

# Service Manual

**ViewSonic PT775-3**

**Model No. VCDTS21427-3**

***17" Digital Controlled Color Monitor  
Professional Series***



(Rev. 1 – November 1998)

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# **Revision History**

| <b>Revision</b> | <b>Date</b> | <b>Description Of Changes</b> | <b>Approval</b> |
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| 1.0             | 11/13/98    | Initial Issue                 | T. Sears        |
|                 |             |                               |                 |
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# SECTION 1 : SAFETY WARNING

**CAUTION:** No work should be attempt on an exposed monitor chassis by anyone not familiar with servicing procedures and precautions.

## SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SPECIFIED PARTS WHOSE PART NUMBERS APPEARS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY VIEWSONIC. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

### 1.1 SAFETY CHECK-OUT:

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

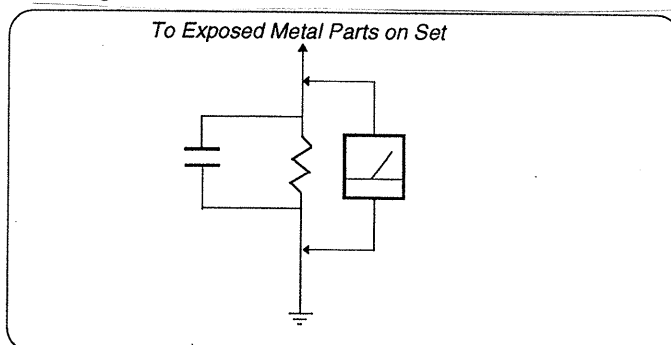
1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been reinstalled. Be especially certain that all insulators have been reinstalled.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cord for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to verify that they are at the specified values. The accuracy of the instrument should be questioned if it continually produces low HV readings.

### 1.2 LEAKAGE TEST

The AC leakage from any exposed metal parts to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5mA (500 microamperes). Leakage current can be measured by any one of two methods.

1. A commercial leakage tester, such as the Simoson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.

2. A battery-operated AC milliammeter, like the Data Precision 245 digital multimeter.



### 1.3 HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground ; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-100 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential.

### 1.4 PRECAUTIONS

#### 1.4.1 CRT REPLACEMENT

Extreme care should be used in handling the CRT as rough handling may cause it to implode due to high vacuum pressure. Do not nick or scratch glass or subject it to any undue pressure in removal or installation. Use goggles and heavy gloves for protection. Be sure to disconnect the monitor from all external power sources. Discharge the CRT by shorting the anode connection to chassis ground (Not cabinet or other parts ) before CRT removing. The CRT must be replace with the same type of the CRT for implosion protection and X-ray protection. Do not remove the deflection yoke and /or convergence / purity rings. The new CRT and deflection yoke are matched at the factory, which includes all required convergence / purity adjustment.

#### 1.4.2 Power Transistor Replacement

When replacing a power transistor requiring a heatsink, silicone grease should be applied to the heatsink nuts. The transistor mounting nuts must be tightened BEFORE soldering the transistor leads. Doing this insures proper cooling, electrical connection, and mechanical security. Non-compliance to these instructions can result in transistor and/or related component failure.

#### 1.4.3 Component Removal

When removing a component from a circuit board, care should be taken to prevent lifting a solder pad from the board. The soldering iron should be controlled to the proper temperature. Apply the iron only long enough to melt and draw away the solder.

#### 1.4.4 X-radiation

Warning: The only potential source of X-Radiation is the picture tube. However when the high voltage circuitry is operating properly there is no possibility of X-Radiation problem. The basic precaution which must be exercised is to keep the high voltage at the following factory-recommended level 25.6 KV. NOTE: It is important to use an accurate periodically calibrated high voltage meter.

# SECTION 2 SPECIFICATIONS

## 2.1 General specifications

|                           |                                           |                                   |
|---------------------------|-------------------------------------------|-----------------------------------|
| <b>CRT</b>                | Size: 17inch                              | Phosphor: Short persistence (B22) |
|                           | AG pitch: 0.25mm                          | face treatment: K-Coat / TCO Coat |
|                           | Total Faceplate Transmission: K-Coat: 38% |                                   |
| <b>Resolution</b>         | 640dot x 350line to 1280dot x 1024 line   |                                   |
| <b>Scanning frequency</b> | Horizontal: 30kHz - 95 kHz                |                                   |
|                           | vertical: 50 - 160Hz                      |                                   |
| <b>Display size</b>       | 310mm (H) x 232.5mm (V)                   |                                   |

**Number of preset channels** 32 channels max.

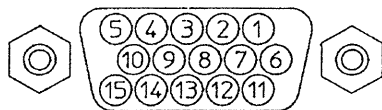
**Preset signal** Channel 1 to 11 are original preset at the factory settings.

### Preset at the factory settings

| ch. | resolution | fH(kHz) | fV(Hz) | Remarks      | ch. | resolution | fH(kHz) | fV(Hz) | Remarks |
|-----|------------|---------|--------|--------------|-----|------------|---------|--------|---------|
| 1   | 1280x1024  | 79.976  | 75.025 | VESA         | 9   | 1024x768   | 60.24   | 74.93  | MAC     |
| 2   | 1280x1024  | 91.146  | 85.024 | VESA         | 10  | 1024x768   | 68.677  | 84.997 | VESA    |
| 3   | 1024x768   | 60.023  | 75.029 | VESA         | 11  | 1152x870   | 68.68   | 75.06  | MAC     |
| 4   | 640x350    | 31.47   | 70.09  | Industry VGA |     |            |         |        |         |
| 5   | 640x400    | 31.47   | 70.09  | Industry VGA |     |            |         |        |         |
| 6   | 640x480    | 31.47   | 59.94  | Industry VGA |     |            |         |        |         |
| 7   | 800x600    | 46.875  | 75.000 | VESA         |     |            |         |        |         |
| 8   | 832x624    | 49.724  | 74.55  | MAC          |     |            |         |        |         |

|                     |                                                                                |
|---------------------|--------------------------------------------------------------------------------|
| <b>Signal input</b> | <b>Types of signal:</b> Sync. on Green, Composite Sync., Separated Sync.       |
|                     | <b>Frequency:</b> 30 to 96 kHz (Horizontal), 50 to 160Hz (Vertical)            |
|                     | <b>Video signal:</b> R,G,B analogue, 0.714Vp-p positive, Input impedance: 75 Ω |
|                     | <b>Sync. signal:</b> 1.0Vp-p to 5.5Vp-p positive or negative                   |
|                     | <b>Connector:</b> Dual 15 pins mini D-sub type (by Inch screw)                 |

### Pin assignment (15pins mini D-sub type)



|            |          |           |        |            |
|------------|----------|-----------|--------|------------|
| 1: R       | 2: G     | 3: B      | 4: GND | 5: GND     |
| 6: R-GND   | 7: G-GND | 8: B-GND  | 9: NC  | 10: HS-GND |
| 11: VS-GND | 12: DDC  | 13: HS/CS | 14: VS | 15: DDC    |

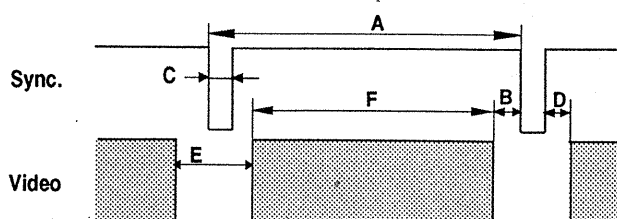
Rear view of connector

|                                  |                                                                                                                         |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Power</b>                     | <b>Input voltage:</b> AC90 to 132V or AC180 to 264V                                                                     |
|                                  | <b>Frequency:</b> 50/60Hz                                                                                               |
|                                  | <b>Power consumption:</b> 130W Max                                                                                      |
| <b>Maximum Luminance output</b>  | 110cd/m <sup>2</sup> TYP. (APL100%)                                                                                     |
| <b>Screen Distortion</b>         | Within 2mm                                                                                                              |
| <b>Screen Linearity</b>          | Maximum 7%                                                                                                              |
| <b>Misconvergence</b>            | Within 0.3mm ( Circular area with a diameter of equal to the vertical size )                                            |
|                                  | Within 0.4mm (Overall specified screen size)                                                                            |
| <b>video clock</b>               | 150MHz                                                                                                                  |
| <b>Video input connectors</b>    | 15pin D-Type connector, BNC X 5 (R,G,B,HS,VS)                                                                           |
|                                  | (Automatic selection at power on and able to change by front panel)                                                     |
| <b>National Agency Approvals</b> | <b>Safety:</b> IEC950 (TÜV Rheinland, (GS mark, TÜV ergonomics ),UL1950, CSA C22,2 N0.950<br>Nordic Regulations (SEMKO) |
|                                  | <b>EMI:</b> FCC Class B, TÜV CE/EMC,                                                                                    |
|                                  | <b>ELF/VLF:</b> MPR-II, TCO95                                                                                           |
| <b>USER Controls</b>             | <b>Luminance:</b> Contrast, Brightness                                                                                  |
|                                  | <b>Screen Size/Position:</b> Horizontal Screen Size and Position, Vertical Screen size and Position.                    |
|                                  | <b>Screen Distortion:</b> Pincushion, Trapezoid, Parallel, Pin.Balance, Hooks, Hourglass                                |
|                                  | <b>Screen Tilt:</b> Screen Tilt Adjustment                                                                              |
|                                  | <b>Degauss:</b> Manual and Automatic Degaussing                                                                         |
|                                  | <b>Color control:</b> Selectable 9300,6500,5500and User Color                                                           |
|                                  | <b>Image Control:</b> Moire reduction, H/V Static Convergence, Purity                                                   |
| <b>Power Saving</b>              | <b>stand-by mode:</b> Max 15W                                                                                           |
|                                  | <b>suspend mode:</b> Max 15W                                                                                            |
|                                  | <b>off mode:</b> Max 8W                                                                                                 |
| <b>Servicing Control</b>         | External communication connector (RS-232C Compatible. need communication adaptor)                                       |
|                                  | Control software will be provided.                                                                                      |
| <b>Dimensions</b>                | 414mm (W) x 426mm (H) x 435mm (D)                                                                                       |
| <b>Weight</b>                    | 20 kg (Approx.)                                                                                                         |
| <b>Tilt / Swivel stand</b>       | Tilted: 12 ° (up) 5 ° (down), Swiveled: 90 ° (left) 90 ° (right)                                                        |
| <b>Ambience</b>                  | Temperature: 0°C to 40°C, Humidity: 20% to 80% (No dew condensation)                                                    |
| <b>Accessories</b>               | Power Cord, Mac Adaptor, VGA signal cable, User's Manual                                                                |

## 2.2 Detailed Timing specifications of preset

| Preset CH Number      | 1                 | 2                 | 3                | 4               | 5               | 6               | 7               | 8               | 9                | 10               |
|-----------------------|-------------------|-------------------|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|
| Preset Name           | 1280x1024<br>75Hz | 1280x1024<br>85Hz | 1024x768<br>75Hz | 640x350<br>70Hz | 640x400<br>70Hz | 640x480<br>60Hz | 800x600<br>75Hz | 832x624<br>75Hz | 1024x768<br>75Hz | 1024x768<br>85Hz |
| Resolution (HxV)      | 1280x1024         | 1280x1024         | 1024x768         | 640x350         | 640x400         | 640x480         | 800x600         | 832x624         | 1024x768         | 1024x768         |
| Dot Clock (MHz)       | 135.000           | 157.500           | 78.750           | 25.175          | 25.175          | 25.175          | 49.500          | 57.283          | 80.00            | 94.500           |
| Horizontal            |                   |                   |                  |                 |                 |                 |                 |                 |                  |                  |
| H-Freq. (kHz)         | 79.976            | 91.146            | 60.023           | 31.47           | 31.47           | 31.47           | 46.875          | 49.724          | 60.24            | 68.677           |
| H-Total (Dots)        | 1688              | 1728              | 1312             | 800             | 800             | 800             | 1056            | 1152            | 1328             | 1376             |
| H-Front porch (Dots)  | 16                | 64                | 16               | 16              | 16              | 16              | 16              | 32              | 32               | 48               |
| H-Sync width (Dots)   | 144               | 160               | 96               | 96              | 96              | 96              | 80              | 64              | 96               | 96               |
| H-Back porch (Dots)   | 248               | 224               | 176              | 48              | 48              | 48              | 160             | 224             | 176              | 208              |
| H-Active (Dots)       | 1280              | 1280              | 1024             | 640             | 640             | 640             | 800             | 832             | 1024             | 1024             |
| Vertical              |                   |                   |                  |                 |                 |                 |                 |                 |                  |                  |
| Vertical Freq (Hz)    | 75.025            | 85.024            | 75.029           | 70.09           | 70.09           | 59.94           | 75.00           | 74.55           | 74.93            | 84.997           |
| V-Total (Line)        | 1066              | 1072              | 800              | 449             | 449             | 525             | 625             | 667             | 804              | 808              |
| V-Front porch (Line)  | 1                 | 1                 | 1                | 37              | 12              | 10              | 1               | 1               | 3                | 1                |
| V-Sync. width (Line)  | 3                 | 3                 | 3                | 2               | 2               | 2               | 3               | 3               | 3                | 3                |
| V-Back porch (Line)   | 38                | 44                | 28               | 60              | 35              | 33              | 21              | 39              | 30               | 36               |
| V-Active (Line)       | 1024              | 1024              | 768              | 350             | 400             | 480             | 600             | 624             | 768              | 768              |
| Sync.                 |                   |                   |                  |                 |                 |                 |                 |                 |                  |                  |
| H-polarity/V-polarity | POS/POS           | POS/POS           | POS/POS          | POS/NEG         | NEG/POS         | NEG/NEG         | POS/POS         | NEG/NEG         | NEG/NEG          | POS/POS          |
| Scanning mode         | NON INTER         | NON INTER         | NON INTER        | NON INTER       | NON INTER       | NON INTER       | NON INTER       | NON INTER       | NON INTER        | NON INTER        |
| Comment               | VESA              | VESA              | VESA             | Industry<br>VGA | Industry<br>VGA | Industry<br>VGA | VESA            | MAC             | MAC              | VESA             |

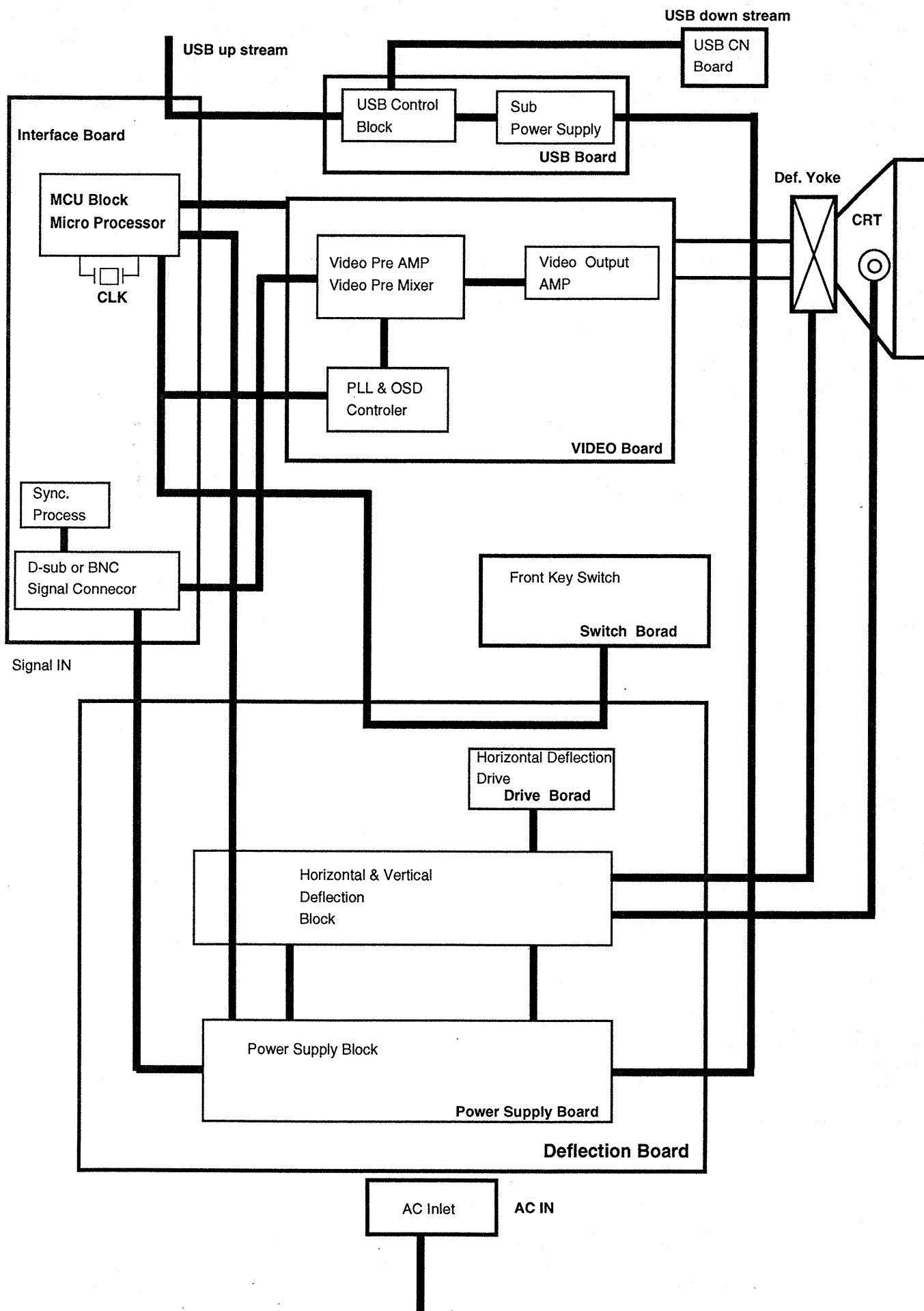
| Preset CH Number      | 11               | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|-----------------------|------------------|----|----|----|----|----|----|----|----|----|
| Preset Name           | 1152x870<br>75Hz |    |    |    |    |    |    |    |    |    |
| Resolution (HxV)      | 1152x870         |    |    |    |    |    |    |    |    |    |
| Dot Clock (MHz)       | 100.00           |    |    |    |    |    |    |    |    |    |
| Horizontal            |                  |    |    |    |    |    |    |    |    |    |
| H-Freq. (kHz)         | 68.68            |    |    |    |    |    |    |    |    |    |
| H-Total (Dots)        | 1456             |    |    |    |    |    |    |    |    |    |
| H-Front porch (Dots)  | 32               |    |    |    |    |    |    |    |    |    |
| H-Sync width (Dots)   | 128              |    |    |    |    |    |    |    |    |    |
| H-Back porch (Dots)   | 144              |    |    |    |    |    |    |    |    |    |
| H-Active (Dots)       | 1152             |    |    |    |    |    |    |    |    |    |
| Vertical              |                  |    |    |    |    |    |    |    |    |    |
| Vertical Freq (Hz)    | 75.06            |    |    |    |    |    |    |    |    |    |
| V-Total (Line)        | 915              |    |    |    |    |    |    |    |    |    |
| V-Front porch (Line)  | 3                |    |    |    |    |    |    |    |    |    |
| V-Sync. width (Line)  | 3                |    |    |    |    |    |    |    |    |    |
| V-Back porch (Line)   | 39               |    |    |    |    |    |    |    |    |    |
| V-Active (Line)       | 870              |    |    |    |    |    |    |    |    |    |
| Sync.                 |                  |    |    |    |    |    |    |    |    |    |
| H-polarity/V-polarity | NEG/NEG          |    |    |    |    |    |    |    |    |    |
| Scanning mode         | NON INTER        |    |    |    |    |    |    |    |    |    |
| Comment               | MAC              |    |    |    |    |    |    |    |    |    |



### CHART DETAIL

A: TOTAL(LINE or DOTS) D: Back porch  
 B: Front porch E: Blanking time  
 C: Sync pulses width F: Active(LINE or DOTS)

## SECTION 3 : BLOCK DIAGRAMS



## SECTION 4 : CIRCUIT DESCRIPTIONS

### 4.1 Deflection Board (M Board) Operations

Deflection Board consists of horizontal drive and output, Cs (S-Cap) Selection, +B (DC-DC Converter), high voltage output, vertical output circuit focus bias circuit and Power source circuit.

#### 4.1.1 Horizontal and Vertical Drive Control

Horizontal & Vertical oscillation is controlled by IC113(μPC1883) on Inter face Board (**I Board**). The horizontal control section is consists of Sync polarity detection, Phase shifter, H-width, H-OSC, AFC, F/V control and horizontal duty control. The vertical section is consists of Sync polarity detection, V-OSC, V-Ramp generator, the V-sweep correction of a vertical linearity, and E-W distortion, such as side-pin, trapezoid, pin-balance, parallelogram.

The horizontal drive pulse comes from pin 18 of **IC301** on **I-Board** and applied to pin 15 of **P151** on **M-Board** as **H-DRV**. And this pulse is applied to buffer circuit consists of **Q309**, **Q310**. This drive pulse is applied to Drive Circuit Board (D-Board) through 15 pin of **U301** and applied to the gate of **Q314** of **H-Drive FET** and amplified to output stage through the horizontal drive transformer **T301**. Horizontal output transistor **Q352** operates simply as a switch and this switching operation generates a saw-tooth current through the H-deflection coil.

The vertical drive ramp wave pulse comes from pin 9 of **IC301** on **I-Board** and applied to pin 16 of **P151** on **M-Board** as **VRAMP-OUT** And this pulse is applied to pin 1 of **IC201**. **IC201** is a monolithic integrated circuit. It is a full performance and very efficient vertical deflection which intended for direct drive of vertical deflection coil, and pin 5 of this IC generates output saw-tooth current through the V-deflection coil.

#### 4.1.2 High Voltage Output and Focus Bias

The high voltage power supply **+B1 (+160V)** applies to pin 9 of FBT **T401**. FBT is driven by High Voltage Control Hybrid IC - **IC401**. 1 pin of **IC401** is connected to Pin 10 of FBT. **IC401** consists of error amplifier, PWM convertor, and Drive MOSFET, and which drives the FBT and regulate the high voltage.

Focus correction is applicable to both of Horizontal and Vertical. The horizontal one consists of **Q453/Q454** and **Q452**, and the control parabolic wave form is applied from pin 10 of **P153** on **I-Board**. The vertical one consists of **Q451**, and the control parabolic wave form is applied from pin 13 of **P153** on **I-Board**. And the mixed parabolic wave of horizontal and vertical is applied to FBT.

#### 4.1.3 Cs (S-Cap. Change) circuit

To optimize horizontal linearity, MCU controls horizontal S-Wave form correction capacitor (Cs). **IC352** (MOS FET array integrated 4 components) are Cs change. MCU decides appropriate capacitor and output Cs select signal.

#### 4.1.4 +B Converter (Chopper) circuit

Horizontal size adjusting is controlled by +B Chopper circuit consist of **Q351** and **T351** etc. This control voltage is generated by H-control section on **I-Board**. Modulated voltage is applied to gate of **Q351** (Chopper FET), and +B (DC voltage) is chopped and applied to primary winding of **T351**, then applied to **Q352** (H-Output Transistor).

#### 4.1.5 AEF Reduction circuit

AEF Reduction circuit consists of **T352** and its surrounding devices. This circuit is used for alternate electric field emission from CRT face. This is a TCO's countermeasure circuit.

### 4.2 Switching Power Supply (M Board) Operations

#### 4.2.1 Switching circuit

This Switching Power Supply consists of EMI filter circuit, AC rectifier and primary control, secondary rectifier, and power saving control circuit.

AC input from **P901** is rectified by **D901** through the EMI filter and smoothed by **C903**.

High harmonic current is reduced by **L902** and Inrush current is protected by the **TH902** (Negative Power Thermistor). **IC901** is main switching controller integrated circuit. Smoothed voltage is applied to Pin 4 of switching transformer **T901**. **IC901** is switching control IC consists of oscillation circuit, synchronization circuit error amplifier and pwm convertor. Smoothed voltage is applied to pin 4 of switching transformer and through primary winding this primary voltage is applied to drain of switching MOSFET **Q903**.

Winding between Pin -7 and Pin -9 is for power source of **IC901**. Around **Q901** circuit is starter circuit, and when powering up starter voltage is applied to **IC 901** and oscillation is start.

Once the oscillation starts, **IC901** drives the gate of **Q903** and voltage is generated through several T901 secondary windings.

+B1 voltage is rectified by **D951** and smoothed by **L952** and **C952**, and error voltage is detected by **IC951** (shunt regulator) and through **PH901** (Photo coupler), which is applied to Pin -2 of **IC901**. Error voltage is amplified and converted PWM, **IC901** regulates +B1 voltage.

Switching regulator circuit generates following 6 type of voltage

| T901 No. | name | voltage | use for                           |
|----------|------|---------|-----------------------------------|
| 10       | H-A  | +10V    | MCU circuit, heater, signal cont. |
| 11       | +B5  | -15V    | video, deflection control, v-def. |
| 13       | +B3  | 27V     | HV control circuit.               |
| 12       | +B4  | 15V     | video, deflection control, v-def. |
| 17       | +B2  | 83V     | video out, horizontal drive.      |
| 18       | +B1  | 168V    | horizontal output.                |

#### 4.2.2 Degaussing circuit

Magnetization of CRT is degaussed by degaussing coil controlled MCU. Degaussing circuit consists of degauss coil, positive thermistor **TH901** shutdown relay **K901** and relay drive circuit.

When the monitor is powering up, signal from MCU (**DG-CTL**) drives relay **K901**, and degaussing current is flows through degaussing coil. About 4 second later, MCU shutdowns the **K901** and degaussing current stops.

Degaussing action is operated when every powering up time and by user, by selecting degauss item from **OSD MENU**.

#### 4.2.3 Power saving circuit

The Power saving signals which are sent from the MCU, control the three mode of standby, suspend (less 15W), off (less 8W) and shutdown. Previous 2 modes are return automatically, but shutdown mode doesn't recover, which recovers only power SW operation.

The difference between standby, suspend mode and off mode is a heater voltage active or not, the first one is active but the second is non-active. Therefore the recovery time of power off mode is equal to the normal powering on time.

##### -Standby mode-

When the **PSM-SPD** signal is active (low active), then the **Q981** thorough **Q984** are off, and power of +B4, +B5, +12V and +9V

are shut down. Therefore horizontal ,vertical deflection stops and power consumption is reduced.

**-Suspend mode-**

Same as Standby mode operation.

**-Off mode-**

When **PMS-SPD** and **PMS-OFF** signals are both active, **Q981** thorough **Q984,Q118,Q119** are off and Heater power is shut down additionally. Monitor power is supplied only MCU and around circuit, and monitor power consumption is less than 5W.

#### 4.2.4 Protection circuit

**-Shuts down mode-**

This monitor provides some protectors when abnormal has happened. When internal circuit has broken and/or damaged, this monitor shuts down immediately

MCU watches +B1 over current, +B4 under/over voltage, and when several signal exceeds rated level, MCU outputs **PROT** signal, and **PROT** signal is applied to **Q952**, and triggers photo thyristor **PH902**.

When **PH902** is on, power source of **IC901** is shutdown, and oscillation stops.

Once operated this protector, monitor can not power up without power switch operation.

**-CAUTION-**

**F901** is AC line fuse of this monitor. If blow, replace only same type and rating as follows.

|         |             |
|---------|-------------|
| Type:   | 215         |
| Rating: | T5AH 250V   |
| Mfr.:   | Littel inc. |

#### 4.3 Video Board ( V Board ) Operations

Video Board ( V Board ) consists of video preamplifier, video output , video clamp OSD control D/A convertor, screen tilt control , and CRT electrode circuit.

##### 4.3.1 Video output, clamp and OSD circuit

Each video signal R,G,B from Interface board ( **I board** ) are applied to preamp of **IC501**. OSD signal is mixed to each video output which are coming from **IC505(M35045SP)**, then these mixed video signals are applied to Output amp of **IC502 (VP513)** and amplified 15 times ( about 23 dB ). Amplified signals (output of pin 5, 7, 17 of **IC502**) are applied to R,G, B CRT electrode.

R,G,B cathode bias level (back ground level) is controlled by **IC503 (STK190-120)**.

The OSD control circuit consists of **IC505 (M35045)** as a OSD control chip. This chip is controlled by the serial data from MCU. The **IC505** consists of OSD video memory and its control circuit.

##### 4.3.2 D/A converter

The MCU controls video bias level (back ground level) ,video drive level , and contrast. The D/A control signals are sent from the MCU by the 3 signals (clock data load), and controlled signals are output to the each circuit. The D/A control data is periodically refreshed.

##### 4.3.3 Screen tilt control circuit

The screen tilt control signal sent from Pin-7 of **IC504(D/A convertor)** is applied to **IC507 (operational amplifier)**. Buffered by **Q508** and **Q509**, tilt control coil is driven, and screen tilt controlled.

#### 4.4 Interface Board ( I Board ) Operations

Interface Board ( I Board ) consists of video input selector, sync-processor, MCU circuit block, horizontal and vertical oscillation block, horizontal distortion and size control circuit, screen Tilt control circuit and etc.

MCU (Micro Computer Unit) board controls all the monitor's operation state, that are horizontal frequency, picture adjustment,

white balance control, OSD control and MCU protection.

MCU consists of MCU block circuit (MCU chip, clock, EE-PROM, D/A converter and their communication ports),

##### 4.4.1 Video input selector circuit

This monitor has one D-type subminiature connector and 5 BNC connector inputs. These inputs are selected by **IC101(M52348SP)**. Input selection signal is controlled by MCU.

##### 4.4.2 Sync Processing circuit

Input separate sync signals or composite sync signal or green sync signals are shaped by the sync precessing circuit, consist of **IC102(M52347FP)** etc. Separated or shaped signals (HD and VD) are applied to the MCU board and clamp pulse generating circuit.

##### 4.4.3 MCU Block circuit.

The MCU is 16 Bit microcontroller which has 32kB of ROM and 2KB of RAM and operates 20MHz clock speed. **IC107(AT25640N)** is a EEPROM which has 8K Bytes capacity. This chip contains adjustment data, MCU operation data. **IC109** and **IC110 (M62352)** are D/A converter -Digital to Analogue which bit width is 8 bits of adjust screen rates.

By the input of H-sync and V-sync from input connectors, the MCU detects the input signal timing mode and outputs the stored data in EEPROM to the D/A converter and several control data (i.e. Cs, horizontal frequency control, OSD control etc.) to external ports or internal control section.

When the adjustment mode, the MCU controls the picture screen data and stores these data to EEPROM.

This MCU has a external serial communication port (**P254** on the main board) which based on RS-232C (but signal level is 0 to 5V). Using this port, MCU communicates external host computer and controls several functions. The port is used for automatic picture screen adjustments and the other service adjustments.

##### 4.4.4 Horizontal size and Distortion control circuit

The circuit around **IC113** are horizontal synchronization ,horizontal distortion control , vertical size and linearity control circuit. This circuit generates horizontal drive pulse , horizontal distortion correction signal , and vertical ramp generator .

This monitor provides several distortion adjust functions, such as pincushion, trapezoid, parallel and bow. These original correction wave forms are generates from pin 10 of **IC113** as a E/W parabolic wave , and this parabolic wave is applied & mixed to **IC113** on M-board. On M Board, Horizontal size and distortion signal are converted to PWM pulse, by **Q301** through **Q306** circuit , and controls the gate of **Q351** with H-Size modulated pulse and adjust the each distortions.

##### 4.4.5 H and V Focus control circuit

The circuit around **IC114, IC116** and **IC117** are horizontal and vertical focus control section. The horizontal one uses **AFC** and **H-DF** signals, and this original rectangular pulse are integrated two times, then generates parabolic wave and this wave applied to Horizontal Dynamic focus amp on **M-Board**. The vertical one uses **OSD-VD** and **V-DF** signal, and generates V-rate parabolic wave by same method of horizontal ones, then applied to Vertical Dynamic focus amp on **M-Board**.

#### 4.5 Drive Board ( D Board )Operations

The drive signal (**HDP**) from **I-Board** is applied to **Q314** (horizontal drive MOSFET) through **Pin -15** of **P301**. **Q314** drives **T301 (drive transformer)** and low impedance drive pulse output from **Pin-14** of **P301**. This drive pulse **HDP** is applied to horizontal output transistor **Q352** on **M-board**.

#### **4.6 Horizontal and Vertical Static convergence and purity control circuit**

The circuit around IC251 is horizontal and vertical convergence and purity control circuit. The voltage from D/A converter is applied to IC251, here IC251 is power operational amplifier which drives each correction coil. Horizontal and vertical convergence control signal drive the Horizontal and vertical convergence coil mounted on the Deflection Yoke, and purity control signal drives purity coil mounted around CRT.

#### **4.7 USB Board ( U Board ) Operations**

USB Board ( U Board ) consists of USB Control Block and Sub Power Supply.

##### **4.7.1 USB Control Block**

IC601 (P83C180) is the microcomputer which controls IC602 (PDIUSBH11ANB) and IC603 (UCC38531), and is received 2 signals (H-SCL,H-SDT) from MCU.

IC602 is a USB HUB ,which has 1 upstream port and 4 downstream ports.

IC603 is a USB HUB power controller ,which controls the power lines of 4 downstream ports.

##### **4.7.2 Sub Power Supply**

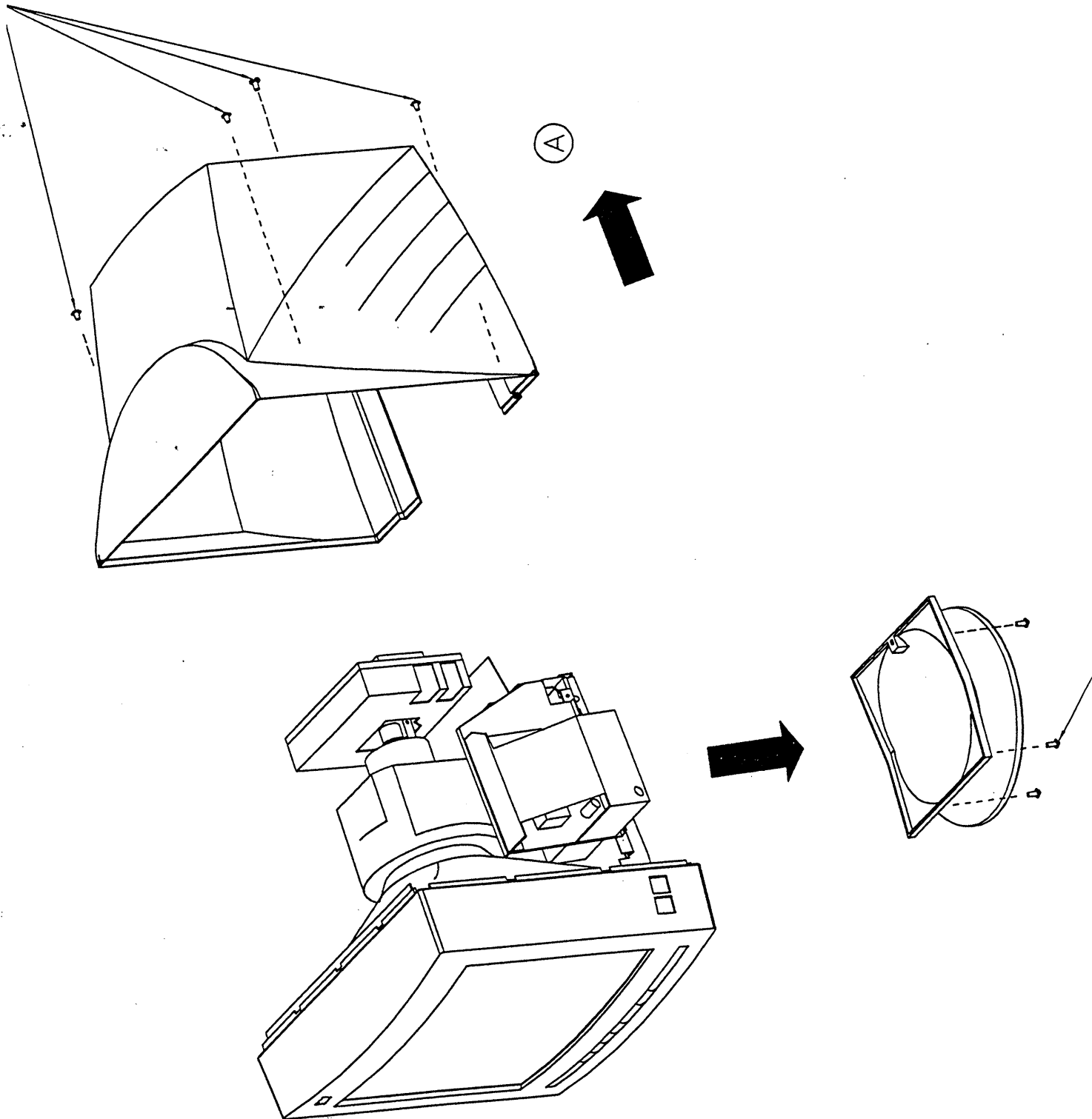
This circuit block is the power supply to USB Control Block.

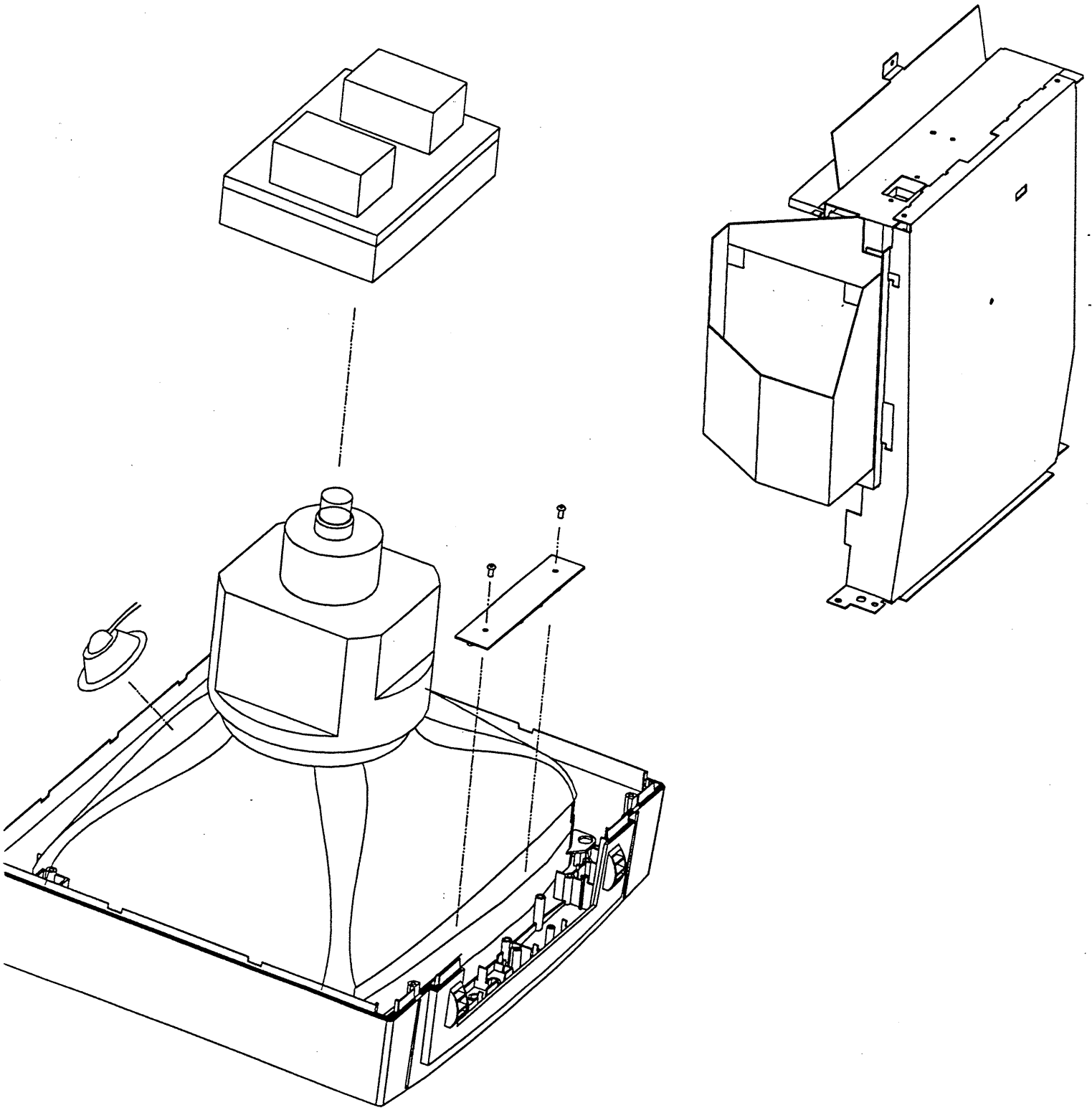
IC931 (MIP0223SY) is a switching regulator IC, consists of the control circuits and output MOS FET. T931 (PTR69-02) is a convertor transformer.

