

# HITACHI

**PA****No. 0141****32GX01B 32UX01S  
36GX01B 36UX01S****NTSC****M10LXU Chassis****R/C: CLU-381UG  
R/C: CLU-341UG**

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**TO GO TO A CHAPTER, CLICK ON ITS HEADING ABOVE.**

**CAUTION:** Before servicing this chassis, it is important that the service technician read the “Product Safety Notices” in this service manual.

## **SAFETY NOTICE**

### **USE ISOLATION TRANSFORMER WHEN SERVICING**

Components having special safety characteristics are identified by a  on the parts list in this Service Data and its supplements and bulletins. Before servicing the chassis, it is important that the service technician read and follow the “Safety Precautions” and “Product Safety Notices” in this Service Manual.

**SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT**

**MAY 2000**

**HHEA-MANUFACTURING DIVISION**

## SAFETY PRECAUTIONS

**NOTICE:** Comply with all cautions and safety-related notes located on or inside the cabinet and on the chassis or picture tube.

**WARNING:** Since the chassis of this receiver is connected to one side of the AC power supply during operation, whenever the receiver is plugged in, service should not be attempted by anyone unfamiliar with the precautions necessary when working on this type of receiver.

The following precautions should be observed:

1. Do not install, remove, or handle the picture tube in any manner unless shatterproof goggles are worn. People not so equipped should be kept away from the picture tube while handling.
2. When service is required, an isolation transformer should be inserted between power line and the receiver before any service is performed on a "HOT" chassis receiver.
3. When replacing a chassis in the receiver, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment cover-shields, isolation resistors, capacitors, etc.
4. When service is required, observe the original lead dress in the high voltage circuitry area.
5. Always use the manufacturer's replacement components. Critical components as indicated on the circuit diagram should not be replaced by another manufacturer's. Furthermore, where a short circuit has occurred, replace those components that indicate evidence of overheating.
6. Before returning a serviced receiver to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the receiver by the manufacturer has become defective, or inadvertently defeated during servicing.

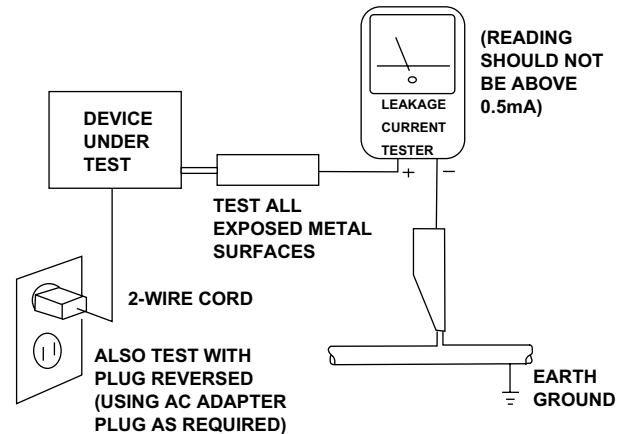
Therefore, the following checks should be performed for the continued protection of the customer and service technician.

### Leakage Current Cold Check

With the AC plug removed from the 120V AC 60Hz source, place a jumper across the two plug prongs. Using an insulation tester (DC500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (antennas, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis should have a minimum resistor reading of  $0.24M\Omega$  and a maximum resistor reading of  $12M\Omega$ . Any resistance value below or above this range indicates an abnormality which requires corrective action. An exposed metal part having a return path to the chassis will indicate an open circuit.

### Leakage Current Hot Check

Plug the AC line cord directly into a 120V AC 60Hz outlet (do not use an isolated transformer for this check). Turn the AC power ON. Using a Leakage Current Tester (Simpson's Model 229 or equivalent), measure for current from all exposed metal parts of the cabinet (antennas, screwheads, overlays, control shafts, etc.) particularly any exposed metal part having a return path to the chassis or to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 0.5 milliamps.



### AC LEAKAGE TEST

**ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE RECEIVER TO THE CUSTOMER.**

### High Voltage

This receiver is provided with a hold down circuit for clearly indicating that voltage has increased in excess of a predetermined value. Comply with all notes described in this service manual regarding this hold down circuit when servicing, so that this hold down circuit is operated correctly.

### Serviceman Warning

With minimum BRIGHTNESS and CONTRAST, the operating high voltage in this receiver is lower than  $30.0\pm 1kv(36V)$ ,  $29.0\pm 1kv(32V)$ . In case any component having influence on the high voltage is replaced, confirm that high voltage with minimum BRIGHTNESS and CONTRAST is lower than  $30.0\pm 1kv(36V)$ ,  $29.0\pm 1kv(32V)$ . To measure high voltage use a High Impedance High Voltage meter. Connect (-) to chassis earth and (+) to the CRT Anode button. (See the following connection diagram.)

**Note:** Turn power switch OFF without fail before the connection to the Anode button is made.

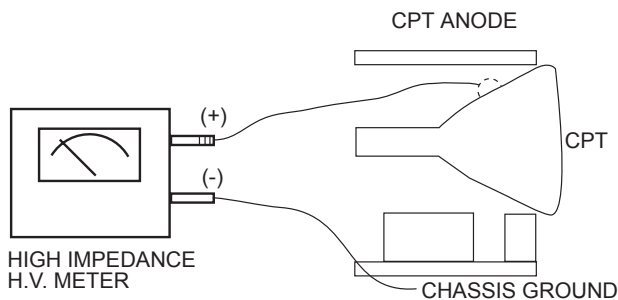
## PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in HITACHI television receivers have special safety-related characteristics. These are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified with an  mark in the schematics and parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the HITACHI-recommended replacement component, shown in the parts list in this Service Manual, may create shock, fire, X-radiation, or other hazards.

Production safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current HITACHI Service Manual. A subscription to, or additional copies of HITACHI Service Manuals may be obtained at a nominal charge from HITACHI Sales Corporation.



### X-Radiation

**TUBE:** The primary source of X-Radiation in this receiver is the picture tube. The tube utilized in this chassis is specially constructed to limit X-Radiation emissions. For continued X-Radiation protection, the replacement tube must be the same type as the original HITACHI-approved type.

When troubleshooting and making test measurements in a receiver with an excessive high voltage problem, avoid being unnecessarily close to the picture tube and the high voltage component.

Do not operate the chassis longer than is necessary to locate the cause of excessive voltage.

This Service Manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of

the product and may void warranty. Consumers should not risk trying to do the necessary repairs and should refer to a qualified service technician.

### WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health and Safety Code, Section 25249.5).

When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with solder. Also, when soldering do not inhale any smoke or fumes produced.

## SAFETY NOTICE USE ISOLATION TRANSFORMER WHEN SERVICING

Components having special safety characteristics identified by  on the parts list in this service manual and its supplements and bulletins. Before servicing this product, it is important that the service technician read and follow the "Safety Precautions" and the "Product Safety Notices" in this Service Manual.

For continued X-Radiation protection, replace picture tube with original type or HITACHI equivalent type.

### POWER SOURCE

This television receiver is designed to operate on 120 Volts/60Hz, AC house current. Insert the power cord into a 120 Volts/60Hz outlet.

**NEVER CONNECT THE TV TO OTHER THAN THE SPECIFIED VOLTAGE OR TO DIRECT CURRENT.**

## SERVICING PRECAUTIONS

**CAUTION:** Before servicing instruments covered by this service data and its supplements and addenda, read and follow the SAFETY PRECAUTIONS on page 3 of this publication.

**NOTE:** If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 3 of this publication, always follow the safety precautions. Remember: Safety First.

### General Servicing Guidelines

1. Always unplug the instrument AC power cord from the AC power source before:
  - a. Removing or reinstalling any component, circuit board, module, or any other instrument assembly.
  - b. Disconnecting or reconnecting any instrument electrical plug or other electrical connection.
  - c. Connecting a test substitute in parallel with an electrolytic capacitor in the instrument.

**CAUTION:** A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.
  - d. Discharging the picture tube anode.
2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM, etc.) equipped with a suitable high voltage probe. Do not test high voltage by "drawing an arc."
3. Discharge the picture tube's anode by (a) first connecting one end of an insulated clip lead to the degaussing or kine aquadag grounding system shield at the point where the picture tube socket ground lead is connected, and then (b) touch the other end of the insulated clip lead to the picture tube high voltage output, using an insulated handle to avoid personal contact with high voltage.
4. Do not spray chemicals on or near this instrument or any of its assemblies.
5. Unless specified otherwise in these service data, clean electrical contacts by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable nonabrasive applicator: 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength).

**CAUTION:** This is a flammable mixture. Unless specified otherwise in these service data, lubrication of contacts is not required.
6. Do not defeat any plug/socket B+ voltage interlocks which instruments covered by this service data might be equipped.
7. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat-sinks are correctly installed.

8. Always connect the test instrument ground lead to the appropriate instrument chassis ground before connecting the test instrument positive lead. Always remove the test instrument ground lead last.
9. Use with this instrument only the test fixtures specified in this service data.

**CAUTION:** Do not connect the test fixture ground strap to any heatsink in this instrument.

### Electrostatically Sensitive (ES) Devices

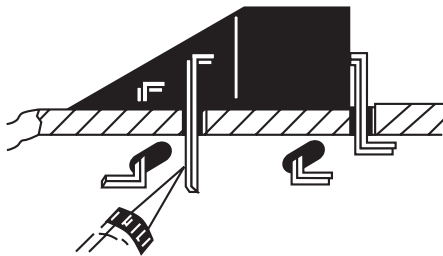
Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge build-up or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or desolder ES devices.
4. Use only an anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES device.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material.)
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

**CAUTION:** Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

### General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range 500°F to 600°F.
2. Use an appropriate gauge of resin-core solder composed of 60 parts tin/40 parts lead.
3. Keep the soldering iron tip clean and well-tinned.
4. Thoroughly clean the surfaces to be soldered. Use a small wire-bristle (0.5 inch or 1.25 cm) brush with a metal handle. Do not use freon-propelled spray-on cleaners.
5. Use the following desoldering technique.
  - a. Allow the soldering iron tip to reach normal temperature (500°F to 600°F).
  - b. Heat the component lead until the solder melts. Quickly draw away the melted solder with an anti-static, suction-type solder removal device or with solder braid.**CAUTION:** Work quickly to avoid overheating the circuit board printed foil.
6. Use the following soldering technique.
  - a. Allow the soldering iron tip to reach normal temperature (500°F to 600°F).
  - b. First, hold the soldering iron tip and solder strand against the component lead until the solder melts.
  - c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.**CAUTION:** Work quickly to avoid overheating the circuit board printed foil or components.
- d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.



Use Soldering Iron to Pry Leads

### IC Removal/Replacement

Some Hitachi unitized chassis circuit boards have slotted holes (oblong) through which the IC leads are inserted and then bent flat against the circuit foil. When holes are the slotted type, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 and 6 above.

#### Removal

1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.

2. Draw away the melted solder with an anti-static suction-type solder removal device (or with solder braid) before removing the IC.

### Replacement

1. Carefully insert the replacement IC in the circuit board.
2. Carefully bend each IC lead against the circuit foil pad and solder it.
3. Clean the soldered areas with a small wire-bristle brush. (It is not necessary to reapply acrylic coating to areas.)

### “Small-signal” Discrete Transistor Removal/Replacement

1. Remove the defective transistor by clipping its leads as close as possible to the component body.
2. Bend into a “U” shape the end of each of three leads remaining on the circuit board.
3. Bend into a “U” shape the replacement transistor leads.
4. Connect to replacement transistor leads to the corresponding leads extending from the circuit board and crimp the “U” with long nose pliers to insure metal to metal contact, then solder each connection.

### Power Output Transistor Devices Removal/Replacement

1. Heat and remove all solder from around the transistor leads.
2. Remove the heatsink mounting screw (if so equipped).
3. Carefully remove the transistor from the circuit board.
4. Insert new transistor in circuit board.
5. Solder each transistor lead, and clip off excess lead.
6. Replace heatsink.

### Diode Removal/Replacement

1. Remove defective diode by clipping its leads as close as possible to diode body.
2. Bend the two remaining leads perpendicularly to the circuit board.
3. Observing diode polarity, wrap each lead of the new diode around the corresponding lead on the circuit board.
4. Securely crimp each connection and solder it.
5. Inspect (on the circuit board copper side) the solder joints of the two “original leads”. If they are not shiny, reheat them and, if necessary, apply additional solder.

### Fuses and conventional Resistor Removal/Replacement

1. Clip each fuse or resistor lead at top of circuit board hollow stake.
2. Securely crimp leads of replacement component around stake 1/8 inch from top.
3. Solder the connections.

**CAUTION:** Maintain original spacing between the replaced component and adjacent components and the circuit board, to prevent excessive component temperatures.

### Circuit Board Foil Repair

Excessive heat applied to the copper foil of any printed circuit board will weaken the adhesive that bonds the foil to the circuit board, causing the foil to separate from, or "lift-off" the board. The following guidelines and procedures should be followed whenever this condition is encountered.

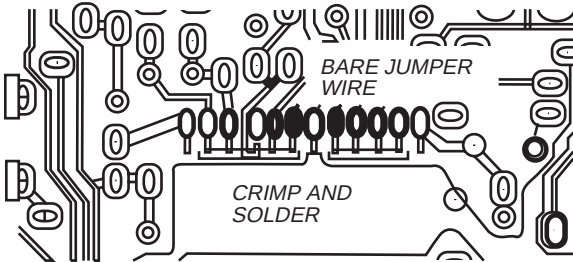
### In Critical Copper Pattern Areas

High component/copper pattern density and/or special voltage/current characteristics make the spacing and integrity of copper pattern in some circuit board areas more critical than in others. The circuit foil in these area is designated as Critical Copper Pattern. Because Critical Copper Pattern requires special soldering techniques to ensure the maintenance of reliability and safety standards, contact your Hitachi personnel.

### At IC Connections

To repair defective copper pattern at IC connections, use the following procedure to install a jumper wire on the copper pattern side of the circuit board. (Use this technique only on IC connections.)

1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary.)
2. Carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.

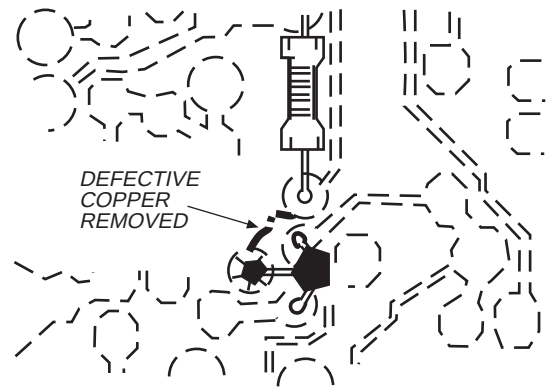


### Install Jumper Wire and Solder

3. Bend a small "U" in one end of a small-gauge jumper wire and carefully crimp it around the IC pin. Solder the IC connection.
4. Route the jumper wire along the path of the cut-away copper pattern and let it overlap the previously scraped end of the good copper pattern. Solder the overlapped area, and clip off any excess jumper wire.

### At Other Connections

Use the following technique to repair defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.



### Insulated Jumper Wire

1. Remove the defective copper pattern with a sharp knife. Remove at least 1/4 inch of copper, to ensure hazardous condition will not exist if the jumper wire opens.
2. Trace along the copper pattern from both wire sides of the pattern break and locate the nearest component directly connected to the affected copper pattern.
3. Connect insulated 20-gauge jumper wire from the nearest component on one side of the pattern break to the lead of the nearest component on the other side. Carefully crimp and solder the connections.

**CAUTION:** Be sure the insulated jumper wire is dressed so that it does not touch components or sharp edges.

### Frequency Synthesis (FS) Tuning Systems

1. Always unplug the instrument AC power cord before disconnecting or reconnecting FS tuning system cables and before removing or inserting FS tuning system modules.
2. The FS tuner must never be disconnected from the FS tuning control module while the power is applied to the instrument.
3. When troubleshooting intermittent problems that might be caused by defective cable connection(s) to the FS tuning system, remove the instrument AC power as soon as the defective connector is found and finish confirming the bad connection with a continuity test. This procedure will reduce the probability of electrical overstress of the FS system semi-conductor components.

**NOTE: These components are affixed with glue. Be careful not to break or damage any foil under the component or at the pins of the ICs when removing. Usually applying heat to the component for a short time while twisting with tweezers will break the component loose.**

## Leadless Chip Components (surface mount)

Chip components must be replaced with identical chips due to critical foil track spacing. There are no holes in the board to mount standard transistors or diodes. Some chip capacitor or resistor board solder pads may have holes through the board, however the hole diameter limits standard resistor replacement to 1/8 watt. Standard capacitors may also be limited for the same reason. It is recommended that identical chip components be used.

Chip resistors have a three digit numerical resistance code -1st and 2nd significant digits and a multiplier. Example: 162 = 1600 or 1.6K $\Omega$  resistor, 0 = 0 $\Omega$  (jumper).

Chip capacitors generally do not have the value indicated on the capacitor. The color of the component indicates the general range of the capacitance.

Chip transistors are identified by a two letter code. The first letter indicates the type and the second letter, the grade of transistor.

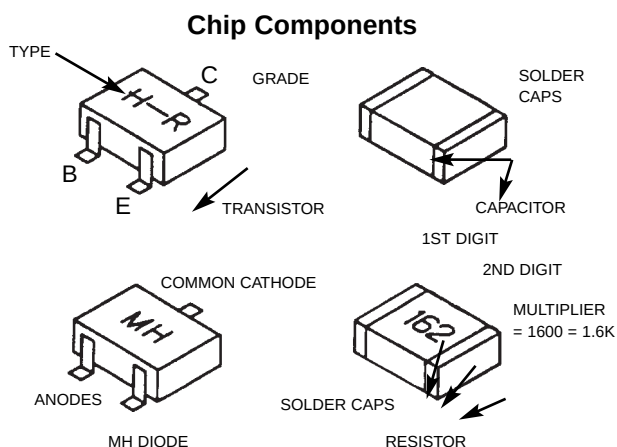
Chip diodes have a two letter identification code as per the code chart and are a dual diode pack with either common anode or common cathode. Check the parts list for correct diode number.

## Component Removal

1. Use solder wick to remove solder from component end caps or terminals.
2. Without pulling up, carefully twist the component with tweezers to break the adhesive.
3. Do not reuse removed leadless or chip components since they are subject to stress fracture during removal.

## Chip Component Installation

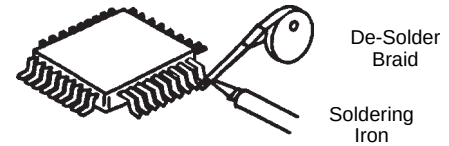
1. Put a small amount of solder on the board soldering pads.
2. Hold the chip component against the soldering pads with tweezers or with a miniature alligator clip and apply heat to the pad area with a 30 watt iron until solder flows. Do not apply heat for more than 3 seconds.



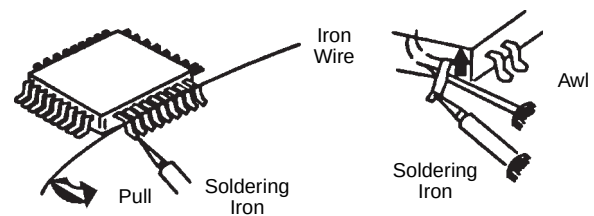
## How to Replace Flat-IC —Required Tools—

- Soldering iron
- iron wire or small awl
- De-solder braids
- Magnifier

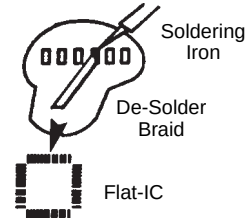
1. Remove the solder from all of the pins of a Flat-IC by using a de-solder braid.



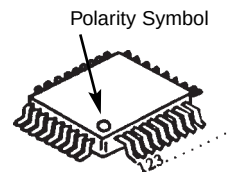
2. Put the iron wire under the pins of the Flat-IC and pull it in the direction indicated while heating the pins using a soldering iron. A small awl can be used instead of the iron wire.



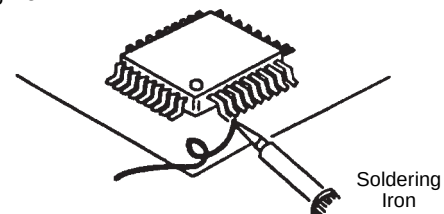
3. Remove the solder from all of the pads of the Flat-IC by using a de-solder braid.



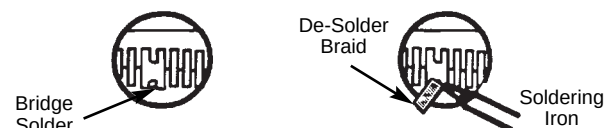
4. Position the new Flat-IC in place (apply the pins of the Flat-IC to the soldering pads where the pins need to be soldered). Properly determine the positions of the soldering pads and pins by correctly aligning the polarity symbol.



5. Solder all pins to the soldering pads using a fine tipped soldering iron.



6. Check with a magnifier for solder bridge between the pins or for dry joint between pins and soldering pads. To remove a solder bridge, use a de-solder braid as shown in the figure below.





## TECHNICAL SPECIFICATIONS

### POWER RATINGS

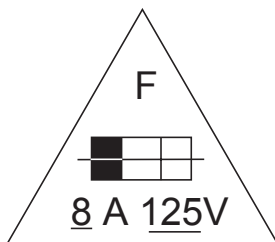
|              |                     |
|--------------|---------------------|
| 36UX01S/CZOU | .....168 Max. Watts |
| 32UX01S/CYOU | .....168 Max. Watts |
| 36GX01B/CZOG | .....150 Max. Watts |
| 32GX01B/CYOG | .....150 Max. Watts |

### COLOR PICTURE TUBE

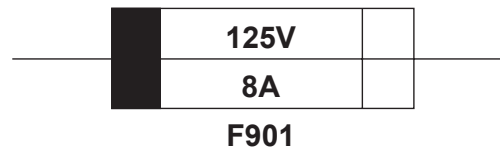
|              |                   |
|--------------|-------------------|
| 36UX01S/CZOU | .....A90AHH50X01  |
| 32UX59B/CYOU | .....A80LJF30X(W) |
| 36GX01B/CZOG | .....A90LPY30X01  |
| 32GX01B/CYOG | .....A80LJF30X(W) |

**CAUTION:** Below is an EXAMPLE only. See Replacement Parts List for details. The following symbol near the fuse indicates fast operating fuse (to be replaced). Fuse ratings appear within the symbol.

Example:



**“RISK OF FIRE - REPLACE FUSE AS MARKED”**



The rating of fuse F901 is 8.0A-125V.  
Replace with the same type fuse for continued protection against fire.

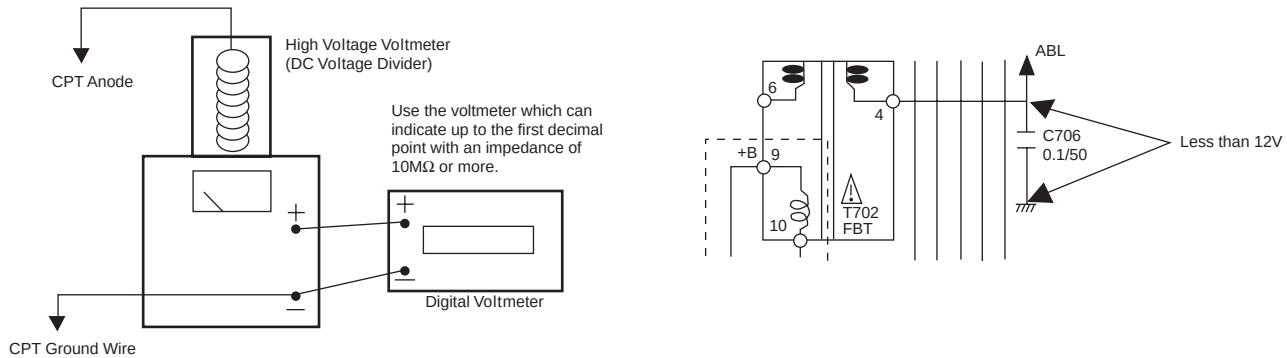


## TECHNICAL CAUTIONS

### High Voltage Limiter Circuit Operation Check and Overvoltage Protection Circuit Operation Check

#### Adjustment Preparation

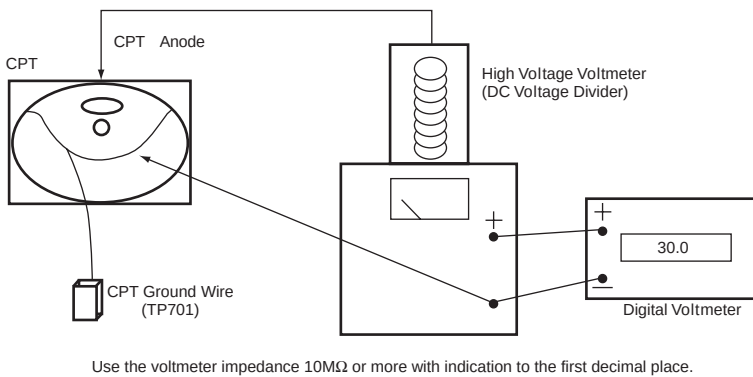
1. Connect a High Voltage Voltmeter between CPT Anode terminal (Anode capsde) and Ground.
2. Set the AC input voltage to  $120 \pm 3V$ .
3. Receive Circle Pattern or Broadcast Signal and set "BRIGHTNESS" and "CONTRAST" to maximum. Adjust the SCREEN VR so that Beam Current is  $I_B \pm 0.1mA$ . (The voltage at ABL terminal (C706) should be 12V or less.)



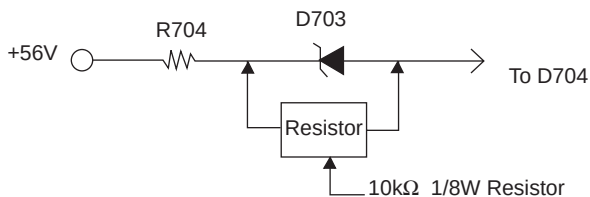
#### Adjustment Procedure

1. Check that the normal High Voltage and +B Voltage as below.

| CHASSIS    | EHT $\pm 1kV$  | $I_B \pm 0.1mA$ | +B             |
|------------|----------------|-----------------|----------------|
| CZOU, CZOG | $30.0 \pm 1kV$ | $1.7 \pm 0.1mA$ | $140 \pm 0.3V$ |
| CYOU, CYOG | $29.0 \pm 1kV$ | $1.5 \pm 0.1mA$ | $140 \pm 0.3V$ |



2. Connect a 10KΩ 1/8W resistor to both ends of D703 and check that power is turned off.



3. Disconnect the AC plug and remove the 10kΩ resistor.

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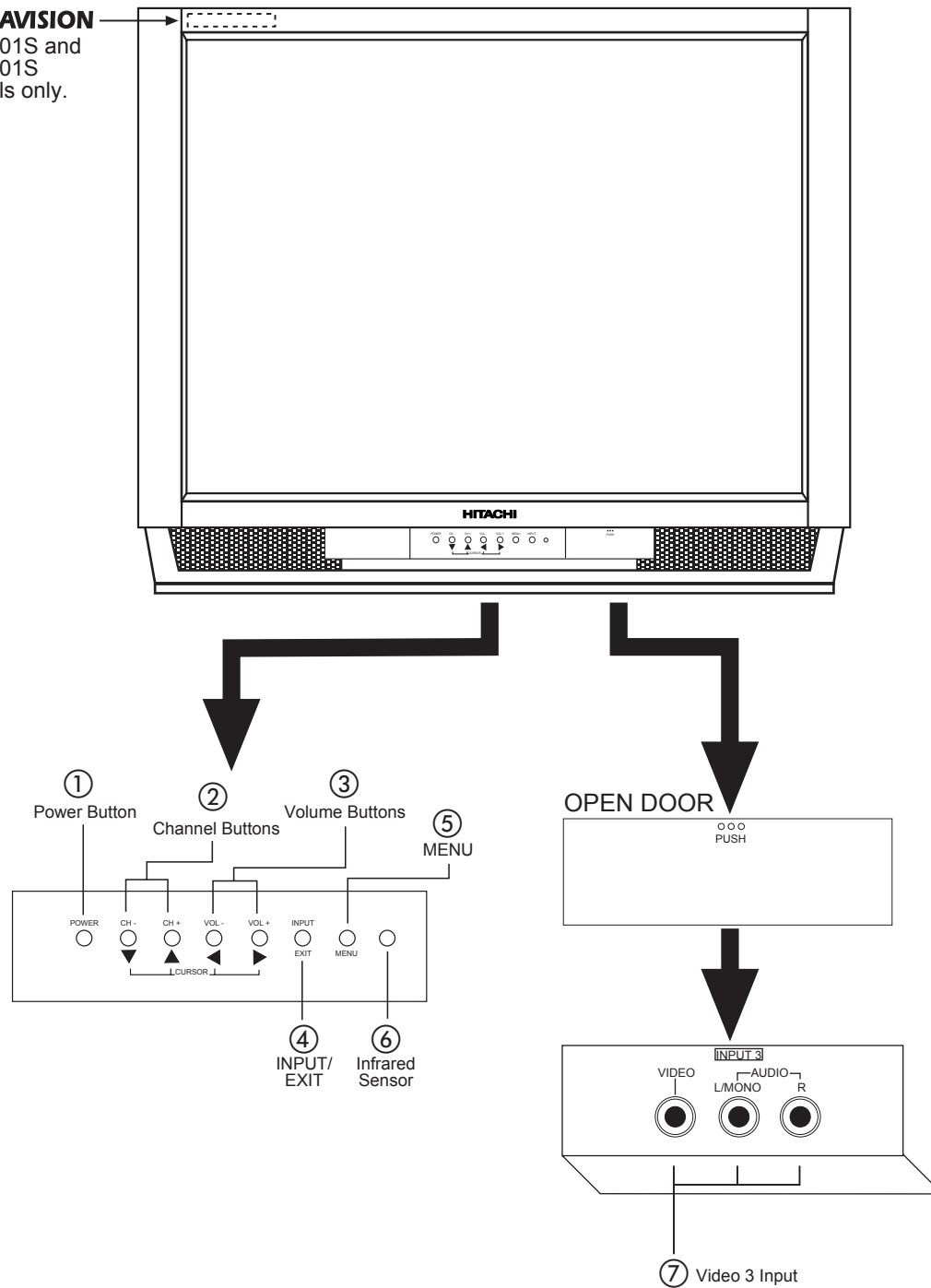
|                                                                             |           |
|-----------------------------------------------------------------------------|-----------|
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# FRONT PANEL CONTROLS

**ULTRAVISION**  
32UX01S and  
36UX01S  
models only.



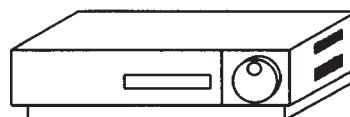
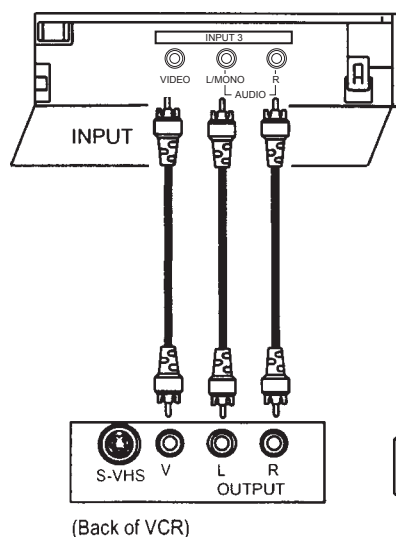
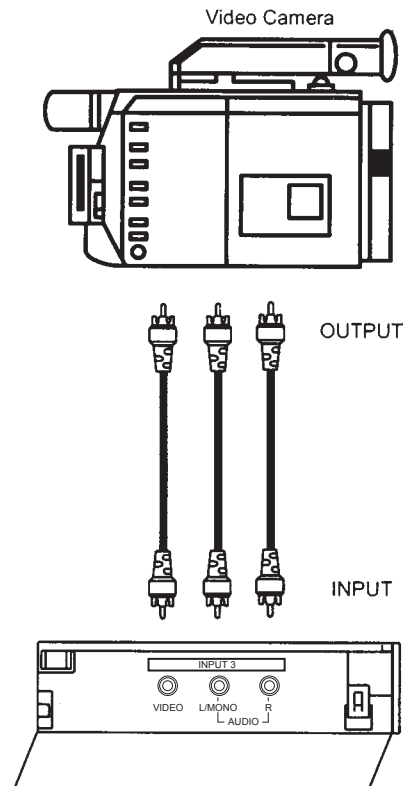
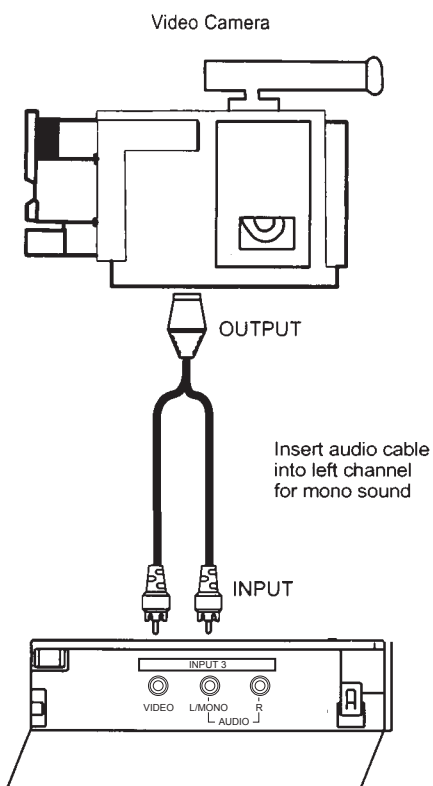
A detailed explanation of the circled numbers is on page 14.

# FRONT PANEL CONTROLS

- ① **POWER Button**  
Press this button to turn the TV on or off.
  - ② **CHANNEL Selector**  
Press these buttons until the desired channel appears in the top right corner of the TV screen.
  - ③ **VOLUME Level**  
Press these buttons for your desired sound level. The volume level will be displayed on the TV screen.
  - ④ **INPUT/EXIT Button**  
Press this button to select the current antenna or VIDEO source. Your selection is shown in the top right corner of the screen. This button also serves as the EXIT button when in MENU mode.
- NOTE:** Your HITACHI TV will appear to be turned OFF if there is no video input when VIDEO Source is selected. Press the INPUT button until the normal broadcast picture appears. If the picture does not appear, the power is OFF.
- ⑤ **MENU Button**  
This button allows you to enter the MENU, making it possible to set TV features to your preference with out using the remote.
  - ⑥ **REMOTE CONTROL INFRARED Sensor**  
Point your remote control at this area when selecting channels, adjusting volume, etc.
  - ⑦ **FRONT INPUT JACKS**  
Use these audio/video jacks for a quick hook-up to a comcorder or VCR to instantly view your favorite show or new recording. Press the INPUT button until VIDEO:3 appears in the top right corner of the TV screen. If you have mono sound, insert the audio cable into the left channel jack.

# FRONT PANEL JACKS AND CONNECTIONS

The front panel jacks are provided as a convenience to allow you to easily connect a camcorder or VCR as shown in the following examples:

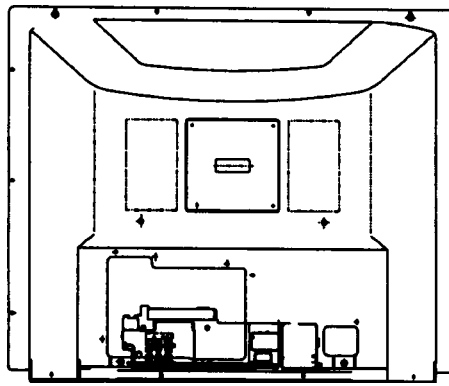


**NOTE:** Completely insert connection cord plugs when connecting to front panel jacks. If you do not, the picture that is played back may be abnormal.

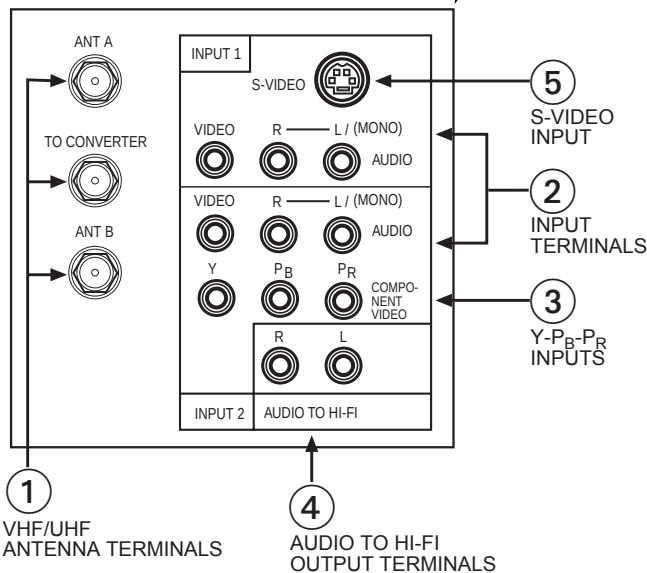


# REAR PANEL JACKS

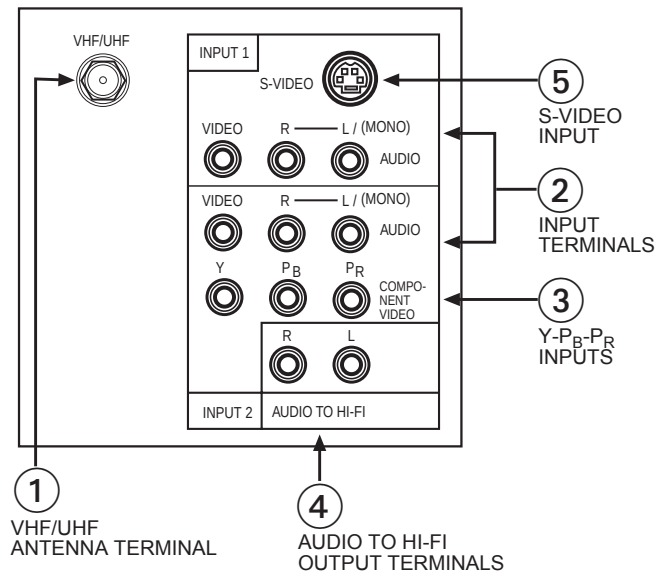
## REAR PANEL OF TELEVISION



### 32/36UX01S



### 32/36GX01B



#### ① Antenna Inputs

##### 32GX01B and 36GX01B models

The VHF/UHF terminal can be used for Normal TV, Cable TV (CATV), video games, etc.

##### 32UX01S and 36UX01S models

The remote control allows you to switch between two separate 75-Ohm RF antenna inputs, ANT A and ANT B. ANT A input can be displayed as a main picture or sub-picture. ANT B can only be displayed as a sub picture. (ANT B cannot be displayed as a main picture.) The antenna output labeled "TO CONVERTER" allows the ANT A connection to pass directly to a different source such as a cable box.

#### ② Audio/Video Inputs 1, 2

The INPUT button will step through each video source and antenna source input each time it is pressed. Use the audio and video inputs to connect external devices, such as VCRs, camcorders, laserdisc players, etc. (If you have mono sound, insert the audio cable into the left channel jack.)

#### ③ Y-P<sub>B</sub>P<sub>R</sub> Input

This input provides Y-P<sub>B</sub>P<sub>R</sub> jacks for connecting equipment with this capability, such as a DVD Player. This input can receive 480i signal only.

#### ④ Audio to HI-FI

These jacks provide variable audio output to a separate stereo amplifier. With this connection, the audio to the stereo can be controlled by the television's main volume. Use these jacks for the SURROUND Left and Right channels.

#### ⑤ S-Video

Inputs 1 provide S-Video (Super Video) jacks for connecting equipment with S-Video output capability.

## TIPS ON REAR PANEL CONNECTIONS

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The S-Video connections are provided for high performance laserdisc players, VCRs etc. that have this feature. Use these connections in place of the standard video connection if your device has this feature.

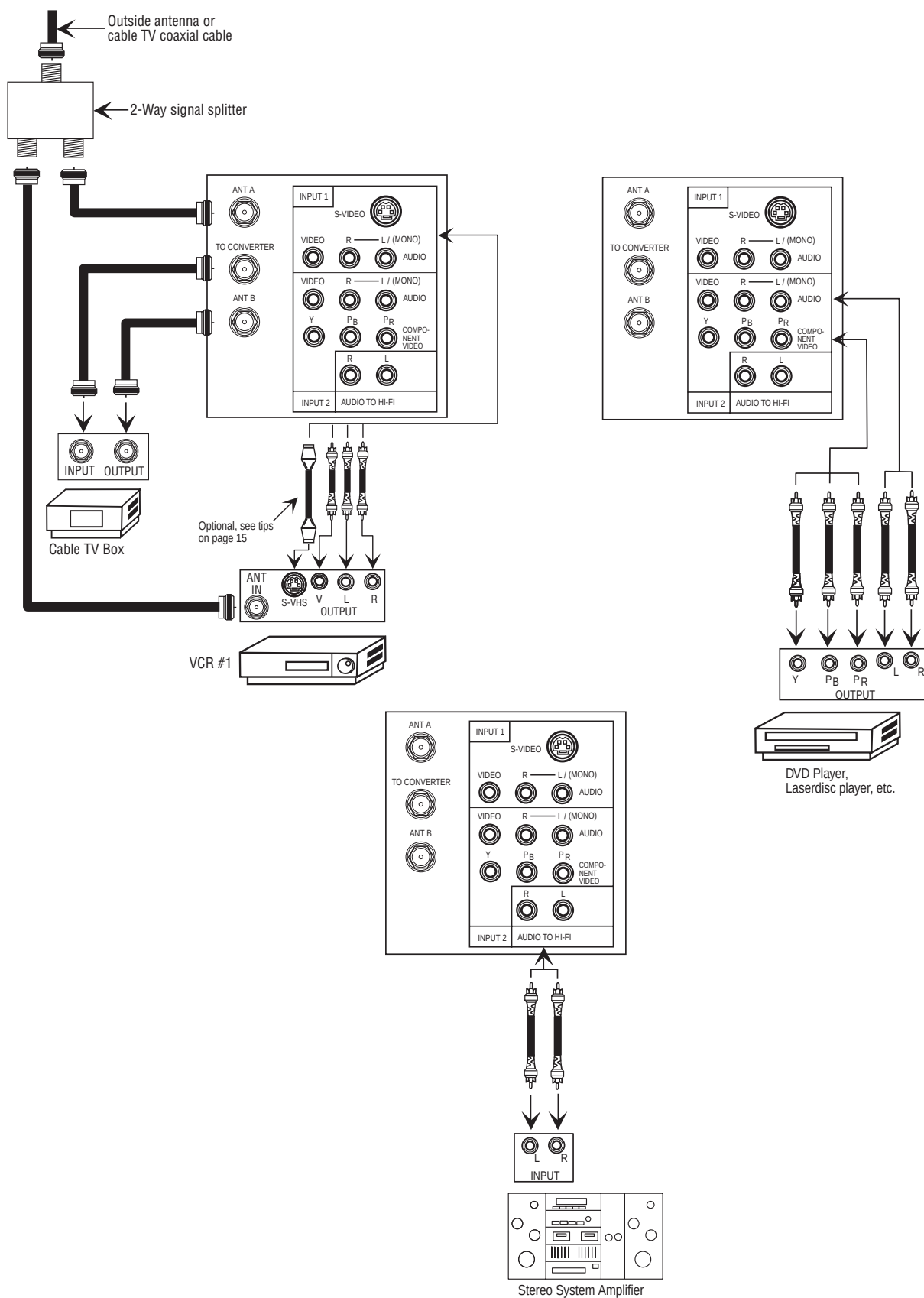
COMPONENT: Y-P<sub>B</sub>P<sub>R</sub> connections are provided for high performance components, such as DVD players. Use these connections in place of the standard video connection if your device has this feature.

When using the Y-P<sub>B</sub>P<sub>R</sub> input jacks, connect your components audio output to the TV's Input 2 Left and Right Audio inputs jack.

If your device has only one audio output (mono sound), connect it to the left audio jack on the television.

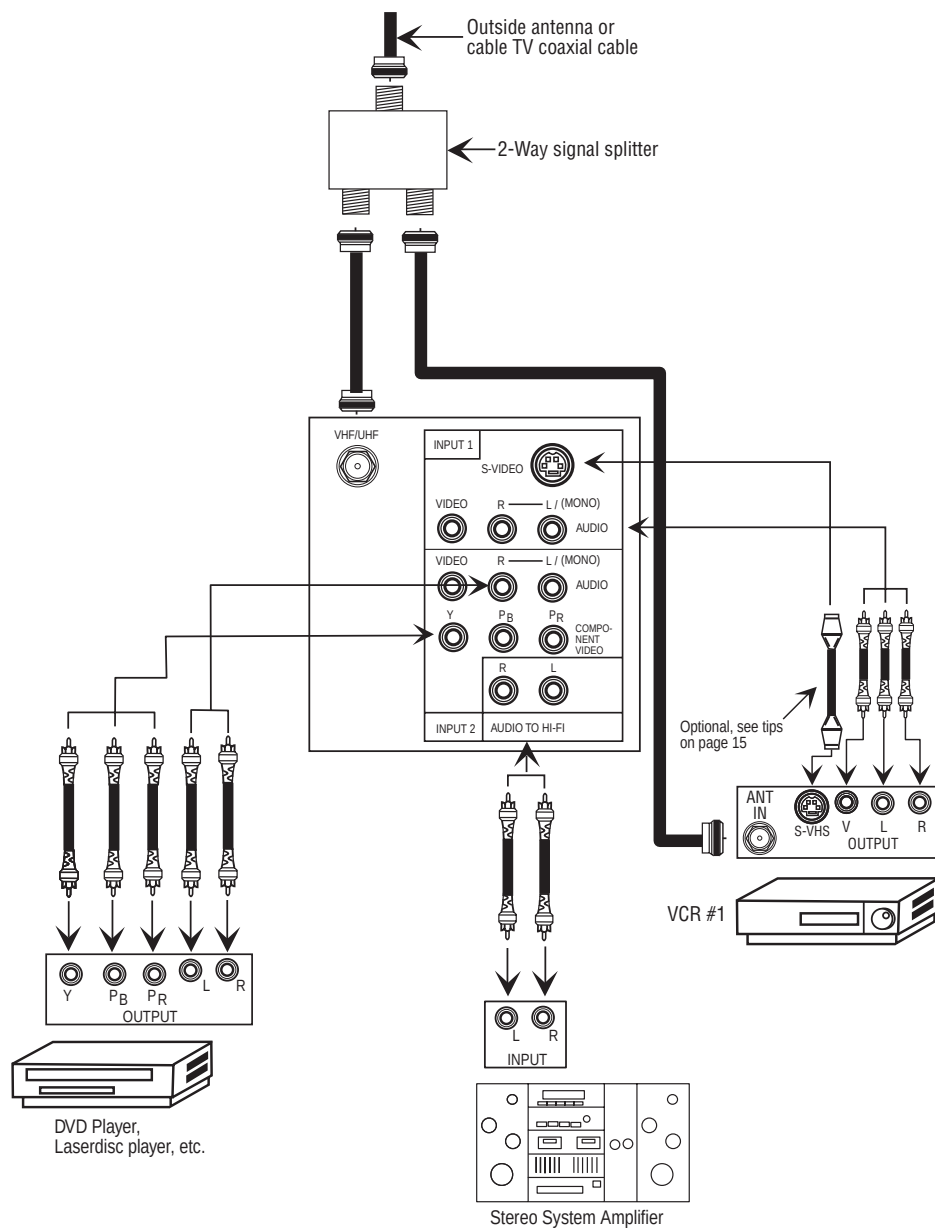
Refer to the operating guide of your other electronic equipment for additional information on connecting your hook-up cables.

