

# HITACHI

## SERVICE MANUAL

NTSC

AP73/74 Chassis

PA

No. 0086

46UX50B/51K  
50UX52B/53K  
60UX54B/55K  
50SBX70B  
60SBX72B  
70SBX74B

R/C: CLU-612MP

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**CAUTION:** Before servicing this chassis, it is important that the service technician read the "Safety Precaution" and "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 schematics and 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.

\*For continued x-radiation protection, replace picture tube with original type of Hitachi approved equivalent type.

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

**PROJECTION COLOR TELEVISION**

JULY 1997

HHEA-MANUFACTURING DIVISION

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

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. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair 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.

This television receiver provides display of television closed captioning in accordance with section 15.119 of the FCC rules.

## SAFETY PRECAUTIONS

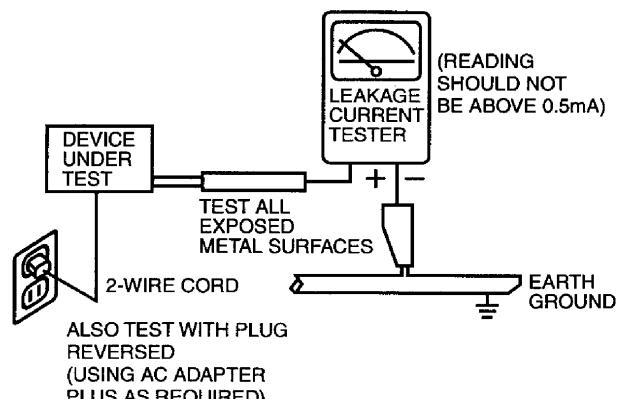
1. Before returning an instrument to the customer, always make a safety check of the entire instrument, including but not limited to the following items.

a. Be sure that no built-in protective devices are defective and/or have been deleted during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpaper, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**

b. Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to (1) spacing between the picture tube and cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.

c. **Antenna Cold Check** – With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input, exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohms or greater than 5.2 megohms, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.

d. **Leakage Current Hot Check** – With the instrument completely reassembled, plug the AC line cord directly into a 120V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.0 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal waterpipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle bracket, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 millamps. Reverse the instrument power cord plug in the outlet and repeat test.



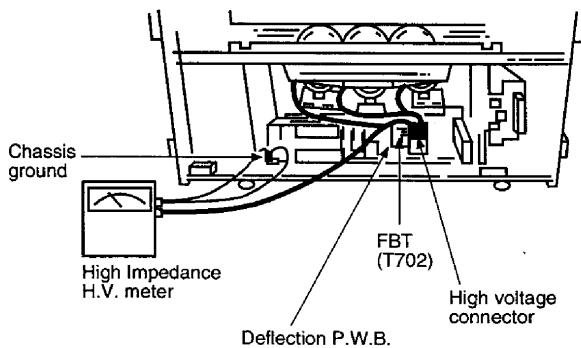
**AC Leakage Test**

**ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.**

e. **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 will all notes described in this Service Manual regarding this hold down circuit when servicing, so that this hold down circuit may correctly be operated.

f. **Service Warning** – With maximum contrast, operating high voltage in this receiver is lower than **AP73 31.6kV; AP74 33.0kV**. In case any component having influence on high voltage is replaced, confirm that the high voltage with maximum contrast is lower than **AP73 31.6kV; AP74 33.0kV**. To measure H.V. use a high impedance H.V. meter. Connect (-) to chassis earth and (+) to the CRT anode button. (See the following connection diagram.)

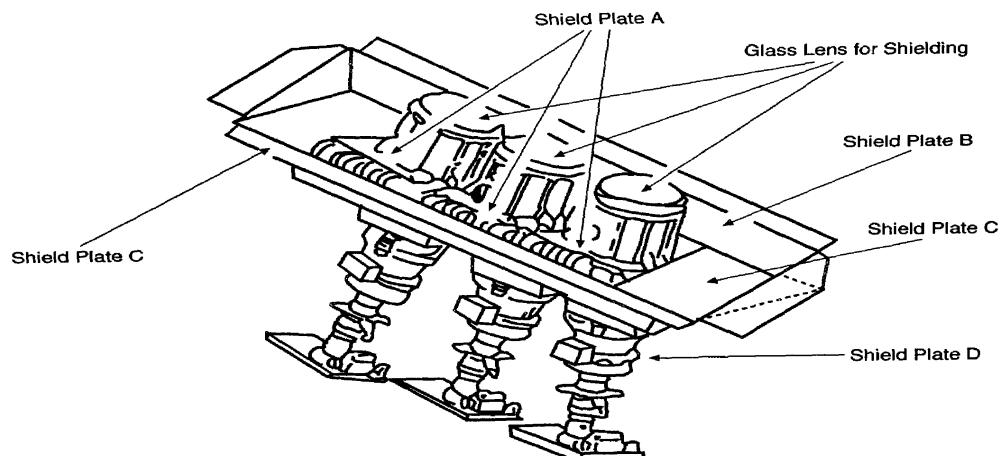
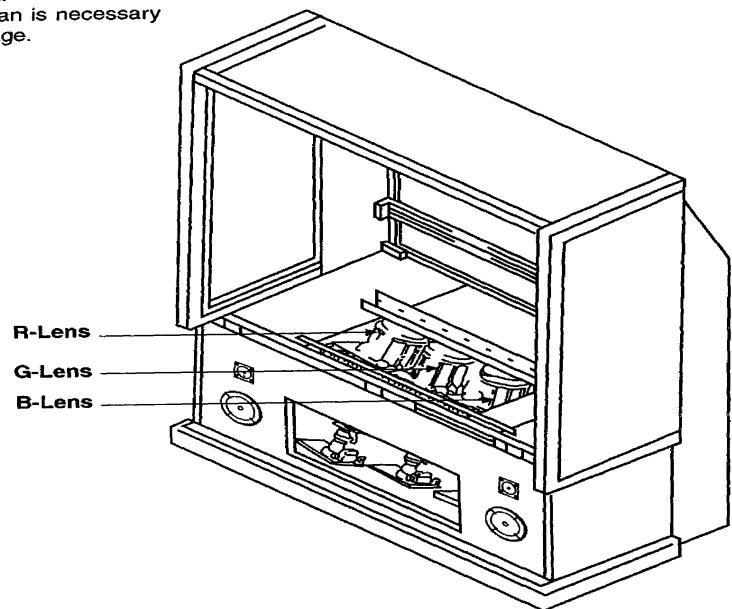
**Note:** Turn power switch off without fail before the connection to the anode button is made.



- g. X-radiation – TUBE:** The primary source of X-radiation in this receiver is the picture tube. The tube utilized for the above mentioned function 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 a problem of excessive high voltage, 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.

**h. X-radiation Shield –**

1. This receiver is provided with X-ray shield plates for protection against X-radiation. Do not remove X-ray shield plates A, B, C, or D shown in Fig. 1 unnecessarily, when troubleshooting and/or making test measurements.
2. To prevent X-radiation, after replacement of picture tube and lens, confirm these components to be fixed correctly to bracket and cabinet, and not to be taken off easily.



**Fig. 1. Detailing X-radiation Shield**

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.
3. **Design Alteration Warning** – Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions including but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connectors, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions may void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.
4. **Picture Tube Implosion Protection Warning** – The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle the picture tube by its neck.
5. **Hot Chassis Warning** – **a.** Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and may be safely serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. Confirm that the AC power plug is inserted correctly with an AC voltmeter by measuring between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground. **b.** Some TV receiver chassis normally have 85V AC (RMS) between chassis and earth ground regardless of the AC plug polarity. These chassis can be safely serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection. **c.** Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulating material that must not be defeated or altered.
6. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: **a.** near sharp edges, **b.** near thermally hot parts – be sure that leads and components do not touch thermally hot parts, **c.** the AC supply, **d.** high voltage and **e.** antenna wiring. Always inspect in all areas for pinched, out-of-plate, or frayed wiring. Do not change spacing between components and the printed circuit board. Check AC power cord for damage.
7. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.
8. **PRODUCT SAFETY NOTICE** – Many TV electrical and mechanical parts have special safety-related characteristics some of which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified in Hitachi service data by shading on schematics and by a  in the parts list. Use of substitute replacement that does not have the same safety characteristics as the recommended replacement part in Hitachi service data parts list might create shock, fire, and/or other hazards. Product safety is under review continuously and new instructions are issued whenever appropriate. For the latest information, always consult the appropriate current Hitachi service literature. A subscription to, or additional copies of service literature may be obtained at a nominal charge from Hitachi.

## 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." The H.V. Distribution Box has an internal  $400\Omega$  resistor (bleeder resistor) connected from the high voltage to ground. After power is removed from the instrument the high voltage will discharge through the high voltage bleeder resistor. If the tubes have high voltage after power is removed, then the bleeder resistor is defective or the bleeder ground is disconnected.
3. Discharge the picture tube's anode at any of the R, G, or B outputs on the H.V. Distribution Box only 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 distribution box R, G, or B 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 with 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.

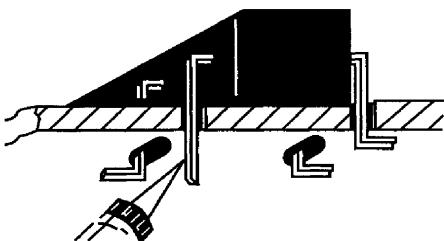
1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential 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 buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or desolder ES devices.
4. Use only can 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 Solder 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/Replacements**

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.

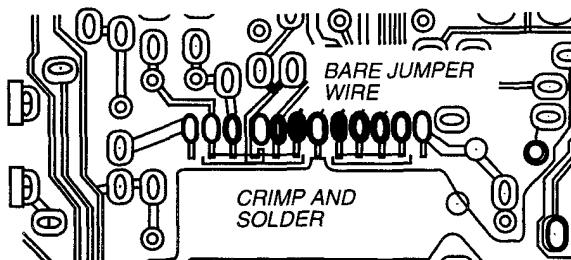
#### In Critical Copper Pattern Areas

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 areas 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.

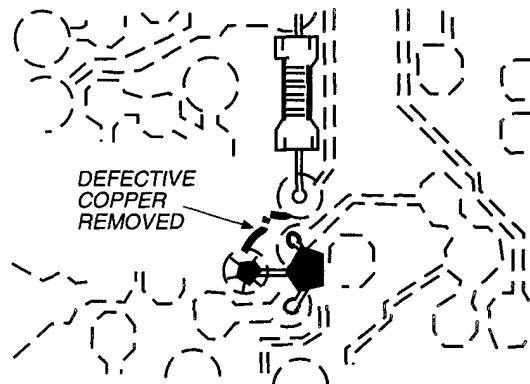


Install Jumper Wire and Solder

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 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 1.6KΩ resistor, 0 = 0Ω (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.

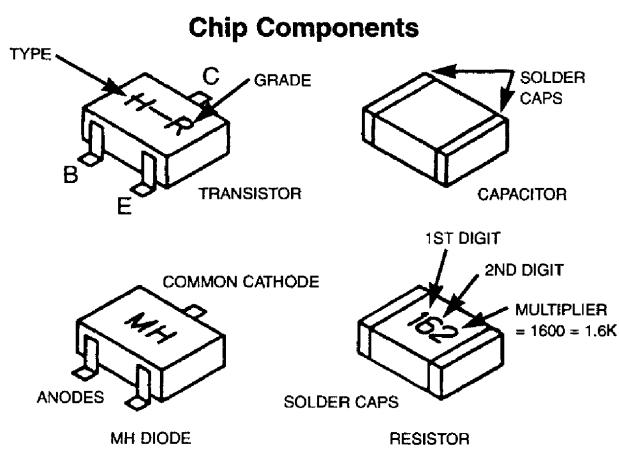
Chip diodes have a two letter identification code as per the code chart and are a dual diode pack with either common anode or common cathode. Check the parts list for correct diode number.

### 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 .

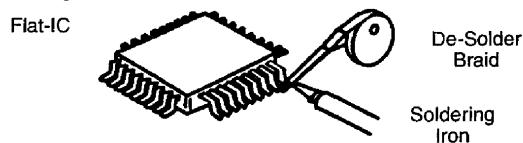
### Chip Component Installation

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

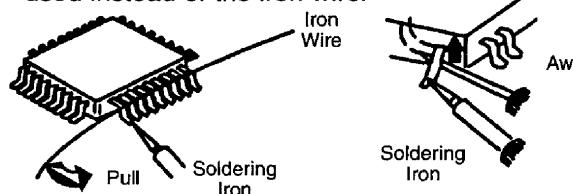


## How to Replace Flat-IC —Required Tools—

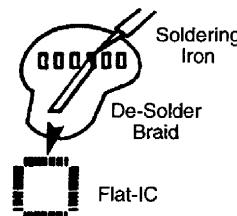
- Soldering iron
  - De-solder braids
  - iron wire or small awl
  - Magnifier
1. Remove the solder from all of the pins of a Flat-IC by using a de-solder braid.



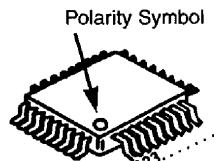
2. Put the iron wire under the pins of the Flat-IC and pull it in the direction indicated while heating the pins using a soldering iron. A small awl can be used instead of the iron wire.



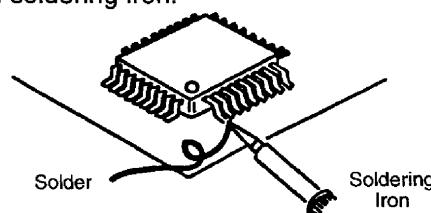
3. Remove the solder from all of the pads of the Flat-IC by using a de-solder braid.



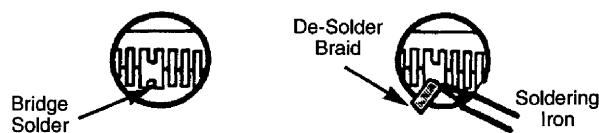
4. Position the new Flat-IC in place (apply the pins of the Flat-IC to the soldering pads where the pins need to be soldered). Properly determine the positions of the soldering pads and pins by correctly aligning the polarity symbol.



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.

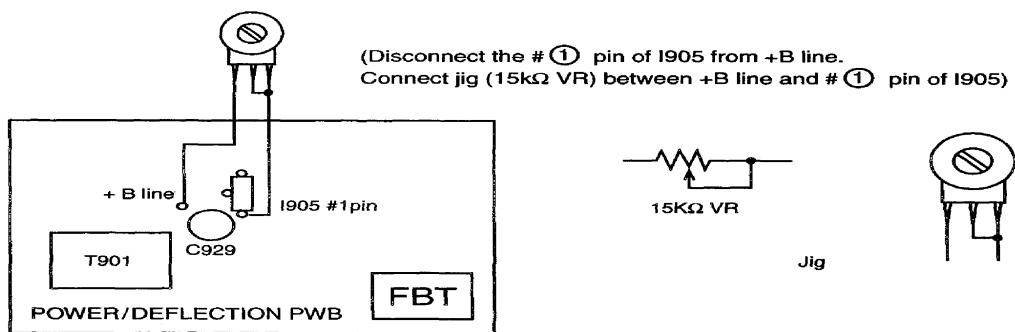
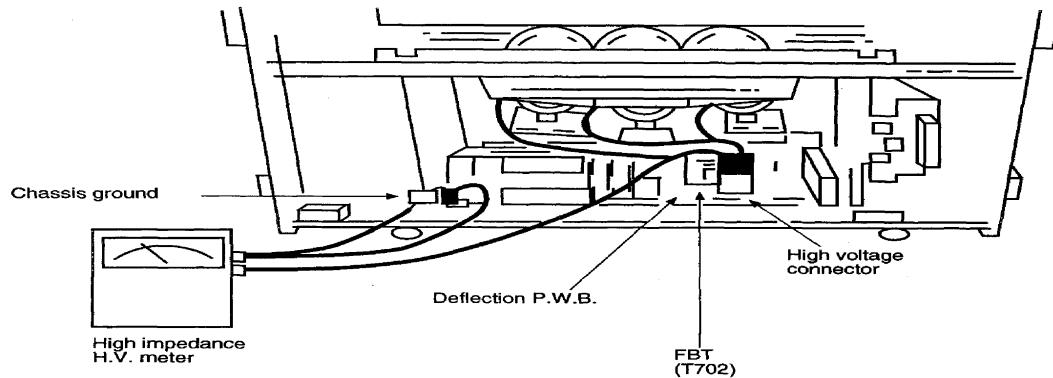


## TECHNICAL CAUTIONS

### **High Voltage limiter circuit operation check.**

1. Turn off TV and connect jig as shown in Figure 2. Adjust jig fully counter-clockwise for minimum resistance.
2. Set the AC input to 120V AC and turn on TV.
3. Confirm test pattern on CRT is a usable picture, then slowly adjust jig until the picture disappears and TV shuts down.

4. When the limiter circuit is operating properly, High Voltage will be less than 37.0kV at 0.6mA when TV shuts down.
5. Turn off set immediately after checking circuit operation.
6. Unplug set for one minute to reset shutdown circuit. Remove jig and voltmeter.



**Fig. 2. Deflection/Power P.C.B.**

# SPECIFICATIONS (AP73)

<b>Model:</b>	60UX54B/55K 50UX52B/53K 46UX50B/51K	<b>Anode Voltage</b>	30.0 kV (Zero Beam Current)
<b>Cathode-Ray Tube:</b>		<b>Brightness:</b>	235 cd/m <sup>2</sup> - 46UX50B/51K 200 cd/m <sup>2</sup> - 50UX52B/53K 140 cd/m <sup>2</sup> - 60UX54B/55K (white screen)
60UX54B/55K	50UX52B/53K	46UX50B/51K	
R= P16LGD00RFA	R= P16LFM00RFA	R= P16LFM00RFA	
G= P16LGD00HLA	G= P16LGD00HLA	G= P16LFM00HLA	
B= P16LGD00BMB	B= P16LFM00BMB	B= P16LFM00BMB	
<b>Power Input:</b>	120 volts AC, 60 Hz	<b>Speakers:</b>	2 Woofers - 5 inch (12 mm) round 2 Tweeters - 2 inch (5 mm) round Center speaker - 4 inch (10 mm) round
<b>Power Consumption:</b>	201 Watts - Maximum 153 Watts - Operating	<b>Dimension:</b>	<b>46UX50B/51K</b> Height (in.) 49-3/8      51-13/16 Width (in.) 40-1/8      43-3/16 Depth (in.) 22-3/8      21-7/8 Weight (lbs.) 185      190 <b>60UX54B/55K</b> Height (in.) 61 Width (in.) 52 Depth (in.) 26-7/8 Weight (lbs.) 308
<b>Antenna Impedance:</b>	75 ohm Unbalanced VHF / UHF / CATV		
<b>Receiving Channel:</b>	CH VHF 2-13 EXT. Mid (A-5)~(A-1), 4+ CATV Mid. A-I CATV Super J-W CATV Hyper (W+1)~(W+28)		
<b>Intermediate Frequency:</b>	Picture I-F Carrier 45.75 MHz Sound I-F Carrier 41.25 MHz Color Sub Carrier 42.17 MHz	<b>Circuit Board Assemblies:</b>	C.P.T. (B) P.C.B. C.P.T. (G) P.C.B. C.P.T. (R) P.C.B. Sensor Distribution P.C.B. Signal P.C.B. Signal Sub P.C.B. Terminal P.C.B. VM P.C.B. Surround P.C.B. Power/Deflection P.C.B. Control P.C.B.
<b>Video Input:</b>	1 Voltp-p 75 ohm		
<b>Video Output:</b>	1 Voltp-p 75 ohm		
<b>Audio Input:</b>	470 mVrms, 47 k Ohm		
<b>Stereo Audio Output:</b>	470 mVrms, 1 k Ohm		
<b>Audio Output Power:</b>	Front – 10 watts rms per channel, 8 ohm impedance Max output – 12 watts Rear – 7.5 watts per channel, 8 ohm impedance Max output – 10 watts Center – 7.5 watts Max output – 10 watts		

## CIRCUIT PROTECTION

Fuse (or Device)	Circuit Protected	Physical Location
F901 5A/125V AC	Main Fuse	Power / Deflection Circuit Board

# SPECIFICATIONS (AP74)

<b>Model:</b>	70SBX74B 60SBX72B 50SBX70B	<b>Anode Voltage</b>	31.5 kV (Zero Beam Current)
<b>Cathode-Ray Tube:</b>	70SBX74B, 60SBX72B, 50SBX70B	<b>Brightness:</b>	250 cd/m <sup>2</sup> - 50SBX70B 170 cd/m <sup>2</sup> - 60SBX72B 125 cd/m <sup>2</sup> - 70SBX74B (white screen)
	R:P16LFT00RFA G:P16LFT00HLA B:P16LFT00BMB		
<b>Power Input:</b>	120 volts AC, 60 Hz	<b>Speakers:</b>	2 Woofers - 5 inch (12 mm) round 2 Tweeters - 2 inch (5 mm) round 2 Center speaker - 4 inch (10 mm) round
<b>Power Consumption:</b>	260 Watts - Maximum 183 Watts - Operating	<b>Dimension:</b>	<b>50SBX70B</b> Height (in.) 51-13/16 Width (in.) 43-3/8 Depth (in.) 24-11/16 Weight (lbs.) 187 <b>60SBX72B</b> Height (in.) 60-7/16 Width (in.) 51-3/8 Depth (in.) 26-3/8 Weight (lbs.) 288
<b>Antenna Impedence:</b>	75 ohm Unbalanced VHF / UHF / CATV	<b>70SBX74B</b>	<b>70SBX74B</b> Height (in.) 67-1/2 Width (in.) 59 Depth (in.) 30-1 / 4 Weight (lbs.) 385
<b>Receiving Channel:</b>	CH VHF 2~13 EXT. Mid (A-5)~(A-1), 4+ CATV Mid. A~I CATV Super J~W CATV Hyper (W+ 1)~(W+28)	<b>Circuit Board Assemblies:</b>	C.P.T. (B) P.C. B. C.P.T. (G) P.C.B. C.P.T. (R) P.C.B. Sensor Distribution P.C.B. Signal P.C.B. Signal Sub P.C.B. Terminal P.C.B. VM P.C.B. Surround P.C.B. Power/Deflection P.C.B. Control P.C.B.
<b>Intermediate Frequency:</b>	Picture I-F Carrier 45.75 MHz Sound I-F Carrier 41.25 MHz Color Sub Carrier 42.17 MHz		
<b>Video Input:</b>	1 Volt p-p 75 ohm		
<b>Video Output:</b>	1 Volt p-p 75 ohm		
<b>Audio Input:</b>	470 mVrms, 47 k Ohm		
<b>Stereo Audio Output:</b>	470 mVrms, 1 k Ohm		
<b>Audio Output Power:</b>	Front - 15 watts rms per channel, 8 ohm impedance Max output - 18 watts Rear - 7.5 watts per channel, 8 ohm impedance Max output - 10 watts Center - 15 watts Max output - 18 watts		

## CIRCUIT PROTECTION

Fuse (or Device)	Circuit Protected	Physical Location
F901 5A/125V AC	Main Fuse	Power / Deflection Circuit Board

## GENERAL INFORMATION

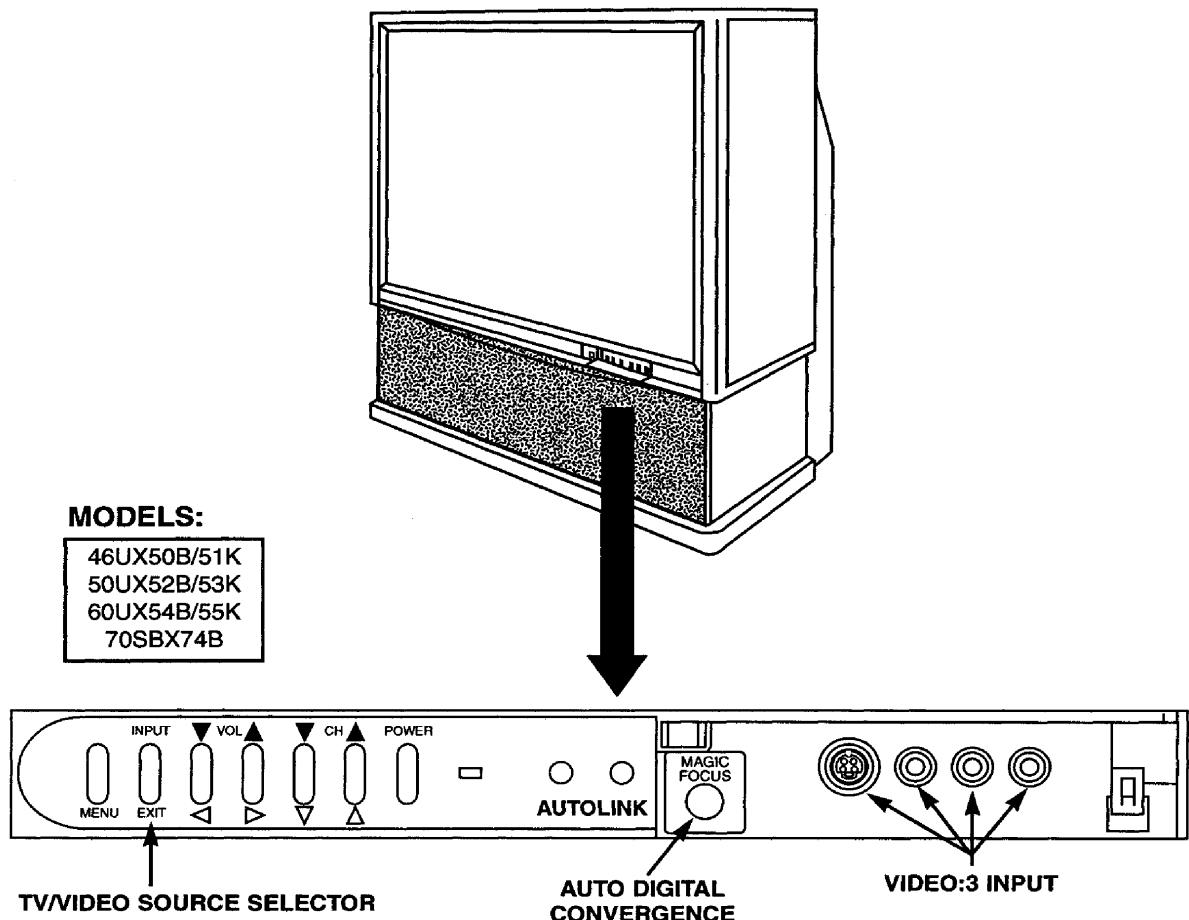


Fig. 3. Control Panel

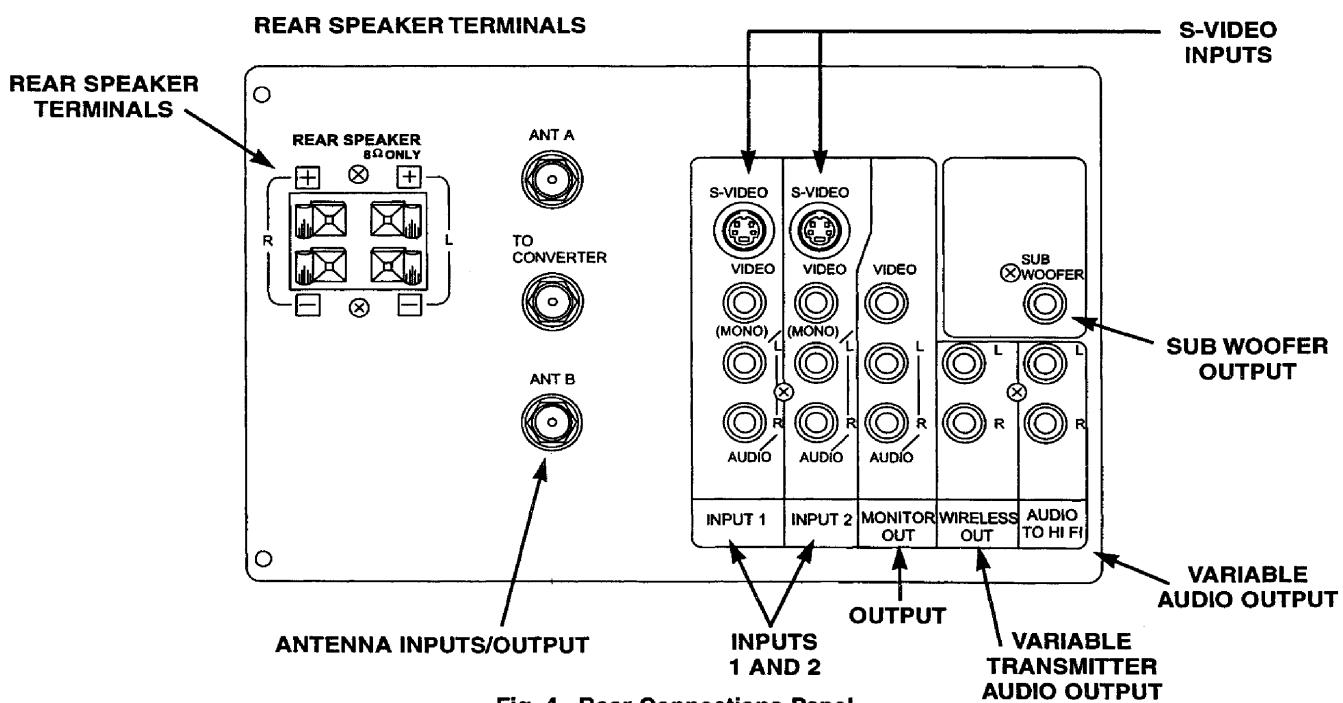


Fig. 4. Rear Connections Panel

## GENERAL INFORMATION

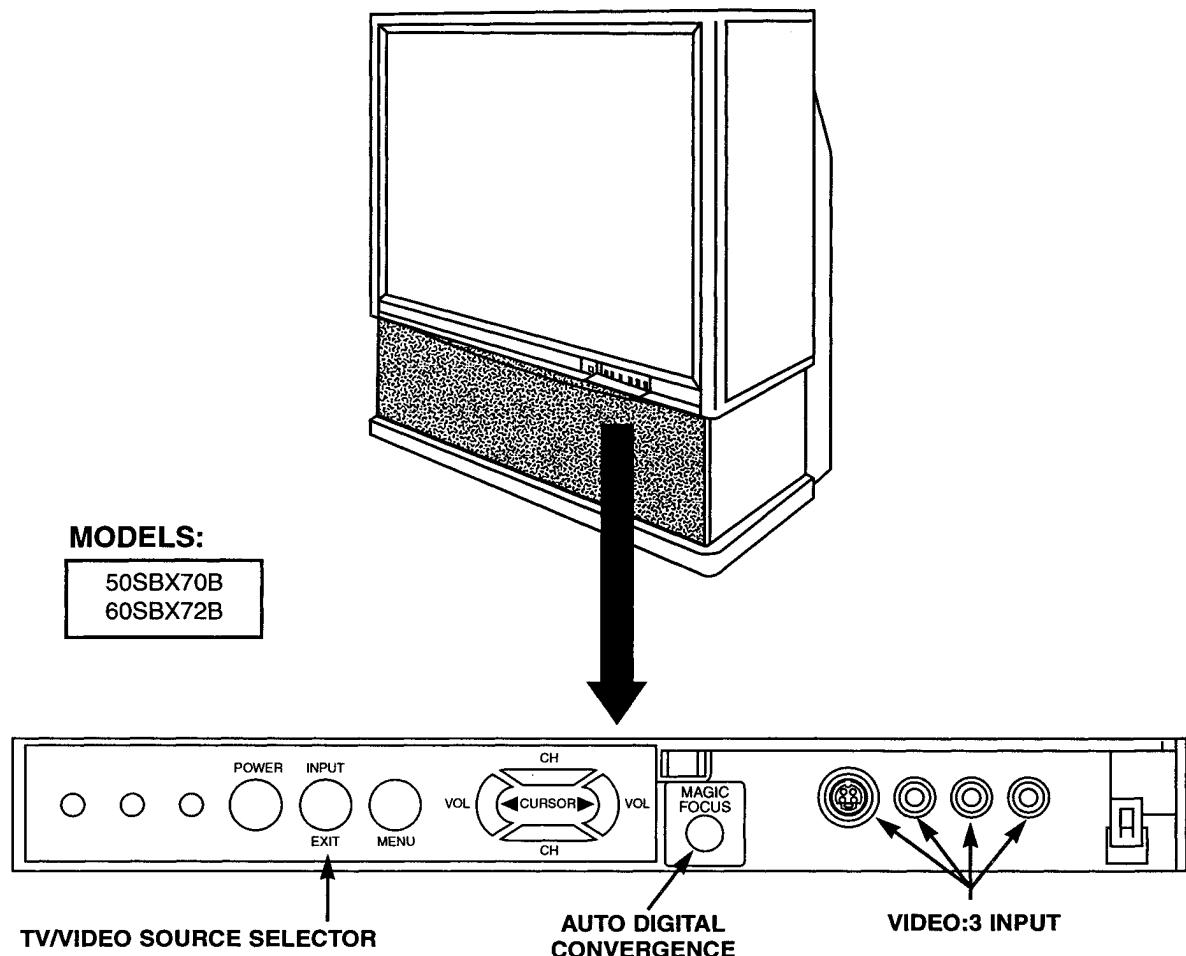


Fig. 3. Control Panel

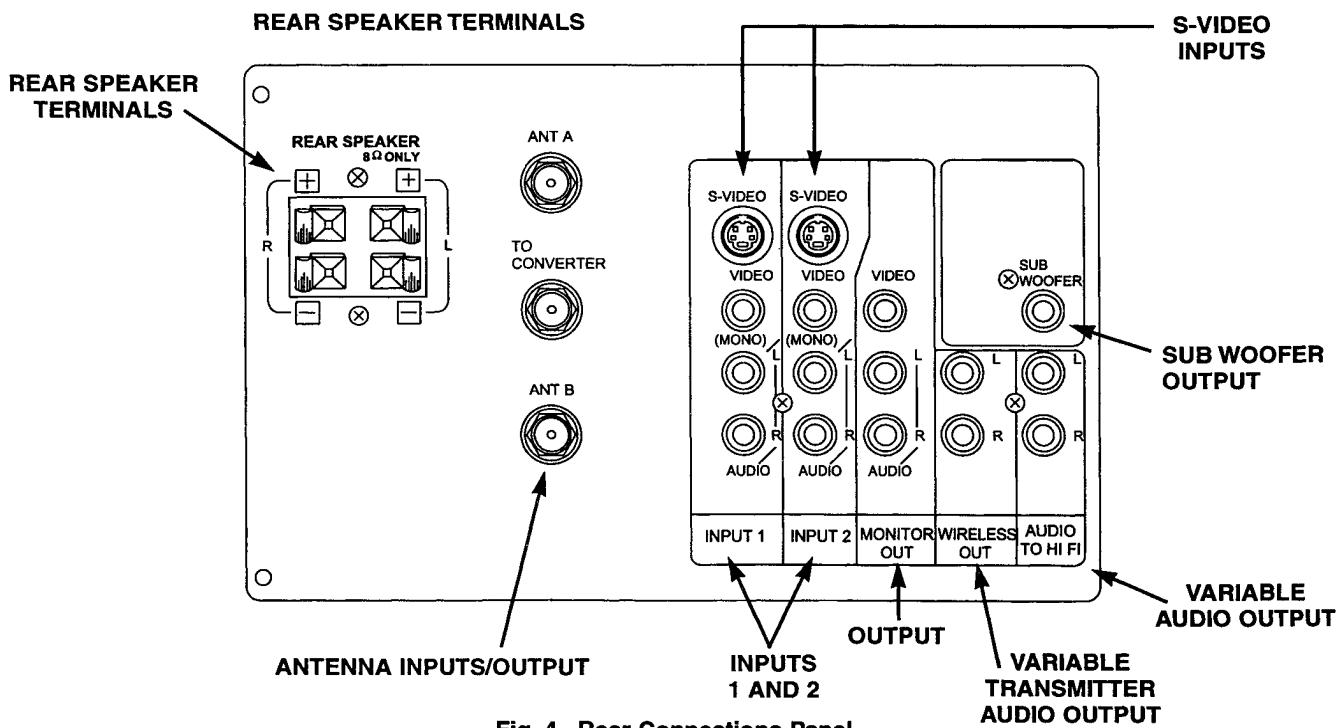
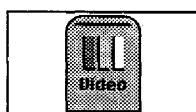
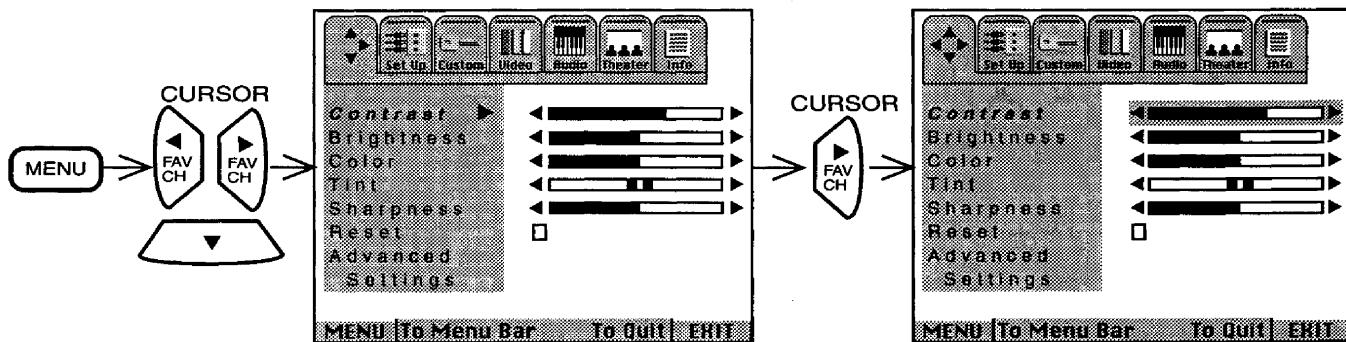


Fig. 4. Rear Connections Panel

## CUSTOMIZED PICTURE AND SOUND ADJUSTMENTS



Select VIDEO to adjust picture settings and improve picture quality



Use the CURSOR ▲ or ▼ buttons to highlight the function to be adjusted.  
Press the CURSOR ◀ or ▶ buttons to adjust the function.  
Press EXIT to quit menu.

**NOTE:** If CONTRAST is selected, you are adjusting CONTRAST. The additional menu items BRIGHTNESS, COLOR, TINT, and SHARPNESS can be selected and adjusted in the same manner.

**CONTRAST** Use this function to change the contrast between black and white levels in the picture. This adjustment will only affect the picture when ADVANCED SETTINGS ULTRA AI is OFF.

**BRIGHTNESS** Use this function to adjust the overall picture brightness

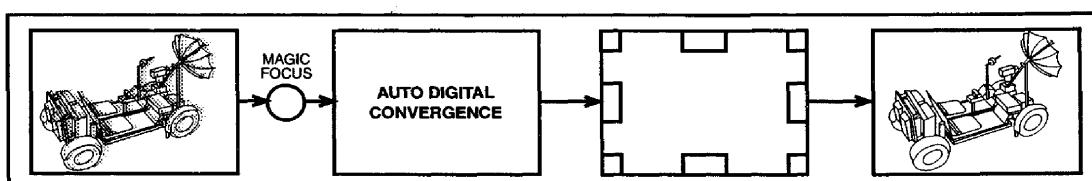
**COLOR** Use this function to adjust the level of color in the picture

**TINT** Use this function to adjust flesh tones so they appear natural.

**SHARPNESS** Use this function to adjust the amount of fine detail in the picture.

**RESET** When RESET is selected, press CURSOR ▶ to return video adjustments to factory preset conditions.

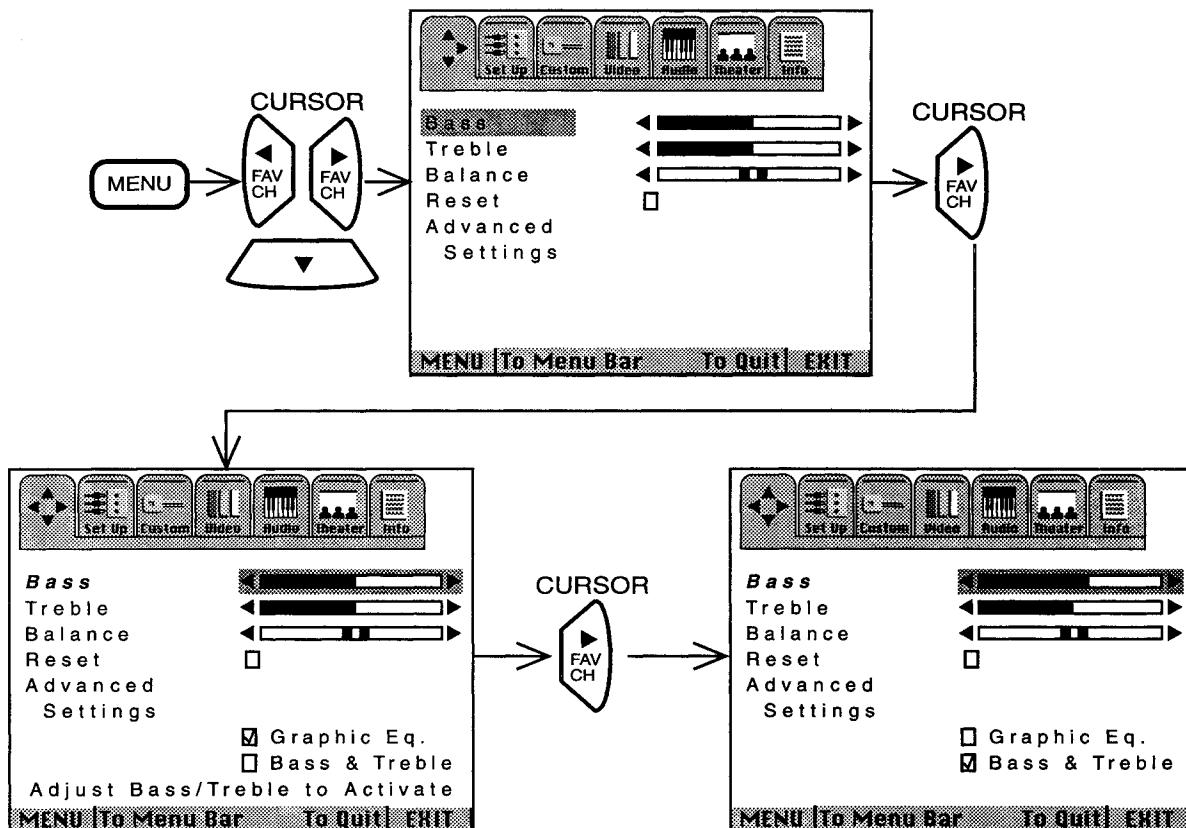
Press the front panel MAGIC FOCUS button momentarily for auto setup.



To adjust manually, press and hold the MAGIC FOCUS button until CENTER MODE or STATIC MODE is displayed. Press ENTER on the remote to select red or blue. Green is stationary. Use the cursor buttons to adjust. Center mode only adjusts the center section. Static mode adjusts the entire screen. **Note:** This new data is in RAM memory only and will be lost if the MAGIC FOCUS button is pressed again.



Select AUDIO SETTINGS to adjust the TV to your preferences and improve sound quality



Use the CURSOR ▲ or ▼ to highlight the function to be adjusted.

Press the CURSOR ◀ or ▶ to adjust the function.

Press EXIT to quit menu.

**NOTE:** If BASS is selected you are adjusting BASS. The additional menu items TREBLE and BALANCE can be selected and adjusted in the same manner.

**BASS**

This function controls the low frequency audio to all speakers.

**TREBLE**

This function controls the high frequency audio to all speakers.

**BALANCE**

This function will control the left to right balance of the TV internal speakers, the AUDIO TO HI FI output, the WIRELESS OUT output, and the Surround Speakers.

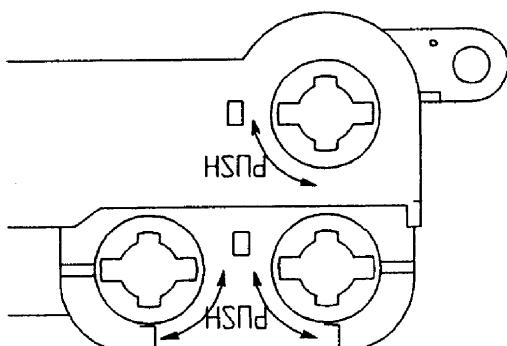
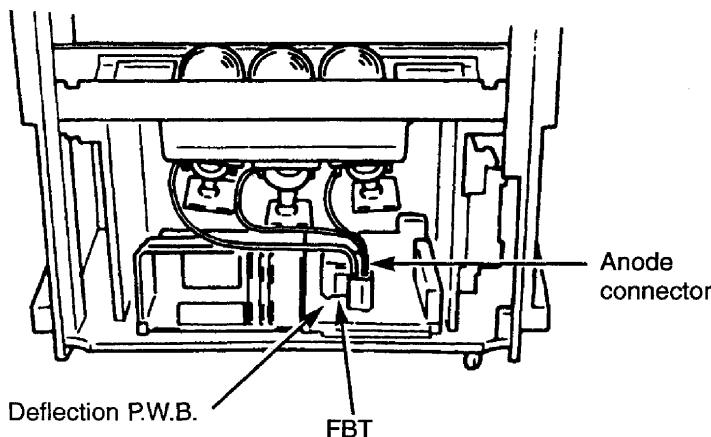
**RESET**

When RESET is selected, press CURSOR ▶ to return adjustments to factory preset conditions.

**NOTE:** If BASS or TREBLE are adjusted, the GRAPHIC EQUALIZER will be automatically disabled.

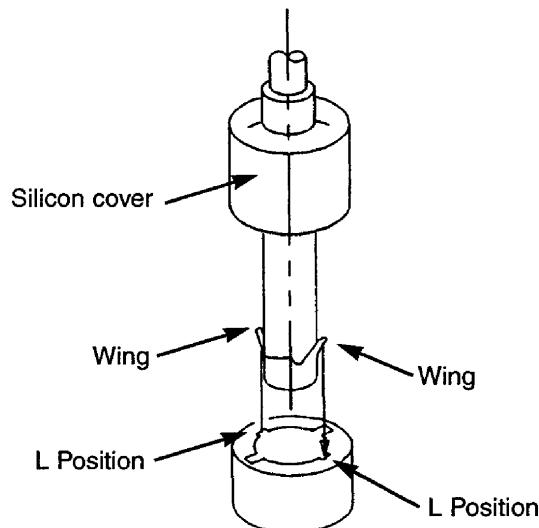
## CAUTIONS WHEN CONNECTING / DISCONNECTING THE HV CONNECTOR

Perform the following when the HV connector (anode connector) is removed or inserted for CPT replacement, etc.



### **During Removal**

1. Roll out silicon cover from FBT's contact area slowly.
2. While turning the connector about 90 degrees following the arrow (0 position), push the connector slightly towards the case. (Fig. A)

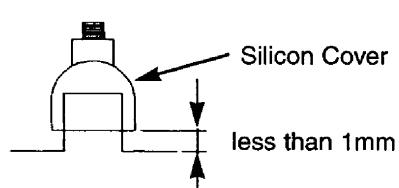


### **During Insertion**

1. Please refer to direction for insertion as shown in Fig. B (L position). Insert connector until "CLICK" sound is heard.
2. Make sure the connector is pressed right in, so that it has a good contact with the spring.
3. Confirm the contact by pulling the connector slightly. (Don't pull hard because it may damage the connector).
4. Cover the high voltage output by carefully pushing silicon cover onto it. (Don't turn the connector).

#### (REMARK)

1. Make sure the silicon cover is covering the high voltage output.



## SERVICE ADJUSTMENTS

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## 1. ASSEMBLED P.W.B. ADJUSTMENT

### 1.1 Memory Initialization

Adjustment procedure

- (1) Press INPUT key on Control Panel and then Power On to access Video Chroma adjustment mode.
- (2) Receive signal on main picture.
- (3) Check the OSD recording to table below, using  $\Delta \nabla$  buttons on Remote Control.

P.01	AP74	AP73	P.04	AP74	AP73
SERVICE	0	0	DC T.C. POINT	0	0
SUB CONT	10	10	DC T.C. RATIO	0	0
SUB COLOR	15	10	DC T.C. LIMIT	0	0
SUB TINT	45	48	B.E. P. LIMIT	0	0
SUB SHARP	38	38	B.E. P. POINT1	5	5
EXT RGB BRIGHT	40	40	B.E. P. POINT2	0	0
EXT RGB CONT	60	60	B.L.S.	0	0
BRIGHTNESS	80	80	B.L.C.	1	0
* SUB BRIGHT ADJ. <input type="checkbox"/>			B.S.G.	0	0
INITIAL SET <input type="checkbox"/>			B.D.L.	0	0
			BEARE	0	0

P.02	AP74	AP73	P.05	AP74	AP73
G DRIVE GAIN	40	40	WPDL	1	1
B DRIVE GAIN	40	40	HI BRT	1	1
H POSITION	12	12	PACL	0	0
AFC G	0	0	APACON PEAK FO	0	0
H BLK END PHASE	0	0	WHITE PEAK	0	0
V BLK PHASE	0	0	D.ABL POINT	0	0
V FREQUENCY	1	1	D.ABL GAIN	7	7
V POSITION	0	0	ABL POINT	3	3
R-Y PHASE	3	3	ABL GAIN	5	5
R-Y LEVEL	0	0	R CUT OFF	80	80
G-Y LEVEL	3	3	G CUT OFF	80	80
GPPHS	1	1	B CUT OFF	80	80

P.03	AP74	AP73	P.06	AP74	AP73
S-TRAC	1	1	H POSI (CENT)	06	06
YA	0	0	V POSI (CENT)	07	07
Y DL	0	0	INITIAL SET <input type="checkbox"/>		*
TXACL	1	1	Z OSD SETTINGS		
COLOR A	0	0	H DLY OSD	B	B
CTL	0	0	V POSI OSD	30	30
CDE	1	1	1 STL AFTER	6	5
C TRAP	0	0	H DLY VBI	2	2
TOF FO	0	0	VIDEO FIELD	1	1
TOF Q	0	0	CLAMP DELAY	34	34
COLOR SYSTEM	0	0			

\*: Adjustable data

Others: Fixed data (be careful not to change)

- (4) Check MENU key to exit VIDEO CHROMA ADJUST mode.

- NOTE:**
- (1) If there is a different value than shown in table above, for fixed data, adjust it using  $\blacktriangleleft \triangleright$  buttons (only in this case).
  - (2) When exchanging microprocessor and TV is turned on for first time, it requires initialization of VIDEO CHROMA ADJ on P1 and P6.

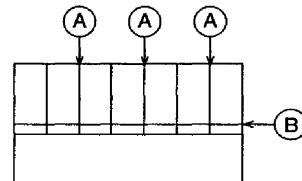
### 1.2 Comb filter operation check

Adjustment preparation

- (1) Receive the color bar signal at the regular tuning point.
- (2) Set the contrast control to MAX and the other controls to center.
- (3) Set the AI to OFF.

Adjustment procedure

- (1) Check that between the color bars there are line dots every second color bar as shown in the drawing.



Check (A) and (B) line dots.

	AP73	AP74
Dots	Dots	Dots
(A)	X	None
(B)	None	None

### 1.3 Sub-picture position adjustment

Adjustment preparation

- (1) Select signal on main picture.
- (2) Video settings have to be at normal condition.

Adjustment procedure

- (1) Press the INPUT and POWER button on Control Panel at same time to access VIDEO CHROMA ADJUST mode.
- (2) Select H POSI and V POSI using  $\Delta \nabla$  buttons.
- (3) Adjust the H POSI (HORIZONTAL) and V POSI (VERTICAL) position using  $\blacktriangleleft \triangleright$  buttons.
- (4) Press MENU button to exit VIDEO CHROMA ADJUST mode.
- (5) Select single PINP mode and move the sub picture, using the MOVE button. Distance between PINP and edge of screen should be equal when moved. If it is not, repeat (1) ~ (5).

**NOTE:** Check the position of MULTI PINP mode. Check the right edge of the sub pictures for MV-4 to make sure there is no separation between the MULTI PINP and the edge of the screen.

## 2. FINAL ASSEMBLY ADJUSTMENT

### 2.1 Focus adjustment

Adjustment preparation

- (1) The set can face in any direction, west, east, north or south.
- (2) Receive the cross-hatch pattern signal.

CONTRAST : QUARTER

BRIGHTNESS : QUARTER

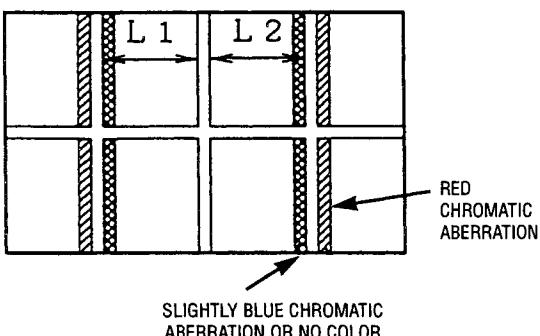
- (3) The electrical focus adjustment should have been completed.
- (4) The centering DY inclination should have been adjusted.

Adjustment procedure

- (1) Loosen the fixing screw on the lens cylinder so that the lens cylinder can be turned. (Be careful not to loosen too much. If it is loosened too much, rattling when tightening becomes greater and the focus may drift). After completing steps (5), (6) and (7) below, tighten the fixing screws for each lens with a torque of 12~17 Kg-cm.
- (2) Apply covers to 2 of R, G and B lenses, and project a single color on the screen and adjust in sequence.  
(The adjustment order of R, G and B is only an example.)
- (3) For each of the R, G and B lenses, observe the color aberration generated on the outer circumference of the cross-hatch bright line at the center section  $\pm 3$  pitches vertically and horizontally from the center.
- (4) If the lens adjustment knob is turned clockwise, viewed from the front, the color aberration changes as follows.

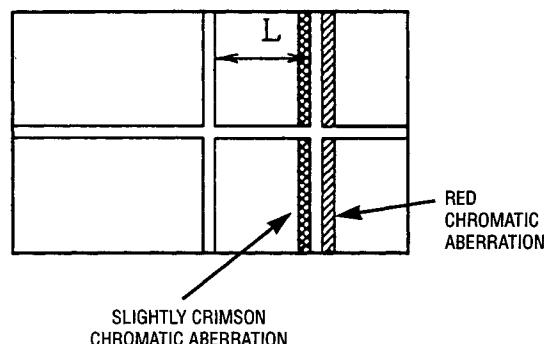
Lens	Change of color aberration
R lens	Red → Crimson
G lens	Blue → Red
B lens	Purple → Green

- (5) In case of G lens, set to the point where the chromatic aberration switches from blue to red. If the chromatic aberration appearing all over the screen is not the same, observe the vertical bright line at the center of the screen and set to the position where red chromatic aberration slightly appears inside and blue outside (reference value: 1~3mm) within the cross-hatch pitches specified in next table. When the red chromatic aberration appearing at both sides of the bright line is not equal, observe the side with larger chromatic aberration when adjusting.



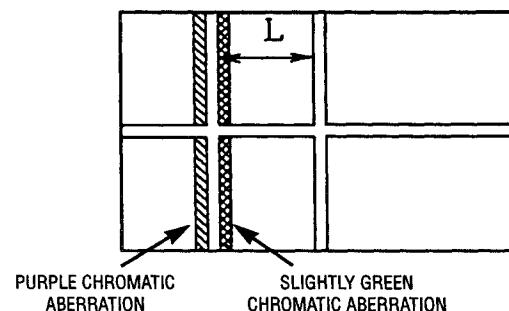
Set Size	Pitch between L1 & L2
46"	3.0 cross-hatch pitches
50"	3.0 cross-hatch pitches
60"	3.0 cross-hatch pitches

- (6) In case of R lens, set to the position where the chromatic aberration changes from red to crimson. As shown below, observe the vertical bright line at the center and set to the position where the crimson chromatic aberration slightly appears inside and red outside (reference value: 1~3mm) within the cross-hatch pitches specified in next table.



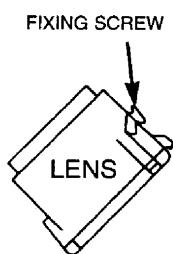
Set Size	Pitch between L
46"	3.0 cross-hatch pitches
50"	3.0 cross-hatch pitches
60"	3.0 cross-hatch pitches

- (7) In case of B lens, set to the position where the chromatic aberration changes from purple to green. As shown below, observe the vertical bright line at the center and set to the position where green chromatic aberration slightly appears inside and purple outside (reference value: 1~3mm) within the cross-hatch pitches specified in next table.

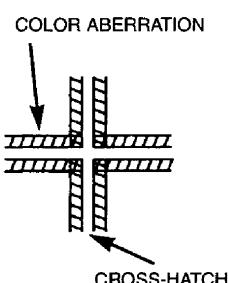


Set Size	Pitch between L
46"	3.0 cross-hatch pitches
50"	3.0 cross-hatch pitches
60"	3.0 cross-hatch pitches

**Notes:** (1) Fixing screw



(2) Color aberration



- (3) Since the G light is very important for picture quality and performance, pay special attention in its adjustment.

**Note:** Be careful not to touch the lens with your fingers when adjusting.

- (4) For red, setting to the center between red and crimson is optimum.  
 (5) For blue, setting to the center between purple and green is optimum.

## 2.2 White balance adjustment

- (1) Screen adjustment  
 (2) High brightness white balance.  
 (3) Low brightness balance.