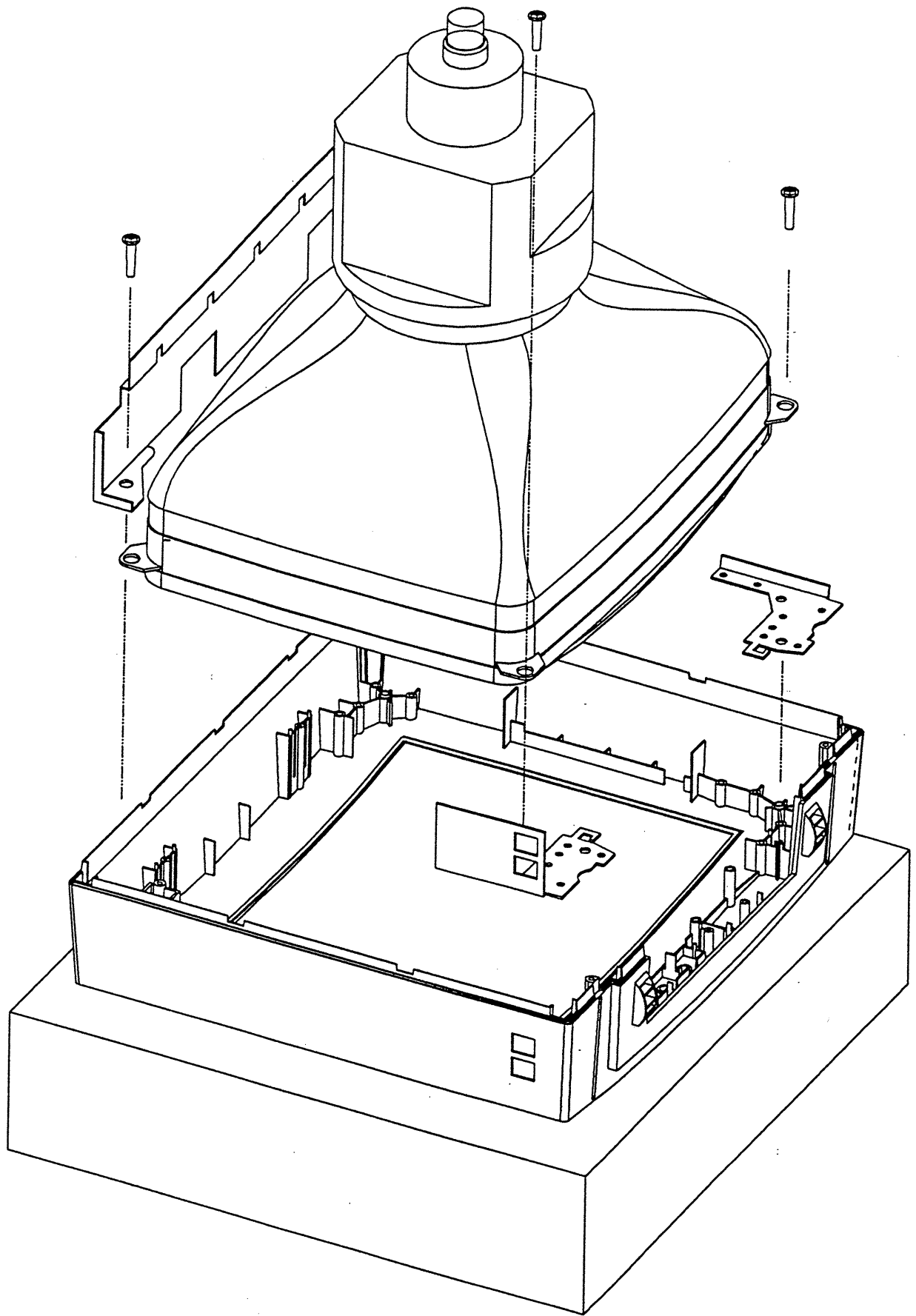
K931 (VB-STBU-5-IM2), controlled by upstream signal (USB-B) , switches to the power lines of T931.



## SECTION 5 : DISASSEMBLY DRAWINGS







# SECTION6: SERVICE Software

## 6.1 Operating environment

To operate this software ,following environment is necessary.

- \*IBM-PC or compatible machines.
- \*Windows 3.1 or later.
- \*RS-232C(CH1 or CH2)
- \*Communication unit(Monitor to Host PC).
- \*Signal generator(With clock of least 150MHz).
- \*MCP98V(Monitor Control Program 98 Ver 1.00 or later).
- \*Frequency Counter.

## 6.2 Installation

Caution:Before installing the program,please make the back-up copy of the diskette.All installations assume that you are working with back-up copy of the diskette.

- a.When operation Windows environment,insert the MCP98V diskette to the A drive.  
Open the drive A ,use file manager(Windows 3.1) or explorer(Windows 95/98).
- b.Double click the MCP98INS Icon.  
MCP98INS copy files to Harddisk drive at MCP98 is needed.
- c.Copy file is complete then entry the MCP98V Icon and folder named MCP98V on the program manager(Windows 3.1) or start menu(Windows 95/98).
- d.After finished copying ,eject diskette from the drive A.

When the correct password is not input ,the MCP98V has only minimum level of adjustment menu.  
You will have this password from the authorize dealer.

## 6.3 Connection

To operate this software ,Connection HOST-PC to display is needed.

### 6.3.1 How to connect

How to connect the communication unit.  
(Monitor side)

- 1.Remove the back cover.
- 2.Connect the 11-pin service connector located left side of monitor.

(Host-PC side)

Connect the 9-pin or 25-pin D-dub connector to the RS232C port.

If the port exists more than two,then use CH1 as possible.

### 6.3.2 Communication Unit

The communication unit for service connect an IBM PC or compatibles and the PT775-3.  
The computer side is D-sub 25-pin or 9-pin male connector.  
Fig 6.4.3.a and 6.4.3.b show the pin layout for each connector.

Host-PC Side  
D-sub 25-pin

|                     |    |   |               |
|---------------------|----|---|---------------|
| Carrier detect      | 1  | 1 |               |
| Received data       | 2  | 2 | Transmit data |
| Transmit data       | 3  | 3 | Received data |
| Data terminal ready | 4  | 4 |               |
| Signal ground       | 5  | 5 |               |
| Data ready          | 6  | 6 | ground        |
| Ready to send       | 7  | 7 | ground        |
| Clear to send       | 8  | 8 | ground        |
|                     | 20 | 9 | ground        |

Fig 6.4.3.a

Confidential - Do Not Copy

Host-PC Side  
D-sub 9-pin

|                     |   |   |               |
|---------------------|---|---|---------------|
| Carrier detect      | 1 | 1 |               |
| Received data       | 2 | 2 | Transmit data |
| Transmit data       | 3 | 3 | Received data |
| Data terminal ready | 4 | 4 |               |
| Signal ground       | 5 | 5 |               |
| Data ready          | 6 | 6 | ground        |
| Ready to send       | 7 | 7 | ground        |
| Clear to send       | 8 | 8 | ground        |
|                     | 9 | 9 | ground        |

Fig 6.4.3.b

## 6.4 Operation

Start the MCP98V displayed main menu.(Fig 6.4)

The MCP98V have 4 pull-down menu and 2 command button.  
(Pull-down menu item value is different by user level.)

If you operate first time ,the MCP98V request input password.

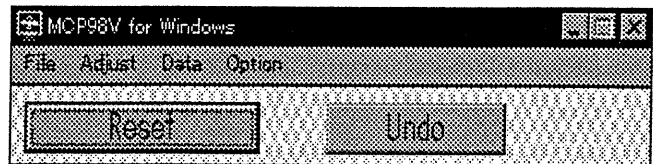


Fig 6.4

- Reset :Restart of monitor
- Undo :Replace data before adjustment.
- File :Displayed information of MCP98V and end of job.
- Adjust :Use for display setting
- Data :Use for operating internal data.
- Option :Others operation.(Use for input password etc.)

### 6.4.1 See program version

Operate Fig 6.4.1A then open the information window  
(Fig 6.4.1B).When show the information window ,impossible other operation.

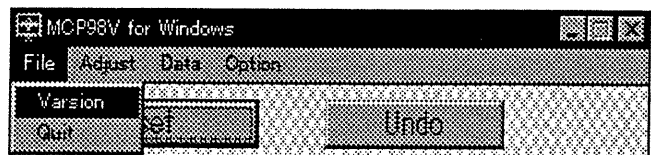


Fig 6.4.1 A



Fig 6.4.1 B

### 6.4.2 End of operation

Operate Fig 6.4.2 then close main menu window.

Other operation : double click the icon located left side of title bar or X mark located right side of title bar.

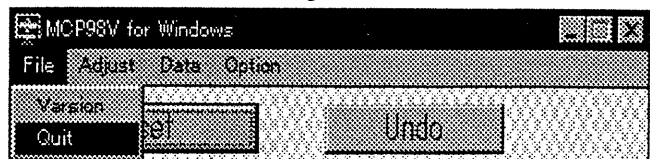


Fig 6.4.2

### 6.4.3 Image adjustment(Preset timing)

Operate Fig 6.4.3A then open the image adjustment window.  
(Fig 6.4.3B)

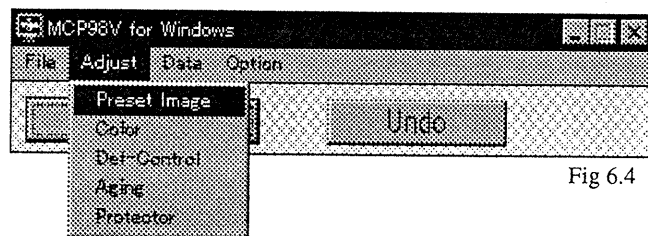


Fig 6.4

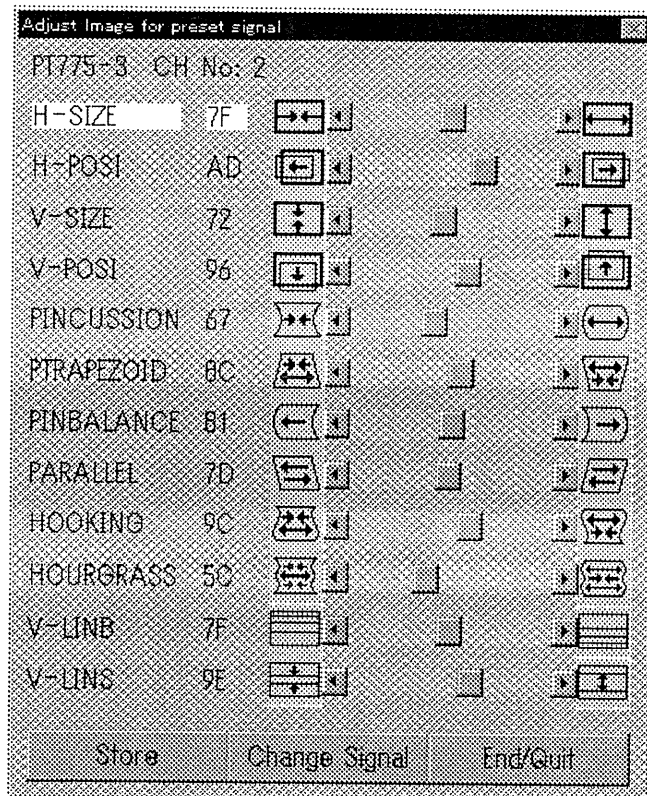


Fig 3.4.3B

This menu have 12 items for image adjustment.  
V-linB and V-linS use for specific signal only.  
Specific signal is timing No 2 and 6.  
Adjustment each items or select items use mouse or cursor key and up/down key.  
The icon each side of scroll bar show motion of each items, click here same as select items.  
Memory setting data to the monitor then click Store button.  
End or cancel this menu then click End/Quit button.  
When Adjustment some preset signal,click Change Signal button finished adjustment one signal ,continuous operation with the message.In this case, setting data is stored to monitor.  
If you click End/Quit button before click Store button then not memory setting data to the monitor.

### 6.4.4 Color adjustment

Operate Fig 6.4.4A then open the color adjustment window.  
(Fig 6.4.4B).

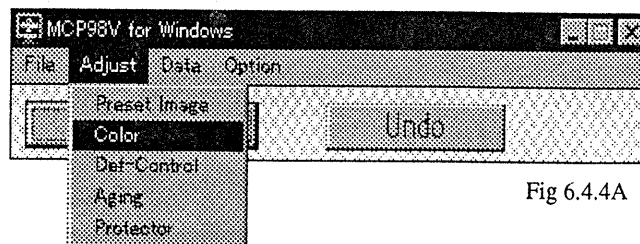


Fig 6.4.4A

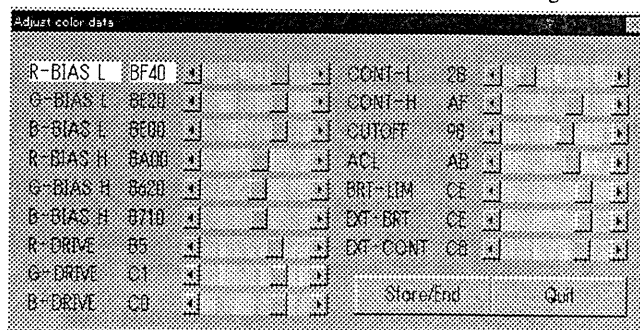


Fig 6.4.4B

This menu have 16 items for color adjustment.  
EXT-BRT and EXT-CONT is same function ,setting key of brightness and contrast layout front panel.  
This menu is adjustment 1 white balance setting(9300).  
If you click Quit button then not memory setting data to the monitor.  
Click Store/End button then memory setting data to the monitor and close this menu.

### 6.4.5 Def-control adjustment

Operate Fig 6.4.5A then open the Def-control adjustment window.(Fig 6.4.5B).

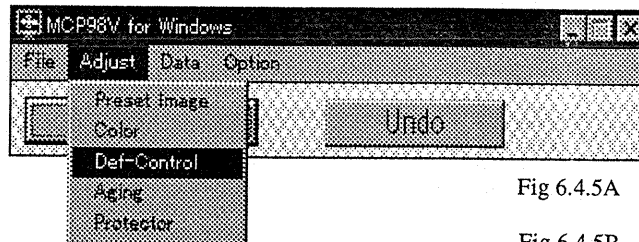


Fig 6.4.5A

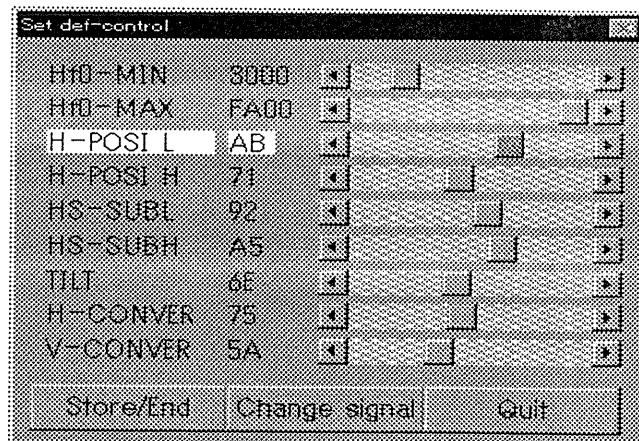


Fig 6.4.5B

This menu have 9 items for Def-control adjustment.  
When you select Hf0-MIN or Hf0-MAX ,operate with the displayed message.Hf0-MIN and Hf0-MAX item have limit of value width.  
When use mouse of drag and drop operation ,protected brake out themonitor.  
If you click Quit button then not memory setting data to the monitor.  
Click Store/End button then memory setting data to the monitor and close this menu.

#### 6.4.6 Aging mode adjustment

Operate Fig 6.4.6A then open the aging mode adjustment window.(Fig 6.4.6B).

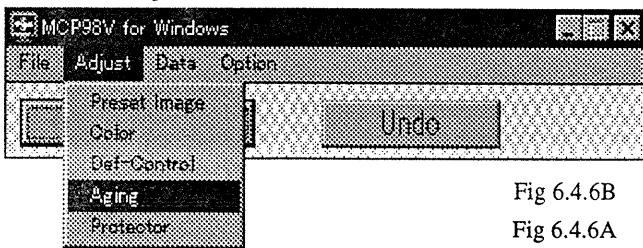
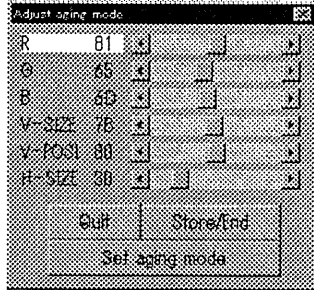


Fig 6.4.6B

Fig 6.4.6A

This menu have 6 items for aging mode adjustment. When opened this menu,not show setting data,scroll bar and Store/End button. Click Set aging mode button then automatically set R to B displayed back raster label on themonitor screen and showsetting data,scroll bar and Store/End button.



If you click Quit button then not memory setting data to the monitor.  
Click Store/End button then memory setting data to the monitor and close this menu.

#### 6.4.7 Protector setting

Operate Fig 6.4.7A then open the protector setting window. (Fig 6.4.7B)

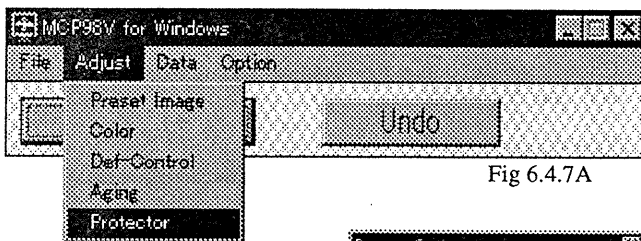


Fig 6.4.7A

When opened this menu,if not show setting data and Save/End button. Click Set button ,operate with the displayed message. Clear all setting condition by program then show Save/End button. If you click Quit button then not memory setting data to the monitor.  
Click Save/End button then memory setting data to the monitor and close this menu.

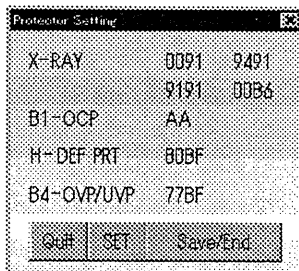


Fig 6.4.7B

#### 6.4.8 EEPROM data copy

Operate Fig 6.4.8A then open the EEPROM Data copy window. (Fig 6.4.8B)

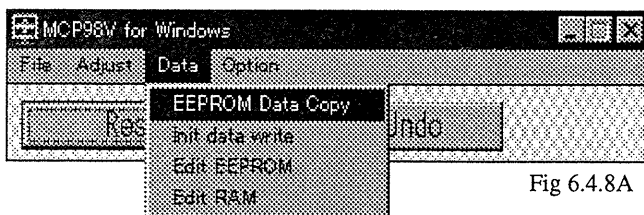
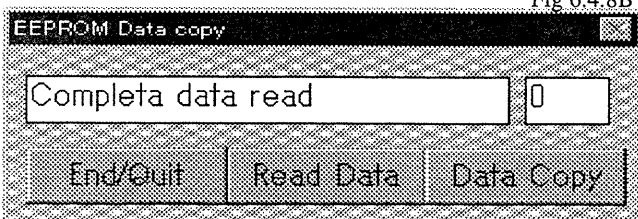


Fig 6.4.8A

Fig 6.4.8B



When opened this menu,not show Data Copy button. Click Data Read button ,operate with the displayed message. After read data then show Data Copy button.

#### 6.4.9 Init data write

Operate Fig 6.4.9A then open the Init data write window. (Fig 6.4.9B)

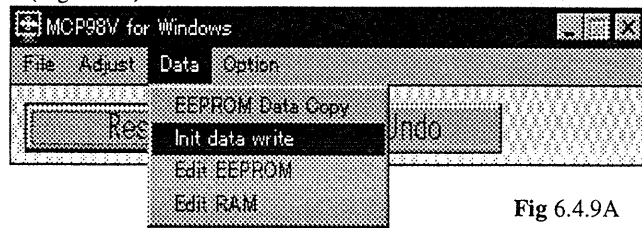
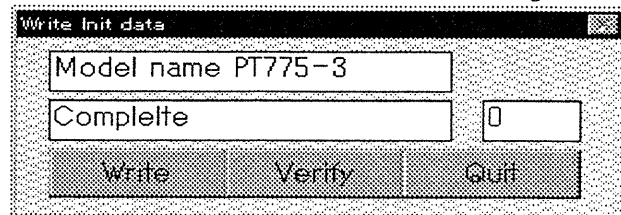


Fig 6.4.9A

Fig 6.4.9B



Operate with the displayed message.

#### 6.4.10 Password

Operate Fig 6.4.10A then open the Input password window. (Fig 6.4.10B)

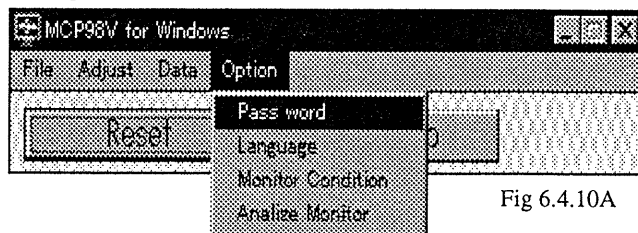


Fig 6.4.10A

Input your password then click OK button. When you input password ,your input all characters are displayed "\*".

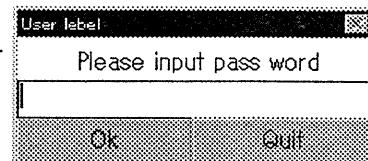


Fig 6.4.10B

#### 6.4.11 Language

Operate Fig 6.4.11A then open the select language window. (Fig 6.4.11B)

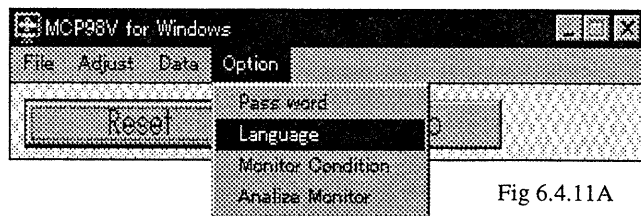


Fig 6.4.11A

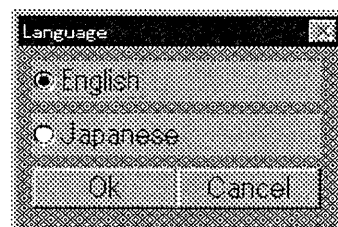


Fig 6.4.11B

#### 6.4.12 See monitor condition

Operate Fig 6.4.12A then open the Monitor condition window.  
(Fig 6.4.12B)

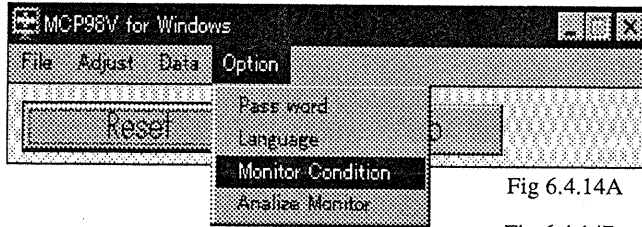


Fig 6.4.14A

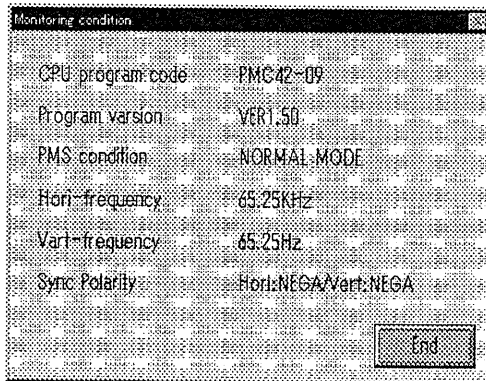


Fig 6.4.14B

This function is displayed working condition of the monitor.  
This function is continuous until click End button.

#### 6.4.13 Analyze monitor

Operate Fig 6.4.15A then open the Analyze Monitor window.  
(Fig 6.4.13B)

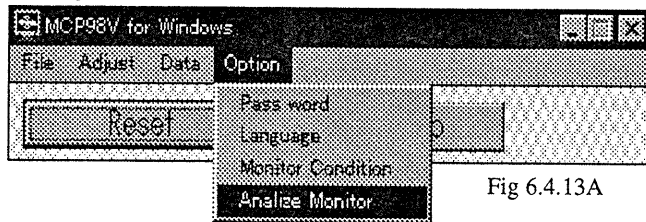


Fig 6.4.13A

Click Analyze button then display past record of the monitor.

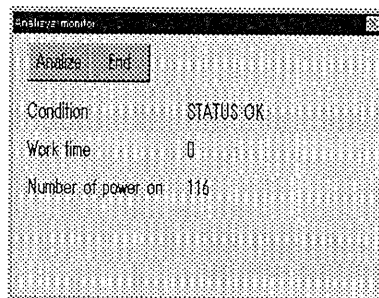


Fig 6.4.13B

#### 6.4.14 Edit Ram

Operate Fig 6.4.14A then open the Edit Ram window.  
(Fig 6.4.14B)

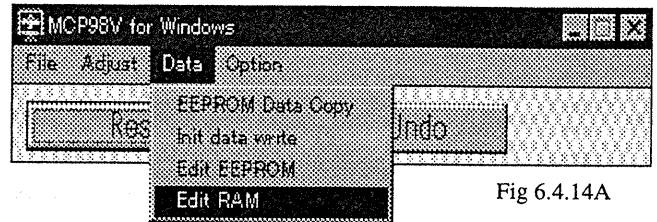


Fig 6.4.14A

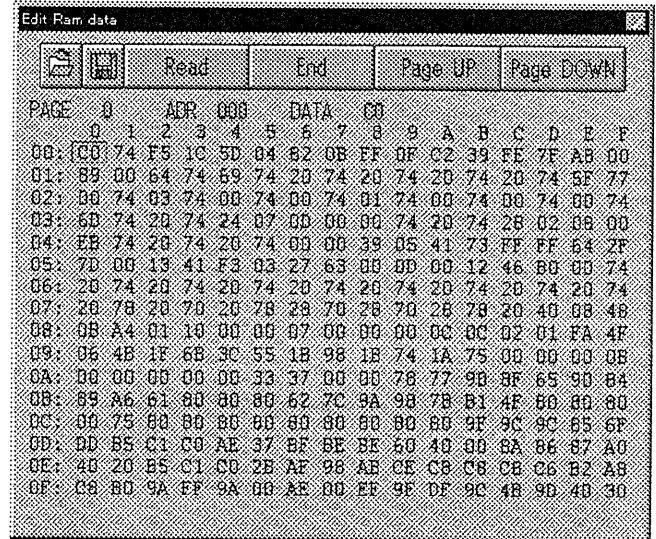


Fig 6.4.14B

Fig 6.4.14B is reading data from monitor.

#### 6.4.15 Edit EEPROM

Operate Fig 6.4.15A then open the Edit EEPROM window.  
(Fig 6.4.15B)

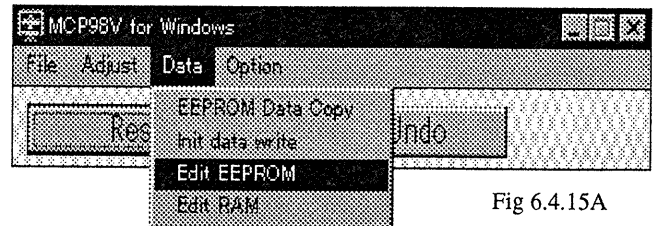


Fig 6.4.15A

Fig 6.4.15B is reading data from monitor.

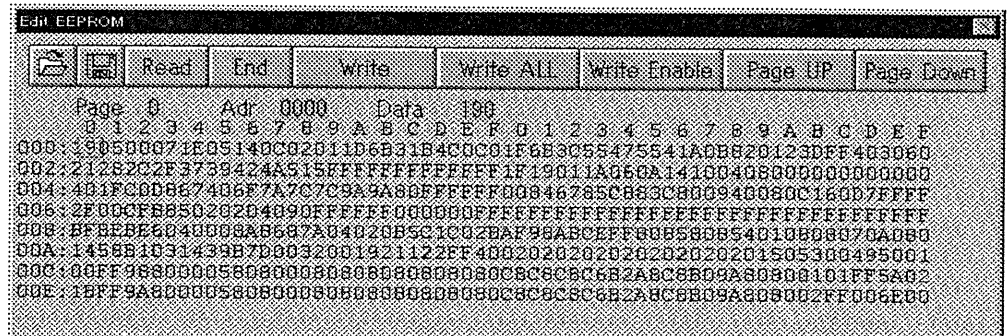


Fig 6.4.15B

## 6.5 Others

### 6.5.1 Reset button

Reset button is used for restart monitor for valid setting data.  
Operate with message of each menu.

### 6.5.2 Undo button

Undo button is used retry monitor setting.  
Click Undo button then setting data of the monitor is replaced before setting.

### 6.5.3 Error

Impossible to RS232C communication or file not found then error message is show.  
Please check up with error message.

Check connect of communication unit.  
Check power switch of the monitor.

### 6.5.4 Caution

When use this program,signal input is needed.

## 6.6 Adjustment

### 6.6.1 Replace unit and needed adjustment item

| Element               | Replace unit |          |             |     |                                                                                                                            |
|-----------------------|--------------|----------|-------------|-----|----------------------------------------------------------------------------------------------------------------------------|
|                       | Main board   | I/F UNIT | Video board | CRT |                                                                                                                            |
| (1)Preset image       | X            | X        |             | X   | * In such a case ,image setting is not same as before replace.<br>**In such a case ,impossible communication to old board. |
| (2)Color              | X            | X*       | X*          | X   |                                                                                                                            |
| (3)Def-control        | X            | X        | X*          | X   |                                                                                                                            |
| (4)Aging              | X            | X        | X           | X   |                                                                                                                            |
| (5)Protector          | X            | X        | X*          | X   |                                                                                                                            |
| (6)Initial data write |              | X**      |             |     |                                                                                                                            |
| (7)Data copy          |              | X**      |             |     |                                                                                                                            |

### 6.6.2 General operation

- \*Select item  
Use cursor key ( up or down ), click scroll bar or icon located each side of scroll bar.
- \*Setting or adjustment Use cursor key ( left or right ),click or drag and drop scroll bar.
- \*Memory setting data  
Click the button displayed Save or Store.
- \*Close each setting menu  
Click End ,Quit or Cancel button.
- \*Change input signal  
When need signal change ,displayed Change Signal button.  
If you do not click Change Signal button then the monitor screen is displayed abnormal.When click Change Signal button ,operate with message.
- \*Adjustment process  
See adjustment procedure.

### 6.6.3 Adjustment Procedure

| NO. | item                   | signal                            | adjustment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | criteria                                                                                                                                                                                                                                           | software menu                                         |
|-----|------------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|
| 1   | EEPROM data check      |                                   | Write the initial data or copied data.<br>Verify the written data.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                    | Data<br>Init data write                               |
|     | High voltage Adj.      | No.1 signal                       | Adjust by the pot. RV401 and attach silicon paste to the pot..                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 25.6±0.1 kV                                                                                                                                                                                                                                        |                                                       |
| 3   | Hor.free-running freq. | ①No.6 signal<br>②No.2 signal      | ①fH MIN adj.: Input the signal "fH MIN" and adjust the frequency by "HF0-MIN" data.<br>Keep the frequency over 28kHz.<br>②fH MAX adj.: Input the signal "fH MAX" and adjust the frequency by "HF0-MAX" data.                                                                                                                                                                                                                                                                                                                                                  | ①fH MIN:<br>29.00±0.20 kHz<br>②fH MAX:<br>96.00±0.20 kHz                                                                                                                                                                                           |                                                       |
| 4   | Raster position        | No.6 and No.2 signal(video off)   | Using OSD"Bright", the raster luminance increase to visible.Adjust the raster position.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | A-B   ≤3mm                                                                                                                                                                                                                                         | Adjust<br>Def-control                                 |
| 5   | Raster rotation        | No.2 signal(cross hatch)          | Adjust the raster rotation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Top line should be within 0.5mm width scale.<br>Bottom line should be within 0.5mm width scale.                                                                                                                                                    | Adjust<br>Def-control                                 |
| 6   | Tracking adj.          | No.6 and No.2 signal(cross hatch) | Adjust the image of No.6 and 2 signal within the criteria.<br>After Ver.linearity, adjust the image distortion.<br>①Horizontal size:<br>Fix the data "H-SIZE"=80h.<br>Using "HS-SUB L" for No.6 signal, and "HS-SUB H" for No.2 signal.<br>②Horizontal position: "H-POSI"<br>③Vertical size: "V-SIZE"<br>④Vertical position: "V-POSI"<br>⑤Pincushion: "PINCUSSION"<br>⑥Trapezoid: "TRAPEZOID"<br>⑦Bow:" PINBALANCE"<br>⑧Parallelogram: "PARALLEL"<br>⑨Sin wave: "HOOKING"<br>⑩Cos wave:"HOURGRASS"<br>⑪Ver.linear balance: "V-LINB"<br>⑫Ver.linear.: "V-LINS" | ①310±2mm<br>②   A-B   ≤3mm<br>③232.5±2mm<br>④   C-D   ≤3mm<br>⑤Within 1.5mm box scale<br>⑥Within 1.5mm box scale<br>⑦Within 1.5mm box scale<br>⑧Within 1.5mm box scale<br>⑨Within 1.5mm box scale<br>⑩Within 1.5mm box scale<br>⑪Ver. linearity≤1% | ①:Adjust<br>Def-control<br>②-⑫:Adjust<br>Preset Image |
| 7   | Aging                  | no signal                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                    | Adjust<br>Aging                                       |
| 8   | Preset adj.            | Preset timings (cross hatch)      | Adjust the image of each preset timing.<br>①Horizontal size: "H-SIZE"<br>②Horizontal position: "H-POSI"<br>③Vertical size: "V-SIZE"<br>④Vertical position: "V-POSI"<br>⑤Pincushion: "PINCUSSION"<br>⑥Trapezoid: "TRAPEZOID"<br>⑦Bow:"PINBALANCE"<br>⑧Parallelogram: "PARALLEL"<br>⑨Sin wave: "HOOKING"<br>⑩Cos wave:"HOURGRASS"                                                                                                                                                                                                                               | ①310±2mm<br>②   A-B   ≤3mm<br>③232.5±2mm<br>④   C-D   ≤3mm<br>⑤Within 1.5mm box scale<br>⑥Within 1.5mm box scale<br>⑦Within 1.5mm box scale<br>⑧Within 1.5mm box scale<br>⑨Within 1.5mm box scale<br>⑩Within 1.5mm box scale                       | Adjust<br>Preset Image                                |

| NO. | item                            | signal                                                | adjustment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | criteria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | software menu    |
|-----|---------------------------------|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| 9   | White balance (W/B) / luminance | No.1 signal (video off, 20% window, All white)        | <p>After the image adjustment of No.1 signal,</p> <p>①Raster adj.: video off<br/>Set the data "EXT-BRT"=FFh. Adjust W/B and luminance using R,G,B"BIAS-H"data.</p> <p>②Drive adj.: 20%window<br/>Fix the data "DRIVE"=C0h, of the brightest CH.among R,G,B.<br/>Adjust W/B and luminance using the other "DRIVE" data and "CONT-H"data.</p> <p>③Tracking adj.: 20%window<br/>Set the data "EXT-BRT"=00h.<br/>Adjust W/B and the luminance using the "BIAS L"data.</p> <p>④Cut off: video off<br/>Adjust the luminance at 0.2 to 0.25cd/m2 using "EXT-BRT"data. Set the "CUTOFF"data as this "EXT-BRT"data minus 40h.</p> <p>⑤Contrast MAX adj.: 20%window<br/>Set the data "EXT-CONT"=FFh.<br/>Adjust the luminance using "CONT-H".</p> <p>⑥Contrast MIN adj.:20% window<br/>Set the data "EXT-CONT"=00h.<br/>Adjust the luminance using "CONT-L".</p> <p>⑦Bright limit:Set the data "EXT-CONT"=FFh, "EXT-BRT"=FFh and "BRT-LIM"=FFh.<br/>Adjust the luminance using "BRT-LIM"data.</p> <p>⑧ACL adj.: All white<br/>Set the data "EXT-CONT"=FFh, "EXT-BRT"=FFh and "ACL"=FFh.<br/>Adjust the luminance using "ACL" data.</p> | <p>①Raster luminance<br/>= <math>4.5 \pm 0.5 \text{cd/m}^2</math><br/><math>X=0.281 \pm 0.01</math><br/><math>Y=0.311 \pm 0.01</math></p> <p>②20%window luminance<br/>= <math>120 \pm 3 \text{cd/m}^2</math><br/><math>X=0.281 \pm 0.005</math><br/><math>Y=0.311 \pm 0.005</math></p> <p>③20%window luminance<br/>= <math>30 \pm 3 \text{cd/m}^2</math><br/><math>X=0.281 \pm 0.01</math><br/><math>Y=0.311 \pm 0.01</math></p> <p>④Just cut off.</p> <p>⑤20%window luminance<br/>= <math>120 \pm 3 \text{cd/m}^2</math></p> <p>⑥20%window luminance</p> | Adjust Color     |
| 1 1 | Focus                           | No.1 signal ("meme"character, reverse and no-reverse) | Adjust focus by the pot. of FBT.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Limit sample                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                  |
| 1 2 | protector                       | No.1 signal (video off, all white)                    | <p>After the W/B and luminance adjustment, adjust the protector using "Protector Setting" menu.<br/>Caution!</p> <p>Readjust the protector in case of ACL readjustment and critical component replacement.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Adjust Protector |