# REAR PANEL CONNECTIONS (32UX01S and 36UX01S)



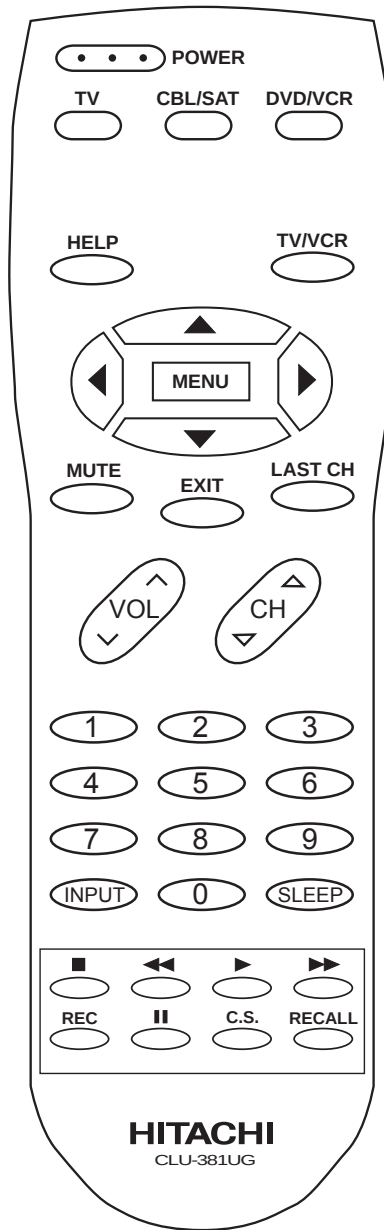
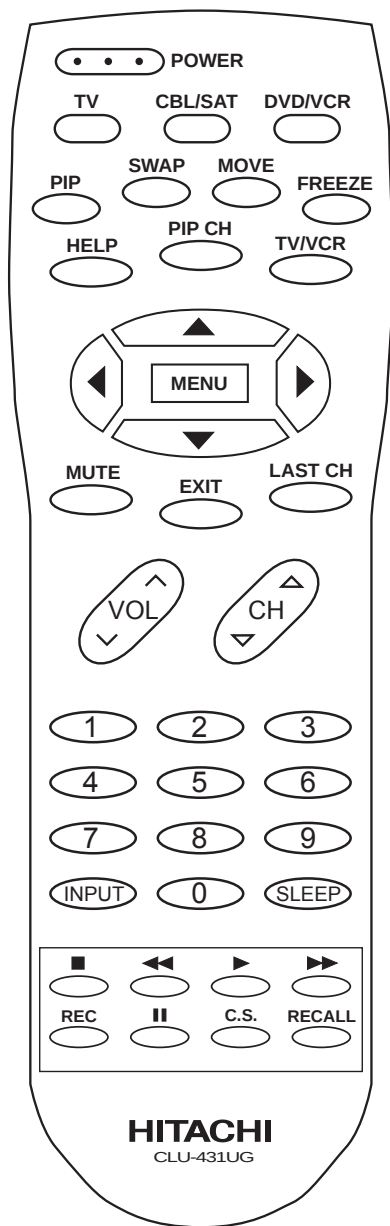
Typical full feature setup. Follow connections that pertain to your personal entertainment system.

# REAR PANEL CONNECTIONS (32GX01B AND 36GX01B)



Typical full feature setup. Follow connections that pertain to your personal entertainment system.

# USING THE REMOTE TO CONTROL YOUR TV

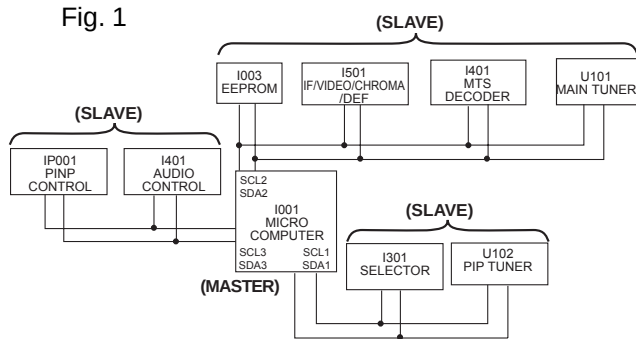


## I. MAIN CHASSIS ADJUSTMENT

### 1. Multi Master I<sup>2</sup>C Bus System

M10LXU Chassis uses I<sup>2</sup>C Bus control system.

Fig. 1 shows this control system.

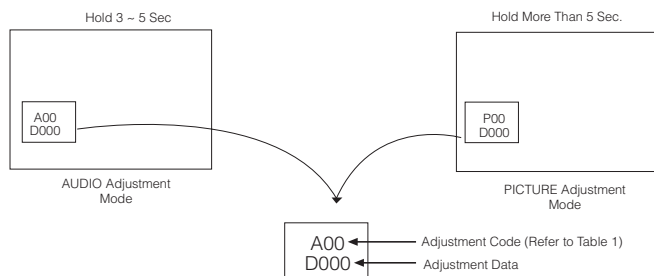


I001 (Master) controls other ICs (Slave). Adjustment data is memorized in I003 (EEPROM). I001 reads this data and controls other ICs (slave). Adjustment items applied in this chassis are shown in Table 1.

### 2. ADJUSTMENT PROCEDURE-START UP

#### 2-1 How to Get to Adjustment Mode

Chassis adjustment can be done by using the front control panel buttons with CTV set turned off. Press "POWER" and "INPUT" keys at the same time, and hold for more than 3 seconds. The CTV set turns on in adjustment mode with OSD as follows.



#### "To Escape from Adjustment Mode"

Press "POWER" button of remo-con or front panel once at anytime. Then set returns to normal state.

**TABLE 1**

Adjustment Code

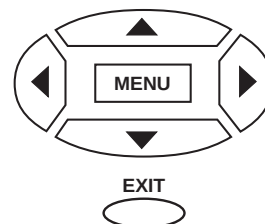
| Mode  | Function                        | Adjustment Data | Adjustment Code |
|-------|---------------------------------|-----------------|-----------------|
| MTS   | Stereo VCO adjustment           | 63~0            | A01             |
|       | SAP VCO adjustment              | 63~0            | A02             |
|       | FILTER adjustment               | 63~0            | A03             |
|       | Input level adjustment          | 63~0            | A04             |
|       | Low pass separation adjustment  | 63~0            | A05             |
|       | High pass separation adjustment | 63~0            | A06             |
| VIDEO | G DRIVE adjustment              | 127~0           | P01             |
|       | B DRIVE adjustment              | 127~0           | P02             |
|       | R Cut off adjustment            | 255~0           | P03             |
|       | G Cut off adjustment            | 255~0           | P04             |
|       | B Cut off adjustment            | 255~0           | P05             |
|       | SUB Brightness adjustment       | 31~0            | P06             |
|       | RGB Brightness adjustment       | 7~0             | P07             |
|       | H POSITION adjustment           | 31~0            | P08             |
|       | H SIZE adjustment               | 31~0            | P09             |
|       | V POSITION adjustment           | 63~0            | P10             |
|       | V SIZE adjustment               | 63~0            | P11             |
|       | E/W TARABOLA adjustment         | 63~0            | P12             |
|       | V-S CORRECTION adjustment       | 63~0            | P13             |
|       | V-LIN CORRECTION adjustment     | 127~0           | P14             |
|       | E/W TRAPEZOID adjustment        | 127~0           | P15             |
|       | EW CORNER adjustment            | 63~0            | P16             |
|       | V CENTER adjustment             | 63~0            | P17             |
|       | SUB CONTRAST adjustment         | 127~0           | P18             |
|       | SUB COLOR adjustment            | 127~0           | P19             |
|       | SUB TINT adjustment             | 3~0             | P20             |
|       | SUB SHARPNESS adjustment        |                 | P21             |
|       | W/B G adjustment                |                 | P22             |
|       | W/B B adjustment                |                 | P23             |
|       | SERVICE                         |                 | P24             |
| OSD   | OSD H POSITION                  |                 | M01             |
|       | CCD SLICE LEVEL adjustment      |                 | M02             |
|       | CCD SYNC TIPSLICE LEVEL adj.    |                 | M03             |
|       | OSD H size adjustment           |                 | M04             |
| PIP   | R OFFSET adjustment             | 31~0            | S01             |
|       | G OFFSET adjustment             | 63~0            | S02             |
|       | B OFFSET adjustment             | 31~0            | S03             |
|       | PIP SUB COLOR adjustment        | 31~0            | S04             |
|       | PIP SUB TINT adjustment         | 63~0            | S05             |
|       | PIP CONTRAST adjustment         | 31~0            | S06             |
|       | PIP H POSITION                  | 225~0           | S07             |
|       | PIP BRIGHTNESS adjustment       | 31~0            | S08             |

\* This data is an approximate service code data. Fine adjustment must be done using the specified test procedure and adjustment tools.

#### 2-2 Changing Data and Adjustment Code

When the CTV set is in adjustment mode, the cursor ▲, ▼, ◀, ▶ and MENU keys of the remote control will be the adjustment keys.

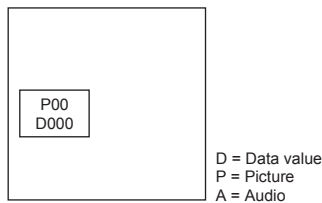
A. Use any Hitachi remote control when making an adjustment.



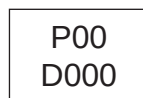
▲, ▼ keys are used for changing adjustment code.  
◀, ▶ keys are used for changing data.  
MENU key is used for changing "Cut Off Mode"/"Normal mode." (Refer to cut off adjustment)

### 3. ADJUSTMENT MODE

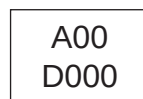
1. Before turning ON the set, press and hold the POWER button and INPUT button of the front panel of TV set for about 3 seconds.
2. After 3 seconds, a small square will appear in the left center of the screen. There are two different displays, depending upon how long the POWER and INPUT buttons are pressed and held. One shows A and D for audio adjustment, and the other shows P and D for the picture adjustment.



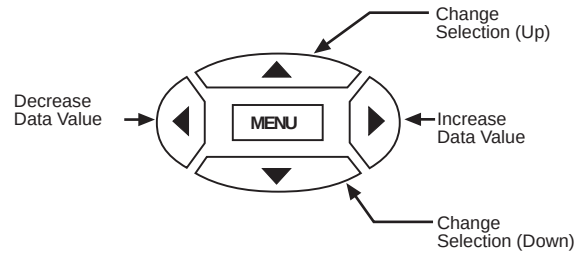
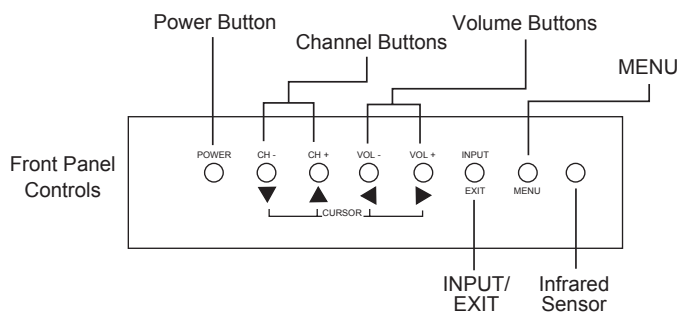
3. To activate the picture adjustment mode, input a data value of 30 (D030), using the front panel or remote control cursor ◀, ▶ before any of the picture adjustments can be adjusted.



The same for the audio adjustment. To activate the adjustment, you need an input data value of 20 before any of the audio adjustments can be adjusted.



4. To make a selection, use the CURSOR keys on front control panel or the Remote Control.



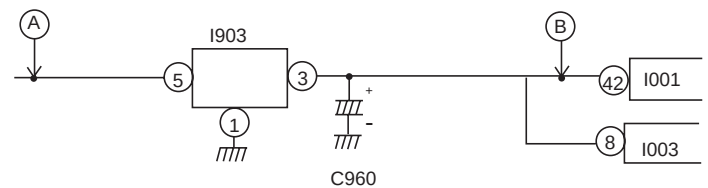
5. After finishing the necessary adjustment press the "POWER" button. Adjustment mode is released and TV set returns to normal condition.

### 4. ADJUSTMENT PROCEDURE

#### 4-1 Initial setting of EEPROM (I003)

Adjustment Preparation (I<sup>2</sup>C adjustment only)

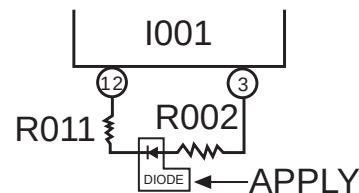
- (1) Apply +12V to (A) point and check (B) point is  $5V \pm 0.3V$



- (2) Connect I<sup>2</sup>C adjustment jig as shown.

#### Adjustment procedure

- (1) Apply a DIODE as follows.



- (2) Check (5) pin of I001 changes L → H → L.  
Mi-con outputs "H" from (5) pin during E2PROM initial operation. Never unplug before (5) pin return to L.
- (3) TV set will tune to Channel 3.
- (4) Remove DIODE.

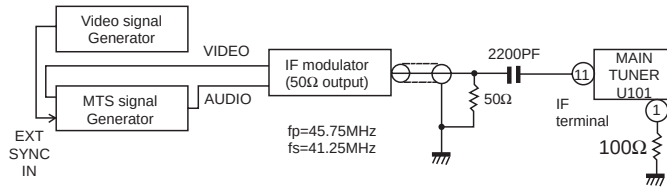
## 4-3 MTS ADJUSTMENT

### 4-3-1 Input Level Adjustment

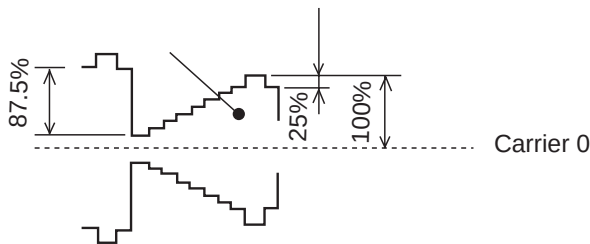
#### Adjustment Preparation

- (1) Apply a signal to output terminals of the Main Tuner on the Main PWB using the circuit shown below. Connect 100Ω resistor between AGC terminal, Pin ① and GND.

Note : Video signal and Audio Signal should be synchronized.



IF modulator output signal waveform  
(Color bar or all white)



IF modulator output level and P/S  
P=105dBu (50Ω termination)  
S level; -3dB to P level  
At this time, S/N ratio of F/E  
video output is 45dB or less.

### Sound modulation condition:

Noise reduction encoder: ON

Stereo signal;

① R=0 (L only), 300Hz, 30% modulation

② R=0 (L only), 3kHz, 30% modulation

Monaural signal;

③ Monaural, 400Hz, 100% modulation  
(PRE-EN Off)

SAP signal;

④ SAP, 300Hz, 30% modulation (see note)

(2) Connect AC voltmeter Vo to I401 pin ④⑩.

Use the AC voltmeter of Matsushita model  
VP-950C or equivalent.

#### Adjustment Procedure

- (1) Select sound input ③ then adjust the data "A04" to Vo= 500mVrmsw10mVrms at I401 pin ④⑩ .

### 4-3-2 Stereo VCO adjustment

#### Adjustment Preparation

- (1) Same as items 4-3-1(1) and 4-3-1(2).

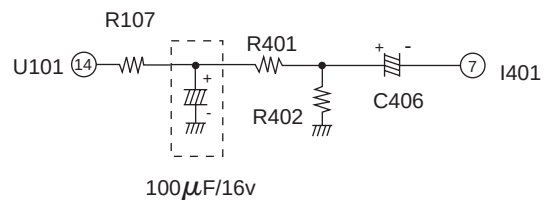
- (2) Connect a frequency counter to I401 pin ④⑩. Use 1:1 Probe.

(Probe standard Ri≥1MΩ, Ci≤15pF)

- (3) Should be no signal at pin ⑦ (I401).

- (4) Connect capacitor (100μF/16v) as it is shown.

- (5) Select adjustment code "A01."



#### Adjustment Procedure

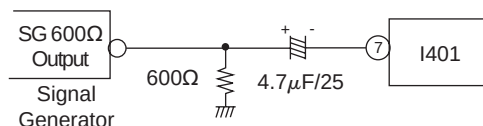
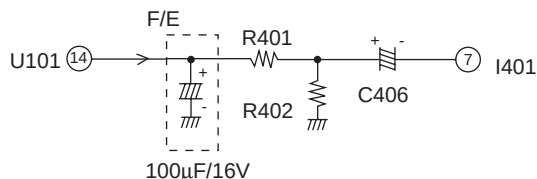
- (1) Adjust the data "A01" to set 15.73±0.1KHz by ◀, ▶ keys.
- (2) Remove capacitor (100μF/16v)



### 4-3-3 Filter Adjustment

#### Adjustment Preparation

- (1) Connect capacitor 100  $\mu$ F/16V as it is shown.
- (2) Apply signal to I401 pin ⑦ with the circuit as it is shown.



① SG output signal spec.

① Frequency  
f=15.73kHz (Sine wave)

② Signal Level

V=100mVrms

- (3) Connect an AC voltmeter or oscilloscope to I401 pin ④.
- (4) Select adjustment code "A03."

#### Adjustment Procedure

- (1) Adjust the data "A03" so that the voltage of I401 pin ④ becomes minimum by ◀, ▶ keys.

### 4-3-4 Separation Adjustment

(The adjustment of items 4-3-1 and 4-3-3 must be completed first)

#### Adjustment Preparation

- (1) Use the same circuit as input level adjustment 4-3-1(1).
- (2) Connect a frequency counter to I401 pin ④ or connect an oscilloscope.
- (3) Select adjustment code "A05" and set data "D032".

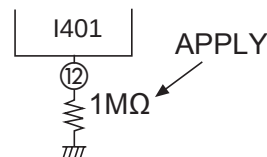
#### Adjustment Procedure

- (1) Select input signal ① and select adjustment code "A05". Adjust by ◀, ▶ keys so that 300Hz level becomes minimum (L separation adjustment)
- (2) Select input signal ② and select adjustment code "A06". Adjust by ◀, ▶ keys so that 3KHz level becomes minimum (H separation adjustment).
- (3) Repeat (1) and (2). Adjustment precision: within +1dB from minimum point.

### 4-3-5 SAP VCO Adjustment

#### Adjustment Preparation

- (1) Connect a frequency counter to I401 pin ④.
- (2) Select adjustment Code "A02".
- (3) Connect same circuit as in item 4-3-2(5).
- (4) Apply 1MΩ resistor to I401 pin ⑫ and GND.



#### Adjustment Procedure

- (1) Adjust the data "A02" by ◀, ▶ keys so that the frequency is 78.67±0.5KHz.
- (2) Remove 1MΩ resistor.

### 4-3-6 Check data of MTS demodulating circuit adjustment.

- (1) Unplug set after all items are adjusted.
- (2) Plug in the TV set.
- (3) Check that data are the same as adjusted.

## II. FUNCTION SETTING

M10LXU Chassis has the data for setting variety functions in EEPROM (I003).

Microprocessor (I001) set the functions needed for each model according to EEPROM data (memory switch data).

### 1. HOW TO SET MEMORY SWITCH SETTING MODE

- (1) Repeat section 4-1 (initial setting of EEPROM (I003) on Page 22).
- (2) TV set will automatically send features data to appropriate model.
- (3) Table 1 below shows model name and their features.

TABLE 1 MODEL AND DATA TABLE

|           | MODEL              | NAME               |
|-----------|--------------------|--------------------|
| DATA NAME | 36UX01S<br>32UX01S | 36GX01B<br>32GX01B |
| TU        | 1                  | 0                  |
| V         | 1                  | 1                  |
| 50/60     | 1                  | 1                  |
| PIP       | 1                  | 0                  |

## 2. EXPLANATION OF MEMORY SWITCH FUNCTIONS

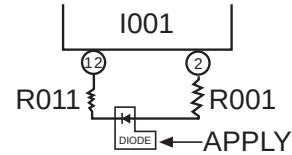
- (1) TU (2 Tuners)  
Selects TU for 1 or 2 tuners.  
Data "1" - Two tuners.  
Data "0" - One tuner.
- (2) (V-CHIP)  
Selects (V-CHIP) Function or not.  
Data "1" - Apply (V-CHIP) function.  
Data "0" - Do not apply (V-CHIP) function.
- (3) 50/60  
Apply 50/60 frequency or not.  
Data "1" Apply 50/60 frequency.  
Data "0" Do not apply 50/60 frequency.
- (4) PIP  
Apply PIP function or not.  
Data "1" - Apply PIP function.  
Data "0" - Do not apply PIP function.

## III. MEMORY RE-INITIALIZATION

### 1. MEMORY INITIALIZE OPERATION CHECK

#### Adjustment Procedure

- (1) Apply diode as follows.



- (2) Check that the receiving channel goes to CH03.  
Unit is set to factory settings.
- (3) Remove diode.

## IV. OPERATION CHECK

### 1. AFC OPERATION CHECK

#### Adjustment Preparation

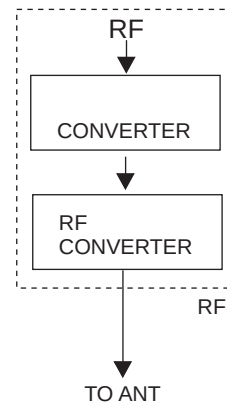
- (1) Connect the circuit as shown below to the ANT terminal.

#### Adjustment Procedure

- (1) Receive a standard carrier (not offset) with the channel up/down or direct selection buttons.
- (2) Receive an offset signal of +1.5MHZ. Check that it is pulled into the standard tuning point. (Perform the channel selection operation.)
- (3) Receive an offset signal of -1.5MHZ. Check that it is pulled into the standard tuning point. (Perform the channel selection operation again.)

**Note:** Modulation signal should be used at the circle pattern and the color bar signal.

Checking circuit  
(All channel converter can be used)



## 2. CHANNEL SELECTION CIRCUIT OPERATION CHECK

### 2-1 Channel Up/Down Selection

#### Adjustment Preparation

- (1) Set the TV set so that VHF (11, 13CH), UHF (14, 46, 63CH) and CATV (A, E, P, WCH) can be received.
- (2) Set Signal Source mode to Antenna on the set up menu. (Press the Menu key, and select Setup, then select Signal Source mode, See next page.)

#### Adjustment Procedure

- (1) Check that VHF are received correctly by pressing CH Up (▲) or Down (▼) button.

#### Adjustment Preparation

- (3) Set Signal Source mode to CATV 1.

#### Adjustment Procedure

- (2) Perform the same operation as in Item (1), and check that VHF and CATV are received correctly.

#### Adjustment Preparation

- (4) Set Signal Source mode to CATV 2.

#### Adjustment Procedure

- (3) Perform the same operation as in Item (1), and check that VHF and CATV are received correctly.

**Note:** This check should be done to both ANT A and B.  
(32UX01S and 36UX01S models)

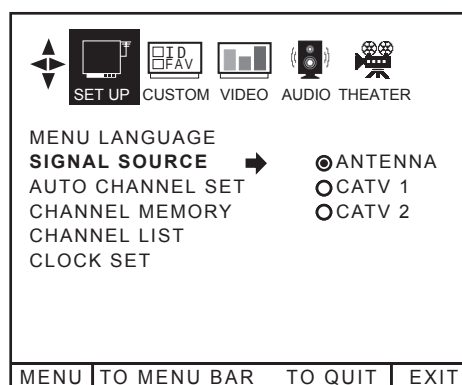
### 2-2 CH Up/Down

#### Adjustment Preparation

- (1) Set the TV set so that VHF (11, 13CH), UHF (14, 46, 63CH) and CATV (A, E, P, W CH) can be received.

#### Adjustment Procedure

- (1) Set Signal Source mode to Antenna on the SET UP menu.
- (2) Select Auto CH set mode and press (►) key on the set up menu. After Auto CH set, operation is completed. By pressing the channel Up (▲) or Down (▼) button, check that the channels having broadcast signal (s) can be received.
- (3) Set Signal Source mode to CATV 1.
- (4) Perform the same operation as in Item (2) and check that CATV can be received correctly.



## SET UP MENU

### Adjustment Preparation

- (2) Set the CHANNEL LIST mode (in SET UP menu).

**Note:** CATV channels, actual input channels numbers and indicated channel numbers shown in Table 3 below.

### Adjustment Procedure

- (5) Check that the item of SCAN of channels which can be selected as above is ON.

**Note 1:** CATV channels, actual input channel numbers and indicated channel numbers.

A.....14  
E.....18  
P.....29  
W.....36

**Note 2:** This check should be done to both ANT A and B.  
(32UX01S and 36UX01S models)

TABLE 3

|            |      |      |      |      |            |      |      |            |      |      |      |          |      |      |      |      |            |      |      |      |      |      |
|------------|------|------|------|------|------------|------|------|------------|------|------|------|----------|------|------|------|------|------------|------|------|------|------|------|
| A          | B    | C    | D    | E    | F          | G    | H    | I          | J    | K    | L    | M        | N    | O    | P    | Q    | R          | S    | T    | U    | V    | W    |
| 14         | 15   | 16   | 17   | 18   | 19         | 20   | 21   | 22         | 23   | 24   | 25   | 26       | 27   | 28   | 29   | 30   | 31         | 32   | 33   | 34   | 35   | 36   |
| MID BAND   |      |      |      |      |            |      |      | SUPER BAND |      |      |      |          |      |      |      |      |            |      |      |      |      |      |
| W+1        | W+2  | W+3  | W+4  | W+5  | W+6        | W+7  | W+8  | W+9        | W+10 | W+11 | W+12 | W+13     | W+14 | W+15 | W+16 | W+17 | W+18       | W+19 | W+20 | W+21 | W+22 | W+23 |
| 37         | 38   | 39   | 40   | 41   | 42         | 43   | 44   | 45         | 46   | 47   | 48   | 49       | 50   | 51   | 52   | 53   | 54         | 55   | 56   | 57   | 58   | 59   |
| HYPER BAND |      |      |      |      |            |      |      |            |      |      |      |          |      |      |      |      |            |      |      |      |      |      |
| W+24       | W+25 | W+26 | W+27 | W+28 | W+29       | W+30 | W+31 | W+32       | W+33 | W+34 | W+35 | W+36     | W+37 | W+38 | W+39 | W+40 | W+41       | W+42 | W+43 | W+44 | W+45 | W+46 |
| 60         | 61   | 62   | 63   | 64   | 65         | 66   | 67   | 68         | 69   | 70   | 71   | 72       | 73   | 74   | 75   | 76   | 77         | 78   | 79   | 80   | 81   | 82   |
| HYPER BAND |      |      |      |      | ULTRA BAND |      |      |            |      |      |      |          |      |      |      |      |            |      |      |      |      |      |
| W+47       | W+48 | W+49 | W+50 | W+51 | W+52       | W+53 | W+54 | W+55       | W+56 | W+57 | W+58 | A-5      | A-4  | A-3  | A-2  | A-1  | W+59       | W+60 | W+61 | W+62 | W+63 | W+64 |
| 83         | 84   | 85   | 86   | 87   | 88         | 89   | 90   | 91         | 92   | 93   | 94   | 95       | 96   | 97   | 98   | 99   | 100        | 101  | 102  | 103  | 104  | 105  |
| ULTRA BAND |      |      |      |      |            |      |      |            |      |      |      | MID BAND |      |      |      |      | ULTRA BAND |      |      |      |      |      |
| W+65       | W+66 | W+67 | W+68 | W+69 | W+70       | W+71 | W+72 | W+73       | W+74 | W+75 | W+76 | W+77     | W+78 | W+79 | W+80 | W+81 | W+83       | W+83 | W+84 |      |      |      |
| 106        | 107  | 108  | 109  | 110  | 111        | 112  | 113  | 114        | 115  | 116  | 117  | 118      | 119  | 120  | 121  | 122  | 123        | 124  | 125  |      |      |      |
| ULTRA BAND |      |      |      |      |            |      |      |            |      |      |      |          |      |      |      |      |            |      |      |      |      |      |

## 2-3 VOLUME UP/DOWN

### Adjustment Procedure

- (1) Check that the volume level and volume indication is going up or down simultaneously by pressing volume Up (▲) or Down (▼) button.



## 2-4 POWER ON/OFF

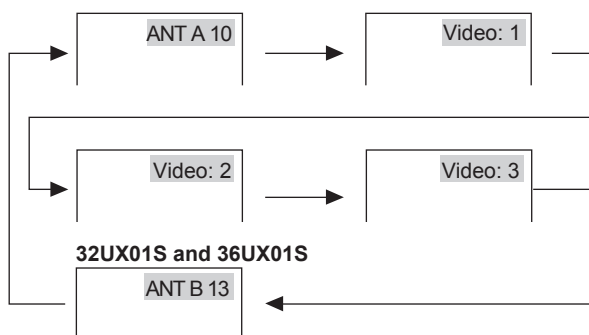
### Adjustment Procedure

- (1) Check that the power alternates between On and Off with each press of the Power button.

## 2-5 INPUT

### Adjustment Procedure

- (1) Check that the O.S.D. changes with every press of the Input button, as below.

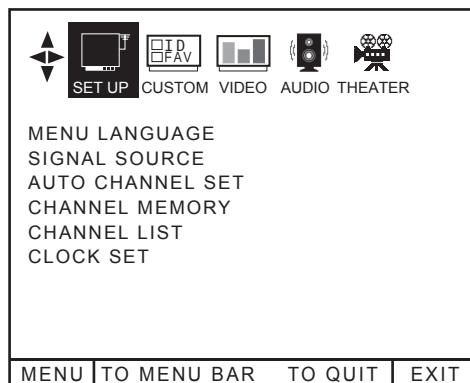


## 2-6 MENU

- (1) Check that the Menu O.S.D. displays by pressing Menu button.

**Note:** Menu O.S.D. is displayed as below.

### OSD MENU



- (2) After Menu O.S.D. is displayed, check that front panel buttons function change as follows:

|             |   |       |
|-------------|---|-------|
| Menu        | → | MENU  |
| CH Up       | → | ▲ key |
| CH Down     | → | ▼ key |
| Volume Up   | → | ► key |
| Volume Down | → | ◄ key |

## 2-7 MENU MODE (using Remo-con)

### 2-7-1 Set Up Mode

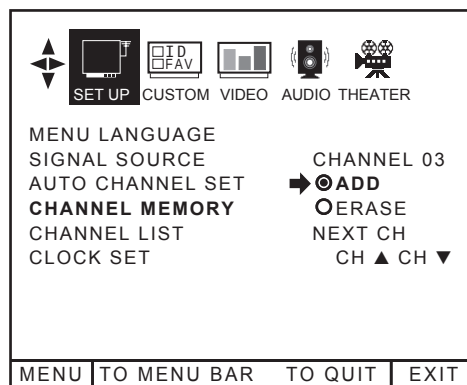
#### Adjustment Preparation

- (1) Set to CHANNEL MEMORY mode (SET UP Menu).

#### Adjustment Procedure

- (1) Check the selection of ADD, ERASE by pressing the ▲(▼) button.

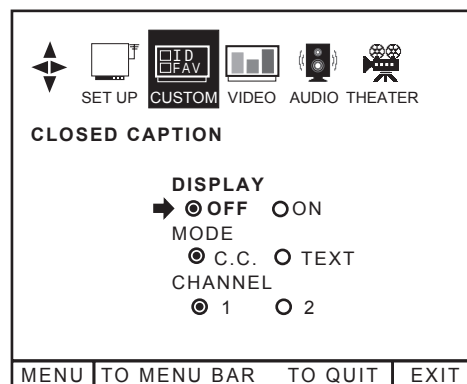
### SET UP MENU



#### Adjustment Preparation

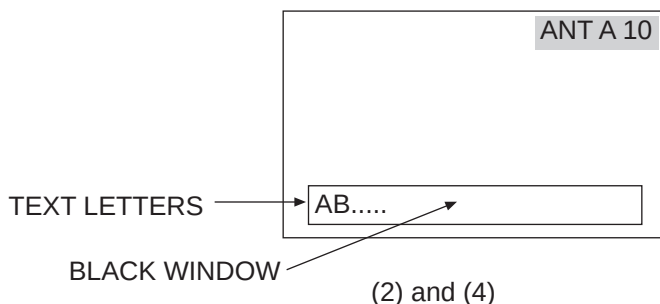
- (2) a. Set the mode to CLOSED CAPTION (CUSTOM Menu)  
b. Receive signal having Closed Caption signal.

### CUSTOM MENU

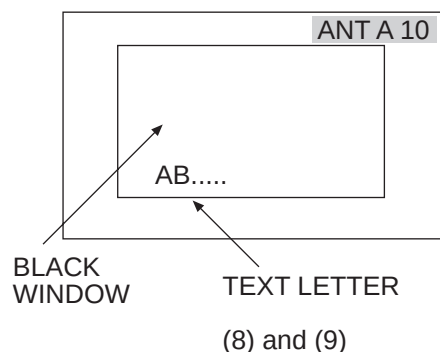


#### Adjustment Procedure

- (1) Set DISPLAY setting to ON with CURSOR ► .  
At this time, set the other settings as follows.
  1. DISPLAY : ON
  2. MODE : C.C.
  3. CHANNEL : 1
- (2) Check that the Caption corresponding to the above setting is displayed on the screen.
- (3) Set CHANNEL to 2.
- (4) Check that the Caption of Channel 2 is displayed on the screen.
- (5) Set CHANNEL to 1.
- (6) Check that the Caption of Channel 1 (Field 2) is displayed on the screen.
- (7) Set the mode to TEXT.



- (8) Check that a black window appears and text letters are displayed at the center of the screen.
- (9) Repeat adjustment procedure from (3) to (6), and check that text letters are displayed corresponding to each mode.
- (10) Set the mode to CAPTION.
- (11) The black window should disappear returning to the state of (2).
- (12) Set ON/OFF to OFF.
- (13) Check that the Caption letters disappear.



#### Adjustment Preparation

- (3) Set to MENU LANGUAGE mode (SET UP Menu)

#### Adjustment Procedure

- (14) Check the language selection (ENGLISH, FRENCH, SPANISH) by pressing the ▼(▲) button.

#### SET UP MENU



## 2-7-2 Program Mode

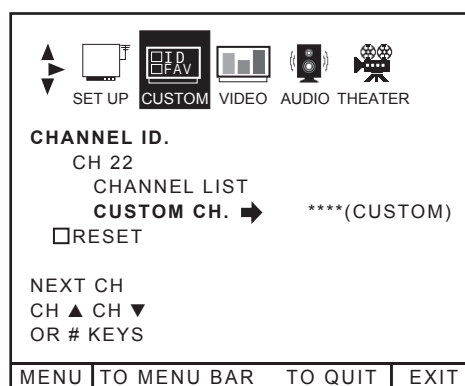
### Adjustment Preparation

- (1) Set to CHANNEL ID mode (CUSTOM Menu).
- (2) Select CUSTOM CH by pressing the ▲,▼ button.

### Adjustment Procedure

- (1) Select the "A" by pressing the ▲,▼ button, and select the input position by pressing the ►,◄ button.
- (2) After pressing the "Recall" button, check that the indication of "AAAA" is the same as CH No. indication.
- (3) Select the Channel ID mode again. Select "RESET" by pressing the ▲,▼ button and press the ► button.
- (4) Check that the delete of "AAAA" when indicate the CH No., after press the "Recall" button.

#### CUSTOM MENU



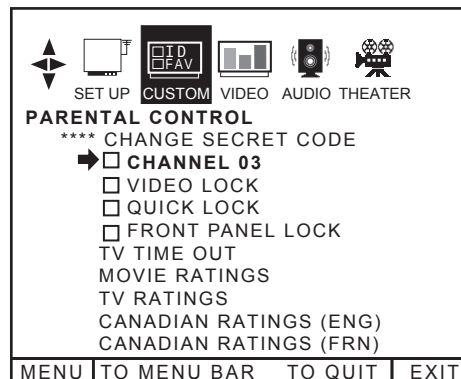
### Adjustment Preparation

- (3) Set to PARENTAL CONTROL mode, (CUSTOM MENU).

### Adjustment Procedure

- (1) Select PARENTAL CONTROL by ► button.
- (2) Press "7" button 4 times. ("7777" is input.)
- (3) Select CHANNEL mode, and set to on by ► button, check that the picture becomes pitch-dark, and sound does not come out.
- (4) Set to PARENTAL CONTROL mode again.
- (5) Select CHANNEL mode and set to off by ► button.
- (6) Check that the picture and sound return to the previous condition.

#### CUSTOM MENU



### Adjustment Preparation

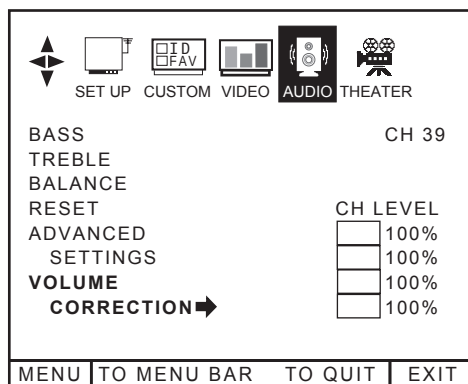
- (4) Set VOLUME CORRECTION mode (AUDIO Menu).

### Adjustment Procedure

- (1) Select the registration point using ▲,▼ button and received channel no. is memorized by pressing number buttons.

**Note:** By key-in "0", "4," then 4CH can be memorized.

- (2) Check that Volume level changes and sets 100%~50% (5% step) using ▲,▼ button.



### 2-7-3 PARENTAL CONTROL (V-Chip) operation check

#### Preparation for Adjustment

- (1) Receive a channel with V-Chip signal.
- (2) Push MENU and select CUSTOM menu by using ◀ or ▶ button.
- (3) Select PARENTAL CONTROL by using ▲ or ▼ button.
- (4) Press ▶ button to set PARENTAL CONTROL mode.
- (5) Enter "7777" for SECRET CODE.
- (6) Select MOVIE RATINGS and TV RATING by using ▲ or ▼ button.
- (7) Press ▶ button to set MOVIE RATINGS and TV RATINGS.

#### Adjustment Procedure

- (1) Select MOVIE RATINGS MPAA (PG) and TV RATINGS (TV-14/ALL BLOCK)
- (2) Check that Picture & audio should be blocked as follows  
"RATING BLOCKED" is displayed when picture is blocked.

| Receive Signal          | TV-PG   | MPAA PG | TV-Y7-FV |
|-------------------------|---------|---------|----------|
| Picture/Audio Condition | UNBLOCK | BLOCK   | UNBLOCK  |

- (3) Select MOVIE RATINGS MPAA (PG-13) and TV RATINGS (TV-14/ALL BLOCK)
- (4) Check that Picture & audio should be blocked as follows  
"RATING BLOCKED" is displayed when picture is blocked.

| Receive Signal          | TV-PG | MPAA PG | TV-Y7-FV |
|-------------------------|-------|---------|----------|
| Picture/Audio Condition | BLOCK | UNBLOCK | UNBLOCK  |

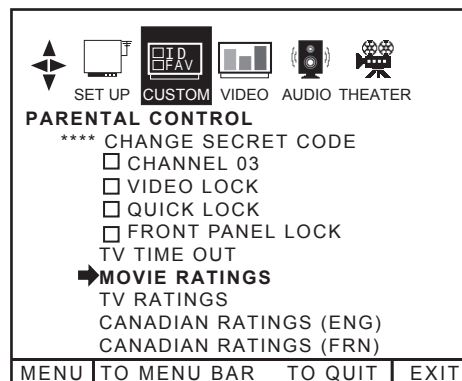
- (5) Select MOVIE RATINGS MPAA (PG-13) and TV RATINGS (TV-Y7/ALL BLOCK)
- (6) Check that Picture & audio should be blocked as follows  
"RATING BLOCKED" is displayed when picture is blocked.

| Receive Signal          | TV-PG | MPAA PG | TV-Y7-FV |
|-------------------------|-------|---------|----------|
| Picture/Audio Condition | BLOCK | UNBLOCK | BLOCK    |

- (7) Same check as (1) to (6) should apply for PIP sub picture. Main picture should receive a channel without V-chip signal. Sub picture should receive a channel with V-chip signal.

**NOTE:** User setting rating & receipt signal rating are displayed on top area of the screen when RECALL button is pressed.

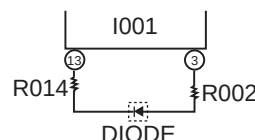
- 1st line : User setting rating.  
2nd line : Receipt signal rating.



### 2-7-4 Clock Mode (Clock Operation Check)

#### Adjustment Preparation

- (1) Connect a diode as follows

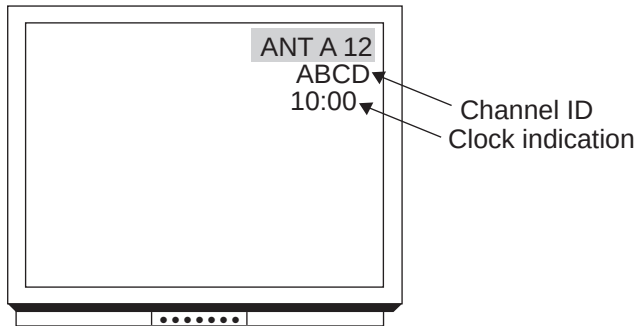


Remarks: The addition of the above circuit intends to check the clock operation, with clock counting in 60 times mode.

- (2) Set to CLOCK SET Menu (SET UP Menu).

#### Adjustment Procedure

- (1) After clock setting is done perform CH indication (Recall). Check that clock indication is displayed in addition to the CH indication, and that the clock indication is going by 1 second per minute.



#### **2-7-5 Picture Mode**

##### Adjustment Preparation

- (1) Receive color bar signal.
- (2) Press MENU key, and select VIDEO menu
- (3) Set to CONTRAST mode.

##### Adjustment Procedure

- (2) Check that Contrast is changed by pressing control ◀, ▶ buttons.

##### Adjustment Preparation

- (3) Set to BRIGHTNESS mode.

##### Adjustment Procedure

- (3) Check that Brightness is changed by pressing control ◀, ▶ buttons.

##### Adjustment Preparation

- (4) Set to COLOR mode.

##### Adjustment Procedure

- (4) Check that Color is changed by pressing control ◀, ▶ buttons.

##### Adjustment Preparation

- (5) Set to TINT mode.

##### Adjustment Procedure

- (5) Check that Tint is changed by pressing control ◀, ▶ buttons.

##### Adjustment Preparation

- (6) Set to SHARPNESS mode.

##### Adjustment Procedure

- (6) Check that Sharpness is changed by pressing control ◀, ▶ buttons.

##### Adjustment Preparation

- (7) Set to RESET mode.

##### Adjustment Procedure

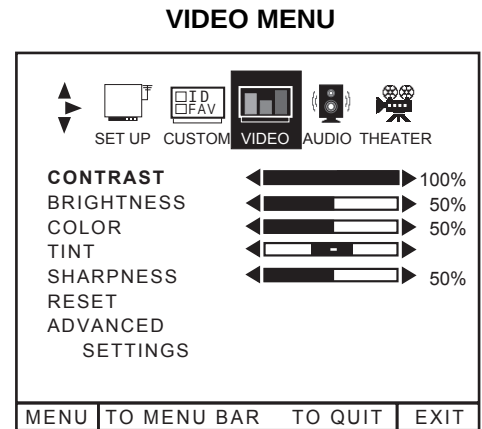
- (7) Check that all picture settings return to delivery settings by pressing ▶ button.

#### Adjustment Preparation

- (8) Set to COLOR TEMPERATURE mode, (VIDEO, ADVANCED SETTINGS).

#### Adjustment Procedure

- (8) Check that WHITE CONTROL is changed by pressing ▶ button.



#### **2-7-6 Sound Mode**

##### Adjustment Preparation

- (1) Press MENU key, and select AUDIO menu.
- (2) Set to BASS mode.

##### Adjustment Procedure

- (1) Check that BASS is changed by pressing control ◀, ▶ buttons.

##### Adjustment Preparation

- (2) Set to TREBLE mode.

##### Adjustment Procedure

- (2) Check that TREBLE is changed by pressing control ◀, ▶ buttons.

##### Adjustment Preparation

- (3) Set to BALANCE mode.

##### Adjustment Procedure

- (3) Check that BALANCE is changed by pressing control ◀, ▶ buttons.

