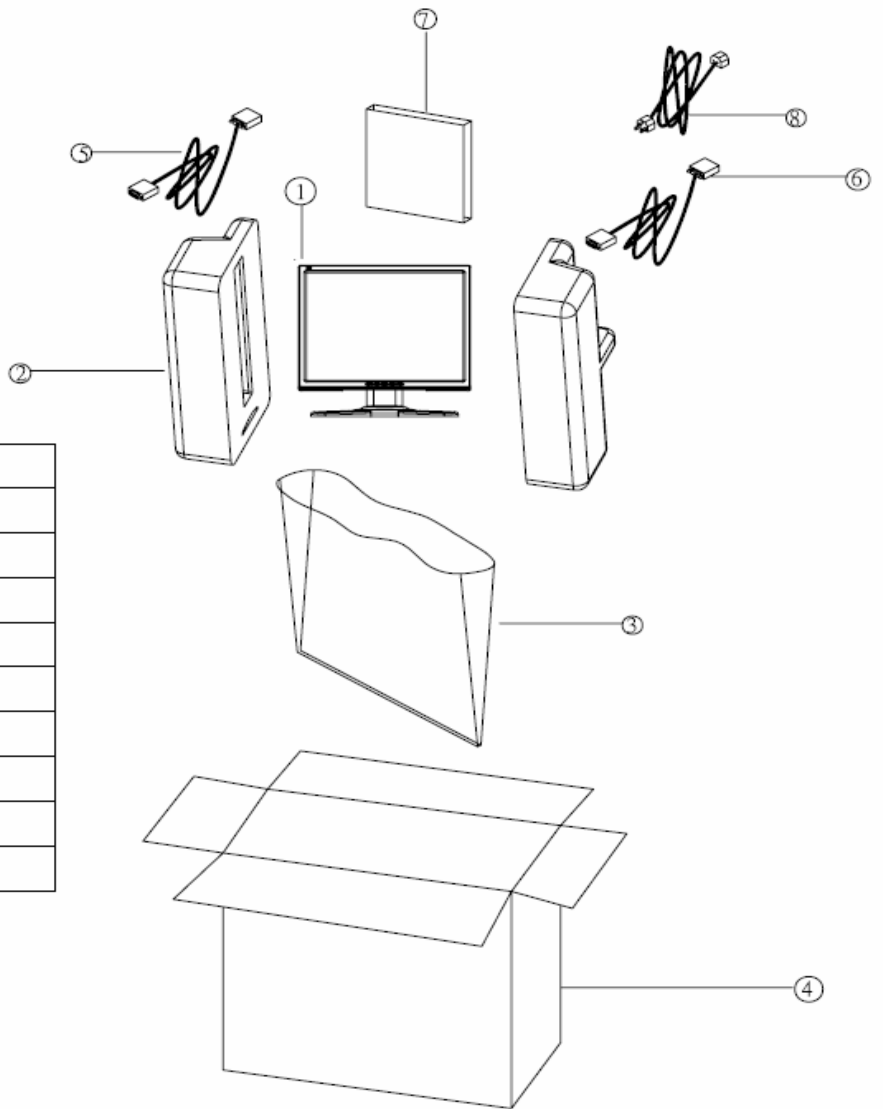
ViewSonic Model Number: VS10725-2W

Rev: 1A

Serial No. Prefix: Q8Q

| Item | ViewSonic P/N | Ref. P/N | Description | Q'ty |
|------|---------------|-----------------|------------------|------|
| 1 | C-00004139 | GCABA2369T8F--B | CAB-A | 1 |
| 2 | PL-00004123 | JKNBP2392T8F--B | KNOB | 1 |
| 3 | PL-00004124 | HDECP2012T8F--- | LENS | 1 |
| 4 | B-00004103 | DPWBN5722T8---- | KEY BOARD | 1 |
| 5 | PL-00004125 | HBDGE1393T8---- | LOGO PLATE | 1 |
| 6 | E-00000927 | VVLM190EN02V2-- | 19" AUO PANEL | 1 |
| 7 | HW-00004137 | LANGF2232T8---- | METAL FOR PANEL | 2 |
| 8 | HW-00004121 | LANGF2227T8---- | METAL BRACKET | 1 |
| 9 | N/A | PCUSG1687T8---- | RUBBER | 1 |
| 10 | B-00005001 | RUNTP5654T8---- | POWER BOARD | 1 |
| 11 | C-00004140 | GCABB1883T8F--B | CAB-B | 1 |
| 12 | N/A | LANGF2194T8---A | VESA-FIX | 4 |
| 13 | M-00003927 | PCUSG1671T8---- | RUBBER | 1 |
| 14 | C-00004104 | GCOVD2626T8F--B | BACK COVER | 1 |
| 15 | N/A | PCUSG1674T8---- | RUBBER | 1 |
| 16 | B-00004101 | DPWBN5718T8V--- | I/F BOARD | 1 |
| 17 | N/A | PCUSG1651T8---- | BUBBER | 1 |
| 18 | B-00004102 | RUNTP5663T8---- | INVERTER BOARD | 1 |
| 19 | N/A | PISLV0262T8---- | DECORATION MYLAR | 1 |
| 20 | N/A | PCUSG1395D8---- | SPONGE | 3 |
| 21 | N/A | PCUS-1443T8---A | VESA METAL USE | 1 |
| 22 | N/A | PCUSS1588T8---- | SPONGE | 1 |
| 23 | N/A | GCOVD2632T8F--B | HINGE COVER | 1 |
| 24 | N/A | GCOVD2633T8F--B | HINGE COVER | 1 |
| 25 | N/A | MHNGM0067T8---- | HINGE BODAY | 1 |
| 26 | N/A | GCOVD2630T8F--B | NECK FRONT | 1 |
| 27 | N/A | GCOVD2631T8F--B | NECK BACK | 1 |
| 28 | N/A | GCOVD2634T8F--- | CABLE FIED | 3 |
| 29 | N/A | GSTN-2950T8F--B | 19" BASE | 1 |
| 30 | N/A | LANGF2229T8---- | 19" BASE-METAL | 1 |

| | |
|----|-------------|
| 1 | LCD 19" |
| 2 | PACKING |
| 3 | BAG |
| 4 | CARTON |
| 5 | D-SUB CABLE |
| 6 | DVI CABLE |
| 7 | MENU |
| 8 | POWER CORD |
| 9 | |
| 10 | |