#### 6.6.4 Service TIMING

|                       | No.1        | No.2          |  |  | No.5            | No.6            |  |  |  |  |
|-----------------------|-------------|---------------|--|--|-----------------|-----------------|--|--|--|--|
| Name                  | CH 1<br>80K | FH MAX<br>91K |  |  | V-SIZE<br>LIMIT | FH MIN<br>31.5K |  |  |  |  |
| Dot Clock (MHz)       | 135.000     | 157.500       |  |  | 25.175          | 25.175          |  |  |  |  |
| Horizontal            |             |               |  |  |                 |                 |  |  |  |  |
| H-Freq. (kHz)         | 79.976      | 91.146        |  |  | 31.47           | 31.47           |  |  |  |  |
| H-Total (Dots)        | 1688        | 1728          |  |  | 800             | 800             |  |  |  |  |
| H-Front porch (Dots)  | 16          | 64            |  |  | 16              | 16              |  |  |  |  |
| H-Sync width (Dots)   | 144         | 160           |  |  | 96              | 96              |  |  |  |  |
| H-Back porch (Dots)   | 248         | 224           |  |  | 48              | 48              |  |  |  |  |
| H-blanking (Dots)     |             |               |  |  |                 |                 |  |  |  |  |
| H-Active (Dots)       | 1280        | 1280          |  |  | 640             | 640             |  |  |  |  |
| Vertical              |             |               |  |  |                 |                 |  |  |  |  |
| V-Freq (Hz)           | 75.025      | 85.024        |  |  | 70.09           | 59.94           |  |  |  |  |
| V-Total (Line)        | 1688        | 1072          |  |  | 449             | 525             |  |  |  |  |
| V-Front porch (Line)  | 1           | 1             |  |  | 12              | 10              |  |  |  |  |
| V-Sync. width (Line)  | 3           | 3             |  |  | 2               | 2               |  |  |  |  |
| V-Back porch (Line)   | 38          | 44            |  |  | 35              | 33              |  |  |  |  |
| V-Blanking (Line)     |             |               |  |  |                 | 45              |  |  |  |  |
| V-Active (Line)       | 1024        | 1024          |  |  | 400             | 480             |  |  |  |  |
| Sync.                 |             |               |  |  |                 |                 |  |  |  |  |
| H-polarity/V-polarity | P/P         | P/P           |  |  | N/P             | N/N             |  |  |  |  |
| Scanning mode         |             |               |  |  |                 |                 |  |  |  |  |
| Comment               | VESA        |               |  |  | VGA400          | VGA480          |  |  |  |  |

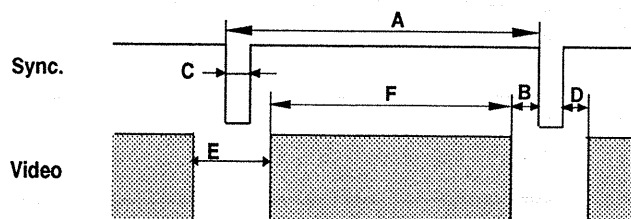


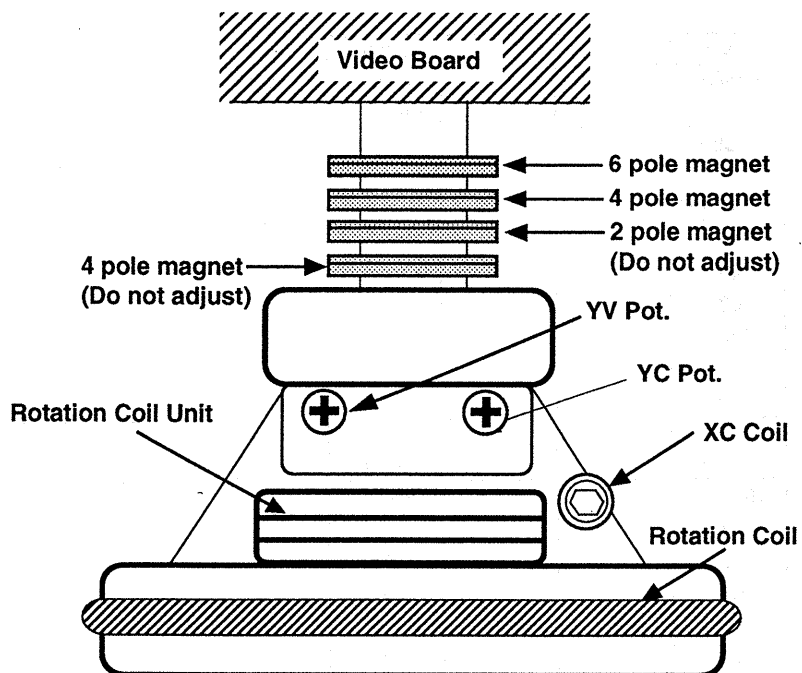
CHART DETAIL

- A: TOTAL(LINE or DOTS)
- B: Front porch
- C: Sync pulses width
- D: Back porch
- E: Blanking time
- F: Active(LINE or DOTS)

#### 6.7.4 MIS CONVERGENCE CORRECTION

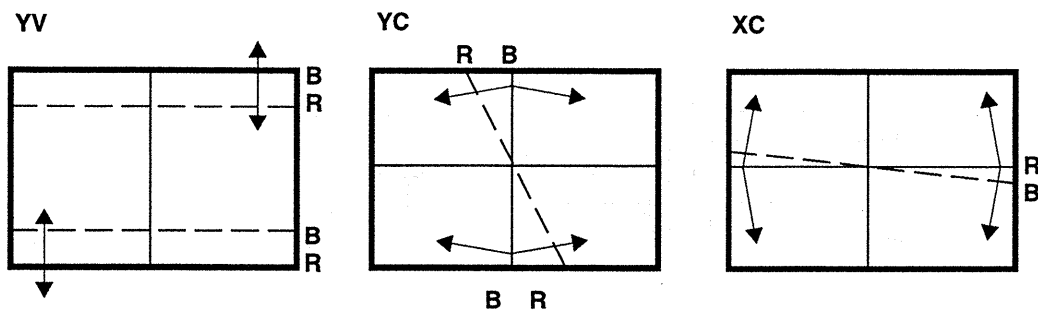
For adjust mis convergence exactly, it is needed to make adjustment around the deflection yoke.

Adjustment procedure in as follows.



6 pole magnet : R,B <-> G Convergence magnet  
 4 pole magnet : R <-> B Convergence magnet  
 2 pole magnet : purity adjustment magnet (For adjust purity (Landing), it needs magnetic chamber)

YV Pot.alignment should be adjustde with RV601and RV602 on MCU Bord to reduce the trapezoidal distortion.



# SECTION 7 TROUBLE SHOOTING

## 7.1 Trouble Shoot

### -- SYMPTOM --

### -- CHECK --

### --POSSIBLE CAUSE--

### -- ACTION --

1.  
No image appears  
on the screen

1. Absence of HV charging  
sound.

1. 1  
(When power supply is normal)  
a. Fail of horizontal deflection  
circuit  
(M)

1. 1  
a. Check horizontal deflection circuit  
components and replace if needed.  
( possible components)  
Q351 (horizontal chopper )(M)  
Q352 (horizontal output)(M)  
D356 (damper diode)(M)  
Q314 (horizontal drive)(D)  
*\*If Q352 has failed, it should be better to  
replace Q351 simultaneously.*  
b. check high voltage circuit components  
and replace if needed.  
( possible components)  
IC401 (HV control and output)(M)

b. Fail of high voltage circuit  
(M)

c. Fail of horizontal oscillation  
circuit. (I)

c. Check horizontal oscillation circuit on  
**I-Board.**  
( possible components)  
IC113 (I) and around circuit.

1.2  
(when power supply is abnormal)  
a. Lose of line connector.  
b. Lose of internal connector.  
c. Blow of fuse, F901.

1.2  
a. Check a connection.  
b. Check a connection of J901 .  
c. Replace fuse .  
*\*caution when upper case ,other  
parts may be broken.*  
d. Replace IC901 (switching controller .)  
and Q903 (main switch)

d. Failure of switching control  
component.

2.Check of power indicator

(When power on, indicator LED  
light green about one second and  
a moment LED light red and power  
down.)

After searching the problem, change  
component if needed.

*In this case, MCU detect the failure of circuit  
and shutdown power supply.*

*This protector operates following case.*

- a. High voltage is over.
- b. +B4 voltage is over or under.
- c. +B1 current is over.
- d. Anode current is over.
- e. Horizontal size is too large or too small.

*To confirm which case the protector operates,  
need the service software.*

2.Check of CRT electrodes

Heater electrode

Failure of Heater electrode.

Replace CRT

G2 electrode

a. G<sub>2</sub> (Screen voltage drop.)

a. Check T401(FBT) screen pot re-adjust  
if nessesary. (M)

R,G,B cathode  
electrode

c. Failure of video circuit.

c. Check video circuit components and  
check the following connection  
especially.

P501 (video signal and video  
control signal)

*\*P501 is a FFC cable, special care will  
be needed to handle this connector.*

P502 (power supply of video)

| -- SYMPTOM --                            | -- CHECK --                     | --POSSIBLE CAUSE--                                                                                                                                                                                                                                       | -- ACTION --                                                                                                                                                                                                                                                                                            |
|------------------------------------------|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2. Poor Focus                            |                                 | a. Adjustment error.<br>b. Failure of CRT ( <i>Can not improve focus.</i> )<br>Reduction of beam emission.<br>c. Failure of FBT ( <i>Can not improve focus.</i> )<br>Failure of focus pot.<br>d. Anode voltage drop.<br>Failure of high voltage circuit. | a. Readjust focus by 2 pot. located on FBT. <b>(M)</b><br>b. Replace CRT.<br>c. Replace FBT. <b>(M)</b><br>d. Check High voltage control circuit, and replace IC401, IC402, Q402, Q403, or Q404. <b>(M)</b>                                                                                             |
| 3. Convergence                           |                                 |                                                                                                                                                                                                                                                          | Readjust convergence by the adjustment section.                                                                                                                                                                                                                                                         |
| 4. Dirt of colour                        | Check of environment of monitor | a. Magnetization of chases and CRT.<br>b. Abnormal environmental magnetic field.<br>c. Failure of degaussing circuit.<br>d. Short interval power ON-OFF<br>e. CRT face direction change while power on.                                                  | a. Degauss the monitor. (automatic or manual degaussing.)<br>b. Apart the monitor from the abnormal place and degaussing.<br>c. Check degaussing circuit.<br>TH901, Q951, P902 and change componets if needed.<br>d. Power on again after several minute past.<br>e. same as d.                         |
| 5. Low luminance                         |                                 | a. $G_2$ (screen )voltage drop.<br>b. Failure of video circuit. <b>(V)</b><br>c. Failure of <b>(I)</b> . (video control block.)<br>d. High voltage drop.<br>e. Failure of CRT (reduction of beam emission)                                               | a. Check $G_2$ voltage and re-adjust if needed.<br>b. Check video circuit.<br>IC501, IC502 (video pre/out amp)<br>c. Check <b>(I)</b> .<br>IC101 (analogue sw)<br>connection of P501 (control signal from <b>I Board</b> .)<br>d. Check high voltage control circuit. (refer to 1-b.)<br>e. Change CRT. |
| 6. Poor white balance                    |                                 | White balance adjustment error.                                                                                                                                                                                                                          | Readjust white balance using MCP98V.                                                                                                                                                                                                                                                                    |
| 7. Loss of colour                        |                                 | a. Failure of video circuit.<br>b. Lose of connection.<br>c. Failure of <b>(I)</b> .                                                                                                                                                                     | a. Check video circuit. (refer to 1-2-c.)<br>b. Check of connection.<br>P501 (video signal and video control signal)<br>P502 (power supply of video)<br>c. Check of <b>(I)</b> (refer to 5-c)                                                                                                           |
| 8. failure of horizontal synchronization |                                 | 8.1 (When OSD message ,NO H SYNC I-con is appeared.)<br>a. Mis connection of video cable.                                                                                                                                                                | 8.1<br>a. Confirm connection of input video signal.                                                                                                                                                                                                                                                     |

| -- SYMPTOM --                                                                 | -- CHECK -- | --POSSIBLE CAUSE--                                                                                                                                                                                                                                                                                                             | -- ACTION --                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8. Failure of horizontal synchronization                                      |             | b. Failure of sync. precessing circuit.<br>c. Failure of sync detection circuit on <b>I- Board</b> .<br><br><b>8.2 (When OSD message is not appear.)</b><br>a. Failure of horizontal oscillation circuit on <b>I- Board</b> .<br>b. Adjustment error of horizontal free running frequency.                                     | b. Check sync. processing circuit.<br>IC101,102 ,IC113on <b>(I)</b><br>P151,152,153 <b>(M)</b><br>c. Check 6 pin of IC102 <b>(I)</b><br><br><b>8.2</b><br>a. Check horizontal oscillation circuit.<br>IC113 (H/V oscilation)<br>Change this componet if needed.<br>b. Readjust horizontal frequency using the adjustment software.                                                                    |
| 9. Failure of vertical synchro.                                               |             | <b>9.1 (When OSD message NO V SYNC I-con is appeared.)</b><br>a. Mis connection of video cable.<br>b. Failure of sync. processing circuit.<br>c. Failure of sync detection circuit on <b>I- Board</b> .<br><br><b>9.2 (When OSD message is not appear.)</b><br>a. Failure of vertical oscillation circuit on <b>I- Board</b> . | <b>9.1</b><br>a. Confirm connection of input video signal.<br>b. Check sync. processing circuit.<br>IC101,102 ,IC113on <b>(I)</b><br>P151,152,153 <b>(M)</b><br>c. Check 8 pin of IC102 <b>(I)</b><br><br><b>9.2</b><br>a. Check vertical oscillation circuit.<br>IC113 (H/V oscilation)<br>Change this componet if needed.                                                                           |
| 10. Failure of OSD                                                            |             | a. Failure of SW701 to SW704(S)<br><br>b. Failure of <b>I- Board</b> . (around sw search circuit.)<br>c. Failure of OSD control circuit.                                                                                                                                                                                       | a. Check of SW701 to SW704 <b>(S)</b> and connection<br>P701 <b>(M)</b> and P153 <b>(M)</b> .<br><br>b. Check of sw search circuit. <b>(I)</b><br>RB123 and RB124 (series resistor)<br>c. Check of OSD control circuit.<br><br>IC505 (OSD controller) <b>(V)</b><br>P501 (especially 6 to 13pin )                                                                                                     |
| 11. Failure of horizontal size<br>(horizontal size is too small or too large) |             | a. Failure of horizontal size control circuit.<br><br>b. Failure of horizontal chopper circuit.<br>c. Failure of connection of horizontal DY<br>d. Adjustment error                                                                                                                                                            | a. Check of horizontal size control circuit.<br>IC301 <b>(M)</b> ,<br>IC110(D/A converter) <b>(I)</b><br>P152 2pin(S-SIZE) <b>(M)</b><br>b. Check of horizontal chopper circuit.<br>Q351 (H Chopper) <b>(M)</b> and control circuit(Q301 to Q306 <b>(M)</b> ).<br>c. Check of horizontal DY connection<br>P351 (horizontal DY) <b>(M)</b><br>d. Readjust horizontal size using MCP98V or front panel. |
| 12. Failure of vertical size<br>(vertical size is too small or too large)     |             | a. Failure of vertical size control circuit.                                                                                                                                                                                                                                                                                   | a. Check of vertical size control circuit.<br>IC114(vertical size control) <b>(I)</b><br>IC109(D/A converter) <b>(I)</b><br>IC113(uPC1883) <b>(I)</b><br>16 pin of P151                                                                                                                                                                                                                               |

-- SYMPTOM --

-- CHECK --

--POSSIBLE CAUSE--

-- ACTION --

12. vertical size is too small or too large

- b. Failure of vertical size output.
- c. Failure of connection of vertical DY
- d. Adjustment error

- b. Check of V output **(M)**  
IC201 (vertical output)  
D201 (V pumping up)  
R218,R219 (V power filter)
- c. Check of connection of vertical  
P351 (H&V DY connector)
- d. Readjust vertical size using MPC98V

13. Horizontal position is not center

- 13.1 (When failure of horizontal raster position.)**
  - a. Failure of horizontal raster position control circuit.
  - b. Failure of horizontal raster position drive circuit.
- c. Adjustment error

- 13.1**
  - a. Check of control circuit **(M)(I)**  
Q354 **(M)**,IC110(D/A)**(I)**  
7 pin of P152
  - b. Check of h position out  
IC351 (Power OP amplifier)**(M)**  
D358, D359 (h posi rectifier)  
R364,R365 (fusing resistor)  
T351 (H output transformer)
  - c. Readjust using MCP98V  
(This item can only adjust by MCP98V)

- 13.2 (When failure of horizontal phase (video position) sifter**
  - a. Failure of phase sift control circuit.
  - b. Adjustment error

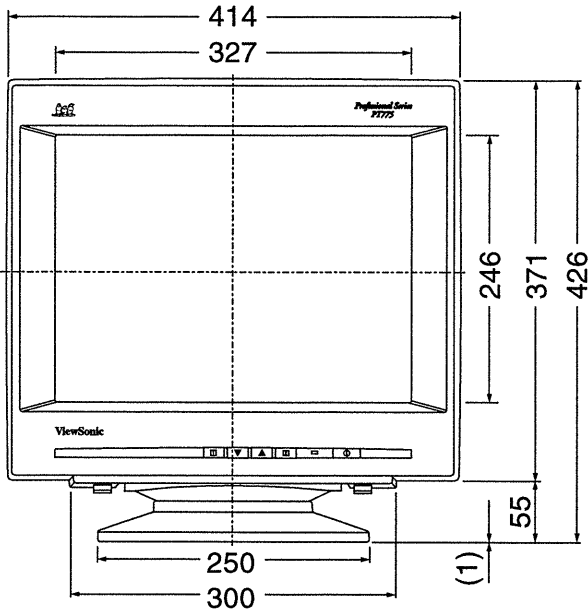
- 13.2**
  - a. Check of phase sift circuit. **(I)**
  - b. Readjust using MCP98V or front panel.

14. Vertical position is not center.

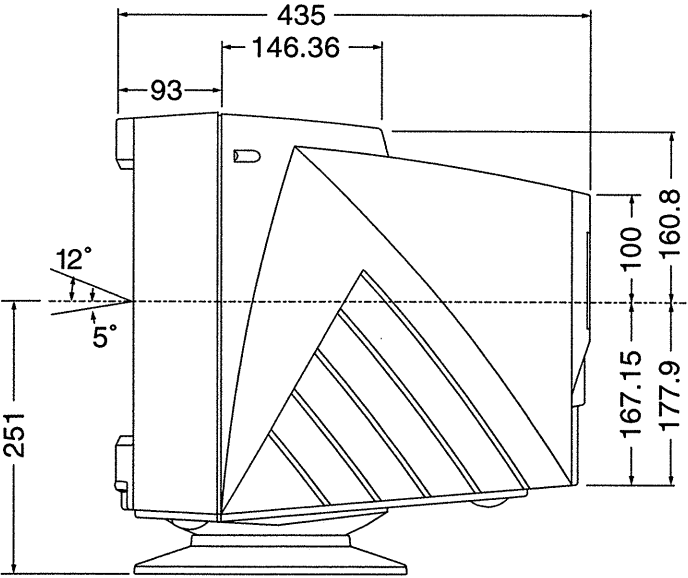
- a. Failure of vertical position control circuit.
- b. Failure of vertical position output circuit.
- c. Adjustment error

- a. Check of position control circuit. **(I)**  
IC109 (D/A converter)  
17 pin of P151**(M)**
- b. Check of position output circuit. **(M)**  
pin 7 of IC201(V-amp)
- c. Readjust using MCP98V or front panel.

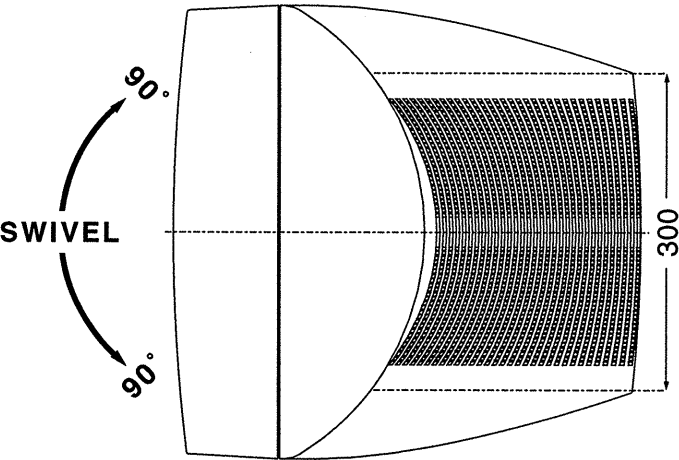
# SECTION 8 OUTLINE DRAWING



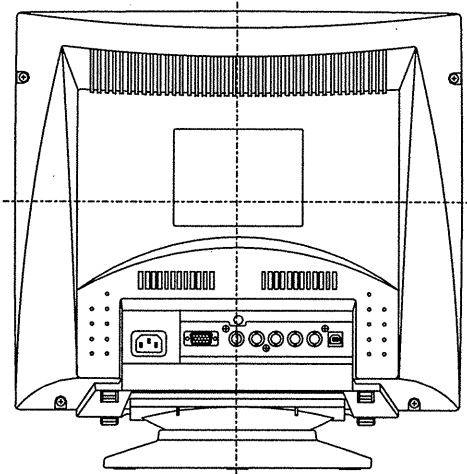
FRONT VIEW



SIDE VIEW



TOP VIEW

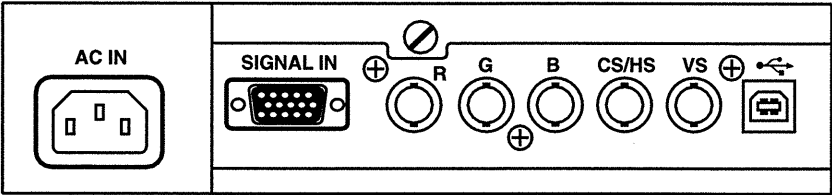


REAR VIEW

DETAIL OF FRONT PANEL



DETAIL OF REAR CONNECTOR PANEL



# SECTION9: WAVE FORMS

The wave forms are mesured following condition.

Horizontal frequency ..... : 80.0KHz

Vertical frequency ..... : 75Hz

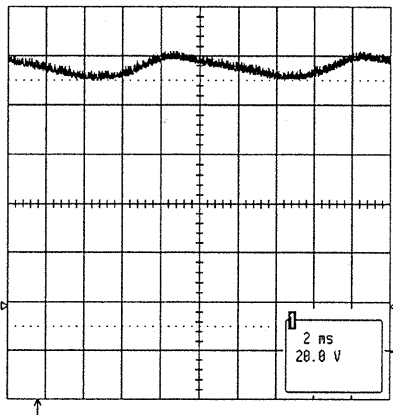
Video mode ..... :All white pattern

Luminance ..... :Max

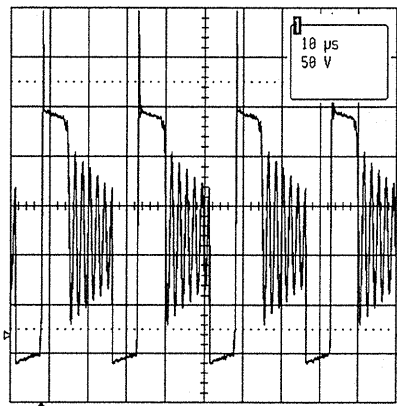
Line input ..... :100V AC

USB upstream . :connected to PC(D45-D48 only)

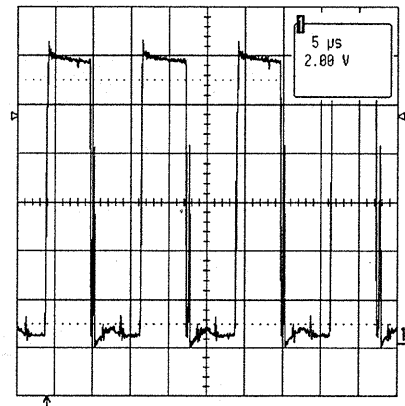
D1 AC RECTIFIED VOLTAGE



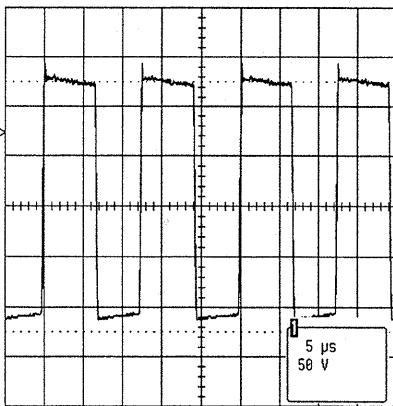
D2 SW PWM OUTPUT VOLTAGE



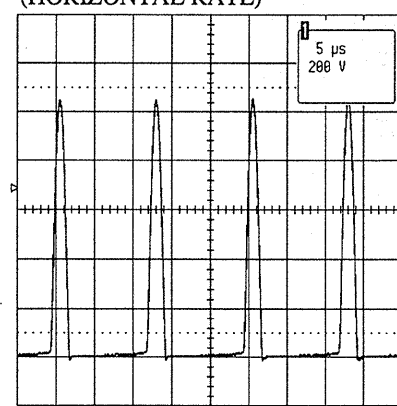
D3 CHOPPER CONTROL PULSE



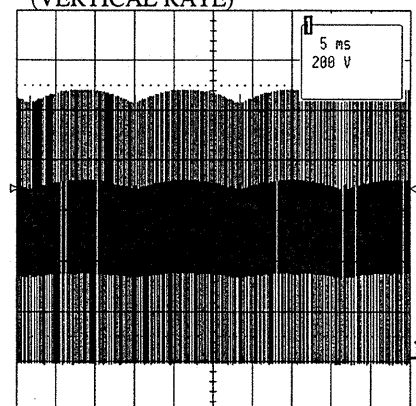
D4 CHOPPER OUTPUT PULSE



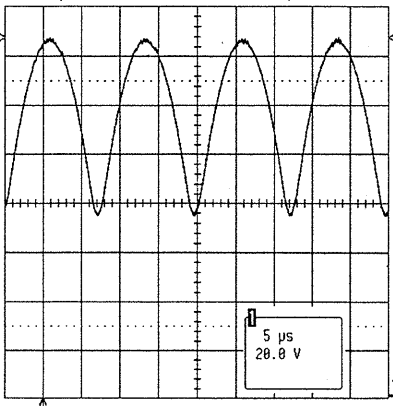
D5 HORIZONTAL OUTPUT PULSE (HORIZONTAL RATE)



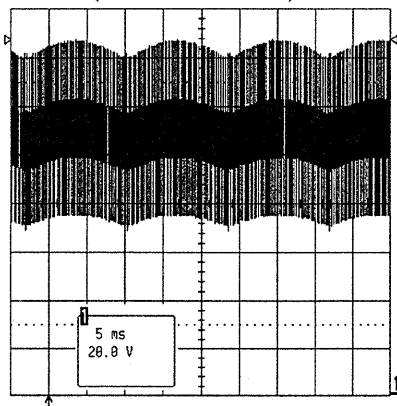
D6 HORIZONTAL OUTPUT PULSE (VERTICAL RATE)



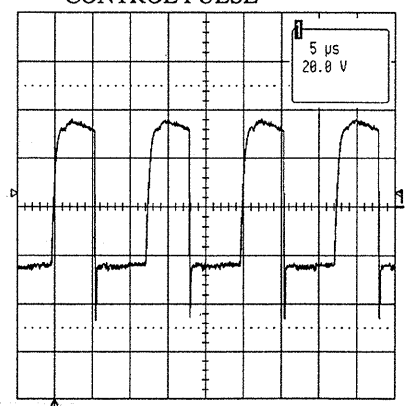
D7 S-CAP VOLTAGE (HORIZONTAL RATE)



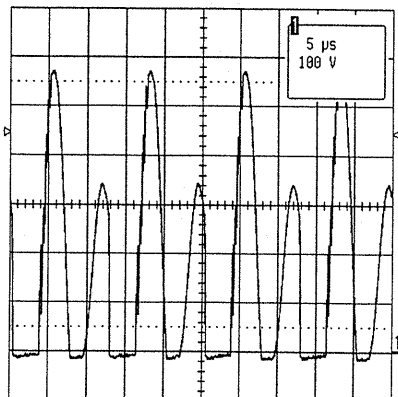
D8 S-CAP VOLTAGE (VERTICAL RATE)



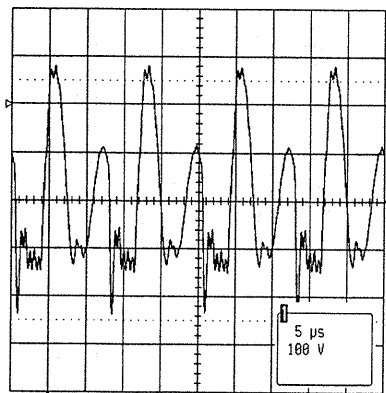
D9 HORIZONTAL DRIVE CONTROL PULSE



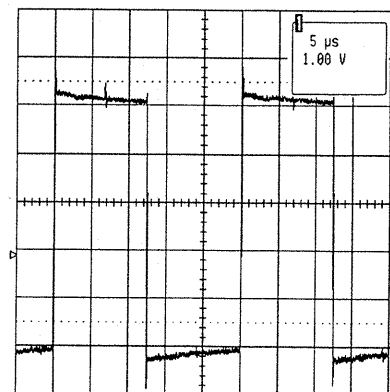
D10 HV OUTPUT DRAIN PULSE



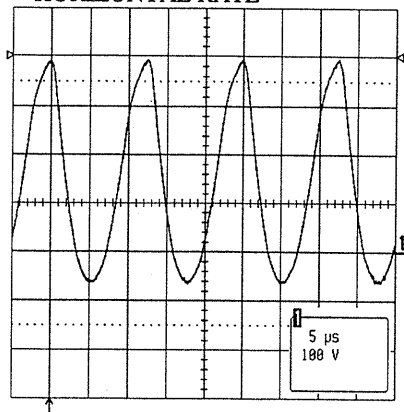
D11 FBT POWER RETURN PULSE



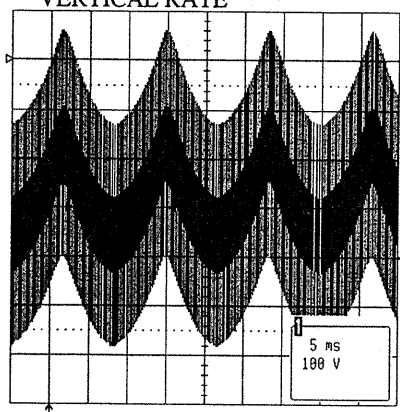
D12 PERIOL DOUBLER CONTROL



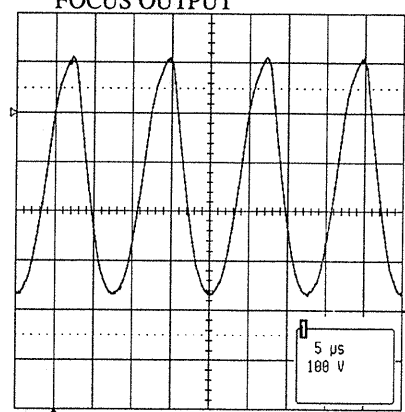
D13 DYNAMIC FOCUS OUTPUT HORIZONTAL RATE



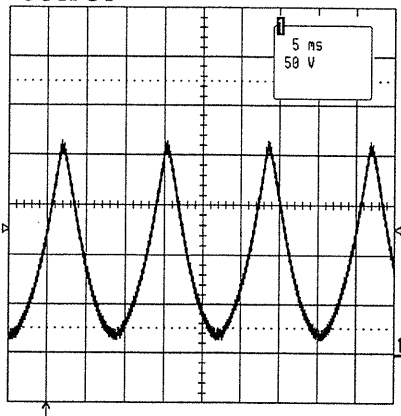
D14 DYNAMIC FOCUS OUTPUT VERTICAL RATE



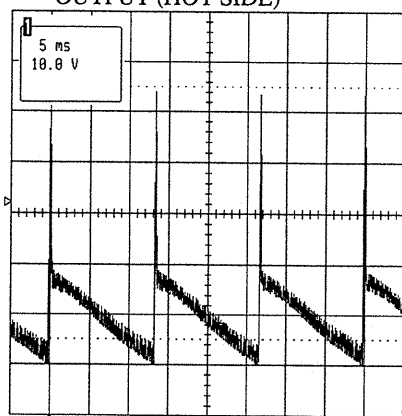
D15 HORIZONTAL DYNAMIC FOCUS OUTPUT



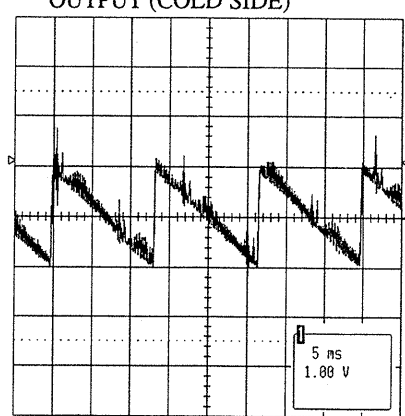
D16 VERTICAL DYNAMIC FOCUS OUTPUT



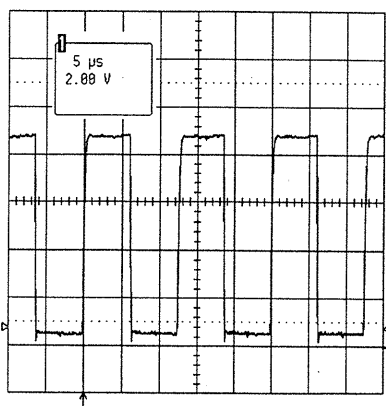
D17 VERTICAL DEFLECTION OUTPUT (HOT SIDE)



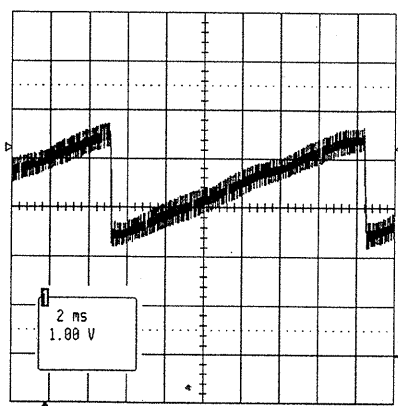
D18 VERTICAL DEFLECTION OUTPUT (COLD SIDE)



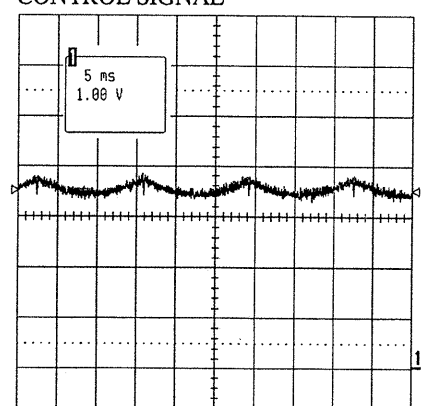
D19 HORIZONTAL DRIVE PULSE



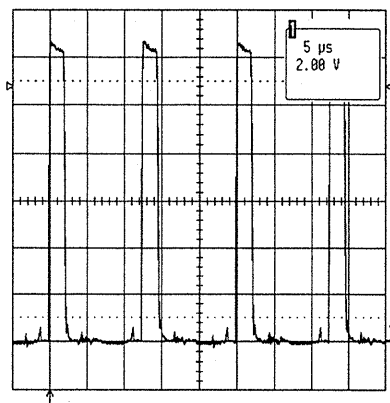
D20 VERTICAL RAMP OUTPUT



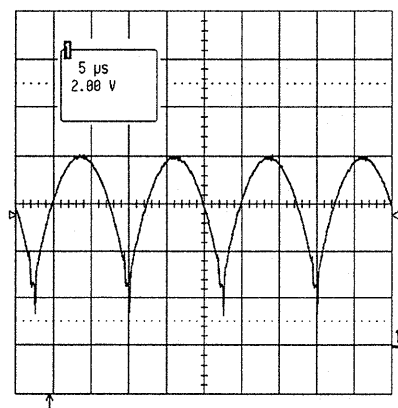
D21 E-W DISTORTION CORRECTOR CONTROL SIGNAL



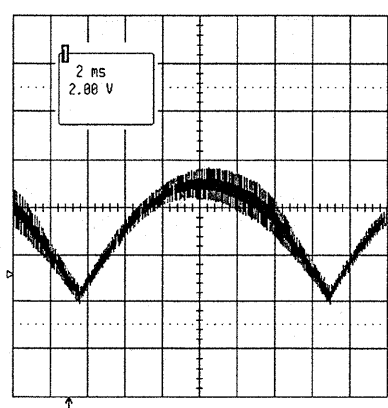
D22 AFC OUTPUT



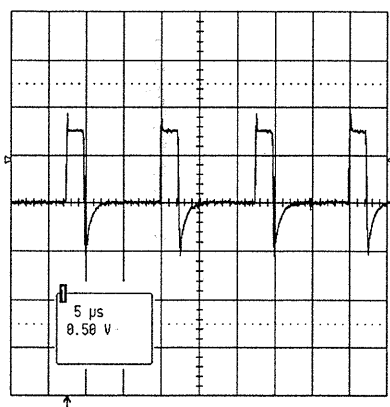
D23 HORIZONTAL DYNAMIC FOCUS CONTROL SIGNAL



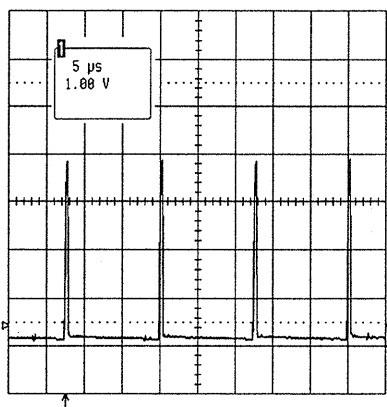
D24 VERTICAL DYNAMIC FOCUS CONTROL SIGNAL



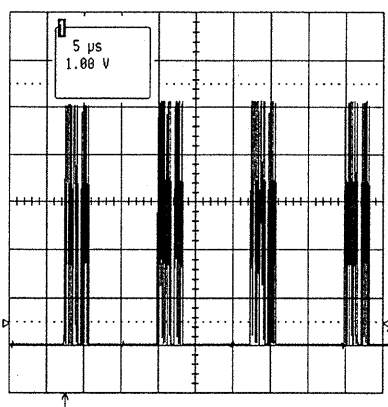
D25 VIDEO BLANKING PULSE



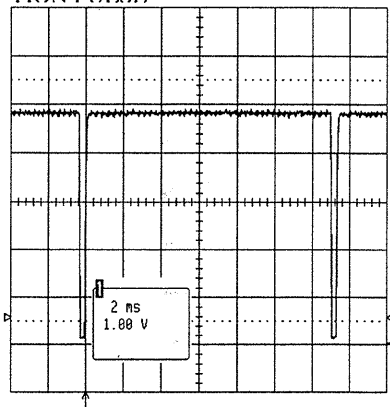
D26 VIDEO CLAMP PULSE



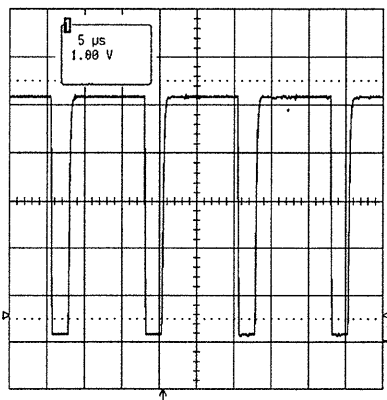
D27 OSD VIDEO OUTPUT



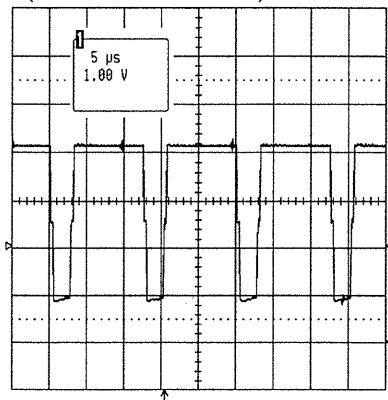
D28 OSD VERTICAL SYNCHRONIZATION PULSE



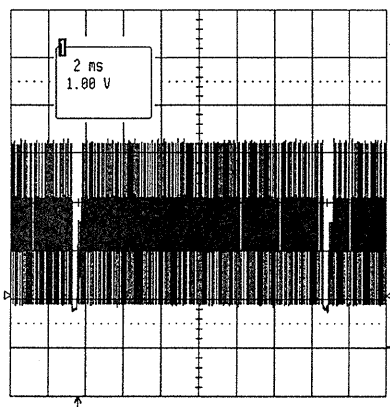
D29 OSD HORIZONTAL SYNCHRONIZATION PULSE



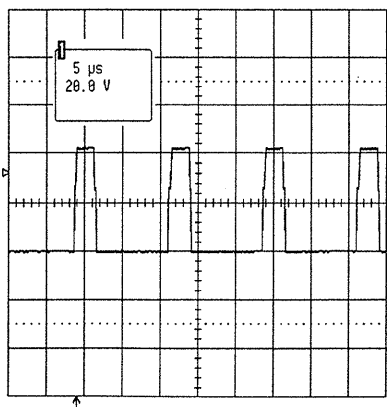
D30 VIDEO PREAMP OUTPUT (HORIZONTAL RATE)