##### Adjustment Preparation

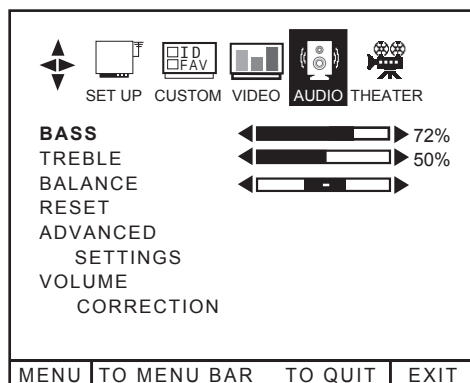
- (4) Set to RESET mode.



### Adjustment Procedure

- (4) Check that all sound setting modes return to delivery settings by pressing ► button.

#### AUDIO MENU



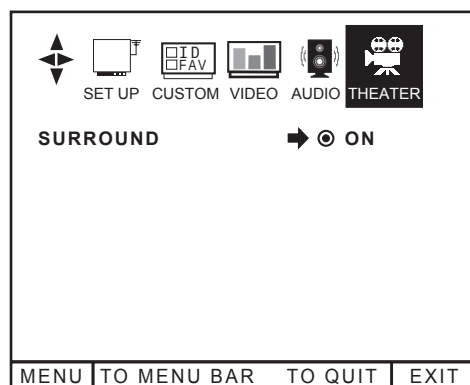
### Adjustment Preparation

- (6) a. Input stereo sound signal to VIDEO: 1 terminals, and set "VIDEO: 1" by Input button.
- b. Set to SURROUND menu (THEATER menu):

### Adjustment Procedure

- (6) Check that sound becomes louder when set to on mode by ▲, ▼ button.

#### THEATER MENU



## V. DEFLECTION CIRCUIT PICTURE ADJUSTMENT OPERATION CHECK

### 1. HIGH VOLTAGE LIMITER CIRCUIT OPERATION CHECK AND OVER VOLTAGE PROTECTION CIRCUIT OPERATION CHECK.

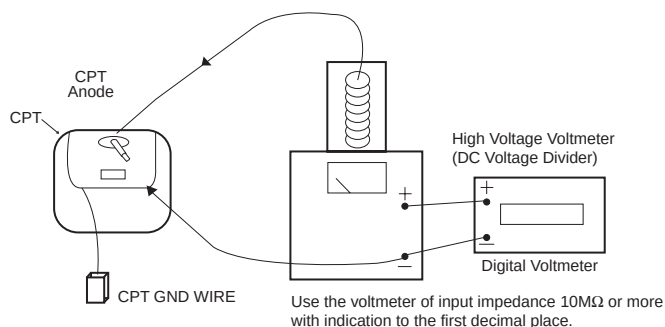
#### Adjustment Preparation

- (1) Connect a high voltage voltmeter between CPT anode terminal (Anode cap side) and the ground as below.
- (2) Set AC input voltage to  $120 \pm 3V$ .
- (3) Receive circle pattern and set "BRIGHTNESS" and "CONTRAST" to max. Adjust Screen VR so that beam current is  $I_B \pm 0.1mA$ . (The voltage of ABL terminal-C747 both ends should be 12V or less.)

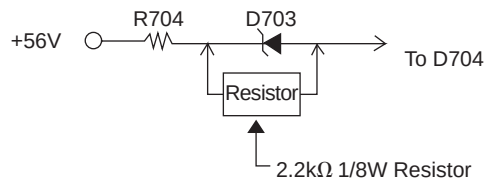
#### Adjustment Procedure

- (1) Check that the normal high voltage and +B voltage as below.

| CHASSIS         | EHT $\pm 1KV$  | $I_B \pm 0.1mA$ | +B             |
|-----------------|----------------|-----------------|----------------|
| 36UX01S/36GX01B | $30.0 \pm 1KV$ | $1.7 \pm 0.1mA$ | $140 \pm 0.3V$ |
| 32UX01S/32UX01B | $29.0 \pm 1KV$ | $1.5 \pm 0.1mA$ | $140 \pm 0.3V$ |



- (2) Connect a 2.2kΩ 1/8W Resistor to both ends of D703 and check that power is turned off.



- (3) Disconnect the AC plug and remove 2.2kΩ 1/8W Resistor.

### 2. FBT PROTECTION CIRCUIT OPERATION CHECK

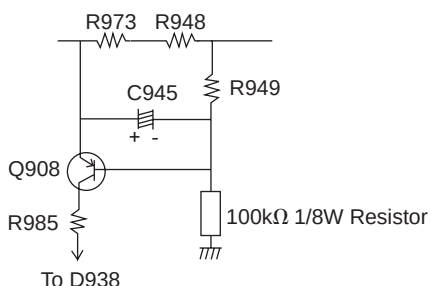
#### Adjustment Preparation

- (1) Set "CONTRAST" to maximum, "BRIGHTNESS" to center.

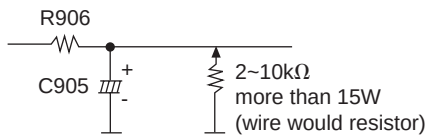
#### Adjustment Procedure

- (1) Connect a 100kΩ 1/8W Resistor between Q908 base and ground, check that picture disappears. See figure A.

**Figure A**



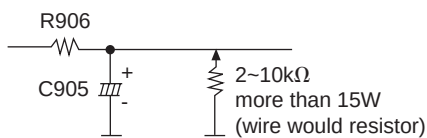
- (2) Immediately after checking, disconnect the TV set power cord.
- (3) Discharge C905 as follows.



### 3. LOAD SHORT PROTECTION CIRCUIT OPERATION CHECK.

#### Adjustment Procedure

- (1) Receive circle pattern signal.
- (2) Set "CONTRAST" to maximum and "BRIGHTNESS" to center.
- (3) Check the Cathode voltage of D939, D952, and D953. Confirm the voltage should be more than 1.5V.
- (4) Short-circuit both ends of R961 and check that the picture disappears within 2~3 sec.
- (5) Disconnect short-circuit of R961 and the TV set power cord.
- (6) Discharge C905 as follows.



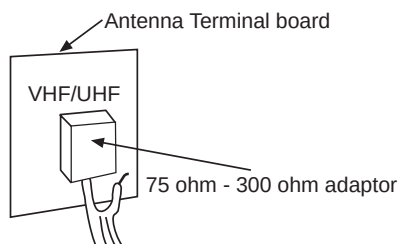
### 4. WEAK ELECTRIC FIELD CHECK

#### Adjustment Preparation

- (1) Connect one side of the 300 ohm feeder to 75 ohm ~ 300 ohm antenna adapter. Connect the antenna adapter to the VHF antenna terminal board as shown below.
- (2) Turn to no signal condition.

#### Adjustment Procedure

- (1) Check that the phenomena such as oscillation and abnormal beat, etc. do not occur in all the channel.



## VI. REMO-CON OPERATION CHECK

### 1. DIRECT CHANNEL SELECTION

#### Adjustment Procedure

- (1) Input 2 or 3 digits of channel number with the buttons of the Remo-con "0-9." Check that the input number and the on-screen display number are the same. (At 100CH selection, press "1" and after 2 seconds, press "0" two times.

1 — → 1 — —  
After  
2 seconds

### 2. LST-CH (LAST CHANNEL RECALL)

#### Adjustment Procedure

- (1) Check that the set receiver alternates between the channel which is being received and the channel which was previously received with each press of the "LST-CH" button of the Remo-con.

### 3. MUTE

#### Adjustment Procedure

- (1) Check that the sound alternates between SOFT MUTE, MUTE and MUTE OFF by every pressing of "MUTE" button on the Remo-con. At this time, check the MUTE indication:
 

|           |         |
|-----------|---------|
| MUTE off  | Yellow  |
| SOFT MUTE | Magenta |
| MUTE      | Magenta |
- (2) Check that sound level goes to 1/2 level at SOFT MUTE.
- (3) Check that sound level goes to 0 at MUTE mode.

### 4. RECALL

#### Adjustment Procedure

- (1) Check that on-screen channel no. indication appears by pressing the "RECALL" button of the Remo-con.

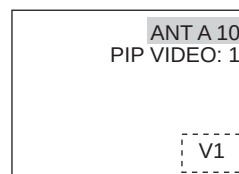
### 5. P IN P (36UX01S/32UX01S only)

#### Adjustment Preparation

- (1) Connect signal to ANT A and receive it.
- (2) Connect signal to VIDEO: 1 Input.

#### Adjustment Procedure

- (1) Check that with each press of the "PIP" button of Remo-con, sub-picture alternates between On and Off. When sub-picture is On, check that the channel numbers are displayed as below.



## 6. MOVE

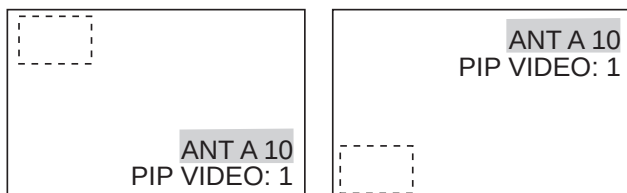
### Adjustment Preparation

- (1) Press "PIP" button to set to PinP mode.

### Adjustment Procedure

- (1) Check that with each press of the "MOVE" button on Remo-con, sub-picture moves counterclockwise.

**Note:** When sub-picture is in the upper left of the screen, the channel number of main picture comes to the lower right, as shown below.



## 7. SWAP

### Adjustment Preparation

- (1) Press "PIP" button to set to PinP mode.

### Adjustment Procedure

- (1) Check that with each press of the "SWAP" button, the contents of main picture and sub-picture are exchanged.

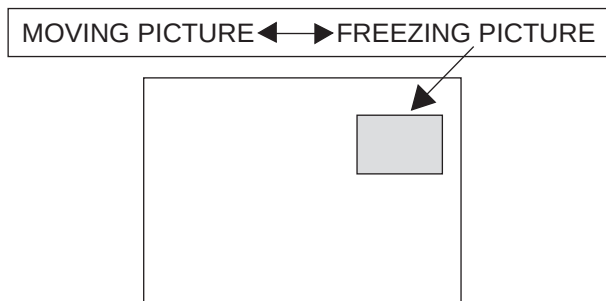
## 8. FREEZE

### Adjustment Preparation

- (1) Connect signal to ANT A and video. (One or both of the pictures should be moving picture.)
- (2) Press "PIP" button to set PinP mode.
- (3) Sub-picture should be moving picture.

### Adjustment Procedure

- (1) Check that with each press of the "FREEZE" button, sub-picture alternates between moving picture and freezing picture.



- (2) Press "PIP" button to make sub-picture disappear.

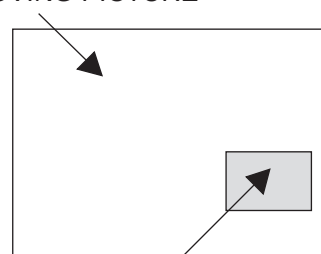
### Adjustment Preparation

- (1) Connect signals to ANT A and Video Input. Both signals should be moving picture.
- (2) Set PinP to off.

### Adjustment Procedure

- (1) Check that freezing picture of main screen appears as a sub-picture by pressing "FREEZE" button on the Remo-con.
- (2) Check it also in the TV and Video modes.
- (3) Check that the frozen sub-picture disappears by pressing "FREEZE" button.
- (4) Check that the frozen sub-picture turns to normal PinP sub-picture by pressing PIP button.

MOVING PICTURE



SUB PICTURE

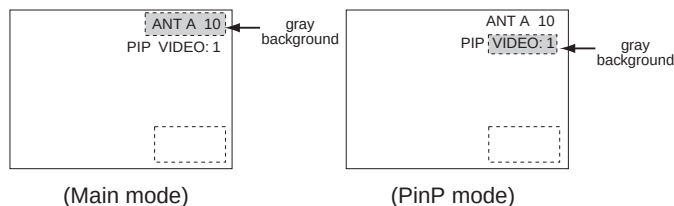
## 9. PINP CH (36UX01S/32UX01S models).

### Adjustment Preparation

- (1) Connect the signal to ANT A and VIDEO: 1.
- (2) Press "PIP" button to set PinP mode.

### Adjustment Procedure

- (1) Check that OSD changes as follows by pressing "PIP CH" button.



- (2) Set PIP CH to PinP mode.
- (3) Check that PinP sub-picture changes by channel ▲, ▼, and "INPUT" key and receives normal picture.

**Note:** PIP CH Function not available for 36UX01S/32UX01S models.

## VII. MEMORY INITIALIZE (2)

After all of the adjustments of main chassis are finished, perform memory initialize. (Operation in Item III)

## VIII. FINAL ASSEMBLY ADJUSTMENT/ COMMON SERVICE ADJUSTMENT

### 1. PURITY CONVERGENCE ADJUSTMENT

**Note:** For ITC type A90LPY30X01 apply item 1.2 (8) (Purity check). For A80LJF30X(W), apply item 1.1-1.2 (8).

## 1-1 Adjustment Preparation

- (1) Keep DY stick to CPT funnel.
- (2) Turn ON the set and receive cross-hatch signal (or circle pattern signal). Adjust the static convergence coarsely according to item (VIII, 1-4).
- (3) Receive white pattern signal and adjust the white balance according to item 4-6.
- (4) Set BRIGHTNESS control and CONTRAST control to maximum and apply heat-run to the set with circle pattern signal received for 40 min. or more.

## 1-2 Purity Adjustment

THIS ADJUSTMENT METHOD APPLIES TO THE PURITY ADJUSTMENT BY USING MICROSCOPE.

- (1) Adjust coarsely White balance, Static convergence (center) and Focus.
- (2) Receive circle pattern and heat-run more than T minutes with CONTRAST and BRIGHTNESS to maximum. Do not delete the raster nor vary the current before fixing the position of DY. Heat-run should be done with perfect raster. (DY and tilt should have been coarsely adjusted.)

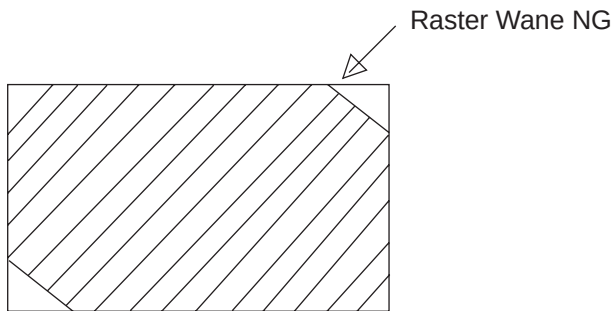


TABLE 1

| CPT          | T       |
|--------------|---------|
| A80LJF30X(W) | 40 Min. |

- (3) The magnetic field in artificial magnetic field should follow the table below and the set should face as in Table 2. Degauss it from outside.

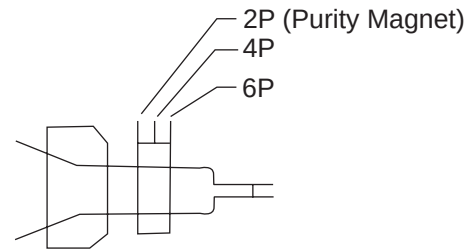
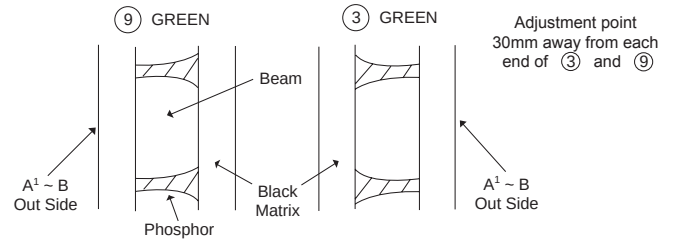
| DESTINATION    | VERTICAL FIELD | HORIZONTAL FIELD |
|----------------|----------------|------------------|
| USA            | 0.45G          | 0.3 G            |
| CANADA         | 0.54G          | 0.15G            |
| UNIVERSAL      | 0.35G          | 0.3 G            |
| PANAMA, HAWAII | 0.2 G          | 0.3 G            |

TABLE 2

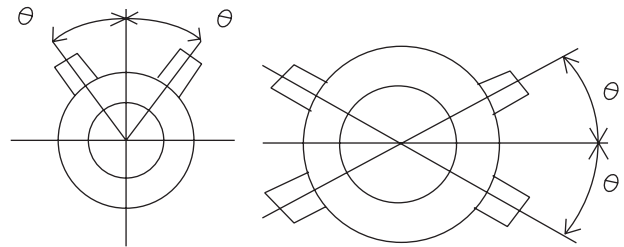
Directions for adjustment

|              |       |
|--------------|-------|
| A80LJF30X(W) | North |
|--------------|-------|

- (4) Adjust the position of purity magnet and DY. Keep the landing balance of ③ and ⑨, and adjust so that the landing of ③ and ⑨ is as follows while observing with a microscope.



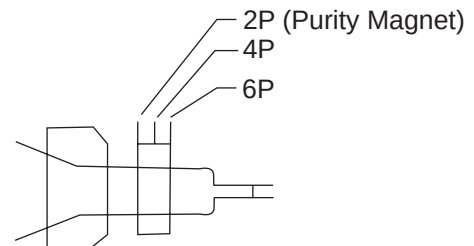
- (a) Open the purity magnet as follows in order to move the raster only in the right-left direction.



C-F MAGNET  
P#2773671

C-F MAGNET  
P#2773672

Keep the balance of ③ / ⑨ DY landing

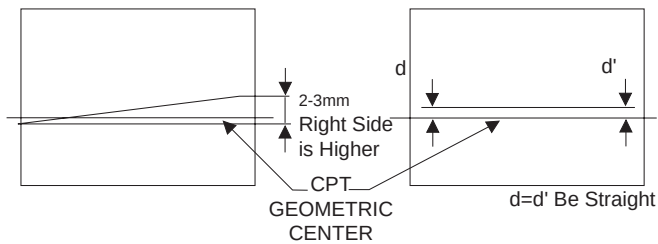


- (b) YPB (Yoke pull-back) should be as follows. (Distance between the bumped position of DY toward the funnel and the just-landing position of ③ and ⑨.)

(c) DY tilt should be as follows.

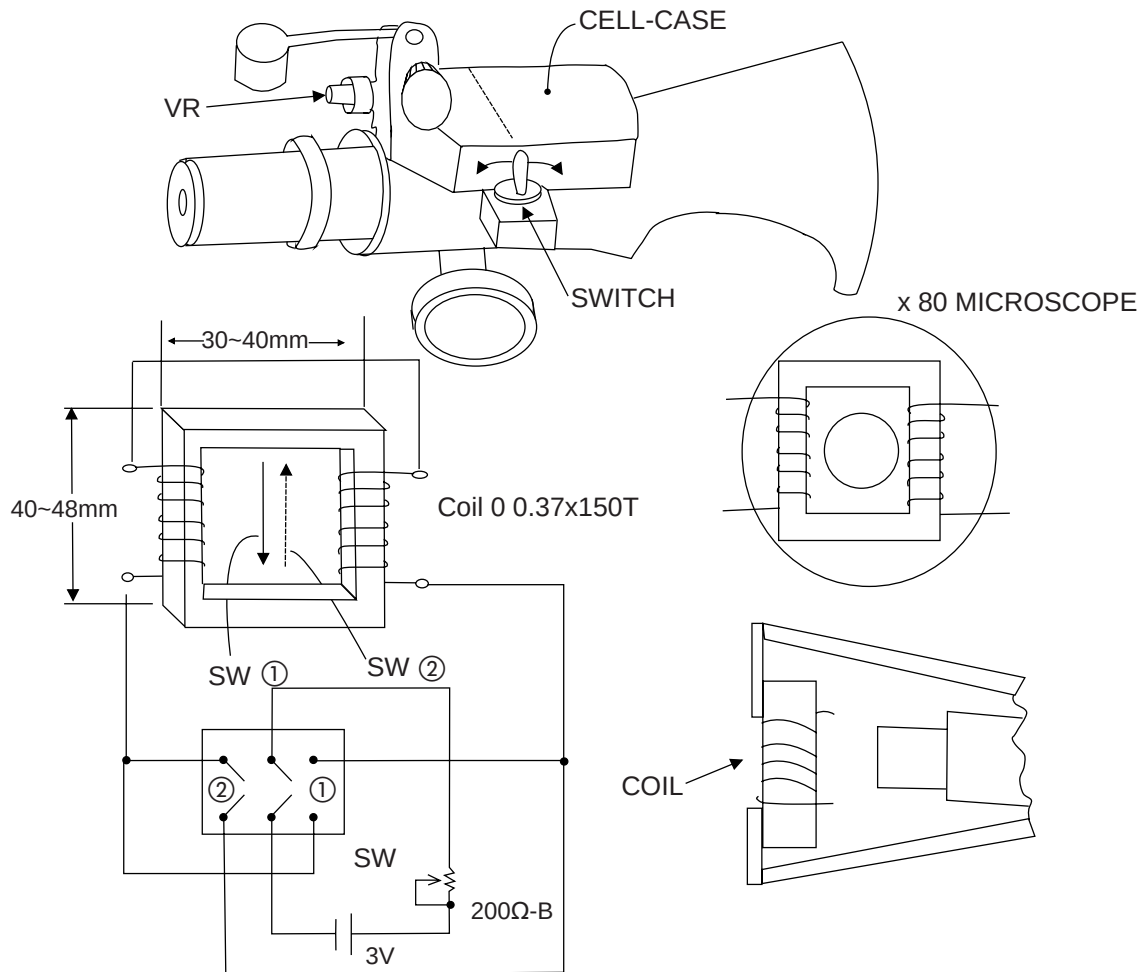
FACE: North

FACE: East



- (5) Fix DY with fixing torque of 14kg.cm.  
Control the torque by an electric driver.
- (6) If any miss landing occurs, correct with magnets.  
At this time, if the white unevenness is all right, magnet is not needed.
- (7) After peripheral convergence is adjusted, check the position of DY and tighten the DY again.  
(14kg.cm)
- (8) Purity check  
The magnetic field in artificial magnetic field should follow the magnetic field according to the destination, and the set should face as follows.  
After degaussing in each direction, check these items visually and with a microscope.
  - (a) No problem in white unevenness.
  - (b) Each single color must not hit any other colors.
  - (c) If white or any single color is defective, apply a magnet(s) on CPT for correction.  
If any magnet is applied, check it after degaussing.

## THE MICROSCOPE



Fix coil to CRT side of microscope. Set it upside down and measure it. Check that beam moves to the right and left equally in quantity. Be careful at assembly that core does not tilt because upward (downward) magnetic field by coil moves the beam to the right (left) or type MS-50X microscope of KANSAI DENKI.

### 1-3 Purity Adjustment

**(This adjustment method applies to purity adjustment by hand operation.)**

- (1) Use an artificial magnetic field and set the field strength as follows.

\*Magnetic field in CPT axis direction: 0 Gauss

\*Magnetic field which is vertical to CPT axis:

U.S.A., Hawaii, Panama, Guam

Bolivia, Peru, Universal..... 0.3 Gauss

Canada..... 0.15 Gauss

Taiwan..... 0.37 Gauss

(The direction of the magnetic field should be from the left side to the right side of the CPT screen as you face it.)

- (2) Adjust Focus coarsely according to Focus Adjustment page 40.

- (3) Adjust Convergence coarsely according to item 1-4 and 1-5. (Page 39~40)
- (4) Receive Circle Pattern signal and check that Contrast and Brightness are maximum.
- (5) Receive magenta signal. When the magenta signal is not available, short-circuit between the base and emitter of Q855 and set to magenta.
- (6) Press DY fully against CPT funnel and turn the purity magnet so that the vertical magenta band comes to the center of the picture (Fig. 1-3-1). Check that color unevenness of both sides are approximately equal at this time. The openings of the purity magnet should be symmetric (Fig. 1-3-2).

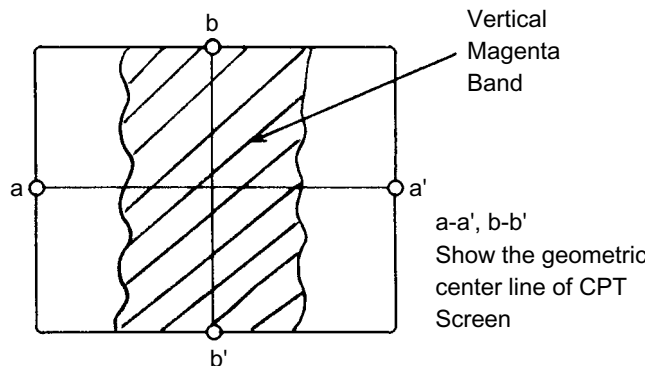


FIGURE 1-3-1

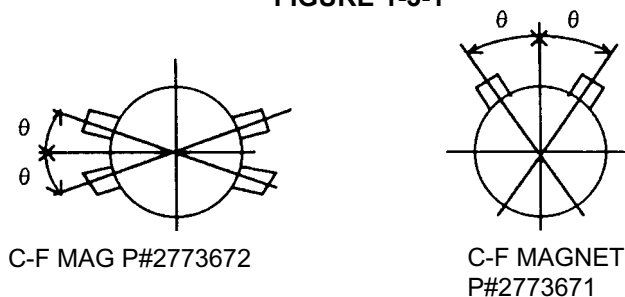


FIGURE 1-3-2

The openings of the purity magnet should be symmetric: on the right and left sides (P#2773671) on the upper and lower sides (P#2773672)

- (7) Receive the single red signal. When the single red signal is not available, short circuit between the base and emitter of Q845, and between the base and emitter of Q857 and set to single red.
- (8) Pull back DY gradually and when the color unevenness of both sides of the picture disappear, mark the rear edge position of DY on the tape wound around CPT neck as shown in Figure 1-3-3. Pull back DY further and just before the color unevenness of both sides of the picture disappear, mark the rear edge position of DY on the tape in the same way. At this time, pull back DY so that the center axis of DY and CPT axis match.

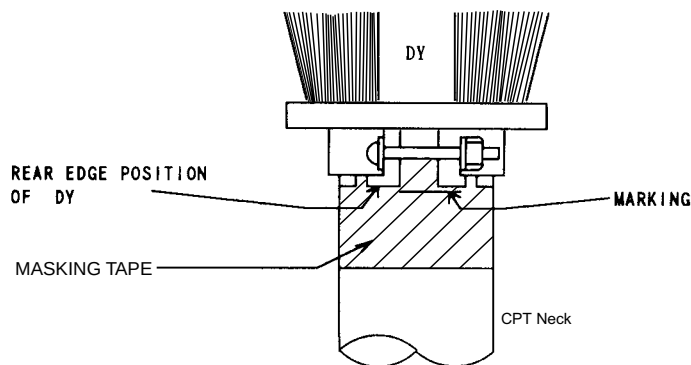
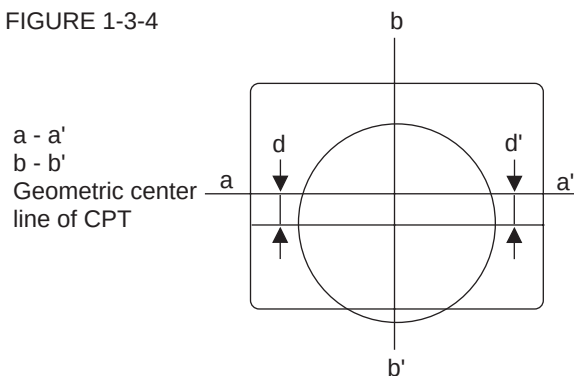


FIGURE 1-3-3

- (9) Move DY so that the rear edge position of DY comes to the center of the two marked lines and fasten DY as  $d=d^1$  (Figure 1-3-4). Further insert the rubber wedge between DY and CPT funnel from the top and raise DY backwards.

FIGURE 1-3-4



- (10) Set CRT axis direction magnetic field of the artificial magnetic field according to the artificial magnetic field setting list classified by destination. (The direction of the magnetic field should be from the CPT screen side to the neck side.)
- (11) After degaussing it from outside, check the purity in each color to R, G and B visually. Then, turn the screen to white and check the landing at the screen position shown in Fig. 1-3-5 with a microscope.

#### Criteria with microscope

There should be no miss landing at positions 2, 4, 8 and 10. Green beam should be at center of the green phosphor at position C. (Refer to the miss landing criteria.)

- (12) Turn over the direction of CPT axis direction magnetic field of the next artificial magnetic field and check it by the same way as item (11). The positions of miss landing criteria with a microscope should be 2, 4, 8 and 10 (Figure 1-3-5).

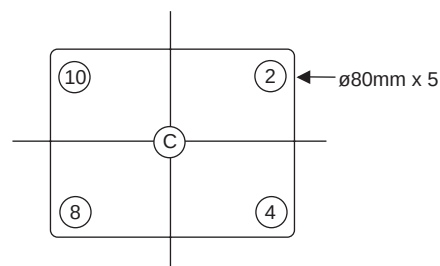


FIGURE 1-3-5

#### Miss landing criteria

The following conditions are defined as miss landing. Each color beams shines on the phosphor of the applied color and there are phosphor parts which are not luminous (shaded parts in



the right figure) between the luminous parts and black matrix. Or, each color beam shines on the phosphor of not applied color.

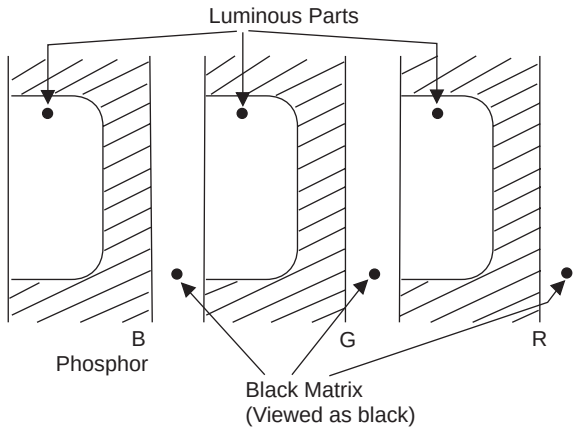


FIGURE 1-3-6 Enlarged view of screen with microscope

- (13) To improve the miss landing mentioned above, it's acceptable to stick the permanent magnets to CPT funnel (Figures 1-3-7 and 1-3-8).

#### Usage

Apply a silicone rubber KE-40 WRTV to the permanent magnet shown in the Figure, adhere it to the CPT funnel and then fix it with permaseal tape P212.

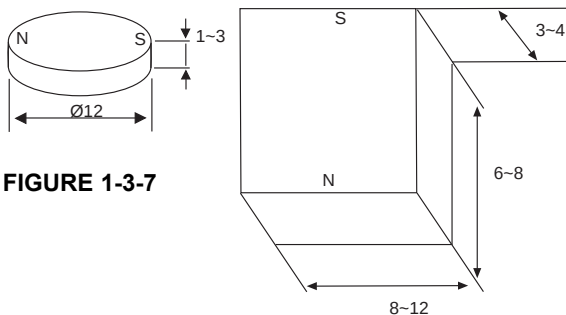
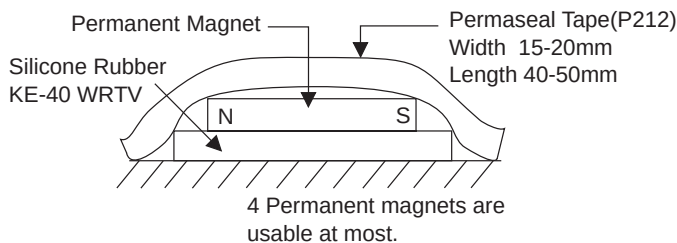


FIGURE 1-3-7

FIGURE 1-3-8



- (14) Final purity criteria should satisfy the miss landing criteria.  
 (15) When delivering the sets, set CPT axis direction magnetic field to 0 Gauss and degauss it from outside.

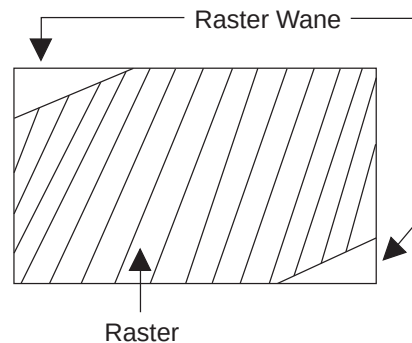
**Table 3**

Artificial magnetic field setting list classified by destination.

| DESTINATION    | Vertical Field | Horizontal Field |
|----------------|----------------|------------------|
| USA            | 0.45 G         | 0.3 G            |
| CANADA         | 0.54 G         | 0.15 G           |
| UNIVERSAL      | 0.35 G         | 0.3 G            |
| PANAMA, HAWAII | 0.2 G          | 0.3 G            |
| TAIWAN         | 0.22 G         | 0.37 G           |

#### Notes for pre-heat

Before pre-heating, stick DY to CPT funnel and fix it so that the raster is perfect.



#### 1-4 Static Convergence Adjustment (Screen center part) (Except ITC CPT)

- (1) Receive a cross-hatch signal and set Brightness to the center and Contrast to minimum.

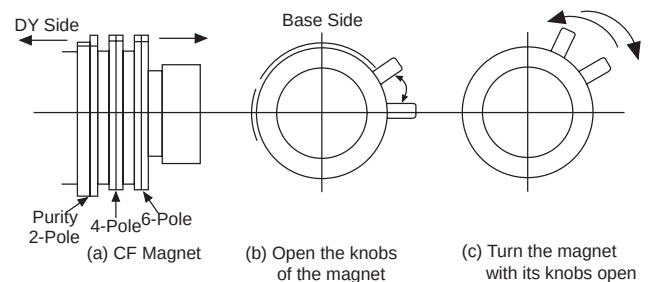


FIGURE 1-4-1

- (2) Open the knobs of 4-pole magnet (2 sheets) (Figure 1-4-1(b)) and match the blue/red vertical lines at the center of the screen as shown in Figure 1-4-2(a).  
 (3) Turn the 4-pole magnet with its knobs open (Figure 1-4-1(c)) and match the blue/red horizontal lines as shown in Figure 1-4-2(b).

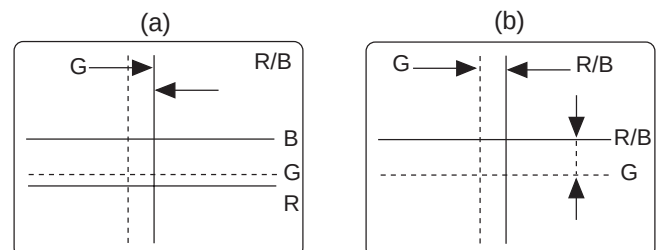


FIGURE 1-4-2



## 1-5 Dynamic Convergence adjustment (Except ITC CPT type)

- (1) Insert an adjustment wedge (temporary) between the top of DY opening and CPT funnel as shown in Figure 1-5-1. By inserting the wedge gradually, match the red and blue vertical lines at the top and bottom of the screen and also match the red and blue horizontal lines of both sides of the screen as shown in Fig. 1-5-2(a).
- (2) Adjust by swinging in the right/left directions of DY while observing 6 and 12 horizontal lines of the screen and match the red and blue horizontal lines. As shown in Fig. 1-5-2(b), when the blue is outside from the red on CPT screen, insert the DY fixing wedge between the right-side DY viewed from the rear of CPT and CPT funnel.
- (3) As shown in Fig. 1-5-2(c), when the blue is inside from the red on CPT screen, insert the wedge between the left-side DY and CPT funnel.
- (4) Insert two DY fixing wedge with approximately 120° to the fixing wedge inserted in item (2) or (3) and remove the adjustment wedge (temporary). Use the DY fixing wedge after peeling off the tape. After proper location, press and adhere it to the funnel.

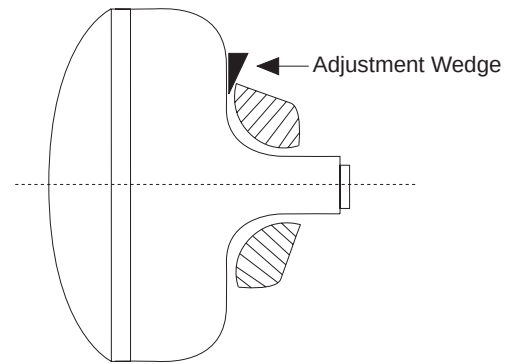


FIGURE 1-5-1

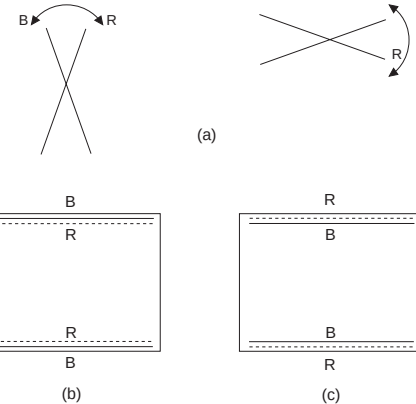
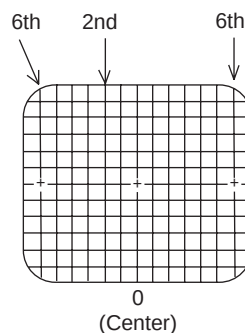


FIGURE 1-5-2

## 2. FOCUS ADJUSTMENT

| NO. | MODEL              | CPT                       | CONDITION                                                                                                                                                                                                       | Focus VR setting position                                                                                                                                                           |
|-----|--------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | 36UX01S            | A90AHH50X01<br>(TOSHIBA)  | <ul style="list-style-type: none"> <li>Receive the cross-hatch signal</li> <li>Contrast control: Maximum</li> <li>Sharpness control: Center</li> <li>Brightness control: Where the background is set</li> </ul> | Turn the Focus VR gradually clockwise from the full counterclockwise position. Then set it to the point where the focus of 5th vertical line from the screen center becomes best.   |
| 2   | 36GX01B            | A90LPY30X<br>(HED-US)     | <ul style="list-style-type: none"> <li>Same as above</li> </ul>                                                                                                                                                 | Turn the Focus VR gradually clockwise from the full counterclockwise position. Then set it to the point where the focus of 7th horizontal line from the screen center becomes best. |
| 3   | 32UX01S<br>32GX01B | A80LJF30X (W)<br>(HED-US) | <ul style="list-style-type: none"> <li>Receive the cross-hatch signal</li> <li>Contrast control: Maximum</li> <li>Sharpness control: Center</li> <li>Brightness control: Where the background is set</li> </ul> | Turn the Focus VR gradually clockwise from the full counterclockwise position. Then set it to the point where the focus of 6th horizontal line from the screen center becomes best. |



## 1.0 Deflection circuit picture adjustment

### 1-1 Horizontal center adjustment

#### Adjustment Preparation

- (1) Apply heat-run 5 min or more after the power is turned on.
- (2) Receive circle pattern signal.
- (3) Set CONTRAST max. and others center.  
(Adjustment code P08)

#### Adjustment Preparation

- (1) Adjust horizontal center so that difference of right and left size marker is within 0.5 by changing data.  
(Adjustment code P08)

### 1-2 Vertical size adjustment

#### Adjustment Preparation

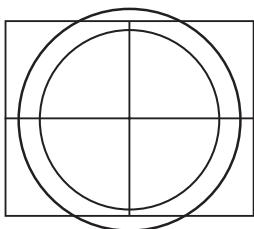
- (1) Apply heat-run 5 min. or more after the power is turned on.
- (2) Receive circle pattern signal, and set CONTRAST max. and others center.
- (3) The set should be facing North or South.
- (4) Set to adjustment code as follows.

| Adjustment mode              | Adjustment Code |
|------------------------------|-----------------|
| Vertical Position adjustment | P10             |
| Vertical Size adjustment     | P11             |

#### Adjustment Procedure

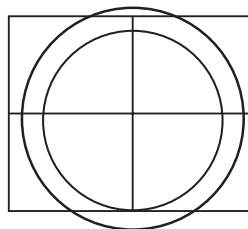
- (1) Adjust vertical center and size so that the outer circle of the circle pattern is like the figure below, by changing data.

(i) Standard Condition



Center Inner Circle to the Screen.

- (ii) When the picture center is above CRT center at V center is min.



When the picture center is above CRT center, adjust so that the bottom of the outer circle comes in contact with the bottom of the screen.

### 1-3 Side pin distortion adjustment

#### Adjustment Preparation

- (1) Receive Crosshatch signal and set CONTRAST to max.

#### Adjustment Procedure

- (1) Set adjustment code as follows.

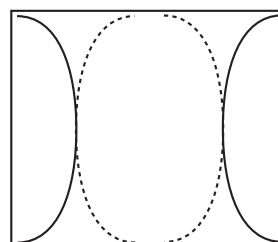
| Adjustment mode         | Adjustment Code |
|-------------------------|-----------------|
| E/W PARABOLA adjustment | P12             |
| E/W CORNER adjustment   | P16             |

- (2) Adjust data so that the line of the right and left are straight.

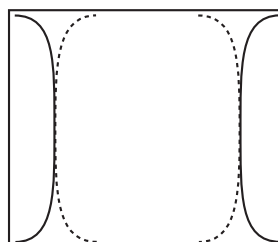
spec.  $D_L, D_R \leq 5\text{mm}$  (For 32V)

spec.  $D_L, D_R \leq 7\text{mm}$  (For 36V)

P12



P16



#### 1-4 Horizontal size adjustment

##### Adjustment Preparation

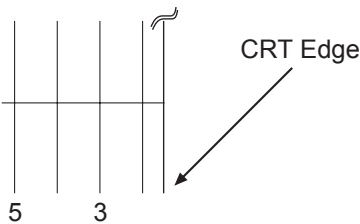
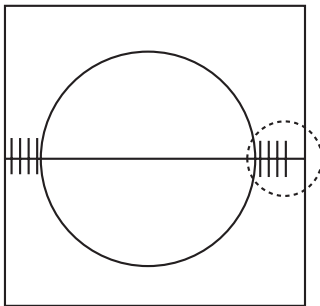
- (1) Receive Hitachi Circle Pattern signal.
- (2) Set CONTRAST to max. and BRIGHTNESS to center.

##### Adjustment Procedure

- (1) Set to adjustment code as follows

| Adjustment mode       | Adjustment Code |
|-----------------------|-----------------|
| H SIZE adjustment     | P09             |
| H POSITION adjustment | P08             |

- (2) Adjust data so that the horizontal size markers at the right are 1.5 (+0.5, -0).



#### 1-5 E/W trapezoid adjustment

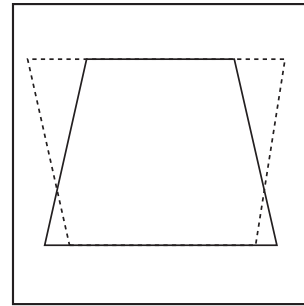
##### Adjustment Preparation

- (1) Receive Hitachi Circle Pattern signal.
- (2) Set CONTRAST to max. and BRIGHTNESS to center.

##### Adjustment Procedure

- (1) Set to adjustment code as follows

| Adjustment mode          | Adjustment Code |
|--------------------------|-----------------|
| E/W TRAPEZOID adjustment | P15             |



#### X. White Balance

##### 1. White Balance Adjustment

##### Adjustment Preparation

- (1) Apply heat-run 10 min, or more after the power is turned on.
- (2) Check that the purity adjustment has been completed.
- (3) Set the vertical incident illumination on the CRT surface to 20 Lux or less.
- (4) Receive white raster signal.
- (5) Set to adjustment code.
- (6) Turn the screen adjusting VR fully counter-clockwise.
- (7) Press MENU button enter vertical collapse mode.

##### Adjustment Procedure

- (1) Turn the screen adjusting VR clockwise gradually until horizontal line appears slightly on the surface CRT.
- (2) No longer change the cut off data named "data A" of a color which appears at the first.
- (3) Adjust the cut off data except "data A", so that the red, green and blue bright colored line appear on the screen equally.

| Cut off data address | Adjustment Code |
|----------------------|-----------------|
| R cut off            | P03             |
| G cut off            | P04             |
| B cut off            | P05             |
| G drive              | P01             |
| B drive              | P02             |

- (4) Escape from vertical collapse mode by pressing MENU button again.
- (5) Adjust picture control so the indication of the brightness meter is 80% of the full scale. Then, set G and B drive data and adjust the high-brightness white balance.
- (6) Set PICTURE control to min. and check that the low-brightness white balance without using a mirror.
- (7) When the low brightness white balance is not obtained, adjust other low-brightness cut off data except "data A" and return to item (6).  
(low-brightness 10~15cd/m<sup>2</sup>)

White balance color temperature setting  
10800°K-7MPCD.

$$\begin{cases} X=0.278\pm0.003 \\ Y=0.280\pm0.003 \end{cases}$$

- (8) Set COLOR TEMPERATURE to WARM, and check that color temperature is approx. 7200°K.

## 2 Sub-black level adjustment

### Adjustment Preparation

- (1) Apply heat-run for 10 min. or more after the power is turned on.
- (2) Receive Hitachi color bar.
- (3) Set CONTRAST and COLOR controls to min.
- (4) Set the vertical incident illumination on the CRT surface to 20 Lux or less.
- (5) Set BRIGHTNESS control to the center position.
- (6) Set to adjustment code P06.

### Adjustment Procedure

- (1) Adjust the Sub Brightness data to be set background of A1 to black and A2 to lighter black.
- (2) Check the CRT surface directly, without using a mirror.

|          |    |       |    |     |    |    |
|----------|----|-------|----|-----|----|----|
| W<br>75% | Y  | CY    | G  | MG  | R  | BL |
| A7       | A6 | A5    | A4 | A3  | A2 | A1 |
| B        |    |       |    |     |    |    |
| D        |    |       |    |     |    |    |
| Q        | I  | W100% |    | BLK |    |    |

The background is set to black.  
Perform the adjustment without  
observing the boundary parts.

The background is set to  
lighter black.

## 3 Sub picture adjustment

### 3-1 Sub picture white balance adjustment

#### Adjustment Preparation

- (1) Item 3.5 and 3.6 should be finished before this adjustment.
- (2) Turn of the sub picture by pressing "PinP" key of the remote controller. (Keeping the white signal with main picture and sub picture)
- (3) Condition should be set as follows.  

$$\begin{cases} \text{Contrast-center} \\ \text{Brightness-center} \\ \text{Others-center} \end{cases}$$
- (4) White signal spec. amplitude 77% white (1.1V 75Ω open except sync.)

