HITACHI

Inspire the Next

SERVICE MANUAL

NTSC

DP33KA/B Chassis

PA

No. 0193

46F510 DP33KA

46F500A DP33KB

R/C: CLU-4328UG

TO GO TO A CHAPTER, CLICK ON ITS HEADING BELOW

CONTENTS

CAUTION: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Before servicing this chassis, it is important that the service technician read the “IMPORTANT SAFETY INSTRUCTIONS” 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 “Important Safety Instructions” in this Service Manual.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

PROJECTION COLOR TELEVISION

AUGUST 2004 **HHEA-MANUFACTURING DIVISION**

version 0193.2

IMPORTANT SAFETY INSTRUCTIONS
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 manual and its supplements and bulletins. Before servicing this chassis, it is important that the service technician read and follow the “Important Safety Instructions” in this Service Manual.

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.

FEDERAL COMMUNICATIONS COMMISSION NOTICE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

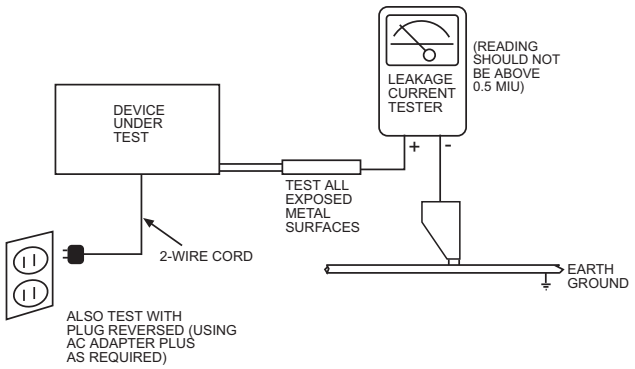
IMPORTANT SAFETY INSTRUCTION

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 -** Plug the AC line cord directly into a 120V AC 60Hz outlet (do not use an isolated transformer for this check). Turn the A C power ON. Using a Leakage Current Tester (Simpson's Model 228 or equivalent), measure for current from all exposed metal parts of the cabinet (antennas, screwheads, overlays, control shafts, etc.) particularly any exposed metal part having a return path to the chassis or to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 0.5 MIU.



AC Leakage Test

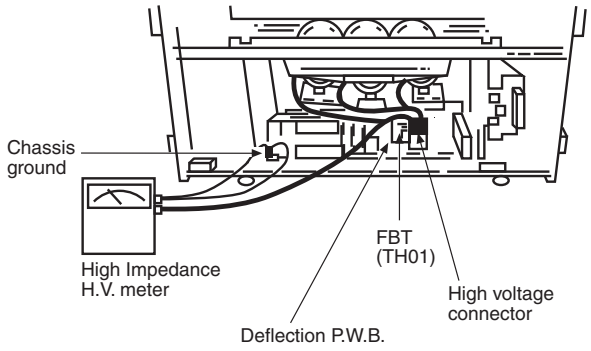
AC LEAKAGE TEST

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

   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 **30.5 kV.** In case any component having influence on high voltage is replaced, confirm that the high voltage with maximum contrast is lower than **30.5 kV.**
   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.)

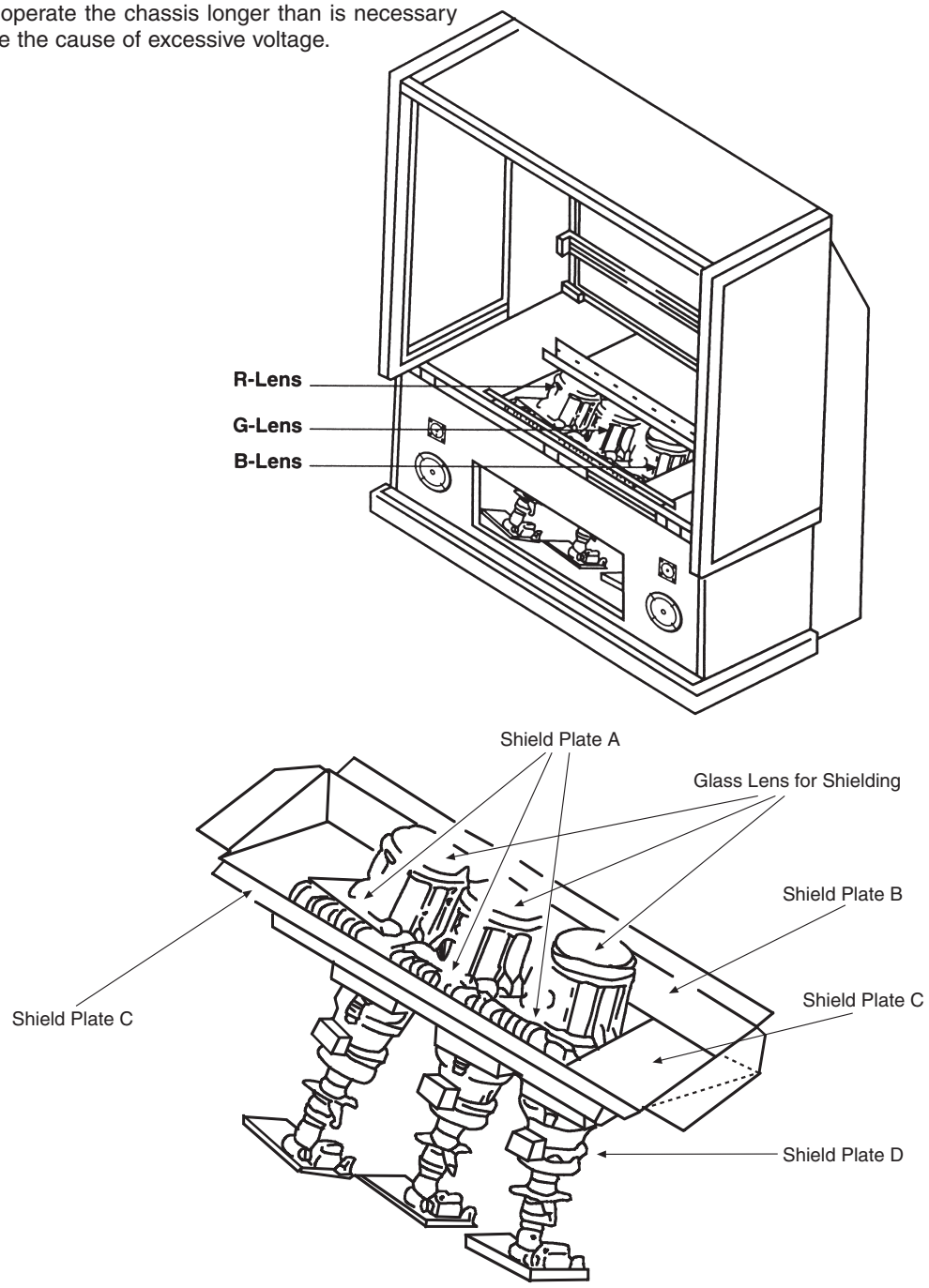
   Note: Turn power switch off without fail before the connection to the anode button is made.



IMPORTANT SAFETY INSTRUCTIONS

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, or C 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.



Detailing X-radiation shield

Fig. 1. Installation of shield lens, shield cover and shield plates (oblique view).

IMPORTANT SAFETY INSTRUCTIONS

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 "Important Safety Instructions" 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 400MΩ 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 contracts 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.)

SERVICING PRECAUTIONS

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 lead free solder (see page 10). Lead solder can be used, but there is a possibility of failure due to insufficient strength of the solder.

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).

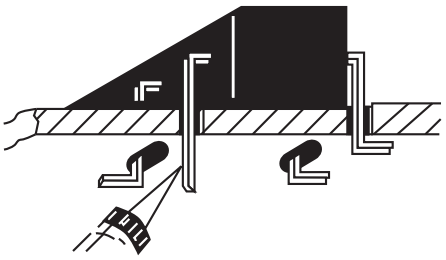
   b. Heat the component lead until the solder melts. Quickly draw away the melted solder with an anti-static, suction-type solder removal device or with solder braid.
      CAUTION: Work quickly to avoid overheating the circuit board printed foil.

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 Solding 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.

SERVICING PRECAUTIONS

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

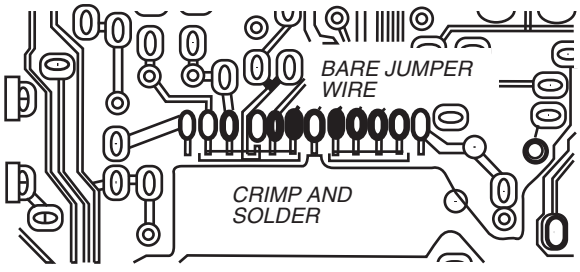
High component/copper pattern density and/or special voltage/current characteristics make the spacing and integrity of copper pattern in some circuit board areas more critical than in others. The circuit foil in these areas is designated as Critical Copper Pattern. Because Critical Copper Pattern requires 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.



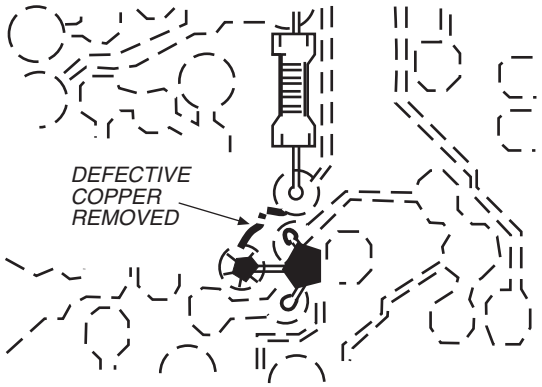
Install Jumper Wire and Solder

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.

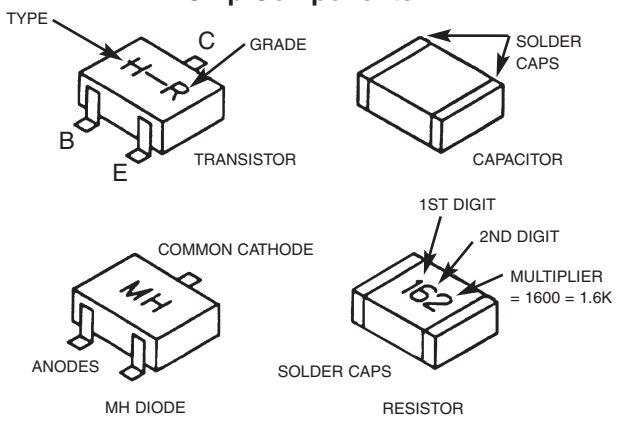
Component Removal

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

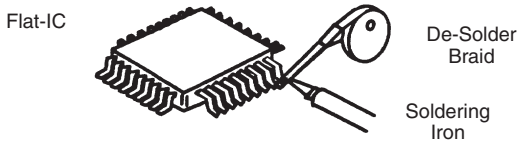
Chip Components



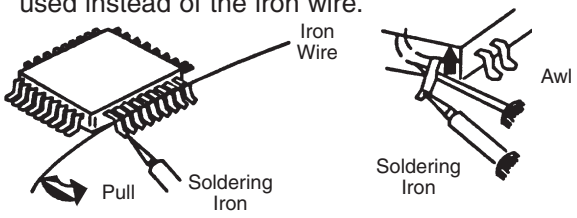
How to Replace Flat-IC —Required Tools—

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

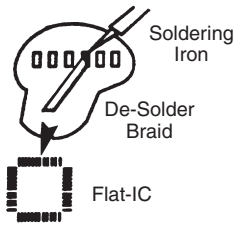
1. Remove the solder from all of the pins of a Flat-IC by using a de-solder braid.



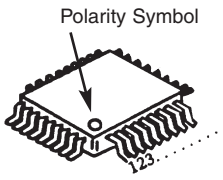
2. Put the iron wire under the pins of the Flat-IC and pull it in the direction indicated while heating the pins using a soldering iron. A small awl can be used instead of the iron wire.



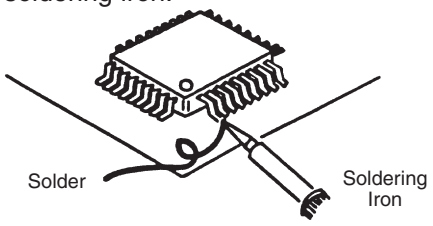
3. Remove the solder from all of the pads of the Fiat-IC by using a de-solder braid.



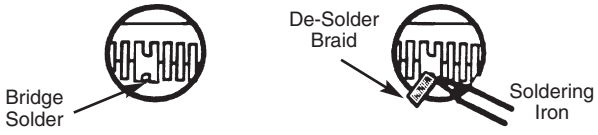
4. Position the new Flat-IC in place (apply the pins of the Flat-IC to the soldering pads where the pins need to be soldered). Properly determine the positions of the soldering pads and pins by correctly aligning the polarity symbol.



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.



Information for service about lead-free solder introduction

Hitachi introduced lead-free solder to conserve the "Earth Environment".
Please refer to the following before servicing.

(1) Characteristic of lead-free solder

Melting point of lead free solder is 40-50°C higher than solder containing lead.

(2) Solder for service

Following composition is reccomended.

" Sn - 3.0Ag - 0.5Cu " , or " Sn - 0.7 Cu "

Lead solder can be used, but there is a possibility of failure due to insufficient strength of the solder.

Caution when using solder containing lead.

Please remove previous solder as much as possible from the soldering point.
When soldering, please perfectly melt the lead-free solder to mix well with the previous solder.

(3) Soldering iron for lead-free solder.

Melting point of lead-free solder is higher than solder containing lead.
Use of a soldering tool "with temperature control" and "with much thermal capacitance" is reccomended.
(Reccomended temperature control : 320°C - 450°C)

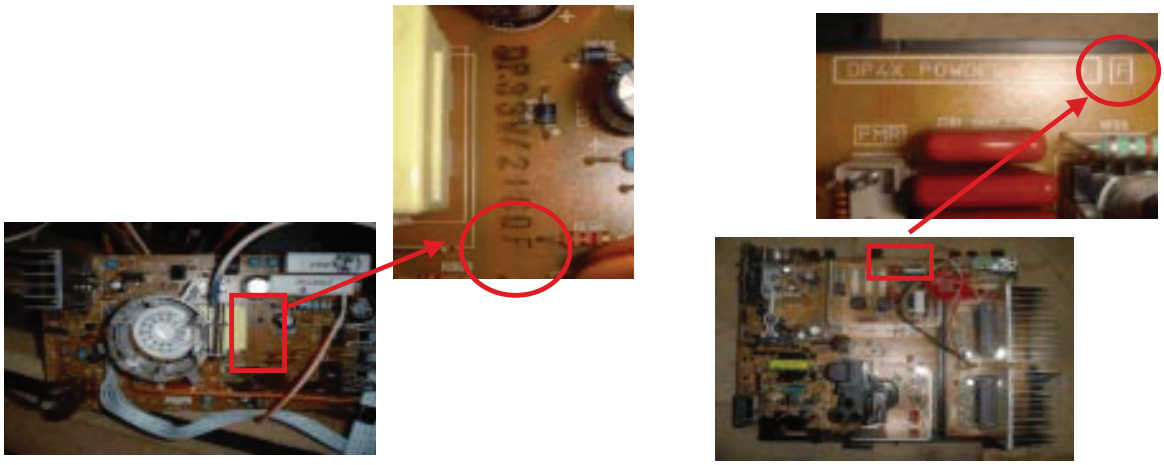
Reccomended temperature

PWB with chip parts	320°C +/- 30°C
PWB without chip parts	380°C +/- 30°C
Chassis, metal, shield etc.	420°C +/- 30°C

(4) Identification of lead-free PWB

2003 models	>> not applied
2003 models	>> mixed
2004 models	>> lead-free solder is intoduced

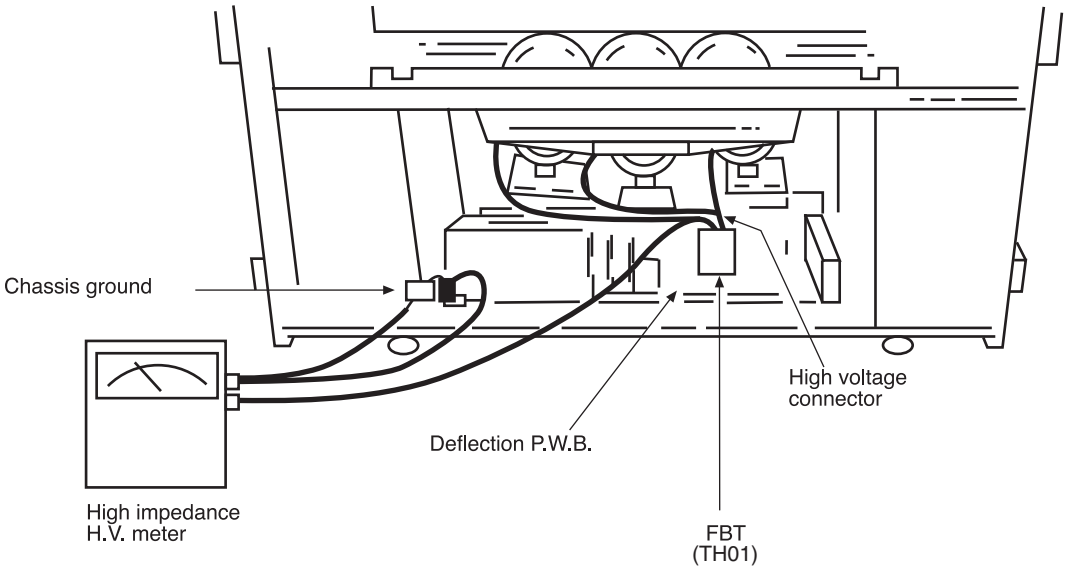
On lead-free PWB, "F" is added at the end of stamp on PWB. (e.g. DP33W**F**)



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 31 kV at 1.72mA 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.



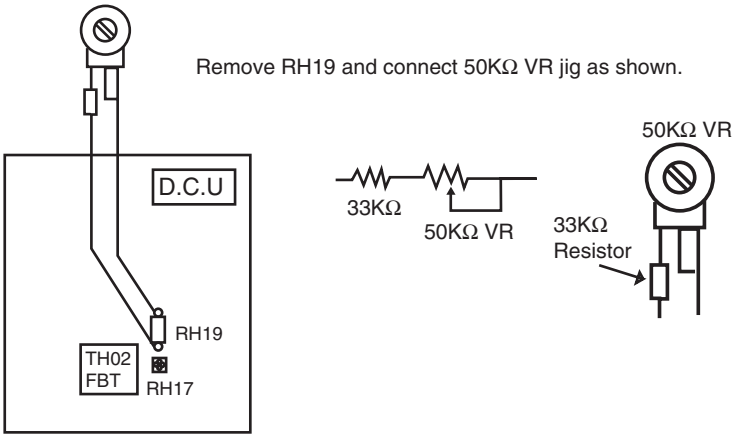


Fig. 2. Power/Deflection P.W.B

AC CORD POLARITY

This check is based on the UL standard. Use the jigs specified by the production technology section. The GND side (wider blade) of the AC power cord should be connected to K9Y1

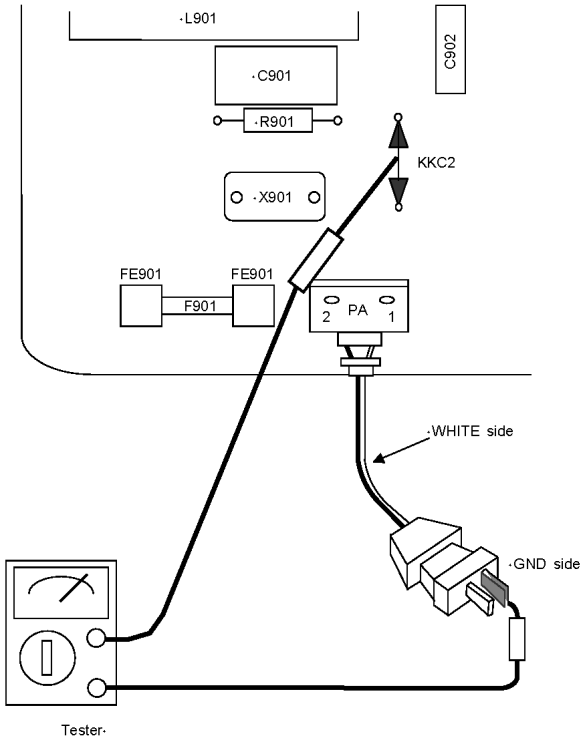


TABLE OF CONTENTS

SPECIFICATIONS

Models: 46F510/46F500A

Cathode-Ray Tube:

46F510	R=P16LXS00RFA B
46F500A	G=P16LXS00HHA B
	B=P16LXS00BMB B

Power Input: 120 volts AC, 60 Hz

Power Consumption:

- Stand-By Power
  46F510/500A 0.4W
- Power Consumption (operating)
  46F510/500A 220W
- Power Consumption (maximum)
  46F510/500A 275W

Antenna Impedance: 75 Ohm Unbalanced
VHF / UHF / CATV

Receiving Channel:

BAND	CH
VHF	2~13
UHF	14~69
EXT. Mid	(A-5)~(A-1), 4+
CATV Mid.	A~I
CATV Super	J~W
CATV Hyper	(W+1)~(W+28)
CATV Ultra	(W+29)~(W+84)

Intermediate Frequency: Picture I-F Carrier 45.75 MHz
Sound I-F Carrier 41.25 MHz
Color Sub Carrier 42.17 MHz

Video Input: 1.0 ± 0.2 Volt p-p, 75 Ohm Termination

Video Output: 1.0 ± 0.2 Volt p-p, 75 ohm Termination

Audio Input: 470 mVrms, 47 k Ohm ±10%

Stereo Audio Output: 470 mVrms, 1 k Ohm ± 10%

Audio Output Power:
Front: 24 watts per channel at 10% distortion, 8 ohm Impedance. Max output 30 watts.

Anode Voltage:
DP33KA/B 30.7±0.2kv (1.52±0.2mA)

Brightness:	**46”**
(white screen)	290cd/m^2

Speakers: 46” 2 Woofers - 5 inch (12 cm) round

Dimensions:

	46F510	**46F500A**
• Height (in.)	45 9/16	39 13/16
(mm)	1,157.0	1,010.5
• Width (in.)	44 7/16	44 7/16
(mm)	1,128.0	1,128.0
• Depth (in.)	26 7/16	24 9/16
(mm)	671.5	623.5
• Weight (lbs.)	161	160
(kg)	73	72.5

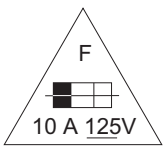
Circuit Board Assemblies:

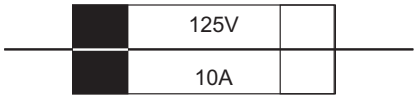
C.P.T. (B) P.W.B.	IR P.W.B.
C.P.T. (G) P.W.B.	IR Sub P.W.B.
C.P.T. (R) P.W.B.	Terminal P.W.B.
Power Supply P.W.B.	Signal P.W.B.
Control P.W.B.	Def/Convergence P.W.B.
Sensor Distribution P.W.B.	DVI P.W.B

CIRCUIT PROTECTION

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

Example:



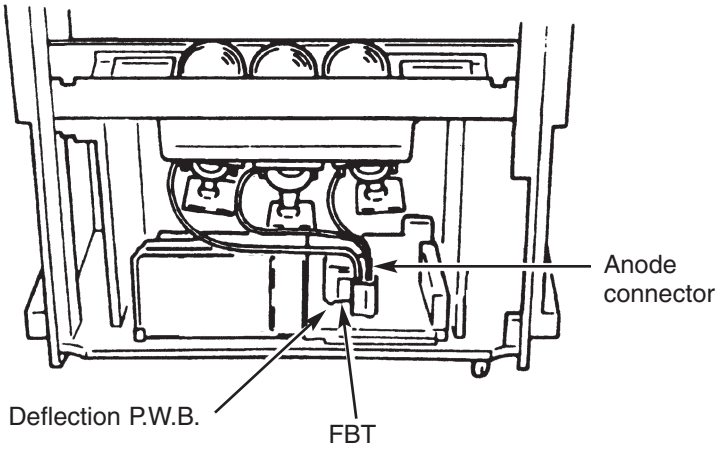


“RISK OF FIRE - REPLACE FUSE AS MARKED”

The rating of fuse F901 is 10A - 125V.
Replace with the same type fuse for continued protection against fire.

CAUTIONS WHEN CONNECTING / DISCONNECTING THE HV CONNECTOR

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



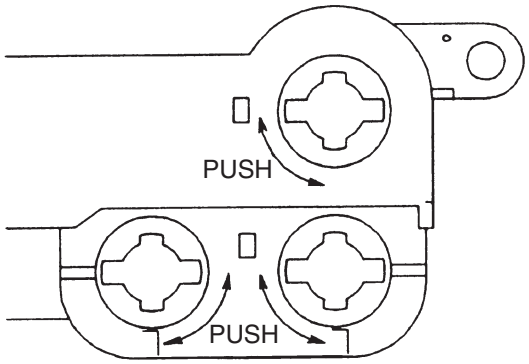


Fig. A

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)
3. Remove the connector slowly by pulling it away from the case.

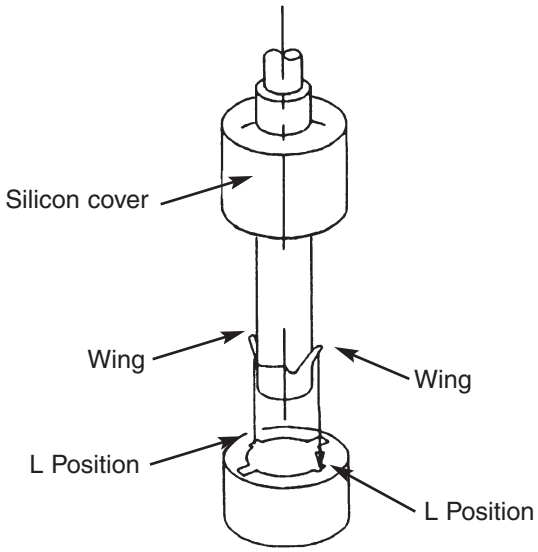


Fig. B

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.

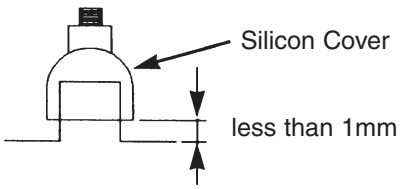
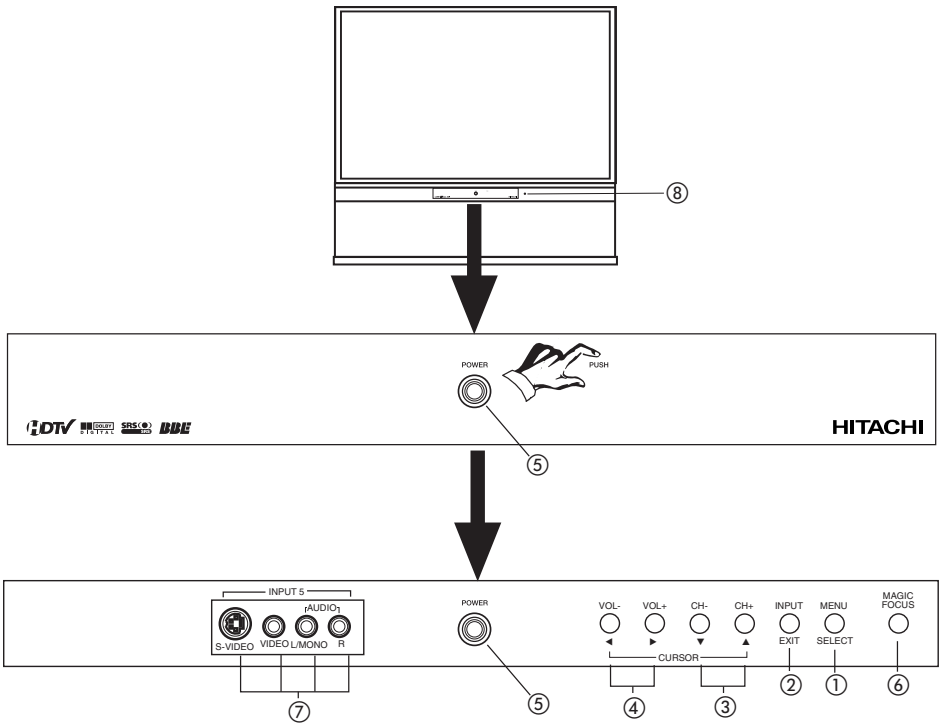


TABLE OF CONTENTS

GENERAL INFORMATION
46F510



① MENU/SELECT button

This button allows you to enter the MENU, making it possible to set TV features to your preference without using the remote. This button also serves as the SELECT button when in MENU mode.

② INPUT/EXIT button

Press this button to select the current antenna source, VIDEO: 1, 2, 3, 4, 5 or alternate antenna source. Your selection is shown in the top right corner of the screen. This button also serves as the EXIT button when in MENU mode.

NOTES: Your remote control does not have an INPUT button. To change to video inputs, press VID1~VID5 buttons depending on your choice.

③ CHANNEL selector

Press these buttons until the desired channel appears in the top right corner of the TV screen. These buttons also serve as the cursor down (▼) and up (▲) buttons when in MENU mode.

④ VOLUME level

Press these buttons for your desired sound level. The volume level will be displayed on the TV screen. These buttons also serve as the cursor left (◀) and right (▶) buttons when in MENU mode.

⑤ POWER button/POWER LED

Press this button to turn the TV on or off. This LED light is ON during normal operation.

⑥ MAGIC FOCUS

Use this button to automatically adjust your picture quality to optimum performance. The Magic Focus button will not work when adjustment mode is set to manual.

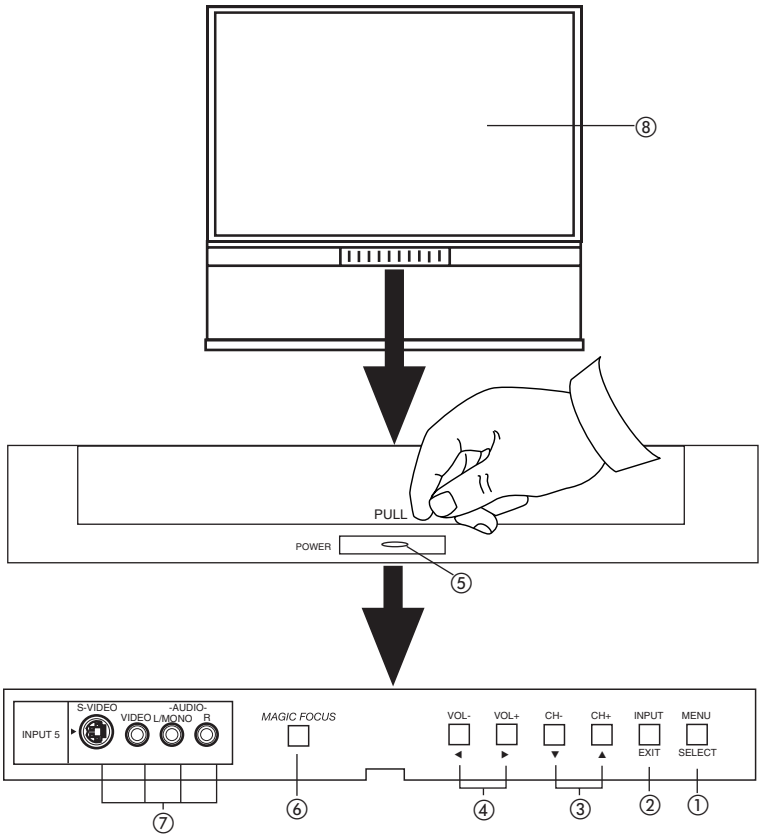
⑦ FRONT INPUT JACKS (INPUT 5)

Use these audio/video jacks for a quick hook-up from a camcorder or VCR to instantly view your favorite show or new recording. Press the INPUT button until VIDEO: 5 appears in the top right corner of the TV screen. If you have mono sound, insert the audio cable into the left audio jack.

⑧ IR RECEIVER Sensor

When using the remote control, point it towards the IR receiver for best response.

GENERAL INFORMATION
46F500A



① MENU/SELECT button

This button allows you to enter the MENU, making it possible to set TV features to your preference without using the remote. This button also serves as the SELECT button when in MENU mode.

② INPUT/EXIT button

Press this button to select the current antenna source, VIDEO: 1, 2, 3, 4, 5 or alternate antenna source. Your selection is shown in the top right corner of the screen. This button also serves as the EXIT button when in MENU mode.

NOTES: Your remote control does not have an INPUT button. To change to video inputs, press VID1~VID5 buttons depending on your choice.

③ CHANNEL selector

Press these buttons until the desired channel appears in the top right corner of the TV screen. These buttons also serve as the cursor down (▼) and up (▲) buttons when in MENU mode.

④ VOLUME level

Press these buttons for your desired sound level. The volume level will be displayed on the TV screen. These buttons also serve as the cursor left (◀) and right (▶) buttons when in MENU mode.

⑤ POWER button

Press this button to turn the TV on or off.

⑥ MAGIC FOCUS

Use this button to automatically adjust your picture quality to optimum performance. The Magic Focus button will not work when adjustment mode is set to manual.

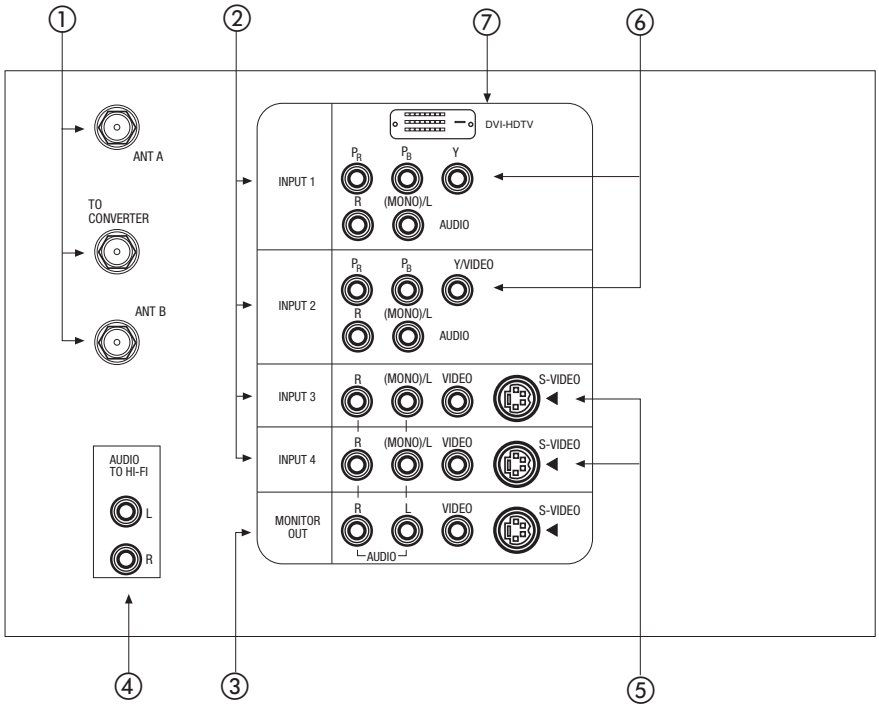
⑦ FRONT INPUT JACKS (INPUT 5)

Use these audio/video jacks for a quick hook-up from a camcorder or VCR to instantly view your favorite show or new recording. Press the INPUT button until VIDEO: 5 appears in the top right corner of the TV screen. If you have mono sound, insert the audio cable into the left audio jack.

⑧ IR RECEIVER

The screen area acts as the IR receiver (remote sensor) of the TV. When using the remote control, point it towards the screen for best response.

REAR PANEL JACKS



① Antenna Input/Output

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

② Audio/Video Inputs 1, 2, 3 and 4

The VID1~VID4 buttons will select each video source each time they are pressed. Use the audio and video inputs to connect external devices, such as VCRs, camcorders, laserdisc players, DVD players etc. (If you have mono sound, insert the audio cable into the left audio jack.)

NOTE: You may use VIDEO or S-VIDEO inputs to connect to INPUT 3 and 4, but only one of these inputs may be used at a time.

③ MONITOR OUT

These jacks provide fixed audio and video signals which are used for recording. Use the S-VIDEO Output for high quality video output.

NOTE: S-VIDEO Output may be used for recording, only when the input is of S-VIDEO type.

④ AUDIO TO HI-FI Output

These jacks provide variable audio output to a separate stereo amplifier. With this connection, the audio to the stereo can be controlled by the television's main volume.

⑤ S-VIDEO Inputs 3 and 4

Inputs 3 and 4 provide S-VIDEO (Super Video) jacks for connecting equipment with S-VIDEO output capability.

REMOTE CONTROL

CLU-4324UG: VIDEO
CLU-4328UG: DAY/NIGHT

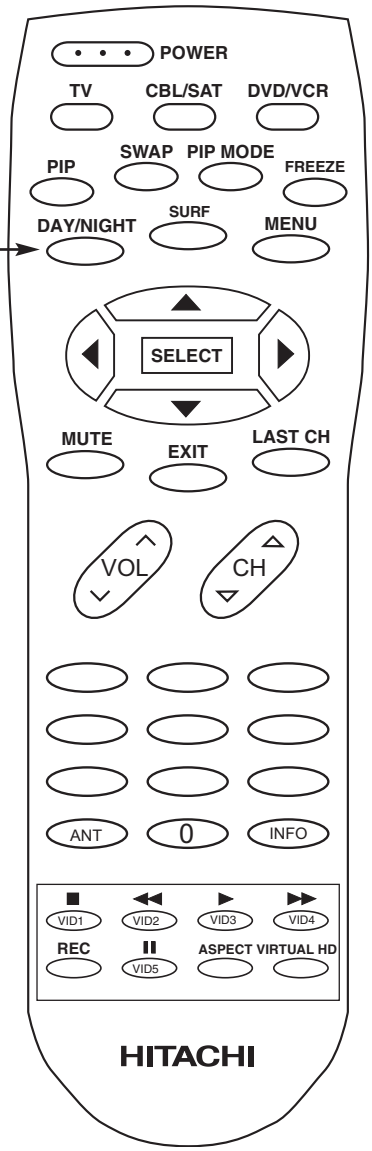


TABLE OF CONTENTS

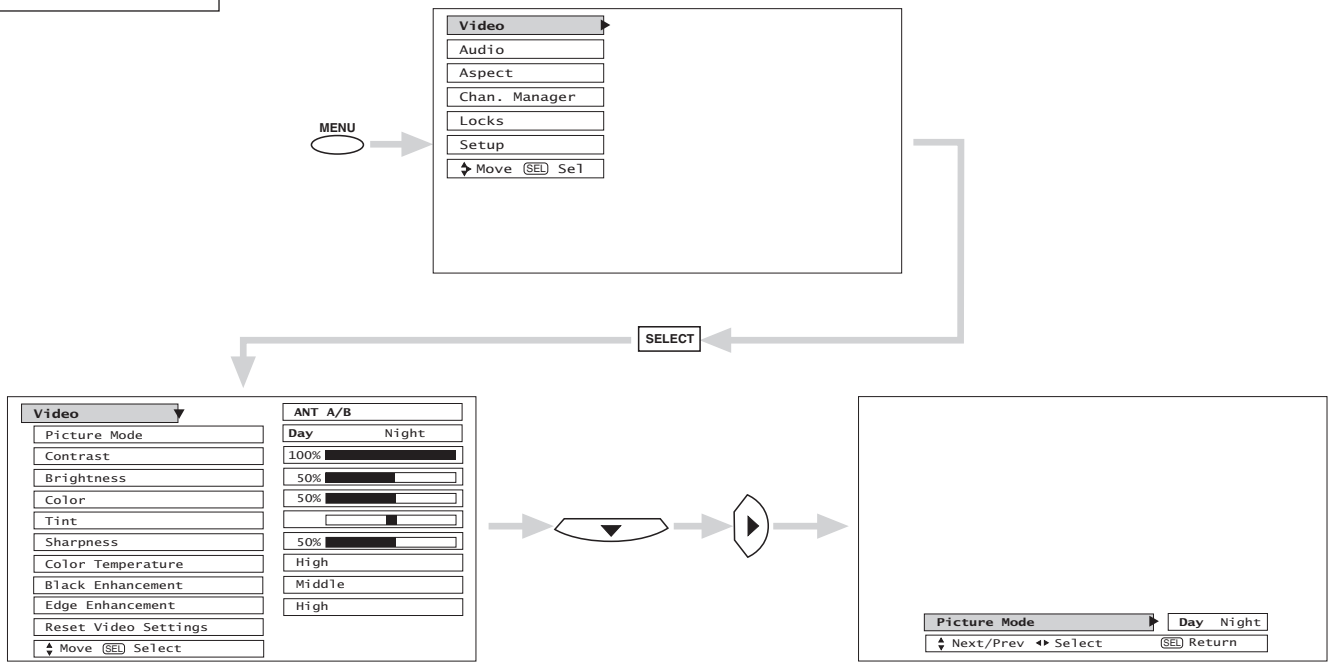
CUSTOMIZED PICTURE AND SOUND ADJUSTMENTS

Video

Select VIDEO to adjust picture settings and improve picture quality. You can independently customize each of the Video Inputs to your preference to increase viewing performance and pleasure depending upon the video program being viewed. If RESET is selected, only the selected input will reset to initial conditions.

Picture Mode

Use this function to choose from automatic picture settings to optimize your TV's performance.



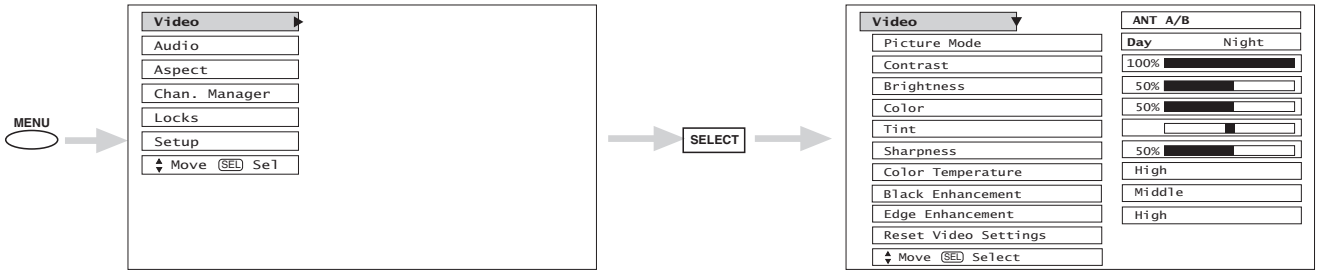
Use CURSOR ◀ or ▶ to highlight and select Picture Mode settings.

Function	Day	Night	Reset
Contrast	100%	50%	Reset the video menu settings on current input to the Day or Night conditions depending on the selected VIDEO mode.
Brightness	50%	50%	
Color	50%	45%	
Tint	Center	Center	
Sharpness	50%	50%	
Color Temperature	High	Standard	
Black Enhancement	Middle	Low	
Edge Enhancement	High	Low	
Auto Color	Off	Off	
Noise Reduction	Off	Off	
Color Management (Set User Colors)	Off	Off	
Auto Movie Mode (TV/Cinema Detection)	Off	Off	

Press EXIT to quit menu or select PICTURE MODE to return to previous menu.

TABLE OF CONTENTS

CUSTOMIZED PICTURE AND SOUND ADJUSTMENTS



Use the CURSOR ▲ or ▼ to highlight the function to be adjusted.
Press the SELECT button to select the function settings.
Press the CURSOR ◄ or ► to adjust the function.
Press MENU to return to main menu.
Press EXIT to quit menu.

Contrast	Use this function to change the contrast between black and white levels in the picture.
Brightness	Use this function to adjust 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. Sharpness function will be disabled when Noise Reduction is ON.
Color Temperature	Set this to High for cooler color with more blue, set to Medium for more natural color, set to Standard for accurate color or set to Black/White for more reddish color.
Black Enhancement	Use this function to enhance the shadow detail in dark scenes using the settings off, low, middle and high.
Edge Enhancement	Use this function to automatically enhance the edges between light and dark areas using the settings Off, Low, Middle, and High.

NOTES:
1. 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.
2. Contrast will decrease automatically if stationary images such as digital still photos are left on the screen for more than 3 minutes.
3. It may be necessary to adjust TINT to obtain optimum picture quality when using the COMPONENT VIDEO Y-P_BP_R input jacks.
4. Ant A/Ant B have independent Video settings. Also, each of the video inputs have their own independent settings.

CUSTOMIZED PICTURE AND SOUND ADJUSTMENTS

Magic Focus Tune Up

Auto Digital Convergence Adjustment
Please turn ON your television for at least 20 minutes before using this feature.

The Magic Focus button on control panel will not work when adjustment mode is set to Manual.

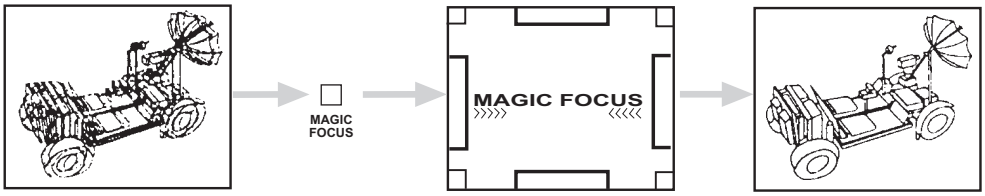
Your HITACHI Projection TV has three color projection tubes: one for red, one for green, one for blue. When mixed together in the proper proportion, the output of these three color tubes can produce any color. To produce these colors, however, the beams must be precisely aligned over each other so that the colors can be mixed. The process of aligning these picture beams is called “convergence”.

Over a period of time, the picture tubes can drift out of alignment due to normal bumps and vibrations or moving the TV. If you move your TV, or if, after a time, you notice color rings or halos around objects in the picture, you may want to converge (align) the colors.

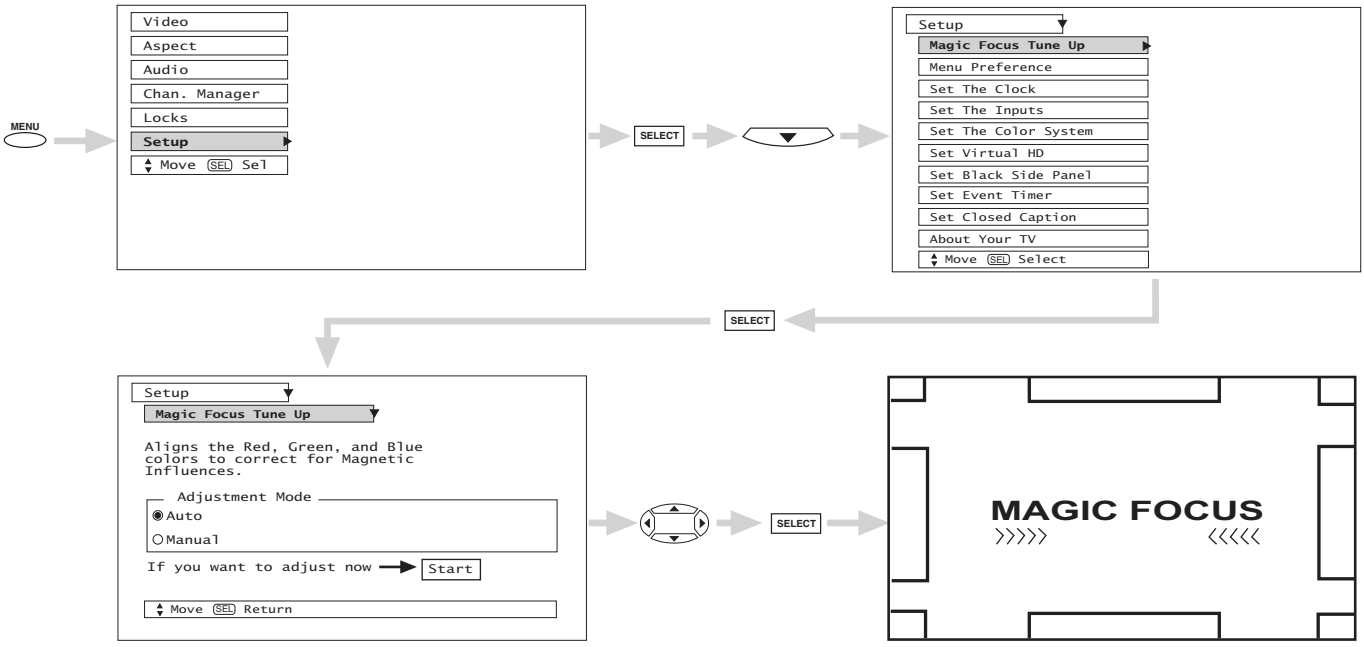
Properly converged, the lines appear white, which is actually a combination of the outputs of the three color tubes. The output of the green tube is stationary. The outputs of the red and blue tubes can be adjusted. When properly aligned, the outputs of all three tubes should be directly over each other to produce the white lines.

To simplify convergence, HITACHI incorporates a function called MAGIC FOCUS located on the front control panel, which allows the TV to self-adjust. Press this MAGIC FOCUS button and the convergence self adjustment will start and this process will take approximately 20 seconds. If this button is pressed during this process, no change in picture quality will occur. After this 20 second self-adjust period, picture quality will be optimum (do not move the TV during self-adjust).

You may also select MAGIC FOCUS TUNE UP from the Setup Menu.



NOTES: Only a momentary press of the MAGIC FOCUS button is necessary to start AUTO DIGITAL CONVERGENCE. At any time during this convergence correction process, you may press the MAGIC FOCUS button to exit the MAGIC FOCUS mode. However, the convergence correction process needs to be completed to SAVE the new corrected convergence data.



CUSTOMIZED PICTURE AND SOUND ADJUSTMENTS

Manual Convergence Adjustment Mode

NOTES: 1. Please turn ON your television for at least 20 minutes before using this feature.
2. Auto Adjustment Mode is recommended. If convergence is still not acceptable, use the Manual Adjustment Mode.
3. If Auto Adjust mode is selected or the Magic Focus button is pressed, all manual adjust mode settings will be erased.

Using the Remote Control, select SETUP-MAGIC FOCUS TUNE UP-MANUAL ADJUSTMENT MODE-START to access convergence crosshatch pattern. The adjustment point is indicated by the Adjustment Point Cursor.

To Move Adjustment Point

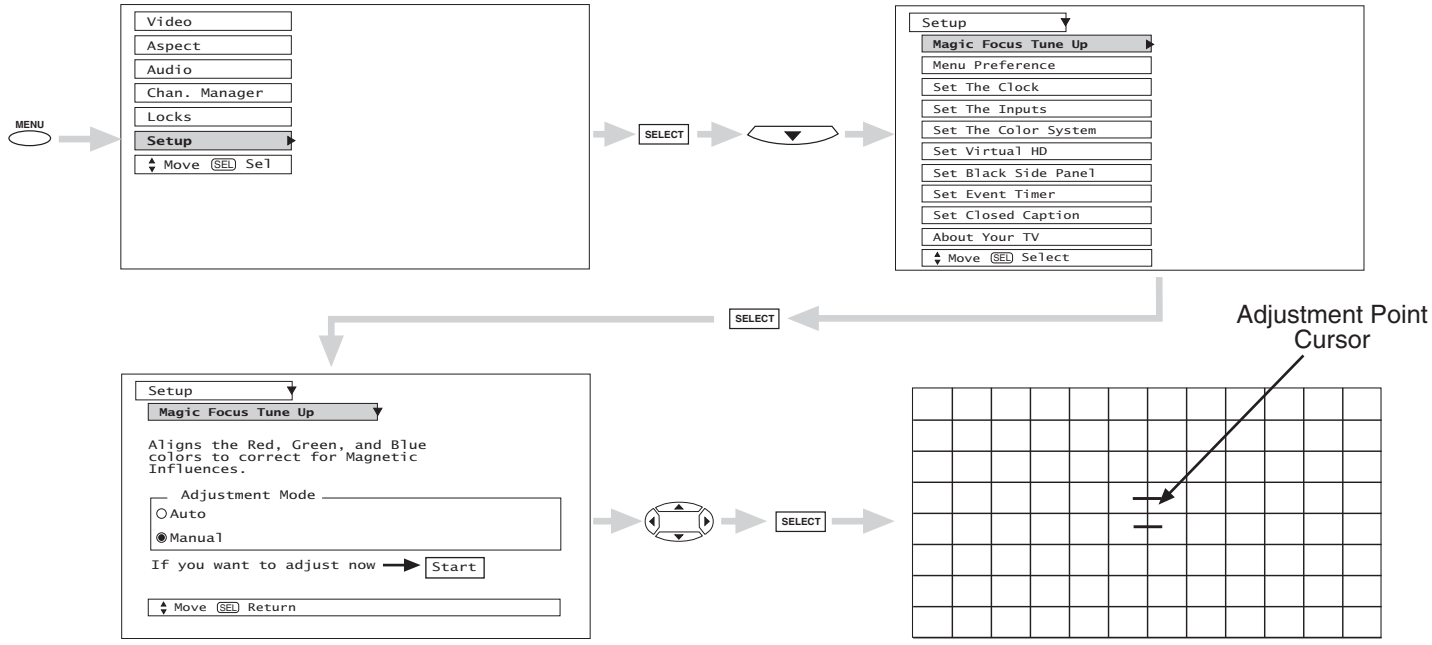
To move the adjustment point cursor using the CURSOR buttons, the Adjustment Cursor must be WHITE. Another way to move the Adjustment Point Cursor is to press the following buttons: [2] up, [4] left, [5] down, [6] right. If you use the number buttons while the adjustment point is WHITE, it will change to RED.

To Change the Color of Adjustment Point

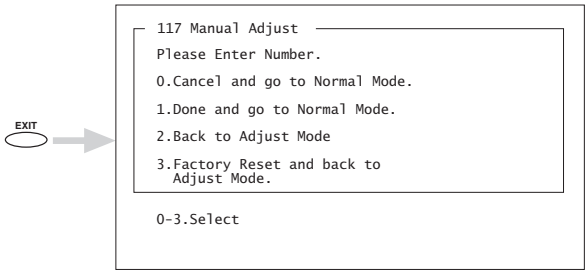
Press the SELECT button repeatedly (WHITE-RED-BLUE-WHITE...). Green color is fixed and cannot be adjusted.