Packing For Shipping

1. Packing Procedure

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

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



Figure 1



Figure 2

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

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



Figure 3



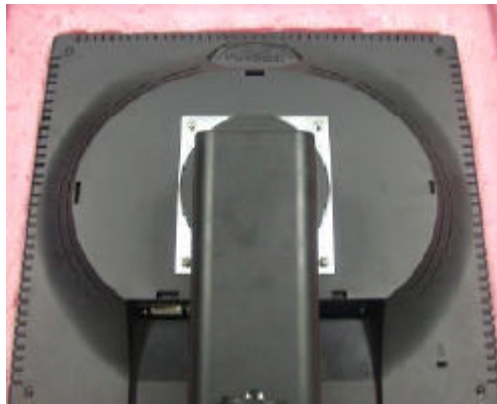
Figure 4

Disassembly

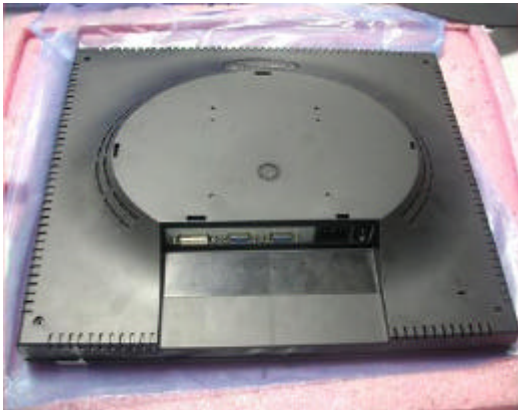
Lie down the monitor on flat table



Remove Back cover and Stand by 4 screw



Remove CAB-B: Take out 4 screw



Take off D-sub 6 screws



Remove the power board by 3 screws



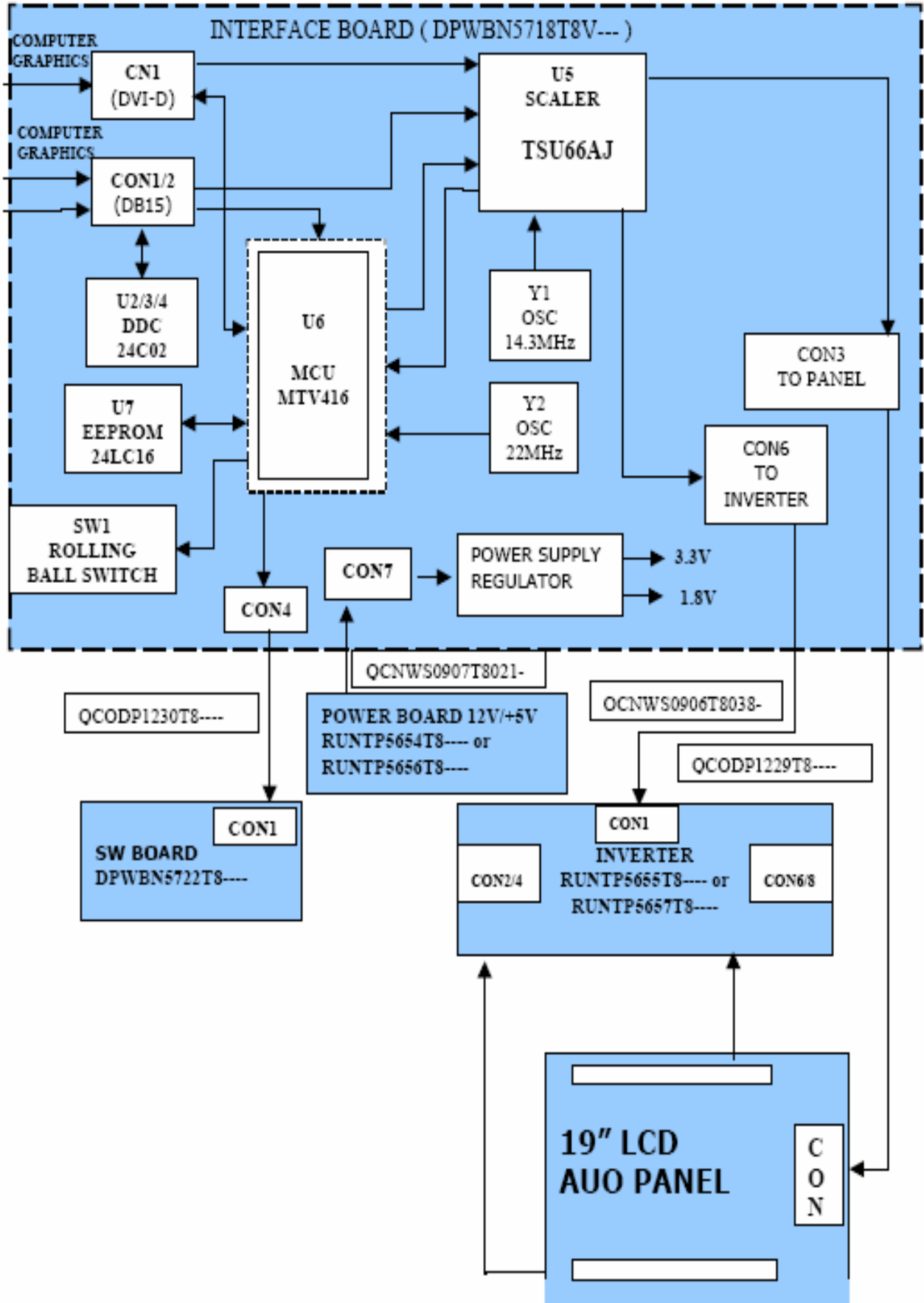