#### Adjustment Procedure

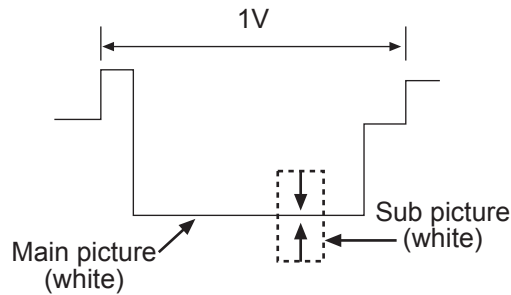
- (1) Set to IR adjustment mode.

| Adjustment mode         | Adjustment Code |
|-------------------------|-----------------|
| BLUE adjustment         | S03             |
| GREEN adjustment        | S02             |
| PIP CONTRAST adjustment | S06             |

- (2) Observe Q851 collector on the CRT P.W.B. and change the PIP CONTRAST adjustment data so that the amplitude of sub picture is the same as that of the main picture.
- (3) Similarly, observe Q854 collector on the CRT P.W.B. and change the GREEN adjustment data and adjust so that the amplitude of the sub picture is the same as that of the main picture.
- (4) Similarly, observe Q857 collector on the CRT P.W.B. and turn the BLUE adjustment data and adjust so that amplitude of the sub picture is the same as that of the main picture.

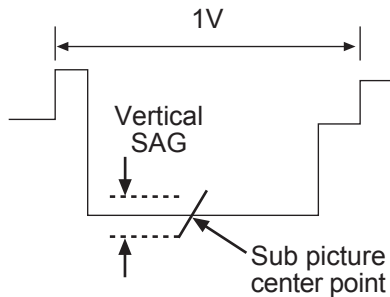
- (1) Check the matching of the white balance of sub picture with the main picture.

- Adjustment specification : ±1V
- Quality control specification : ±1V
- Waveform of Q851/Q854/Q857 (R/G/B) = cathode.  
(Sub picture level compared with main picture level.)



Oscilloscope range : 10V/0.2msec

- If the sub picture sag to vertical direction, adjust the sub picture center point.



- Perform this adjustment after the white balance and Sub-brightness adjustments of the main picture are completed.
- White balance 10800° K - 7MPCD  
(Color coordinates :  $x=0.278$ ,  $y=0.280$ )
- Refer to the sub-brightness adjustment for details of the gray scale of color bar signal.

## IX. MATCHING CHECK WITH OTHER INSTRUMENTS

### 1. VIDEO:1 INPUT TERMINAL MATCHING CHECK

#### Adjustment Preparation

- (1) Input the video signal to VIDEO 1 IN terminal.  
The video signal level should be within  $1 \pm 0.2$  Vp-p (75 ohm termination) with 100% white signal at this time.
- (2) Input the audio signal to the AUDIO 1 IN terminal. The audio signal should be  $500m \pm 20m$  Vrms at this time. (Connect VCR or TV tuner.)
- (3) Connect an audio AMP to the AUDIO OUT terminals. (Or connect AUDIO IN terminals of a standard monitor instead.)

#### Adjustment Procedure

- (1) Check that the set receives signal then select the Input mode by pressing the INPUT (FUNCTION) button of front panel of the set or remote control.
- (2) When external input is performed, the video and audio should not be abnormal.  
The 100% white signal that RF input receives should be as bright as the video signal 1Vp-p (75 ohm termination).

As for the sound, when the 100% modulation that RF input receives is 25KHZ, DIV., the sound level should be as much as external audio signal (500 Vrms) level.

### 2. VIDEO 2 INPUT TERMINAL MATCHING CHECK

#### Adjustment Preparation

- (1) Same as 1 (1).

#### Adjustment Procedure

- (1) Check that the set receives signal at INPUT 2 mode.

### 3. VIDEO:3 INPUT TERMINAL MATCHING CHECK

#### Adjustment Preparation

- (1) Same as (1)

#### Adjustment Procedure

- (1) Check that the set receives signal at INPUT 3 mode.

### 4. S-IN:1 INPUT TERMINAL MATCHING CHECK

#### Adjustment Preparation

- (1) Connect the video/chroma signal to S-IN:1 terminal.
- (2) Connect the sound signal to AUDIO:1 input terminals.

#### Adjustment Procedure

- (1) Check that the set receives S-Video signal at INPUT 1 mode.

### 5. COMPONENT INPUT CHECK

#### Adjustment Preparation

- (1) Connect the component signal to component terminals.
- (2) Connect the sound signal to AUDIO:2 input terminals.

#### Adjustment Procedure

- (1) Check that the set receives component signal at INPUT 2 mode.
- (2) Check that Recall OSD shows "Y-PBPR"

## 6. AUDIO OUT LEVEL CHECK

### Adjustment Preparation

- (1) Input the same audio signal at item 1(2) to AUDIO IN terminal (L). At this time, connect nothing to R terminal.
- (2) Input the same audio signal as item 1(2) to AUDIO:1 IN terminal (R). At this time, connect nothing to L terminal.
- (3) Check that the normal sound is output from both sides of the speakers when signal in item (1) is input.
- (4) Check that the normal sound is output from only the right (R) speaker when signal in item (2) is input.

### Adjustment Procedure

- (1) Check that the audio output of AUDIO AMP connected to AUDIO HiFi OUT terminal changes according to the "VOLUME" of the set.
- (2) Confirm that the output level of item (1) should be 1 Vrms (2.8 Vp-p)±20%. (Above level is equivalent to VOL. MAX. 100% modulated signal input.)

## XII. SAFETY CHECK

### 1. POLARITY CHECK

This check is performed according to UL standard requirement. There should be electricity between AC Power Cord and Chassis Earth.

## XIII. MTS OPERATION CHECK

### 1. STEREO/SA BROADCAST RECEIVING CHECK

#### Adjustment Preparation

- (1) Set the TV set so that a MTS broadcast (STEREO/SAP) can be received.



- (2) Set MTS mode to STEREO or SAP mode.  
**Note:** To select between "STEREO/SAP," display sound setting of MTS mode and Select AUDIO MENU
- (3) Set BALANCE to the center.

#### Adjustment Procedure

- (1) When one of the MTS broadcast stereo SAP is received, check that "ST" or "SA" is displayed on the screen.

- (2) Stereo broadcast receiving check
  - (a) Select MTS mode and press cursor ► button to display "STEREO" on the screen.
  - (b) When only Lch signal is received, Lch sound comes out from the left speaker.
  - (c) When only Rch signal is received, Rch sound comes out from the right speaker.
  - (d) When monaural signal is received, monaural sound comes out from both the right and left speakers.
- (3) SAP broadcast receiving check
  - (a) Select MTS mode. Press cursor ► button to display "SAP" on screen.
  - (b) SAP signal comes out from both of the right and left speakers.
  - (c) When to SAP signal, the sound on "MAIN" side (refer to (3)) comes out.

**Note:** When the RECALL button is operated, "STEREO", "ST" or "SA" are shown for approx. for 4 sec.

## 2. MTS MODE CHECK

### Adjustment Preparation

- (1) Set the TV set so that a MTS broadcast (STEREO/SAP) can be received.
- (2) Set BALANCE to the center.

### Adjustment Procedure

- (1) When "MTS MODE" is set to "MONO" mode, check that STEREO indication which has been ON are turned OFF and that monaural sound comes out from the right and left speakers.
- (2) When "MTS MODE" is set to "STEREO" mode, check that the STEREO indication which has been OFF are turned ON and that STEREO and SA sound can be received.

## 3. STEREO SEPARATION CHECK

### Adjustment Preparation

- (1) Set the set so that a MTS broadcast (STEREO/SA) can be received.
- (2) Make surround "OFF".
- (3) Set MTS MODE to "STEREO."
- (4) Connect AUDIO OUT terminals L and R to an oscilloscope.

### Adjustment Procedure

- (1) When stereo L only signal (or R only signal) is received, check that the output level ratio of Lch and Rch is 15dB or more.

(Example)

When L only is received (100% modulation)

| CH | Output Level     |
|----|------------------|
| L  | 1.2 Vpp          |
| R  | 0.21 Vpp or less |

**XIV. SETTING FOR DELIVERY**

Setting is possible by Remo-con jig

| Name                     | Spec. by models              |                              |
|--------------------------|------------------------------|------------------------------|
|                          | 36UX01S/32UX01S              | 36GX01B/32GX01B              |
| Signal source            | Antenna (ANT A)<br>(ANT B)   | Antenna                      |
| Reception channel        | 03 CH                        | 03CH                         |
| Sound Volume<br>(Volume) | "10" ON-Screen<br>Display    | "10" ON-Screen<br>Display    |
| Input Select             | TV Mode<br>(ANT A)           | TV Mode                      |
| Contrast                 | Max.                         | Max.                         |
| Color                    | Center value                 | Center value                 |
| Tint                     | Same as above                | Same as above                |
| Bright                   | Same as above                | Same as above                |
| Sharpness                | Same as above                | Same as above                |
| Color temp.              | Cool                         | Cool                         |
| Balance                  | Center value                 | Center value                 |
| Bass                     | Same as above                | Same as above                |
| Treble                   | Same as above                | Same as above                |
| MTS mode                 | Stereo                       | Stereo                       |
| Volume correction        | No setting                   | No setting                   |
| Auto noise cancel        | Off                          | Off                          |
| Internal Speaker         | On                           | On                           |
| P in P                   | Off                          | --                           |
| P in P CH                | TV (03) Off                  | --                           |
| Surround                 | Off                          | Off                          |
| Closed caption           | Off                          | Off                          |
| Closed caption mode      | C.C.                         | C.C.                         |
| Closed caption channel   | 1                            | 1                            |
| P in P position          | Bottom Right                 | Bottom Right                 |
| Menu language            | English                      | English                      |
| Channel ID               | No setting                   | No setting                   |
| Family favorites         | No setting                   | No setting                   |
| Parental Control         | No Install<br>(KEY No.:0000) | No Install<br>(KEY No.:0000) |
| Clock set                | No setting                   | No setting                   |
| 4 Event program          | No setting                   | No setting                   |
| Channel memory           | 02~13CH                      | 02~13CH                      |
| Video ID                 | No setting                   | No setting                   |

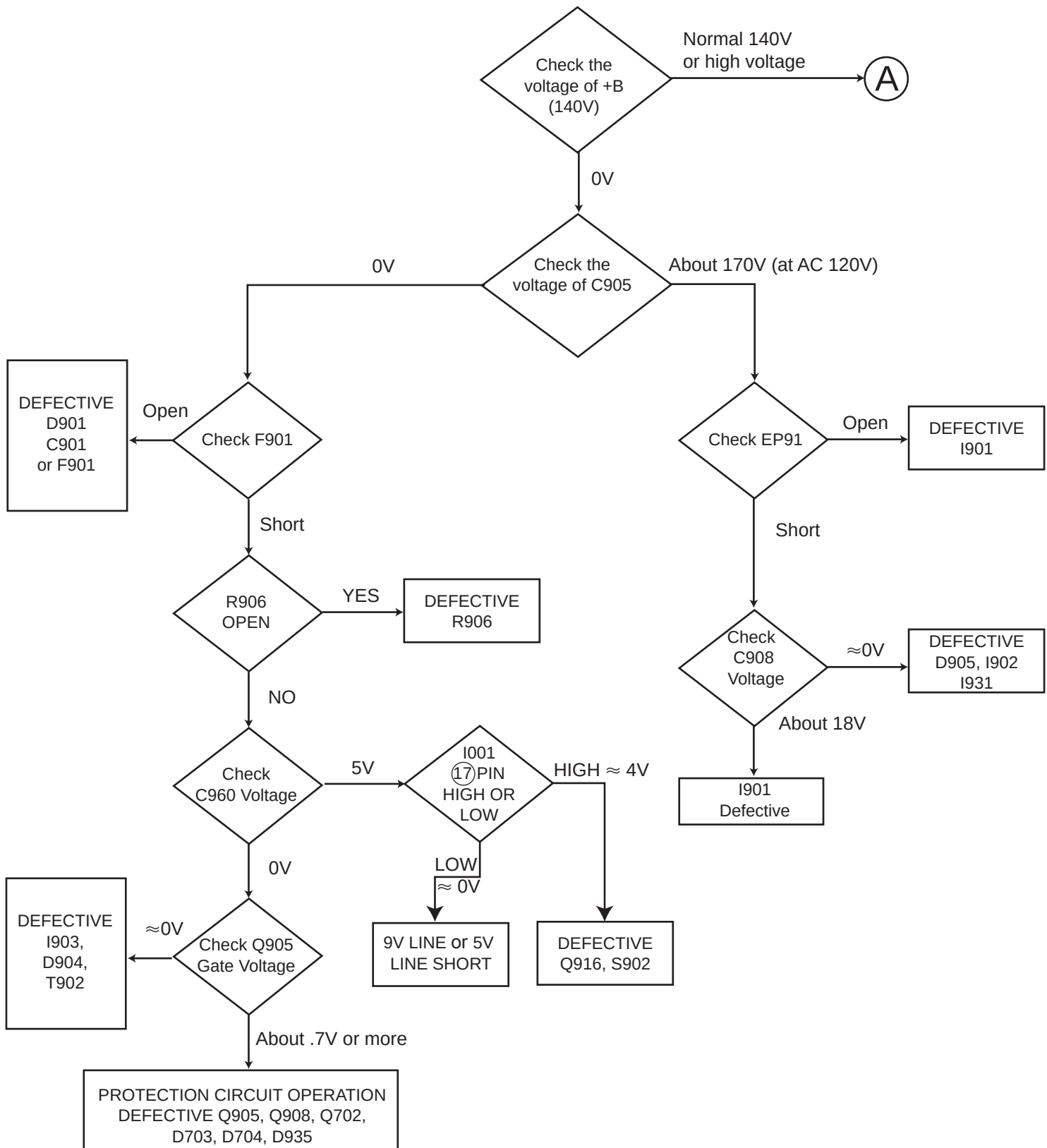
XV. COMPONENTS POSITION LIST



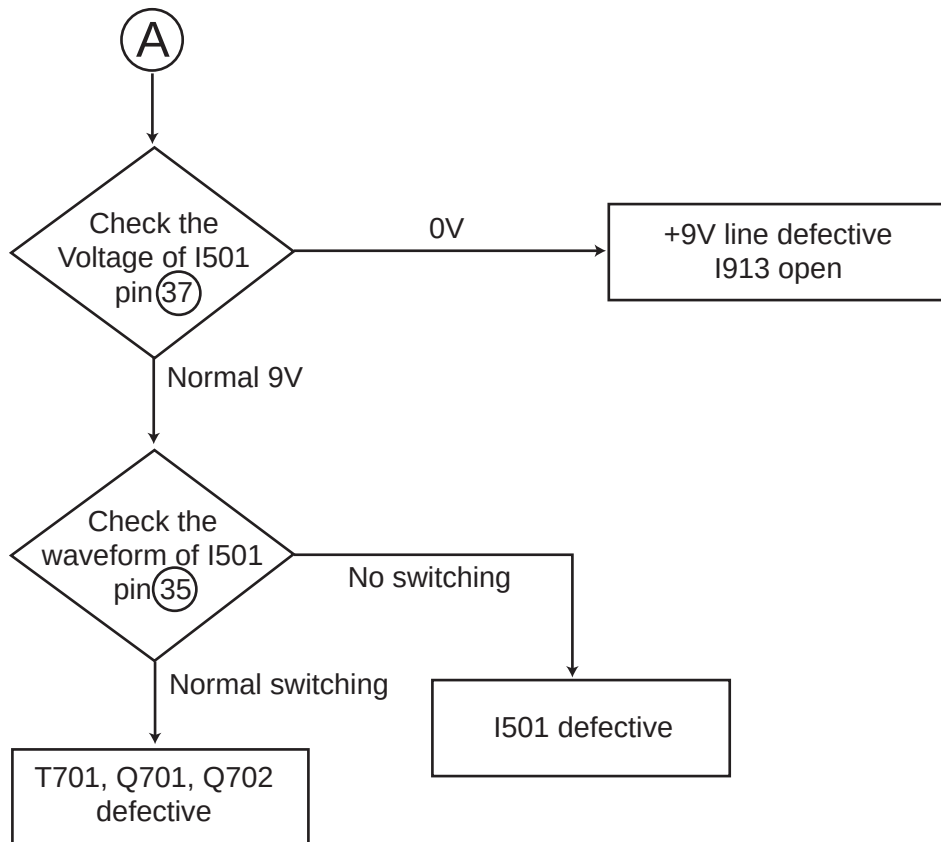


## TROUBLE SHOOTING

### ① NO RASTER AND SOUND

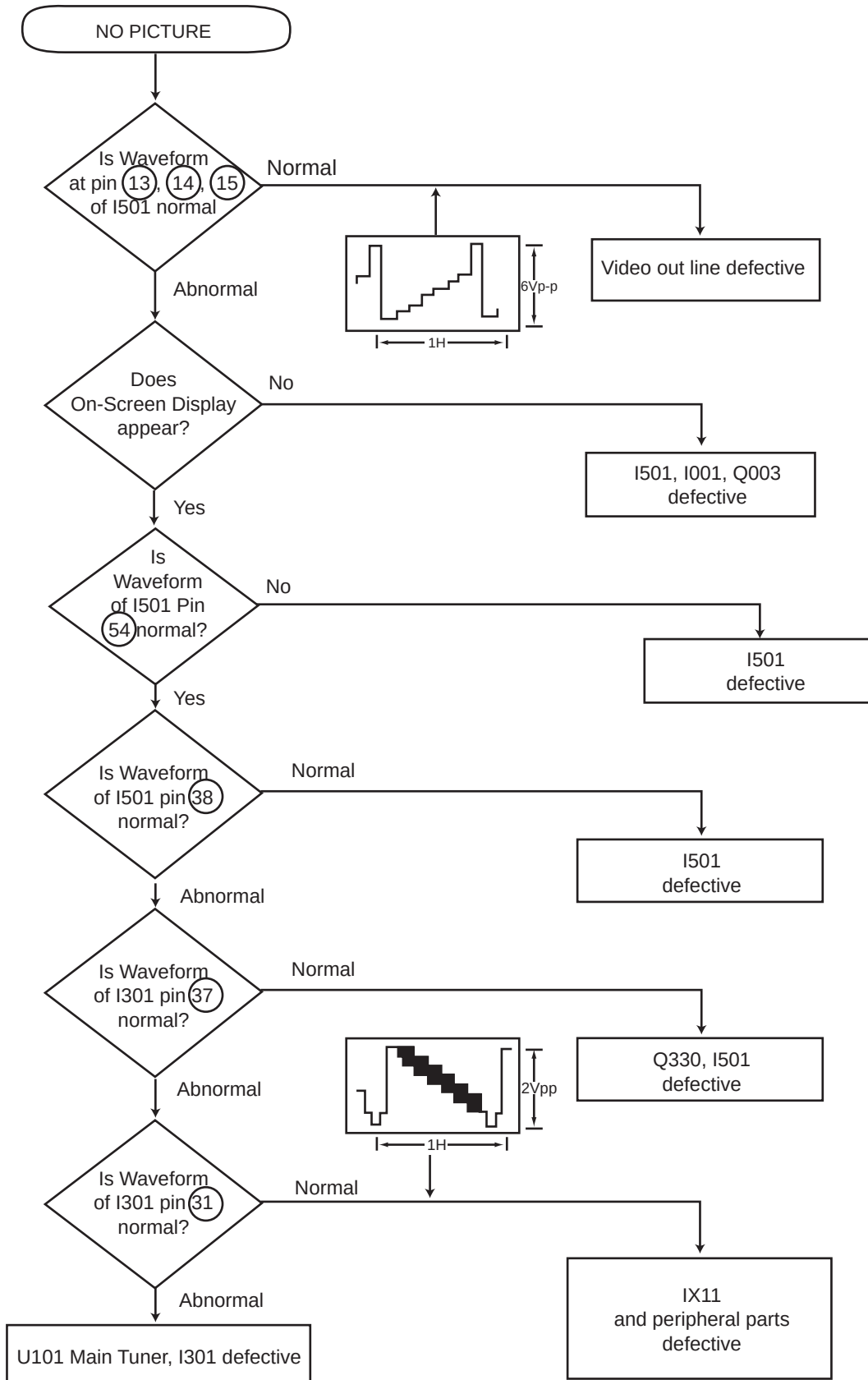


## TROUBLE SHOOTING



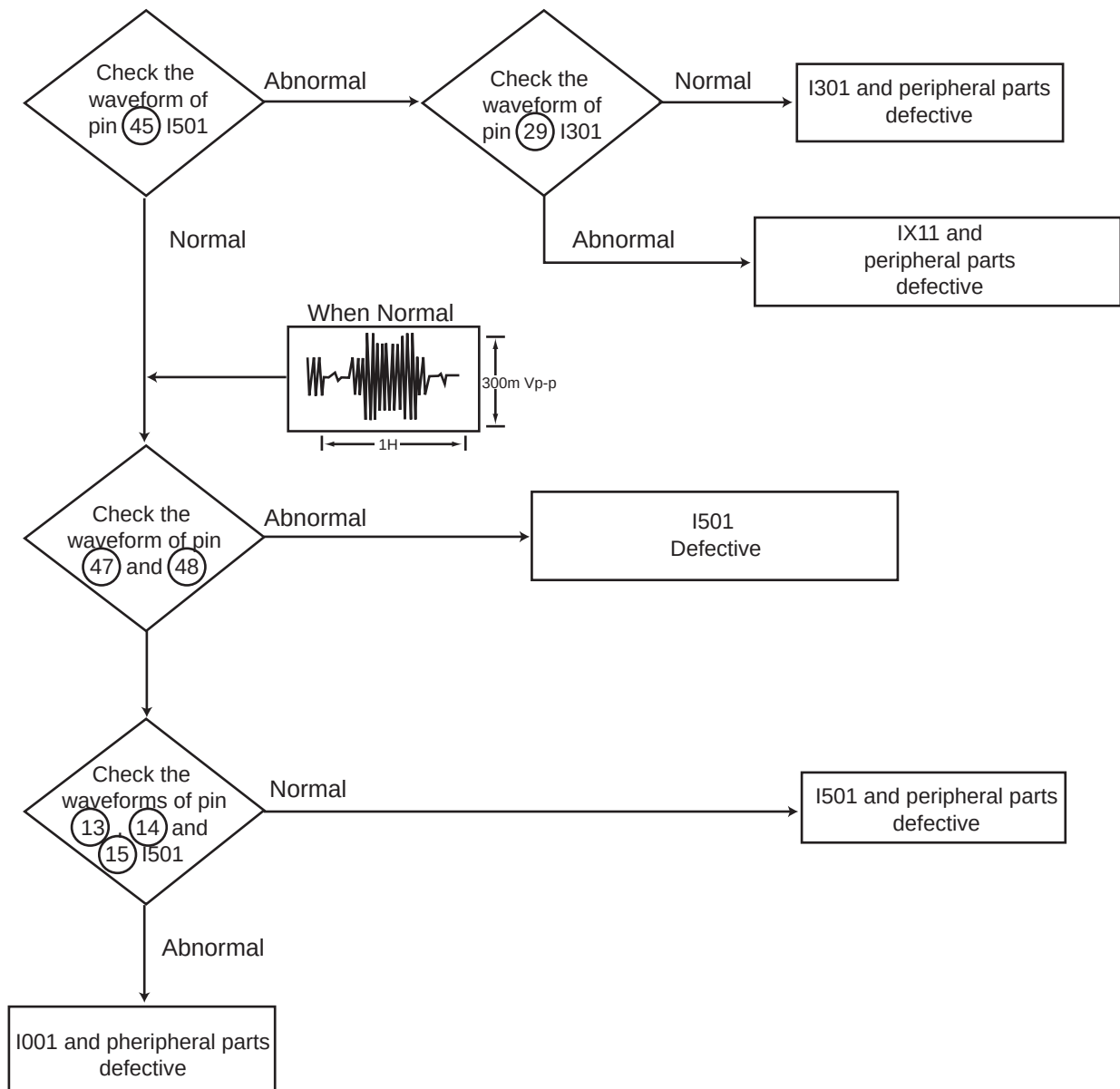
## TROUBLE SHOOTING

### ② NO PICTURE



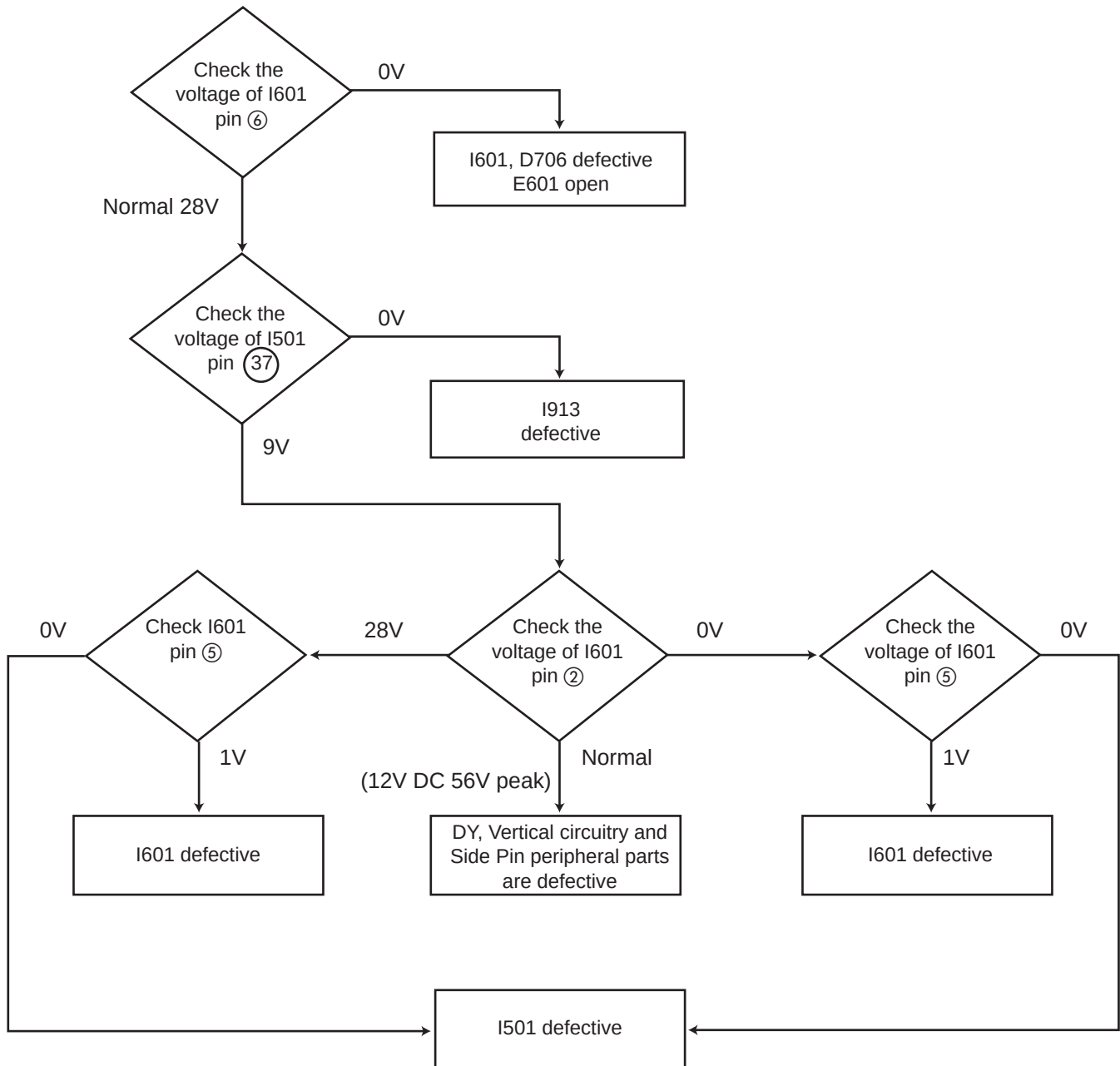
## TROUBLE SHOOTING

### ③ NO COLOR



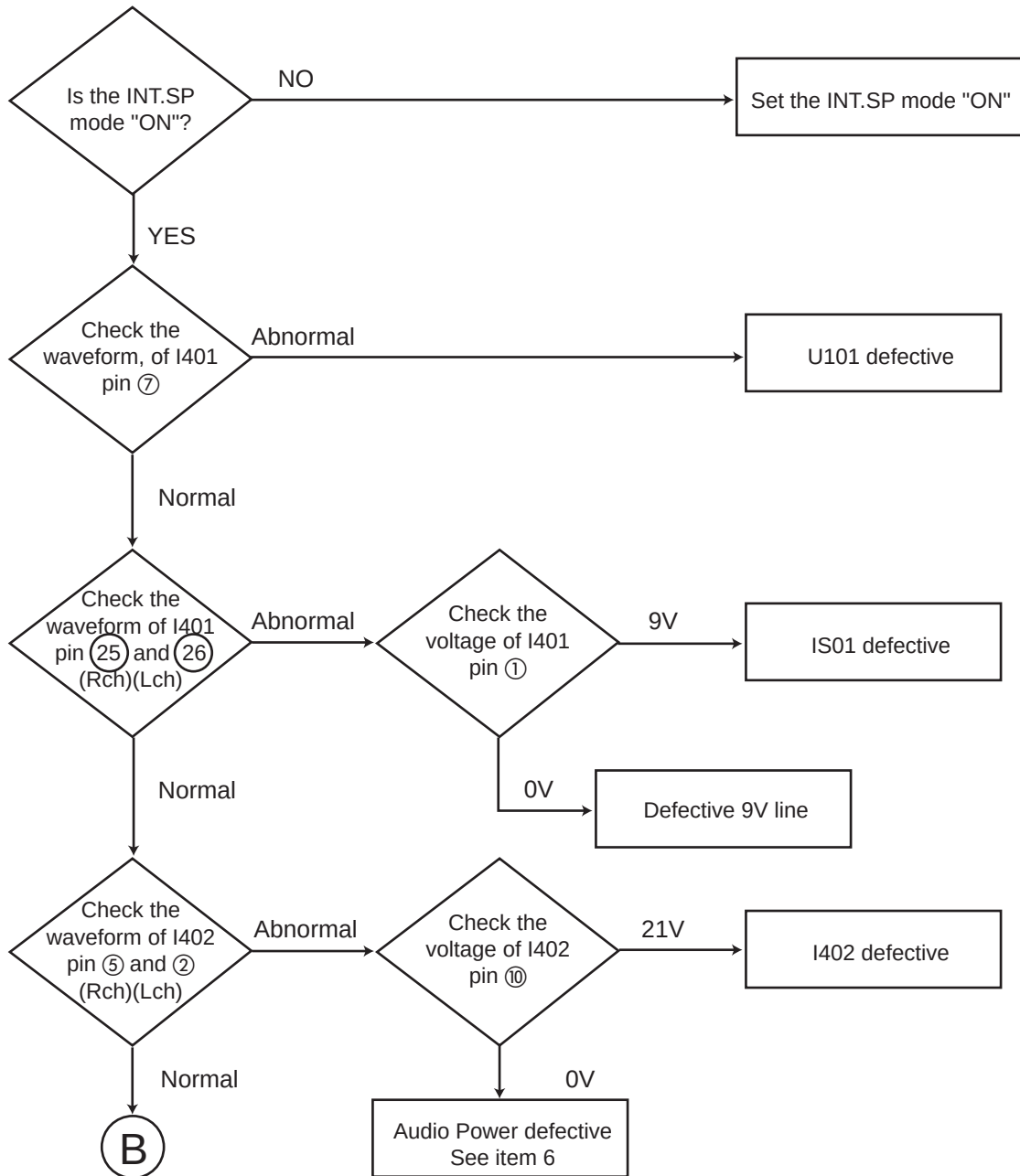
## TROUBLE SHOOTING

### ④ NO VERTICAL DEFLECTION OR V. SIZE IS DISTORTED

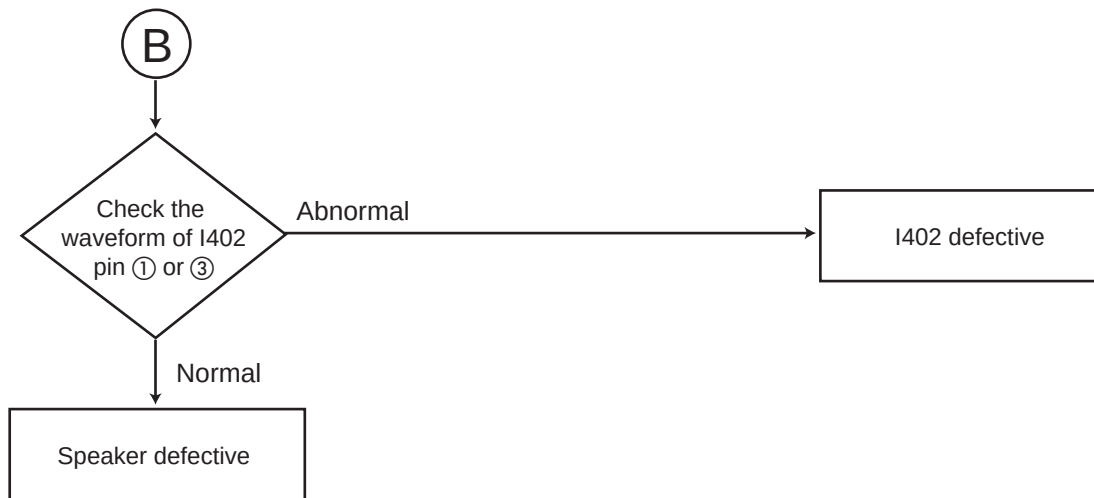


## TROUBLE SHOOTING

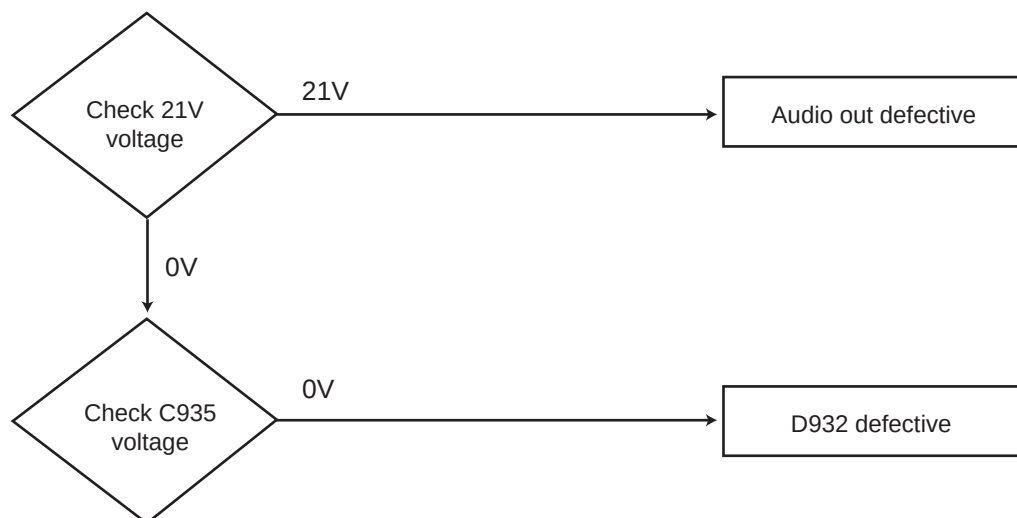
### ⑤ NO SOUND



## TROUBLE SHOOTING

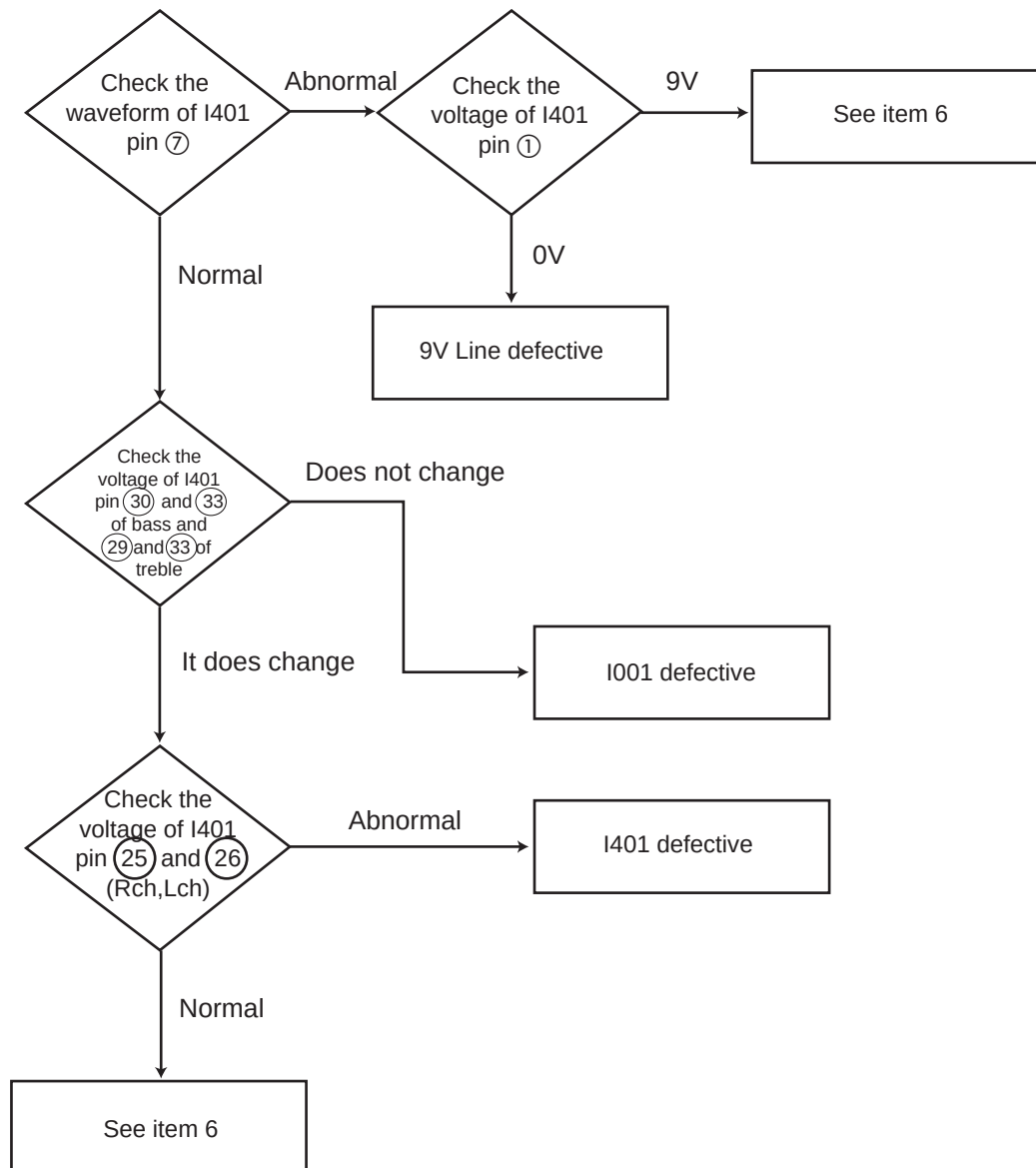


### ⑥ NO SOUND (NO AUDIO POWER)



## TROUBLE SHOOTING

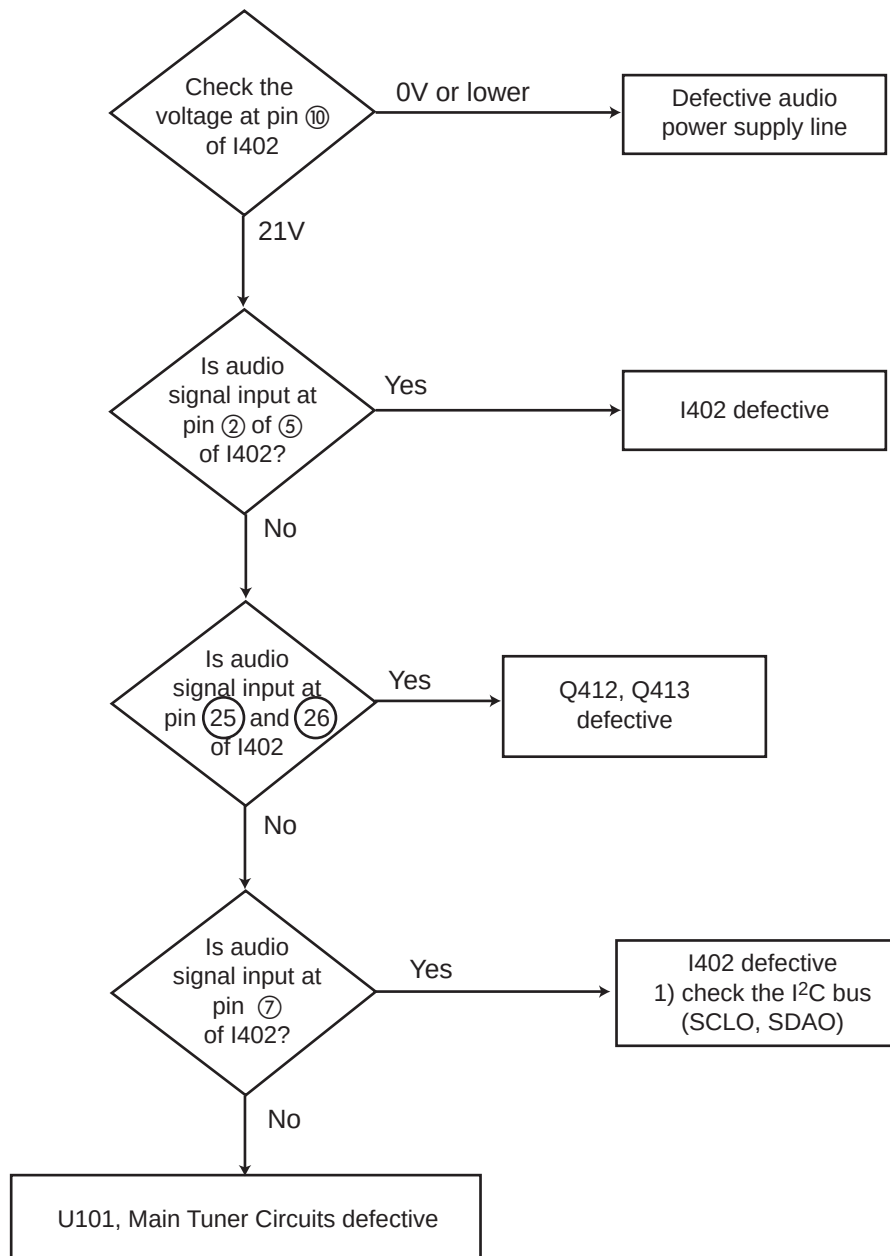
### ⑦ NO SOUND OR NOT VARIABLE (BASS, TREBLE)





## TROUBLE SHOOTING

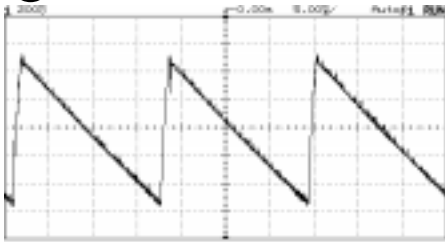
### ⑧ NO SOUND (WHEN SURROUND OFF)



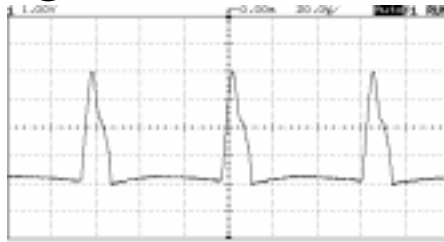
## WAVEFORMS AT EACH SECTION

Numbers inside circle correspond to locations shown in the circuit diagram.

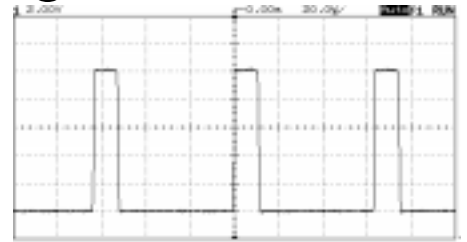
① C612



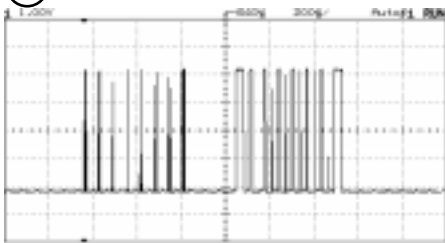
② D710 CATHODE



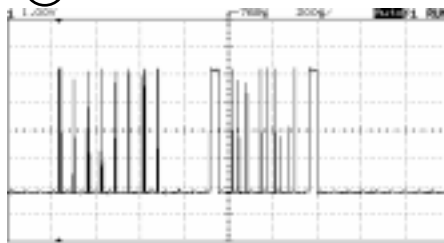
③ D755 CATHODE



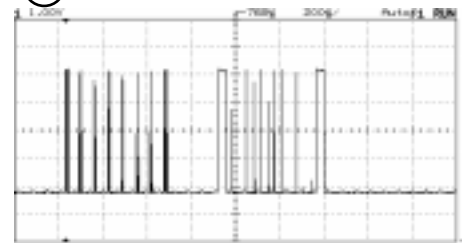
④ I001 Pin 22



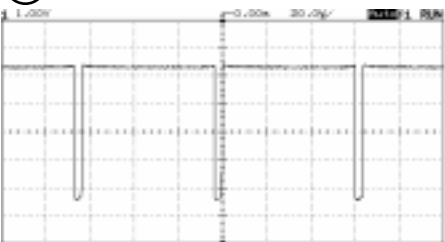
⑤ I001 Pin 23



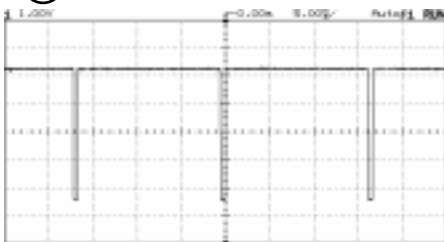
⑥ I001 Pin 24



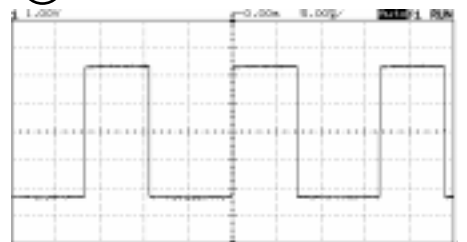
⑦ I001 Pin 26



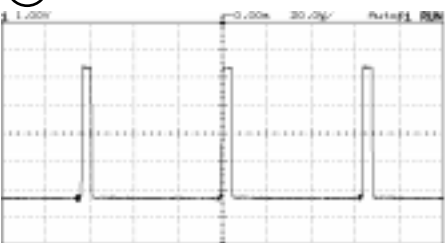
⑧ I001 Pin 27



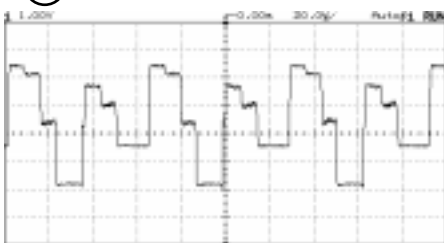
⑨ I001 Pin 34



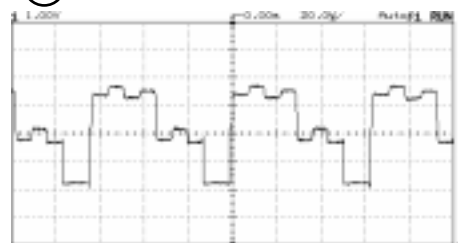
⑩ I001 Pin 36



⑪ I501 Pin 13



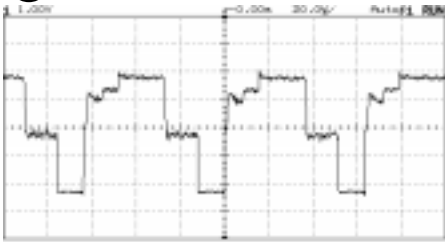
⑫ I501 Pin 14



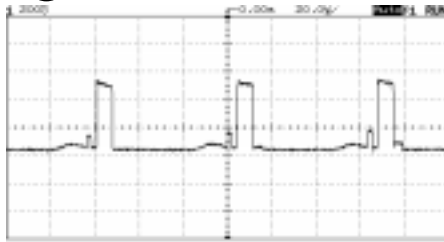
## WAVEFORMS AT EACH SECTION

Numbers inside circle correspond to locations shown in the circuit diagram.