To Adjust the Convergence

Move the Adjustment Cursor to the point to be adjusted. Use the CURSOR to match the RED and BLUE colors to GREEN (reference color). Properly aligned, all three colors should appear white.



If convergence is acceptable after Manual Convergence adjustment, press EXIT button to access menu mode.

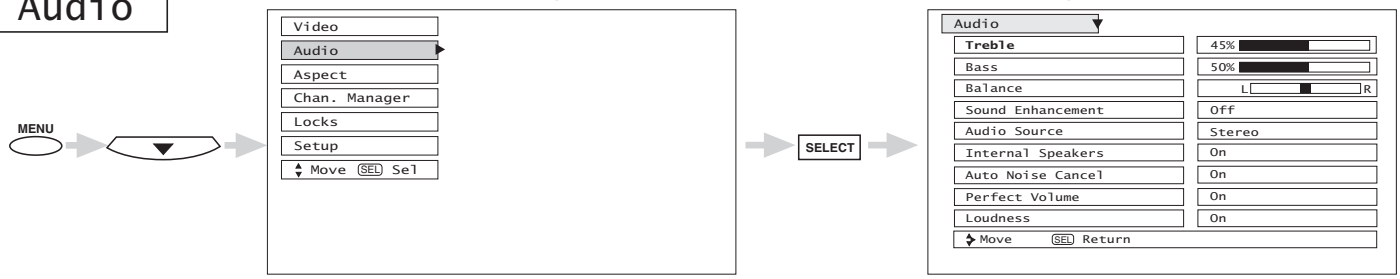


Press the [0] button on the remote control to CANCEL adjusted data and return to main picture.
Press the [1] button on the remote control to SAVE adjusted data and return to main picture.
Press the [2] button on the remote control to return to the manual convergence adjustment mode (crosshatch pattern).
Press the [3] button on the remote control to recall the factory pre-set convergence data.

CUSTOMIZED PICTURE AND SOUND ADJUSTMENTS

Audio

Select AUDIO to adjust the TV to your preference and to improve the sound quality.



Press CURSOR ▲, ▼, to select menu item.
Press CURSOR ◄ or ► to adjust the function.
Press EXIT to quit the MENU, or select Audio to return to the main menu.

NOTE: If TREBLE is selected you are adjusting treble. The additional menu items Bass and Balance can be selected and adjusted in the same manner.

Treble — This function controls the high frequency audio to all speakers.

Bass — This function controls the low frequency audio to all speakers.

Sound Enhancement — This unction will reproduce the "live" sound you would hear in concert halls, sport stadiums, movie theaters, etc. with only two speakers.

Balance — This function will control the left to right balance of the Projection TV internal speakers.

Audio Source — Multi-Channel Television Sound will allow you to select STEREO (a stereo broadcast), MONO (monaural sound) used when receiving a weak stereo broadcast or 2nd Audio Prog (SAP) which may be a secondary language, weather report, etc.
The sources received will be displayed at the top right edge of the TV. The source you select will be displayed above the sources received. See example below for each selection when both stereo and second audio are received (monaural is always received).

STEREO SELECTED

SAP SELECTED

MONO SELECTED

Internal Speakers — This function is useful when setting up the external speakers.
ON - Select this feature if using the internal speakers only.
OFF - Select this feature if you prefer to use only speakers from a separate stereo system.

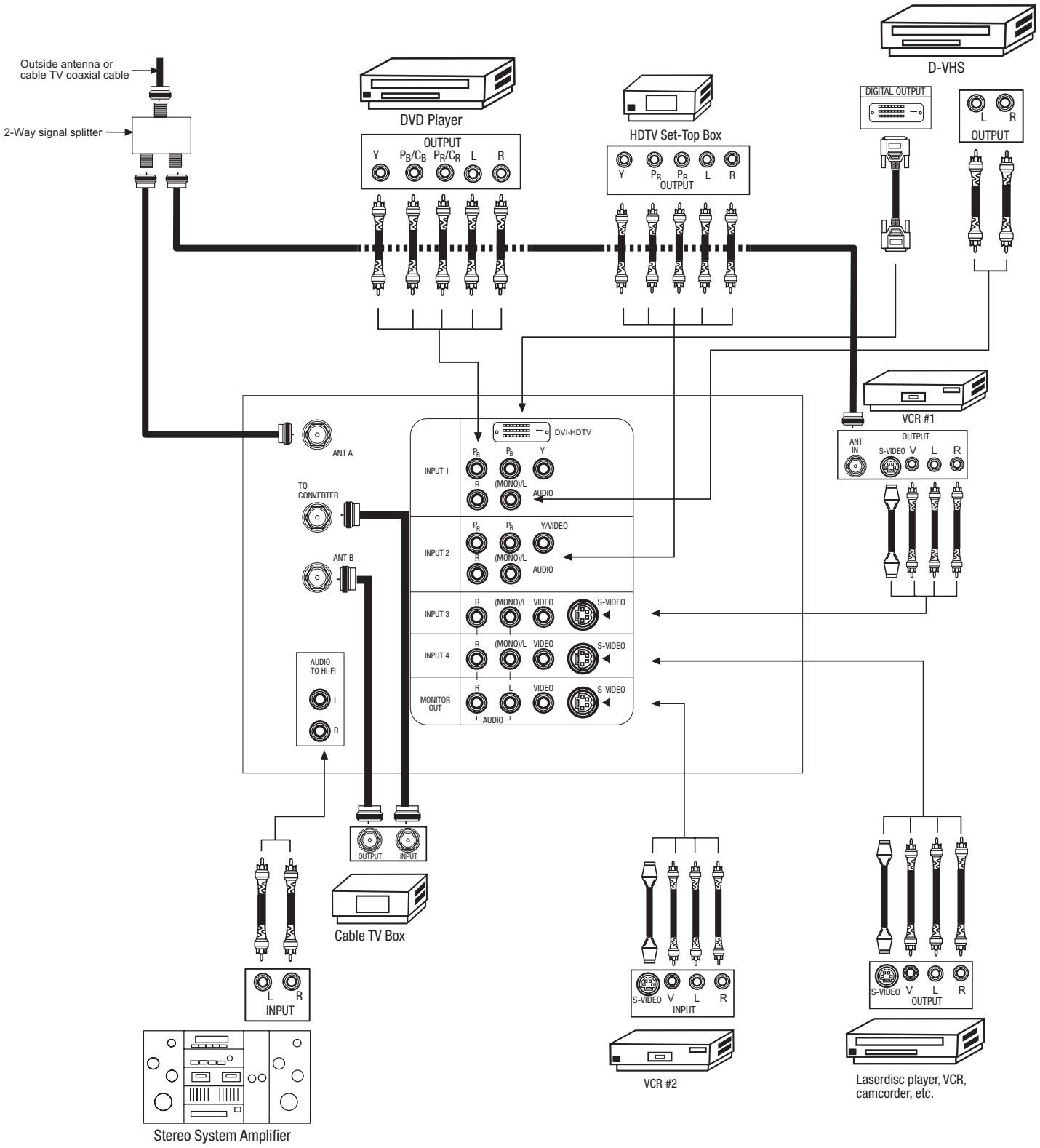
Auto Noise Cancel — This function eliminates the noise between stations. If a channel is tuned and is noisy, this function will automatically eliminate the audio for that channel.

Perfect Volume — This function will automatically adjust volume so each channel and input has the same average volume level.

Loudness — This function turns loudness ON or OFF. It will improve the quality of both low and high frequency sounds when listening at low volume levels.

REAR PANEL CONNECTIONS

TYPICAL FULL-FEATURE SETUP



NOTE:

1. Connect only 1 component to each input jack.
2. Follow connections that pertain to your personal entertainment system.
3. Composite video signal can be input to Input2~Input5.
4. Cables are not included with the purchase of this television.

TABLE OF CONTENTS

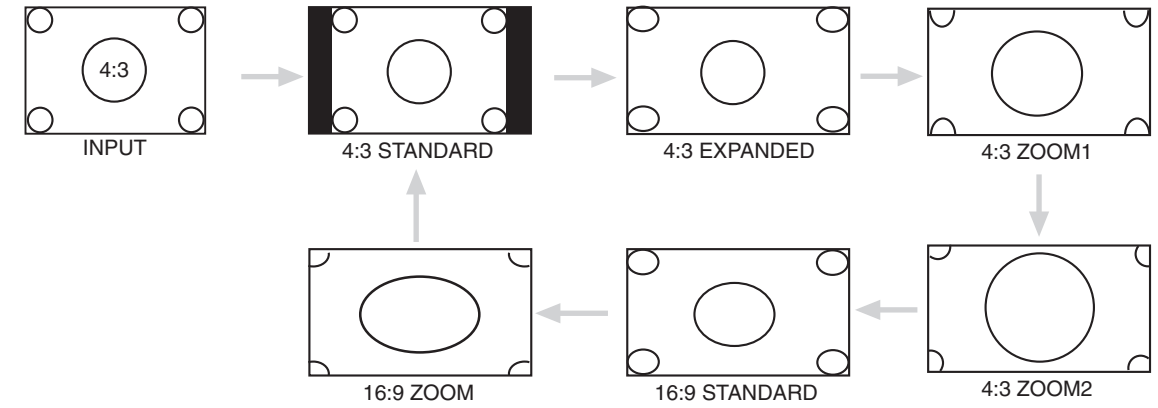
Display Picture Formats

Press this button to quickly change the picture format ASPECT ratio.

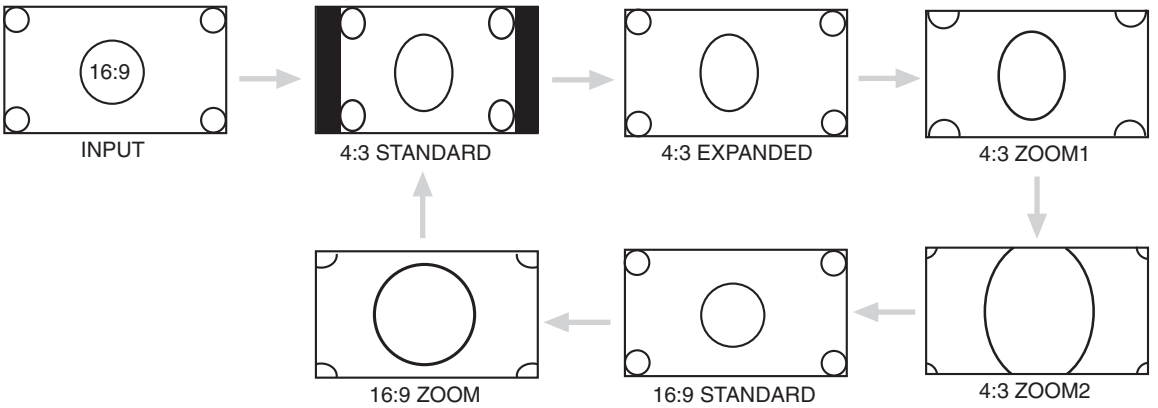
Depending on the input signal, the picture format ratio allows you to adjust the images through the following options.

4:3 Standard	Use this aspect mode to display conventional (4:3) images. Side panels (gray areas) are placed to the left and right of the image to preserve the original aspect ratio of the source. Note: Use this mode for only 15% of your total viewing time to prevent uneven aging of the phosphors. Phosphors in the lighted area of the picture will age more rapidly than the black areas.
4:3 Expanded	use this aspect mode to display conventional (4:3) sources by linearly increasing image expansion from the center towards the edges of the display area in order to fill it.
4:3 Zoom1/Zoom2	Use these aspect modes to zoom in on conventional (4:3) sources.
16:9 Standard	Use this aspect mode to display 16:9 sources like HDTV and DVD's preserving the original 16:9 aspect ratio.
16:9 Zoom	Use this aspect mode to zoom 16:9 images.

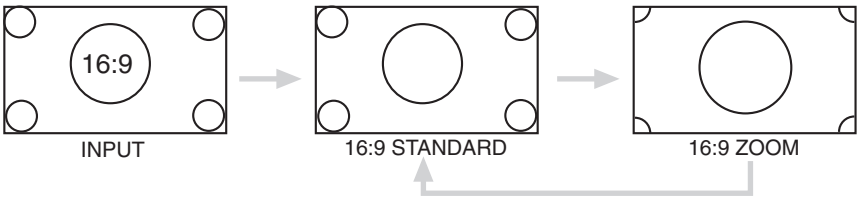
(1) NTSC/480i/480p Input



(2) 480i/480p INPUT



(3) 720p/1080i INPUT



NOTE: The Aspect Style setting you select for an ANT input will automatically be set for the other ANT inputs. However, all five video inputs have independent Aspect Style settings.

SERVICE ADJUSTMENTS

TO GO TO AN ADJUSTMENT, CLICK ON ITS HEADING BELOW

***IMPORTANT**

For many of the above adjustments, it is necessary to have an HDTV (1080i or 720P) signal generator, SDTV (480P) signal generator, as well as the usual NTSC (480i) signal generator.

Hitachi recognizes that few companies offer HDTV or SDTV signal generators and that the cost of these generators is sometimes prohibitive. For this reason, we suggest the use of a set-top-box for HDTV and SDTV adjustments. Usually, there is a switch on the set-top-box which enables it to output HDTV (1080i or 720P) or SDTV (480P) signals even with no input. In this case, the sync is automatically detected by the TV (at the Y-P_BP_R Inputs on the rear panel).

1. ASSEMBLED P.W.B. ADJUSTMENT

1.1 Service Menu Access

Adjustment Procedure

(1) Press and hold INPUT key on Control Panel and then press POWER key on control panel to access I²C adjustment mode.

(2) Receive signal on main picture. (NTSC, SDTV or HDTV).

Some menu pages have I²C adjustments for SDTV and HDTV. The set will automatically allow you to set these items only when a SDTV or HDTV signal is input to the COMPONENT jacks on the back of the TV. ..... See table below.

(3) Check the OSD according to table on the following pages, using CURSOR ▲, ▼ on Remote Control.
*: Adjustable Data
Others: Fixed Data (be careful not to change)

(4) Press EXIT key to exit I²C ADJUST mode.

NOTES: (1) If the TV I²C data is different from the I²C Parameter (of the following pages) for fixed data, change the data.

(2) When exchanging microprocessor or EEPROM and TV is turned on for first time, it requires initialization of Memory Initial of I²C adjustment menu. Press CURSOR ▶ and hold for 3 seconds to initialize memory.

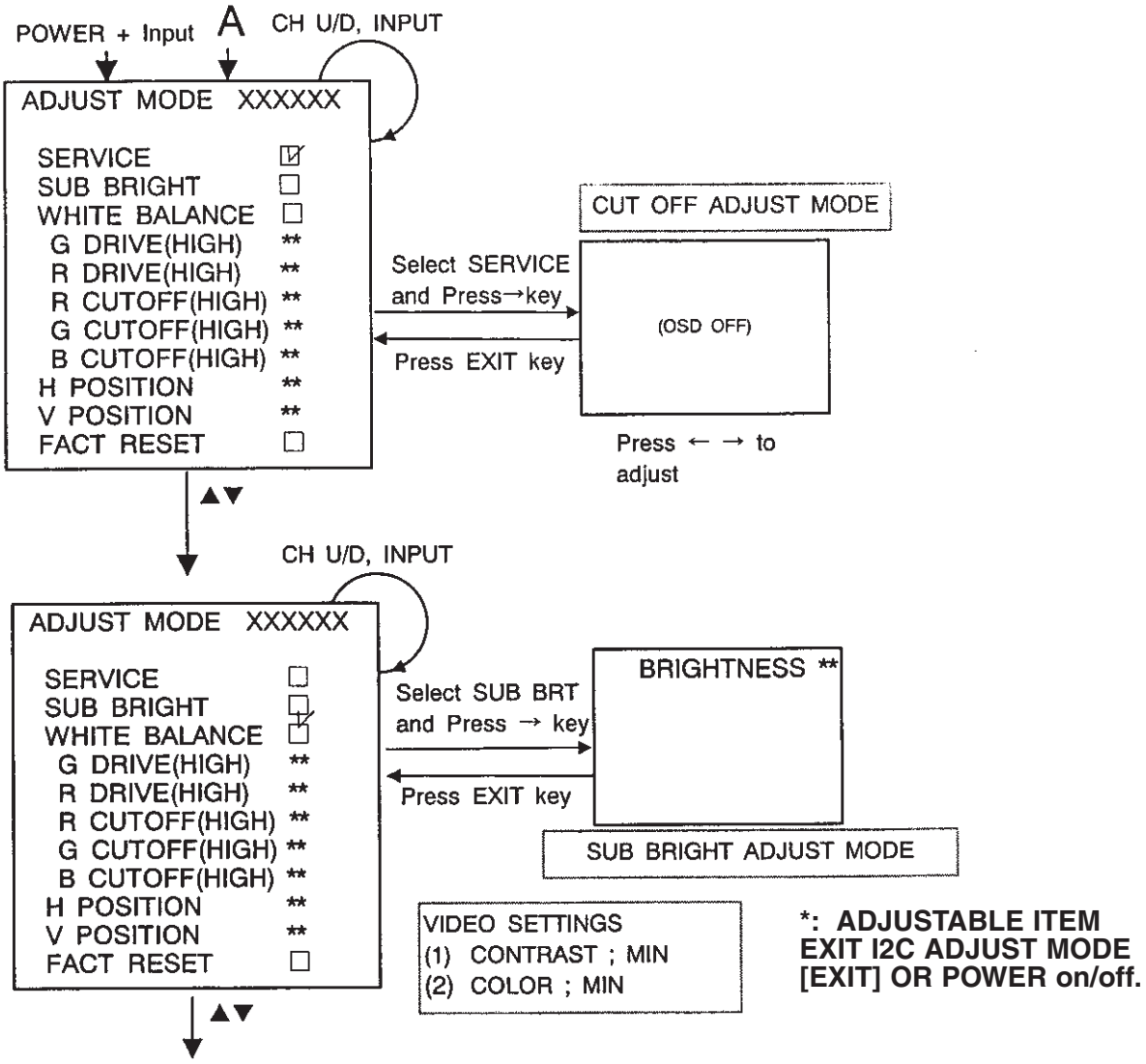
(3) Use FACTORY RESET to set TV to out of factory shipping conditions: Do not use MEMORY INITIALIZE.

IMPORTANT: AFTER PERFORMING A FACTORY RESET OR A MEMORY INITIALIZATION, YOU MUST UNPLUG THE AC CORD AND THEN PLUG IT BACK IN.

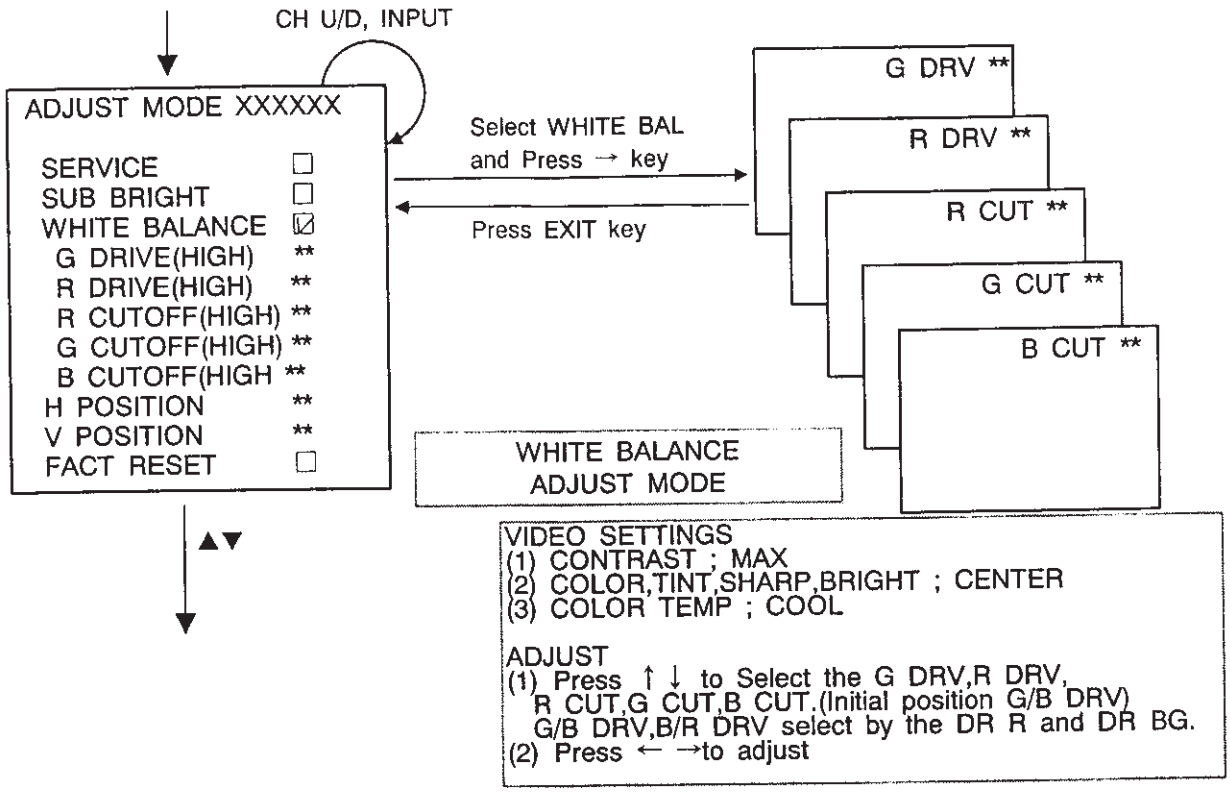
BACK TO ADJUSTMENTS

I²C OSD Flowchart

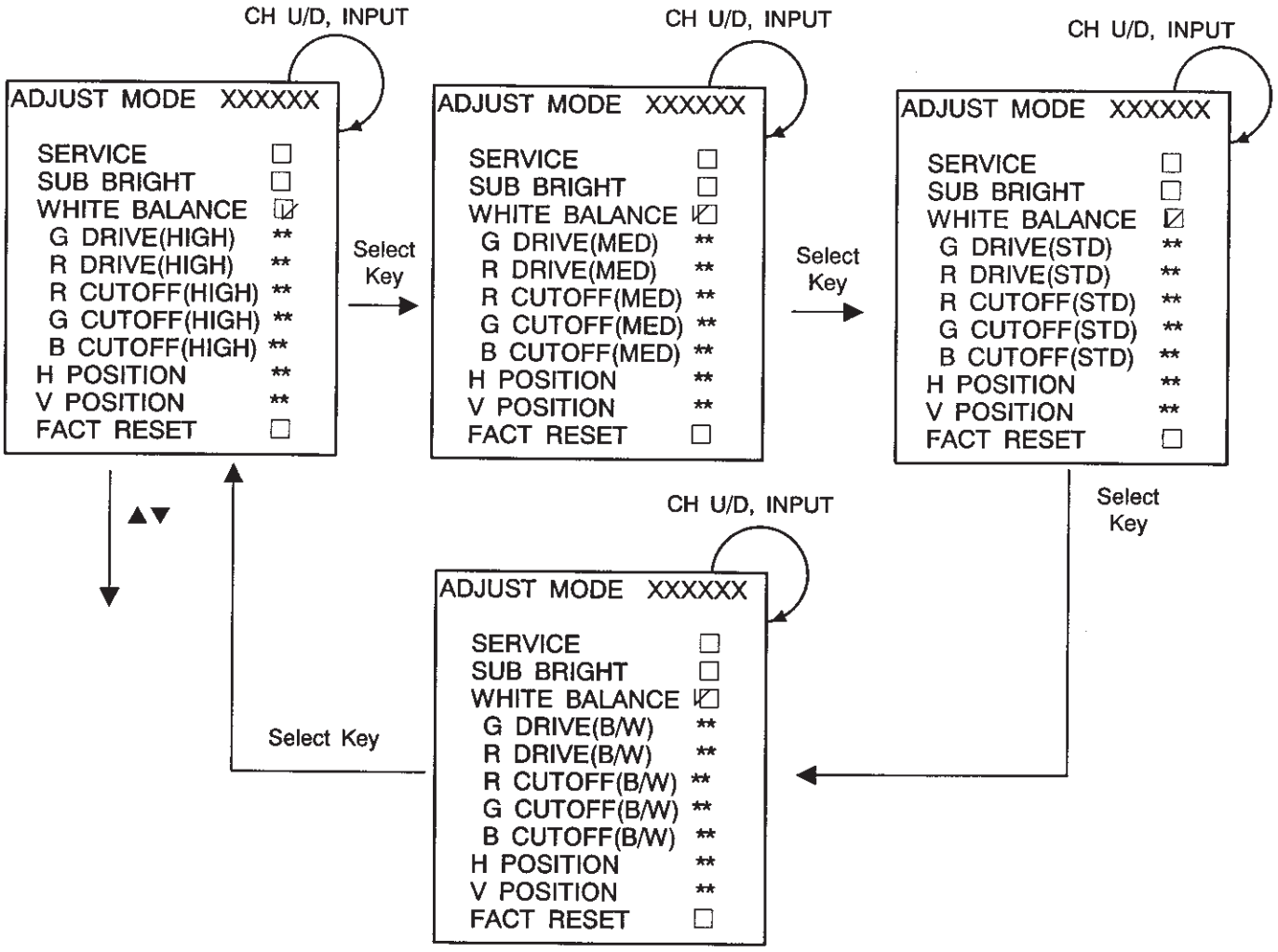
(a) Adjust Mode OSD
Press [POWER] + [INPUT] of Control Panel.



(a) Adjust Mode OSD (continued)



(a) Adjust Mode OSD (continued)



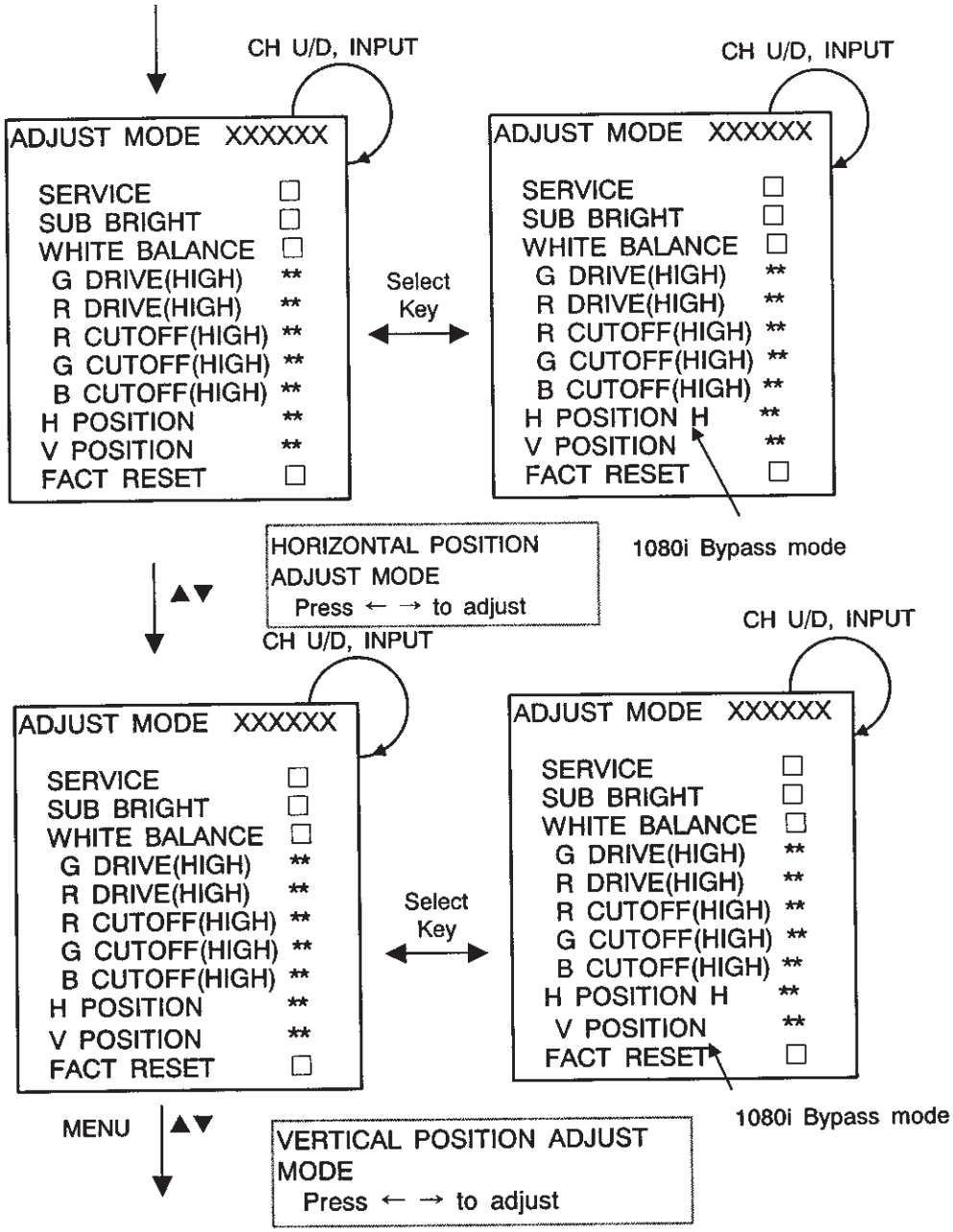
MEDIUM, STANDARD, B/W ADJUST MODE

(1) Press ↑ ↓ to select the G DRV or R DRV.

(2) Press select to change the HIGH→MEDIUM→STANDARD→B/W→HIGH mode. Adjust on each mode.

(3) MEDIUM, STANDARD and B/W mode data is offset data based on the HIGH mode data.

(a) Adjust Mode OSD (continued)



(b) I2C Parameter List

Adjustment Mode OSD	Adjustment Item		Adjustment Range(HEX)	Initial Data(HEX)	Adjustment Value(HEX)
SERVICE	SERVICE			OFF	
TA1360 (88H)					
SUB BRIGHT	Sub Brightness		3C~ FF	7F	
WHITE BAL White Balance Mode (TA1360 88H)					
G DRIVE(HIGH)	Green Drive Gain Adjustment	High	00~ 7F	3F	
G DRIVE(MED)	00: .5 dB ~ 7F: +3dB	Medium		49	
G DRIVE(STD)	Data(M) = High + Medium - 3F	Standard		4F	
G DRIVE (B/W)	Data(S) = High + Standard - 3F Data (B) = High + B/W - 3F	Black/White		58	
R DRIVE(HIGH)	Red Drive Gain Adjustment	High	00~ 7F	3F	
R DRIVE(MED)	00: .5 dB ~ 7F: +3dB	Medium		4F	
R DRIVE(STD)	Data(M) = High + Medium - 3F	Standard		57	
R DRIVE (B/W)	Data(S) = High + Standard - 3F	Black/White		65	
R CUTOFF(HIGH)	Red Cutoff Adjustment	High	00~ FF	7F	
R CUTOFF(MED)	00: 1.9 V~ FF: 2.9 V	Medium		7F	
R CUTOFF(STD)	Data(M) = High + Medium - 7F	Standard		7F	
R CUTOFF (B/W)	Data(S) = High + Standard - 7F	Black/White		7F	
G CUTOFF(HIGH)	Green Cutoff Adjustment	High	00~ FF	7F	
G CUTOFF(MED)	00: 1.9 V~ FF: 2.9 V	Medium		7F	
G CUTOFF(STD)	Data(M) = High + Medium - 7F	Standard		7F	
G CUTOFF (B/W)	Data(S) = High + Standard - 7F	Black/White		7F	
B CUTOFF(HIGH)	Blue Cutoff Adjustment	High	00~ FF	7F	
B CUTOFF(MED)	00: 1.9 V~ FF: 2.9 V	Medium		7F	
B CUTOFF(STD)	Data(M) = High + Medium - 7F	Standard		7F	
B CUTOFF (B/W)	Data(S) = High + Standard - 7F	Black/White		7F	
H POSITION	Horizontal Position Adjustment	Normal	00~ 7F	40	
H POSITION H	00: .10%~ 7F: +10% Data(H) = H POSI + H POSI H - 3F	Bypass		49	
FLEX					
VD POSITION	Vertical Position		00~ 7F	3F	
FACTORY RESET					
TA13483-Sub (DAH)					
SUB-CONT(TV-S)	Sub Contrast Control 00: MIN(-3Db), 1F: MAX(+3Db)		00~ 1F	0F	
OSD POSITION					
H POSI	OSD Horizontal Position		00~ FF	0D	
V POSI	OSD Vertical Position		00~ FF	22	
CLK1	OSD Clock Adjust		00~ 4F	40	
CLK2			00~ 4F	40	
CLK3			00~ 4F	49	
CLK4			00~ 4F	4F	
AFC/CLOCK TEST			-	-	
MEMORY INITIAL			-	-	
I2C OPEN			-	-	
IR BLASTER			-	-	

(b) I2C Parameter List (continued)

Adjustment Mode OSD	Adjustment Item		Adjustment Range(HEX)	Initial Data(HEX)	Adjustment Value(HEX)
E2PROM edit					
ADRRESS	ADRRESS		-	-	
DATA	DATA		00~ FF	-	
P MODE ADJ					
Contrast	Contrasrt Reset Step Adjustment 00 step (0%) ~ 60 step (100%)	Day Mode	00~ 60	60	
		Night Mode	00~ 60	30	
Brightness	Brightness Reset Step Adjustment 00 step (0%) ~ 60 step (100%)	Day Mode	00~ 60	30	
		Night Mode	00~ 60	30	
Color	Color Reset Step Adjustment 00 step (0%) ~ 60 step (100%)	Day Mode	00~ 60	30	
		Night Mode	00~ 60	27	
Tint	Contrast Reset Step Adjustment 00 step ~ 60 step	Day Mode	00~ 60	30	
		Night Mode	00~ 60	30	
Sharpness	Tint Reset Step Adjustment 00 step (0%) ~ 60 step (100%)	Day Mode	00~ 60	30	
		Night Mode	00~ 60	30	
Color Temperature	Color Temperature Reset Adjustment High, Medium, Standard, Black/White	Day Mode	High Medium Standard Black/White	High	
		Night Mode	High Medium Standard Black/White	Standard	
Black Enhancement	Black Enhancement Reset Adjustment High, Middle, Low, Off	Day Mode	High, Middle Low, Off	Middle	
		Night Mode	High, Middle Low, Off	Low	
Edge Enhancement	Edge Enhancement Reset Adjustment High, Middle, Low, Off	Day Mode	High, Middle Low, Off	High	
		Night Mode	High, Middle Low, Off	Low	
DIGITAL MODULE	HDTV Model only		-	-	
HFRQ-N	The number of times of Sync Frequency		00~ 0F	03	
INPUT1	Input1 YPBPR Horizontal Frequency Detection Select 00: Auto, 01: 480i, 02: 480p, 03: 720p, 04: 1080i		00~ 04	00	
INPUT2	Input2 YPBPR Horizontal Frequency Detection Select 00: Auto, 01: 480i, 02: 480p, 03: 720p, 04: 1080i		00~ 04	00	
V CHIP/ CCD					
SAMPL ING	V Chip Adjust		00~ FF	00	
POLLING			00~ FF	0F	
START			00~ 07	02	
TIMEOUT			00~ 1E	05	
STATUS			00~ 07	02	
CLK POS	Adjust CCD Clock Position HDTV only		00~ 1F	0A	
VIDEO ID	VIDEO ID Detection 0: 4:3 signal, 1: 4:3 letter box signal 2: 16:9 screen signal, FF: No VIDEO ID		00~ 02, FF	*	
IR BLASTER					
WAIT	IR Blaster Adjustment		00~ FF	06	
REPEAT			00~ FF	20	

(b) I2C Parameter List (continued)

Adjustment Mode OSD	Adjustment Item		Adjustment Range(HEX)	Initial Data(HEX)	Adjustment Value(HEX)
ISF Mode: TA1360 (88H)					
RGBOUT0	RGB Output Mode Switch 00: Normal, 01: R only, 02: G only, 03: B only		00~ 03	00	
SUB-BRT	Brightness Adjustment 00: .40 IRE~ FF: +40 IRE DVI Input Data=SUB-BRT + SUBBRTH-7H		3C~ FF	7F	
G-DRV-H	Green Drive Gain Adjustment 00: -5 dB ~ 7F: +3dB Data(M) = High + Medium - 3F Data(S) = High + Standard - 3F	High	00~ 7F	3F	
G-DRV-M		Medium		49	
G-DRV-S		Standard		4F	
G-DRV-B		Black/White		58	
R-DRV-H	Red Drive Gain Adjustment 00: -5 dB ~ 7F: +3dB Data(M) = High + Medium - 3F Data(S) = High + Standard - 3F	High	00~ 7F	3F	
R-DRV-M		Medium		4F	
R-DRV-S		Standard		57	
R-DRV-B		Black/White		65	
R-CUT-H	Red Cutoff Adjustment 00: 1.9 V~ FF: 2.9 V Data(M) = High + Medium - 7F Data(S) = High + Standard - 7F	High	00~ FF	7F	
R-CUT-M		Medium		7F	
R-CUT-S		Standard		7F	
R-CUT-B		Black/White		7F	
G-CUT-H	Green Cutoff Adjustment 00: 1.9 V~ FF: 2.9 V Data(M) = High + Medium - 7F Data(S) = High + Standard - 7F	High	00~ FF	7F	
G-CUT-M		Medium		7F	
G-CUT-S		Standard		7F	
G-CUT-B		Black/White		7F	
B-CUT-H	Blue Cutoff Adjustment 00: 1.9 V~ FF: 2.9 V Data(M) = High + Medium - 7F Data(S) = High + Standard - 7F	High	00~ FF	7F	
B-CUT-M		Medium		7F	
B-CUT-S		Standard		7F	
B-CUT-B		Black/White		7F	
SUBCNT0	Sub Contrast 00: -3.4 dB ~ 1F: +2.6 dB		00~ 1F	12	
COLOR-3	Color (Center Adjustment) 00: -20 dB ~ 7F: +4.5 dB	TV/NTSC	00~ 7F	4D	
COLOR-D		SDTV		4D	
COLOR-E		HDTV		52	
COLOR-M	Color Offset	Medium	00~ 3F	1F	
COLOR-S		Standard		1F	
COLOR-B		B/W		1F	
TINT-3	Tint(Center Adjustment) 00: -32 degree 7F: +32 degree	TV/NTSC	00~ 7F	41	
TINT-D		SDTV		41	
TINT-E		HDTV		43	
TINT-M	Tint Offset	Medium	00~ 3F	1F	
TINT-S		Standard		1F	
TINT-B		B/W		1F	
SHARP-3	Sharpness (Center Adjustment) -10 dB ~ +15 dB	ANT A, B/NTSC	00~ 7F	20	
SHARP-G		480i/480p		20	
SHARP-I		720p/1080i		1F	
SHARP-9		Photo MC		1F	
SHARP-C		SPLIT		20	

(b) I2C Parameter List (continued)

Adjustment Mode OSD	Adjustment Item			Adjustment Range(HEX)	Initial Data(HEX)	Adjustment Value(HEX)
ISF Mode: TA1360 (88H)						
RY-PH3	R-Y/B-Y Phase	ANT A, B/NTSC		00~ 0F	00	
RY-PHD	00: 90 degree	SDTV			00	
RY-PHE	0F: 109 degree	HDTV			00	
R/BGA3H	R-Y/B-Y Gain	TV/NTSC	High	00~ 0F	0A	
R/BGA3M	00: 0.56		Medium		08	
R/BGA3S	0F: 0.86		Standard		06	
R/BGA3B			Black/White		03	
R/BGADH		SDTV	High		0A	
R/BGADM			Medium		08	
R/BGADS			Standard		06	
R/BGADB			Black/White		03	
R/BGAEH		HDTV	High		08	
R/BGAEM			Medium		06	
R/BGAES			Standard		04	
R/BGAEB			Black/White		03	
GY-PH-4	G-Y/B-Y Phase	TV/NTSC		00~ 0F	02	
GY-PH-F	00: 232.5 degree	SDTV			02	
GY-PH-G	0F: 255 degree	HDTV			03	
G/BGA3H	G-Y/B-Y Gain	TV/NTSC	High	00~ 0F	02	
G/BGA3M	00: 0.3		Medium		03	
G/BGA3S	0F: 0.45		Standard		04	
G/BGA3B			Black/White		05	
G/BGADH		SDTV	High		02	
G/BGADM			Medium		03	
G/BGADS			Standard		04	
G/BGADB			Black/White		05	
G/BGAEH		HDTV	High		00	
G/BGAEM			Medium		00	
G/BGAES			Standard		00	
G/BGAEB			Black/White		00	
DC-PNT0	DC Restoration Point 00: 0% ~ 07: 47%			00~ 07	00	
DCRATH	DC Restoration Rate	Black Enhancement	High	00~ 07	00	
DCRATM	00: 100% ~ 07: 135%		Middle		00	
DCRATL			Low		00	
DCRATO			Off		00	
DC-LMT0	DC Restoration Limit Point 00: 60%, 01: 73%, 02: 87%, 03: 100%			00~ 03	00	
DABLPN0	Dynamic ABL Detection Point 00: MIN ~ 03: MAX			00~ 03	03	
DABLGAH	Dynamic ABL Gain	Black Enhancement	High	00~ 03	00	
DABLGAM	00: MIN ~ 03: MAX		Middle		00	
DABLGAL			Low		00	
DABLGAO			Off		00	

(b) I2C Parameter List (continued)

Adjustment Mode OSD	Adjustment Item		Adjustment Range(HEX)	Initial Data(HEX)	Adjustment Value(HEX)
TA1360 (88H)					
DIMMER	Not use		00~ 3F	*	
CONTRAST	Not use		00~ 7F	*	
SCP-SW0	Sand castle Pulse Switch 00: Internal, 01: External Input		00~ 01	01	
H-POSI	Horizontal Position Adjustment	Normal	00~ 7F	40	
H-POSIH	00: -10%~ 7F: +10%	Bypass		49	
H-POSIS	Data(H) = H POSI + H POSI H - 3F DVI=SAM 1080i Bypass, Data(S) = H POSI + H POSI H - 3F +H-POSIS - 3F	SAM-1080i Bypass		37	
APRTR-3	Aperture Control Peak f0	ANT A, B/NTSC	00~ 03	01	
APRTR-G	0: 15 MHz, 1: 8.8 MHz	480i/480p		01	
APRTR-I	2: 7.5 MHz, 3: 5 MHz	720p/1080i/PhotoMC		00	
APRTR-C		SPLIT		01	
CLT-0	Color Limiter Level Switch 0: 1.65 Vp-p, 1: 2 Vp-p		00~ 01	01	
CSRTG-0	Color SRT Gain 0: min~ 3: max		00~ 03	00	
CSRTF-0	Color SRT Frequency 0: 4.3 MHz~ 1: 5.8 MHz		00~ 01	01	
VSM-PHP	VM Phase	ANT A, B, NTSC/480i/480p	00~ 07	06	
VSM-PHJ	00: -37.5 ns, 05: Normal 07: +15 ns	720p/1080i/ANT C/PhotoMC		04	
CDE-0	Color Detail Enhancer 00: min ~ 03: max		00~ 03	00	
DCUBRT0	RGB Brightness 00: -20 IRE ~ 7F: +20 IRE		00~ 7F	3F	
DCUCNT0	RGB Contrast 00: -17 dB ~ 7F: 0 dB		00~ 7F	5A	
OSDACL0	OSD Auto Contrast Limiter Switch 0: OFF 1: ON		00~ 01	00	
OSDBRT0	OSD Brightness Adjustment 00: 5 IRE, 01: 0 IRE, 02:-5 IRE, 03:-10 IRE		00~ 03	02	
OSDCNT0	OSD Contrast Adjustment 00: -9.5 dB ~ 03: 0 dB		00~ 03	02	
DCRRSW0	DC Restoration Ratio Switch 0: 100% less, 1: 100% over		00~ 01	00	
COLORG0	Color γ Correction Point 00: OFF, 01: 0.23 Vp-p, 02: 0.37 Vp-p, 03: 0.52 Vp-p		00~ 03	00	
YCGA-0	Component Dynamic Y/C Correction Select 00: OFF, 01: min, 02: mid, 03: max		00~ 03	00	
APL/BS0	APL / Black Stretch Start Point 00: 0 IRE ~ 03: 23 IRE		00~ 03	00	
BLC-0	Black Level Auto Correction Switch 00: OFF, 01: ON		00~ 01	00	
BDL-0	Black Detection Level Switch 00: 3 IRE, 1: 0 IRE		00~ 01	00	
BSARE0	Black Stretch Area Correction Switch 00: ON, 01: OFF		00~ 01	01	
SRTGA-0	SRT(Super Real Transient) Gain 00: MIN ~ 1F: MAX		00~ 1F	10	

(b) I2C Parameter List (continued)

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)	Adjustment Value(HEX)
TA1360 (88H)				
WPLLVL-0	White Character Correction Amplitude 00: min ~ 07: max	00~ 07	07	
ABLPN0	ABL Detection Point 00: MIN ~ 07: MAX	00~ 07	07	
ABLGA0	ABL Gain 00: MIN ~ 07: MAX	00~ 07	00	
DGGAIN0	Dynamic Y Gamma Gain vs Dark Area 00: OFF ~ 07: MAX(+6 dB)	00~ 03	00	
DGAREA0	Dynamic Y Gamma Gain vs Bright Area 00: OFF ~ 07: max	00~ 07	00	
STATG10	Static Y Gamma Black Gain 00: OFF, 01: MIN(0 DB) ~ 07: MAX(+6 DB)	00~ 07	00	
STATG20	Static Y Gamma Bright Gain 00: OFF, 01: MIN(0 DB) ~ 03: MAX(-6 DB)	00~ 03	03	
YOUTG-0	Y Gamma Switch 0: OFF, 1: ON	00~ 01	00	
YDTL-0	Y Detail Control 00: MIN(Trap) ~ 0F: MAX(+6 dB)	00~ 0F	07	
YDELAY0	Y Group Delay Control 00: MIN(Trap) ~ 0F: MAX(+6 dB)	00~ 0F	09	
WPPNT0	White Peak Blue Point 00: 55 IRE ~ 07: 105 IRE	00~ 07	00	
WPGA-0	White Peak Blue Gain 00: min(+2 dB) ~ 07: max(+9.5 dB)	00~ 07	00	
HIBRT0	High Bright Color Switch 00: OFF, 01: ON	00~ 01	00	
WPS-0	White Peak Suppressor Level 00: 110 IRE, 01: 130 IRE	00~ 01	01	
BLS-0	Blue Stretch Gamma Correction 00: OFF, 01: ON	00~ 01	00	
GSTR-0	Green Stretch 00: OFF ~ 03: MAX	00~ 03	00	
BSTRG-0	Blue Stretch Gain 00: OFF ~ 03: MAX(+4 dB)	00~ 03	00	
BSTRP-0	Blue Stretch Point 00: MIN(30 IRE)~ 03: MAX(45 IRE)	00~ 03	00	
BSCHR10	Black Stretch Characteristic Switch 1 (OFF~ MAX)	00~ 01	00	
BSCHR20	Black Stretch Characteristic Switch 2 (OFF~ MAX)	00~ 01	00	

(b) I2C Parameter List (continued)

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)	Adjustment Value(HEX)
UPD64084 (B9H) Read Mode				
SYNCDET	Sync Detection 0: Sync, 1: No Sync	00~ 01	*	
F-STD	Frame Sync Nonstandard Detection 0: Standard, 1: Non standard	00~ 01	*	
V-STD	Vertical Sync Nonstandard Detection 0: Standard, 1: Non standard	00~ 01	*	
H-STD	Horizontal Sync Nonstandard Detection 0: Standard, 1: Non standard	00~ 01	*	
NOISE	Noise Level Detection 00: Noise Small ~ FF: Noise Large	00~ FF	*	
VID-ID	Video ID Detection 0: 4:3 signal, 1: 16:9 signal, 2: 4:3 letter box signal	00~ 03	*	
UPD64084 (B8H)				
DYGA	Y Motion Detection Gain 0: Gain 0 ~ F: Gain MAX	00~ 0F	09	
DCGA	Chroma Motion Detection Gain 0: Gain 0 ~ F: Gain MAX	00~ 0F	06	
VAPGA	Vertical Aperture Control Gain 0: Correction OFF ~ 7: Correction MAX (x0.875)	00~ 07	00	
VAPIN	Vertical Aperture Control Invert 0: Correction OFF ~ 1F: Correction MAX (x0.875)	00~ 1F	0B	
YHCOR	Y Output High Frequency Coring 0: Coring OFF, 1: Coring Small, 2: Coring Center, 3: Coring Large	00~ 03	00	
TA1383F-Main (D9H) Read Mode				
HSYNC-M	Horizontal Sync Number NTSC/480i = 22, 480p = 43, 1080i = 48, 720p = 60	00~ FF	*	
VSYNC-M	Vertical Sync Number 60Hz = 5E	00~ 7F	*	
CSYNC-M	SYNC Mode Detection 0:2 Level Sync, 1:3 Level Sync	00~ 01	*	
TA1383-Sub (DBH) Read Mode				
HSYNC-S	Horizontal Sync Number NTSC/480i = 22, 480p = 43, 1080i = 48, 720p = 60	00~ FF	*	
VSYNC-S	Vertical Sync Number 60Hz = 5E	00~ 7F	*	
CSYNC-S	SYNC Mode Detection 0:2 Level Sync, 1:3 Level Sync	00~ 01	*	

(b) I2C Parameter List (continued)

Adjustment Mode OSD	Adjustment Item		Adjustment Range(HEX)	Initial Data(HEX)	Adjustment Value(HEX)
TA1383-Main/Sub (D8H)					
CONTM1	Sub Contrast Control	Main TA1383 ANT A, B	00~ 1F	10	
CONTS1	00: MIN(-3dB)	Sub TA1383 ANT A		10	
CONT-2	1F: MAX(+3dB)	NTSC		10	
CONT-K		ANT C/YPBPR/DVD/BM		10	
CONT-A		DVI		10	
CLRM1	Sub Color Control	Main ANT A, B	00~ 1F	10	
CLRS1	00: MIN(-3dB)	Sub ANT A		10	
CLR-2	1F: MAX(+3dB)	NTSC		10	
CLR-K		ANT C/YPBPR/DVD/BM		10	
CLR-A		DVI		10	
TINTM1	Sub Tint Control	Main ANT A, B	00~ 0F	08	
TINTS1	0: MIN(-7deg)	Sub ANT A		08	
TINT-2	F: MAX(+7deg)	NTSC		08	
TINT-K		ANT C/YPBPR/DVD/BM		08	
TINT-A		DVI		08	
TA1383-Main/Sub (D8H/DAH)					
BANDW-F	Band Width Filter Switch	ANTA, B/NTSC/480i	00~ 03	01	
BANDW-5	0: OFF, 1: 4.2MHz, 2: 11.3MHz, 3: Mute	480p		02	
BANDW-6		720p		00	
BANDW-7		1080i		00	
BANDW-9		PhotoMC		00	
BANDW-C		SPLIT		01	
YDL1-F	Y Delay Time Adjust 1	ANTA, B/NTSC/480i	00~ 03	01	
YDL1-5	Base Band Section	480p		01	
YDL1-6	0: -10 ns, 1: 0 ns	720p		01	
YDL1-7	2: +10 ns, 3: +20 ns	1080i		01	
YDL1-9		PhotoMC		01	
YDL1-C		SPLIT		01	
Y-DL2-0	Y Delay Time Adjust 2 NTSC Section 1: +40 ns, 2: +80 ns, 3: +120 ns		00~ 03	00	
AFCRAN0	Horizontal AFC Switch 0: Normal, 1: Narrow		00~ 01	00	
FDET-3	Frequency Detection Input Switch 0: 480i-1 • • • NTSC, 1: 480i-2 • • • NTSC 2: D-SYNC2, 3: HD/VD		00~ 03	00	
HSEPL-3	Horizontal Sync Separation	ANT A, B/NTSC	00~ 03	00	
HSEPL-4	Level Switch	480i		00	
HSEPL-5	0: 20%, 1: 27%, 2: 34%, 3: 40%	480p		00	
HSEPL-J		720p/1080i/ANT C		00	
VSEPL-3	Vertical Sync Separation Level switch	TV/NTSC	00~ 03	00	
VSEPL-4	0: 40%, 1: 50%, 2: 60%, 3: 70%	480i		00	
VSEPL-5		480p		00	
VSEPL-J		720p/1080i/ANT C		00	
DSEPL-G	D-SYNC2-IN Sync Separation Level Switch	480i/480p	00~ 03	00	
DSEPL-J	0: 20%, 1: 30%, 2: 40%, 3: 50%	720p/1080i/ANT C		00	
AFCMD-1	AFC Gain Switch	ANT A, B	00~ 07	02	
AFCMD-2	0: AUTO 1, 1: AUTO 2, 2: AUTO 3,	NTSC		02	
AFCMD-L	3: AUTO 4, 4: +6dB, 5: 0 dB, 6:-12dB 7: OFF(Horizontal Free Run)	ANT C/YPBPR/DVD		04	
VMODE-0	Vertical Sync Mode Switch 0: Normal PLL Mode, 1: Sync Output Mode	ANT A, B/NTSC	00~ 01	00	
48ISEP3	480i Separator Mode Switch 0: ON, 1: OFF	ANT A, B/NTSC	00~ 01	00	
HDPOSI3	HD Output Phase Adjustment	ANT A, B/NTSC	00~ 0F	06	
HDPOSI4	0: 800 ns Advance, F: Sync Center	480i		05	
HDPOSI5		480p		00	
HDPOSI6		720p		09	
HDPOSI7		1080i		07	

(b) I2C Parameter List (continued)

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)	Adjustment Value(HEX)
NJW1160/61 82H				
BBE-LO	BBE Low Frequency Effect Level 0dB~ 15dB	00~ 0F	07	
BBE-HI	BBE High Frequency Effect Level 0dB~ 15dB	00~ 0F	05	
AGC	AGC Level Setting 150m/300m/400m/540mVrms	00~ 03	01	