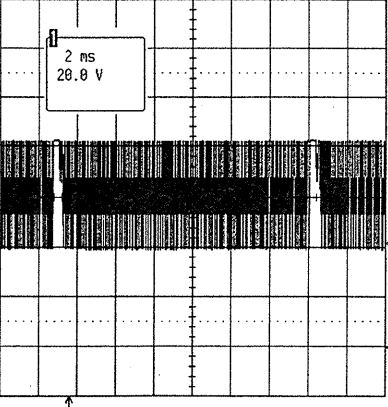
D31 VIDEO PREAMP OUTPUT (VERTICAL RATE)



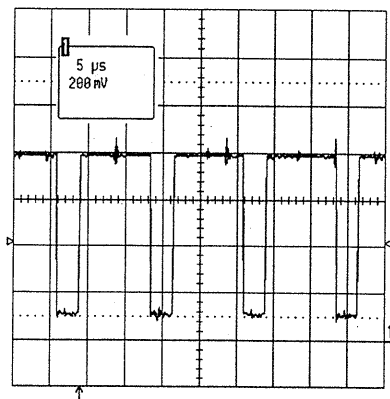
D32 CRT CATHODE (HORIZONTAL RATE)



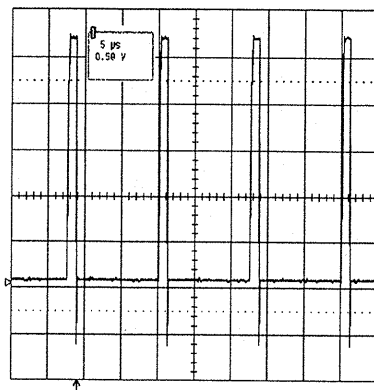
D33 CRT CATHODE (VERTICAL RATE)



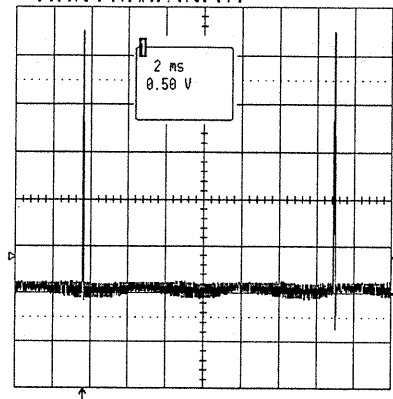
D34 VIDEO SIGNAL INPUT



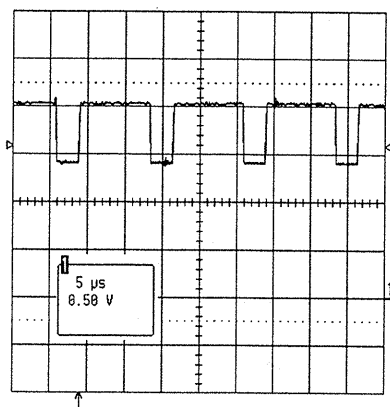
D35 HS/CS SYNCHRONIZATION PULSE INPUT



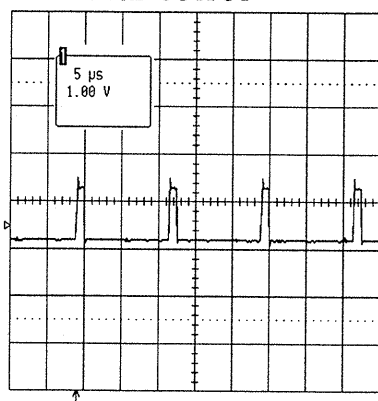
D36 VERTICAL SYNCHRONIZATION PULSE INPUT



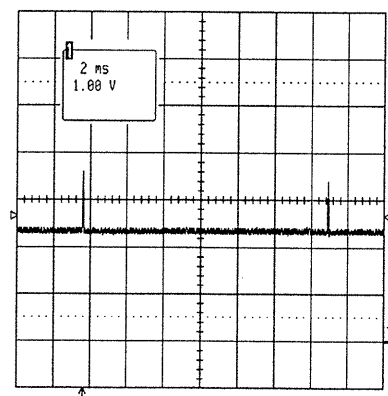
D37 IC101 R VIDEO OUTPUT



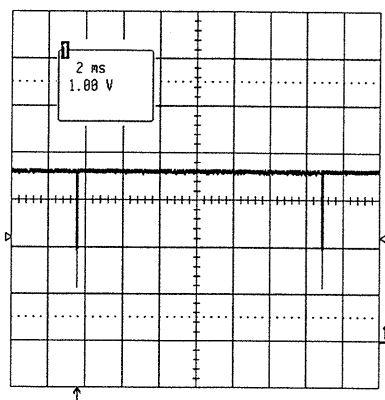
D38 HORIZONTAL DRIVE PULSE OUTPUT



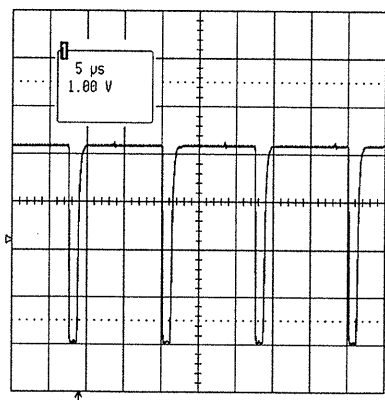
D39 VD PULSE



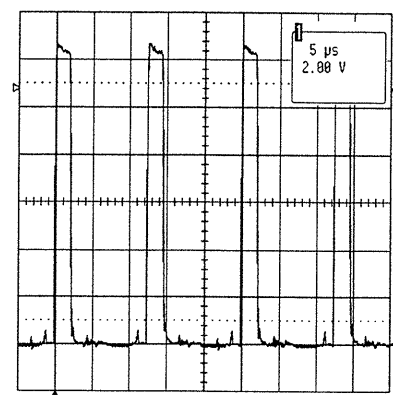
D40 IC301 VD INPUT



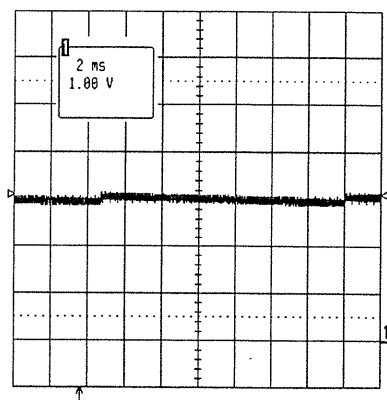
D41 IC301 HD INPUT



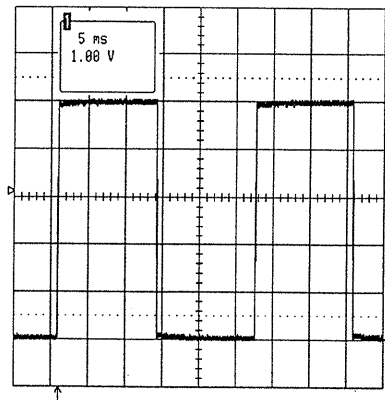
D42 AFC SYNCHRONIZATION PULSE



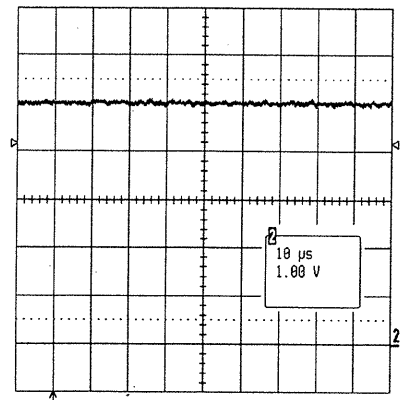
D43 PINCUSHION CONTROL SIGNAL



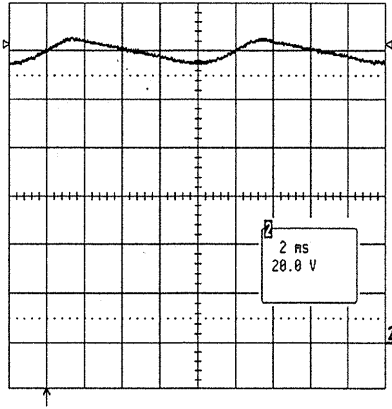
D44 FF PULSE



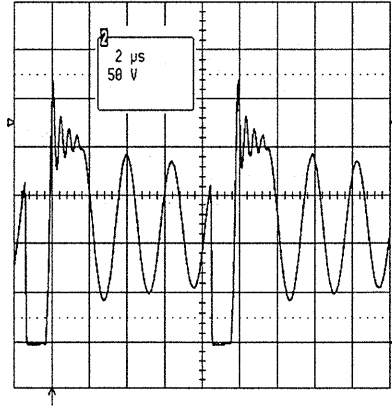
D45 USB-B



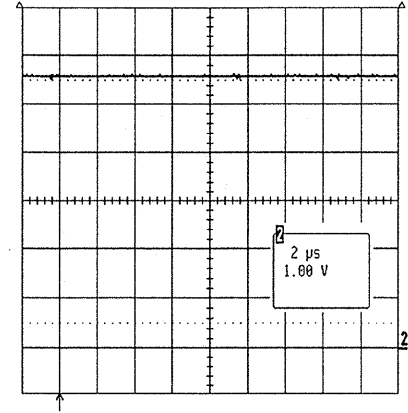
D46 PRIMARY RECTIFIED  
VOLTAGE



D47 SWITCHING PULSE



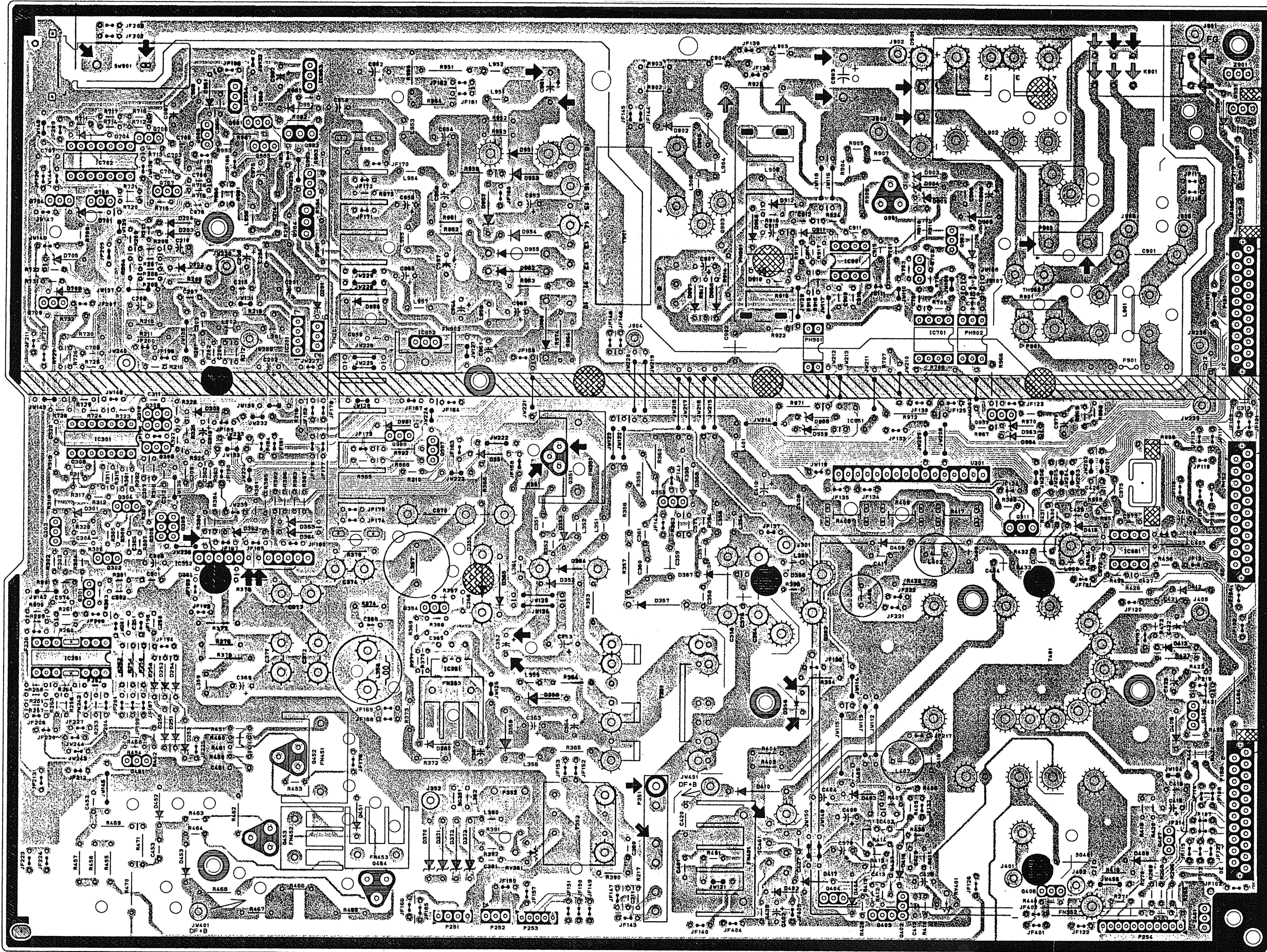
D48 SUBPOWER SUPPLY  
OUTPUT



S-CAL CONTORL TABLE

| fH    | 33K | 36K | 44K | 47K | 52K | 62K | 71K | 78K | 85k | 85k |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|       | >   | >   | >   | >   | >   | >   | >   | >   | >   | <   |
| scon1 | H   | H   | H   | L   | L   | L   | L   | L   | L   | L   |
| scon2 | H   | L   | L   | H   | H   | H   | L   | L   | L   | L   |
| scon3 | H   | L   | L   | H   | H   | L   | H   | H   | L   | L   |
| scon4 | H   | H   | L   | H   | L   | L   | H   | L   | H   | L   |

H=5V L=0V



MAIN CIRCUIT BOARD

- for -

PT775-3

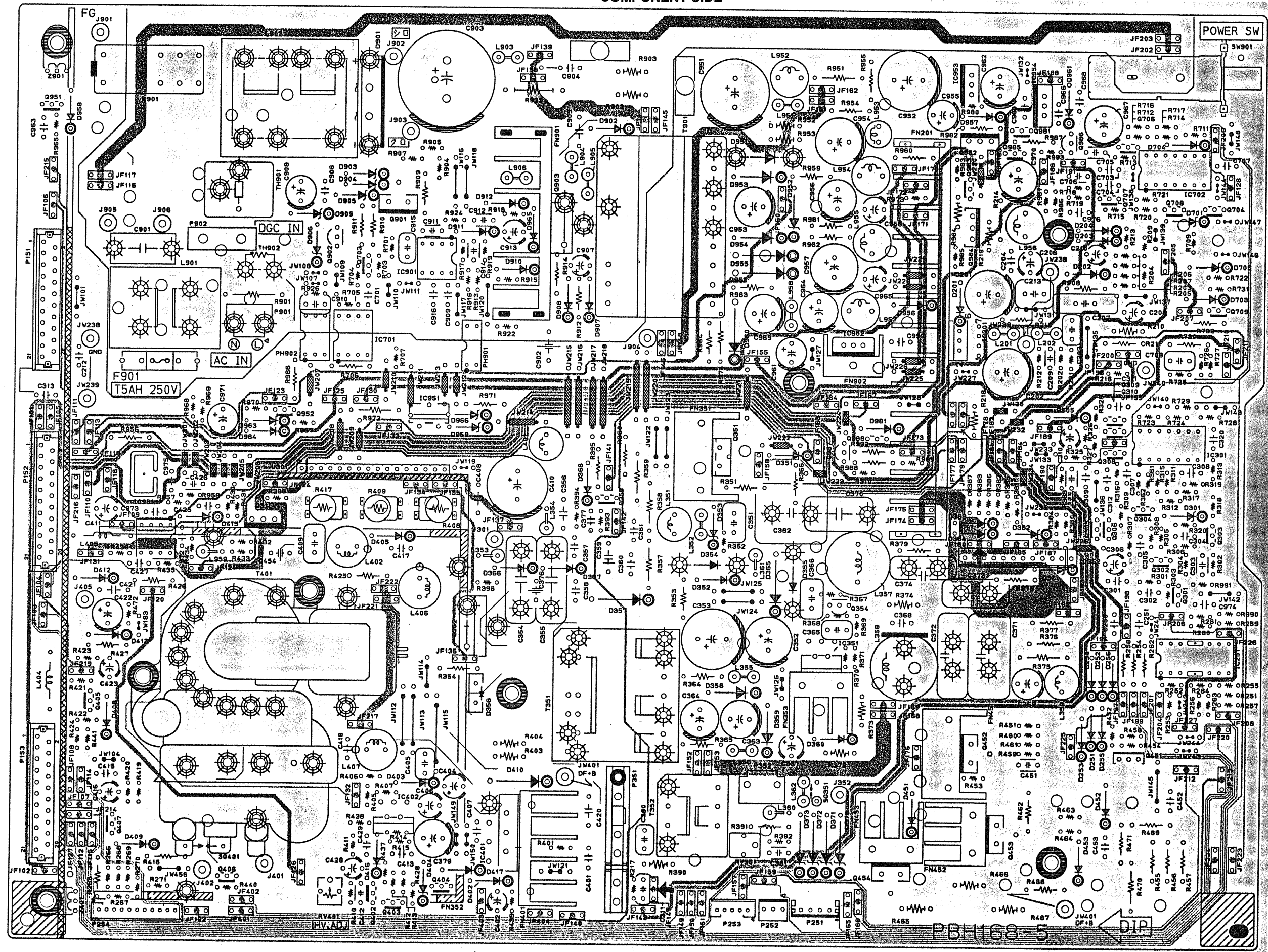
COLOR CRT

DISPLAY MONITOR

Printed wiring Board

ViewSonic Corporation.

COMPONENT SIDE



MAIN CIRCUIT BOARD

- for -

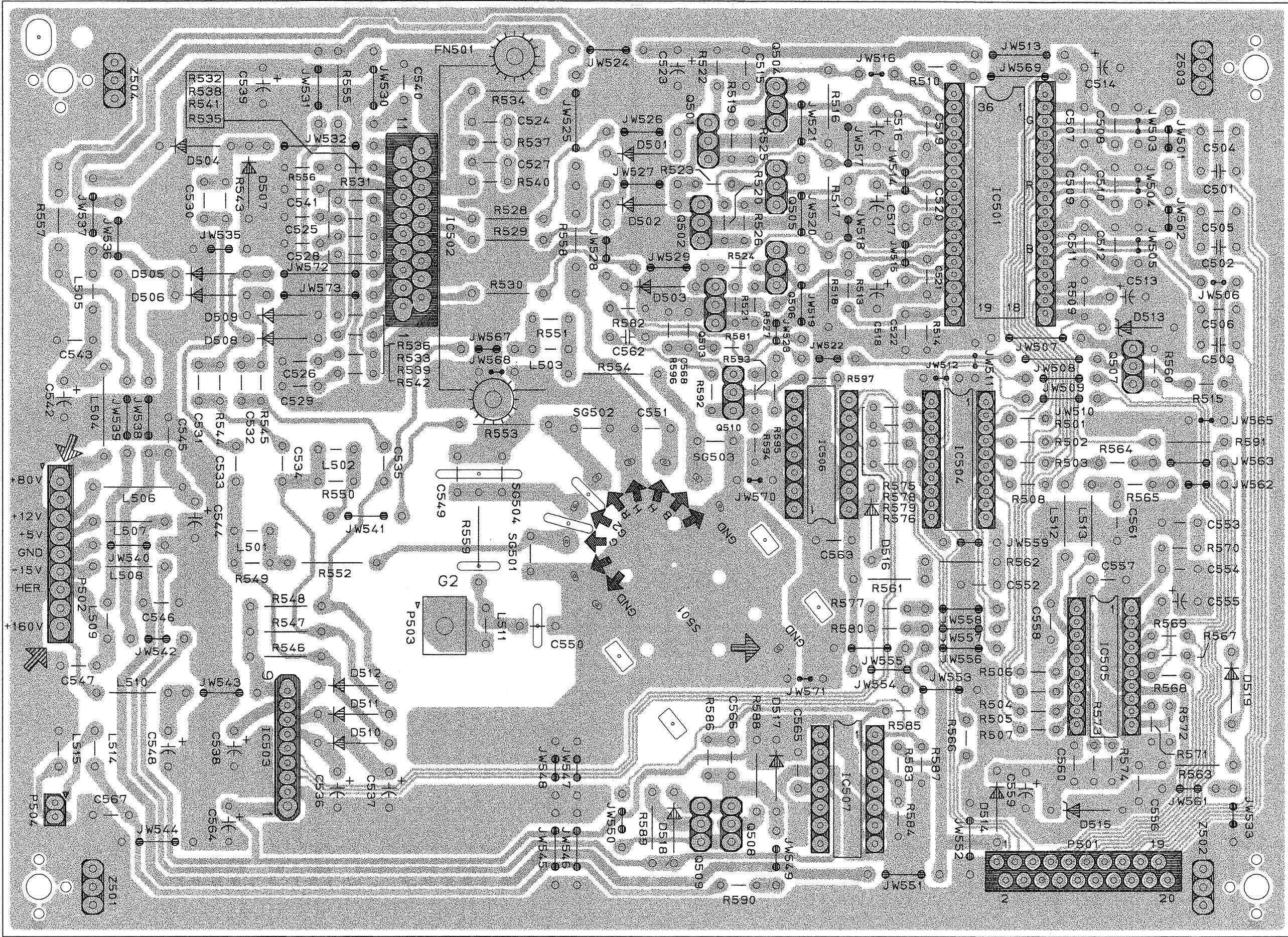
PT775-3

COLOR CRT

DISPLAY MONITOR

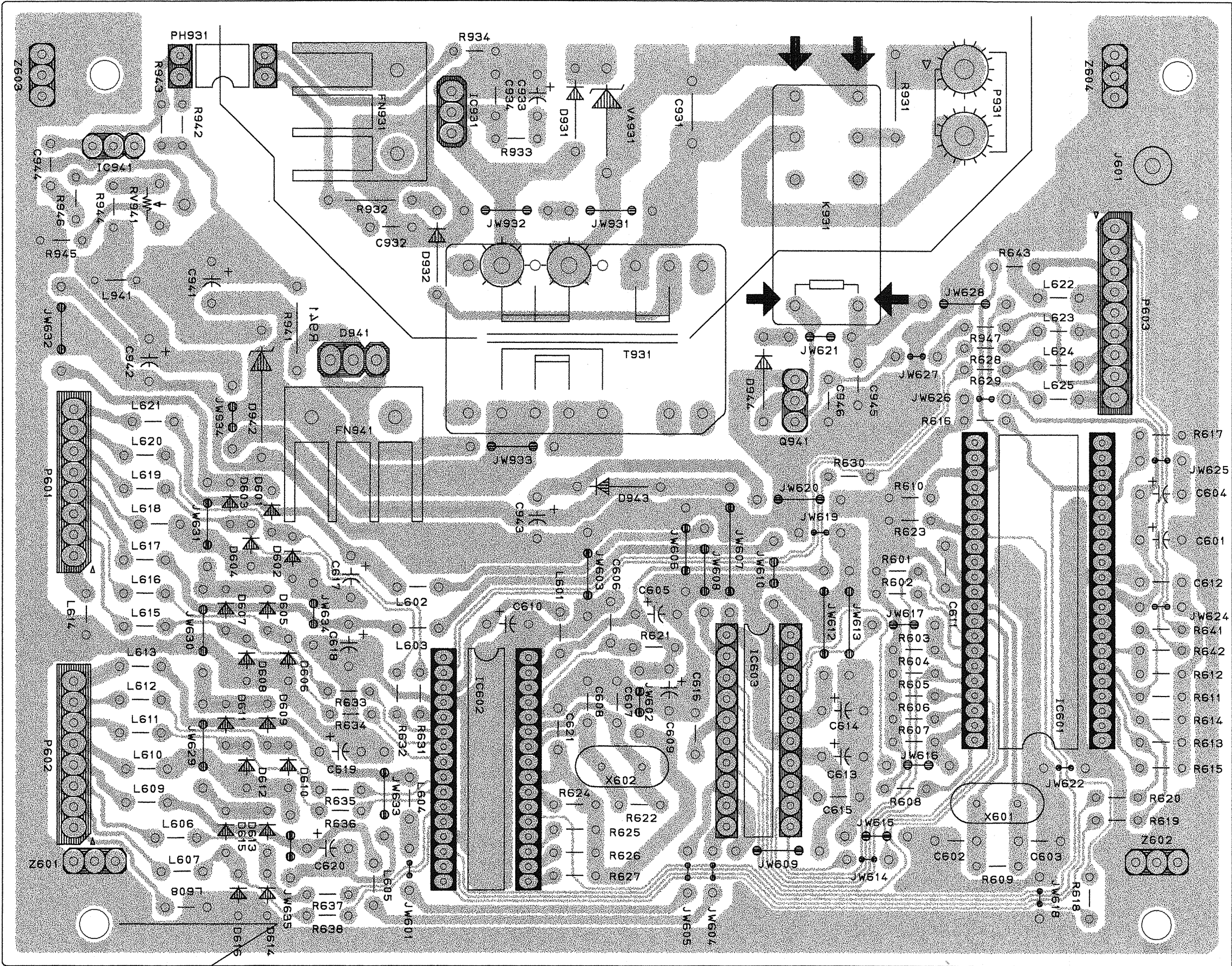
Printed wiring Board

ViewSonic Corporation.

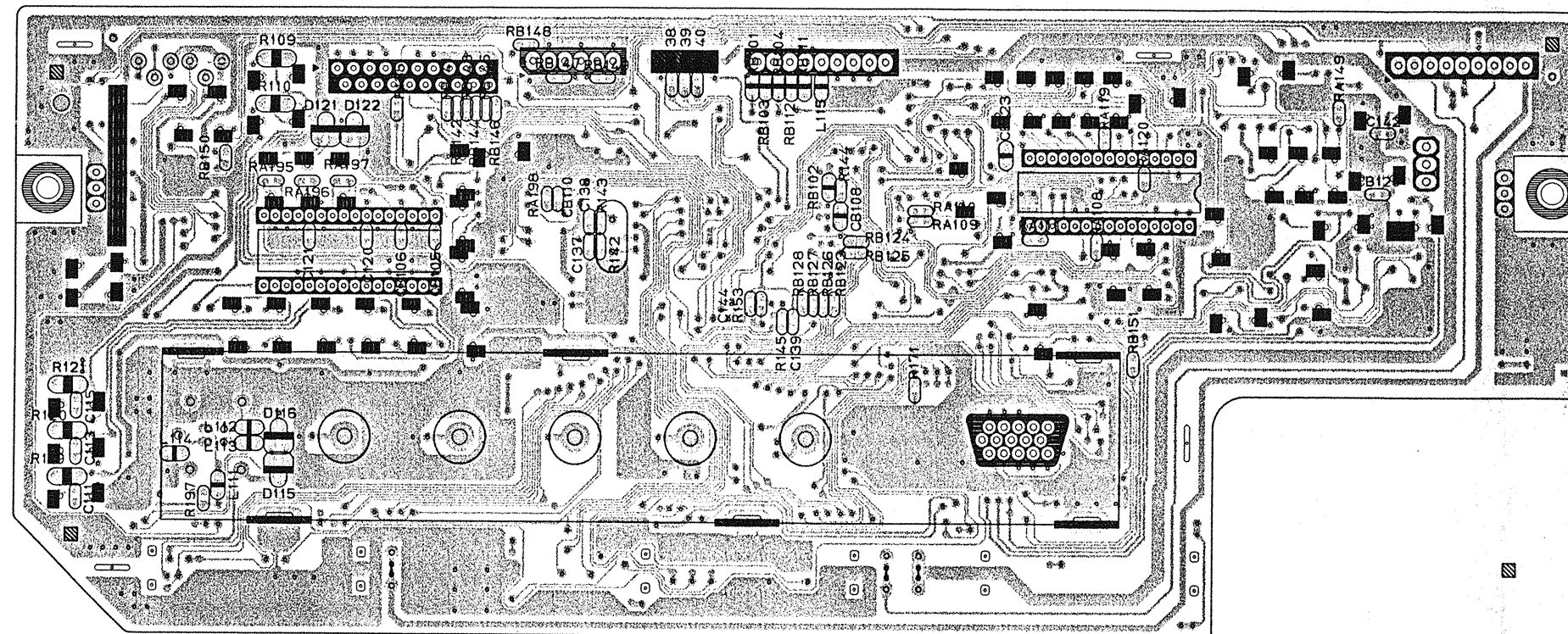
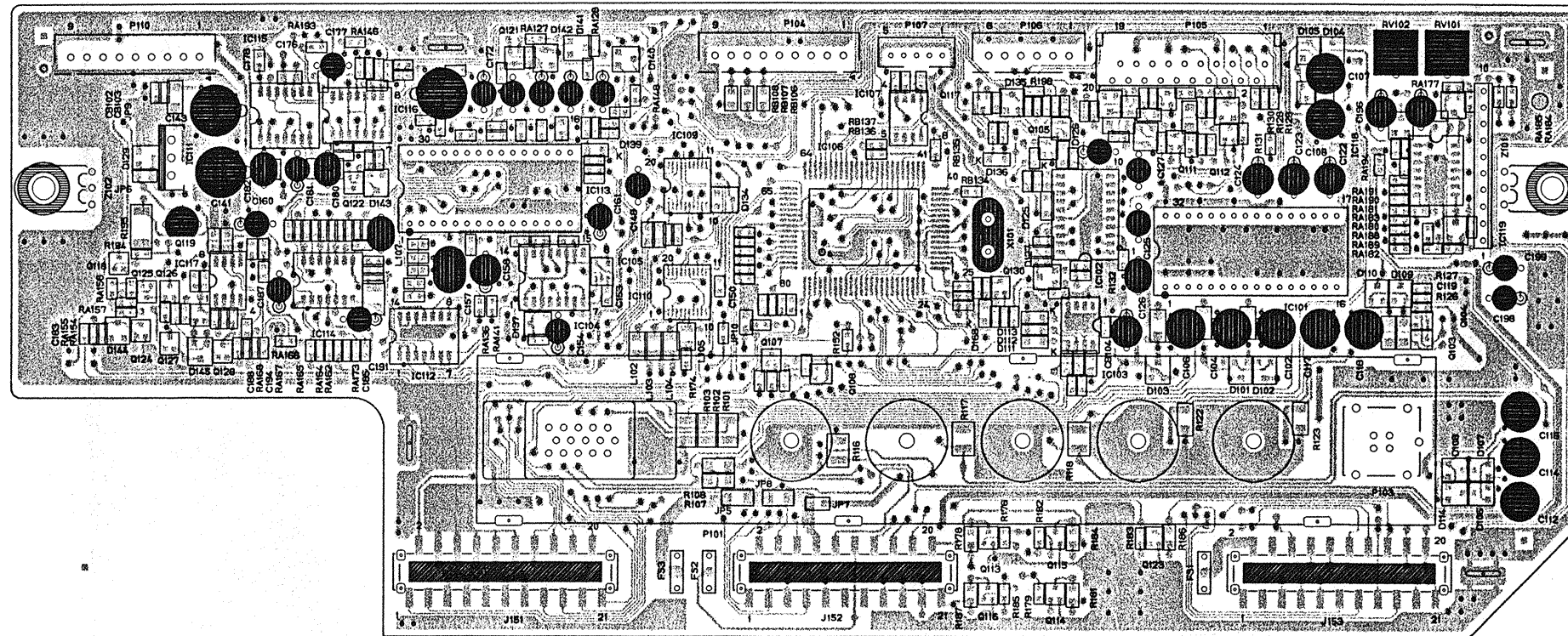


VIDEO PCB

COMPONENT SIDE



USB PCB



## INTERFACE CIRCUIT BOARD

- for -

PT775-3

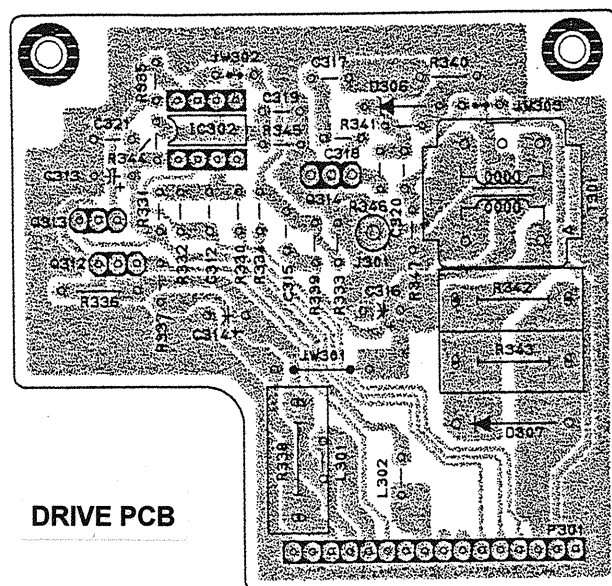
COLOR CRT

DISPLAY MONITOR

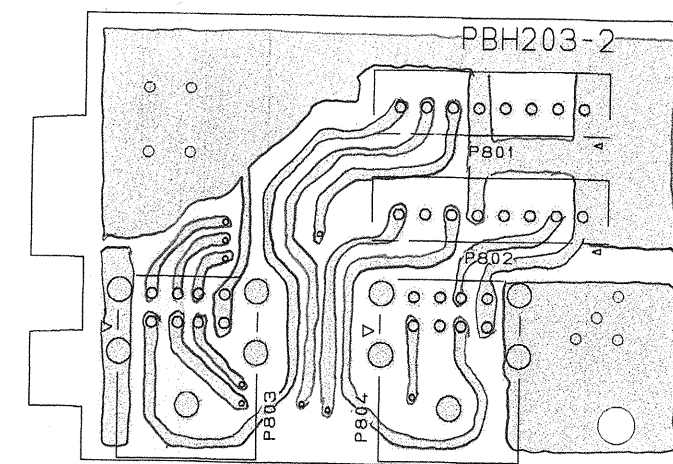
Printed wiring Board

ViewSonic Corporation.

ViewSonic Corporation.