Remove the Inverter board by 2 screws



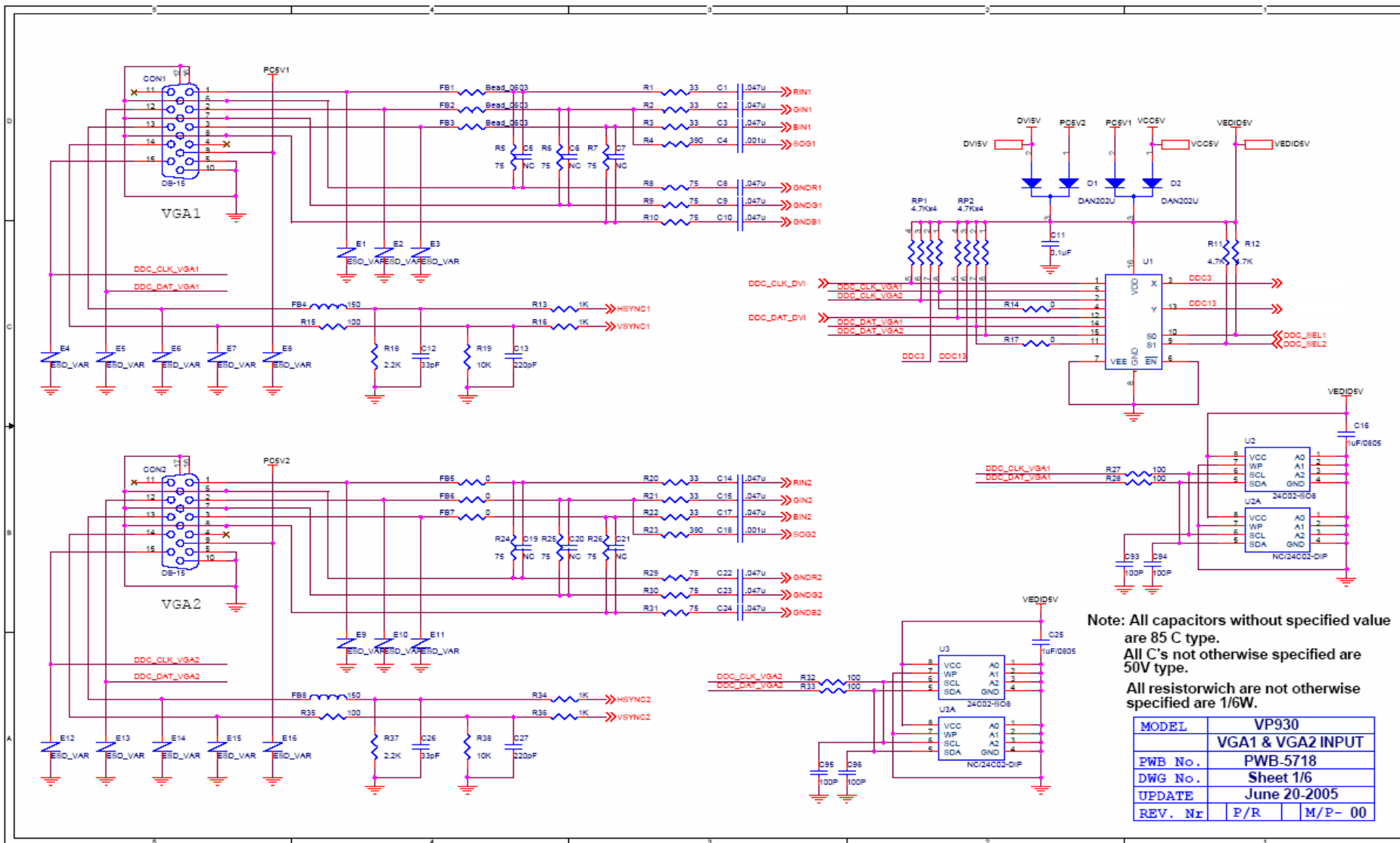
Remove the I/F board by 2 screws

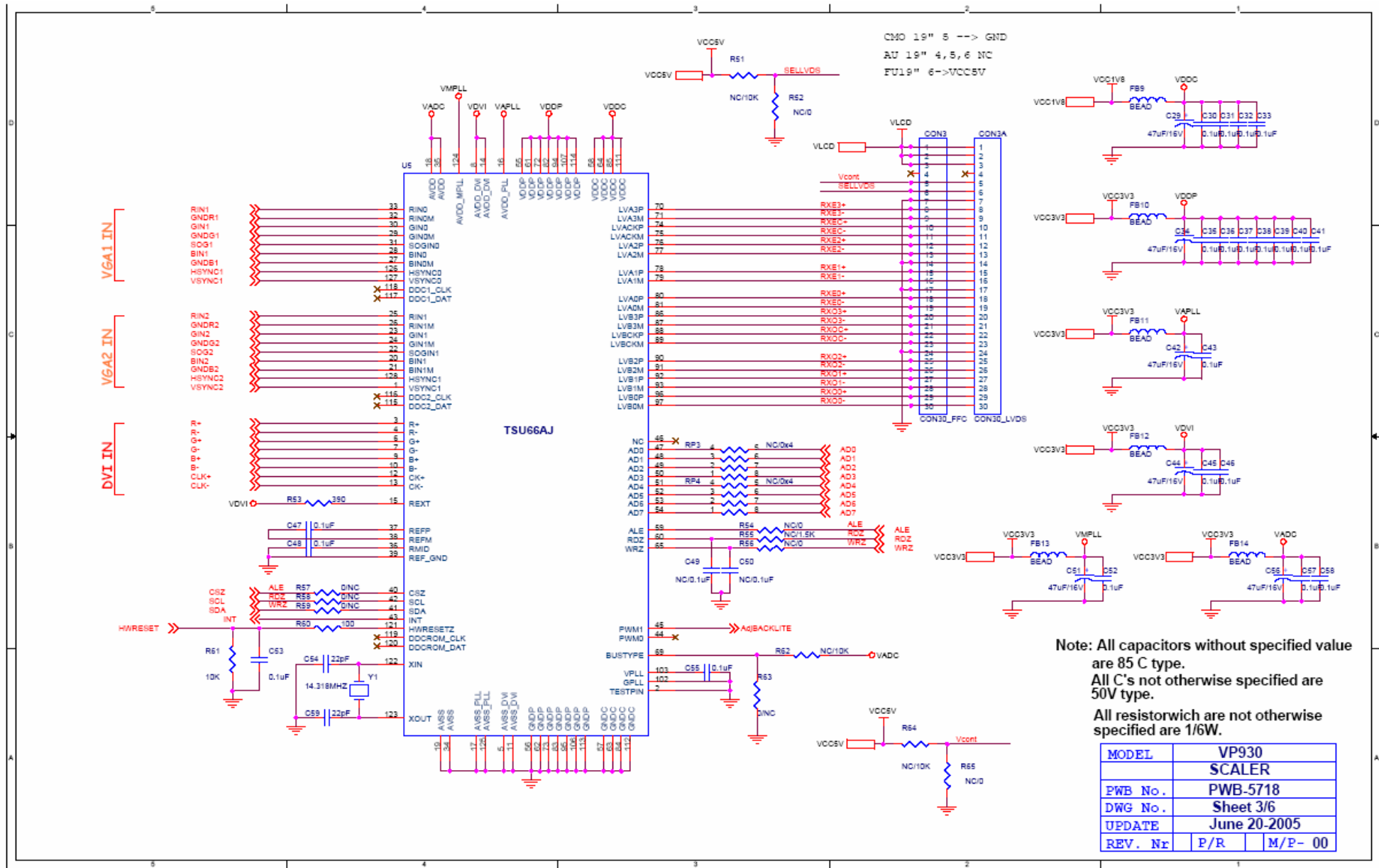


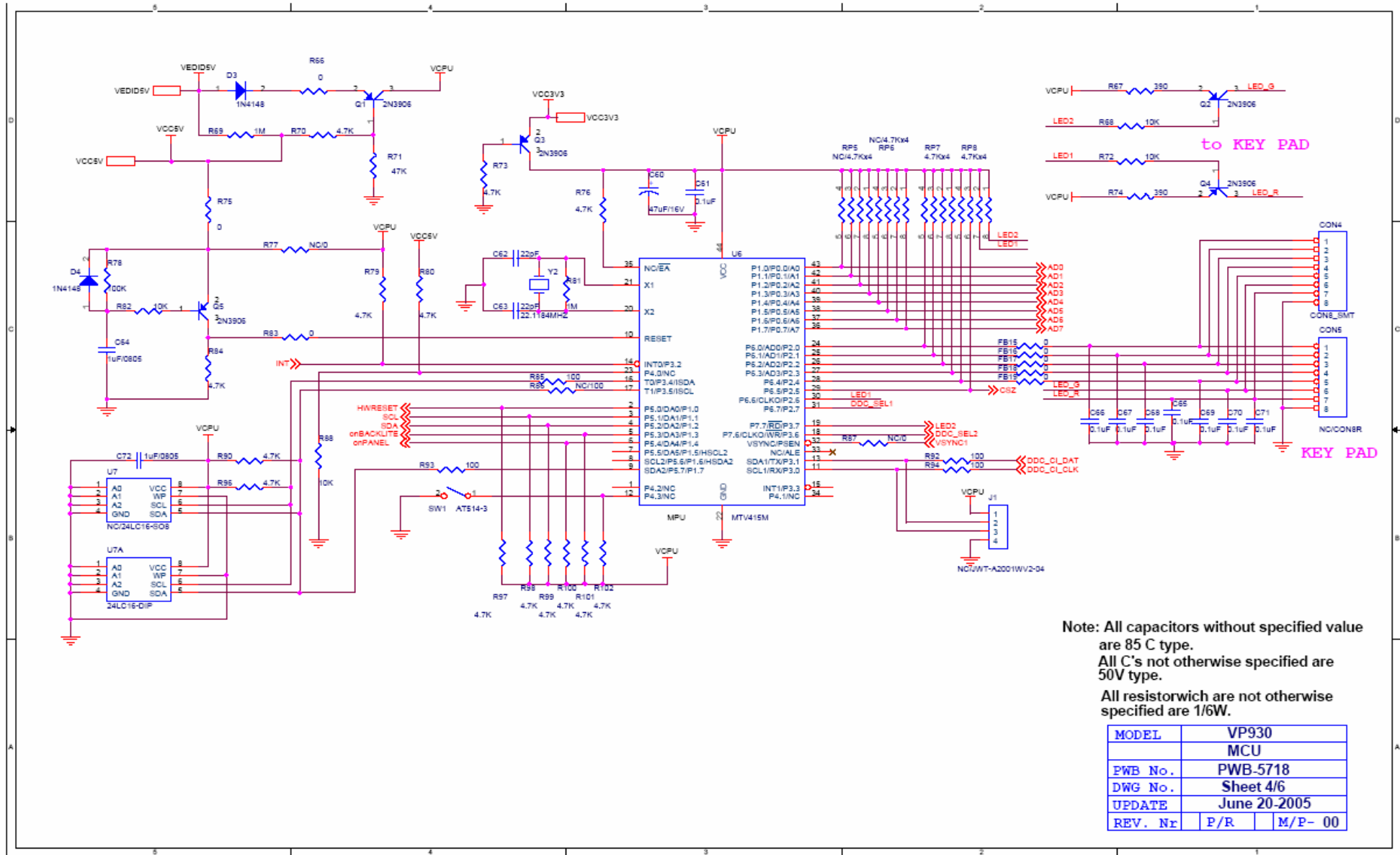
9. Block Diagram



10.Schematic Diagram

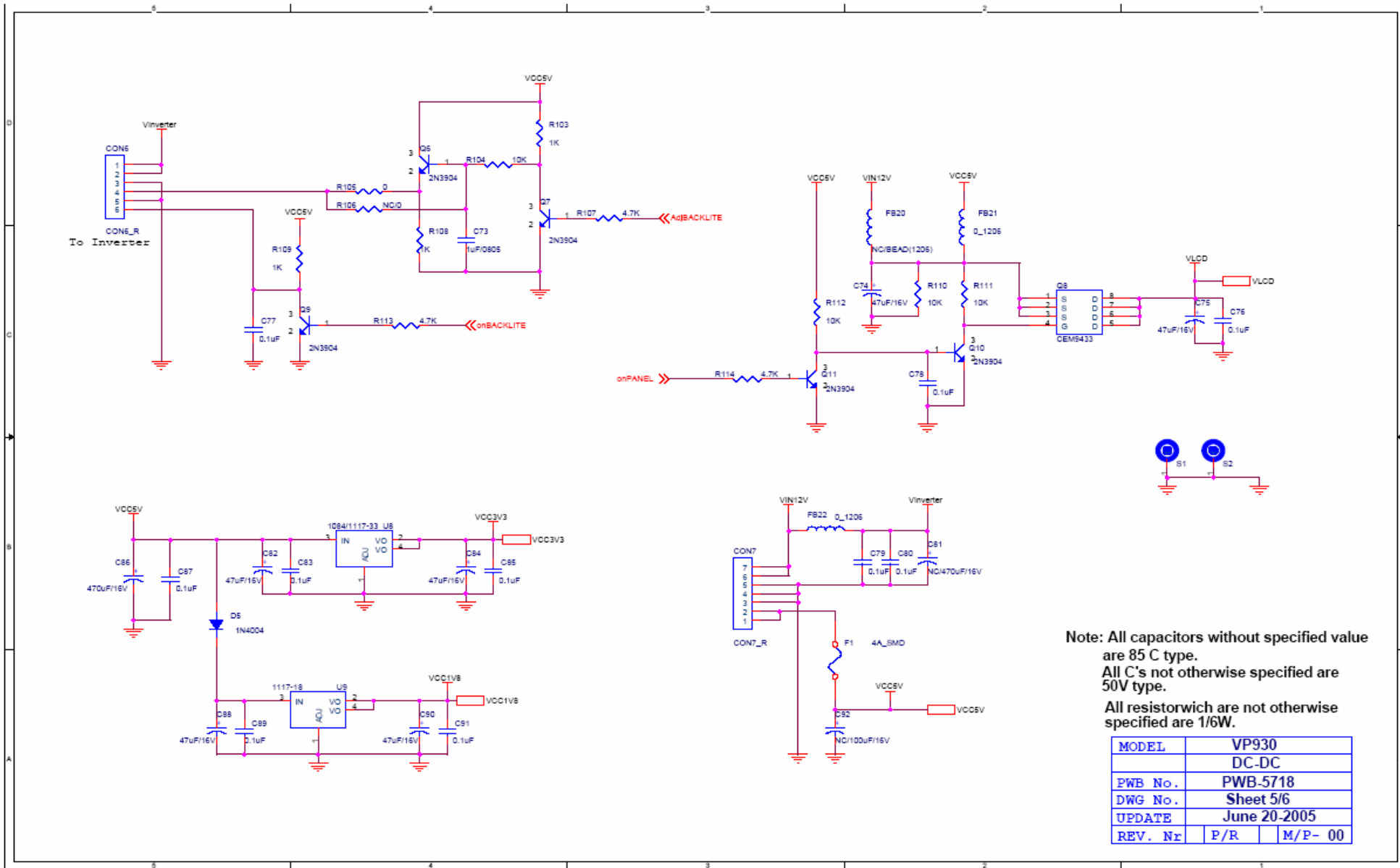


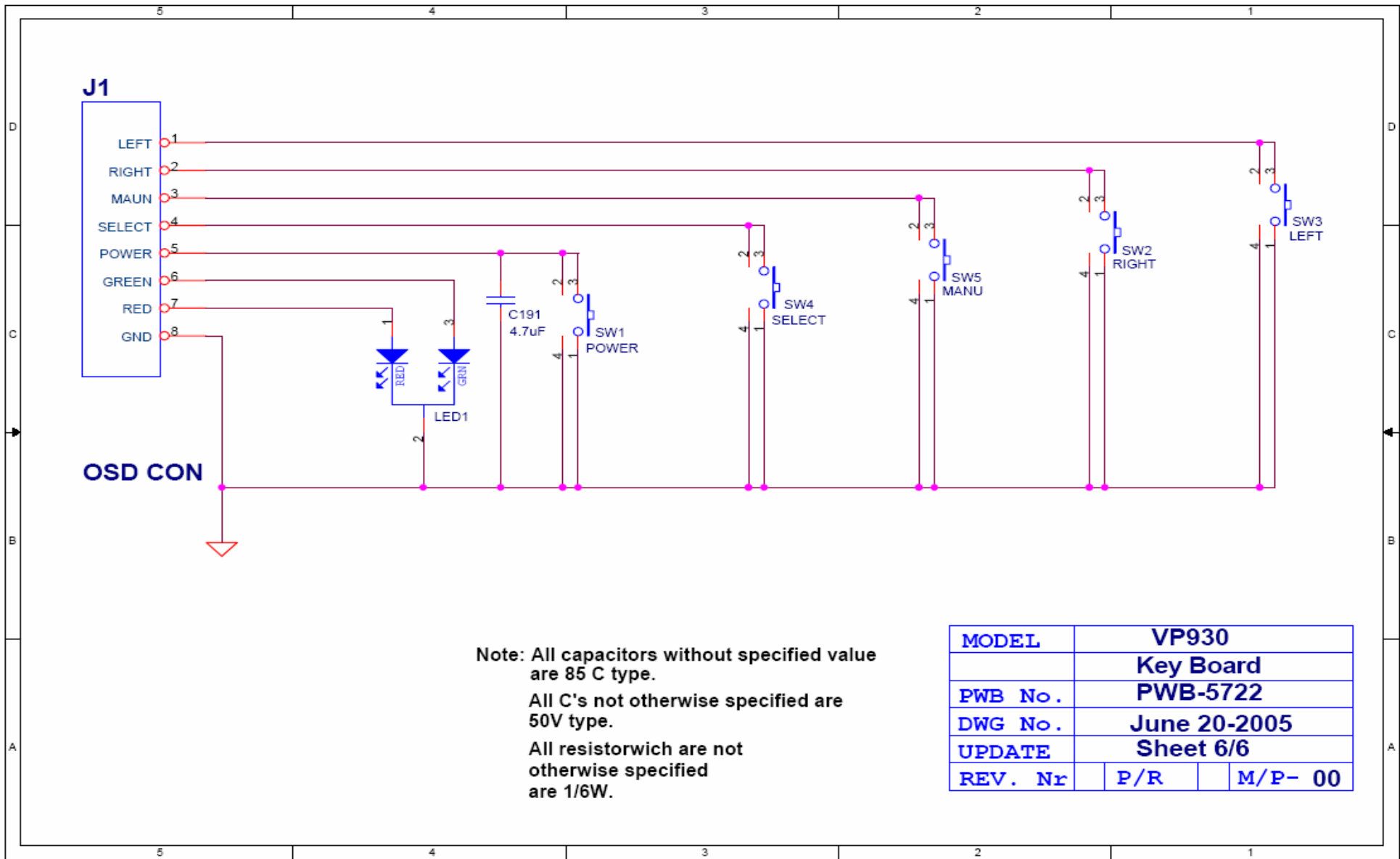




Note: All capacitors without specified value are 85 C type.
 All C's not otherwise specified are 50V type.
 All resistorwich are not otherwise specified are 1/6W.

| | |
|---------|--------------|
| MODEL | VP930 |
| | MCU |
| PWB No. | PWB-5718 |
| DWG No. | Sheet 4/6 |
| UPDATE | June 20-2005 |
| REV. Nr | P/R M/P- 00 |