Screen adjustment VRs	Drive adjustment VRs
Red: on FOCUS PACK	Red: R873
Green: on FOCUS PACK	Green: R843
Blue: on FOCUS PACK	

Adjustment preparation

- (1) Start adjustment 20 minutes or more after the power is turned on.
- (2) The vertical incident illumination on the screen should be 20 lux or less.
- (3) Set the video settings (contrast: max, others: center) to standard condition
- (4) For low brightness white balance adjustment, input a white raster signal level of 0.300Vp-p (Video input level).
- (5) For high brightness white balance adjustment, input a white raster signal level of 0.715Vp-p (Video input level).
- (6) Set the drive adjustment VRs (red and green) to 12 - 2 o'clock position.
- (7) Turn the screen adjustment VRs (red, green and blue) fully counterclockwise.
- (8) Set video advanced setting white control to COOL position.

Adjustment procedure

- (1) Go to VIDEO CHROMA ADJUST mode by pressing INPUT and Power button on Control Panel at the same time.
- (2) In "SERVICE" mode push **►** button and screen turns to black. Gradually turn the screen adjustment VRs (red, green, blue) clockwise and set them where the red, green and blue slightly bright lines just appear evenly on the screen.
- (3) Push the **►** button again to return to "Normal" side.
- (4) Press "MENU" button to exit VIDEO CHROMA ADJUST.

- (5) Select the input signal for high brightness (Video level = 0.715Vpp).
- (6) Adjust the high brightness white balance using the drive adjustment VRs (red, green).
- (7) Select the signal for low brightness (Video level = 0.300Vpp)
- (8) Adjust the low brightness white balance using the screen adjustment VRs (red, green, blue). (Visually adjust).
- (9) Check that high brightness white balance is obtained. If it does not, return to step (7).

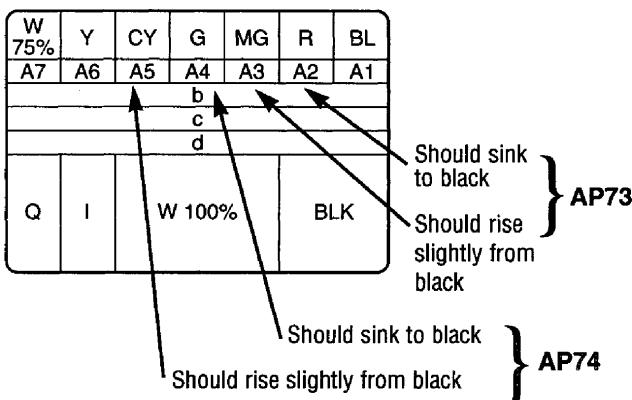
**NOTE:** Before adjusting the White Balance, check that the screen adjustment VRs are turned fully counterclockwise. Since the phosphorescent surface of the CRT is likely to be burned, be careful.

White balance = 9300° K ± 0MPCD  
 Color coordinate = x ..... 0.285  
 y ..... 0.295

## 2.3 Sub brightness adjustment

Adjustment preparation

- (1) Start adjustment 20 minutes or more after the power is turned ON. Receive the color bar signal.
- (2) Set the contrast and color controls to minimum.
- (3) The vertical incident illumination on the screen should be 20 lux or less.



Adjustment procedure

- (1) Go to "Sub Brightness" adjustment in VIDEO CHROMA ADJUST mode (press Input and Power button on Control panel at same time), using **▲▼** buttons and then **►** button.
- (2) Then adjust "Sub Brightness" using **◀▶** buttons to increase or decrease the value, according to figure. (Visually adjust).
- (3) After adjustment, press MENU button to exit VIDEO CHROMA ADJUST mode. (Data is stored in memory).

**Note:** When selecting SUB-BRIGHTNESS mode the icon sets the CONTRAST and COLOR to min. automatically, but make sure that the other conditions are center. Directly observe the screen by eye without using a mirror.

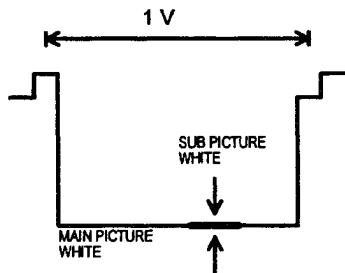
## 2.4 Sub picture white balance adjustment (R0M4, R0M6, R0M8)

### Adjustment preparation

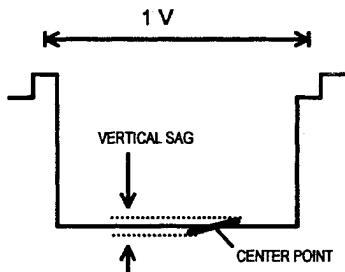
- (1) Start adjustment after power is on for 20 minutes.
- (2) Use a white raster signal for adjustment.
- (3) Press "FREEZE" on the remote control and select "single" freeze mode to display the sub picture.
- (4) Set contrast to maximum, other conditions = center.

### Adjustment procedure

- (1) Connect oscilloscope to P802 and adjust R0M8 to match blue level of main and sub pictures.
- (2) Repeat for P832 and R0M6 green, P862 and R0M4 for red.



**Note:** If the sub picture has a signal sag, adjust level at center point.



## 2.5 Surround operation check

### Adjustment preparation

Input the following audio signals to the audio input of the VIDEO INPUT terminals.

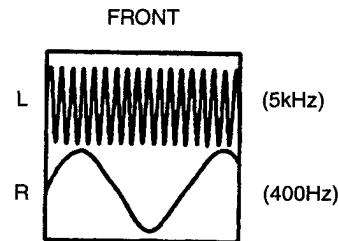
- When checking surround:
  - ① L CH: 400Hz sine wave 475mVrms
  - ② R CH: 5kHz sine wave 475mVrms
- Set the AUDIO ADVANCED SETTING for INT. SPEAKERS ON.
- Set the volume controls of FRONT, CENTER and REAR to around their centers.
- Set the BASS, TREBLE and BALANCE to TYP.

**Note:** Front waveform: Front speaker output of the set.  
Rear waveform: Rear speaker output of the set.  
Center waveform: Center speaker output of the set.

## 2.5.1 Surround off check

### Adjustment procedure

- (1) Set to SURROUND: OFF and check that the waveform shown below is obtained (Input signal ① and ② ).

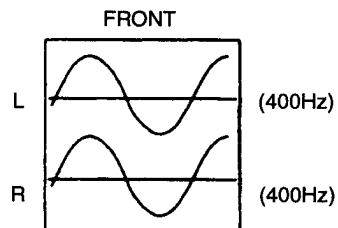


**Note:** The rear and center will have no output.

## 2.5.2 Surround off/monaural check

### Adjustment procedure

Check that the following waveform is obtained. The amplitudes of 2 channels are equal. (Input signal ① only).

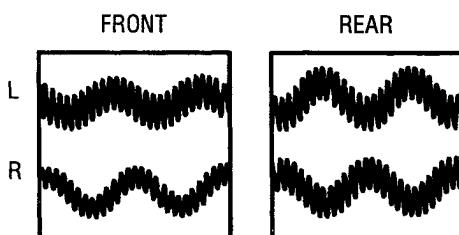


**Note:** Monaural check can be omitted. The rear and center have no output.

## 2.5.3 Matrix surround check

### Adjustment procedure

- (1) Set to SURROUND: MATRIX
  - Check that the following waveforms are obtained. (Input signal ① and ② ).
- Front: Check that the phases of R and L are different and 400Hz is superimposed on 5kHz. The amplitudes of R and L are different.
  - Rear: Check that the phases of R and L are opposite and 400Hz is superimposed on 5kHz. The amplitudes of R and L are different.

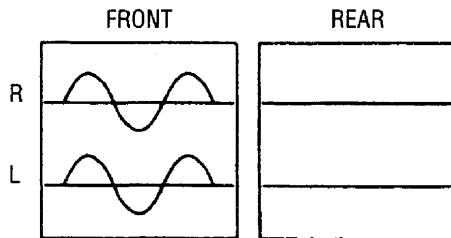


**Note:** Center has no output.

#### 2.5.4 Matrix surround/monaural check

Adjustment procedure

- Check that the following waveforms are obtained.  
(Input signal ① only)
- Front: R and L waveforms are almost equal.
- Rear: R and L waveforms are almost Zero.



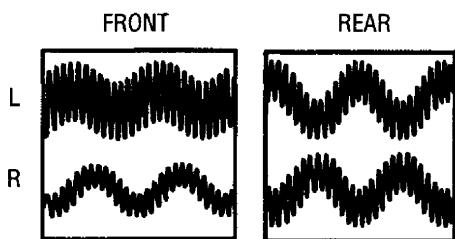
Note: Center has no output.

#### 2.5.5 Hall surround check

Adjustment procedure

- (1) Set to SURROUND: HALL.  
(Input signal ① and ② ).

- Front: Check that the phases of R and L signals are different and 400 Hz is superimposed on 5kHz.
- Rear: Check that the R and L are opposite and 400Hz is superimposed on 5kHz. The R and L amplitudes are equal.

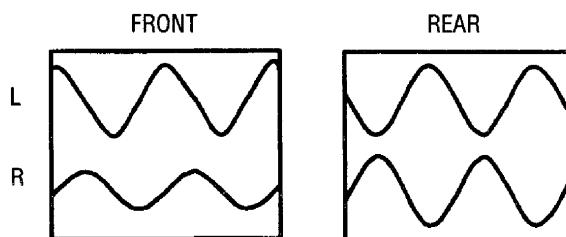


Note: Amplitude levels of front R and L are not even depending on P.W.B. Center has no output.

#### 2.5.6 Hall surround/monaural check

Adjustment procedure

- Check that the following waveforms are obtained.  
(Input signal ① only)
- Front: The phases of R and L are different.  
The amplitudes are different.
- Rear: The phases of R and L are opposite.  
The amplitudes of R and L are equal.



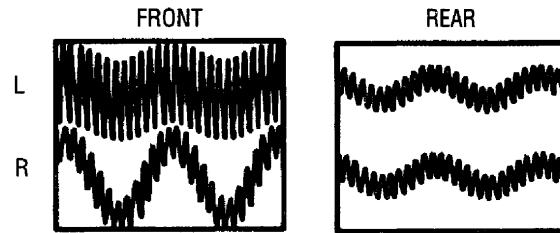
Note: The monaural check can be omitted.  
Amplitude levels of front R and L are not even depending on the P.W.B. Center has no output.

#### 2.5.7 Dolby surround check

Adjustment procedure

- (1) Set to SURROUND: DOLBY

- Check that the following waveforms are obtained.  
(Input Signal ① and ② )
- Front: 400 Hz is superimposed on 5kHz.
- Rear: R and L are the same signal and 400Hz is superimposed on 5kHz.

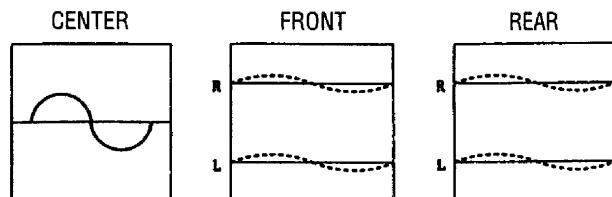


Note: MODE: PRO LOGIC (NORMAL)

#### 2.5.8 Dolby surround/monaural check

Adjustment procedure

- Check that the following waveforms are obtained.  
(Input signal ① only).
- Front: Almost no output from both R and L.
- Center: Same as the audio input signal.
- Rear: Almost no output from both R and L.



#### 2.6 Raster Inclination adjustment (Deflection yoke)

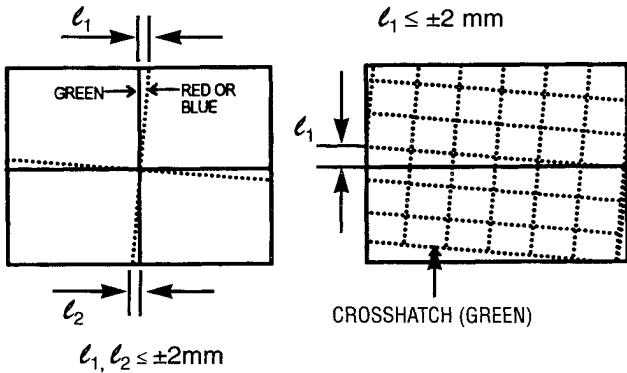
Adjustment preparation

- (1) The set can face east or west.
- (2) Input the single cross test signal.
- (3) Set video conditions to factory reset.
- (4) The lens focus adjustment should have been completed.
- (5) The electric focus should have been coarse adjusted.
- (6) The digital convergence RAM should be cleared (uncorrected state). With the TV set off, press and hold the service switch located on the Power/Deflection PWB and then press the power button.
- (7) Start adjustment 20 minutes or more after TV is turned on.

Adjustment procedure

- (1) Apply covers to the R and B lenses and project only green light.
- (2) Turn the G deflection yoke and adjust the vertical raster inclination.
- (3) Then, remove the cover of R or B lens and project red or blue light and green light together on the screen.

- (4) Turn the deflection yoke of R or B and set so that the inclination of R or B with respect to the green light is as shown below on the top and bottom sides.
- (5) After raster inclination adjustment, fixing screw of DY should be screwed with  $12 \pm 2 \text{ kg-cm}$  torque.



**Notes:** (1) If internal cross-hatch does not appear after clearing RAM data, press service switch again, on POWER/DEFLECTION PWB.  
(2) To restore old RAM data, turn TV off and on.

## 2.7 Raster position adjustment

### Adjustment preparation

- (1) The set can face east or west.
- (2) Input the single cross test signal.
- (3) Set video conditions to factory reset.
- (4) The lens focus adjustment should have been completed.
- (5) The electric focus should have been coarse adjusted.
- (6) The digital convergence RAM should be cleared (uncorrected state). With the TV set off, press and hold the service switch located on the Power/Deflection PWB and then press the power button.
- (7) Start adjustment 20 minutes or more after TV is turned on.

### Adjustment procedure

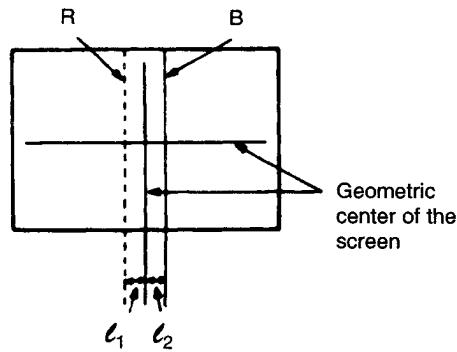
- (1) Turn the centering magnets for red, green, and blue to satisfy the condition below. The red and blue horizontal lines should match with green.

**AP74**

	$\ell_1$ (RED)	$\ell_2$ (BLUE)
70"	0	25
60"	0	25
50"	0	30

**AP73**

	$\ell_1$ (RED)	$\ell_2$ (BLUE)
60"	15	40
50"	10	30
46"	10	30



**NOTES:** (1) If internal cross-hatch does not appear after clearing RAM data, press service switch again.

(2) To restore old RAM data, turn TV off and on.

## 2.8 Vertical size adjustment (R630)

### Adjustment preparation

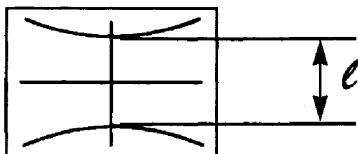
- (1) The set can face east or west.
- (2) Input the single cross test signal.
- (3) Set video conditions to factory reset.
- (4) The lens focus adjustment should have been completed.
- (5) The electric focus should have been coarse adjusted.
- (6) The digital convergence RAM should be cleared (uncorrected state). With the TV set off, press and hold the service switch located on the POWER/DEFLECTION PWB and then press the power button.
- (7) Start adjustment 20 minutes or more after TV is turned on.

### Adjustment procedure

- (1) Turn only the green by applying covers to the red and blue lens or shorting the 2 pin TS connectors on the red and blue CPT P.W.B.
- (2) Count the vertical lines of the DCU cross hatch. If the number of vertical lines is 9, go to step (3). If the number of vertical lines is 8, push "HELP" key and then "5" key on the R/C so the number of vertical lines becomes "9".
- (3) Turn vertical amplitude adjustment VR (R630) so that the distance between the top and bottom horizontal lines is equal to the size shown in the table.

$\ell$ :	Size	AP74	AP73
70"	$915 \pm 5 \text{ mm}$	—	—
60"	$800 \pm 5 \text{ mm}$	$800 \pm 5 \text{ mm}$	—
50"	$650 \pm 5 \text{ mm}$	$650 \pm 5 \text{ mm}$	—
46"	—	$600 \pm 5 \text{ mm}$	—

**Note:** (1) If internal cross-hatch does not appear after clearing RAM data, press service switch again (on POWER/DEFLECTION PWB).  
(2) To restore old RAM data, turn TV off and on.



## 2.9 Horizontal size adjustment (R603)

### Adjustment preparation

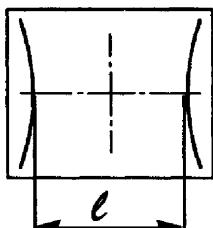
- (1) The set can face east or west.
- (2) Input the single cross test signal.
- (3) Set video conditions to factory reset.
- (4) The lens focus adjustment should have been completed.
- (5) The electric focus should have been coarse adjusted.
- (6) The digital convergence RAM should be cleared (uncorrected state). With the TV set off, press and hold the service switch located on the POWER/DEFLECTION PWB and then press the power button.
- (7) Start adjustment 20 minutes or more after TV is turned on.

### Adjustment procedure

- (1) Project only green, the same as Vertical size adjustment.
- (2) Turn horizontal amplitude adjustment VR (R603) so distance between the left and right vertical lines is equal to the size shown in the table.

*e:*

Size	AP74	AP73
70"	1340 ± 5mm	—
60"	1180 ± 5mm	1140 ± 5mm
50"	970 ± 5mm	950 ± 5mm
46"	—	875 ± 5mm



**Note:** (1) If internal cross-hatch does not appear after clearing RAM data, press service switch again.  
(2) To restore old RAM data, turn TV off and on.

## 2.10 Beam alignment

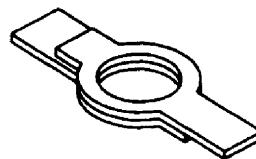
### Adjustment preparation

- (1) Adjust at least 30 minutes after turning on power switch.
- (2) The static convergence data should be cleared (see section 1.1 Memory initialization).
- (3) Raster inclination, centering, horizontal and vertical amplitudes and optical focus adjustment should be completed.
- (4) Set video conditions to factory reset.
- (5) Receive cross-hatch signals. (Use of internal cross-hatch signals allowed.)

- (6) Short-circuit all metal parts (metal fittings, centering magnet) installed on the projection tubes to GND's of the projection tubes.   
Since metal parts are charged with electricity, shocks may be caused if they are not short circuited.

### Adjustment procedure

- (1) Green (G) tube beam alignment adjustment. Short-circuit 2P subminiature connector plug pins of Red (R) and Blue (B) on the CPT boards and project only Green (G) tube.
- (2) Put Green (G) tube beam alignment magnet to the cancel state as shown below.



- (3) Turn the Green (G) static focus (Focus Pack) counterclockwise all the way and make sure of position of cross-hatch center on screen. (Halo state.)
- (4) Turn the Green (G) static focus (Focus Pack) clockwise all the way. (Blooming state.)
- (5) Turn two magnets forming alignment magnet in any desired direction and move cross-hatch center to position found in (3).
- (6) If image position does not shift when Green (G) static focus (Focus Pack) is turned, Green (G) beam alignment has been completed.
- (7) If image position shifts when Green (G) static focus (Focus Pack) is turned, repeat (2)-(6).
- (8) Conduct beam alignment for red (R) focus: Focus Pack UFPK Blue (B) focus: Focus Pack UFPK.
- (9) Upon completion of adjustment, fix beam alignment magnets with white paint.

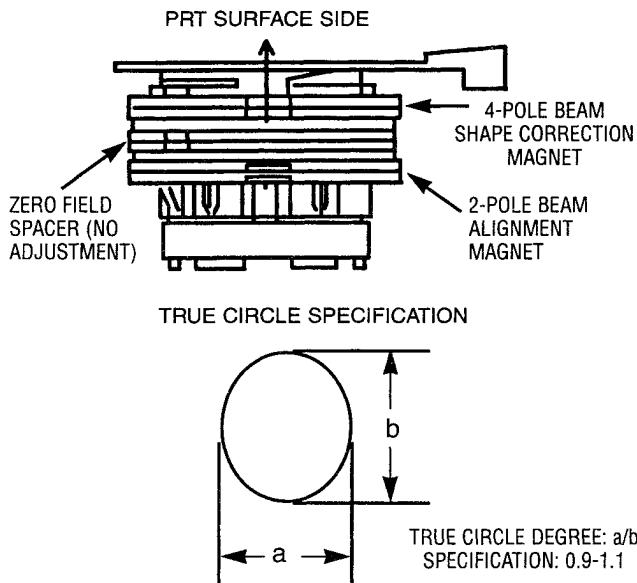
## 2.11 Beam shape adjustment

### Adjustment preparation

- (1) The beam alignment should have been completed.
- (2) The raster inclination, centering, horizontal/vertical amplitude and optical focus adjustments should have been completed.
- (3) Set video conditions to factory reset.
- (4) Input the dot signal.

### Adjustment procedure

- (1) Green PRT beam shape adjustment. Short-circuit 2P sub-mini connectors on Red and Blue CPT P.W.B.s to project only the Green beam.
- (2) Turn the green static focus fully clockwise. (Blooming.)
- (3) Make the dot at the screen center a true circle using the 4-pole magnet as shown below.
- (4) Also adjust the Red and Blue PRT beam shapes according to the steps (1) to (3).
- (5) After the adjustment has been completed, return R, G and B static VRs to the Just focus point.



## 2.12 Static focus adjustment

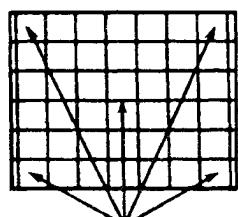
### Adjustment preparation

- (1) The raster inclination, centering, horizontal/vertical amplitude and optical/electrical focus beam alignment should have been adjusted.
- (2) The static convergence data should be cleared.
- (3) Set video conditions to factory reset.
- (4) Receive the cross-hatch pattern signal.
- (5) Apply covers to the lenses of colors other than the color to be adjusted and project a single color.

### Adjustment procedure

- (1) Red (R), Green (G) and Blue (B) static focus adjustment. Vary the static focus VR (focus pack UFPK) and make the center of the cross-hatch pattern clearest.
- (2) Observe the corners of the picture and check that the focus does not get conspicuously worse.

OBSERVING POINTS OF THE CORNER OF THE PICTURE



OBSERVING POINTS

## 2.13 Blue defocus adjustment

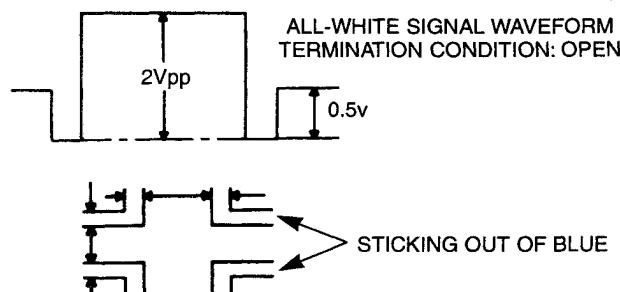
### Adjustment Preparation

- (1) Optical and electrical focus adjustment should have been completed.
- (2) The convergence adjustment should have been completed.
- (3) Set Video conditions to factory reset.

### Adjustment procedure

- (1) Input an all-white signal shown below to VIDEO input.
- (2) Short-circuit 2P sub-mini connectors on the red and green CPT P.W.Bs. to display only the blue beam.

- (3) Turn the B Focus VR (Focus Pack) fully clockwise.
- (4) Measure the brightness at the center of the screen and turn the B FOCUS VR (Focus Pack) counterclockwise to adjust the brightness of blue as shown in Table.
- (5) After the adjustment is completed, if blue exceeds the specification, turn and adjust focus so that the sticking out part of blue satisfies the specification.



UNEVENNESS SPECIFICATION:  $\pm 1\text{cd/m}^2$

### Defocus brightness specification

Screen Size	Brightness of Blue
46"	54 cd/m <sup>2</sup>
50"	45.6 cd/m <sup>2</sup>
60"	37.2 cd/m <sup>2</sup>
70"	30 cd/m <sup>2</sup>

### Defocus sticking out specification

Screen Size	Blue sticking out
46"	1.0mm
50"	1.0mm
60"	1.0mm
70"	1.0mm

**Condition:** User controls are set to the initial set positions (for shipment) Measuring point Screen center.

**Cautions:** Correct the brightness gauge and amplitude of the all-white signal periodically. The aperture angle of the brightness gauge is 1°.

Use a cross-hatch pattern to check.

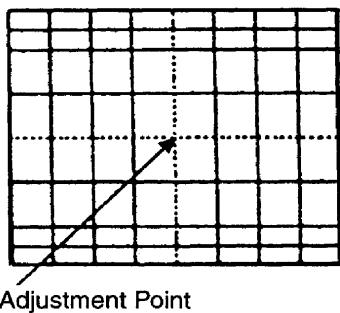
## 2.14 Digital convergence adjustment

**Note:** If replacing a PRT, DY, etc. perform auto-digital convergence first. (Press front panel MAGIC FOCUS switch when in normal customer mode). This can eliminate the need for a complete digital convergence alignment.

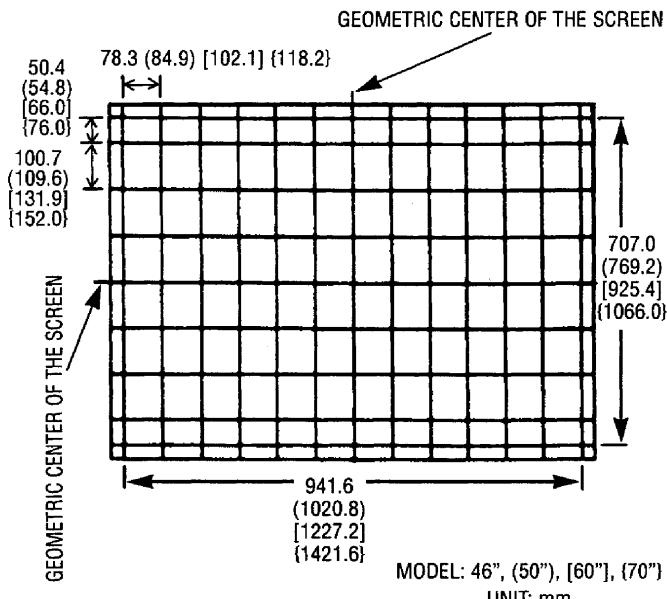
### Adjustment preparation

- (1) Receive an RF or video signal.
- (2) Set controls to factory preset.
- (3) Install jig screen on the set.
- (4) Note the center of the video pattern displayed. This is necessary to match dotted lines (adjustment point viewed) and actual point that is adjusted and displayed by the video signal.

- (5) Press the service only switch (on POWER/DEFLECTION PWB). The pattern displayed is now the digital convergence mode.
- (6) When performing a complete digital convergence adjustment CLEAR DATA in RAM. See 2.6. (1) - (7).



#### JIG SCREEN SPECIFICATION



**Note:** If only minor adjustments to convergence are needed, the jig screen is not necessary. Use digital data stored in memory and one color as a reference (red, green, or blue). DO NOT CLEAR DATA and WRITE to ROM memory.

#### 2.14.1 Phase adjustment (service mode)

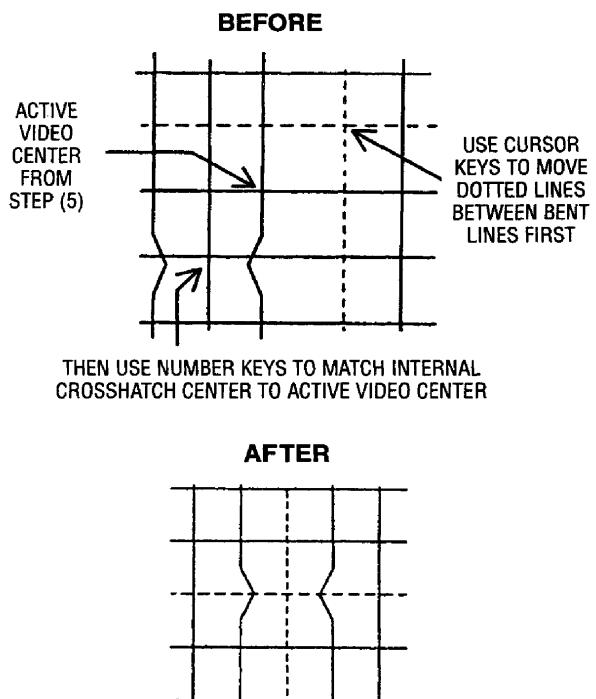
##### Adjustment preparation

- (1) PHASE adjustment - This is to match the digital convergence cursor position to the video image displayed, and to match the digital convergence cursor position (dotted lines) to digital convergence data position (bent lines).

##### Adjustment procedure

- (1) Press the HELP button on the remote to select phase adjustment. (Only Green displayed).

- (2) Identify the bent lines and use the cursor buttons to move the dotted lines in between as shown.
- (3) Press HELP to exit PHASE mode.
- (4) Press ENTER 5 times to display external signal.
- (5) Identify center of active video, then press ENTER 5 times to return to internal cross-hatch.
- (6) Press HELP (phase adj.), and use 2, 4, 5 and 6 to position internal cross-hatch center on active video center identified in step (5).
- (7) Press HELP to exit PHASE mode.



#### 2.14.2 Raster position adjustment

##### Adjustment preparation

- (1) Position adjustment - This will move an entire color. Use this adjustment to match colors at the center of the screen. (Active video center from external signal and physical screen center should now match from phase adj. 2.15.1.).
- (2) Use the buttons below to switch color to adjust.  
"RECALL" - Green  
"0" - Red  
"INPUT" - Blue

##### Adjustment procedure

- (1) Press the FRZ button. Extra horizontal lines appear to confirm raster position mode.
- (2) Use the cursor buttons to adjust position.
- (3) Press FRZ again to exit raster position mode.

- Notes:**
- (1) Other functions cannot be accessed when in raster position adjustment mode. Press FRZ and confirm extra horizontal lines disappear to exit raster position mode.
  - (2) Press MENU to switch between all colors displayed or adjustment color and Green only.

### 2.14.3 Convergence point adjustment

Adjustment preparation

- (1) Select color to adjust.  
"RECALL" - Green  
"0" - Red  
"INPUT" - Blue
- (2) Use 4, 6, 2, and 5 to move the cursor position (dotted lines).
- (3) Use cursor buttons to move the convergence point.
- (4) Three adjustment modes are available:
  1. (3x3) Press "RECALL" 5 times
  2. (7x5) Press "0" 5 times
  3. (13x9) Press "INPUT" 5 times

For touch-up, only the (13x9) mode is necessary. This will adjust every cross-hatch intersection point on the screen.

For complete adjustment, start with (3x3) mode. This will adjust center point and eight edge points only, but will greatly reduce adjustment time. Then use (7x5) mode, and finally (13x9) mode to finish convergence.

If "S" distortion appears between cross-hatch lines repeat (7x5) mode to change calculation process while adjusting to remove distortion, then return to (13x9) mode to finish touch-up convergence.

Adjustment procedure

- (1) Start adjustment at the center of the screen.
- (2) Continue adjustment at next closest position.
- (3) Adjust center area first, ending with edge sections.
- (4) Press INFO button to perform interpolation operation. This process will take about 15 seconds and no picture will be seen at this time.
- (5) After interpolation, check convergence again and repeat (1)-(5) if necessary.
- (6) When convergence is acceptable, press MOVE to write data to ROM memory. ROM WRITE? is displayed to alarm system that ROM will be overwritten with new data. Press the MOVE button again to write displayed data to ROM.
- (7) DATA WRITE TO ROM will take approximately 20 seconds and no picture will be displayed.
- (8) Green dots will be displayed when operation is complete.
- (9) Press MUTE to return to convergence pattern, then confirm again convergence is acceptable.
- (10) Press MOVE (ROM WRITE) mode, then press PIP CH to initialize sensor data positions.

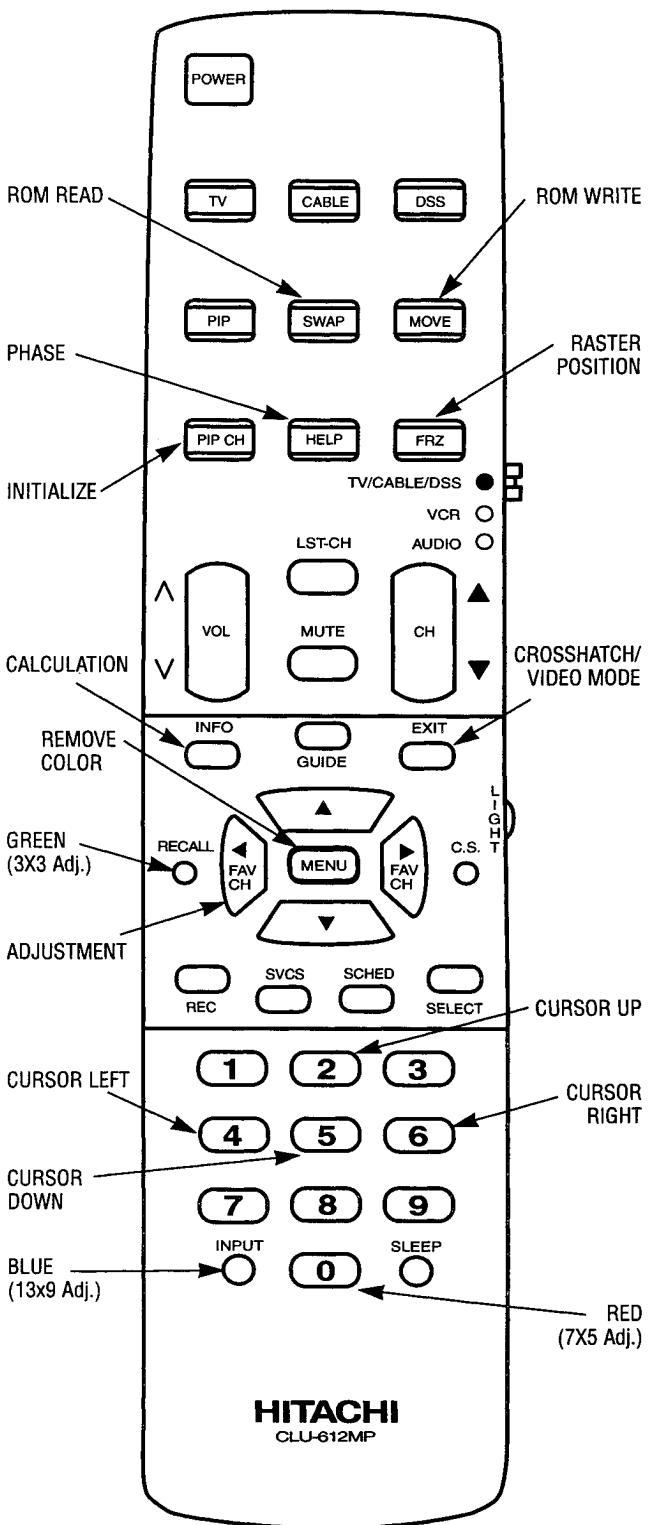
**Notes:**

- (1) Display only green for easier adjustment and match to jig screen. Press "MENU", THEN PRESS "RECALL".
- (2) Perform interpolation and data write to ROM after green adjustment. Once green has been confirmed to match jig screen, the jig screen can be removed. Do not readjust the green color after jig screen has been removed. This is now your reference color.
- (3) Display green and red only and match red to green.
- (4) Display all colors and match blue to green and red. Touch-up red color if necessary.

(5) Existing DATA in ROM can be read by pressing the SWAP button 2 times. This data can be used after replacing a component (CRT, DY, etc.) Where complete convergence adjustment is not necessary be careful not to overwrite this data.

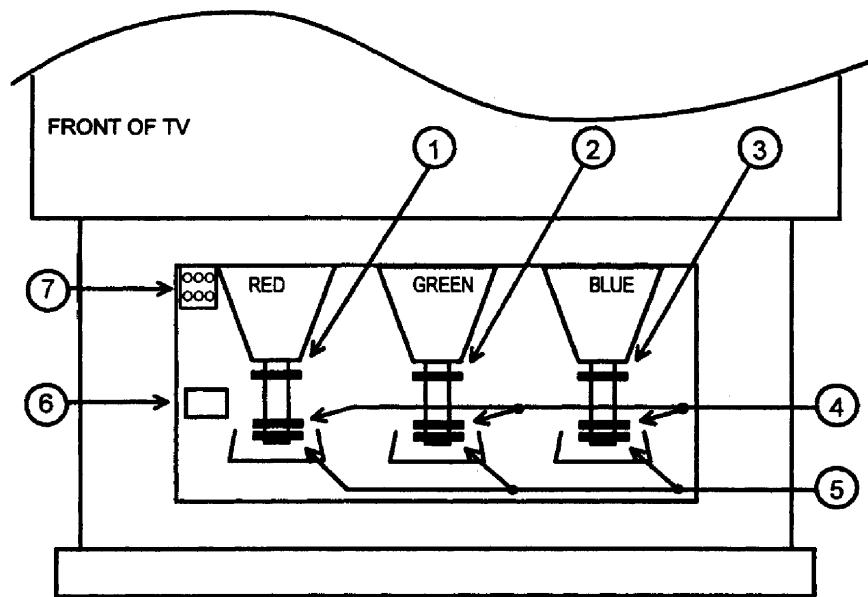
DO NOT write cleared RAM data into ROM or a complete convergence adjustment will be necessary. Remember to try MAGIC FOCUS before starting convergence adjustment to minimize adjustment time.

### 2.14.4 Digital Convergence Remote Control



### 3. ADJUSTMENT POINT

#### 3.1 CRT, cabinet locations

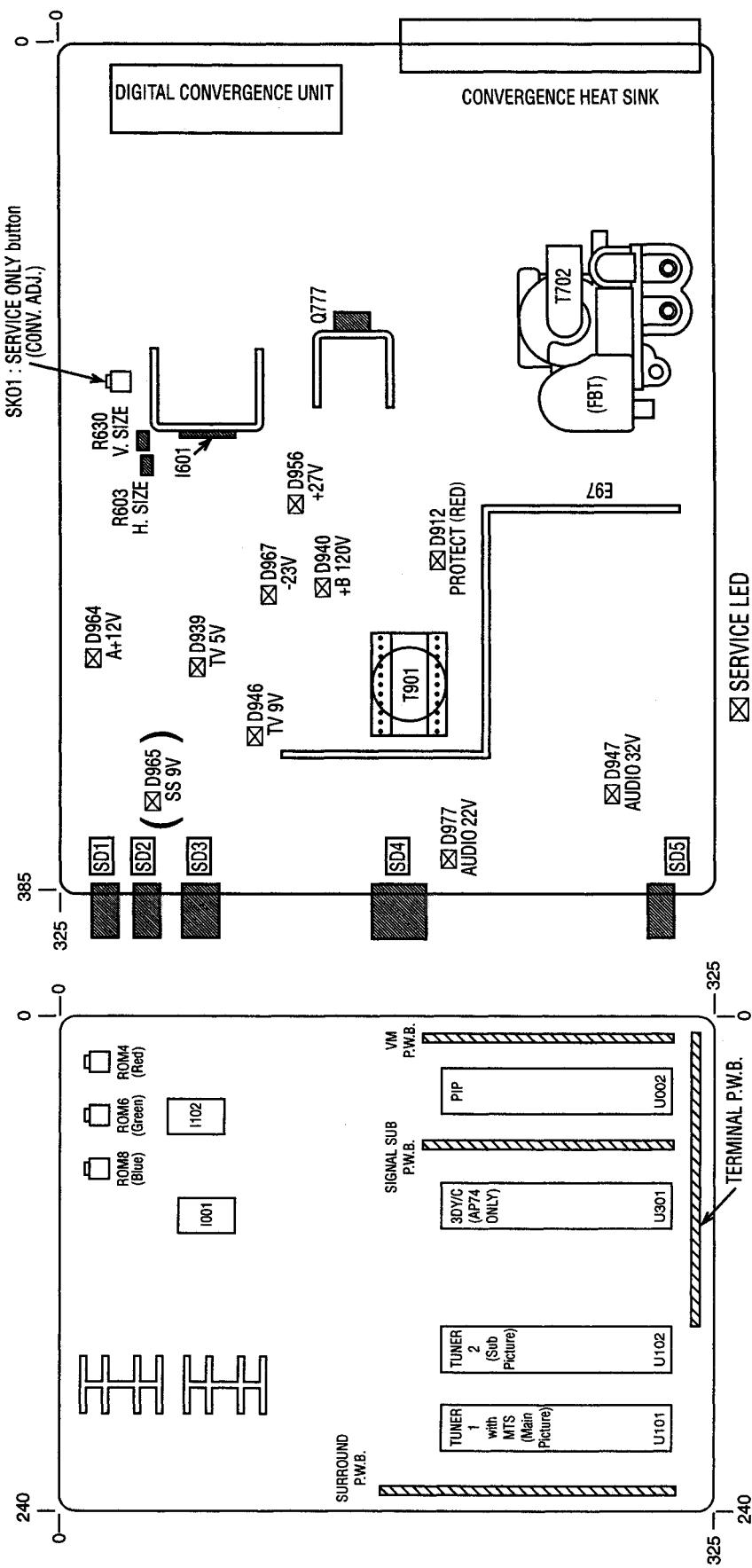


1. CENTERING MAGNET FOR RED PRT
2. CENTERING MAGNET FOR GREEN PRT
3. CENTERING MAGNET FOR BLUE PRT
4. 4-POLE MAGNET FOR BEAM FORM ADJUSTMENT
5. BEAM ALIGNMENT MAGNET
6. DIGITAL CONVERGENCE MODULE (On Power/Deflection board)
7. FOCUS PACK (TOP ADJUSTMENTS FOR SCREEN, BOTTOM FOR FOCUS, )

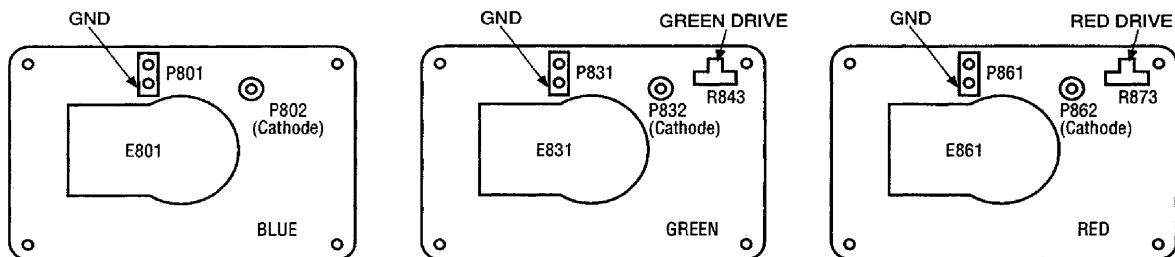
## SIGNAL P.W.B.

## POWER/DEFLECTION P.W.B.

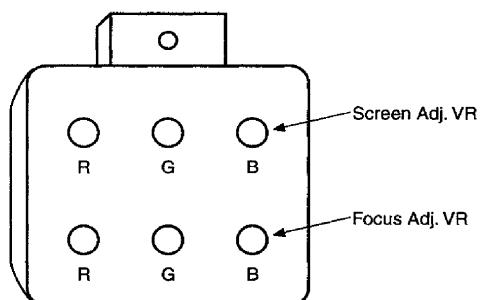
30



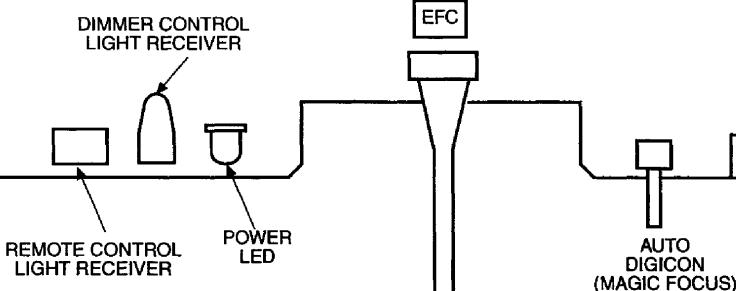
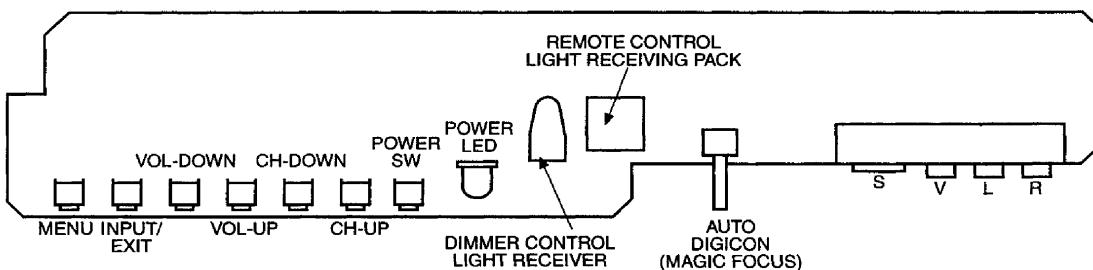
### 3.3 CPT (R) (G) (B), Control P.W.B., Focus Pack



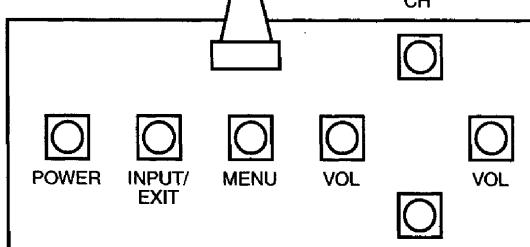
FOCUS PACK (UFPK)



46UX50B/51K  
50UX52B/53K  
60UX54B/55K  
70SBX74B

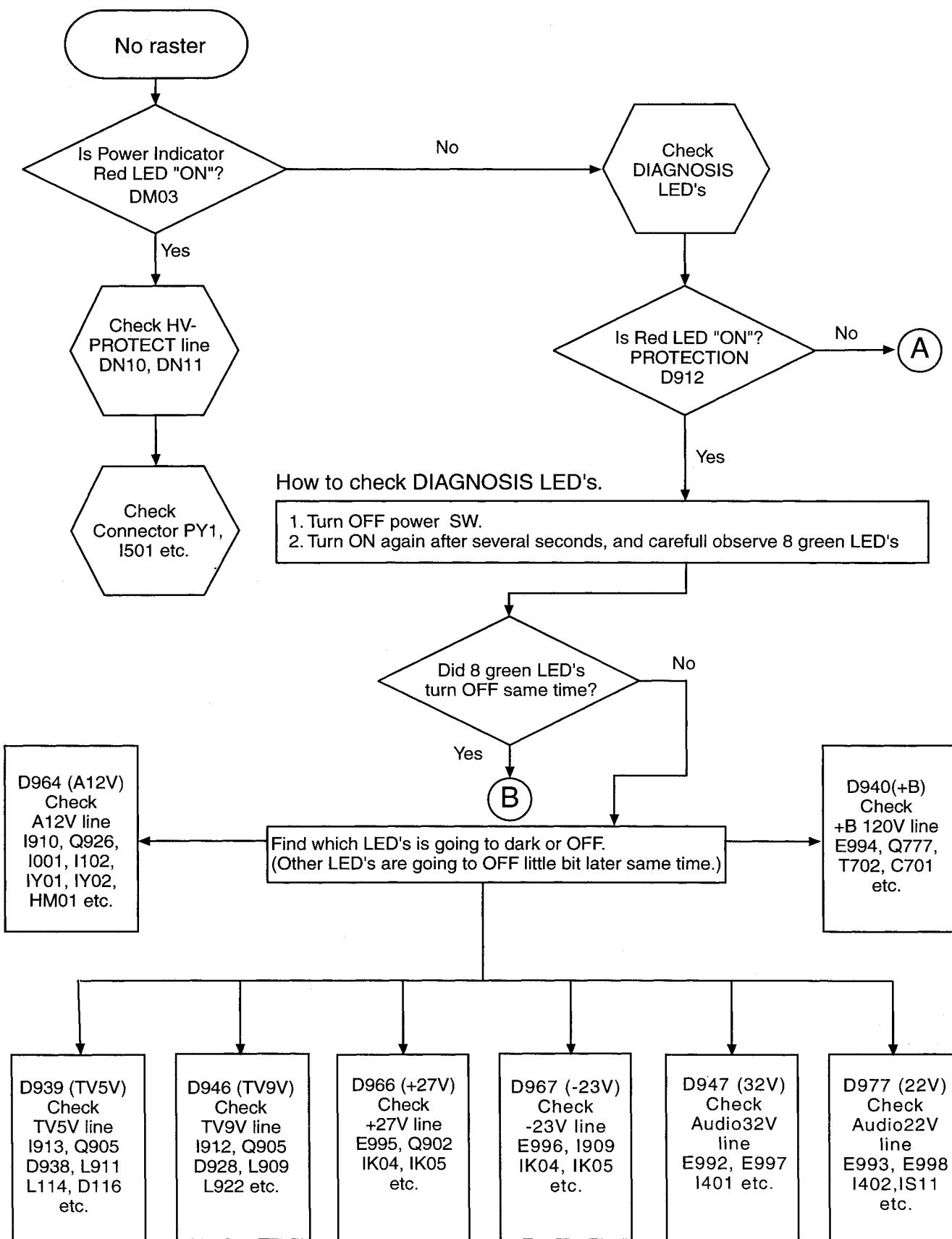


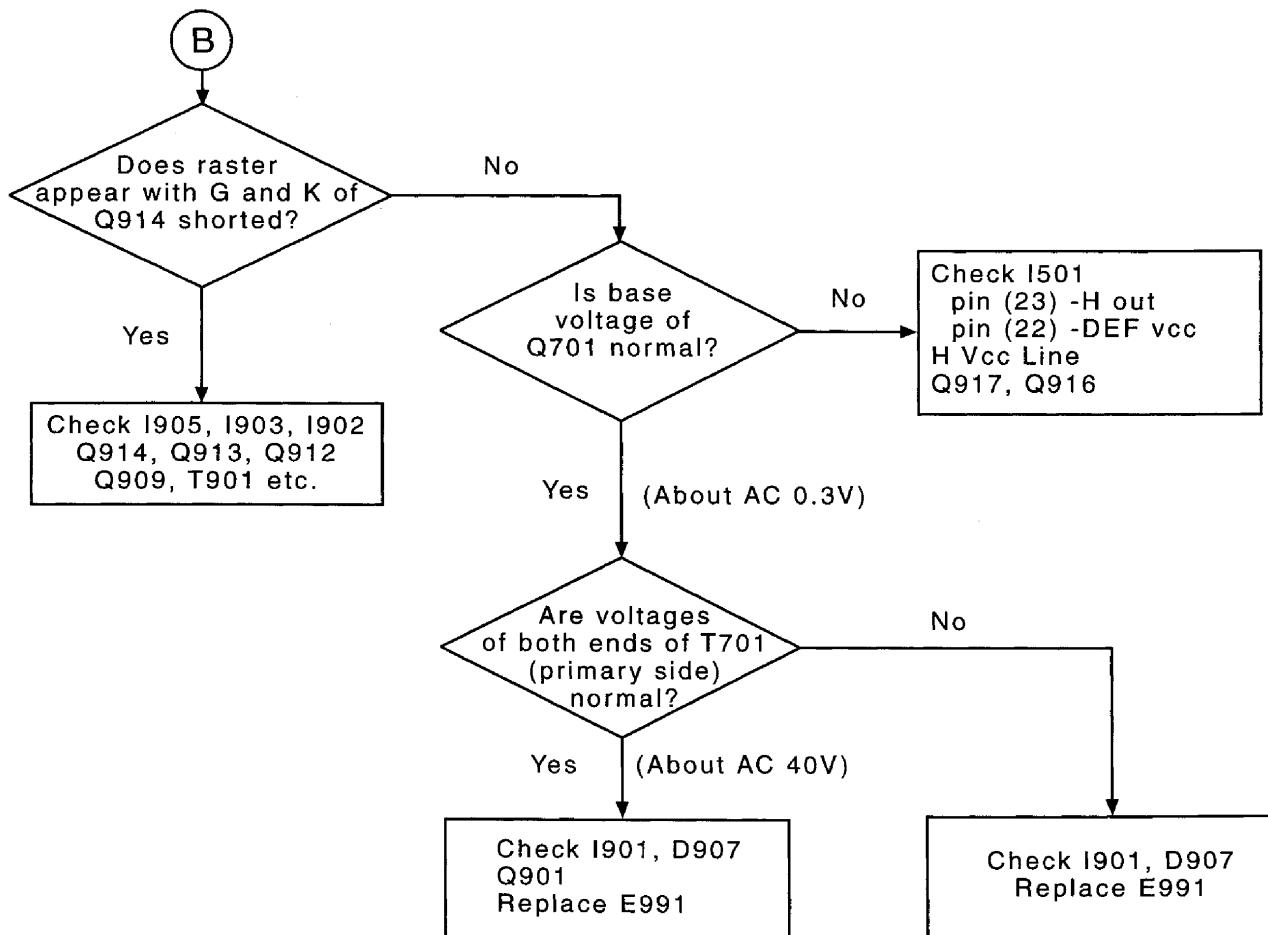
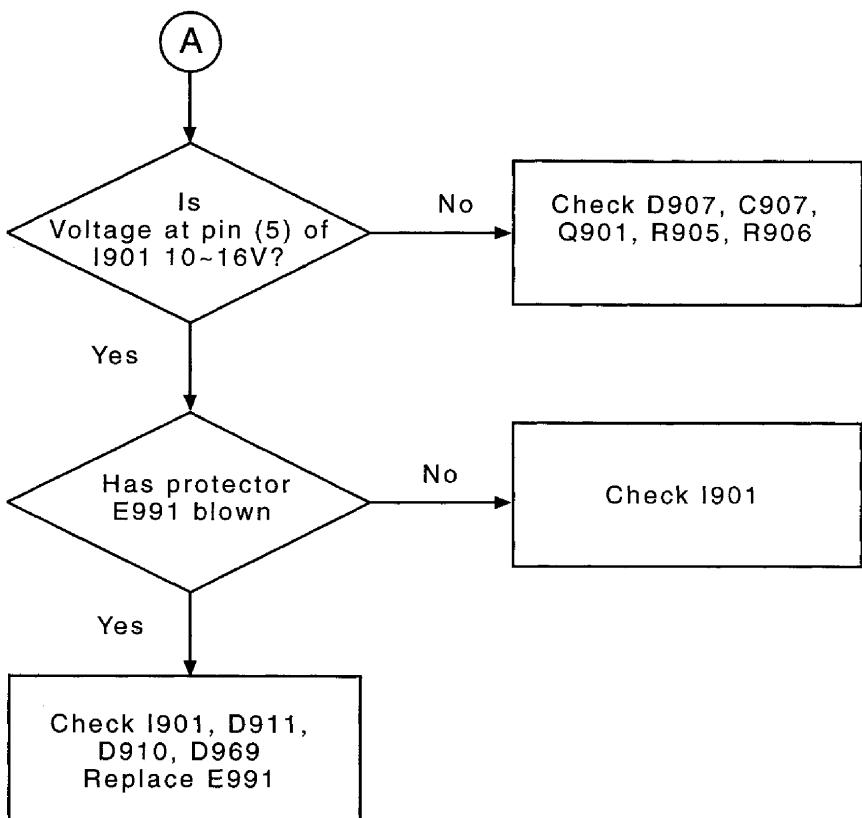
50SBX70B  
60SBX72B