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)	Adjustment Value(HEX)
FC-4 Read Mode				
FC-VER	FC Unit Micro Version Number	00~ FF	*	
FC-CHKH	FC Unit Micro Check Sum Number (High Bit)	00~ FF	*	
FC-CHKL	FC Unit Micro Check Sum Number (Low Bit)	00~ FF	*	
3-2T/C	TV/Cinema: 3-2 Pull Down Signal Detection 0: TV, 1: Cinema	00~ 01	*	
VFREQH	Main/Sub Vertical Frequency Detection (High 6Bit, Low 8Bit)	00~ FF	*	
VFREQL	59.94Hz = 17D2, 60Hz = 17CC	00~ FF	*	
HFREQH	Main/Sub Vertical Frequency Detection (High 5Bit, Low 8Bit)	00~ FF	*	
HFREQL	NTSC/480i = 0E85, 480p = 0742 1080i = 06C2, 720p = 0514	00~ FF	*	
APLDET	APL Detection	00~ FF	*	
PEAKDET	PEAK Detection	00~ FF	*	
YGAIN	Dynamic Contrast Y Gain 00: x1, 7F: x2	00~ 7F	*	
CGAIN	Dynamic Contrast Color Gain 00: x1, 3F: x2	00~ 3F	*	
FC-4 Write Mode				
B-BACK	Blue Back: FC Free Run Mode 0: Blue Back OFF, 1: Blue Back ON	00~ 01	*	
MAININ	Main Input Mode 0: NTSC, 1: 480i, 2: 480p, 3: 720p, 4: 1080i, 5: BM	00~ 0F	*	
SUBIN	Sub Input Mode 0: NTSC, 1: 480i, 2: 480p, 3: 720p, 4: 1080i	00~ 0F	*	
VDPOS-0	VD Position Offset	00~ 7F	3F	
LINE-I0	Line Interpolation 0: OFF, 1: ON	00~ 01	00	
M-SLOPE	Sat Slope 1 (Magenta) -90˚ (00h)~ 0˚ (40h)~ 90˚ (FFh) Data=M-SLOPE+M-Menu- 30(1Eh)	00~ 7F	40	
M-HUEW	Hue Width 1 (Magenta) Data= Width /360˚ x256=90˚ /360˚ x256=64 (3Fh)	00~ 3F	3F	
M-HUECH	Hue Center 1 (Magenta) High Bit	00~ 03	00	
M-HUECL	Hue Center 1 (Magenta) Low Bit Data= Hue /360˚ x1024=45˚ /360˚ x1024=128 (0080h)	00~ FF	80	
M-CLIP	Sat Clip 1 (Magenta)	00~ FF	FF	
R-SLOPE	Sat Slope 2 (Red) -90˚ (00h)~ 0˚ (40h)~ 90˚ (FFh) Data=R-SLOPE+R-Menu- 30(1Eh)	00~ 7F	40	
R-HUEW	Hue Width 2 (Red) Data= Width /360˚ x256=90˚ /360˚ x256=64 (3Fh)	00~ 3F	3F	
R-HUECH	Hue Center 2 (Red) High Bit	00~ 03	01	
R-HUECL	Hue Center 2 (Red) Low Bit Data= Hue /360˚ x1024 =113.2˚ /360˚ x1024=322 (0142h)	00~ FF	42	
R-CLIP	Sat Clip 2 (Red)	00~ FF	FF	

(b) I2C Parameter List (continued)

Adjustment Mode OSD	Adjustment Item	Adjustment Range(HEX)	Initial Data(HEX)	Adjustment Value(HEX)
FC-4 Write Mode				
Y-SLOPE	Sat Slope 3 (Yellow) -90° (00h)~ 0° (40h)~ 90° (FFh) Data=Y-SLOPE+Y-Menu- 30(1Eh)	00~ 7F	40	
Y-HUEW	Hue Width 3 (Yellow) Data= Width /360° x256=90° /360° x256=64 (3Fh)	00~ 3F	3F	
Y-HUECH	Hue Center 3 (Yellow) High Bit	00~ 03	01	
Y-HUECL	Hue Center 3 (Yellow) Low Bit Data= Hue /360° x1024=173.0° /360° x1024=492 (01ECh)	00~ FF	EC	
Y-CLIP	Sat Clip 3 (Yellow)	00~ FF	FF	
G-SLOPE	Sat Slope 3 (Green) -90° (00h)~ 0° (40h)~ 90° (FFh) Data=G-SLOPE+G-Menu- 30(1Eh)	00~ 7F	40	
G-HUEW	Hue Width 4 (Green) Data= Width /360° x256=90° /360° x256=64 (3Fh)	00~ 3F	3F	
G-HUECH	Hue Center 4 (Green) High Bit	00~ 03	02	
G-HUECL	Hue Center 4(Green) Low Bit Data= Hue /360° x1024=225.0° /360° x1024=640 (0280h)	00~ FF	80	
G-CLIP	Sat Clip 4 (Green)	00~ FF	FF	
C-SLOPE	Sat Slope 5 (Cyan) -90° (00h)~ 0° (40h)~ 90° (FFh) Data=C-SLOPE+C-Menu- 30(1Eh)	00~ 7F	40	
C-HUEW	Hue Width 5 (Cyan) Data= Width /360° x256=90° /360° x256=64 (3Fh)	00~ 3F	3F	
C-HUECH	Hue Center 5 (Cyan) High Bit	00~ 03	03	
C-HUECL	Hue Center 5 (Cyan) Low Bit Data= Hue /360° x1024=293.2° /360° x1024=834 (0342h)	00~ FF	42	
C-CLIP	Sat Clip 5 (Cyan)	00~ FF	FF	
B-SLOPE	Sat Slope 6 (Blue) -90° (00h)~ 0° (40h)~ 90° (FFh) Data=B-SLOPE+B-Menu- 30(1Eh)	00~ 7F	40	
B-HUEW	Hue Width 6 (Blue) Data= Width /360° x256=90° /360° x256=64 (3Fh)	00~ 3F	3F	
B-HUECH	Hue Center 6 (Blue) High Bit	00~ 03	03	
B-HUECL	Hue Center 6 (Blue) Low Bit Data= Hue /360° x1024 =353° /360° x1024 = 1004 (03ECh)	00~ FF	EC	
B-CLIP	Sat Clip 6 (Blue)	00~ FF	FF	
HUECLP0	Hue Clip (HUE° / 360° x1024)	00~ 7F	2F	
HUECT10	Hue Center 1 (HUE° / 360° / 4 x 1024)	00~ FF	A1	
HUECT00	Hue Center 0 (HUE° /360° / 4 x 1024)	00~ FF	CC	
HUESLP0	Hue Slope (0~ 127 / 64)	00~ 7F	2F	
HUEWDH0	Hue Width (HUE° / 360° x1024)	00~ FF	55	
CCSGA0	Color Correction Start Gain	00~ 0F	00	
CCMAX0	Color Correction Maximum Level	00~ 0F	04	
DCMGA0	Dynamic Contrast Maximum Gain	00~ 7F	00	
DCMLM0	Dynamic Contrast End APL	00~ 7F	10	
DCAPL0	Dynamic Contrast Start APL	00~ 7F	60	
DCONTS	Dynamic Contrast Gain Change Speed 1, 1/2, 1/4, 1/8	00~ 03	00	

(b) I2C Parameter List (continued)

Adjustment Mode OSD	Adjustment Item			Adjustment Range(HEX)	Initial Data(HEX)	Adjustment Value(HEX)
FC-4 Write Mode						
READFA1	Read Frequency Divider Ratio Offset	ANT A, B NTSC/480i	1080i, 540p/59.94	00~ 07	03	
READFA2			540p/60		02	
READFB1		480p	1080i, 540p/59.94		03	
READFB2			540p/60		03	
READFC1		720p	1080i, 540p/59.94		03	
READFC2			540p/60		04	
READFD1		1080i/PhotoMC	59.94		03	
READFD2			60		02	
READFD3			RCA540p		02	
READFE1		Bypass	-		03	
MFYNR-0	Main Frame Cycle Noise Reduction 3 Dimension Filter 0: OFF, 1: ON			00~ 01	01	
MFCNR-0	Main Frame Cycle Noise Reduction 3 Dimension Filter 0: OFF, 1: ON			00~ 01	01	
SFYNR-0	Sub Frame Cycle Noise Reduction 3 Dimension Filter 0: OFF, 1: ON			00~ 01	01	
SFCNR-0	Sub Frame Cycle Noise Reduction 3 Dimension Filter 0: OFF, 1: ON			00~ 01	01	
MYNRIN3	Main YNR Input Level Gain	ANT A, B/NTSC		00~ 07	04	
MYNRINO		ANT C/YPBPR/DVD/BM			04	
SYNRIN3	Sub YNR Input Level Gain	ANT A, B/NTSC		00~ 07	04	
SYNRINO		ANT C/YPBPR/DVD/BM			04	
MYNRRD0	Main YNR Reducing Gain			00~ 07	01	
SYNRRD0	Sub YNR Reducing Gain			00~ 07	01	
MYNRPS0	Main YNR Passage Level Limit			00~ 07	00	
SYNRPS0	Sub YNR Passage Level Limit			00~ 07	00	
MYNR0-0	Main YNR 0 Point			00~ 0F	07	
SYNR0-0	Sub YNR 0 Point			00~ 0F	07	
MCNRIN0	Main CNR Input Level Gain			00~ 07	04	
SCNRIN0	Sub CNR Input Level Gain			00~ 07	04	
MCNRRD0	Main CNR Reducing Gain			00~ 07	00	
SCNRRD0	Sub CNR Reducing Gain			00~ 07	00	
MCNRPS0	Main CNR Passage Level Limit			00~ 07	02	
SCNRPS0	Sub CNR Passage Level Limit			00~ 07	02	
MCNR0-0	Main CNR 0 Point			00~ 0F	06	
SCNR0-0	Sub CNR 0 Point			00~ 0F	06	
VECRG-0	Vertical Enhance Coring			00~ 03	00	
HECRG-0	Horizontal Enhance Coring			00~ 03	00	
Y-CRG-0	Y Coring Amplitude			00~ 07	00	
C-CRG-0	Color Coring Amplitude			00~ 07	00	
HHPF1-3	Horizontal High Pass Filter 1 Characteristic Switch 0: Low Freq, 1: High Freq		ANT A, B/NTSC	00~ 01	00	
HHPF1-G			480i/480p		00	
HHPF1-I			720p/1080i/BM		00	
V-ENH-3	Vertical Enhance		ANT A, B/NTSC	00~ 03	02	
V-ENH-G			480i/480p		02	
V-ENH-I			720p/1080i/BM		00	

(b) I2C Parameter List (continued)

Adjustment Mode OSD	Adjustment Item		Adjustment Range(HEX)	Initial Data(HEX)	Adjustment Value(HEX)
FC-4 Write Mode					
H-ENH-3	Horizontal Enhance	ANT A, B/NTSC	00~ 03	00	
H-ENH-G		480i/480p		00	
H-ENH-I		720p/1080i/BM		00	
YHFRQ-3	Y Horizontal HPF Peak	ANT A, B/NTSC	00~ 03	00	
YHFRQ-G	Frequency Switch	480i/480p		00	
YHFRQ-I		720p/1080i/BM		00	
CHFRQ-3	Color Horizontal HPF Peak	ANT A, B/NTSC	00~ 03	02	
CHFRQ-G	Frequency Switch	480i/480p		02	
CHFRQ-I		720p/1080i/BM		02	
YVECLP0	Y Vertical Enhance Clip Offset		00~ 0F	00	
YVEGA-0	Y Vertical Enhance Gain		00~ 0F	00	
YHECLP0	Y Horizontal Enhance Clip Offset		00~ 0F	00	
YHEGA-0	Y Horizontal Enhance Gain		00~ 0F	00	
CHEGA-0	Color Horizontal Enhance Gain		00~ 0F	0F	
YVECSW0	Y Vertical Enhance Clip Switch 0: ENH, 1: LTI		00~ 01	01	
CVECSW0	Color Vertical Enhance Clip Switch 0: CTI, 1: ENH		00~ 01	01	
YHECSW0	Y Horizontal Enhance Clip Switch 0: ENH, 1: LTI		00~ 01	01	
CHECSW0	Color Horizontal Enhance Clip Switch 0: CTI, 1: ENH		00~ 01	01	
YSLIP-0	Y Slanting Line Interpolation 0: OFF, 1: ON		00~ 01	01	
CSLIP-0	Color Slanting Line Interpolation 0: OFF, 1: ON		00~ 01	01	
YVEDGA0	Y Vertical Edge Detection Gain		00~ 03	03	
YVEDCR0	Y Vertical Edge coring		00~ 0F	04	
YMDEG10	Y Motion Detection Edge Gain 1		00~ 07	05	
YMDEC10	Y Motion Detection Edge Coring 1		00~ 1F	05	
YMDEG00	Y Motion Detection Edge Gain 0		00~ 07	05	
YMDEC00	Y Motion Detection Edge Coring 0		00~ 1F	05	
YHEDGA0	Y Horizontal Edge Detection Gain		00~ 03	03	
YHEDCR0	Y Horizontal Edge coring		00~ 0F	04	
YMDEG30	Y Motion Detection Edge Gain 3		00~ 07	02	
YMDEC30	Y Motion Detection Edge Coring 3		00~ 1F	08	
YMDEG20	Y Motion Detection Edge Gain 2		00~ 07	02	
YMDEC20	Y Motion Detection Edge Coring 2		00~ 1F	08	
CMDEG10	C Motion Detection Edge Gain 1		00~ 07	03	
CMDEC10	C Motion Detection Edge Coring 1		00~ 1F	08	
CMDEG00	C Motion Detection Edge Gain 0		00~ 07	04	
CMDEC00	C Motion Detection Edge Coring 0		00~ 1F	06	
CMDEG30	C Motion Detection Edge Gain 3		00~ 07	01	
CMDEC30	C Motion Detection Edge Coring 3		00~ 1F	0C	
CMDEG20	C Motion Detection Edge Gain 2		00~ 07	02	
CMDEC20	C Motion Detection Edge Coring 2		00~ 1F	0A	
YVNLP-3	Y Vertical Nonlinear Peaking	ANT A, B/NTSC	00~ 3F	00	
YVNLP-G		480i/480p		00	
YVNLP-I		720p/1080i/BM		00	
YHNLP-3	Y Horizontal Nonlinear Peaking	ANT A, B/NTSC	00~ 3F	0A	
YHNLP-G		480i/480p		0A	
YHNLP-I		720p/1080i/BM		00	

(b) I2C Parameter List (continued)

Adjustment Mode OSD	Adjustment Item		Adjustment Range(HEX)	Initial Data(HEX)	Adjustment Value(HEX)
FC-4 Write Mode					
YVHENH3	Y Vertical and Horizontal Enhance Gain	ANT A, B/NTSC	00~ 1F	0B	
YVHENHG		480i/480p		0B	
YVHENHI		720p/1080i/BM		00	
CVHENH3	Color Vertical and Horizontal Enhance Gain	ANT A, B/NTSC	00~ 1F	12	
CVHENHG		480i/480p		12	
CVHENHI		720p/1080i/BM		12	
MVWPH-3	Main Vertical Write Input Horizontal Phase Adjustment	ANT A, B/NTSC	00~ 07	05	
MVWPH-4		480i/DVD		05	
MVWPH-5		480p/VGA		05	
MVWPH-6		720p		05	
MVWPH-7		1080i/BM		04	
SVWPH-3	Sub Vertical Write Input Horizontal Phase Adjustment	ANT A, B/NTSC	00~ 07	05	
SVWPH-4		480i		05	
SVWPH-5		480p		05	
SVWPH-6		720p		05	
SVWPH-7		1080i		04	
MHSHP-3	Main Horizontal Sync Horizontal Phase Offset	ANT A, B/NTSC	00~ FF	7F	
MHSHP-4		480i/DVD		7F	
MHSHP-5		480p		7F	
MHSHP-6		720p		7F	
MHSHP-7		1080i/BM		7F	
MHSHP-Q		VGA		93	
MHSHP-R		SAM-720p		98	
MHSHP-S		SAM-1080i		94	
SHSHP-3	Sub Horizontal Sync Horizontal Phase Offset	ANT A, B/NTSC	00~ FF	7F	
SHSHP-4		480i		7F	
SHSHP-5		480p		7F	
SHSHP-6		720p		7F	
SHSHP-7		1080i		7F	
FRMBRT0	Y Frame Bright		00~ 7F	60	
FRMTOP0	Frame Top Position Offset		00~ 0F	00	
VBLKT-0	Vertical Blanking Top Position Offset		00~ 0F	07	
VBLKB-0	Vertical Blanking Bottom Position Offset		00~ 0F	07	
CBBLK-0	CB Blanking Level Offset		00~ 0F	07	
CRBLK-0	CR Blanking Level Offset		00~ 0F	07	
HBLKR-0	Horizontal Blanking Right Position Offset		00~ FF	7F	
HBLKL-0	Horizontal Blanking Left Position Offset		00~ FF	7F	
VPOSI-0	Vertical Position		00~ 7F	3F	
HDPOS-0	HD Position Offset		00~ 7F	3F	

(b) I2C Parameter List (continued)

Adjustment Mode OSD	Adjustment Item		Adjustment Range(HEX)	Initial Data(HEX)	Adjustment Value(HEX)
FC-4 Write Mode					
BSTOPA0	Black Stretch Stop Pulse Top Position Offset (for 4x3 Model)	16:9 Standard	00~ FF	00	
BSTOPB0		Not 16:9 Standard		00	
BSBTMA0	Black Stretch Stop Pulse Bottom Position Offset (for 4x3 Model)	16:9 Standard	00~ FF	FF	
BSBTMB0		Not 16:9 Standard		FF	
BSRGTA0	Black Stretch Stop Pulse Right Position Offset (for 16x9 Model)	4:3 Standard	00~ FF	FF	
BSRGTB0		Not 4:3 Standard		A6	
BSLFTA0	Black Stretch Stop Pulse Left Position Offset (for 16x9 Model)	4:3 Standard	00~ FF	00	
BSLFTB0		Not 4:3 Standard		59	
HEGCRG0	H Edge Coring		00~ 1F	04	
DIFCRG0	Difference Coring		00~ 7F	07	
VE2CRG0	V Edge 2 Coring		00~ 1F	14	
VE1CRG0	V Edge 1 Coring		00~ 1F	14	
TCLCK-0	2-3 TV/Cine Lock		00~ 07	03	
TCUNL-0	2-3 TV/Cine Unlock		00~ 07	00	
TCARE-0	2-3 TV Cinema Detection Motion Area Border Volume		00~ FF	05	
TCCBR-0	2-3 TV Cinema Detection Color 2 Bit Border Volume Offset		00~ 0F	07	
TCYBR-0	2-3 TV Cinema Detection Y 2 Bit Border Volume		00~ 0F	07	

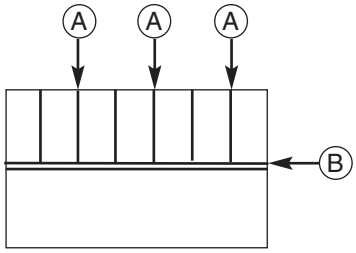
1.2 Comb filter operation check

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.

Adjustment procedure

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



Check Ⓐ and Ⓑ line dots.

3D Y/C
Dots
Ⓐ None
Ⓑ None

1.3 Video Settings (Advanced Settings)

1.3.1 Color Temperature

(1) Receive the Circle pattern signal.
(2) Set Color Temperature using CURSOR ▲,▼ and change mode using CURSOR ◀,▶ and then press select button.
(3) Change Color Temperature from High/Medium/Standard/Black and White.

1.3.2 Black Enhancement

(1) Receive the color bar signal.
(2) Select video mode by using CURSOR ▲,▼.
(3) Press CURSOR ▲,▼ to select Black Enhancement then press CURSOR ▶.
(4) Select Black Enhancement using CURSOR ◀,▶ and set it to High/Medium/Low/Off.
(5) When the mode is High, check that the black level sinks at the black position of picture.

1.3.3 Edge Enhancement

(1) Receive the circle pattern signal.
(2) Adjust Edge Enhancement using CURSOR ◀,▶ from High/Medium/Low/Off.
(3) When set to High, check that definition level is up at edge of vertical line of the circle pattern.

1.3.4 Color Management Check

(1) Receive color bar signal.
(2) Select Color Management using CURSOR ▲,▼ and then press SELECT button to display next menu.
(3) Select Set User Colors using CURSOR ▲,▼ and then press select button to add check-mark.
(4) Select one of the titles of color and then press SELECT button. Check that selected color is changed by pressing CURSOR ◀,▶.
◀: Gets thinner ▶: Gets denser

1.3.5 Color Decoding Check

(1) Receive color bar signal.
(2) Select Color Decoding using CURSOR ▲,▼ and then press SELECT button.
(3) Select one of the radio buttons of decode mode.
The picture changes as follows:
RGB: Normal picture
R: Red color only
G: Green color only
B: Blue color only
(4) Select Red, Green, Blue or Tint using CURSOR ▲,▼. Use CURSOR ◀,▶ to adjust.

1.3.6 Auto Color

(1) Set the color control to MAX.
(2) Select Auto Color using CURSOR ▲,▼ and then press SELECT button.
(3) Use CURSOR ◀,▶ to change Auto Color to On/Off.
(4) When it is on, check that the red part of the color signal grows deeper.

1.3.7 Noise Reduction

(1) Select Noise Reduction using CURSOR ▲,▼ and then press SELECT button.
(2) When it is on, check that the noise on the picture is reduced.

1.3.8 Auto Movie Mode

(1) Receive 480i signal.
(2) Select Auto Movie Mode using CURSOR ▲,▼ and then press SELECT button.
(3) When it is on, check that the scan becomes smooth.

BACK TO ADJUSTMENTS

Important: High Voltage adjustment should NOT be adjusted in field. This is adjusted at factory using precise loads and should NOT be readjusted.

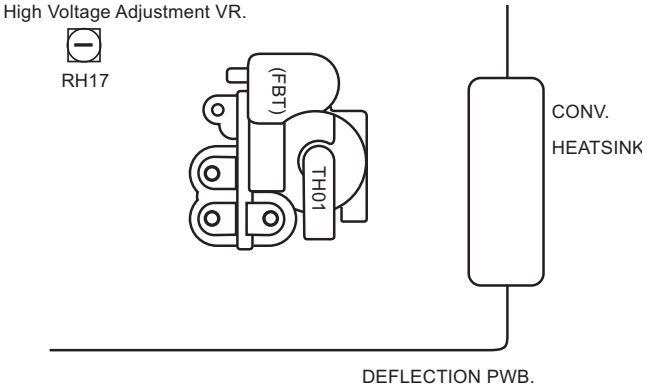
1.4 High Voltage Adjustment (should NOT be readjusted in field).

Adjustment preparation

(1) Connect High Voltage meter to FBT High Voltage output. Connect GND of High Voltage meter to CPT GND or FBT GND.
(2) Check that High Voltage adjustment VR (RH17) is set to mechanical center. (located behind FBT on DEFLECTION PWB).
(3) Receive circle pattern signal.
(4) VIDEO control should be reset.

Adjustment procedure

(1) Adjust High Voltage to following spec. by turning VR RH17 slowly. ADJ. SPEC = 30.7KV±02KV
(2) After adjustment, fix VR RH17 with Silicone glue (KE40RTV).



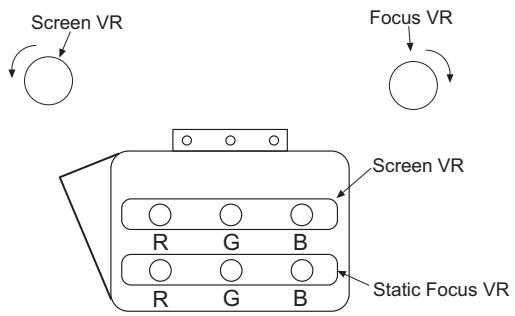
2. FINAL ASSEMBLY ADJUSTMENT

2.1 Cut Off Adjustment

Adjustment preparation

(1) Adjust screen VR's on Focus Pack fully counterclockwise.
(2) Adjust Focus VR's on Focus Pack fully clockwise.
(3) Set video conditions to factory preset.
(4) The vertical incident illumination on the screen should be 20 lux or less (room should be dark).
(5) Preheat run time should be at least 20 minutes.

FOCUS PACK



Adjustment procedure

(1) Press and hold INPUT key on control panel and then POWER ON to access I²C adjustment mode.
(2) Choose "SERVICE" item from I²C adjustment menu by pressing CURSOR ▶.
(3) Screen VR should be turned clockwise gradually and set so that retrace line begins to appear.
(4) Return to "NORMAL" mode by CURSOR ◀ again.
(5) Adjust Focus VR's so that focus is even all around screen.

2.2 DCU Phase Data Setting

Adjustment preparation

(1) Cut off adjustment should be finished.
(2) Set video conditions to factory preset.

Adjustment procedure

(1) Receive any NTSC signal.
(2) Push "SERVICE ONLY" SW on DEF./CONV. PWB to enter the DCU adjustment mode.
(3) Press [INFO] then [MENU] to display Green cross-hatch. Press SAT, VID2, and EXIT key on R/C. (Character pattern is displayed. This is the PHASE setting mode).
(4) Set PH-H phase data as shown below by using 4 and 6 key on R/C. (R/C in TV mode)
(5) Set PH-V phase data as shown below by using 2 and 5 key on R/C. (R/C in TV mode)
(6) Set CR-H phase data as shown below by using CURSOR ◀ and ▶ key on R/C.
(7) Set CR-V phase data as shown below by using CURSOR ▲ and ▼ key on R/C.
(8) Push PIP MODE key 2 times on R/C to write the phase data to memory.
(9) When Green dots are displayed, press MUTE key to return to DCU ADJ. mode.
(10) Push "SERVICE ONLY" SW to return to RF or VIDEO mode.

1080i Through Mode

(11) Receive any 1080i signal (fH=33.75KHz) circle pattern signal (input to component video terminal) and set the Aspect to 1080i Real mode.
(12) Repeat steps (2)~(11) above.

Normal Mode	1080i Through Mode
PHASE MODE: N	PHASE MODE: S
PH-H :E2	PH-H :E2
PH-V: 07	PH-V: 07
CR-H: 35	CR-H: 35
CR-V: 14	CR-V: 14

BACK TO ADJUSTMENTS

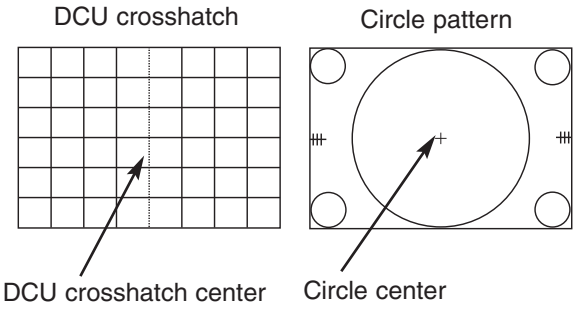
2.3 Horiontal Position Adjustment (Coarse)

Adjustment preparation

(1) DCU PHASE DATA SETTING should be finished.

Adjustment procedure

(1) Receive circle pattern.
(2) Push SERVICE ONLY switch to display DCU crosshatch. Mark the DCU crosshatch center position using your finger tip.
(3) Push SERVICE ONLY switch again to exit from the DCU crosshatch.
(4) Go to I²C ADJ. mode.
(5) Choose H. POSI item by using R/C MENU (or up/down cursor) key. Adjust horizontal position to match the circle center to DCU crosshatch center (marked by your finger tip).
(6) Exit from I²C menu.



1080i 16:9 STANDARD MODE

(7) Receive any 1080i Signal (fH=33.75KHz) circle pattern signal (Input to component video terminal).
(8) Repeat steps (2)~(5).
(9) Press SELECT key, then H. POS H will appear. It means HD mode is activated.
(10) Exit from I²C menu.

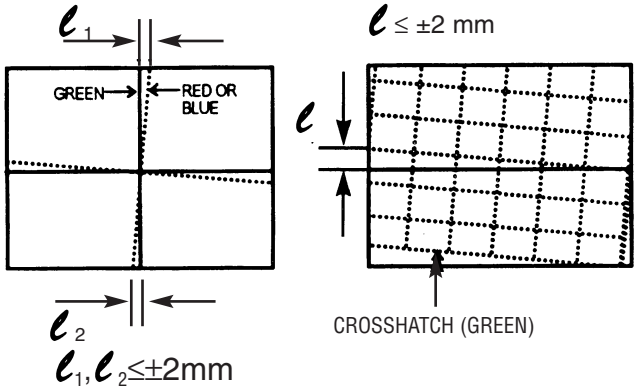
2.4 Raster Tilt adjustment (Deflection yoke)

Adjustment preparation

(1) The set can face east or west.
(2) Input the single cross test signal.
(3) Set CONTRAST to MAX, other controls to CENTER.
(4) The lens focus and horizontal position adjustment should have been coarse adjusted.
(5) The static 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 ONLY" switch located on the DEF./CONV. PWB and then press the power button.
(7) Start adjustment 20 minutes or more after TV is turned on.

Adjustment procedure

(1) Short-circuit 2P (TS) sub-mini connectors on Red and Blue CPT P.W.B.s to project only the Green beam.
(2) Turn the G deflection yoke and adjust the vertical raster inclination.
(3) Then, remove the shorted wire on the 2P(TS) sub-mini connectors on the R or B CPT PWB and project red or blue light and green light together on screen.
(4) Turn the deflection yoke of R or B and set so that the inclination of R or B light 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±2kg-cm torque.



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

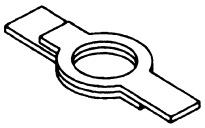
2.5 Beam alignment

Adjustment preparation

(1) Adjust at least 30 minutes after turning on power switch.
(2) Raster tilt should be completed. Raster position, horizontal and vertical size, and optical focus adjustment should be coarse adjusted.
(3) Set video conditions to factory preset.
(4) Receive cross-hatch signal.

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) light or you may cover the R and B lens.
(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) and Blue (B) focus: Focus Pack UFPK.
(9) Upon completion of adjustment, fix beam alignment magnets with white paint.

BACK TO ADJUSTMENTS

2.6 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 preset.
(4) The static focus should have been coarse adjusted.
(5) The digital convergence RAM should be cleared (uncorrected state). With the TV set off, press and hold the service switch located on the DEF./CONV. PWB and then press the power button.
(6) Start adjustment 20 minutes or more after TV is turned on.

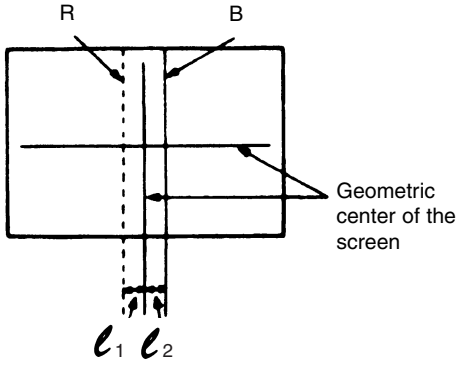
Adjustment procedure

(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.

	ℓ_1 (RED)	ℓ_2 (BLUE)
46”	25	35

Tolerance: ± 2mm

Units = millimeters
25.4mm = 1in.



(2) Upon completion of adjustment, fix centering magnets with white paint.

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.

2.7 Vertical size adjustment

Adjustment preparation

(1) The set can face east or west.
(2) Set video conditions to factory preset.
(3) Convergence should not be corrected.
(4) Start adjustment 20 minutes or more after TV is turned on.

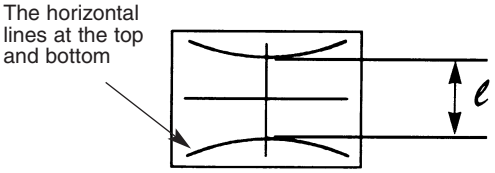
Adjustment procedure

(1) Receive any NTSC signal.
(2) Press the SERVICE ONLY SW on DEF./CONV. PWB and POWER to display DCU uncorrected convergence data.
(3) Locate the vertical size VR (R607) on DEFLECTION PWB. Adjust the vertical size according to the following table.

ℓ =	NORMAL MODE
46”	505

Tolerance: ± 5mm

Units = millimeters
25.4mm = 1in.



Notes: (1) If internal cross-hatch does not appear after clearing RAM data, press service switch again (on DEF./CONV. PWB).
(2) To restore old RAM data, turn TV off and on.
(3) V-Size is only done in NORMAL mode (NTSC).

2.8 Horizontal size adjustment

Adjustment preparation

(1) The set can face east or west.
(2) Set video conditions to factory preset.
(3) The Static Focus adjustment should have been coarse adjusted.
(4) Convergence should not be corrected.
(5) Start adjustment 20 minutes or more after TV is turned on.

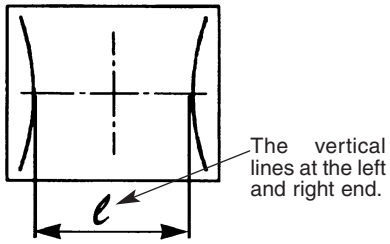
Adjustment procedure

(1) Receive any NTSC signal.
(2) Press the SERVICE ONLY SW on DEF./CONV. PWB and POWER to display DCU uncorrected converge data.
(3) Locate the horizontal size VR (R711 on POWER/DEF PWB). Adjust horizontal size to the table below.

ℓ =	NORMAL MODE
46”	930

Tolerance: ± 5mm

Units = millimeters
25.4mm = 1in.



Notes: (1) Once Normal mode Horizontal size adj. is done. To restore old RAM data, turn TV off and on.
(2) After adjustment, press SERVICE ONLY switch to exit DCU crosshatch.
(3) H. SIZE adjustment is only done in NORMAL MODE (NTSC).

BACK TO ADJUSTMENTS

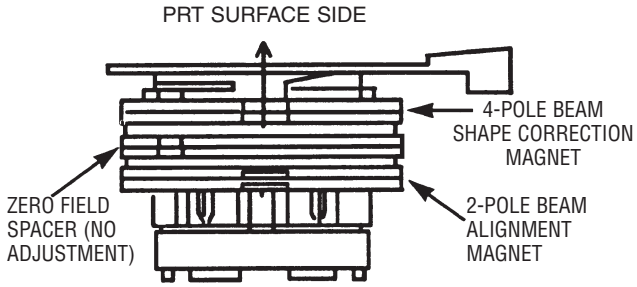
2.9 Beam form adjustment

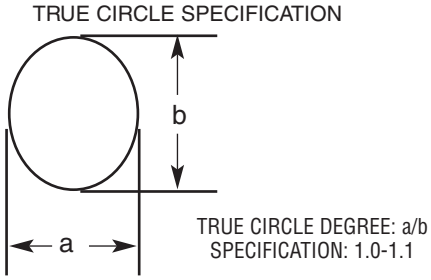
Adjustment preparation

(1) Raster Position should have been completed.
(2) The raster tilt, centering, horizontal/vertical size, scanning area check, and raster distortion should have been completed.
(3) Set video conditions to factory preset.
(4) Input the dot signal.
(5) Set Aspect to 4:3 Standard Mode.

Adjustment procedure

(1) Green PRT beam shape adjustment. Short-circuit 2P (TS) sub-mini connectors on Red and Blue CPT P.W.B.s to project only the Green beam.
(2) Turn the green static focus VR, on the Focus Pack, 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.
(6) After the BEAM FORM is completed, fix the BEAM FORM magnet with white paint.





2.10 LENS FOCUS ADJUSTMENT

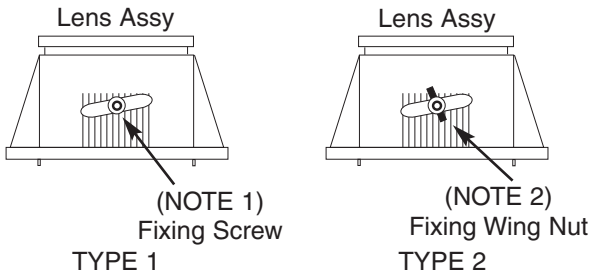
Adjustment preparation

(1) The orientation of PTV set is arbitrary, west, east, north and south.
(2) Centering DY inclination should have been adjusted.
(3) Static focus adjustment should have been coarse adjusted.
(4) Drive VR location adjustment should have been completed. (Red : 12 O'clock, Green : 1~2 O'clock).
(5) Receive the cross-hatch pattern signal.
(6) Refer to setup below.
CONTRAST : HALF of full scale.
BRIGHTNESS : minimum

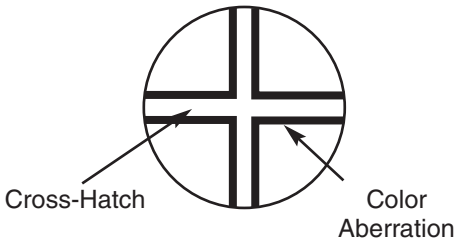
Adjustment procedure

(1) Loosen the fixing screw or wing nut on the lens cylinder so that the lens cylinder can be turned. (Be careful not to loosen too much). After completing steps (4), (5), (6) below, tighten the fixing screws or wing nuts for each lens with a torque of 1.18N.m (12Kgf cm) ~ 1.67N.m (17Kgf cm).

(Be careful the lens cylinder does not turn after having tightened the screw or wing nuts. If it is tightened too much, lens may tilt or screw may break.)

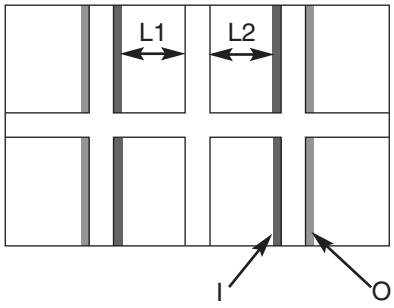


(2) Apply covers to each color of R, G and B lenses. And project a single color on the screen and adjust in sequence. (The adjustment order of G, R and B is only an example.)
(3) If the lens adjustment knob is turned clockwise viewed from the front, the color Aberration change as follows.



	Change of Color Aberration	
	Short focus	Long focus
RED LENS	Orange	Scarlet
GREEN LENS	Blue	Red
BLUE LENS	Purple	Green

(4) 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 and adjust lens focus as specified in table below. 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.



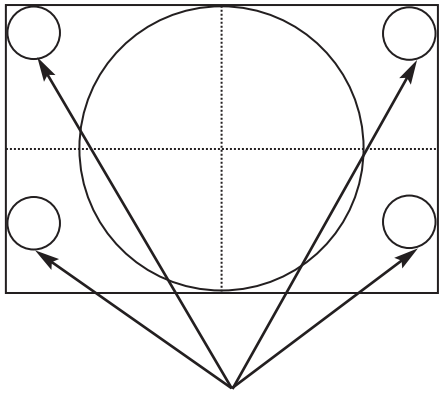
BACK TO ADJUSTMENTS

OPTICAL FOCUSING ADJUSTMENT GREEN

CHASSIS		DP33W
SCREEN SIZE		46"
L1 and L2 (PITCHES from CENTER)		3.0
COLOR ABERRATION	BETWEEN L1&L2	*
	I	* 2.5mm MAX
	O	* 2.5mm MAX

(NOTE) * Slightly reddish or no color
** Slightly bluish or no color

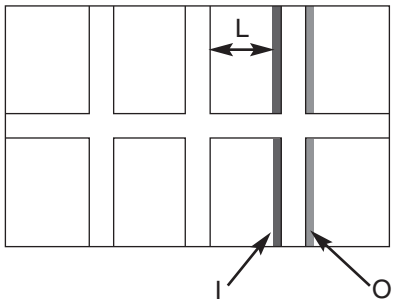
Change the signal to the circle pattern and fine adjust. Observe the corner part of the screen, especially observe number in the small circle when adjusting. If the focus performance at the screen center exceeds the lower limit, it is acceptable.



Small circle of circle pattern

NOTES: 1. Since the G light is very important for picture quality and performance, pay special attention in its adjustment.
2. Be careful not to touch the lens with your fingers when adjusting.

(5) In case of R lens. Set the position where the chromatic aberration changes from red to crimson. As shown below, observe the vertical bright line and adjust lens focus where the crimson or red chromatic aberration slightly appears inside, and crimson or red outside (reference value : 1~3mm) at the point specified in table below. Change the signal and fine-adjust the same way as the G lens.



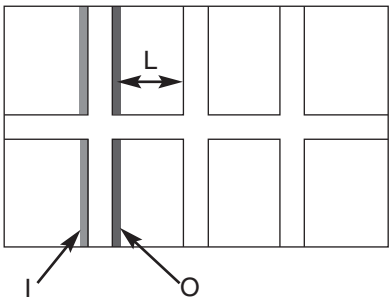
NOTE: Setting the center between Red and crimson is optimum.

OPTICAL FOCUSING ADJUSTMENT RED

CHASSIS		DP33W
SCREEN SIZE		46"
L1 and L2 (PITCHES from CENTER)		6.0
COLOR ABERRATION	BETWEEN L1&L2	*
	I	* 2.0mm MAX
	O	* 2.0mm MAX

(NOTE) * Slightly reddish or no color
** Slightly crimson or no color

(6) In case of B lens. Set the position where the chromatic aberration changes from purple to green. As shown below, observe the vertical bright line and adjust lens focus where the purple or green chromatic aberration slightly appears inside and purple or green outside (reference value : 1~3mm) at the point specified in table below. Change the signal and fine-adjust in the same way as the G lens.



NOTE: Setting to the center between purple and crimson is optimum.

OPTICAL FOCUSING ADJUSTMENT BLUE

CHASSIS		DP33W
SCREEN SIZE		46"
L1 and L2 (PITCHES from CENTER)		5.0
COLOR ABERRATION	BETWEEN L1&L2	*
	I	* 3.0mm MAX
	O	* 3.0mm MAX

(NOTE) * Slightly reddish or no color
** Slightly greenish or no color

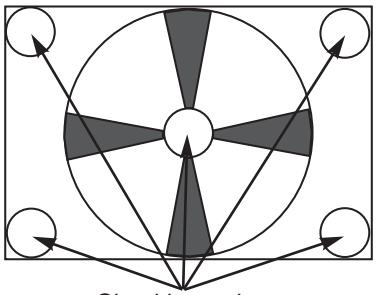
(7) After all colors have been adjusted, display all colors with the cross-hatch pattern signal and check the focus performance.
(8) Then, select the circle pattern signal and check the focus performance of each color and all colors together.
(9) If the focus performance is not acceptable re-adjust step (1) to (6).

2.11 STATIC FOCUS ADJUSTMENT

Adjustment preparation
(1) LENS FOCUS adjustment should be finished.
(2) Contrast : MAX
Brightness : Center.
(3) Receive the circle pattern signal.
(4) Apply covers to the lens of the colors you are not adjusting and project only one color on the screen.

Adjustment procedure
(1) Red and blue static focus adjustment. Adjust the static focus VR on Focus pack (UFPK) so that the center of circle pattern is the most clear. Check that the focus does not get conspicuously worse at the edges of the circle pattern signal or cross-hatch signal.
(2) Green static focus adjustment. Adjust the static focus VR on Focus pack (UFPK) (for green) so that the center of circle pattern is the most clear. Check that the focus does not get conspicuously worse at the checking point, the periphery of circle pattern cross-hatch signal.

NOTE: Checking point for the periphery of picture.



Checking point

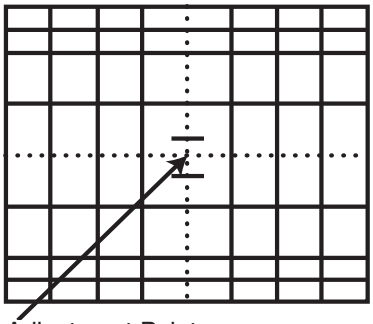
2.12 Digital convergence adjustment

Note: 1. If replacing a PRT, DY, etc. perform auto-digital convergence first. (Press front panel MAGIC FOCUS switch). This can eliminate the need for a complete digital convergence alignment.

2. To enter digital convergence adjustment mode without removing the front speaker grill, please do the following:

1) Press “Magic Focus” button on the front panel.
2) While “Magic Focus” is running, press Magic Focus button again to “Stop”.
3) Press INFO button after “STOP” OSD appears on the screen to enter digital convergence mode.
4) Proceed with convergence adjustment and save the data.
5) Do MAGIC FOCUS sensor initialization.
6) To exit, press POWER button on the front panel.

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 DEF./CONV. PWB). The pattern displayed is now the digital convergence mode.
(6) When performing a complete digital convergence adjustment CLEAR DATA in RAM. (With the TV set off, press and hold the service switch located on the DEF./CONV. P.W.B. and then press the POWER button).



Adjustment Point

BACK TO ADJUSTMENTS

2.12.1 MAGIC FOCUS Character Set-Up

This instruction should be applied when a new DCU is being replaced.

Adjustment Preparation

(1) Receive NTSC RF or video signal.
(2) With Power off, PRESS and HOLD the SERVICE ONLY button on DEF./CONV. PWB, then press the Power On/Off, when picture appears release SERVICE ONLY switch. (Internal crosshatch is displayed without conv. correction data.)
(3) Press the SWAP button 2 times for ROM READ operation. Picture will appear with convergence correction data.

Adjustment Procedure

(1) Press FRZ key on R/C. (One additional line appears near the top and near the bottom.)
(2) Press SURF key, then ADJ. PARAMETER mode is displayed as following.

```
ADJ. PARAMETER
ADJ. DISP.:   0F
DEMO WAIT:    1F
INT. START:   13
V. SQUEEZE:   10
```

(3) Press CURSOR ◄ or ► to change the ADJ. DISP. data.
(4) Press CURSOR ▼ to access DCU parameter. Change the data as shown on Table 1, DCU Parameter.
(5) Press PIP MODE key 2 times to write changed data into EEPROM. (First press ADJ. PARAMETER/ROM WRITE? is displayed for alarm. 2nd press, writes data into EEPROM. Green dots appear after completion of operation.)
(6) Press MUTE key 3 times to exit from ADJ. PARAMETER mode.

TABLE 1. - DCU PARAMETER

Parameter	Normal
ADJ. DISP	0F
DEMO WAIT	1F
INT. START	13
V. SQUEEZE	10
INT STEP 1	02
INT STEP 2	06
INT BAR	2D
INT DELAY	01
MGF STEP 1	10
MGF STEP 2	06
MGF BAR	1B
MGF DELAY	01
SEL. STAT.	00
LINE WID	7F
ADD LINE	09
SENSOR CK	00
PORT 0	07
PORT 1	06
PORT 2	05
PORT 3	04
PORT 4	03
PORT 5	02
PORT 6	01
PORT 7	00
AD LEVEL	03
CENT. BAL	00
E. DISPLAY	00
ADJ. TIMS	60
AD LEVEL	05
AD NOISE	0A
OVER. LF-H	01
OVER. LF-V	00
OVER. RI-H	00
OVER. RI-V	00
PHASE MOT	60
H. BLK-RV	00
H. BLK-GV	03
H. BLK-BV	00
H. BLK-H	20
PON DELAY	0F
IR-CODE	00
INITIAL 50	9E
MGF 50	96
CENTER 50	FE
STAT 50	FE
DYNA 50	9F

BACK TO ADJUSTMENTS

2.12.2 MAGIC FOCUS Pattern Set-Up

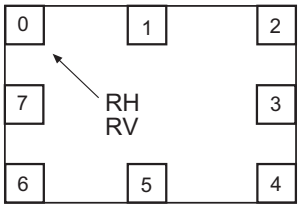
NOTE: (1) This instruction should be applied when a new DCU is being replaced.
(2) This instruction shows how to set up the pattern position for MAGIC FOCUS.

Adjustment Procedure

(1) Receive NTSC RF or video signal.
(2) With Power off, PRESS and HOLD the SERVICE ONLY button on DEF./CONV. PWB, then press the Power On/Off, when picture appears release SERVICE ONLY button. (Internal crosshatch is displayed without conv. correction data.)

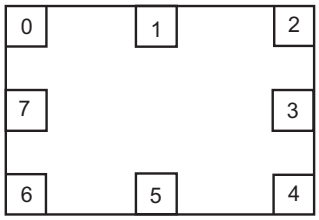
Adjustment Procedure

(1) Press FRZ key on R/C. (One addtional line appears near the top and near the bottom.)
(2) Press VID2 key, then MAGIC FOCUS PATTERN mode is displayed as follows:



(3) Use [6] key on remote control to rotate the arrow. Arrow indicates each sensor position. (Upper left corner, middle top, upper right corner, right middle, in this order).
(4) Use the keys to switch color of pattern.
INFO : Green pattern
0 : Red pattern
ANT : Blue pattern
(5) Press CURSOR ◄ or ► to change the data value to the horizontal direction. Press CURSOR ▲ or ▼ to change the data value to the vertical direction.
(6) Set the data as shown below:

Pattern Position



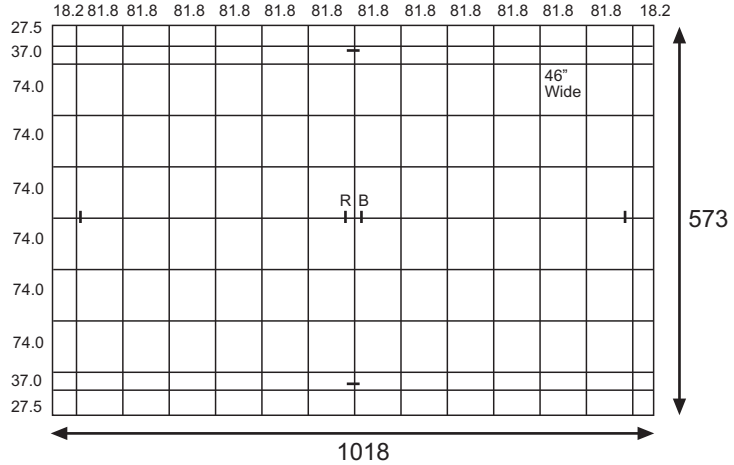
Pattern: 46"`
Normal Mode

	0	1	2	3	4	5	6	7
RH	00	02	fc	fe	fc	02	00	00
RV	02	00	07	00	f7	01	fd	00
GH	00	00	fc	fe	fe	00	00	00
GV	06	01	06	00	f9	00	fa	00
BH	04	fe	fe	00	00	fe	02	02
BV	08	ff	03	00	fd	01	f8	00

(7) Press PIP MODE key 2 times to write the changed data in EEPROM. (First press, ADJ. PATTERN/ROM WRITE ? 2nd press, writes data into EEPROM. Green dots appear after completion of operation.)
(8) Press MUTE key to exit from PATTERN mode.

2.12.3 Convergence Jig Screen Specifications

46" (Part Number H312275)



BACK TO ADJUSTMENTS

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.

2.12.4 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 adjustment).
(2) Use the buttons below to switch color to adjust.
"INFO" - Green
"0" - Red
"ANT" - Blue

Adjustment procedure

(1) Press the FRZ button. Extra horizontal lines appear to confirm raster position mode.
(2) Use the thumb stick 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 remove all colors displayed.

2.12.5 Convergence point adjustment

Adjustment preparation

(1) Select color to adjust.
"INFO" - Green
"0" - Red
"ANT" - Blue
(2) Use 4, 6, 2, and 5 to move the cursor position (dotted lines).
(3) Use thumb stick to move the convergence point.
(4) Three adjustment modes are available:
1. (3x3) Press "INFO" 5 times (only works when DCU is in uncorrected state)
2. (7x5) Press "0" 5 times
3. (13x9) Press "ANT" 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) Receive any NTSC signal.
(2) Start adjustment at the center of the screen.
(3) Continue adjustment at next closest position.
(4) Adjust center area first, ending with edge sections.
(5) Press VID3 button to perform calculation operation. This process will take about 1 second and no picture will be seen at this time.
(6) After interpolation, check convergence again and repeat (1)-(5) if necessary.
(7) When convergence is acceptable, press PIP MODE to write data to ROM memory. ROM WRITE? is displayed to alarm system that ROM will be overwritten with new data. Press the PIP MODE button again to write displayed data to ROM.
(8) DATA WRITE TO ROM will take approximately 4 seconds and no picture will be displayed.
(9) Green dots will be displayed when operation is completed.
(10) Press MUTE to return to convergence pattern, then confirm again convergence is acceptable.
(11) Press PIP MODE (ROM WRITE) mode, then press SURF to initialize sensor data positions.

Notes: (1) Display only green for easier adjustment and match to jig screen. Press "MENU", THEN PRESS "INFO".
(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.
(6) To confirm and fine tune the convergence at the edge of the screen, press the SURF button on the remote control while in the digital convergence adjustment mode (DCAM) for additional lines at the edge of the screen. Fine tune the edge convergence as necessary. To exit, press SURF again.

BACK TO ADJUSTMENTS

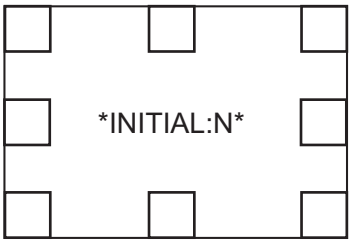
2.12.6 Magic Focus Initialize

Adjustment Preparation

(1) Receive any NTSC signal.
(2) Digital convergence adjustment should have been completed.
(3) Set is in DCU adjustment mode.

Adjustment Procedure

(1) Press “PIP MODE” and then “PIP CH” to initialize Magic Focus. The initialize operation starts and several windows appear during this operation. It takes about 30 seconds or less.
(2) When green dots appear, initialize operation is finished.
(3) Turn power OFF on TV set.