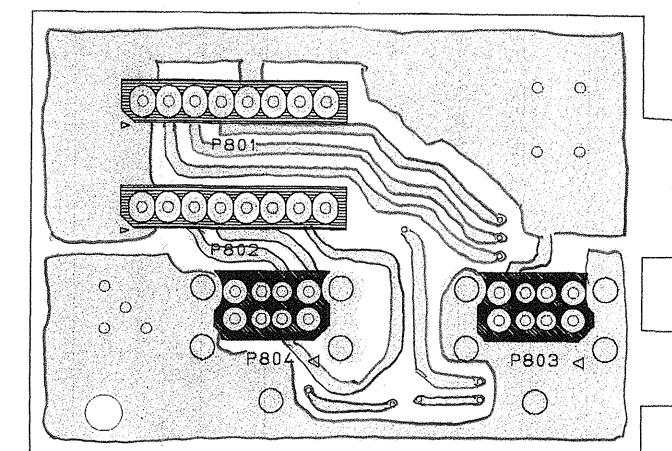


DRIVE PCB

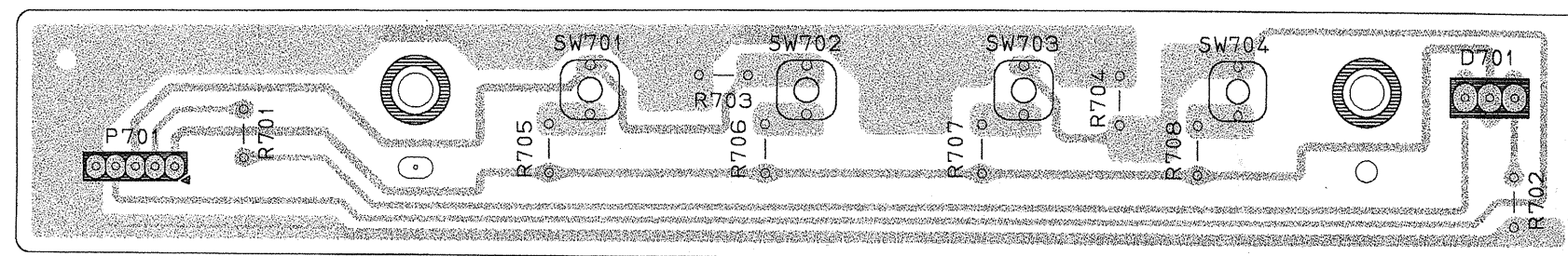


COMPONENT SIDE

USB-D PCB



SOLDER SIDE



SWITCH PCB

# DRIVE & SW & USB-D CIRCUIT BOARD

- for -

PT775-3

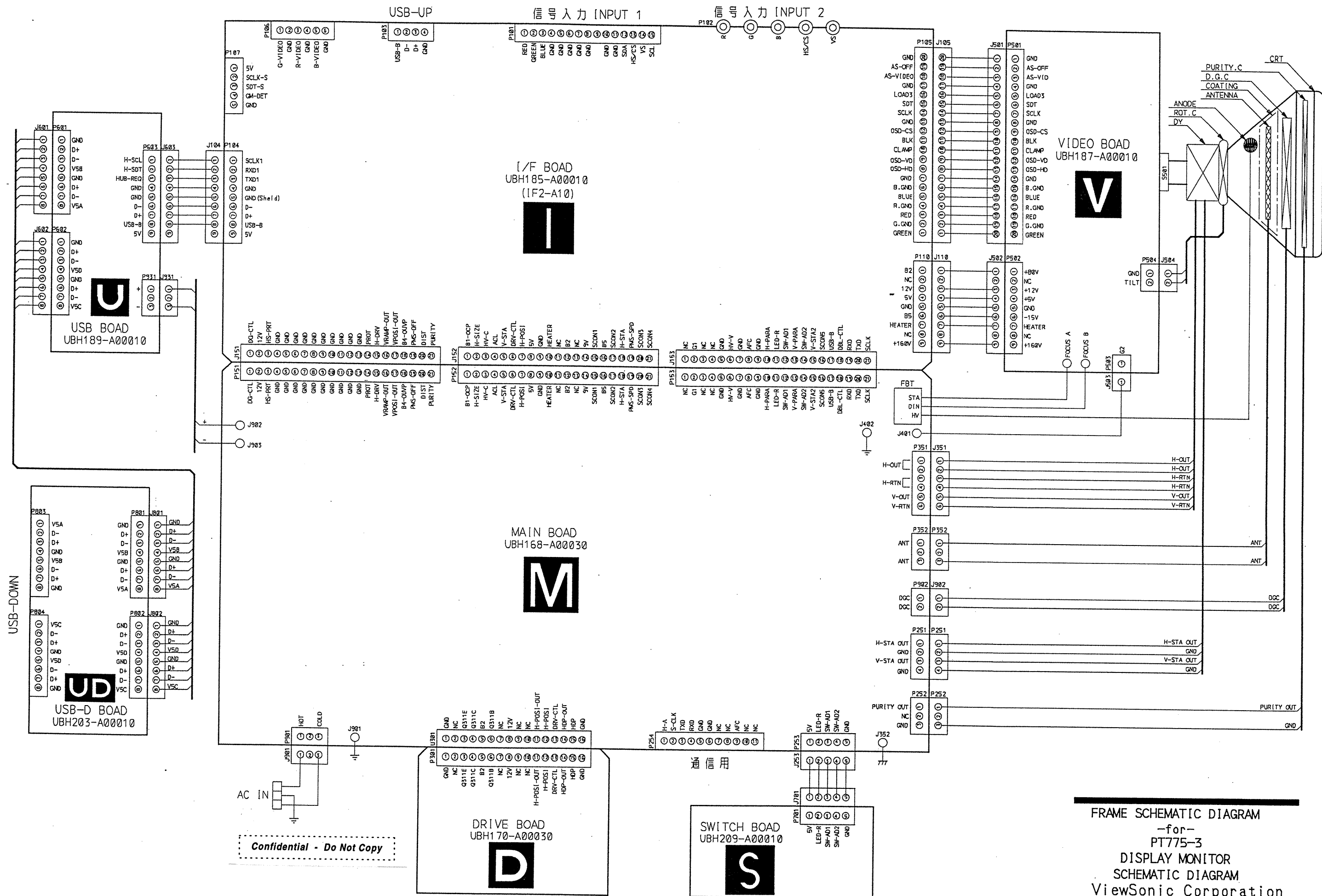
COLOR CRT

DISPLAY MONITOR

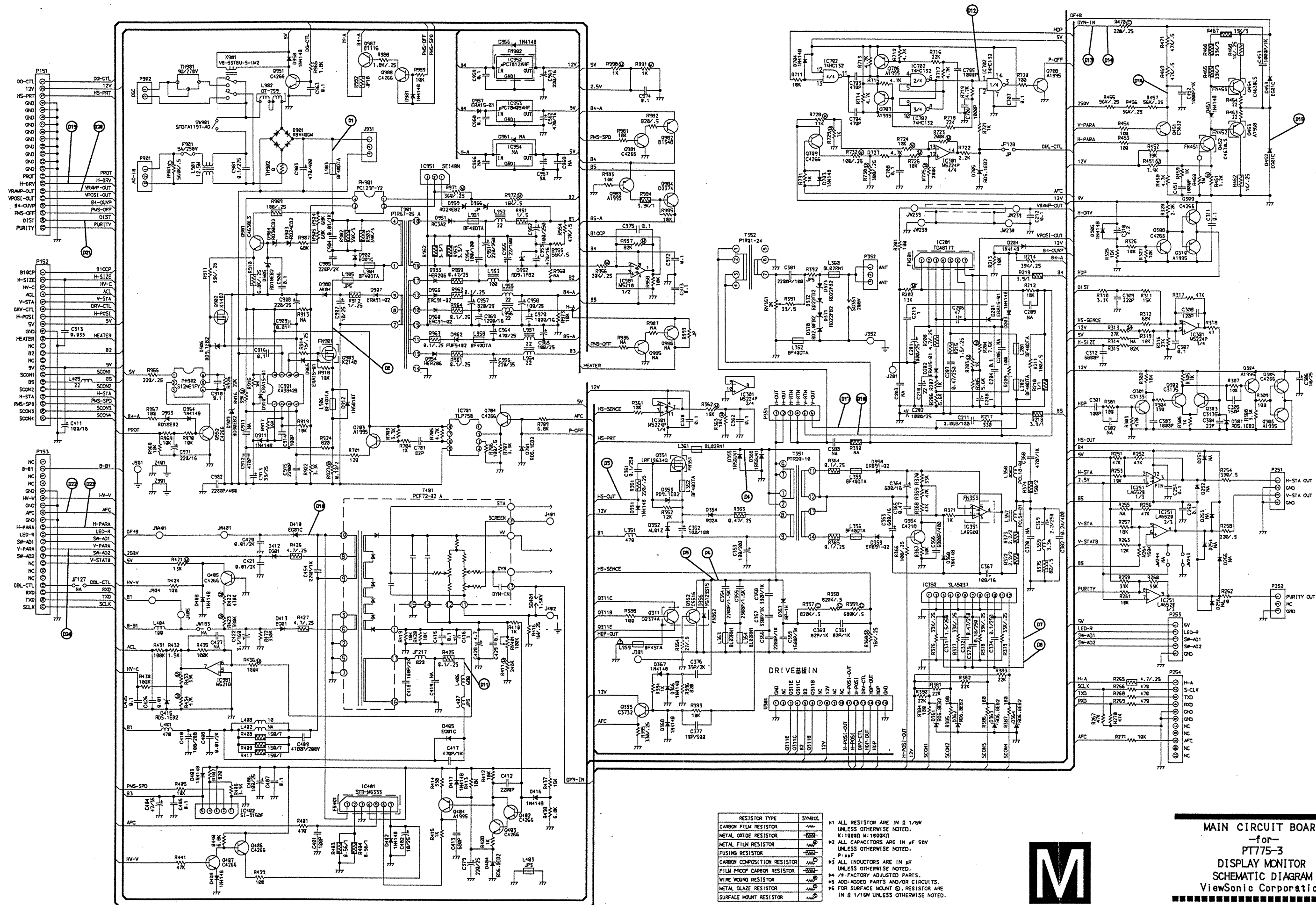
Printed wiring Board

ViewSonic Coporation.

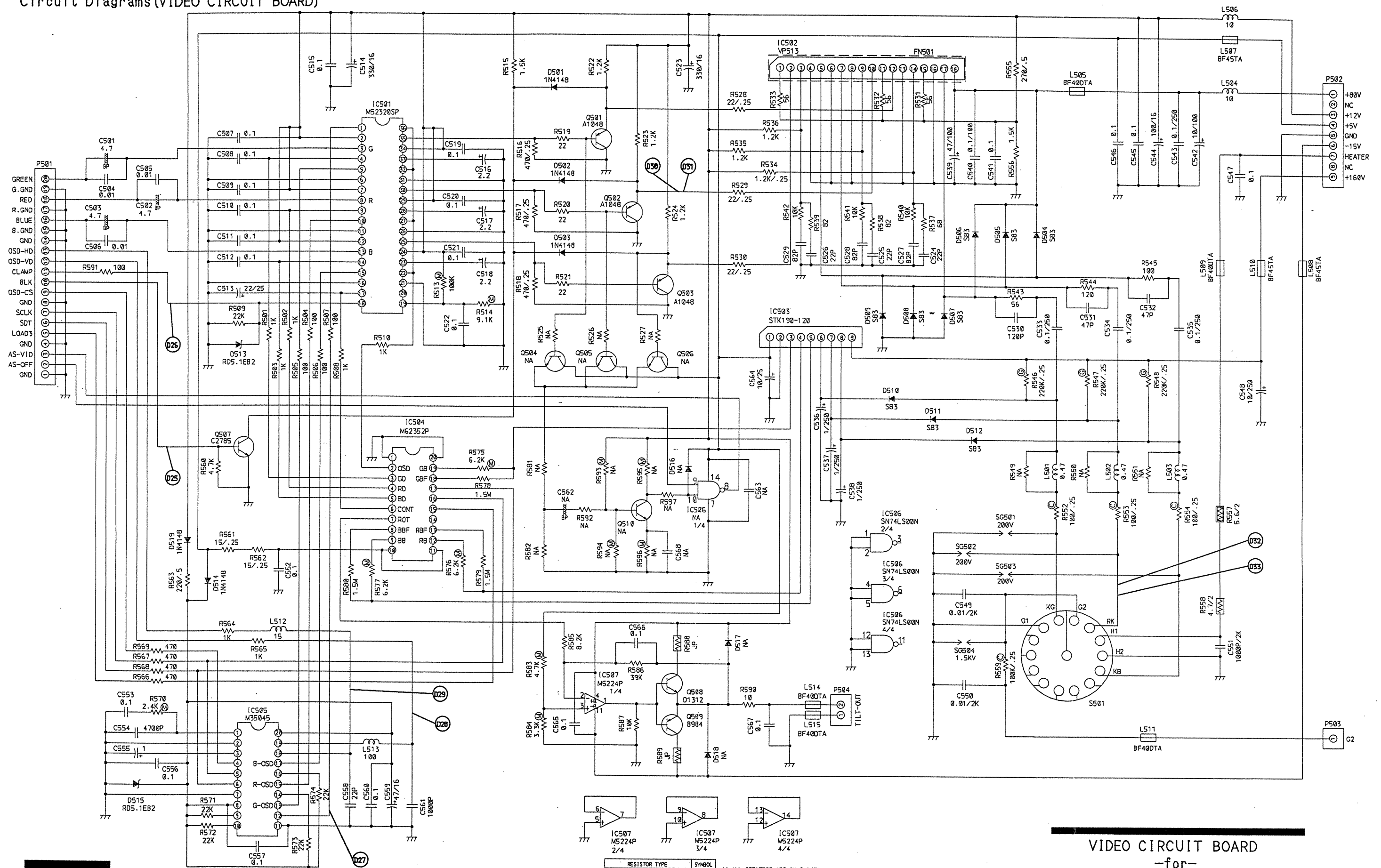
\*\*\*\*\*



FRAME SCHEMATIC DIAGRAM  
-for-  
PT775-3  
DISPLAY MONITOR  
SCHEMATIC DIAGRAM  
ViewSonic Corporation



MAIN CIRCUIT BOARD  
-for-  
PT775-3  
DISPLAY MONITOR  
SCHEMATIC DIAGRAM  
ViewSonic Corporation

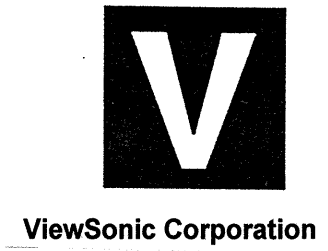


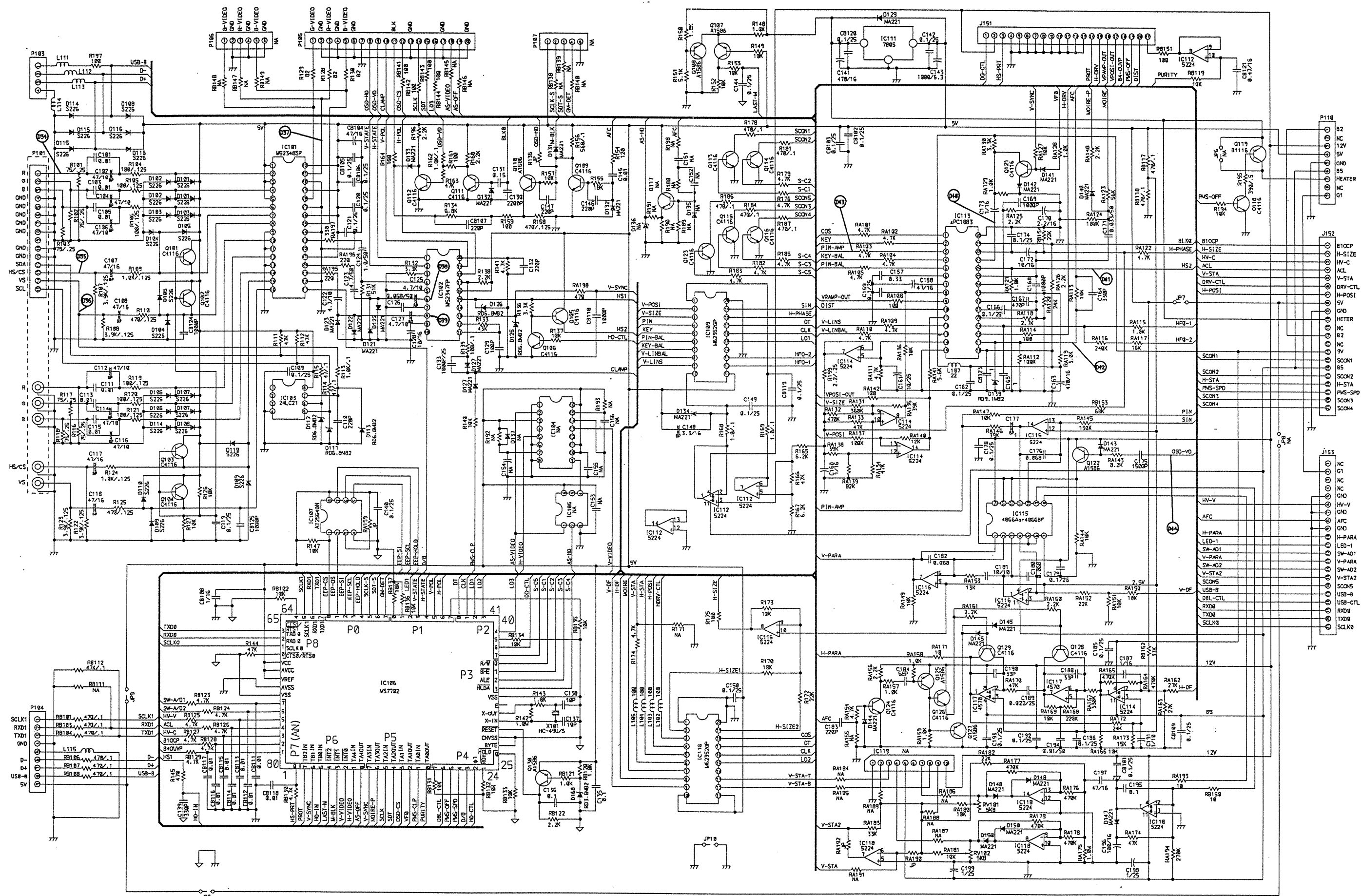
| RESISTOR TYPE               | SYMBOL |
|-----------------------------|--------|
| CARBON FILM RESISTOR        |        |
| METAL OXIDE RESISTOR        |        |
| METAL FILM RESISTOR         |        |
| FUSING RESISTOR             |        |
| CARBON COMPOSITION RESISTOR |        |
| FILM PROOF CARBON RESISTOR  |        |
| WIRE WOUND RESISTOR         |        |
| METAL GLAZE RESISTOR        |        |
| SURFACE MOUNT RESISTOR      |        |

- \*1 ALL RESISTOR ARE IN  $\Omega$  1/5W UNLESS OTHERWISE NOTED.  
 \*2 ALL CAPACITORS ARE IN  $\mu$ F 50V UNLESS OTHERWISE NOTED.  
 \*3 ALL INDUCTORS ARE IN  $\mu$ H UNLESS OTHERWISE NOTED.  
 \*4 2% FACTORY ADJUSTED PARTS.  
 \*5 ADD ADDED PARTS AND/OR CIRCUITS.  
 \*6 FOR SURFACE MOUNT  $\Omega$  RESISTOR ARE IN  $\Omega$  1/16W UNLESS OTHERWISE NOTED.

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VIDEO CIRCUIT BOARD  
 -for-  
 PT775-3  
 DISPLAY MONITOR  
 SCHEMATIC DIAGRAM  
 ViewSonic Corporation





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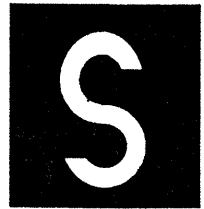
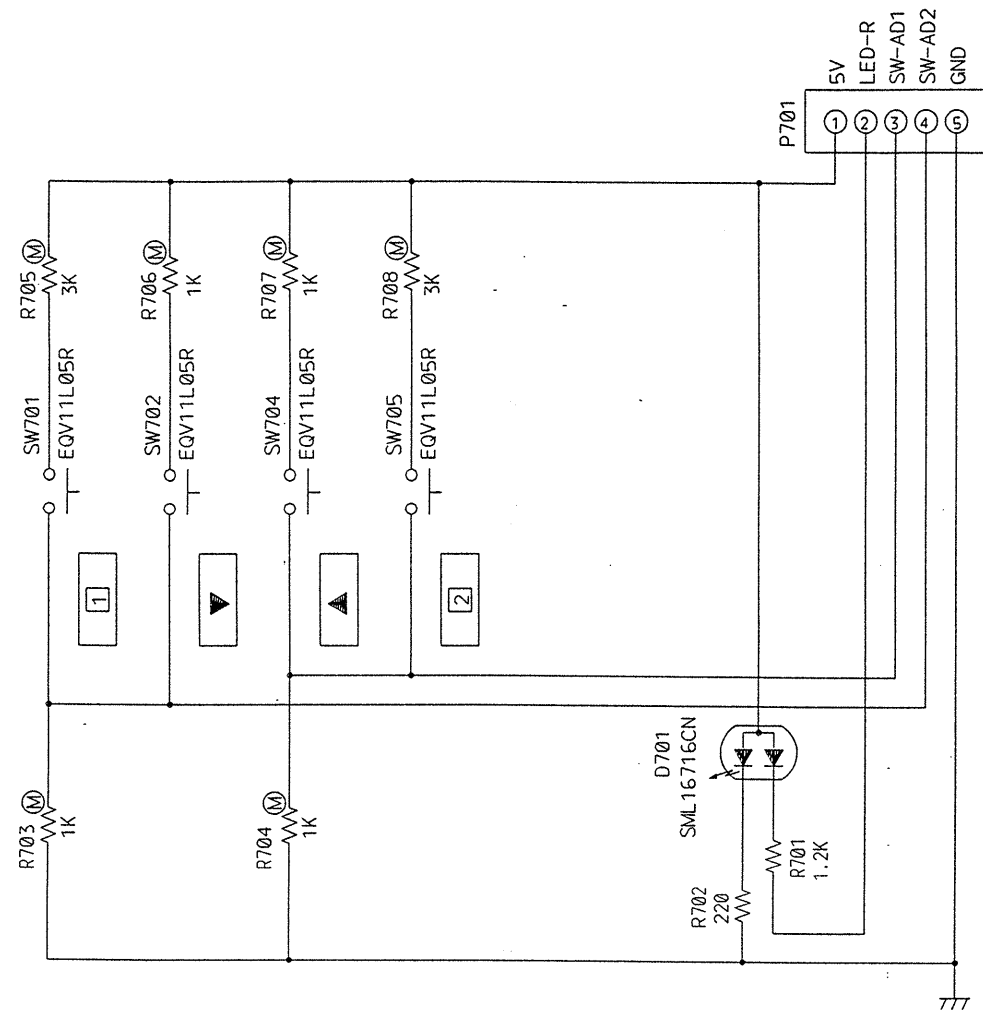
| RESISTOR TYPE               | SYMBOL                                                                                |
|-----------------------------|---------------------------------------------------------------------------------------|
| CARBON FILM RESISTOR        |  |
| METAL OXIDE RESISTOR        |  |
| METAL FILM RESISTOR         |  |
| FUSING RESISTOR             |  |
| CARBON COMPOSITION RESISTOR |  |
| FILM PROOF CARBON RESISTOR  |  |
| WIRE WOUND RESISTOR         |  |
| METAL GLAZE RESISTOR        |  |
| SURFACE MOUNT RESISTOR      |  |

GENERAL SCHEMATIC NOTES:

1. UNLESS OTHERWISE INDICATED, ALL CAPACITOR VALUES ARE IN MICRO(M) FARADS  
ALL RESISTOR VALUES ARE IN OHMS 1/W 5X.FOR COMPLETE DESCRIPTION  
OF COMPONENTS, REFER TO PARTS LIST.  
WHERE  
K:1000 OHMS, M:10000 OHMS  
D: .01 FARADS
2. UNLESS OTHERWISE INDICATED, ALL INDUCTOR VALUES ARE IN MICRO(M) HENRY  
10X.FOR COMPLETE DESCRIPTION OF COMPONENTS, REFER TO PARTS LIST.  
DASHED LINE BOX  
ENCLOSURE HEAT SINK MOUNTED DEVICE.

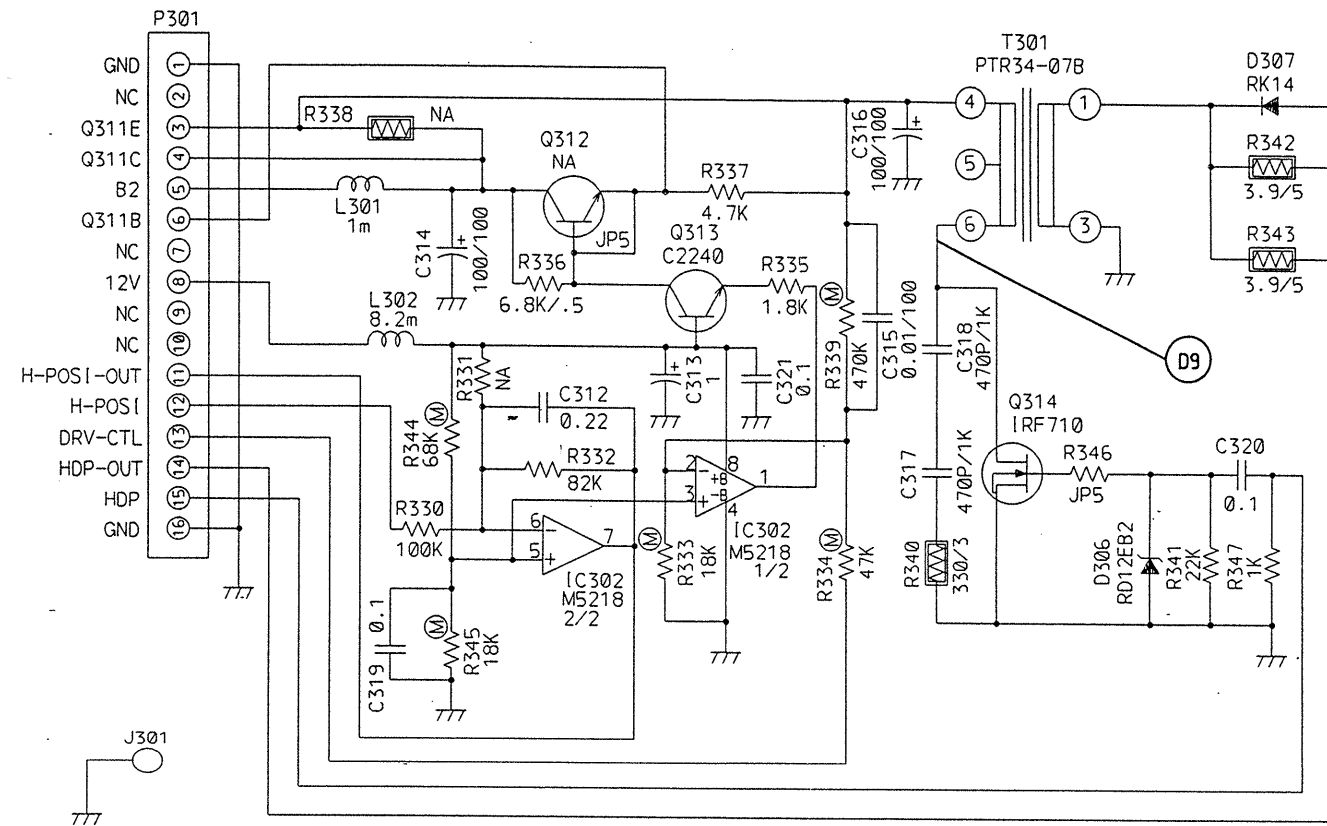
Interface CIRCUIT BOARD  
-for-  
PT775-3  
DISPLAY MONITOR  
SCHEMATIC DIAGRAM  
ViewSonic Corporation

PT775-3



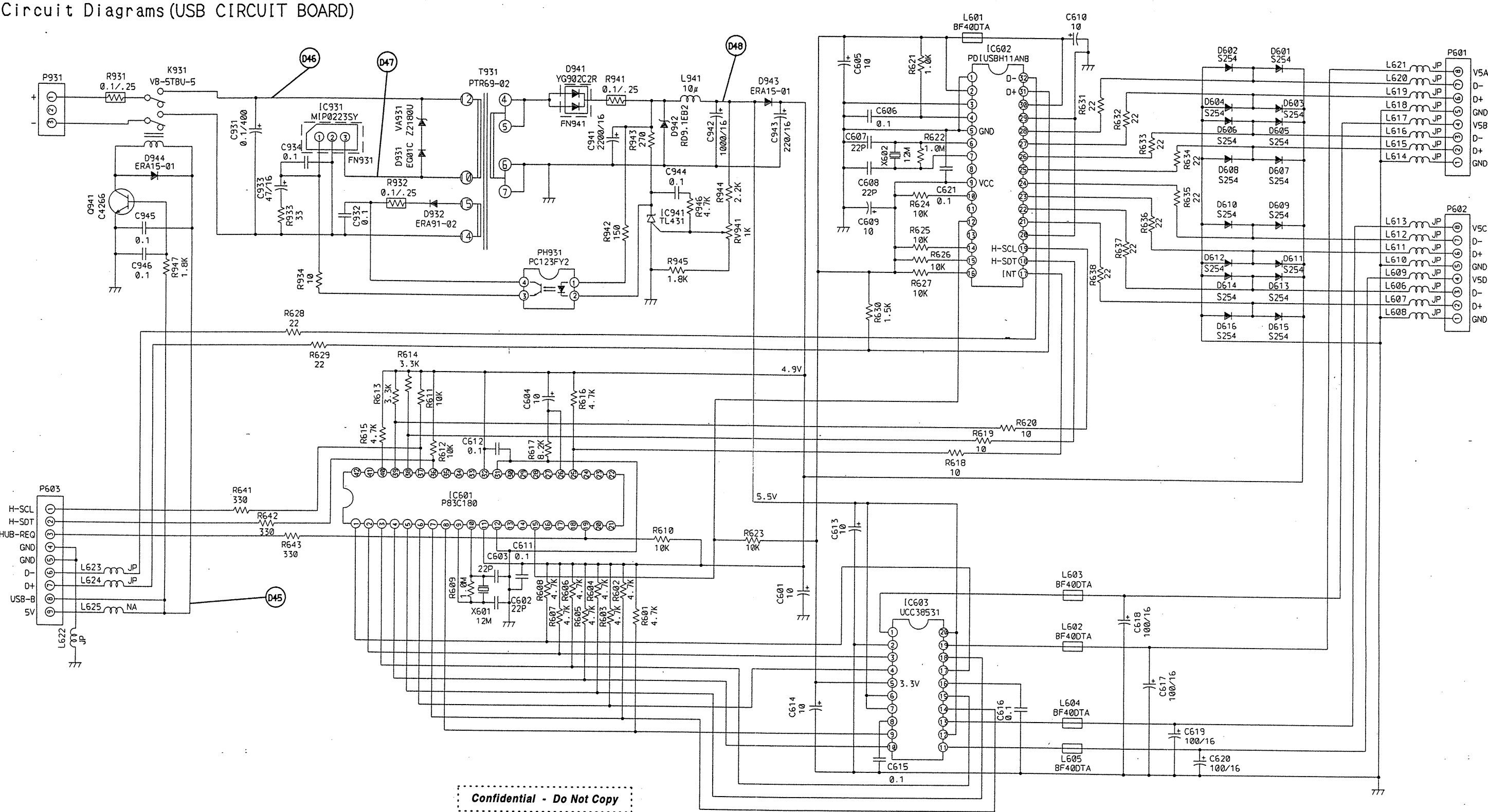
| RESISTOR TYPE               | SYMBOL                                                                              |
|-----------------------------|-------------------------------------------------------------------------------------|
| CARBON FILM RESISTOR        |  |
| METAL OXIDE RESISTOR        |  |
| METAL FILM RESISTOR         |  |
| FUSING RESISTOR             |  |
| CARBON COMPOSITION RESISTOR |  |
| FILM PROOF CARBON RESISTOR  |  |
| WIRE WOUND RESISTOR         |  |
| METAL GLAZE RESISTOR        |  |
| SURFACE MOUNT RESISTOR      |  |

- \*1 ALL RESISTOR ARE IN  $\Omega$  1/6W  
UNLESS OTHERWISE NOTED.  
K:1000 $\Omega$  M:1000K $\Omega$
- \*2 ALL CAPACITORS ARE IN  $\mu$ F 50V  
UNLESS OTHERWISE NOTED.  
P:  $\mu$ F
- \*3 ALL INDUCTORS ARE IN  $\mu$ H  
UNLESS OTHERWISE NOTED.
- \*4 /\*:FACTORY ADJUSTED PARTS.
- \*5 ADD:ADDED PARTS AND/OR CIRCUITS.
- \*6 FOR SURFACE MOUNT  $\oplus$ . RESISTOR ARE  
IN  $\Omega$  1/16W UNLESS OTHERWISE NOTED.



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SWITCH&DRIVE CIRCUIT BOARD  
-for-  
PT775-3  
DISPLAY MONITOR  
SCHEMATIC DIAGRAM  
ViewSonic Corporation



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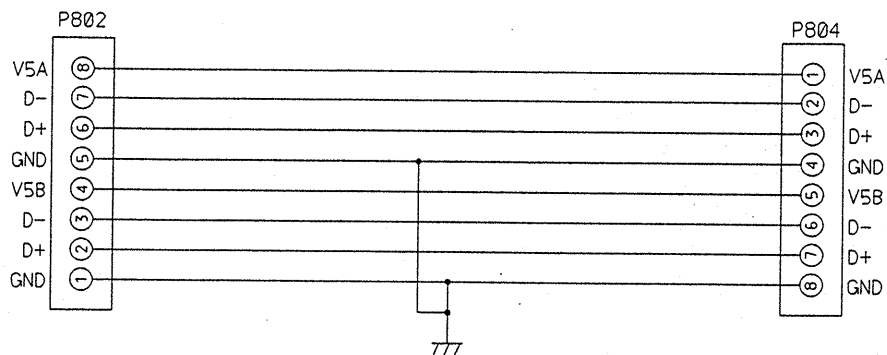
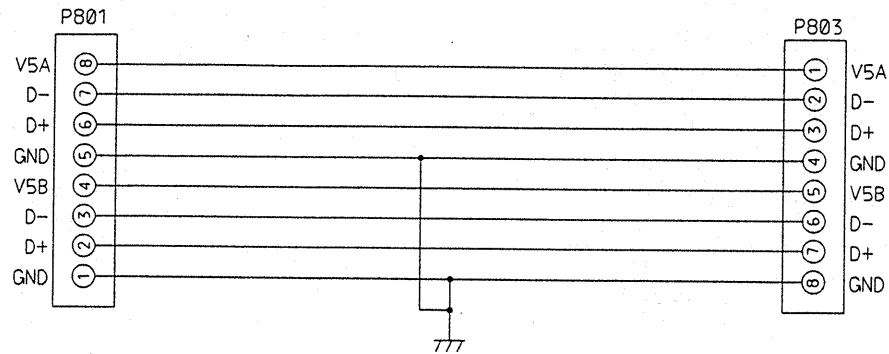


| RESISTOR TYPE               | SYMBOL |
|-----------------------------|--------|
| CARBON FILM RESISTOR        |        |
| METAL OXIDE RESISTOR        |        |
| METAL FILM RESISTOR         |        |
| FUSING RESISTOR             |        |
| CARBON COMPOSITION RESISTOR |        |
| FILM PROOF CARBON RESISTOR  |        |
| WIRE WOUND RESISTOR         |        |
| METAL GLAZE RESISTOR        |        |
| SURFACE MOUNT RESISTOR      |        |

- \*1 ALL RESISTOR ARE IN  $\Omega$  1/6W UNLESS OTHERWISE NOTED.  
K: 1000 $\Omega$  M: 1000K $\Omega$
- \*2 ALL CAPACITORS ARE IN  $\mu$ F 50V UNLESS OTHERWISE NOTED.  
P:  $\mu$ F
- \*3 ALL INDUCTORS ARE IN  $\mu$ H UNLESS OTHERWISE NOTED.
- \*4 /\*: FACTORY ADJUSTED PARTS.
- \*5 ADD: ADDED PARTS AND/OR CIRCUITS.
- \*6 FOR SURFACE MOUNT  $\odot$ . RESISTOR ARE IN  $\Omega$  1/16W UNLESS OTHERWISE NOTED.