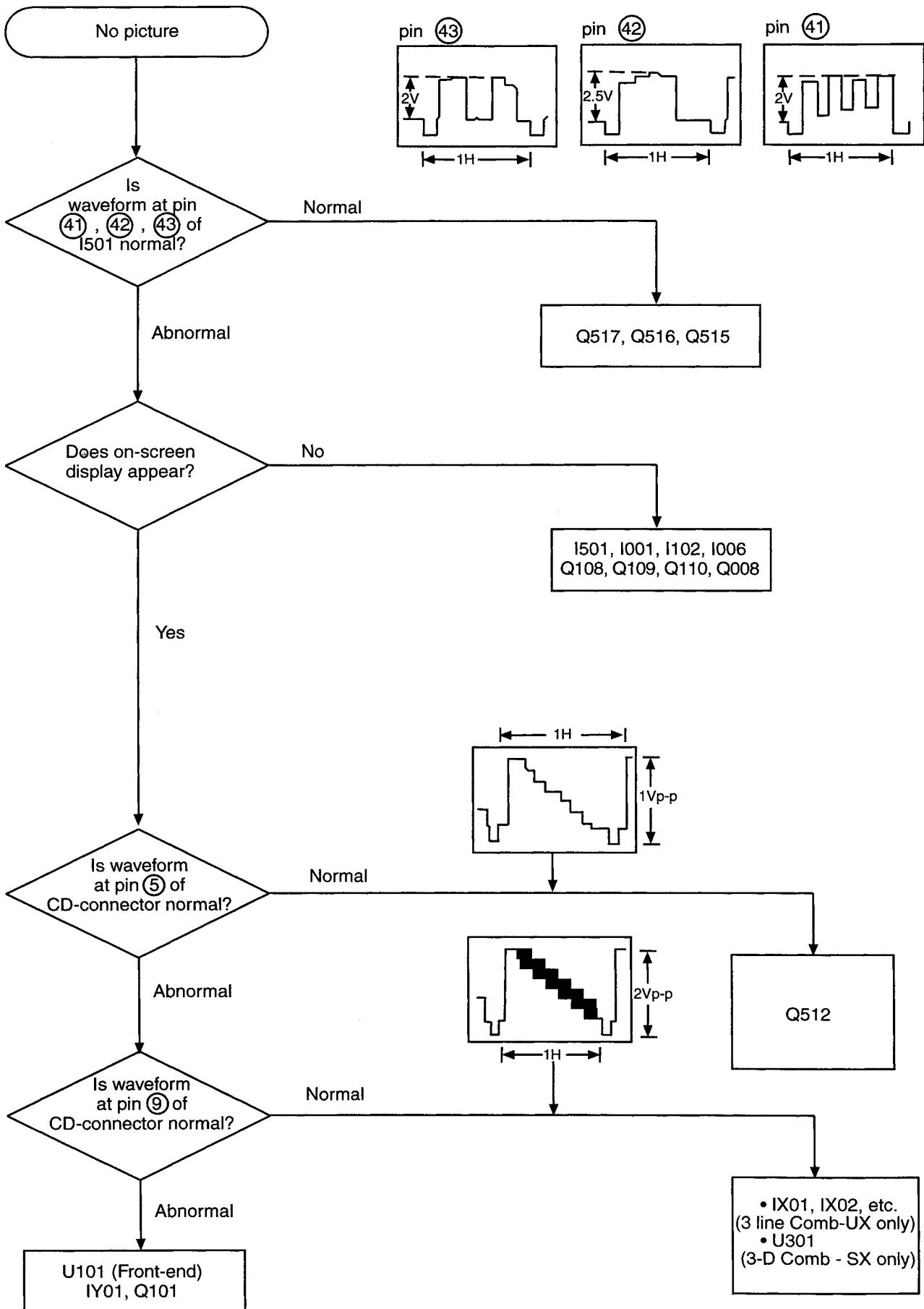
## TROUBLESHOOTING

### 1. No raster and no power (REPAIR METHOD)

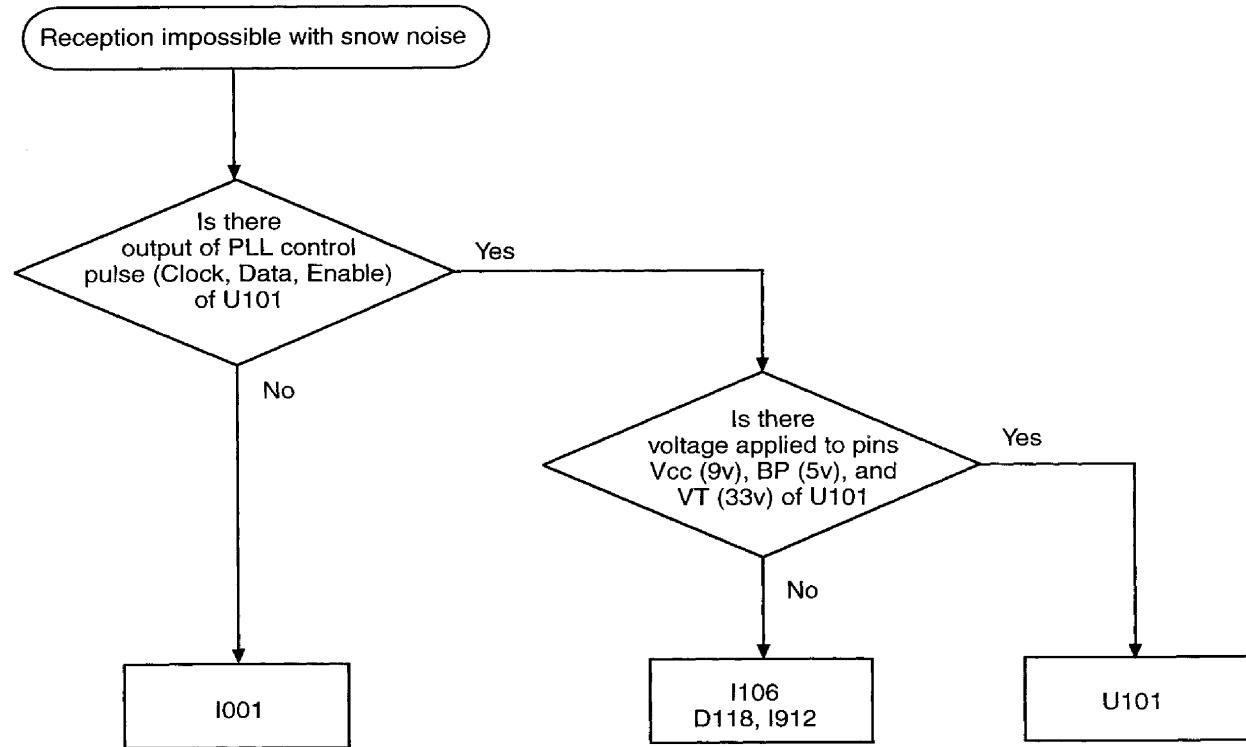




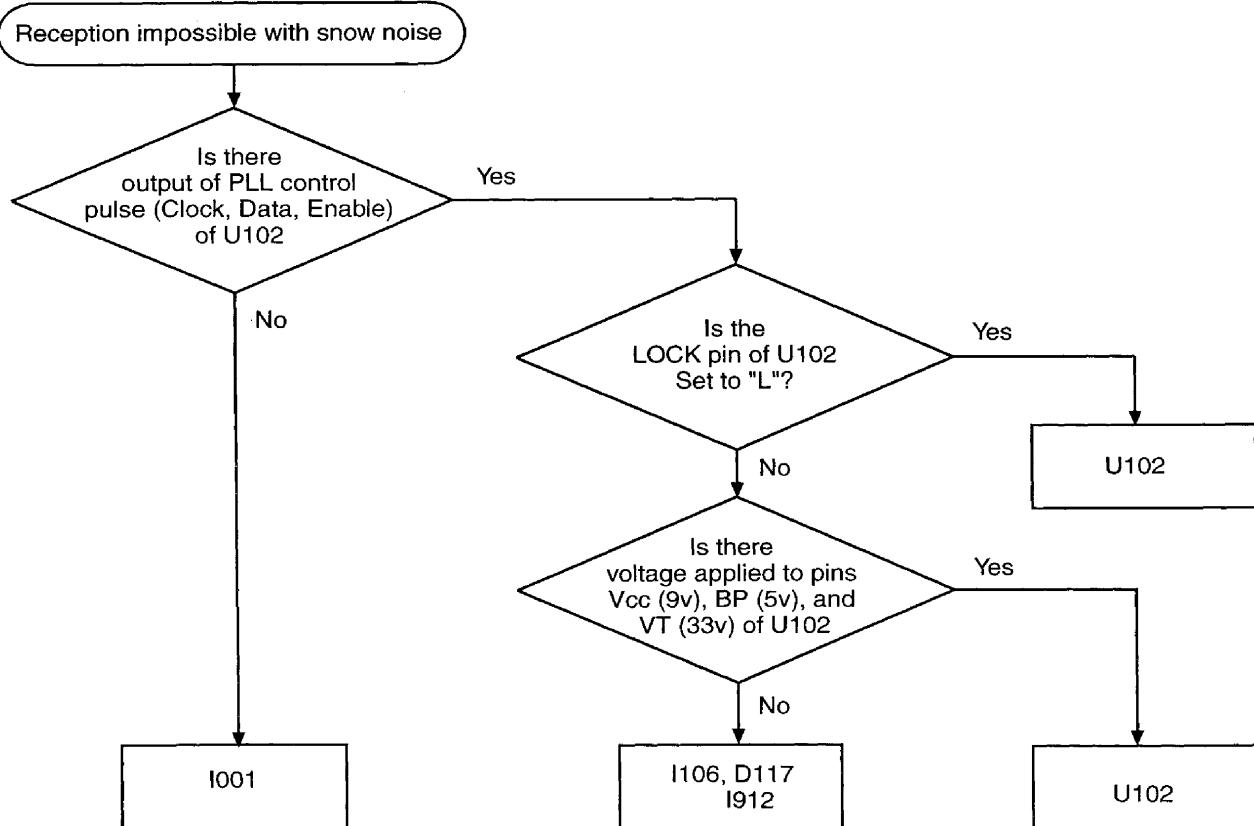
## 2. No Picture



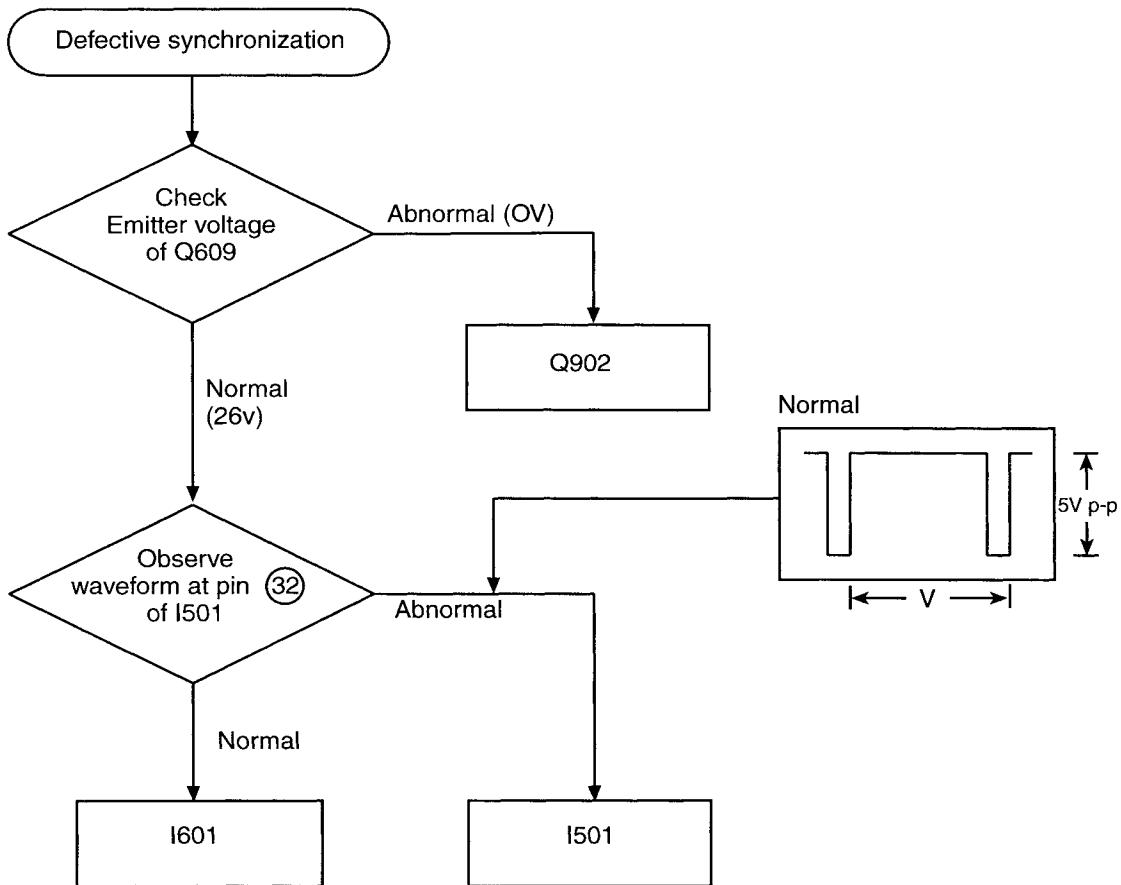
3. Reception impossible with snow noise  
ANT A



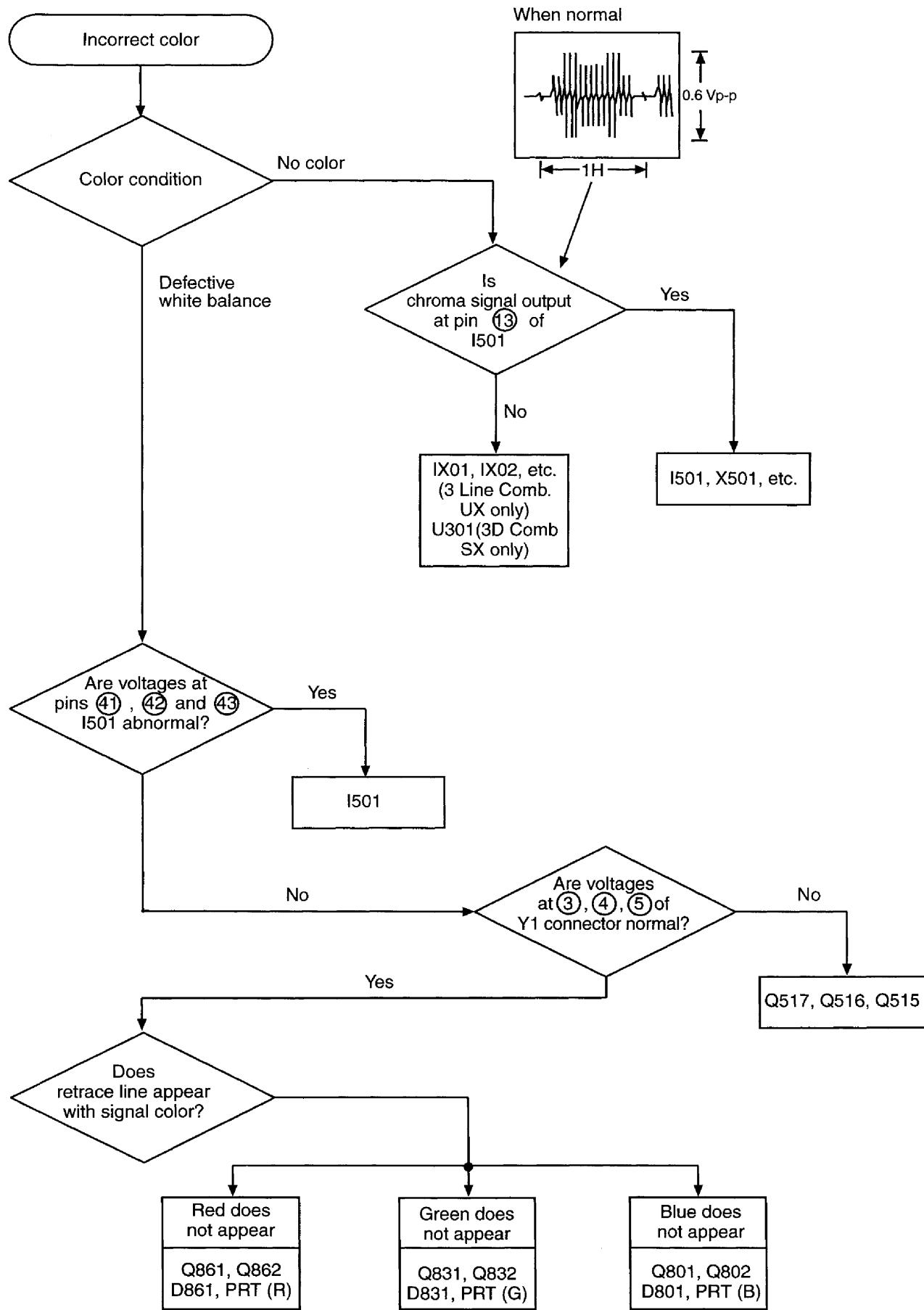
ANT B



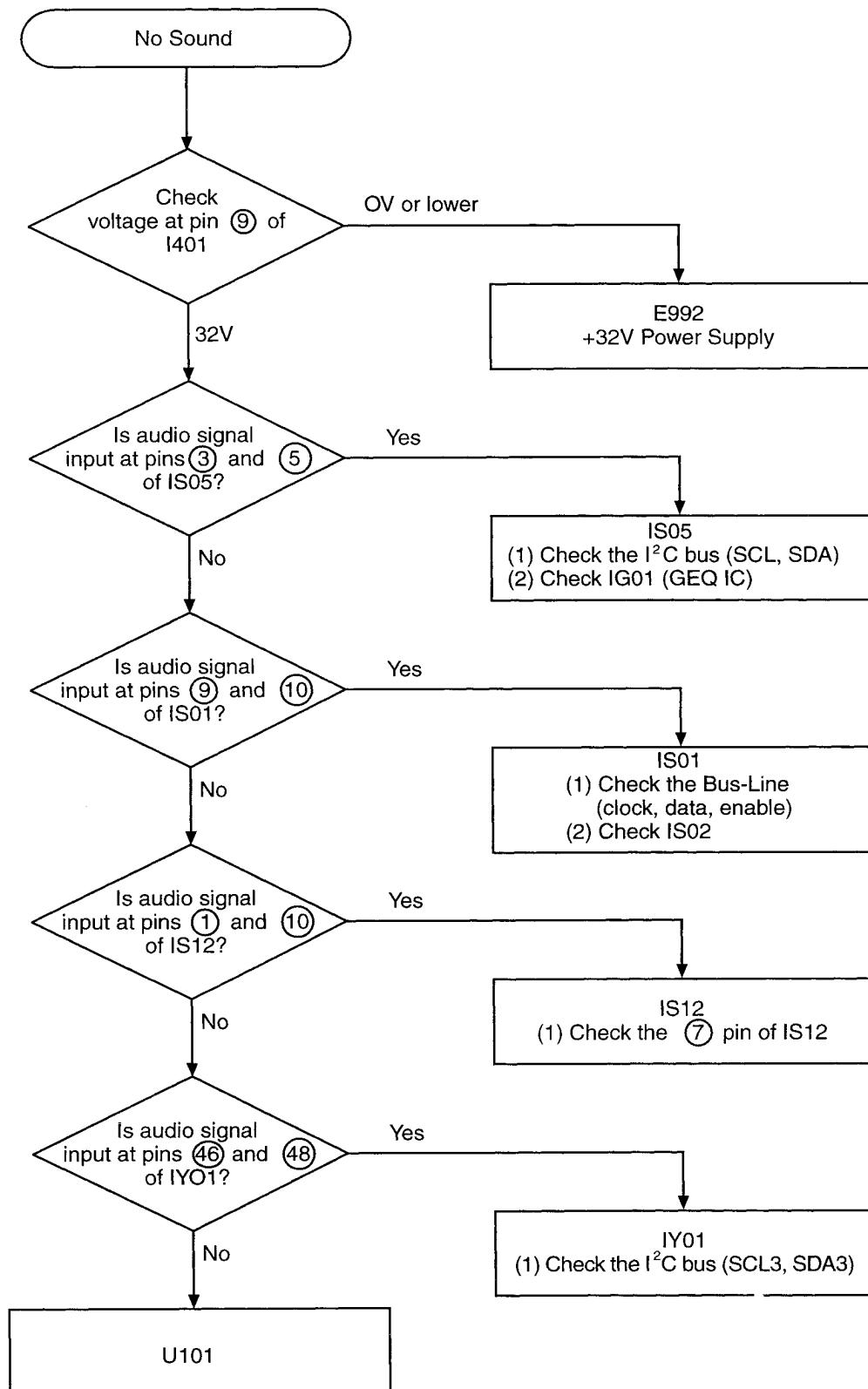
#### 4. Defective synchronization



## 5. Incorrect color



6. No sound (when Surround off)



## 7. Convergence Errors.

If an error message or code appears while performing MAGIC FOCUS or Initialize (MOVE, PIP CH in service mode) follow this confirmation and repair method.

1. Turn on power and receive any signal.
2. Press service switch on Power/Deflection board.
3. Press "SWAP" then "PIP CH" on remote control.
4. Error code will be displayed in bottom right corner of screen. If there is no error, an "INITIAL OK" message will be appear on screen.



5. Follow repair table for errors.

**DCU REPAIR TABLE**

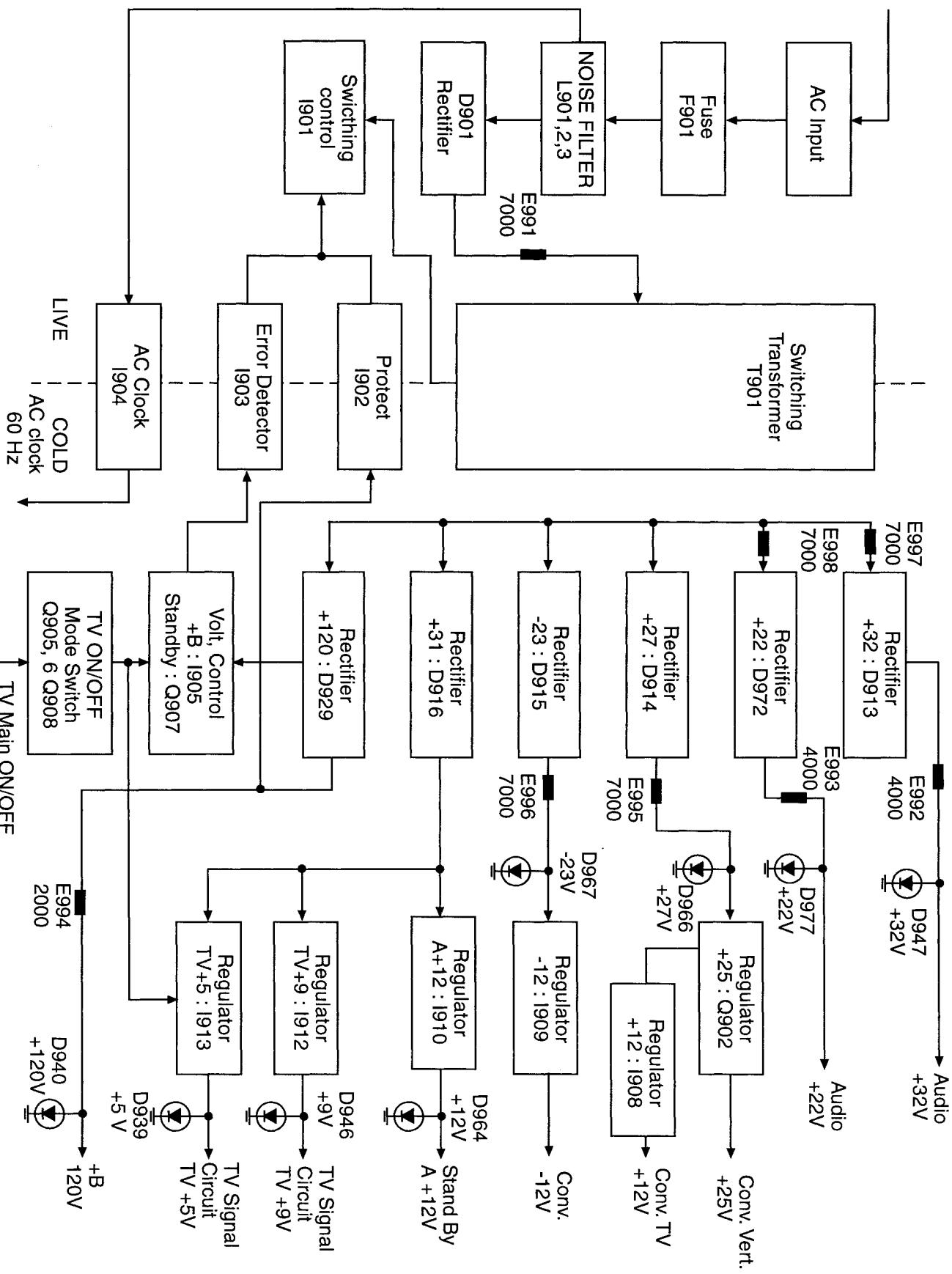
Error Code	Error Display Code	Countermeasure	Application	
			Initialize	Magic Focus
1	VF Error	Replace DCU	X	X
2 *2	Connect 1	1. Darken Outside light 2. Placing of sensor 3. Is pattern hitting sensor 4. Check connection and solder bridge of sensor 5. Replace sensor 6. Replace sensor P.W.B. 7. Sensor Connector check 8. Replace DCU 9. Adjustment check (H/V size, centering)	X	--
3*2	A/D Level	Same as Error Code 2	X	X
4	Over Flow	1. Check the placement of sensor 2. Adjustment check (H/V size, centering) 3. Conv. amp. gain check *1 (check resistor values only)	X	X
5	Convergence	Same as Error Code 4	X	X
7	Operation	Same as Error Code 4	--	X
9	Connect 2	Same as Error Code 2	X	X
10	Noise	Input strong field strong signal Check the wiring of connector between sensor and DCU	X	X
11	Sync	Input strong field strength signal Input standard signal NTSC	X	X

\*1 -- RK 42, 46, 50, 54, 58, 62 check these resistors.

\*2 Sensor Position

0	1	2
7		3
6	5	4

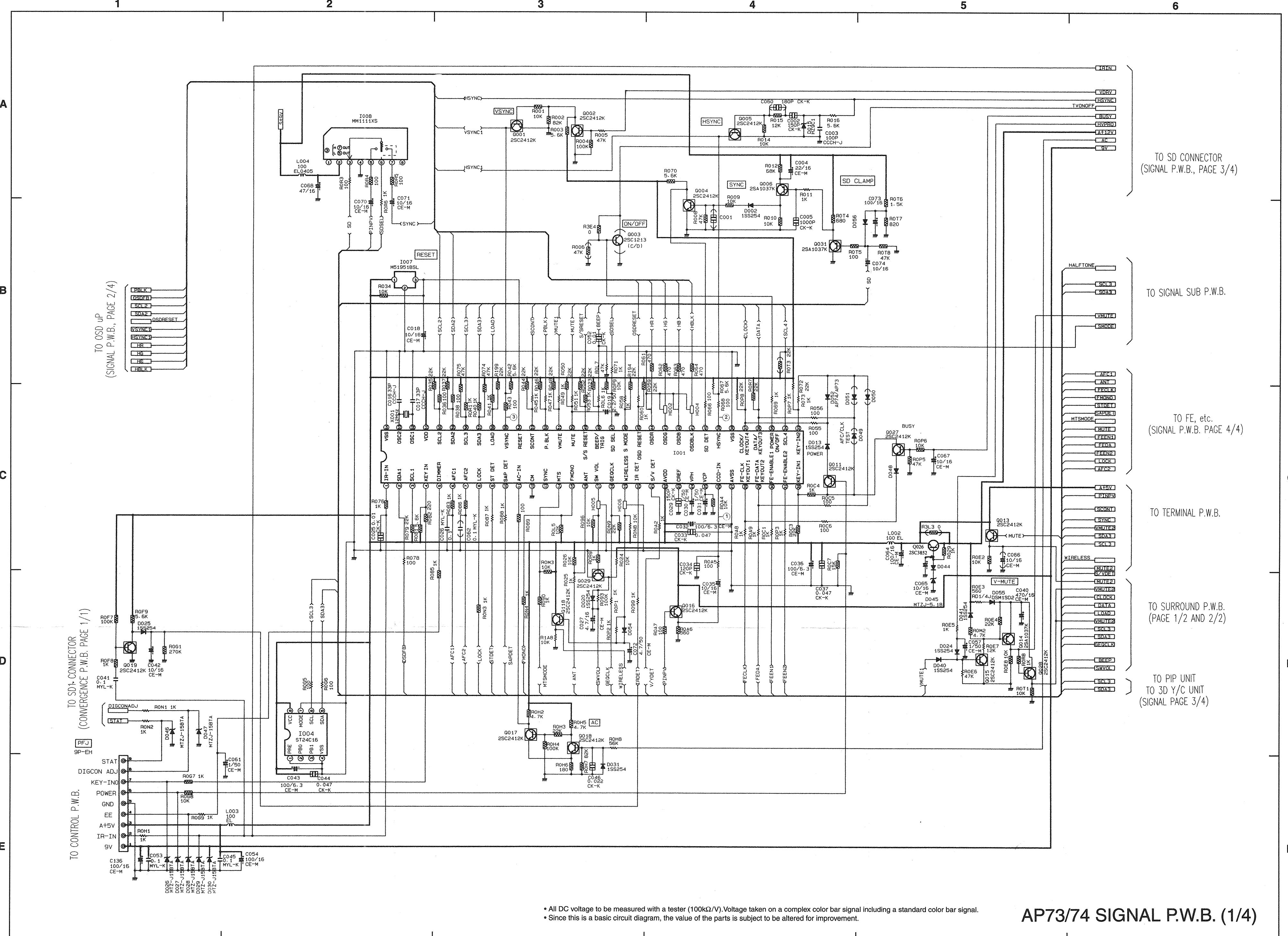
(View from front side)



PROTECTION CIRCUIT BLOCK DIAGRAM

## BASIC CIRCUIT DIAGRAM

PRODUCT SAFETY NOTE: Components marked with a and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



AP73/74 SIGNAL P.W.B. (1/4)

1 2 3 4 5 6

Circuit No.	Pin No.	Voltage DC
I001	1	0
	2	0.4
	3	5.2
	4	5.2
	5	5.2
	6	2.1
	7	1.9
	8	4.9
	9	4.9
	10	4.9
	11	2.4
	12	0
	13	2.4
	14	4.5
	15	4.5
	16	0
	17	2.6
	18	0
	19	1.4
	20	0.5
	21	0.5
	22	5.2
	23	0
	24	5.2
	25	0
	26	2.8
	27	0
	28	4.9
	29	4.9
	30	0.2
	31	0
	32	5.2

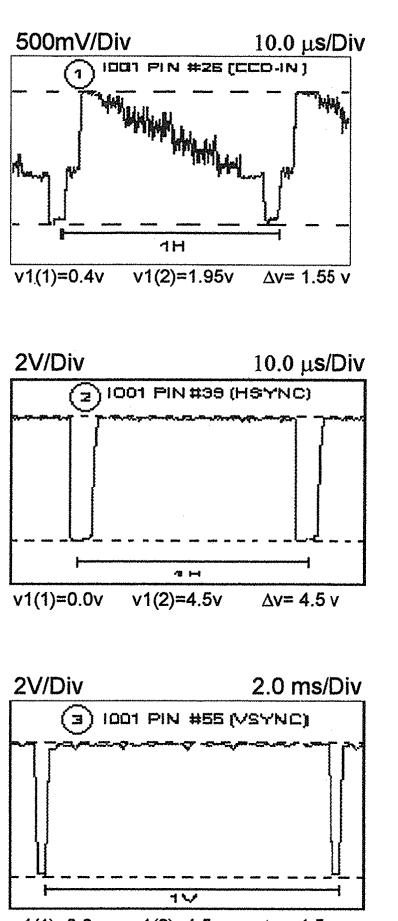
Circuit No.	Pin No.	Voltage DC
I004	1	0
	2	5.1
	3	5.2
	4	5.2
	5	5.2
	6	4.9
	7	0
	8	5.2

Circuit No.	Pin No.	Voltage DC
I007	1	5.2
	2	0
	3	5.2

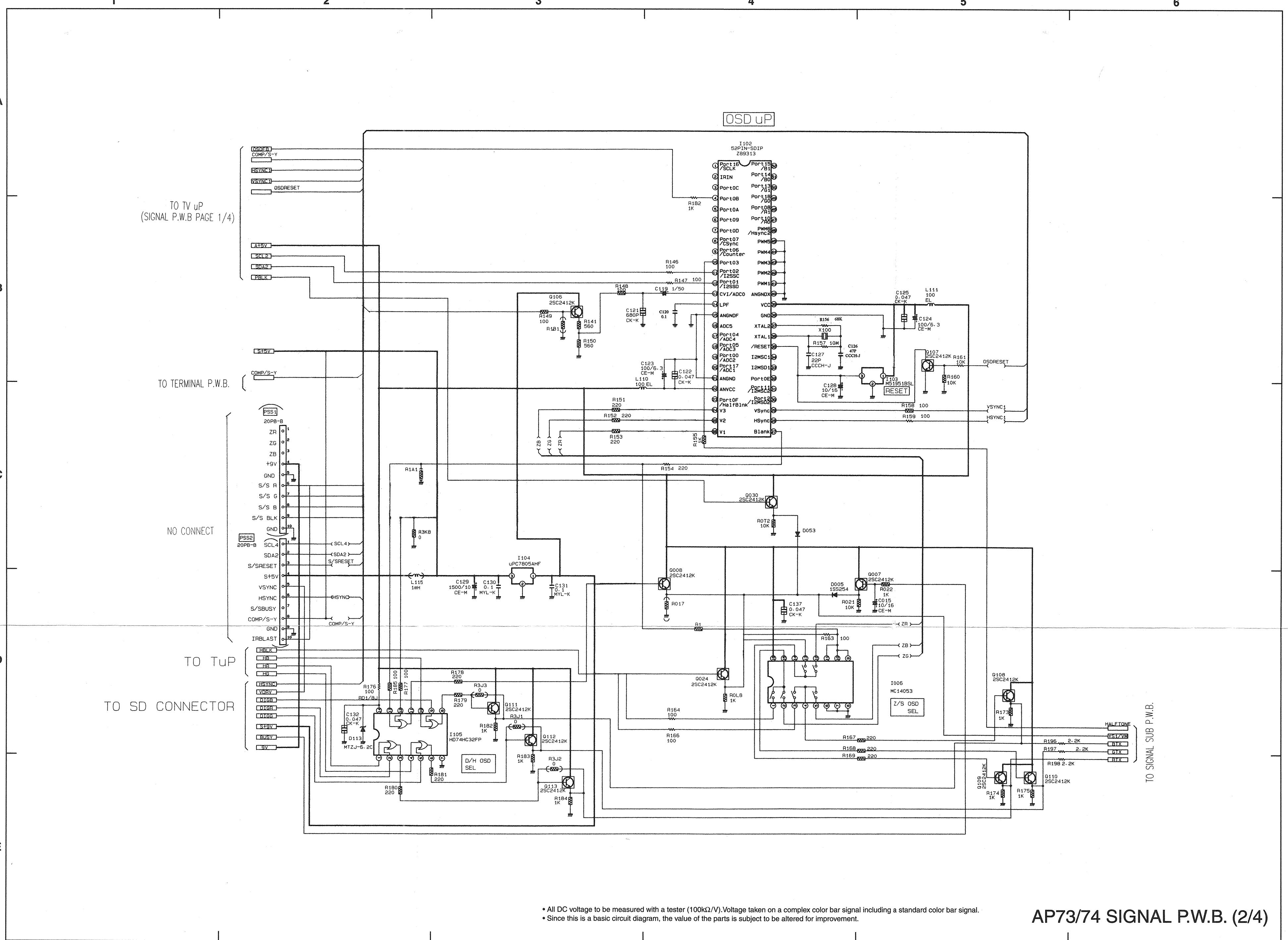
  

Circuit No.	Pin No.	Voltage DC
I008	1	0
	2	0.3
	3	4.4
	4	0
	5	5.2
	6	2.9
	7	5.2
	8	0



### BASIC CIRCUIT DIAGRAM

PRODUCT SAFETY NOTE: Components marked with a  $\Delta$  and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

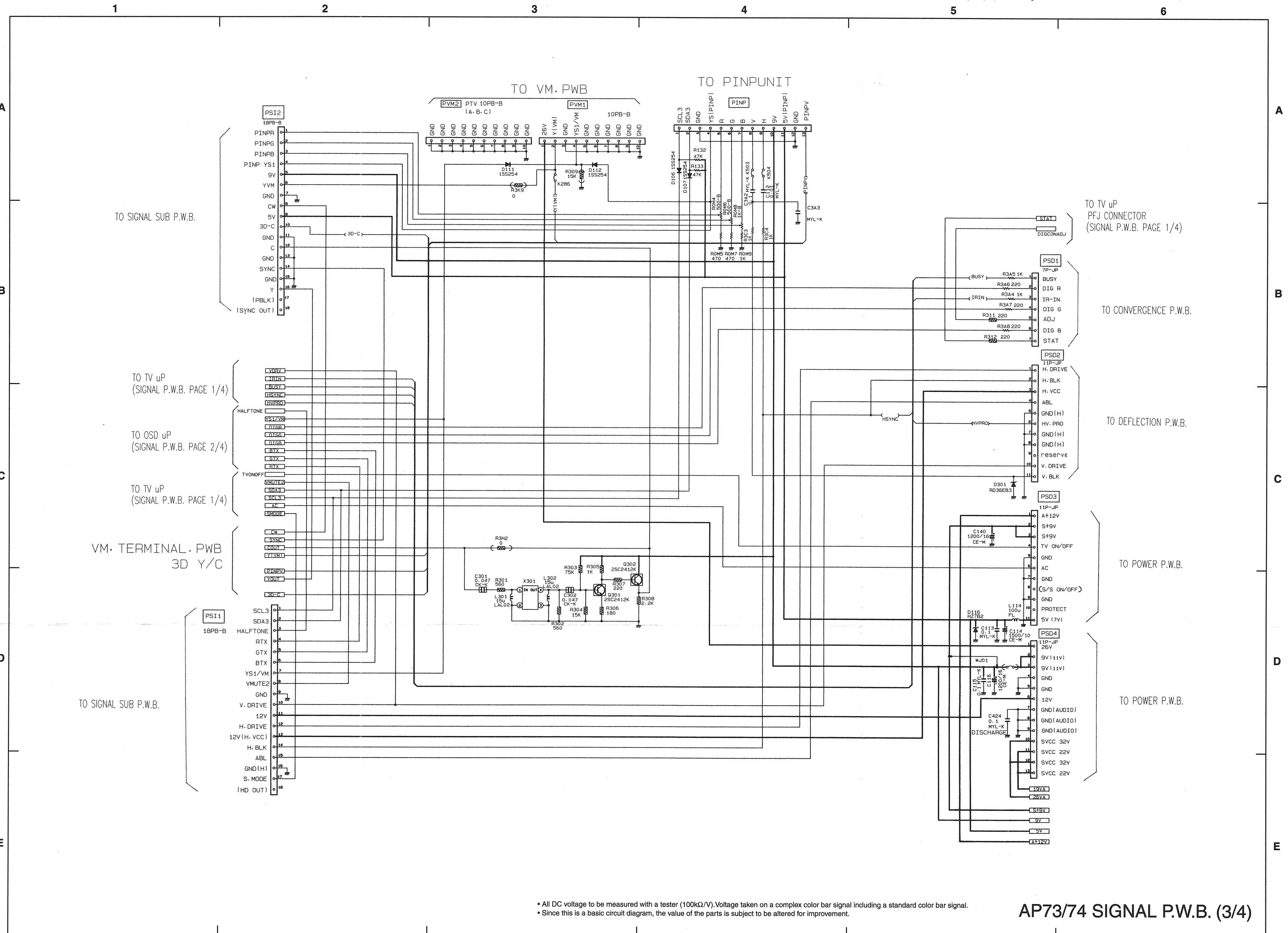


AP73/74 SIGNAL P.W.B. (2/4)

Circuit No.	Pin No.	Voltage DC
I008	1	0
	2	0
	3	0.1
	4	0
	5	0
	6	0
	7	0
	8	0
	9	0
	10	0
	11	0
	12	0
	13	0.2
	14	0
	15	0
	16	5.2
I102	27	0
	28	4.6
	29	5.1
	30	0
	31	0
	32	0
	33	0.5
	34	0.5
	35	5.1
	36	1.3
	37	2.5
	38	0
	39	5.1
	40	0
	41	0
	42	0
	43	0
	44	0
	45	0
	46	0
	47	0
	48	0
	49	0
	50	0
	51	0
	52	0
I103	1	5.1
	2	0
	3	5.1
I007	E	0
	B	0
	C	5.2
	D	0
	E	0
I008	E	0
	B	0
	C	5.2
	D	0
	E	0
Q024	E	0
	B	0
	C	5.2
	D	0
	E	0
Q030	B	0
	C	5.2
	D	0
	E	2.9
Q102	B	0
	C	9.3
	D	0
	E	0
Q103	B	0
	C	5.2
	D	0
	E	0.2
Q112	B	0
	C	5.2
	D	0
	E	1.0
Q113	B	0
	C	5.2

## BASIC CIRCUIT DIAGRAM

PRODUCT SAFETY NOTE: Components marked with a and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



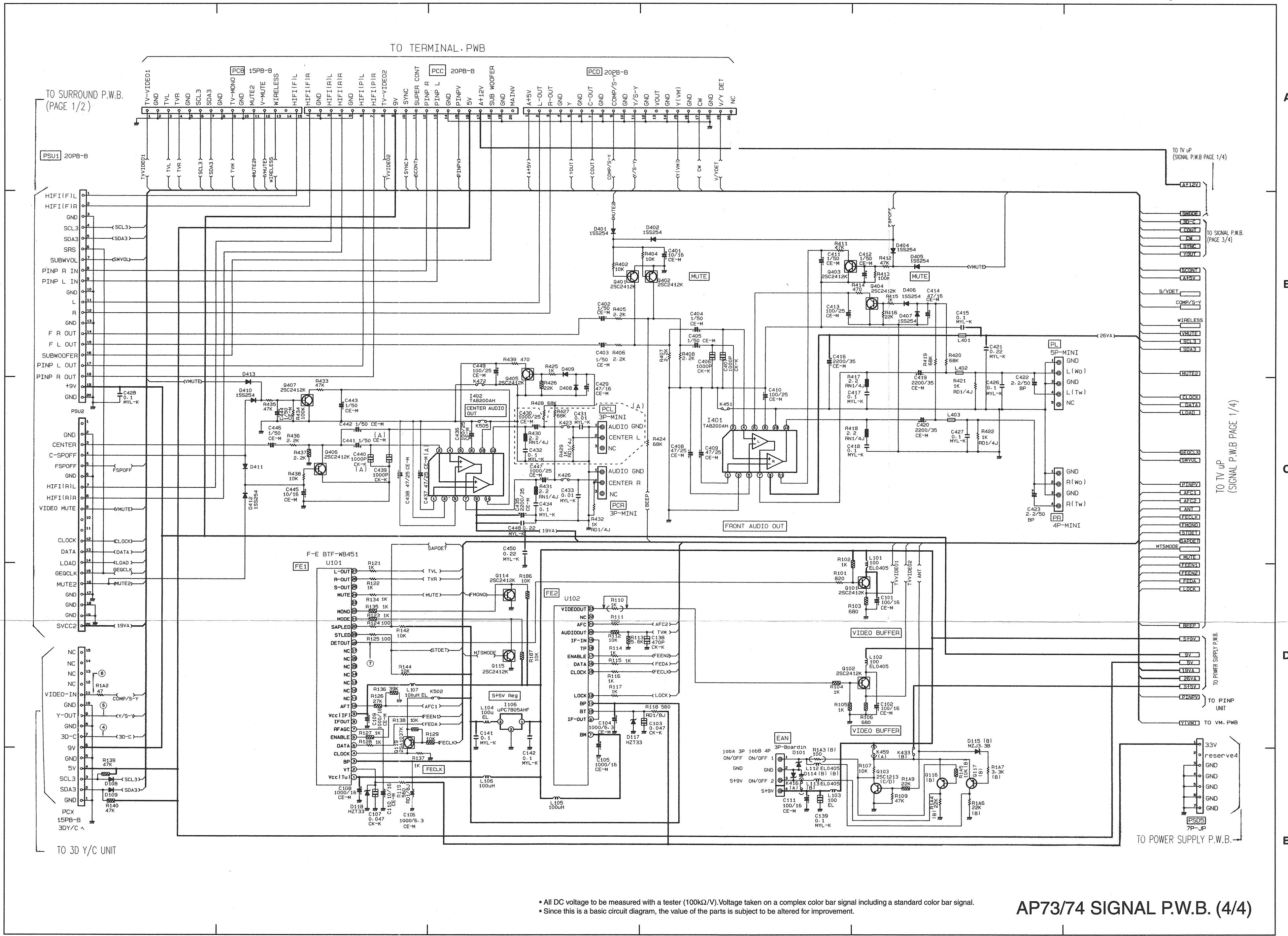
\* All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.  
 \* Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

AP73/74 SIGNAL P.W.B. (3/4)

Circuit No.	Pin Name	Voltage DC
Q301	E	0.6
	B	1.3
	C	5.8
Q302	E	5.2
	B	5.8
	C	9.3

## BASIC CIRCUIT DIAGRAM

**PRODUCT SAFETY NOTE:** Components marked with a and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



AP73/74 SIGNAL P.W.B. (4/4)

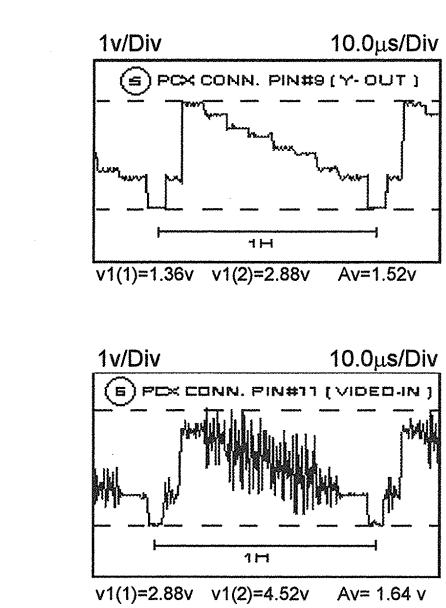
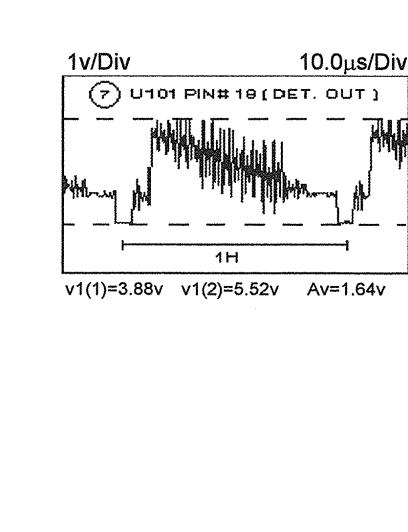
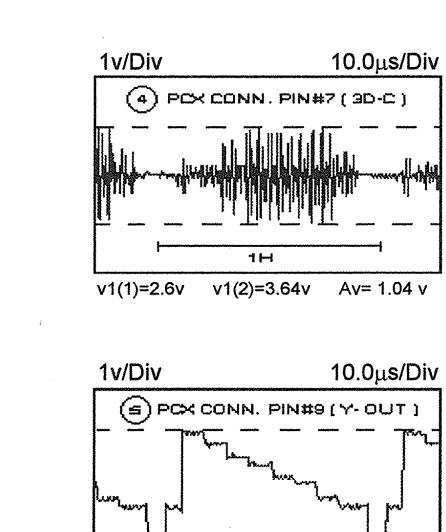
Circuit No.	Pin No.	Voltage DC
I106	1	9.3
	2	0
	3	5.1

Circuit No.	Pin No.	Voltage DC
	1	1.5
	2	0
	3	0
	4	0
	5	1.5
	6	11.2
	7	5.2
	8	32.9
	9	0
	10	4.4
	11	0
	12	0

Circuit No.	Pin No.	Voltage DC
Q101	B	6.4
	2	0
	3	0
	4	0
	5	1.7
	6	11.2
	7	5.2
	8	0
	9	32.9
	10	0
	11	4.4
	12	0

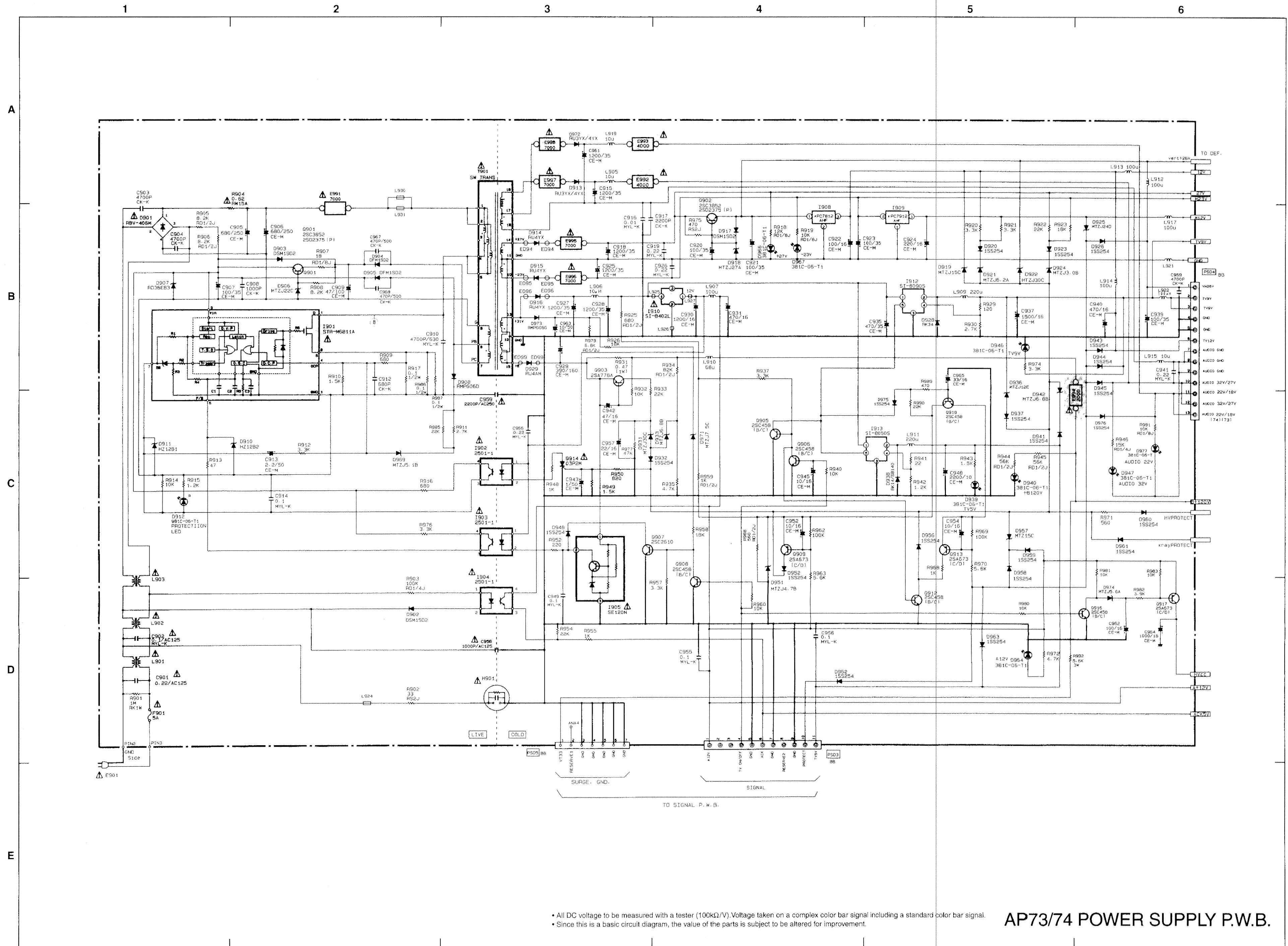
Circuit No.	Pin No.	Voltage DC
Q102	B	2.3
	2	0
	3	0
	4	0
	5	0.6
	6	1.5
	7	3.2
	8	0
	9	4.3
	10	0
	11	0.2
	12	0

Circuit No.	Pin No.	Voltage DC
Q103	B	4.9
	2	0
	3	0
	4	0
	5	1.6
	6	0.1
	7	1.1
	8	1.9
	9	23.8
	10	0
	11	1.2
	12	10.8



## BASIC CIRCUIT DIAGRAM

PRODUCT SAFETY NOTE: Components marked with a and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



AP73/74 POWER SUPPLY P.W.B.

Circuit No.	Pin No.	Voltage DC
I901	1 150.4	
	2 0	
	3 0	
	4 16	
	5 24.2	
	6 0.2	
	7 2.0	

Circuit No.	Pin No.	Voltage DC
I902	1 12.0	
	2 11.0	
	3 1.9	
	4 24.2	

Circuit No.	Pin No.	Voltage DC
I903	1 12.0	
	2 11.0	
	3 0	
	4 23.4	

Circuit No.	Pin No.	Voltage DC
I904	1 119.0	
	2 10.9	
	3 0	

Circuit No.	Pin No.	Voltage DC
I905	1 11.0	
	2 11.0	
	3 1.9	
	4 24.2	

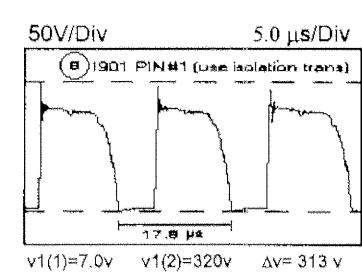
Circuit No.	Pin No.	Voltage DC
I906	1 25.1	
	2 0	
	3 11.7	

Circuit No.	Pin No.	Voltage DC
I907	1 31.2	
	2 5.2	
	3 0	
	4 5.1	
	5 2.5	

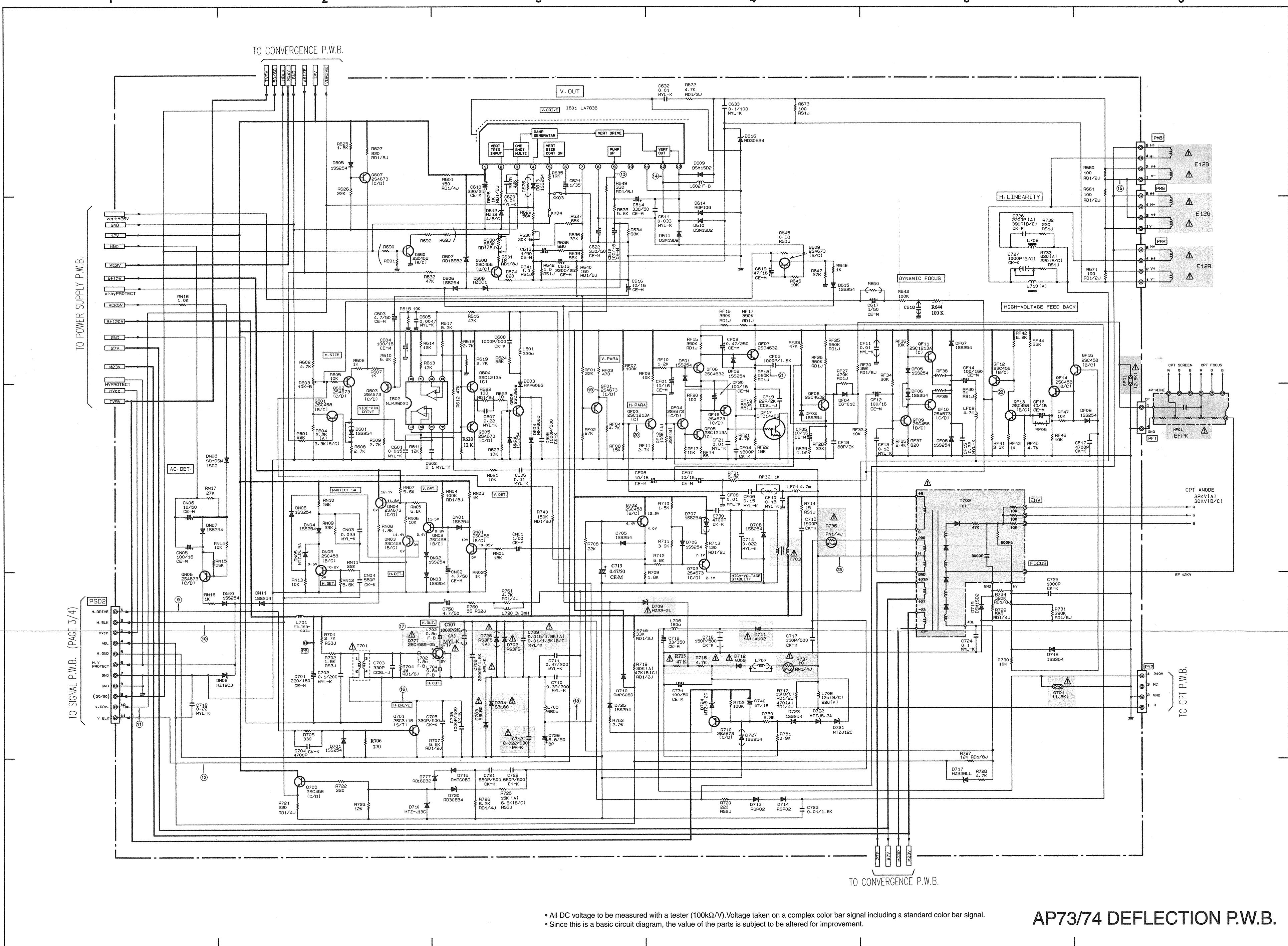
  

Circuit No.	Pin No.	Voltage DC
I908	1 0	
	2 -22.7	
	3 -12.2	

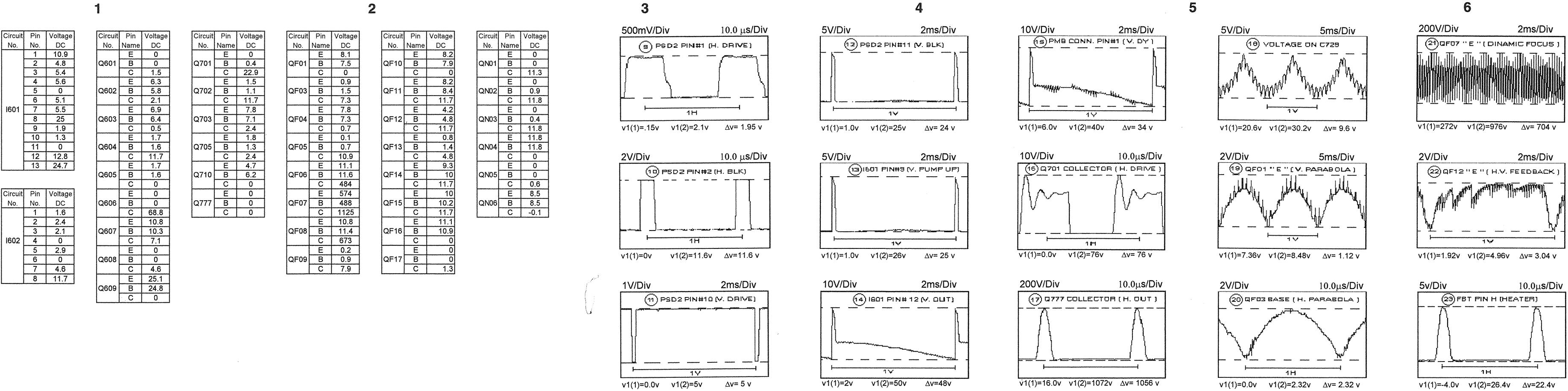


BASIC CIRCUIT DIAGRAM

PRODUCT SAFETY NOTE: Components marked with a  $\Delta$  and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



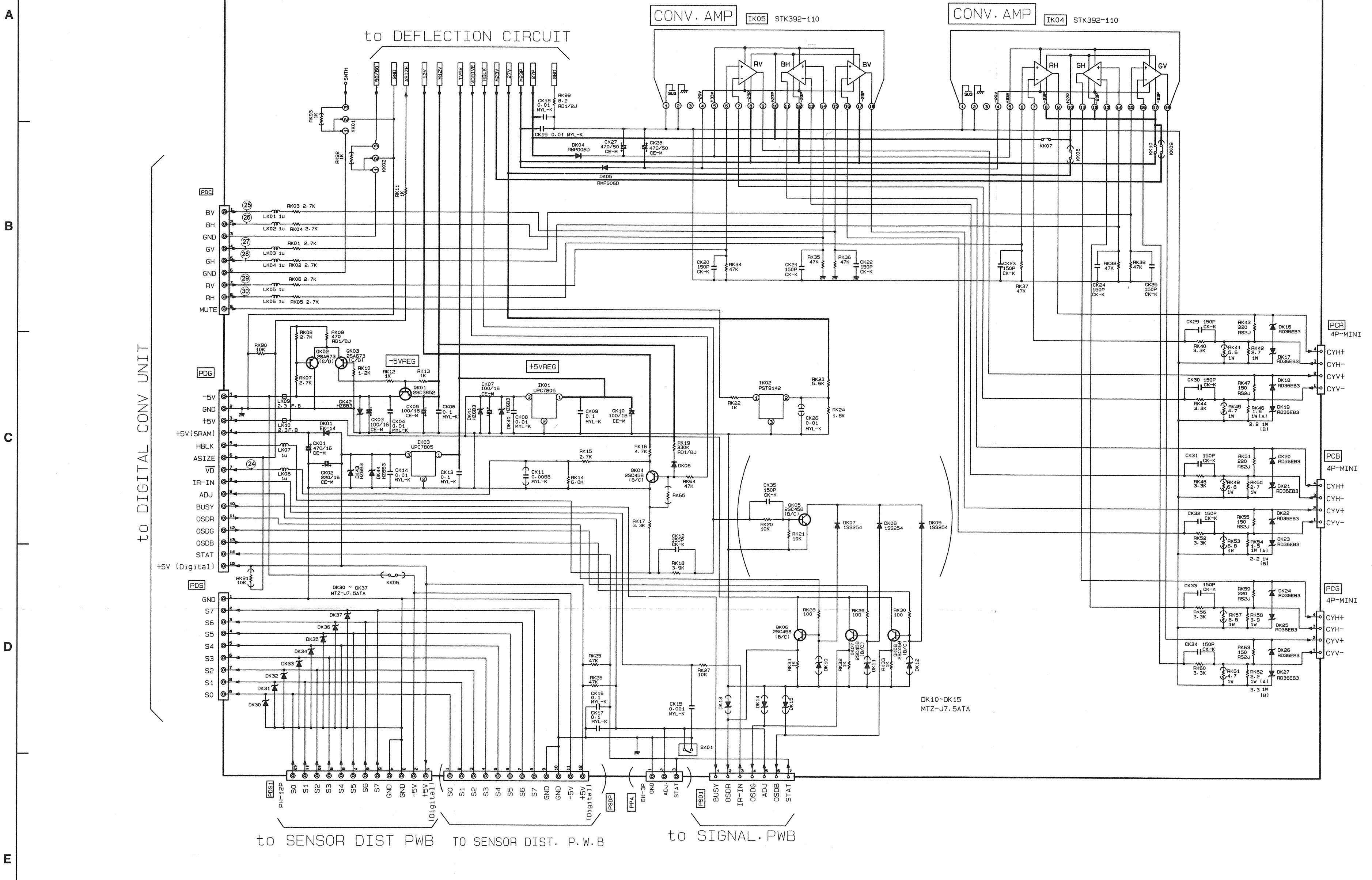
AP73/74 DEFLECTION P.W.B.