Initialization Operation

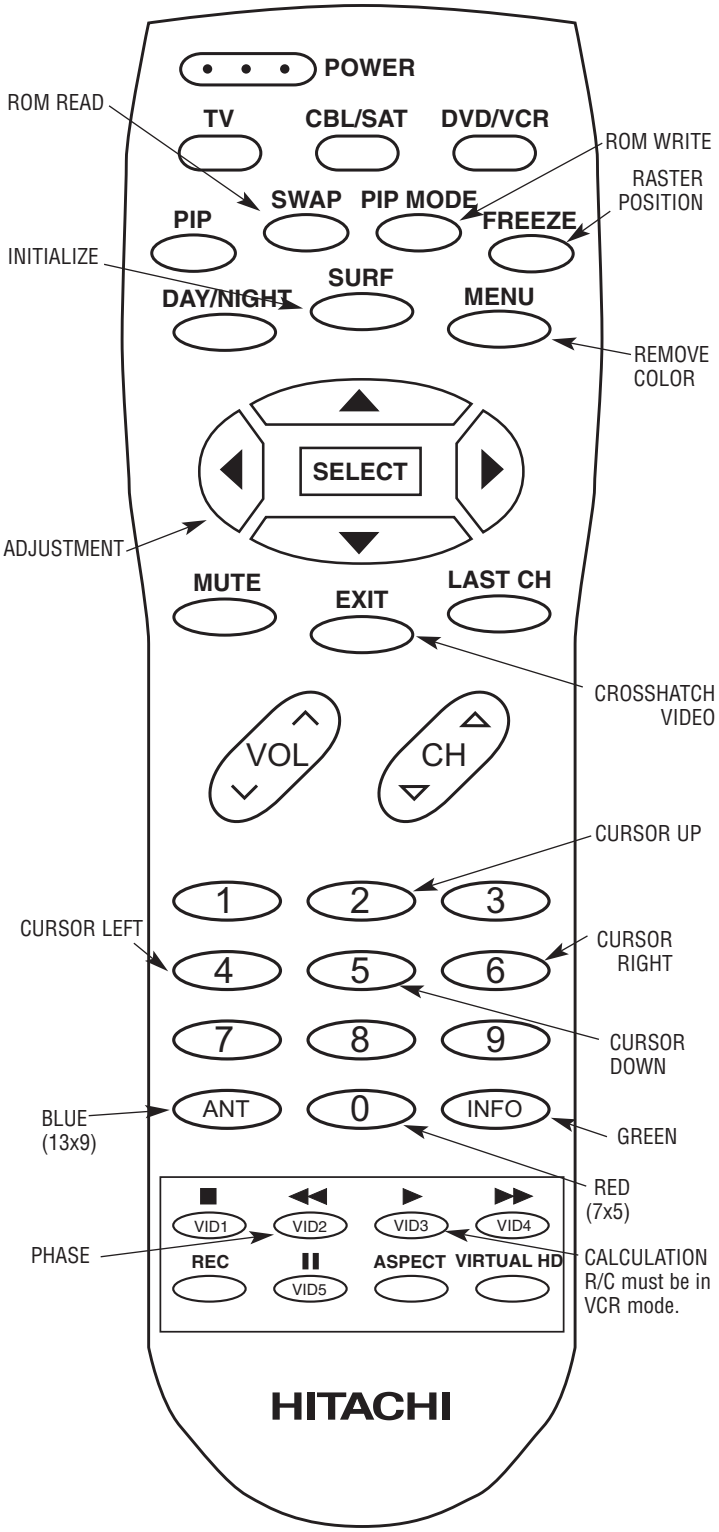
REMARKS

Another way to start the initialize operation:

(1) Press “SERVICE ONLY” Sw. on DEF./CONV. PWB to set DCU adj. mode.
(2) Press [PIP MODE] key on R/C. Then “ROM WRITE?” is displayed for alarm. Next, press [PIP CH] key on R/C to start initialization. When green dots appear, initalization operation is finished.

NOTE: If there is an error message, red dots or an error code, refer to page 58, CONVERGENCE ERRORS.

Digital Convergence Remote Control



BACK TO ADJUSTMENTS

"Convergence For Outside Signal" function

a) Press Service Switch on DEF/Conv PWB, then display "Normal Crosshatch". (Fig. 1)

b) Press [MENU] key on R/C, then display "Red + Green Crosshatch with Red Marker" or "Green Crosshatch with Green Marker" or "Blue + Green Crosshatch with Blue Marker". (Fig. 2)

c) Press [MENU] key on R/C again, then display "Normal Crosshatch on Main Picture" (Fig. 3)

d) Press [MENU] key on R/C again, then display "Cross Marker + Box Marker on Main Picture". (Fig. 4)

e) Press [MENU] key on R/C again, then display "only Box Marker on Main Picture". (Fig. 5)

f) Press [MENU] key on R/C again, then display "Normal Crosshatch" again. (Fig. 1)

And repeat procedure b) ~ f) by each press [MENU] key on R/C.

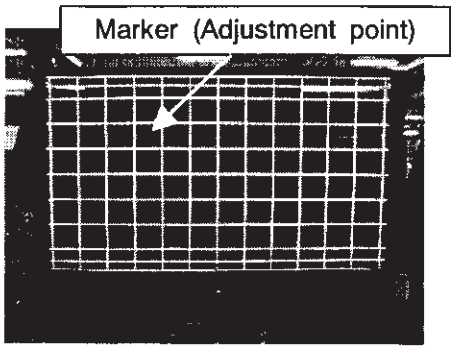


Fig. 1

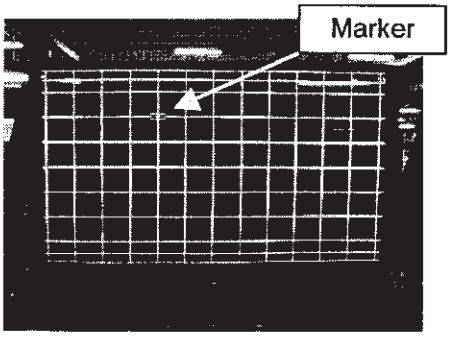


Fig. 2

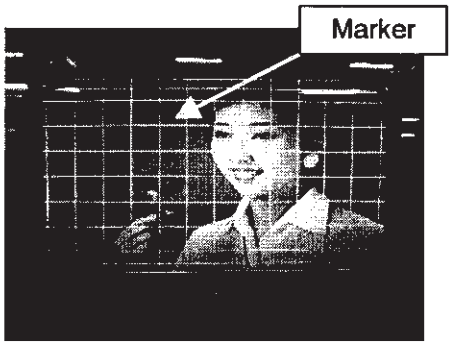
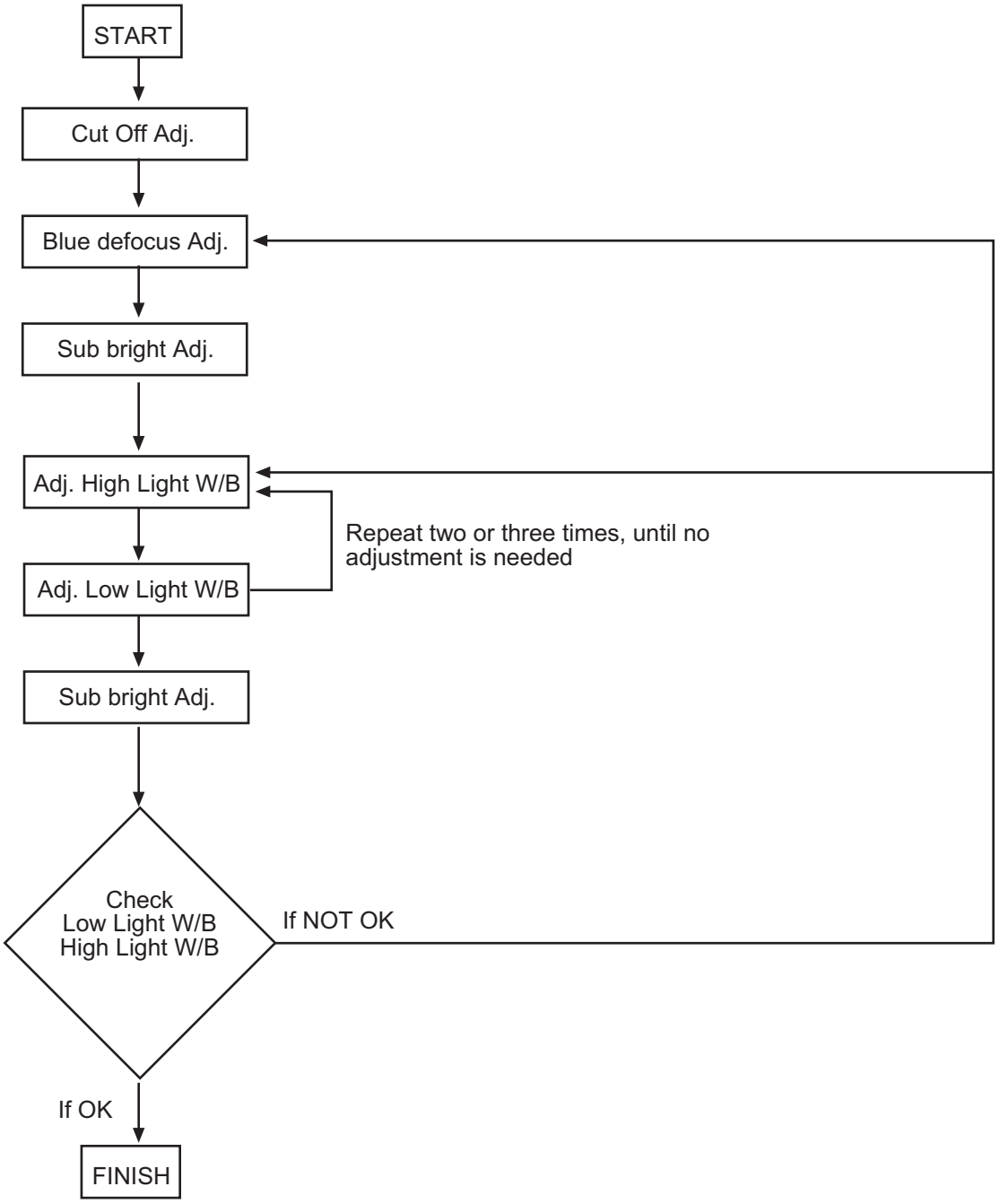


Fig. 3

Fig. 4

Fig. 5

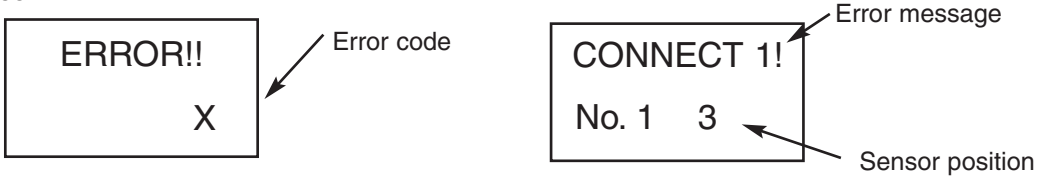
WHITE BALANCE ADJUSTMENT FLOW CHART



(5) Convergence Errors.

If an error message or code appears while performing MAGIC FOCUS or initialize (MODE, SURF in DCU service mode) follow this confirmation and repair method.

1. Turn on power and receive any signal.
2. Press service switch on DEF./CONV. board.
3. Press “SWAP” then “SURF” 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 appear on screen.



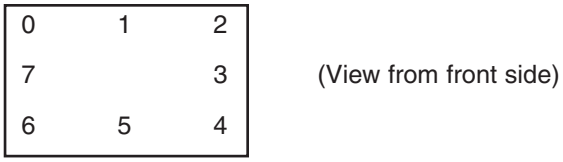
5. Follow repair table for errors.

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 signal Check the wiring of connector between sensor and DCU	X	X
11	Sync	Input strong field signal Check the wiring of connetor between sensor and DCU	X	X

*1 -- RK 41, 42, 45, 46, 49, 50, 53, 54, 57, 58, 61, 62 check these resistors.

*2 Sensor Position



(View from front side)

8 Sensors

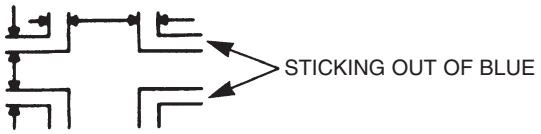
2.13 Blue Defocus adjustment

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 preset.
(4) Input the cross-hatch signal.

Adjustment procedure

(1) Turn the B Focus VR (Focus Pack) fully clockwise.
(2) Adjust sticking out level of blue to specification shown in table below, by turning the (B) FOCUS VR counter clockwise.



UNEVENNESS SPECIFICATION: ±1cd/m^2

Defocus sticking out specification

Screen Size	Blue sticking out
46”	1.0mm

Condition: User controls are set to the initial set positions (for shipment)

Measuring point-Screen center.

2.14 White balance adjustment

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

I^2C data for High light white balance

Green : G DRIVE (HIGH) 3F (initial data)(Adjustable)
Red : R DRIVE (HIGH) 3F (initial data)(Adjustable)

I^2C data for Low light white balance

Green : G CUT OFF (HIGH) 7F (initial) (Fixed data)
Red : R CUT OFF (HIGH) 7F (initial) (Adj. data)
Blue : B CUT OFF (HIGH) 7F (initial) (Adj. data)

Adjustment Preparation

(1) Adjustment should start 20 min. or more after the TV power is turned ON.
(2) CUT OFF ADJ. should be finished.
(3) VIDEO control : Contrast is MAX., Others are center.
(4) Color temp. : HIGH
(5) Signal:
* Hight Light white Balance Adj.
White raster 0.715Vpp (w/o sync., termination incidence : 75ohm.) 100IRE
* Low Light white balance ADJ.
White raster 0.180Vpp (w/o sync., termination incidence : 75ohm.) 25 IRE (The brightness equal to 20cd/m^2 at screen center.

(6) BLUE defocus ADJ. should be finished.
(7) The vertical incident illumination on the screen should be 20 Lux. or less.
(8) Picture Format is 16:9 Standard Mode.
(9) Go into I^2C service mode.

Table 1: White Balance Adjustment Signal

Screen Size		46”
High light	[IRE]	100
	[Vpp]	0.715
Low light	[IRE]	25.0
	[Vpp]	0.175

Table 1 shows amplitude of White raster (without sync, termination impedence: 75ohm).

Table 2: White Balance Adjustment Specification

Size	Highlight	Lowlight
46”	10800K±0MPCD (x=0.277 ± 0.004, y=0.284 ± 0.004)	10800K±0MPCD (x=0.277 ± 0.004, y=0.284 ± 0.004)

Adjustment Procedure

A. High Light W/B adjustment

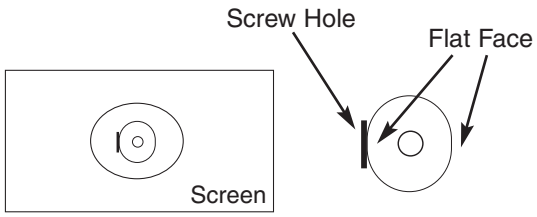
(1) Receive signal for High Light white balance ADJ.
(2) Adjust white balance at center of screen, using R DRV/ G DRV with remote control (see Table 2).

B. Low Light W/B adjustment

(1) Receive signal for Low Light white balance ADJ.
(2) Adjust white balance to center of screen, using R CUT OFF/G CUT OFF/B CUT OFF with remote control. Do not touch screen VRs (see Table 2).
(3) Take Green color as a reference color, then adjust Low Light W/B by increasing other two colors CUT OFF data. Do not change GREEN CUT OFF data. CA-100 Probe should be set to a direction as shown below.

Repeat A & B two or three times, until no adjustment is needed (white balance tracking-GOOD). If W/B tracking is not good, set all data (Both DRV and CUT OFF) to inital data, and change reference color to different color.

Note: If Low Light adj. spec cannot be followed, apply previous adj. spec. (adjust by eye.)



Set probe to above direction. (Screw hole side should be on the left side)

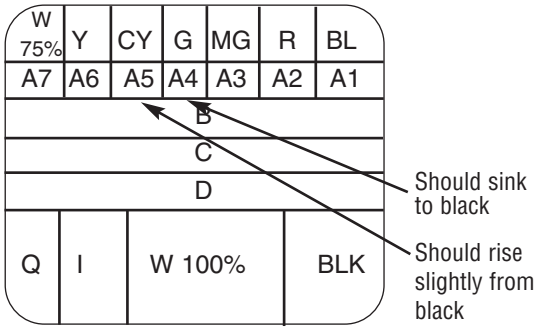
Top view of CA-100 Probe

BACK TO ADJUSTMENTS

2.15 Sub brightness adjustment

Adjustment preparation

(1) Start adjustment after the power is turned ON for 20 minutes or more.
(2) Receive the color bar signal.
(3) The vertical incident illumination on the screen should be 20 lux or less. (Room should be dark).
(4) Picture Formats is 16:9 Standard Mode.



Adjustment procedure

(1) Go to “Sub Brightness” adjustment in I²C ADJUST mode (press Input and Power button on Control panel at same time), using CURSOR ▲, ▼ and then CURSOR ▶.
(2) Then adjust “Sub Brightness” using CURSOR ◀, ▶ to increase or decrease the value, according to figure. (Visually adjust).
(3) After adjustment, press MENU button to exit I²C ADJUST mode. (Data is stored in memory).

Note: When selecting SUB-BRIGHTNESS mode the microprocessor 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.

BACK TO ADJUSTMENTS

2.16 Sub Picture Signal Amplitude Adjustment

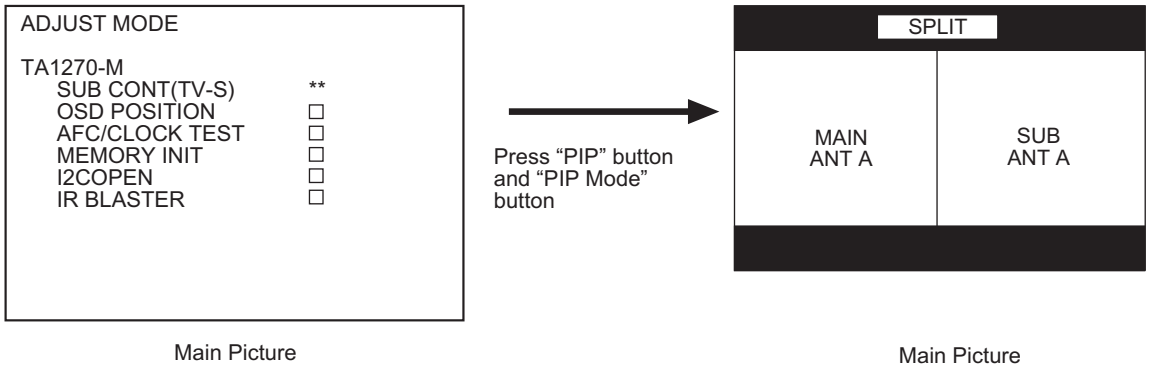
Adjustment preparation

(1) Sub-brightness adjustment should be finished.
(2) Start adjustment about 20 minutes after the power switch is turned on.
(3) Condition should be as follows:
Contrast : Max
Brightness : Center
(4) Press PIP button on R/C unit. Select Split mode.
(5) Receive ANT A NTSC white signal (amplitude 1. 0Vp-p), main-picture and sub-picture. (Do not use Video/S-Video/YPBPR/DVI.)
(6) Connect probe on the P852(CPT P.W.B.-Green) to check sub-picture amplitude.

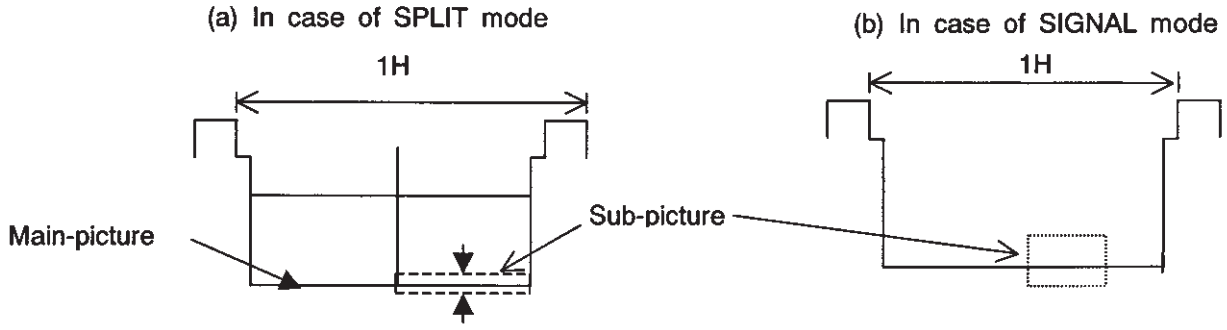
Adjustment procedure

(1) Go to "SUB CONT(TV-S)" adj. on the I²C service mode.
(2) Press "PIP" button and "MODE" button of R/C.
(3) Observe P852 on the CPT P.W.B. and change the "SUB CONT(TV-S)" I²C data so that the amplitude of the sub-picture is the same level as that of the main picture.

DISPLAY



Wave form of P852 (Green Cathode)



Adjustment specification : ±1V
Quality control specification : ±3V

(Sub-picture level compared with main-picture level.)
(Oscilloscope range:10V/5usec)

BACK TO ADJUSTMENTS

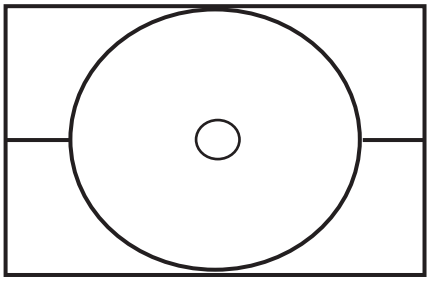
2.17 Horizontal position adjustment

Adjustment preparation

(1) The screen face of set should be turned to East or West.
(2) VIDEO control should be set to Factory Preset Condition.
(3) DIGITAL CONVERGENCE adjustment should be finished.

Adjustment procedure
NORMAL 16:9 STANDARD MODE

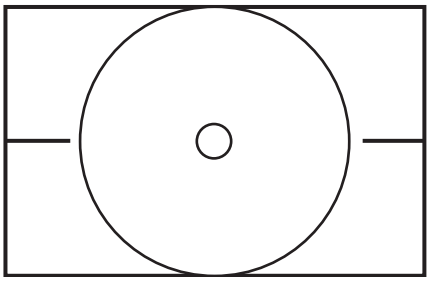
(1) Receive circle pattern.
(2) Picture Format is 16:9 Standard.
(3) Go to I²C Adj. mode by pressing INPUT and POWER button on control panel at the same time.
(4) Choose H. POSITION item using R/C CURSOR ▲,▼.
(5) Adjust HORIZONTAL POSITION as follows, using R/C CURSOR ◀,▶.



Spec: Balance Left/Right side display position.
H. size marker 1.0~2.0.

Adjustment procedure
1080i 16:9 Standard Mode

(1) Input 1080i (fH=33.75KHz) component circle pattern signal to component video terminal.
(2) Picture Format is 16:9 Standard.
(3) Go to I²C Adj. mode.
(4) Choose H. POSITION item using R/C CURSOR ▲,▼.
(5) Adjust HORIZONTAL POSITION as follows, using R/C CURSOR ◀,▶.

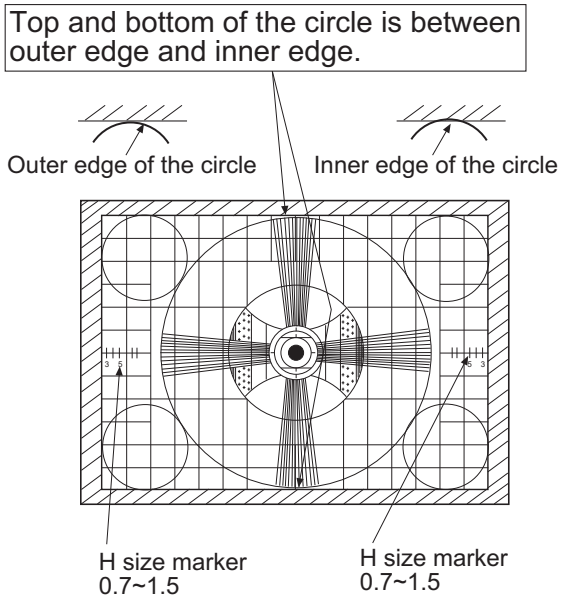


Spec: Balance Left/Right side display position.

2.18 Scanning area check

Checking condition

(1) Digital convergence adjustment should have been completed.
(2) Receive the circle pattern signal.
(3) Brightness/Contrast - standard condition
Contrast:max
Other controls:center position
(4) Check that the scanning area matches with the following drawing.



BACK TO ADJUSTMENTS

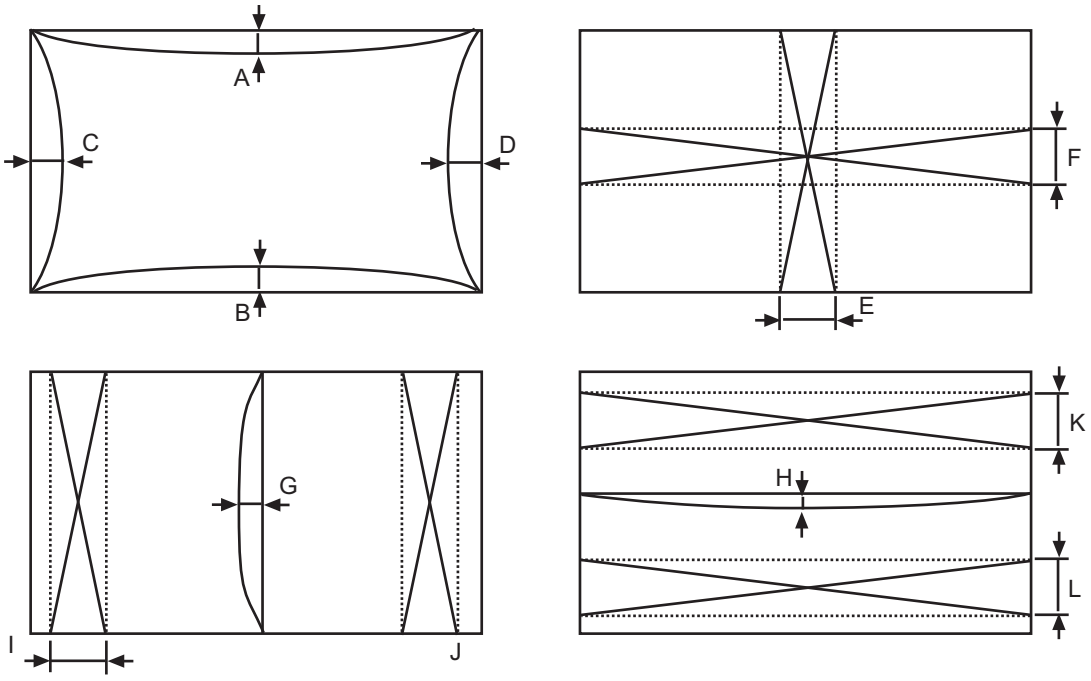
2.19 Raster distortion check

Checking condition

(1) Digital convergence adjustment should have been completed.
(2) Receive the cross-hatch signal (internal signal of the set is acceptable).
(3) Brightness/Contrast --- standard condition
Contrast : max
Other controls : center position
(4) Check the raster distortion specification: Value shown in the table below or less.
A ~ D
I ~ L ---Measure the winding of the outside line.

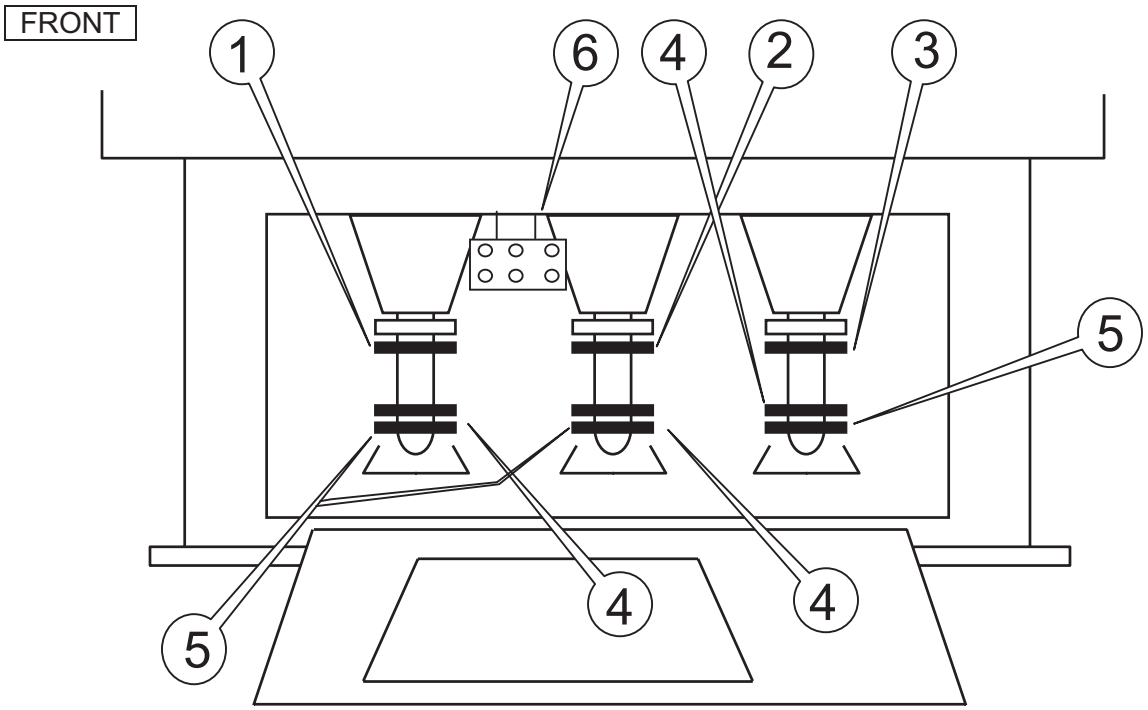
(unit: mm)

Item		Symbol	46”
Top/Bottom pincushion distortion		A,B	±5
Right/Left pincushion distortion		C,D	±4
Center line tilt	Vertical line	E	5
	Horizontal line	F	5
Center line winding	Vertical line	G	±3
	Horizontal line	H	±3
Trapezoidal distortion	Vertical line	I,J	4
Skew distortion	Horizontal line	K,L	5



BACK TO ADJUSTMENTS

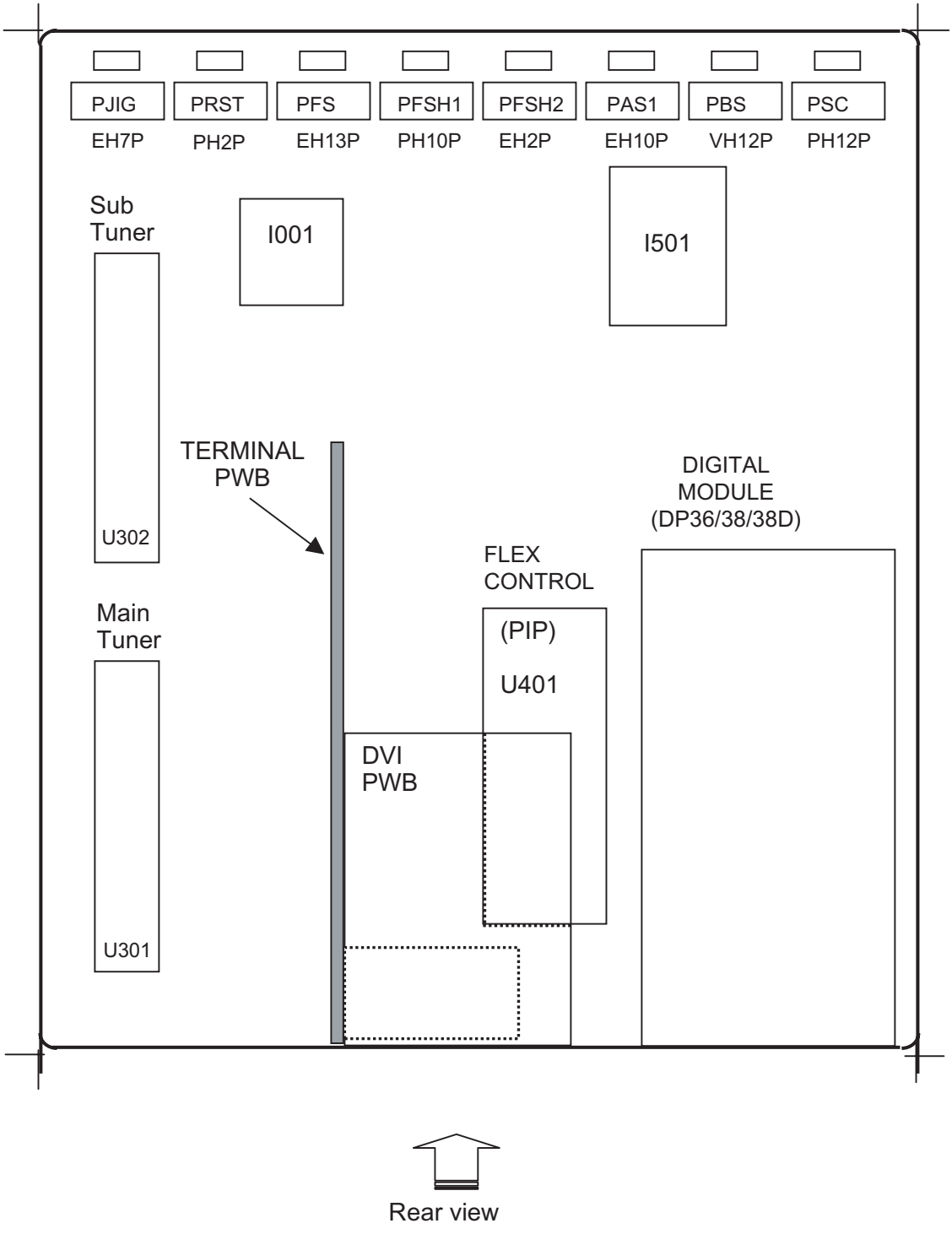
3. ADJUSTMENT POINT
3.1 CRT, cabinet locations



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. FOCUS PACK

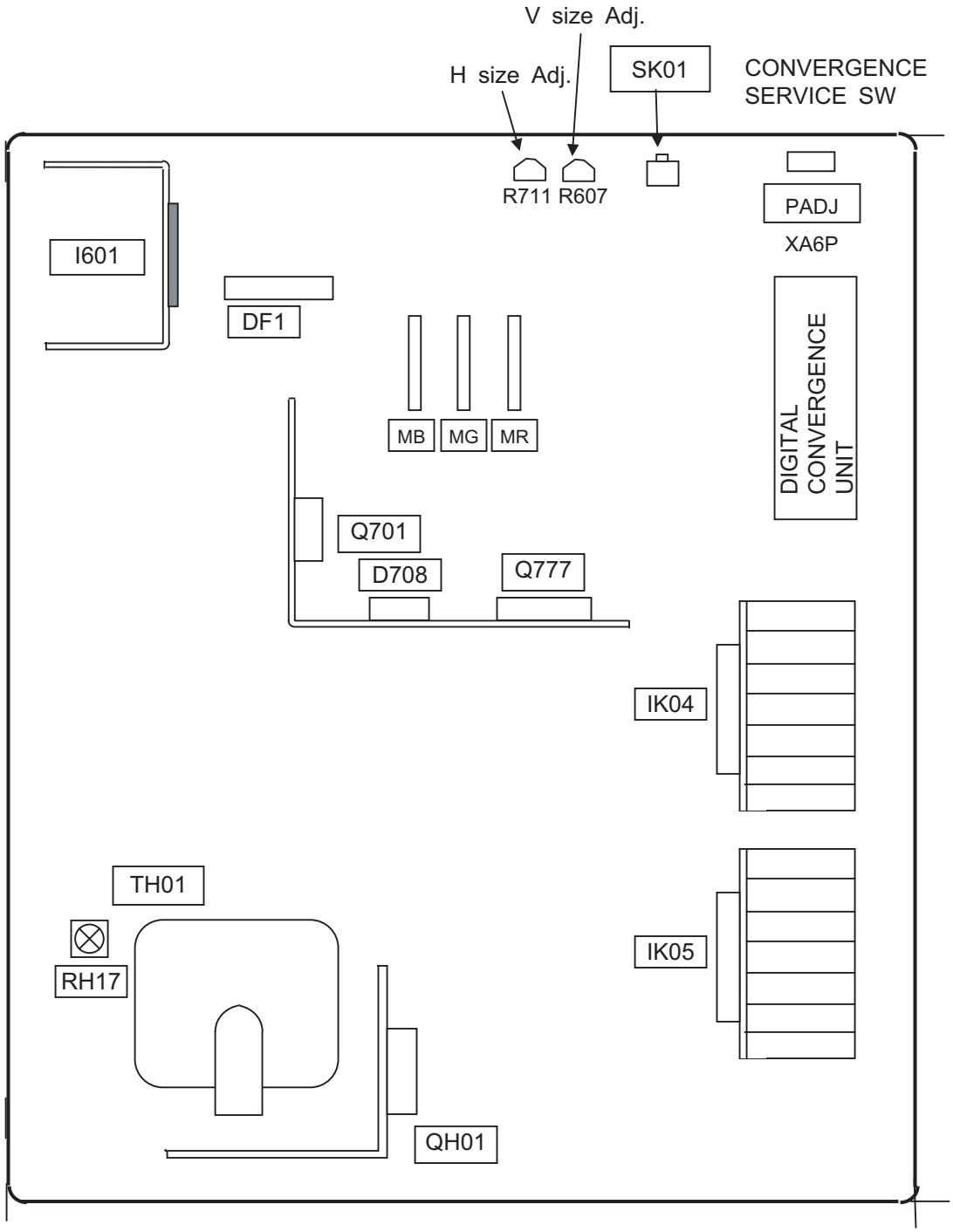
BACK TO ADJUSTMENTS

3-2. SIGNAL BLOCK ASSEMBLY



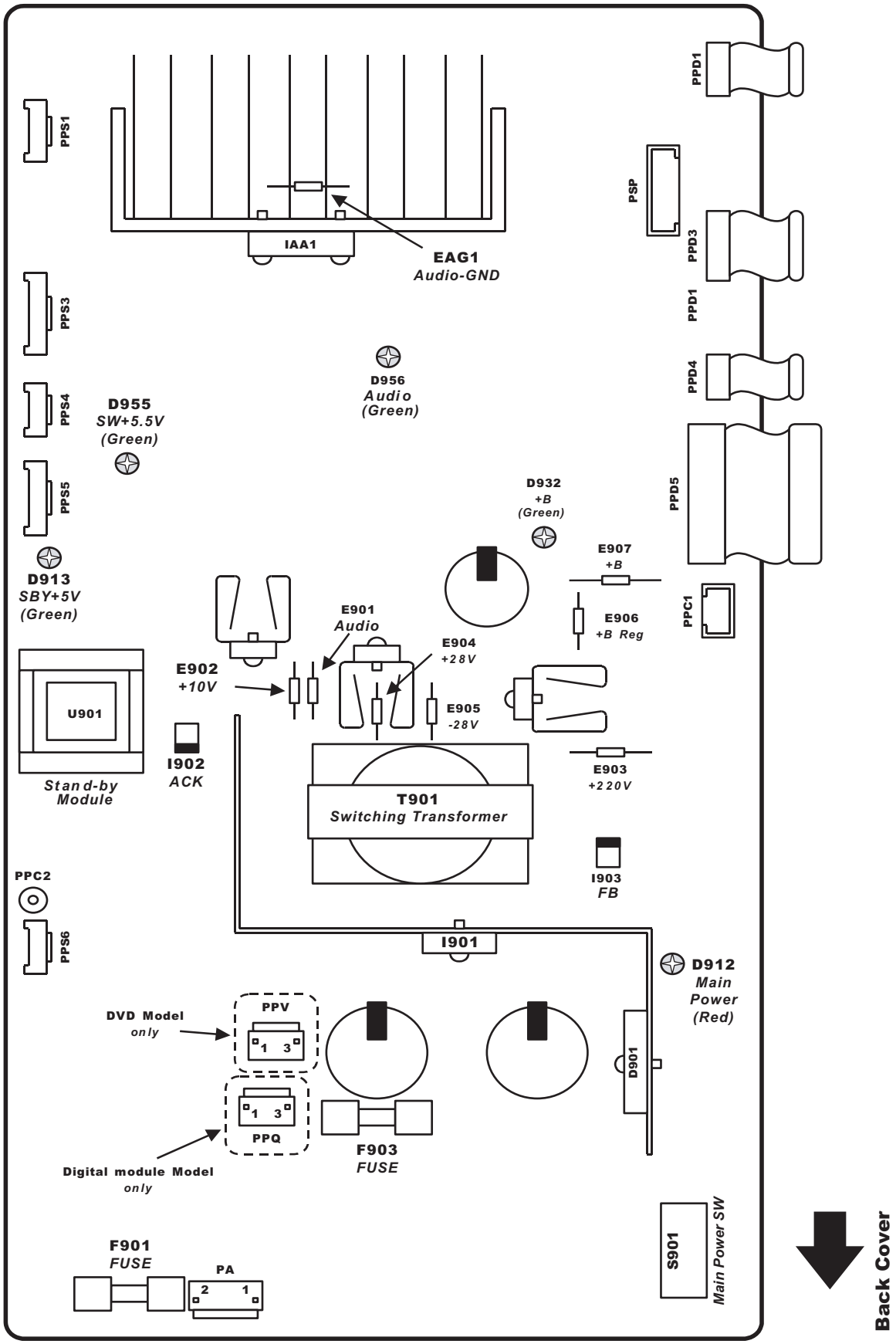
BACK TO ADJUSTMENTS

3-3. DEFLECTION P.W.B.



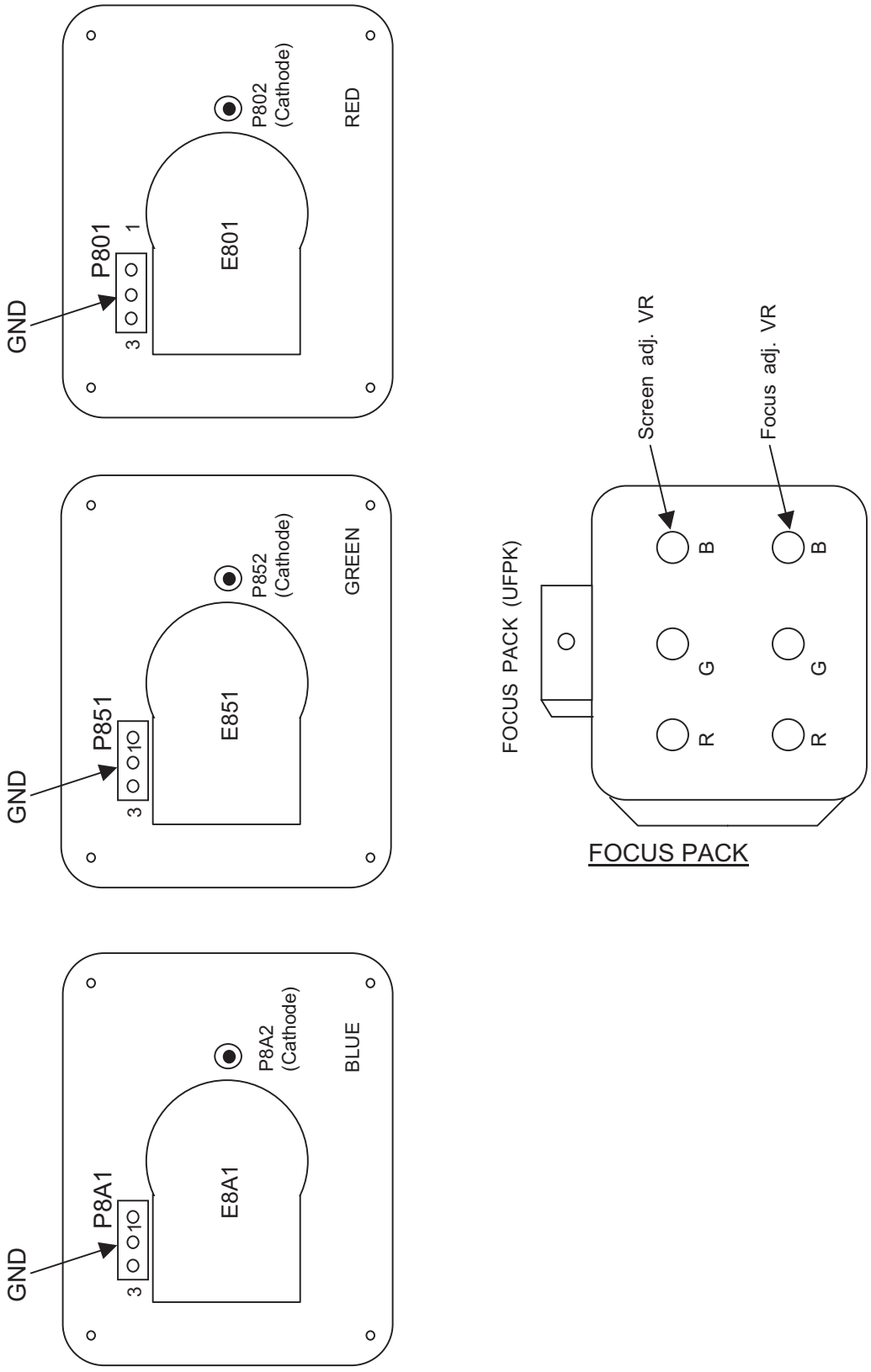
BACK TO ADJUSTMENTS

3-4. POWER SUPPLY P.W.B.



BACK TO ADJUSTMENTS

CPT P.W.B.



BACK TO ADJUSTMENTS

TROUBLE SHOOTING FLOWCHART

1. NO RASTER AND NO POWER (How to check LED's Diagnosis)

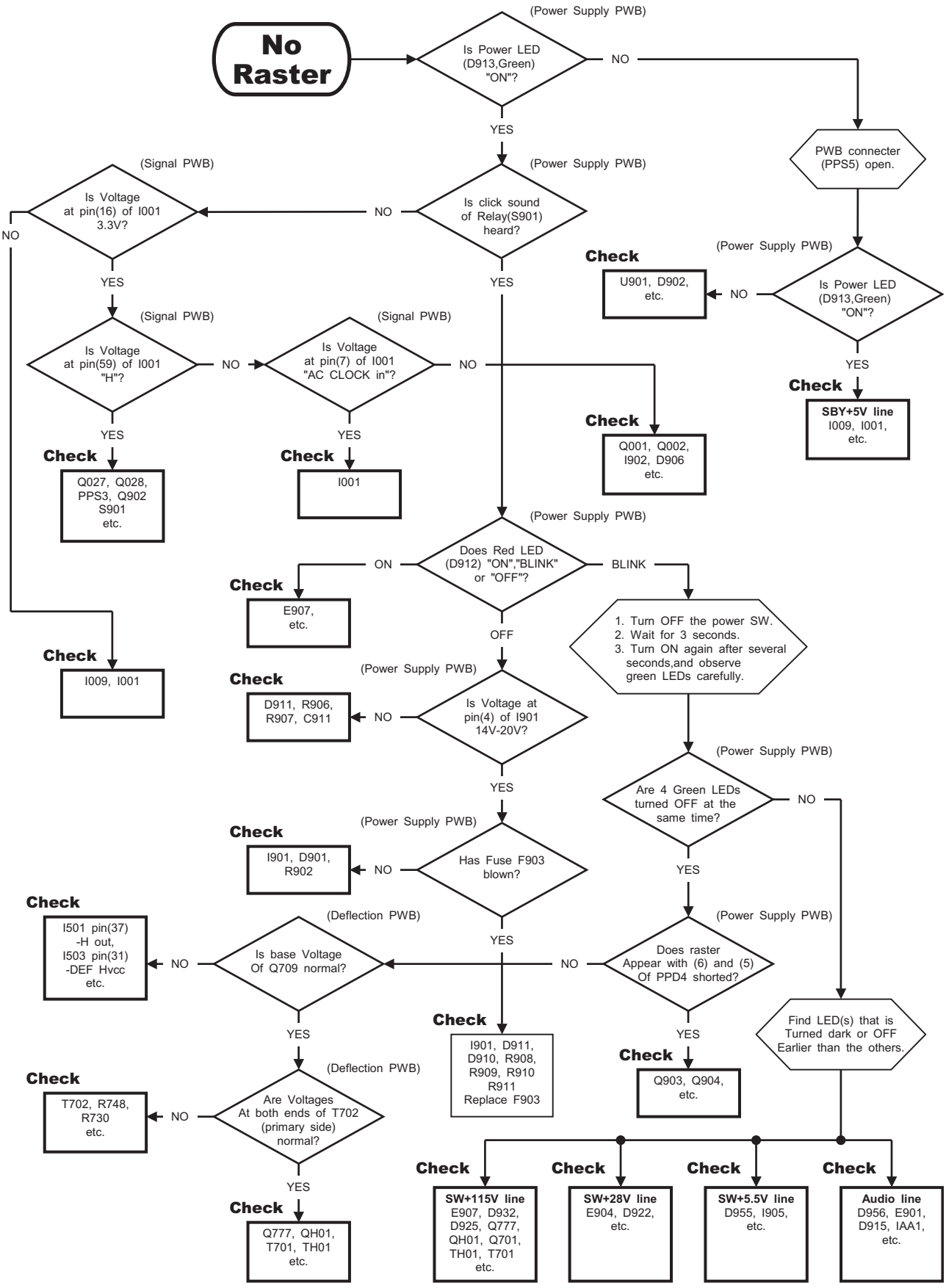
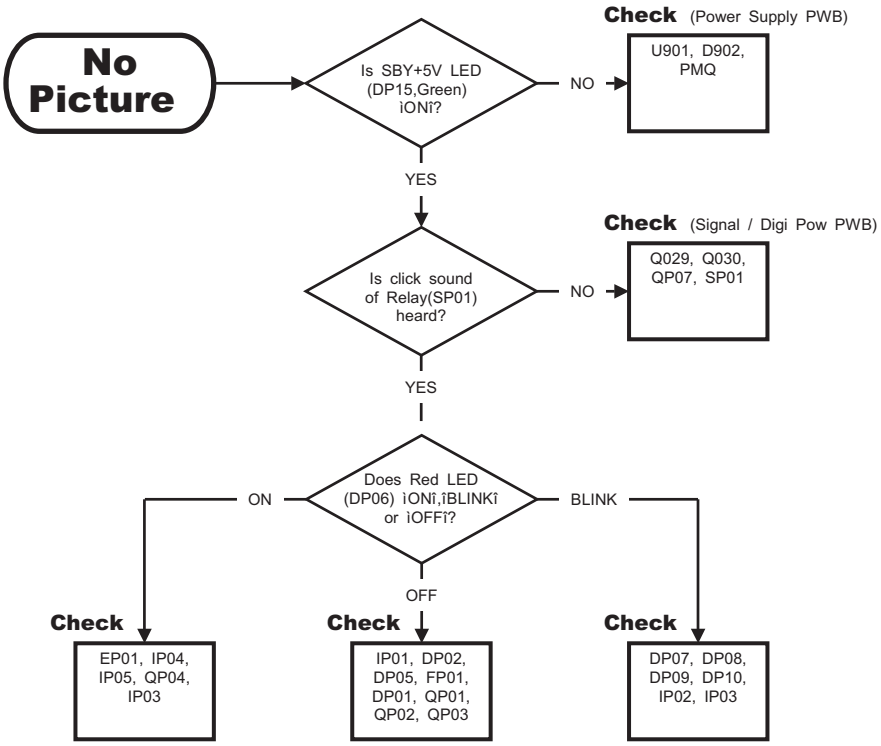


TABLE OF CONTENTS

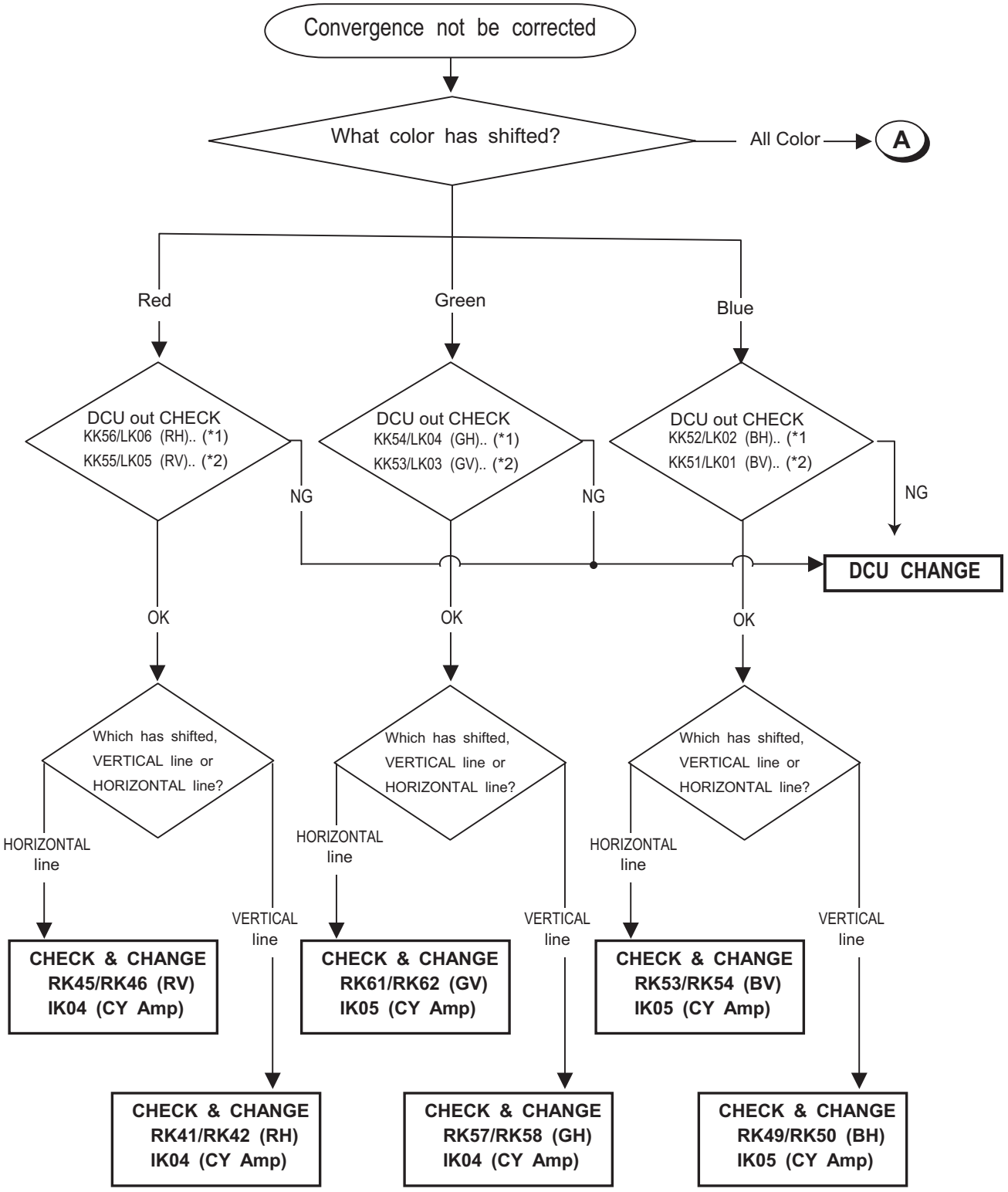
TROUBLE SHOOTING FLOWCHART

2. No Picture (Only DTV Mode)

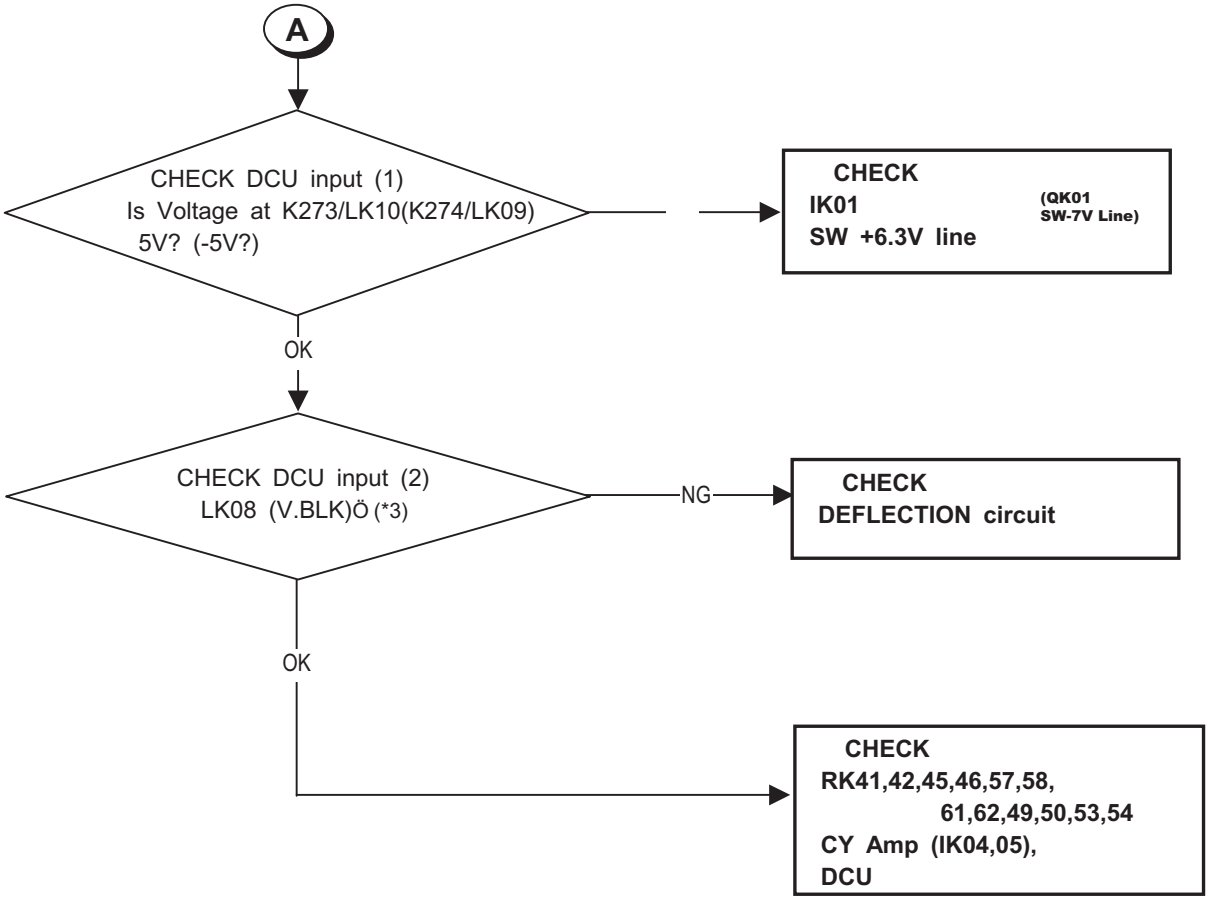


TROUBLE SHOOTING FLOWCHART

4. Convergence not corrected (How to check)



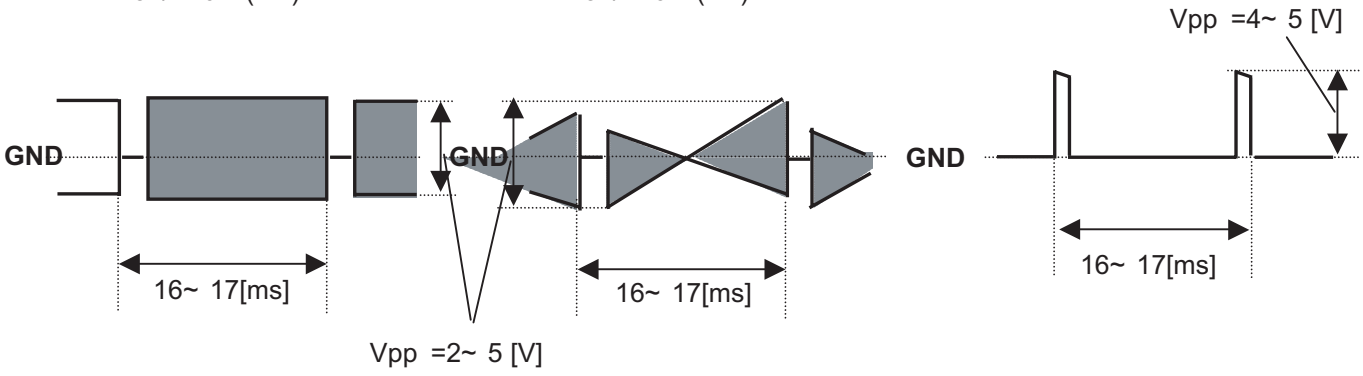
TROUBLE SHOOTING FLOWCHART



(*1) KK56/LK06 (RH)
KK54/LK04 (GH)
KK52/LK02 (BH)

(*2) KK55/LK05 (RV)
KK53/LK03 (GV)
KK51/LK01 (BV)

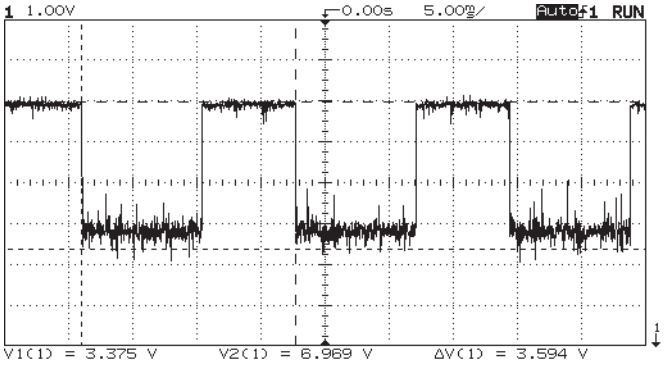
(*3) LK08 (V. BLK.)