USB CIRCUIT BOARD  
-for-  
PT775-3  
DISPLAY MONITOR  
SCHEMATIC DIAGRAM  
ViewSonic Corporation

# Circuit Diagrams (USB-D CIRCUIT BOARD)



Confidential - Do Not Copy

USB-D CIRCUIT BOARD

-for-

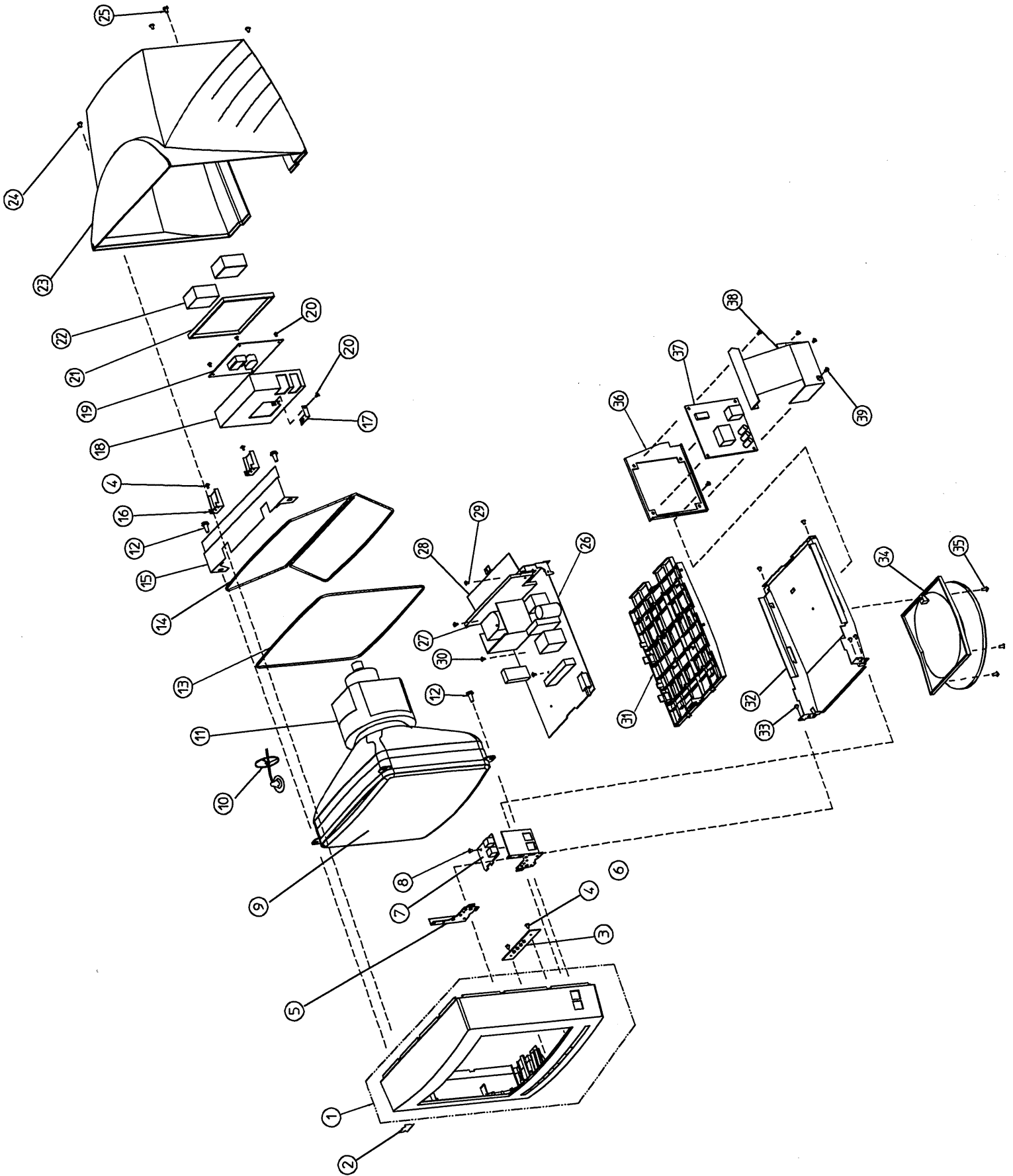
PT775-3

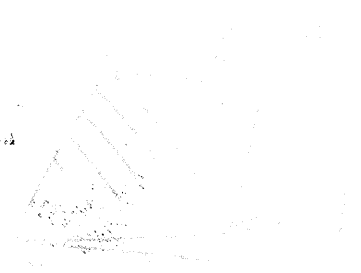
DISPLAY MONITOR

SCHEMATIC DIAGRAM

ViewSonic Corporation

| REF.No | PARTS NAME                                       | DESCRIPTIONS | CODE No    |
|--------|--------------------------------------------------|--------------|------------|
| 1      | BEZEL assembly                                   | PBE17-46     | 9U62077-00 |
| 2      | bird label                                       | PLB05-13     | 9U93502-00 |
| 3      | SW board assembly                                |              |            |
| 4      | tapping screw(BV) 3.0dia × 8                     |              | 9Z03672-00 |
| 5      | stay CRT L                                       | PST17-13AZ   | 9U55560-00 |
| 6      | stay CRT R                                       | PST17-22AZ   | 9U55565-00 |
| 7      | USB-D board assembly                             |              |            |
| 8      | tapping screw(BV) 3.0dia × 8                     |              | 9Z03672-00 |
| 9      | CRT                                              | M41KZV31X    | 9T03464-00 |
| 10     | HV cable holder                                  | 3-704-372-01 | 9W70404-00 |
| 11     | Deflection Yoke (integrated in CRT)              | TCD-14602A   | 7G20015-00 |
| 12     | frange tapping screw                             |              | 9W36503-00 |
| 13     | landing coil                                     | PCL01-73     | 8F81451-00 |
| 14     | Degauss coil                                     | PCL62-12     | 9U00004-00 |
| 15     | PANEL TOP                                        | PPA17-29Z    | 9U75121-00 |
| 16     | DGC HOOK                                         | PMM41-11     | 9U69153-00 |
| 17     | GND ASSY                                         | PSM10-521AZ  | 9U56425-00 |
| 18     | shield VA                                        | PSM10-540BZ  | 9U56452-00 |
| 19     | Video board assembly                             |              |            |
| 20     | tapping screw(BV) 3.0dia × 8                     |              | 9Z03672-00 |
| 21     | shield VB                                        | PSM10-541AZ  | 9U56442-00 |
| 22     | sponge                                           | PSM10-543    | 9U56444-00 |
| 23     | cover                                            | PCO17-17     | 9U61031-00 |
| 24     | tapping screw(BV) 4.0dia × 16                    |              | 9Z03682-00 |
| 25     | knurled screw(M4 × 12)                           | PZM10-1028A  | 9Z03999-01 |
| 26     | Deflection board assembly                        |              |            |
| 27     | I/F VIDEO assembly                               | IF2-A10      | 9T19243-00 |
| 28     | PANEL CN                                         | PPA17-39Z    | 9U75121-00 |
| 29     | tapping screw with wacher faced hhad 4.0dia × 12 |              | 9Z03677-00 |
| 30     | tapping screw(BV) 3.0dia × 10                    |              | 9Z03673-00 |
| 31     | braket                                           | PMM37-12     | 9U69151-00 |
| 32     | tapping screw(BV) 4.0dia × 12                    |              | 9Z03678-00 |
| 33     | chassis                                          | PCH17-14AZ   | 9U54659-00 |
| 34     | Tilt ASSY                                        | PMM27-16     | 9U69152-00 |
| 35     | machine screw +ext.tooth washer M4 × 10          |              | 9Z03412-00 |
| 36     | holder USB                                       | PBE17-636BZ  | 9U76095-00 |
| 37     | USB board assembly                               |              |            |
| 38     | shield USB                                       | PSM10-567Z   | 9U56456-00 |
| 39     | tapping screw(BV) 3.0dia × 8                     |              | 9Z03672-00 |
| 40     |                                                  |              |            |
| 41     |                                                  |              |            |
| 42     |                                                  |              |            |
| 43     |                                                  |              |            |
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| 54     |                                                  |              |            |
| 55     |                                                  |              |            |
| 56     |                                                  |              |            |





| Ref          | Parts code  | Type          | amount               | Ref   | Parts code  | Type            | amount                |
|--------------|-------------|---------------|----------------------|-------|-------------|-----------------|-----------------------|
| <MAIN Board> |             |               |                      | D352  | 9T-47267-50 | Diode           | AL01Z-V0 1            |
| PB001        | 9T-13168-04 | PWB           | PBH168-4 1           | D353  | 9V-46059-50 | Zener Diode     | RD9.1EB2-TA11R (9T) 1 |
| IC201        | 9T-26712-00 | IC            | TDA8177 1            | D354  | 9T-47232-01 | Diode           | RG2A LF-A1 1          |
| IC251        | 9T-34434-00 | IC            | LA6520 1             | D355  | 9T-47265-00 | Diode           | 1R5GU41 LC7-15A 1     |
| IC301        | 9T-34510-00 | IC            | M5224P 1             | D356  | 9T-47277-00 | Diode           | YG123S15 1            |
| IC351        | 9T-34431-00 | IC            | LA6500 1             | D357  | 9T-47105-00 | Diode           | RP-1H 1               |
| IC352        | 9T-45991-00 | MOS FET Alley | SLA5037 1            | D358  | 9T-47292-01 | Diode           | ERB91-02-L6 1         |
| IC401        | 9T-33224-00 | IC            | STR-M6333 (LF1303) 1 | D359  | 9T-47292-01 | Diode           | ERB91-02-L6 1         |
| IC402        | 9T-33252-00 | IC            | SI-3150F 1           | D360  | 9V-47012-50 | Diode           | 1N4148 T 1            |
| IC701        | 9T-49120-00 | Photo Coupler | TLP750 (D4-LF2) 1    | D361  | 9V-46047-50 | Zener Diode     | RD6.8EB2-TA11R (9T) 1 |
| IC702        | 9T-22041-00 | IC            | TC74HC132AP 1        | D362  | 9V-46047-50 | Zener Diode     | RD6.8EB2-TA11R (9T) 1 |
| IC901        | 9T-35081-00 | IC            | KA3842B 1            | D363  | 9V-46047-50 | Zener Diode     | RD6.8EB2-TA11R (9T) 1 |
| IC951        | 9T-33202-00 | IC            | SE140N-LF4 1         | D364  | 9V-46047-50 | Zener Diode     | RD6.8EB2-TA11R (9T) 1 |
| IC952        | 9T-30036-00 | IC            | μ PC7812AHF 1        | D365  | 9T-47265-00 | Diode           | 1R5GU41 LC7-15A 1     |
| IC953        | 9T-30048-00 | IC            | μ PC78M09AHF 1       | D366  | 9V-47012-50 | Diode           | 1N4148 T 1            |
| IC954        |             | N/A           | 0                    | D367  | 9V-47012-50 | Diode           | 1N4148 T 1            |
| IC981        | 9T-34503-00 | IC            | M5218AP 1            | D368  | 9V-47012-50 | Diode           | 1N4148 T 1            |
| Q301         | 9T-42526-50 | Transistor    | 2SC3135-S/T-AC 1     | D370  | 9T-46303-01 | ZenerDiode      | RD2.0FB2 22M 1        |
| Q302         | 9T-42526-50 | Transistor    | 2SC3135-S/T-AC 1     | D371  | 9T-46397-01 | ZenerDiode      | RD22FB2 22M 1         |
| Q303         | 9T-42526-50 | Transistor    | 2SC3135-S/T-AC 1     | D372  | 9T-46397-01 | ZenerDiode      | RD22FB2 22M 1         |
| Q304         | 9T-40375-50 | Transistor    | 2SA1995-T12-Q/R 1    | D373  | 9T-46397-01 | ZenerDiode      | RD22FB2 22M 1         |
| Q305         | 9T-42566-50 | Transistor    | 2SC4266-T11-Q1R 1    | D402  | 9V-47012-50 | Diode           | 1N4148 T 1            |
| Q306         | 9T-40375-50 | Transistor    | 2SA1995-T12-Q/R 1    | D403  | 9V-47012-50 | Diode           | 1N4148 T 1            |
| Q308         | 9T-42566-50 | Transistor    | 2SC4266-T11-Q1R 1    | D404  | 9V-46047-50 | Diode           | RD6.8EB2-TA11R (9T) 1 |
| Q309         | 9T-42566-50 | Transistor    | 2SC4266-T11-Q1R 1    | D405  | 9T-47164-00 | Diode           | EG01C 1               |
| Q310         | 9T-40375-50 | Transistor    | 2SA1995-T12-Q/R 1    | D408  | 9V-47012-50 | Diode           | 1N4148 T 1            |
| Q311         | 9T-44259-00 | Transistor    | 2SD2374A 1           | D409  | 9V-47012-50 | Diode           | 1N4148 T 1            |
| Q351         | 9T-45053-00 | MOS FET       | IRFI9634G 1          | D410  | 9T-47164-50 | Diode           | EG01C-V0 1            |
| Q352         | 9T-42761-00 | Transistor    | 2SC5516000RL 1       | D412  | 9T-47246-50 | Diode           | EG01-V0 1             |
| Q354         | 9T-42558-50 | Transistor    | 2SC4218-E/F-AA 1     | D413  | 9T-47246-50 | Diode           | EG01-V0 1             |
| Q355         | 9T-42505-50 | Transistor    | 2SC3732-K/L-T 1      | D415  | 9T-46035-50 | ZenerDiode      | RD5.1EB2-TA11R 1      |
| Q402         | 9T-42566-50 | Transistor    | 2SC4266-T11-Q1R 1    | D416  | 9V-47012-50 | Diode           | 1N4148 T 1            |
| Q403         | 9T-42566-50 | Transistor    | 2SC4266-T11-Q1R 1    | D417  | 9V-47012-50 | Diode           | 1N4148 T 1            |
| Q404         | 9T-40375-50 | Transistor    | 2SA1995-T12-Q/R 1    | D451  | 9V-47012-50 | Diode           | 1N4148 T 1            |
| Q405         | 9T-42566-50 | Transistor    | 2SC4266-T11-Q1R 1    | D452  | 9T-47164-50 | Diode           | EG01C-V0 1            |
| Q406         | 9T-42566-50 | Transistor    | 2SC4266-T11-Q1R 1    | D453  | 9T-47164-50 | Diode           | EG01C-V0 1            |
| Q407         | 9T-42566-50 | Transistor    | 2SC4266-T11-Q1R 1    | D701  | 9T-46035-50 | ZenerDiode      | RD5.1EB2-TA11R 1      |
| Q451         | 9T-42500-00 | Transistor    | 2SC3632 1            | D703  | 9V-47012-50 | Diode           | 1N4148 T 1            |
| Q452         | 9T-42630-00 | Transistor    | 2SC4630LS-CB 1       | D704  | 9V-47012-50 | Diode           | 1N4148 T 1            |
| Q453         | 9T-40368-00 | Transistor    | 2SA1968-CB 1         | D705  | 9T-46035-50 | ZenerDiode      | RD5.1EB2-TA11R 1      |
| Q454         | 9T-42630-00 | Transistor    | 2SC4630LS-CB 1       | D901  | 9T-47368-00 | Diode Bridge    | RBV-406M 1            |
| Q703         | 9T-40375-50 | Transistor    | 2SA1995-T12-Q/R 1    | D902  | 9T-47164-50 | Diode           | EG01C-V0 1            |
| Q704         | 9T-42566-50 | Transistor    | 2SC4266-T11-Q1R 1    | D903  | 9T-46102-50 | ZenerDiode      | RD24EB2-TA11R 1       |
| Q706         | 9T-40375-50 | Transistor    | 2SA1995-T12-Q/R 1    | D904  | 9T-46112-50 | ZenerDiode      | RD30EB2-TA11R 1       |
| Q707         | 9T-40375-50 | Transistor    | 2SA1995-T12-Q/R 1    | D905  | 9T-46088-50 | ZenerDiode      | RD18EB2-TA11R 1       |
| Q708         | 9T-40375-50 | Transistor    | 2SA1995-T12-Q/R 1    | D906  | 9V-46059-50 | ZenerDiode      | RD9.1EB2-TA11R (9T) 1 |
| Q709         | 9T-42566-50 | Transistor    | 2SC4266-T11-Q1R 1    | D907  | 9T-47093-50 | Diode           | ERA91-02 V3 1         |
| Q901         | 9T-42630-00 | Transistor    | 2SC4630LS-CB 1       | D908  | 9T-47229-50 | Diode           | AK04 V0 1             |
| Q902         | 9T-45073-50 | MOS FET       | 2SK1482-T 1          | D909  | 9T-46112-50 | ZenerDiode      | RD30EB2-TA11R 1       |
| Q903         | 9T-45017-00 | MOS FET       | 2SK2148-01R 1        | D910  | 9T-47086-50 | Diode           | ERA15-01 V3 1         |
| Q951         | 9T-42566-50 | Transistor    | 2SC4266-T11-Q1R 1    | D911  | 9V-47012-50 | Diode           | 1N4148 T 1            |
| Q952         | 9T-42566-50 | Transistor    | 2SC4266-T11-Q1R 1    | D912  | 9V-47007-50 | Diode           | 1N5818 T 1            |
| Q981         | 9T-42566-50 | Transistor    | 2SC4266-T11-Q1R 1    | D951  | 9T-47103-00 | Diode           | RC3A2 LF014-303 1     |
| Q982         | 9T-41110-00 | Transistor    | 2SB1548A 1           | D952  | 9T-46359-01 | ZenerDiode      | RD9.1FB2 22M 1        |
| Q983         | 9T-40375-50 | Transistor    | 2SA1995-T12-Q/R 1    | D953  | 9V-47004-50 | Diode           | HER206 T GOOD-ARK 1   |
| Q984         | 9T-44259-00 | Transistor    | 2SD2374A 1           | D954  | 9V-47004-50 | Diode           | HER206 T GOOD-ARK 1   |
| Q985         |             | N/A           | 0                    | D955  | 9T-47097-00 | Diode           | ERC91-02L35 1         |
| Q986         |             | N/A           | 0                    | D956  | 9V-47012-50 | Diode           | 1N4148 T 1            |
| Q987         | 9T-41116-50 | Transistor    | 2SB1116-T 1          | D957  | 9T-47086-50 | Diode           | ERA15-01 V3 1         |
| Q988         | 9T-42566-50 | Transistor    | 2SC4266-T11-Q1R 1    | D958  | 9V-47012-50 | Diode           | 1N4148 T 1            |
| D201         | 9T-47086-50 | Diode         | ERA15-01 V3 1        | D959  | 9T-46102-50 | ZenerDiode      | RD24EB2-TA11R 1       |
| D202         | 9T-47086-50 | Diode         | ERA15-01 V3 1        | D960  | 9T-47097-00 | Diode           | ERC91-02L35 1         |
| D203         | 9V-47012-50 | Diode         | 1N4148 T 1           | D961  |             | N/A             | 0                     |
| D204         | 9V-47012-50 | Diode         | 1N4148 T 1           | D962  | 9V-47011-50 | Diode           | FUF5402 T 1           |
| D251         |             | N/A           | 0                    | D963  | 9T-46088-50 | ZenerDiode      | RD18EB2-TA11R 1       |
| D252         |             | N/A           | 0                    | D964  | 9V-47012-50 | Diode           | 1N4148 T 1            |
| D253         |             | N/A           | 0                    | D965  | 9T-47086-50 | Diode           | ERA15-01 V3 1         |
| D254         |             | N/A           | 0                    | D966  | 9T-91910-50 | Jumper          | J1/4ZT52A 1           |
| D255         |             | N/A           | 0                    | D981  | 9V-47012-50 | Diode           | 1N4148 T 1            |
| D256         |             | N/A           | 0                    | PH901 | 9T-49152-00 | Photo Coupler   | PC123FY2 1            |
| D301         | 9T-46035-50 | ZenerDiode    | RD5.1EB2-TA11R 1     | PH902 | 9T-49200-00 | Photo Thyristor | S12ME1FY 1            |
| D305         | 9V-47012-50 | Diode         | 1N4148 T 1           | RV351 | 9T-50239-55 | Variable        | EVM-EASA01B23 1       |
| D351         | 9V-47012-50 | Diode         | 1N4148 T 1           | RV401 | 9T-50900-60 | Variable        | EVM-EGSA01B15 1       |

| Ref  | Parts code  | Type        | amount    | Ref | Parts code | Type        | amount      |                      |   |
|------|-------------|-------------|-----------|-----|------------|-------------|-------------|----------------------|---|
| R201 | 9T-51013-51 | Carbon      | 100 1/6W  | 1   | R363       | 9V-52005-51 | Metal       | 10K 1/4W             | 1 |
| R202 | 9V-52005-54 | Metal       | 13K 1/4W  | 1   | R364       | 9T-59710-50 | Fusible     | 0.1 1/4W             | 1 |
| R203 | 9V-52004-51 | Metal       | 1.0K 1/4W | 1   | R365       | 9T-59710-50 | Fusible     | 0.1 1/4W             | 1 |
| R204 | 9V-52004-72 | Metal       | 7.5K 1/4W | 1   | R366       | 9T-51023-51 | Carbon      | 100 1/4W             | 1 |
| R205 | 9T-51014-69 | Carbon      | 5.6K 1/6W | 1   | R367       | 9T-51015-51 | Carbon      | 10K 1/6W             | 1 |
| R206 | 9T-51014-69 | Carbon      | 5.6K 1/6W | 1   | R368       | 9T-51015-67 | Carbon      | 47K 1/6W             | 1 |
| R207 | 9T-51014-51 | Carbon      | 1.0K 1/6W | 1   | R369       | 9T-51015-67 | Carbon      | 47K 1/6W             | 1 |
| R208 | 9T-52951-67 | Fusible     | 4.7 1/4W  | 1   | R370       | 9T-51015-63 | Carbon      | 33K 1/6W             | 1 |
| R209 | 9T-51013-51 | Carbon      | 100 1/6W  | 1   | R371       | 9T-51014-51 | Carbon      | 1.0K 1/6W            | 1 |
| R210 | 9T-51661-51 | Metal Oxide | 1 1W      | 1   | R372       | 9T-51671-59 | Metal Oxide | 2.2 2W               | 1 |
| R211 | 9T-51053-57 | Carbon      | 180 1/2W  | 1   | R373       | 9T-51671-59 | Metal Oxide | 2.2 2W               | 1 |
| R212 | 9T-51015-51 | Carbon      | 10K 1/6W  | 1   | R374       | 9T-51673-55 | Metal Oxide | 150 2W               | 1 |
| R213 | 9T-51015-51 | Carbon      | 10K 1/6W  | 1   | R375       | 9T-52957-73 | Fusible     | 82 1/2W              | 1 |
| R214 | 9T-51025-65 | Carbon      | 39K 1/4W  | 1   | R376       | 9T-51025-63 | Carbon      | 33K 1/4W             | 1 |
| R215 | 9T-52951-55 | Fusible     | 1.5 1/4W  | 1   | R377       | 9T-51025-63 | Carbon      | 33K 1/4W             | 1 |
| R217 | 9T-51013-63 | Carbon      | 330 1/6W  | 1   | R378       | 9T-51025-63 | Carbon      | 33K 1/4W             | 1 |
| R218 | 9T-51661-65 | Metal Oxide | 3.9 1W    | 1   | R379       | 9T-51025-63 | Carbon      | 33K 1/4W             | 1 |
| R219 | 9T-51661-65 | Metal Oxide | 3.9 1W    | 1   | R380       | 9T-51015-59 | Carbon      | 22K 1/6W             | 1 |
| R251 | 9T-51015-67 | Carbon      | 47K 1/6W  | 1   | R381       | 9T-51015-59 | Carbon      | 22K 1/6W             | 1 |
| R252 | 9T-51015-67 | Carbon      | 47K 1/6W  | 1   | R382       | 9T-51015-59 | Carbon      | 22K 1/6W             | 1 |
| R253 | 9T-51015-51 | Carbon      | 10K 1/6W  | 1   | R383       | 9T-51015-59 | Carbon      | 22K 1/6W             | 1 |
| R254 | 9T-51053-65 | Carbon      | 390 1/2W  | 1   | R384       | 9T-51013-57 | Carbon      | 180 1/6W             | 1 |
| R255 |             | N/A         |           | 0   | R385       | 9T-51013-57 | Carbon      | 180 1/6W             | 1 |
| R256 | 9T-51015-67 | Carbon      | 47K 1/6W  | 1   | R386       | 9T-51013-57 | Carbon      | 180 1/6W             | 1 |
| R257 | 9T-51015-57 | Carbon      | 18K 1/6W  | 1   | R387       | 9T-51013-57 | Carbon      | 180 1/6W             | 1 |
| R258 | 9T-51053-59 | Carbon      | 220 1/2W  | 1   | R388       | 9T-51013-51 | Carbon      | 100 1/6W             | 1 |
| R259 | 9T-51015-63 | Carbon      | 33K 1/6W  | 1   | R390       |             | N/A         |                      | 0 |
| R260 | 9T-51015-63 | Carbon      | 33K 1/6W  | 1   | R391       | 9T-51052-63 | Carbon      | 33 1/2W              | 1 |
| R261 | 9T-51015-51 | Carbon      | 10K 1/6W  | 1   | R392       | 2D-03580-92 | Jumper      | 0.58 $\phi$ (P=5 mm) | 1 |
| R262 | 9T-51012-51 | Carbon      | 10 1/6W   | 1   | R393       | 9T-51015-51 | Carbon      | 10K 1/6W             | 1 |
| R263 | 9T-51015-53 | Carbon      | 12K 1/6W  | 1   | R394       | 9T-51014-51 | Carbon      | 1.0K 1/6W            | 1 |
| R264 | 9T-51016-55 | Carbon      | 150K 1/6W | 1   | R395       | 9T-51023-63 | Carbon      | 330 1/4W             | 1 |
| R265 | 9T-52951-67 | Fusible     | 4.7 1/4W  | 1   | R396       | 9T-51013-73 | Carbon      | 820 1/6W             | 1 |
| R266 | 9T-51013-67 | Carbon      | 470 1/6W  | 1   | R401       | 9T-51013-67 | Carbon      | 470 1/6W             | 1 |
| R267 | 9T-51015-67 | Carbon      | 47K 1/6W  | 1   | R403       | 9T-51660-69 | Metal Oxide | 0.56 1W              | 1 |
| R268 | 9T-51013-67 | Carbon      | 470 1/6W  | 1   | R404       | 9T-51660-69 | Metal Oxide | 0.56 1W              | 1 |
| R269 | 9T-51013-67 | Carbon      | 470 1/6W  | 1   | R405       | 9T-51015-51 | Carbon      | 10K 1/6W             | 1 |
| R270 | 9T-51015-67 | Carbon      | 47K 1/6W  | 1   | R406       | 9T-51014-65 | Carbon      | 3.9K 1/6W            | 1 |
| R271 | 9T-51015-51 | Carbon      | 10K 1/6W  | 1   | R407       | 9T-51013-73 | Carbon      | 820 1/6W             | 1 |
| R301 | 9T-51013-51 | Carbon      | 100 1/6W  | 1   | R408       | 9T-59265-00 | Metal Oxide | 150 7W               | 1 |
| R302 | 9T-51015-57 | Carbon      | 18K 1/6W  | 1   | R409       | 9T-59265-00 | Metal Oxide | 150 7W               | 1 |
| R303 | 9T-51013-67 | Carbon      | 470 1/6W  | 1   | R410       | 9T-51014-51 | Carbon      | 1.0K 1/6W            | 1 |
| R304 | 9T-51013-63 | Carbon      | 330 1/6W  | 1   | R411       | 9T-52006-10 | Metal       | 240K 1/6W            | 1 |
| R305 | 9T-51014-51 | Carbon      | 1.0K 1/6W | 1   | R412       | 9T-51015-51 | Carbon      | 10K 1/6W             | 1 |
| R306 | 9T-51014-51 | Carbon      | 1.0K 1/6W | 1   | R413       | 9T-51015-51 | Carbon      | 10K 1/6W             | 1 |
| R307 | 9T-51015-51 | Carbon      | 10K 1/6W  | 1   | R414       | 9T-51013-63 | Carbon      | 330 1/6W             | 1 |
| R308 | 9T-51014-63 | Carbon      | 3.3K 1/6W | 1   | R415       | 9T-51014-51 | Carbon      | 1.0K 1/6W            | 1 |
| R309 | 9T-51013-51 | Carbon      | 100 1/6W  | 1   | R416       | 9T-51027-51 | Carbon      | 1.0M 1/4W            | 1 |
| R310 | 9T-51014-63 | Carbon      | 3.3K 1/6W | 1   | R417       | 9T-59265-00 | Metal Oxide | 150 7W               | 1 |
| R311 | 9T-51015-55 | Carbon      | 15K 1/6W  | 1   | R419       | 9T-51015-51 | Carbon      | 10K 1/6W             | 1 |
| R312 | 9T-51015-71 | Carbon      | 68K 1/6W  | 1   | R420       | 9T-51015-51 | Carbon      | 10K 1/6W             | 1 |
| R313 | 9T-52005-61 | Metal       | 27K 1/6W  | 1   | R421       | 9T-52005-54 | Metal       | 13K 1/6W             | 1 |
| R314 |             | N/A         |           | 0   | R422       | 9T-52006-66 | Metal       | 430K 1/6W            | 1 |
| R315 | 9T-51015-73 | Carbon      | 82K 1/6W  | 1   | R423       | 9T-52006-65 | Metal       | 390K 1/6W            | 1 |
| R316 | 9T-51015-61 | Carbon      | 27K 1/6W  | 1   | R424       | 9T-51013-51 | Carbon      | 100 1/6W             | 1 |
| R317 | 9T-51015-67 | Carbon      | 47K 1/6W  | 1   | R425       | 9T-59710-50 | Fusible     | 0.1 1/4W             | 1 |
| R318 | 9T-51012-67 | Carbon      | 47 1/6W   | 1   | R426       | 9T-52951-67 | Fusible     | 4.7 1/4W             | 1 |
| R319 | 9T-51015-57 | Carbon      | 18K 1/6W  | 1   | R427       | 9T-52951-67 | Fusible     | 4.7 1/4W             | 1 |
| R325 | 9T-51015-55 | Carbon      | 15K 1/6W  | 1   | R428       | 9T-51014-51 | Carbon      | 1.0K 1/6W            | 1 |
| R326 | 9T-51015-51 | Carbon      | 10K 1/6W  | 1   | R430       | 9T-51016-51 | Carbon      | 100K 1/6W            | 1 |
| R327 | 9T-51015-51 | Carbon      | 10K 1/6W  | 1   | R431       | 9T-51016-51 | Carbon      | 100K 1/6W            | 1 |
| R328 | 9T-51014-59 | Carbon      | 2.2K 1/6W | 1   | R432       | 9T-51014-55 | Carbon      | 1.5K 1/6W            | 1 |
| R350 |             | N/A         |           | 0   | R433       | 9V-52005-63 | Metal       | 33K 1/4W             | 1 |
| R351 | 9T-52953-59 | Fusible     | 220 1/4W  | 1   | R434       | 9V-52005-67 | Metal       | 47K 1/4W             | 1 |
| R352 | 9T-51015-53 | Carbon      | 12K 1/6W  | 1   | R435       | 9T-51016-51 | Carbon      | 100K 1/6W            | 1 |
| R353 | 9T-59710-51 | Fusible     | 0.47 1/4W | 1   | R436       | 9V-52006-51 | Metal       | 100K 1/4W            | 1 |
| R354 | 9T-51052-61 | Carbon      | 27 1/2W   | 1   | R437       | 9T-51015-55 | Carbon      | 15K 1/6W             | 1 |
| R357 | 9T-53604-73 | Metal Glaze | 820K 1/2W | 1   | R438       | 9T-51014-71 | Carbon      | 6.8K 1/6W            | 1 |
| R358 | 9T-53604-73 | Metal Glaze | 820K 1/2W | 1   | R439       | 9T-51013-51 | Carbon      | 100 1/6W             | 1 |
| R359 | 9T-53604-71 | Metal Glaze | 680K 1/2W | 1   | R440       | 9T-51014-71 | Carbon      | 6.8K 1/6W            | 1 |
| R360 | 9T-52015-56 | Metal       | 16K 1/4W  | 1   | R441       | 9T-51015-67 | Carbon      | 47K 1/6W             | 1 |
| R361 | 9T-51015-51 | Carbon      | 10K 1/6W  | 1   | R451       | 9V-52004-65 | Metal       | 3.9K 1/4W            | 1 |
| R362 | 9V-52005-51 | Metal       | 10K 1/4W  | 1   | R452       | 9T-51015-65 | Carbon      | 39K 1/6W             | 1 |

| Ref  | Parts code  | Type        | amount    | Ref | Parts code | Type        | amount        |                       |   |
|------|-------------|-------------|-----------|-----|------------|-------------|---------------|-----------------------|---|
| R453 | 9T-51013-51 | Carbon      | 100 1/6W  | 1   | R953       | 9T-51661-63 | Metal Oxide   | 3.3 1W                | 1 |
| R454 | 9T-51013-51 | Carbon      | 100 1/6W  | 1   | R954       | 9T-51055-67 | Carbon        | 47K 1/2W              | 1 |
| R455 | 9T-51025-69 | Carbon      | 56K 1/4W  | 1   | R955       | 9T-51055-69 | Carbon        | 56K 1/2W              | 1 |
| R456 | 9T-51025-69 | Carbon      | 56K 1/4W  | 1   | R956       | 9T-52015-58 | Metal         | 20K 1/4W              | 1 |
| R457 | 9T-51025-69 | Carbon      | 56K 1/4W  | 1   | R957       | 9V-52005-73 | Metal         | 82K 1/4W              | 1 |
| R458 | 9T-51014-67 | Carbon      | 4.7K 1/6W | 1   | R958       | 9T-51015-51 | Carbon        | 10K 1/6W              | 1 |
| R459 | 9T-51014-51 | Carbon      | 1.0K 1/6W | 1   | R959       | 9T-59710-51 | Fusible       | 0.47 1/4W             | 1 |
| R460 | 9T-51017-51 | Carbon      | 1.0M 1/6W | 1   | R960       |             | N/A           |                       | 0 |
| R461 | 9V-52004-53 | Metal       | 1.2K 1/4W | 1   | R961       | 9T-59710-50 | Fusible       | 0.1 1/4W              | 1 |
| R462 | 9T-59739-00 | Fusible     | 1.0K 1/4W | 1   | R962       | 9T-59710-50 | Fusible       | 0.1 1/4W              | 1 |
| R463 | 9T-51012-59 | Carbon      | 22 1/6W   | 1   | R963       | 9T-59710-50 | Fusible       | 0.1 1/4W              | 1 |
| R464 | 9T-51012-59 | Carbon      | 22 1/6W   | 1   | R964       | 9T-59710-50 | Fusible       | 0.1 1/4W              | 1 |
| R465 | 9T-59264-50 | Metal Oxide | 33K 3W    | 1   | R965       | 9T-51014-57 | Carbon        | 1.8K 1/6W             | 1 |
| R466 | 9T-59264-50 | Metal Oxide | 33K 3W    | 1   | R966       | 9T-51023-67 | Carbon        | 470 1/4W              | 1 |
| R467 | 9T-59264-50 | Metal Oxide | 33K 3W    | 1   | R967       | 9T-51013-51 | Carbon        | 100 1/6W              | 1 |
| R468 | 9T-59739-00 | Fusible     | 1.0K 1/4W | 1   | R968       | 9T-51015-51 | Carbon        | 10K 1/6W              | 1 |
| R469 | 9T-51055-67 | Carbon      | 47K 1/2W  | 1   | R969       | 9T-51015-51 | Carbon        | 10K 1/6W              | 1 |
| R470 | 9T-59113-09 | Solid       | 220 1/4W  | 1   | R970       | 9T-51015-51 | Carbon        | 10K 1/6W              | 1 |
| R471 | 9T-51055-67 | Carbon      | 47K 1/2W  | 1   | R971       | 9T-52013-64 | Metal         | 360 1/4W              | 1 |
| R472 | 9T-51016-63 | Carbon      | 330K 1/6W | 1   | R972       | 9T-52025-06 | Metal         | 16K 1/2W              | 1 |
| R701 | 9T-51013-53 | Carbon      | 120 1/6W  | 1   | R973       | 9T-51015-51 | Carbon        | 10K 1/6W              | 1 |
| R703 | 9T-51014-63 | Carbon      | 3.3K 1/6W | 1   | R981       | 9T-51015-51 | Carbon        | 10K 1/6W              | 1 |
| R704 | 9T-51014-51 | Carbon      | 1.0K 1/6W | 1   | R982       | 9T-51053-73 | Carbon        | 820 1/2W              | 1 |
| R705 | 9T-51014-67 | Carbon      | 4.7K 1/6W | 1   | R983       | 9T-51015-51 | Carbon        | 10K 1/6W              | 1 |
| R706 | 9T-51053-51 | Carbon      | 100 1/2W  | 1   | R984       | 9T-51664-65 | Metal Oxide   | 3.9K 1W               | 1 |
| R707 | 9T-51014-63 | Carbon      | 3.3K 1/6W | 1   | R985       | 9T-51015-51 | Carbon        | 10K 1/6W              | 1 |
| R709 | 9T-51014-71 | Carbon      | 6.8K 1/6W | 1   | R986       |             | N/A           |                       | 0 |
| R711 | 9T-51015-51 | Carbon      | 10K 1/6W  | 1   | R987       |             | N/A           |                       | 0 |
| R712 | 9T-51014-67 | Carbon      | 4.7K 1/6W | 1   | R988       | 9T-51024-57 | Carbon        | 1.8K 1/4W             | 1 |
| R713 | 9T-51014-67 | Carbon      | 4.7K 1/6W | 1   | R989       | 9V-51015-51 | Carbon        | 10K 1/6W              | 1 |
| R714 | 9T-51014-67 | Carbon      | 4.7K 1/6W | 1   | R990       | 9V-52004-51 | Metal         | 1.0K 1/4W             | 1 |
| R715 | 9T-51014-67 | Carbon      | 4.7K 1/6W | 1   | R991       | 9V-52004-51 | Metal         | 1.0K 1/4W             | 1 |
| R716 | 9T-51015-59 | Carbon      | 22K 1/6W  | 1   | R992       | 2D-03580-04 | Jumper        | 0.58 $\phi$ (P=10 mm) | 1 |
| R717 | 9T-51014-67 | Carbon      | 4.7K 1/6W | 1   | R993       | 2D-03580-92 | Jumper        | 0.58 $\phi$ (P=5 mm)  | 1 |
| R718 | 9T-51015-59 | Carbon      | 22K 1/6W  | 1   | TH901      | 9T-48822-00 | Thermistor    | PTH451D472BD9R0N270D  | 1 |
| R719 | 9T-51014-67 | Carbon      | 4.7K 1/6W | 1   | TH902      | 9T-48744-00 | Thermistor    | NTH13D8R0LA           | 1 |
| R720 | 9T-51013-51 | Carbon      | 100 1/6W  | 1   | C201       | 9T-64092-00 | Electrolytic  | 1000 $\mu$ F 25V      | 1 |
| R721 | 9T-51014-51 | Carbon      | 1.0K 1/6W | 1   | C202       | 9V-62074-15 | Electrolytic  | 1000 $\mu$ F 25V      | 1 |
| R722 | 9T-51014-59 | Carbon      | 2.2K 1/6W | 1   | C203       |             | N/A           |                       | 0 |
| R723 | 9T-52006-58 | Metal       | 200K 1/6W | 1   | C204       | 9T-69978-50 | Ceramic       | 0.1 $\mu$ F 50V       | 1 |
| R724 | 9V-52005-51 | Metal       | 10K 1/4W  | 1   | C205       |             | N/A           |                       | 0 |
| R725 | 9T-52006-58 | Metal       | 200K 1/6W | 1   | C206       | 9T-64086-50 | Electrolytic  | 47 $\mu$ F 50V        | 1 |
| R726 | 9V-52005-51 | Metal       | 10K 1/4W  | 1   | C207       | 9T-70981-50 | Polyester     | 0.47 $\mu$ F 250V     | 1 |
| R727 | 9T-51014-67 | Carbon      | 4.7K 1/6W | 1   | C208       | 9T-62102-56 | Electrolytic  | 1.0 $\mu$ F 50V       | 1 |
| R728 | 9T-52005-52 | Metal       | 11K 1/6W  | 1   | C209       |             | N/A           |                       | 0 |
| R729 | 9T-52004-51 | Metal       | 1.0K 1/6W | 1   | C210       | 9V-62107-65 | Electrolytic  | 22 $\mu$ F 50V        | 1 |
| R730 | 9T-52013-62 | Metal       | 300 1/4W  | 1   | C211       | 9T-70373-50 | Polyester     | 0.068 $\mu$ F 100V    | 1 |
| R731 | 9T-51014-51 | Carbon      | 1.0K 1/6W | 1   | C212       | 9T-70913-50 | Polyester     | 0.1 $\mu$ F 50V       | 1 |
| R732 | 9T-52013-51 | Metal       | 100 1/4W  | 1   | C213       | 9T-77440-50 | TF Cap.       | 1.0 $\mu$ F 50V       | 1 |
| R901 | 9T-59181-19 | Solid       | 560K 1/2W | 1   | C250       | 9T-69978-50 | Ceramic       | 0.1 $\mu$ F 50V       | 1 |
| R902 | 9T-51705-65 | Metal Oxide | 39K 3W    | 1   | C251       | 9T-69978-50 | Ceramic       | 0.1 $\mu$ F 50V       | 1 |
| R903 | 9T-51705-65 | Metal Oxide | 39K 3W    | 1   | C252       |             | N/A           |                       | 0 |
| R904 | 9T-51015-71 | Carbon      | 68K 1/6W  | 1   | C253       |             | N/A           |                       | 0 |
| R905 | 9T-51015-71 | Carbon      | 68K 1/6W  | 1   | C254       |             | N/A           |                       | 0 |
| R907 | 9T-51015-71 | Carbon      | 68K 1/6W  | 1   | C301       | 9V-67224-50 | Ceramic       | 100PF 50V             | 1 |
| R909 | 9T-52953-51 | Fusible     | 100 1/4W  | 1   | C302       |             | N/A           |                       | 0 |
| R910 | 9T-52954-71 | Fusible     | 6.8K 1/4W | 1   | C303       | 9T-70901-50 | Polyester     | 1000PF 50V            | 1 |
| R911 | 9T-51025-63 | Carbon      | 33K 1/4W  | 1   | C304       | 9V-67216-50 | Ceramic       | 22PF 50V              | 1 |
| R912 | 9T-52951-51 | Fusible     | 1 1/4W    | 1   | C305       | 9T-67226-50 | Ceramic       | 150PF 50V             | 1 |
| R913 |             | N/A         |           | 0   | C306       | 9V-62066-65 | Electrolytic  | 10 $\mu$ F 25V        | 1 |
| R914 | 9T-51022-55 | Carbon      | 15 1/4W   | 1   | C307       | 9T-69978-50 | Ceramic       | 0.1 $\mu$ F 50V       | 1 |
| R915 | 9T-51017-51 | Carbon      | 1.0M 1/6W | 1   | C308       | 9V-67225-50 | Ceramic       | 120PF 50V             | 1 |
| R916 | 9V-52005-65 | Metal       | 39K 1/4W  | 1   | C309       | 9T-70907-50 | Polyester     | 0.01 $\mu$ F 50V      | 1 |
| R917 | 9T-51015-65 | Carbon      | 39K 1/6W  | 1   | C310       | 9V-62103-65 | Electrolytic  | 2.2 $\mu$ F 50V       | 1 |
| R918 | 9T-51015-51 | Carbon      | 10K 1/6W  | 1   | C311       | 9T-69978-50 | Ceramic       | 0.1 $\mu$ F 50V       | 1 |
| R919 | 9T-51015-51 | Carbon      | 10K 1/6W  | 1   | C312       | 9T-70311-50 | Polyester     | 6800PF 50V            | 1 |
| R920 |             | N/A         |           | 0   | C320       | 9T-69978-50 | Ceramic       | 0.1 $\mu$ F 50V       | 1 |
| R922 | 9T-51014-63 | Carbon      | 3.3K 1/6W | 1   | C350       |             | N/A           |                       | 0 |
| R923 | 9V-59546-00 | Cement      | 0.12 2W   | 1   | C351       | 9T-70973-50 | Polyester     | 0.1 $\mu$ F 250V      | 1 |
| R924 | 9T-51013-73 | Carbon      | 820 1/6W  | 1   | C352       | 9T-65885-50 | Electrolytic  | 100 $\mu$ F 100V      | 1 |
| R926 | 9T-51015-59 | Carbon      | 22K 1/6W  | 1   | C353       | 9T-64087-00 | Electrolytic  | 100 $\mu$ F 200V      | 1 |
| R951 | 9T-52956-51 | Fusible     | 1 1/2W    | 1   | C354       | 9T-74109-00 | Polypropylene | 2200PF 1.5KV          | 1 |
| R952 | 9T-51661-63 | Metal Oxide | 3.3 1W    | 1   | C355       | 9T-79141-00 | Polypropylene | 2300PF 1.5KV          | 1 |