## BASIC CIRCUIT DIAGRAM

PRODUCT SAFETY NOTE: Components marked with a and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

1 2 3 4 5 6



• All DC voltage to be measured with a tester (100kΩ/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.

AP73/74 CONVERGENCE P.W.B.

1 2 3 4 5 6

Circuit No.	Pin No.	Voltage DC
IK01	1	9.5
	2	0
	3	5.0

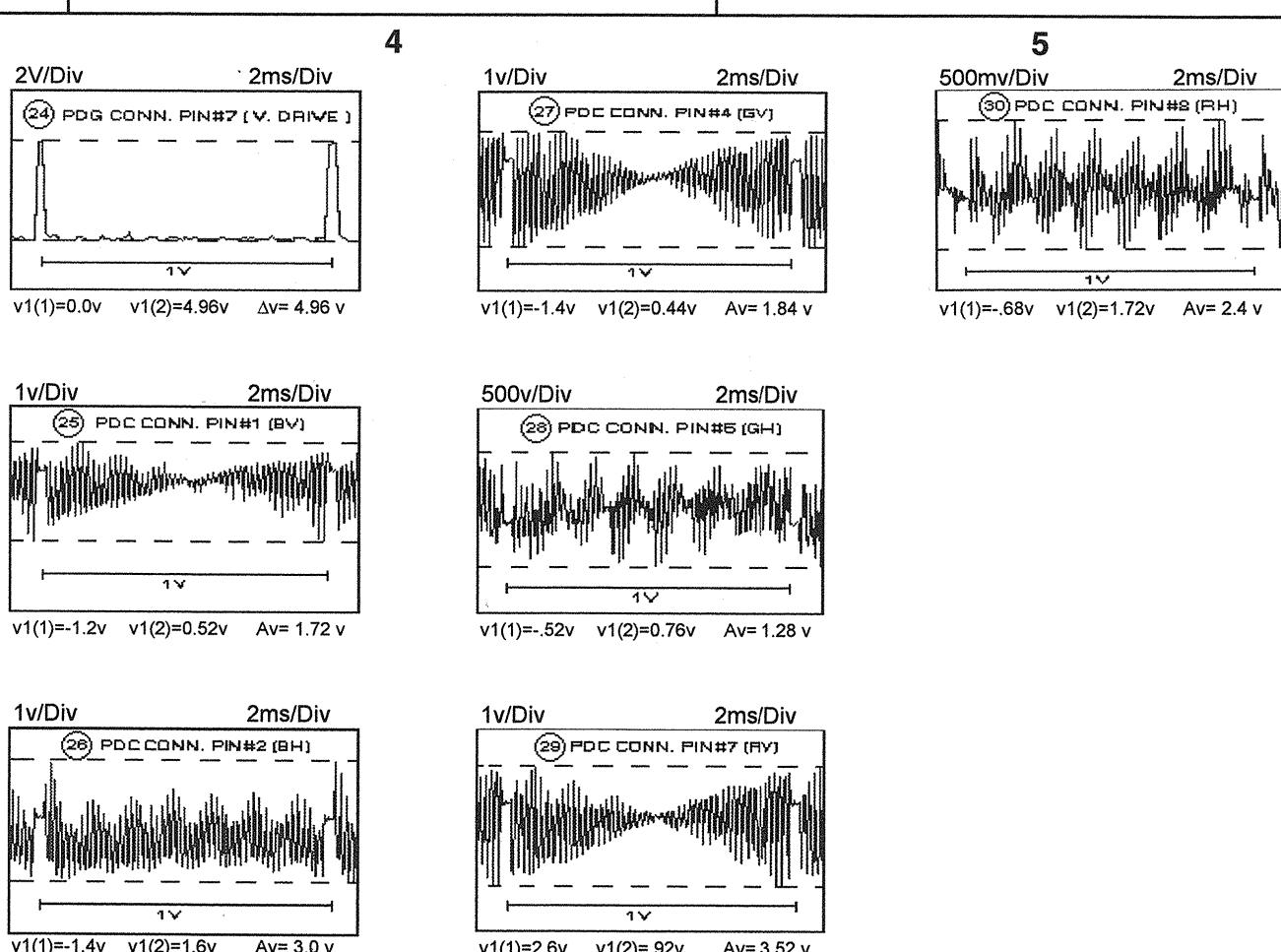
Circuit No.	Pin No.	Voltage DC
IK02	1	3.5
	2	6.5
	3	0

Circuit No.	Pin No.	Voltage DC
IK03	1	9.5
	2	0
	3	5.0

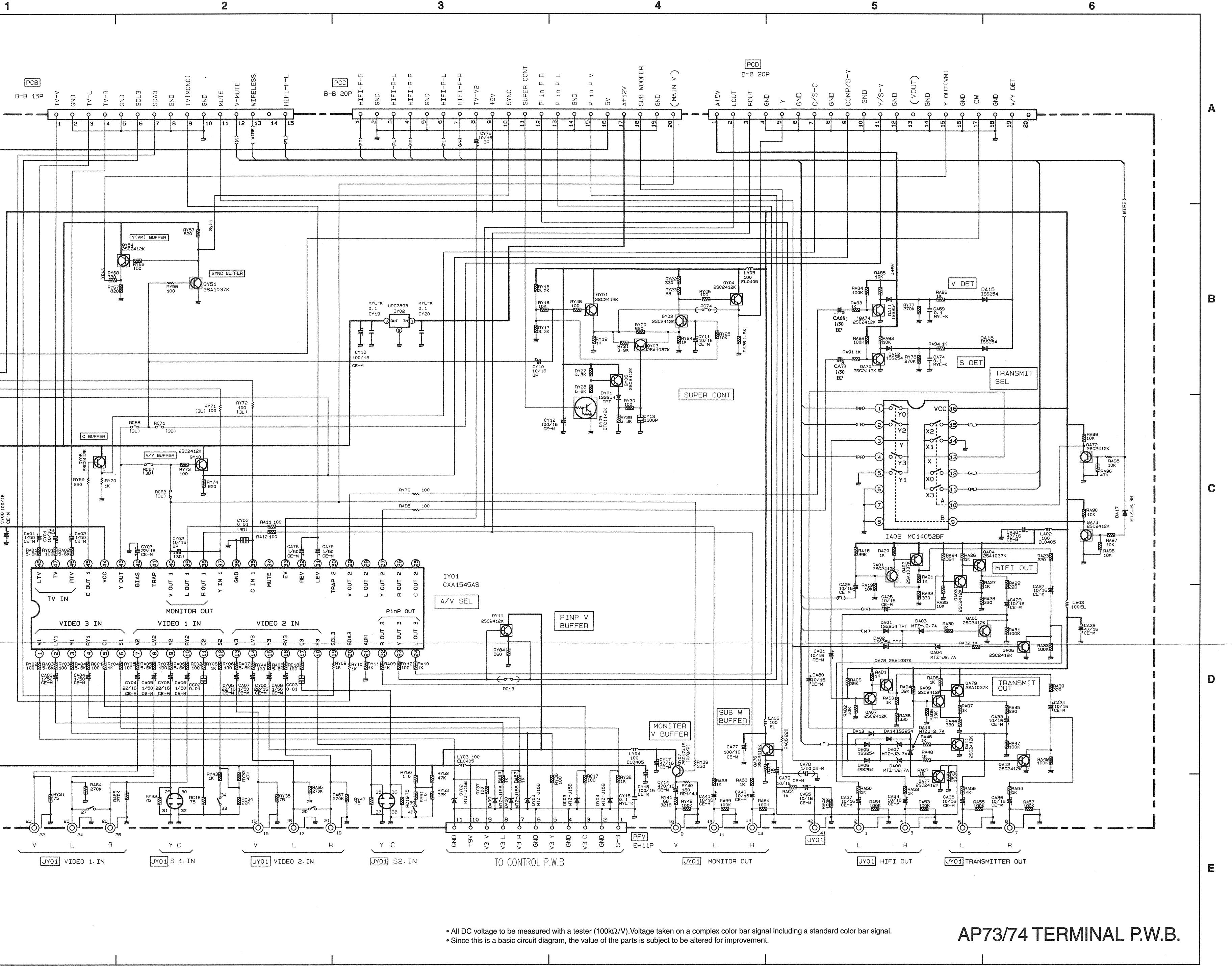
Circuit No.	Pin No.	Voltage DC
IK04	1	0

Circuit No.	Pin No.	Voltage DC
IK05	1	0
	2	0
	3	-29.5
	4	-30.6
	5	35.2
	6	0
	7	-0.8
	8	-22.4
	9	0
	10	27.4
	11	0
	12	-22.9
	13	0.3
	14	0.3
	15	0
	16	-0.3
	17	-22.5
	18	-0.2



## BASIC CIRCUIT DIAGRAM

PRODUCT SAFETY NOTE: Components marked with a and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



AP73/74 TERMINAL P.W.B.

Circuit No.	Pin No.	Voltage DC
IA02	1	4.2
	2	4.2
	3	4.2
	4	4.2
	5	0
	6	0
	7	0
	8	0
	9	9.3
	10	0
	11	4.2
	12	4.2
	13	4.2
	14	0
	15	4.2
	16	4.2
IY01	1	4.2
	2	4.2
	3	4.2
	4	4.2
	5	0
	6	2.3
	7	4.3
	8	4.3
	9	4.3
	10	4.3
	11	4.3
	12	2.3
	13	4.3
	14	4.3
	15	4.3
	16	4.3
	17	4.3
	18	2.3
	19	4.9
	20	4.9
	21	0
	22	4.4
	23	4.3
	24	4.4

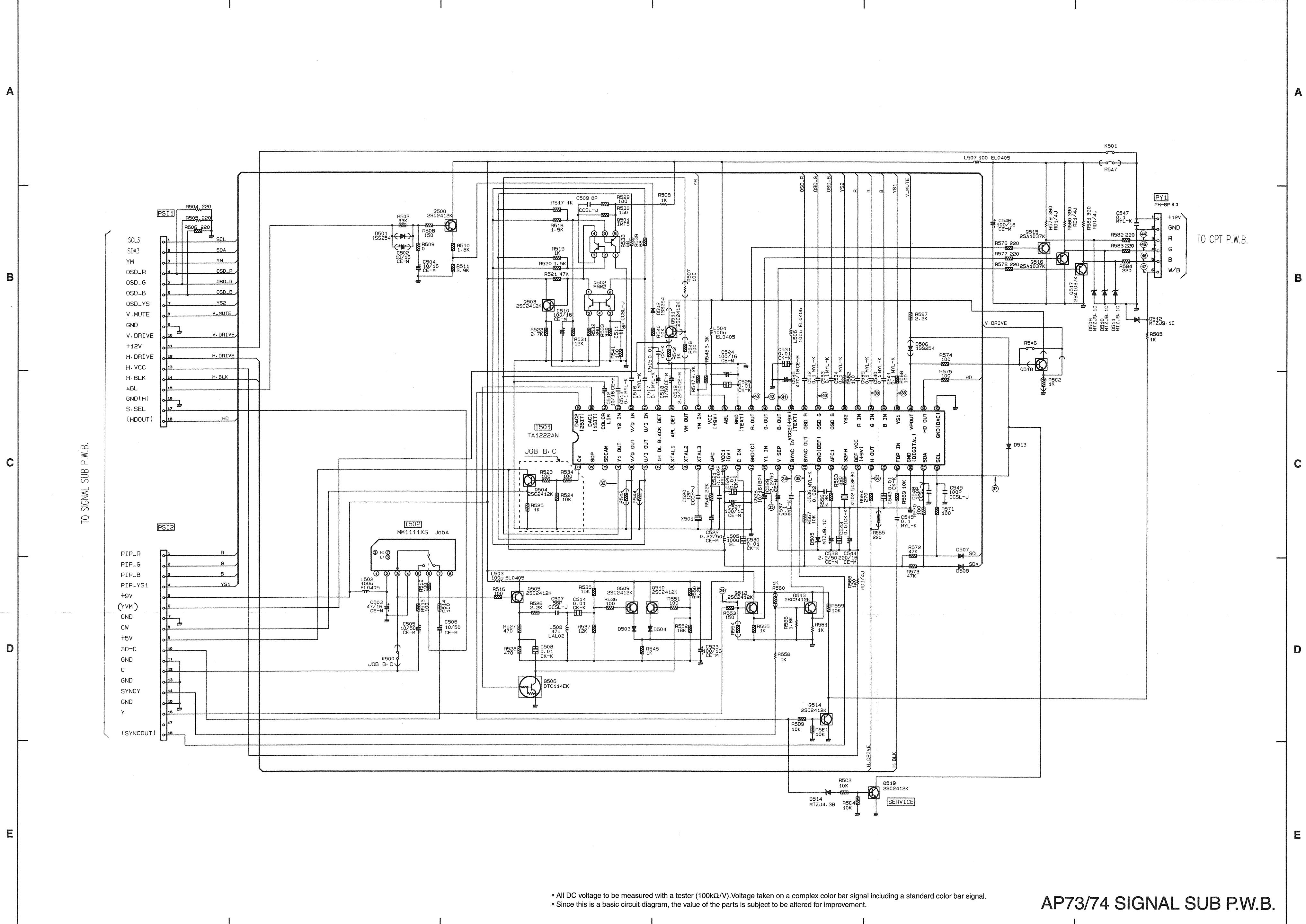
Circuit No.	Pin No.	Voltage DC
IY01	1	4.3
	2	4.3
	3	4.3
	4	4.3
	5	1.3
	6	2.3
	7	4.3
	8	4.3
	9	4.3
	10	4.3
	11	4.3
	12	2.3
	13	4.3
	14	4.3
	15	4.3
	16	4.3
	17	4.3
	18	4.3
	19	4.3
	20	8.3
	21	0
	22	4.4
	23	4.3
	24	4.4
	25	0
	26	0
	27	4.3
	28	1.3
	29	2.3
	30	4.3
	31	4.3
	32	4.3
	33	4.3
	34	0
	35	4.3
	36	0
	37	4.3
	38	4.3
	39	4.3
	40	4.3
	41	4.3
	42	4.3
	43	4.3
	44	0
	45	4.3
	46	4.3
	47	4.3
	48	4.3

Circuit No.	Pin No.	Voltage DC
QA01	1	11.8
	2	0
	3	8.4
QA02	1	8.6
	2	9.3
	3	4.3
QA03	1	1.8
	2	8.6
	3	9.3
QA04	1	8.6
	2	9.3
	3	4.3
QA05	1	0
	2	8.6
	3	9.3
QA06	1	0
	2	8.6
	3	9.3
QA07	1	0
	2	1.2
	3	8.6
QA08	1	0
	2	8.6
	3	9.3
QA09	1	1.8
	2	8.6
	3	9.3
QA11	1	0
	2	8.6
	3	9.3
QY01	1	4.5
	2	9.2
	3	8.4
QY02	1	0
	2	8.6
	3	3.4
QY03	1	0
	2	7.9
	3	4.5
QY04	1	0
	2	6.8
	3	7.5
QY05	1	0
	2	7
	3	9.3
QY06	1	0
	2	8.5
	3	9.2
QY07	1	0
	2	9.2
	3	9.3
QY08	1	0
	2	8.4
	3	3.6
QY09	1	0
	2	4.3
	3	8.6
QY10	1	0
	2	4.3
	3	8.4

## BASIC CIRCUIT DIAGRAM

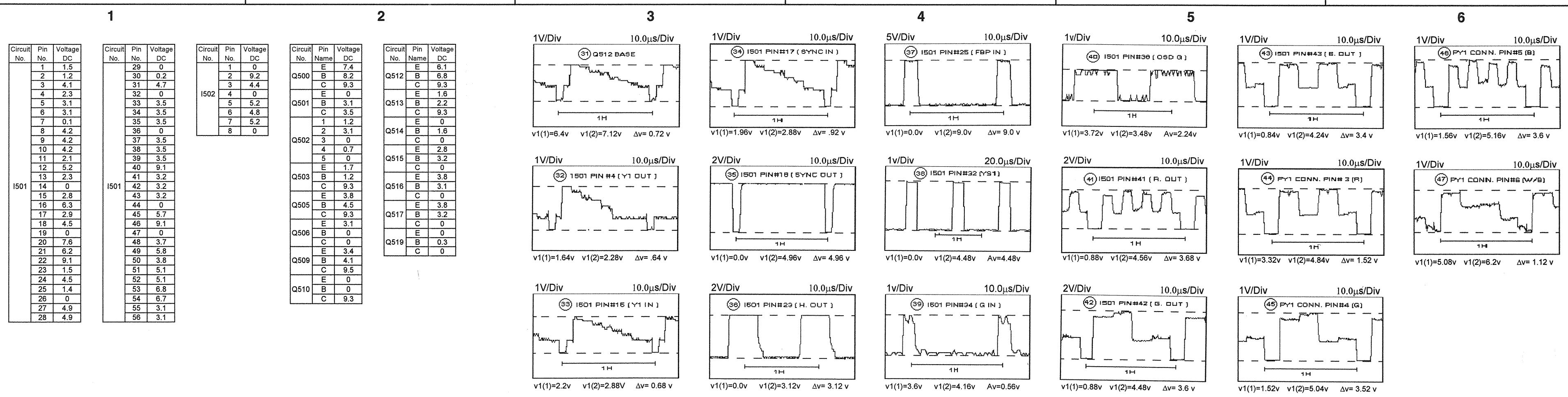
PRODUCT SAFETY NOTE: Components marked with a and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

1 2 3 4 5 6



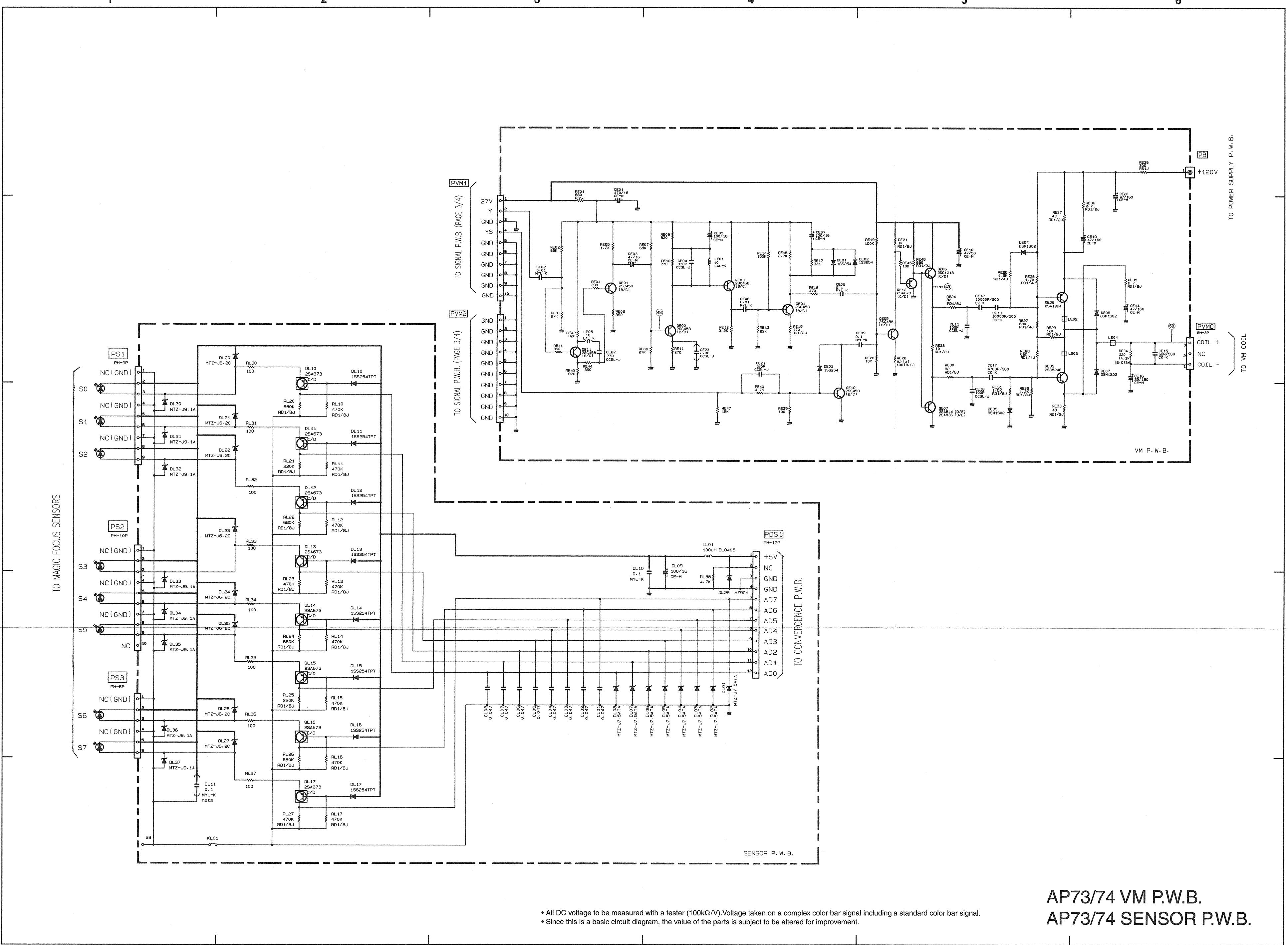
• All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.  
 • Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

AP73/74 SIGNAL SUB P.W.B.



## BASIC CIRCUIT DIAGRAM

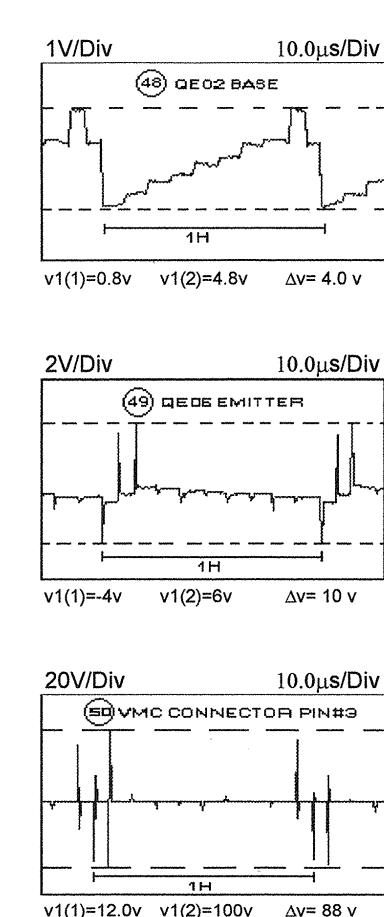
PRODUCT SAFETY NOTE: Components marked with a and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



AP73/74 VM P.W.B.  
AP73/74 SENSOR P.W.B.

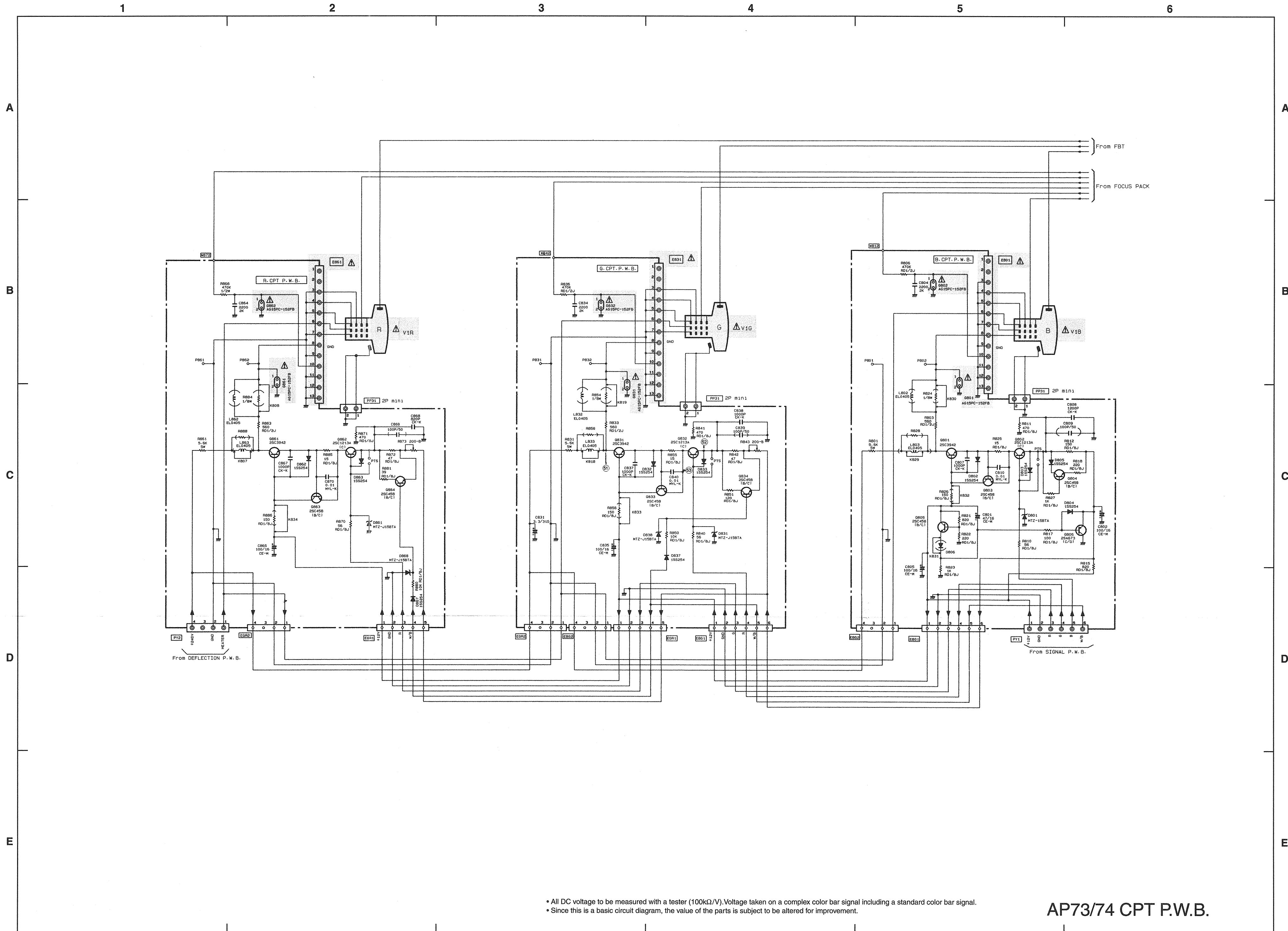
Circuit No.	Pin Name	Voltage DC
E	4.9	
QL10	B	4.5
	C	1.2
E	4.9	
QL11	B	4.5
	C	1.1
E	4.9	
QL12	B	4.5
	C	0.8
E	4.9	
QL13	B	4.5
	C	1.8
E	4.8	
QL14	B	4.5
	C	1.1
E	5	
QL15	B	4.5
	C	1.3
E	4.9	
QL16	B	4.5
	C	1.7
E	4.9	
QL17	B	4.5
	G	1.5

Circuit No.	Pin Name	Voltage DC
E	1.4	
QE01	B	2.1
	C	7.9
E	1.8	
QE02	B	2.0
	C	11.1
E	5.8	
QE03	B	6.5
	C	12.18
E	1.2	
QE04	B	1.9
	C	5.26
E	0.9	
QE05	B	1.6
	C	13.1
E	2.7	
QE06	B	13.6
	C	25.1

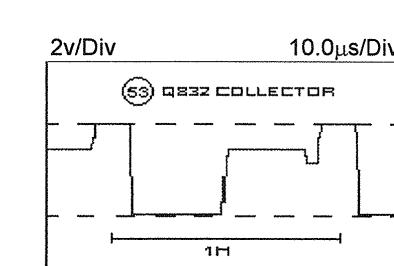
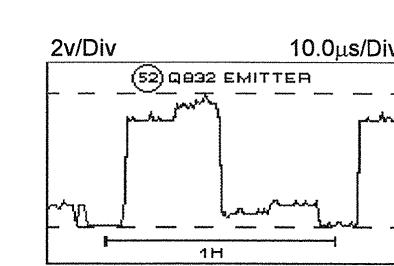
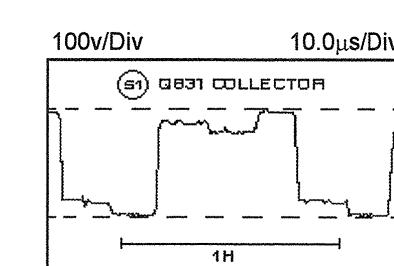


### BASIC CIRCUIT DIAGRAM

PRODUCT SAFETY NOTE: Components marked with a and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

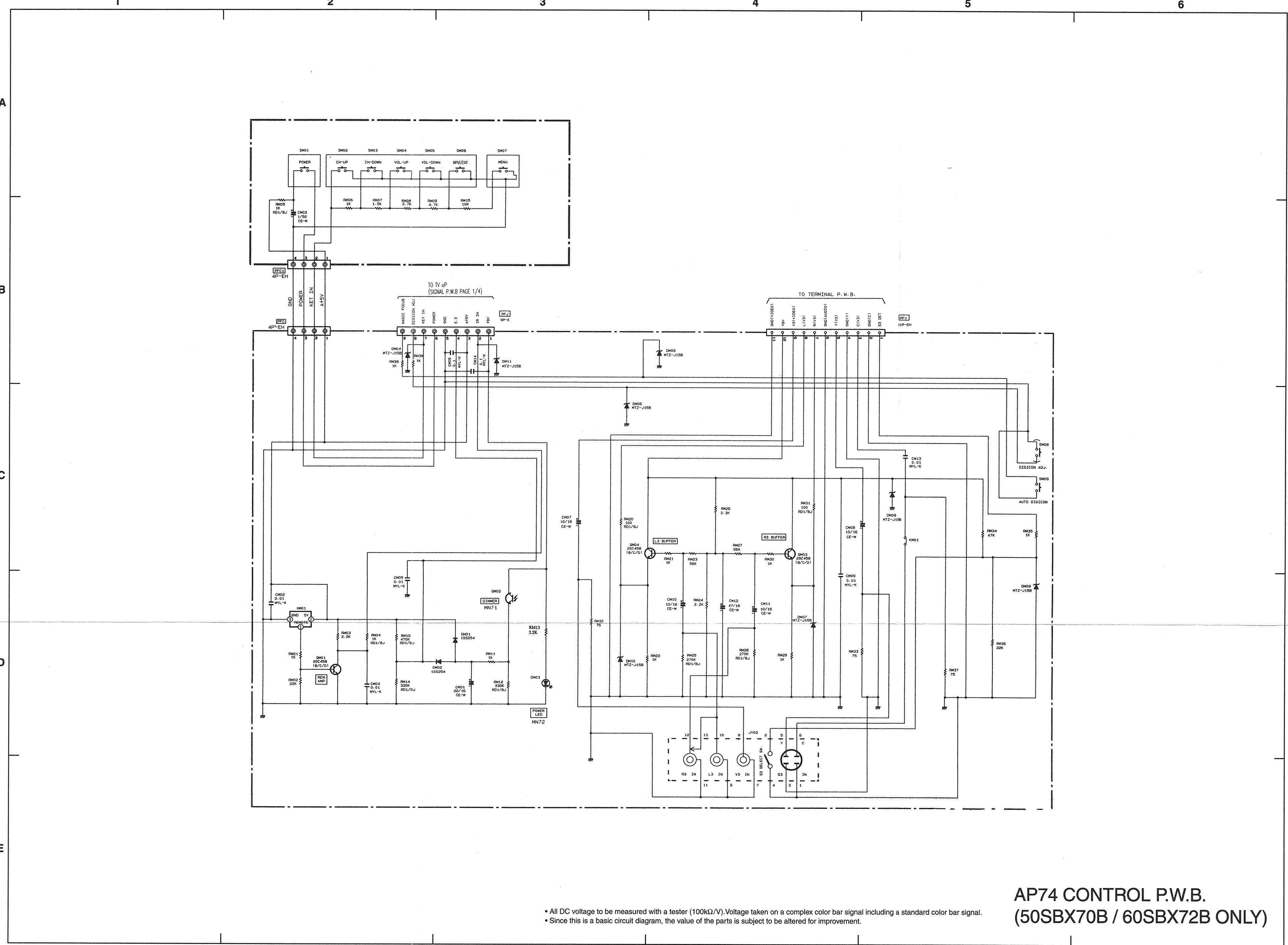


Circuit No.	Name	Pin	Voltage DC
Q801	E	11.2	3.4
	B	11.7	3.8
	C	134.5	10.9
Q802	E	3.4	10.9
	B	3.8	11.2
	C	10.9	11.7
Q803	E	10.9	3.1
	B	11.1	0.9
	C	11.7	3.4
Q804	E	2.9	11.2
	B	3.4	11.7
	C	3.2	155.9
Q805	E	1.8	3.3
	B	2.0	3.6
	C	11.7	4.1
Q806	E	1.5	11.1
	B	1.8	11.2
	C	0	11.7
Q831	E	11.15	3.2
	B	11.7	3.2
	C	138.2	3.2



## BASIC CIRCUIT DIAGRAM

PRODUCT SAFETY NOTE: Components marked with a and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

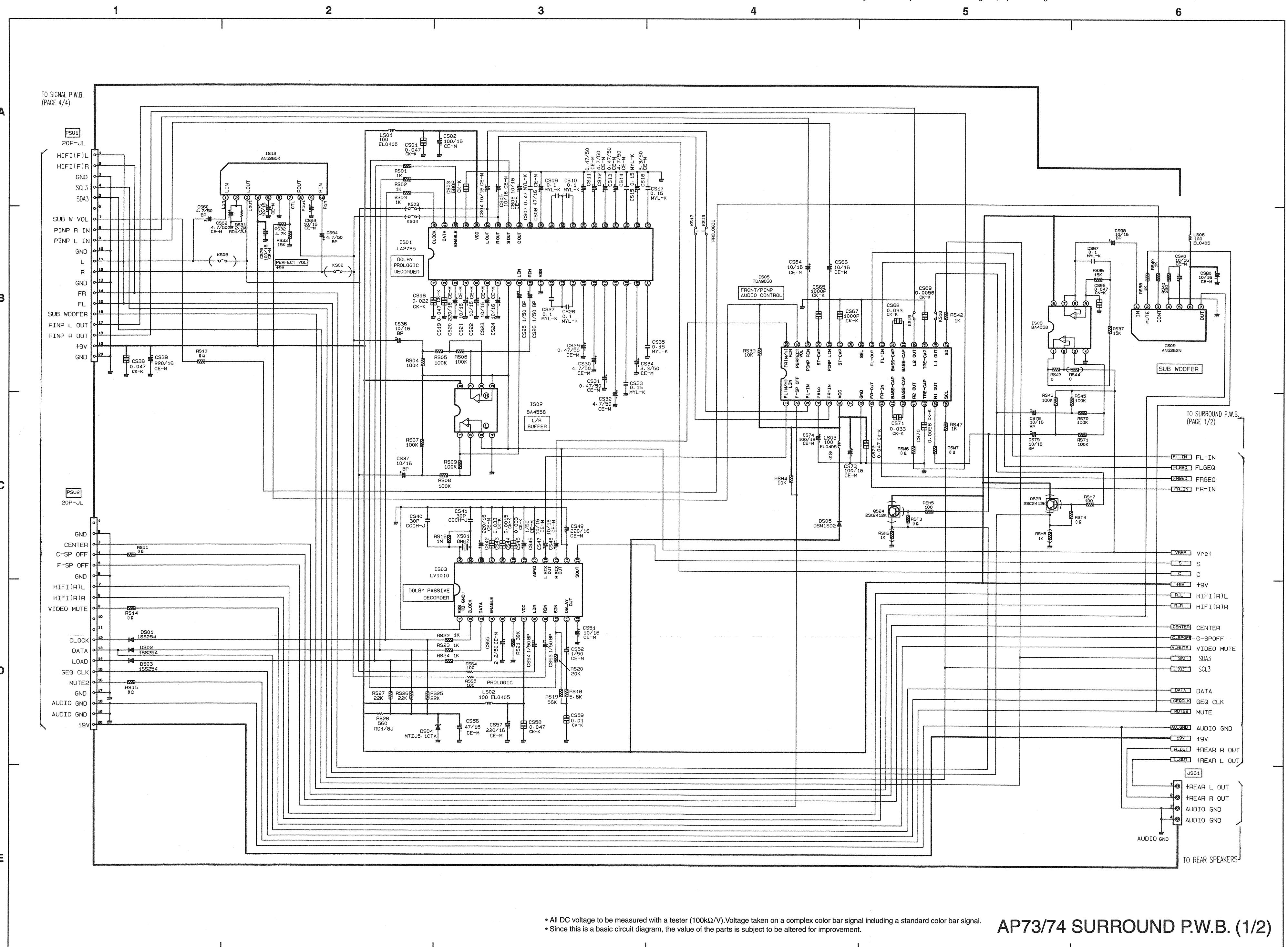


AP74 CONTROL P.W.B.  
(50SBX70B / 60SBX72B ONLY)

Circuit No.	Pin Name	Voltage DC
QM01	B	0.7
	C	0
	E	5.6
QM02	B	9.3
	C	2.1
QM03	B	2.7
	C	8.4
	E	2.1
QM04	B	2.7
	C	8.4

## BASIC CIRCUIT DIAGRAM

PRODUCT SAFETY NOTE: Components marked with a and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.



• All DC voltage to be measured with a tester (100kΩ/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.

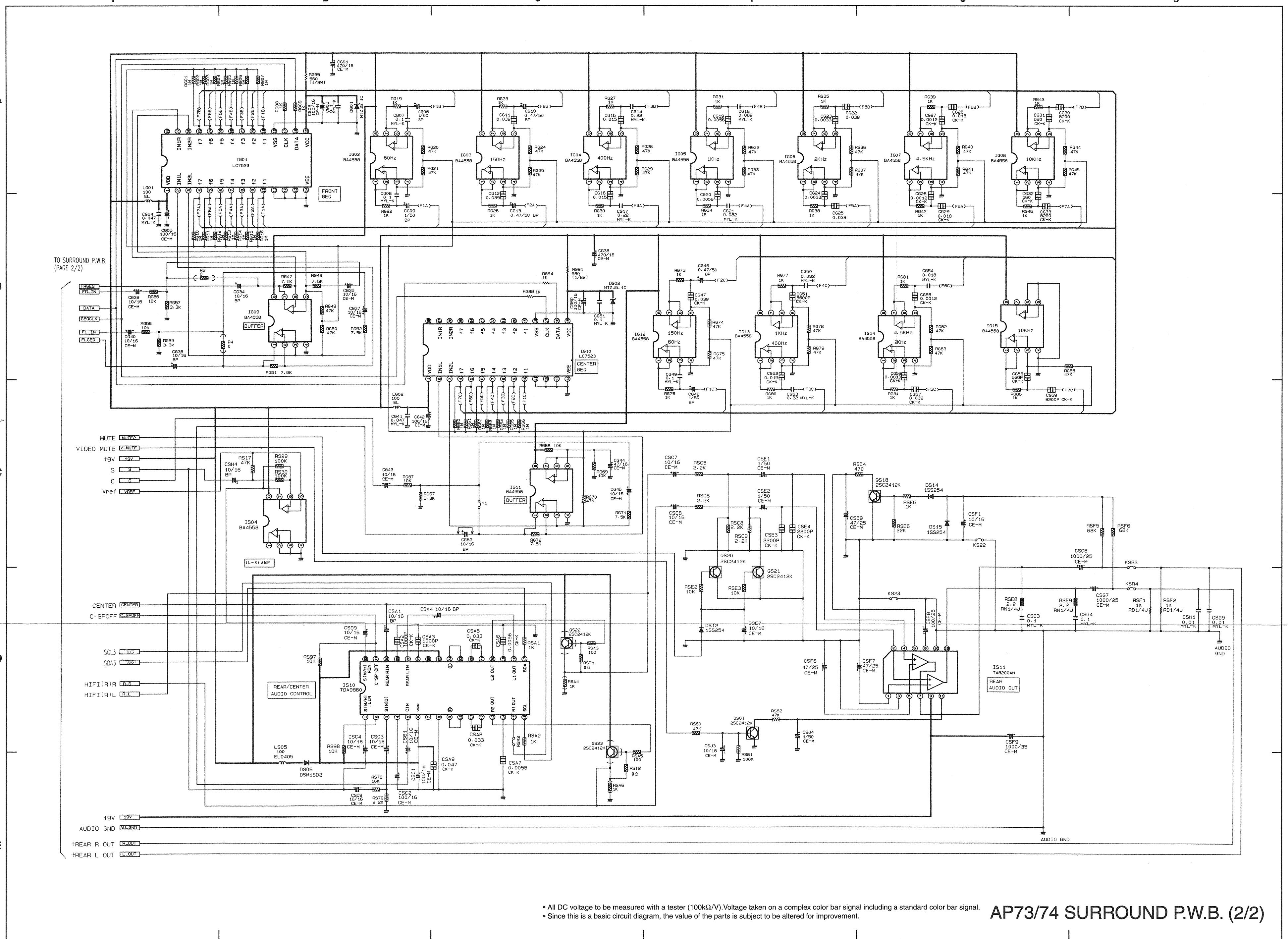
AP73/74 SURROUND P.W.B. (1/2)

1 2 3 4 5 6

Circuit No.	Pin No.	Voltage DC	Circuit No.	Pin No.	Voltage DC	Circuit No.	Pin No.	Voltage DC	Circuit No.	Pin No.	Voltage DC	Circuit No.	Pin No.	Voltage DC	Circuit No.	Pin No.	Voltage DC			
IS01	1 4.6		IS01	22 2.8		IS01	1 4.5		IS02	13 4.5		IS02	1 0		IS08	17 4.5		IS12	1 4	
	2 4.6			23 2.8			2 4.5			2 4.5			2 0.1			2 4.5				
	3 4.5			24 2.9			3 4.5			3 4.5			3 4.2			2 1.1				
	4 4.5			25 5.3			4 4.5			4 4.5			4 8.4			3 4.6				
	5 4.5			26 4.5			5 4.5			5 4.2			5 4.2			4 9.2				
	6 4.5			27 5.2			6 4.5			6 4.2			6 8.4			5 4.5				
	7 4.5			28 4.5			7 4.5			7 4.2			7 4.2			6 4.5				
	8 4.5			29 4.5			8 4.5			8 0			8 0			7 0				
	9 4.5			30 4.5			9 4.5			9 4.2			9 4.2			8 0.1				
	10 4.5			31 4.5			10 4.5			10 4.2			10 4.2			8 4.6				
	11 0			32 4.5			11 0			11 1.2			11 1.2			9 2				
	12 4.5			33 4.5			12 4.5			12 4.2			12 4.2			10 4.6				
	13 4.5			34 4.5			13 4.5			13 4.2			13 4.2			11 0				
	14 4.5			35 4.5			14 4.5			14 4.2			14 4.2			12 0				
	15 4.5			36 4.5			15 4.5			15 4.2			15 4.2			13 0.1				
	16 5.2			37 4.5			16 5.2			16 4.2			16 4.2			14 0.1				
	17 4.5			38 9			17 4.5			17 2.3			17 2.3			15 0.1				
	18 5.3			39 0			18 5.3			18 5.2			18 5.2			16 0.1				
	19 4.5			40 5.2			19 4.5			19 5.2			19 5.2			17 0.1				
	20 4.5			41 5.2			20 4.5			20 5.2			20 5.2			18 0.1				
	21 4.5			42 5.2			21 4.5			21 5.2			21 5.2			19 0.1				

## BASIC CIRCUIT DIAGRAM

PRODUCT SAFETY NOTE: Components marked with a and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

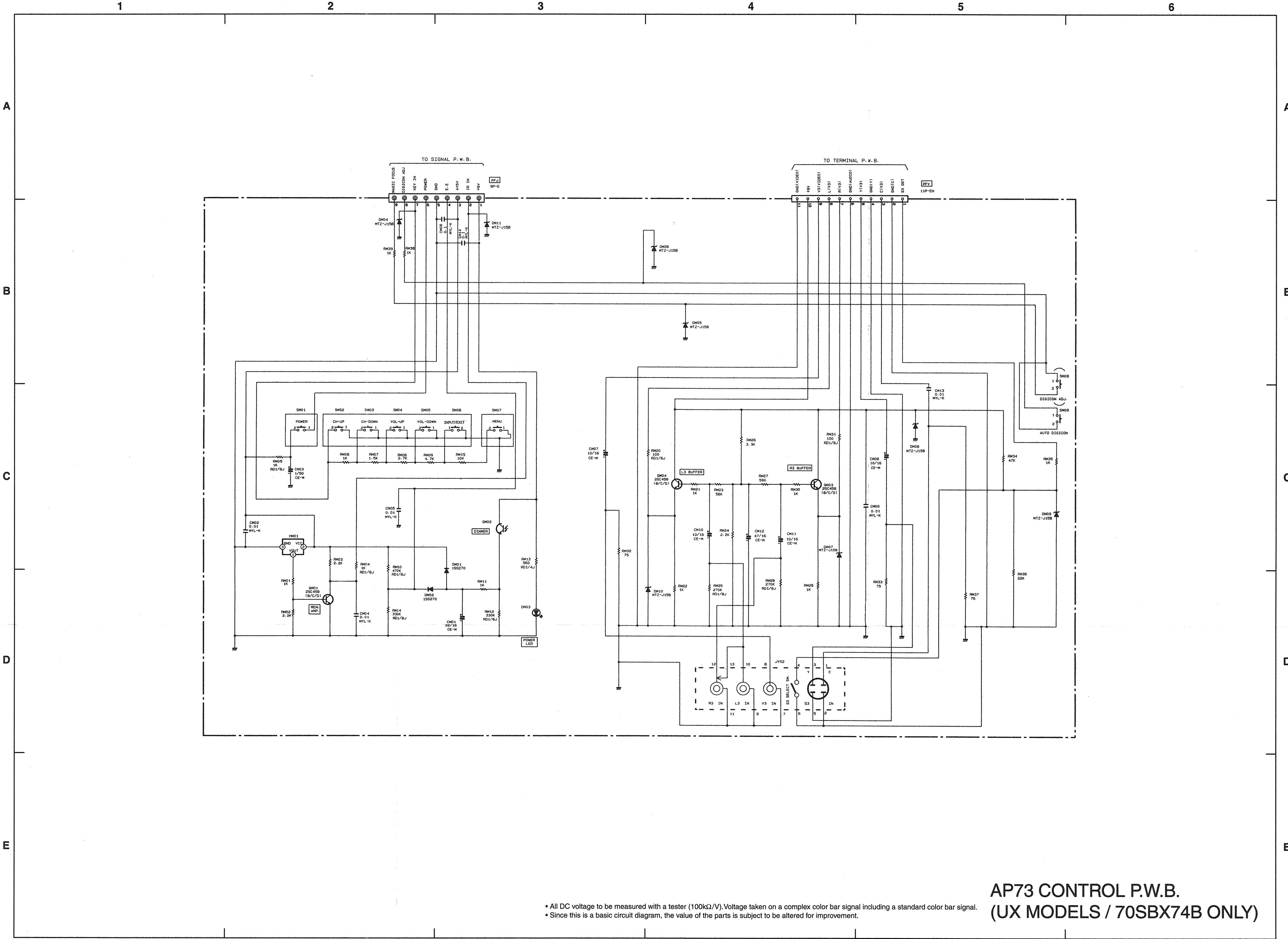

 • All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.  
 • Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

## AP73/74 SURROUND P.W.B. (2/2)

Circuit No.	Pin No.	Voltage DC	Circuit No.	Pin No.	Voltage DC	Circuit No.	Pin No.	Voltage DC	Circuit No.	Pin No.	Voltage DC	Circuit No.	Pin No.	Voltage DC	Circuit No.	Pin No.	Voltage DC	
1	9.3		2	4.7		3	4.7		4	4.7		5	4.7		6	4.7		
7	4.7		8	4.7		9	4.7		10	4.7		11	0		12	0		
13	0		14	0		15	5.3		16	5		17	0		18	0		
19	4.7		20	4.7		21	4.7		22	4.7		23	4.7		24	4.7		
25	4.7		26	4.7		27	4.7		28	0								
IG01	14	0	IG02	4	4.7	IG03	4	0	IG04	4	4.7	IG05	4	0	IG06	4	0	
	15	5.3		2	4.7		3	4.7		5	4.7		6	4.7		7	4.7	
	16	5		2	4.7		3	4.7		5	4.7		6	4.7		7	4.7	
	17	0		4	0		5	4.7		6	4.7		7	4.7		8	4.7	
	18	0		6	4.7		7	4.7		8	4.7		9	4.7		10	4.7	
	19	4.7		7	4.7		8	4.7		9	4.7		10	4.7		11	0	
	20	4.7		8	4.7		9	4.7		10	4.7		11	0		12	0	
	21	4.7		14	0		15	5.3		16	5		17	0		18	0	
	22	4.7		2	4.7		3	4.7		5	4.7		6	4.7		7	4.7	
	23	4.7		2	4.7		3	4.7		5	4.7		6	4.7		7	4.7	
	24	4.7		4	0		5	4.7		6	4.7		7	4.7		8	4.7	
	25	4.7		5	4.7		6	4.7		7	4.7		8	4.7		9	4.7	
	26	4.7		6	4.7		7	4.7		8	4.7		9	4.7		10	4.7	
	27	4.7		7	4.7		8	4.7		9	4.7		10	4.7		11	0	
	28	0		8	4.7		9	4.7		10	4.7		11	0		12	0	
IG01	14	0	IG02	4	4.7	IG03	4	0	IG04	4	4.7	IG05	4	0	IG06	4	0	
	15	5.3		2	4.7		3	4.7		5	4.7		6	4.7		7	4.7	
	16	5		4	0		5	4.7		6	4.7		7	4.7		8	4.7	
	17	0		6	4.7		7	4.7		8	4.7		9	4.7		10	4.7	
	18	0		7	4.7		8	4.7		9	4.7		10	4.7		11	0	
	19	4.7		8	4.7		9	4.7		10	4.7		11	0		12	0	
	20	4.7		14	0		15	5.3		16	5		17	0		18	0	
	21	4.7		2	4.7		3	4.7		5	4.7		6	4.7		7	4.7	
	22	4.7		4	0		5	4.7		6	4.7		7	4.7		8	4.7	
	23	4.7		5	4.7		6	4.7		7	4.7		8	4.7		9	4.7	
	24	4.7		6	4.7		7	4.7		8	4.7		9	4.7		10	4.7	
	25	4.7		7	4.7		8	4.7		9	4.7		10	4.7		11	0	
	26	4.7		8	4.7		9	4.7		10	4.7		11	0		12	0	
	27	4.7		9	4.7		10	4.7		11	0		12	0				
	28	0		10	4.7		11	0		12	0							

## BASIC CIRCUIT DIAGRAM

PRODUCT SAFETY NOTE: Components marked with a and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

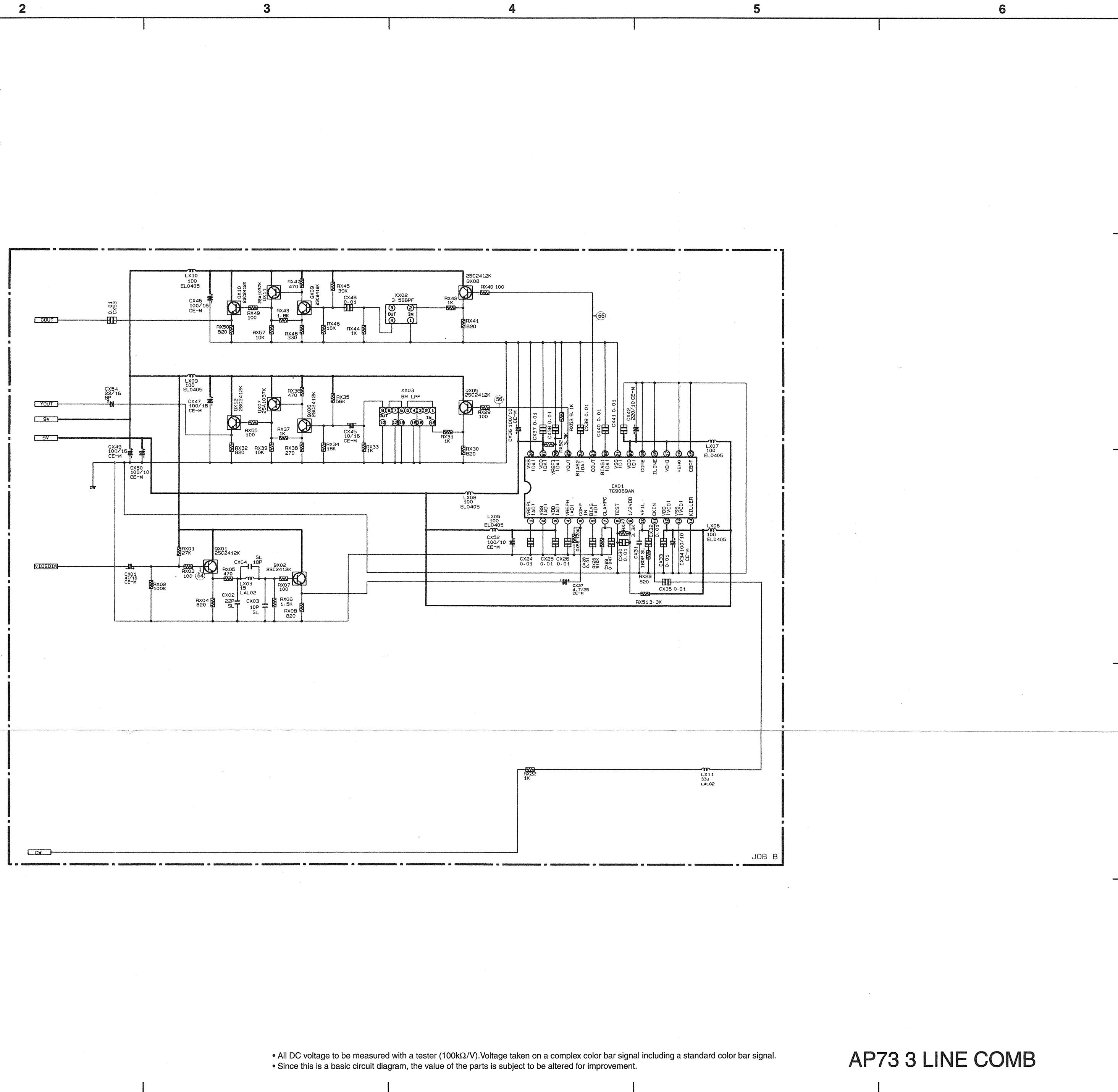


AP73 CONTROL P.W.B.  
(UX MODELS / 70SBX74B ONLY)