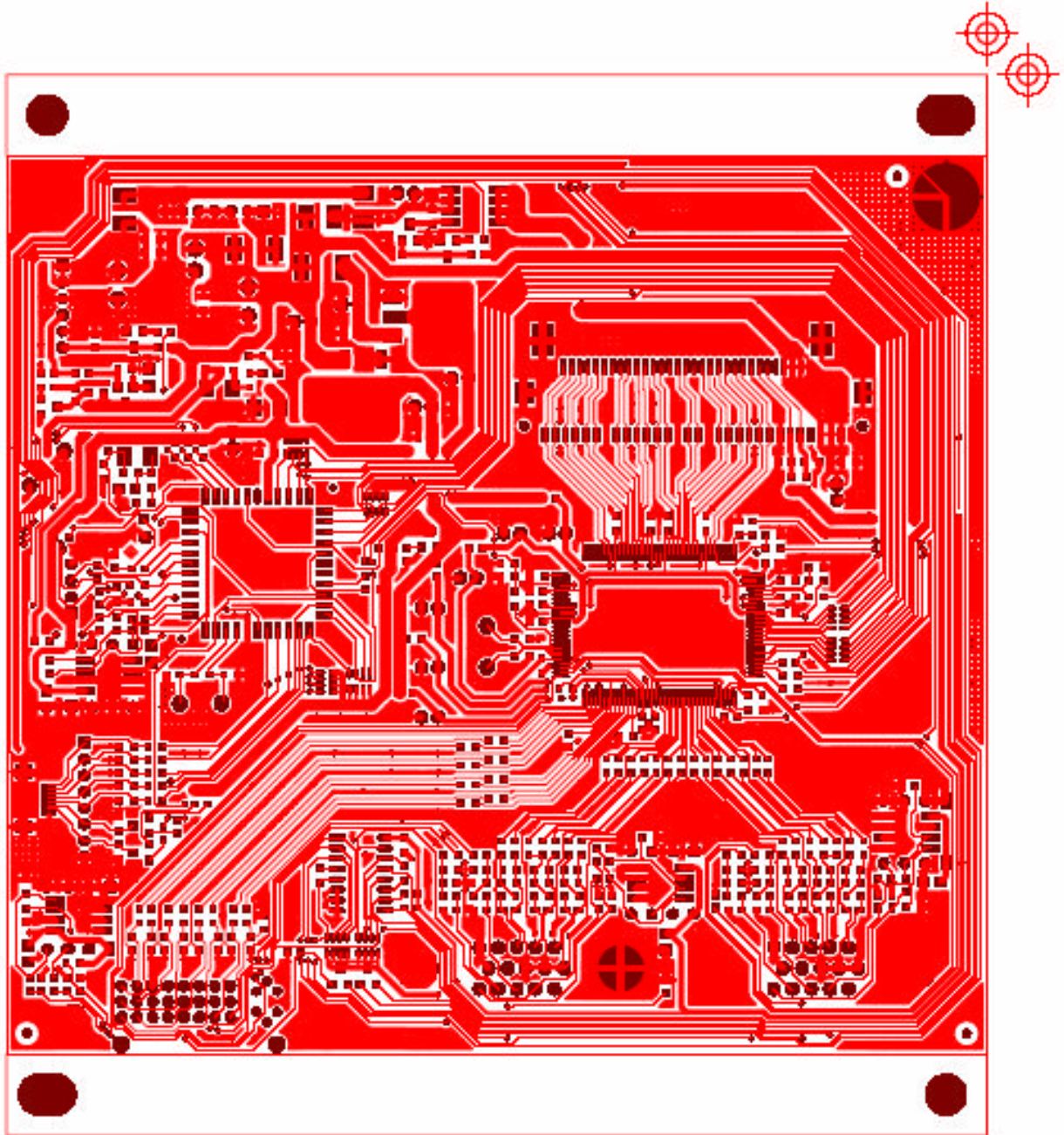


Note: All capacitors without specified value are 85 C type.
 All C's not otherwise specified are 50V type.
 All resistorwch are not otherwise specified are 1/6W.

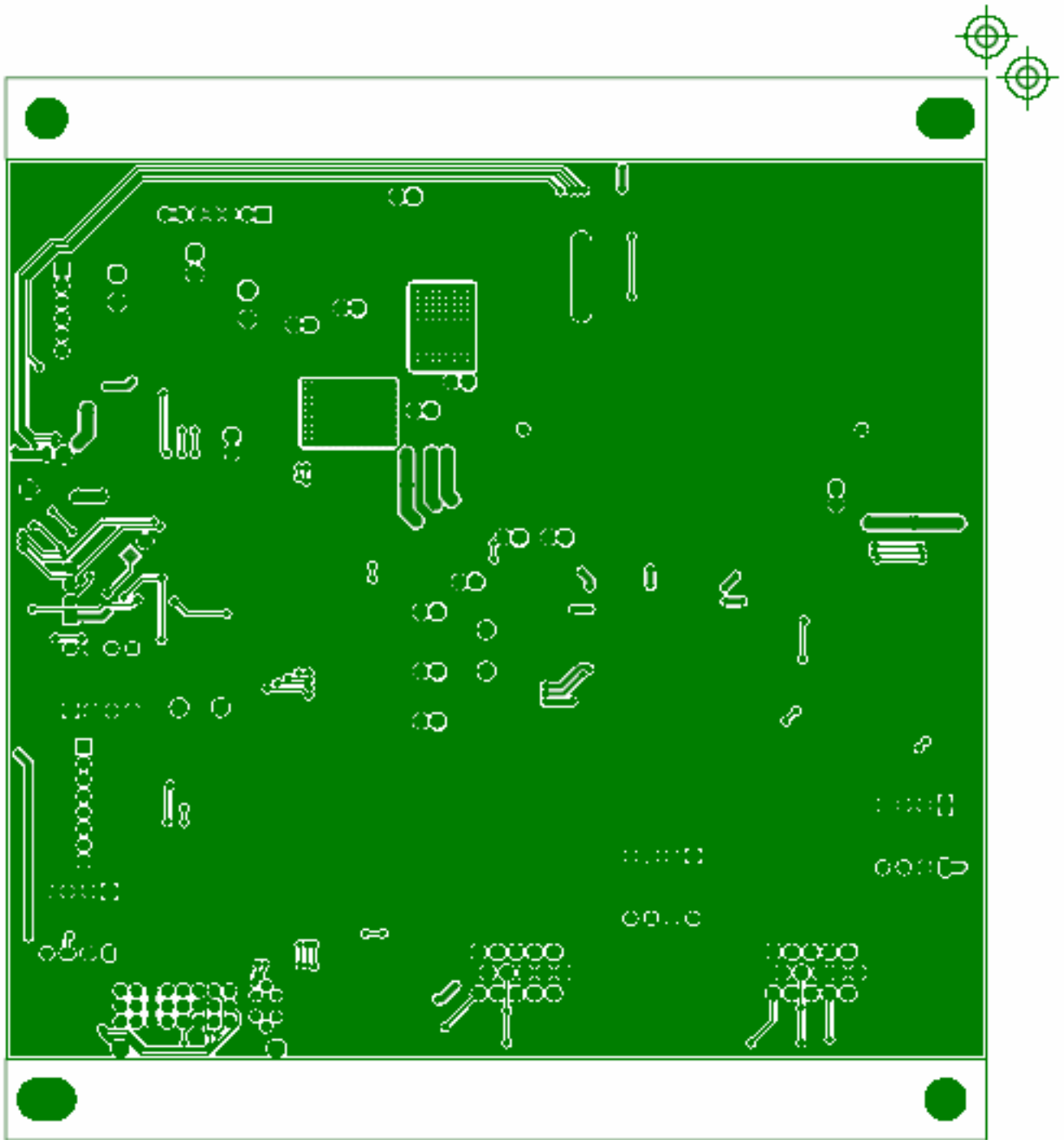
| | | |
|----------|--------------|---------|
| MODEL | VP930 | |
| | Key Board | |
| PWB No . | PWB-5722 | |
| DWG No . | June 20-2005 | |
| UPDATE | Sheet 6/6 | |
| REV. Nr | P/R | M/P- 00 |