| Ref  | Parts code  | Type                            | amount | Ref  | Parts code  | Type                            | amount |
|------|-------------|---------------------------------|--------|------|-------------|---------------------------------|--------|
| C356 | 9V-68722-51 | Ceramic 2200PF 1KV              | 1      | C910 | 9T-70913-50 | Polyester 0.1 $\mu$ F 50V       | 1      |
| C357 | 9V-68779-51 | Ceramic 330PF 1KV               | 1      | C911 |             | N/A                             | 0      |
| C358 | 9V-68779-51 | Ceramic 330PF 1KV               | 1      | C912 | 9V-67272-50 | Ceramic 470PF 50V               | 1      |
| C359 | 9T-67766-51 | Ceramic 1500PF 3KV              | 1      | C913 | 9V-62068-65 | Electrolytic 33 $\mu$ F 25V     | 1      |
| C360 | 9V-67711-51 | Ceramic 68PF 1KV                | 1      | C914 | 9V-67224-50 | Ceramic 100PF 50V               | 1      |
| C361 | 9T-67712-51 | Ceramic 82PF 1KV                | 1      | C915 | 9T-70903-50 | Polyester 2200PF 50V            | 1      |
| C362 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      | C916 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C363 | 9T-65875-51 | Electrolytic 680 $\mu$ F 16V    | 1      | C951 | 9V-61213-00 | Electrolytic 220 $\mu$ F 250V   | 1      |
| C364 | 9T-65875-51 | Electrolytic 680 $\mu$ F 16V    | 1      | C952 | 9T-65899-01 | Electrolytic 100 $\mu$ F 250V   | 1      |
| C365 | 9V-77436-50 | Polyester 0.47 $\mu$ F 50V      | 1      | C953 | 9T-64093-50 | Electrolytic 470 $\mu$ F 16V    | 1      |
| C366 | 9V-70161-50 | Polyester 6800PF 400V           | 1      | C954 | 9V-62150-65 | Electrolytic 100 $\mu$ F 100V   | 1      |
| C367 | 9V-62050-65 | Electrolytic 100 $\mu$ F 16V    | 1      | C955 | 9T-64095-50 | Electrolytic 22 $\mu$ F 100V    | 1      |
| C368 | 9T-67743-50 | Ceramic 470PF 1KV               | 1      | C956 | 9T-62091-56 | Electrolytic 220 $\mu$ F 35V    | 1      |
| C369 | 9V-62205-65 | Electrolytic 2.2 $\mu$ F 250V   | 1      | C957 | 9T-64006-51 | Electrolytic 820 $\mu$ F 25V    | 1      |
| C370 |             | N/A                             | 0      | C958 | 9V-62070-65 | Electrolytic 100 $\mu$ F 25V    | 1      |
| C371 | 9T-74065-00 | Polypropylene 1.5 $\mu$ F 250V  | 1      | C959 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C372 | 9T-74059-00 | Polypropylene 0.47 $\mu$ F 250V | 1      | C960 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C373 | 9T-74054-00 | Polypropylene 0.18 $\mu$ F 250V | 1      | C961 | 9V-62051-65 | Electrolytic 220 $\mu$ F 16V    | 1      |
| C374 | 9T-74051-00 | Polypropylene 0.1 $\mu$ F 250V  | 1      | C962 | 9V-62053-65 | Electrolytic 470 $\mu$ F 16V    | 1      |
| C376 | 9T-67729-51 | Ceramic 39PF 2KV                | 1      | C963 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C377 | 9T-67411-50 | Ceramic 10PF 500V               | 1      | C964 | 9T-65874-51 | Electrolytic 470 $\mu$ F 25V    | 1      |
| C379 | 9V-62071-65 | Electrolytic 220 $\mu$ F 25V    | 1      | C965 | 9T-64094-50 | Electrolytic 100 $\mu$ F 25V    | 1      |
| C380 |             | N/A                             | 0      | C966 |             | N/A                             | 0      |
| C381 | 9T-70355-50 | Polyester 2200PF 100V           | 1      | C967 |             | N/A                             | 0      |
| C382 | 9T-73515-00 | Polypropylene 0.24 $\mu$ F 400V | 1      | C968 |             | N/A                             | 0      |
| C401 | 9V-67224-50 | Ceramic 100PF 50V               | 1      | C969 | 9T-64080-00 | Electrolytic 1200 $\mu$ F 16V   | 1      |
| C402 | 9V-62066-65 | Electrolytic 10 $\mu$ F 25V     | 1      | C970 | 9T-62054-56 | Electrolytic 1000 $\mu$ F 16V   | 1      |
| C403 |             | N/A                             | 0      | C971 | 9V-62051-65 | Electrolytic 220 $\mu$ F 16V    | 1      |
| C404 | 9T-62089-56 | Electrolytic 47 $\mu$ F 35V     | 1      | C972 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C405 | 9T-70913-50 | Polyester 0.1 $\mu$ F 50V       | 1      | C973 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C406 | 9V-62070-65 | Electrolytic 100 $\mu$ F 25V    | 1      | C974 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C407 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      | C975 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C408 | 9T-67773-51 | Ceramic 0.01 $\mu$ F 2KV        | 1      | L201 | 9U-05001-50 | Bead Inductor BF40DTA 3.5X6X0.8 | 1      |
| C409 | 9T-70409-50 | Polyester 4700PF 200V           | 1      | L202 | 9U-05001-50 | Bead Inductor BF40DTA 3.5X6X0.8 | 1      |
| C410 | 9T-64087-00 | Electrolytic 100 $\mu$ F 200V   | 1      | L351 | 9U-05439-00 | Micro Inductor TSL0707-471KR30  | 1      |
| C411 | 9V-62050-65 | Electrolytic 100 $\mu$ F 16V    | 1      | L352 | 9U-05001-50 | Bead Inductor BF40DTA 3.5X6X0.8 | 1      |
| C412 | 9T-70903-50 | Polyester 2200PF 50V            | 1      | L353 | 9U-16521-50 | Bead Inductor BL02RN1-R62T4     | 1      |
| C413 | 9T-67274-50 | Ceramic 680PF 50V               | 1      | L354 | 9U-16521-50 | Bead Inductor BL02RN1-R62T4     | 1      |
| C415 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      | L355 | 9U-05001-50 | Bead Inductor BF40DTA 3.5X6X0.8 | 1      |
| C416 | 9T-62102-56 | Electrolytic 1.0 $\mu$ F 50V    | 1      | L356 | 9U-05001-50 | Bead Inductor BF40DTA 3.5X6X0.8 | 1      |
| C417 | 9T-68718-51 | Ceramic 470PF 1KV               | 1      | L357 | 9U-02381-00 | Choke Coil PCL54-81             | 1      |
| C418 | 9T-66351-50 | Ceramic 100PF 2KV               | 1      | L358 | 9U-00514-00 | Choke Coil PCL18-04             | 1      |
| C419 |             | N/A                             | 0      | L359 | 9U-15449-50 | Micro Inductor LHL08TB332J      | 1      |
| C420 | 9T-67773-51 | Ceramic 0.01 $\mu$ F 2KV        | 1      | L360 | 9U-16521-50 | Bead Inductor BL02RN1-R62T4     | 1      |
| C421 | 9T-67773-51 | Ceramic 0.01 $\mu$ F 2KV        | 1      | L361 | 9U-16521-50 | Bead Inductor BL02RN1-R62T4     | 1      |
| C422 | 9V-62164-65 | Electrolytic 3.3 $\mu$ F 160V   | 1      | L362 | 9U-05001-50 | Bead Inductor BF40DTA 3.5X6X0.8 | 1      |
| C423 |             | N/A                             | 0      | L401 | 9U-05439-00 | Micro Inductor TSL0707-471KR30  | 1      |
| C425 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      | L402 |             | N/A                             | 0      |
| C426 | 9T-70907-50 | Polyester 0.01 $\mu$ F 50V      | 1      | L403 | 2D-03580-92 | Jumper 0.58 $\phi$ (P=5 mm)     | 1      |
| C427 |             | N/A                             | 0      | L404 | 9U-15333-51 | Micro Inductor LAL04TB101K      | 1      |
| C428 | 9V-62105-65 | Electrolytic 4.7 $\mu$ F 50V    | 1      | L405 | 9U-15325-51 | Micro Inductor LAL04TB220K      | 1      |
| C429 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      | L406 | 9U-15465-50 | Micro Inductor LHL10TB681K      | 1      |
| C451 | 9T-70901-50 | Polyester 1000PF 50V            | 1      | L407 | 2D-03580-92 | Jumper 0.58 $\phi$ (P=5 mm)     | 1      |
| C452 | 9T-67745-51 | Ceramic 1000PF 1KV              | 1      | L408 | 9U-15486-50 | Micro Inductor LHL10TB100K      | 1      |
| C453 | 9T-67745-51 | Ceramic 1000PF 1KV              | 1      | L901 | 9U-06101-00 | Choke Coil 12.5MH               | 1      |
| C454 | 9T-67741-50 | Ceramic 220PF 1KV               | 1      | L902 | 9U-12106-00 | Choke Coil DT-759               | 1      |
| C701 | 9T-67223-50 | Ceramic 82PF 50V                | 1      | L903 | 9U-05001-50 | Bead Inductor BF40DTA 3.5X6X0.8 | 1      |
| C702 |             | N/A                             | 0      | L904 | 9U-05001-50 | Bead Inductor BF40DTA 3.5X6X0.8 | 1      |
| C703 | 9V-67272-50 | Ceramic 470PF 50V               | 1      | L905 | 2D-03580-92 | Jumper 0.58 $\phi$ (P=5 mm)     | 1      |
| C704 | 9V-67272-50 | Ceramic 470PF 50V               | 1      | L906 | 9U-05001-50 | Bead Inductor BF40DTA 3.5X6X0.8 | 1      |
| C705 | 9T-70901-50 | Polyester 1000PF 50V            | 1      | L951 | 9U-05001-50 | Bead Inductor BF40DTA 3.5X6X0.8 | 1      |
| C706 | 9T-70901-50 | Polyester 1000PF 50V            | 1      | L952 | 9U-02002-00 | Micro Inductor 22 $\mu$ H       | 1      |
| C707 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      | L953 | 9U-02001-00 | Micro Inductor 100 $\mu$ H      | 1      |
| C708 | 9T-70913-50 | Polyester 0.1 $\mu$ F 50V       | 1      | L954 | 9U-02002-00 | Micro Inductor 22 $\mu$ H       | 1      |
| C901 | 9T-79127-00 | 0.1 $\mu$ F 275V                | 1      | L955 | 9U-02002-00 | Micro Inductor 22 $\mu$ H       | 1      |
| C902 | 9T-69943-50 | Ceramic 2200PF 400V             | 1      | L956 | 9U-02002-00 | Micro Inductor 22 $\mu$ H       | 1      |
| C903 | 9T-64070-01 | Electrolytic 470 $\mu$ F 400V   | 1      | L957 | 9U-02002-00 | Micro Inductor 22 $\mu$ H       | 1      |
| C904 | 9V-69901-50 | Ceramic 0.01 $\mu$ F 1KV        | 1      | L958 | 9U-05001-50 | Bead Inductor BF40DTA 3.5X6X0.8 | 1      |
| C905 | 9T-68725-50 | Ceramic 220PF 2KV               | 1      | L959 | 9U-05002-50 | Bead Inductor BF45TA3.5X4.5X0.8 | 1      |
| C906 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      | T351 | 9T-94411-00 | HOT PTR20-10                    | 1      |
| C907 | 9T-64085-50 | Electrolytic 10 $\mu$ F 25V     | 1      | T352 | 9T-94724-00 | Pulse Transf. PTR01-24          | 1      |
| C908 | 9V-62071-65 | Electrolytic 220 $\mu$ F 25V    | 1      | T401 | 9T-95492-01 | FBT PCF72-02 A                  | 1      |
| C909 | 9T-70907-50 | Polyester 0.01 $\mu$ F 50V      | 1      | T901 | 9V-94965-01 | SRT PTR67-05 A                  | 1      |

| Ref   | Parts code  | Type            | amount             | Ref  | Parts code | Type        | amount      |                   |          |   |
|-------|-------------|-----------------|--------------------|------|------------|-------------|-------------|-------------------|----------|---|
| K901  | 9T-91509-00 | Relay           | VB-5STBU-5-IM2     | 1    | JW212      | 9T-91911-50 | Jumper      | J1/4ZT26          | 1        |   |
| F901  | 9V-91198-00 | Fuse            | FUSE 215005        | (9T) | 1          | JW213       | 9T-91911-50 | Jumper            | J1/4ZT26 | 1 |
| FH901 | 9V-90986-50 | Fuse Holder     | PFC5000-0202       | 2    | JW214      | 9T-91910-50 | Jumper      | J1/4ZT52A         | 1        |   |
| SG351 | 9T-92019-50 | Serge Protector | DSP-201M-C04F      | 1    | JW215      | 9T-91910-50 | Jumper      | J1/4ZT52A         | 1        |   |
| SG401 | 9T-92028-50 | Serge Protector | DSP-152M-A11F      | 1    | JW216      | 9T-91910-50 | Jumper      | J1/4ZT52A         | 1        |   |
| P151  | 9T-86837-00 | Connector       | 21P-HQM-1          | 1    | JW217      | 9T-91910-50 | Jumper      | J1/4ZT52A         | 1        |   |
| P152  | 9T-86837-00 | Connector       | 21P-HQM-1          | 1    | JW218      | 9T-91910-50 | Jumper      | J1/4ZT52A         | 1        |   |
| P153  | 9T-86837-00 | Connector       | 21P-HQM-1          | 1    | JW219      | 9T-91910-50 | Jumper      | J1/4ZT52A         | 1        |   |
| P251  | 9T-86754-00 | Connector       | B4B-EH-F1          | 1    | JW220      | 9T-91910-50 | Jumper      | J1/4ZT52A         | 1        |   |
| P252  | 9T-87503-03 | Connector       | 00 8263 0312 00 3  | 1    | JW221      | 9T-91910-50 | Jumper      | J1/4ZT52A         | 1        |   |
| P253  | 9T-86604-00 | Connector       | B5B-PH-K           | 1    | JW222      | 9T-91911-50 | Jumper      | J1/4ZT26          | 1        |   |
| P254  | 9T-86610-00 | Connector       | B11B-PH-K          | 1    | JW223      | 9T-91912-50 | Jumper      | J1/6ZT26          | 1        |   |
| P351  | 9T-87286-00 | Connector       | CM11506-0301       | 1    | JW224      | 9T-91912-50 | Jumper      | J1/6ZT26          | 1        |   |
| P352  | 9T-86652-01 | Connector       | B2P3-VH-B-C 黒      | 1    | JW225      |             | N/A         |                   | 0        |   |
| P901  | 9T-86652-00 | Connector       | B2P3-VH-B          | 1    | JW226      |             | N/A         |                   | 0        |   |
| P902  | 9T-87312-00 | Connector       | TS-80P-02-V4       | 1    | JW228      | 9T-91911-50 | Jumper      | J1/4ZT26          | 1        |   |
| JW101 | 2D-03580-04 | Jumper          | 0.58 φ (P=10 mm)   | 1    | JW229      | 9T-91911-50 | Jumper      | J1/4ZT26          | 1        |   |
| JW104 | 2D-03580-93 | Jumper          | 0.58 φ (P=7.5 mm)  | 1    | JW230      | 9T-91910-50 | Jumper      | J1/4ZT52A         | 1        |   |
| JW105 |             | N/A             |                    | 0    | JW232      | 9T-91912-50 | Jumper      | J1/6ZT26          | 1        |   |
| JW106 |             | N/A             |                    | 0    | JW233      | 2D-03580-93 | Jumper      | 0.58 φ (P=7.5 mm) | 1        |   |
| JW107 | 2D-03580-92 | Jumper          | 0.58 φ (P=5 mm)    | 1    | JW234      | 9T-91912-50 | Jumper      | J1/6ZT26          | 1        |   |
| JW108 | 2D-03580-92 | Jumper          | 0.58 φ (P=5 mm)    | 1    | JW235      | 2D-03580-92 | Jumper      | 0.58 φ (P=5 mm)   | 1        |   |
| JW109 | 2D-03580-93 | Jumper          | 0.58 φ (P=7.5 mm)  | 1    | JW236      | 9T-91911-50 | Jumper      | J1/4ZT26          | 1        |   |
| JW110 | 2D-03580-93 | Jumper          | 0.58 φ (P=7.5 mm)  | 1    | JW241      | 2D-03580-92 | Jumper      | 0.58 φ (P=5 mm)   | 1        |   |
| JW111 | 2D-03580-92 | Jumper          | 0.58 φ (P=5 mm)    | 1    | JW242      | 2D-03580-92 | Jumper      | 0.58 φ (P=5 mm)   | 1        |   |
| JW112 | 2D-03580-94 | Jumper          | 0.58 φ (P=17.5 mm) | 1    | JW243      | 2D-03580-92 | Jumper      | 0.58 φ (P=5 mm)   | 1        |   |
| JW113 | 2D-03580-94 | Jumper          | 0.58 φ (P=17.5 mm) | 1    | JW244      |             | N/A         |                   | 0        |   |
| JW114 | 2D-03580-04 | Jumper          | 0.58 φ (P=10 mm)   | 1    | JW456      | 2D-03580-04 | Jumper      | 0.58 φ (P=10 mm)  | 1        |   |
| JW115 | 2D-03580-08 | Jumper          | 0.58 φ PT-20       | 1    | JF101      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW116 | 2D-03580-90 | Jumper          | 0.58 φ (P=12.5 mm) | 1    | JF102      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW117 | 2D-03580-04 | Jumper          | 0.58 φ (P=10 mm)   | 1    | JF103      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW118 | 2D-03580-90 | Jumper          | 0.58 φ (P=12.5 mm) | 1    | JF104      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW119 | 2D-03580-92 | Jumper          | 0.58 φ (P=5 mm)    | 1    | JF105      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW120 | 2D-03580-90 | Jumper          | 0.58 φ (P=12.5 mm) | 1    | JF106      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW121 | 2D-03580-93 | Jumper          | 0.58 φ (P=7.5 mm)  | 1    | JF107      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW122 | 2D-03580-90 | Jumper          | 0.58 φ (P=12.5 mm) | 1    | JF108      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW123 | 2D-03580-90 | Jumper          | 0.58 φ (P=12.5 mm) | 1    | JF109      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW124 | 2D-03580-90 | Jumper          | 0.58 φ (P=12.5 mm) | 1    | JF110      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW125 | 2D-03580-90 | Jumper          | 0.58 φ (P=12.5 mm) | 1    | JF111      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW126 | 2D-03580-93 | Jumper          | 0.58 φ (P=7.5 mm)  | 1    | JF112      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW127 | 2D-03580-93 | Jumper          | 0.58 φ (P=7.5 mm)  | 1    | JF113      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW128 | 2D-03580-93 | Jumper          | 0.58 φ (P=7.5 mm)  | 1    | JF114      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW130 | 9T-91912-50 | Jumper          | J1/6ZT26           | 1    | JF115      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW131 | 2D-03580-93 | Jumper          | 0.58 φ (P=7.5 mm)  | 1    | JF116      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW132 | 2D-03580-92 | Jumper          | 0.58 φ (P=5 mm)    | 1    | JF117      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW133 | 2D-03580-93 | Jumper          | 0.58 φ (P=7.5 mm)  | 1    | JF118      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW135 | 2D-03580-90 | Jumper          | 0.58 φ (P=12.5 mm) | 1    | JF119      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW136 | 2D-03580-04 | Jumper          | 0.58 φ (P=10 mm)   | 1    | JF120      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW137 | 2D-03580-04 | Jumper          | 0.58 φ (P=10 mm)   | 1    | JF121      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW138 | 2D-03580-92 | Jumper          | 0.58 φ (P=5 mm)    | 1    | JF122      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW139 |             | N/A             |                    | 0    | JF123      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW140 | 2D-03580-92 | Jumper          | 0.58 φ (P=5 mm)    | 1    | JF124      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW142 | 2D-03580-04 | Jumper          | 0.58 φ (P=10 mm)   | 1    | JF125      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW143 | 2D-03580-93 | Jumper          | 0.58 φ (P=7.5 mm)  | 1    | JF126      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW144 | 2D-03580-92 | Jumper          | 0.58 φ (P=5 mm)    | 1    | JF127      |             | N/A         |                   | 0        |   |
| JW145 | 2D-03580-90 | Jumper          | 0.58 φ (P=12.5 mm) | 1    | JF128      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW146 | 2D-03580-92 | Jumper          | 0.58 φ (P=5 mm)    | 1    | JF130      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW147 | 2D-03580-92 | Jumper          | 0.58 φ (P=5 mm)    | 1    | JF132      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW148 | 2D-03580-93 | Jumper          | 0.58 φ (P=7.5 mm)  | 1    | JF133      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW149 | 2D-03580-93 | Jumper          | 0.58 φ (P=7.5 mm)  | 1    | JF134      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW150 | 2D-03580-93 | Jumper          | 0.58 φ (P=7.5 mm)  | 1    | JF135      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW183 |             | N/A             |                    | 0    | JF136      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW201 | 9T-91911-50 | Jumper          | J1/4ZT26           | 1    | JF137      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW202 | 9T-91911-50 | Jumper          | J1/4ZT26           | 1    | JF138      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW203 | 9T-91912-50 | Jumper          | J1/6ZT26           | 1    | JF139      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW204 | 9T-91912-50 | Jumper          | J1/6ZT26           | 1    | JF140      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW205 | 9T-91912-50 | Jumper          | J1/6ZT26           | 1    | JF141      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW206 | 9T-91912-50 | Jumper          | J1/6ZT26           | 1    | JF142      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW207 | 9T-91911-50 | Jumper          | J1/4ZT26           | 1    | JF143      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW208 | 9T-91910-50 | Jumper          | J1/4ZT52A          | 1    | JF144      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW209 | 9T-91911-50 | Jumper          | J1/4ZT26           | 1    | JF145      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW210 | 9T-91911-50 | Jumper          | J1/4ZT26           | 1    | JF146      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |
| JW211 | 9T-91910-50 | Jumper          | J1/4ZT52A          | 1    | JF147      | 9T-91920-51 | FSJumper    | FSJumper          | 1        |   |

| Ref   | Parts code  | Type           | amount | Ref           | Parts code  | Type         | amount             |
|-------|-------------|----------------|--------|---------------|-------------|--------------|--------------------|
| JF148 | 9T-91920-51 | FSJumper       | 1      | JF223         | 9T-91920-51 | FSJumper     | 1                  |
| JF149 | 9T-91920-51 | FSJumper       | 1      | JF224         | 9T-91920-51 | FSJumper     | 1                  |
| JF150 | 9T-91920-51 | FSJumper       | 1      | JF225         | 9T-91920-51 | FSJumper     | 1                  |
| JF151 | 9T-91920-51 | FSJumper       | 1      | JF226         | 9T-91920-51 | FSJumper     | 1                  |
| JF152 | 9T-91920-51 | FSJumper       | 1      | JF227         | 9T-91920-51 | FSJumper     | 1                  |
| JF153 | 9T-91920-51 | FSJumper       | 1      | JF401         | 9T-91920-51 | FSJumper     | 1                  |
| JF155 | 9T-91920-51 | FSJumper       | 1      | JF402         | 9T-91920-51 | FSJumper     | 1                  |
| JF157 | 9T-91920-51 | FSJumper       | 1      | JF403         | 9T-91920-51 | FSJumper     | 1                  |
| JF158 | 9T-91920-51 | FSJumper       | 1      | JF404         | 9T-91920-51 | FSJumper     | 1                  |
| JF159 | 9T-91920-51 | FSJumper       | 1      | FN201         | 9V-92806-00 | Heat Sink    | HS1787V            |
| JF160 | 9T-91920-51 | FSJumper       | 1      | FN351         | 9T-92954-00 | Heat Sink    | PR1724-45-PB-SN    |
| JF161 | 9T-91920-51 | FSJumper       | 1      | FN352         | 9U-56448-00 | Shield FBT   | PSM10-555 Z        |
| JF162 | 9T-91920-51 | FSJumper       | 1      | FN353         | 9V-92818-00 | Heat Sink    | 16X17X25MM         |
| JF163 | 9T-91920-51 | FSJumper       | 1      | FN354         | 9U-92301-00 | Heat Sink    | PZM10-1135         |
| JF164 | 9T-91920-51 | FSJumper       | 1      | FN355         | 9U-92301-00 | Heat Sink    | PZM10-1135         |
| JF165 | 9T-91920-51 | FSJumper       | 1      | FN356         | 9U-55564-00 | ㄟ- FBT       | PST17-21Z          |
| JF166 | 9T-91920-51 | FSJumper       | 1      | FN401         | 9V-92810-00 | Heat Sink    | 30X15X60MM         |
| JF167 | 9T-91920-51 | FSJumper       | 1      | FN451         | 9V-92819-00 | Heat Sink    | 17X24X25MM         |
| JF168 | 9T-91920-51 | FSJumper       | 1      | FN452         | 9V-92818-00 | Heat Sink    | 16X17X25MM         |
| JF169 | 9T-91920-51 | FSJumper       | 1      | FN453         | 9V-92818-00 | Heat Sink    | 16X17X25MM         |
| JF170 | 9T-91920-51 | FSJumper       | 1      | FN901         | 9V-92808-00 | Heat Sink    | HS1787S            |
| JF171 | 9T-91920-51 | FSJumper       | 1      | FN902         | 9V-92811-00 | Heat Sink    | 15X10X30MM         |
| JF172 | 9T-91920-51 | FSJumper       | 1      | SW901         | 9V-90303-00 | Switch       | SFDFA1197-AD       |
| JF173 | 9T-91920-51 | FSJumper       | 1      | CA202         | 6C-80118-00 | Lead ASSY    | PZE85-04           |
| JF174 | 9T-91920-51 | FSJumper       | 1      | CA301         | 9V-01612-00 | PWB-FG ASSY  | PZE42-39           |
| JF175 | 9T-91920-51 | FSJumper       | 1      | CA401         | 9V-00061-00 | MV ASSY      | PZE74-01           |
| JF176 | 9T-91920-51 | FSJumper       | 1      | CA402         | 9V-01612-00 | PWB-FG ASSY  | PZE42-39           |
| JF177 | 9T-91920-51 | FSJumper       | 1      | CA403         | 9V-00062-00 | DF ASSY      | PZE85-02           |
| JF178 | 9T-91920-51 | FSJumper       | 1      | CA404         | 6C-80140-00 |              | PZE85-05           |
| JF179 | 9T-91920-51 | FSJumper       | 1      | CA901         | 9V-00063-00 | FG ASSY      | PZE92-01           |
| JF180 | 9T-91920-51 | FSJumper       | 1      | CA902         | 9V-00080-00 |              | PZE74-05           |
| JF181 | 9T-91920-51 | FSJumper       | 1      | Z401          | 9T-88955-50 | GND Contact  | TP00383-41         |
| JF182 | 9T-91920-51 | FSJumper       | 1      | Z405          | 9U-96010-00 | Edge Saddle  | DS-10 M4-078D      |
| JF183 | 9T-91920-51 | FSJumper       | 1      | Z406          | 9T-97902-00 | Core         | BF30B16 × 28 × 9   |
| JF184 | 9T-91920-51 | FSJumper       | 1      | Z407          | 9T-97902-00 | Core         | BF30B16 × 28 × 9   |
| JF185 | 9T-91920-51 | FSJumper       | 1      | Z901          | 9T-88955-50 | GND Contact  | TP00383-41         |
| JF186 | 9T-91920-51 | FSJumper       | 1      | Z903          | 9T-91992-00 |              | 2.0 × 3.0 × 3.3    |
| JF187 | 9T-91920-51 | FSJumper       | 1      | Z904          | 9T-91991-00 |              | 1.6 × 3.0 × 3.0    |
| JF188 | 9T-91920-51 | FSJumper       | 1      |               |             |              | 40                 |
| JF189 | 9T-91920-51 | FSJumper       | 1      |               |             |              | 30                 |
| JF190 | 9T-91920-51 | FSJumper       | 1      | <DRIVE Board> |             |              |                    |
| JF191 | 9T-91920-51 | FSJumper       | 1      | PB002         | 9T-13170-01 | PWB          | PBH170-1           |
| JF192 | 9T-91920-51 | FSJumper       | 1      | IC302         | 9T-34503-00 | IC           | M5218AP            |
| JF193 | 9T-91920-51 | FSJumper       | 1      | Q312          | 2D-03580-92 | Jumper       | 0.58 ϕ (P=5 mm)    |
| JF194 | 9T-91920-51 | FSJumper       | 1      | Q313          | 9T-42361-50 | Transistor   | 2SC2240-GR-TPE2    |
| JF195 | 9T-91920-51 | FSJumper       | 1      | Q314          | 9T-45047-00 | MOS FET      | IRF710-LC01        |
| JF196 | 9T-91920-51 | FSJumper       | 1      | D306          | 9V-46072-50 | Zenner Diode | RD12EB2-TA11R (9T) |
| JF197 | 9T-91920-51 | FSJumper       | 1      | D307          | 9T-47250-00 | Diode        | RK14 LF-A1         |
| JF198 | 9T-91920-51 | FSJumper       | 1      | R330          | 9T-51016-51 | Carbon       | 100K 1/6W          |
| JF199 | 9T-91920-51 | FSJumper       | 1      | R331          |             | N/A          | 0                  |
| JF200 | 9T-91920-51 | FSJumper       | 1      | R332          | 9T-51015-73 | Carbon       | 82K 1/6W           |
| JF201 | 9T-91920-51 | FSJumper       | 1      | R333          | 9T-52005-57 | Metal        | 18K 1/6W           |
| JF202 | 9T-91920-51 | FSJumper       | 1      | R334          | 9T-52005-67 | Metal        | 47K 1/6W           |
| JF203 | 9T-91920-51 | FSJumper       | 1      | R335          | 9T-51014-57 | Carbon       | 1.8K 1/6W          |
| JF204 | 9T-91920-51 | FSJumper       | 1      | R336          | 9T-51054-71 | Carbon       | 6.8K 1/2W          |
| JF205 | 9T-91920-51 | FSJumper       | 1      | R337          | 9T-51014-67 | Carbon       | 4.7K 1/6W          |
| JF206 | 9T-91920-51 | FSJumper       | 1      | R338          |             | N/A          | 0                  |
| JF207 | 9T-91920-51 | FSJumper       | 1      | R339          | 9T-52006-67 | Metal        | 470K 1/6W          |
| JF208 | 9T-91920-51 | FSJumper       | 1      | R340          | 9T-51683-63 | Metal Oxide  | 330 3W             |
| JF209 | 9T-91920-51 | FSJumper       | 1      | R341          | 9T-51015-59 | Carbon       | 22K 1/6W           |
| JF210 | 9T-91920-51 | FSJumper       | 1      | R342          | 9T-51710-15 | Metal Oxide  | 3.9 5W             |
| JF211 | 9T-91920-51 | FSJumper       | 1      | R343          | 9T-51710-15 | Metal Oxide  | 3.9 5W             |
| JF212 | 9T-91920-51 | FSJumper       | 1      | R344          | 9T-52005-71 | Metal        | 68K 1/6W           |
| JF213 | 9T-91920-51 | FSJumper       | 1      | R345          | 9T-52005-57 | Metal        | 18K 1/6W           |
| JF214 | 9T-91920-51 | FSJumper       | 1      | R346          | 2D-03580-92 | Jumper       | 0.58 ϕ (P=5 mm)    |
| JF215 | 9T-91920-51 | FSJumper       | 1      | R347          | 9T-51014-51 | Carbon       | 1.0K 1/6W          |
| JF216 | 9T-91920-51 | FSJumper       | 1      | C312          | 9T-71052-50 | Polyester    | 0.22 μ F 50V       |
| JF217 | 9U-15466-50 | Micro Inductor | 1      | C313          | 9V-62102-65 | Electrolytic | 1.0 μ F 50V        |
| JF218 |             | N/A            | 0      | C314          | 9T-65885-50 | Electrolytic | 100 μ F 100V       |
| JF219 | 9T-91920-51 | FSJumper       | 1      | C315          | 9V-70363-50 | Polyester    | 0.01 μ F 100V      |
| JF220 | 9T-91920-51 | FSJumper       | 1      | C316          | 9T-65885-50 | Electrolytic | 100 μ F 100V       |
| JF221 |             | N/A            | 0      | C317          | 9T-68718-51 | Ceramic      | 470PF 1KV          |
| JF222 |             | N/A            | 0      | C318          | 9T-68718-51 | Ceramic      | 470PF 1KV          |
|       |             |                |        | C319          | 9V-69998-50 | Ceramic      | 0.1 μ F 25V        |

| Ref           | Parts code  | Type                           | amount | Ref  | Parts code  | Type                             | amount |
|---------------|-------------|--------------------------------|--------|------|-------------|----------------------------------|--------|
| C320          | 9T-70913-50 | Polyester 0.1 $\mu$ F 50V      | 1      | R528 | 9V-51022-59 | Carbon 22 1/4W                   | 1      |
| C321          | 9V-69998-50 | Ceramic 0.1 $\mu$ F 25V        | 1      | R529 | 9V-51022-59 | Carbon 22 1/4W                   | 1      |
| L301          | 9U-05443-00 | Micro Inductor TSL0707-102KR19 | 1      | R530 | 9V-51022-59 | Carbon 22 1/4W                   | 1      |
| L302          | 9U-15454-50 | Micro Inductor LHL08TB822J     | 1      | R531 | 9T-51012-69 | Carbon 56 1/6W                   | 1      |
| T301          | 9V-93637-01 | H-Drive Transf. PTR34-07B      | 1      | R532 | 9T-51012-69 | Carbon 56 1/6W                   | 1      |
| P301          | 9T-86840-00 | Connector B16PS-TB-1           | 1      | R533 | 9T-51012-69 | Carbon 56 1/6W                   | 1      |
| JW301         | 2D-03580-90 | Jumper 0.58 $\phi$ (P=12.5 mm) | 1      | R534 | 9V-51024-53 | Carbon 1.2K 1/4W                 | 1      |
| JW302         | 2D-03580-92 | Jumper 0.58 $\phi$ (P=5 mm)    | 1      | R535 | 9V-51014-53 | Carbon 1.2K 1/6W                 | 1      |
| JW303         | 2D-03580-92 | Jumper 0.58 $\phi$ (P=5 mm)    | 1      | R536 | 9V-51014-53 | Carbon 1.2K 1/6W                 | 1      |
| <VIDEO Board> |             |                                |        | R537 | 9T-51012-71 | Carbon 68 1/6W                   | 1      |
| PB003         | 9T-13187-03 | PWB PBH187-3                   | 1      | R538 | 9T-51012-73 | Carbon 82 1/6W                   | 1      |
| IC501         | 9T-20008-00 | IC M52320SP                    | 1      | R539 | 9T-51012-73 | Carbon 82 1/6W                   | 1      |
| IC502         | 9T-34443-00 | IC VP513                       | 1      | R540 | 9T-51015-51 | Carbon 10K 1/6W                  | 1      |
| IC503         | 9T-34433-00 | IC STK190-120                  | 1      | R541 | 9T-51015-51 | Carbon 10K 1/6W                  | 1      |
| IC504         | 9T-39102-00 | D/A Converter M62352P          | 1      | R542 | 9T-51015-51 | Carbon 10K 1/6W                  | 1      |
| IC505         | 9T-20033-00 | IC M35045-057SP-01             | 1      | R543 | 9T-51012-69 | Carbon 56 1/6W                   | 1      |
| IC506         |             | N/A                            | 0      | R544 | 9T-51013-53 | Carbon 120 1/6W                  | 1      |
| IC507         | 9T-34510-00 | IC M5224P                      | 1      | R545 | 9T-51013-51 | Carbon 100 1/6W                  | 1      |
| Q501          | 9T-40209-50 | Transistor 2SA1048-Y-TPE4      | 1      | R546 | 9T-53601-59 | Metal Glaze 220K 1/4W            | 1      |
| Q502          | 9T-40209-50 | Transistor 2SA1048-Y-TPE4      | 1      | R547 | 9T-53601-59 | Metal Glaze 220K 1/4W            | 1      |
| Q503          | 9T-40209-50 | Transistor 2SA1048-Y-TPE4      | 1      | R548 | 9T-53601-59 | Metal Glaze 220K 1/4W            | 1      |
| Q504          |             | N/A                            | 0      | R549 | 9U-4002-50  | Micro Inductor 0.47UH $\pm$ 20%T | 1      |
| Q505          |             | N/A                            | 0      | R550 |             | N/A                              | 0      |
| Q506          |             | N/A                            | 0      | R551 |             | N/A                              | 0      |
| Q507          | 9T-42449-50 | Transistor 2SC2785-JL/HL-T     | 1      | R552 | 9T-59169-17 | Solid 47 1/4W                    | 1      |
| Q508          | 9T-44250-50 | Transistor 2SD1312-L/K-T       | 1      | R553 | 9T-59169-17 | Solid 47 1/4W                    | 1      |
| Q509          | 9T-41098-50 | Transistor 2SB984-L/K-T        | 1      | R554 | 9T-59169-17 | Solid 47 1/4W                    | 1      |
| Q510          |             | N/A                            | 0      | R555 | 9V-51053-61 | Carbon 270 1/2W                  | 1      |
| D501          | 9V-47012-50 | Diode 1N4148 T                 | 1      | R556 | 9T-51014-55 | Carbon 1.5K 1/6W                 | 1      |
| D502          | 9V-47012-50 | Diode 1N4148 T                 | 1      | R557 | 9T-51671-69 | Metal Oxide 5.6 2W               | 1      |
| D503          | 9V-47012-50 | Diode 1N4148 T                 | 1      | R558 | 9T-52966-67 | Fusible 4.7 2W                   | 1      |
| D504          | 9V-47202-50 | Diode 1SS83                    | 1      | R559 | 9T-59116-01 | Solid 100K 1/4W                  | 1      |
| D505          | 9V-47202-50 | Diode 1SS83                    | 1      | R560 | 9T-51014-67 | Carbon 4.7K 1/6W                 | 1      |
| D506          | 9V-47202-50 | Diode 1SS83                    | 1      | R561 | 9T-51022-55 | Carbon 15 1/4W                   | 1      |
| D507          | 9V-47202-50 | Diode 1SS83                    | 1      | R562 | 9T-51022-55 | Carbon 15 1/4W                   | 1      |
| D508          | 9V-47202-50 | Diode 1SS83                    | 1      | R563 | 9V-51053-59 | Carbon 220 1/2W                  | 1      |
| D509          | 9V-47202-50 | Diode 1SS83                    | 1      | R564 | 9T-51014-51 | Carbon 1.0K 1/6W                 | 1      |
| D510          | 9V-47202-50 | Diode 1SS83                    | 1      | R565 | 9T-51014-51 | Carbon 1.0K 1/6W                 | 1      |
| D511          | 9V-47202-50 | Diode 1SS83                    | 1      | R566 | 9T-51013-67 | Carbon 470 1/6W                  | 1      |
| D512          | 9V-47202-50 | Diode 1SS83                    | 1      | R567 | 9T-51013-67 | Carbon 470 1/6W                  | 1      |
| D513          | 9T-46035-50 | ZenerDiode RD5.1EB2-TA11R      | 1      | R568 | 9T-51013-67 | Carbon 470 1/6W                  | 1      |
| D514          | 9V-47012-50 | Diode 1N4148 T                 | 1      | R569 | 9T-51013-67 | Carbon 470 1/6W                  | 1      |
| D515          | 9T-46035-50 | ZenerDiode RD5.1EB2-TA11R      | 1      | R570 | 9V-52004-60 | Metal 2.4K 1/4W                  | 1      |
| D516          |             | N/A                            | 0      | R571 | 9T-51015-59 | Carbon 22K 1/6W                  | 1      |
| D517          |             | N/A                            | 0      | R572 | 9T-51015-59 | Carbon 22K 1/6W                  | 1      |
| D518          |             | N/A                            | 0      | R573 | 9T-51015-59 | Carbon 22K 1/6W                  | 1      |
| D519          | 9V-47012-50 | Diode 1N4148 T                 | 1      | R574 | 9T-51015-59 | Carbon 22K 1/6W                  | 1      |
| R501          | 9T-51014-51 | Carbon 1.0K 1/6W               | 1      | R575 | 9V-52004-70 | Metal 6.2K 1/4W                  | 1      |
| R502          | 9T-51014-51 | Carbon 1.0K 1/6W               | 1      | R576 | 9V-52004-70 | Metal 6.2K 1/4W                  | 1      |
| R503          | 9T-51014-51 | Carbon 1.0K 1/6W               | 1      | R577 | 9V-52004-70 | Metal 6.2K 1/4W                  | 1      |
| R504          | 9T-51013-51 | Carbon 100 1/6W                | 1      | R578 | 9V-51117-55 | Carbon 1.5M 1/4W                 | 1      |
| R505          | 9T-51013-51 | Carbon 100 1/6W                | 1      | R579 | 9V-51117-55 | Carbon 1.5M 1/4W                 | 1      |
| R506          | 9T-51013-51 | Carbon 100 1/6W                | 1      | R580 | 9V-51117-55 | Carbon 1.5M 1/4W                 | 1      |
| R507          | 9T-51013-51 | Carbon 100 1/6W                | 1      | R581 |             | N/A                              | 0      |
| R508          | 9T-51014-51 | Carbon 1.0K 1/6W               | 1      | R582 |             | N/A                              | 0      |
| R509          | 9T-51015-59 | Carbon 22K 1/6W                | 1      | R583 | 9V-52004-67 | Metal 4.7K 1/4W                  | 1      |
| R510          | 9T-51014-51 | Carbon 1.0K 1/6W               | 1      | R584 | 9V-52004-63 | Metal 3.3K 1/4W                  | 1      |
| R513          | 9V-52005-74 | Metal 91K 1/4W                 | 1      | R585 | 9T-51014-73 | Carbon 8.2K 1/6W                 | 1      |
| R514          | 9V-52005-56 | Metal 16K 1/4W                 | 1      | R586 | 9T-51015-65 | Carbon 39K 1/6W                  | 1      |
| R515          | 9T-51014-55 | Carbon 1.5K 1/6W               | 1      | R587 | 9T-51015-51 | Carbon 10K 1/6W                  | 1      |
| R516          | 9V-51023-67 | Carbon 470 1/4W                | 1      | R588 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)     | 1      |
| R517          | 9V-51023-67 | Carbon 470 1/4W                | 1      | R589 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)     | 1      |
| R518          | 9V-51023-67 | Carbon 470 1/4W                | 1      | R590 | 9T-51012-51 | Carbon 10 1/6W                   | 1      |
| R519          | 9T-51012-59 | Carbon 22 1/6W                 | 1      | R591 | 9T-51013-51 | Carbon 100 1/6W                  | 1      |
| R520          | 9T-51012-59 | Carbon 22 1/6W                 | 1      | R592 |             | N/A                              | 0      |
| R521          | 9T-51012-59 | Carbon 22 1/6W                 | 1      | R593 |             | N/A                              | 0      |
| R522          | 9T-51014-53 | Carbon 1.2K 1/6W               | 1      | R594 |             | N/A                              | 0      |
| R523          | 9T-51014-53 | Carbon 1.2K 1/6W               | 1      | R595 |             | N/A                              | 0      |
| R524          | 9T-51014-53 | Carbon 1.2K 1/6W               | 1      | R596 |             | N/A                              | 0      |
| R525          |             | N/A                            | 0      | R597 |             | N/A                              | 0      |
| R526          |             | N/A                            | 0      | C501 | 9T-65196-51 | Electrolytic_BP 4.7 $\mu$ F 50V  | 1      |
| R527          |             | N/A                            | 0      | C502 | 9T-65196-51 | Electrolytic_BP 4.7 $\mu$ F 50V  | 1      |
|               |             |                                |        | C503 | 9T-65196-51 | Electrolytic_BP 4.7 $\mu$ F 50V  | 1      |