Circuit No.	Pin No.	Voltage DC
QM01	E	0
QM01	B	0.7
QM01	C	0.1
QM02	E	1.4
QM02	B	1.4
QM02	C	9.3
QM03	E	2.3
QM03	B	2.9
QM03	C	9.1
QM04	E	2.3
QM04	B	2.9
QM04	C	9.1

### BASIC CIRCUIT DIAGRAM

PRODUCT SAFETY NOTE: Components marked with a and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

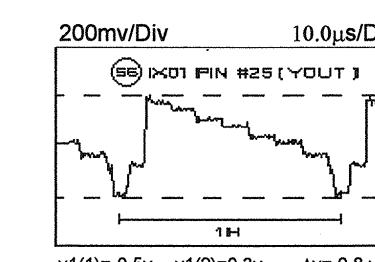
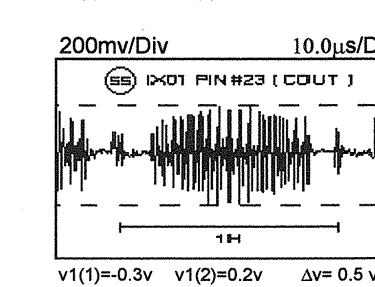
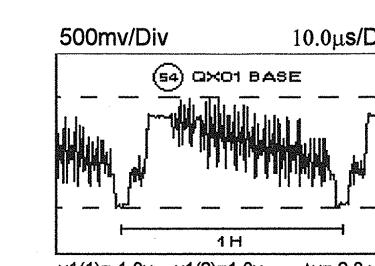


AP73 3 LINE COMB

Circuit No.	Pin No.	Voltage DC
1	1.5	
2	0	
3	4.9	
4	3.4	
5	2.5	
6	1.3	
7	3.3	
8	0	
9	2.5	
10	1.6	
11	2.2	
12	5.1	
13	0	
14	0	
15	0	
16	0	
17	4.9	
18	0	
19	0	
20	4.9	
21	0	
22	3.5	
23	4.3	
24	1.5	
25	4.4	
26	3.6	
27	4.9	
28	0	

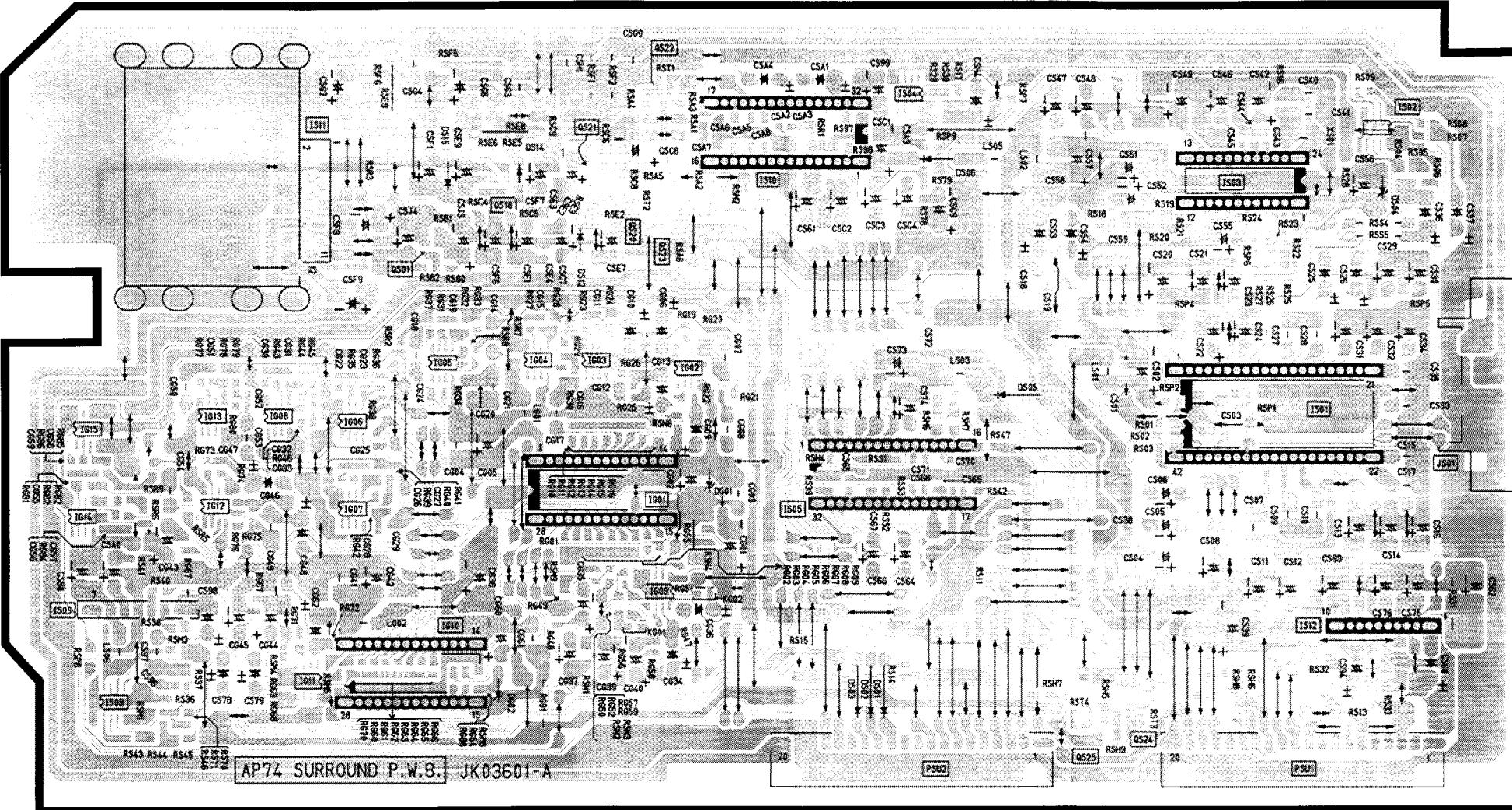
Circuit No.	Pin Name	Voltage DC
QX01	E	5.5
QX01	B	6.2
QX01	C	9.4
QX02	E	3.4
QX02	A	4.1
QX02	C	8.4
QX02	E	3.7
QX05	B	4.4
QX05	C	9.3
QX06	E	1.5
QX06	B	2.2
QX06	C	8.6
QX07	E	0.3
QX07	B	8.6
QX07	C	5.9
QX07	E	3.6
QX08	B	4.3
QX08	C	9.3

Circuit No.	Pin Name	Voltage DC
QX09	E	1.2
QX09	B	1.8
QX09	C	8.7
QX10	E	3.3
QX10	A	4.1
QX10	C	8.4
QX10	E	3.7
QX11	B	8.7
QX11	C	9.3
QX12	E	4.8
QX12	B	5.9
QX12	C	9.3

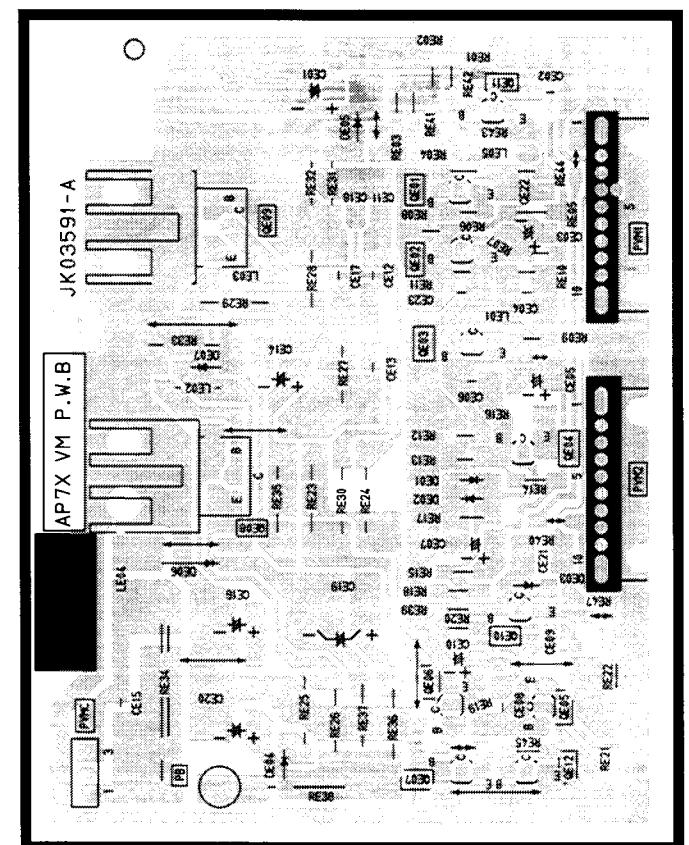


# PRINTED CIRCUIT BOARD

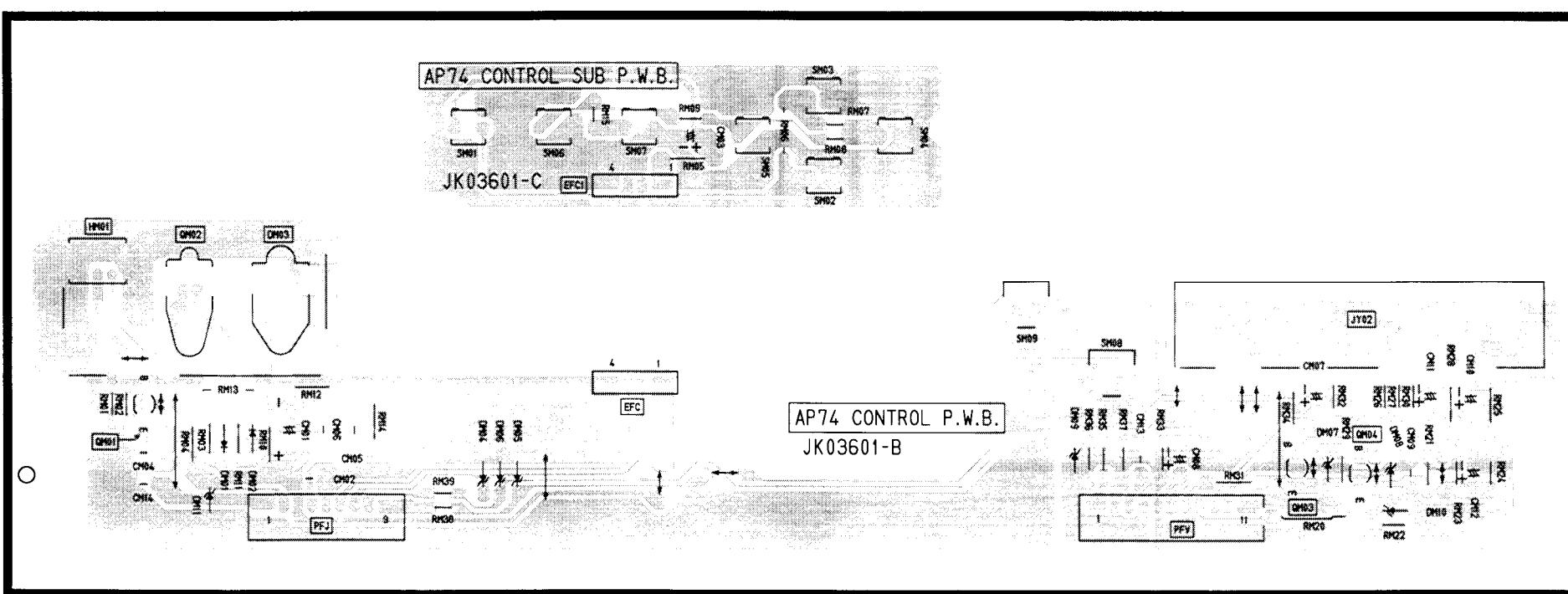
AP74 SURROUND P.W.B.



VM P.W.B.

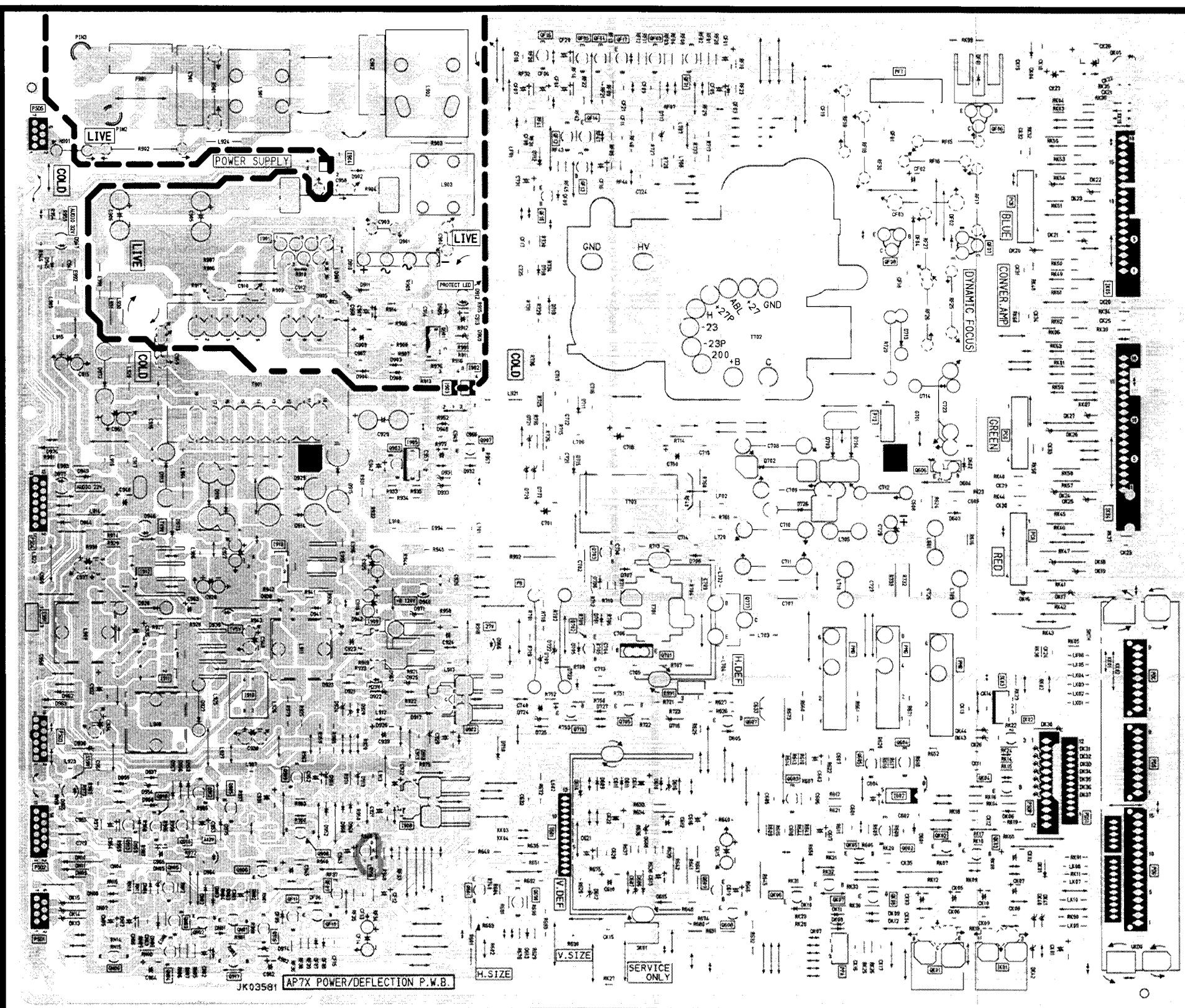


CONTROL P.W.B. (50SBX70B, 60SBX72B ONLY)

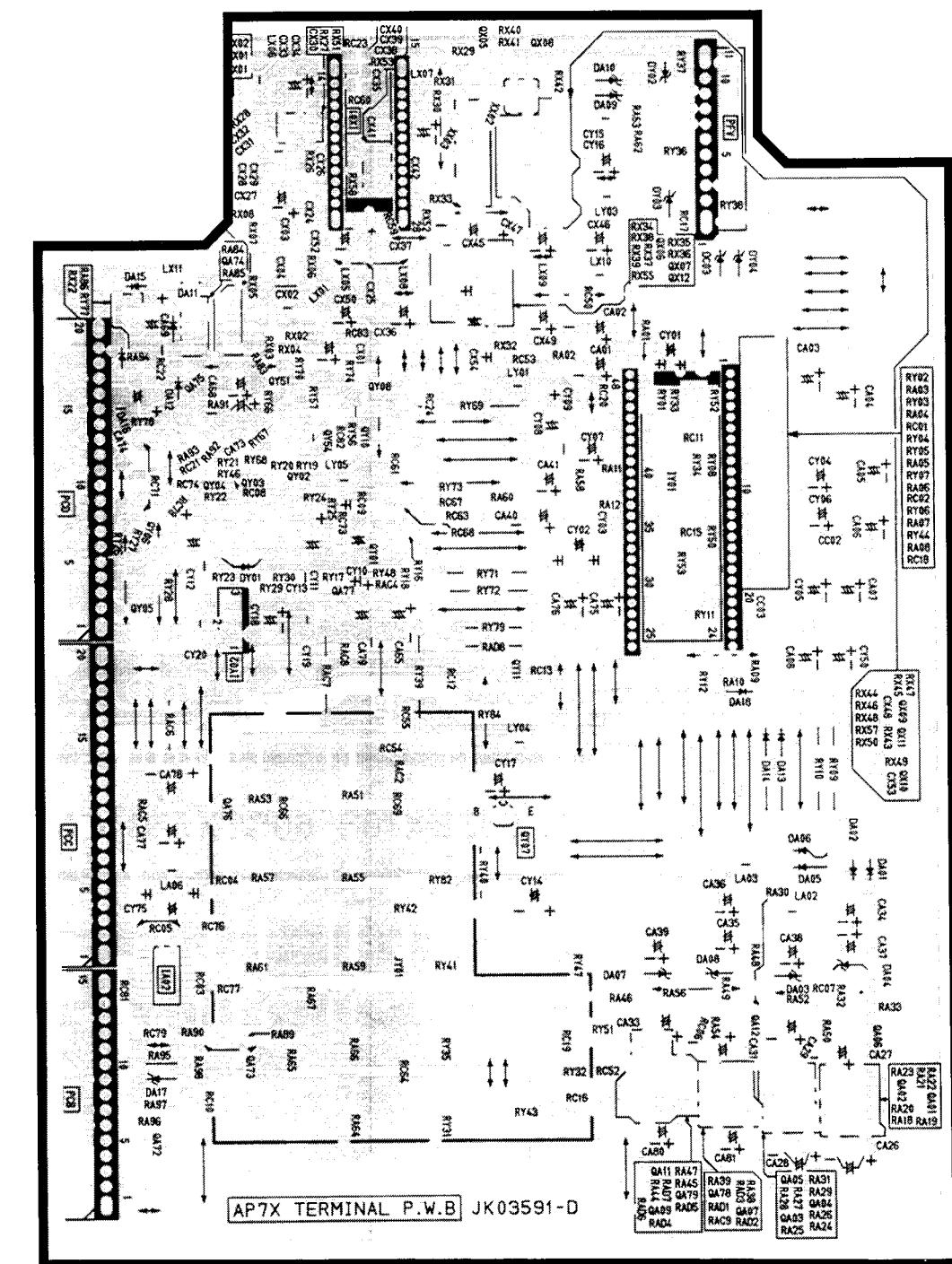


# PRINTED CIRCUIT BOARD

POWER/DEFLECTION P.W.B.



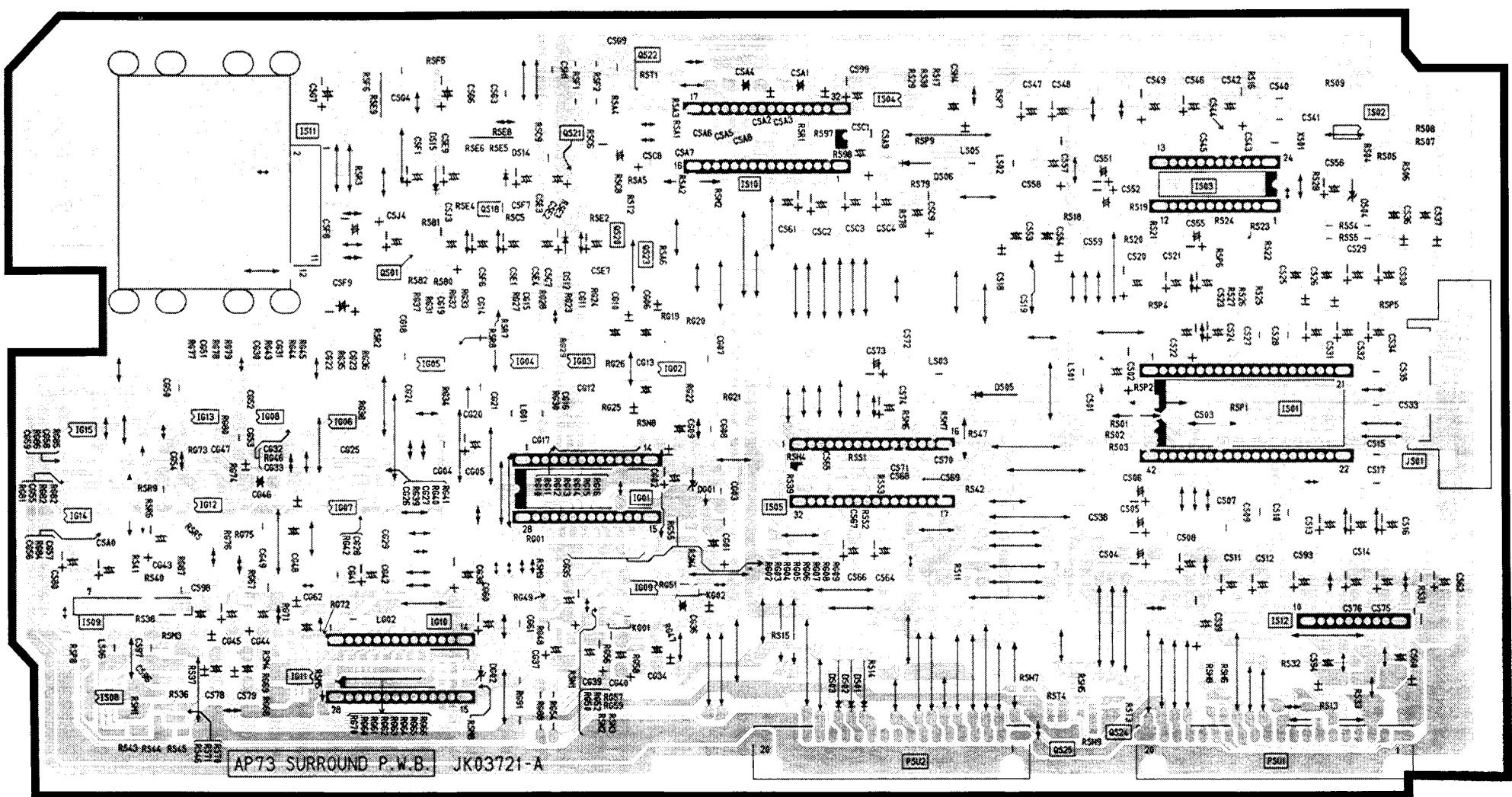
TERMINAL P.W.B.



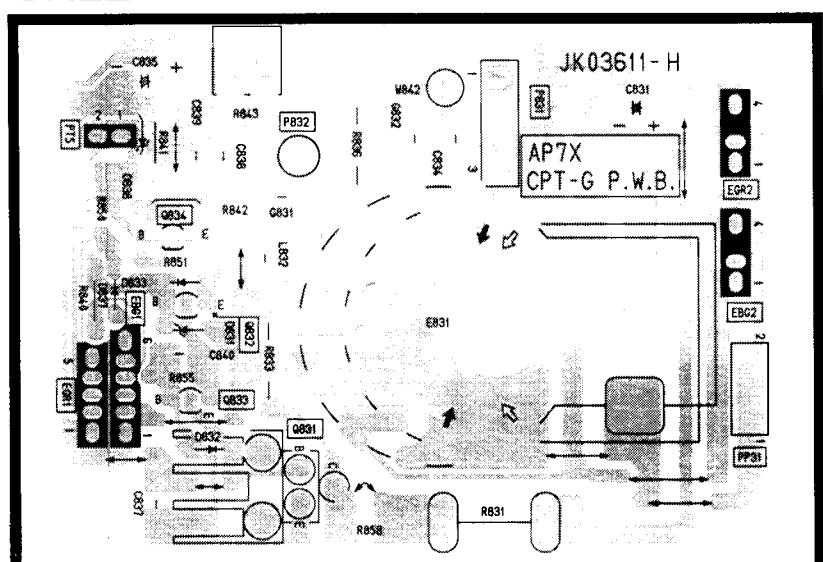
# PRINTED CIRCUIT BOARD

RED CPT P.W.B.

AP73 SURROUND P.W.B.

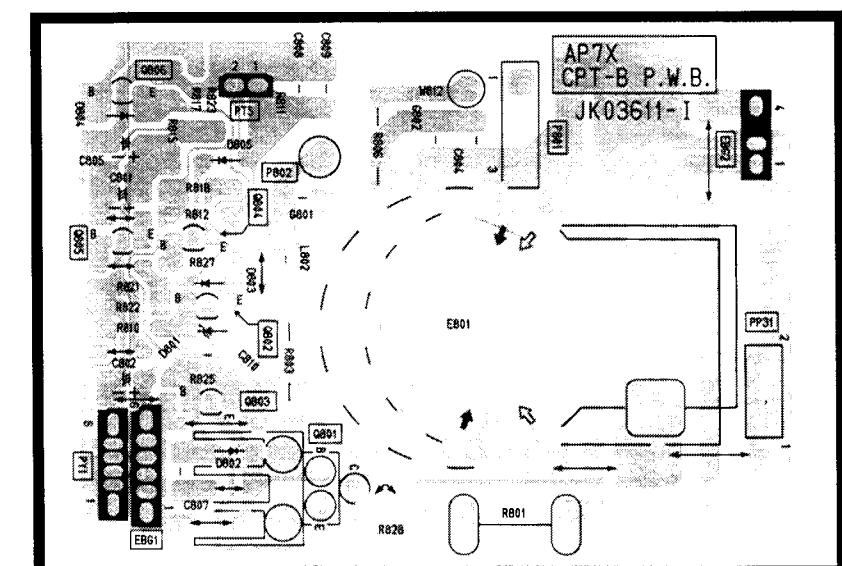
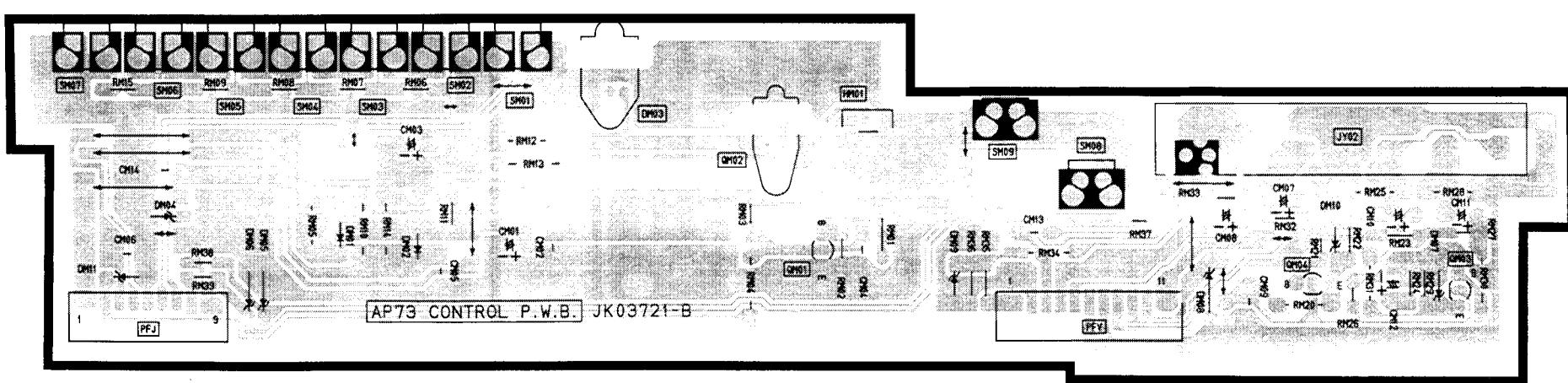


GREEN CPT P.W.B.



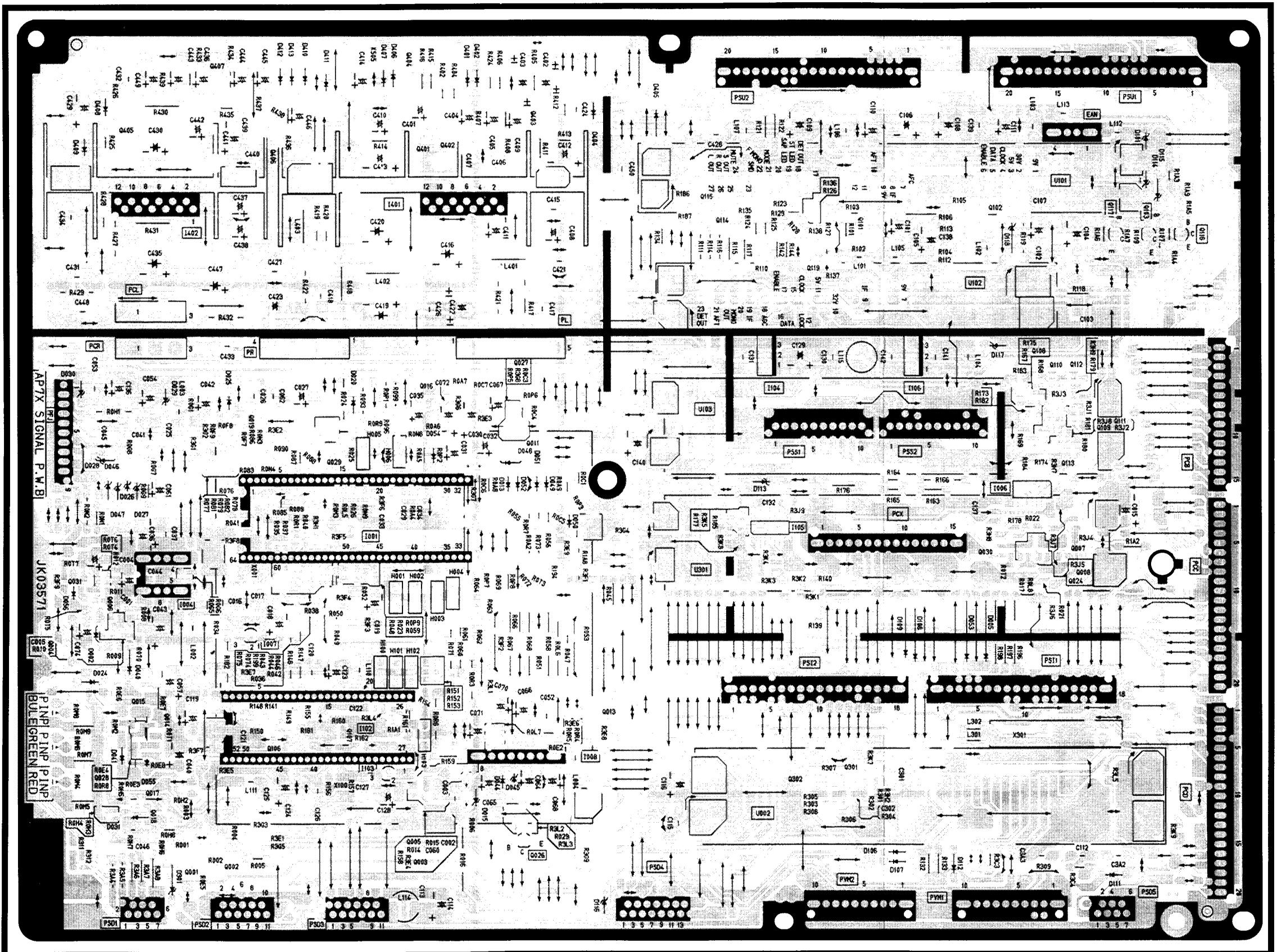
BLUE CPT. P.W.B.

CONTROL P.W.B. (UX Models, 70SBX74B)

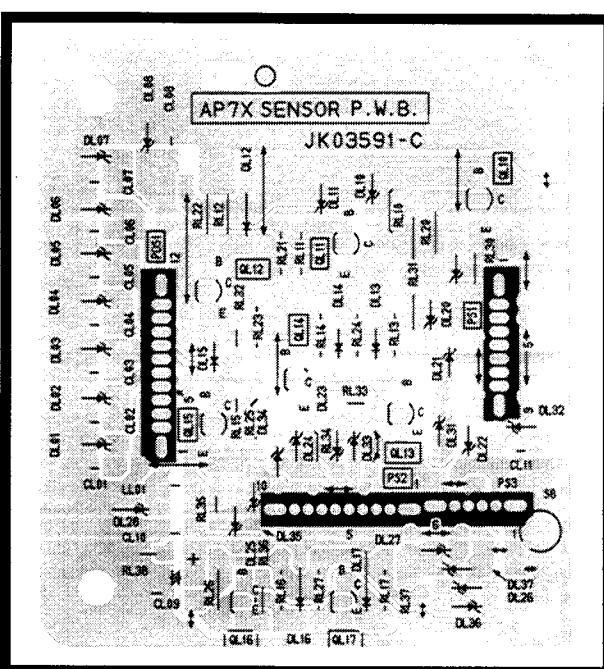


# PRINTED CIRCUIT BOARD

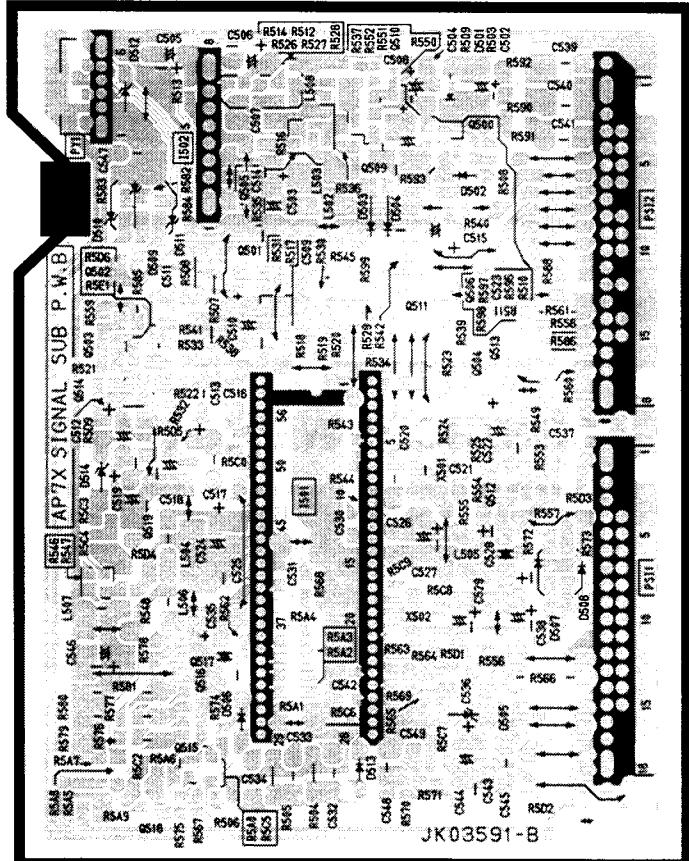
SIGNAL P.W.B.



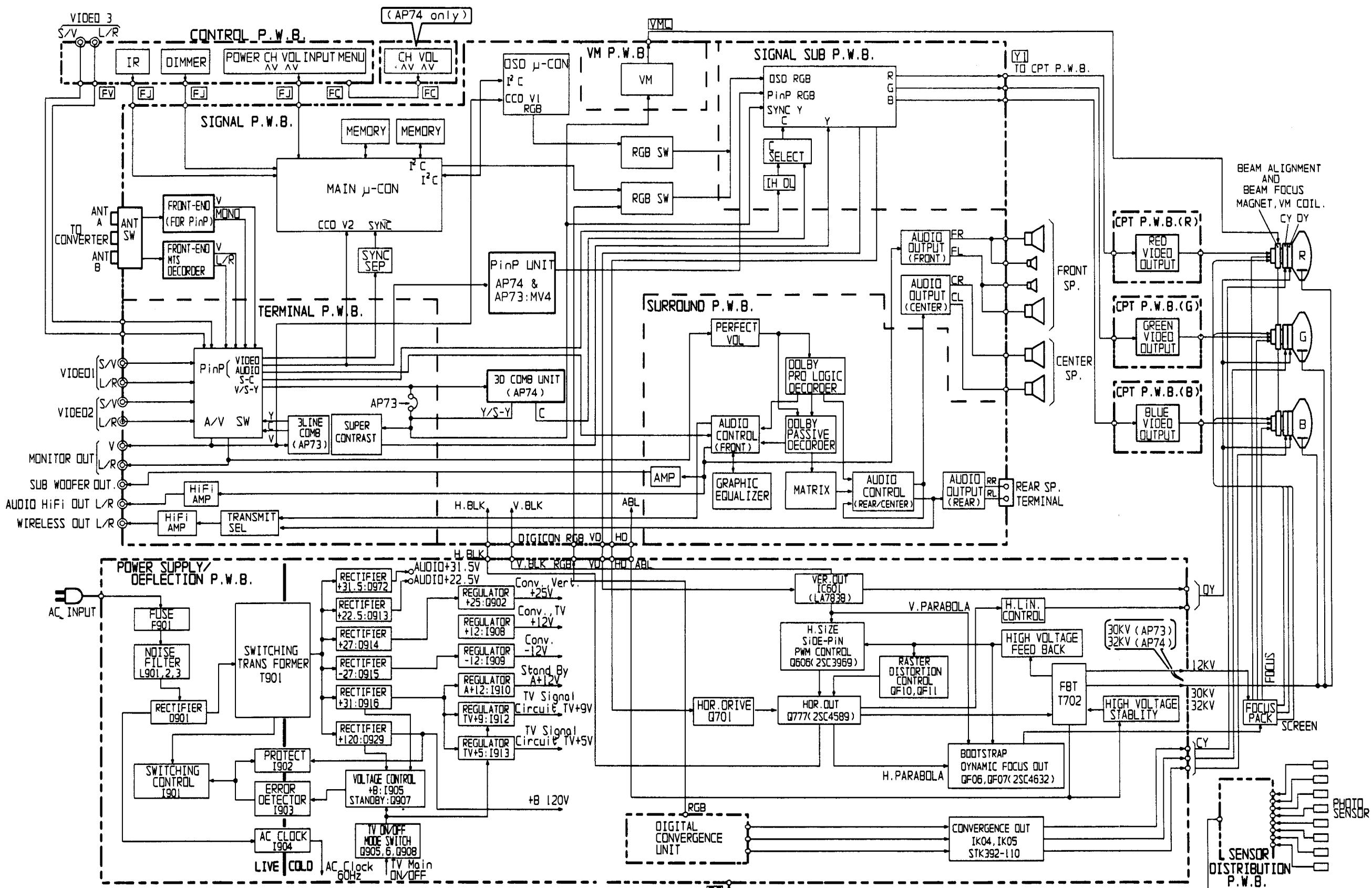
SENSOR P.W.B.



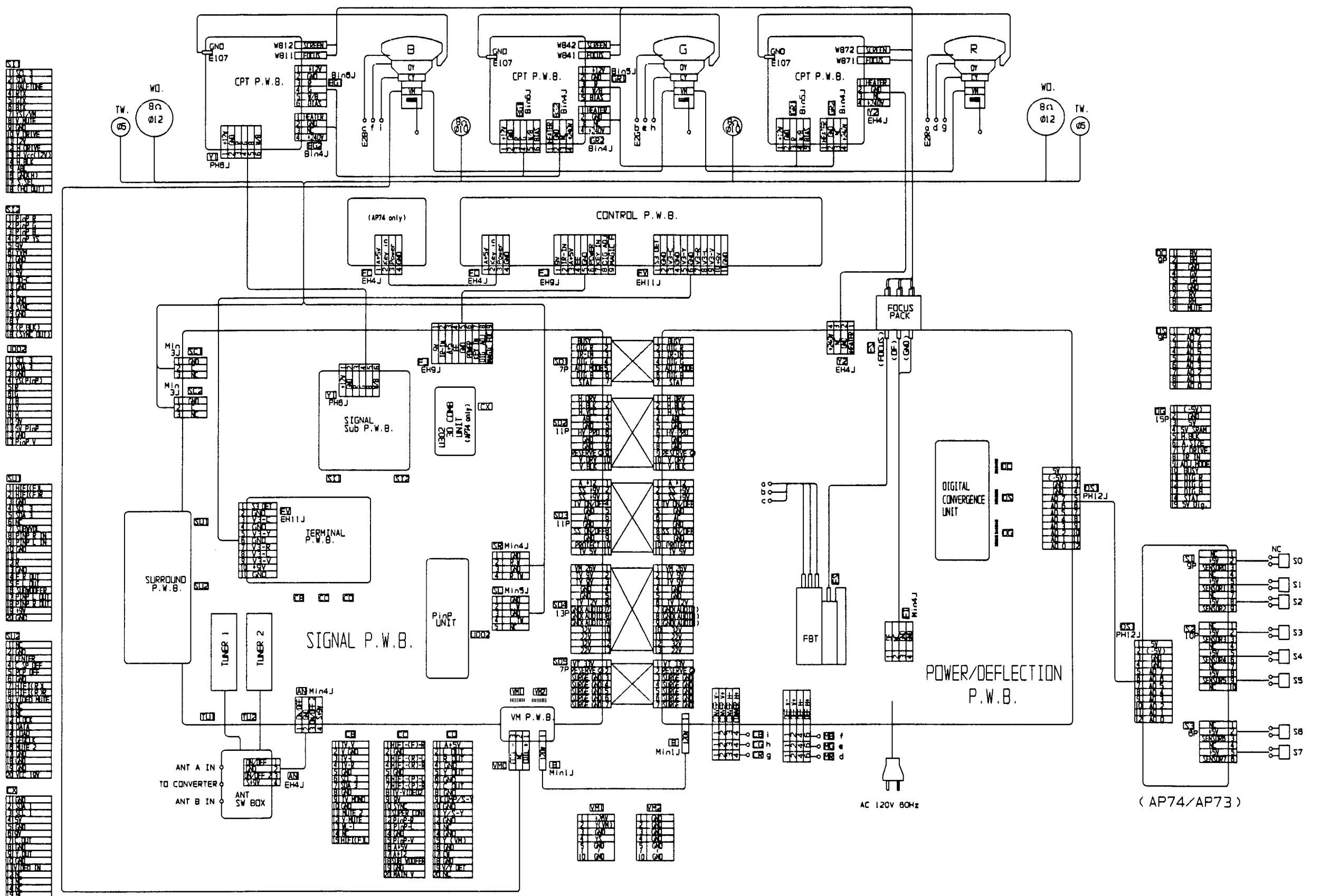
SIGNAL SUB P.W.B.



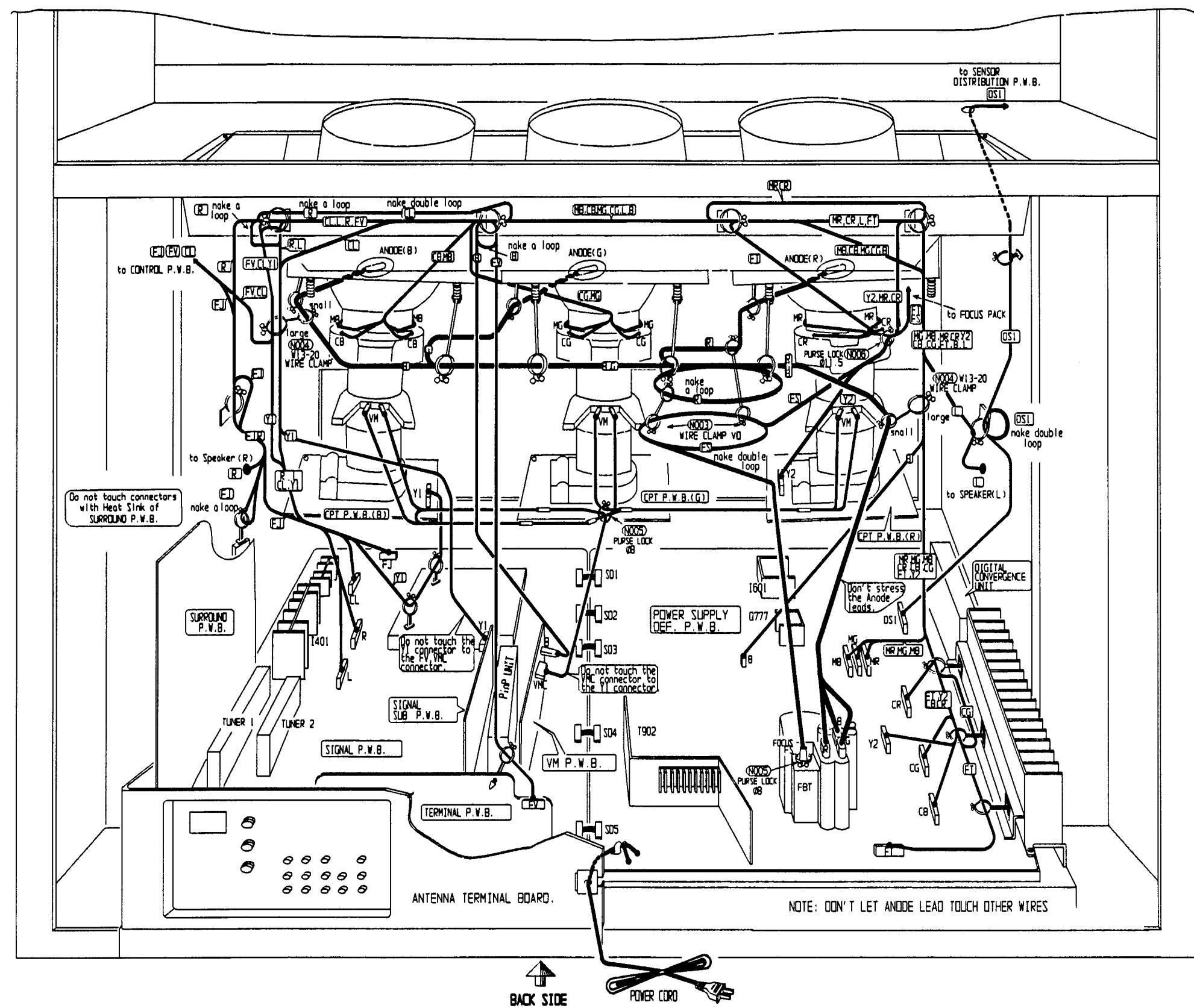
# BLOCK DIAGRAM



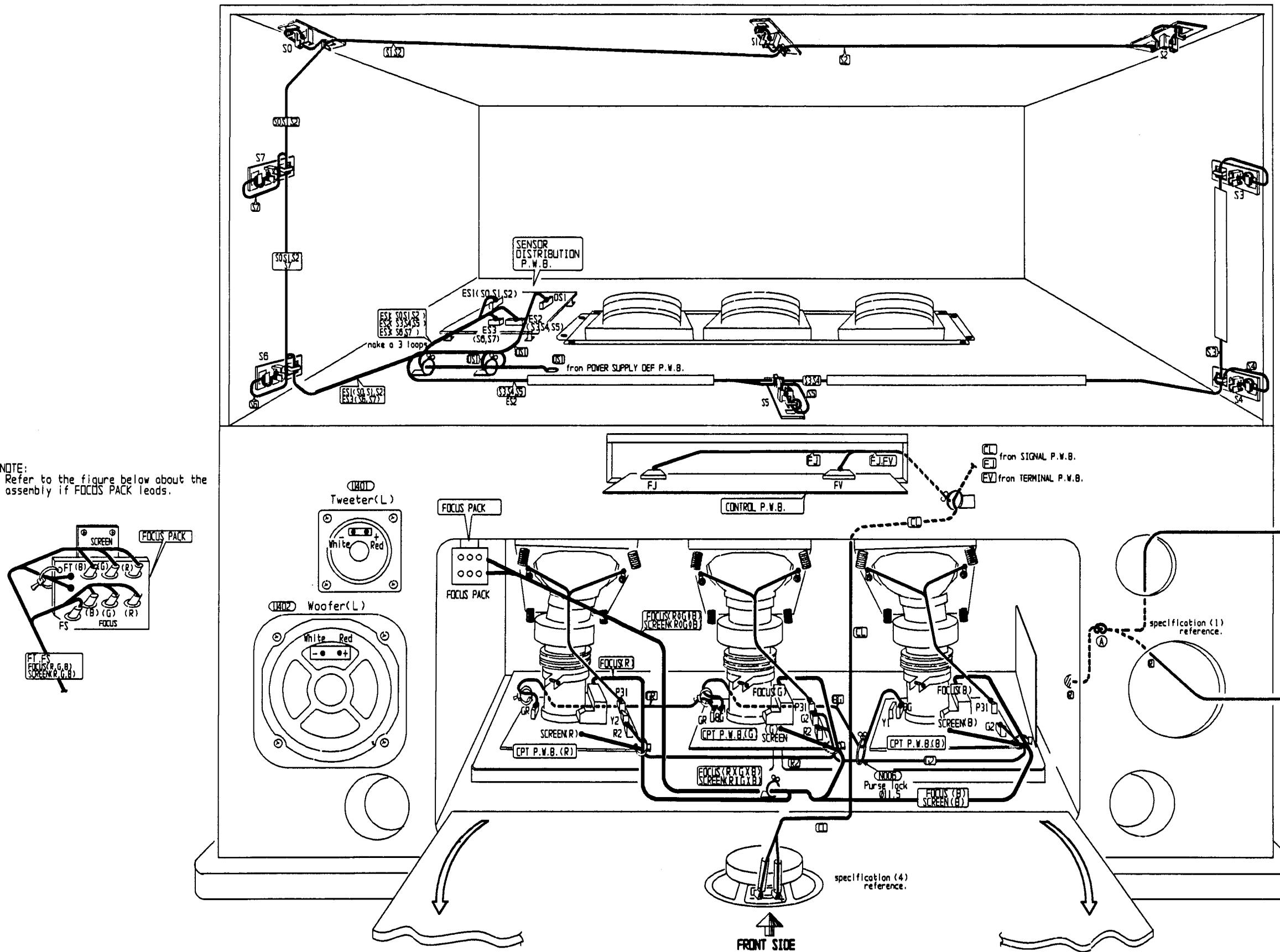
# WIRING DIAGRAM



WIRE DRESS DRAWING (01/02). (UX MODELS)

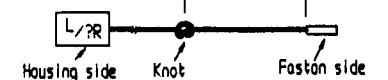


WIRE DRESS DRAWING (02/02). (UX MODELS)

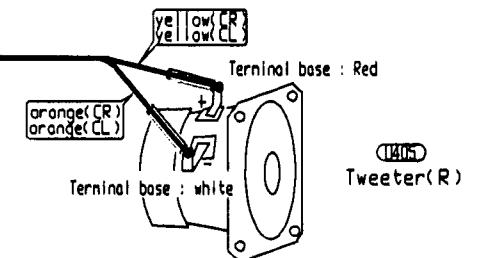


**SPECIFICATION**

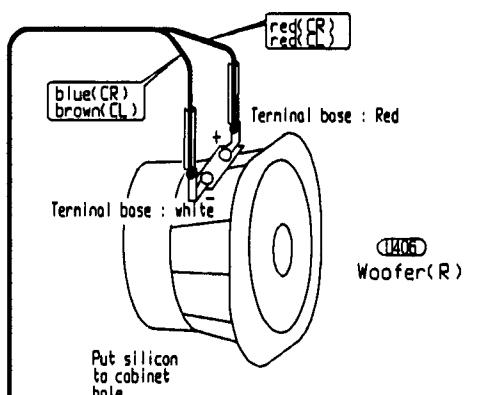
(1) Make a knot as follow below Figure after wires is through the hole ① cabinet.  
250±10mm



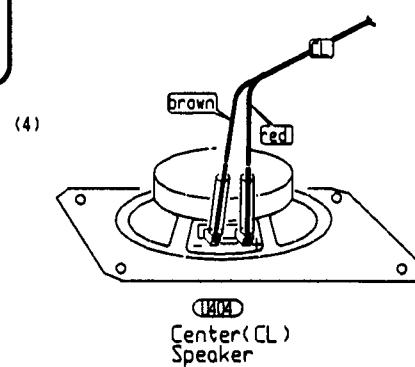
(2)



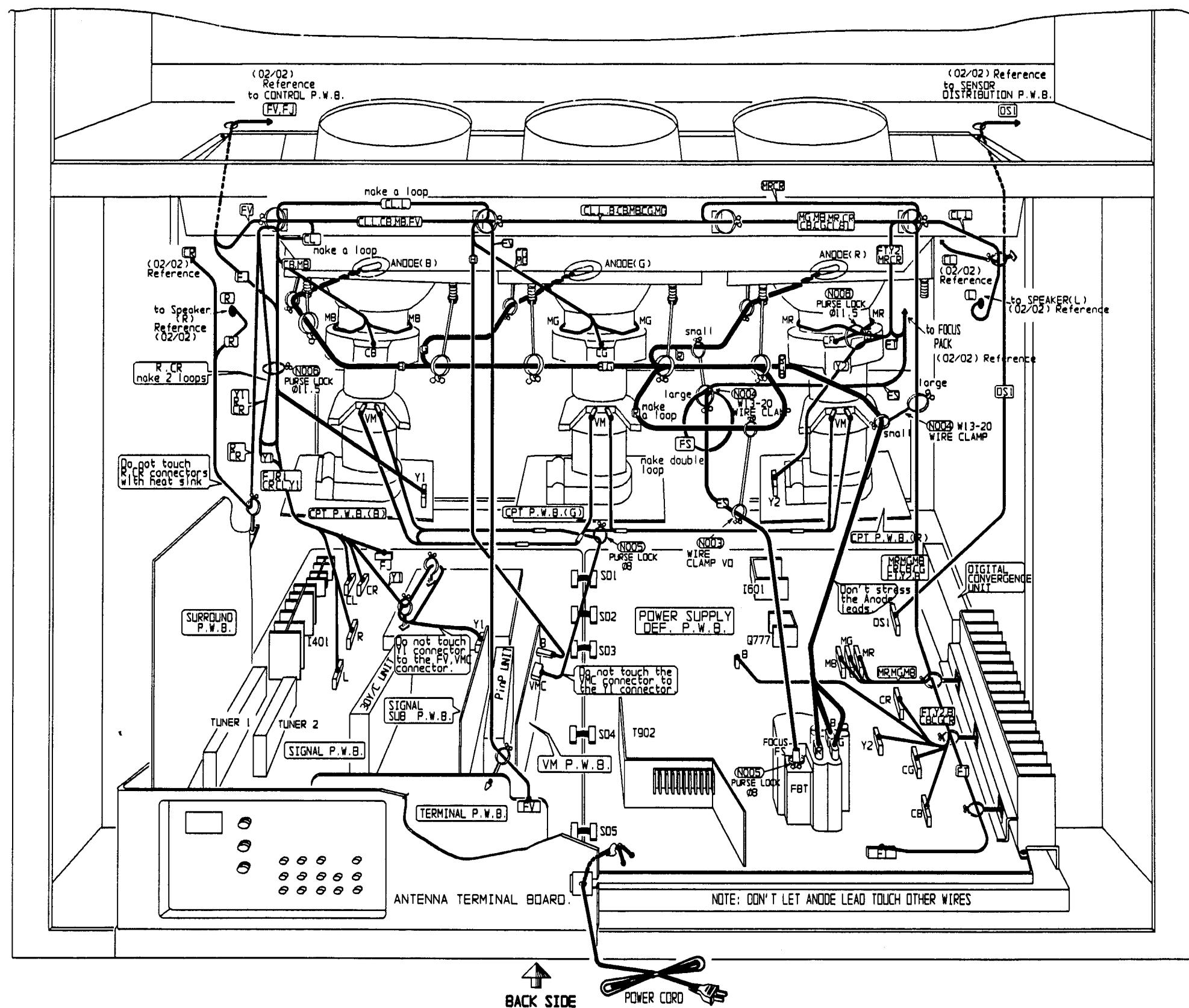
(3)