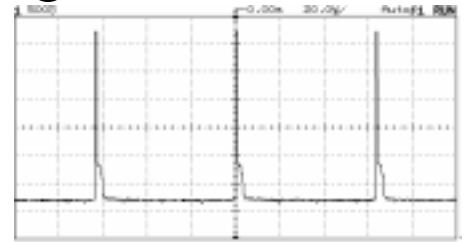
⑬ I501 Pin 15



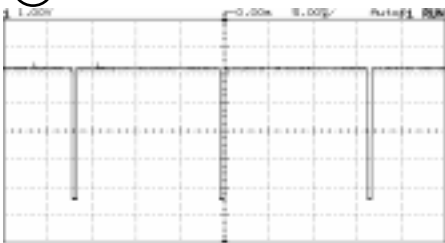
⑭ I501 Pin 3



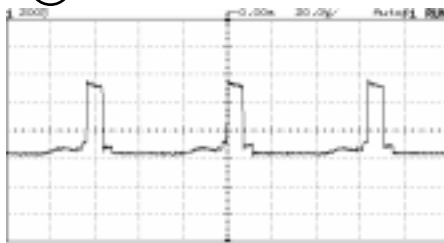
⑮ I501 Pin 32



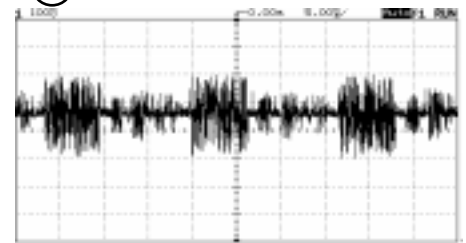
⑯ I501 Pin 33



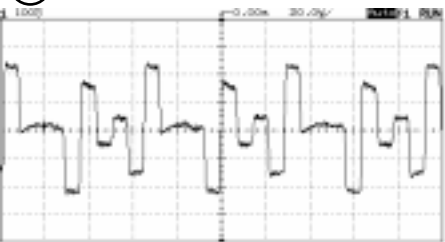
⑰ I501 Pin 4



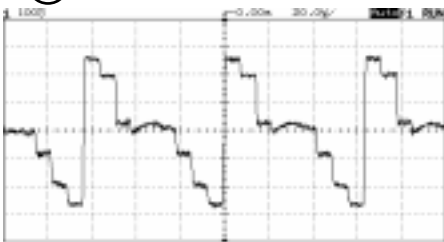
⑱ I501 Pin 45



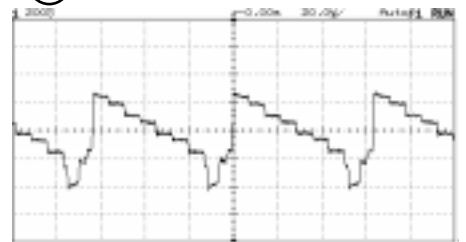
⑲ I501 Pin 47



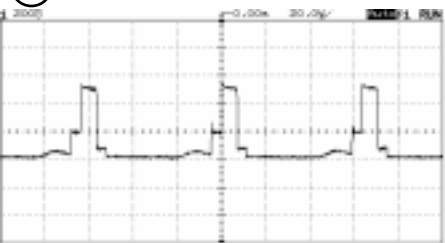
⑳ I501 Pin 48



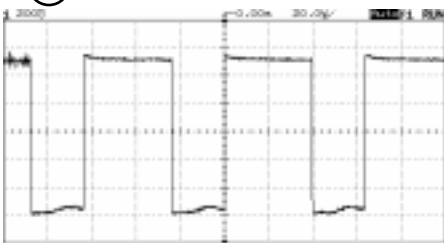
㉑ I501 Pin 54



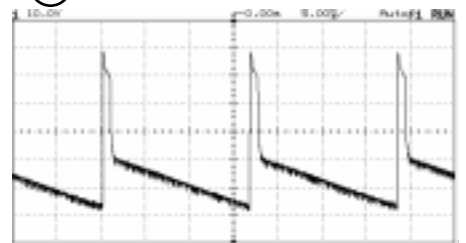
㉒ I501 Pin 5



㉓ I501 Pin 6



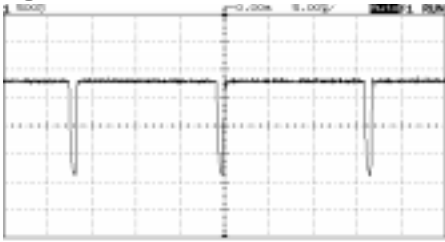
㉔ I601 Pin 2



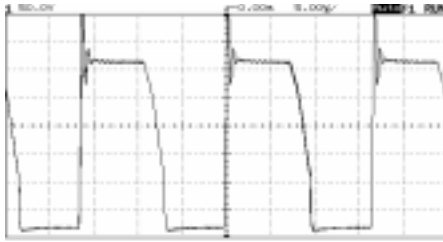
## WAVEFORMS AT EACH SECTION

Numbers inside circle correspond to locations shown in the circuit diagram.

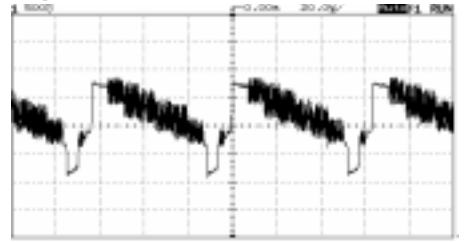
②⑤ I601 Pin 5



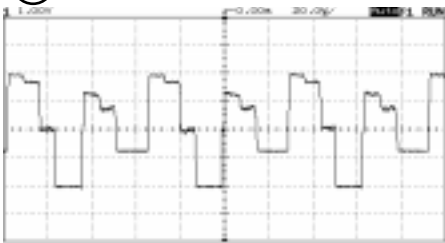
②⑥ I901 Pin 5



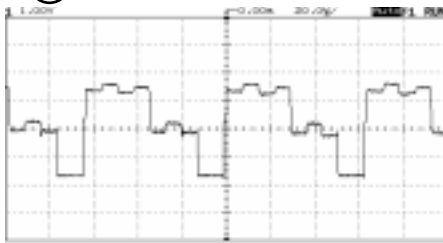
②⑦ PPM Pin 8



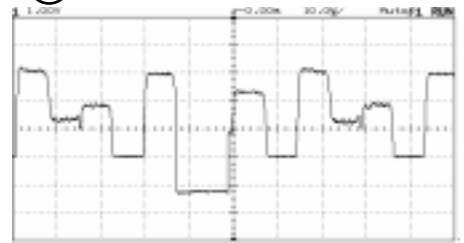
②⑧ PY1 Pin 1



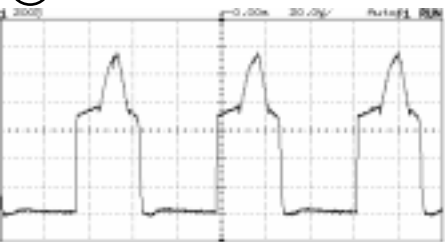
②⑨ PY1 Pin 2



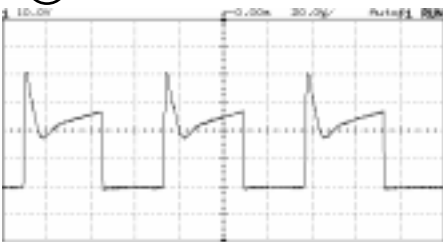
③⑩ PY1 Pin 3



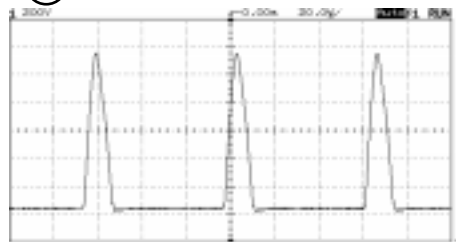
③① Q701 Base



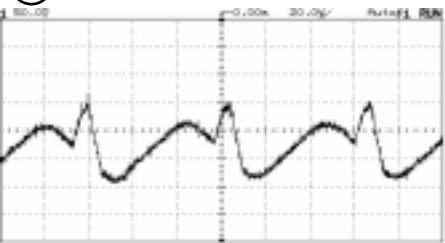
③② Q701 Collector



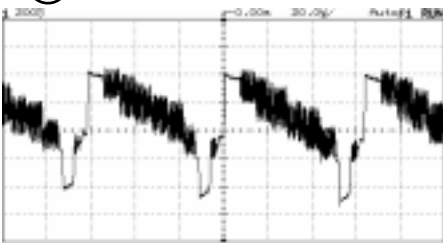
③③ Q702 Collector



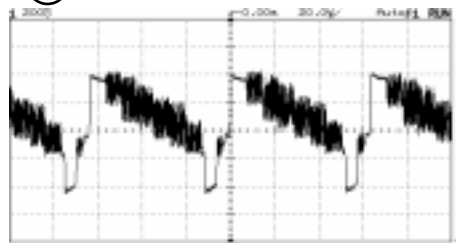
③④ Q752 Base



③⑤ U101 Pin 18



③⑥ U102 Pin 18



# REPLACEMENT PARTS LIST

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## ABBREVIATIONS

### Capacitors:

AL: Aluminum Electrolytic  
CD: Ceramic Disc  
EL: Electrolytic  
PF: Polyester Film  
PP: Polypropylene  
PL: Plastic  
TA: Tantalum  
PR: Paper  
TM: Trimmer  
MC: Mylar

### Resistors:

CF: Carbon Film  
CC: Carbon Composition  
MF: Metal Oxide  
VR: Variable Resistor  
WW: Wire Wound  
FR: Fuse Resistor  
MG: Metal Grazed

### Semiconductors:

TR: Transistor  
DI: Diode  
ZD: Zener Diode  
VA: Varistor  
TH: Thermistor  
IC: Integrated Circuit

| SYMBOL NO. | PART NO. | PART DESCRIPTION                           | SYMBOL NO. | PART NO. | PART DESCRIPTION                                 |
|------------|----------|--------------------------------------------|------------|----------|--------------------------------------------------|
|            |          | <b>CAPACITORS</b>                          | C109       | 0800351R | CAP.-ELECTRO. 470UF-M 6.3V                       |
| C001       | 0800351R | CAP.-ELECTRO. 470UF-M 6.3V                 | C110       | 0893044R | CAP2125CHIP 10000PFB 50V TAPE (32/36UX01S)       |
| C002       | AA00931R | CERAMIC CAPACITOR(1UF 10V)                 | C111       | 0893044R | CAP2125CHIP 10000PFB 50V TAPE                    |
| C003       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE        | C112       | 0800353R | CAP.-ELECTRO.470UF-M 16V                         |
| C004       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE        | C113       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE (32/36UX01S) |
| C005       | 0228036R | CAP 2125 CHIP 18PF-J CH 50V TAPE           | C114       | 0893044R | CAP2125CHIP 10000PFB 50V TAPE (32/36UX01S)       |
| C006       | 0228042R | CAP 2125CHIP 33PFJCH 50V TAPE              | C115       | 0800326R | CAP.-ELECTRO. 100UF-M 16V (32/36UX01S)           |
| C007       | 0800291R | CAP.-ELECTRO. 10UF-M(SMG) 16V              | C118       | 0893044R | CAP2125CHIP 10000PFB 50V TAPE (32/36UX01S)       |
| C008       | AA00931R | CERAMIC CAPACITOR(1UF 10V)                 | C119       | 0893044R | CAP2125CHIP 10000PFB 50V TAPE                    |
| C012       | 0228754R | CAP2125CHIP 100PFJSL 50V TAPE              | C120       | 0228774R | CAP MINI-CHIP 680PF-J SL 50V TAPE (32/36UX01S)   |
| C013       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE        | C121       | 0228774R | CAP MINI-CHIP 680PF-J SL 50V TAPE (32/36UX01S)   |
| C014       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE        | C122       | 0228774R | CAP MINI-CHIP 680PF-J SL 50V TAPE (32/36UX01S)   |
| C018       | 0893013R | CAP 2012CHIP 220000PFB 16V TAPE            | C201       | 0800324R | CAP.-ELECTRO. 100UF-M(SMG) 6.3V                  |
| C019       | 0284638R | CAP.-ELECTRO. 10UF-SME(BP) 16V             | C203       | 0800291R | CAP.-ELECTRO. 10UF-M(SMG) 16V                    |
| C020       | 0893037R | CAP 2125CHIP 3300PFB 50V TAPE              | C204       | 0800317R | CAP.-ELECTRO. 47UF-M(SMG) 16V                    |
| C021       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE        | C205       | 0800291R | CAP.-ELECTRO. 10UF-M(SMG) 16V                    |
| C023       | 0800315R | CAP.-ELECTRO. 47UF-M(SMG) 6.3V             | C206       | 0893044R | CAP2125CHIP 10000PFB 50V TAPE                    |
| C024       | AN00624R | CAP.POLY 0.01UF 50V TAPE                   | C207       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE              |
| C025       | AN00624R | CAP.POLY 0.01UF 50V TAPE                   | C208       | 0800291R | CAP.-ELECTRO. 10UF-M(SMG) 16V                    |
| C026       | 0893031R | CAP 2125CHIP 1000PFB 50V TAPE              | C300       | AA00931R | CERAMIC CAPACITOR(1UF 10V)                       |
| C027       | 0893044R | CAP2125CHIP 10000PFB 50V TAPE              | C301       | 0800282R | CAP.-ELECTRO. 2.2UF-M(SMG) 50V                   |
| C032       | 0893031R | CAP 2125CHIP 1000PFB 50V TAPE              | C302       | 0800326R | CAP.-ELECTRO. 100UF-M 16V                        |
| C033       | 0800334R | CAP.-ELECTRO. 220UF 10V(32GX01B)           | C303       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE              |
| C033       | 0880009R | CAP.-POLYESTER 0.01UF-K 50V                | C304       | AA00931R | CERAMIC CAPACITOR(1UF 10V)                       |
| C034       | 0800324R | CAP.-ELECTRO. 100UF-M(SMG) 6.3V            | C305       | 0800291R | CAP.-ELECTRO. 10UF-M(SMG) 16V                    |
| C101       | 0800291R | CAP.-ELECTRO. 10UF-M(SMG) 16V(32/36UX01S)  | C306       | AA00931R | CERAMIC CAPACITOR(1UF 10V) (32/36UX01S)          |
| C102       | 0893044R | CAP2125CHIP 10000PFB 50V TAPE (32/36UX01S) | C307       | AA00931R | CERAMIC CAPACITOR(1UF 10V)                       |
| C103       | 0800351R | CAP.-ELECTRO. 470UF-M 6.3V (32/36UX01S)    | C308       | 0800282R | CAP.-ELECTRO. 2.2UF-M(SMG) 50V                   |
| C104       | 0893044R | CAP2125CHIP 10000PFB 50V TAPE (32/36UX01S) | C309       | AA00931R | CERAMIC CAPACITOR(1UF 10V)                       |
| C105       | 0893044R | CAP2125CHIP 10000PFB 50V TAPE (32/36UX01S) | C310       | 0800282R | CAP.-ELECTRO. 2.2UF-M(SMG) 50V                   |
| C106       | 0800353R | CAP.-ELECTRO.470UF-M 16V (32/36UX01S)      | C311       | 0893044R | CAP2125CHIP 10000PFB 50V TAPE                    |
| C107       | 0800291R | CAP.-ELECTRO. 10UF-M(SMG) 16V              | C312       | AA00931R | CERAMIC CAPACITOR(1UF 10V)                       |
| C108       | 0893044R | CAP2125CHIP 10000PFB 50V TAPE              | C313       | 0800282R | CAP.-ELECTRO. 2.2UF-M(SMG) 50V                   |

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| SYMBOL NO. | PART NO. | PART DESCRIPTION                    | SYMBOL NO. | PART NO. | PART DESCRIPTION                                     |
|------------|----------|-------------------------------------|------------|----------|------------------------------------------------------|
| C314       | AA00931R | CERAMIC CAPACITOR(1UF 10V)          | C453       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE                  |
| C315       | 0800282R | CAP.-ELECTRO. 2.2UF-M(SMG) 50V      | C454       | AA00931R | CERAMIC CAPACITOR(1UF 10V)                           |
| C317       | AA00931R | CERAMIC CAPACITOR(1UF 10V)          | C455       | AA00931R | CERAMIC CAPACITOR(1UF 10V)                           |
| C318       | 0800282R | CAP.-ELECTRO. 2.2UF-M(SMG) 50V      | C501       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE                  |
| C319       | 0800282R | CAP.-ELECTRO. 2.2UF-M(SMG) 50V      | C502       | 0800326R | CAP.-ELECTRO. 100UF-M 16V                            |
| C320       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE | C503       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE                  |
| C321       | 0800291R | CAP.-ELECTRO. 10UF-M(SMG) 16V       | C504       | 0800282R | CAP.-ELECTRO. 2.2UF-M(SMG) 50V                       |
| C322       | 0800291R | CAP.-ELECTRO. 10UF-M(SMG) 16V       | C505       | 0893044R | CAP2125CHIP 10000PFB 50V TAPE                        |
| C326       | 0228050R | CAP 2125 CHIP 68PFJCH 50V TAPE      | C506       | 0800279R | CAP.-ELECTRO. 1.0UF-M(SMG) 50V                       |
| C328       | 0228050R | CAP 2125 CHIP 68PFJCH 50V TAPE      | C507       | 0893049R | CAP2125CHIP 27000PFB 50V TAPE                        |
| C370       | 0228746R | CAP 2125 CHIP 47PFJSL 50V TAPE      | C508       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE                  |
| C381       | 0893031R | CAP 2125CHIP 1000PFB 50V TAPE       | C509       | 0893044R | CAP2125CHIP 10000PFB 50V TAPE                        |
| C382       | 0893031R | CAP 2125CHIP 1000PFB 50V TAPE       | C510       | 0800273R | CAP.-ELECTRO 0.22UF-M 50V                            |
| C401       | 0800326R | CAP.-ELECTRO. 100UF-M 16V           | C511       | 0893039R | CAP 2125CHIP 4700PFB 50V TAPE                        |
| C402       | 0800299R | CAP.-ELECTRO. 22UF-M(SMG) 16V       | C512       | 0228032R | CAP 2125CHIP 12PFJCH 50V TAPE                        |
| C403       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE | C513       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE                  |
| C404       | 0800003R | CAP.-ELECTRO. 1.0UF-M 50V           | C514       | 0800351R | CAP.-ELECTRO. 470UF-M 6.3V                           |
| C405       | 0800286R | CAP.-ELECTRO. 4.7UF-M(SMG) 25V      | C515       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE                  |
| C406       | 0800282R | CAP.-ELECTRO. 2.2UF-M(SMG) 50V      | C516       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE                  |
| C407       | 0893053R | CAP2125CHIP 47000PFB 50V TAPE       | C517       | 0800279R | CAP.-ELECTRO. 1.0UF-M(SMG) 50V                       |
| C408       | 0800277R | CAP.-ELECTRO. 0.47UF-M 50V          | C519       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE (32/36UX01S)     |
| C409       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE | C520       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE (32/36UX01S)     |
| C410       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE | C521       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE (32/36UX01S)     |
| C411       | 0292712F | CAP.-TANTALUM 3.3UF-K 16V           | C522       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE                  |
| C412       | 0800003R | CAP.-ELECTRO. 1.0UF-M 50V           | C523       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE                  |
| C413       | 0292714F | CAP.-TANTALUM 10UF-K 16V            | C524       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE                  |
| C414       | 0800003R | CAP.-ELECTRO. 1.0UF-M 50V           | C525       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE                  |
| C415       | 0800003R | CAP.-ELECTRO. 1.0UF-M 50V           | C526       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE                  |
| C416       | 0800286R | CAP.-ELECTRO. 4.7UF-M(SMG) 25V      | C527       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE                  |
| C417       | 0800003R | CAP.-ELECTRO. 1.0UF-M 50V           | C528       | 0800326R | CAP.-ELECTRO. 100UF-M 16V                            |
| C420       | 0893048R | CAP2125CHIP 22000PFB 50V TAPE       | C529       | 0893044R | CAP2125CHIP 10000PFB 50V TAPE                        |
| C421       | 0800282R | CAP.-ELECTRO. 2.2UF-M(SMG) 50V      | C530       | 0893044R | CAP2125CHIP 10000PFB 50V TAPE                        |
| C422       | 0893035R | CAP2125CHIP 2200PFB 50V TAPE        | C531       | 0893044R | CAP2125CHIP 10000PFB 50V TAPE                        |
| C423       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE | C532       | 0893099R | CERAMIC CAPACITOR(474PF 16V)                         |
| C424       | 0800282R | CAP.-ELECTRO. 2.2UF-M(SMG) 50V      | C533       | 0893099R | CERAMIC CAPACITOR(474PF 16V)                         |
| C425       | 0893035R | CAP2125CHIP 2200PFB 50V TAPE        | C534       | 0880207R | CAP.-POLYESTER 1.0UF-J 50V                           |
| C426       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE | C535       | 0800291R | CAP.-ELECTRO. 10UF-M(SMG) 16V                        |
| C427       | 0800291R | CAP.-ELECTRO. 10UF-M(SMG) 16V       | C537       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE                  |
| C428       | 0800291R | CAP.-ELECTRO. 10UF-M(SMG) 16V       | C538       | 0893025R | CAP 2125CHIP 68000PFB 25V TAPE                       |
| C429       | 0800003R | CAP.-ELECTRO. 1.0UF-M 50V           | C539       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE                  |
| C430       | 0800291R | CAP.-ELECTRO. 10UF-M(SMG) 16V       | C540       | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE                  |
| C431       | 0800291R | CAP.-ELECTRO. 10UF-M(SMG) 16V       | C541       | 0893092R | CAP2125CHIP 56000PFB 50V TAPE                        |
| C432       | 0800291R | CAP.-ELECTRO. 10UF-M(SMG) 16V       | C542       | 0893035R | CAP2125CHIP 2200PFB 50V TAPE                         |
| C433       | 0800291R | CAP.-ELECTRO. 10UF-M(SMG) 16V       | C543       | 0800317R | CAP.-ELECTRO. 47UF-M(SMG) 16V                        |
| C434       | 0800291R | CAP.-ELECTRO. 10UF-M(SMG) 16V       | C544       | 0228764R | CAP. MINI-CHIP 270PF-J SL 50V TAPE (32GX01B/23UX01S) |
| C435       | 0800291R | CAP.-ELECTRO. 10UF-M(SMG) 16V       | C548       | 0228760R | CAP 2125 CHIP 180PFJSL 50V TAPE                      |
| C436       | 0800291R | CAP.-ELECTRO. 10UF-M(SMG) 16V       | C604       | 0800338R | CAP.ELECTRO.220UF-M 50V(SMG)                         |
| C437       | 0800327R | CAP.-ELECTRO. 100UF-M 25V           | C605       | 0800328R | CAP. ELECTRO. 100UF-M 35V                            |
| C438       | 0800362N | CAP.-ELECTRO. 1000UF-M 25V          | C606       | 0800317R | CAP.-ELECTRO. 47UF-M(SMG) 16V                        |
| C439       | 0800317R | CAP.-ELECTRO. 47UF-M(SMG) 16V       | C609       | 0880057R | CAP.-POLYESTER 0.1UF-KEB 50V                         |
| C440       | 0800362N | CAP.-ELECTRO. 1000UF-M 25V          | C610       | 0800282R | CAP.-ELECTRO. 2.2UF-M(SMG) 50V (32UX01S/32GX01B)     |
| C441       | 0800362N | CAP.-ELECTRO. 1000UF-M 25V          | C610       | 0800284R | CAP.-ELECTRO. 3.3UF-M(SMG) 50V (36UX01S/36GX01B)     |
| C446       | 0800353R | CAP.-ELECTRO.470UF-M 16V            | C611       | 0284821F | CAP. ELECTRO 3300UF/25V SMG                          |
| C450       | 0800361N | CAP.-ELECTRO 1000UF 16V             | C612       | AN00619R | CAP.POLYESTER 0.0047UF 50V TAPE                      |
| C451       | 0893031R | CAP 2125CHIP 1000PFB 50V TAPE       | C613       | 0800308R | CAP.-ELECTRO. 33UF-M(SMG) 16V                        |
| C452       | 0893031R | CAP 2125CHIP 1000PFB 50V TAPE       | C614       | 0880016R | CAP.-POLYESTER FILM 0.1UF 50V                        |

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| SYMBOL NO.                                                                             | PART NO. | PART DESCRIPTION                                   | SYMBOL NO.                                                                             | PART NO. | PART DESCRIPTION                                 |
|----------------------------------------------------------------------------------------|----------|----------------------------------------------------|----------------------------------------------------------------------------------------|----------|--------------------------------------------------|
| C620                                                                                   | 0880009R | CAP.-POLYESTER 0.01UF-K 50V                        | C911                                                                                   | AJ00559  | CAPACITOT CERAMIC 2200PF2KV                      |
| C701                                                                                   | AL00031R | CAP.-ELECTRO. 33UF-M 250V                          | C913                                                                                   | 0229005R | CAP 2125 CHIP 470PF-K B 50V TAPE                 |
|  C702   | 0800304R | CAP.-ELECTRO. 22UF-M(SMG) 63V                      | C915                                                                                   | 0893031R | CAP 2125CHIP 1000PFBK 50V TAPE                   |
|  C703   | 0800279R | CAP.-ELECTRO. 1.0UF-M(SMG) 50V                     |  C930 | AJ00581F | CAP.CERAMIC 1000P 250V                           |
| C705                                                                                   | 0800363N | CAP.-ELECTRO. 1000UF 35V                           | C935                                                                                   | 0800368N | CAP.-ELECTRO. 2200UF-M 25V                       |
| C706                                                                                   | 0880194R | CAP.-POLYESTER 0.1UF-J 50V                         | C936                                                                                   | 0253862  | CAP.-ELECTRO. 220UF-M 160V (36UX01S/36GX01B)     |
| C707                                                                                   | AN00633R | CAP.POLYESTER 0.047UF 50V TAPE                     | C936                                                                                   | 0254823G | CAP.-ELECTRO.100UF-M 160V (32UX01S/32GX01B)      |
| C708                                                                                   | 0244501R | CAP.-CERAMIC 1000PF-K 500V                         | C938                                                                                   | 0800367N | CAP.-ELECTRO. 2200UF-M 16V                       |
| C709                                                                                   | AN01169F | CAP 0.22UF 250V METALLIZ POLY (32UX01S/32GX01B)    | C940                                                                                   | 0893044R | CAP2125CHIP 10000PFBK 50V TAPE                   |
|  C709   | AN01174F | CAP 0.33UF 250V METALLIZ POLY (36UX01S/36GX01B)    | C945                                                                                   | 0800326R | CAP.-ELECTRO. 100UF-M 16V                        |
|  C710   | AN01662F | 15000PF 1500V METALLIZ POLYPROPYLENE FILM CAP      | C946                                                                                   | 0800352R | CAP.-ELECTRO.470UF 10V                           |
|  C711   | AJ00129F | CAPACITOR CERAMIC 470P DC2K-R (32UX01S/32GX01B)    | C956                                                                                   | 0244202F | CAP.-CERAMIC 470PF-KF 2KV                        |
|  C711   | AJ00132F | CAPACITOR CERAMIC 680P DC2K-R (36UX01S/36GX01B)    | C959                                                                                   | 0800299R | CAP.-ELECTRO. 22UF-M(SMG) 16V                    |
|  C712   | AN01172F | CAPACITOR 0.27UF 250V METALLIZ POLYPROPYLENE       | C960                                                                                   | 0800324R | CAP.-ELECTRO. 100UF-M(SMG) 6.3V                  |
|  C713   | 0299995F | CAP.POLY.FILM 0.027UF 630V                         | C964                                                                                   | 0800333R | CAP.-ELECTRO.220UF-M 6.3V (32/36GX01B)           |
| C714                                                                                   | 0263001  | CAP.-ELECTRO.3.3UF-M 100V                          | C964                                                                                   | 0800351R | CAP.-ELECTRO. 470UF-M 6.3V (32/36UX01S)          |
| C715                                                                                   | AN01651F | 5600PF 1500V METAL POLY FILM CAP (36UX01S/36GX01B) | C965                                                                                   | 0893053R | CAP2125CHIP 47000PFBK 50V TAPE                   |
| C715                                                                                   | AN01652F | 6200PF 1500V METAL POLYFILM CAP (32UX01S/32GX01B)  | C993                                                                                   | 0243509R | CAP.-CERAMIC 470PF-K 500V TAPE (36GX01B)         |
| C716                                                                                   | 0254823G | CAP.-ELECTRO.100UF-M 160V                          | CL01                                                                                   | 0880194R | CAP.-POLYESTER 0.1UF-J 50V (32/36UX01S)          |
| C717                                                                                   | 0880201R | CAP.-POLYESTER 0.33UF-J 50V                        | CL02                                                                                   | 0800329R | CAP.-ELECTRO. 100UF-M(SMG) 50V (32/36UX01S)      |
| C718                                                                                   | 0244139R | CAPACITOR-CERAMIC 1000PF-K B50V                    | CL04                                                                                   | 0800294R | CAP.-ELECTRO. 10UF-M(SMG) 50V (32/36UX01S)       |
| C719                                                                                   | AN00624R | CAP.POLY 0.01UF 50V TAPE                           | CL05                                                                                   | 0893044R | CAP2125CHIP 10000PFBK 50V TAPE (32/36UX01S)      |
| C721                                                                                   | 0243508R | CAPACITOR-CERAMIC 390PF-K 500V                     | CL06                                                                                   | 0893027R | CAP 2125 CHIP 100000PF-K B 25V TAPE (32/36UX01S) |
| C722                                                                                   | 0243506R | CAP.-CERAMIC 270PF-K 500V                          | CL07                                                                                   | 0800294R | CAP.-ELECTRO. 10UF-M(SMG) 50V (32/36UX01S)       |
| C723                                                                                   | 0244501R | CAP.-CERAMIC 1000PF-K 500V                         | CL08                                                                                   | 0228050R | CAP 2125 CHIP 68PFJCH 50V TAPE (32/36UX01S)      |
| C724                                                                                   | 0243509R | CAPACITOR-CERAMIC 470PF-K 500V TAPE                | CL09                                                                                   | AJ00001R | CAP.CERAMIC 0.01UF-Z 500V (32/36UX01S)           |
| C851                                                                                   | 0800326R | CAP.-ELECTRO. 100UF-M 16V                          | CL10                                                                                   | AJ00001R | CAP.CERAMIC 0.01UF-Z 500V (32/36UX01S)           |
| C854                                                                                   | 0890067R | CAP.-CERAMIC 33PF-J 50V                            | CL11                                                                                   | AN00619R | CAP.POLYESTER 0.0047UF 50V TAPE (32/36UX01S)     |
| C856                                                                                   | 0890067R | CAP.-CERAMIC 33PF-J 50V                            | CL12                                                                                   | 0800321R | CAP.-ELECTRO. 47UF-M 50V (32/36UX01S)            |
| C859                                                                                   | 0255524F | CAP.-ELECTRO. 4.7MF-M 250V(KME)                    | CL13                                                                                   | 0800321R | CAP.-ELECTRO. 47UF-M 50V (32/36UX01S)            |
| C860                                                                                   | AJ00559  | CAPACITOT CERAMIC 2200PF2KV                        | CL14                                                                                   | AL00028R | ALUMINIUM ELECTRO CAP(100UF250V) (32/36UX01S)    |
| C866                                                                                   | 0880009R | CAP.-POLYESTER 0.01UF-K 50V                        | CL15                                                                                   | 0246836R | CAP.CERAMIC 18PF 500V TAPE (32/36UX01S)          |
| C874                                                                                   | AN00611R | CAP.POLYSTYLENE 0.001UF 50V TAPE                   | CL16                                                                                   | 0246836R | CAP.CERAMIC 18PF 500V TAPE (32/36UX01S)          |
| C875                                                                                   | AN00611R | CAP.POLYSTYLENE 0.001UF 50V TAPE                   | CL17                                                                                   | AL00032R | CAP.ALMI 47UF250V (32/36UX01S)                   |
| C876                                                                                   | AN00611R | CAP.POLYSTYLENE 0.001UF 50V TAPE                   | CL18                                                                                   | 0800294R | CAP.-ELECTRO. 10UF-M(SMG) 50V (32/36UX01S)       |
| C877                                                                                   | 0890074R | CAP.-CERAMIC 100PF-J 50V                           | CX10                                                                                   | 0800326R | CAP.-ELECTRO. 100UF-M 16V                        |
| C878                                                                                   | 0890074R | CAP.-CERAMIC 100PF-J 50V                           | CX11                                                                                   | 0893044R | CAP2125CHIP 10000PFBK 50V TAPE                   |
| C879                                                                                   | 0890074R | CAP.-CERAMIC 100PF-J 50V                           | CX14                                                                                   | 0800326R | CAP.-ELECTRO. 100UF-M 16V                        |
| C880                                                                                   | 0890084R | CAP.-CERAMIC 560PF-K 50V                           | CX15                                                                                   | 0800326R | CAP.-ELECTRO. 100UF-M 16V                        |
| C881                                                                                   | 0890081R | CAP.-CERAMIC 330PF 50V                             | CX16                                                                                   | 0800326R | CAP.-ELECTRO. 100UF-M 16V                        |
| C882                                                                                   | 0890083R | CAP.-CERAMIC 470PF-K 50V                           | CX18                                                                                   | 0800291R | CAP.-ELECTRO. 10UF-M(SMG) 16V                    |
| C883                                                                                   | 0800344R | CAP.-ELECTRO. 330UF-M(SMG) 16V                     | CX19                                                                                   | 0800317R | CAP.-ELECTRO. 47UF-M(SMG) 16V                    |
| C884                                                                                   | AN00624R | CAP.POLY 0.01UF 50V TAPE                           | CX20                                                                                   | 0228736R | CAP2125CHIP 18PFJSL 50V TAPE                     |
| C890                                                                                   | AN00615R | CAP.POLYESTER 0.0022UF 50V TAPE                    | CX21                                                                                   | 0228738R | CAP2125CHIP 22PFJSL 50V TAPE                     |
|  C901 | AN01443S | ACROSS CAPA 0.1UF 250V RE104                       | CX22                                                                                   | 0228710R | CAP 2125 CHIP 10PFCSL 50V TAPE                   |
|  C902 | AN01443S | ACROSS CAPA 0.1UF 250V RE104                       | CX39                                                                                   | 0800326R | CAP.-ELECTRO. 100UF-M 16V                        |
|  C903 | 0248593F | CAP.-CERAMIC 4700PF-Z 250V                         | CX40                                                                                   | 0893044R | CAP2125CHIP 10000PFBK 50V TAPE                   |
|  C904 | 0248593F | CAP.-CERAMIC 4700PF-Z 250V                         | CX41                                                                                   | 0893044R | CAP2125CHIP 10000PFBK 50V TAPE                   |
| C905                                                                                   | AL01735  | CAP.ALUMI.200V 470UF KMH(M) (32GX01B)              | CX42                                                                                   | 0893044R | CAP2125CHIP 10000PFBK 50V TAPE                   |
| C905                                                                                   | AL01736  | CAP.ALUMI.200V 560UF KMH(M) (32UX01S/36GX01B)      | CX43                                                                                   | 0800286R | CAP.-ELECTRO. 4.7UF-M(SMG) 25V                   |
| C905                                                                                   | AL01737  | CAP.ALUMI.200V 680UF KMH(M) (36UX01S)              | CX44                                                                                   | 0893053R | CAP2125CHIP 47000PFBK 50V TAPE                   |
| C906                                                                                   | 0800362N | CAP.-ELECTRO. 1000UF-M 25V                         | CX45                                                                                   | 0893053R | CAP2125CHIP 47000PFBK 50V TAPE                   |
|  C907 | AJ00583F | CAPACITOT CERAMIC 2200P 250V                       | CX46                                                                                   | 0893044R | CAP2125CHIP 10000PFBK 50V TAPE                   |
| C908                                                                                   | 0800327R | CAP.-ELECTRO. 100UF-M 25V                          | CX47                                                                                   | 0228760R | CAP 2125 CHIP 180PFJSL 50V TAPE                  |
|  C909 | AJ00583F | CAPACITOT CERAMIC 2200P 250V                       | CX48                                                                                   | 0893044R | CAP2125CHIP 10000PFBK 50V TAPE                   |
|  C910 | AJ00583F | CAPACITOT CERAMIC 2200P 250V                       | CX49                                                                                   | 0893044R | CAP2125CHIP 10000PFBK 50V TAPE                   |

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|------------|----------|-------------------------------------|------------------------------------------------------------------------------------------|----------|----------------------------------------------------|
| CX50       | 0893044R | CAP2125CHIP 10000PFKB 50V TAPE      | D604                                                                                     | CH02001M | DIODE 1SR139-400                                   |
| CX51       | 0800326R | CAP.-ELECTRO. 100UF-M 16V           | D605                                                                                     | CH02021M | DIODE 1SS133 T-72                                  |
| CX52       | 0800334R | CAP.-ELECTRO. 220UF 10V             | D607                                                                                     | 2339981M | ZENER HZS36-1 TA                                   |
| CX53       | 0893044R | CAP2125CHIP 10000PFKB 50V TAPE      | D608                                                                                     | 2339981M | ZENER HZS36-1 TA                                   |
| CX54       | 0893044R | CAP2125CHIP 10000PFKB 50V TAPE      | D701                                                                                     | CH00031M | DIODE AU02V1(280V)                                 |
| CX55       | 0893044R | CAP2125CHIP 10000PFKB 50V TAPE      |  D702   | CH02011M | DIODE 1SR153-400                                   |
| CX56       | 0893044R | CAP2125CHIP 10000PFKB 50V TAPE      |  D703   | 2339953M | ZENER HZS27-3 TA                                   |
| CX57       | 0893044R | CAP2125CHIP 10000PFKB 50V TAPE      |  D704   | 2339953M | ZENER HZS27-3 TA                                   |
| CX58       | 0800326R | CAP.-ELECTRO. 100UF-M 16V           | D705                                                                                     | CH02021M | DIODE 1SS133 T-72                                  |
| CX71       | 0890121R | CAP.-CERAMIC 33PF-J CH 50V          |  D706   | CH00031M | DIODE AU02V1(280V)                                 |
| CX72       | 0890121R | CAP.-CERAMIC 33PF-J CH 50V          | D707                                                                                     | CH02001M | DIODE 1SR139-400                                   |
|            |          | <b>DIODES</b>                       | D708                                                                                     | CH02001M | DIODE 1SR139-400                                   |
| D001       | CH02021M | DIODE 1SS133 T-72                   |  D709   | 2348511  | DIODE RS3FS (36UX01S/36GX01B)                      |
| D002       | CH02021M | DIODE 1SS133 T-72                   |  D710   | 2336612M | DIODE RU3AM TA                                     |
| D003       | 2339867M | ZENER HZS-9-C1 TAPE (SI.200MA)      | D711                                                                                     | CH02021M | DIODE 1SS133 T-72                                  |
| D005       | CH02021M | DIODE 1SS133 T-72                   |  D712   | 2348511  | DIODE RS3FS                                        |
| D008       | CH02021M | DIODE 1SS133 T-72                   | D755                                                                                     | 2339868M | ZENER HZS9C2 TAPE                                  |
| D101       | 2335991M | ZENER HZ-T33 (02 TP)                | D804                                                                                     | CH02021M | DIODE 1SS133 T-72                                  |
| D102       | 2339867M | ZENER HZS-9-C1 TAPE (SI.200MA)      | D805                                                                                     | CH02021M | DIODE 1SS133 T-72                                  |
| D201       | 2339867M | ZENER HZS-9-C1 TAPE (SI.200MA)      | D806                                                                                     | CH02021M | DIODE 1SS133 T-72                                  |
| D204       | 2339867M | ZENER HZS-9-C1 TAPE (SI.200MA)      | D807                                                                                     | CH02021M | DIODE 1SS133 T-72                                  |
| D205       | 2339867M | ZENER HZS-9-C1 TAPE (SI.200MA)      | D808                                                                                     | CH02021M | DIODE 1SS133 T-72                                  |
| D302       | 2339868M | ZENER HZS9C2 TAPE                   | D809                                                                                     | CH02021M | DIODE 1SS133 T-72                                  |
| D303       | 2339868M | ZENER HZS9C2 TAPE                   | D810                                                                                     | CH02021M | DIODE 1SS133 T-72                                  |
| D304       | 2339868M | ZENER HZS9C2 TAPE                   | D820                                                                                     | 2339601M | ZENER HZS-2 TAPE (ALL) SI 400MW 2.0V               |
| D370       | CH02021M | DIODE 1SS133 T-72                   | D821                                                                                     | 2339601M | ZENER HZS-2 TAPE (ALL) SI 400MW 2.0V               |
| D401       | CH02021M | DIODE 1SS133 T-72                   | D822                                                                                     | 2339601M | ZENER HZS-2 TAPE (ALL) SI 400MW 2.0V               |
| D402       | 2339812M | ZENER HZS3A2 TA (SI.200MA)          | D823                                                                                     | CH02021M | DIODE 1SS133 T-72                                  |
| D403       | CH02021M | DIODE 1SS133 T-72                   | D825                                                                                     | CH02021M | DIODE 1SS133 T-72                                  |
| D404       | CH02021M | DIODE 1SS133 T-72                   | D826                                                                                     | CH02021M | DIODE 1SS133 T-72                                  |
| D405       | CH02021M | DIODE 1SS133 T-72                   | D831                                                                                     | 2339868M | ZENER HZS9C2 TAPE                                  |
| D406       | CH02021M | DIODE 1SS133 T-72                   | D832                                                                                     | 2339868M | ZENER HZS9C2 TAPE                                  |
| D419       | CH02021M | DIODE 1SS133 T-72                   | D833                                                                                     | 2339868M | ZENER HZS9C2 TAPE                                  |
| D420       | CH02021M | DIODE 1SS133 T-72                   |  D901 | 2342061  | DIODE D3SB(A)60.                                   |
| D500       | 2339868M | ZENER HZS9C2 TAPE                   |  D901 | 2342062  | DIODE D3SBA60-4103 (32GX01B)                       |
| D501       | CH02021M | DIODE 1SS133 T-72                   | D902                                                                                     | CH02011M | DIODE 1SR153-400                                   |
| D502       | CH02021M | DIODE 1SS133 T-72 (32/36UX01S)      | D903                                                                                     | 2339981M | ZENER HZS36-1 TA                                   |
| D505       | 2339868M | ZENER HZS9C2 TAPE                   | D904                                                                                     | 2348393  | DIODE S1NB20(200V)                                 |
| D506       | 2339868M | ZENER HZS9C2 TAPE                   | D905                                                                                     | CH02011M | DIODE 1SR153-400                                   |
| D507       | 2339868M | ZENER HZS9C2 TAPE                   | D906                                                                                     | CH02011M | DIODE 1SR153-400                                   |
| D508       | 2339868M | ZENER HZS9C2 TAPE (32/36UX01S)      | D909                                                                                     | CH02011M | DIODE 1SR153-400                                   |
| D509       | CH02021M | DIODE 1SS133 T-72                   | D930                                                                                     | CH02001M | DIODE 1SR139-400                                   |
| D511       | CH02021M | DIODE 1SS133 T-72 (32GX01B/32UX01S) | D931                                                                                     | CH02001M | DIODE 1SR139-400                                   |
| D512       | CH02021M | DIODE 1SS133 T-72 (32GX01B/32UX01S) | D932                                                                                     | 2336615  | DIODE RU3YX (LF-A1)                                |
| D513       | CH02021M | DIODE 1SS133 T-72 (32GX01B/32UX01S) | D934                                                                                     | 2349861  | DIODE FMU-G16S                                     |
| D514       | CH02021M | DIODE 1SS133 T-72 (32GX01B/32UX01S) | D935                                                                                     | 2339191M | ZENER HZS20-1L TAPE                                |
| D515       | CH02021M | DIODE 1SS133 T-72 (32GX01B/32UX01S) | D936                                                                                     | 2338944  | DIODE FML-G12S (F) (200V) SI 0.04USEC (32/36UX01S) |
| D523       | CH02021M | DIODE 1SS133 T-72                   | D936                                                                                     | 2345231  | DIODE EK16 (32/36GX01B)                            |
| D524       | CH02021M | DIODE 1SS133 T-72                   | D938                                                                                     | CH02021M | DIODE 1SS133 T-72                                  |
| D525       | CH02021M | DIODE 1SS133 T-72                   | D939                                                                                     | CH02021M | DIODE 1SS133 T-72                                  |
| D556       | 2339849M | ZENER HZS6C3 TA                     | D952                                                                                     | CH02021M | DIODE 1SS133 T-72                                  |
| D557       | 2339851M | ZENER HZS7A1 TAPE (SI.200MA)        | D953                                                                                     | CH02021M | DIODE 1SS133 T-72                                  |
| D558       | CH02021M | DIODE 1SS133 T-72                   | DL02                                                                                     | CH02021M | DIODE 1SS133 T-72 (32/36UX01S)                     |
| D559       | 2339849M | ZENER HZS6C3 TA                     | DL03                                                                                     | CH02021M | DIODE 1SS133 T-72 (32/36UX01S)                     |
| D601       | 2339868M | ZENER HZS9C2 TAPE (32UX01S/32GX01B) | DL04                                                                                     | 2331913M | DIODE 1SS83 (TAPE) (32/36UX01S)                    |
|            |          |                                     | DL05                                                                                     | 2331913M | DIODE 1SS83 (TAPE) (32/36UX01S)                    |