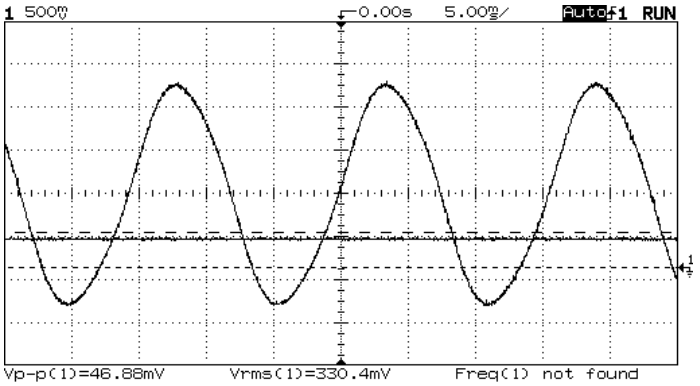
WAVEFORMS AT EACH SECTION

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

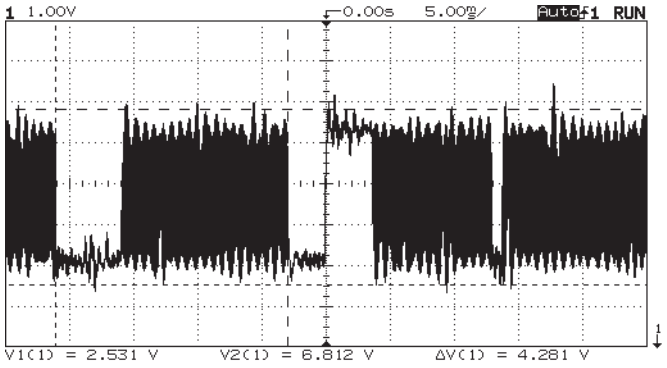
(1) I001 P01 VHOLD1



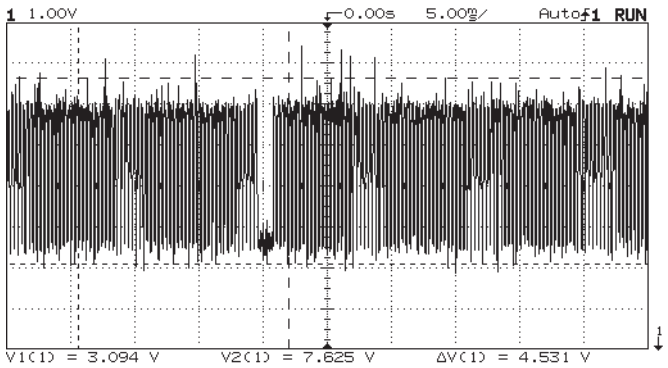
(2) I001 P13 XOUT



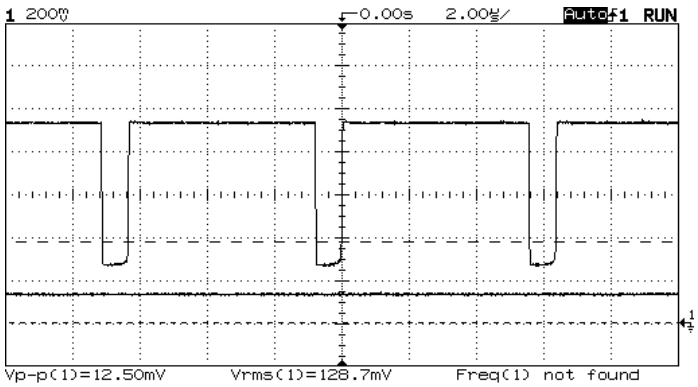
(3) I001 P21 OSD BLK



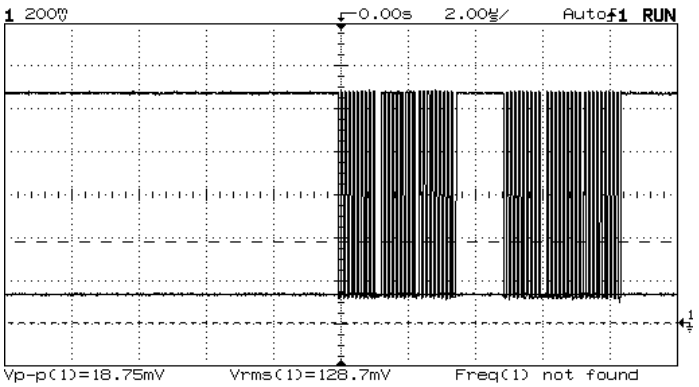
(4) I001 P22 HALFTONE



(5) I001 P23 M/S SYNC DET



(6) I001 P28 SCL2

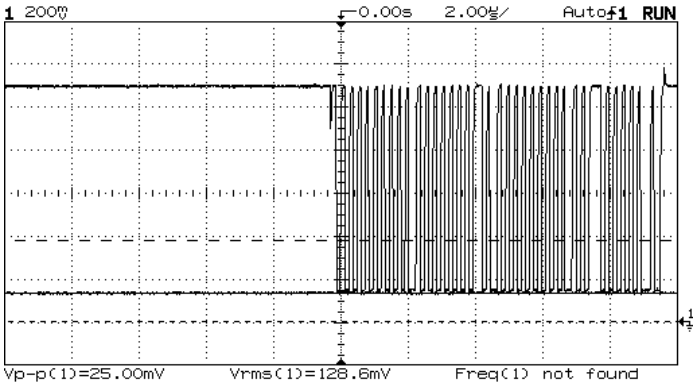


BACK TO TABLE OF CONTENTS

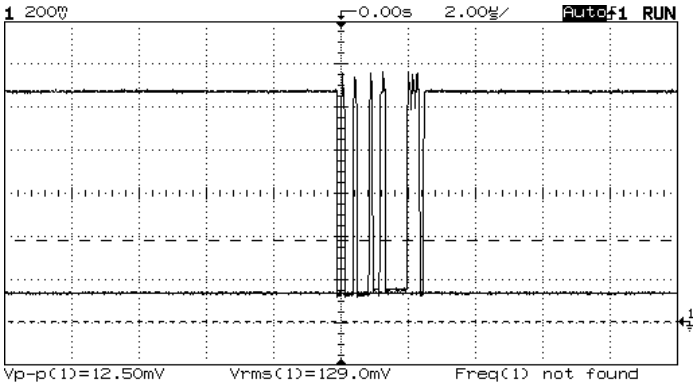
WAVEFORMS AT EACH SECTION

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

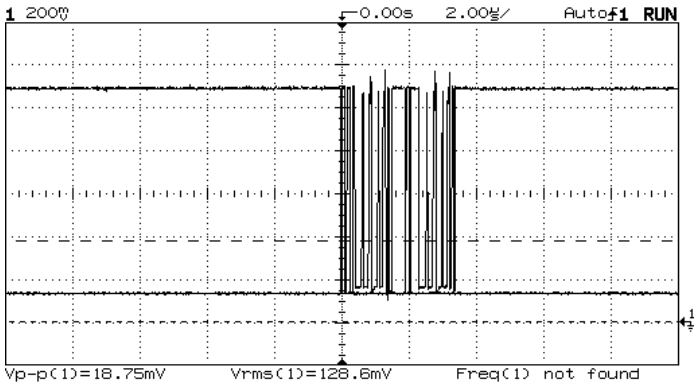
(7) I001 P29 SCL1



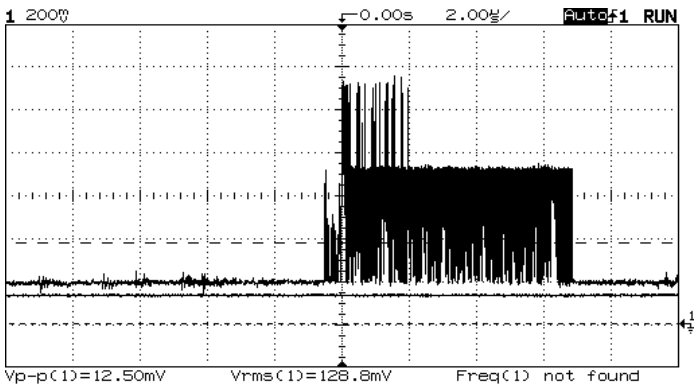
(8) I001 P30 SDA1



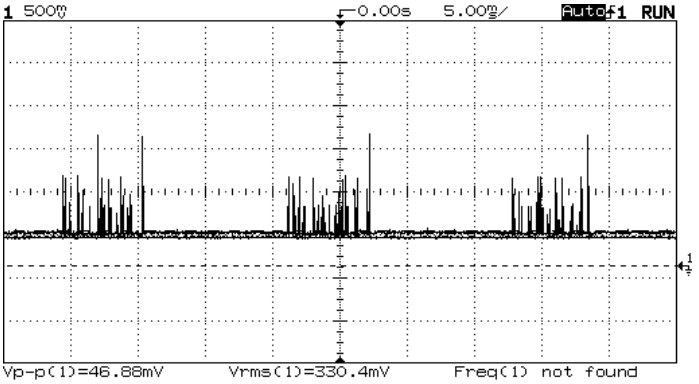
(9) I001 P31 SDA2



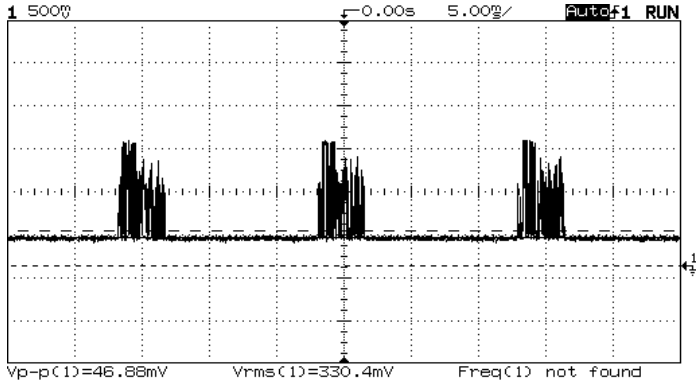
(10) I001 P32 OSD R



(11) I001 P33 OSD G



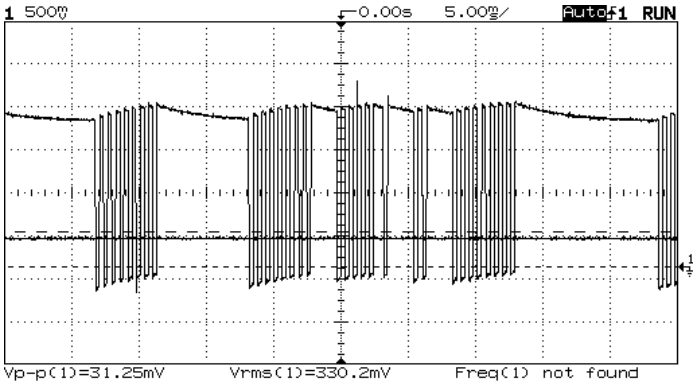
(12) I001 P34 OSD B



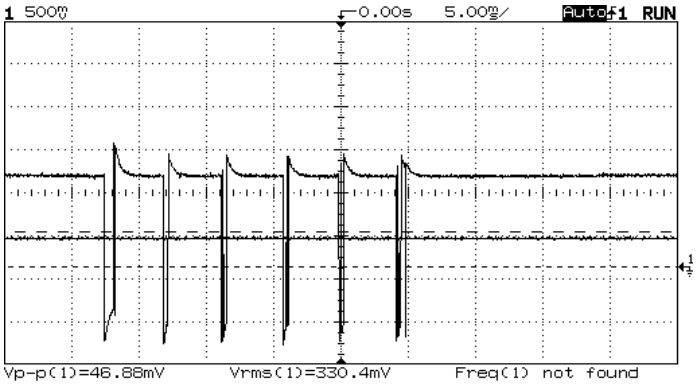
WAVEFORMS AT EACH SECTION

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

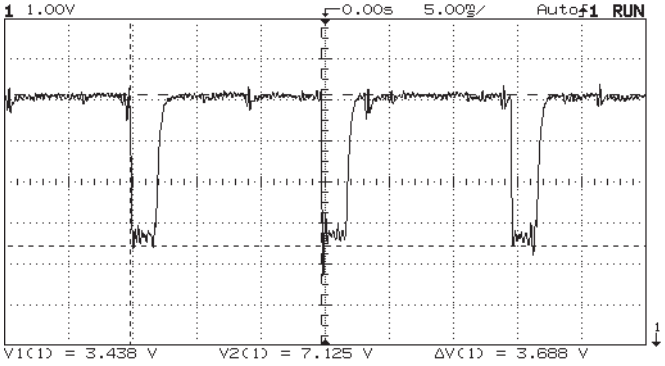
(13) I001 P46 (CE) FLASH



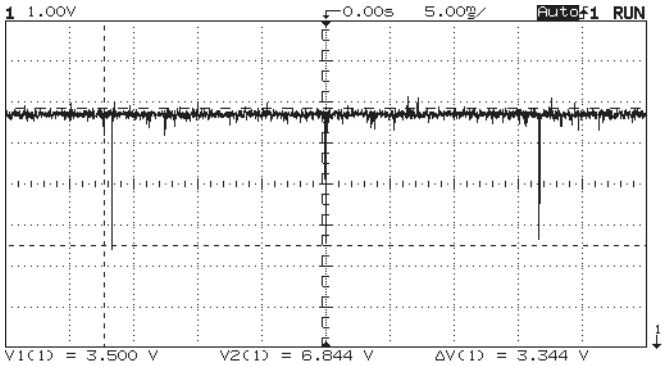
(14) I001 P52 DATA/KEY



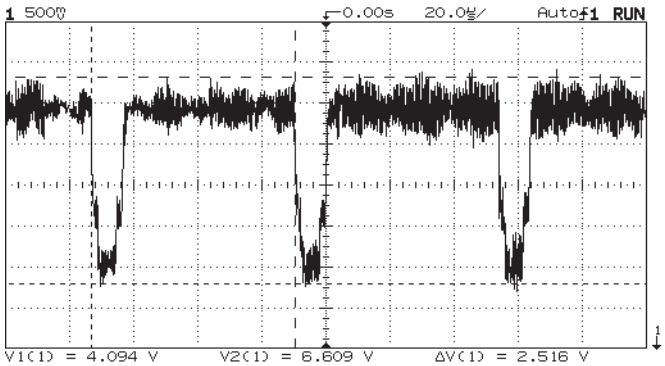
(15) I001 P62 OSD HSYNC IN



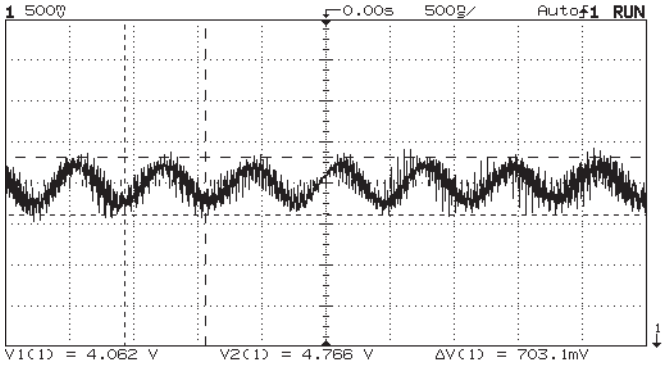
(16) I001 P64 OSD VSYNC IN



(17) I008 P01 Y1



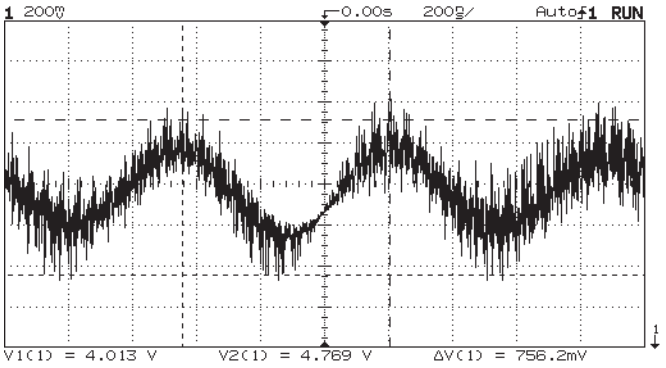
(18) I008 P02 Y0



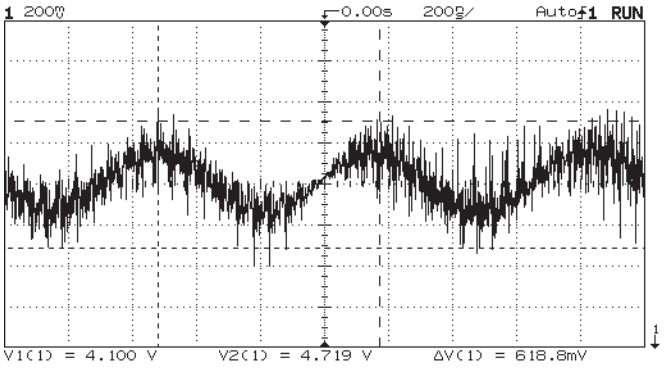
WAVEFORMS AT EACH SECTION

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

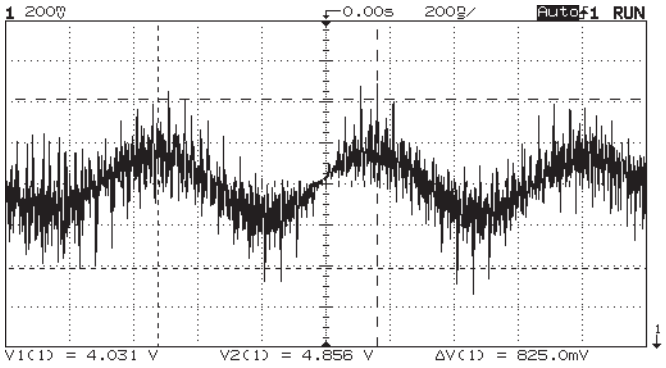
(19) I008 P03 Z1



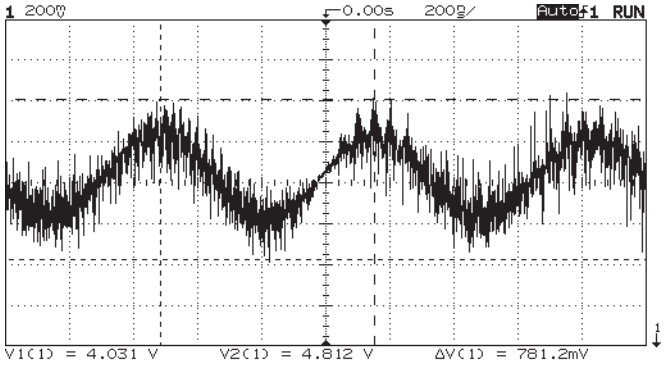
(20) I008 P04 Z



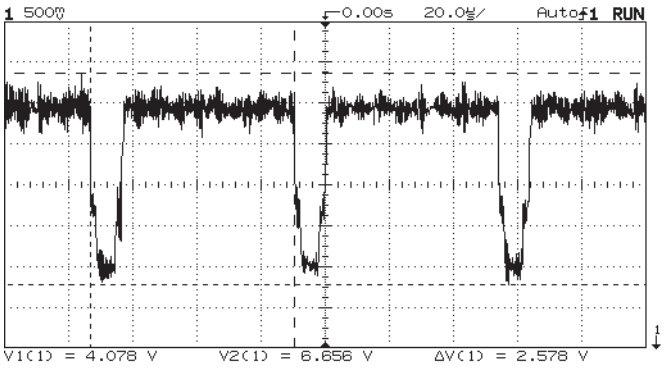
(21) I008 P05 Z0



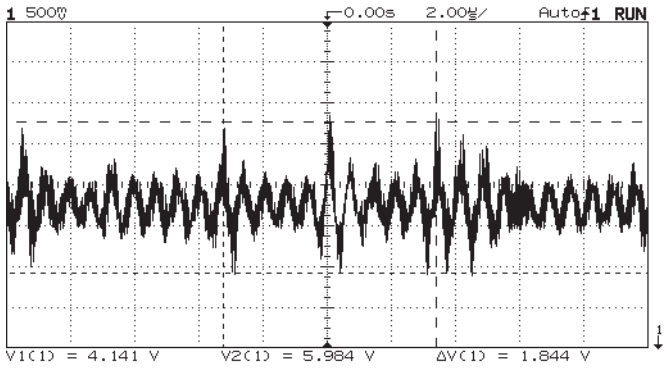
(22) I008 P12 X0



(23) I008 P13 X1



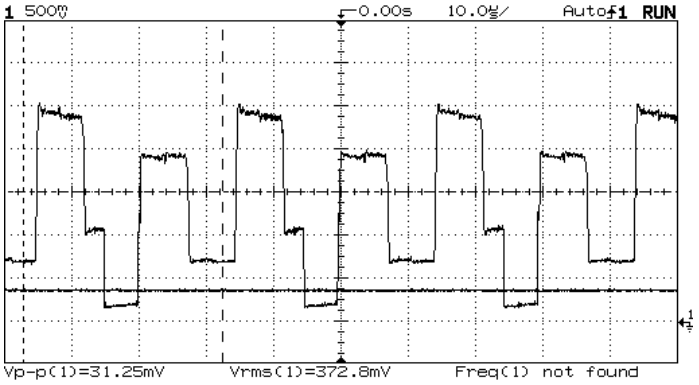
(24) I010 P01 Vcc



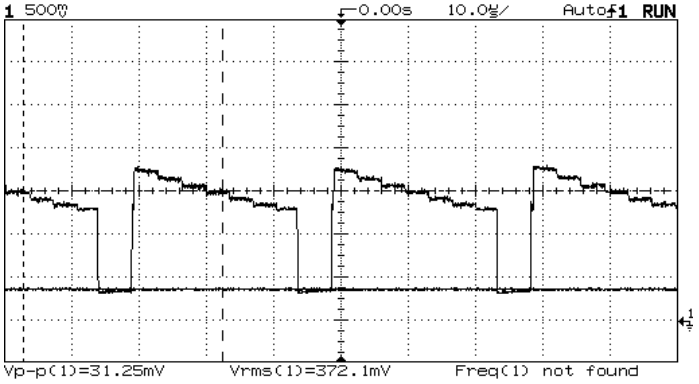
WAVEFORMS AT EACH SECTION

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

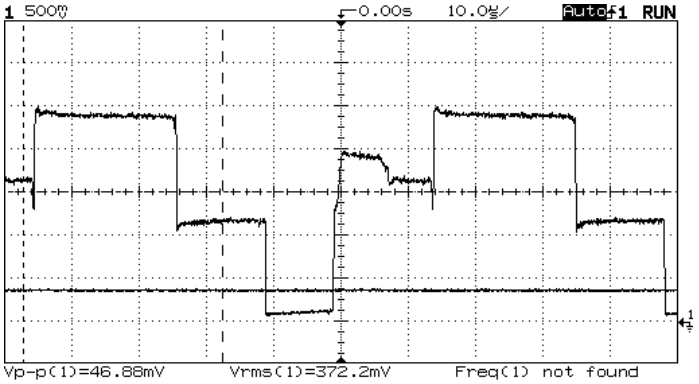
(25) I501 P12 R OUT



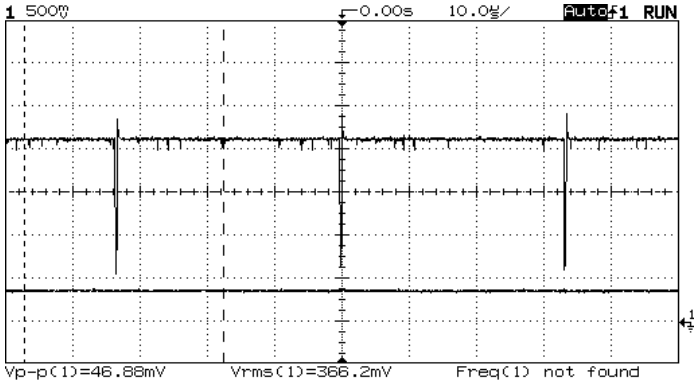
(26) I501 P13 G OUT



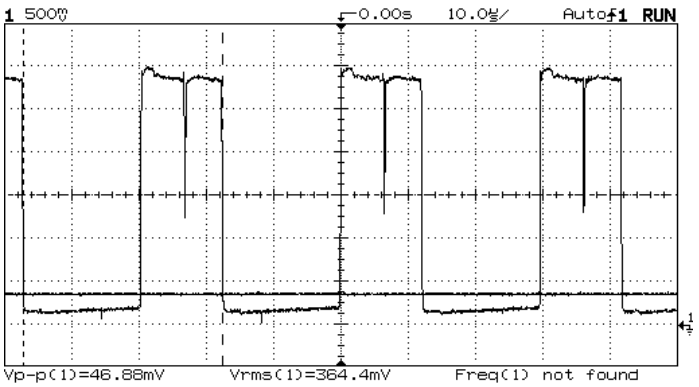
(27) I501 P14 B OUT



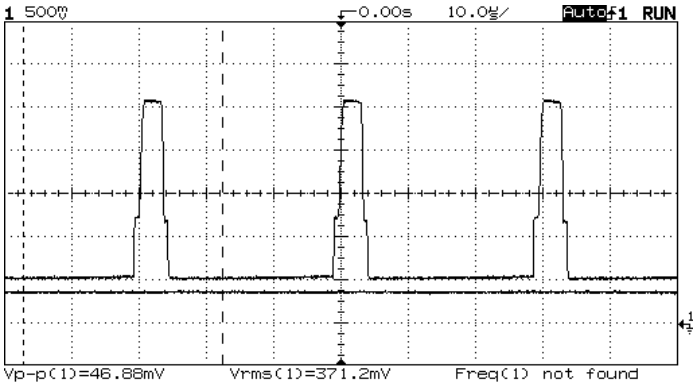
(28) I501 P35 VP OUT



(29) I501 P37 H OUT



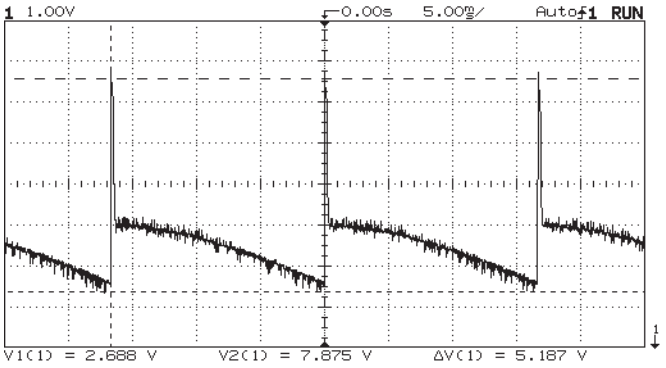
(30) I501 P39 FBP IN



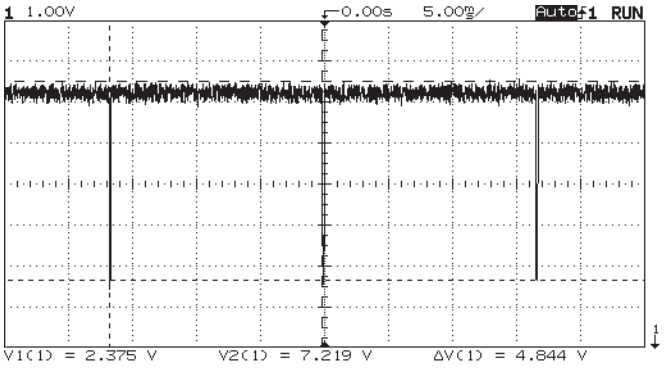
WAVEFORMS AT EACH SECTION

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

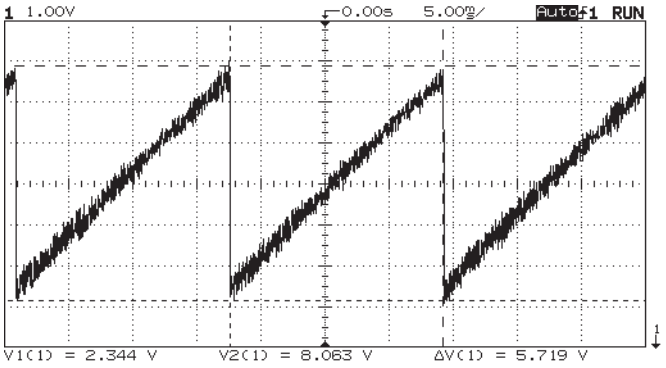
(31) I601 P01 (10X Reduced) V. OUT



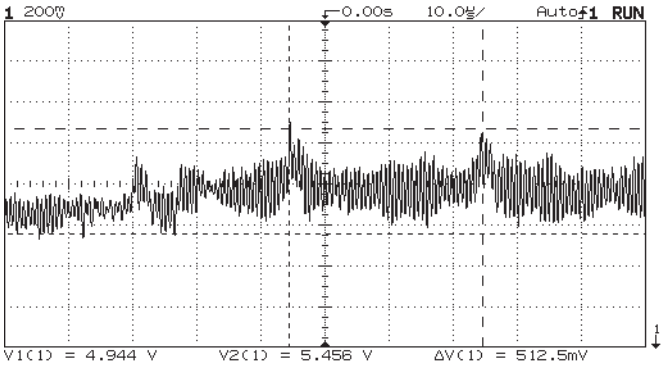
(32) I601 P03 TRIGGER INPUT



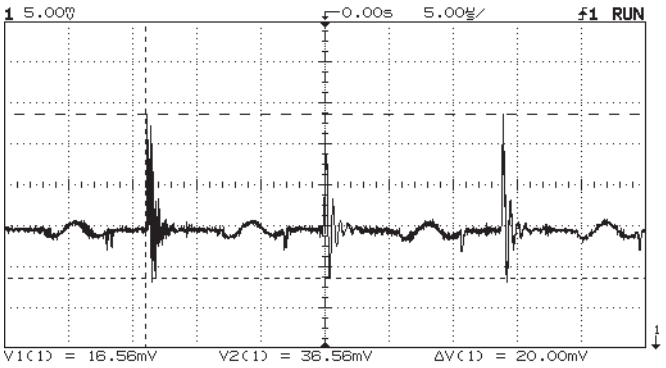
(33) I601 P07 RAMP GEN.



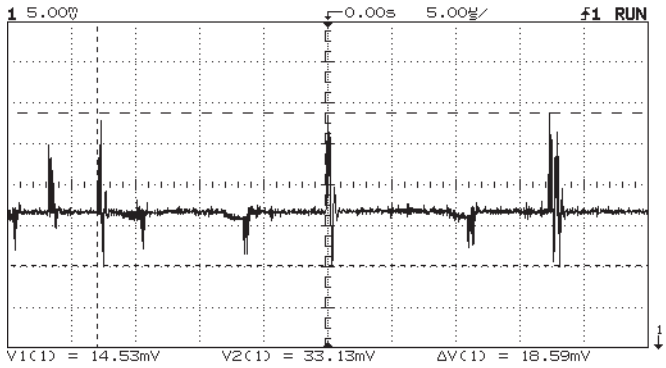
(34) I701 P06



(35) I901 P01 (100X Reduced) OCP



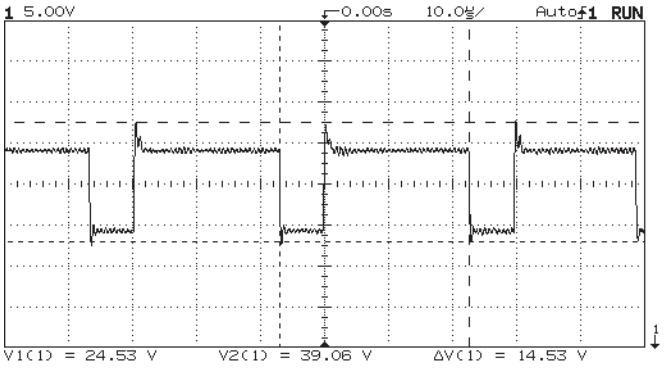
(36) I901 P03 (100X Reduced) D



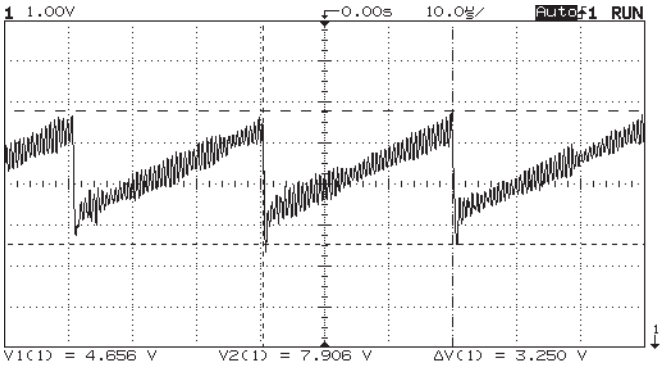
WAVEFORMS AT EACH SECTION

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

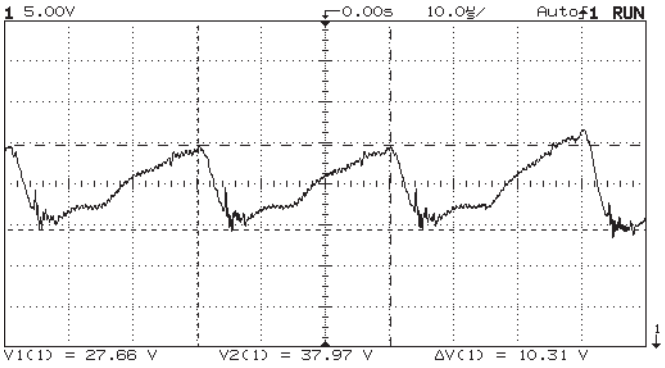
(37) IH01 P01



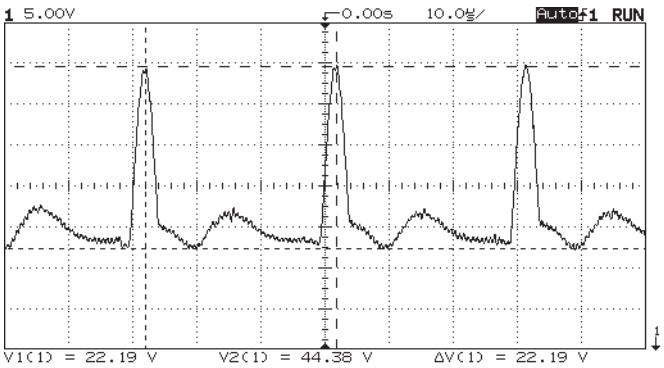
(38) IH01 P04 GEN.