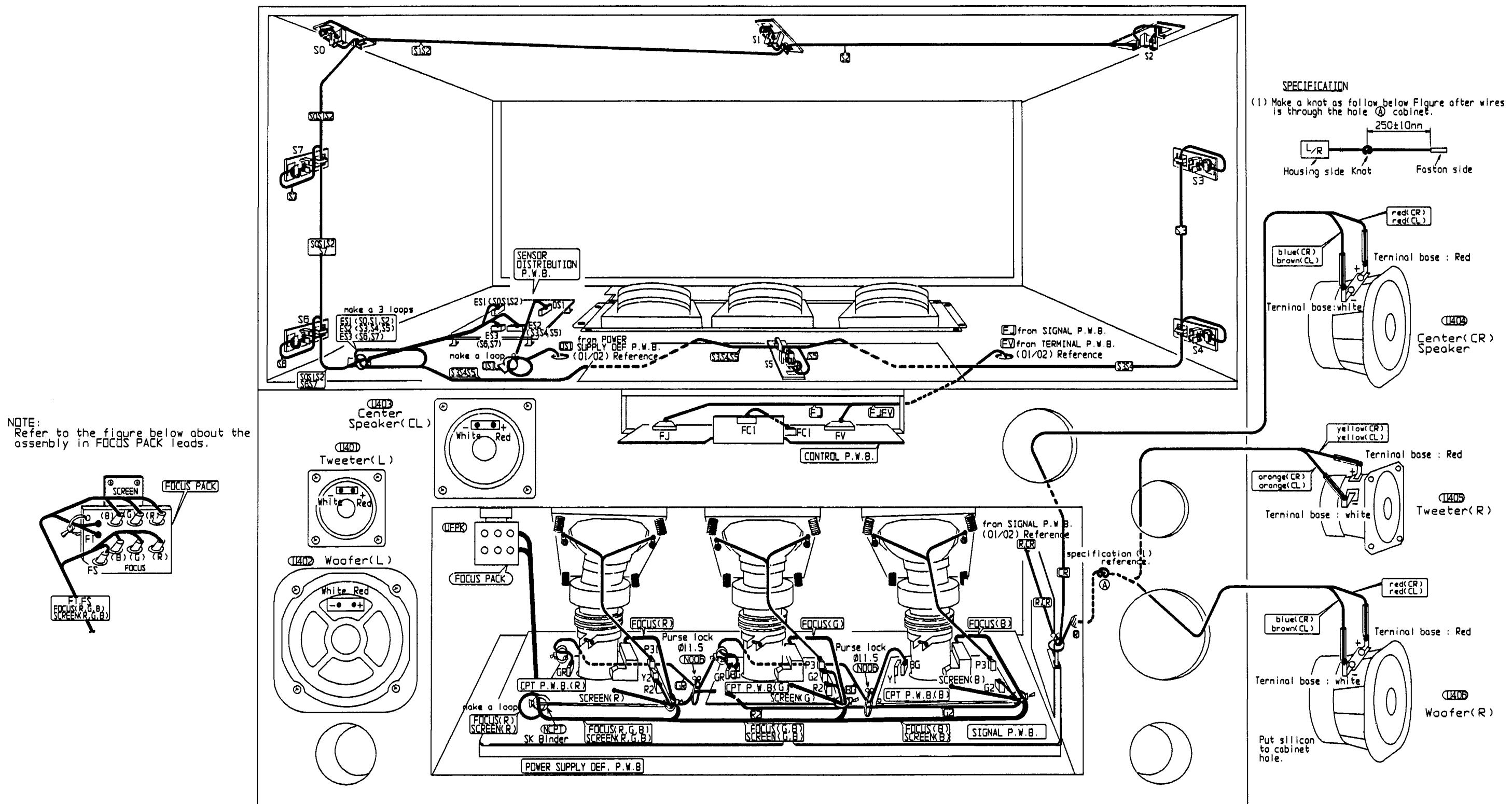
(4)



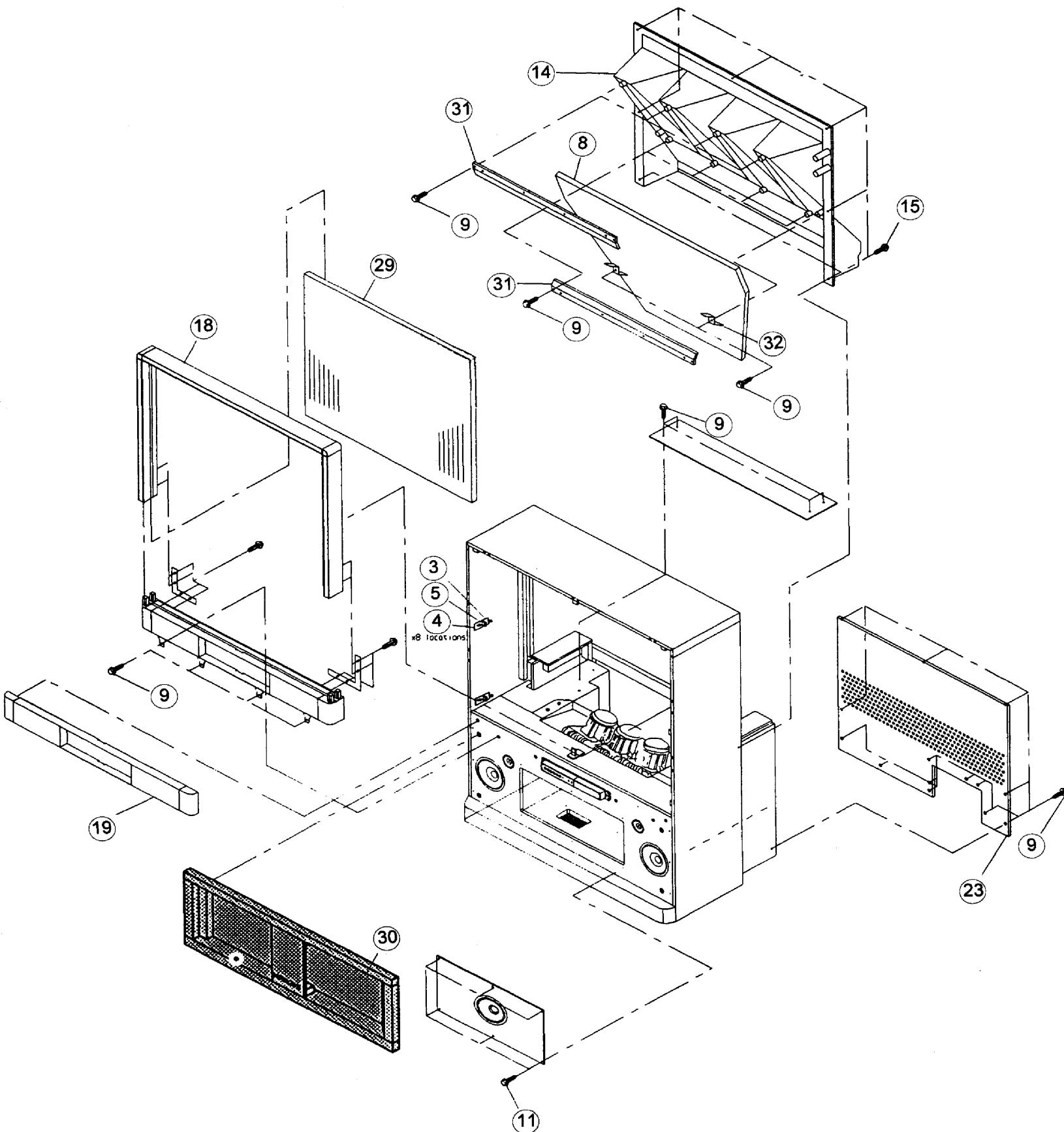
WIRE DRESS DRAWING (01/02). (SBX MODELS)



WIRE DRESS DRAWING (02/02). (SBX MODELS)

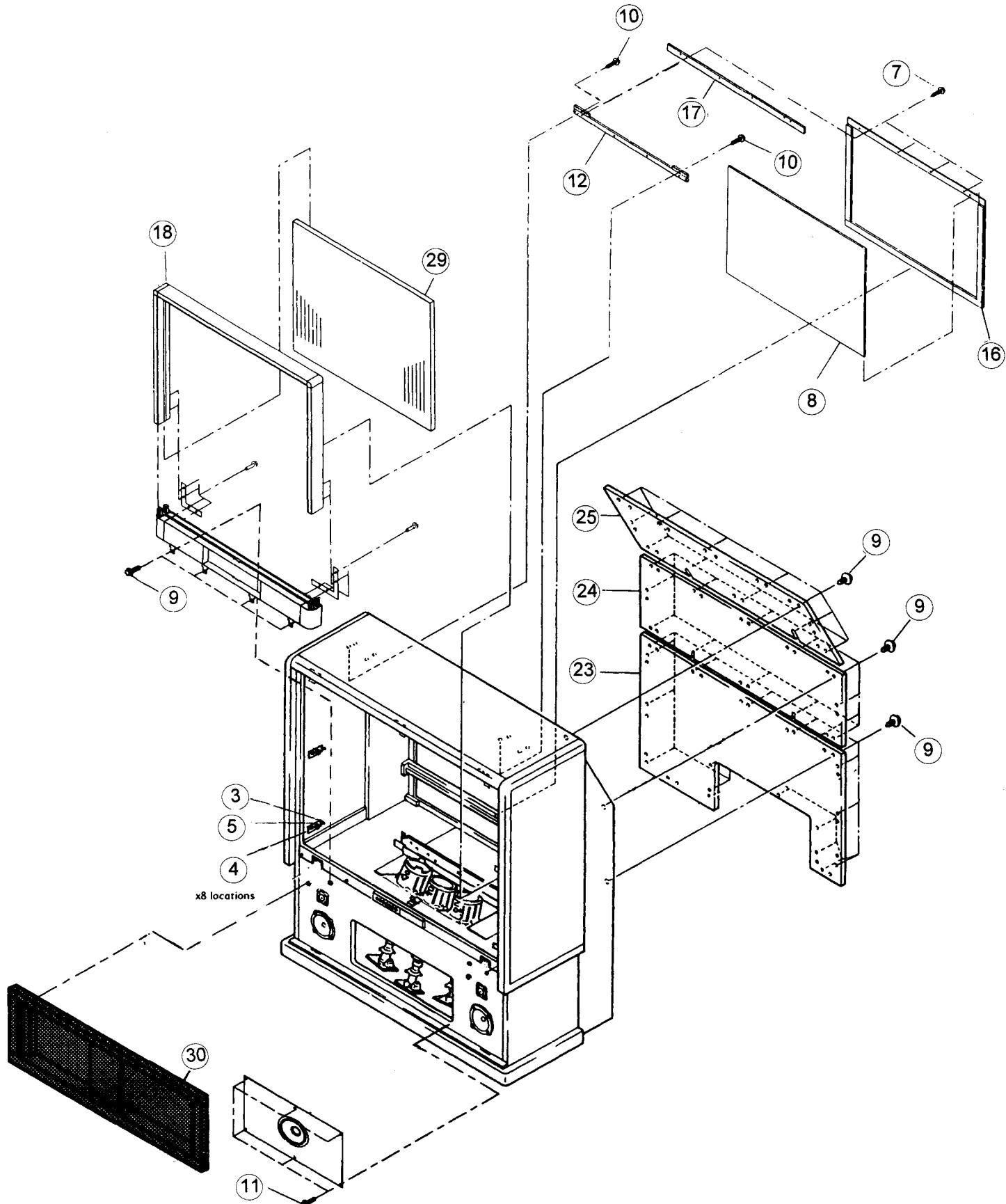


**EXPLODED VIEW (46UX50B/51K, 50UX52B/53K, 60UX54B/55K,  
50SBX70B, 60SBX72B) (1/3)**



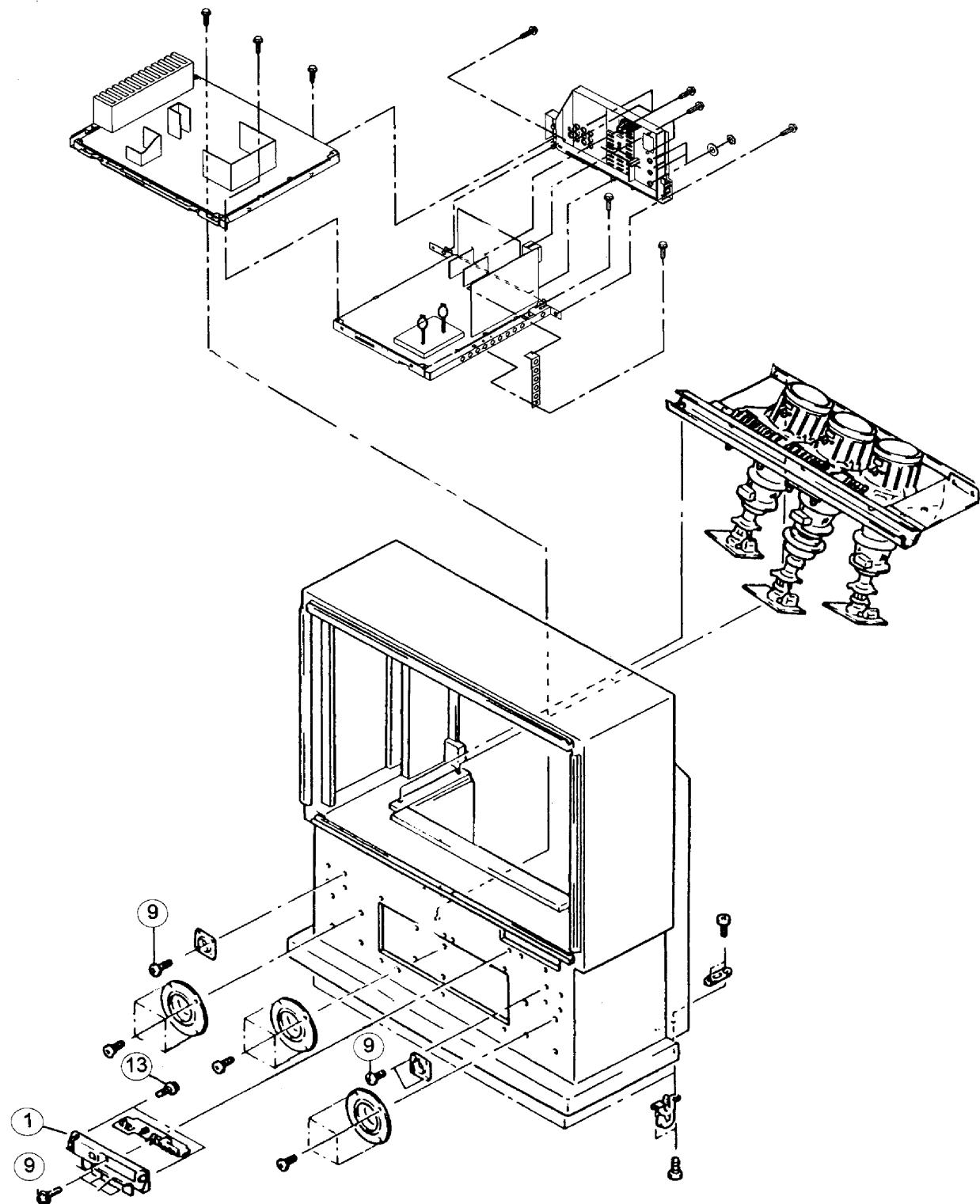
**Note:** Some parts may appear different than those shown in the exploded view. When ordering, refer to the **REPLACEMENT PARTS LIST** for correct part number. Since this Service Manual covers several models, use care to select the correct part for the model being serviced.

# EXPLODED VIEW (70SBX74B) (1/3)



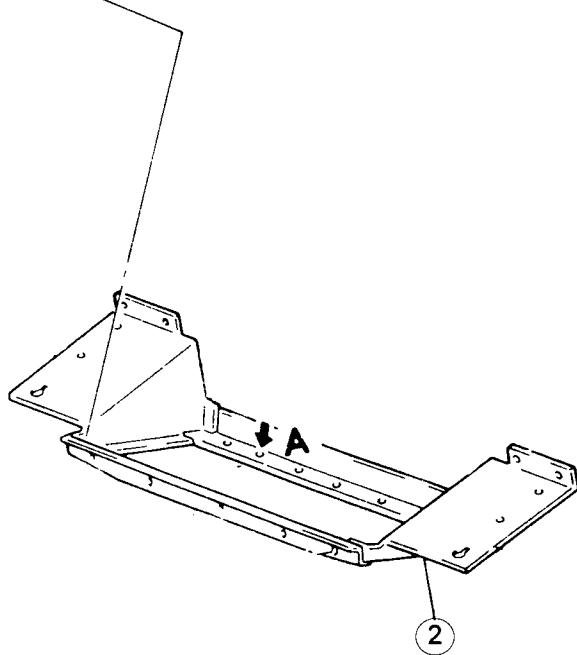
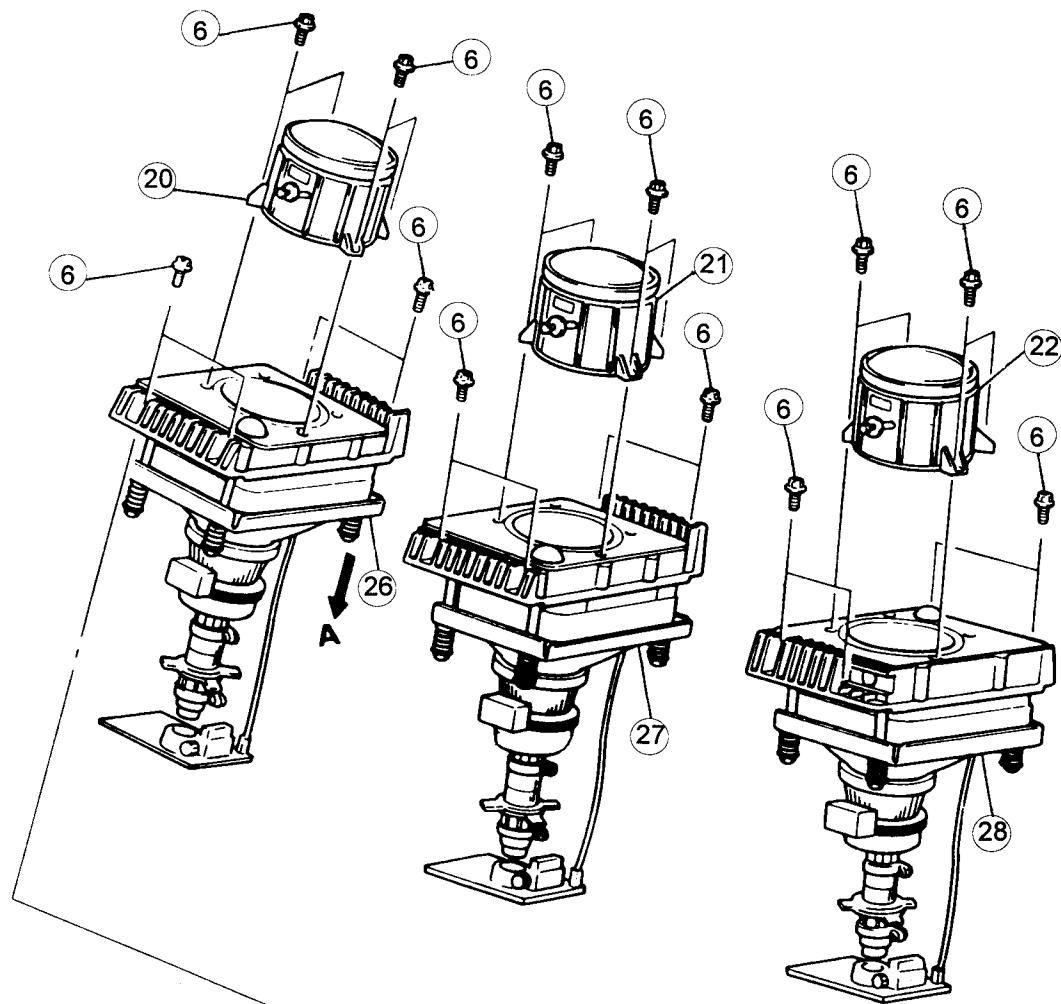
**Note:** Some parts may appear different than those shown in the exploded view. When ordering, refer to the REPLACEMENT PARTS LIST for correct part number. Since this Service Manual covers several models, use care to select the correct part for the model being serviced.

## EXPLODED VIEW (2/3)



**Note:** Some parts may appear different than those shown in the exploded view. When ordering, refer to the REPLACEMENT PARTS LIST for correct part number. Since this Service Manual covers several models, use care to select the correct part for the model being serviced.

### EXPLODED VIEW (3/3)



**Note:** Some parts may appear different than those shown in the exploded view. When ordering, refer to the REPLACEMENT PARTS LIST for correct part number. Since this Service Manual covers several models, use care to select the correct part for the model being serviced.

## REPLACEMENT PARTS LIST

**PRODUCT SERVICE NOTE:** Components marked with  have special characters important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

ABBREVIATIONS			
<b>Capacitors:</b>	Al:Aluminum Electrolytic CD:Ceramic Disc EL:Electrolytic PF:Polyester Film PP:Polypropylene PR:Paper PL:Plastic TA:Tantalum	<b>Resistors:</b> CF: Carbon Film CC: Carbon Composition MF: Metal Oxide VR: Variable Resistor WW: Wire Wound FR: Fuse Resistor MG: Metal Glaze	<b>Semiconductors:</b> TR: Transistor DI: Diode ZD: Zener Diode VA: Varistor TH: Thermistor IC: Integrated Circuit

CIRCUIT BLOCK	SECOND CHARACTER OF SYMBOL NO.	CIRCUIT BLOCK	SECOND CHARACTER OF SYMBOL NO.	CIRCUIT BLOCK	SECOND CHARACTER OF SYMBOL NO.
System Control	0	Signal Control (include Composite)	Y	CPT	8
Tuner	1	Signal Control (include BPF)	C	Horizontal Deflection	7
Signal (Y) & Sync.	3	Signal Control (include MTS)	A	Vertical Deflection	6
Signal (Chroma)	5	VM	E	Dynamic Focus	F
3 Line Comb	X	Control	M	Convergence	K
Sound	4			Magic Focus	L
Surround	S			Power Supply	9
SRS	Z			Graphic Equalizer	G

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
		<b>CAPACITORS</b>	CA75	0800003R	EL 1.0UF-M 50V
CA01	0800003R	EL 1.0UF-M 50V	CA76	0800003R	EL 1.0UF-M 50V
CA02	0800003R	EL 1.0UF-M 50V	CA77	0800049R	EL 100UF-M 16V
CA03	0800003R	EL 1.0UF-M 50V	CA79	0284638R	EL 10UF-SME(BP) 16V
CA04	0800003R	EL 1.0UF-M 50V	CA80	0800015R	EL 10UF-M 16V
CA05	0800003R	EL 1.0UF-M 50V	CA81	0800015R	EL 10UF-M 16V
CA06	0800003R	EL 1.0UF-M 50V	CC02	0893044R	CAP2125CHIP 10000PFKB 50V
CA07	0800003R	EL 1.0UF-M 50V	CC03	0893044R	CAP2125CHIP 10000PFKB 50V
CA08	0800003R	EL 1.0UF-M 50V	CE01	0800075F	EL 470UF-M 25V
CA26	0800015R	EL 10UF-M 16V	CE02	AN00624R	PF 0.01UF 50V
CA27	0800015R	EL 10UF-M 16V	CE03	0800041R	EL 47UF-M 16V
CA28	0800015R	EL 10UF-M 16V	CE04	0890081R	CD 330PF 50V
CA29	0800015R	EL 10UF-M 16V	CE05	0800049R	EL 100UF-M 16V
CA31	0800015R	EL 10UF-M 16V	CE06	AN00624R	PF 0.01UF 50V
CA33	0800015R	EL 10UF-M 16V	CE07	0800049R	EL 100UF-M 16V
CA34	0800015R	EL 10UF-M 16V	CE08	0276717R	PF 0.1UF-J 50V (TF TYP E)
CA35	0800015R	EL 10UF-M 16V	CE09	0276717R	PF 0.1UF-J 50V (TF TYP E)
CA36	0800015R	EL 10UF-M 16V	CE10	0800044R	EL 47UF-M 50V
CA37	0800015R	EL 10UF-M 16V	CE11	0890074R	CD 100PF-J 50V
CA38	0800041R	EL 47UF-M 16V	CE12	0244541F	CD 0.01MF-K B 500V
CA39	0800041R	EL 47UF-M 16V	CE13	0244541F	CD 0.01MF-K B 500V
CA40	0800015R	EL 10UF-M 16V	CE14	AL00009R	AL 47UF 160V
CA41	0800015R	EL 10UF-M 16V	CE15	0247848R	CD 56PF-J SL 500V
CA65	0800015R	EL 10UF-M 16V	CE16	AL00007R	AL (220 UF 16 V)
CA68	0800015R	EL 10UF-M 16V	CE17	0244509R	CD 4700PF-KB B 500V
CA69	AN00637R	PF 0.1UF 50V	CE18	0890074R	CD 100PF-J 50V
CA73	0800015R	EL 10UF-M 16V	CE19	AL00009R	AL 47UF 160V
CA74	AN00637R	PF 0.1UF 50V	CE20	AL00009R	AL 47UF 160V
			CE21	0890077R	CD 180PF-K 50V
			CE22	0890079R	CD 270PF-K 50V

## REPLACEMENT PARTS LIST

**PRODUCT SERVICE NOTE:** Components marked with  have special characters important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
CF01	0800291R	EL 10UF-M(SMG) 16V	CG38	0800353R	EL470UF-M 16V
CF02	0255520R	EL 0.47UF 250V(KME)	CG39	0800015R	EL 10UF-M 16V
CF03	0262401F	PP 1000PF 1800V	CG40	0800015R	EL 10UF-M 16V
CF04	0244104R	CD 0.0018UF-K 50V	CG41	AN00633R	PF 0.047UF 50V
CF05	0800291R	EL 10UF-M(SMG) 16V	CG42	0800049R	EL 100UF-M 16V
CF06	0800291R	EL 10UF-M(SMG) 16V	CG43	0800015R	EL 10UF-M 16V
CF07	0800291R	EL 10UF-M(SMG) 16V	CG44	0800041R	EL 47UF-M 16V
CF08	AN00624R	PF 0.01UF 50V	CG45	0800015R	EL 10UF-M 16V
CF09	0880059R	PF 0.15UF-KEB 50V	CG46	0284621R	EL 0.47UF 50V (BP)
CF10	0880061R	PF 0.18UF-KEB 50V	CG47	0893052R	CAP2125CHIP 39000PFBK 50V
CF12	0800326R	EL 100UF-M 16V	CG48	0284623R	EL 1UF-SME(BP) 50V
CF13	0880058R	PF 0.12UF-KEB 50V	CG49	AN00637R	PF 0.1UF 50V
CF14	0259151F	EL 100UF 160V	CG50	0880056R	PF 0.082UF-KEB 50V
CF15	0880062R	PF 0.22UF-KEB 50V	CG51	0893041R	CAP 2125CHIP 5600PFBK 50V
CF16	0800291R	EL 10UF-M(SMG) 16V	CG52	0893046R	CAP2125CHIP 15000PFBK50V
CF17	0244109R	CD 4700PF-KB 50V	CG53	0880062R	PF 0.22UF-KEB 50V
CF18	0245158	CD 68PF/2KV	CG54	0880047R	PF 0.018UF-KEB 50V
CF19	0245156	CD 22PF/2KV	CG55	0893032R	CAP 2125CHIP 1200PFBK 50V
CF20	0800326R	EL 100UF-M 16V	CG56	0893037R	CAP 2125CHIP 3300PFBK 50V
CF21	AN00624R	PF 0.01UF 50V	CG57	0893052R	CAP2125CHIP 39000PFBK 50V
CG01	0800353R	EL 470UF-M 16V	CG58	0228772R	CAP2125CHIP 560PFJSL 50V
CG02	0800049R	EL 100UF-M 16V	CG59	0893043R	CAP 2125CHIP 8200PFBK 50V
CG03	AN00637R	PF 0.1UF 50V	CG60	0800049R	EL 100UF-M 16V
CG04	AN00633R	PF 0.047UF 50V	CG61	AN00637R	PF 0.1UF 50V
CG05	0800049R	EL 100UF-M 16V	CG62	0284638R	EL 1UF-SME(BP) 16V
CG06	0284623R	EL 1UF-SME(BP) 50V	CK01	0800353R	EL470UF-M 16V
CG07	AN00637R	PF 0.1UF 50V	CK02	0800335R	EL 220UF-M(SMG) 16V
CG08	AN00637R	PF 0.1UF 50V	CK03	0800326R	EL 100UF-M 16V
CG09	0284623R	EL 1UF-SME(BP) 50V	CK04	AN00637R	PF 0.1UF 50V
CG10	0284621R	EL 0.47UF 50V (BP)	CK05	0800326R	EL 100UF-M 16V
CG11	0893052R	CAP2125CHIP 39000PFBK 50V	CK06	AN00637R	PF 0.1UF 50V
CG12	0893052R	CAP2125CHIP 39000PFBK 50V	CK07	0800326R	EL 100UF-M 16V
CG13	0284621R	EL 0.47UF 50V (BP)	CK08	AN00637R	PF 0.1UF 50V
CG14	0880062R	PF 0.22UF-KEB 50V	CK09	AN00637R	PF 0.1UF 50V
CG15	0893046R	CAP2125CHIP 15000PFBK50V	CK10	0800326R	EL 100UF-M 16V
CG16	0893046R	CAP2125CHIP 15000PFBK50V	CK12	0890076R	CD 150PF-K 50V
CG17	0880062R	PF 0.22UF-KEB 50V	CK13	AN00637R	PF 0.1UF 50V
CG18	0880056R	PF 0.082UF-KEB 50V	CK14	AN00637R	PF 0.1UF 50V
CG19	0893041R	CAP 2125CHIP 5600PFBK 50V	CK15	AN00611R	PF 0.001UF 50V
CG20	0893041R	CAP 2125CHIP 5600PFBK 50V	CK16	AN00637R	PF 0.1UF 50V
CG21	0880056R	PF 0.082UF-KEB 50V	CK17	AN00637R	PF 0.1UF 50V
CG22	0893052R	CAP2125CHIP 39000PFBK 50V	CK18	AN00624R	PF 0.01UF 50V
CG23	0893037R	CAP 2125CHIP 3300PFBK 50V	CK19	AN00624R	PF 0.01UF 50V
CG24	0893037R	CAP 2125CHIP 3300PFBK 50V	CK20	0890076R	CD 150PF-K 50V
CG25	0893052R	CAP2125CHIP 39000PFBK 50V	CK21	0890076R	CD 150PF-K 50V
CG26	0893017R	CAP 2125CHIP 18000PFBK 25V	CK22	0890076R	CD 150PF-K 50V
CG27	0893032R	CAP 2125CHIP 1200PFBK 50V	CK23	0890076R	CD 150PF-K 50V
CG28	0893032R	CAP 2125CHIP 1200PFBK 50V	CK24	0890076R	CD 150PF-K 50V
CG29	0893017R	CAP 2125CHIP 18000PFBK 25V	CK25	0890076R	CD 150PF-K 50V
CG30	0893043R	CAP 2125CHIP 8200PFBK 50V	CK27	0800356N	EL 470UF-M 50V
CG31	0228772R	CAP2125CHIP 560PFJSL 50V	CK28	0800356N	EL 470UF-M 50V
CG32	0228772R	CAP2125CHIP 560PFJSL 50V	CK29	0890076R	CD 150PF-K 50V
CG33	0893043R	CAP 2125CHIP 8200PFBK 50V	CK30	0890076R	CD 150PF-K 50V
CG34	0284638R	EL 10UF-SME(BP) 16V	CK31	0890076R	CD 150PF-K 50V
CG35	0800015R	EL 10UF-M 16V	CK32	0890076R	CD 150PF-K 50V
CG36	0284638R	EL 10UF-SME(BP) 16V	CK33	0890076R	CD 150PF-K 50V
CG37	0800015R	EL 10UF-M 16V	CK34	0890076R	CD 150PF-K 50V

## REPLACEMENT PARTS LIST

**PRODUCT SERVICE NOTE:** Components marked with  have special characters important to safety. Before replacing any of these components, read carefully , the PRODUCT SAFETY NOTICE of this Service Manual . Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
CL01	AN00633R	PF 0.047UF 50V	CS14	0800012R	EL 4.7UF-M 50V
CL02	AN00633R	PF 0.047UF 50V	CS15	0880059R	PF 0.15UF-KEB 50V
CL03	AN00633R	PF 0.047UF 50V	CS16	0800007R	EL 3.3UF-M 50V
CL04	AN00633R	PF 0.047UF 50V	CS17	0880059R	PF 0.15UF-KEB 50V
CL05	AN00633R	PF 0.047UF 50V	CS18	0893048R	CAP2125CHIP 22000PFBK 50V
CL06	AN00633R	PF 0.047UF 50V	CS19	0893053R	CAP2125CHIP 47000PFBK 50V
CL07	AN00633R	PF 0.047UF 50V	CS20	0800058R	EL 220UF-M 16V
CL08	AN00633R	PF 0.047UF 50V	CS21	0800015R	EL 10UF-M 16V
CL09	0800049R	EL 100UF-M 16V	CS22	0800015R	EL 10UF-M 16V
CL10	AN00637R	PF 0.1UF 50V	CS23	0800015R	EL 10UF-M 16V
CM01	0800023R	EL 22UF-M 16V	CS24	0800015R	EL 10UF-M 16V
CM01	0800023R	EL 22UF-M 16V	CS25	0284623R	EL 1UF-SME(BP) 50V
CM02	0244171R	CD 0.01UF-Z F 50V	CS26	0284623R	EL 1UF-SME(BP) 50V
CM02	0244171R	CD 0.01UF-Z F 50V	CS27	AN00637R	PF 0.1UF 50V
CM03	0800003R	EL 1.0UF-M 50V	CS28	AN00637R	PF 0.1UF 50V
CM03	0800003R	EL 1.0UF-M 50V	CS29	0800001R	EL 0.47UF-M 50V (SME)
CM04	0244171R	CD 0.01UF-Z F 50V	CS30	0800012R	EL 4.7UF-M 50V
CM04	0244171R	CD 0.01UF-Z F 50V	CS31	0800001R	EL 0.47UF-M 50V (SME)
CM05	0244171R	CD 0.01UF-Z F 50V	CS32	0800012R	EL 4.7UF-M 50V
CM05	0244171R	CD 0.01UF-Z F 50V	CS33	0880059R	PF 0.15UF-KEB 50V
CM06	AN00637R	PF 0.1UF 50V	CS34	0800007R	EL 3.3UF-M 50V
CM06	0880057R	PF 0.1UF-KEB 50V	CS35	0880059R	PF 0.15UF-KEB 50V
CM07	0800015R	EL 10UF-M 16V	CS36	0284638R	EL 10UF-SME(BP) 16V
CM07	0800015R	EL 10UF-M 16V	CS37	0284638R	EL 10UF-SME(BP) 16V
CM08	0800015R	EL 10UF-M 16V	CS38	0893053R	CAP2125CHIP 47000PFBK 50V
CM08	0800015R	EL 10UF-M 16V	CS39	0800058R	EL 220UF-M 16V
CM09	0244171R	CD 0.01UF-Z F 50V	CS40	0246451R	CD 30PF-JB CH 50V
CM09	0244171R	CD 0.01UF-Z F 50V	CS41	0246451R	CD 30PF-JB CH 50V
CM10	0800015R	EL 10UF-M 16V	CS42	0800058R	EL 220UF-M 16V
CM10	0800015R	EL 10UF-M 16V	CS43	0893051R	CAP2125CHIP 33000PFBK 50V
CM11	0800015R	EL 10UF-M 16V	CS44	0893033R	CAP2125CHIP 1500PFBK 50V
CM11	0800015R	EL 10UF-M 16V	CS45	0893051R	CAP2125CHIP 33000PFBK 50V
CM12	0800041R	EL 47UF-M 16V	CS46	0800003R	EL 1.0UF-M 50V
CM12	0800041R	EL 47UF-M 16V	CS47	0800015R	EL 10UF-M 16V
CM13	0244171R	CD 0.01UF-Z F 50V	CS48	0800015R	EL 10UF-M 16V
CM13	0244171R	CD 0.01UF-Z F 50V	CS49	0800058R	EL 220UF-M 16V
CM14	AN00637R	PF 0.1UF 50V	CS51	0800015R	EL 10UF-M 16V
CM14	0880016R	PF 0.1UF 50V	CS52	0800003R	EL 1.0UF-M 50V
CN01	0800279R	EL 1.0UF-M(SMG) 50V	CS53	0284623R	EL 1UF-SME(BP) 50V
CN02	0800288R	EL 4.7UF-M(SMG) 50V	CS54	0284623R	EL 1UF-SME(BP) 50V
CN03	AN00631R	PF 0.033UF 50V	CS55	0800005R	EL 2.2UF-M 50V
CN04	0890084R	CD 560PF-K 50V	CS56	0800041R	EL 47UF-M 16V
CN05	0800326R	EL 100UF-M 16V	CS57	0800058R	EL 220UF-M 16V
CN06	0800294R	EL 10UF-M(SMG) 50V	CS58	0893053R	CAP2125CHIP 47000PFBK 50V
CS01	0893053R	CAP2125CHIP 47000PFBK 50V	CS59	0893044R	CAP2125CHIP 10000PFBK 50V
CS02	0800049R	EL 100UF-M 16V	CS60	0284634R	EL 4.7UF-M 50V
CS03	0228774R	CAP MINI-CHIP 680PF-J SL 50V TA	CS61	0800015R	EL 10UF-M 16V
CS04	0800015R	EL 10UF-M 16V	CS62	0800012R	EL 4.7UF-M 50V
CS05	0800015R	EL 10UF-M 16V	CS64	0800015R	EL 10UF-M 16V
CS06	0800015R	EL 10UF-M 16V	CS65	0893031R	CAP2125CHIP 1000PFBK 50V
CS07	0880203R	PF 0.47UF-J 50V	CS66	0800015R	EL 10UF-M 16V
CS08	0800041R	EL 47UF-M 16V	CS67	0893031R	CAP2125CHIP 1000PFBK 50V
CS09	AN00637R	PF 0.1UF 50V	CS68	0893051R	CAP2125CHIP 33000PFBK 50V
CS10	AN00637R	PF 0.1UF 50V	CS69	0893041R	CAP2125CHIP 5600PFBK 50V
CS11	0800001R	EL 0.47UF-M 50V (SME)	CS70	0893041R	CAP2125CHIP 5600PFBK 50V
CS12	0800012R	EL 4.7UF-M 50V	CS71	0893051R	CAP2125CHIP 33000PFBK 50V
CS13	0800001R	EL 0.47UF-M 50V (SME)	CS72	0893053R	CAP2125CHIP 47000PFBK 50V

## REPLACEMENT PARTS LIST

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
CS73	0800049R	EL 100UF-M 16V	CX27	0800009R	EL 4.7UF-M 25V (AP73 ONLY)
CS74	0800049R	EL 100UF-M 16V	CX28	0893044R	CAP2125CHIP 10000PFKB 50V (AP73 ONLY)
CS75	0800049R	EL 100UF-M 16V	CX29	0893053R	CAP2125CHIP 47000PFKB 50V (AP73 ONLY)
CS76	0800015R	EL 10UF-M 16V	CX30	0893044R	CAP2125CHIP 10000PFKB 50V (AP73 ONLY)
CS78	0284638R	EL 10UF-SME(BP) 16V	CX31	0248690R	CD 180PF-J SL 50V (AP73 ONLY)
CS79	0284638R	EL 10UF-SME(BP) 16V	CX32	0893044R	CAP2125CHIP 10000PFKB 50V (AP73 ONLY)
CS80	0800015R	EL 10UF-M 16V	CX33	0893044R	CAP2125CHIP 10000PFKB 50V (AP73 ONLY)
CS93	0800015R	EL 10UF-M 16V	CX34	0800048R	EL 100UF-M 10V (AP73 ONLY)
CS94	0284634R	EL 4.7UF-M 50V	CX35	0893044R	CAP2125CHIP 10000PFKB 50V (AP73 ONLY)
CS96	0893053R	CAP2125CHIP 47000PFKB 50V	CX36	0800048R	EL 100UF-M 10V (AP73 ONLY)
CS97	AN00637R	PF 0.1UF 50V	CX37	0893044R	CAP2125CHIP 10000PFKB 50V (AP73 ONLY)
CS98	0284638R	EL 10UF-SME(BP) 16V	CX38	0893044R	CAP2125CHIP 10000PFKB 50V (AP73 ONLY)
CS99	0800015R	EL 10UF-M 16V	CX39	0893044R	CAP2125CHIP 10000PFKB 50V (AP73 ONLY)
CSA0	0800015R	EL 10UF-M 16V	CX40	0893044R	CAP2125CHIP 10000PFKB 50V (AP73 ONLY)
CSA1	0284638R	EL 10UF-SME(BP) 16V	CX41	0893044R	CAP2125CHIP 10000PFKB 50V (AP73 ONLY)
CSA2	0893031R	CAP 2125CHIP 10000PFKB 50V	CX42	0800057R	EL 220UF-M 10V (AP73 ONLY)
CSA3	0893031R	CAP 2125CHIP 10000PFKB 50V	CX45	0800015R	EL 10UF-M 16V (AP73 ONLY)
CSA4	0284638R	EL 10UF-SME(BP) 16V	CX46	0800049R	EL 100UF-M 16V (AP73 ONLY)
CSA5	0893051R	CAP2125CHIP 33000PFKB 50V	CX47	0800049R	EL 100UF-M 16V (AP73 ONLY)
CSA6	0893041R	CAP 2125CHIP 56000PFKB 50V	CX48	0893044R	CAP2125CHIP 10000PFKB 50V (AP73 ONLY)
CSA7	0893041R	CAP 2125CHIP 56000PFKB 50V	CX49	0800049R	EL 100UF-M 16V (AP73 ONLY)
CSA8	0893051R	CAP2125CHIP 33000PFKB 50V	CX50	0800048R	EL 100UF-M 10V (AP73 ONLY)
CSA9	0893053R	CAP2125CHIP 47000PFKB 50V	CX52	0800048R	EL 100UF-M 10V (AP73 ONLY)
CSC1	0800049R	EL 100UF-M 16V	CX53	0893044R	CAP2125CHIP 10000PFKB 50V (AP73 ONLY)
CSC2	0800049R	EL 100UF-M 16V	CX54	0284647R	EL22UF-SME(BP) 16V (AP73 ONLY)
CSC3	0800015R	EL 10UF-M 16V	CY01	0284638R	EL 10UF-SME(BP) 16V
CSC4	0800015R	EL 10UF-M 16V	CY02	0284638R	EL 10UF-SME(BP) 16V (AP74 ONLY)
CSC7	0800015R	EL 10UF-M 16V	CY03	0893044R	CAP2125CHIP 10000PFKB 50V (AP74 ONLY)
CSC8	0800015R	EL 10UF-M 16V	CY04	0800023R	EL 22UF-M 16V
CSC9	0800291R	EL 10UF-M(SMG) 16V	CY05	0800023R	EL 22UF-M 16V
CSE1	0800003R	EL 1.0UF-M 50V	CY06	0800023R	EL 22UF-M 16V
CSE2	0800003R	EL 1.0UF-M 50V	CY07	0800058R	EL 220UF-M 16V
CSE3	0893035R	CAP2125CHIP 22000PFKB 50V	CY08	0800049R	EL 100UF-M 16V
CSE4	0893035R	CAP2125CHIP 22000PFKB 50V	CY09	0893053R	CAP2125CHIP 47000PFKB 50V
CSE7	0800015R	EL 10UF-M 16V	CY10	0284638R	EL 10UF-SME(BP) 16V
CSE9	0800042R	EL 47UF-M 25V	CY11	0800015R	EL 10UF-M 16V
CSF1	0800015R	EL 10UF-M 16V	CY12	0800049R	EL 100UF-M 16V
CSF6	0800042R	EL 47UF-M 25V	CY13	0893033R	CAP 2125CHIP 15000PFKB 50V
CSF7	0800042R	EL 47UF-M 25V	CY14	0800074N	EL 470UF-M 16V
CSF8	0800051R	EL 100UF-M 25V	CY15	AN00637R	PF 0.1UF 50V
CSF9	0800084F	EL 1000UF-M 35V	CY16	0800049R	EL 100UF-M 16V
CSG3	AN00637R	PF 0.1UF 50V	CY17	0800041R	EL 47UF-M 16V
CSG4	AN00637R	PF 0.1UF 50V	CY18	0800049R	EL 100UF-M 16V
CSG6	0800083F	EL 1000UF-M 25V	CY19	AN00637R	PF 0.1UF 50V
CSG7	0800083F	EL 1000UF-M 25V	CY20	AN00637R	PF 0.1UF 50V
CSG9	AN00624R	PF 0.01UF 50V	CY50	0800023R	EL 22UF-M 16V
CSH1	AN00624R	PF 0.01UF 50V	CY75	0284638R	EL 10UF-SME(BP) 16V
CSH4	0284638R	EL 10UF-SME(BP) 16V	C002	0228758R	CAP 2125 CHIP 150PFJSL50V
CSJ3	0800015R	EL 10UF-M 16V	C003	0246464R	CD 100PF-J CH 50V
CSJ4	0800003R	EL 1.0UF-M 50V	C004	0800023R	EL 22UF-M 16V
CX01	0800041R	EL 47UF-M 16V (AP73 ONLY)	C004	0800049R	EL 100UF-M 16V
CX02	0890065R	CD 22PF-J 50V (AP73 ONLY)	C005	0893031R	CAP 2125CHIP 10000PFKB 50V
CX03	0890061R	CD 10PF- 50V (AP73 ONLY)	C015	0800015R	EL 10UF-M 16V
CX04	0890064R	CD 18PF-J SL 50V (AP73 ONLY)	C016	0890121R	CD 33PF-J CH 50V
CX24	0893044R	CAP2125CHIP 10000PFKB 50V (AP73 ONLY)	C017	0890121R	CD 33PF-J CH 50V
CX25	0893044R	CAP2125CHIP 10000PFKB 50V (AP73 ONLY)	C018	0800015R	EL 10UF-M 16V
CX26	0893044R	CAP2125CHIP 10000PFKB 50V (AP73 ONLY)	C019	0800005R	EL 2.2UF-M 50V

## REPLACEMENT PARTS LIST

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
C025	0893044R	CAP2125CHIP 10000PFKB 50V	C127	0890118R	CD 22PF-J CH 50V
C026	AN00637R	PF 0.1UF 50V	C128	0800015R	EL 10UF-M 16V
C027	0800012R	EL 4.7UF-M 50V	C129	AL00791S	EL S-LEAD 1500UF-M(LXV) 10V (AP74 ONLY)
C029	0228758R	CAP 2125 CHIP 150PFJSL50V	C129	0800049R	EL 100UF-M 16V (AP73 ONLY)
C030	0800003R	EL 1.0UF-M 50V	C130	AN00637R	PF 0.1UF 50V
C031	0800003R	EL 1.0UF-M 50V	C131	AN00637R	PF 0.1UF 50V
C032	0800047R	EL 100UF-M 6.3V	C132	0893053R	CAP2125CHIP 47000PFKB 50V
C033	0893053R	CAP2125CHIP 47000PFKB 50V	C136	0800049R	EL 100UF-M 16V
C034	0228774R	CAP MINI-CHIP 680PF-J SL 50V TA	C137	0893053R	CAP2125CHIP 47000PFKB 50V
C035	0800015R	EL 10UF-M 16V	C138	0228770R	CAP MINI-CHIP 470PF-J SL 50V TA
C036	0800047R	EL 100UF-M 6.3V	C139	AN00637R	PF 0.1UF 50V
C037	AN00633R	PF 0.047UF 50V	C140	AL00793S	EL S-LEAD 1200UF-M(LXV) 16V (AP74 ONLY)
C040	0800074N	EL 470UF-M 16V	C141	AN00637R	PF 0.1UF 50V
C041	AN00637R	PF 0.1UF 50V	C142	AN00637R	PF 0.1UF 50V
C042	0800015R	EL 10UF-M 16V	C1C1	0800041R	EL 47UF-M 16V
C043	0800047R	EL 100UF-M 6.3V	C301	0893053R	CAP2125CHIP 47000PFKB 50V (AP74 ONLY)
C044	0893053R	CAP2125CHIP 47000PFKB 50V	C302	0893053R	CAP2125CHIP 47000PFKB 50V (AP74 ONLY)
C045	AN00637R	PF 0.1UF 50V	C3A2	AN00637R	PF 0.1UF 50V
C046	0893048R	CAP2125CHIP 22000PFKB 50V	C3A3	AN00624R	PF 0.01UF 50V
C052	0244141R	CD 0.01UF-KB B 50V	C401	0800015R	EL 10UF-M 16V
C053	AN00637R	PF 0.1UF 50V	C402	0284623R	EL 1UF-SME(BP) 50V
C054	0800049R	EL 100UF-M 16V	C403	0284623R	EL 1UF-SME(BP) 50V
C057	0800003R	EL 1.0UF-M 50V	C404	0800003R	EL 1.0UF-M 50V
C061	0800003R	EL 1.0UF-M 50V	C405	0800003R	EL 1.0UF-M 50V
C064	0800049R	EL 100UF-M 16V	C406	0893031R	CAP 2125CHIP 1000PFKB 50V
C065	0800015R	EL 10UF-M 16V	C407	0893031R	CAP 2125CHIP 1000PFKB 50V
C067	0800015R	EL 10UF-M 16V	C408	0800042R	EL 47UF-M 25V
C068	0800041R	EL 47UF-M 16V	C409	0800042R	EL 47UF-M 25V
C070	0800015R	EL 10UF-M 16V	C410	0800051R	EL 100UF-M 25V
C071	0800015R	EL 10UF-M 16V	C411	0800003R	EL 1.0UF-M 50V
C072	0800012R	EL 4.7UF-M 50V	C412	0800003R	EL 1.0UF-M 50V
C073	0800049R	EL 100UF-M 16V	C413	0800051R	EL 100UF-M 25V
C074	0800015R	EL 10UF-M 16V	C414	0800041R	EL 47UF-M 16V
C101	0800049R	EL 100UF-M 16V	C415	AN00637R	PF 0.1UF 50V
C102	0800049R	EL 100UF-M 16V	C416	0253934F	EL 2200UF-M 35V
C103	0893053R	CAP2125CHIP 47000PFKB 50V	C417	AN00637R	PF 0.1UF 50V
C104	0800079N	EL -102M6R3WHLT-SME	C418	AN00637R	PF 0.1UF 50V
C105	0800082N	EL 1000UF-MB16V(SME)	C419	0253934F	EL 2200UF-M 35V
C106	0800079N	EL -102M6R3WHLT-SME	C420	0253934F	EL 2200UF-M 35V
C107	0893053R	CAP2125CHIP 47000PFKB 50V	C421	0880062R	PF 0.22UF-KEB 50V
C108	0800082N	EL 1000UF-MB16V(SME)	C422	0258616	EL 2.2UF-M 50V
C109	0800082N	EL 1000UF-MB16V(SME)	C423	0258616	EL 2.2UF-M 50V
C110	0800015R	EL 10UF-M 16V	C424	AN00637R	PF 0.1UF 50V
C111	0800049R	EL 100UF-M 16V	C426	AN00637R	PF 0.1UF 50V
C112	AN00624R	PF 0.01UF 50V	C427	AN00637R	PF 0.1UF 50V
C113	0893053R	CAP2125CHIP 47000PFKB 50V	C428	AN00637R	PF 0.1UF 50V
C114	AL00791S	EL S-LEAD 1500UF-M(LXV) 10V	C429	0800041R	EL 47UF-M 16V
C115	AN00637R	PF 0.1UF 50V	C430	0800083F	EL 1000UF-M 25V
C116	AL00793S	EL S-LEAD 1200UF-M(LXV) 16V	C431	AN00624R	PF 0.01UF 50V
C119	0800003R	EL 1.0UF-M 50V	C432	AN00637R	PF 0.1UF 50V
C120	0880016R	PF 0.1UF 50V	C433	AN00624R	PF 0.01UF 50V (AP74 ONLY)
C121	0228756R	CAP2125CHIP 120PFJSL 50V	C434	AN00637R	PF 0.1UF 50V (AP74 ONLY)
C122	0893053R	CAP2125CHIP 47000PFKB 50V	C435	0253934F	EL 2200UF-M 35V
C123	0800047R	EL 100UF-M 6.3V	C436	0800051R	EL 100UF-M 25V
C124	0800047R	EL 100UF-M 6.3V	C437	0800042R	EL 47UF-M 25V
C125	0893053R	CAP2125CHIP 47000PFKB 50V	C438	0800042R	EL 47UF-M 25V (AP74 ONLY)
C126	0247846R	CD 47PF 500V	C439	0893031R	CAP 2125CHIP 1000PFKB 50V (AP74 ONLY)

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
C440	0893031R	CAP 2125CHIP 1000PFB 50V	C549	0890074R	CD 100PF-J 50V
C441	0800003R	EL 1.0UF-M 50V	C601	AN00626R	PF 0.015UF 50V
C442	0800003R	EL 1.0UF-M 50V (AP74 ONLY)	C602	AN00637R	PF 0.1UF 50V
C443	0800003R	EL 1.0UF-M 50V	C603	0284449R	EL 4.7UF-KMF 50V
C444	0800003R	EL 1.0UF-M 50V	C604	0800326R	EL 100UF-M 16V
C445	0800015R	EL 10UF-M 16V	C605	AN00619R	PF 0.0047UF 50V
C446	0800003R	EL 1.0UF-M 50V	C606	AN00624R	PF 0.01UF 50V
C447	0800083F	EL 1000UF-M 25V (AP74 ONLY)	C607	0880062R	PF 0.22UF-KEB 50V
C448	0880062R	PF 0.22UF-KEB 50V	C608	0244501R	CD 1000PF-K 500V
C449	0800051R	EL 100UF-M 25V	C609	0244501R	CD 1000PF-K 500V
C450	0880062R	PF 0.22UF-KEB 50V	C610	0800345R	EL 330UF-M(SMG) 25V
C503	0800041R	EL 47UF-M 16V (AP74 ONLY)	C611	AN00631R	PF 0.033UF 50V
C504	0800015R	EL 10UF-M 16V	C612	0800326R	EL 100UF-M 16V
C505	0800015R	EL 10UF-M 16V (AP74 ONLY)	C613	0284446R	EL 1UF-M 50V
C506	0800015R	EL 10UF-M 16V (AP74 ONLY)	C614	0800347N	EL 330UF-M(SMG) 50V
C507	0890071R	CD 56PF-J 50V	C615	0284426F	PF 2200PF-M 25V
C508	0893044R	CAP2125CHIP 10000PFB 50V	C616	0284399R	EL 10UF-M 16V(KMF)
C509	0890058R	CD 8PF-50V	C617	0284446R	EL 1UF-M 50V
C510	0800049R	EL 100UF-M 16V	C619	0800317R	EL 47UF-M(SMG) 16V
C511	0890058R	CD 8PF-50V	C620	AN00624R	PF 0.01UF 50V
C512	0800015R	EL 10UF-M 16V	C621	0298261R	TA 1MF-J 35V
C513	AN00637R	PF 0.1UF 50V	C622	0800347N	EL 330UF-M(SMG) 50V
C514	0893044R	CAP2125CHIP 10000PFB 50V	C632	AN00626R	PL (103UF 50V)
C515	0244171R	CD 0.01UF-Z F 50V	C633	0279859F	PF 0.1UF-K 100V
C516	AN00637R	PF 0.1UF 50V	C701	0259153F	EL 220UF (HR) 160V
C517	AN00637R	PF 0.1UF 50V	C702	0299926F	PF 0.1UF-K 200V
C518	0800003R	EL 1.0UF-M 50V	C703	0890028M	CD 330PF-K B 50V CYLINDRIC
C519	0800005R	EL 2.2UF-M 50V	C704	0244109R	CD 4700PF-KB 50V
C520	0890115R	CD 12PF-J CH 50V	C705	0243507R	CD 330PF-K 500V
C521	AN00615R	PF 0.0022UF 50V	C706	0244501R	CD 1000PF-K 500V
C522	0800273R	EL 0.22UF-M 50V	△ C707	AJ00129	CD 470P DC2K-R (AP73 ONLY)
C523	0800049R	EL 100UF-M 16V	△ C707	0244211	CD 1000PF-K 2KV (AP74 ONLY)
C524	0800049R	EL 100UF-M 16V	△ C708	0262416F	PF 3900PF-J 1.8KV 9 (AP74 ONLY)
C525	0893044R	CAP2125CHIP 10000PFB 50V	△ C708	0262418F	PP 4700PF 1800V (AP73 ONLY)
C526	0893044R	CAP2125CHIP 10000PFB 50V	△ C709	0262424F	PP FLM 7500PF-J 1.8 KV (AP73 ONLY)
C527	0800049R	EL 100UF-M 16V	△ C709	0262432F	PP 15000PF-J 1800V (AP74 ONLY)
C528	0284638R	EL 10UF-SME(BP) 16V	C710	0299933F	PF 0.39UF-K 200V
C529	0800005R	EL 2.2UF-M 50V	C711	0299934F	PP 0.47UF 200V
C530	0893044R	CAP2125CHIP 10000PFB 50V	△ C712	0299984F	PF 0.022UF-J 630V
C531	0893044R	CAP2125CHIP 10000PFB 50V	C713	0800001R	EL 0.47UF-M 50V (SME)
C532	AN00637R	PF 0.1UF 50V	C714	AN00628R	PF 0.022UF 50V
C533	AN00637R	PF 0.1UF 50V	C715	0890089R	CD 1500PF-K 50V
C534	AN00637R	PF 0.1UF 50V	C717	0243503R	CD 150PF-K B 500V
C535	0800074N	EL 470UF-M 16V	C718	0253983F	EL 33UF-M 350V
C536	AN00628R	PF 0.022UF 50V	C719	0880062R	PF 0.22UF-KEB 50V
C537	AN00637R	PF 0.1UF 50V	C721	0243511R	CD 680PF-K 500V
C538	0800005R	EL 2.2UF-M 50V	C722	0243511R	CD 680PF-K 500V
C539	AN00637R	PF 0.1UF 50V	C723	0262427F	PF FLM 0.01UF 1.8KV
C540	AN00637R	PF 0.1UF 50V	C724	AN00637R	PF 0.1UF 50V
C541	AN00637R	PF 0.1UF 50V	C725	0890087R	CD 1000PF-K 50V
C542	0893044R	CAP2125CHIP 10000PFB 50V	C726	0243508R	CD 390PF-K 500V (AP73 ONLY)
C543	0893044R	CAP2125CHIP 10000PFB 50V	C726	0244505R	CD 0.0022UF-K 500V (AP74 ONLY)
C544	0800058R	EL 220UF-M 16V	C727	0244501R	CD 1000PF-K 500V (AP73 ONLY)
C545	AN00637R	PF 0.1UF 50V	C729	0259471	EL 6.8UF-M (BP) 50V
C546	0800049R	EL 100UF-M 16V	C730	0244109R	CD 4700PF-KB 50V
C547	AN00637R	PF 0.1UF 50V	C731	0800329R	EL 100UF-M(SMG) 50V
C548	0890074R	CD 100PF-J 50V	C740	0284667R	EL 47UF-MBPR(SME)16V