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|------------------------------------------------------------------------------------------|----------|-----------------------------------------------|------------|----------|--------------------------------------------|
| Q411                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R)                         | R003       | 0700041M | RES.-CARBON FLM 1/16W 1.0K-JB              |
| Q412                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R)                         | R004       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE               |
| Q413                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R)                         | R006       | 0195893R | RES 2125 CHIP 1/16W 560J TAPE              |
| Q414                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R)                         | R007       | 0700041M | RES.-CARBON FLM 1/16W 1.0K-JB              |
| Q500                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R)                         | R008       | 0700041M | RES.-CARBON FLM 1/16W 1.0K-JB              |
| Q501                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R) (32/36UX01S)            | R009       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE               |
| Q503                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R)                         | R010       | 0700027M | RES.-CARBON FLM 1/16W 100-JB               |
| Q504                                                                                     | 2325781R | 2SA1037KT146Q/R                               | R011       | 0700027M | RES.-CARBON FLM 1/16W 1.0K-JB              |
| Q505                                                                                     | 2325781R | 2SA1037KT146Q/R                               | R012       | 0195914R | RES 2125 CHIP 1/16W 3.9KJ TAPE             |
| Q506                                                                                     | 2325781R | 2SA1037KT146Q/R                               | R013       | 0195914R | RES 2125 CHIP 1/16W 3.9KJ TAPE             |
| Q507                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R)                         | R014       | 0700041M | RES.-CARBON FLM 1/16W 1.0K-JB              |
| Q508                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R)                         | R015       | 0700041M | RES.-CARBON FLM 1/16W 1.0K-JB              |
| Q509                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R) (32GX01B/32UX01S)       | R016       | 0700041M | RES.-CARBON FLM 1/16W 1.0K-JB              |
| Q510                                                                                     | 2312941M | TRS. 2SC3413BC/1740S Q/R TA                   | R017       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE               |
| Q701                                                                                     | 2323523M | TRS. 2SD789 D TAPE                            | R018       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE               |
|  Q702   | CF02531F | TRS. 2SC5521                                  | R020       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE               |
| Q751                                                                                     | 2323434  | TRS. 2SC1983 (O/Y)                            | R021       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE (32/36UX01S)  |
| Q752                                                                                     | 2326022M | TRS.2SC1741S Q/R TZ                           | R021       | 0195908R | RES.2125 CHIP 1/10W 2.2KJ TAPE 32/36GX01B) |
| Q851                                                                                     | 2315491  | TRS. 2SC4544                                  | R022       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE               |
| Q852                                                                                     | 2325721M | TRS. 2SC1740S (Q/R/S/E) TAPE                  | R023       | 0700041M | RES.-CARBON FLM 1/16W 1.0K-JB              |
| Q854                                                                                     | 2315491  | TRS. 2SC4544                                  | R024       | 0700041M | RES.-CARBON FLM 1/16W 1.0K-JB              |
| Q855                                                                                     | 2325721M | TRS. 2SC1740S (Q/R/S/E) TAPE                  | R025       | 0700041M | RES.-CARBON FLM 1/16W 1.0K-JB              |
| Q857                                                                                     | 2315491  | TRS. 2SC4544                                  | R026       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE              |
| Q858                                                                                     | 2325721M | TRS. 2SC1740S (Q/R/S/E) TAPE                  | R027       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE              |
| Q859                                                                                     | 2325703M | TRANSISTOR (2SA854S)                          | R028       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE              |
| Q860                                                                                     | 2325721M | TRS. 2SC1740S (Q/R/S/E) TAPE                  | R029       | 0195910R | RES.2125 CHIP 1/16W 2.7KJ TAPE             |
| Q861                                                                                     | 2325721M | TRS. 2SC1740S (Q/R/S/E) TAPE                  | R030       | 0195893R | RES 2125 CHIP 1/16W 560J TAPE              |
| Q862                                                                                     | 2325721M | TRS. 2SC1740S (Q/R/S/E) TAPE                  | R031       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE              |
|  Q905 | 2323782R | THYRISTOR 03P2M(TA)                           | R032       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE               |
| Q908                                                                                     | 2327883M | TRS. 2SA1207 (S/T) SI 150MHZ600MW             | R033       | 0700041M | RES.-CARBON FLM 1/16W 1.0K-JB              |
| Q915                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R)                         | R034       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE               |
| Q916                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R)                         | R035       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE              |
| QL01                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R) (32/36UX01S)            | R036       | 0195914R | RES 2125 CHIP 1/16W 3.9KJ TAPE             |
| QL02                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R) (32/36UX01S)            | R037       | 0195914R | RES 2125 CHIP 1/16W 3.9KJ TAPE             |
| QL03                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R) (32/36UX01S)            | R038       | 0700027M | RES.-CARBON FLM 1/16W 100-JB               |
| QL04                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R) (32/36UX01S)            | R039       | 0700027M | RES.-CARBON FLM 1/16W 100-JB               |
| QL05                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R) (32/36UX01S)            | R040       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE              |
| QL06                                                                                     | 2327772M | TRS.2SC3413 (B/C) SI 200MHZ300MW (32/36UX01S) | R041       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE              |
| QL07                                                                                     | 2325715M | TRS.2SA933S (Q/R) (32/36UX01S)                | R042       | 0195916R | RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE        |
| QL08                                                                                     | 2315381  | TRS. 2SA1837 (32/36UX01S)                     | R043       | 0195933R | RES.2125 CHIP 1/16W 22KJ TAPE              |
| QL09                                                                                     | 2315391  | TRS. 2SC4793 (32/36UX01S)                     | R044       | 0195918R | RES 2125 CHIP 1/16W 5.6KJ TAPE             |
| QL10                                                                                     | 2326821  | TRANSISTOR 2SA1371 E/F (32/36UX01S)           | R045       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE              |
| QL11                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R) (32/36UX01S)            | R046       | 0195908R | RES.2125 CHIP 1/10W 2.2KJ TAPE             |
| QX10                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R)                         | R047       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE               |
| QX11                                                                                     | 2325781R | 2SA1037KT146Q/R                               | R053       | 0195916R | RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE        |
| QX12                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R)                         | R054       | 0195950R | RES 2125 CHIP 1/16W 100KJ TAPE             |
| QX13                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R)                         | R055       | 0195916R | RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE        |
| QX15                                                                                     | 2325781R | 2SA1037KT146Q/R                               | R056       | 0195916R | RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE        |
| QX16                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R)                         | R057       | 0195881R | RES 2125 CHIP 1/16W 180J TAPE              |
| QX17                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R)                         | R058       | 0195939R | RES.2125 CHIP 1/16W 39KJ TAPE              |
| QX18                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R)                         | R059       | 0700062M | RES.-CARBON FLM 1/16W 39K-JB               |
| QX19                                                                                     | 2325691R | TRS CHIP(2SC2412KQ/R)                         | R060       | 0700051M | RES.-CARBON FLM 1/16W 5.6K-JB              |
|                                                                                          |          | <b>RESISTORS</b>                              | R061       | 0700041M | RES.-CARBON FLM 1/16W 1.0K-JB              |
| R001                                                                                     | 0700027M | RES.-CARBON FLM 1/16W 100-JB                  | R062       | 0700054M | RES.-CARBON FLM 1/16W 10K-JB               |
| R002                                                                                     | 0700027M | RES.-CARBON FLM 1/16W 100-JB                  | R063       | 0195922R | RES 2125 CHIP 1/16W 8.2KJ TAPE             |
|                                                                                          |          |                                               | R064       | 0195931R | RES 2125 CHIP 1/16W 18KJ TAPE              |

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|------------|----------|--------------------------------------------|------------|----------|-------------------------------------------------|
| R065       | 0195931R | RES 2125 CHIP 1/16W 18KJ TAPE              | R109       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                   |
| R066       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE              | R110       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE (32/36UX01S)      |
| R067       | 0195897R | RES 2125 CHIP 1/16W 820J TAPE              | R111       | 0195941R | RESISTOR 2125 CHIP 1/16W 47KJ TAPE (32/36UX01S) |
| R068       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE              | R112       | 0195933R | RES.2125 CHIP 1/16W 22KJ TAPE (32/36UX01S)      |
| R069       | 0700054M | RES.-CARBON FLM 1/16W 10K-JB               | R114       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                    |
| R070       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE              | R116       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                    |
| R071       | 0195918R | RES 2125 CHIP 1/16W 5.6KJ TAPE             | R117       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                    |
| R072       | 0700027M | RES.-CARBON FLM 1/16W 100-JB               | R118       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                    |
| R073       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE              | R119       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                    |
| R074       | 0195918R | RES 2125 CHIP 1/16W 5.6KJ TAPE             | R120       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                    |
| R080       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE               | R121       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                    |
| R081       | 0195902R | RES 2125 CHIP 1/16W 1.2KJ TAPE             | R122       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                    |
| R082       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE               | R123       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                    |
| R083       | 0195941R | RESISTOR 2125 CHIP 1/16W 47KJ TAPE         | R124       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                    |
| R084       | 0700063M | RES.-CARBON FLM 1/16W 47K-JB               | R125       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                    |
| R085       | 0195933R | RES.2125 CHIP 1/16W 22KJ TAPE              | R126       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE (32/36UX01S)       |
| R087       | 0195933R | RES.2125 CHIP 1/16W 22KJ TAPE              | R127       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                    |
| R09A       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE              | R128       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                    |
| R09C       | 0700054M | RES.-CARBON FLM 1/16W 10K-JB               | R129       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                    |
| R09E       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE              | R133       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                    |
| R0A1       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE               | R134       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                    |
| R0A2       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE               | R137       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                    |
| R0A3       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE               | R138       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                    |
| R0A4       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE               | R201       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE                    |
| R0A5       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE               | R202       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE                    |
| R0A6       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE               | R203       | 0195904R | RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE             |
| R0A7       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE               | R204       | 0195910R | RES.2125 CHIP 1/16W 2.7KJ TAPE                  |
| R0A8       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE               | R205       | 0195916R | RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE             |
| R0A9       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE               | R206       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE                   |
| R0C1       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE               | R207       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                   |
| R0C2       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE               | R208       | 0195912R | RES 2125 CHIP 1/16W 3.3KJ TAPE                  |
| R0C3       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE               | R209       | 0700027M | RES.-CARBON FLM 1/16W 100-JB                    |
| R0C4       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE               | R210       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE                    |
| R0C5       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE               | R211       | 0195943R | RES.2125 CHIP 1/16W 56KJ TAPE                   |
| R0C8       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE               | R212       | 0195943R | RES.2125 CHIP 1/16W 56KJ TAPE                   |
| R0E1       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE               | R213       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE                    |
| R0E4       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE               | R217       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE                    |
| R0E5       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE               | R218       | 0195966R | RES 2125 CHIP 1/16W 470KJ TAPE                  |
| R0E6       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE               | R219       | 0195908R | RES.2125 CHIP 1/10W 2.2KJ TAPE                  |
| R0E7       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE               | R220       | 0195966R | RES 2125 CHIP 1/16W 470KJ TAPE                  |
| R0E8       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE               | R221       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE                    |
| R0E9       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE               | R300       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE                    |
| R0F1       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE               | R302       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                   |
| R0F3       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE               | R303       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE                    |
| R0F4       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE               | R305       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                   |
| R0F5       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE               | R306       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                   |
| R0F6       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE               | R307       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                   |
| R0F7       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE               | R308       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                   |
| R101       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE (32/36UX01S) | R309       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                   |
| R102       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE (32/36UX01S) | R310       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                   |
| R103       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE (32/36UX01S)  | R311       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE                    |
| R104       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE (32/36UX01S) | R312       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                   |
| R105       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE              | R313       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                   |
| R106       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE              | R314       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                   |
| R107       | 0700027M | RES.-CARBON FLM 1/16W 100-JB               | R315       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE                   |
| R108       | 0700041M | RES.-CARBON FLM 1/16W 1.0K-JB              | R316       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE                   |

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| SYMBOL NO. | PART NO. | PART DESCRIPTION                       | SYMBOL NO. | PART NO. | PART DESCRIPTION                    |
|------------|----------|----------------------------------------|------------|----------|-------------------------------------|
| R321       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE          | R413       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE        |
| R322       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE          | R414       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE        |
| R323       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE          | R415       | 0195939R | RES.2125 CHIP 1/16W 39KJ TAPE       |
| R324       | 0195871R | RMC73S-2A750JR                         | R416       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE       |
| R326       | 0195871R | RMC73S-2A750JR                         | R417       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE       |
| R327       | 0195966R | RES 2125 CHIP 1/16W 470KJ TAPE         | R418       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE        |
| R328       | 0195966R | RES 2125 CHIP 1/16W 470KJ TAPE         | R419       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE        |
| R329       | 0195871R | RMC73S-2A750JR                         | R420       | 0195897R | RES 2125 CHIP 1/16W 820J TAPE       |
| R330       | 0195871R | RMC73S-2A750JR                         | R421       | 0195939R | RES.2125 CHIP 1/16W 39KJ TAPE       |
| R331       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE          | R422       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE       |
| R333       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE           | R424       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE        |
| R334       | 0195932R | RES. 2125CHIP 1/10W 20KJ TAPE          | R425       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE        |
| R336       | 0195871R | RMC73S-2A750JR                         | R426       | 0195897R | RES 2125 CHIP 1/16W 820J TAPE       |
| R337       | 0195966R | RES 2125 CHIP 1/16W 470KJ TAPE         | R427       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE       |
| R338       | 0195966R | RES 2125 CHIP 1/16W 470KJ TAPE         | R428       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE       |
| R339       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE           | R429       | 0195950R | RES 2125 CHIP 1/16W 100KJ TAPE      |
| R340       | 0195870R | RES.2125 CHIP 1/10W 68J TAPE           | R430       | 0195950R | RES 2125 CHIP 1/16W 100KJ TAPE      |
| R341       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE          | R431       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE       |
| R342       | 0195870R | RES.2125 CHIP 1/10W 68J TAPE           | R432       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE       |
| R343       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE          | R433       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE       |
| R344       | 0195870R | RES.2125 CHIP 1/10W 68J TAPE           | R434       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE       |
| R345       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE           | R435       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE       |
| R346       | 0195950R | RES 2125 CHIP 1/16W 100KJ TAPE         | R436       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE       |
| R347       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE           | R437       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE       |
| R348       | 0195950R | RES 2125 CHIP 1/16W 100KJ TAPE         | R438       | 0195918R | RES 2125 CHIP 1/16W 5.6KJ TAPE      |
| R349       | 0195893R | RES 2125 CHIP 1/16W 560J TAPE          | R439       | 0195918R | RES 2125 CHIP 1/16W 5.6KJ TAPE      |
| R351       | 0195933R | RES.2125 CHIP 1/16W 22KJ TAPE          | R440       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE       |
| R352       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE           | R441       | 0100077M | RES.-CARBON FLM 1/8W 3.3K-JB        |
| R353       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE           | R442       | 0100077M | RES.-CARBON FLM 1/8W 3.3K-JB        |
| R354       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE          | R453       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE       |
| R355       | 0100043M | RES.-CARBON FLM 1/8W 120-JB            | R459       | 0195937R | RES.2125 CHIP 1/16W 33KJ TAPE       |
| R356       | 0100047M | RES.-CARBON FLM 1/8W 180-JB            | R460       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE        |
| R357       | 0195897R | RES 2125 CHIP 1/16W 820J TAPE          | R461       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE        |
| R358       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE           | R462       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE       |
| R362       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE           | R463       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE       |
| R363       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE           | R464       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE       |
| R370       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE           | R465       | AT03593S | METAL OX. 1.5KOHM 3W                |
| R371       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE           | R466       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE       |
| R372       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE          | R468       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE        |
| R373       | 0195941R | RESISTOR 2125 CHIP 1/16W 47KJ TAPE     | R471       | 0195933R | RES.2125 CHIP 1/16W 22KJ TAPE       |
| R380       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE           | R473       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE        |
| R382       | 0700041M | RES.-CARBON FLM 1/16W 1.0K-JB          | R474       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE        |
| R383       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE           | R475       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE        |
| R384       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE           | R476       | 0195933R | RES.2125 CHIP 1/16W 22KJ TAPE       |
| R386       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE           | R477       | 0195937R | RES.2125 CHIP 1/16W 33KJ TAPE       |
| R401       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE          | R479       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE        |
| R402       | 0195916R | RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE    | R480       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE        |
| R403       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE           | R481       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE        |
| R404       | 0195945R | RES 2125 CHIP 1/16W 68KJ TAPE          | R482       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE        |
| R405       | 0195930R | RES.CHIP 1/16W 16K-J TAPE              | R500       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE       |
| R406       | 0195893R | RES 2125 CHIP 1/16W 560J TAPE          | R501       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE       |
| R407       | 0195911R | RESISTOR MINI-CHIP RMC1/16 3.0K-J TAPE | R502       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE       |
| R408       | 0195917R | RES.CHIP RMC1/16 5.1K-J TAPE           | R503       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE       |
| R409       | 0700038M | RES.-CARBON FLM 1/16W 680-JB           | R504       | 0195904R | RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE |
| R410       | 0700038M | RES.-CARBON FLM 1/16W 680-JB           | R505       | 0195889R | RES.2125 CHIP 1/10W 390J TAPE       |
| R411       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE           | R506       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE        |
| R412       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE           | R507       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE       |

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| SYMBOL NO. | PART NO. | PART DESCRIPTION                             | SYMBOL NO.                                                                              | PART NO. | PART DESCRIPTION                                   |
|------------|----------|----------------------------------------------|-----------------------------------------------------------------------------------------|----------|----------------------------------------------------|
| R508       | 0195912R | RES 2125 CHIP 1/16W 3.3KJ TAPE               | R581                                                                                    | 0195885R | RESISTOR 2125 CHIP 1/16W 270J TAPE                 |
| R509       | 0195889R | RES.2125 CHIP 1/10W 390J TAPE                | R608                                                                                    | 0195918R | RES 2125 CHIP 1/16W 5.6KJ TAPE (32UX01S/32UX01B)   |
| R510       | 0195937R | RES.2125 CHIP 1/16W 33KJ TAPE                | R609                                                                                    | AT03406S | METAL OX. 150OHM 2W (35UX01S/36GX01B)              |
| R511       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                | R609                                                                                    | AT03413S | METAL OX. 270OHM 2W (32UX01S/32GX01B)              |
| R512       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                | R610                                                                                    | 0195887R | RES 2125 CHIP 1/16W 330J TAPE                      |
| R513       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE                 | R611                                                                                    | 0700058M | RES.-CARBON FLM 1/16W 22K-JB (36UX01S/36GX01B)     |
| R514       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE                | R611                                                                                    | 0700061M | RES.-CARBON FLM 1/16W 33K-JB (32UX01S/32GX01B)     |
| R515       | 0195966R | RES 2125 CHIP 1/16W 470KJ TAPE               | R612                                                                                    | 0700061M | RES.-CARBON FLM 1/16W 33K-JB                       |
| R516       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE (32/36UX01S)   | R613                                                                                    | 0195931R | RES 2125 CHIP 1/16W 18KJ TAPE (36UX01S/36GX01B)    |
| R517       | 0195908R | RES.2125 CHIP 1/10W 2.2KJ TAPE (32/36UX01S)  | R613                                                                                    | 0195935R | RES 2125 CHIP 1/16W 27K-J TAPE (32UX01S/23GX01B)   |
| R518       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE (32/36UX01S)   | R614                                                                                    | 0700034M | RES.-CARBON FLM 1/16W 330-JB                       |
| R521       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                | R615                                                                                    | 0119731M | RES.-MTL 0X1DE 1W R68-K TAPE (36UX01S/36GX01B)     |
| R522       | 0195941R | RESISTOR 2125 CHIP 1/16W 47KJ TAPE           | R615                                                                                    | 0119841M | RES.-MTL OXIDE FLM 1W 0.82-JB (32UX01S/32GX01B)    |
| R523       | 0195950R | RES 2125 CHIP 1/16W 100KJ TAPE               | R617                                                                                    | 0700046M | RES.-CARBON FLM 1/16W 2.7K-JB                      |
| R525       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                | R618                                                                                    | 0119601M | RES.-MTL FLM 1/8W 560-FB                           |
| R526       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                | R619                                                                                    | 0119599M | RES.-MTL FLM 1/8W 470-FB                           |
| R527       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                | R621                                                                                    | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                       |
| R528       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                | R622                                                                                    | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                       |
| R529       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                | R701                                                                                    | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE                       |
| R530       | 0195914R | RES 2125 CHIP 1/16W 3.9KJ TAPE               | R702                                                                                    | AT03399S | METAL OX. 82 OHM 2W (36UX01S/36GX01B)              |
| R531       | 0195906R | RESISTOR MINI-CHIP RMC1/16 1.8K-J TAPE       | R703                                                                                    | 0100077M | RES.-CARBON FLM 1/8W 3.3K-JB                       |
| R532       | 0195879R | RES 2125 CHIP 1/16W 150J TAPE                | R704                                                                                    | 0700032M | RES.-CARBON FLM 1/16W 220-JB                       |
| R533       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                 | R705                                                                                    | 0113754M | RES.-CARBON FLM 1/2W 1.5K-JB                       |
| R534       | 0195937R | RES.2125 CHIP 1/16W 33KJ TAPE                |  R706  | 0700041M | RES.-CARBON FLM 1/16W 1.0K-JB                      |
| R535       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                | R707                                                                                    | AT03424S | METAL OX. 680OHM 2W                                |
| R536       | AT03865M | 390OHM 1/2W RDS50 CARB FILM RES              |  R710 | 0700053M | RES.-CARBON FLM 1/16W 8.2K-JB                      |
| R537       | AT03865M | 390OHM 1/2W RDS50 CARB FILM RES              | R711                                                                                    | AT00958F | RES.MTL OXIDE FLM 7W 120 OHM                       |
| R538       | AT03865M | 390OHM 1/2W RDS50 CARBON FILM RES            | R712                                                                                    | 0195887R | RES 2125 CHIP 1/16W 330J TAPE                      |
| R539       | 0700032M | RES.-CARBON FLM 1/16W 220-JB                 | R713                                                                                    | 0195895R | RES.2125 CHIP 1/10W 680J TAPE                      |
| R540       | 0700032M | RES.-CARBON FLM 1/16W 220-JB                 | R714                                                                                    | 0113733M | RES.CARBON FLM SRD1/2P-B 220-J                     |
| R541       | 0700032M | RES.-CARBON FLM 1/16W 220-JB                 | R715                                                                                    | 0100039M | RES.-CARBON FLM 1/8W 82-JB (32UX01S/32GX01B)       |
| R542       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE                | R715                                                                                    | AT03854M | 56.0OHM 1/2W RDS50 CARB FILM RES (36UX01S/36GX01B) |
| R543       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE                | R716                                                                                    | AT03864M | 330OHM 1/2W RDS50 CARBON FILM RESISTOR             |
| R544       | 0195883R | RES 2125 CHIP 1/16W 220J TAPE                | R717                                                                                    | 0100089M | RES.-CARBON FLM 1/8W 10K-JB (32UX01S/32GX01B)      |
| R545       | 0195950R | RES 2125 CHIP 1/16W 100KJ TAPE               | R717                                                                                    | 0100093M | RES.-CARBON FLM 1/8W 15K-JB (36UX01S/36GX01B)      |
| R546       | 0195941R | RESISTOR 2125 CHIP 1/16W 47KJ TAPE           | R718                                                                                    | 0195893R | RES 2125 CHIP 1/16W 560J TAPE                      |
| R547       | 0195929R | RES 2125 CHIP 1/16W 15KJ TAPE                | R719                                                                                    | 0100079M | RES.-CARBON FLM 1/8W 3.9K-JB (32UX01S/32GX01B)     |
| R548       | 0195929R | RES 2125 CHIP 1/16W 15KJ TAPE                | R719                                                                                    | 0700046M | RES.-CARBON FLM 1/16W 2.7K-JB (36UX01S/36GX01B)    |
| R549       | 0195950R | RES 2125 CHIP 1/16W 100KJ TAPE               | R720                                                                                    | 0195891R | RES 2125 CHIP 1/16W 470J TAPE                      |
| R550       | 0195956R | RES.CHIP 1/16W 180K-J TAPE                   | R74C                                                                                    | 0100089M | RES.-CARBON FLM 1/8W 10K-JB (32UX01S / 32/36GX01B) |
| R554       | 0195902R | RES 2125 CHIP 1/16W 1.2KJ (32GX01B/32UX01S)  | R74C                                                                                    | 0100090M | RES.-CARBON FLM 1/8W 11K-JB (36UX01S)              |
| R555       | 0195895R | RES.2125 CHIP 1/10W 680J (32GX01B/32UX01S)   | R74H                                                                                    | 0100093M | RES.-CARBON FLM 1/8W 15K-JB                        |
| R556       | 0195858R | RES MINI-CHIP RMC1/10 22-J (32GX01B/32UX01S) | R801                                                                                    | 0100053M | RES.-CARBON FLM 1/8W 330-JB                        |
| R557       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                 | R802                                                                                    | AT03602S | METAL OX. 3.3KOHM 3W                               |
| R559       | 0700032M | RES.-CARBON FLM 1/16W 220-JB                 | R803                                                                                    | AT03602S | METAL OX. 3.3KOHM 3W                               |
| R560       | 0700032M | RES.-CARBON FLM 1/16W 220-JB                 | R804                                                                                    | AT03602S | METAL OX. 3.3KOHM 3W                               |
| R569       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                 | R811                                                                                    | 0119561M | RES.-MTL FLM 1/8W 12-FB                            |
| R570       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                 | R812                                                                                    | 0119561M | RES.-MTL FLM 1/8W 12-FB                            |
| R571       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                 | R813                                                                                    | 0119561M | RES.-MTL FLM 1/8W 12-FB                            |
| R572       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                 | R851                                                                                    | AT03602S | METAL OX. 3.3KOHM 3W                               |
| R573       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                 | R852                                                                                    | AT03602S | METAL OX. 3.3KOHM 3W                               |
| R575       | 0195891R | RES 2125 CHIP 1/16W 470J TAPE                | R853                                                                                    | AT03602S | METAL OX. 3.3KOHM 3W                               |
| R576       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                 | R854                                                                                    | 0113750M | RES.-CARBON FLM 1/2W 1K-JB                         |
| R578       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE                 | R855                                                                                    | 0113750M | RES.-CARBON FLM 1/2W 1K-JB                         |
| R579       | 0195891R | RES 2125 CHIP 1/16W 470J TAPE                | R856                                                                                    | 0113750M | RES.-CARBON FLM 1/2W 1K-JB                         |
| R580       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE                 | R857                                                                                    | 0100053M | RES.-CARBON FLM 1/8W 330-JB                        |

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| SYMBOL NO.                                                                               | PART NO. | PART DESCRIPTION                                  | SYMBOL NO. | PART NO. | PART DESCRIPTION             |
|------------------------------------------------------------------------------------------|----------|---------------------------------------------------|------------|----------|------------------------------|
| R858                                                                                     | 0100053M | RES.-CARBON FLM 1/8W 330-JB                       | RK01       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE |
| R861                                                                                     | 0700029M | RES.-CARBON FLM 1/16W 150-JB                      | RK02       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R869                                                                                     | 0700029M | RES.-CARBON FLM 1/16W 150-JB                      | RK03       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE |
| R871                                                                                     | 0700029M | RES.-CARBON FLM 1/16W 150-JB                      | RK04       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE |
| R889                                                                                     | AT03857M | 100OHM 1/2W RDS50 CARBON FILM RESISTOR            | RK05       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R890                                                                                     | AT03857M | 100OHM 1/2W RDS50 CARBON FILM RESISTOR            | RK06       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R891                                                                                     | AT03857M | 100OHM 1/2W RDS50 CARBON FILM RESISTOR            | RK07       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R893                                                                                     | 0100073M | RES.-CARBON FLM 1/8W 2.2K-JB                      | RK08       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R896                                                                                     | 0187052M | RES.-CARBON FLM 1/16W 300-JB (36UX01S)            | RK09       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R896                                                                                     | 0700033M | RES.-CARB FLM 1/16W 270-JB (32UX01S / 32/36GX01B) | RK10       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE |
| R897                                                                                     | 0187052M | RES.-CARB FLM 1/16W 300-JB (36UX01S)              | RK11       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R897                                                                                     | 0700033M | RES.-CARB FLM 1/16W 270-JB (32UX01S/32/36GX01B)   | RK12       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R898                                                                                     | 0187052M | RES.-CARBON FLM 1/16W 300-JB (36UX01S)            | RK13       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R898                                                                                     | 0700033M | RES.-CARBON FLM 1/16W 270-JB                      | RK14       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE |
| R899                                                                                     | 0700027M | RES.-CARBON FLM 1/16W 100-JB                      | RK15       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
|  R902   | CJ00362  | 3/2 OHM POSITIVE THERMISTOR                       | RK16       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE |
| R905                                                                                     | AT03304S | METAL OX. 22K OHM 1W                              | RK17       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R906                                                                                     | 0147607  | RES.-WIRE WOUND 7W 0.75-K                         | RK18       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R910                                                                                     | 0100035M | RES.-CARBON FLM 1/8W 56-JB                        | RK19       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R914                                                                                     | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                      | RK20       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE |
| R916A                                                                                    | 0119688M | RES.-MTL FLM 1W 0.22-JB                           | RK21       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R916B                                                                                    | 0119688M | RES.-MTL FLM 1W 0.22-JB                           | RK23       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R916C                                                                                    | 0119688M | RES.-MTL FLM 1W 0.22-JB                           | RK24       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R925                                                                                     | 0195910R | RES.2125 CHIP 1/16W 2.7KJ TAPE                    | RK25       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE |
| R927                                                                                     | 0195912R | RES 2125 CHIP 1/16W 3.3KJ TAPE                    | RK26       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R928                                                                                     | 0195895R | RES.2125 CHIP 1/10W 680J TAPE                     | RK27       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R930                                                                                     | 0100113M | RES.-CARBON FLM 1/8W 100K-JB                      | RK28       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R931                                                                                     | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE                     | RK29       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R932                                                                                     | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE                     | RK30       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R933                                                                                     | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE                      | RK31       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R934                                                                                     | 0700041M | RES.-CARBON FLM 1/16W 1.0K-JB                     | RK32       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R935                                                                                     | 0195910R | RES.2125 CHIP 1/16W 2.7KJ TAPE                    | RK33       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE |
| R936                                                                                     | 0195910R | RES.2125 CHIP 1/16W 2.7KJ TAPE                    | RK34       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R940                                                                                     | 0195916R | RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE               | RK35       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R941                                                                                     | 0195933R | RES.2125 CHIP 1/16W 22KJ TAPE                     | RK36       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R945                                                                                     | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE                     | RK37       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R948                                                                                     | 0119693M | RES.-MTL FLM 1W 0.39-JB                           | RK38       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R949                                                                                     | 0195904R | RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE               | RK39       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R960                                                                                     | 0195910R | RES.2125 CHIP 1/16W 2.7KJ TAPE                    | RK40       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE |
| R961                                                                                     | 0195916R | RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE               | RK41       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R962                                                                                     | AT03539S | METAL OX. 15.0OHM 3W (32/36UX01S)                 | RK42       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R962                                                                                     | AT03542S | METAL OX. 18.0OHM 3W (32/36GX01B)                 | RK43       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R963                                                                                     | AT03539S | METAL OX. 15.0OHM 3W (32/36UX01S)                 | RK44       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE |
| R964                                                                                     | 0700044M | RES.-CARBON FLM 1/16W 1.8K-JB                     | RK45       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R966                                                                                     | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE                     | RK46       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R976                                                                                     | 0700045M | RES.-CARBON FLM 1/16W 2.2K-JB                     | RK47       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
|  R977 | 0700027M | RES.-CARBON FLM 1/16W 100-JB                      | RK48       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R980                                                                                     | 0195922R | RES 2125 CHIP 1/16W 8.2KJ TAPE                    | RK49       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE |
| R981                                                                                     | 0195916R | RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE               | RK50       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE |
| R984                                                                                     | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                     | RK51       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R985                                                                                     | 0113770M | RESISTOR CARBON FILM SRD1/2P-B 6.8K-J             | RK52       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R990                                                                                     | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                      | RK53       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R991                                                                                     | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                      | RK54       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |
| R992                                                                                     | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                      | RK55       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE |
| R994                                                                                     | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                      | RK56       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE |
| RC371                                                                                    | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                      | RK57       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE |

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|------------|----------|--------------------------------------------------|------------|----------|--------------------------------------------------|
| RK58       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RL14       | 0195916R | RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE (32/36UX01S) |
| RK59       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RL15       | 0195937R | RES.2125 CHIP 1/16W 33KJ TAPE (32/36UX01S)       |
| RK60       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                     | RL16       | 0195922R | RES 2125 CHIP 1/16W 8.2KJ TAPE (32/36UX01S)      |
| RK61       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                     | RL17       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE (32/36UX01S)       |
| RK62       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RL18       | 0195891R | RES 2125 CHIP 1/16W 470J TAPE (32/36UX01S)       |
| RK63       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RL19       | 0195879R | RES 2125 CHIP 1/16W 150J TAPE (32/36UX01S)       |
| RK64       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RL20       | 0195887R | RES 2125 CHIP 1/16W 330J TAPE (32/36UX01S)       |
| RK65       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                     | RL21       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE (32/36UX01S)       |
| RK66       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RL22       | 0100059M | RES.-CARBON FLM 1/8W 560-JB (32/36UX01S)         |
| RK67       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                     | RL23       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE (32/36UX01S)       |
| RK68       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RL24       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE (32/36UX01S)       |
| RK69       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RL25       | AT03844M | 10.0OHM 1/2W RDS50 CARBON FILM RES (32/36UX01S)  |
| RK70       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RL26       | 0100071M | RES.-CARBON FLM 1/8W 1.8K-JB (32/36UX01S)        |
| RK71       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                     | RL27       | 0100119M | RES.-CARBON FLM 1/8W 180K-JB (32/36UX01S)        |
| RK72       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RL28       | 0100119M | RES.-CARBON FLM 1/8W 180K-JB (32/36UX01S)        |
| RK73       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                     | RL29       | 0100071M | RES.-CARBON FLM 1/8W 1.8K-JB (32/36UX01S)        |
| RK74       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RL30       | 0100017M | RES.-CARBON FLM 1/8W 10-JB (32/36UX01S)          |
| RK75       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                     | RL31       | 0100067M | RES.-CARBON FLM 1/8W 1.2K-JB (32/36UX01S)        |
| RK76       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RL32       | 0100017M | RES.-CARBON FLM 1/8W 10-JB (32/36UX01S)          |
| RK77       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                     | RL33       | AT03851M | 33.0OHM 1/2W RDS50 CARBON FILM RES (32/36UX01S)  |
| RK78       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                     | RL34       | 0188097M | RES.-CARBON FLM 3.3-J 1/2W (32/36UX01S)          |
| RK79       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RL35       | AT03851M | 33.0OHM 1/2W RDS50 CARBON FILM RES (32/36UX01S)  |
| RK80       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RL36       | 0188097M | RES.-CARBON FLM 3.3-J 1/2W (32/36UX01S)          |
| RK81       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                     | RL37       | 0147568  | RES.-WIRE WOUND 5W 150-JM (32/36UX01S)           |
| RK82       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RL38       | 0100021M | RES.-CARBON FLM 1/8W 15-JB (32/36UX01S)          |
| RK83       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RL39       | 0700027M | RES.-CARBON FLM 1/16W 100-JB (32/36UX01S)        |
| RK84       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RL40       | 0110237S | RES.-MTL OXIDE FLM 2W 470-J (32/36UX01S)         |
| RK85       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RL41       | 0700041M | RES.-CARBON FLM 1/16W 1.0K-JB (32/36UX01S)       |
| RK86       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RL42       | 0700027M | RES.-CARBON FLM 1/16W 100-JB (32/36UX01S)        |
| RK87       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RL43       | 0100113M | RES.-CARBON FLM 1/8W 100K-JB (32/36UX01S)        |
| RK88       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                     | RL44       | AT03577S | METAL OX. 390OHM 3W (32/36UX01S)                 |
| RK89       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RX10       | 0195897R | RES 2125 CHIP 1/16W 820J TAPE                    |
| RK90       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                     | RX11       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                    |
| RK91       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RX12       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE                    |
| RK92       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                     | RX13       | 0195904R | RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE              |
| RK93       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RX14       | 0195887R | RES 2125 CHIP 1/16W 330J TAPE                    |
| RK95       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RX15       | 0195891R | RES 2125 CHIP 1/16W 470J TAPE                    |
| RK96       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RX16       | 0195939R | RES.2125 CHIP 1/16W 39KJ TAPE                    |
| RK97       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE                     | RX17       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE                    |
| RKC1       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RX18       | 0195893R | RES 2125 CHIP 1/16W 560J TAPE                    |
| RKC2       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     | RX19       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE                     |
| RKC3       | 0195248R | RES 3216 CHIP 1/8 W 000 TAPE (32/36UX01S)        | RX20       | 0195897R | RES 2125 CHIP 1/16W 820J TAPE                    |
| RKC4       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE (32/36UX01S)        | RX21       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                    |
| RKC5       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE (32/36UX01S)        | RX23       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE                     |
| RL02       | 0195945R | RES 2125 CHIP 1/16W 68KJ TAPE (32/36UX01S)       | RX24       | 0195925R | RES 2125 CHIP 1/16W 10KJ TAPE                    |
| RL03       | 0195927R | RES 2125 CHIP 1/16W 12KJ TAPE (32/36UX01S)       | RX25       | 0195898R | RESISTOR MINI-CHIP RMC1/10 910-J TAPE            |
| RL04       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE (32/36UX01S)       | RX26       | 0195885R | RESISTOR 2125 CHIP 1/16W 270J TAPE               |
| RL05       | 0195881R | RES 2125 CHIP 1/16W 180J TAPE (32/36UX01S)       | RX27       | 0195929R | RES 2125 CHIP 1/16W 15KJ TAPE                    |
| RL06       | 0195916R | RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE (32/36UX01S) | RX28       | 0195891R | RES 2125 CHIP 1/16W 470J TAPE                    |
| RL07       | 0195916R | RESISTOR 2125 CHIP 1/16W 4.7KJ TAPE (32/36UX01S) | RX29       | 0195943R | RES.2125 CHIP 1/16W 56KJ TAPE                    |
| RL08       | 0195927R | RES 2125 CHIP 1/16W 12KJ TAPE (32/36UX01S)       | RX30       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE                     |
| RL09       | 0195927R | RES 2125 CHIP 1/16W 12KJ TAPE (32/36UX01S)       | RX31       | 0195900R | RES 2125 CHIP 1/16W 1KJ TAPE                     |
| RL10       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE (32/36UX01S)       | RX32       | 0195897R | RES 2125 CHIP 1/16W 820J TAPE                    |
| RL11       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE (32/36UX01S)       | RX33       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE                    |
| RL12       | 0195885R | RESISTOR 2125 CHIP 1/16W 270J TAPE (32/36UX01S)  | RX34       | 0195935R | RES 2125 CHIP 1/16W 27K-J TAPE                   |
| RL13       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE (32/36UX01S)       | RX35       | 0195950R | RES 2125 CHIP 1/16W 100KJ TAPE                   |

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| SYMBOL NO. | PART NO. | PART DESCRIPTION                       | SYMBOL NO.                                                                               | PART NO. | PART DESCRIPTION                                 |
|------------|----------|----------------------------------------|------------------------------------------------------------------------------------------|----------|--------------------------------------------------|
| RX36       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE          | E201                                                                                     | FQ00021  | BATTERY(R6P-AA)                                  |
| RX37       | 0195897R | RES 2125 CHIP 1/16W 820J TAPE          | E301                                                                                     | HL01421  | REMOTE CON CLU-431UG(32/26UX01S)                 |
| RX38       | 0195891R | RES 2125 CHIP 1/16W 470J TAPE          | E301                                                                                     | HL01422  | REMOTE CON CLU-381UG (32/36GX01B)                |
| RX39       | 0195904R | RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE    | E601                                                                                     | BY00821  | DY-32V 110 SVC                                   |
| RX40       | 0195875R | RES 2125 CHIP 1/16W 100J TAPE          | E601                                                                                     | AZ00102M | PROTECTOR(CRXT491001)                            |
| RX41       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE           | E602                                                                                     | EZ00976  | CRT GROUNDING WIRE 36INCH                        |
| RX42       | 0195897R | RES 2125 CHIP 1/16W 820J TAPE          | E602                                                                                     | EZ00975  | CRT GROUNDING WIRE 32INCH                        |
| RX47       | 0195952R | RMC73S-2A124JR                         | E603                                                                                     | GX00131  | CHEVRON FUNNEL MAGNET                            |
| RX48       | 0195912R | RES 2125 CHIP 1/16W 3.3KJ TAPE         | E603                                                                                     | 2771461  | EDGE MAGNET                                      |
| RX49       | 0195912R | RES 2125 CHIP 1/16W 3.3KJ TAPE         | E604                                                                                     | 2773672  | CF-MAGNET (32GX01B)                              |
| RX50       | 0195904R | RESISTOR 2125 CHIP 1/16W 1.5KJ TAPE    | E604                                                                                     | 2776541  | VM MAGNET (C-C) (32UX01S)                        |
| RX51       | 0195897R | RES 2125 CHIP 1/16W 820J TAPE          | E851                                                                                     | EY00941  | CRT-SOCKET HPS1600-016409 (32UX01S / 32/36GX01B) |
| RX52       | 0195923R | RESISTOR MINI-CHIP RMC1/16 9.1K-J TAPE | E851                                                                                     | EY00943  | CRT-SOCKET HPS1600-016919 (36UX01S)              |
| RX53       | 0195912R | RES 2125 CHIP 1/16W 3.3KJ TAPE         | E901                                                                                     | EV00905  | POWER CORD M10                                   |
| RX54       | 0195967R | RESISTOR MINI-CHIP RMC1/16 510K-J TAPE |  E902   | EF02491  | CONNECTOR 01A-A0R0-181BROWN                      |
| RX55       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE           |  E903   | EF02492  | CONNECTOR 01A-A0R0-181RED                        |
| RX60       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE           | EAN                                                                                      | 2974061S | CONNE. 3J L=240 (32/36UX01S)                     |
| RX61       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE           | EMF                                                                                      | 2908737  | 5P CONNE.L=1000                                  |
| RX63       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE           | EP91                                                                                     | AZ00109M | PROTECTOR CRXT491007                             |
| RX64       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE           | ESF                                                                                      | 2973834S | 7P CONNE.L=750                                   |
| RX67       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE           | ESP                                                                                      | EF20541  | 5J EH CONNECTOR L=680MM (32GX01B/32UX01S)        |
| RX69       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE           | ESP                                                                                      | EF20542  | 5P 2.5MM PITCH CONN L=820MM (36GX01B/36UX01S)    |
| RX70       | 0700053M | RES.-CARBON FLM 1/16W 8.2K-JB          | ESV                                                                                      | 2908665  | PH 3P CONNE. L=360 36UX                          |
| RX71       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE           | EVM                                                                                      | 2973798S | 6P CONNE.L=470 36UX                              |
| RX74       | 0195250R | RES 2125 CHIP 1/16W 000 TAPE           | EVMC                                                                                     | 2976645  | 2J CONNE. L=240 (36UX01S)                        |
|            |          |                                        | EVMC                                                                                     | 2979222  | 2J CONN (L=120MM) (32UX01S)                      |
|            |          | <b>MISCELLANEOUS</b>                   | EY2                                                                                      | 2976675  | 4J EH CONNECTOR (32UX01S/32GX01B)                |
| #100       | QD20032  | 36UX F/FRAME COSMETICS                 | EY2                                                                                      | 2976677  | 4P CONNE.L=680 (36UX01S/36GX01B)                 |
| #100       | QD20241  | 32GX F/F COSMETICS                     |  F901 | FN00291  | FUSE 125V 8A                                     |
| #101       | QD20033  | 36GX F/FRAME COSMETIC                  | G801                                                                                     | CJ00071R | SPARK GAP AG15PC-152FS-K2M                       |
| #101       | QD20242  | 32UX F/F COSMETICS                     |  G901 | 2340741  | SURGE PROTECTOR DSP-301N-S00B                    |
| #105       | QD09881  | M10 32GX01B FRAME                      |  H901 | 2793313  | CP-EXN-G131P365L                                 |
| #106       | QD09882  | M10 32UX01B FRAME                      | J201                                                                                     | ES00261  | JACK 03P HORIZONTAL                              |
| #108       | PH08751  | R/C LENS M10                           | JS01                                                                                     | ES00271  | JACK S-TERMINAL                                  |
| #109       | PH08821  | INDOOR TRIM AV                         | JY01                                                                                     | ES00221  | JACK US6P-6P                                     |
| #110       | QD09791  | FRAME 36UX                             | JY02                                                                                     | ES00222  | JACK US6P-5P                                     |
| #110       | PH08782  | CONTROL PANEL UX                       | N103                                                                                     | 3705232  | ANODE CLAMPER 94V0 (1010N)                       |
| #111       | PH08771  | AV DOOR 32GX                           | N105                                                                                     | 3700342  | WIRE CLAMP V0                                    |
| #112       | QD09792  | FRONT FRAME 36GX                       | N105                                                                                     | 3700342  | WIRE CLAMP V0                                    |
| #112       | PH08772  | AV DOOR 32UX                           | N107                                                                                     | 3797711  | PLASTIC RIVET PA (36UX01S)                       |
| #113       | PH08921  | CONTROL TRIM 32UX                      | N108                                                                                     | 3785522  | V LOCK 20                                        |
| #117       | PC04672  | CONTROL BUTTON M10                     | N111                                                                                     | 3785522  | V LOCK 20                                        |
| #118       | 3487428  | HITACHI BADGE 55(G)                    | N201                                                                                     | QR44742  | M10 INST.BOOK(ENG)                               |
| #130       | QD09851  | BACK COVER 32 M10                      | N201                                                                                     | QR44751  | M10 INST.BOOK(FRN)                               |
| #131       | PC04672  | CONTROL BUTTON M10                     | N202                                                                                     | H462472  | 99 CTV WARRANTY CARD(20-36)                      |
| #135       | PH08772  | AV DOOR 36UX                           | N202B                                                                                    | H462271  | FRENCH WARRANTY CARD                             |
| #136       | PH08771  | AV DOOR 36GX                           | N203                                                                                     | H462851  | V-CHIP GUIDE Y2K CTV                             |
| #140       | PH08751  | R/C LENS M10                           | N211                                                                                     | H462528  | M10 EASY GRAPHIC GUIDE                           |
| #160       | 3487428  | HITACHI BADGE 55(G)                    | N402                                                                                     | 3446867  | SOUND HEAT SINK M10                              |
| #165       | PH08782  | CONTROL PANEL 36UX                     | N601                                                                                     | 4615641  | WEDGE                                            |
| #167       | PH08921  | CONTROL TRIM 36UX                      | N606                                                                                     | 3330944  | EARTH SPRING                                     |
| #180       | PH08812  | INDOOR INSULATOR 36UX                  | N606                                                                                     | 3330941  | EARTH SPRING                                     |
| #182       | PH08821  | INDOOR TRIM AV                         | N611                                                                                     | 2772211  | MAG. PIECE                                       |
| #190       | PH09221  | DECORATION PLATE 36UX                  | N612                                                                                     | 2956801  | EARTH RING                                       |
| #300       | QD09622  | BACK COVER 36 M10                      | N612                                                                                     | 2956801  | EARTH RING                                       |
| #310       | 3727972  | POWER CORD HANGER                      | N702                                                                                     | 3442072  | HEAT SINK (H) W50                                |