| Ref  | Parts code  | Type                            | amount |
|------|-------------|---------------------------------|--------|
| C504 | 9T-70907-50 | Polyester 0.01 $\mu$ F 50V      | 1      |
| C505 | 9T-70907-50 | Polyester 0.01 $\mu$ F 50V      | 1      |
| C506 | 9T-70907-50 | Polyester 0.01 $\mu$ F 50V      | 1      |
| C507 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C508 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C509 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C510 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C511 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C512 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C513 | 9V-62067-65 | Electrolytic 22 $\mu$ F 25V     | 1      |
| C514 | 9V-62052-65 | Electrolytic 330 $\mu$ F 16V    | 1      |
| C515 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C516 | 9V-62103-65 | Electrolytic 2.2 $\mu$ F 50V    | 1      |
| C517 | 9V-62103-65 | Electrolytic 2.2 $\mu$ F 50V    | 1      |
| C518 | 9V-62103-65 | Electrolytic 2.2 $\mu$ F 50V    | 1      |
| C519 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C520 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C521 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C522 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C523 | 9V-62052-65 | Electrolytic 330 $\mu$ F 16V    | 1      |
| C524 | 9V-67216-50 | Ceramic 22PF 50V                | 1      |
| C525 | 9V-67216-50 | Ceramic 22PF 50V                | 1      |
| C526 | 9V-67216-50 | Ceramic 22PF 50V                | 1      |
| C527 | 9V-67223-50 | Ceramic 82PF 50V                | 1      |
| C528 | 9V-67223-50 | Ceramic 82PF 50V                | 1      |
| C529 | 9V-67223-50 | Ceramic 82PF 50V                | 1      |
| C530 | 9V-67225-50 | Ceramic 120PF 50V               | 1      |
| C531 | 9V-67220-50 | Ceramic 47PF 50V                | 1      |
| C532 | 9V-67220-50 | Ceramic 47PF 50V                | 1      |
| C533 | 9T-77558-00 | Polyester 0.47 $\mu$ F 250V     | 1      |
| C534 | 9T-77558-00 | Polyester 0.47 $\mu$ F 250V     | 1      |
| C535 | 9T-77558-00 | Polyester 0.47 $\mu$ F 250V     | 1      |
| C536 | 9V-62204-65 | Electrolytic 1.0 $\mu$ F 250V   | 1      |
| C537 | 9V-62204-65 | Electrolytic 1.0 $\mu$ F 250V   | 1      |
| C538 | 9V-62204-65 | Electrolytic 1.0 $\mu$ F 250V   | 1      |
| C539 | 9V-62149-65 | Electrolytic 47 $\mu$ F 100V    | 1      |
| C540 | 9T-69955-50 | Ceramic 0.1 $\mu$ F 100V        | 1      |
| C541 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C542 | 9V-62146-65 | Electrolytic 10 $\mu$ F 100V    | 1      |
| C543 | 9T-70973-50 | Polyester 0.1 $\mu$ F 250V      | 1      |
| C544 | 9V-62050-65 | Electrolytic 100 $\mu$ F 16V    | 1      |
| C545 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C546 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C547 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C548 | 9V-62208-65 | Electrolytic 10 $\mu$ F 250V    | 1      |
| C549 | 9T-67773-51 | Ceramic 0.01 $\mu$ F 2KV        | 1      |
| C550 | 9T-67773-51 | Ceramic 0.01 $\mu$ F 2KV        | 1      |
| C551 | 9V-69902-50 | Ceramic 1000PF 2KV              | 1      |
| C552 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C553 | 9T-70913-50 | Polyester 0.1 $\mu$ F 50V       | 1      |
| C554 | 9T-70905-50 | Polyester 4700PF 50V            | 1      |
| C555 | 9V-62102-65 | Electrolytic 1.0 $\mu$ F 50V    | 1      |
| C556 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C557 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C558 | 9V-67216-50 | Ceramic 22PF 50V                | 1      |
| C559 | 9V-62049-65 | Electrolytic 47 $\mu$ F 16V     | 1      |
| C560 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C561 | 9T-70901-50 | Polyester 1000PF 50V            | 1      |
| C562 |             | N/A                             | 0      |
| C563 |             | N/A                             | 0      |
| C564 | 9V-62066-65 | Electrolytic 10 $\mu$ F 25V     | 1      |
| C565 | 9T-70913-50 | Polyester 0.1 $\mu$ F 50V       | 1      |
| C566 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C567 | 9T-69978-50 | Ceramic 0.1 $\mu$ F 50V         | 1      |
| C568 |             | N/A                             | 0      |
| L501 |             | N/A                             | 0      |
| L502 | 9U-04002-50 | Micro Inductor 0.47UH           | 1      |
| L503 | 9U-04002-50 | Micro Inductor 0.47UH           | 1      |
| L504 | 9U-15321-51 | Micro Inductor LAL04TB100K      | 1      |
| L505 | 9U-05001-50 | Bead Inductor BF40DTA 3.5X6X0.8 | 1      |
| L506 | 9U-15321-51 | Micro Inductor LAL04TB100K      | 1      |
| L507 | 9U-05002-50 | Bead Inductor BF45TA3.5X4.5X0.8 | 1      |
| L508 | 9U-05002-50 | Bead Inductor BF45TA3.5X4.5X0.8 | 1      |

| Ref   | Parts code  | Type                            | amount |
|-------|-------------|---------------------------------|--------|
| L509  | 9U-05001-50 | Bead Inductor BF40DTA 3.5X6X0.8 | 1      |
| L510  | 9U-05002-50 | Bead Inductor BF45TA3.5X4.5X0.8 | 1      |
| L511  | 9U-05001-50 | Bead Inductor BF40DTA 3.5X6X0.8 | 1      |
| L512  | 9U-05383-51 | Micro Inductor SPT0203SA-150K-7 | 1      |
| L513  | 9U-05393-51 | Micro Inductor SPT0203SA-101K-7 | 1      |
| L514  | 9U-05001-50 | Bead Inductor BF40DTA 3.5X6X0.8 | 1      |
| L515  | 9U-05001-50 | Bead Inductor BF40DTA 3.5X6X0.8 | 1      |
| SG501 | 9T-92019-50 | Serge Protector DSP-201M-C04F   | 1      |
| SG502 | 9T-92019-50 | Serge Protector DSP-201M-C04F   | 1      |
| SG503 | 9T-92019-50 | Serge Protector DSP-201M-C04F   | 1      |
| SG504 | 9T-92016-50 | Serge Protector AG15PC152FB-K2M | 1      |
| P501  | 9T-82124-00 | Connector IL-FPC-20ST-N         | 1      |
| P502  | 9T-86651-00 | Connector B9B-XH-2              | 1      |
| P503  | 9T-87311-00 | Connector 005P-3200             | 1      |
| P504  | 9T-86631-00 | Connector B2B-PH-K-R            | 1      |
| JW501 | 2D-03580-93 | Jumper 0.58 $\phi$ (P=7.5 mm)   | 1      |
| JW502 | 2D-03580-93 | Jumper 0.58 $\phi$ (P=7.5 mm)   | 1      |
| JW503 | 2D-03580-92 | Jumper 0.58 $\phi$ (P=5 mm)     | 1      |
| JW504 | 2D-03580-92 | Jumper 0.58 $\phi$ (P=5 mm)     | 1      |
| JW505 | 2D-03580-92 | Jumper 0.58 $\phi$ (P=5 mm)     | 1      |
| JW506 | 2D-03580-92 | Jumper 0.58 $\phi$ (P=5 mm)     | 1      |
| JW507 | 2D-03580-90 | Jumper 0.58 $\phi$ (P=12.5 mm)  | 1      |
| JW508 | 2D-03580-90 | Jumper 0.58 $\phi$ (P=12.5 mm)  | 1      |
| JW509 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW510 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW511 | 2D-03580-92 | Jumper 0.58 $\phi$ (P=5 mm)     | 1      |
| JW512 | 2D-03580-92 | Jumper 0.58 $\phi$ (P=5 mm)     | 1      |
| JW513 | 2D-03580-90 | Jumper 0.58 $\phi$ (P=12.5 mm)  | 1      |
| JW514 | 2D-03580-93 | Jumper 0.58 $\phi$ (P=7.5 mm)   | 1      |
| JW515 | 2D-03580-93 | Jumper 0.58 $\phi$ (P=7.5 mm)   | 1      |
| JW516 | 2D-03580-92 | Jumper 0.58 $\phi$ (P=5 mm)     | 1      |
| JW517 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW518 | 2D-03580-93 | Jumper 0.58 $\phi$ (P=7.5 mm)   | 1      |
| JW519 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW520 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW521 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW522 | 2D-03580-93 | Jumper 0.58 $\phi$ (P=7.5 mm)   | 1      |
| JW523 | 2D-03580-93 | Jumper 0.58 $\phi$ (P=7.5 mm)   | 1      |
| JW524 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW525 | 2D-03580-90 | Jumper 0.58 $\phi$ (P=12.5 mm)  | 1      |
| JW526 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW527 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW528 | 2D-03580-93 | Jumper 0.58 $\phi$ (P=7.5 mm)   | 1      |
| JW529 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW530 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW531 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW532 | 2D-03580-91 | Jumper 0.58 $\phi$ (P=15 mm)    | 1      |
| JW533 | 2D-03580-93 | Jumper 0.58 $\phi$ (P=7.5 mm)   | 1      |
| JW535 | 2D-03580-93 | Jumper 0.58 $\phi$ (P=7.5 mm)   | 1      |
| JW536 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW537 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW538 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW539 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW540 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW541 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW542 | 2D-03580-93 | Jumper 0.58 $\phi$ (P=7.5 mm)   | 1      |
| JW543 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW544 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW545 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW546 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW547 | 2D-03580-93 | Jumper 0.58 $\phi$ (P=7.5 mm)   | 1      |
| JW548 | 2D-03580-93 | Jumper 0.58 $\phi$ (P=7.5 mm)   | 1      |
| JW549 | 2D-03580-93 | Jumper 0.58 $\phi$ (P=7.5 mm)   | 1      |
| JW550 | 2D-03580-93 | Jumper 0.58 $\phi$ (P=7.5 mm)   | 1      |
| JW551 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW552 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW553 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW554 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW555 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW556 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW557 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW558 | 2D-03580-04 | Jumper 0.58 $\phi$ (P=10 mm)    | 1      |
| JW559 | 2D-03580-93 | Jumper 0.58 $\phi$ (P=7.5 mm)   | 1      |

| Ref         | Parts code  | Type          | amount             | Ref | Parts code | Type                       | amount            |   |
|-------------|-------------|---------------|--------------------|-----|------------|----------------------------|-------------------|---|
| JW561       | 2D-03580-93 | Jumper        | 0.58 φ (P=7.5 mm)  | 1   | R615       | 9T-51014-67 Carbon         | 4.7K 1/6W         | 1 |
| JW562       | 2D-03580-93 | Jumper        | 0.58 φ (P=7.5 mm)  | 1   | R616       | 9T-51014-67 Carbon         | 4.7K 1/6W         | 1 |
| JW563       | 2D-03580-04 | Jumper        | 0.58 φ (P=10 mm)   | 1   | R617       | 9T-51014-73 Carbon         | 8.2K 1/6W         | 1 |
| JW565       | 2D-03580-92 | Jumper        | 0.58 φ (P=5 mm)    | 1   | R618       | 9T-51012-51 Carbon         | 10 1/6W           | 1 |
| JW567       | 2D-03580-93 | Jumper        | 0.58 φ (P=7.5 mm)  | 1   | R619       | 9T-51012-51 Carbon         | 10 1/6W           | 1 |
| JW568       | 2D-03580-92 | Jumper        | 0.58 φ (P=5 mm)    | 1   | R620       | 9T-51012-51 Carbon         | 10 1/6W           | 1 |
| JW569       | 2D-03580-90 | Jumper        | 0.58 φ (P=12.5 mm) | 1   | R621       | 9T-51014-51 Carbon         | 1.0K 1/6W         | 1 |
| JW570       | 2D-03580-92 | Jumper        | 0.58 φ (P=5 mm)    | 1   | R622       | 9T-51017-51 Carbon         | 1.0M 1/6W         | 1 |
| JW571       |             | N/A           |                    | 0   | R623       | 9T-51015-51 Carbon         | 10K 1/6W          | 1 |
| JW572       | 2D-03580-91 | Jumper        | 0.58 φ (P=15 mm)   | 1   | R624       | 9T-51015-51 Carbon         | 10K 1/6W          | 1 |
| JW573       | 2D-03580-91 | Jumper        | 0.58 φ (P=15 mm)   | 1   | R625       | 9T-51015-51 Carbon         | 10K 1/6W          | 1 |
| FN501       | 9U-56421-01 | Heat Sink     | PSM10-511Z         | 1   | R626       | 9T-51015-51 Carbon         | 10K 1/6W          | 1 |
| S501        | 9V-89001-00 | CRT Socket    | カ- B10-301 DTカ     | 1   | R627       | 9T-51015-51 Carbon         | 10K 1/6W          | 1 |
| Z501        | 9T-88955-50 | GND Contact   | TP00383-41         | 1   | R628       | 9T-51012-59 Carbon         | 22 1/6W           | 1 |
| Z502        | 9T-88955-50 | GND Contact   | TP00383-41         | 1   | R629       | 9T-51012-59 Carbon         | 22 1/6W           | 1 |
| Z503        | 9T-88955-50 | GND Contact   | TP00383-41         | 1   | R630       | 9T-51014-55 Carbon         | 1.5K 1/6W         | 1 |
| Z504        | 9T-88955-50 | GND Contact   | TP00383-41         | 1   | R631       | 9T-51012-59 Carbon         | 22 1/6W           | 1 |
| Z505        | 9U-20982-00 | Wire Saddle   | WS-2NS             | 1   | R632       | 9T-51012-59 Carbon         | 22 1/6W           | 1 |
| Z506        | 9U-21046-00 | Edge Saddle   | EDS-1208U          | 1   | R633       | 9T-51012-59 Carbon         | 22 1/6W           | 1 |
| Z507        | 3A-85431-00 | Leafcon       | 1CX60mm            | 1   | R634       | 9T-51012-59 Carbon         | 22 1/6W           | 1 |
| MA501       | 9U-56452-00 | Shield VA     | PSM10-540BZ        | 1   | R635       | 9T-51012-59 Carbon         | 22 1/6W           | 1 |
| MA502       | 9U-56442-00 | Shield VB     | PSM10-541AZ        | 1   | R636       | 9T-51012-59 Carbon         | 22 1/6W           | 1 |
| MA504       | 9U-56425-00 | GND ASSY      | PSM10-521AZ        | 1   | R637       | 9T-51012-59 Carbon         | 22 1/6W           | 1 |
| <I/F Board> |             |               |                    |     | R638       | 9T-51012-59 Carbon         | 22 1/6W           | 1 |
| PB004       | 9T-19243-00 | I/F Unit      | IF2-A10            | 1   | R641       | 9T-51013-63 Carbon         | 330 1/6W          | 1 |
| <USB Board> |             |               |                    |     | R642       | 9T-51013-63 Carbon         | 330 1/6W          | 1 |
| PB005       | 9T-13189-03 | PWB           | PBH189-3           | 1   | R643       | 9T-51013-63 Carbon         | 330 1/6W          | 1 |
| IC601       | 9T-36652-00 | IC            | P83C180            | 1   | R931       | 9T-59710-50 Fusible        | 0.1 1/4W          | 1 |
| IC602       | 9T-35224-00 | IC            | PDIUSBH11ANB       | 1   | R932       | 9T-59710-50 Fusible        | 0.1 1/4W          | 1 |
| IC603       | 9T-35202-00 | IC            | UCC38531           | 1   | R933       | 9T-51012-63 Carbon         | 33 1/6W           | 1 |
| IC931       | 9T-35033-00 | IC            | MIP0223SY          | 1   | R934       | 9T-51012-51 Carbon         | 10 1/6W           | 1 |
| IC941       | 9T-33404-00 | IC            | TL431CLPB          | 1   | R941       | 2D-03580-04 Jumper         | 0.58 φ (P=10 mm)  | 1 |
| Q941        | 9T-42566-50 | Transistor    | 2SC4266-T11-Q1R    | 1   | R942       | 9T-51013-55 Carbon         | 150 1/6W          | 1 |
| D601        | 9T-47203-50 | Diode         | 1SS254T-77         | 1   | R943       | 9T-51014-51 Carbon         | 1.0K 1/6W         | 1 |
| D602        | 9T-47203-50 | Diode         | 1SS254T-77         | 1   | R944       | 9T-51014-59 Carbon         | 2.2K 1/6W         | 1 |
| D603        | 9T-47203-50 | Diode         | 1SS254T-77         | 1   | R945       | 9T-51014-57 Carbon         | 1.8K 1/6W         | 1 |
| D604        | 9T-47203-50 | Diode         | 1SS254T-77         | 1   | R946       | 9T-51014-67 Carbon         | 4.7K 1/6W         | 1 |
| D605        | 9T-47203-50 | Diode         | 1SS254T-77         | 1   | R947       | 9T-51014-57 Carbon         | 1.8K 1/6W         | 1 |
| D606        | 9T-47203-50 | Diode         | 1SS254T-77         | 1   | VA931      | 9T-48958-00 Serge Absorber | Z2180U            | 1 |
| D607        | 9T-47203-50 | Diode         | 1SS254T-77         | 1   | C601       | 9T-62106-56 Electrolytic   | 10 μ F 50V        | 1 |
| D608        | 9T-47203-50 | Diode         | 1SS254T-77         | 1   | C602       | 9V-67216-50 Ceramic        | 22PF 50V          | 1 |
| D609        | 9T-47203-50 | Diode         | 1SS254T-77         | 1   | C603       | 9V-67216-50 Ceramic        | 22PF 50V          | 1 |
| D610        | 9T-47203-50 | Diode         | 1SS254T-77         | 1   | C604       | 9T-62106-56 Electrolytic   | 10 μ F 50V        | 1 |
| D611        | 9T-47203-50 | Diode         | 1SS254T-77         | 1   | C605       | 9T-62106-56 Electrolytic   | 10 μ F 50V        | 1 |
| D612        | 9T-47203-50 | Diode         | 1SS254T-77         | 1   | C606       | 9T-69978-50 Ceramic        | 0.1 μ F 50V       | 1 |
| D613        | 9T-47203-50 | Diode         | 1SS254T-77         | 1   | C607       | 9V-67216-50 Ceramic        | 22PF 50V          | 1 |
| D614        | 9T-47203-50 | Diode         | 1SS254T-77         | 1   | C608       | 9V-67216-50 Ceramic        | 22PF 50V          | 1 |
| D615        | 9T-47203-50 | Diode         | 1SS254T-77         | 1   | C609       | 9T-62106-56 Electrolytic   | 10 μ F 50V        | 1 |
| D616        | 9T-47203-50 | Diode         | 1SS254T-77         | 1   | C610       | 9T-62106-56 Electrolytic   | 10 μ F 50V        | 1 |
| D931        | 9T-47164-50 | Diode         | EG01C-V0           | 1   | C611       | 9T-69978-50 Ceramic        | 0.1 μ F 50V       | 1 |
| D932        | 9T-47094-50 | Diode         | ERA92-02 V3        | 1   | C612       | 9T-69978-50 Ceramic        | 0.1 μ F 50V       | 1 |
| D941        | 9T-47279-00 | Diode         | YG902C2R           | 1   | C613       | 9T-62106-56 Electrolytic   | 10 μ F 50V        | 1 |
| D942        | 9T-46359-01 | Zener Diode   | RD9.1FB2 22M       | 1   | C614       | 9T-62106-56 Electrolytic   | 10 μ F 50V        | 1 |
| D943        | 9T-47086-50 | Diode         | ERA15-01 V3        | 1   | C615       | 9T-69978-50 Ceramic        | 0.1 μ F 50V       | 1 |
| D944        | 9T-47086-50 | Diode         | ERA15-01 V3        | 1   | C616       | 9T-69978-50 Ceramic        | 0.1 μ F 50V       | 1 |
| PH931       | 9T-49152-00 | Photo Coupler | PC123FY2           | 1   | C617       | 9T-62050-56 Electrolytic   | 100 μ F 16V       | 1 |
| RV941       | 9T-50900-55 | Variable      | EVM-EGSA01B13      | 1   | C618       | 9T-62050-56 Electrolytic   | 100 μ F 16V       | 1 |
| R601        | 9T-51014-67 | Carbon        | 4.7K 1/6W          | 1   | C619       | 9T-62050-56 Electrolytic   | 100 μ F 16V       | 1 |
| R602        | 9T-51014-67 | Carbon        | 4.7K 1/6W          | 1   | C620       | 9T-62050-56 Electrolytic   | 100 μ F 16V       | 1 |
| R603        | 9T-51014-67 | Carbon        | 4.7K 1/6W          | 1   | C621       | 9T-69978-50 Ceramic        | 0.1 μ F 50V       | 1 |
| R604        | 9T-51014-67 | Carbon        | 4.7K 1/6W          | 1   | C931       | 9T-77587-50 Polyester      | 0.1 μ F 400V      | 1 |
| R605        | 9T-51014-67 | Carbon        | 4.7K 1/6W          | 1   | C932       | 9T-69978-50 Ceramic        | 0.1 μ F 50V       | 1 |
| R606        | 9T-51014-67 | Carbon        | 4.7K 1/6W          | 1   | C933       | 9T-62049-56 Electrolytic   | 47 μ F 16V        | 1 |
| R607        | 9T-51014-67 | Carbon        | 4.7K 1/6W          | 1   | C934       | 9T-69978-50 Ceramic        | 0.1 μ F 50V       | 1 |
| R608        | 9T-51014-67 | Carbon        | 4.7K 1/6W          | 1   | C941       | 9T-62055-06 Electrolytic   | 2200 μ F 16V      | 1 |
| R609        | 9T-51017-51 | Carbon        | 1.0M 1/6W          | 1   | C942       | 9T-62054-56 Electrolytic   | 1000 μ F 16V      | 1 |
| R610        | 9T-51015-51 | Carbon        | 10K 1/6W           | 1   | C943       | 9T-62051-56 Electrolytic   | 220 μ F 16V       | 1 |
| R611        | 9T-51015-51 | Carbon        | 10K 1/6W           | 1   | C944       | 9T-70913-50 Polyester      | 0.1 μ F 50V       | 1 |
| R612        | 9T-51015-51 | Carbon        | 10K 1/6W           | 1   | C945       | 9T-69978-50 Ceramic        | 0.1 μ F 50V       | 1 |
| R613        | 9T-51014-63 | Carbon        | 3.3K 1/6W          | 1   | C946       | 9T-69978-50 Ceramic        | 0.1 μ F 50V       | 1 |
| R614        | 9T-51014-63 | Carbon        | 3.3K 1/6W          | 1   | L601       | 9U-05001-50 Bead Inductor  | BF40DTA 3.5X6X0.8 | 1 |
|             |             |               |                    |     | L602       | 9U-05001-50 Bead Inductor  | BF40DTA 3.5X6X0.8 | 1 |
|             |             |               |                    |     | L603       | 9U-05001-50 Bead Inductor  | BF40DTA 3.5X6X0.8 | 1 |

| Ref   | Parts code  | Type           | amount             | Ref | Parts code    | Type        | amount          |                        |   |
|-------|-------------|----------------|--------------------|-----|---------------|-------------|-----------------|------------------------|---|
| L604  | 9U-05001-50 | Bead Inductor  | BF40DTA 3.5X6X0.8  | 1   | Z604          | 9T-88955-50 | GND Contact     | TP00383-41             | 1 |
| L605  | 9U-05001-50 | Bead Inductor  | BF40DTA 3.5X6X0.8  | 1   | Z605          | 9T-91992-00 |                 | 2.0 X 3.0 X 3.3        | 2 |
| L606  | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | Z606          | 9T-91991-00 |                 | 1.6 X 3.0 X 3.0        | 2 |
| L607  | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | <USB-D Board> |             |                 |                        |   |
| L608  | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | 0PB006        | 9T-13203-02 | PWB             | PBH203-2               | 1 |
| L609  | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | P801          | 9T-86648-00 | Connector       | B8B-XH-2               | 1 |
| L610  | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | P802          | 9T-86648-00 | Connector       | B8B-XH-2               | 1 |
| L611  | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | P803          | 9T-87287-00 | USB Socket      | CSS5104-0211           | 1 |
| L612  | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | P804          | 9T-87287-00 | USB Socket      | CSS5104-0211           | 1 |
| L613  | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | <SW Board>    |             |                 |                        |   |
| L614  | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | PB007         | 9T-13209-00 | PWB             | PBH209-0               | 1 |
| L615  | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | D701          | 9T-48435-50 | Photo Diode     | "SML16716CNTP4-D1,D3 " | 1 |
| L616  | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | R701          | 9T-51014-53 | Carbon          | 1.2K 1/6W              | 1 |
| L617  | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | R702          | 9T-51013-59 | Carbon          | 220 1/6W               | 1 |
| L618  | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | R703          | 9V-52004-51 | Metal           | 1.0K 1/4W              | 1 |
| L619  | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | R704          | 9V-52004-51 | Metal           | 1.0K 1/4W              | 1 |
| L620  | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | R705          | 9V-52004-62 | Metal           | 3.0K 1/4W              | 1 |
| L621  | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | R706          | 9V-52004-51 | Metal           | 1.0K 1/4W              | 1 |
| L622  | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | R707          | 9V-52004-51 | Metal           | 1.0K 1/4W              | 1 |
| L623  | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | R708          | 9V-52004-62 | Metal           | 3.0K 1/4W              | 1 |
| L624  | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | P701          | 9T-86604-00 | Connector       | B5B-PH-K               | 1 |
| L625  |             | N/A            |                    | 0   | SW701         | 9T-90366-50 | Tact Switch     | EVQ 11L 05R            | 1 |
| L941  | 9U-15486-50 | Micro Inductor | LHL10TB100K        | 1   | SW702         | 9T-90366-50 | Tact Switch     | EVQ 11L 05R            | 1 |
| T931  | 9T-94982-00 | SRT            | PTR69-02           | 1   | SW703         | 9T-90366-50 | Tact Switch     | EVQ 11L 05R            | 1 |
| K931  | 9T-91509-00 | Relay          | VB-5STBU-5-IM2     | 1   | SW704         | 9T-90366-50 | Tact Switch     | EVQ 11L 05R            | 1 |
| P601  | 9T-86648-00 | Connector      | B8B-XH-2           | 1   | <BODY>        |             |                 |                        | 0 |
| P602  | 9T-86648-00 | Connector      | B8B-XH-2           | 1   | L001          | 8F-81451-00 | Rotation Coil   | PCL01-73               | 1 |
| P603  | 9T-86679-00 | Connector      | S9B-XH-A           | 1   | CA001         | 9V-00060-00 | TCO ASSY        | PZE43-04               | 1 |
| P931  | 9T-86652-00 | Connector      | B2P3-VH-B          | 1   | CA002         | 9V-00006-00 | IF-VIDEO ASSY   | PZE12-90               | 1 |
| JW601 | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | CA003         | 6C-89052-00 | KR Assy         | PZK15-25               | 1 |
| JW602 | 2D-03580-93 | Jumper         | 0.58 φ (P=7.5 mm)  | 1   | CA004         | 3A-85201-00 | Leafcon         | TFL-125K-20-60         | 1 |
| JW603 | 2D-03580-04 | Jumper         | 0.58 φ (P=10 mm)   | 1   | CA005         | 9V-01607-00 |                 | PZE42-14               | 2 |
| JW604 | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | CA006         | 9M-27237-00 | Connector       | ASSYCD-WH-A13-01       | 1 |
| JW605 | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | CA007         | 9U-16554-00 | Inlet Filter    | SUP-L3G-E-3            | 1 |
| JW606 | 2D-03580-04 | Jumper         | 0.58 φ (P=10 mm)   | 1   | CA008         | 9V-00066-00 | EMI GND ASSY    | PZE83-60               | 2 |
| JW607 | 2D-03580-91 | Jumper         | 0.58 φ (P=15 mm)   | 1   | CA009         | 9V-00078-00 | USB ASSY        | PZE12-81               | 1 |
| JW608 | 2D-03580-04 | Jumper         | 0.58 φ (P=10 mm)   | 1   | CA010         | 9V-00079-00 | USB-D ASSY      | PZE19-09               | 2 |
| JW609 | 2D-03580-04 | Jumper         | 0.58 φ (P=10 mm)   | 1   | CA011         | 9V-00022-00 | AC Cord         | PZE34-00 (UL/CSA)      | 1 |
| JW610 | 2D-03580-93 | Jumper         | 0.58 φ (P=7.5 mm)  | 1   | CA013         | 9V-00026-00 | Signal Cable    | PZE25-01 (DOS/V)       | 1 |
| JW612 | 2D-03580-90 | Jumper         | 0.58 φ (P=12.5 mm) | 1   | CA014         | 9V-00070-00 | USB Cable       | PZE29-01               | 1 |
| JW613 | 2D-03580-90 | Jumper         | 0.58 φ (P=12.5 mm) | 1   | CA015         | 9V-01608-00 | GND ASSY        | PZE42-18               | 1 |
| JW614 | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | CA016         | 9V-00067-00 | GND ASSY        | PZE42-56               | 1 |
| JW615 | 2D-03580-93 | Jumper         | 0.58 φ (P=7.5 mm)  | 1   | V001          | 9T-03464-00 | CRT             | M41KZV31X              | 1 |
| JW616 | 2D-03580-93 | Jumper         | 0.58 φ (P=7.5 mm)  | 1   | DY001         | 7G-20015-00 | DY              | TCD-14602A             | 1 |
| JW617 | 2D-03580-93 | Jumper         | 0.58 φ (P=7.5 mm)  | 1   | DG001         | 9U-00004-00 | Degauss Coil    | PCL62-12               | 1 |
| JW618 | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | Z001          | 9T-99851-00 |                 | RUBBER-WEDGE-S         | 4 |
| JW619 | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | Z002          | 9W-70404-00 | HV cable Holder | 3-704-372-01           | 2 |
| JW620 | 2D-03580-04 | Jumper         | 0.58 φ (P=10 mm)   | 1   | Z003          | 9T-99823-00 | Ferrite Sheet A | SPOILER-A              | 4 |
| JW621 | 2D-03580-93 | Jumper         | 0.58 φ (P=7.5 mm)  | 1   | Z004          | 9T-99824-00 | Ferrite Sheet B | SPOILER-B              | 4 |
| JW622 | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | Z005          | 9T-99825-00 | Ferrite Sheet C | SPOILER-C              | 4 |
| JW624 | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | Z006          | 9T-99826-00 | Ferrite Sheet D | SPOILER-D              | 8 |
| JW625 | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | Z010          | 9T-99803-00 | CPM             | CP-ASSY-ABL            | 1 |
| JW626 | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | Z013          | 9T-97941-00 | Core            | MSFC8KEX               | 1 |
| JW627 | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | MA001         | 9U-69151-00 | Bracket         | PMM37-12               | 1 |
| JW628 | 9T-91911-00 | Jumper         | J1/4Z              | 1   | MA002         | 9U-69153-00 | DGC HOOK        | PMM41-11               | 1 |
| JW629 | 2D-03580-04 | Jumper         | 0.58 φ (P=10 mm)   | 1   | MA003         | 9U-75121-00 | Panel CN        | PPA17-39 Z             | 1 |
| JW630 | 2D-03580-04 | Jumper         | 0.58 φ (P=10 mm)   | 1   | MA004         | 9U-75117-00 | Panel TOP       | PPA17-29 Z             | 1 |
| JW631 | 2D-03580-04 | Jumper         | 0.58 φ (P=10 mm)   | 1   | MA005         | 9U-55565-00 | ㄅ- CRT-R        | PST17-22AZ             | 1 |
| JW632 | 2D-03580-04 | Jumper         | 0.58 φ (P=10 mm)   | 1   | MA006         | 9U-55560-02 | ㄅ- CRT-L        | PST17-13AZ             | 1 |
| JW633 | 2D-03580-04 | Jumper         | 0.58 φ (P=10 mm)   | 1   | MA008         | 9U-54659-01 | ｼｬｰｼ            | PCH17-14AZ             | 1 |
| JW634 | 2D-03580-93 | Jumper         | 0.58 φ (P=7.5 mm)  | 1   | MA009         | 9U-56434-00 | Spacer          | PSM22-21               | 1 |
| JW635 | 2D-03580-92 | Jumper         | 0.58 φ (P=5 mm)    | 1   | MA010         | 9U-76095-00 | Holder USB      | PHD10-636BZ            | 1 |
| JW931 | 2D-03580-04 | Jumper         | 0.58 φ (P=10 mm)   | 1   | MA011         | 9U-56456-00 | Shield USB      | PSM10-567 Z            | 1 |
| JW932 | 2D-03580-04 | Jumper         | 0.58 φ (P=10 mm)   | 1   | MA012         | 9Z-03990-00 | Screw           | PSM10-497              | 1 |
| JW933 | 2D-03580-04 | Jumper         | 0.58 φ (P=10 mm)   | 1   | MA015         | 9Z-03999-01 | Screw           | PZM10-1028A (M4 X 12)  | 1 |
| JW934 | 2D-03580-93 | Jumper         | 0.58 φ (P=7.5 mm)  | 1   | MH001         | 9U-61031-00 | Cover           | PCO17-17               | 1 |
| FN931 | 9V-92818-00 | Heat Sink      | 16X17X25MM         | 1   | MH002         | 9U-69152-00 | Tilt ASSY       | PMM27-16               | 1 |
| FN941 | 9V-92818-00 | Heat Sink      | 16X17X25MM         | 1   | MH003         | 9U-62077-00 | Bezel ASSY      | PBE17-46               | 1 |
| X601  | 9T-92989-00 | X'tal          | HC-49/U-S 12MHZ    | 1   | MP001         | 9U-40481-00 | Manual          | PZZ11-481              | 1 |
| X602  | 9T-92989-00 | X'tal          | HC-49/U-S 12MHZ    | 1   | MP008         | 9U-83669-00 | Carton          | PZP22-273              | 1 |
| Z601  | 9T-88955-50 | GND Contact    | TP00383-41         | 1   |               |             |                 |                        |   |
| Z602  | 9T-88955-50 | GND Contact    | TP00383-41         | 1   |               |             |                 |                        |   |
| Z603  | 9T-88955-50 | GND Contact    | TP00383-41         | 1   |               |             |                 |                        |   |

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