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
C750	0284634R	EL 4.7UF-M 50V	C949	AN00637R	PF 0.1UF 50V
C801	0800041R	EL 47UF-M 16V	C952	0800291R	EL 10UF-M(SMG) 16V
C802	0800049R	EL 100UF-M 16V	C954	0800291R	EL 10UF-M(SMG) 16V
C804	0244889R	CD 2200PF-K 2KV	C955	AN00637R	PF 0.1UF 50V
C805	0800049R	EL 100UF-M 16V	C956	AN00637R	PF 0.1UF 50V
C807	0890087R	CD 1000PF-K 50V	C957	0800299R	EL 22UF-M(SMG) 16V
C808	0890088R	CD 0.0012UF 50V	 C958	AJ00157R	CD 1000P 400V B
C810	AN00624R	PF 0.01UF 50V TAPE	 C959	AJ00163R	CD 2200P 400V E
C831	0257543F	EL 3.3UF 3	C961	AL00796S	EL S-LEAD 1200UF-M(LXV) 35V
C834	0244889R	CD 2200PF-K 2KV	C962	0800326R	EL 100UF-M 16V
C835	0800049R	EL 100UF-M 16V	C963	0800294R	EL 10UF-M(SMG) 50V
C837	0890087R	CD 1000PF-K 50V	C964	0800361N	EL 1000UF 16V
C838	0890087R	CD 1000PF-K 50V	C965	0800308R	EL 33UF-M(SMG) 16V
C840	AN00624R	PF 0.01UF 50V TAPE	C966	0880062R	PF 0.22UF-KEB 50V
C864	0244889R	CD 2200PF-K 2KV	C967	0243509R	CD 470PF-K 500V
C865	0800049R	EL 100UF-M 16V	C968	0243509R	CD 470PF-K 500V
C867	0890087R	CD 1000PF-K 50V	C969	0244109R	CD 4700PF-KB 50V
C868	0890086R	CD 820PF-K 50V			DIODES
C870	AN00624R	PF 0.01UF 50V TAPE			
 C901	AN00148S	PL (0.22UF250V)	DA01	2344041M	DI 1SS254TA/1SS270TA
 C902	AN00144S	PL (0.1UF250V )	DA02	2344041M	DI 1SS254TA/1SS270TA
C903	0248593F	CD 4700PF-Z 250V	DA03	2348031M	DI-MTZ-J2.7ATA
C904	0248593F	CD 4700PF-Z 250V	DA04	2348031M	DI-MTZ-J2.7ATA
C905	0284296	EL 680UF-M 250V(KMH)	DA05	2344041M	DI 1SS254TA/1SS270TA
C906	0284296	EL 680UF-M 250V(KMH)	DA06	2344041M	DI 1SS254TA/1SS270TA
C907	0800328R	EL 100UF-M 35V	DA07	2348031M	DI-MTZ-J2.7ATA
C908	0890087R	CD 1000PF-K 50V	DA08	2348031M	DI-MTZ-J2.7ATA
C909	0800323R	EL 47UF-M 100V	DA09	2348212M	DI-MTZ-J15BTA
C910	0299977F	PP 0.0047UF-F	DA10	2348212M	DI-MTZ-J15BTA
C912	0890085R	CD 680PF-K 50V	DA11	2344041M	DI 1SS254TA/1SS270TA
C913	0800282R	EL 2.2UF-M(SMG) 50V	DA12	2344041M	DI 1SS254TA/1SS270TA
C914	AN00637R	PF 0.1UF 50V	DA13	2344041M	DI 1SS254TA/1SS270TA
C915	AL00796S	EL S-LEAD 1200UF-M(LXV) 35V	DA14	2344041M	DI 1SS254TA/1SS270TA
C917	0244105R	CD 2200PF-K 50V	DA15	2344041M	DI 1SS254TA/1SS270TA
C918	AL00796S	EL S-LEAD 1200UF-M(LXV) 35V	DA16	2344041M	DI 1SS254TA/1SS270TA
C919	0880062R	PF 0.22UF-KEB 50V	DA17	2348052M	DI MTZ-J3.3BTA
C920	0800328R	EL 100UF-M 35V	DA18	2348031M	DI-MTZ-J2.7ATA
C921	0800328R	EL 100UF-M 35V	DC03	2348212M	DI-MTZ-J15BTA
C922	0800326R	EL 100UF-M 16V	DE01	2344041M	DI 1SS254TA/1SS270TA
C923	0800328R	EL 100UF-M 35V	DE02	2344041M	DI 1SS254TA/1SS270TA
C924	0800335R	EL 220UF-M(SMG) 16V	DE03	2344041M	DI 1SS254TA/1SS270TA
C925	AL00796S	EL S-LEAD 1200UF-M(LXV) 35V	DE04	CH00151M	DI DSM1SD2(200V)
C926	0880062R	PF 0.22UF-KEB 50V	DE05	CH00151M	DI DSM1SD2(200V)
C927	AL00796S	EL S-LEAD 1200UF-M(LXV) 35V	DE06	CH00151M	DI DSM1SD2(200V)
C928	AL00796S	EL S-LEAD 1200UF-M(LXV) 35V	DE07	CH00151M	DI DSM1SD2(200V)
C929	0251703	EL390UF-M 160V	DF01	2344041M	DI 1SS254TA/1SS270TA
C930	AL00793S	EL S-LEAD 1200UF-M(LXV) 16V	DF02	2344041M	DI 1SS254TA/1SS270TA
C931	0800353R	EL470UF-M 16V	DF03	2344041M	DI 1SS254TA/1SS270TA
C935	0800355N	EL 470UF-M 35V	DF04	2338531M	DI EG-01C (V) SI 0.5A
C937	AL00794S	EL S-LEAD 1500UF-M(LXV) 16V	DF05	2344041M	DI 1SS254TA/1SS270TA
C939	0800328R	EL 100UF-M 35V	DF07	2344041M	DI 1SS254TA/1SS270TA
C940	0800353R	EL470UF-M 16V	DF08	2344041M	DI 1SS254TA/1SS270TA
C941	0880062R	PF 0.22UF-KEB 50V	DF09	2344041M	DI 1SS254TA/1SS270TA
C942	0800317R	EL 47UF-M(SMG) 16V	DG01	2348103M	ZD MTZJ-5.1C TA
C943	0800279R	EL 1.0UF-M(SMG) 50V	DG02	2348103M	ZD MTZJ-5.1C TA
C945	0800291R	EL 10UF-M(SMG) 16V	DK01	2339551M	DI ED14(V1) SI 5MA 45
C948	AL00792S	EL S-LEAD 2200UF-M(LXV) 10V			

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
DK04	2348431M	DI RMPG06D	DL34	2348161M	DI MTZ-J 9.1ATA
DK05	2348431M	DI RMPG06D	DL35	2348161M	DI MTZ-J 9.1ATA
DK06	2344041M	DI 1SS254TA/1SS270TA	DL36	2348161M	DI MTZ-J 9.1ATA
DK16	2334324M	ZD DI RD36E (B3) SI 500MW	DL37	2348161M	DI MTZ-J 9.1ATA
DK17	2334324M	ZD DI RD36E (B3) SI 500MW	DM01	2344041M	DI 1SS254TA/1SS270TA
DK18	2334324M	ZD DI RD36E (B3) SI 500MW	DM01	2398611M	DI 1SS254 (35V) SI 4NSEC
DK19	2334324M	ZD DI RD36E (B3) SI 500MW	DM02	2344041M	DI 1SS254TA/1SS270TA
DK20	2334324M	ZD DI RD36E (B3) SI 500MW	DM02	2398611M	DI 1SS254 (35V) SI 4NSEC
DK21	2334324M	ZD DI RD36E (B3) SI 500MW	DM03	CH00231	LED SLH-56VC3F
DK22	2334324M	ZD DI RD36E (B3) SI 500MW	DM03	CH00231	LED SLH-56VC3F
DK23	2334324M	ZD DI RD36E (B3) SI 500MW	DM04	2348212M	DI-MTZ-J15BTA
DK24	2334324M	ZD DI RD36E (B3) SI 500MW	DM04	2348212M	DI-MTZ-J15BTA
DK25	2334324M	ZD DI RD36E (B3) SI 500MW	DM05	2348212M	DI-MTZ-J15BTA
DK26	2334324M	ZD DI RD36E (B3) SI 500MW	DM05	2348212M	DI-MTZ-J15BTA
DK27	2334324M	ZD DI RD36E (B3) SI 500MW	DM06	2348212M	DI-MTZ-J15BTA
DK30	2348141M	ZD DI MTZJ-7.5A TA	DM06	2348212M	DI-MTZ-J15BTA
DK31	2348141M	ZD DI MTZJ-7.5A TA	DM07	2348212M	DI-MTZ-J15BTA
DK32	2348141M	ZD DI MTZJ-7.5A TA	DM07	2348212M	DI-MTZ-J15BTA
DK33	2348141M	ZD DI MTZJ-7.5A TA	DM08	2348212M	DI-MTZ-J15BTA
DK34	2348141M	ZD DI MTZJ-7.5A TA	DM08	2348212M	DI-MTZ-J15BTA
DK35	2348141M	ZD DI MTZJ-7.5A TA	DM09	2348212M	DI-MTZ-J15BTA
DK36	2348141M	ZD DI MTZJ-7.5A TA	DM09	2348212M	DI-MTZ-J15BTA
DK37	2348141M	ZD DI MTZJ-7.5A TA	DM10	2348212M	DI-MTZ-J15BTA
DK40	2331806M	ZD DI HZ-6 (B3) SI 500MW	DM10	2348212M	DI-MTZ-J15BTA
DK41	2331806M	ZD DI HZ-6 (B3) SI 500MW	DM11	2348212M	DI-MTZ-J15BTA
DK42	2331806M	ZD DI HZ-6 (B3) SI 500MW	DN01	2344041M	DI 1SS254TA/1SS270TA
DK43	2331806M	ZD DI HZ-6 (B3) SI 500MW	DN02	2344041M	DI 1SS254TA/1SS270TA
DK44	2331806M	ZD DI HZ-6 (B3) SI 500MW	DN03	2344041M	DI 1SS254TA/1SS270TA
DL01	2348141M	ZD DI MTZJ-7.5A TA	DN04	2344041M	DI 1SS254TA/1SS270TA
DL02	2348141M	ZD DI MTZJ-7.5A TA	DN05	2348071M	ZD DI MTZJ-3.9A TA
DL03	2348141M	ZD DI MTZJ-7.5A TA	DN06	2344041M	DI 1SS254TA/1SS270TA
DL04	2348141M	ZD DI MTZJ-7.5A TA	DN07	2344041M	DI 1SS254TA/1SS270TA
DL05	2348141M	ZD DI MTZJ-7.5A TA	DN08	CH00151M	DI DSM1SD2(200V)
DL06	2348141M	ZD DI MTZJ-7.5A TA	DN09	2331849M	ZD HZ12C3 (TA) SI 500MW
DL07	2348141M	ZD DI MTZJ-7.5A TA	DN10	2344041M	DI 1SS254TA/1SS270TA
DL08	2348141M	ZD DI MTZJ-7.5A TA	DN11	2344041M	DI 1SS254TA/1SS270TA
DL10	2344041M	DI 1SS254TA/1SS270TA	DS01	2344041M	DI 1SS254TA/1SS270TA
DL11	2344041M	DI 1SS254TA/1SS270TA	DS02	2344041M	DI 1SS254TA/1SS270TA
DL12	2344041M	DI 1SS254TA/1SS270TA	DS03	2344041M	DI 1SS254TA/1SS270TA
DL13	2344041M	DI 1SS254TA/1SS270TA	DS04	2348103M	ZD MTZJ-5.1C TA
DL14	2344041M	DI 1SS254TA/1SS270TA	DS05	CH00151M	DI DSM1SD2(200V)
DL15	2344041M	DI 1SS254TA/1SS270TA	DS06	CH00151M	DI DSM1SD2(200V)
DL16	2344041M	DI 1SS254TA/1SS270TA	DS12	2344041M	DI 1SS254TA/1SS270TA
DL17	2344041M	DI 1SS254TA/1SS270TA	DS14	2344041M	DI 1SS254TA/1SS270TA
DL20	2348123M	ZD MTZJ-6.2C TA	DS15	2344041M	DI 1SS254TA/1SS270TA
DL21	2348123M	ZD MTZJ-6.2C TA	DY01	2344041M	DI 1SS254TA/1SS270TA
DL22	2348123M	ZD MTZJ-6.2C TA	DY02	2348212M	DI-MTZ-J15BTA
DL23	2348123M	ZD MTZJ-6.2C TA	DY03	2348212M	DI-MTZ-J15BTA
DL24	2348123M	ZD MTZJ-6.2C TA	DY04	2348212M	DI-MTZ-J15BTA
DL25	2348123M	ZD MTZJ-6.2C TA	D002	2344041M	DI 1SS254TA/1SS270TA
DL26	2348123M	ZD MTZJ-6.2C TA	D005	2344041M	DI 1SS254TA/1SS270TA
DL27	2348123M	ZD MTZJ-6.2C TA	D013	2344041M	DI 1SS254TA/1SS270TA
DL28	2331827M	ZD DI HZ-9 (C1) SI 500MW	D015	2331827M	ZD DI HZ-9 (C1) SI 500MW
DL30	2348161M	DI MTZ-J 9.1ATA	D020	2344041M	DI 1SS254TA/1SS270TA
DL31	2348161M	DI MTZ-J 9.1ATA	D024	2344041M	DI 1SS254TA/1SS270TA
DL32	2348161M	DI MTZ-J 9.1ATA	D025	2344041M	DI 1SS254TA/1SS270TA
DL33	2348161M	DI MTZ-J 9.1ATA	D026	2348212M	DI-MTZ-J15BTA



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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
D904	CH00172M	DI DFM1SD2(200V)	D972	2336615	DI RU3YX (LF-A1) (AP73 ONLY)
D905	CH00172M	DI DFM1SD2(200V)	D972	2337952S	DI RU4YX(LF015-302) (AP74 ONLY)
D906	2348253M	ZD MTZ-J22CTA	D973	2348432M	DI RMPG06G
D907	2334324M	ZD DI RD36E (B3) SI 500MW	D974	2348111M	ZD MTZ-J5.6ATA
D908	2348431M	DI RMPG06D	D975	2344041M	DI 1SS254TA/1SS270TA
D910	2331844M	ZD HZ12-B1	D976	2344041M	DI 1SS254TA/1SS270TA
D911	2331844M	ZD HZ12-B1	D977	CH00182R	LIGHT EMITTING DI (SLZ-381C-06-T1)
D912	CH00183R	LIGHT EMITTING DI (SLZ-981C-06-T1)			
D913	2336615	DI RU3YX (LF-A1) (AP73 ONLY)			FUSES
D914	2337952S	DI RU4YX(LF015-302) (AP74 ONLY)	 F901	2722358	FUSE AC05A
D915	2337952S	DI RU4YX(LF015-302)			COMPOUND COMPONENTS
D916	2337952S	DI RU4YX(LF015-302)			
D917	CH00151M	DI DSM1SD2(200V)			
D918	2348271M	ZD MTZ-J27ATA	HM01	CZ00501U	IC (PIC-21043SR) (AP73 ONLY)
D919	2348213M	ZD DI MTZJ-15C TA	HM01	CZ00521	IC (SBX1981-52) (AP74 ONLY)
D920	2344041M	DI 1SS254TA/1SS270TA	H002	2791754R	CONDENSER WITH 3 TERMINAL 100PF
D921	2348121M	ZD MTZJ-6.2A TA	H004	2791754R	CONDENSER WITH 3 TERMINAL 100PF
D922	2348283M	ZD DI MTZJ-30C TA	H005	2791754R	CONDENSER WITH 3 TERMINAL 100PF
D923	2344041M	DI 1SS254TA/1SS270TA	H006	2791754R	CONDENSER WITH 3 TERMINAL 100PF
D924	2348042M	ZD MTZ-J3.0BTA	 H901	2793312	CP-EXN-471P365L
D925	2348264M	ZD DI MTZJ-24D TA	 F901	AZ00005	CRX MHF 116
D926	2344041M	DI 1SS254TA/1SS270TA	 DCU →	CS00151	PRINTED WIRING BOARD (HC2091 AS'Y)
D928	CH01042M	DI RK34 (40V)	U002	HP00094	PINP UNIT KC-010S
D929	CH01061F	DI RU4AM(600V)	U101	HC00221	BTF-WB451
D931	2348283M	ZD DI MTZJ-30C TA	U102	2429691	FE TUNER V8-A68FT
D932	2344041M	DI 1SS254TA/1SS270TA	 JP0103/1		IC'S
D933	2348132M	ZD MTZ-J6.8BTA			
D936	2348193M	ZD DI MTZJ-12C TA			
D937	2344041M	DI 1SS254TA/1SS270TA	IA02	CK06362R	DIGITAL MONO. IC (MC14052BFEL)
D938	CH00921M	DI SB140 40V 1A (AP73 ONLY)	IG01	CP02771U	GRAPHICEQULIZER IC
D938	CH01052M	DI RK14 (AP74 ONLY)	IG02	CK07141R	IC (BA4558F-E2)
D939	CH00182R	LIGHT EMITTING DI (SLZ-381C-06-T1)	IG03	CK07141R	IC (BA4558F-E2)
D940	CH00182R	LIGHT EMITTING DI (SLZ-381C-06-T1)	IG04	CK07141R	IC (BA4558F-E2)
D941	2344041M	DI 1SS254TA/1SS270TA	IG05	CK07141R	IC (BA4558F-E2)
D942	2348132M	ZD MTZ-J6.8BTA	IG06	CK07141R	IC (BA4558F-E2)
D943	2344041M	DI 1SS254TA/1SS270TA	IG07	CK07141R	IC (BA4558F-E2)
D944	2344041M	DI 1SS254TA/1SS270TA	IG08	CK07141R	IC (BA4558F-E2)
D945	2344041M	DI 1SS254TA/1SS270TA	IG09	CK07141R	IC (BA4558F-E2)
D946	CH00182R	LIGHT EMITTING DI (SLZ-381C-06-T1)	IG10	CP02771U	GRAPHIC EQULIZER IC
D947	CH00182R	LIGHT EMITTING DI (SLZ-381C-06-T1)	IG11	CK07141R	IC (BA4558F-E2)
D948	2344041M	DI 1SS254TA/1SS270TA	IG12	CK07141R	IC (BA4558F-E2)
D951	2348092M	ZD MTZ-J4.7BTA	IG13	CK07141R	IC (BA4558F-E2)
D952	2344041M	DI 1SS254TA/1SS270TA	IG14	CK07141R	IC (BA4558F-E2)
D956	2344041M	DI 1SS254TA/1SS270TA	IG15	CK07141R	IC (BA4558F-E2)
D957	2348213M	ZD DI MTZJ-15C TA	IK01	2003421	IC UPC7805AHF
D958	2344041M	DI 1SS254TA/1SS270TA	IK02	CP01631R	ICL-PST9142
D959	2344041M	DI 1SS254TA/1SS270TA	IK03	2003421	IC UPC7805AHF
D960	2344041M	DI 1SS254TA/1SS270TA	IK04	CZ00431	HYBRID IC (STK392-110)
D961	2344041M	DI 1SS254TA/1SS270TA	IK05	CZ00431	HYBRID IC (STK392-110)
D962	2344041M	DI 1SS254TA/1SS270TA	IS01	CP00801U	IC LA2785
D963	2344041M	DI 1SS254TA/1SS270TA	IS02	CK07141R	IC (BA4558F-E2)
D964	CH00182R	LIGHT EMITTING DI (SLZ-381C-06-T1)	IS03	CP00791U	IC LV1010N
D966	CH00182R	LIGHT EMITTING DI (SLZ-381C-06-T1)	IS04	CK07141R	IC (BA4558F-E2)
D967	CH00182R	LIGHT EMITTING DI (SLZ-381C-06-T1)	IS05	2020001	IC TDA9860
D969	2348102M	ZD MTZJ-5.1B TA	IS08	CK07141R	IC (BA4558F-E2)
D971	2348143M	DI MTZ-J7.5CTA	IS09	CP03931U	AN5262N

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
IS10	2020001	IC TDA9860	LL01	2123763R	RADIAL COIL 101K(TYPE EL0405)
IS11	2004751	IC TA8200AH	LS01	2123763R	RADIAL COIL 101K(TYPE EL0405)
IS12	CP02601	AN5285K	LS02	2123763R	RADIAL COIL 101K(TYPE EL0405)
IY01	CP04011U	IC (TC90A13N) (AP73 ONLY)	LS03	2123763R	RADIAL COIL 101K(TYPE EL0405)
IY01	2020452	IC (CXA1545AS)	LS05	2123763R	RADIAL COIL 101K(TYPE EL0405)
IY02	2003423	IC UPC7893AHF ICL	LS06	2123763R	RADIAL COIL 101K(TYPE EL0405)
I001	CP04291U	MN1876478HHY	LX01	2123105M	LAL02 AXIAL COIL 15UH-K (AP73 ONLY)
I004	CP04022U	ST24C16	LX05	2123763R	RADIAL COIL 101K (AP73 ONLY)
I006	CK07131R	IC (MC14053BFEL)	LX06	2123763R	RADIAL COIL 101K (AP73 ONLY)
I007	2000541	IC M51951BSL	LX07	2123763R	RADIAL COIL 101K (AP73 ONLY)
I008	2020341	IC MM1111XS	LX08	2123763R	RADIAL COIL 101K (AP73 ONLY)
I102	CP04111	Z89313	LX09	2123763R	RADIAL COIL 101K (AP73 ONLY)
I103	2000541	IC M51951BSL	LX10	2123763R	RADIAL COIL 101K (AP73 ONLY)
I104	2003421	IC UPC7805AHF	LX11	2123109M	COIL-AXIAL 33UH-K (AP73 ONLY)
I105	2015494R	HD74HC32FPTR/ER	LY01	2123781R	FILTER COIL 101K
I106	2003421	IC UPC7805AHF	LY03	2123763R	RADIAL COIL 101K(TYPE EL0405)
I401	2004751	IC TA8200AH	LY04	2123763R	RADIAL COIL 101K(TYPE EL0405)
I402	2004751	IC TA8200AH	LY05	2123763R	RADIAL COIL 101K(TYPE EL0405)
I501	CP03551U	IC (TA1222AN)	L002	2123781R	FILTER COIL 101K
I502	2020341	IC MM1111XS (AP74 ONLY)	L003	2123781R	FILTER COIL 101K
I601	2003541	IC LA7838	L004	2123763R	RADIAL COIL 101K(TYPE EL0405)
I602	2365452	IC NJM2903D	L101	2123763R	RADIAL COIL 101K(TYPE EL0405)
 I901	CZ00451	HYBRID IC (STR-M6811A)	L102	2123763R	RADIAL COIL 101K(TYPE EL0405)
 I902	2000465	IC PS2501-1 (KC/LC)	L103	2123781R	FILTER COIL 101K
 I903	2000465	IC PS2501-1 (KC/LC)	L104	2123781R	FILTER COIL 101K
 I904	2000465	IC PS2501-1 (KC/LC)	L105	2123781R	FILTER COIL 101K
 I905	2381349	HYBRID IC (SE120N:+B CONT.)	L106	2123781R	FILTER COIL 101K
I908	2003424	IC UPC7812AHF	L107	2123781R	FILTER COIL 101K
I909	CP03163	UPC7912AHF	L110	2123781R	FILTER COIL 101K
 I910	CP03912F	IC (SI-8402L)	L111	2123781R	FILTER COIL 101K
I912	CP03923F	IC (SI-8090S)	L112	2123763R	RADIAL COIL 101K (AP73 ONLY)
I913	CP03922F	IC (SI-8050S)	L113	2123763R	RADIAL COIL 101K (AP73 ONLY)
		COILS	L114	BH00214R	FILTER COIL 100UH
			L301	2123105M	LAL02 AXIAL COIL 15UH-K (AP74 ONLY)
			L302	2123105M	LAL02 AXIAL COIL 15UH-K (AP74 ONLY)
LA02	2123763R	RADIAL COIL 101K(TYPE EL0405)	L401	2122652M	FERRITE CORE
LA03	2123781R	FILTER COIL 101K	L402	2122652M	FERRITE CORE
LA06	2123781R	FILTER COIL 101K	L403	2122652M	FERRITE CORE
LE01	2123103M	COIL-AXIAL LAL 10UH-K	L502	2123763R	RADIAL COIL 101K (AP74 ONLY)
LE02	2123468M	FERRITE BEADS CORE LEAD 0.8MH	L503	2123763R	RADIAL COIL 101K(TYPE EL0405)
LE03	2123468M	FERRITE BEADS CORE LEAD 0.8MH	L504	2123763R	RADIAL COIL 101K(TYPE EL0405)
LE04	2123468M	FERRITE BEADS CORE LEAD 0.8MH	L505	2123781R	FILTER COIL 101K
LE05	2123106M	COIL-AXIAL 18UH-K	L506	2123763R	RADIAL COIL 101K(TYPE EL0405)
LF01	BH00229R	COIL 472K-1T7608A	L507	2123763R	RADIAL COIL 101K(TYPE EL0405)
LF02	BH00229R	COIL 472K-1T7608A	L508	2123112M	COIL-AXIAL 47UH-K
LG01	2123781R	FILTER COIL 101K	L601	BZ00843	CHOKE COIL 330UH SL1720
LG02	2123781R	FILTER COIL 101K	L602	2123461M	FERRITE BEADS B 0.8 MH
LK01	2122929M	COIL-AXIAL 1.0UH-M	L701	BH00212R	FILTER COIL 68UH
LK02	2122929M	COIL-AXIAL 1.0UH-M	L702	2123461M	FERRITE BEADS B 0.8 MH
LK03	2122929M	COIL-AXIAL 1.0UH-M	L703	2123461M	FERRITE BEADS B 0.8 MH
LK04	2122929M	COIL-AXIAL 1.0UH-M	L704	2123461M	FERRITE BEADS B 0.8 MH
LK05	2122929M	COIL-AXIAL 1.0UH-M	L705	BZ00845	CHOKE COIL 680UH SL1720 (AP74 ONLY)
LK06	2122929M	COIL-AXIAL 1.0UH-M	L705	BZ00846	CHOKE COIL 1000UH SL1720 (AP73 ONLY)
LK07	2122929M	COIL-AXIAL 1.0UH-M	L706	BH00217R	FILTER COIL 180UH
LK08	2122929M	COIL-AXIAL 1.0UH-M	L708	BH00205R	FILTER COIL 22UH (AP73 ONLY)
LK09	2123462M	FERRITE BEADS CORE B 2.3UH	L708	BH00206R	FILTER COIL 27UH (AP74 ONLY)
LK10	2123462M	FERRITE BEADS CORE B 2.3UH	L709	BZ00317	LINEARITY COIL 140UH-W (AP73 ONLY)

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
L709	BZ01941	LINEARITY COIL 85UH-W (AP74 ONLY)	QE11	2320598M	TR 2SC458 (B TZ/C TZ/D TZ)
L710	BZ00318	LINEARITY COIL 50UH-W (AP73 ONLY)	QE12	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
L710	BZ01942	LINEARITY COIL 30UH-W (AP74 ONLY)	QF01	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
L720	BH00228R	COIL 332K-1T7608A	QF03	2320663M	TR 2SC1213A (C)
 L901	BZ01841	LX-LINE FILTER(102)	QF04	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
 L902	BZ00561	LINE FILTER 3.9MH	QF05	2320663M	TR 2SC1213A (C)
 L903	BZ01841	LX-LINE FILTER(102)	QF06	2315341F	ST-2SC4632LS-CB7
L905	BH00201R	FILTER COIL 10UH	QF07	2315341F	ST-2SC4632LS-CB7
L906	BH00201R	FILTER COIL 10UH	QF08	2315341F	ST-2SC4632LS-CB7
L907	BH00214R	FILTER COIL 100UH	QF09	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
L909	BV00741	PL-CHOPPER COIL(220)	QF10	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
L910	BH00212R	FILTER COIL 68UH	QF11	2320663M	TR 2SC1213A (C)
L911	BV00741	PL-CHOPPER COIL(220)	QF12	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
L912	BH00214R	FILTER COIL 100UH	QF13	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
L913	BH00214R	FILTER COIL 100UH	QF14	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
L914	BH00214R	FILTER COIL 100UH	QF15	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
L915	BH00201R	FILTER COIL 10UH	QF16	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
L917	BH00214R	FILTER COIL 100UH	QF17	2326873R	TR DTC144ES TP
L919	BH00201R	FILTER COIL 10UH	QK01	2312171	TR 2SC3852
L921	2161152	FILTER COIL	QK02	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
L924	2122653M	FERRITE CORE 1.65UH	QK03	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
L925	2122652M	FERRITE CORE	QK04	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
L926	2122652M	FERRITE CORE	QK06	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
L927	2122652M	FERRITE CORE	QK07	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
L930	2122653M	FERRITE CORE 1.65UH	QK08	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
L931	2122653M	FERRITE CORE 1.65UH	QL10	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
		TRANSISTORS	QL11	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
			QL12	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
			QL13	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
QA01	2325691R	TR CHIP(2SC2412KQ/R)	QL14	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
QA02	2325781R	2SA1037KT146Q/R	QL15	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
QA03	2325691R	TR CHIP(2SC2412KQ/R)	QL16	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
QA04	2325781R	2SA1037KT146Q/R	QL17	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
QA05	2325691R	TR CHIP(2SC2412KQ/R)	QM01	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
QA06	2325691R	TR CHIP(2SC2412KQ/R)	QM01	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
QA07	2325691R	TR CHIP(2SC2412KQ/R)	QM02	2312992	PHOTO TR RPT-38PT3F (M)
QA09	2325691R	TR CHIP(2SC2412KQ/R)	QM02	2312996	PHOTO TR RPT-38PT3F(M/M)
QA11	2325691R	TR CHIP(2SC2412KQ/R)	QM02	2312992	PHOTO TR RPT-38PT3F (M)
QA12	2325691R	TR CHIP(2SC2412KQ/R)	QM03	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
QA72	2325691R	TR CHIP(2SC2412KQ/R)	QM03	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
QA73	2325691R	TR CHIP(2SC2412KQ/R)	QM04	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
QA74	2325691R	TR CHIP(2SC2412KQ/R)	QM04	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
QA75	2325691R	TR CHIP(2SC2412KQ/R)	QN01	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
QA76	2325691R	TR CHIP(2SC2412KQ/R)	QN02	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
QA77	2325691R	TR CHIP(2SC2412KQ/R)	QN03	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
QA78	2325781R	2SA1037KT146Q/R	QN04	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
QA79	2325781R	2SA1037KT146Q/R	QN05	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
QE01	2320598M	TR 2SC458 (B TZ/C TZ/D TZ)	QN06	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
QE02	2320598M	TR 2SC458 (B TZ/C TZ/D TZ)	QS01	2325691R	TR CHIP(2SC2412KQ/R)
QE03	2320598M	TR 2SC458 (B TZ/C TZ/D TZ)	QS18	2325691R	TR CHIP(2SC2412KQ/R)
QE04	2320598M	TR 2SC458 (B TZ/C TZ/D TZ)	QS20	2325691R	TR CHIP(2SC2412KQ/R)
QE05	2320598M	TR 2SC458 (B TZ/C TZ/D TZ)	QS21	2325691R	TR CHIP(2SC2412KQ/R)
QE06	2320647M	TR 2SC1213(C 21 TZ/D 21TZ) SI 80MHZ4	QX01	2325691R	TR CHIP(2SC2412KQ/R) (AP73 ONLY)
QE07	2321351M	TR2SA836/844D/E 100MA 200MW SI	QX02	2325691R	TR CHIP(2SC2412KQ/R) (AP73 ONLY)
QE08	CF00531	TR 2SA1964 160V	QX05	2325691R	TR CHIP(2SC2412KQ/R) (AP73 ONLY)
QE09	CF00541	TR 2SC5248 160V	QX06	2325691R	TR CHIP(2SC2412KQ/R) (AP73 ONLY)
QE10	2320598M	TR 2SC458 (B TZ/C TZ/D TZ)	QX07	2325781R	2SA1037KT146Q/R (AP73 ONLY)

## REPLACEMENT PARTS LIST

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
QX08	2325691R	TR CHIP(2SC2412KQ/R) (AP73 ONLY)	Q401	2325691R	TR CHIP(2SC2412KQ/R)
QX09	2325691R	TR CHIP(2SC2412KQ/R) (AP73 ONLY)	Q402	2325691R	TR CHIP(2SC2412KQ/R)
QX10	2325691R	TR CHIP(2SC2412KQ/R) (AP73 ONLY)	Q403	2325691R	TR CHIP(2SC2412KQ/R)
QX11	2325781R	2SA1037KT146Q/R (AP73 ONLY)	Q404	2325691R	TR CHIP(2SC2412KQ/R)
QX12	2325691R	TR CHIP(2SC2412KQ/R) (AP73 ONLY)	Q405	2325691R	TR CHIP(2SC2412KQ/R)
QY01	2325691R	TR CHIP(2SC2412KQ/R)	Q406	2325691R	TR CHIP(2SC2412KQ/R)
QY02	2325691R	TR CHIP(2SC2412KQ/R)	Q407	2325691R	TR CHIP(2SC2412KQ/R)
QY03	2325781R	2SA1037KT146Q/R	Q500	2325691R	TR CHIP(2SC2412KQ/R)
QY04	2325691R	TR CHIP(2SC2412KQ/R)	Q501	CA00171R	TRCHIP IMT5 25V
QY05	2316361R	TR-DTC114EKT147	Q502	2328072R	TRCHIP FMW2 40V
QY06	2325691R	TR CHIP(2SC2412KQ/R)	Q503	2325691R	TR CHIP(2SC2412KQ/R)
QY07	2326021M	TR 2SC1741S P/R/Q (TP) 250MHZ 30	Q504	2325691R	TR CHIP(2SC2412KQ/R) (AP73 ONLY)
QY08	2325691R	TR CHIP(2SC2412KQ/R)	Q505	2325691R	TR CHIP(2SC2412KQ/R)
QY10	2325691R	TR CHIP(2SC2412KQ/R)	Q506	2316361R	TR-DTC114EKT147
QY11	2325691R	TR CHIP(2SC2412KQ/R)	Q509	2325691R	TR CHIP(2SC2412KQ/R)
QY51	2325781R	2SA1037KT146Q/R	Q510	2325691R	TR CHIP(2SC2412KQ/R)
QY54	2325691R	TR CHIP(2SC2412KQ/R)	Q512	2325691R	TR CHIP(2SC2412KQ/R)
Q001	2325691R	TR CHIP(2SC2412KQ/R)	Q513	2325691R	TR CHIP(2SC2412KQ/R)
Q002	2325691R	TR CHIP(2SC2412KQ/R)	Q514	2325691R	TR CHIP(2SC2412KQ/R)
Q004	2325691R	TR CHIP(2SC2412KQ/R)	Q515	2325781R	2SA1037KT146Q/R
Q005	2325691R	TR CHIP(2SC2412KQ/R)	Q516	2325781R	2SA1037KT146Q/R
Q006	2325781R	2SA1037KT146Q/R	Q517	2325781R	2SA1037KT146Q/R
Q007	2325691R	TR CHIP(2SC2412KQ/R)	Q519	2325691R	TR CHIP(2SC2412KQ/R)
Q008	2325691R	TR CHIP(2SC2412KQ/R)	Q601	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
Q011	2325691R	TR CHIP(2SC2412KQ/R)	Q602	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q013	2325691R	TR CHIP(2SC2412KQ/R)	Q603	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q014	2325781R	2SA1037KT146Q/R	Q604	2320663M	TR 2SC1213A (C)
Q015	2325691R	TR CHIP(2SC2412KQ/R)	Q605	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q016	2325691R	TR CHIP(2SC2412KQ/R)	Q606	CF00611	TR 2SC3969(AB) 400V
Q017	2325691R	TR CHIP(2SC2412KQ/R)	Q607	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q018	2325691R	TR CHIP(2SC2412KQ/R)	Q608	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
Q019	2325691R	TR CHIP(2SC2412KQ/R)	Q609	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q024	2325691R	TR CHIP(2SC2412KQ/R)	Q701	2326216	TR 2SC3116 (S/T)
Q026	2312171	TR 2SC3852	Q702	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
Q027	2325691R	TR CHIP(2SC2412KQ/R)	Q703	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q028	2325691R	TR CHIP(2SC2412KQ/R)	Q705	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
Q029	2325691R	TR CHIP(2SC2412KQ/R)	Q710	2320637M	TR 2SA673 (C 26TZ/D 26TZ) SI 80MHZ
Q030	2325691R	TR CHIP(2SC2412KQ/R)	Q777	2315274F	TR 2SC4589-05 (1500V)
Q031	2325781R	2SA1037KT146Q/R	Q801	2312372F	TR 2SC3942
Q101	2325691R	TR CHIP(2SC2412KQ/R)	Q802	2320663M	TR 2SC1213A (C)
Q102	2325691R	TR CHIP(2SC2412KQ/R)	Q803	2320591M	TR 2SC458 (B TZ/C TZ)
Q103	2320647M	TR 2SC1213(C 21 TZ/D 21TZ) SI 80MHZ4	Q804	2320591M	TR 2SC458 (B TZ/C TZ)
Q106	2325691R	TR CHIP(2SC2412KQ/R)	Q805	2320591M	TR 2SC458 (B TZ/C TZ)
Q107	2325691R	TR CHIP(2SC2412KQ/R)	Q806	2320637M	TR 2SA673 (C 26TZ/D 26TZ)
Q108	2325691R	TR CHIP(2SC2412KQ/R)	Q831	2312372F	TR 2SC3942
Q109	2325691R	TR CHIP(2SC2412KQ/R)	Q832	2320663M	TR 2SC1213A (C)
Q110	2325691R	TR CHIP(2SC2412KQ/R)	Q833	2320591M	TR 2SC458 (B TZ/C TZ)
Q111	2325691R	TR CHIP(2SC2412KQ/R)	Q834	2320591M	TR 2SC458 (B TZ/C TZ)
Q112	2325691R	TR CHIP(2SC2412KQ/R)	Q861	2312372F	TR 2SC3942
Q113	2325691R	TR CHIP(2SC2412KQ/R)	Q862	2320663M	TR 2SC1213A (C)
Q114	2325691R	TR CHIP(2SC2412KQ/R)	Q863	2320591M	TR 2SC458 (B TZ/C TZ)
Q115	2325691R	TR CHIP(2SC2412KQ/R)	Q864	2320591M	TR 2SC458 (B TZ/C TZ)
Q116	2320637M	TR 2SA673 SI 80MHZ (AP73 ONLY)	Q901	2312171	TR 2SC3852
Q117	2320637M	TR 2SA673 SI 80MHZ (AP73 ONLY)	Q902	2312171	TR 2SC3852
Q118	2325691R	TR CHIP(2SC2412KQ/R)	Q903	2321112M	TR2SA778AK(02 )
Q119	2325781R	2SA1037KT146Q/R	Q905	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
Q301	2325691R	TR CHIP(2SC2412KQ/R) (AP74 ONLY)	Q906	2320591M	TR 2SC458 (B TZ/C TZ) SI 230MHZ
Q302	2325691R	TR CHIP(2SC2412KQ/R) (AP74 ONLY)	Q907	2324322M	TR 2SC2610-05 TZ





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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
RG03	0195975R	RMC73S-2A105JR	RG63	0195975R	RMC73S-2A105JR
RG04	0195975R	RMC73S-2A105JR	RG64	0195975R	RMC73S-2A105JR
RG05	0195975R	RMC73S-2A105JR	RG65	0195975R	RMC73S-2A105JR
RG06	0195975R	RMC73S-2A105JR	RG66	0195975R	RMC73S-2A105JR
RG07	0195975R	RMC73S-2A105JR	RG67	0195912R	RES 2125 CHIP 1/16W 3.3KJ
RG08	0195900R	RES 2125 CHIP 1/16W 1KJ (AP73 ONLY)	RG68	0195925R	RES 2125 CHIP 1/16W 10KJ
RG09	0195900R	RES 2125 CHIP 1/16W 1KJ	RG69	0195925R	RES 2125 CHIP 1/16W 10KJ
RG10	0195975R	RMC73S-2A105JR	RG70	0195941R	RES 2125 CHIP 1/16W 47KJ
RG11	0195975R	RMC73S-2A105JR	RG71	0195921R	RES. MINI-CHIP RMC1/16 7.5K-J
RG12	0195975R	RMC73S-2A105JR	RG72	0195921R	RES. MINI-CHIP RMC1/16 7.5K-J
RG13	0195975R	RMC73S-2A105JR	RG73	0195900R	RES 2125 CHIP 1/16W 1KJ
RG14	0195975R	RMC73S-2A105JR	RG74	0195941R	RES 2125 CHIP 1/16W 47KJ
RG15	0195975R	RMC73S-2A105JR	RG75	0195941R	RES 2125 CHIP 1/16W 47KJ
RG16	0195975R	RMC73S-2A105JR	RG76	0195900R	RES 2125 CHIP 1/16W 1KJ
RG19	0195900R	RES 2125 CHIP 1/16W 1KJ	RG77	0195900R	RES 2125 CHIP 1/16W 1KJ
RG20	0195941R	RES 2125 CHIP 1/16W 47KJ	RG78	0195941R	RES 2125 CHIP 1/16W 47KJ
RG21	0195941R	RES 2125 CHIP 1/16W 47KJ	RG79	0195941R	RES 2125 CHIP 1/16W 47KJ
RG22	0195900R	RES 2125 CHIP 1/16W 1KJ	RG80	0195900R	RES 2125 CHIP 1/16W 1KJ
RG23	0195900R	RES 2125 CHIP 1/16W 1KJ	RG81	0195900R	RES 2125 CHIP 1/16W 1KJ
RG24	0195941R	RES 2125 CHIP 1/16W 47KJ	RG82	0195941R	RES 2125 CHIP 1/16W 47KJ
RG25	0195941R	RES 2125 CHIP 1/16W 47KJ	RG83	0195941R	RES 2125 CHIP 1/16W 47KJ
RG26	0195900R	RES 2125 CHIP 1/16W 1KJ	RG84	0195900R	RES 2125 CHIP 1/16W 1KJ
RG27	0195900R	RES 2125 CHIP 1/16W 1KJ	RG85	0195941R	RES 2125 CHIP 1/16W 47KJ
RG28	0195941R	RES 2125 CHIP 1/16W 47KJ	RG86	0195900R	RES 2125 CHIP 1/16W 1KJ
RG29	0195941R	RES 2125 CHIP 1/16W 47KJ	RG87	0195925R	RES 2125 CHIP 1/16W 10KJ
RG30	0195900R	RES 2125 CHIP 1/16W 1KJ	RG88	0700041M	CF 1/16W 1.0K-JB (AP73 ONLY)
RG31	0195900R	RES 2125 CHIP 1/16W 1KJ	RG91	0114149M	CF SRD 1/4 PF 560-J
RG32	0195941R	RES 2125 CHIP 1/16W 47KJ	RK01	0700046M	CF 1/16W 2.7K-JB
RG33	0195941R	RES 2125 CHIP 1/16W 47KJ	RK02	0700046M	CF 1/16W 2.7K-JB
RG34	0195900R	RES 2125 CHIP 1/16W 1KJ	RK03	0700046M	CF 1/16W 2.7K-JB
RG35	0195900R	RES 2125 CHIP 1/16W 1KJ	RK04	0700046M	CF 1/16W 2.7K-JB
RG36	0195941R	RES 2125 CHIP 1/16W 47KJ	RK05	0700046M	CF 1/16W 2.7K-JB
RG37	0195941R	RES 2125 CHIP 1/16W 47KJ	RK06	0700046M	CF 1/16W 2.7K-JB
RG38	0195900R	RES 2125 CHIP 1/16W 1KJ	RK07	0700046M	CF 1/16W 2.7K-JB
RG39	0195900R	RES 2125 CHIP 1/16W 1KJ	RK08	0700046M	CF 1/16W 2.7K-JB
RG40	0195941R	RES 2125 CHIP 1/16W 47KJ	RK09	0100057M	CF 1/8W 470-JB
RG41	0195941R	RES 2125 CHIP 1/16W 47KJ	RK10	0700042M	CF 1/16W 1.2K-JB
RG42	0195900R	RES 2125 CHIP 1/16W 1KJ	RK11	0700041M	CF 1/16W 1.0K-JB
RG43	0195900R	RES 2125 CHIP 1/16W 1KJ	RK12	0700041M	CF 1/16W 1.0K-JB
RG44	0195941R	RES 2125 CHIP 1/16W 47KJ	RK13	0700041M	CF 1/16W 1.0K-JB
RG45	0195941R	RES 2125 CHIP 1/16W 47KJ	RK14	0700052M	CF 1/16W 6.8K-JB
RG46	0195900R	RES 2125 CHIP 1/16W 1KJ	RK15	0700046M	CF 1/16W 2.7K-JB
RG47	0195921R	RES. MINI-CHIP RMC1/16 7.5K-J	RK16	0700049M	CF 1/16W 4.7K-JB
RG48	0195921R	RES. MINI-CHIP RMC1/16 7.5K-J	RK17	0700047M	CF 1/16W 3.3K-JB
RG49	0195941R	RES 2125 CHIP 1/16W 47KJ	RK18	0700048M	CF 1/16W 3.9K-JB
RG50	0195941R	RES 2125 CHIP 1/16W 47KJ	RK19	0100125M	CF 1/8W 330K-JB
RG51	0195921R	RES. MINI-CHIP RMC1/16 7.5K-J	RK22	0700041M	CF 1/16W 1.0K-JB
RG52	0195921R	RES. MINI-CHIP RMC1/16 7.5K-J	RK23	0700051M	CF 1/16W 5.6K-JB
RG54	0195900R	RES 2125 CHIP 1/16W 1KJ (AP74 ONLY)	RK24	0700044M	CF 1/16W 1.8K-JB
RG54	0700041M	CF 1/16W 1.0K-JB (AP73 ONLY)	RK25	0700063M	CF 1/16W 47K-JB
RG55	0114149M	CF SRD 1/4 PF 560-J	RK26	0700063M	CF 1/16W 47K-JB
RG56	0195925R	RES 2125 CHIP 1/16W 10KJ	RK27	0700054M	CF 1/16W 10K-JB
RG57	0195912R	RES 2125 CHIP 1/16W 3.3KJ	RK28	0700027M	CF 1/16W 100-JB
RG58	0195925R	RES 2125 CHIP 1/16W 10KJ	RK29	0700027M	CF 1/16W 100-JB
RG59	0195912R	RES 2125 CHIP 1/16W 3.3KJ	RK30	0700027M	CF 1/16W 100-JB
RG60	0195975R	RMC73S-2A105JR	RK31	0700041M	CF 1/16W 1.0K-JB
RG61	0195975R	RMC73S-2A105JR	RK32	0700041M	CF 1/16W 1.0K-JB
RG62	0195975R	RMC73S-2A105JR	RK33	0700041M	CF 1/16W 1.0K-JB

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
RK34	0700063M	CF 1/16W 47K-JB	RM02	0700058M	CF 1/16W 22K-JB
RK35	0700063M	CF 1/16W 47K-JB	RM02	0700058M	CF 1/16W 22K-JB
RK36	0700063M	CF 1/16W 47K-JB	RM03	0700045M	CF 1/16W 2.2K-JB
RK37	0700063M	CF 1/16W 47K-JB	RM03	0700045M	CF 1/16W 2.2K-JB
RK38	0700063M	CF 1/16W 47K-JB	RM04	0100065M	CF 1/8W 1K-JB
RK39	0700063M	CF 1/16W 47K-JB	RM04	0100065M	CF 1/8W 1K-JB
RK40	0700047M	CF 1/16W 3.3K-JB	RM05	0100065M	CF 1/8W 1K-JB
RK42	AT01552S	MF (2.7OHM 1W )	RM05	0100065M	CF 1/8W 1K-JB
RK43	0110229S	MF 220-JS	RM06	0700041M	CF 1/16W 1.0K-JB
RK44	0700047M	CF 1/16W 3.3K-JB	RM06	0700041M	CF 1/16W 1.0K-JB
RK46	AT01547S	MF(1.8OHM 1W ) (AP74 ONLY)	RM07	0700043M	CF 1/16W 1.5K-JB
RK46	AT01549S	MF(2.2OHM 1W ) (AP73 ONLY)	RM07	0700043M	CF 1/16W 1.5K-JB
RK47	0110225S	MF 150-JS 2W	RM08	0700046M	CF 1/16W 2.7K-JB
RK48	0700047M	CF 1/16W 3.3K-JB	RM08	0700046M	CF 1/16W 2.7K-JB
RK50	AT01552S	MF(2.7OHM 1W ) (AP74 ONLY)	RM09	0700049M	CF 1/16W 4.7K-JB
RK50	AT01554S	MF(3.3OHM 1W ) (AP73 ONLY)	RM09	0700041M	CF 1/16W 1.0K-JB
RK51	0110229S	MF 220-JS	RM10	0100129M	CF 1/8W 470K-JB
RK52	0700047M	CF 1/16W 3.3K-JB	RM10	0100129M	CF 1/8W 470K-JB
RK54	AT01545S	MF(1.5OHM 1W ) (AP74 ONLY)	RM11	0700041M	CF 1/16W 1.0K-JB
RK54	AT01549S	MF(2.2OHM 1W ) (AP73 ONLY)	RM11	0700041M	CF 1/16W 1.0K-JB
RK55	0110225S	MF 150-JS 2W	RM12	0100125M	CF 1/8W 330K-JB
RK56	0700047M	CF 1/16W 3.3K-JB	RM12	0100125M	CF 1/8W 330K-JB
RK58	AT01556S	MF(3.9OHM 1W )	RM13	0100073M	CF 1/8W 2.2K-JB
RK59	0110229S	MF 220-JS	RM13	0114149M	CF SRD 1/4 PF 560-J (AP74 ONLY)
RK60	0700047M	CF 1/16W 3.3K-JB	RM13	0114149M	CF SRD 1/4 PF 560-J (AP73 ONLY)
RK62	AT01549S	MF(2.2OHM 1W ) (AP74 ONLY)	RM14	0100125M	CF 1/8W 330K-JB
RK62	AT01554S	MF(3.3OHM 1W ) (AP73 ONLY)	RM14	0100125M	CF 1/8W 330K-JB
RK63	0110225S	MF 150-JS 2W	RM15	0700054M	CF 1/16W 10K-JB
RK64	0700063M	CF 1/16W 47K-JB	RM15	0700054M	CF 1/16W 10K-JB
RK90	0700054M	CF 1/16W 10K-JB	RM20	0100041M	CF 1/8W 100-JB
RK99	0113698M	CF 1/2W 8.2-J	RM20	0100041M	CF 1/8W 100-JB
RL10	0100129M	CF 1/8W 470K-JB	RM21	0700041M	CF 1/16W 1.0K-JB
RL11	0100129M	CF 1/8W 470K-JB	RM21	0700041M	CF 1/16W 1.0K-JB
RL12	0100129M	CF 1/8W 470K-JB	RM22	0700041M	CF 1/16W 1.0K-JB
RL13	0100129M	CF 1/8W 470K-JB	RM22	0700041M	CF 1/16W 1.0K-JB
RL14	0100129M	CF 1/8W 470K-JB	RM23	0700064M	CF 1/16W 56K-JB
RL15	0100129M	CF 1/8W 470K-JB	RM23	0700064M	CF 1/16W 56K-JB
RL16	0100129M	CF 1/8W 470K-JB	RM24	0700045M	CF 1/16W 2.2K-JB
RL17	0100129M	CF 1/8W 470K-JB	RM24	0700045M	CF 1/16W 2.2K-JB
RL20	0100133M	CF 1/8W 680K-JB	RM25	0100123M	CF 1/8W 270K-JB
RL21	0100121M	CF 1/8W 220K-JB	RM25	0700064M	CF 1/16W 56K-JB
RL22	0100133M	CF 1/8W 680K-JB	RM26	0700047M	CF 1/16W 3.3K-JB
RL23	0100129M	CF 1/8W 470K-JB	RM26	0700047M	CF 1/16W 3.3K-JB
RL24	0100133M	CF 1/8W 680K-JB	RM27	0700064M	CF 1/16W 56K-JB
RL25	0100121M	CF 1/8W 220K-JB	RM27	0700064M	CF 1/16W 56K-JB
RL26	0100133M	CF 1/8W 680K-JB	RM28	0100123M	CF 1/8W 270K-JB
RL27	0100129M	CF 1/8W 470K-JB	RM28	0100123M	CF 1/8W 270K-JB
RL30	0700027M	CF 1/16W 100-JB	RM29	0700041M	CF 1/16W 1.0K-JB
RL31	0700027M	CF 1/16W 100-JB	RM29	0700041M	CF 1/16W 1.0K-JB
RL32	0700027M	CF 1/16W 100-JB	RM30	0700041M	CF 1/16W 1.0K-JB
RL33	0700027M	CF 1/16W 100-JB	RM30	0700041M	CF 1/16W 1.0K-JB
RL34	0700027M	CF 1/16W 100-JB	RM31	0100041M	CF 1/8W 100-JB
RL35	0700027M	CF 1/16W 100-JB	RM31	0100041M	CF 1/8W 100-JB
RL36	0700027M	CF 1/16W 100-JB	RM32	0187038M	CF 1/16W 75-J
RL37	0700027M	CF 1/16W 100-JB	RM32	0187038M	CF 1/16W 75-J
RL38	0700049M	CF 1/16W 4.7K-JB	RM33	0187038M	CF 1/16W 75-J
RM01	0700041M	CF 1/16W 1.0K-JB	RM33	0187038M	CF 1/16W 75-J
RM01	0700041M	CF 1/16W 1.0K-JB	RM34	0700063M	CF 1/16W 47K-JB