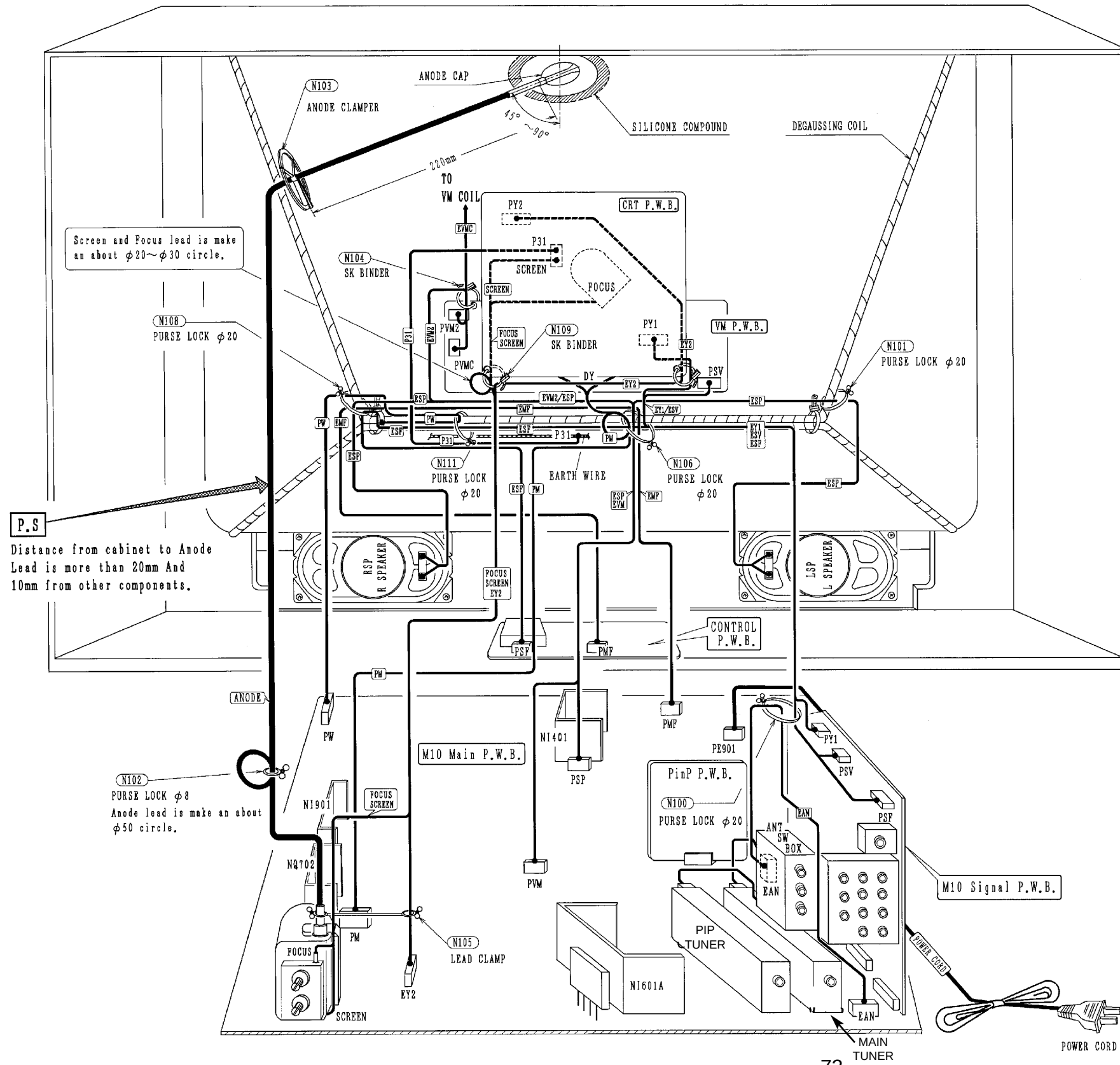


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| SYMBOL NO.                                                                             | PART NO. | PART DESCRIPTION                            | SYMBOL NO.                                                                             | PART NO. | PART DESCRIPTION                  |
|----------------------------------------------------------------------------------------|----------|---------------------------------------------|----------------------------------------------------------------------------------------|----------|-----------------------------------|
| N751                                                                                   | 3445563  | HEAT SINK A3LXU                             |  X901 | AJ00322  | ENC271D-14A                       |
| ND901                                                                                  | MA01061  | POWER SUB HEAT SINK 85A A1100P-H14          |                                                                                        |          |                                   |
| ND934                                                                                  | 3445622  | HEAT SINK OSH-1025-SPL (36UX01S/36GX01B)    |                                                                                        |          | <b>QUICK REFERENCE PARTS LIST</b> |
| ND936                                                                                  | 3445622  | HEAT SINK OSH-1025-SPL (32/36UX01S)         | I001                                                                                   | CP07041U | Main Microprocessor IC            |
| NF901                                                                                  | FP00031R | FUSE HOLDER TP00351-51                      | I002                                                                                   | CP05011R | Reset IC                          |
| NI601A                                                                                 | MA01114  | HEAT SINK (V) M10 A1100P-H14                | I003                                                                                   | CP05271U | Eeprom                            |
| NI901                                                                                  | MA01261  | METAL PARTS FOR VTR (HEAT SINK)             | I301                                                                                   | CP0703   | A/V Selector IC                   |
| NI914                                                                                  | 3445624  | HEATSINK OSH-1035-SPL (32/36UX01S)          | I402                                                                                   | CP05751  | Audio Output IC                   |
| NQ08                                                                                   | MC00104  | HEAT SINK P10 H45 19 A6063S-75 (32/36UX01S) | I501                                                                                   | CP06991U | Rainforest IC                     |
| NQ09                                                                                   | MC00104  | HEAT SINK P10 H45 19 A6063S-75 (32/36UX01S) | I601                                                                                   | CP07081  | Vertical Output IC                |
| NQ09S                                                                                  | 9414017  | SILICONE COMPOUND(G-746) (32/36UX01S)       | I901                                                                                   | CZ00862  | B+ Regulator IC                   |
| NQ851                                                                                  | 4348493  | CPT HEAT SINK A2LXU AL                      | I903                                                                                   | CP05162F | 9 V regulator                     |
| NQ854                                                                                  | 4348493  | CPT HEAT SINK A2LXU AL                      |                                                                                        | HL01421  | R/C UX CLU431-UG                  |
| NQ857                                                                                  | 4348493  | CPT HEAT SINK A2LXU AL                      |                                                                                        | HL01422  | R/C GX CLU381-UG                  |
| P31                                                                                    | 2661751  | 2P PLUG PIN WITH BASE                       | E601                                                                                   | BY00821  | Deflection Yoke Assy.             |
|  PE901  | ED01851  | PLUG 5289-2A                                | F901                                                                                   | FN00291  | 8A 125V Line Fuse                 |
| PJIG1                                                                                  | 2959056  | PIN POST(7P)                                |                                                                                        | QR44742  | Owner's Guide (English)           |
|  PM     | 2665272  | 4P PLUG PIN WITH BASE                       |                                                                                        | H462851  | V-Chip Guide                      |
| PMF                                                                                    | 2959054  | PINPOST 5P PH                               | T701                                                                                   | BW00661  | Horizontal Driver Transf.         |
| PMF                                                                                    | 2959054  | PINPOST 5P PH                               | T702                                                                                   | BW02371  | Flyback Transformer               |
| PPM                                                                                    | ED00572  | CP-TAC-L15X-A1 (32/36UX01S)                 | U101                                                                                   | HC00461  | Main Tuner                        |
| PSF                                                                                    | 2902266  | PLUG PIN SUB MINI 7P                        | U102                                                                                   | HC00461  | PiP Tuner                         |
| PSM1                                                                                   | ED00516  | CP-TAC-L20P-A1                              | U201                                                                                   | CZ00641  | R/C Receiver                      |
| PSM1                                                                                   | ED00576  | CP-TAC-L20X-A1                              | V1                                                                                     | DE01421  | CRT Assy (36UX01B)                |
| PSM2                                                                                   | ED00516  | CP-TAC-L20P-A1                              | V1                                                                                     | DE01761  | CRT Assy (36GX01B)                |
| PSM2                                                                                   | ED00576  | CP-TAC-L20X-A1                              | V1                                                                                     | DE01371  | CRT Assy (32UX/GX01B)             |
| PSM3                                                                                   | ED00512  | CP-TAC-L15P-A1                              |                                                                                        |          |                                   |
| PSM3                                                                                   | ED00572  | CP-TAC-L15X-A1                              |                                                                                        |          |                                   |
| PSP                                                                                    | 2902264  | PLUG PIN SUB MINI 5P                        |                                                                                        |          |                                   |
| PSV                                                                                    | 2959052  | PIN POST (PH 3P) (32/36UX01S)               |                                                                                        |          |                                   |
| PVM                                                                                    | 2902265  | PLUG PIN SUB MINI 6P (32/36UX01S)           |                                                                                        |          |                                   |
| PVM                                                                                    | 2902265  | PLUG PIN SUB MINI 6P (32/36UX01S)           |                                                                                        |          |                                   |
| PVMC                                                                                   | 2902261  | PLUGPIN SUB MINI 2P (32/36UX01S)            |                                                                                        |          |                                   |
| PW                                                                                     | 2903544  | 4P PLUG PIN WITH BASE                       |                                                                                        |          |                                   |
| PY1                                                                                    | 2959055  | CONNECTOR-6P(PH)                            |                                                                                        |          |                                   |
| PY2                                                                                    | 2902263  | PLUG PIN SUB MINI 4P                        |                                                                                        |          |                                   |
| S201                                                                                   | FE10332R | SWITCH (SWP01N01TKSH0636BT)                 |                                                                                        |          |                                   |
| S202                                                                                   | 2633322  | PUSH SWITCH 5-5P TACT SW LONG NOB           |                                                                                        |          |                                   |
| S203                                                                                   | FE10332R | SWITCH (SWP01N01TKSH0636BT)                 |                                                                                        |          |                                   |
|  S901 | FJ00142  | RELAY ALKS329                               |                                                                                        |          |                                   |
|  S902 | FJ00142  | RELAY ALKS329                               |                                                                                        |          |                                   |
| SP451                                                                                  | GK00262  | SPEAKER 6X12D                               |                                                                                        |          |                                   |
| SP452                                                                                  | GK00262  | SPEAKER 6X12D                               |                                                                                        |          |                                   |
|  T701 | BW00661  | H-DRIVE TRANS.                              |                                                                                        |          |                                   |
|  T702 | BW02371  | HI.VOLT.TRANS HFL-1335T                     |                                                                                        |          |                                   |
|  T901 | BT01622  | SW.TRANS EE40F13U-M10                       |                                                                                        |          |                                   |
|  T902 | BT01611  | POWER TRANSFORMER (0.07A 16V)               |                                                                                        |          |                                   |
| U101                                                                                   | HC00461  | MAIN TUNER ENG36605G                        |                                                                                        |          |                                   |
| U102                                                                                   | HC00461  | PIP TUNER ENG36605G (32/36UX01S)            |                                                                                        |          |                                   |
| U201                                                                                   | CZ00641  | GPIU281Q R/C RECEIVER                       |                                                                                        |          |                                   |
| V1                                                                                     | DE01421  | PICTURE TUBE (36UX01S)                      |                                                                                        |          |                                   |
| V1                                                                                     | DE01761  | COLOR PICTURE TUBE (36GX01B)                |                                                                                        |          |                                   |
| V1                                                                                     | DE01371  | A80LJF30X(W) (32UX01S/32GX01B)              |                                                                                        |          |                                   |
| X001                                                                                   | BP01141  | OSCILLATOR 16MHZ                            |                                                                                        |          |                                   |
| X500                                                                                   | 2168771  | X'TAL CSB503F30                             |                                                                                        |          |                                   |
| X501                                                                                   | 2791501  | CRYSTAL HC-49/U                             |                                                                                        |          |                                   |

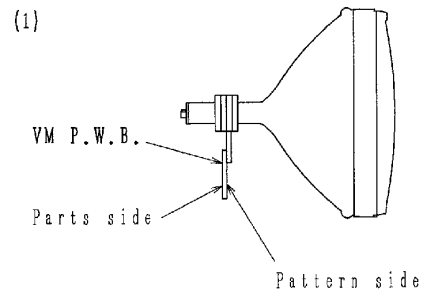
# 36UX01S

## M10 WIRING DRESSING

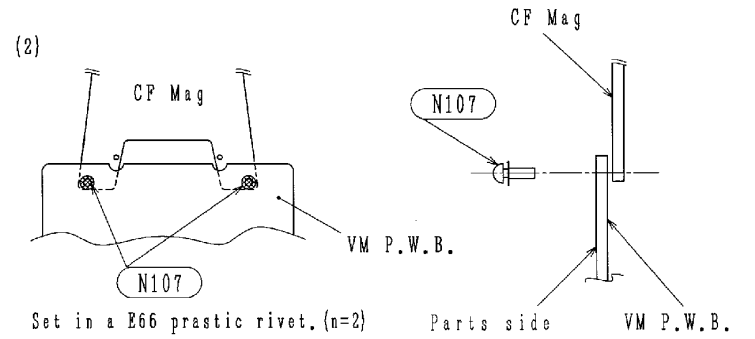


1.VM P.W.B. Assemble is below.

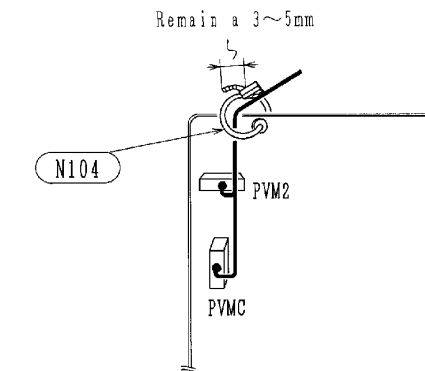
(1)



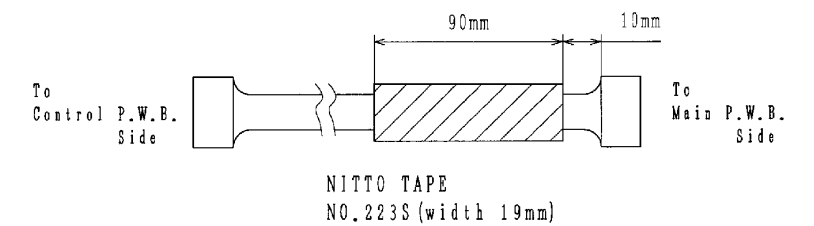
{2}



2. N104 Assemble is below.

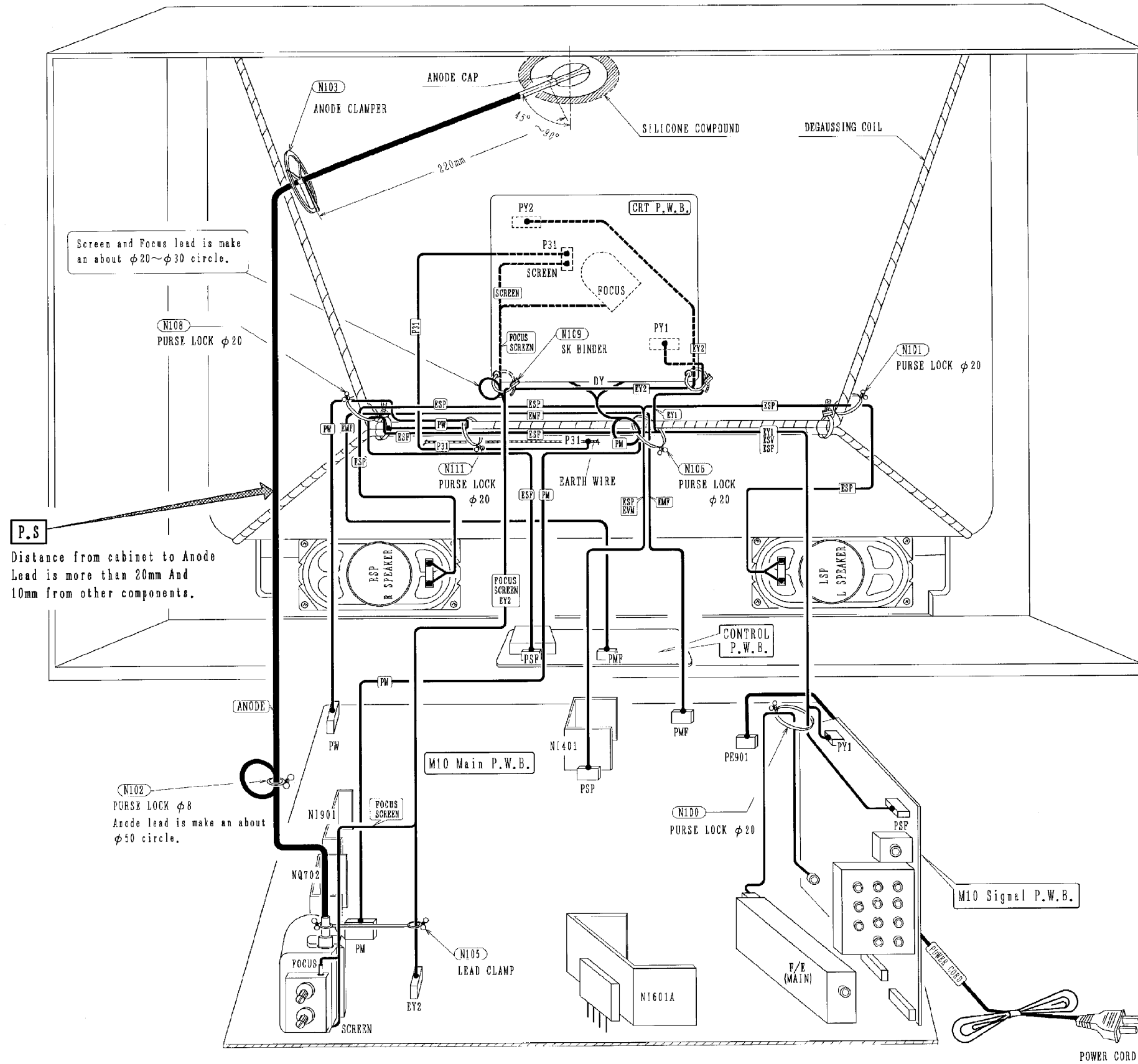


3. Preparatory work of EMF is below.

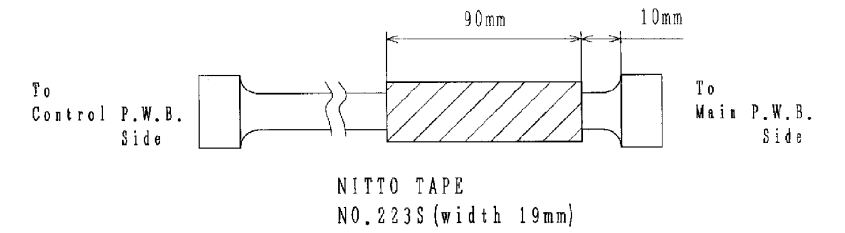


# 36GX01B

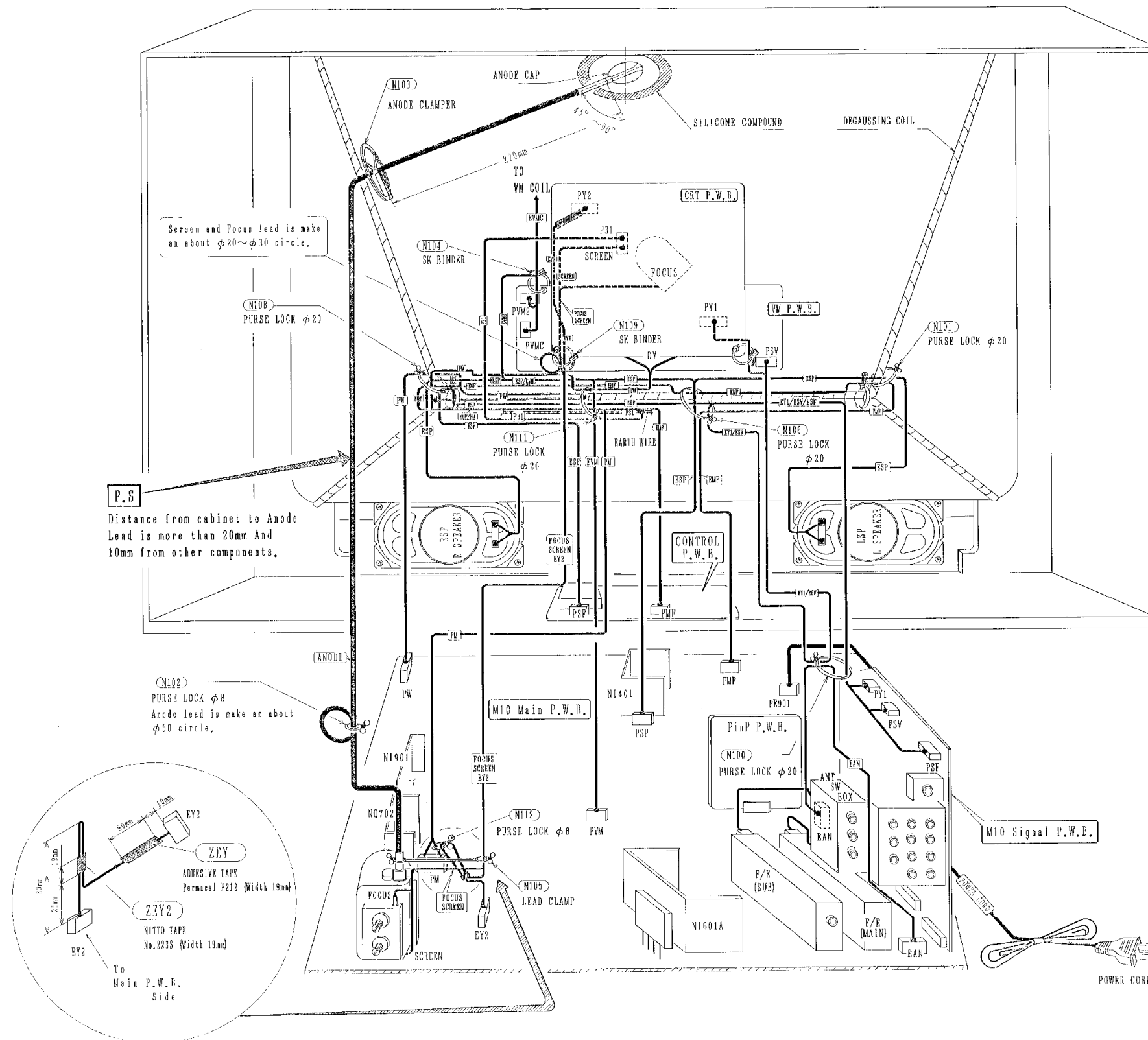
## M10 WIRING DRESSING



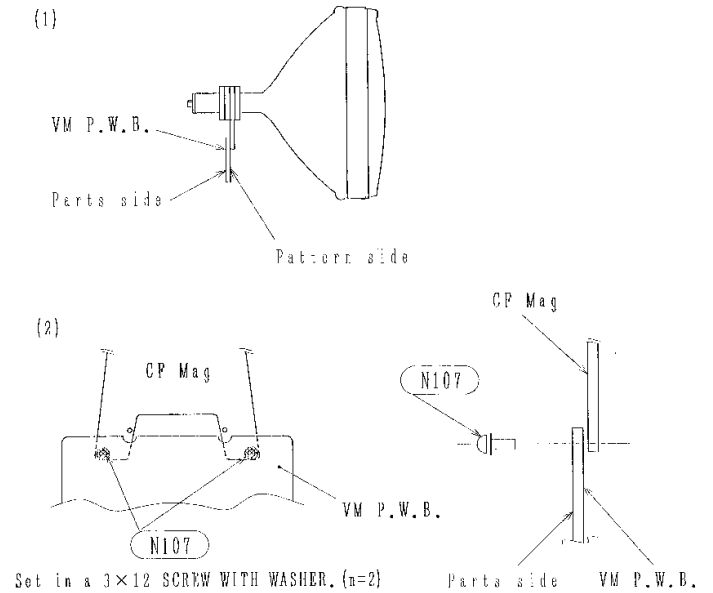
1. Preparatory work of EMF is below.



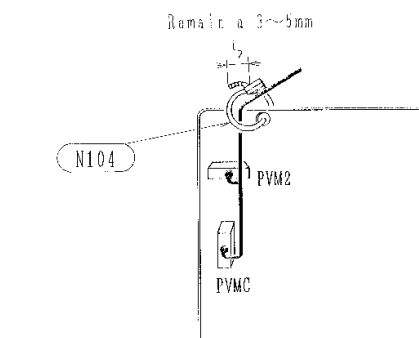
# 32UX01S M10 WIRING DRESSING



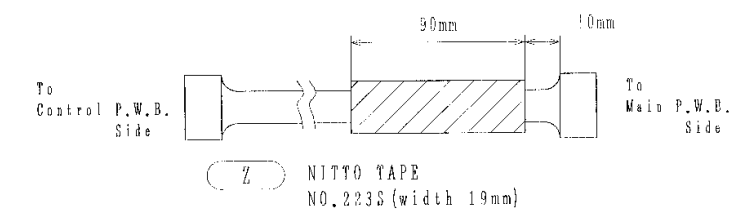
1. VM P.W.B. Assemble is below.



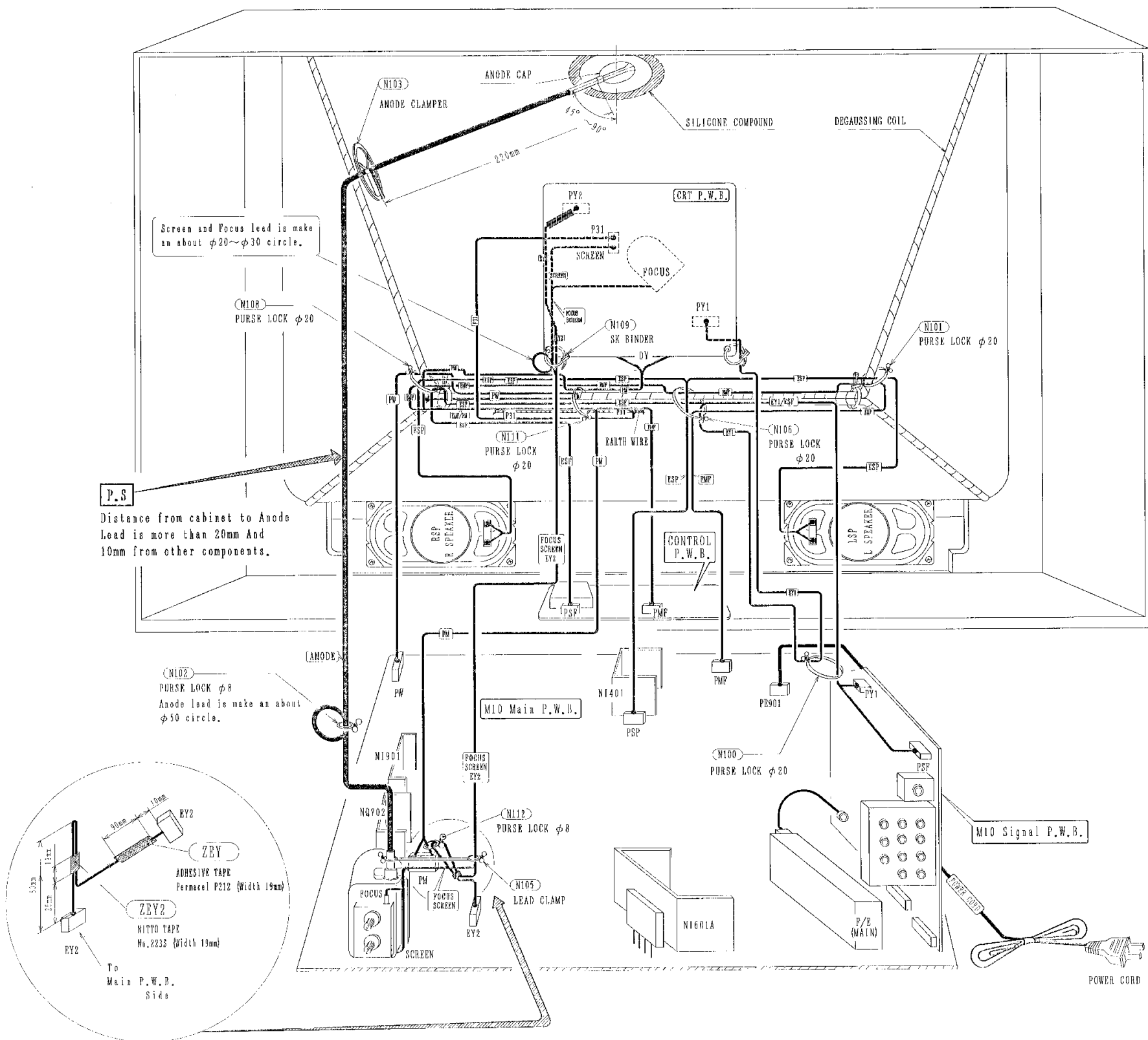
2. (N104) Assemble is below.



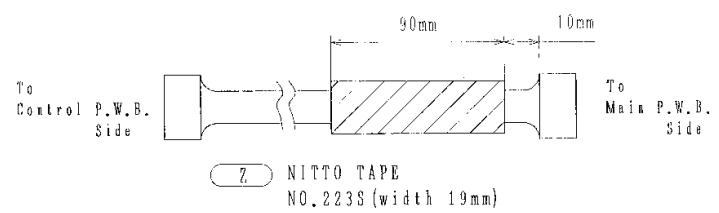
3. Preparatory work of EMP is below.



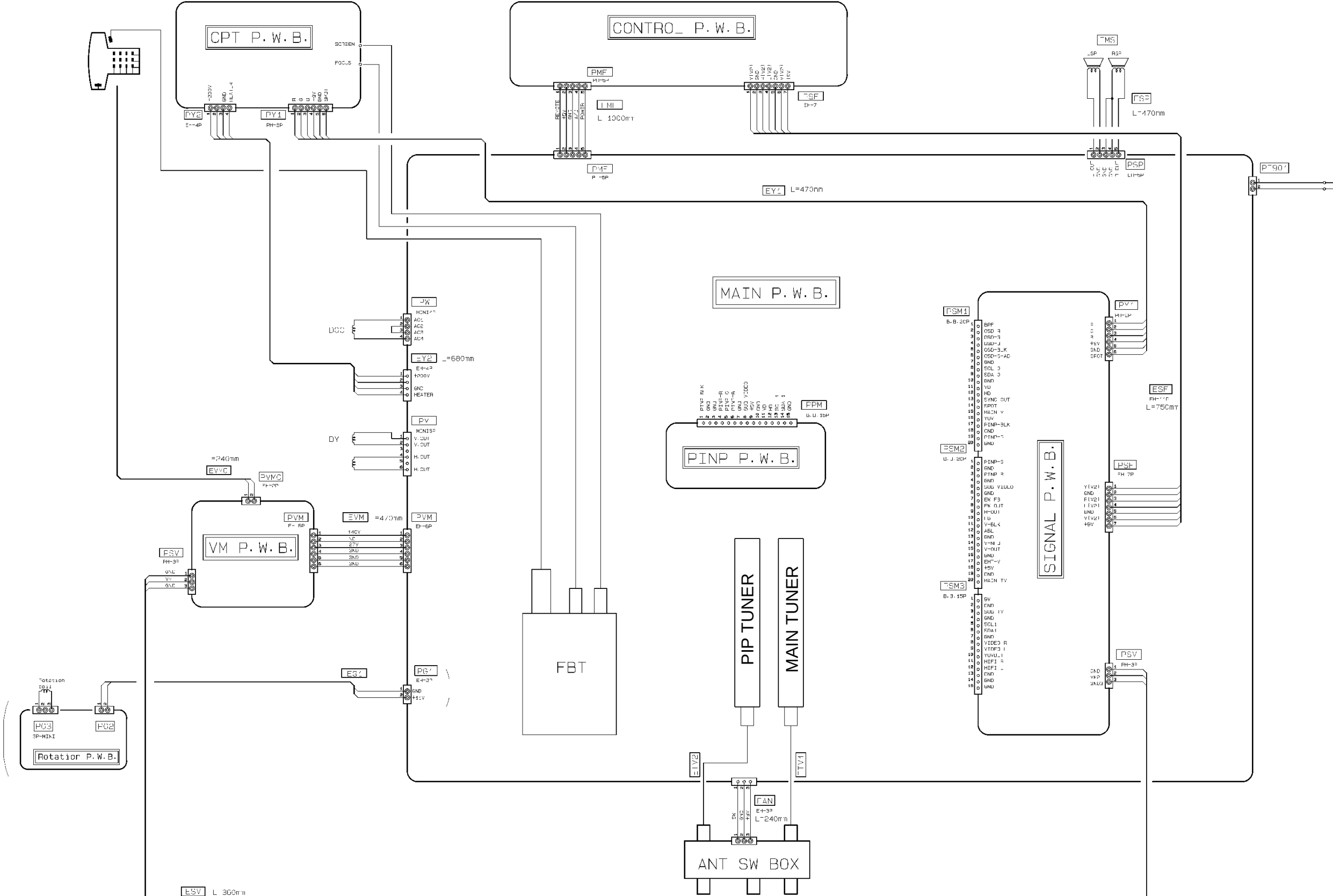
# 32GX01B M10 WIRING DRESSING



1.Preparatory work of EMF is below.

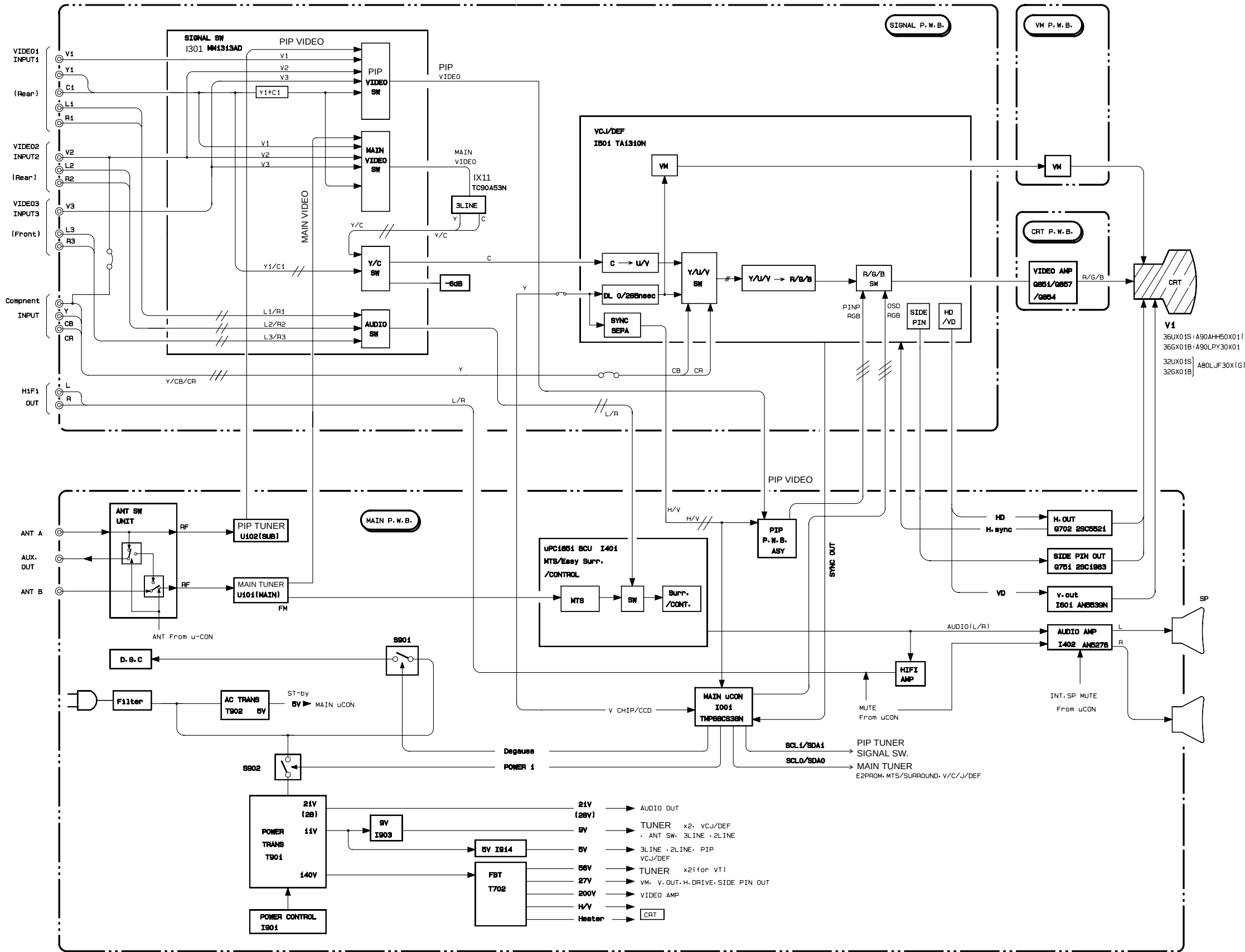


## CIRCUIT DIAGRAM

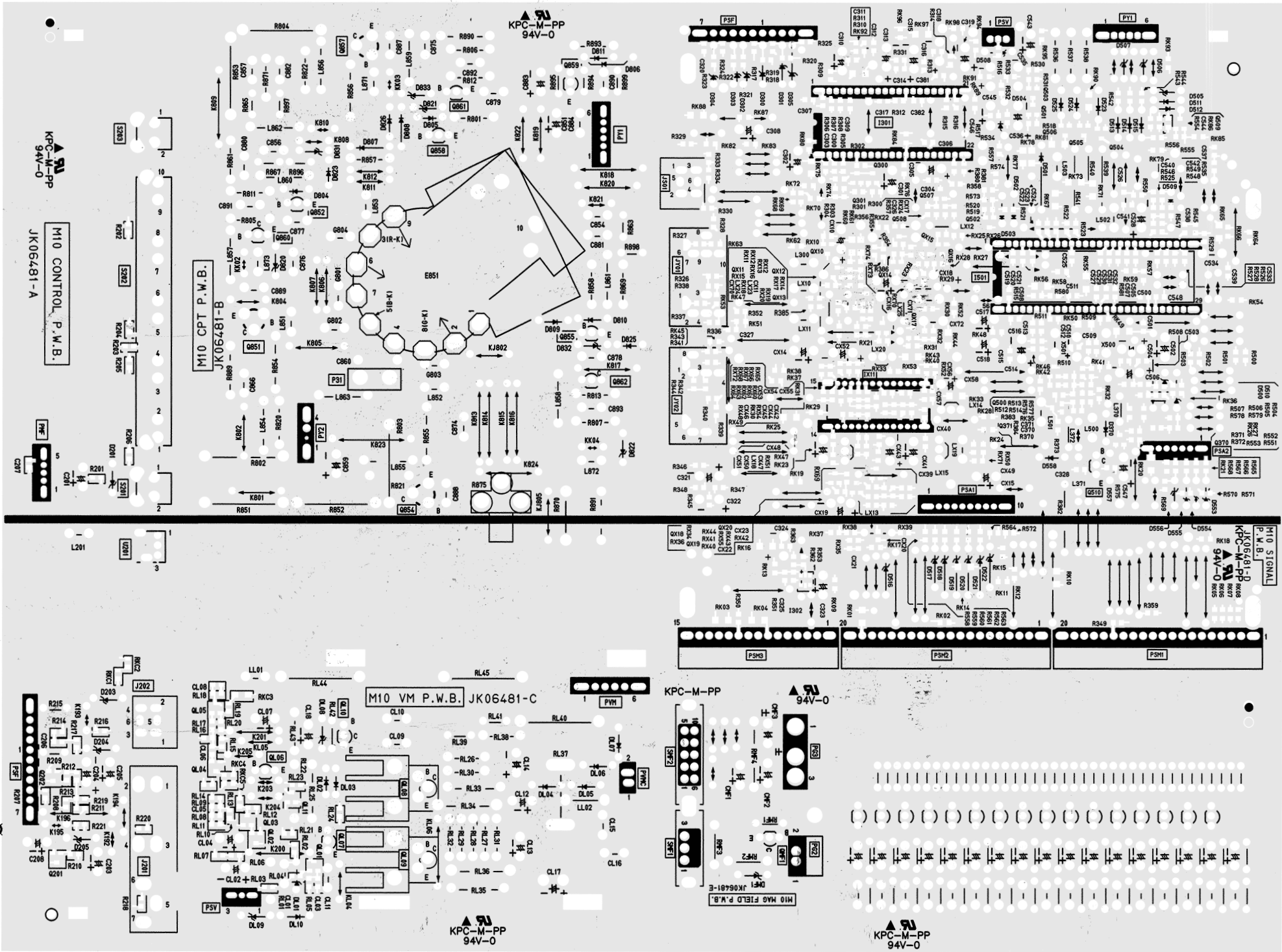




BLOCK DIAGRAM



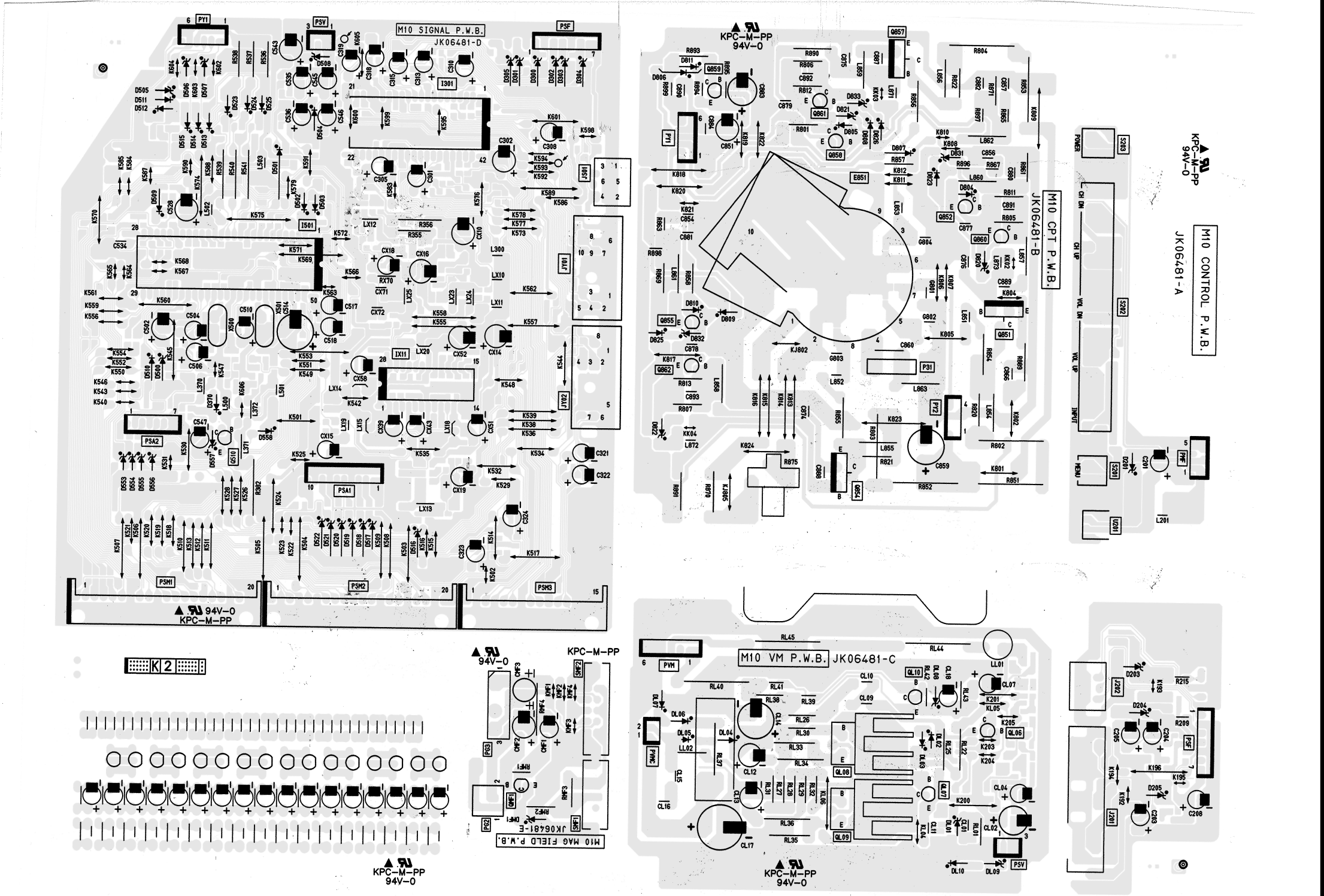
PRINTED CIRCUIT BOARD







PRINTED CIRCUIT BOARD



MAIN POWER P.W.B.