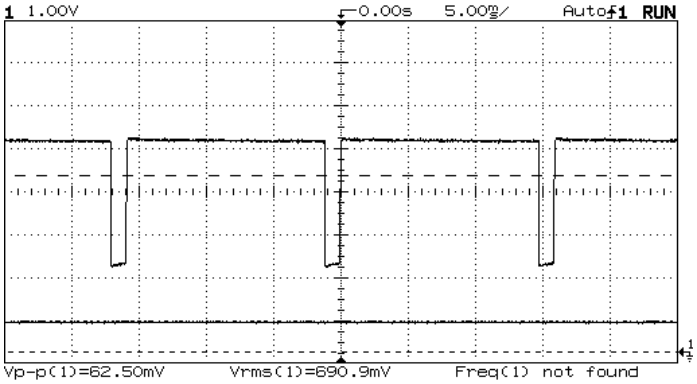
(39) IK04 P18 PCG or CYH+



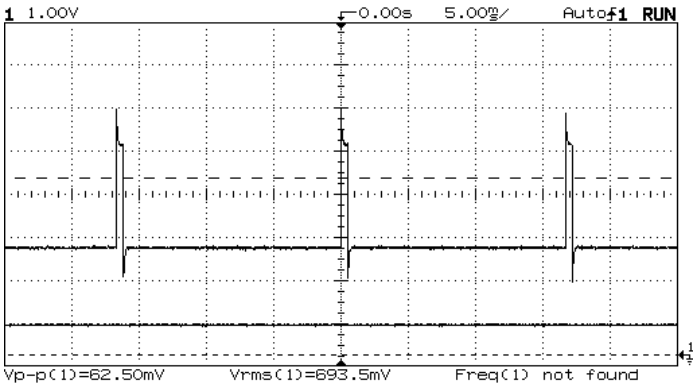
(40) IK05 P09 PCG or CYV+



(41) IY03 P03 SYNC-OUT



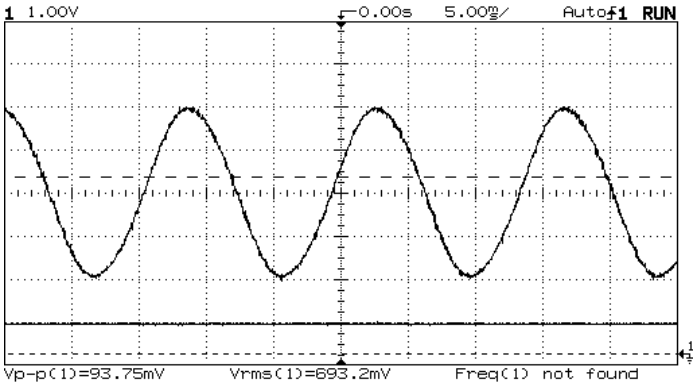
(42) IY03 P15 VD-OUT



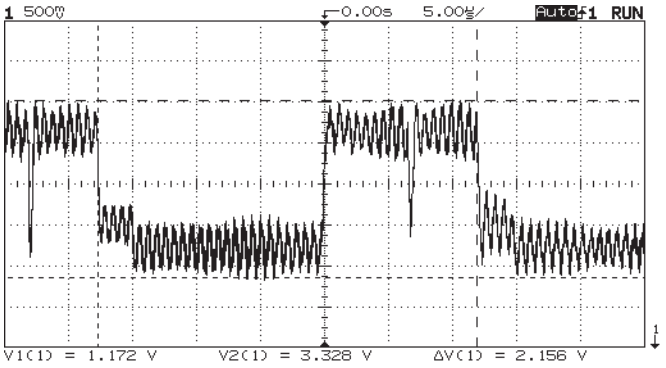
WAVEFORMS AT EACH SECTION

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

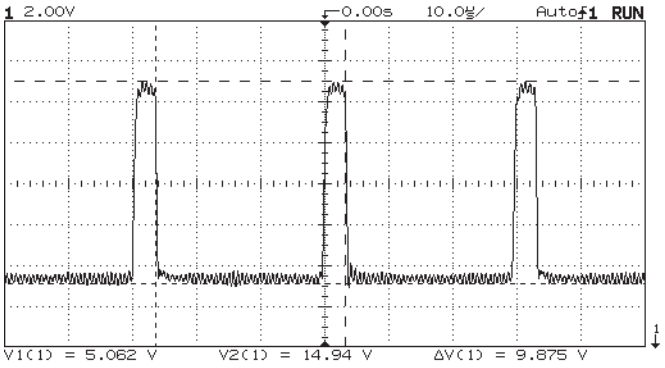
(43) IY03 P26 CW-OUT



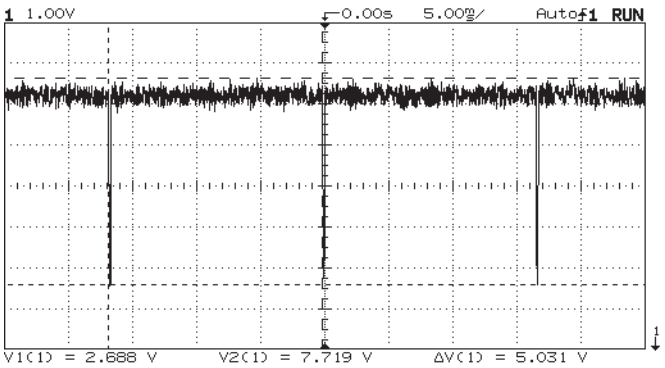
(44) PPD3 P06 H. DRIVE



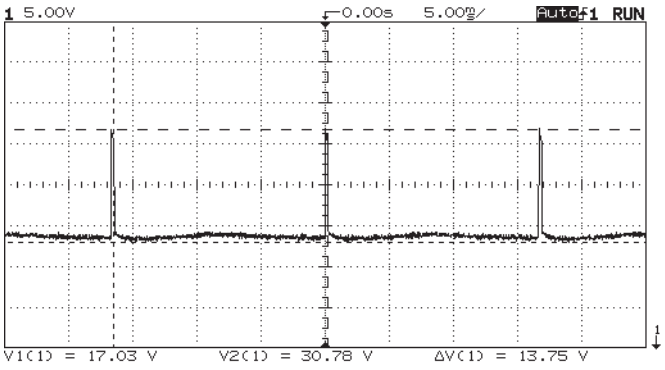
(45) PPD3 P08 H. BLK



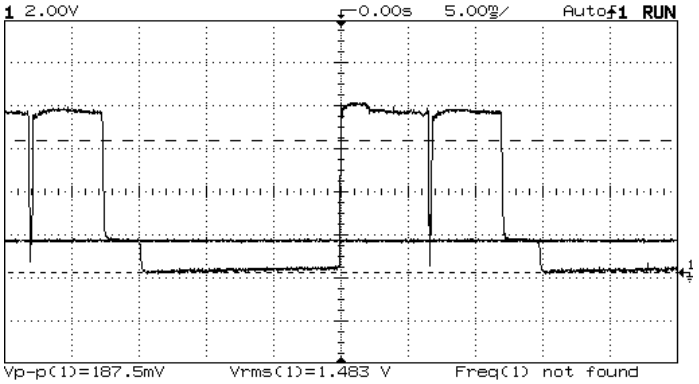
(46) PPD3 P10 V.DRIVE



(47) PPD3 P12 V. BLK



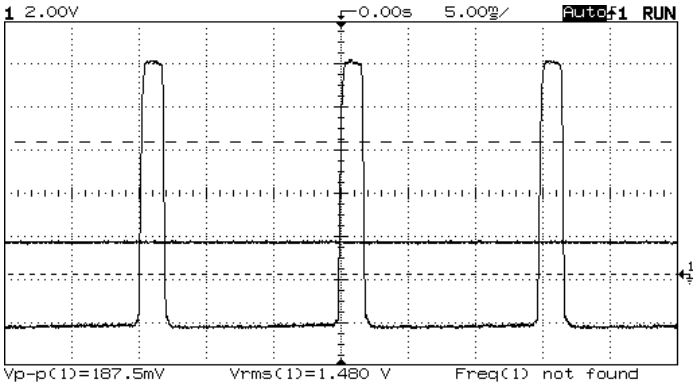
(48) PPS3 P06 H. DRIVE



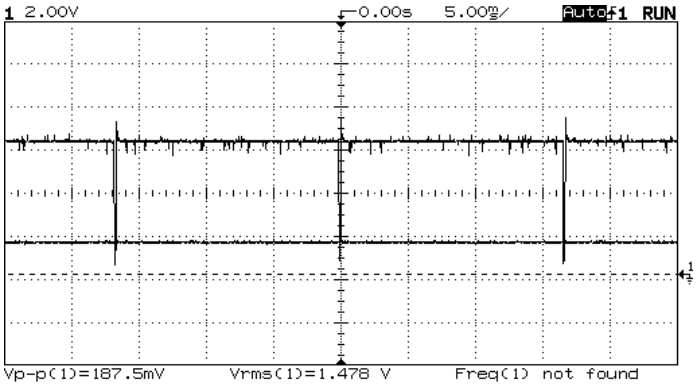
WAVEFORMS AT EACH SECTION

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

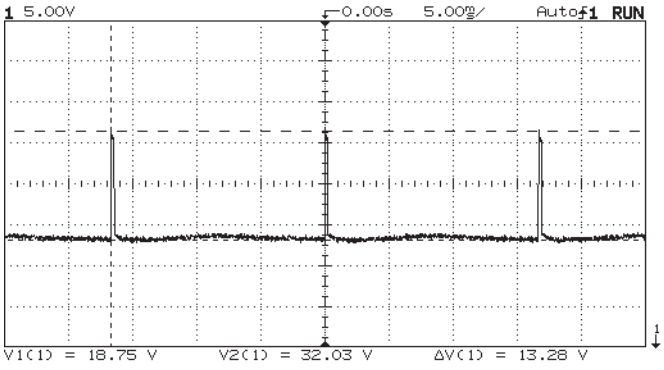
(49) PPS3 P08 H. BLK



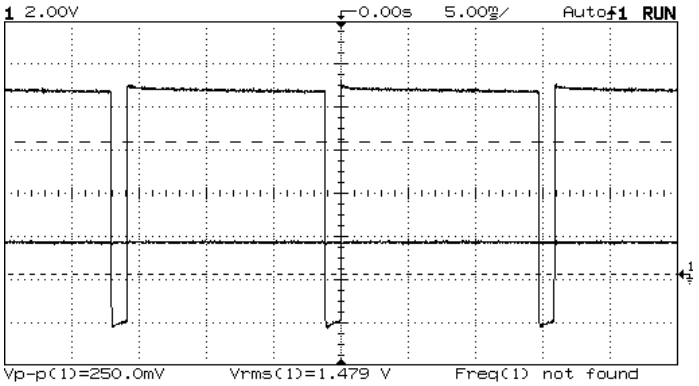
(50) PPS3 P10 V. DRIVE



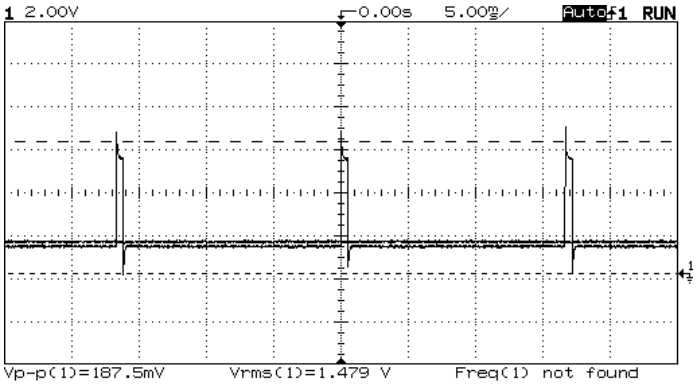
(51) PPS3 P12 V. BLK



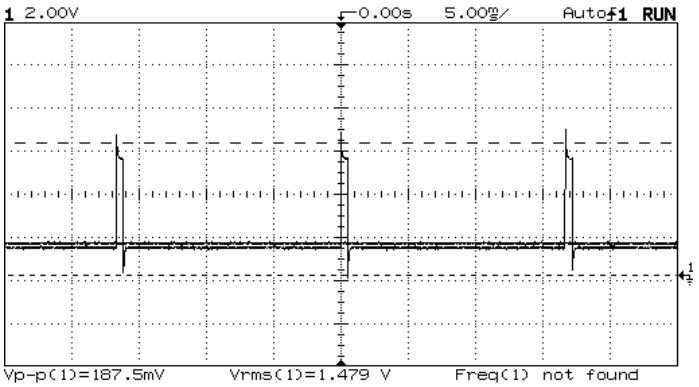
(52) PST2 P31 SUB. H



(53) PST2 P32 SUB. V



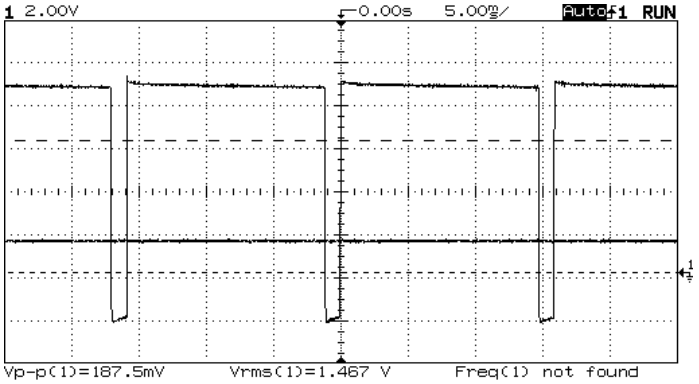
(54) PST2 P34 MAIN V



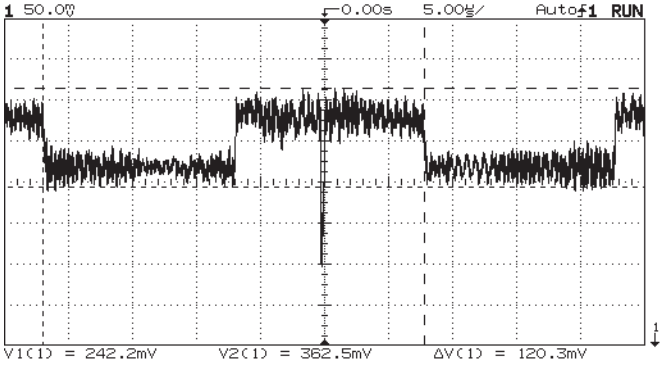
WAVEFORMS AT EACH SECTION

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

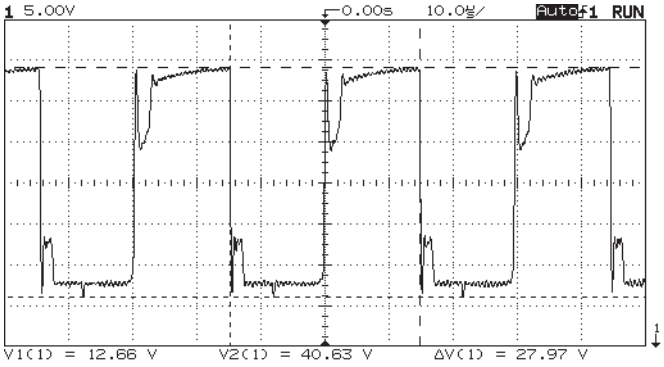
(55) PST2 P35 MAIN H



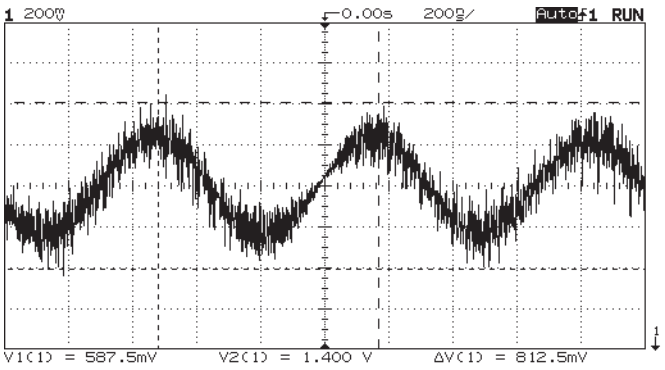
(56) Q709 (10X Reduced) BASE



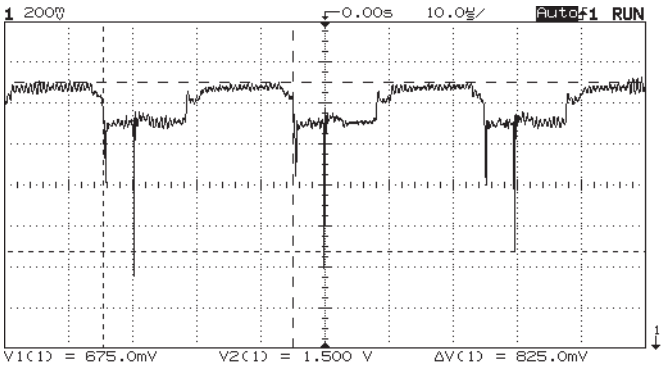
(57) Q709 COLLECTOR



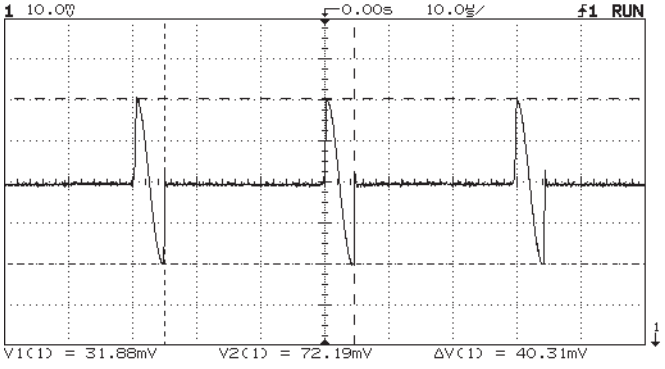
(58) Q709 EMITTER



(59) Q777 (10X Reduced) BASE



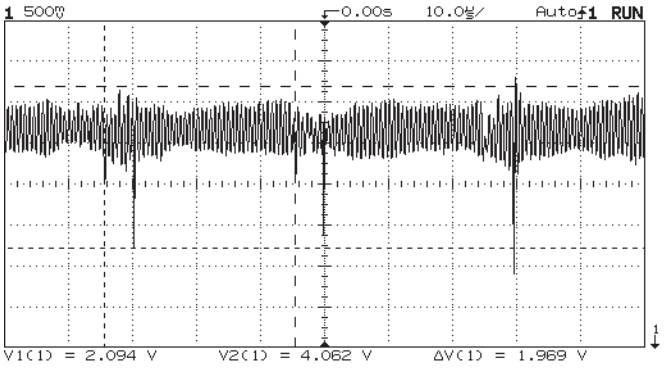
(60) Q777 (100X Reduced) COLLECTOR



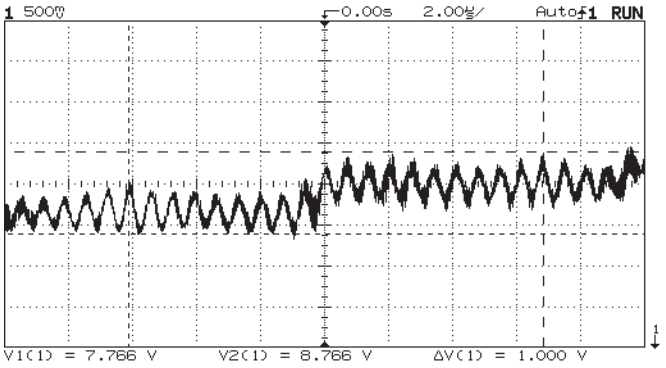
WAVEFORMS AT EACH SECTION

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

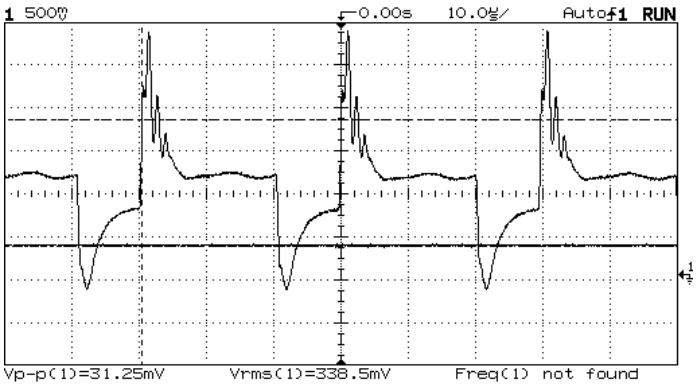
(61) Q777 EMITTER



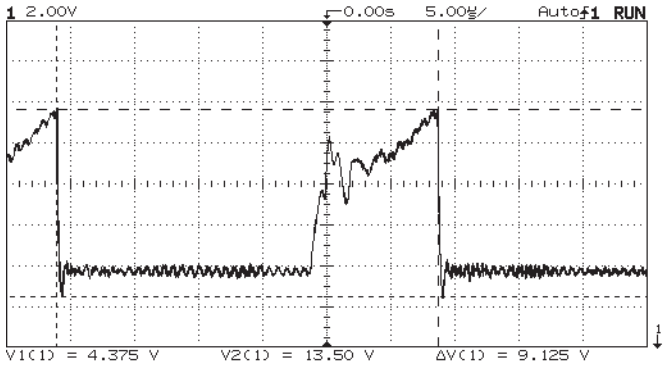
(62) Q851 COLLECTOR



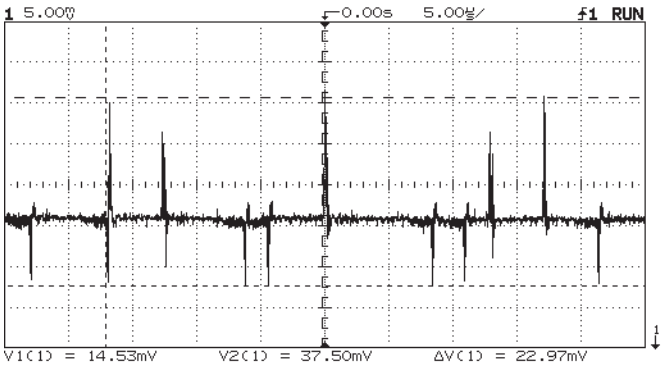
(63) QH01 (100X Reduced) DRAIN



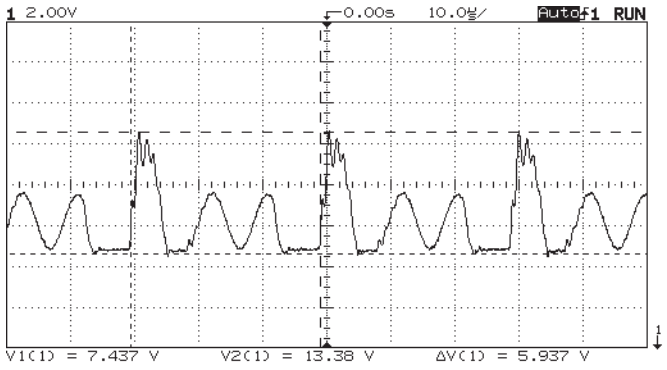
(64) QH02 COLLECTOR



(65) T901 P11 (100X Reduced) CONTROL +115V



(66) TH01 P05 (10X Reduced) 50P



DC VOLTAGES
Signal 1

Symbol	Pin No.	V(DC)	Pin No.	V(DC)	Pin No.	V(DC)	Pin No.	V(DC)
I001	1	0.2	26	0.0	51	3.7	76	3.1
	2	1.3	27	0.0	52	3.3	77	0.0
	3	3.3	28	5.2	53	3.3	78	3.3
	4	3.3	29	5.2	54	3.3	79	3.3
	5	0.0	30	5.2	55	0.0	80	0.0
	6	3.3	31	5.2	56	3.3	81	3.2
	7	1.6	32	0.0	57	0.0	82	3.3
	8	0.0	33	0.0	58	3.3	83	3.4
	9	0.0	34	0.0	59	3.3	84	3.4
	10	3.3	35	0.0	60	0.0	85	3.3
	11	3.3	36	0.0	61	0.0	86	3.3
	12	3.3	37	0.0	62	3.0	87	3.3
	13	1.7	38	0.0	63	0.0	88	0.0
	14	0.0	39	3.3	64	3.5	89	0.0
	15	1.7	40	3.3	65	0.0	90	0.0
	16	3.3	41	0.0	66	0.0	91	3.3
	17	0.0	42	0.0	67	0.0	92	1.6
	18	3.3	43	0.0	68	0.0	93	2.0
	19	3.2	44	3.3	69	0.0	94	2.3
	20	0.0	45	3.3	70	0.0	95	0.3
	21	0.0	46	3.3	71	0.0	96	1.3
	22	0.0	47	0.0	72	0.0	97	2.3
	23	2.9	48	0.0	73	3.3	98	0.0
	24	3.3	49	0.0	74	3.3	99	5.2
	25	0.0	50	3.3	75	3.3	100	2.1

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
I003	1	0.0	5	5.1
	2	0.0	6	5.1
	3	0.0	7	0.0
	4	0.0	8	5.2

Symbol	Pin No.	V(DC)
I009	1	5.2
	2	0.0
	3	1.3
	4	3.3
	5	5.2

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
I004	1	0.0	9	5.2
	2	0.0	10	5.2
	3	0.0	11	5.2
	4	0.0	12	0.1
	5	0.0	13	0.0
	6	0.0	14	0.1
	7	0.0	15	0.0
	8	0.0	16	5.2

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
I008	1	4.3	9	9.0
	2	0.0	10	0.0
	3	0.0	11	0.0
	4	5.2	12	5.2
	5	5.3	13	4.3
	6	0.0	14	5.2
	7	0.0	15	5.3
	8	0.0	16	9.1

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
I010	1	5.2	11	5.2
	2	3.2	12	5.2
	3	0.0	13	0.0
	4	3.3	14	4.8
	5	5.0	15	4.9
	6	3.1	16	5.2
	7	0.0	17	0.0
	8	3.3	18	5.1
	9	3.3	19	0.0
	10	0.0	20	5.2

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
I301	1	4.8	9	8.8
	2	4.9	10	8.8
	3	0.0	11	8.8
	4	0.1	12	4.8
	5	0.1	13	4.7
	6	0.0	14	4.7
	7	0.0	15	4.8
	8	0.0	16	8.8

TABLE OF CONTENTS

DC VOLTAGES
Signal 1

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
PFS	1	0.0	6	0.4
	2	0.0	7	0.0
	3	0.0	8	0.0
	4	0.0	9	3.3
	5	3.3	10	0.0

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
PRST	1	3.3	8	0.0
	2	3.4	9	9.1
	3	3.3	10	0.0
	4	3.3	11	0.0
	5	0.0	12	0.0
	6	0.0	13	0.0
	7	5.2	--	

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
U301	1	2.3	15	0.0
	2	5.5	16	2.9
	3	0.0	17	2.3
	4	5.2	18	2.1
	5	5.2	19	1.8
	6	0.0	20	0.0
	7	5.0	21	0.1
	8	0.0	22	0.1
	9	32.5	23	0.1
	10	0.0	24	0.0
	11	0.0	25	0.0
	12	0.0	26	4.2
	13	8.9	27	4.2
	14	0.5	--	

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
U302	1	1.8	13	0.0
	2	3.8	14	2.4
	3	5.0	15	0.0
	4	5.2	16	2.4
	5	5.2	17	1.8
	6	0.0	18	2.3
	7	5.0	19	0.0
	8	0.0	20	0.0
	9	32.5	21	0.0
	10	0.0	22	0.0
	11	0.0	23	0.0
	12	0.0	--	

DC VOLTAGES
Signal 1

Q001	B	0.5
	C	1.6
	E	0.3
Q002	B	0.7
	C	1.6
	E	0.3
Q003	B	5.2
	C	9.1
	E	4.5
Q004	B	5.3
	C	9.1
	E	4.7
Q005	B	0.0
	C	9.1
	E	0.0
Q006	B	0.8
	C	0.0
	E	0.0
Q007	B	0.7
	C	0.0
	E	0.0
Q008	B	0.1
	C	3.0
	E	0.0
Q009	B	5.8
	C	0.5
	E	5.0
Q010	B	5.2
	C	0.0
	E	5.8
Q011	B	4.9
	C	9.1
	E	5.2
Q012	B	3.6
	C	0.0
	E	4.2
Q013	B	5.0
	C	9.1
	E	5.3
Q014	B	3.5
	C	0.0
	E	4.2
Q015	B	4.9
	C	9.1
	E	4.3
Q016	B	4.6
	C	0.0
	E	5.2
Q017	B	0.0
	C	5.2
	E	0.0

Q023	B	0.7
	C	0.1
	E	0.0
Q025	B	-1.7
	C	3.0
	E	0.0
Q026	B	0.0
	C	3.5
	E	0.0
Q027	B	0.7
	C	0.0
	E	0.0
Q028	B	0.0
	C	2.0
	E	0.0
Q033	B	0.0
	C	8.8
	E	0.0
Q035	B	2.3
	C	0.0
	E	2.9
Q036	B	2.9
	C	5.0
	E	2.3
Q037	B	0.7
	C	0.0
	E	0.0
Q038	B	0.8
	C	0.0
	E	0.0
Q039	B	0.1
	C	3.5
	E	0.0
Q040	B	0.1
	C	3.4
	E	0.0
Q041	B	2.9
	C	0.0
	E	3.5
Q042	B	3.5
	C	4.9
	E	2.9
Q044	B	0.7
	C	0.0
	E	0.0
Q050	B	2.4
	C	8.9
	E	1.7

DC VOLTAGES
Signal 2

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
I401	1	3.4	5	0.0
	2	2.7	6	0.0
	3	3.4	7	1.9
	4	2.5	8	1.9

Symbol	Pin No.	V(DC)
I403	1	5.5
	2	0.0
	3	3.5

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
PFC1 (U401)	1	5.1	12	5.2
	2	0.0	13	4.9
	3	4.5	14	0.2
	4	3.6	15	3.9
	5	3.6	16	0.0
	6	0.0	17	4.5
	7	0.2	18	4.2
	8	3.8	19	4.2
	9	0.0	20	0.0
	10	5.1	21	3.4
	11	5.1	22	3.4

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
PST1	1	0.0	26	0.0
	2	0.0	27	0.0
	3	0.0	28	0.0
	4	0.0	29	0.0
	5	0.0	30	0.0
	6	0.0	31	0.0
	7	0.0	32	0.0
	8	0.0	33	0.0
	9	0.0	34	0.0
	10	0.0	35	0.0
	11	0.0	36	0.0
	12	0.0	37	4.6
	13	0.0	38	0.0
	14	0.0	39	3.7
	15	0.0	40	3.1
	16	0.0	41	3.6
	17	0.0	42	0.0
	18	0.0	43	0.0
	19	0.0	44	0.0
	20	0.0	45	2.3
	21	0.0	46	0.0
	22	0.0	47	4.8
	23	0.0	48	4.8
	24	0.0	49	0.0
	25	0.0	50	2.1

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
I402	1	5.2	5	0.0
	2	5.5	6	0.0
	3	5.2	7	0.0
	4	1.3	8	0.0

Symbol	Pin No.	V(DC)
I404	1	3.2
	2	0.0
	3	1.3
	4	2.5
	5	3.2

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
I453	1	5.2	5	0.0
	2	5.5	6	0.0
	3	5.1	7	0.0
	4	1.3	8	0.0

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
PFC2 (U401)	1	1.8	12	0.6
	2	1.8	13	0.0
	3	0.0	14	0.0
	4	0.0	15	0.0
	5	1.0	16	1.6
	6	3.4	17	0.0
	7	3.3	18	1.8
	8	0.2	19	0.0
	9	0.0	20	1.8
	10	0.0	21	5.0
	11	0.2	22	5.0

DC VOLTAGES
Signal 3

Symbol	Pin No.	V(DC)	Pin No.	V(DC)	Pin No.	V(DC)	Pin No.	V(DC)
I501	1	0.6	21	4.1	41	2.9	61	5.1
	2	0.0	22	0.0	42	5.6	62	0.0
	3	0.0	23	0.5	43	0.0	63	5.1
	4	4.7	24	4.1	44	6.7	64	0.9
	5	0.0	25	4.1	45	9.2	65	0.0
	6	4.7	26	4.0	46	0.0	66	5.1
	7	4.7	27	0.0	47	0.2	67	5.1
	8	9.1	28	4.7	48	0.0	68	5.3
	9	0.0	29	0.0	49	1.6	69	0.0
	10	0.0	30	4.8	50	3.2	70	5.5
	11	0.0	31	2.2	51	0.0	71	0.5
	12	2.6	32	0.0	52	3.3	72	0.0
	13	2.7	33	0.0	53	2.2	73	0.0
	14	2.8	34	0.5	54	0.0	74	5.5
	15	0.0	35	5.0	55	0.0	75	9.2
	16	9.1	36	0.0	56	0.0	76	0.0
	17	0.0	37	1.3	57	7.8	77	4.5
	18	4.1	38	0.0	58	7.0	78	5.9
	19	4.1	39	1.3	59	0.0	79	0.0
	20	0.0	40	2.6	60	5.1	80	0.7

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
I502	1	0.3	9	0.5
	2	0.3	10	0.5
	3	0.3	11	0.5
	4	0.3	12	3.2
	5	0.3	13	3.9
	6	0.0	14	3.2
	7	0.0	15	0.0
	8	0.0	16	9.2

Symbol	Pin No.	V(DC)
I503	1	0.0
	2	9.1
	3	0.0
	4	10.9
	5	0.0

Symbol	Pin No.	V(DC)
I504	1	10.9
	2	0.0
	3	9.1

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
PSC	1	4.6	7	3.4
	2	3.5	8	0.0
	3	0.0	9	3.5
	4	0.0	10	0.0
	5	3.3	11	0.0
	6	0.0	12	9.3

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
IA01	1	4.6	16	9.1
	2	4.6	17	0.0
	3	4.6	18	4.8
	4	4.6	19	4.0
	5	4.6	20	4.0
	6	4.6	21	4.5
	7	4.6	22	4.6
	8	4.6	23	4.6
	9	1.0	24	4.6
	10	4.6	25	4.6
	11	1.6	26	4.6
	12	1.6	27	4.6
	13	4.7	28	4.6
	14	4.8	29	4.6
	15	0.0	30	4.6

DC VOLTAGES
Signal 3

Q501	B	0.2
	C	9.1
	E	0.4
Q502	B	9.1
	C	1.0
	E	9.2
Q503	B	1.0
	C	9.2
	E	1.0
Q504	B	1.0
	C	0.0
	E	1.6
Q505	B	6.8
	C	9.2
	E	6.1
Q506	B	6.7
	C	9.2
	E	6.0
Q507	B	6.7
	C	9.2
	E	6.0
Q508	B	1.8
	C	0.0
	E	2.4
Q509	B	1.8
	C	0.0
	E	2.5
Q510	B	1.6
	C	0.0
	E	2.3
Q511	B	7.4
	C	9.2
	E	6.8
Q512	B	0.1
	C	9.2
	E	0.1
Q513	B	0.1
	C	0.0
	E	0.7
Q514	B	0.0
	C	9.2
	E	0.7
Q515	B	0.1
	C	0.0
	E	0.7
Q516	B	0.1
	C	0.0
	E	0.7
Q517	B	0.1
	C	0.0
	E	0.8
Q518	B	0.0
	C	9.2
	E	0.0
Q519	B	0.0
	C	0.0
	E	0.7

Q520	B	0.0
	C	0.0
	E	0.7
Q521	B	0.0
	C	0.0
	E	0.8
Q522	B	0.2
	C	9.2
	E	1.3
Q523	B	0.7
	C	9.2
	E	1.3
Q525	B	8.7
	C	-0.4
	E	8.7
Q526	B	1.6
	C	9.2
	E	8.7
Q527	B	0.0
	C	9.3
	E	0.0
Q528	B	9.1
	C	0.0
	E	9.1
Q529	B	0.1
	C	9.1
	E	0.0
Q531	B	3.8
	C	9.2
	E	3.5
Q532	B	4.1
	C	8.0
	E	3.5
Q533	B	1.9
	C	3.5
	E	1.2
Q534	B	1.6
	C	8.5
	E	0.9
Q535	B	8.5
	C	3.9
	E	9.2
Q536	B	4.0
	C	0.0
	E	4.6
Q537	B	2.7
	C	9.1
	E	2.0
Q538	B	2.0
	C	0.0
	E	2.7
Q539	B	7.6
	C	3.4
	E	8.3
Q540	B	2.7
	C	0.0
	E	3.7

Q541	B	2.7
	C	9.1
	E	2.1
Q542	B	2.1
	C	0.0
	E	2.8
Q543	B	7.6
	C	3.4
	E	8.3
Q544	B	2.8
	C	0.0
	E	3.5
Q545	B	2.8
	C	9.1
	E	2.2
Q546	B	2.2
	C	0.0
	E	2.9
Q547	B	7.7
	C	3.5
	E	8.4
Q548	B	2.9
	C	0.0
	E	3.5
Q554	B	0.2
	C	2.6
	E	0.0
QA01	B	0.1
	C	0.0
	E	0.0
QA02	B	0.0
	C	0.0
	E	0.0
QA51	B	0.0
	C	0.0
	E	0.0
QA52	B	8.4
	C	5.2
	E	9.1
QA53	B	2.2
	C	8.4
	E	1.5
QA54	B	0.0
	C	0.0
	E	0.0
QA55	B	8.4
	C	5.4
	E	9.1
QA56	B	2.2
	C	8.4
	E	1.6

DC VOLTAGES
Terminal 1

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
IV01	1	1.9	33	4.7
	2	2.5	34	4.7
	3	2.1	35	-0.3
	4	2.6	36	4.2
	5	2.8	37	4.2
	6	-1.3	38	4.2
	7	-1.2	39	3.4
	8	2.7	40	4.2
	9	3.3	41	4.1
	10	2.9	42	8.7
	11	3.4	43	4.3
	12	3.5	44	4.0
	13	0.8	45	4.3
	14	4.0	46	3.5
	15	3.1	47	4.3
	16	3.6	48	-0.1
	17	3.3	49	4.7
	18	3.7	50	4.3
	19	3.7	51	4.3
	20	-0.5	52	4.3
	21	4.3	53	4.3
	22	3.3	54	4.3
	23	3.9	55	3.5
	24	3.4	56	4.0
	25	4.0	57	-0.1
	26	4.0	58	4.2
	27	0.3	59	4.3
	28	4.5	60	4.2
	29	4.0	61	4.3
	30	3.5	62	4.3
	31	4.1	63	4.2
	32	-0.3	64	4.3

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
IV03	1	1.1	33	0.0
	2	0.9	34	5.0
	3	1.1	35	0.0
	4	8.8	36	5.0
	5	5.2	37	0.0
	6	0.0	38	5.1
	7	4.8	39	8.8
	8	0.0	40	4.3
	9	4.8	41	0.0
	10	4.9	42	4.2
	11	1.2	43	0.0
	12	0.9	44	4.3
	13	1.2	45	8.8
	14	8.8	46	4.2
	15	5.2	47	0.0
	16	0.0	48	4.2
	17	4.8	49	0.0
	18	0.0	50	4.3
	19	4.8	51	8.8
	20	5.0	52	8.8
	21	1.1	53	5.1
	22	0.9	54	0.0
	23	1.1	55	4.8
	24	0.0	56	0.0
	25	0.0	57	4.8
	26	4.7	58	8.8
	27	4.8	59	5.1
	28	5.0	60	0.0
	29	0.0	61	4.8
	30	4.3	62	0.0
	31	2.9	63	4.8
	32	4.9	64	4.7

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
IV02	1	0.0	9	0.0
	2	2.3	10	2.2
	3	2.1	11	2.8
	4	3.3	12	2.4
	5	3.8	13	1.3
	6	1.6	14	0.0
	7	3.6	15	0.0
	8	4.9	16	5.0

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
IV04	1	2.9	9	1.8
	2	0.0	10	0.0
	3	2.1	11	3.0
	4	0.0	12	2.7
	5	2.1	13	5.0
	6	1.0	14	2.9
	7	0.0	15	0.0
	8	1.9	16	3.0

DC VOLTAGES
Terminal 1

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
IV11	1	2.5	9	2.5
	2	2.4	10	2.5
	3	4.6	11	0.0
	4	0.4	12	0.0
	5	0.4	13	0.0
	6	4.7	14	4.7
	7	4.6	15	4.8
	8	0.0	16	5.0

QV05	B	2.6
	C	0.0
	E	3.2
QV06	B	1.4
	C	1.9
	E	1.9
QV07	B	0.0
	C	3.1
	E	0.0
QV08	B	-0.2
	C	0.0
	E	0.0
QV09	B	-0.2
	C	0.0
	E	0.0
QV13	B	4.2
	C	8.9
	E	3.6
QV14	B	4.2
	C	0.0
	E	3.6
QV15	B	1.7
	C	0.0
	E	2.3
QV16	B	4.4
	C	8.9
	E	3.8
QV17	B	1.9
	C	0.0
	E	2.6
QV18	B	4.6
	C	8.9
	E	4.0
QV19	B	4.6
	C	8.9
	E	4.0
QV20	B	1.9
	C	0.0
	E	2.6

QV21	B	4.3
	C	8.9
	E	3.7
QV22	B	1.9
	C	0.0
	E	2.5
QV23	B	6.7
	C	9.0
	E	6.0
QV24	B	2.4
	C	0.0
	E	3.0
QV25	B	4.1
	C	9.0
	E	3.4
QV26	B	4.3
	C	8.4
	E	3.7
QV29	B	3.9
	C	9.0
	E	3.2
QV30	B	2.9
	C	8.4
	E	2.3
QV31	B	8.4
	C	2.6
	E	9.0
QV32	B	2.6
	C	9.0
	E	1.9
QV33	B	2.3
	C	0.0
	E	3.0
QV34	B	2.2
	C	0.0
	E	2.9
QV35	B	2.3
	C	0.0
	E	3.0

QV36	B	2.3
	C	0.0
	E	3.0
QV37	B	2.2
	C	0.0
	E	2.9
QV38	B	2.3
	C	0.0
	E	2.9
QXA0	B	0.1
	C	5.1
	E	0.0
QXA1	B	0.2
	C	4.9
	E	0.3

DC VOLTAGES
Terminal 2

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
IY03	1	8.9	16	2.5
	2	2.5	17	4.5
	3	0.0	18	0.0
	4	2.5	19	2.5
	5	0.0	20	2.1
	6	2.0	21	4.0
	7	0.0	22	3.5
	8	4.8	23	3.6
	9	6.2	24	3.8
	10	5.0	25	4.9
	11	0.0	26	3.0
	12	8.9	27	0.0
	13	4.7	28	2.3
	14	4.8	29	2.3
	15	0.2	30	2.0

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
IY04	1	8.9	16	2.5
	2	2.5	17	4.5
	3	0.0	18	0.0
	4	2.4	19	2.5
	5	0.0	20	2.1
	6	2.0	21	4.0
	7	0.1	22	3.5
	8	4.7	23	3.6
	9	6.2	24	3.8
	10	5.0	25	4.9
	11	0.0	26	3.0
	12	0.0	27	0.0
	13	4.7	28	2.3
	14	4.8	29	2.3
	15	0.2	30	2.0

QY01	B	4.7
	C	9.0
	E	4.0
QY02	B	1.7
	C	0.0
	E	0.0
QY10	B	3.6
	C	8.4
	E	3.0
QY11	B	8.4
	C	3.5
	E	9.0
QY12	B	3.5
	C	9.0
	E	2.9
QY17	B	8.9
	C	0.1
	E	9.0
QY18	B	0.1
	C	3.0
	E	0.0
QY19	B	0.7
	C	0.0
	E	0.0
QY20	B	1.5
	C	0.0
	E	2.2
QY21	B	3.0
	C	0.0
	E	3.6

QY22	B	3.8
	C	0.0
	E	4.5
QY23	B	3.6
	C	0.0
	E	4.2
QY24	B	3.5
	C	0.0
	E	4.2
QY25	B	4.5
	C	5.0
	E	3.8
QY26	B	0.2
	C	5.0
	E	0.2
QY28	B	3.8
	C	0.0
	E	4.5
QY29	B	3.6
	C	0.0
	E	4.3
QY30	B	3.6
	C	0.0
	E	4.2
QY31	B	4.5
	C	5.0
	E	3.8
QY32	B	0.2
	C	5.0
	E	0.2

DC VOLTAGES
Power Supply

Symbol	Pin No.	V(DC)
I901	1	11.6
	2	10.0
	3	167.0
	4	23.3
	5	10.1

Symbol	Pin No.	V(DC)
I902	1	13.3
	2	14.5
	3	1.4
	4	5.3

Symbol	Pin No.	V(DC)
I903	1	12.1
	2	11.1
	3	13.6
	4	23.3

Symbol	Pin No.	V(DC)
I904	1	115.3
	2	11.2
	3	0.0

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
I905	1	5.7	5	0.0
	2	0.0	6	5.0
	3	29.1	7	2.4
	4	----	8	0.0

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
I906	1	6.6	5	0.0
	2	0.0	6	6.6
	3	29.1	7	2.3
	4	----	8	0.0

Symbol	Pin No.	V(DC)	Pin No.	V(DC)
IAA1	1	1.6	7	14.1
	2	0.1	8	5.2
	3	0.1	9	30.4
	4	0.1	10	0.1
	5	1.6	11	4.6
	6	10.3	12	13.8

Q901	B	13.6
	C	23.3
	E	13.3
Q902	B	0.9
	C	0.4
	E	0.0
Q903	B	1.6
	C	0.0
	E	1.6
Q904	B	0.0
	C	1.6
	E	0.0
Q905	B	115.2
	C	0.5
	E	115.6
Q906	B	6.0
	C	0.0
	E	6.2
QAA1	B	0.1
	C	10.3
	E	0.1
QAA2	B	0.1
	C	4.6
	E	0.1

DC VOLTAGES
Deflection

Symbol	Pin No.	V(DC)
I601	1	15.1
	2	28.6
	3	4.9
	4	6.7
	5	4.5
	6	0.0
	7	3.3
	8	4.1
	9	4.5
	10	28.9
	11	0.9

Symbol	Pin No.	V(DC)
I701	1	10.6
	2	1.0
	3	1.4
	4	0.0
	5	5.5
	6	5.5
	7	4.0
	8	10.9

Symbol	Pin No.	V(DC)
IH01	1	6.2
	2	10.8
	3	0.8
	4	2.5
	5	1.7
	6	0.1
	7	0.0
	8	0.0
	9	4.7
	10	4.7
	11	4.7
	12	4.7
	13	3.0
	14	2.1
	15	5.0
	16	0.0

Q603	B	0.0
	C	0.9
	E	0.0
Q604	B	28.9
	C	0.0
	E	29.1
Q701	B	96.2
	C	115.2
	E	95.2
Q703	B	2.7
	C	96.2
	E	2.1
Q706	B	0.8
	C	10.9
	E	1.4
Q709	B	0.4
	C	11.1
	E	0.0
Q710	B	0.0
	C	0.4
	E	0.0
Q777	B	0.0
	C	94.0
	E	0.0
QF01	B	9.6
	C	483.0
	E	10.2
QH01	S	0.4
	D	255.6
	G	1.7
QH02	B	0.6
	C	1.7
	E	0.0
QH04	B	0.1
	C	70.6
	E	0.0
QH05	B	0.5
	C	71.4
	E	0.0

QN01	B	-0.1
	C	0.5
	E	0.0
QN02	B	9.9
	C	1.1
	E	10.2
QN03	B	0.2
	C	9.9
	E	0.0
QN04	B	0.9
	C	9.9
	E	0.5
QN05	B	0.0
	C	10.3
	E	0.0
QN06	B	0.1
	C	1.1
	E	0.0

DC VOLTAGES

Convergence

Symbol	Pin No.	V(DC)
IK01	1	0.0
	2	0.1
	3	6.3

Symbol	Pin No.	V(DC)
IK04	1	0.0
	2	5.2
	3	-27.3
	4	-28.5
	5	28.6
	6	0.8
	7	0.8
	8	-28.5
	9	0.9
	10	28.6
	11	0.0
	12	-28.5
	13	0.0
	14	0.0
	15	0.2
	16	0.2
	17	-28.5
	18	0.2

Symbol	Pin No.	V(DC)
IK05	1	0.0
	2	5.2
	3	-27.4
	4	-28.5
	5	28.6
	6	-0.1
	7	-0.1
	8	-28.5
	9	-0.1
	10	28.6
	11	-0.5
	12	-28.5
	13	-0.4
	14	-0.4
	15	0.0
	16	0.0
	17	-28.5
	18	-0.1

Convergence

QK01	B	-26.8
	C	0.1
	E	-26.8
QK02	B	0.1
	C	0.0
	E	0.1
QK03	B	0.0
	C	-26.8
	E	0.1
QK05	B	0.0
	C	0.1
	E	0.0
QK06	B	0.0
	C	0.1
	E	0.0
QK07	B	0.0
	C	0.1
	E	0.1
QK08	B	0.0
	C	0.1
	E	0.0

Sensor

Symbol	Pin No.	V(DC)
PDS1	1	2.6
	2	2.6
	3	0.6
	4	1.6
	5	0.2
	6	0.3
	7	2.0
	8	0.8
	9	0.4
	10	0.0
	11	0.0
	12	5.1

QL10	B	4.7
	C	0.3
	E	5.0
QL11	B	4.7
	C	0.1
	E	5.1
QL12	B	4.7
	C	0.4
	E	5.1
QL13	B	4.7
	C	1.4
	E	5.1
QL14	B	4.7
	C	0.4
	E	5.0
QL15	B	4.7
	C	0.2
	E	5.1
QL16	B	4.7
	C	0.6
	E	5.1
QL17	B	4.7
	C	0.2
	E	5.0

DC VOLTAGES
CPT VM

Q801	B	3.0
	C	8.6
	E	2.5
Q802	B	5.8
	C	6.4
	E	5.7
Q803	B	9.2
	C	192.3
	E	8.7
Q804	B	192.3
	C	1.1
	E	186.7
Q805	B	193.6
	C	219.3
	E	192.1
Q806	B	1.4
	C	0.0
	E	2.1
Q812	B	1.8
	C	1.1
	E	1.1
Q851	B	2.9
	C	8.6
	E	2.5
Q852	B	8.7
	C	9.3
	E	8.6
Q853	B	9.2
	C	194.0
	E	8.7
Q854	B	2.3
	C	-0.6
	E	2.3
Q855	B	195.3
	C	219.3
	E	193.6
Q856	B	0.0
	C	9.9
	E	0.0
Q862	B	1.7
	C	1.1
	E	1.0
Q8A1	B	2.9
	C	8.6
	E	2.4
Q8A2	B	8.7
	C	9.3
	E	8.6
Q8A3	B	9.2
	C	193.2
	E	8.7
Q8A4	B	193.3
	C	1.1
	E	190.3

Q8A5	B	193.6
	C	219.3
	E	193.9
Q8A6	B	3.0
	C	0.0
	E	2.4
Q8A7	B	2.0
	C	2.4
	E	2.2
Q8A8	B	3.0
	C	9.3
	E	2.3
Q8C2	B	1.8
	C	1.1
	E	1.1
QE01	B	4.6
	C	9.2
	E	3.3
QE02	B	4.0
	C	9.2
	E	3.3
QE03	B	2.6
	C	0.0
	E	3.2
QE06	B	193.4
	C	100.7
	E	193.7
QE07	B	3.6
	C	100.7
	E	3.2
QE08	B	219.2
	C	0.0
	E	219.5
QE51	G	4.6
	C	9.2
	E	4.0
QE52	B	4.0
	C	9.2
	E	3.3
QE53	B	2.6
	C	0.0
	E	3.2
QE56	B	193.3
	C	100.6
	E	193.6
QE57	B	3.6
	C	100.2
	E	3.2

QEA1	B	4.7
	C	9.2
	E	4.0
QEA2	B	4.0
	C	9.3
	E	3.4
QEA3	B	2.6
	C	0.0
	E	3.1
QEA6	B	193.1
	C	99.5
	E	193.6
QEA7	B	3.6
	C	99.5
	E	3.2
QEA8	B	196.7
	C	3.5
	E	197.0

DC VOLTAGES
Control

Symbol	Pin No.	V(DC)
HM01	1	1.7
	2	5.2
	3	0.0

Symbol	Pin No.	V(DC)
PFI	1	0.0
	2	5.2
	3	0.0
	4	1.3

Symbol	Pin No.	V(DC)
PFS	1	3.3
	2	3.3
	3	3.3
	4	3.3
	5	0.0
	6	1.7
	7	5.2
	8	0.0
	9	9.1
	10	0.0
	11	1.8
	12	1.6
	13	0.0

Symbol	Pin No.	V(DC)
PFT	1	9.0
	2	0.0
	3	0.0
	4	2.4
	5	2.5
	6	0.0
	7	0.0
	8	0.0
	9	0.0
	10	0.0
	11	4.9

QM01	B	0.7
	C	0.1
	E	0.0
QM03	B	3.1
	C	9.0
	E	2.4
QM04	B	3.1
	C	9.0
	E	2.4
QM05	B	0.1
	C	5.2
	E	0.0

PROTECTION CIRCUIT BLOCK DIAGRAM
Power Supply

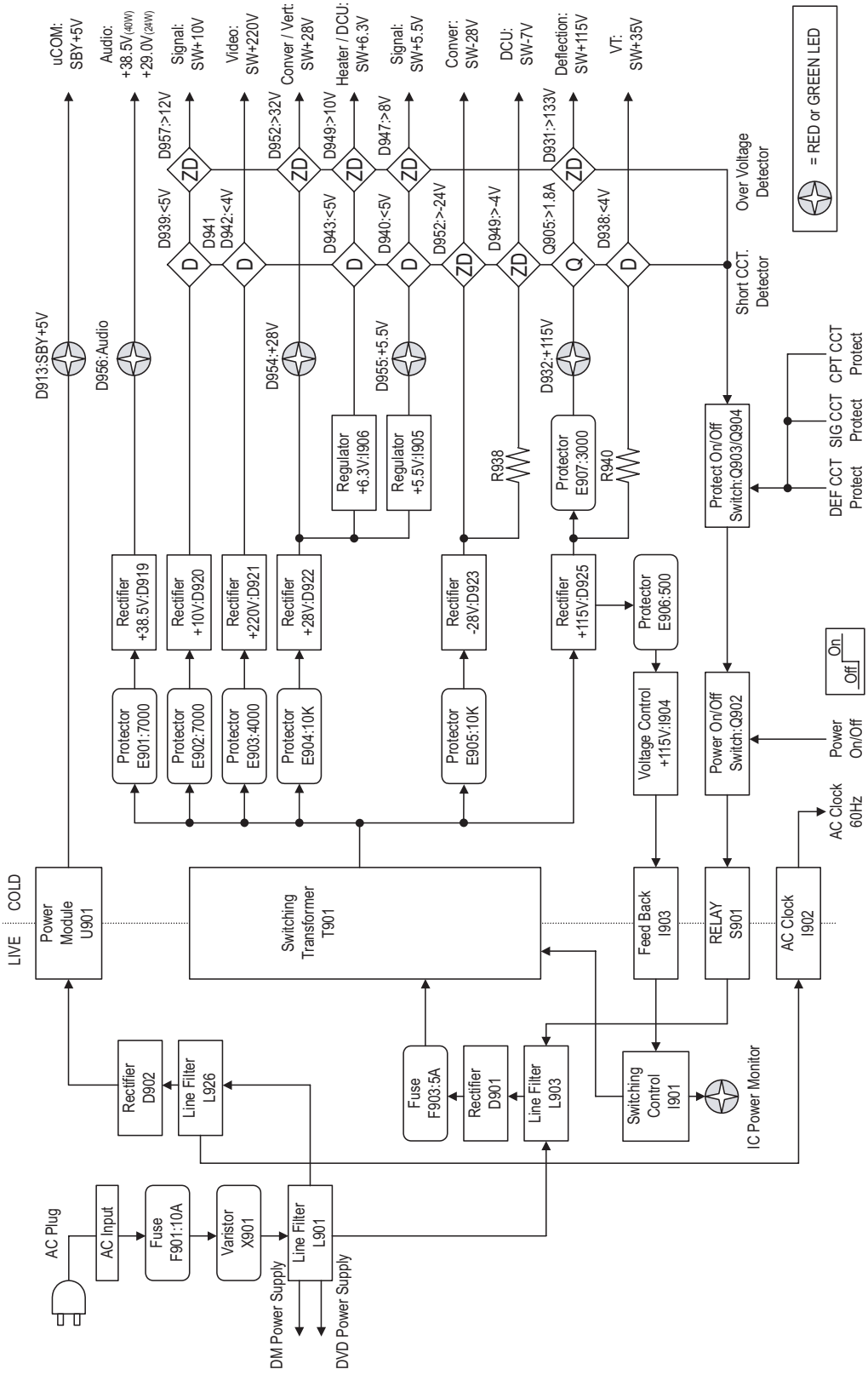
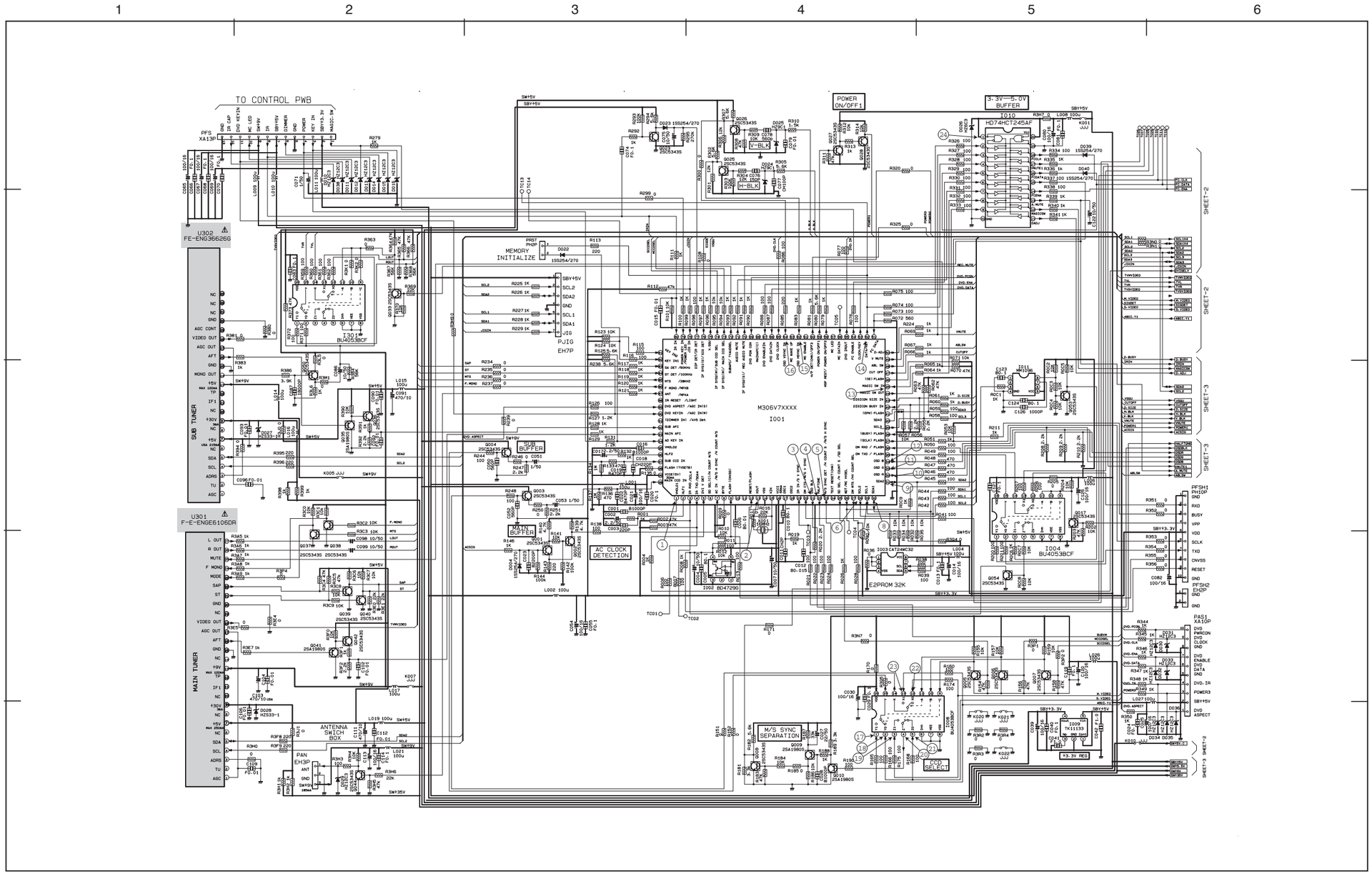


TABLE OF CONTENTS

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.

BASIC CIRCUIT DIAGRAM



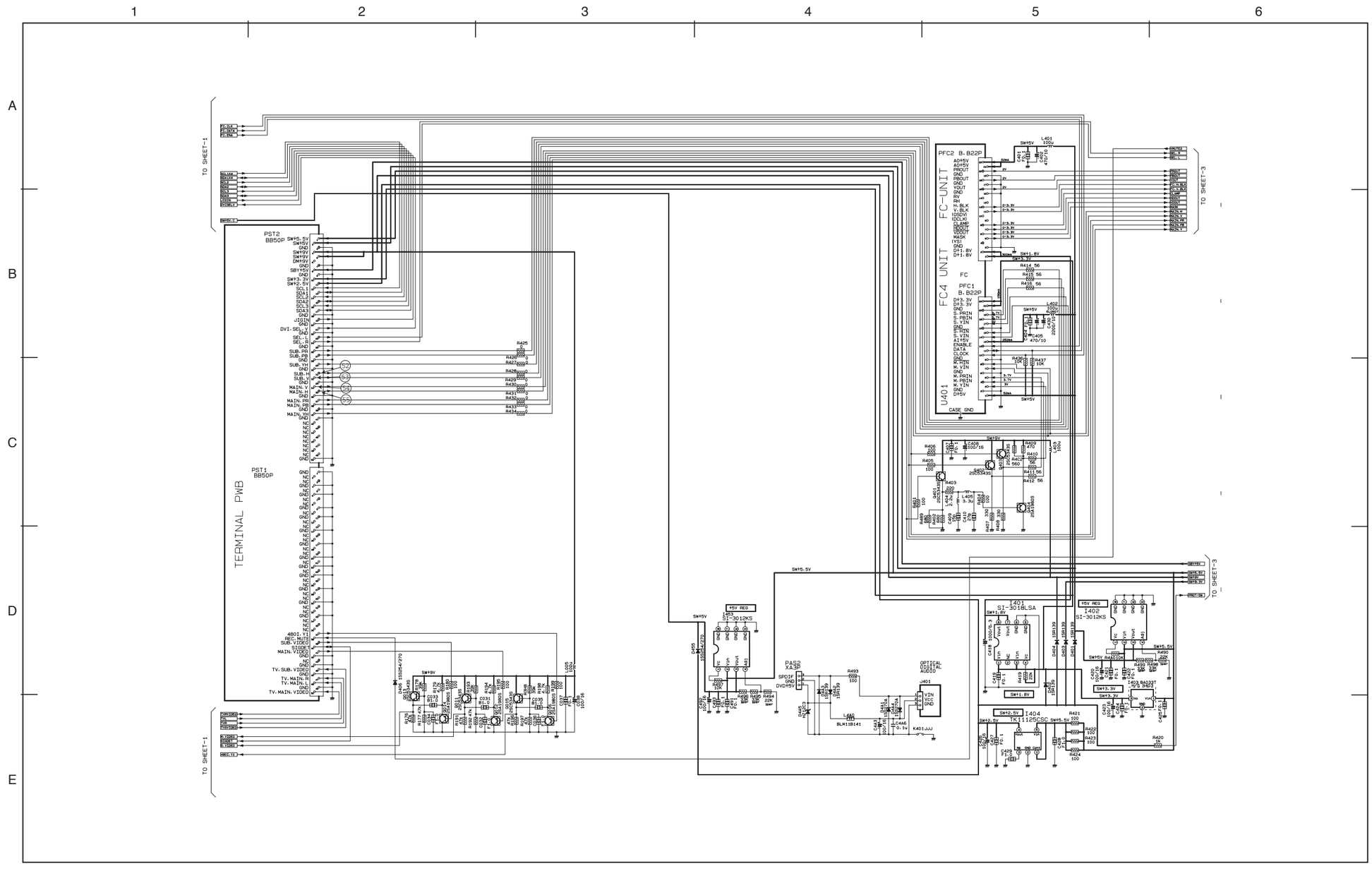
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

Signal 1 of 3

TABLE OF CONTENTS

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.

BASIC CIRCUIT DIAGRAM

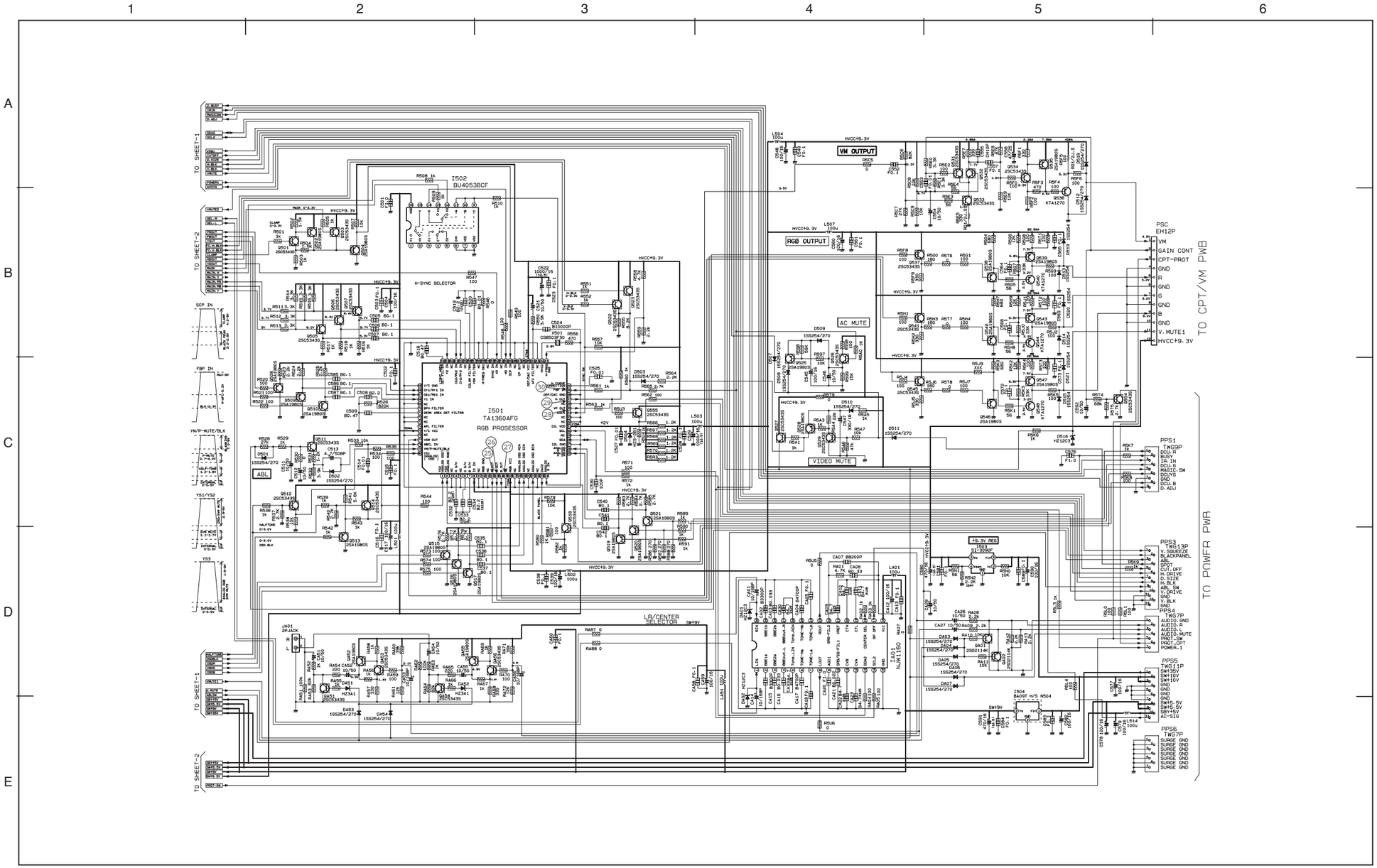


- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

Signal 2 of 3

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.