## REPLACEMENT PARTS LIST

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
RM34	0700063M	CF 1/16W 47K-JB	RS36	0195929R	RES 2125 CHIP 1/16W 15KJ
RM35	0700041M	CF 1/16W 1.0K-JB	RS37	0195929R	RES 2125 CHIP 1/16W 15KJ
RM35	0700041M	CF 1/16W 1.0K-JB	RS38	0195900R	RES 2125 CHIP 1/16W 1KJ
RM36	0700058M	CF 1/16W 22K-JB	RS39	0195925R	RES 2125 CHIP 1/16W 10KJ
RM36	0700058M	CF 1/16W 22K-JB	RS40	0195900R	RES 2125 CHIP 1/16W 1KJ
RM37	0187038M	CF 1/16W 75-J	RS41	0195887R	RES 2125 CHIP 1/16W 330J
RM37	0187038M	CF 1/16W 75-J	RS42	0195900R	RES 2125 CHIP 1/16W 1KJ
RM38	0700041M	CF 1/16W 1.0K-JB	RS43	0195250R	RES 2125 CHIP 1/16W 000
RM39	0700041M	CF 1/16W 1.0K-JB	RS44	0195933R	RES 2125 CHIP 1/16W 22KJ
RN01	0700057M	CF 1/16W 18K-JB	RS45	0195950R	RES 2125 CHIP 1/16W 100KJ
RN02	0700041M	CF 1/16W 1.0K-JB	RS46	0195950R	RES 2125 CHIP 1/16W 100KJ
RN03	0700041M	CF 1/16W 1.0K-JB	RS47	0195900R	RES 2125 CHIP 1/16W 1KJ
RN04	0100113M	CF 1/8W 100K-JB	RS70	0195950R	RES 2125 CHIP 1/16W 100KJ
RN05	0700052M	CF 1/16W 6.8K-JB	RS71	0195950R	RES 2125 CHIP 1/16W 100KJ
RN06	0700054M	CF 1/16W 10K-JB	RS78	0195925R	RES 2125 CHIP 1/16W 10KJ
RN07	0700051M	CF 1/16W 5.6K-JB	RS79	0195908R	RES 2125 CHIP 1/10W 2.2KJ
RN08	0700044M	CF 1/16W 1.8K-JB	RS80	0195941R	RES 2125 CHIP 1/16W 47KJ
RN09	0700061M	CF 1/16W 33K-JB	RS81	0195950R	RES 2125 CHIP 1/16W 100KJ
RN10	0700057M	CF 1/16W 18K-JB	RS82	0195941R	RES 2125 CHIP 1/16W 47KJ
RN11	0700058M	CF 1/16W 22K-JB	RS97	0195925R	RES 2125 CHIP 1/16W 10KJ
RN12	0700051M	CF 1/16W 5.6K-JB	RS98	0195925R	RES 2125 CHIP 1/16W 10KJ
RN13	0700054M	CF 1/16W 10K-JB	RSA1	0195900R	RES 2125 CHIP 1/16W 1KJ
RN14	0700054M	CF 1/16W 10K-JB	RSA2	0195900R	RES 2125 CHIP 1/16W 1KJ
RN15	0700064M	CF 1/16W 56K-JB	RSA3	0195875R	RES 2125 CHIP 1/16W 100J
RN16	0700041M	CF 1/16W 1.0K-JB	RSA5	0195875R	RES 2125 CHIP 1/16W 100J
RN17	0700059M	CF 1/16W 27K-JB	RSC5	0195908R	RES 2125 CHIP 1/10W 2.2KJ
RN18	0700041M	CF 1/16W 1.0K-JB	RSC6	0195908R	RES 2125 CHIP 1/10W 2.2KJ
RS01	0195900R	RES 2125 CHIP 1/16W 1KJ	RSC8	0195908R	RES 2125 CHIP 1/10W 2.2KJ
RS02	0195900R	RES 2125 CHIP 1/16W 1KJ	RSC9	0195908R	RES 2125 CHIP 1/10W 2.2KJ
RS03	0195900R	RES 2125 CHIP 1/16W 1KJ	RSE2	0195925R	RES 2125 CHIP 1/16W 10KJ
RS04	0195950R	RES 2125 CHIP 1/16W 100KJ	RSE3	0195925R	RES 2125 CHIP 1/16W 10KJ
RS05	0195950R	RES 2125 CHIP 1/16W 100KJ	RSE4	0195891R	RES 2125 CHIP 1/16W 470J
RS06	0195950R	RES 2125 CHIP 1/16W 100KJ	RSE5	0195900R	RES 2125 CHIP 1/16W 1KJ
RS07	0195950R	RES 2125 CHIP 1/16W 100KJ	RSE6	0195933R	RES 2125 CHIP 1/16W 22KJ
RS08	0195950R	RES 2125 CHIP 1/16W 100KJ	RSE8	0119505G	MF 2.2-J
RS09	0195950R	RES 2125 CHIP 1/16W 100KJ	RSE9	0119505G	MF 2.2-J
RS11	0195250R	RES 2125 CHIP 1/16W 000	RSF1	0114161M	CF 1/4W 1K-JB
RS13	0195250R	RES 2125 CHIP 1/16W 000	RSF2	0114161M	CF 1/4W 1K-JB
RS14	0195250R	RES 2125 CHIP 1/16W 000	RSF5	0195945R	RES 2125 CHIP 1/16W 68KJ
RS15	0195250R	RES 2125 CHIP 1/16W 000	RSF6	0195945R	RES 2125 CHIP 1/16W 68KJ
RS16	0195975R	RMC73S-2A105JR	RSH4	0195925R	RES 2125 CHIP 1/16W 10KJ
RS17	0195941R	RES 2125 CHIP 1/16W 47KJ	RSH5	0195875R	RES 2125 CHIP 1/16W 100J
RS18	0195918R	RES 2125 CHIP 1/16W 5.6KJ	RSH7	0195875R	RES 2125 CHIP 1/16W 100J
RS19	0195943R	RES 2125 CHIP 1/16W 56KJ	RSH9	0195248R	RES 3216 CHIP 1/8 W 000
RS20	0195932R	RES 2125 CHIP 1/10W 20KJ	RSM1	0195250R	RES 2125 CHIP 1/16W 000
RS21	0195939R	RMC73S-2A393JR	RSM2	0195248R	RES 3216 CHIP 1/8 W 000
RS22	0195900R	RES 2125 CHIP 1/16W 1KJ	RSM3	0195250R	RES 2125 CHIP 1/16W 000
RS23	0195900R	RES 2125 CHIP 1/16W 1KJ	RSM4	0195250R	RES 2125 CHIP 1/16W 000
RS24	0195900R	RES 2125 CHIP 1/16W 1KJ	RSM5	0195250R	RES 2125 CHIP 1/16W 000
RS25	0195933R	RES 2125 CHIP 1/16W 22KJ	RSM6	0195248R	RES 3216 CHIP 1/8 W 000
RS26	0195933R	RES 2125 CHIP 1/16W 22KJ	RSM7	0195248R	RES 3216 CHIP 1/8 W 000
RS27	0195933R	RES 2125 CHIP 1/16W 22KJ	RSM8	0195248R	RES 3216 CHIP 1/8 W 000
RS28	0100059M	CF 1/8W 560-JB	RSM9	0195248R	RES 3216 CHIP 1/8 W 000
RS29	0195950R	RES 2125 CHIP 1/16W 100KJ	RSN1	0195248R	RES 3216 CHIP 1/8 W 000
RS30	0195950R	RES 2125 CHIP 1/16W 100KJ	RSN2	0195248R	RES 3216 CHIP 1/8 W 000
RS31	0179561M	MG 2.2M-J	RSN3	0195248R	RES 3216 CHIP 1/8 W 000
RS32	0195916R	RES 2125 CHIP 1/16W 4.7KJ	RSN4	0195250R	RES 2125 CHIP 1/16W 000 (AP73 ONLY)
RS33	0195929R	RES 2125 CHIP 1/16W 15KJ	RSN8	0195250R	RES 2125 CHIP 1/16W 000



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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
RY57	0195897R	RES 2125 CHIP 1/16W 820J	R060	0700041M	CF 1/16W 1.0K-JB
RY66	0195879R	RES 2125 CHIP 1/16W 150J	R061	0195891R	RES 2125 CHIP 1/16W 470J
RY67	0195897R	RES 2125 CHIP 1/16W 820J	R062	0195891R	RES 2125 CHIP 1/16W 470J
RY68	0195887R	RES 2125 CHIP 1/16W 330J	R063	0195891R	RES 2125 CHIP 1/16W 470J
RY69	0700032M	CF 1/16W 220-JB	R064	0195891R	RES 2125 CHIP 1/16W 470J
RY70	0700041M	CF 1/16W 1.0K-JB	R066	0700027M	CF 1/16W 100-JB
RY71	0700027M	CF 1/16W 100-JB (AP73 ONLY)	R067	0700051M	CF 1/16W 5.6K-JB
RY72	0700027M	CF 1/16W 100-JB (AP73 ONLY)	R068	0700027M	CF 1/16W 100-JB
RY73	0195875R	RES 2125 CHIP 1/16W 100J	R069	0700041M	CF 1/16W 1.0K-JB
RY74	0195897R	RES 2125 CHIP 1/16W 820J	R070	0195918R	RES 2125 CHIP 1/16W 5.6KJ
RY77	0195960R	RES. MINI-CHIP RMC1/16 270K-J	R071	0700041M	CF 1/16W 1.0K-JB
RY78	0195960R	RES. MINI-CHIP RMC1/16 270K-J	R072	0700058M	CF 1/16W 22K-JB
RY79	0700027M	CF 1/16W 100-JB	R073	0700041M	CF 1/16W 1.0K-JB
RY84	0195893R	RES 2125 CHIP 1/16W 560J	R074	0195941R	RES 2125 CHIP 1/16W 47KJ
R001	0195925R	RES 2125 CHIP 1/16W 10KJ	R075	0195941R	RES 2125 CHIP 1/16W 47KJ
R002	0195947R	RES.2125 CHIP 1/10W 82KJ	R076	0195900R	RES 2125 CHIP 1/16W 1KJ
R003	0195918R	RES 2125 CHIP 1/16W 5.6KJ	R078	0700027M	CF 1/16W 100-JB
R004	0195950R	RES 2125 CHIP 1/16W 100KJ	R079	0195933R	RES.2125 CHIP 1/16W 22KJ
R005	0700063M	CF 1/16W 47K-JB	R081	0195918R	RES 2125 CHIP 1/16W 5.6KJ
R008	0195941R	RES 2125 CHIP 1/16W 47KJ	R082	0195883R	RES 2125 CHIP 1/16W 220J
R009	0195925R	RES 2125 CHIP 1/16W 10KJ	R083	0195900R	RES 2125 CHIP 1/16W 1KJ
R010	0195925R	RES 2125 CHIP 1/16W 10KJ	R085	0195900R	RES 2125 CHIP 1/16W 1KJ
R011	0195900R	RES 2125 CHIP 1/16W 1KJ	R086	0195900R	RES 2125 CHIP 1/16W 1KJ
R012	0195945R	RES 2125 CHIP 1/16W 68KJ	R087	0700041M	CF 1/16W 1.0K-JB
R014	0195925R	RES 2125 CHIP 1/16W 10KJ	R088	0700041M	CF 1/16W 1.0K-JB
R015	0195927R	RES 2125 CHIP 1/16W 12KJ	R089	0195875R	RES 2125 CHIP 1/16W 100J
R016	0700051M	CF 1/16W 5.6K-JB	R090	0195900R	RES 2125 CHIP 1/16W 1KJ
R017	0195900R	RES 2125 CHIP 1/16W 1KJ	R093	0700067M	CF 1/16W 100K-JB
R021	0195925R	RES 2125 CHIP 1/16W 10KJ	R096	0195925R	RES 2125 CHIP 1/16W 10KJ
R022	0195900R	RES 2125 CHIP 1/16W 1KJ	R099	0700041M	CF 1/16W 1.0K-JB
R023	0195933R	RES.2125 CHIP 1/16W 22KJ	ROA2	0700041M	CF 1/16W 1.0K-JB
R024	0700054M	CF 1/16W 10K-JB	ROA4	0195925R	RES 2125 CHIP 1/16W 10KJ
R025	0700041M	CF 1/16W 1.0K-JB	ROA5	0700027M	CF 1/16W 100-JB
R026	0195925R	RES 2125 CHIP 1/16W 10KJ	ROA6	0195893R	RES 2125 CHIP 1/16W 560J
R029	0195900R	RES 2125 CHIP 1/16W 1KJ	ROA7	0195875R	RES 2125 CHIP 1/16W 100J
R034	0195925R	RES 2125 CHIP 1/16W 10KJ	ROA8	0700041M	CF 1/16W 1.0K-JB
R035	0195933R	RES.2125 CHIP 1/16W 22KJ	ROA9	0700041M	CF 1/16W 1.0K-JB
R036	0195875R	RES 2125 CHIP 1/16W 100J	ROC1	0700041M	CF 1/16W 1.0K-JB
R037	0195933R	RES.2125 CHIP 1/16W 22KJ	ROC3	0195933R	RES.2125 CHIP 1/16W 22KJ
R038	0195875R	RES 2125 CHIP 1/16W 100J	ROC4	0195900R	RES 2125 CHIP 1/16W 1KJ
R040	0195900R	RES 2125 CHIP 1/16W 1KJ	ROC5	0700027M	CF 1/16W 100-JB
R041	0195900R	RES 2125 CHIP 1/16W 1KJ	ROC6	0700027M	CF 1/16W 100-JB
R042	0195918R	RES 2125 CHIP 1/16W 5.6KJ	ROC7	0195929R	RES 2125 CHIP 1/16W 15KJ
R043	0195875R	RES 2125 CHIP 1/16W 100J	ROE2	0195925R	RES 2125 CHIP 1/16W 10KJ
R044	0195933R	RES.2125 CHIP 1/16W 22KJ	ROE3	0114149M	CF SRD 1/4 PF 560-J
R045	0700041M	CF 1/16W 1.0K-JB	ROE4	0195933R	RES.2125 CHIP 1/16W 22KJ
R046	0195933R	RES.2125 CHIP 1/16W 22KJ	ROE5	0700041M	CF 1/16W 1.0K-JB
R047	0700041M	CF 1/16W 1.0K-JB	ROE6	0195941R	RES 2125 CHIP 1/16W 47KJ
R048	0195933R	RES.2125 CHIP 1/16W 22KJ	ROE7	0700055M	CF 1/16W 12K-JB
R049	0700041M	CF 1/16W 1.0K-JB	ROE8	0195925R	RES 2125 CHIP 1/16W 10KJ
R050	0195933R	RES.2125 CHIP 1/16W 22KJ	ROF7	0195950R	RES 2125 CHIP 1/16W 100KJ
R051	0700041M	CF 1/16W 1.0K-JB	ROF8	0195900R	RES 2125 CHIP 1/16W 1KJ
R052	0195933R	RES.2125 CHIP 1/16W 22KJ (AP74 ONLY)	ROF9	0195918R	RES 2125 CHIP 1/16W 5.6KJ
R053	0195900R	RES 2125 CHIP 1/16W 1KJ (AP74 ONLY)	ROG1	0100123M	CF 1/8W 270K-JB
R055	0700027M	CF 1/16W 100-JB	ROG5	0195875R	RES 2125 CHIP 1/16W 100J
R056	0700027M	CF 1/16W 100-JB	ROG6	0195875R	RES 2125 CHIP 1/16W 100J
R058	0700041M	CF 1/16W 1.0K-JB (AP74 ONLY)	ROG7	0195900R	RES 2125 CHIP 1/16W 1KJ
R059	0195933R	RES.2125 CHIP 1/16W 22KJ	ROG8	0195925R	RES 2125 CHIP 1/16W 10KJ

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R0G9	0700041M	CF 1/16W 1.0K-JB	R111	0700027M	CF 1/16W 100-JB
R0H1	0700041M	CF 1/16W 1.0K-JB	R112	0195925R	RES 2125 CHIP 1/16W 10KJ
R0H2	0195916R	RES 2125 CHIP 1/16W 4.7KJ	R113	0195918R	RES 2125 CHIP 1/16W 5.6KJ
R0H3	0195933R	RES.2125 CHIP 1/16W 22KJ	R114	0700041M	CF 1/16W 1.0K-JB
R0H4	0195950R	RES 2125 CHIP 1/16W 100KJ	R115	0700041M	CF 1/16W 1.0K-JB
R0H5	0195916R	RES 2125 CHIP 1/16W 4.7KJ	R116	0700041M	CF 1/16W 1.0K-JB
R0H6	0195881R	RES 2125 CHIP 1/16W 180J	R117	0700041M	CF 1/16W 1.0K-JB
R0H7	0195947R	RES.2125 CHIP 1/10W 82KJ	R118	0100059M	CF 1/8W 560-JB
R0H8	0700064M	CF 1/16W 56K-JB	R119	0100059M	CF 1/8W 560-JB
R0L5	0195925R	RES 2125 CHIP 1/16W 10KJ	R121	0700041M	CF 1/16W 1.0K-JB
R0L6	0700041M	CF 1/16W 1.0K-JB	R122	0700041M	CF 1/16W 1.0K-JB
R0L7	0700063M	CF 1/16W 47K-JB	R123	0195900R	RES 2125 CHIP 1/16W 1KJ
R0M2	0195916R	RES 2125 CHIP 1/16W 4.7KJ	R124	0700027M	CF 1/16W 100-JB
R0M3	0195925R	RES 2125 CHIP 1/16W 10KJ	R125	0700027M	CF 1/16W 100-JB
R0M4	AW00074	TRIMMER RES	R126	0195935R	RMC73S-2A273JR
R0M5	0700032M	CF 1/16W 220-JB	R127	0195900R	RES 2125 CHIP 1/16W 1KJ
R0M6	AW00074	TRIMMER RES	R128	0700041M	CF 1/16W 1.0K-JB
R0M7	0700032M	CF 1/16W 220-JB	R129	0195925R	RES 2125 CHIP 1/16W 10KJ
R0M8	AW00074	TRIMMER RES	R132	0700063M	CF 1/16W 47K-JB
R0M9	0700032M	CF 1/16W 220-JB	R133	0700063M	CF 1/16W 47K-JB
R0N1	0700041M	CF 1/16W 1.0K-JB	R134	0700041M	CF 1/16W 1.0K-JB
R0N2	0700041M	CF 1/16W 1.0K-JB	R135	0195900R	RES 2125 CHIP 1/16W 1KJ
R0N3	0195900R	RES 2125 CHIP 1/16W 1KJ	R136	0195939R	RMC73S-2A393JR
R0N4	0195900R	RES 2125 CHIP 1/16W 1KJ	R137	0700041M	CF 1/16W 1.0K-JB
R0N8	0195925R	RES 2125 CHIP 1/16W 10KJ	R138	0195925R	RES 2125 CHIP 1/16W 10KJ
R0N9	0195933R	RES.2125 CHIP 1/16W 22KJ	R139	0195941R	RES 2125 CHIP 1/16W 47KJ (AP74 ONLY)
R0P1	0700041M	CF 1/16W 1.0K-JB	R140	0195941R	RES 2125 CHIP 1/16W 47KJ (AP74 ONLY)
R0P2	0700054M	CF 1/16W 10K-JB	R141	0195893R	RES 2125 CHIP 1/16W 560J
R0P3	0700041M	CF 1/16W 1.0K-JB	R142	0700054M	CF 1/16W 10K-JB
R0P5	0195941R	RES 2125 CHIP 1/16W 47KJ	R144	0700054M	CF 1/16W 10K-JB
R0P6	0195925R	RES 2125 CHIP 1/16W 10KJ	R146	0700027M	CF 1/16W 100-JB
R0P7	0700041M	CF 1/16W 1.0K-JB (AP74 ONLY)	R147	0700027M	CF 1/16W 100-JB
R0P8	0700058M	CF 1/16W 22K-JB	R148	0195875R	RES 2125 CHIP 1/16W 100J
R0P9	0195925R	RES 2125 CHIP 1/16W 10KJ	R149	0195875R	RES 2125 CHIP 1/16W 100J
R0R1	0195900R	RES 2125 CHIP 1/16W 1KJ	R150	0195893R	RES 2125 CHIP 1/16W 560J
R0R3	0700027M	CF 1/16W 100-JB	R151	0195891R	RES 2125 CHIP 1/16W 470J
R0R4	0195875R	RES 2125 CHIP 1/16W 100J	R152	0195891R	RES 2125 CHIP 1/16W 470J
R0R5	0195875R	RES 2125 CHIP 1/16W 100J	R153	0195891R	RES 2125 CHIP 1/16W 470J
R0R6	0700041M	CF 1/16W 1.0K-JB	R154	0700036M	CF 1/16W 470-JB
R0R7	0195933R	RES.2125 CHIP 1/16W 22KJ	R155	0195900R	RES 2125 CHIP 1/16W 1KJ
R0R8	0195900R	RES 2125 CHIP 1/16W 1KJ	R156	0700065M	CF 1/16W 68K-JB
R0R9	0195900R	RES 2125 CHIP 1/16W 1KJ	R157	0179600M	MG 10M-J
R0T1	0195925R	RES 2125 CHIP 1/16W 10KJ	R158	0195875R	RES 2125 CHIP 1/16W 100J
R0T2	0195925R	RES 2125 CHIP 1/16W 10KJ	R159	0700027M	CF 1/16W 100-JB
R0T4	0195895R	RES.2125 CHIP 1/10W 680J	R160	0195925R	RES 2125 CHIP 1/16W 10KJ
R0T5	0195875R	RES 2125 CHIP 1/16W 100J	R161	0700054M	CF 1/16W 10K-JB
R0T6	0195904R	RES 2125 CHIP 1/16W 1.5KJ	R163	0700027M	CF 1/16W 100-JB
R0T7	0195897R	RES 2125 CHIP 1/16W 820J	R164	0700027M	CF 1/16W 100-JB
R0T8	0700063M	CF 1/16W 47K-JB	R165	0700027M	CF 1/16W 100-JB
R101	0700039M	CF 1/16W 820-JB	R166	0700027M	CF 1/16W 100-JB
R102	0195900R	RES 2125 CHIP 1/16W 1KJ	R167	0195883R	RES 2125 CHIP 1/16W 220J
R103	0195895R	RES.2125 CHIP 1/10W 680J	R168	0195883R	RES 2125 CHIP 1/16W 220J
R104	0195900R	RES 2125 CHIP 1/16W 1KJ	R169	0195883R	RES 2125 CHIP 1/16W 220J
R105	0195900R	RES 2125 CHIP 1/16W 1KJ	R173	0195900R	RES 2125 CHIP 1/16W 1KJ
R106	0195895R	RES.2125 CHIP 1/10W 680J	R174	0195900R	RES 2125 CHIP 1/16W 1KJ
R107	0700054M	CF 1/16W 10K-JB	R175	0195900R	RES 2125 CHIP 1/16W 1KJ
R109	0700063M	CF 1/16W 47K-JB	R176	0100041M	CF 1/8W 100-JB
R110	0195250R	RES 2125 CHIP 1/16W 000	R177	0195875R	RES 2125 CHIP 1/16W 100J

## REPLACEMENT PARTS LIST

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R178	0195883R	RES 2125 CHIP 1/16W 220J	R3F8	0195248R	RES 3216 CHIP 1/8 W 000
R179	0195883R	RES 2125 CHIP 1/16W 220J	R3F9	0195250R	RES 2125 CHIP 1/16W 000
R180	0195883R	RES 2125 CHIP 1/16W 220J	R3G1	0195250R	RES 2125 CHIP 1/16W 000
R181	0195883R	RES 2125 CHIP 1/16W 220J	R3G2	0195250R	RES 2125 CHIP 1/16W 000
R182	0195900R	RES 2125 CHIP 1/16W 1KJ	R3G3	0195250R	RES 2125 CHIP 1/16W 000
R183	0195900R	RES 2125 CHIP 1/16W 1KJ	R3G4	0195250R	RES 2125 CHIP 1/16W 000
R184	0195900R	RES 2125 CHIP 1/16W 1KJ	R3G5	0195250R	RES 2125 CHIP 1/16W 000
R185	0195875R	RES 2125 CHIP 1/16W 100J	R3G6	0195250R	RES 2125 CHIP 1/16W 000
R186	0195925R	RES 2125 CHIP 1/16W 10KJ	R3G7	0195250R	RES 2125 CHIP 1/16W 000
R187	0195925R	RES 2125 CHIP 1/16W 10KJ	R3G8	0195250R	RES 2125 CHIP 1/16W 000
R194	0195933R	RES.2125 CHIP 1/16W 22KJ (AP74 ONLY)	R3G9	0195250R	RES 2125 CHIP 1/16W 000
R196	0700045M	CF 1/16W 2.2K-JB	R3H1	0195248R	RES 3216 CHIP 1/8 W 000
R197	0700045M	CF 1/16W 2.2K-JB	R3H2	0195250R	RES 2125 CHIP 1/16W 000 (AP73 ONLY)
R198	0700045M	CF 1/16W 2.2K-JB	R3H7	0195250R	RES 2125 CHIP 1/16W 000
R199	0195933R	RES.2125 CHIP 1/16W 22KJ	R3H8	0195248R	RES 3216 CHIP 1/8 W 000
R1A2	0700023M	CF 1/16W 47-J (AP74 ONLY)	R3H9	0195250R	RES 2125 CHIP 1/16W 000
R1A3	0700027M	CF 1/16W 100-JB (AP74 ONLY)	R3J4	0195250R	RES 2125 CHIP 1/16W 000
R1A4	0700058M	CF 1/16W 22K-JB (AP73 ONLY)	R3J5	0195250R	RES 2125 CHIP 1/16W 000
R1A5	0195925R	RES 2125 CHIP 1/16W 10KJ (AP73 ONLY)	R3J6	0195248R	RES 3216 CHIP 1/8 W 000
R1A6	0700058M	CF 1/16W 22K-JB (AP73 ONLY)	R3J7	0195248R	RES 3216 CHIP 1/8 W 000
R1A7	0700047M	CF 1/16W 3.3K-JB (AP73 ONLY)	R3J8	0195250R	RES 2125 CHIP 1/16W 000
R1A8	0700054M	CF 1/16W 10K-JB	R3J9	0195250R	RES 2125 CHIP 1/16W 000
R1A9	0195933R	RES.2125 CHIP 1/16W 22KJ	R3K1	0195248R	RES 3216 CHIP 1/8 W 000
R1B2	0700041M	CF 1/16W 1.0K-JB	R3K2	0195248R	RES 3216 CHIP 1/8 W 000
R1C1	0700037M	CF 1/16W 560-JB	R3K3	0195248R	RES 3216 CHIP 1/8 W 000
R301	0195893R	RES 2125 CHIP 1/16W 560J (AP74 ONLY)	R3K4	0195250R	RES 2125 CHIP 1/16W 000
R302	0195893R	RES 2125 CHIP 1/16W 560J (AP74 ONLY)	R3K5	0195248R	RES 3216 CHIP 1/8 W 000
R303	0195946R	RES CHIP RMC1/16 75K-J (AP74 ONLY)	R3K7	0195248R	RES 3216 CHIP 1/8 W 000
R304	0195929R	RES 2125 CHIP 1/16W 15KJ (AP74 ONLY)	R3K8	0195250R	RES 2125 CHIP 1/16W 000
R305	0195900R	RES 2125 CHIP 1/16W 1KJ (AP74 ONLY)	R3L1	0195248R	RES 3216 CHIP 1/8 W 000
R306	0195881R	RES 2125 CHIP 1/16W 180J (AP74 ONLY)	R3L2	0195250R	RES 2125 CHIP 1/16W 000
R307	0195883R	RES 2125 CHIP 1/16W 220J (AP74 ONLY)	R3L4	0195250R	RES 2125 CHIP 1/16W 000
R308	0195908R	RES.2125 CHIP 1/10W 2.2KJ (AP74 ONLY)	R3L5	0195250R	RES 2125 CHIP 1/16W 000
R311	0195883R	RES 2125 CHIP 1/16W 220J	R3L6	0195250R	RES 2125 CHIP 1/16W 000
R312	0195883R	RES 2125 CHIP 1/16W 220J	R402	0700054M	CF 1/16W 10K-JB
R3A4	0700041M	CF 1/16W 1.0K-JB	R404	0700054M	CF 1/16W 10K-JB
R3A5	0700041M	CF 1/16W 1.0K-JB	R405	0700045M	CF 1/16W 2.2K-JB
R3A6	0700032M	CF 1/16W 220-JB	R406	0700045M	CF 1/16W 2.2K-JB
R3A7	0700032M	CF 1/16W 220-JB	R407	0700045M	CF 1/16W 2.2K-JB
R3A8	0700032M	CF 1/16W 220-JB	R408	0700045M	CF 1/16W 2.2K-JB
R3C3	0700048M	CF 1/16W 3.9K-JB	R411	0700063M	CF 1/16W 47K-JB
R3C4	0700041M	CF 1/16W 1.0K-JB	R412	0700063M	CF 1/16W 47K-JB
R3E1	0195250R	RES 2125 CHIP 1/16W 000	R413	0700067M	CF 1/16W 100K-JB
R3E2	0195248R	RES 3216 CHIP 1/8 W 000	R414	0700036M	CF 1/16W 470-JB
R3E3	0195250R	RES 2125 CHIP 1/16W 000	R415	0700041M	CF 1/16W 1.0K-JB
R3E4	0195250R	RES 2125 CHIP 1/16W 000	R416	0700058M	CF 1/16W 22K-JB
R3E5	0195248R	RES 3216 CHIP 1/8 W 000	R417	0119505G	MF 2.2-J
R3E6	0195250R	RES 2125 CHIP 1/16W 000	R418	0119505G	MF 2.2-J
R3E7	0195248R	RES 3216 CHIP 1/8 W 000	R419	0700065M	CF 1/16W 68K-JB
R3E8	0195248R	RES 3216 CHIP 1/8 W 000	R420	0700065M	CF 1/16W 68K-JB
R3E9	0195248R	RES 3216 CHIP 1/8 W 000	R421	0114161M	CF 1/4W 1K-JB
R3F1	0195250R	RES 2125 CHIP 1/16W 000	R422	0114161M	CF 1/4W 1K-JB
R3F2	0195248R	RES 3216 CHIP 1/8 W 000	R424	0700065M	CF 1/16W 68K-JB
R3F3	0195248R	RES 3216 CHIP 1/8 W 000	R425	0700041M	CF 1/16W 1.0K-JB
R3F4	0195248R	RES 3216 CHIP 1/8 W 000	R426	0195933R	RES.2125 CHIP 1/16W 22KJ
R3F5	0195248R	RES 3216 CHIP 1/8 W 000	R427	0700065M	CF 1/16W 68K-JB
R3F6	0195248R	RES 3216 CHIP 1/8 W 000	R428	0700065M	CF 1/16W 68K-JB
R3F7	0195250R	RES 2125 CHIP 1/16W 000	R429	0114161M	CF 1/4W 1K-JB

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R430	0119505G	MF 2.2-J	R557	0195925R	RES 2125 CHIP 1/16W 10KJ
R431	0119505G	MF 2.2-J (AP74 ONLY)	R558	0700041M	CF 1/16W 1.0K-JB
R432	0114161M	CF 1/4W 1K-JB (AP74 ONLY)	R559	0195925R	RES 2125 CHIP 1/16W 10KJ
R433	0700063M	CF 1/16W 47K-JB	R561	0700041M	CF 1/16W 1.0K-JB
R434	0700067M	CF 1/16W 100K-JB	R562	0195875R	RES 2125 CHIP 1/16W 100J
R435	0700063M	CF 1/16W 47K-JB	R563	0195889R	RES.2125 CHIP 1/10W 390J
R436	0700045M	CF 1/16W 2.2K-JB	R564	0195885R	RES 2125 CHIP 1/16W 270J
R437	0195908R	RES.2125 CHIP 1/10W 2.2KJ	R566	0114133M	CF SRD 1/4 P 120-J
R438	0700054M	CF 1/16W 10K-JB	R567	0195908R	RES.2125 CHIP 1/10W 2.2KJ
R439	0700036M	CF 1/16W 470-JB	R568	0195875R	RES 2125 CHIP 1/16W 100J
R503	0195937R	RES.2125 CHIP 1/16W 33KJ	R569	0195925R	RES 2125 CHIP 1/16W 10KJ
R504	0700032M	CF 1/16W 220-JB	R570	0195875R	RES 2125 CHIP 1/16W 100J
R505	0700032M	CF 1/16W 220-JB	R571	0195875R	RES 2125 CHIP 1/16W 100J
R506	0195883R	RES 2125 CHIP 1/16W 220J	R572	0195941R	RES 2125 CHIP 1/16W 47KJ
R508	0195879R	RES 2125 CHIP 1/16W 150J	R573	0195941R	RES 2125 CHIP 1/16W 47KJ
R509	0195250R	RES 2125 CHIP 1/16W 000	R574	0195875R	RES 2125 CHIP 1/16W 100J
R510	0195906R	RES. MINI-CHIP RMC1/16 1.8K-J	R575	0195875R	RES 2125 CHIP 1/16W 100J
R511	0195914R	RES 2125 CHIP 1/16W 3.9KJ	R576	0195883R	RES 2125 CHIP 1/16W 220J
R512	0195875R	RES 2125 CHIP 1/16W 100J (AP74 ONLY)	R577	0195883R	RES 2125 CHIP 1/16W 220J
R513	0195875R	RES 2125 CHIP 1/16W 100J (AP74 ONLY)	R578	0195883R	RES 2125 CHIP 1/16W 220J
R514	0195875R	RES 2125 CHIP 1/16W 100J (AP74 ONLY)	R579	0114145M	CF SRD 1/4 P 390-J
R516	0195875R	RES 2125 CHIP 1/16W 100J	R580	0114145M	CF SRD 1/4 P 390-J
R517	0195900R	RES 2125 CHIP 1/16W 1KJ	R581	0114145M	CF SRD 1/4 P 390-J
R518	0195904R	RES 2125 CHIP 1/16W 1.5KJ	R582	0195883R	RES 2125 CHIP 1/16W 220J
R519	0195900R	RES 2125 CHIP 1/16W 1KJ	R583	0195883R	RES 2125 CHIP 1/16W 220J
R520	0195904R	RES 2125 CHIP 1/16W 1.5KJ	R584	0195883R	RES 2125 CHIP 1/16W 220J
R521	0195941R	RES 2125 CHIP 1/16W 47KJ	R585	0700041M	CF 1/16W 1.0K-JB
R522	0195910R	RES.2125 CHIP 1/16W 2.7KJ	R586	0700044M	CF 1/16W 1.8K-JB
R523	0195875R	RES 2125 CHIP 1/16W 100J (AP73 ONLY)	R588	0195248R	RES 3216 CHIP 1/8 W 000
R524	0195925R	RES 2125 CHIP 1/16W 10KJ (AP73 ONLY)	R590	0195248R	RES 3216 CHIP 1/8 W 000
R525	0195900R	RES 2125 CHIP 1/16W 1KJ (AP73 ONLY)	R591	0195248R	RES 3216 CHIP 1/8 W 000
R526	0195908R	RES.2125 CHIP 1/10W 2.2KJ	R592	0195248R	RES 3216 CHIP 1/8 W 000
R527	0195891R	RES 2125 CHIP 1/16W 470J	R593	0195248R	RES 3216 CHIP 1/8 W 000
R528	0195891R	RES 2125 CHIP 1/16W 470J	R595	0195250R	RES 2125 CHIP 1/16W 000
R529	0195875R	RES 2125 CHIP 1/16W 100J	R597	0195248R	RES 3216 CHIP 1/8 W 000
R530	0195879R	RES 2125 CHIP 1/16W 150J	R598	0195250R	RES 2125 CHIP 1/16W 000
R531	0195927R	RES 2125 CHIP 1/16W 12KJ	R599	0195248R	RES 3216 CHIP 1/8 W 000
R532	0195889R	RES.2125 CHIP 1/10W 390J	R5A0	0195250R	RES 2125 CHIP 1/16W 000
R533	0195889R	RES.2125 CHIP 1/10W 390J	R5A1	0195248R	RES 3216 CHIP 1/8 W 000
R534	0195875R	RES 2125 CHIP 1/16W 100J (AP73 ONLY)	R5A2	0195248R	RES 3216 CHIP 1/8 W 000
R535	0195929R	RES 2125 CHIP 1/16W 15KJ	R5A3	0195248R	RES 3216 CHIP 1/8 W 000
R536	0195875R	RES 2125 CHIP 1/16W 100J	R5A4	0195248R	RES 3216 CHIP 1/8 W 000
R537	0195927R	RES 2125 CHIP 1/16W 12KJ	R5A5	0195248R	RES 3216 CHIP 1/8 W 000
R538	0195870R	RES MINI-CHIP RMC1/10 68-J	R5A6	0195250R	RES 2125 CHIP 1/16W 000
R539	0195858R	RES MINI-CHIP RMC1/10 22-J	R5A8	0195248R	RES 3216 CHIP 1/8 W 000
R539	0195870R	RES MINI-CHIP RMC1/10 68-J	R5A9	0195250R	RES 2125 CHIP 1/16W 000
R540	0195925R	RES 2125 CHIP 1/16W 10KJ	R5C0	0195250R	RES 2125 CHIP 1/16W 000
R541	0195875R	RES 2125 CHIP 1/16W 100J	R5C3	0195925R	RES 2125 CHIP 1/16W 10KJ
R545	0195900R	RES 2125 CHIP 1/16W 1KJ	R5C4	0195925R	RES 2125 CHIP 1/16W 10KJ
R547	0195908R	RES.2125 CHIP 1/10W 2.2KJ	R5C5	0195248R	RES 3216 CHIP 1/8 W 000
R548	0195912R	RES 2125 CHIP 1/16W 3.3KJ	R5C6	0195250R	RES 2125 CHIP 1/16W 000
R549	0195933R	RES.2125 CHIP 1/16W 22KJ	R5C7	0195250R	RES 2125 CHIP 1/16W 000
R550	0195922R	RES 2125 CHIP 1/16W 8.2KJ	R5C8	0195248R	RES 3216 CHIP 1/8 W 000
R551	0195875R	RES 2125 CHIP 1/16W 100J	R5C9	0195250R	RES 2125 CHIP 1/16W 000
R552	0195931R	RES 2125 CHIP 1/16W 18KJ	R5D0	0195250R	RES 2125 CHIP 1/16W 000
R553	0195879R	RES 2125 CHIP 1/16W 150J	R5D1	0195250R	RES 2125 CHIP 1/16W 000
R555	0195900R	RES 2125 CHIP 1/16W 1KJ	R5D2	0195250R	RES 2125 CHIP 1/16W 000
R556	0195910R	RES.2125 CHIP 1/16W 2.7KJ	R5D3	0195248R	RES 3216 CHIP 1/8 W 000



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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R801	0140326S	WW 5.6K-J 5W	R921	0700047M	CF 1/16W 3.3K-JB
R803	0113744M	CF SRD1/2P-B	R922	0700058M	CF 1/16W 22K-JB
R806	0113815M	CF SRD1/2P-B	R923	0700057M	CF 1/16W 18K-JB
R810	0100035M	CF 1/8W 56-JB	R925	0113746M	CF 1/2W 680-JB
R811	0100057M	CF 1/8W 470-JB	R926	0700057M	CF 1/16W 18K-JB
R812	0100045M	CF 1/8W 150-JB (AP74 ONLY)	R929	0700028M	CF 1/16W 120-JB
R812	0100047M	CF 1/8W 180-JB (AP73 ONLY)	R930	0700046M	CF 1/16W 2.7K-JB
R815	0100063M	CF 1/8W 820-JB	R931	0119695M	MF 1W 0.47-F
R817	0100041M	CF 1/8W 100-JB	R932	0700054M	CF 1/16W 10K-JB
R818	0100049M	CF 1/8W 220-JB	R933	0700058M	CF 1/16W 22K-JB
R821	0100063M	CF 1/8W 820-JB	R934	0113797M	CF 1/2W 82K-JB
R822	0100049M	CF 1/8W 220-JB	R935	0700049M	CF 1/16W 4.7K-JB
R823	0100065M	CF 1/8W 1K-JB	R937	0700047M	CF 1/16W 3.3K-JB
R825	0100021M	CF 1/8W 15-JB	R940	0700054M	CF 1/16W 10K-JB
R827	0100065M	CF 1/8W 1K-JB	R941	0700018M	CF 1/16W 22-J
R831	0140326S	WW 5.6K-J 5W	R942	0700042M	CF 1/16W 1.2K-JB
R833	0113744M	CF SRD1/2P-B	R943	0700043M	CF 1/16W 1.5K-JB
R836	0113815M	CF SRD1/2P-B	R944	0113793M	CF SRD1/2P-B 56K-J
R840	0100035M	CF 1/8W 56-JB	R945	0113793M	CF SRD1/2P-B 56K-J
R841	0100057M	CF 1/8W 470-JB	R946	0114205M	CF SRD 1/4 P 15K-J
R842	0100033M	CF 1/8W 47-JB	R948	0700041M	CF 1/16W 1.0K-JB
R843	0150001	VR RV08	R949	0700043M	CF 1/16W 1.5K-JB
R850	0100089M	CF 1/8W 10K-JB	R950	0700039M	CF 1/16W 820-JB
R851	0100043M	CF 1/8W 120-JB (AP74 ONLY)	R952	0700032M	CF 1/16W 220-JB
R851	0100047M	CF 1/8W 180-JB (AP73 ONLY)	R954	0700058M	CF 1/16W 22K-JB
R851	0100051M	CF 1/8W 270-JB	R955	0700041M	CF 1/16W 1.0K-JB
R855	0100021M	CF 1/8W 15-JB	R957	0700047M	CF 1/16W 3.3K-JB
R861	0140326S	WW 5.6K-J 5W	R958	0700057M	CF 1/16W 18K-JB
R863	0113744M	CF SRD1/2P-B	R959	0113750M	CF 1/2W 1K-JB
R866	0113815M	CF SRD1/2P-B	R960	0700054M	CF 1/16W 10K-JB
R870	0100035M	CF 1/8W 56-JB	R962	0700067M	CF 1/16W 100K-JB
R871	0100057M	CF 1/8W 470-JB	R963	0700051M	CF 1/16W 5.6K-JB
R872	0100033M	CF 1/8W 47-JB	R968	0700041M	CF 1/16W 1.0K-JB
R873	0150001	VR RV08	R969	0700067M	CF 1/16W 100K-JB
R880	0100089M	CF 1/8W 10K-JB	R970	0700051M	CF 1/16W 5.6K-JB
R881	0100031M	CF 1/8W 39-JB (AP74 ONLY)	R971	0700037M	CF 1/16W 560-JB
R881	0100040M	CF 1/8W 91-JB (AP73 ONLY)	R972	0700049M	CF 1/16W 4.7K-JB
R885	0100021M	CF 1/8W 15-JB	R974	0700047M	CF 1/16W 3.3K-JB
R901	0179639	MG 1.0M-J 1W	R975	0110237S	MF 2W 470-J
R902	0147060	WW 2W 33-K	R976	0700047M	CF 1/16W 3.3K-JB
R903	0114281M	CF SRD 1/4P 100K-J	R977	0700063M	CF 1/16W 47K-JB
 R904	0147802	WW 15W 0.62-KM	R979	0113770M	CF SRD1/2P-B 6.8K-J
R905	0113772M	CF SRD1/2P-B	R980	0700054M	CF 1/16W 10K-JB
R906	0113772M	CF SRD1/2P-B	R981	0700054M	CF 1/16W 10K-JB
R907	0100023M	CF 1/8W 18-JB	R982	0700048M	CF 1/16W 3.9K-JB
R908	0700053M	CF 1/16W 8.2K-JB	R983	0700054M	CF 1/16W 10K-JB
R909	0700038M	CF 1/16W 680-JB	R985	0700058M	CF 1/16W 22K-JB
R910	0700043M	CF 1/16W 1.5K-JB	R986	AT01531S	MF(0.1OHM1/2W )
R911	0700046M	CF 1/16W 2.7K-JB	R987	AT01531S	MF(0.1OHM1/2W )
R912	0700047M	CF 1/16W 3.3K-JB	R988	0113744M	CF SRD1/2P-B 560-J
R913	0700023M	CF 1/16W 47-J	R989	0700036M	CF 1/16W 470-JB
R914	0700054M	CF 1/16W 10K-JB	R990	0700058M	CF 1/16W 22K-JB
R915	0700042M	CF 1/16W 1.2K-JB	R991	0100089M	CF 1/8W 10K-JB
R916	0700038M	CF 1/16W 680-JB	R992	0110363S	MF 5.6K-JS
R917	AT01531S	MF(0.1OHM1/2W )			
R918	0100091M	CF 1/8W 12K-JB			
R919	0100089M	CF 1/8W 10K-JB			
R920	0700047M	CF 1/16W 3.3K-JB			

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SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
		TRANSFORMERS	18	NT00461	SCREEN FRAME ASS'Y (46UX50B)
 T701	2260291U	HORIZONTAL DRIVE TRANS.	18	NT00476	SCREEN FRAME ASS'Y (46UX51K)
 T702	BW00631	FLYBACK TRANSFORMER (AP74 ONLY)	18	NT00462	SCREEN FRAME ASS'Y (50UX52B)
 T702	BW00632	FLYBACK TRANSFORMER (AP73 ONLY)	18	NT00475	SCREEN FRAME ASS'Y (50UX53K)
 T703	2272762	TRANS-SATURBLE	18	NT00464	SCREEN FRAME ASS'Y (60UX54B)
 T901	BT00751	SWITCHING TRANSFORMER (AP74 ONLY)	18	NT00477	SCREEN FRAME ASS'Y (60UX55K)
 T901	BT00791	SWITCHING TRANSFORMER (AP73 ONLY)	18	NT00951	SCREEN FRAME ASS'Y (50SBX70B)
		SWITCHES	18	NT00952	SCREEN FRAME ASS'Y (60SBX72B)
			19	NT00961	SCREEN FRAME ASS'Y (70SBX74B)
			19	PH00578	DECO PANEL (46UX51K)
			19	PH00576	DECO PANEL (50UX53K)
SK01	FE00061	1P TACT SWITCH	19	PH00577	DECO PANEL (60UX55K)
SM01	FE00001R	PUSH SWITCH (AP74 ONLY)	19	H311182	DECO RAIL (70SBX74B)
SM01	FE00061	1P TACT SWITCH (AP73 ONLY)	20	KQ00811	LENS SASS(R) (46UX50B/51K & 50UX52B/53K)
SM02	FE00001R	PUSH SWITCH (AP74 ONLY)	20	KQ00166 K	LENS SASS (R) (60UX54B/55K)
SM02	FE00061	1P TACT SWITCH (AP73 ONLY)	20	KQ00561	LENS SASS (R) (50SBX70B)
SM03	FE00001R	PUSH SWITCH (AP74 ONLY)	20	KQ00731	LENS SASS (R) (60SBX72B & 70SBX74B)
SM03	FE00061	1P TACT SWITCH (AP73 ONLY)	21	KQ00811	LENS SASS (G) (46UX50B/51K)
SM04	FE00001R	PUSH SWITCH (AP74 ONLY)	21	KQ00166 K	LENS SASS(G) (50UX52B/53K & 60UX54B/55K)
SM04	FE00061	1P TACT SWITCH (AP73 ONLY)	21	KQ00561	LENS SASS (G) (50SBX70B)
SM05	FE00001R	PUSH SWITCH (AP74 ONLY)	21	KQ00731	LENS SASS (G) (60SBX72B & 70SBX74B)
SM05	FE00061	1P TACT SWITCH (AP73 ONLY)	22	KQ00811	LENS SASS (B) (46UX50B/51K & 50UX52B/53K)
SM06	FE00001R	PUSH SWITCH (AP74 ONLY)	22	KQ00161	LENS SASS (B) (60UX54B/55K)
SM06	FE00061	1P TACT SWITCH (AP73 ONLY)	22	KQ00562	LENS SASS (B) (50SBX70B)
SM07	FE00001R	PUSH SWITCH (AP74 ONLY)	22	KQ00732	LENS SASS (B) (60SBX72B & 70SBX74B)
SM07	FE00061	1P TACT SWITCH (AP73 ONLY)	23	H512226	LOWER REAR BOARD (46UX50B/51K)
SM09	FE00091	SWP01N01-EVQQKH08Q	23	H512216	LOWER REAR BOARD (50UX52B/53K)
		MISCELLANEOUS	23	H512228	LOWER REAR BOARD (60UX54B/55K)
			23	H512225	LOWER REAR BOARD (50SBX70B)
			23	H512229	LOWER REAR BOARD (60SBX72B)
1	PH02574	CONTROL PANEL (UX MODELS, 70SBX74B)	23	H512217	LOWER REAR BOARD (70SBX74B)
1	PH04451	CONTROL PANEL (50SBX70B & 60SBX72B)	24	33100027	MIDDLE BACK COVER (70SBX74B)
2	NA11701	LENS CRT METAL (AP74 ONLY)	25	33100026	UPPER BACK COVER (70SBX74B)
2	NA03233	LENS CRT METAL (AP73 ONLY)	26	UE03484	LENS CRT BLOCK ASS'Y(R) (46" & 50" UX)
3	NJ01361	SENSOR HOLDER BASE (CABINET MOUNT)	26	UE03481	LENS CRT BLOCK ASS'Y(R) (60UX54B/55K)
4	NJ01301	SENSOR HOLDER (60" UX & SBX, 70SBX74B)	26	UE03231	LENS CRT BLOCK ASS'Y(R) (50" & 60" SBX)
4	NJ01302	SENSOR HOLDER (46", 50" UX & 50SBX70B)	26	UE03234	LENS CRT BLOCK ASS'Y(R) (70SBX74B)
5	FT00001	SOLAR BATTERY (8 LOCATIONS) (60" & 70")	27	UE03482	LENS CRT BLOCK ASS'Y(G) (46" & 50" UX)
5	FT00002	SOLAR BATTERY (8 LOCATIONS) (46" & 50")	27	UE03482	LENS CRT BLOCK ASS'Y(G) (60UX54B/55K)
6	4524911	HEXAGON FLANQUE HEAD 4X12	27	UE03232	LENS CRT BLOCK ASS'Y(G) (50" & 60" SBX)
7	4137977	4X25 SELF TAPPING SCREW	27	UE03235	LENS CRT BLOCK ASS'Y (G) (70SBX74B)
8	KS00044	MIRROR (46UX50B/51K)	28	UE03486	LENS CRT BLOCK ASS'Y(B) (46" & 50" UX)
8	KS00045	MIRROR (50UX52B/53K)	28	UE03483	LENS CRT BLOCK ASS'Y(B) (60UX54B/55K)
8	KS00163	MIRROR (60UX54B/55K, 60SBX72B)	28	UE03233	LENS CRT BLOCK ASS'Y(B) (50" & 60" SBX)
8	KS00164	MIRROR (50SBX70B)	28	UE03236	LENS CRT BLOCK ASS'Y (B) (70SBX74B)
8	KS00165	MIRROR (70SBX74B)	29	KR00271	SCREEN ASS'Y (46UX50B)
9	8180112	4X18 HEX HEAD TAPPING SCREW/WASHER	29	KR00271	SCREEN ASS'Y (46UX51K)
10	4137977	4X25 HEX HEAD TAPPING SCREW	29	KR00272	SCREEN ASS'Y (50UX52B)
11	81481100	8X1 DRYWALL SCREW	29	KR00521	SCREEN ASS'Y (50UX53K)
12	H420781	MIRROR HANGER (70SBX74B)	29	KR00273	SCREEN ASS'Y (60UX54B)
13	H810211	4X14 SCREW WITH WASHER	29	KR00522	SCREEN ASS'Y (60UX55K)
14	QD01532	BACK COVER (46UX50B/51K)	29	KR00632	SCREEN ASS'Y (50SBX70B)
14	QD01532	BACK COVER (50UX52B/53K)	29	KR00631	SCREEN ASS'Y (60SBX72B)
14	QD03841	BACK COVER (50SBX70B)	29	KR00638	SCREEN ASS'Y (70SBX74B)
14	QD04111	BACK COVER (60UX54B/55K & 60SBX72B)	30	H311039	SPEAKER GRILL ASS'Y (46UX50B)
15	4520771	8X3/4 PAN HEAD DRYWALL SCREW	30	H311039	SPEAKER GRILL ASS'Y (46UX51K)
16	UX03631	MIRROR BOARD ASS'Y (70SBX74B)	30	H311038	SPEAKER GRILL ASS'Y (50UX52B/53K)
17	35300015	MIRROR CLEAT (70SBX74B)	30	PH04431	SPEAKER GRILL ASS'Y (60UX54B/55K)



## REPLACEMENT PARTS LIST

**PRODUCT SERVICE NOTE:** Components marked with  have special characters important to safety. Before replacing any of these component read carefully , the PRODUCT SAFETY NOTICE of this Service Manual . Don't degrade the safety of the receiver through improper servicing.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
PCD	ED00516	CP-TAC-L20P-A1	 U402	GK00271	SP-12M (SBX MODELS & 60UX54B/55K)
PCG	2903544	4P PLUG PIN WITH BASE	 U403	GK00311	SP-05M (46UX50B/51K & 50UX52B/53K)
PCL	2903543	3P PLUG PIN WITH BASE (AP74 ONLY)	 U403	GK00281	SP-05M (60UX54B/55K)
PCR	2903543	3P PLUG PIN WITH BASE (AP74 ONLY)	 U403	GK00291	SP-10M (SBX MODELS)
PCR	2903544	4P PLUG PIN WITH BASE	 U404	GK00321	SP-12M (46UX50B/51K & 50UX52B/53K)
PCX	ED00572	CP-TAC-L15X-A1 (AP74 ONLY)	 U404	GK00271	SP-12M (60UX54B/55K)
PDC	ED00565	CP-TAC-L09X-A1	 U404	GK00291	SP-10M (SBX MODELS)
PDG	ED00572	CP-TAC-L15X-A1	 U405	GK00331	SP-10M (46UX50B/51K & 50UX52B/53K)
PDS	ED00565	CP-TAC-L09X-A1	 U405	GK00291	SP-10M (60UX54B/55K)
PDS1	2959062	PIN POST (PH 12P)	 U405	GK00281	SP-05M (SBX MODELS)
PFJ	2902268	PLUG PIN SUB MINI 9P	 U406	GK00271	SP-12M (SBX MODELS)
PFJ	2902248	PLUG PIN SUB MINI9P	 V1B	DE01323	P16LFM00BMB (46UX50B/51K, 50UX52B/53K)
PFT	ED01596U	PLUG CP-04BP5R0VU-TBL#2,3N	 V1B	DE00826	P16LGD00BMB (60UX54B/55K)
PFV	2902251	11P PLUG PIN	 V1B	DE01313	P16LFT00BMB (AP74 ONLY)
PL	2903545	5P PLUG PIN WITH BASE	 V1G	DE01322	P16LFM00HLA (46UX50B/51K)
PMB	ED01597U	PLUG CP-06BP5R0VU-TBL#3,5N	 V1G	DE00825	P16LGD00HLA (50UX52B/53K, 60UX54B/55K)
PMG	ED01597U	PLUG CP-06BP5R0VU-TBL#3,5N	 V1G	DE01312	P16LFT00HLA (AP74 ONLY)
PMR	ED01597U	PLUG CP-06BP5R0VU-TBL#3,5N	 V1R	DE01321	P16LFM00RFA (46UX50B/51K, 50UX52B/53K)
PP31	2661751	2P PLUG PIN WITH BASE	 V1R	DE00824	P16LGD00RFA (60UX54B/55K)
PR	2903544	4P PLUG PIN WITH BASE	 V1R	DE01311	P16LFT00RFA (AP74 ONLY)
PS1	2959058	PINPOST 9P PH	X001	2168831	CRYSTAL CSA12.0MTZ
PS2	2959059	PLUG PH PIN POST 10P	X100 ✓	BP00771	OSXR032X121TA252E00
PS3	2959055	CONNECTOR-6P(PH)	X301	2794401	DELAY LINE GLASS 63.5US (AP74 ONLY)
PSD1	ED01471U	PLUG 07BP1R2HUTWGP-A1	X501	2791501	CRYSTAL HC-49/U
PSD1	ED01491U	CONNECTOR 07BS1R2VUTWGXA1	X502	2168771	X'TAL CSB503F30
PSD2	ED01472U	PLUG 11BP1R2HUTWGP-A1	XS01	2786585	CRYSTAL RESONATOR 8.000MHZ
PSD2	ED01492U	CONNECTOR 11BS1R2VUTWGXA1	XX02	BJ00141	COIL (LC FILTER) 3.58MHZ (AP73 ONLY)
PSD3	ED01472U	PLUG 11BP1R2HUTWGP-A1	XX03	BJ00112	COIL (LC FILTER) 6MHZ (AP73 ONLY)
PSD3	ED01492U	CONNECTOR 11BS1R2VUTWGXA1	H310353		DIGITAL CONV. JIG SCREEN (46")
PSD4	ED01473U	PLUG 13BP1R2HUTWGP-A1	H310354		DIGITAL CONV. JIG SCREEN (50")
PSD4	ED01493U	CONNECTOR 13BS1R2VUTWGXA1	H310355		DIGITAL CONV. JIG SCREEN (60")
PSD5	ED01471U	PLUG 07BP1R2HUTWGP-A1	H310357		DIGITAL CONV. JIG SCREEN (70")
PSD5	ED01491U	CONNECTOR 07BS1R2VUTWGXA1	UE03473		LENS CRT CHASSIS B. ASS'Y (46UX50B/51K)
PSI1	ED00575	CP-TAC-L18X-A1	UE03471		LENS CRT CHASSIS B. ASS"Y (50UX52B/53K)
PSI1	ED00515	CP-TAC-L18P-A1	UE03472		LENS CRT CHASSIS B. ASS'Y (60UX54B/55K)
PSI2	ED00575	CP-TAC-L18X-A1	UE03221		LENS CRT CHASSIS B. ASS'Y (50SBX70B)
PSI2	ED00515	CP-TAC-L18P-A1	UE03222		LENS CRT CHASSIS B. ASS'Y (60SBX72B)
PSU1	ED00576	CP-TAC-L20X-A1	UE03223		LENS CRT CHASSIS B. ASS'Y (70SBX74B)
PSU1	ED00516	CP-TAC-L20P-A1			
PSU2	ED00576	CP-TAC-L20X-A1			
PSU2	ED00516	CP-TAC-L20P-A1			
PTS	2663821	2P SUB MINI PLUG PIN			
PVM1	ED00566	CP-TAC-L10X-A1			
PVM1	ED00506	CP-TAC-L10P-A1			
PVM2	ED00566	CP-TAC-L10X-A1			
PVM2	ED00506	CP-TAC-L10P-A1			
PVMC	2902262	PLUG PIN SUB MINI 3P			
PY1	2675285	PIN POST (PH 6P)			
PY1	2959055	CONN. 6P (PH) (AP74)			
PY2	2902263	PLUG PIN SUB MINI 4P			
P802	2661756	1P PLUG PIN WITH BASE			
P832	2661756	1P PLUG PIN WITH BASE			
P862	2661756	1P PLUG PIN WITH BASE			
U301	JP01031	3D Y/C UNIT (AP74 ONLY)			
 U401	GK00311	SP-05M (46UX50B/51K & 50UX52B/53K)			
 U401	GK00281	SP-05M (SBX MODELS & 60UX54B/55K)			
 U402	GK00321	SP-12M (46UX50B/51K & 50UX52B/53K)			

**NOTES:**