11. PCB Layout Diagrams

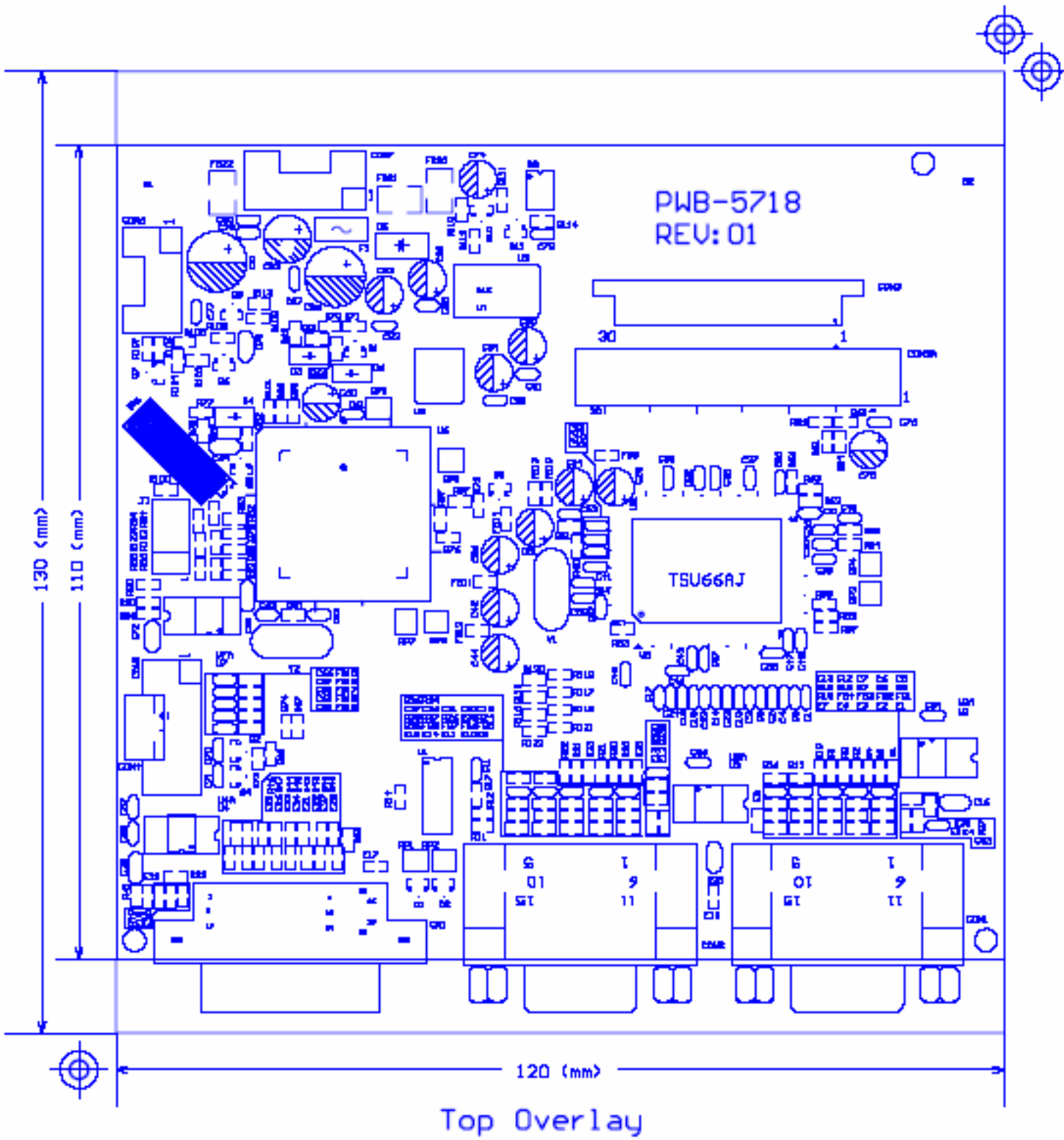
IF-board



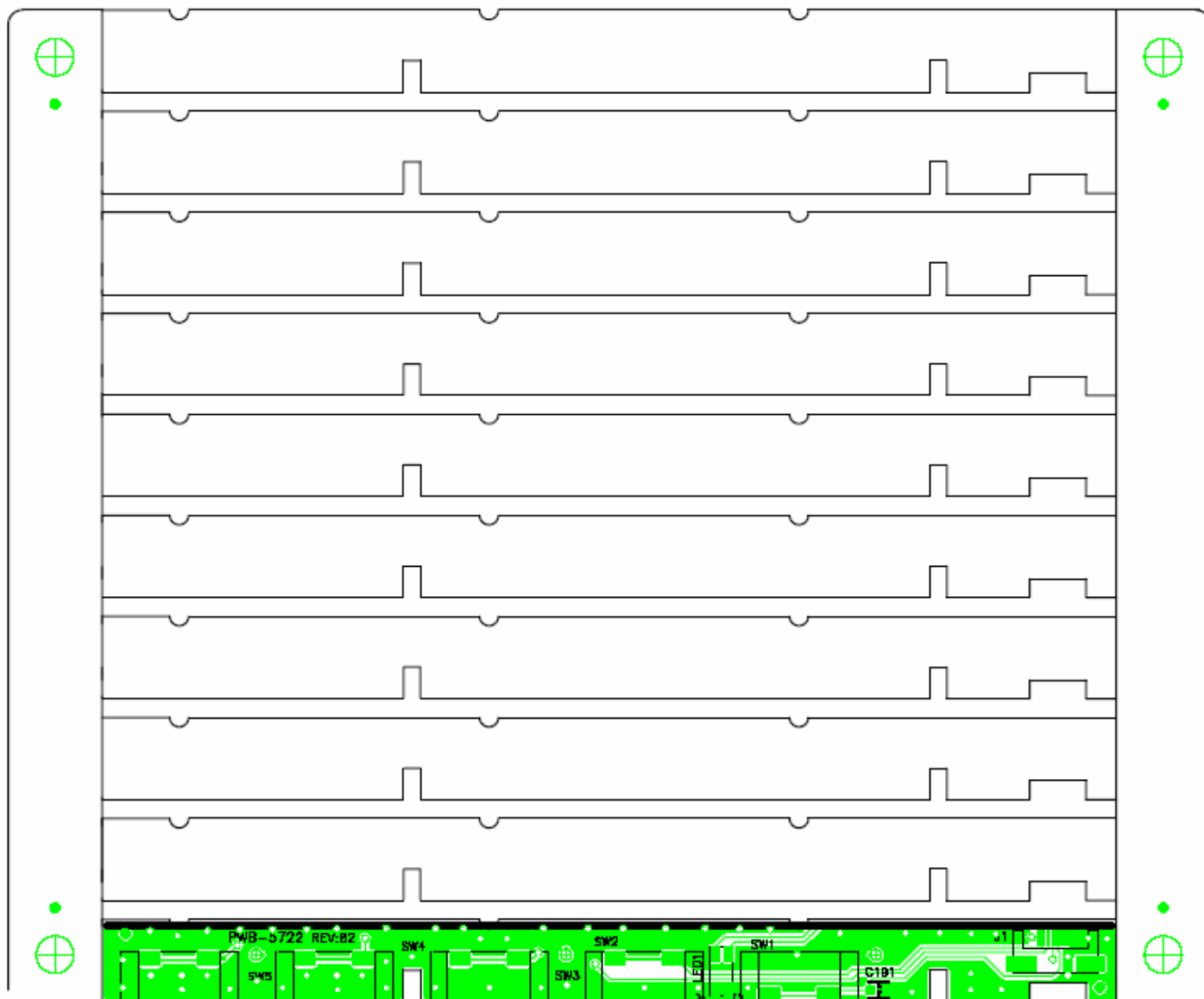
TopLayer

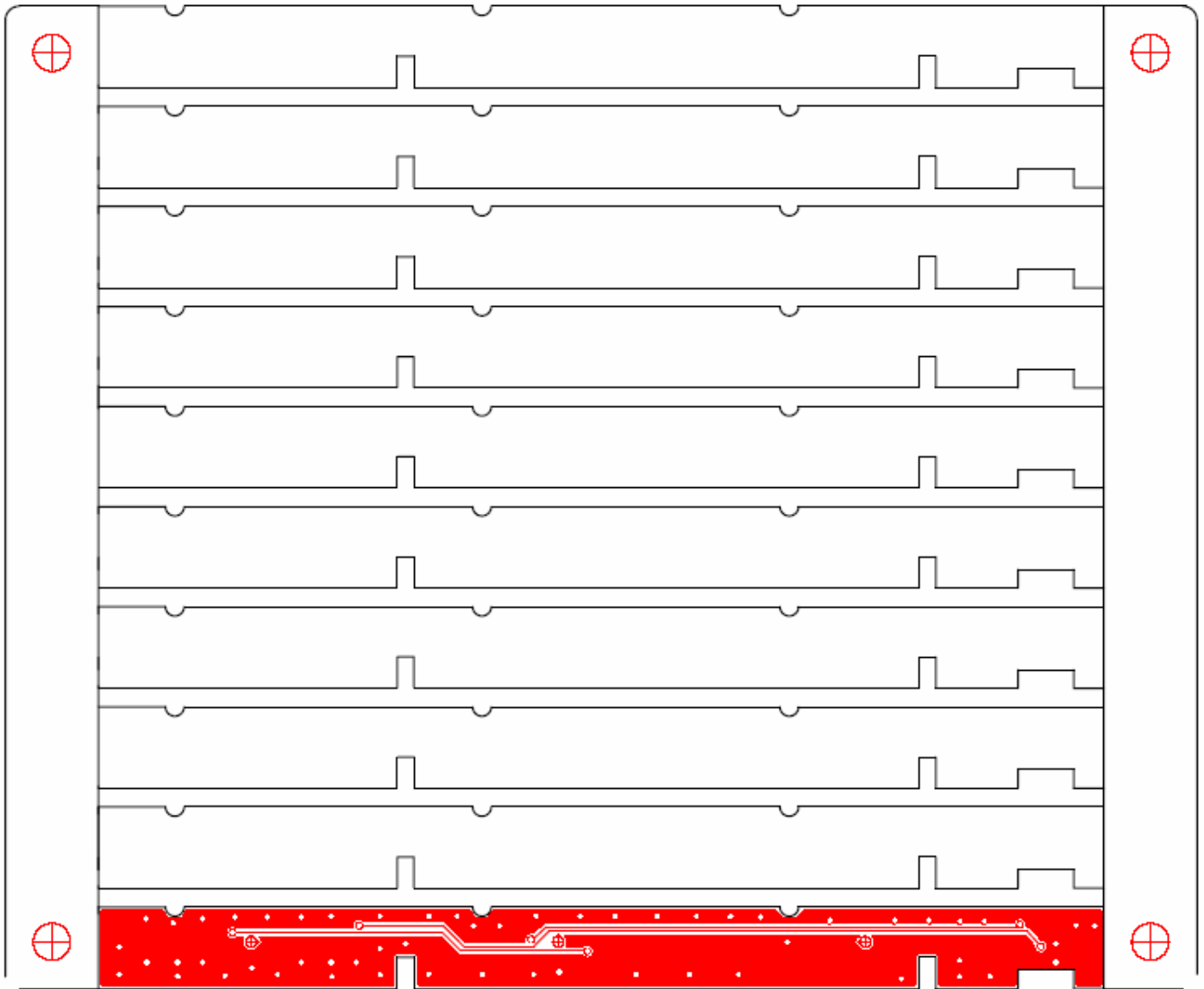


BottomLayer



Key board





* *Reader's Response* *

Dear Readers:

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

Assessment

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

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

B. Are you satisfied with this Service Manual?

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

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

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

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