BASIC CIRCUIT DIAGRAM

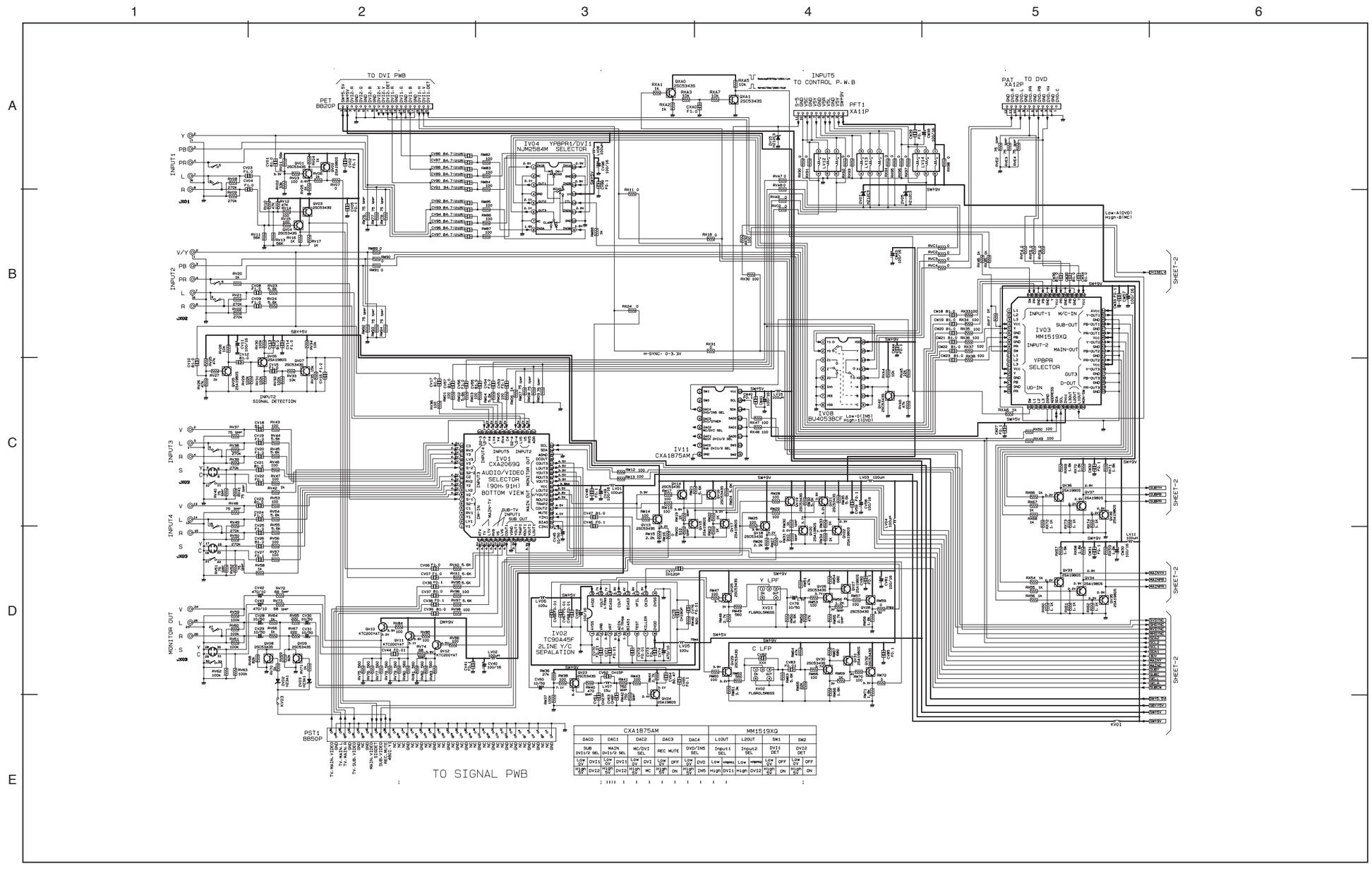


- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

Signal 3 of 3

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.

BASIC CIRCUIT DIAGRAM

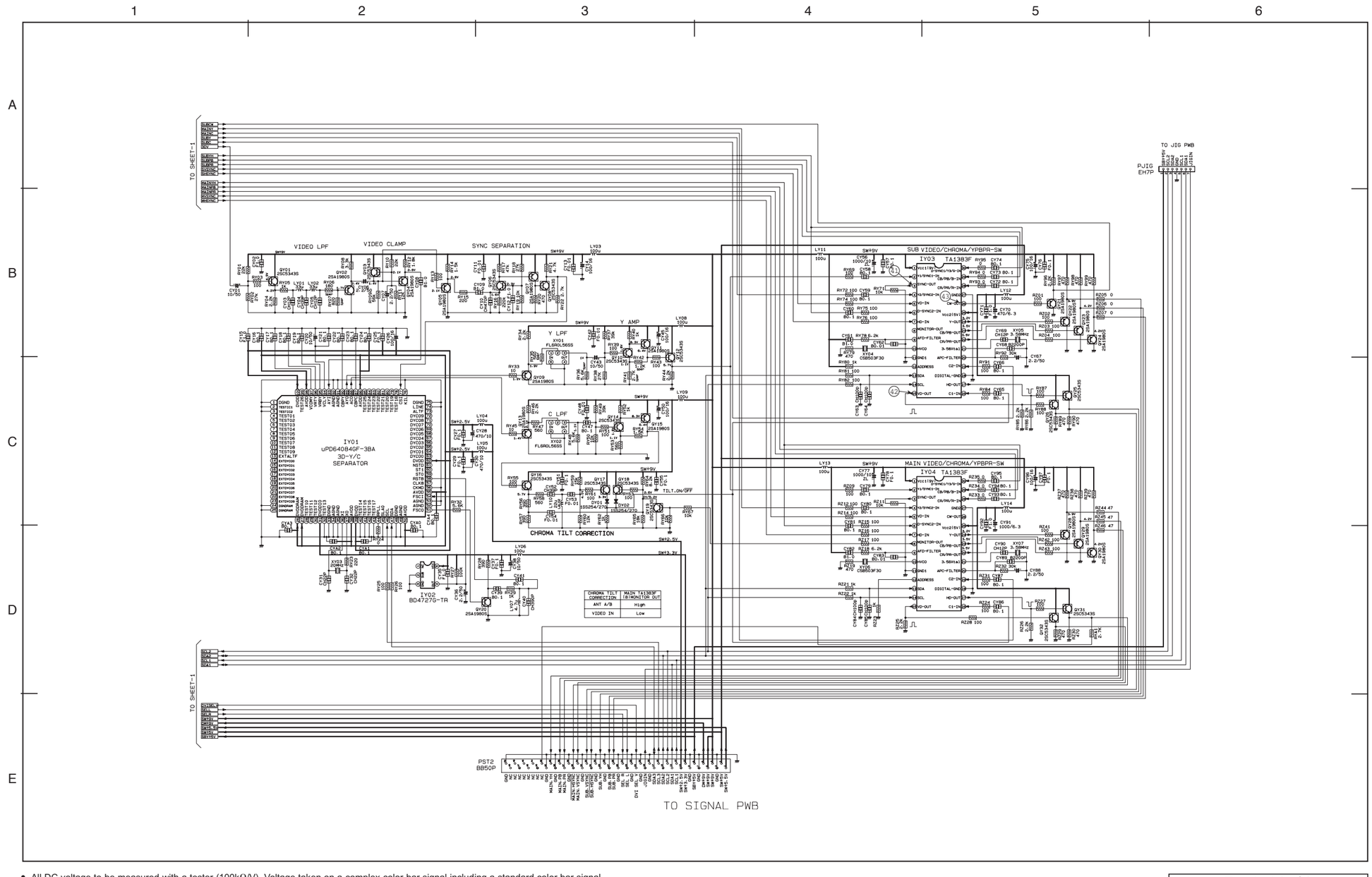


- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

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.

BASIC CIRCUIT DIAGRAM

DP33KA/B
Terminal 2 of 2

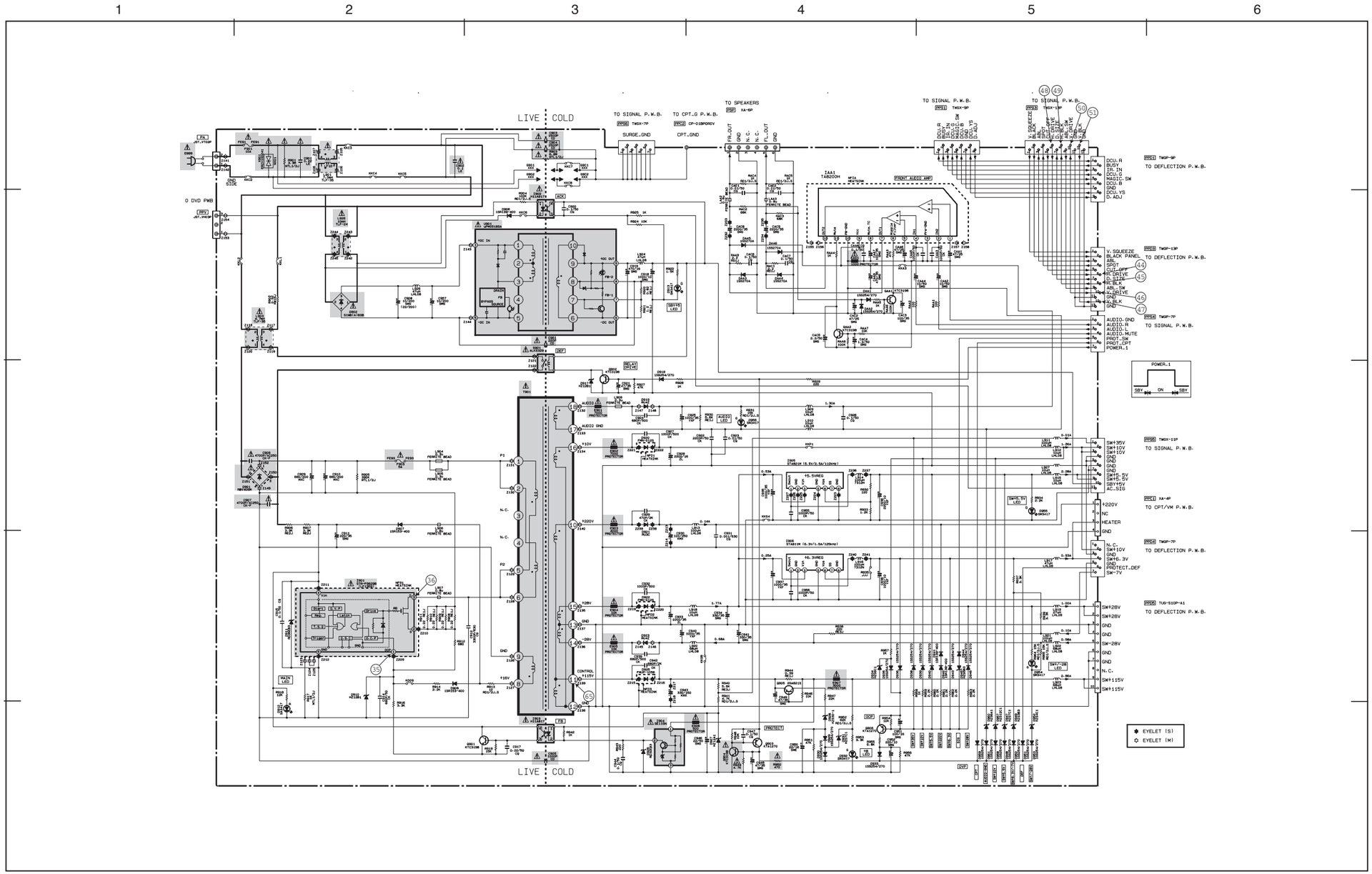


- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

Terminal 2 of 2

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.

BASIC CIRCUIT DIAGRAM

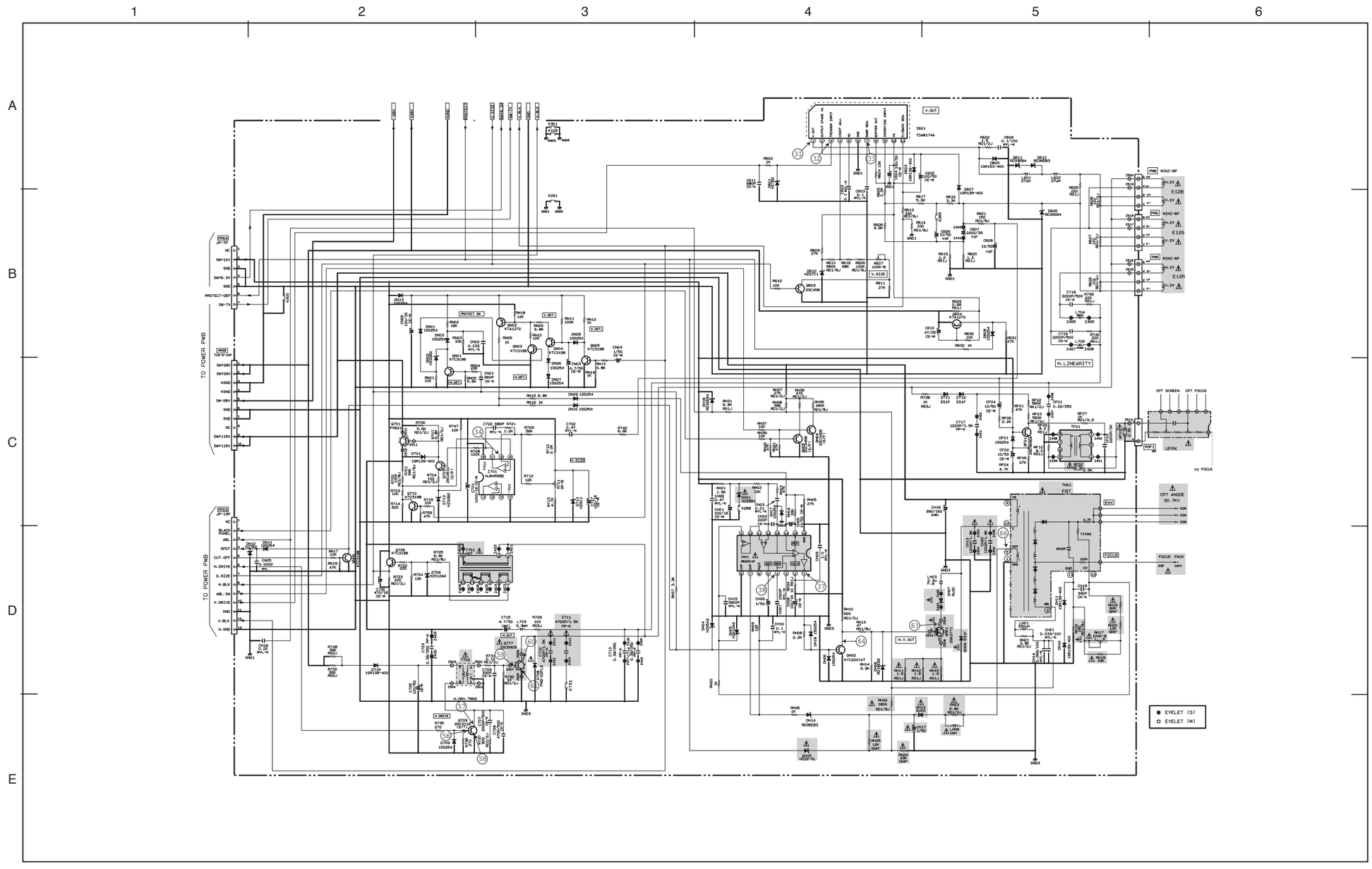


- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

Power Supply

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.

BASIC CIRCUIT DIAGRAM

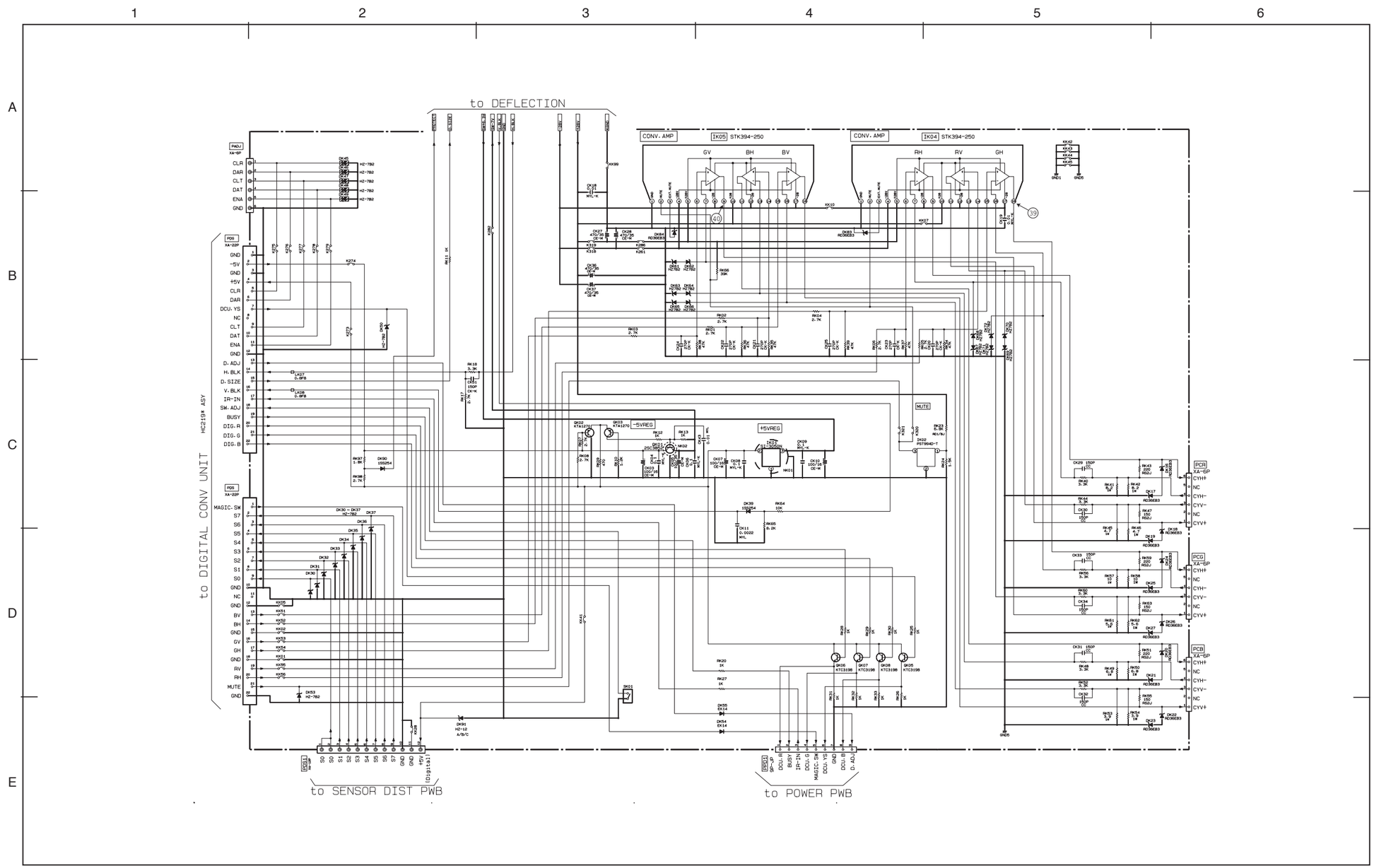


- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

Deflection

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.

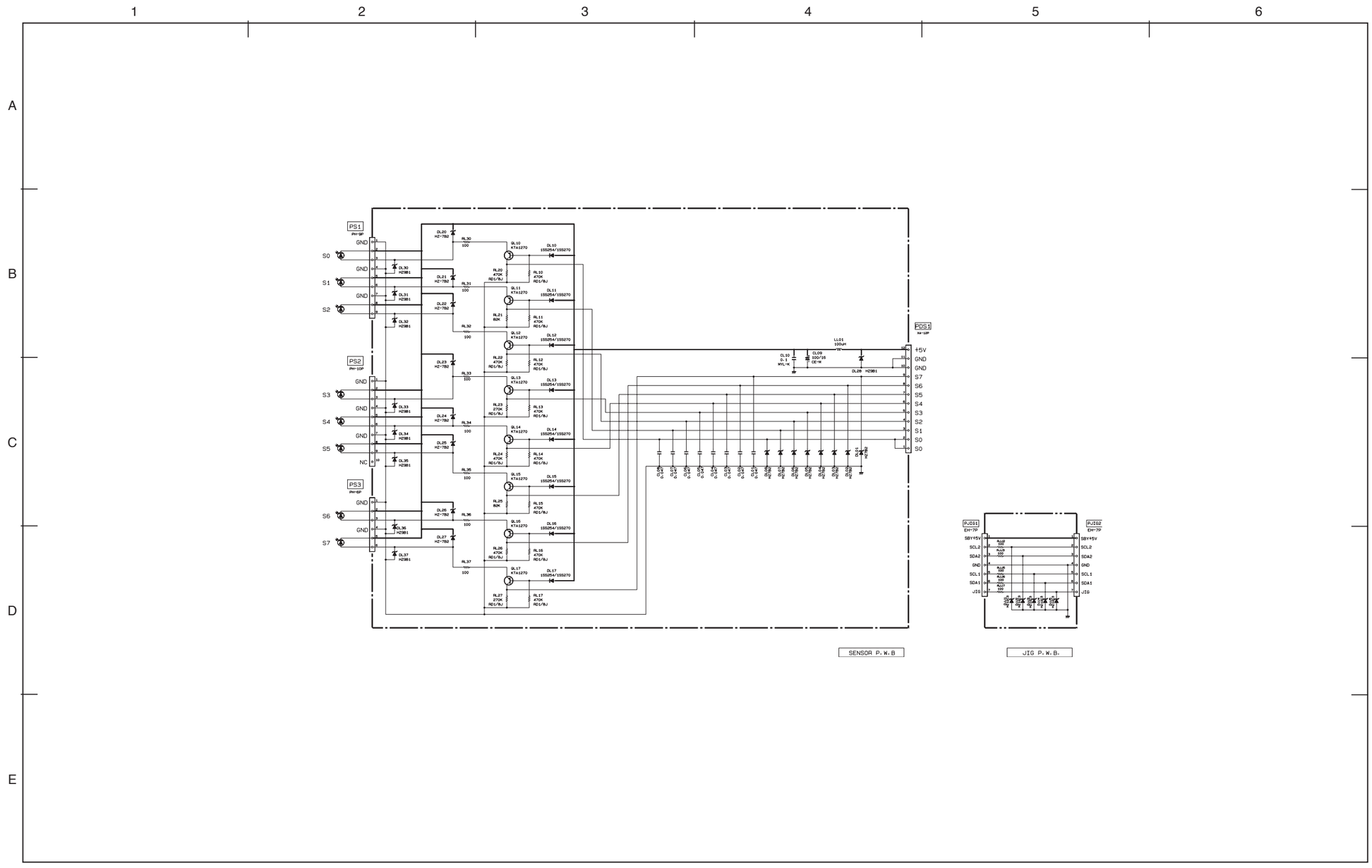
BASIC CIRCUIT DIAGRAM



- 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.

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.

BASIC CIRCUIT DIAGRAM

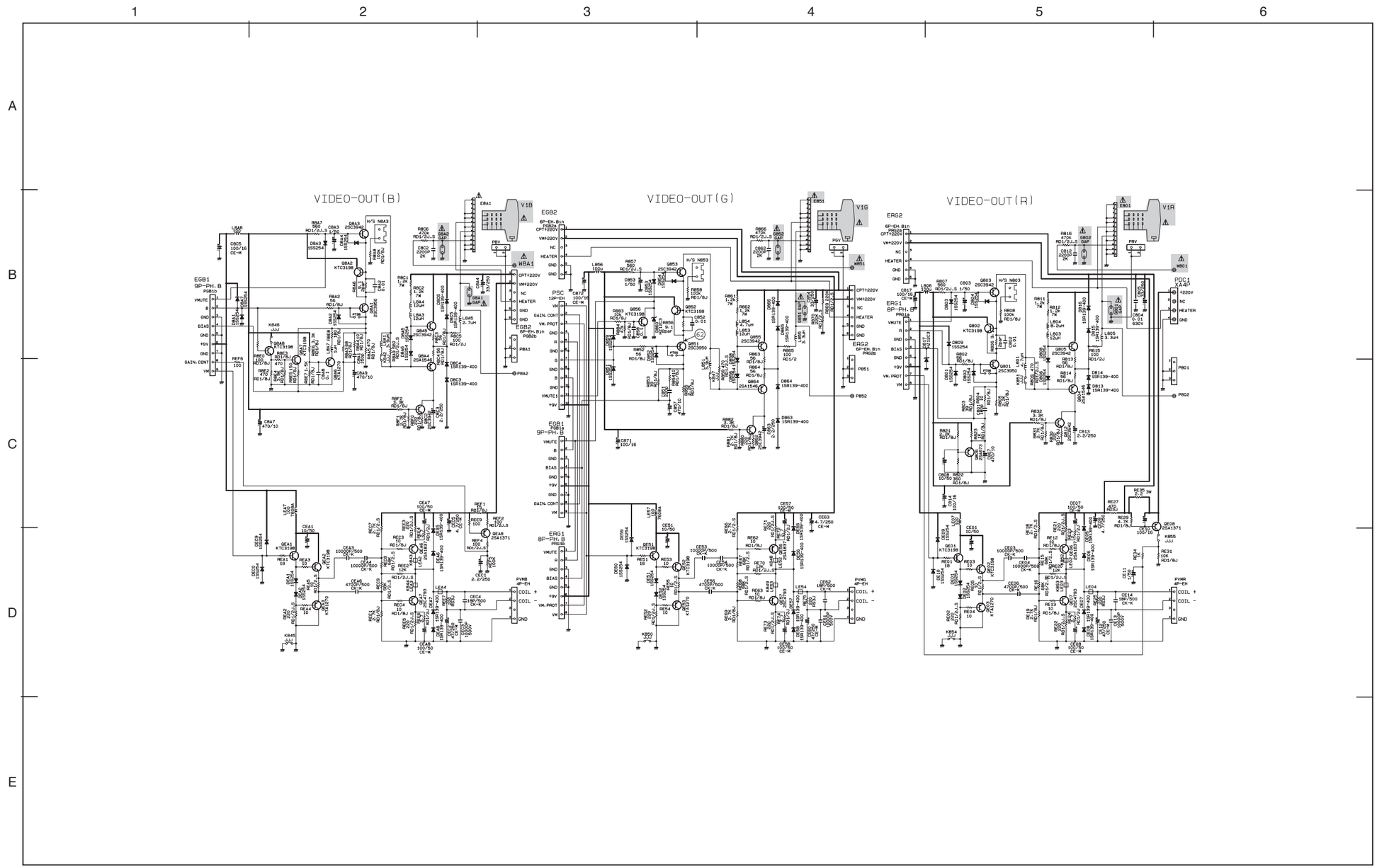


- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

Sensor

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.

BASIC CIRCUIT DIAGRAM



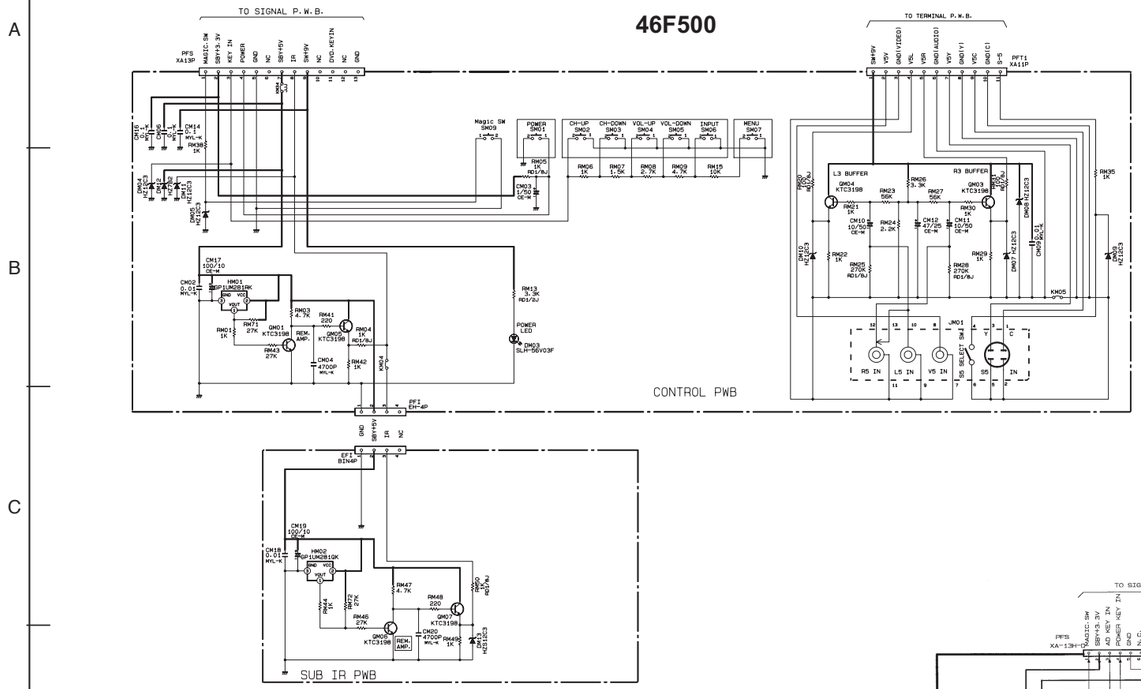
- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

CPT/VM

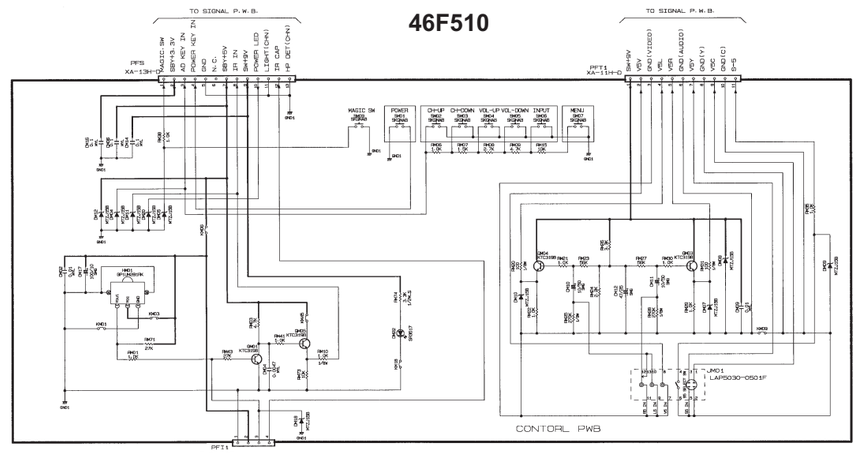
PRODUCT SAFETY NOTE: Components marked with a ⚠ and shaded have special characteristics important to safety. Before replacing any of these components, read carefully the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

BASIC CIRCUIT DIAGRAM

46F500



46F510

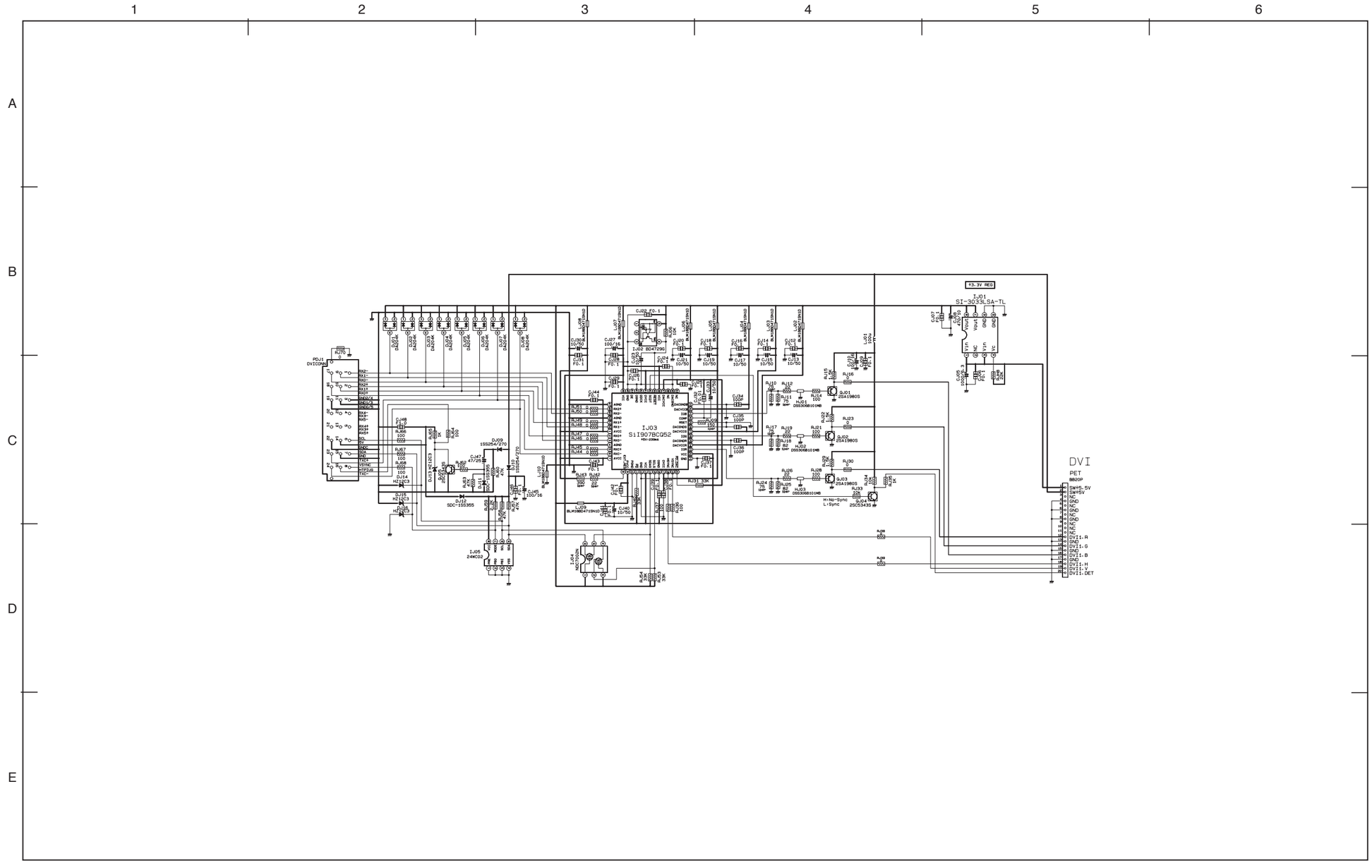


- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

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.

BASIC CIRCUIT DIAGRAM

DP33KA/B
DVI

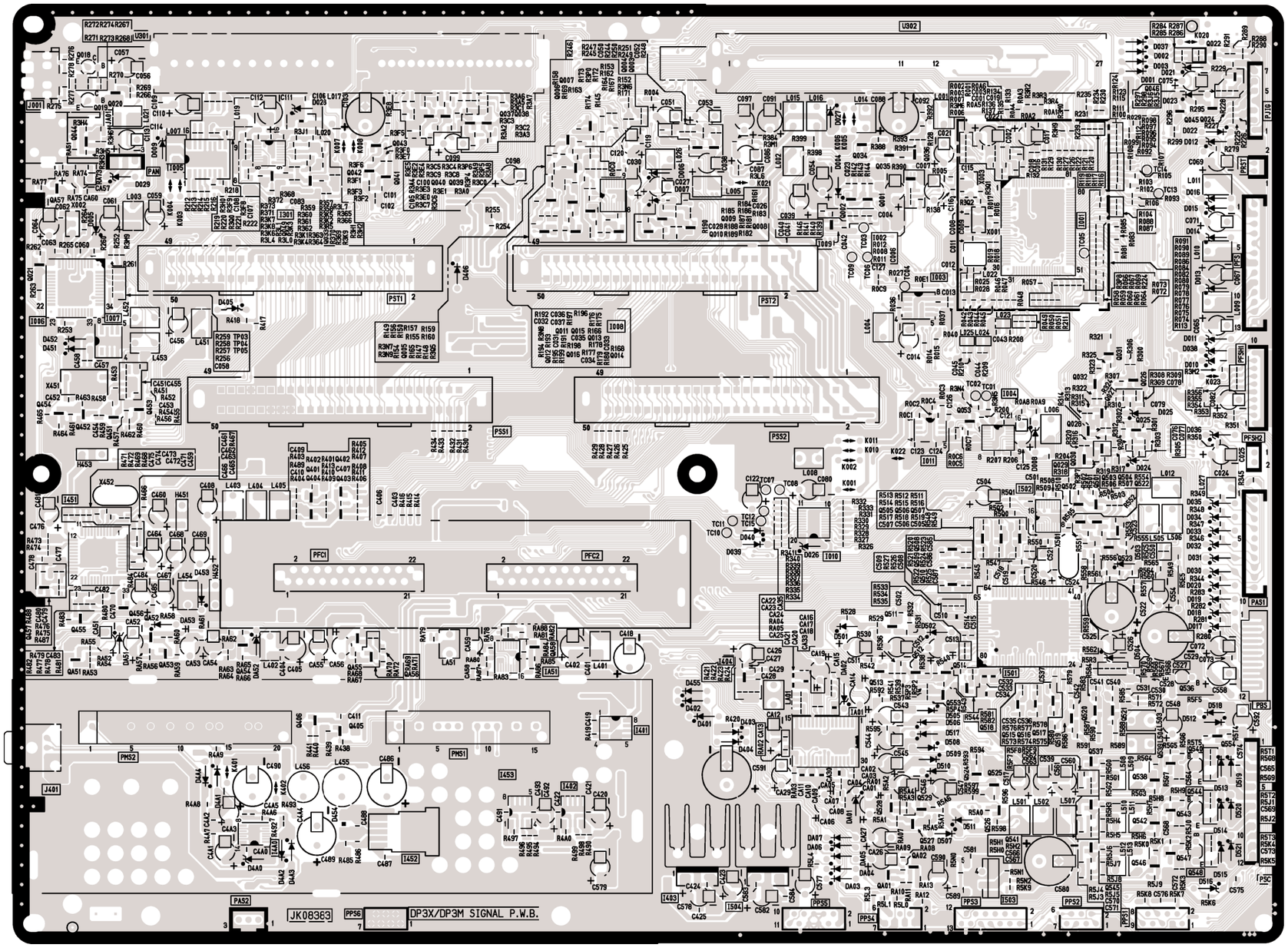


- All DC voltage to be measured with a tester (100kΩ/V). Voltage taken on a complex color bar signal including a standard color bar signal.
- Since this is a basic circuit diagram, the value of the parts is subject to be altered for improvement.