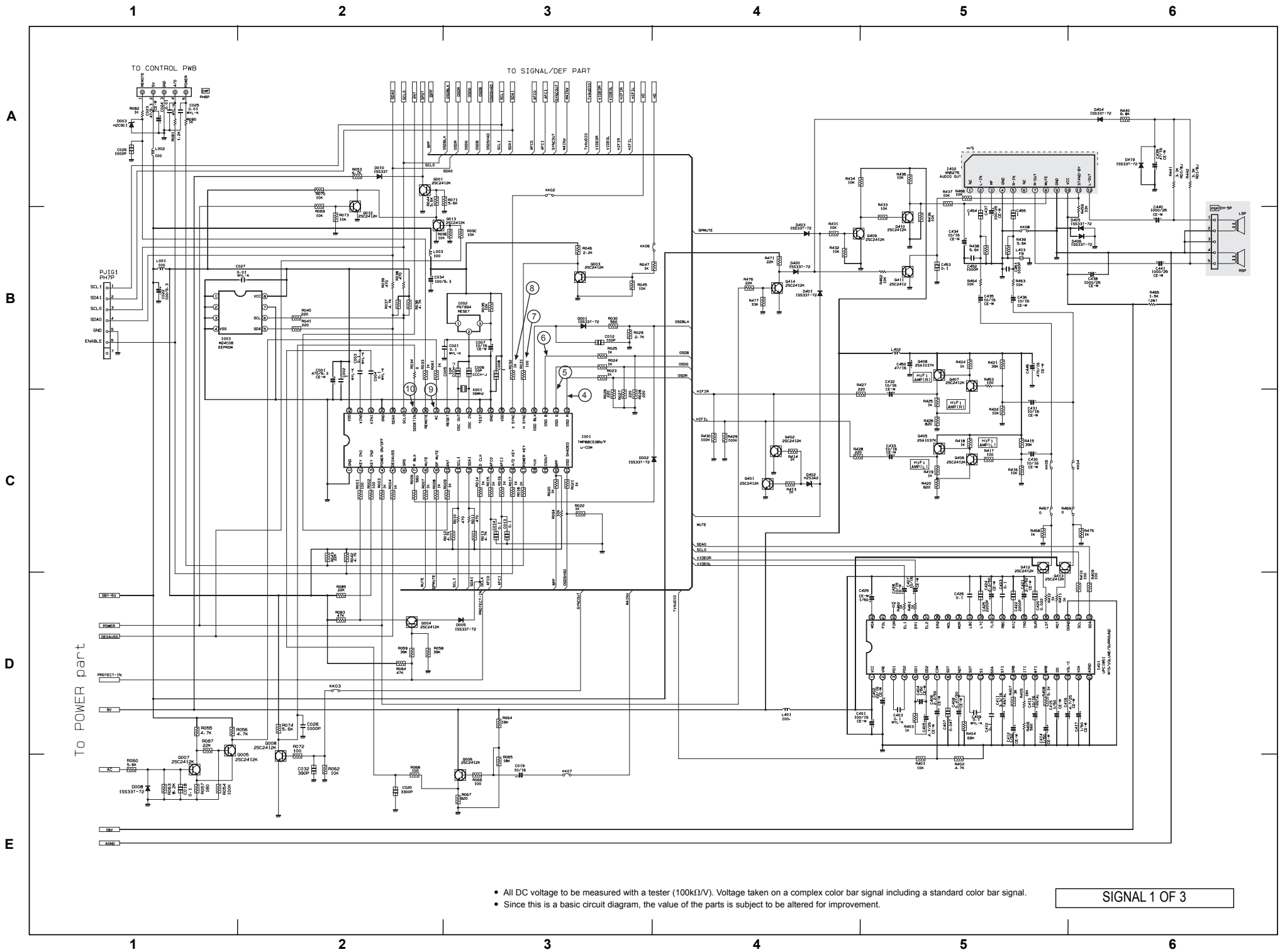


POWER DEFLECTION  
SIGNAL 1 OF 3



BASIC CIRCUIT DIAGRAM

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- All DC voltage to be measured with a tester (100k $\Omega$ /V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

| CIRCUIT NO. | PN NO. | DC VOLTAGE |
|-------------|--------|------------|
| 1001        | 1      | 0.0        |
|             | 2      | 4.9        |
|             | 3      | 5.0        |
|             | 4      | 4.9        |
|             | 5      | 0.0        |
|             | 6      | 0.0        |
|             | 7      | 0.0        |
|             | 8      | 0.0        |
|             | 9      | 0.0        |
|             | 10     | 4.9        |
|             | 11     | 4.6        |
|             | 12     | 4.7        |
|             | 13     | 4.8        |
|             | 14     | 2.9        |
|             | 15     | 2.7        |
|             | 16     | 5.0        |
|             | 17     | 5.0        |
|             | 18     | 0.0        |
|             | 19     | 0.0        |
|             | 20     | 4.2        |
|             | 21     | 0.0        |
|             | 22     | 4.41       |
|             | 23     | 0.0        |
|             | 24     | 0.0        |
| 1002        | 25     | 0.1        |
|             | 26     | 4.7        |
|             | 27     | 4.8        |
|             | 28     | 5.0        |
|             | 29     | 0.0        |
|             | 30     | 0.0        |
|             | 31     | 2.1        |
|             | 32     | 7.3        |
|             | 33     | 5.0        |
|             | 34     | 2.4        |
|             | 35     | 5.1        |
|             | 36     | 0.5        |
|             | 37     | 4.4        |
|             | 38     | 4.4        |
|             | 39     | 0.0        |
|             | 40     | 3.1        |
|             | 41     | 3.2        |
|             | 42     | 5.0        |
|             | 43     | 5.0        |
|             | 44     | 0.0        |
|             | 45     | 0.7        |
|             | 46     | 0.0        |
|             | 47     | 0.0        |
|             | 48     | 0.0        |
| 1003        | 49     | 0.0        |
|             | 50     | 0.0        |
|             | 51     | 0.0        |
|             | 52     | 0.0        |
|             | 53     | 0.0        |
|             | 54     | 0.0        |
|             | 55     | 0.0        |
|             | 56     | 0.0        |
|             | 57     | 0.0        |
|             | 58     | 0.0        |
|             | 59     | 0.0        |
|             | 60     | 0.0        |
|             | 61     | 0.0        |
|             | 62     | 0.0        |
|             | 63     | 0.0        |
|             | 64     | 0.0        |
|             | 65     | 0.0        |
|             | 66     | 0.0        |
|             | 67     | 0.0        |
|             | 68     | 0.0        |
|             | 69     | 0.0        |
|             | 70     | 0.0        |
|             | 71     | 0.0        |
|             | 72     | 0.0        |
| 1004        | 73     | 0.0        |
|             | 74     | 0.0        |
|             | 75     | 0.0        |
|             | 76     | 0.0        |
|             | 77     | 0.0        |
|             | 78     | 0.0        |
|             | 79     | 0.0        |
|             | 80     | 0.0        |
|             | 81     | 0.0        |
|             | 82     | 0.0        |
|             | 83     | 0.0        |
|             | 84     | 0.0        |
|             | 85     | 0.0        |
|             | 86     | 0.0        |
|             | 87     | 0.0        |
|             | 88     | 0.0        |
|             | 89     | 0.0        |
|             | 90     | 0.0        |
|             | 91     | 0.0        |
|             | 92     | 0.0        |
|             | 93     | 0.0        |
|             | 94     | 0.0        |
|             | 95     | 0.0        |
|             | 96     | 0.0        |
| 1005        | 97     | 0.0        |
|             | 98     | 0.0        |
|             | 99     | 0.0        |
|             | 100    | 0.0        |
|             | 101    | 0.0        |
|             | 102    | 0.0        |
|             | 103    | 0.0        |
|             | 104    | 0.0        |
|             | 105    | 0.0        |
|             | 106    | 0.0        |
|             | 107    | 0.0        |
|             | 108    | 0.0        |
|             | 109    | 0.0        |
|             | 110    | 0.0        |
|             | 111    | 0.0        |
|             | 112    | 0.0        |
|             | 113    | 0.0        |
|             | 114    | 0.0        |
|             | 115    | 0.0        |
|             | 116    | 0.0        |
|             | 117    | 0.0        |
|             | 118    | 0.0        |
|             | 119    | 0.0        |
|             | 120    | 0.0        |
|             | 121    | 0.0        |
| 1006        | 122    | 0.0        |
|             | 123    | 0.0        |
|             | 124    | 0.0        |
|             | 125    | 0.0        |
|             | 126    | 0.0        |
|             | 127    | 0.0        |
|             | 128    | 0.0        |
|             | 129    | 0.0        |
|             | 130    | 0.0        |
|             | 131    | 0.0        |
|             | 132    | 0.0        |
|             | 133    | 0.0        |
|             | 134    | 0.0        |
|             | 135    | 0.0        |
|             | 136    | 0.0        |
|             | 137    | 0.0        |
|             | 138    | 0.0        |
|             | 139    | 0.0        |
|             | 140    | 0.0        |
|             | 141    | 0.0        |
|             | 142    | 0.0        |
|             | 143    | 0.0        |
|             | 144    | 0.0        |
|             | 145    | 0.0        |
| 1007        | 146    | 0.0        |
|             | 147    | 0.0        |
|             | 148    | 0.0        |
|             | 149    | 0.0        |
|             | 150    | 0.0        |
|             | 151    | 0.0        |
|             | 152    | 0.0        |
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|             | 155    | 0.0        |
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|             | 157    | 0.0        |
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|             | 159    | 0.0        |
|             | 160    | 0.0        |
|             | 161    | 0.0        |
|             | 162    | 0.0        |
|             | 163    | 0.0        |
|             | 164    | 0.0        |
|             | 165    | 0.0        |
|             | 166    | 0.0        |
|             | 167    | 0.0        |
|             | 168    | 0.0        |
|             | 169    | 0.0        |
|             | 170    | 0.0        |
| 1008        | 171    | 0.0        |
|             | 172    | 0.0        |
|             | 173    | 0.0        |
|             | 174    | 0.0        |
|             | 175    | 0.0        |
|             | 176    | 0.0        |
|             | 177    | 0.0        |
|             | 178    | 0.0        |
|             | 179    | 0.0        |
|             | 180    | 0.0        |
|             | 181    | 0.0        |
|             | 182    | 0.0        |
|             | 183    | 0.0        |
|             | 184    | 0.0        |
|             | 185    | 0.0        |
|             | 186    | 0.0        |
|             | 187    | 0.0        |
|             | 188    | 0.0        |
|             | 189    | 0.0        |
|             | 190    | 0.0        |
|             | 191    | 0.0        |
|             | 192    | 0.0        |
|             | 193    | 0.0        |
|             | 194    | 0.0        |
|             | 195    | 0.0        |
| 1009        | 196    | 0.0        |
|             | 197    | 0.0        |
|             | 198    | 0.0        |
|             | 199    | 0.0        |
|             | 200    | 0.0        |
|             | 201    | 0.0        |
|             | 202    | 0.0        |
|             | 203    | 0.0        |
|             | 204    | 0.0        |
|             | 205    | 0.0        |
|             | 206    | 0.0        |
|             | 207    | 0.0        |
|             | 208    | 0.0        |
|             | 209    | 0.0        |
|             | 210    | 0.0        |
|             | 211    | 0.0        |
|             | 212    | 0.0        |
|             | 213    | 0.0        |
|             | 214    | 0.0        |
|             | 215    | 0.0        |
|             | 216    | 0.0        |
|             | 217    | 0.0        |
|             | 218    | 0.0        |
|             | 219    | 0.0        |
|             | 220    | 0.0        |
| 1010        | 221    | 0.0        |
|             | 222    | 0.0        |
|             | 223    | 0.0        |
|             | 224    | 0.0        |
|             | 225    | 0.0        |
|             | 226    | 0.0        |
|             | 227    | 0.0        |
|             | 228    | 0.0        |
|             | 229    | 0.0        |
|             | 230    | 0.0        |
|             | 231    | 0.0        |
|             | 232    | 0.0        |
|             | 233    | 0.0        |
|             | 234    | 0.0        |
|             | 235    | 0.0        |
|             | 236    | 0.0        |
|             | 237    | 0.0        |
|             | 238    | 0.0        |
|             | 239    | 0.0        |
|             | 240    | 0.0        |
|             | 241    | 0.0        |
|             | 242    | 0.0        |
|             | 243    | 0.0        |
|             | 244    | 0.0        |
|             | 245    | 0.0        |
| 1011        | 246    | 0.0        |
|             | 247    | 0.0        |
|             | 248    | 0.0        |
|             | 249    | 0.0        |
|             | 250    | 0.0        |
|             | 251    | 0.0        |
|             | 252    | 0.0        |
|             | 253    | 0.0        |
|             | 254    | 0.0        |
|             | 255    | 0.0        |
|             | 256    | 0.0        |
|             | 257    | 0.0        |
|             | 258    | 0.0        |
|             | 259    | 0.0        |
|             | 260    | 0.0        |
|             | 261    | 0.0        |
|             | 262    | 0.0        |
|             | 263    | 0.0        |
|             | 264    | 0.0        |
|             | 265    | 0.0        |
|             | 266    | 0.0        |
|             | 267    | 0.0        |
|             | 268    | 0.0        |
|             | 269    | 0.0        |
|             | 270    | 0.0        |
| 1012        | 271    | 0.0        |
|             | 272    | 0.0        |
|             | 273    | 0.0        |
|             | 274    | 0.0        |
|             | 275    | 0.0        |
|             | 276    | 0.0        |
|             | 277    | 0.0        |
|             | 278    | 0.0        |
|             | 279    | 0.0        |
|             | 280    | 0.0        |
|             | 281    | 0.0        |
|             | 282    | 0.0        |
|             | 283    | 0.0        |
|             | 284    | 0.0        |
|             | 285    | 0.0        |
|             | 286    | 0.0        |
|             | 287    | 0.0        |
|             | 288    | 0.0        |
|             | 289    | 0.0        |
|             | 290    | 0.0        |
|             | 291    | 0.0        |
|             | 292    | 0.0        |
|             | 293    | 0.0        |
|             | 294    | 0.0        |
|             | 295    | 0.0        |
| 1013        | 296    | 0.0        |
|             | 297    | 0.0        |
|             | 298    | 0.0        |
|             | 299    | 0.0        |
|             | 300    | 0.0        |
|             | 301    | 0.0        |
|             | 302    | 0.0        |
|             | 303    | 0.0        |
|             | 304    | 0.0        |
|             | 305    | 0.0        |
|             | 306    | 0.0        |
|             | 307    | 0.0        |
|             | 308    | 0.0        |
|             | 309    | 0.0        |
|             | 310    | 0.0        |
|             | 311    | 0.0        |
|             | 312    | 0.0        |
|             | 313    | 0.0        |
|             | 314    | 0.0        |
|             | 315    | 0.0        |
|             | 316    | 0.0        |
|             | 317    | 0.0        |
|             | 318    | 0.0        |
|             | 319    | 0.0        |
|             | 320    | 0.0        |
| 1014        | 321    | 0.0        |
|             | 322    | 0.0        |
|             | 323    | 0.0        |
|             | 324    | 0.0        |
|             | 325    | 0.0        |
|             | 326    | 0.0        |
|             | 327    | 0.0        |
|             | 328    | 0.0        |
|             | 329    | 0.0        |
|             | 330    | 0.0        |
|             | 331    | 0.0        |
|             | 332    | 0.0        |
|             | 333    | 0.0        |
|             | 334    | 0.0        |
|             | 335    | 0.0        |
|             | 336    | 0.0        |
|             | 337    | 0.0        |
|             | 338    | 0.0        |
|             | 339    | 0.0        |
|             | 340    | 0.0        |
|             | 341    | 0.0        |
|             | 342    | 0.0        |
|             | 343    | 0.0        |
|             | 344    | 0.0        |
|             | 345    | 0.0        |
| 1015        | 346    | 0.0        |
|             | 347    | 0.0        |
|             | 348    | 0.0        |
|             | 349    | 0.0        |
|             | 350    | 0.0        |
|             | 351    | 0.0        |
|             | 352    | 0.0        |
|             | 353    | 0.0        |
|             | 354    | 0.0        |
|             | 355    | 0.0        |
|             | 356    | 0.0        |
|             | 357    | 0.0        |
|             | 358    | 0.0        |
|             | 359    | 0.0        |
|             | 360    | 0.0        |
|             | 361    | 0.0        |
|             | 362    | 0.0        |
|             | 363    | 0.0        |
|             | 364    | 0.0        |
|             | 365    | 0.0        |
|             | 366    | 0.0        |
|             | 367    | 0.0        |
|             | 368    | 0.0        |
|             | 369    | 0.0        |
|             | 370    | 0.0        |
| 1016        | 371    | 0.0        |
|             | 372    | 0.0        |
|             | 373    | 0.0        |
|             | 374    | 0.0        |
|             | 375    | 0.0        |
|             | 376    | 0.0        |
|             | 377    | 0.0        |
|             | 378    | 0.0        |
|             | 379    | 0.0        |
|             | 380    | 0.0        |
|             | 381    | 0.0        |
|             | 382    | 0.0        |
|             | 383    | 0.0        |
|             | 384    | 0.0        |
|             | 385    | 0.0        |
|             | 386    | 0.0        |
|             | 387    | 0.0        |
|             | 388    | 0.0        |
|             | 389    | 0.0        |
|             | 390    | 0.0        |
|             | 391    | 0.0        |
|             | 392    | 0.0        |
|             | 393    | 0.0        |
|             | 394    | 0.0        |
|             | 395    | 0.0        |
| 1017        | 396    | 0.0        |
|             | 397    | 0.0        |
|             | 398    | 0.0        |
|             | 399    | 0.0        |
|             | 400    | 0.0        |
|             | 401    | 0.0        |
|             | 402    | 0.0        |
|             | 403    | 0.0        |
|             | 404    | 0.0        |
|             | 405    | 0.0        |
|             | 406    | 0.0        |
|             | 407    | 0.0        |
|             | 408    | 0.0        |
|             | 409    | 0.0        |
|             | 410    | 0.0        |
|             | 411    | 0.0        |
|             | 412    | 0.0        |
|             | 413    | 0.0        |
|             | 414    | 0.0        |
|             | 415    | 0.0        |
|             | 416    | 0.0        |
|             | 417    | 0.0        |
|             | 418    | 0.0        |
|             | 419    | 0.0        |
|             | 420    | 0.0        |
| 1018        | 421    | 0.0</      |

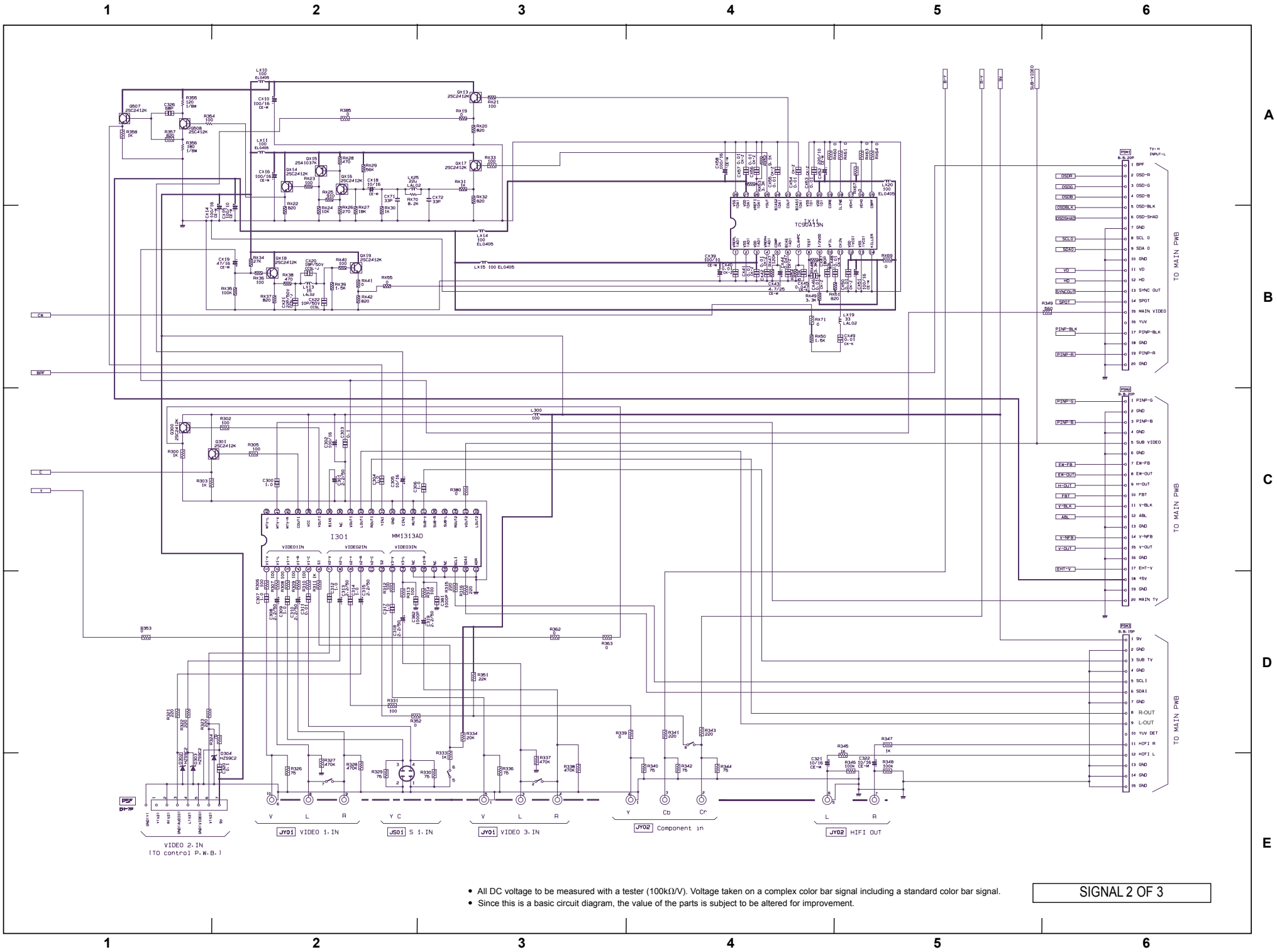
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BASIC CIRCUIT DIAGRAM

SIGNAL 2 OF 3  
SIGNAL 3 OF 3

| CIRCUIT NO. | PIN NO. | DC VOLTAGE |
|-------------|---------|------------|
| I301        | 1       | 5.05       |
|             | 2       | 4.13       |
|             | 3       | 4.81       |
|             | 4       | 4.10       |
|             | 5       | 4.80       |
|             | 6       | 7.33       |
|             | 7       | 4.82       |
|             | 8       | 4.18       |
|             | 9       | 4.83       |
|             | 10      | 4.18       |
|             | 11      | 4.81       |
|             | 12      | 0.03       |
|             | 13      | 5.14       |
|             | 14      | 4.18       |
|             | 15      | 0          |
|             | 16      | 4.18       |
|             | 17      | 3.40       |
|             | 18      | 0.02       |
|             | 19      | 4.57       |
|             | 20      | 4.65       |
|             | 21      | 0          |
|             | 22      | 4.11       |
| Q300        | B       | 4.1        |
|             | E       | 3.5        |
|             | C       | 8.8        |
| Q301        | B       | 8.2        |
|             | E       | 8.8        |
|             | C       | 4.2        |
| Q370        | B       | 4.3        |
|             | E       | 3.6        |
|             | C       | 8.8        |
| QX10        | B       | 5.1        |
|             | E       | 4.5        |
|             | C       | 8.9        |
|             | B       | 8.2        |
|             | E       | 8.9        |
|             | C       | 5.1        |
|             | B       | 2.1        |
|             | E       | 1.5        |
|             | C       | 8.2        |
|             | B       | 4.3        |
| QX12        | B       | 4.3        |
|             | E       | 3.6        |
|             | C       | 8.8        |
|             | B       | 5.1        |
|             | E       | 4.5        |
|             | C       | 8.9        |
|             | B       | 8.2        |
|             | E       | 8.9        |
|             | C       | 5.1        |
|             | B       | 2.1        |
| QX13        | B       | 4.3        |
|             | E       | 3.6        |
|             | C       | 8.8        |
|             | B       | 5.1        |
|             | E       | 4.5        |
|             | C       | 8.9        |
|             | B       | 8.2        |
|             | E       | 8.9        |
|             | C       | 5.1        |
|             | B       | 2.1        |
| QX14        | B       | 4.3        |
|             | E       | 3.6        |
|             | C       | 8.8        |
|             | B       | 5.1        |
|             | E       | 4.5        |
|             | C       | 8.9        |
|             | B       | 8.2        |
|             | E       | 8.9        |
|             | C       | 5.1        |
|             | B       | 2.1        |
| QX15        | B       | 4.3        |
|             | E       | 3.6        |
|             | C       | 8.8        |
|             | B       | 5.1        |
|             | E       | 4.5        |
|             | C       | 8.9        |
|             | B       | 8.2        |
|             | E       | 8.9        |
|             | C       | 5.1        |
|             | B       | 2.1        |
| QX16        | B       | 4.3        |
|             | E       | 3.6        |
|             | C       | 8.8        |
|             | B       | 5.1        |
|             | E       | 4.5        |
|             | C       | 8.9        |
|             | B       | 8.2        |
|             | E       | 8.9        |
|             | C       | 5.1        |
|             | B       | 2.1        |
| QX17        | B       | 4.3        |
|             | E       | 3.6        |
|             | C       | 8.8        |
|             | B       | 5.1        |
|             | E       | 4.5        |
|             | C       | 8.9        |
|             | B       | 8.2        |
|             | E       | 8.9        |
|             | C       | 5.1        |
|             | B       | 2.1        |
| QX18        | B       | 4.3        |
|             | E       | 3.6        |
|             | C       | 8.8        |
|             | B       | 5.1        |
|             | E       | 4.5        |
|             | C       | 8.9        |
|             | B       | 8.2        |
|             | E       | 8.9        |
|             | C       | 5.1        |
|             | B       | 2.1        |
| QX19        | B       | 4.3        |
|             | E       | 3.6        |
|             | C       | 8.8        |
|             | B       | 5.1        |
|             | E       | 4.5        |
|             | C       | 8.9        |
|             | B       | 8.2        |
|             | E       | 8.9        |
|             | C       | 5.1        |
|             | B       | 2.1        |

| CIRCUIT NO. | PIN NO. | DC VOLTAGE |
|-------------|---------|------------|
| IX11        | 1       | 1.49       |
|             | 2       | 0          |
|             | 3       | 4.95       |
|             | 4       | 3.47       |
|             | 5       | 2.43       |
|             | 6       | 1.44       |
|             | 7       | 3.48       |
|             | 8       | 0          |
|             | 9       | 2.5        |
|             | 10      | 1.66       |
|             | 11      | 2.28       |
|             | 12      | 4.99       |
|             | 13      | 0          |
|             | 14      | 0          |
|             | 15      | 0          |
|             | 16      | 0          |
|             | 17      | 4.94       |
|             | 18      | 0          |
|             | 19      | 0          |
|             | 20      | 4.94       |
|             | 21      | 0          |
|             | 22      | 3.55       |
|             | 23      | 4.29       |
|             | 24      | 1.57       |
|             | 25      | 4.28       |
|             | 26      | 3.63       |
|             | 27      | 4.97       |
|             | 28      | 0          |

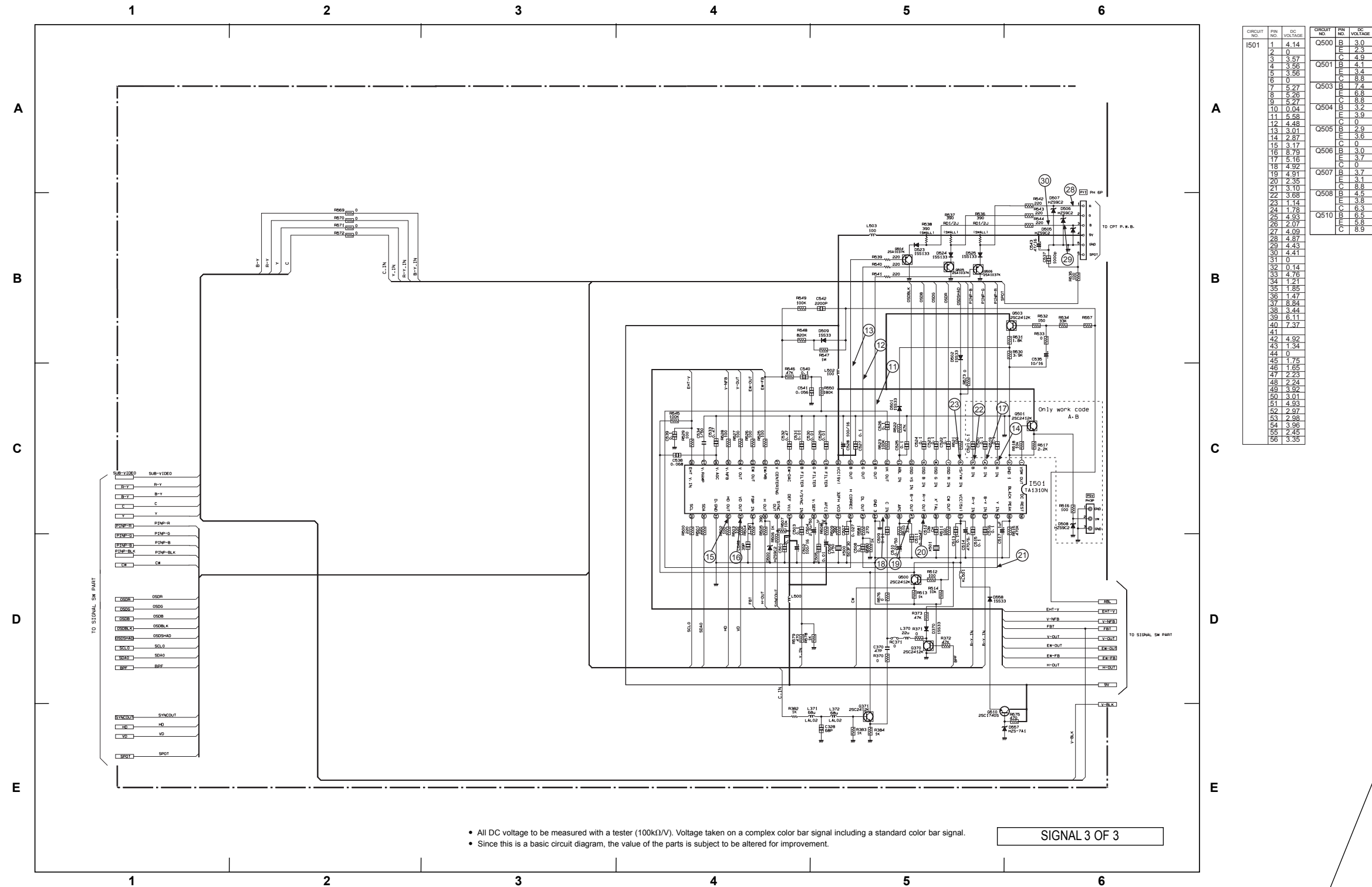


- All DC voltage to be measured with a tester (100k $\Omega$ /V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

SIGNAL 2 OF 3



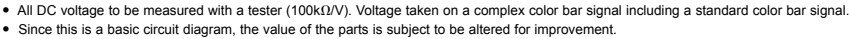
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 **HOME** 

## BASIC CIRCUIT DIAGRAM

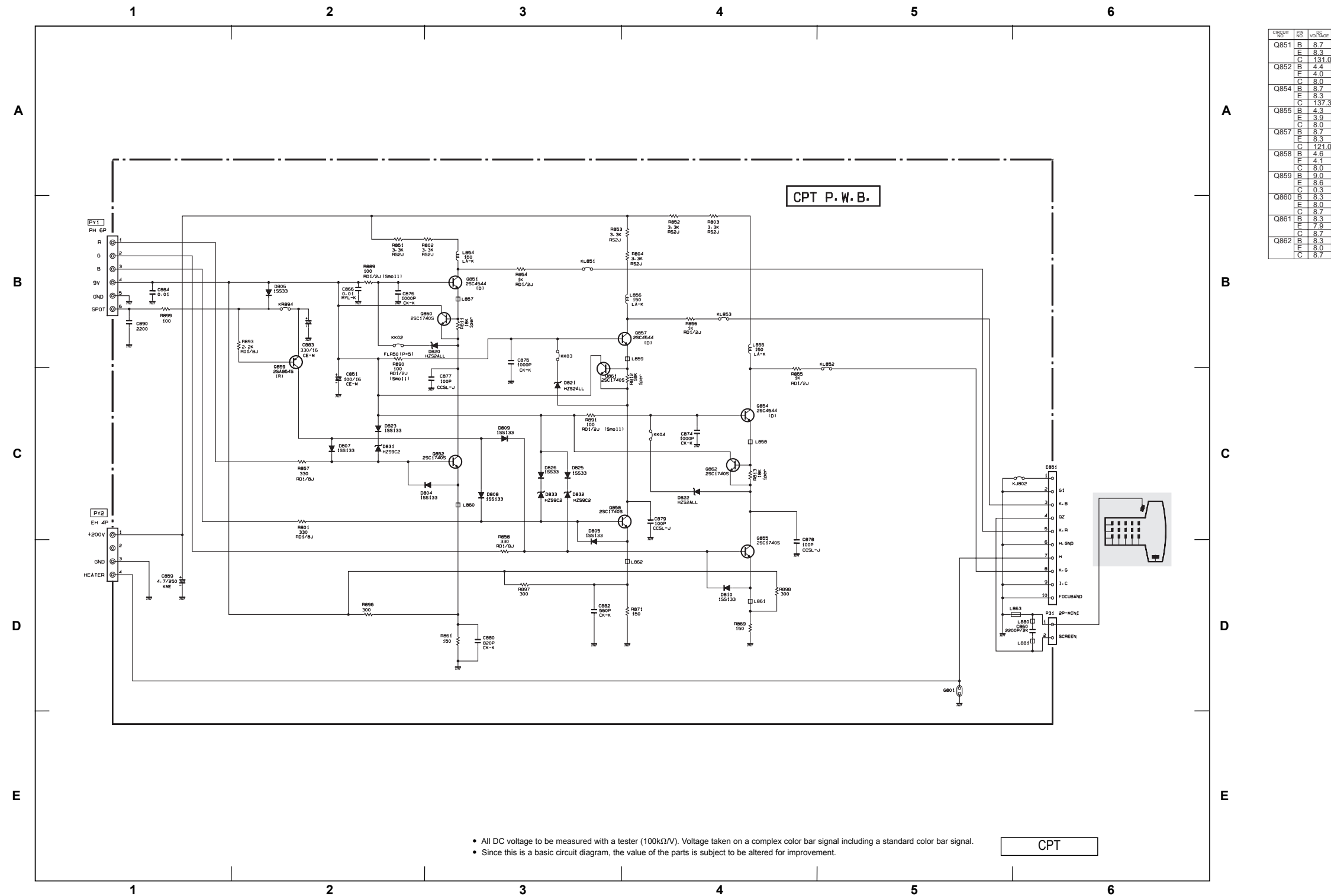
| CIRCUIT NO. | PIN NO. | DC VOLTAGE |
|-------------|---------|------------|
| PPM         | 1       | 0          |
|             | 2       | 0          |
|             | 3       | 0          |
|             | 4       | 1.5        |
|             | 5       | 1.5        |
|             | 6       | 1.5        |
|             | 7       | 0          |
|             | 8       | 5.5        |
|             | 9       | 5.0        |
|             | 10      | 0          |
|             | 11      | 4.8        |
|             | 12      | 0.1        |
|             | 13      | 4.6        |
|             | 14      | 4.7        |
|             | 15      | 0          |



TUNER



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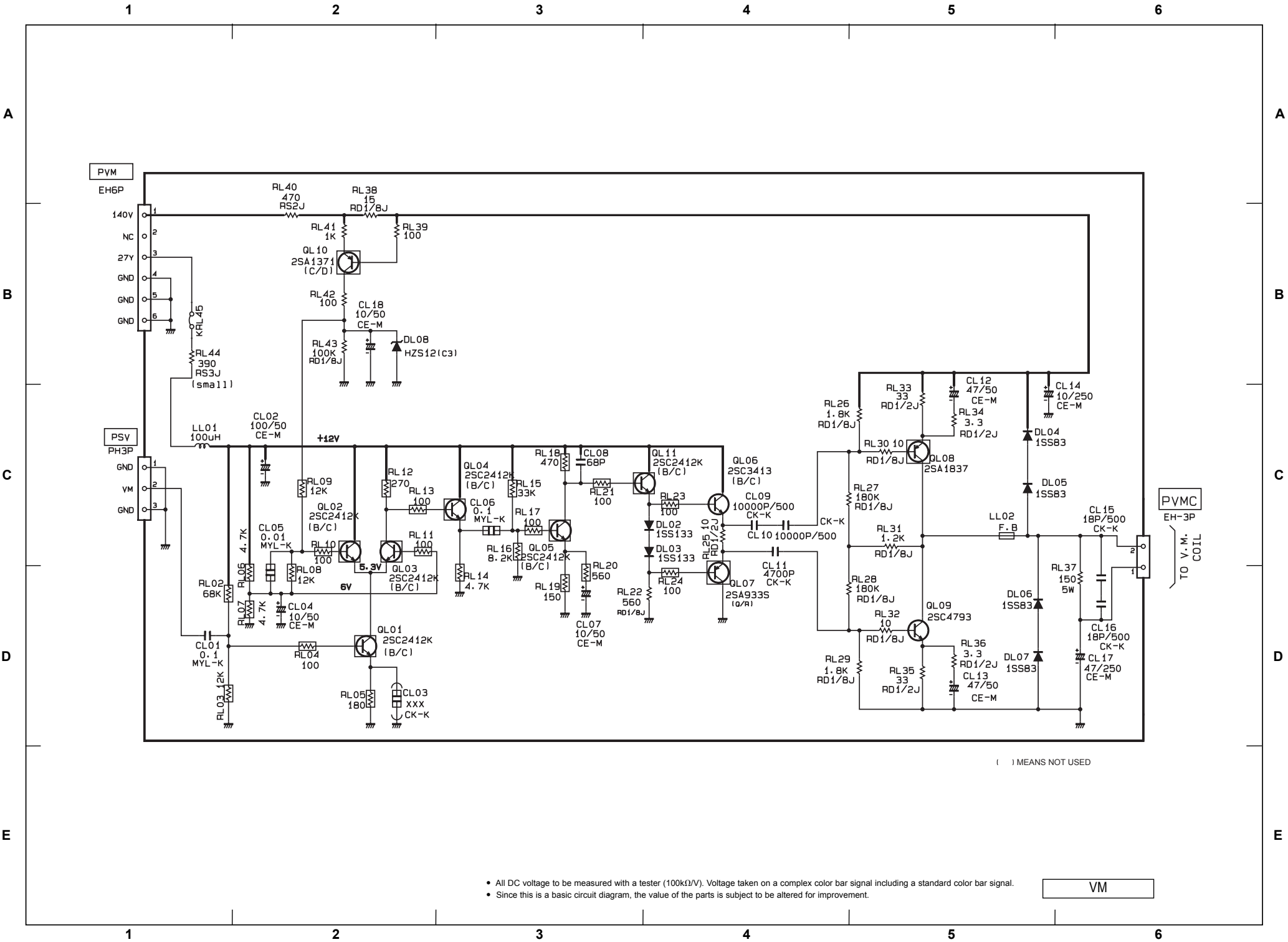
 **HOME** 

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BASIC CIRCUIT DIAGRAM

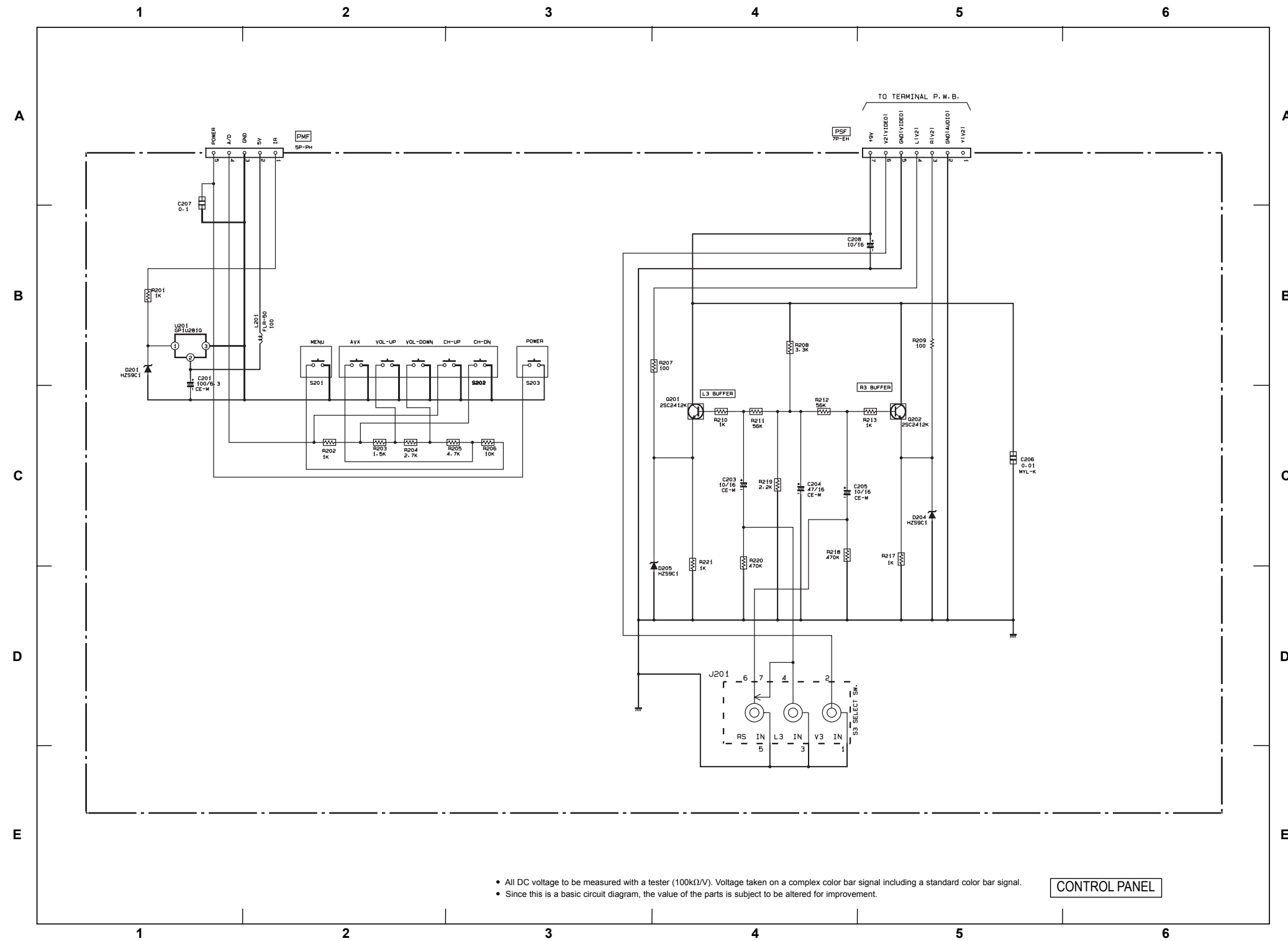
VM  
CONTROL PANEL

| CIRCUIT NO. | PIN NO. | DC VOLTAGE |
|-------------|---------|------------|
| QL01        | B       | 1.7        |
|             | C       | 1.0        |
|             | E       | 5.7        |
| QL02        | B       | 5.8        |
|             | C       | 5.7        |
|             | E       | 13.2       |
| QL03        | B       | 5.4        |
|             | C       | 5.7        |
|             | E       | 11.8       |
| QL04        | B       | 11.8       |
|             | C       | 11.1       |
|             | E       | 13.2       |
| QL05        | B       | 2.3        |
|             | C       | 1.7        |
|             | E       | 8.0        |
| QL06        | B       | 7.3        |
|             | C       | 6.6        |
|             | E       | 13.2       |
| QL07        | B       | 5.9        |
|             | C       | 6.5        |
|             | E       | 0          |
| QL08        | B       | 128.8      |
|             | C       | 128.3      |
|             | E       | 77.5       |
| QL09        | B       | 0.6        |
|             | C       | 0.8        |
|             | E       | 77.4       |
| QL10        | B       | 129.0      |
|             | C       | 129.3      |
|             | E       | 5.2        |
| QL11        | B       | 8.0        |
|             | C       | 7.3        |
|             | E       | 13.2       |



- All DC voltage to be measured with a tester (100k1V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

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NOTES:

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