DVI

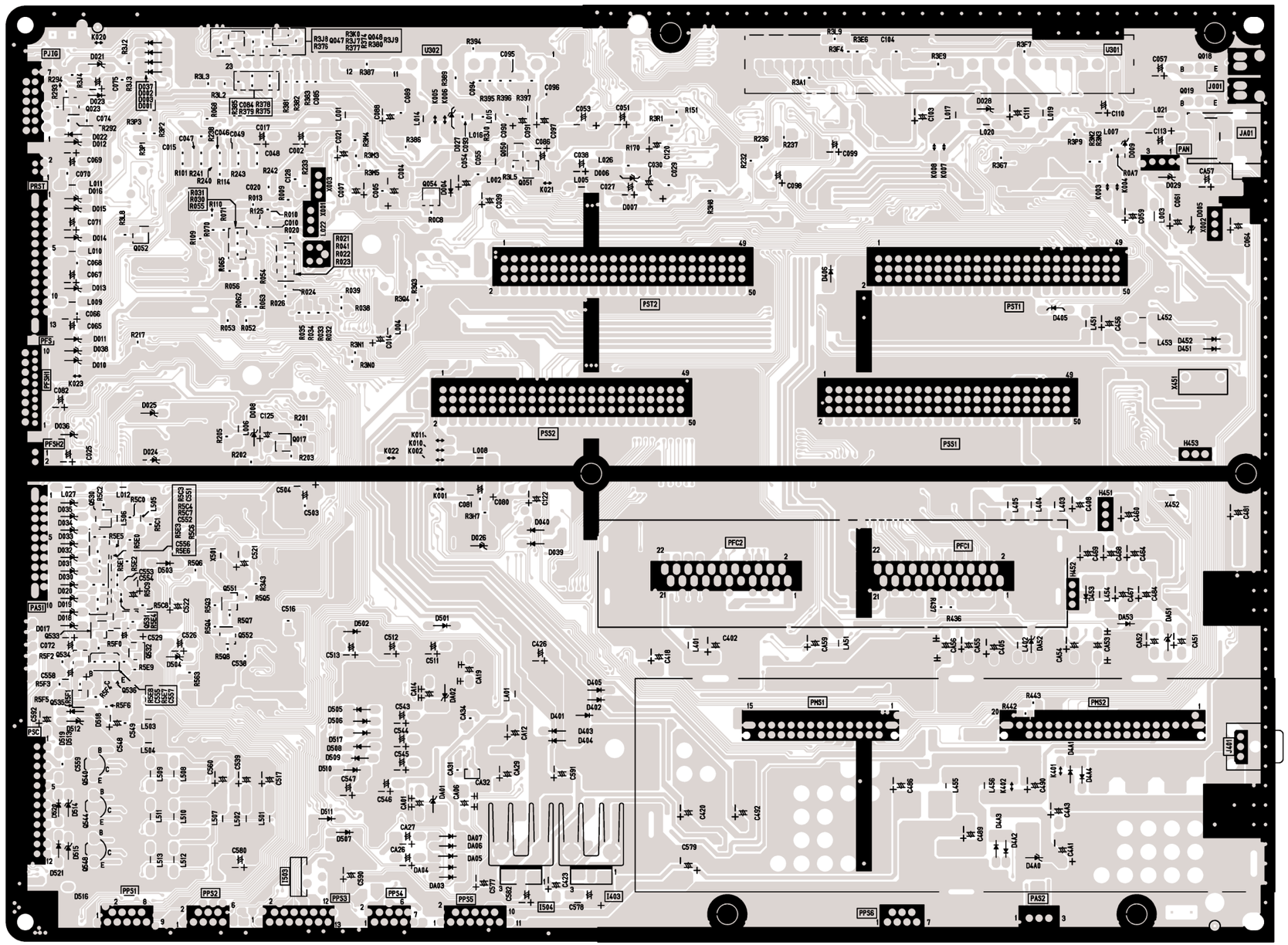
PRINTED CIRCUIT BOARD

SIGNAL P.W.B. - PART SIDE



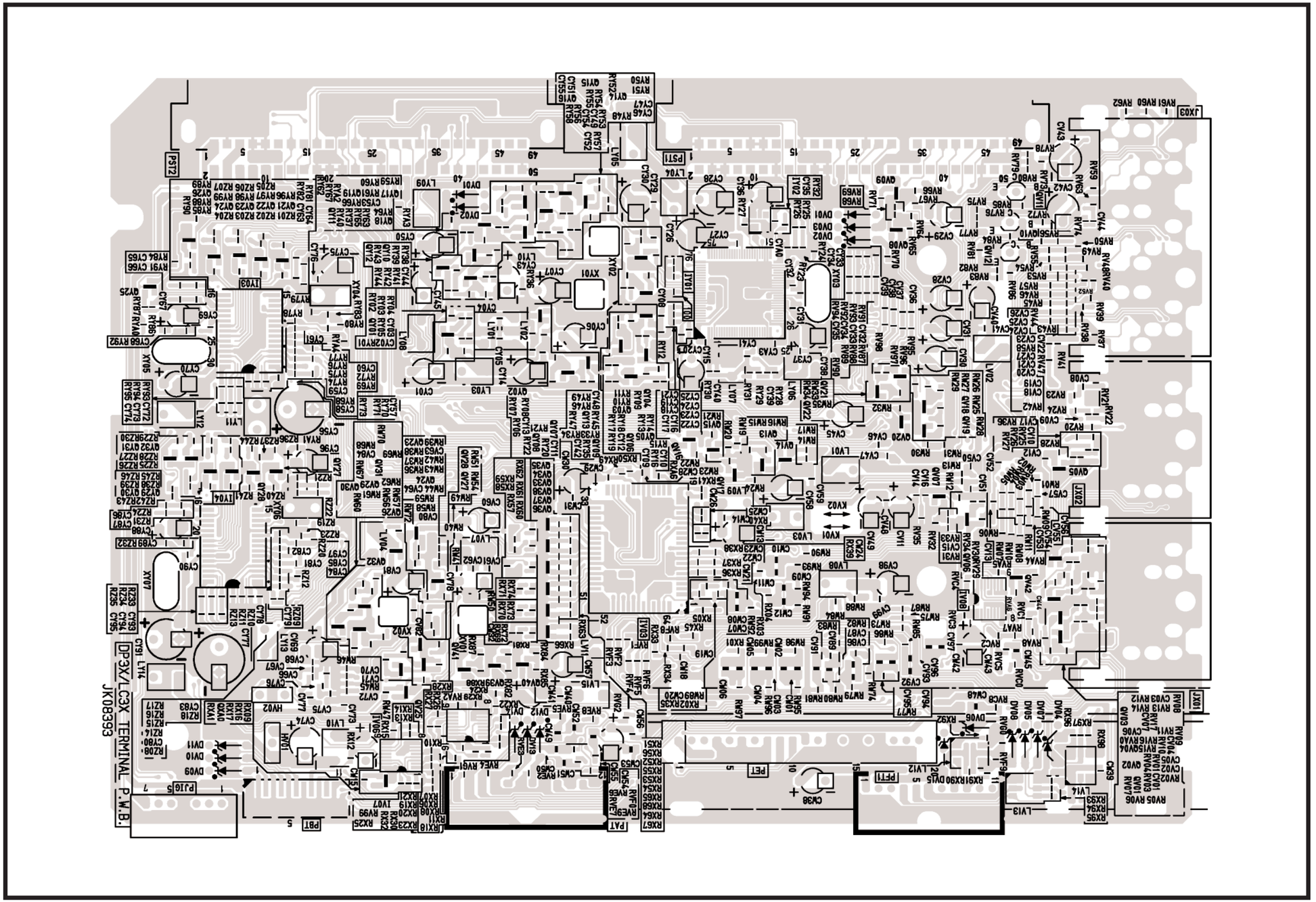
PRINTED CIRCUIT BOARD

SIGNAL P.W.B. - PATTERN SIDE



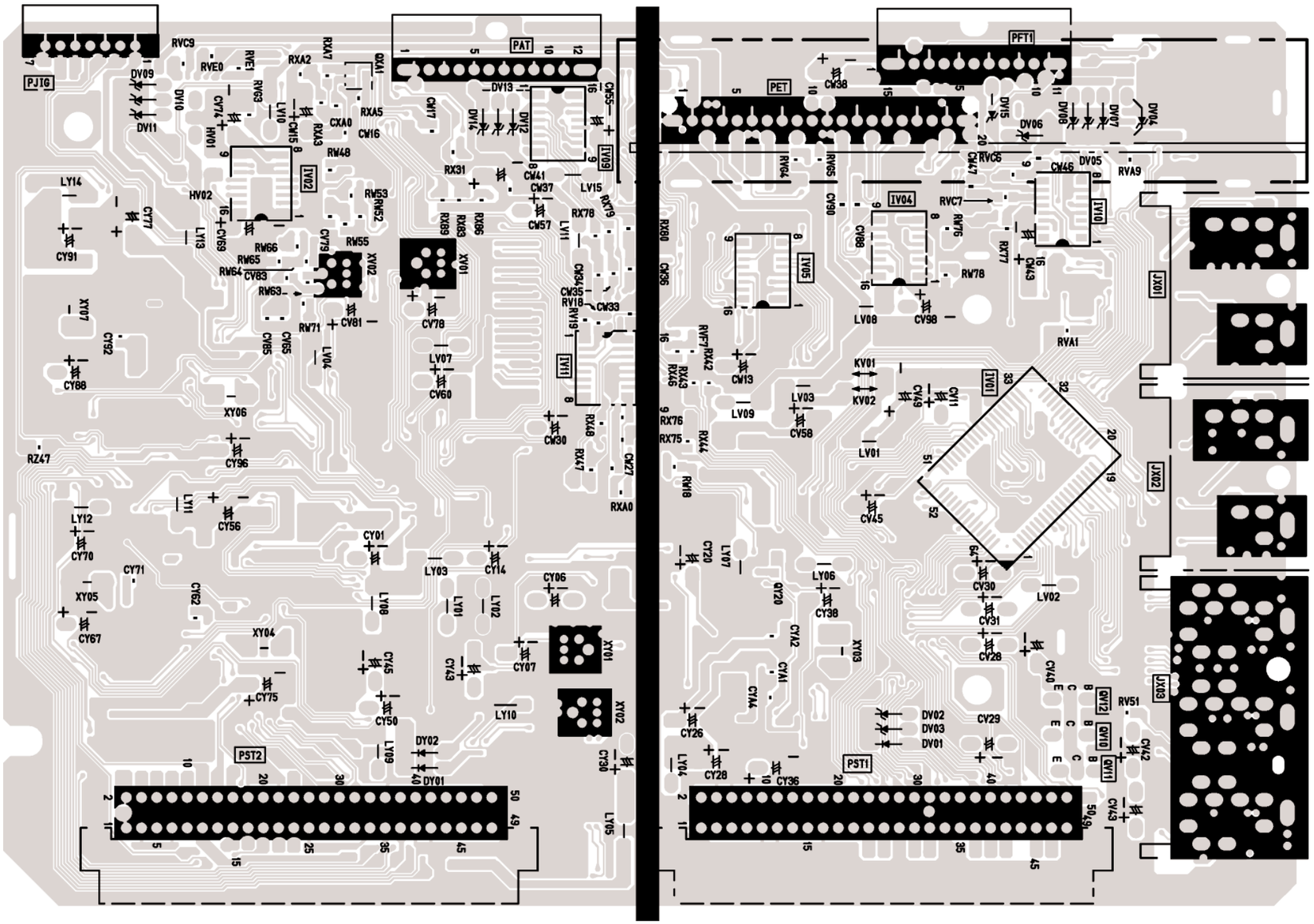
PRINTED CIRCUIT BOARD

TERMINAL P.W.B. - PART SIDE



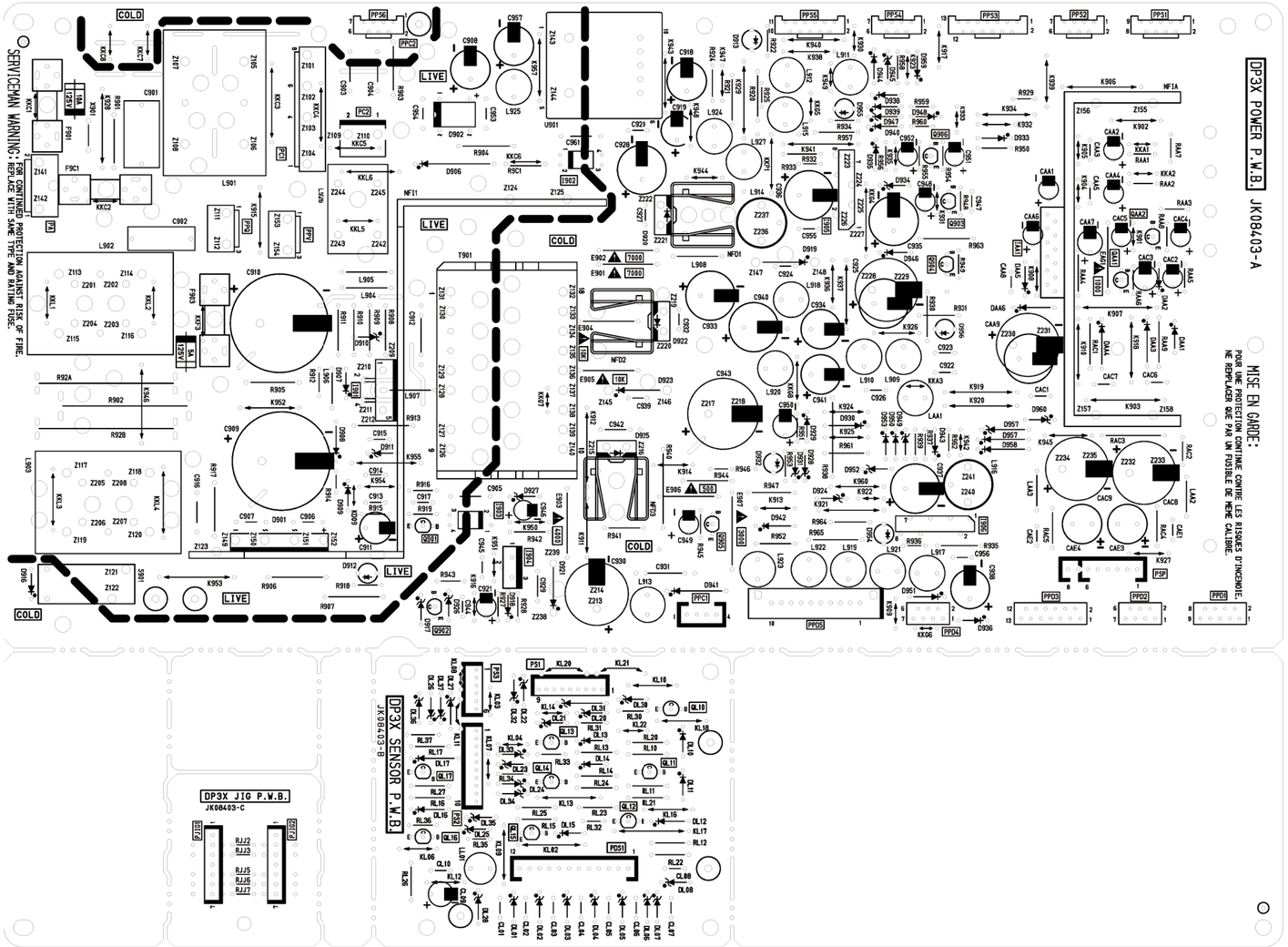
PRINTED CIRCUIT BOARD

TERMINAL P.W.B. - PATTERN SIDE



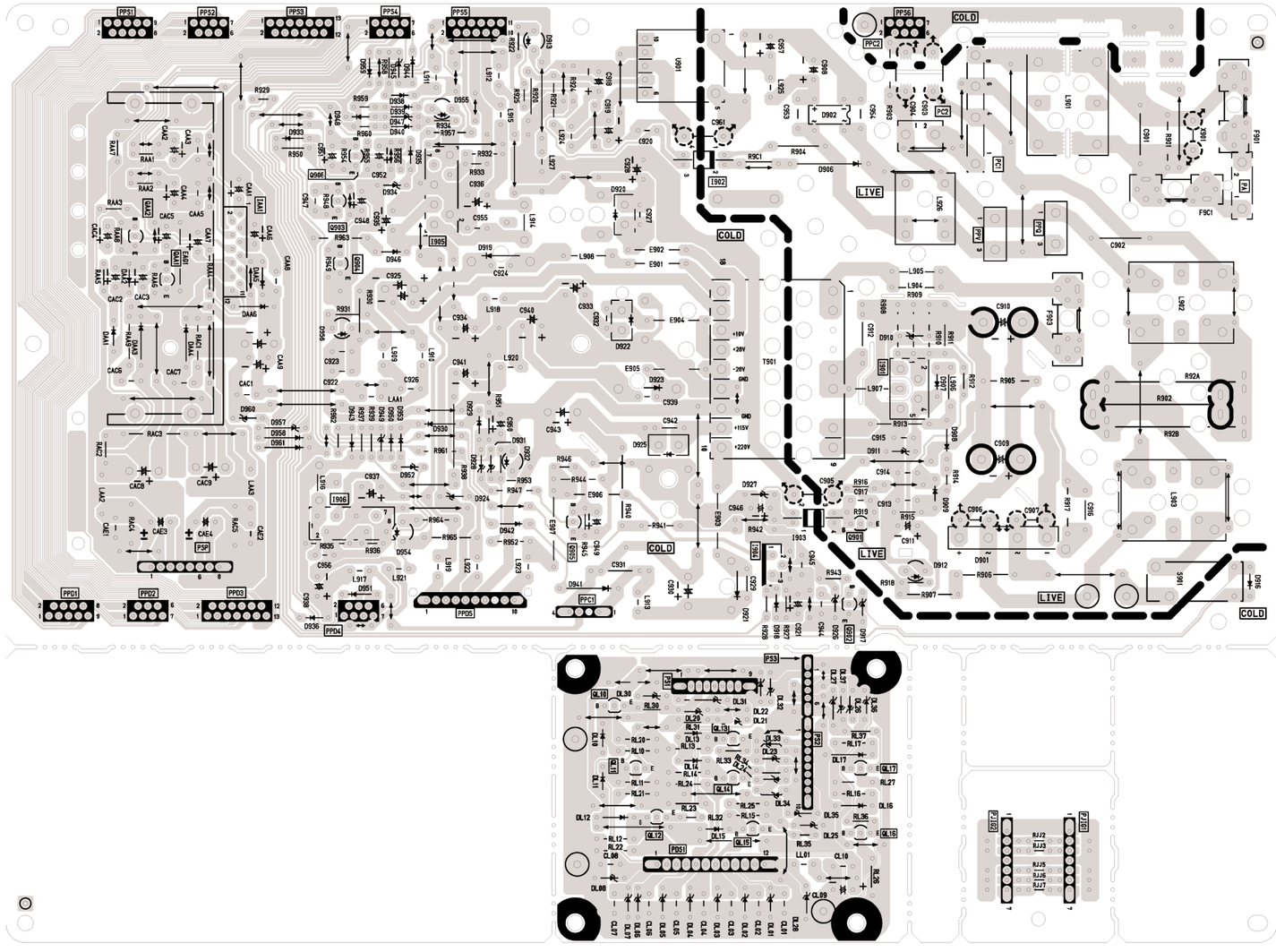
PRINTED CIRCUIT BOARD

POWER P.W.B. - PART SIDE



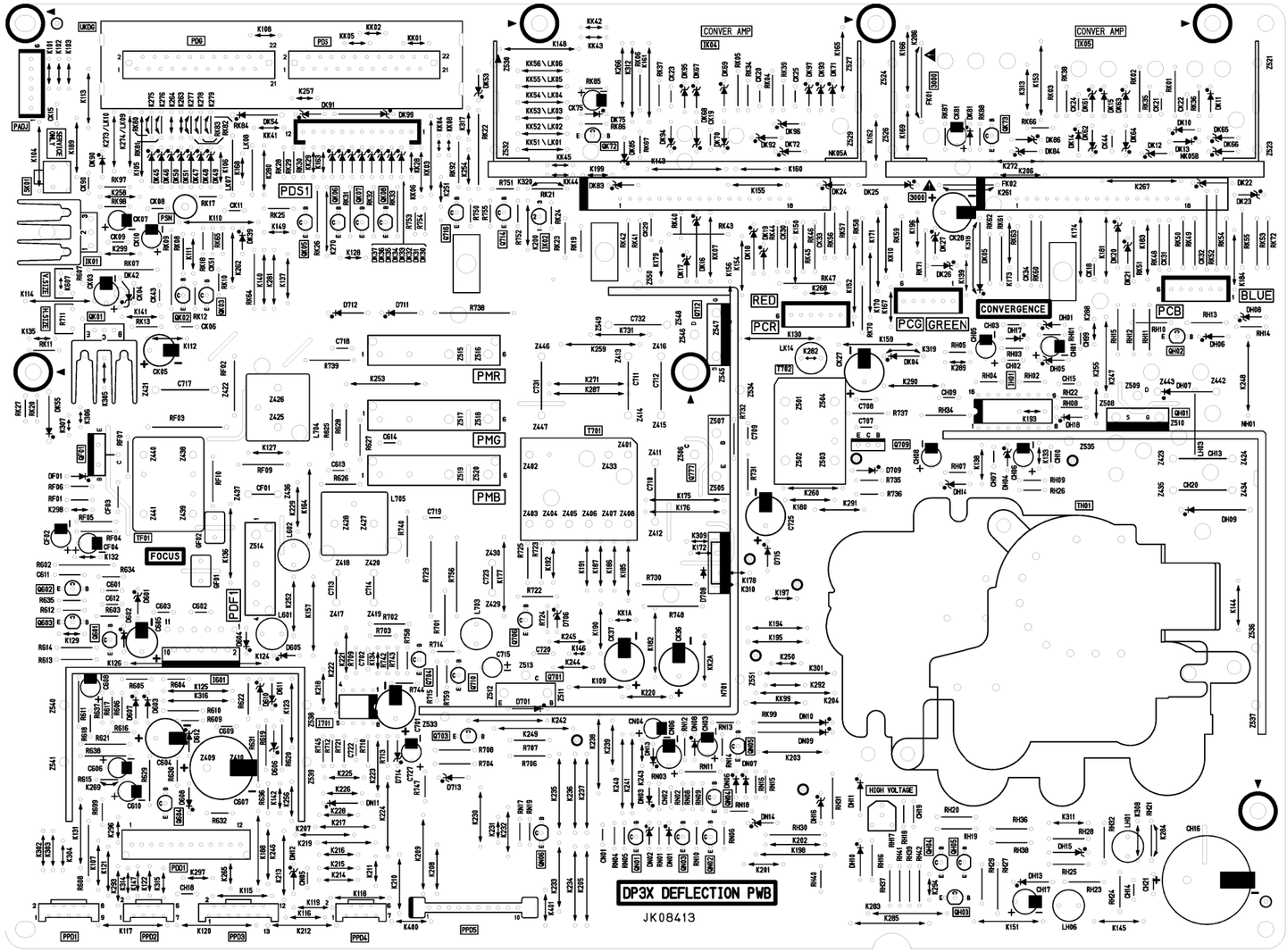
PRINTED CIRCUIT BOARD

POWER P.W.B. - PATTERN SIDE



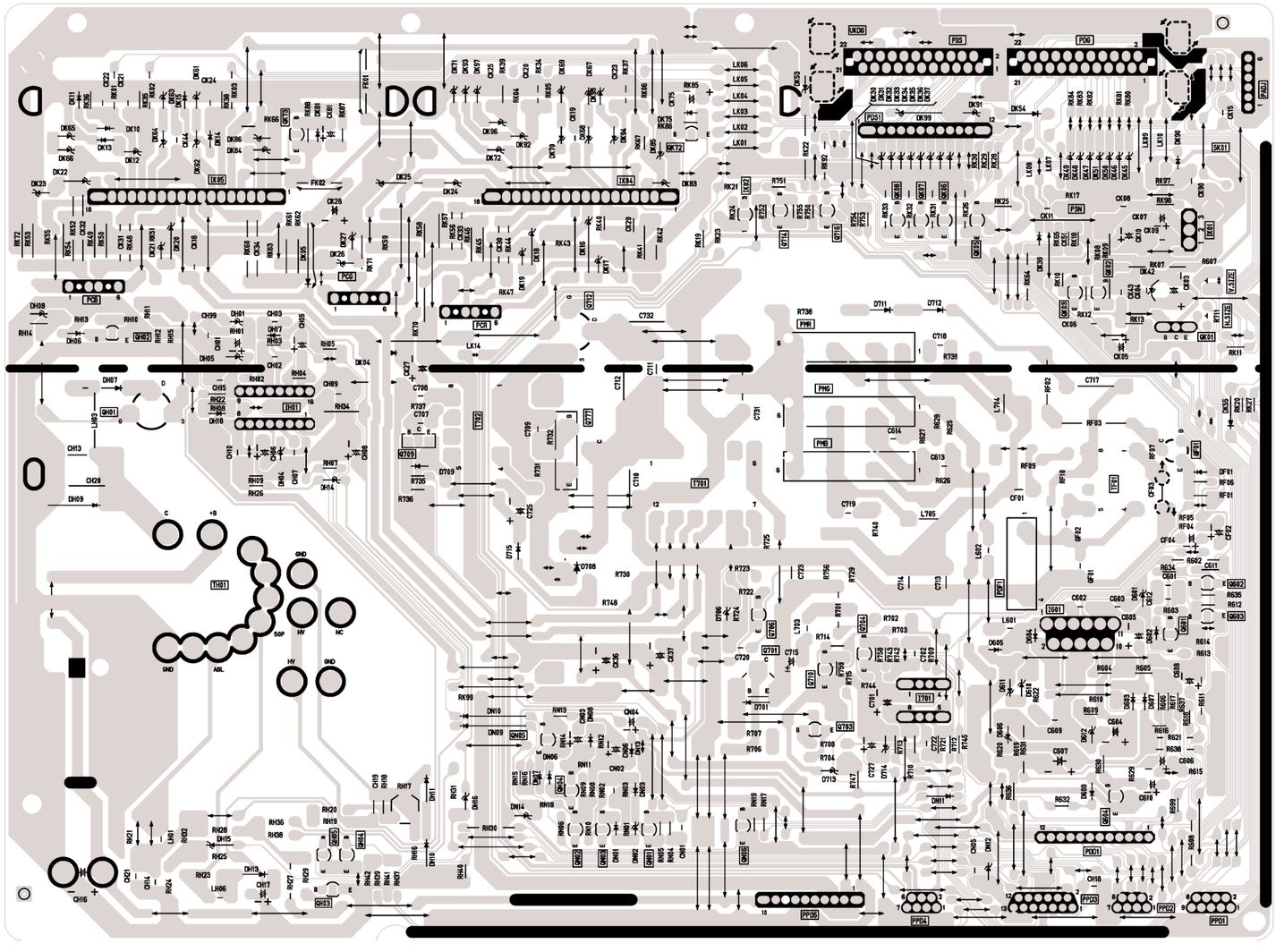
PRINTED CIRCUIT BOARD

DEFLECTION P.W.B. - PART SIDE



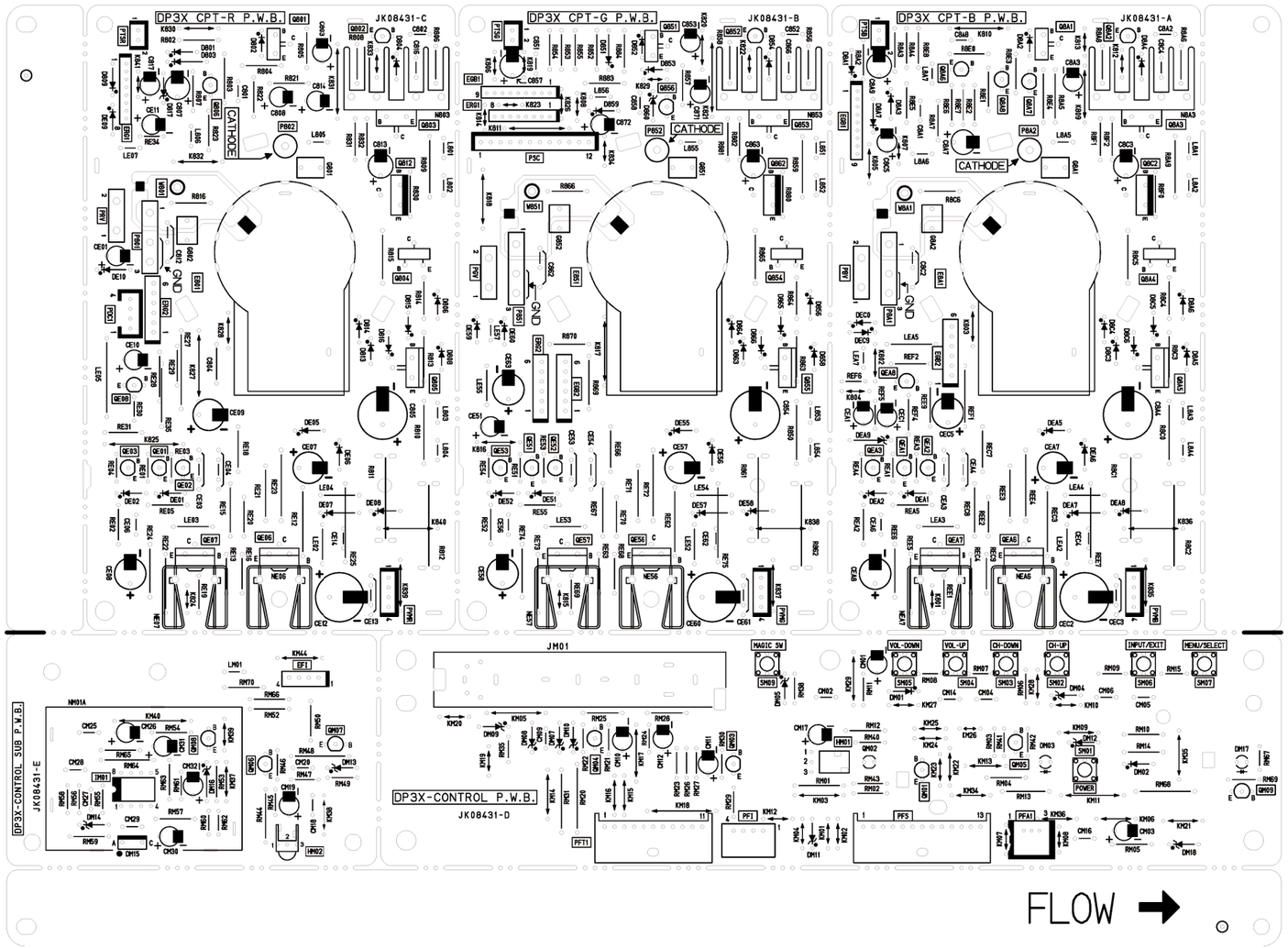
PRINTED CIRCUIT BOARD

DEFLECTION P.W.B. - PATTERN SIDE



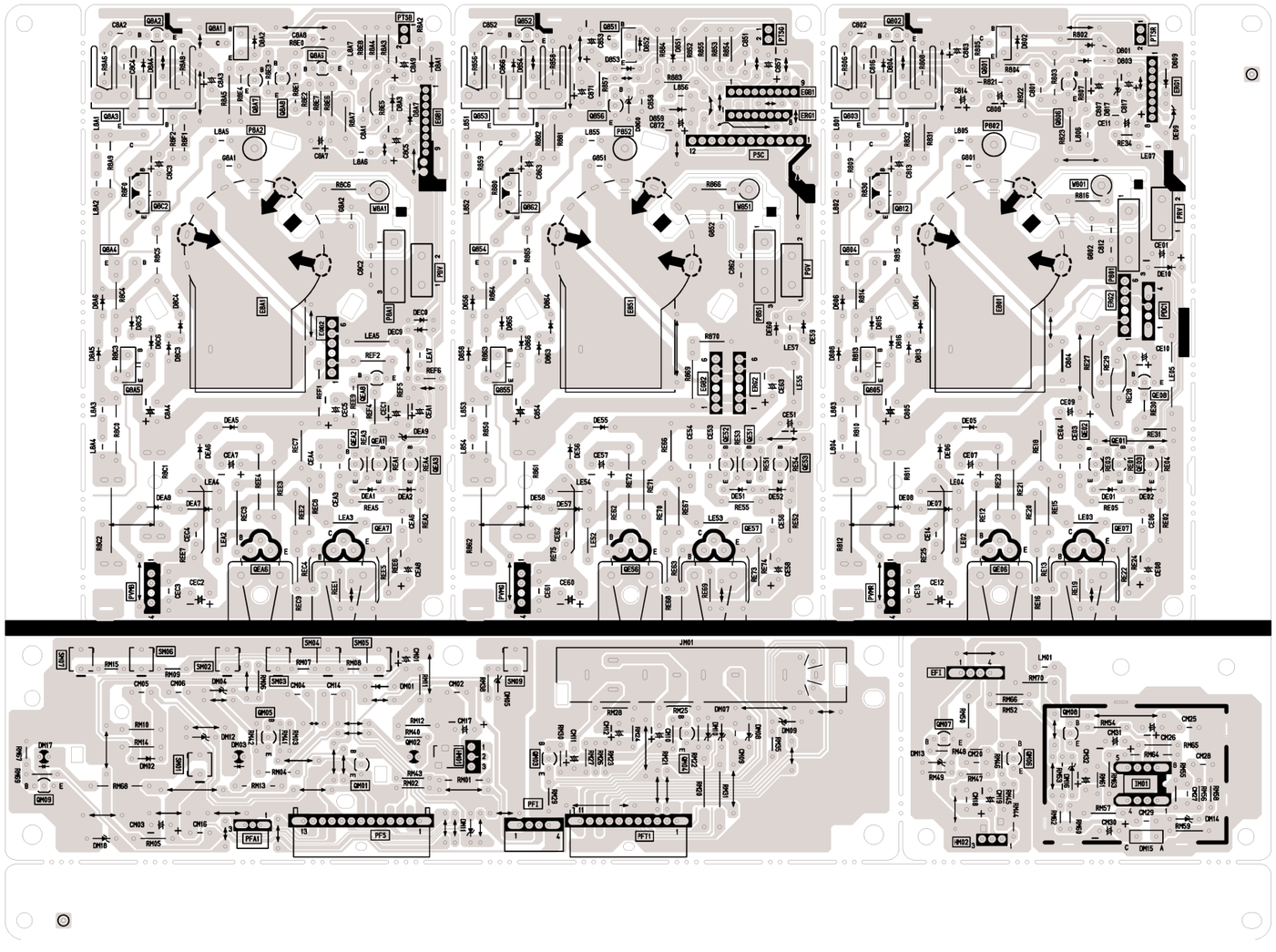
PRINTED CIRCUIT BOARD

CPT P.W.B. - PART SIDE (46F500A)



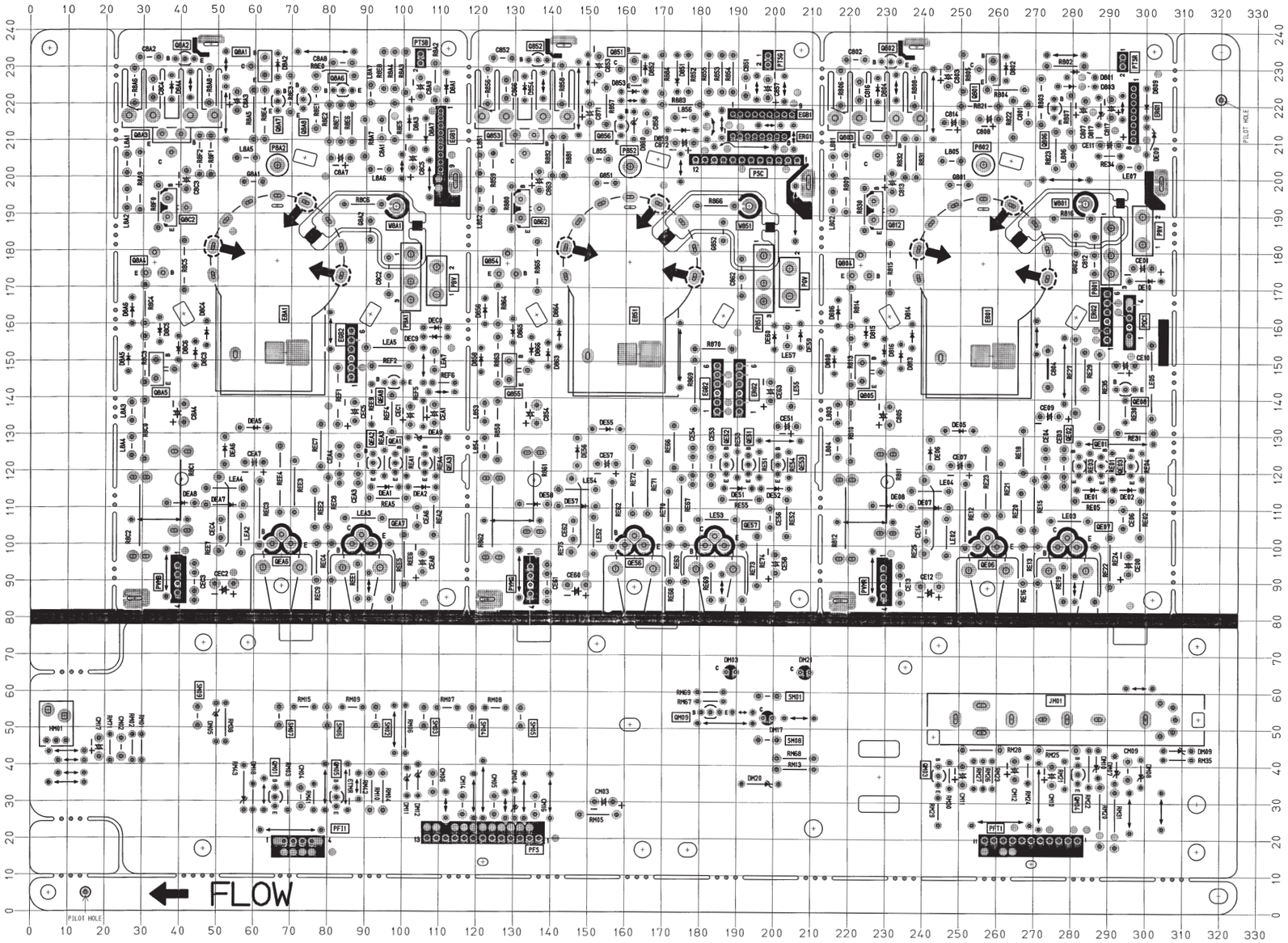
PRINTED CIRCUIT BOARD

CPT P.W.B. - PATTERN SIDE



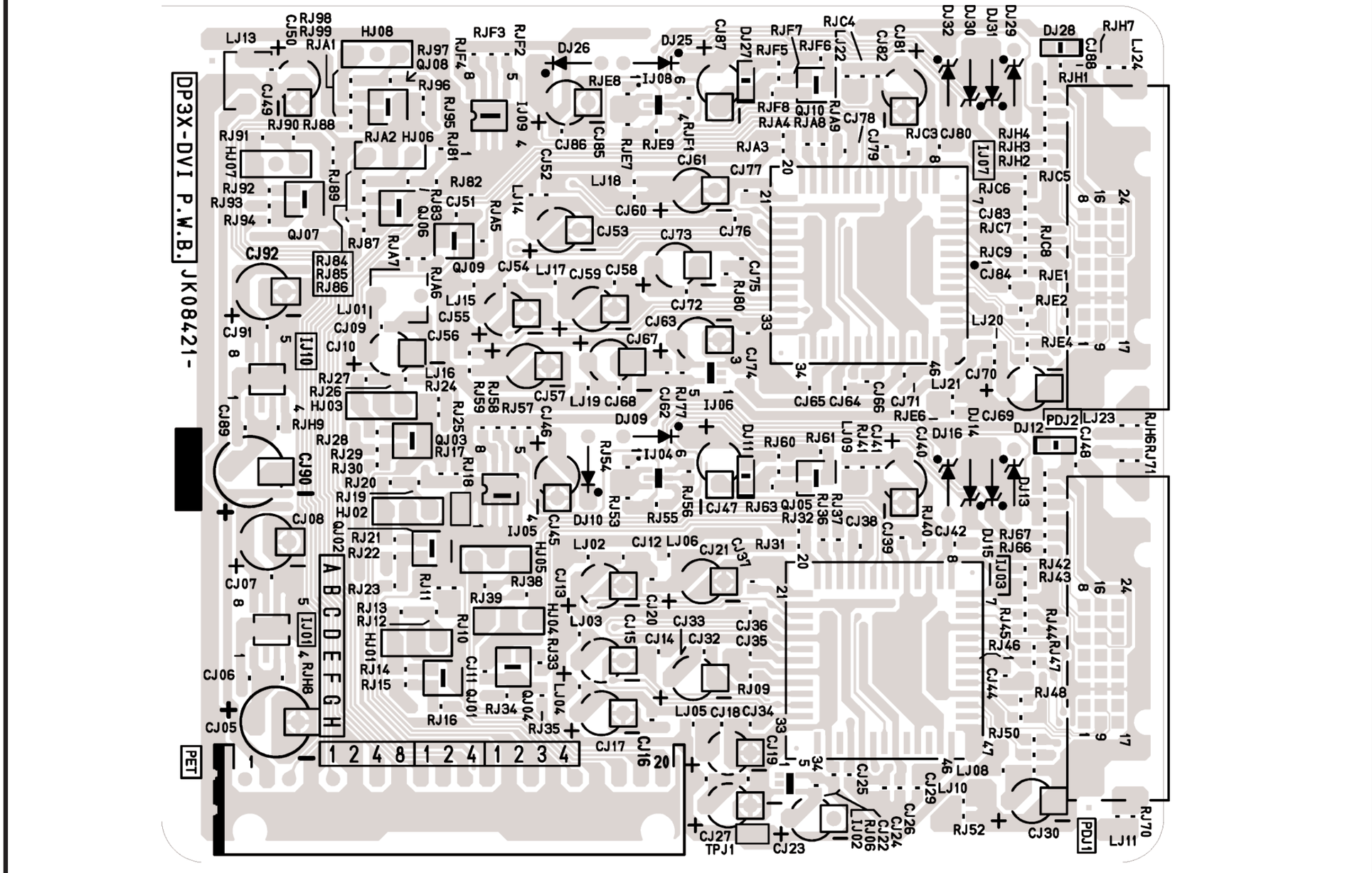
PRINTED CIRCUIT BOARD

46F510 CONTROL P.W.B.



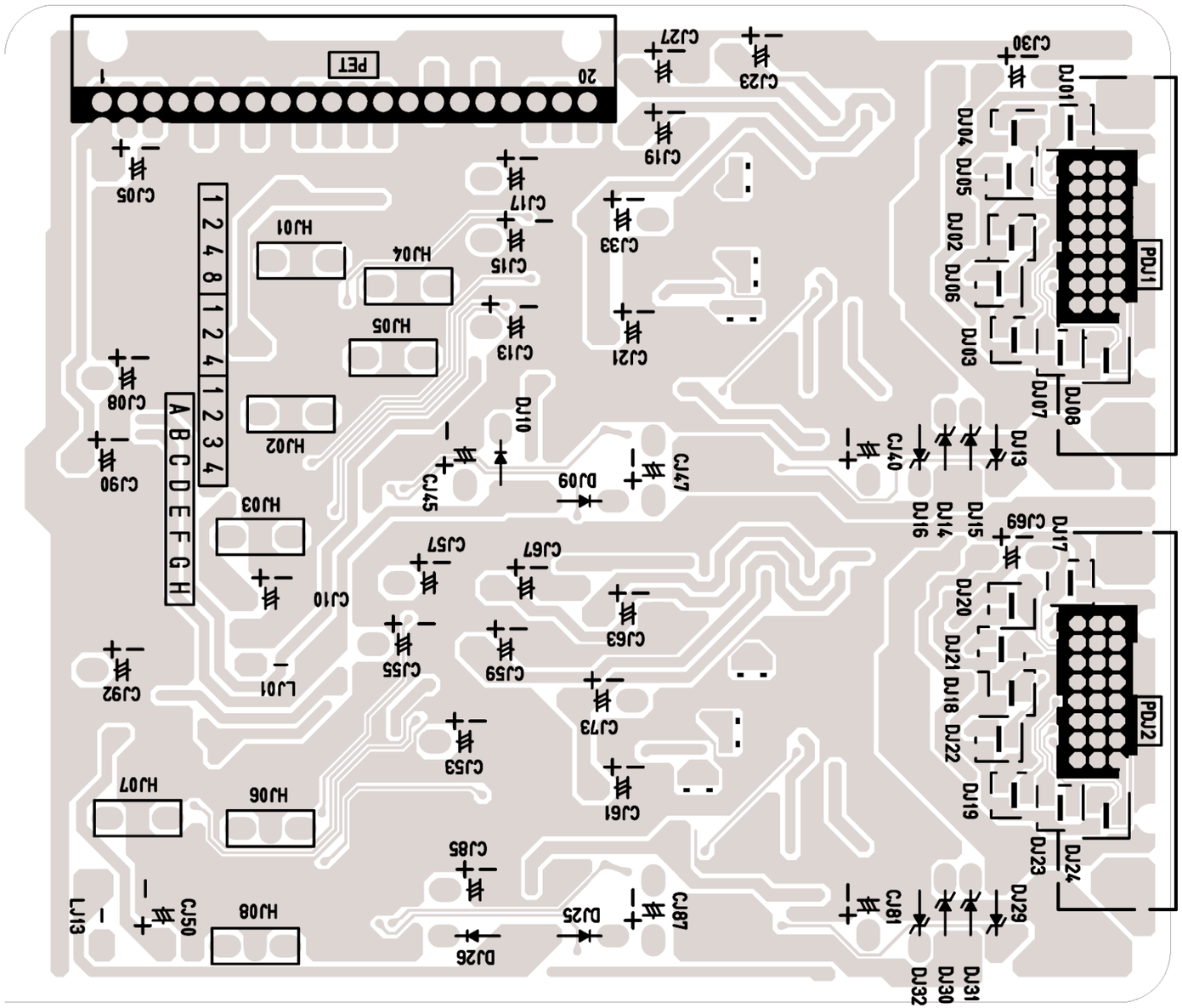
PRINTED CIRCUIT BOARD

DVI P.W.B. - PART SIDE



PRINTED CIRCUIT BOARD

DVI P.W.B. - PATTERN SIDE



BLOCK DIAGRAM

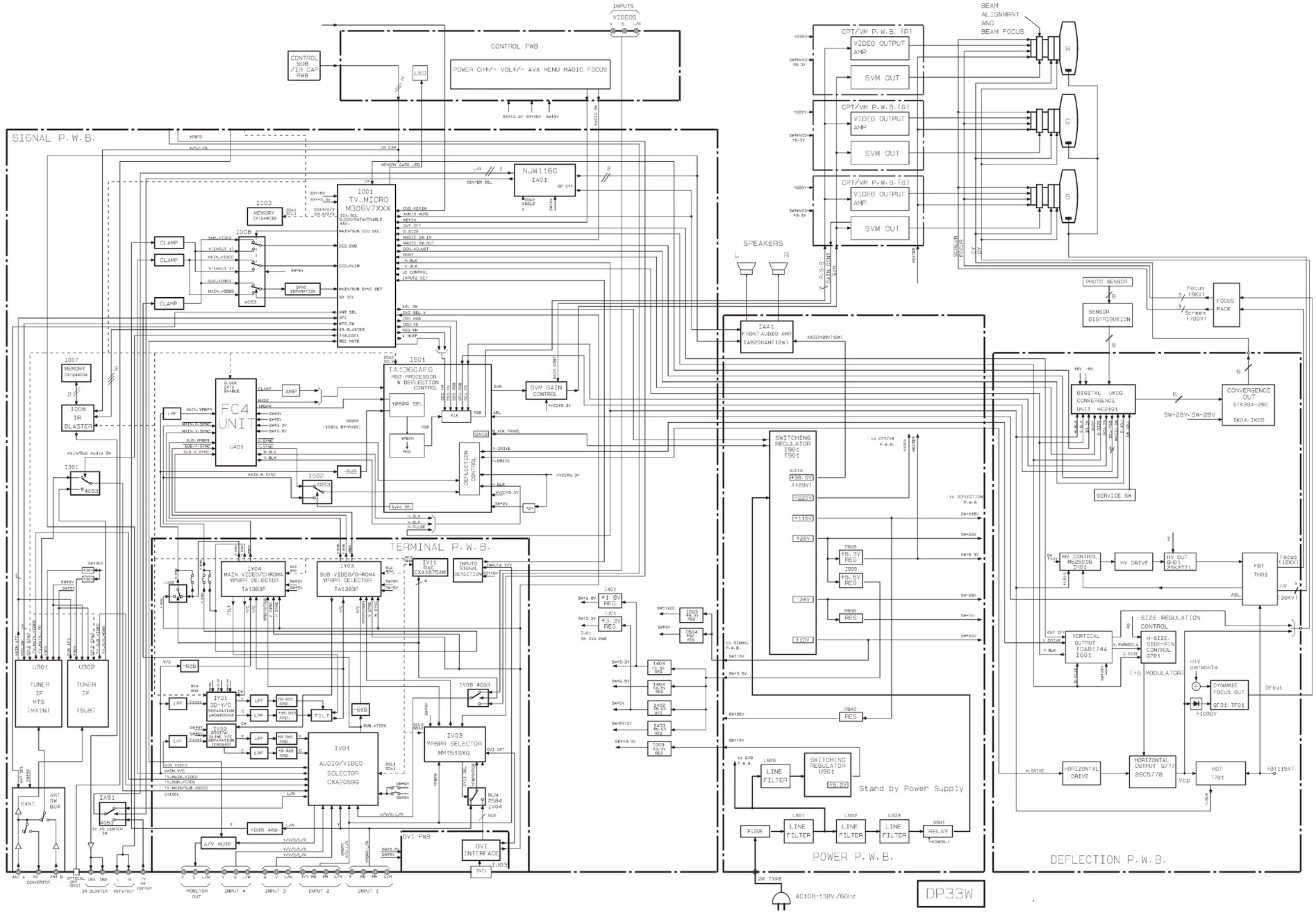
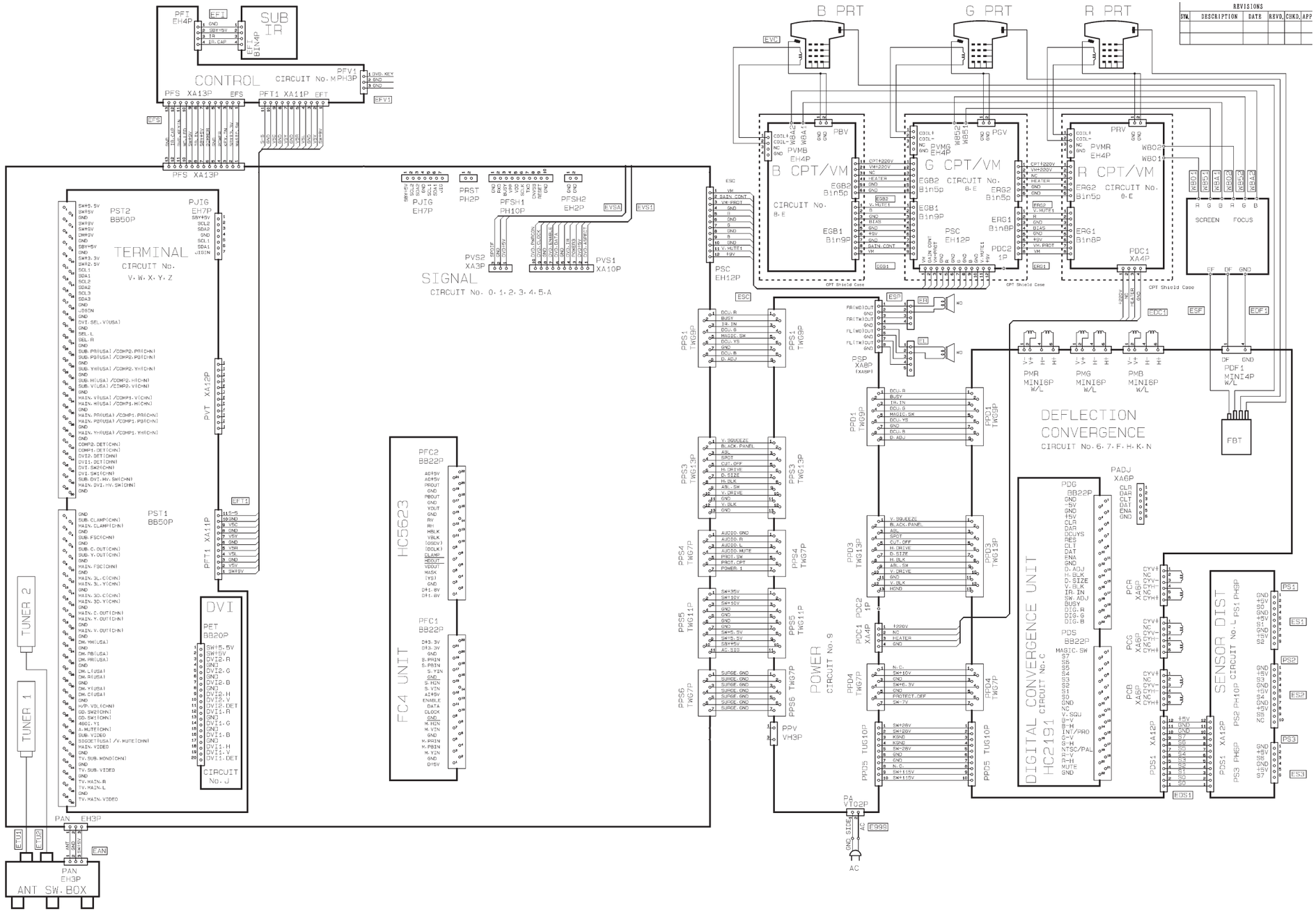
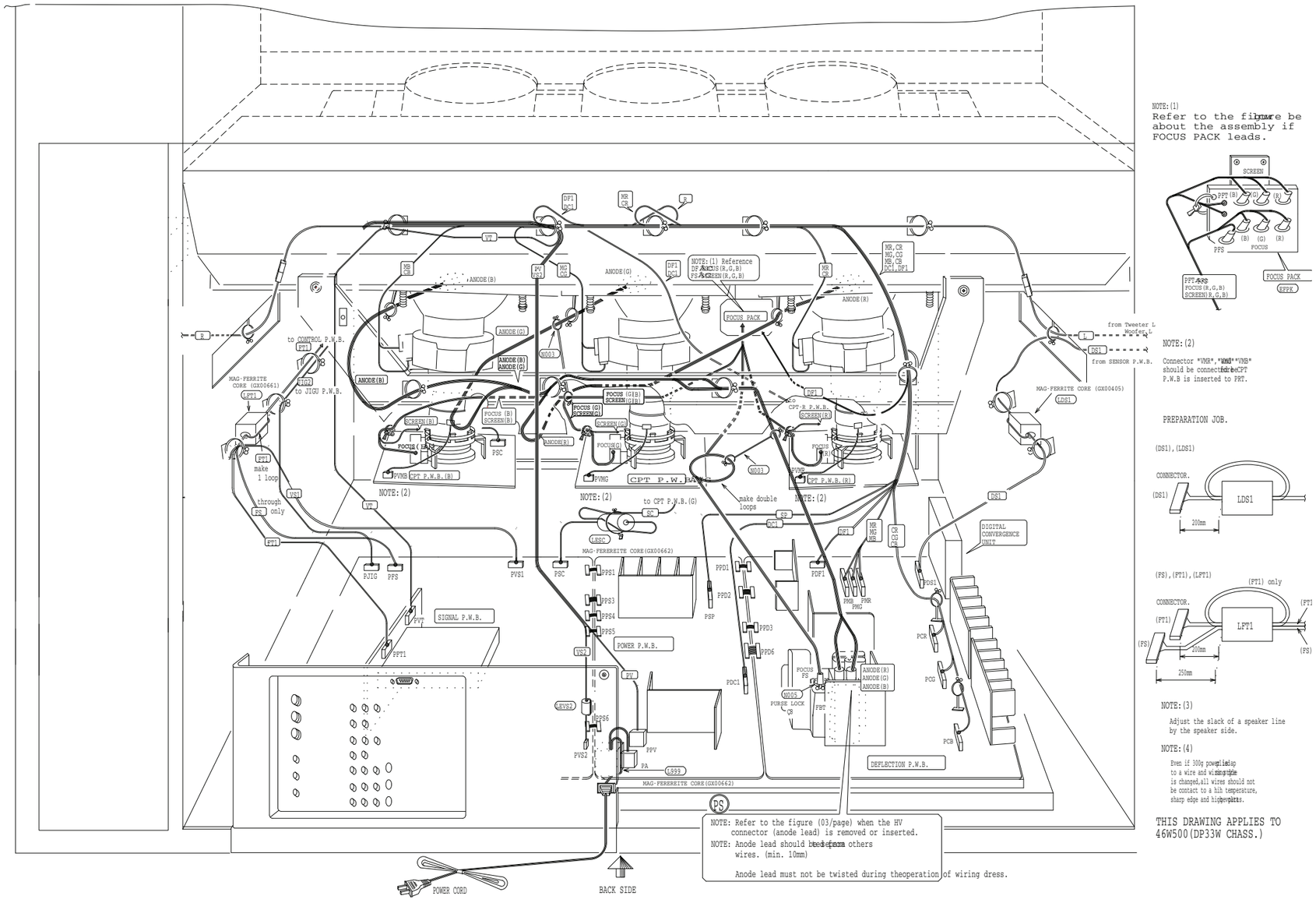


TABLE OF CONTENTS

WIRING DIAGRAM



FINAL WIRING DRAWING



NOTE: (1)
Refer to the figure about the assembly if FOCUS PACK leads.

NOTE: (2)
Connector "VM8","VM7","VM6" should be connected to CPT P.W.B is inserted to PRT.

PREPARATION JOB.

(DS1),(LDS1)

(FS),(FT1),(LFT1)

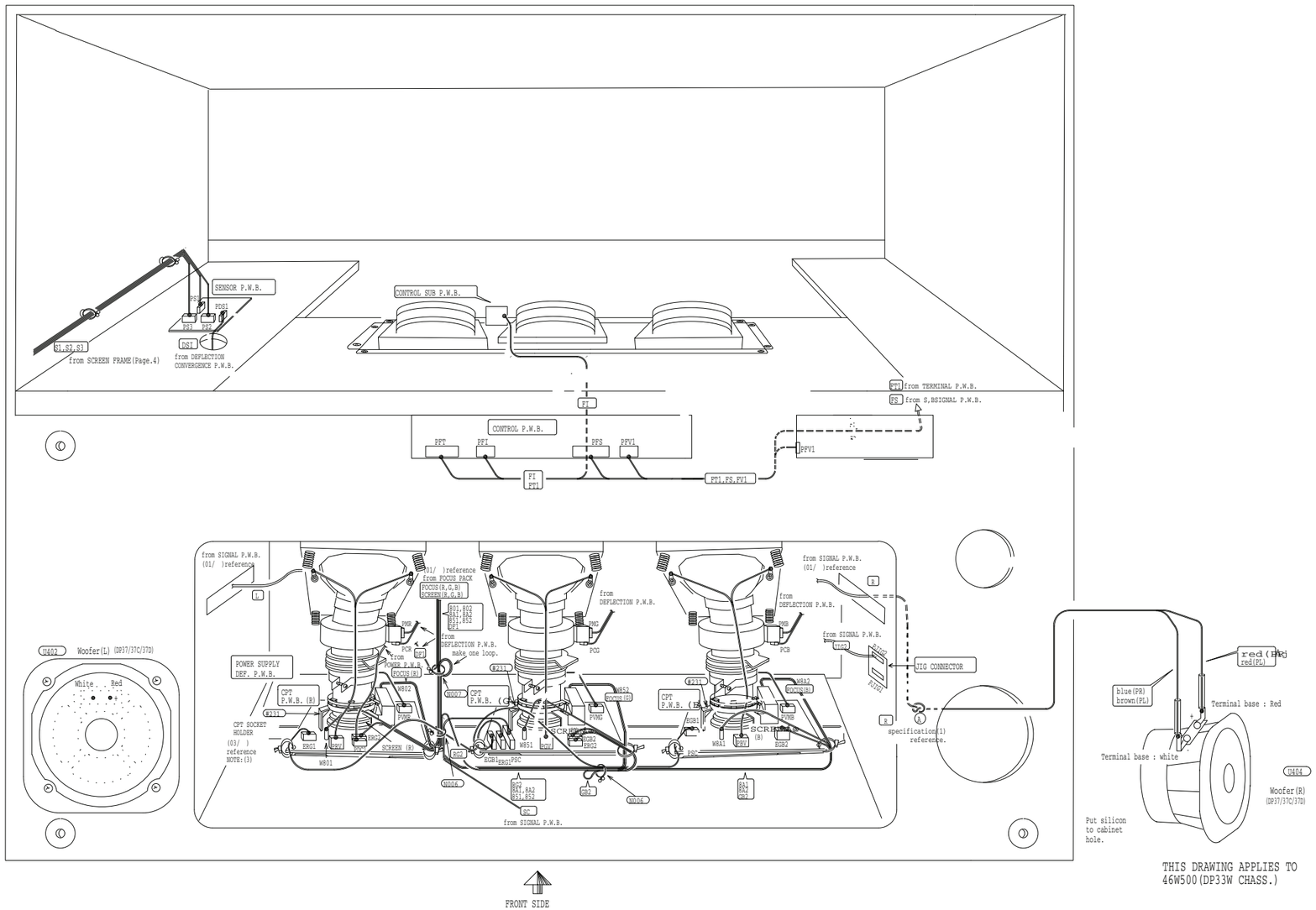
NOTE: (3)
Adjust the slack of a speaker line by the speaker side.

NOTE: (4)
Even if 300g pow is applied to a wire and wiring state is changed, all wires should not be contact to a hih temperature, sharp edge and high voltage parts.

THIS DRAWING APPLIES TO 46W500(DP33W CHASS.)

This drawing applies to 46W500 (DP33W) chass.

FINAL WIRING DRAWING



THIS DRAWING APPLIES TO 46W500(DP33W CHASS.)

This drawing applies to 46W500 (DP33W) chass.

WIRING DRAWING

CAUTIONS WHEN CONNECTING/DIS CONNECTING THE HV CONNECTOR

During Removal

1. Roll the silicon cover from FBT's contact area slowly.
2. While turning the connector about "@90 degrees following the arrow. (0 position). Pull the connector slightly towards you. (Fig.A)

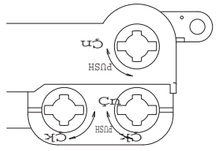
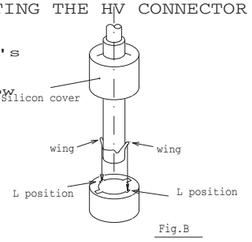


Fig. A

3. Remove the connector slowly by pulling it from the case



PS process

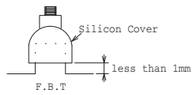
Fig.B

During Insertion

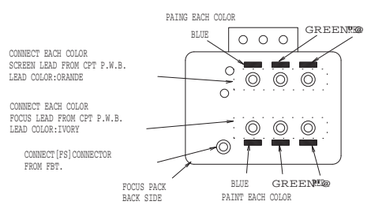
1. Please refer to direction shown in Fig.B (L position) insert connector till CLICK sound is heard.
2. Make sure connector is pushed right so that it has a good contact with spring.
3. Confirm the act by pulling the connector slightly. (Don't pull hard because damage the connector.)
4. Cover the high voltage output by carefully fixing silicon cover it. (Don't the color.)

(REMARK)

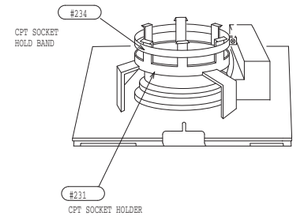
1. Make sure silicon cover is covered the high voltage output.

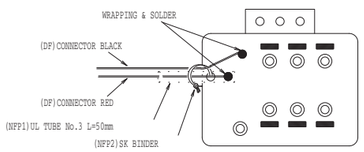


(UFPK) FOCUS PACK ASY.



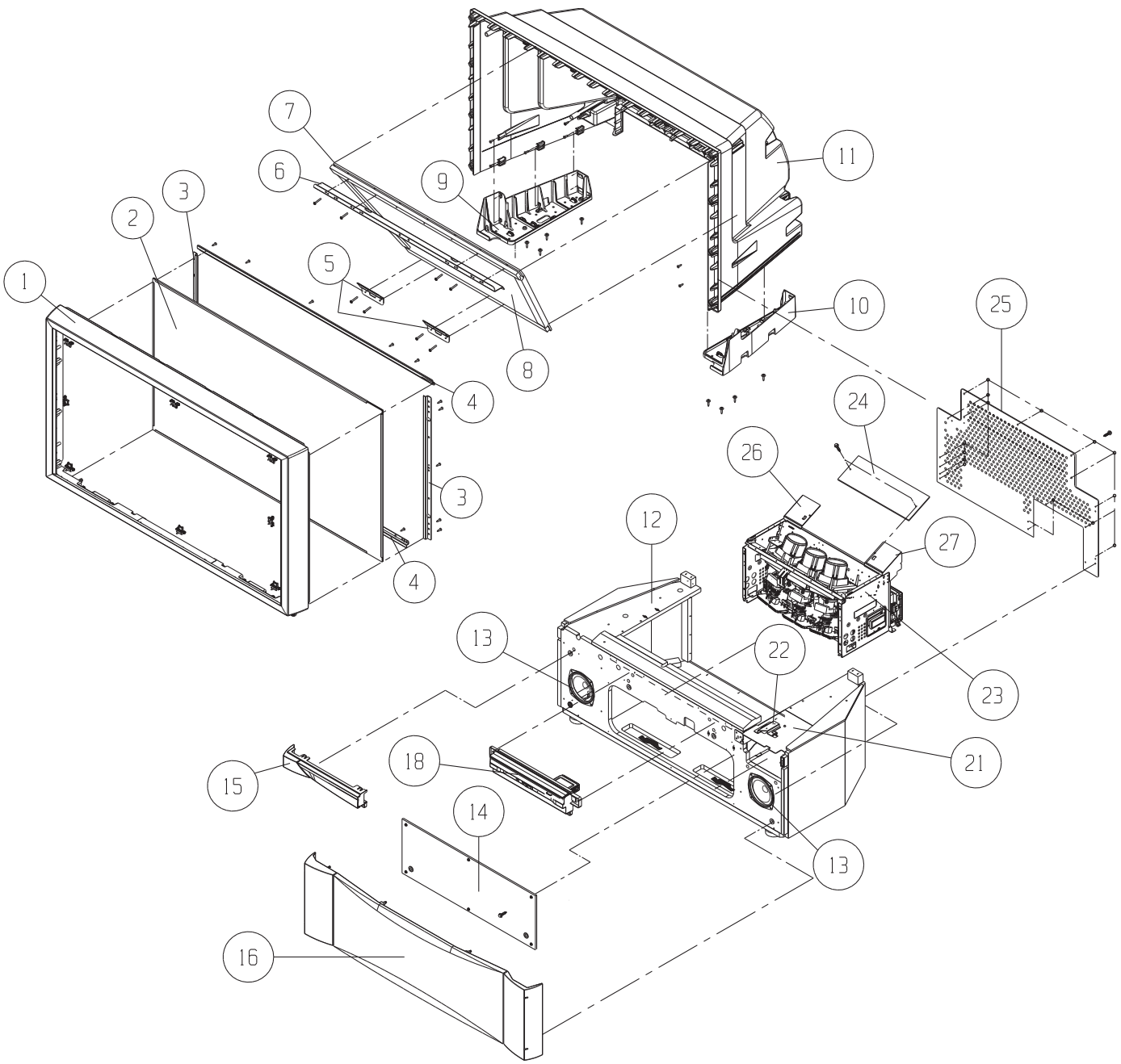
NOTE:(2) CPT SOCKET HOLDER ASSEMBLY.(R.G.B) CPT SOCKET HOLDER ASSEMBLY SHOULD BE FOLLOW FIG.





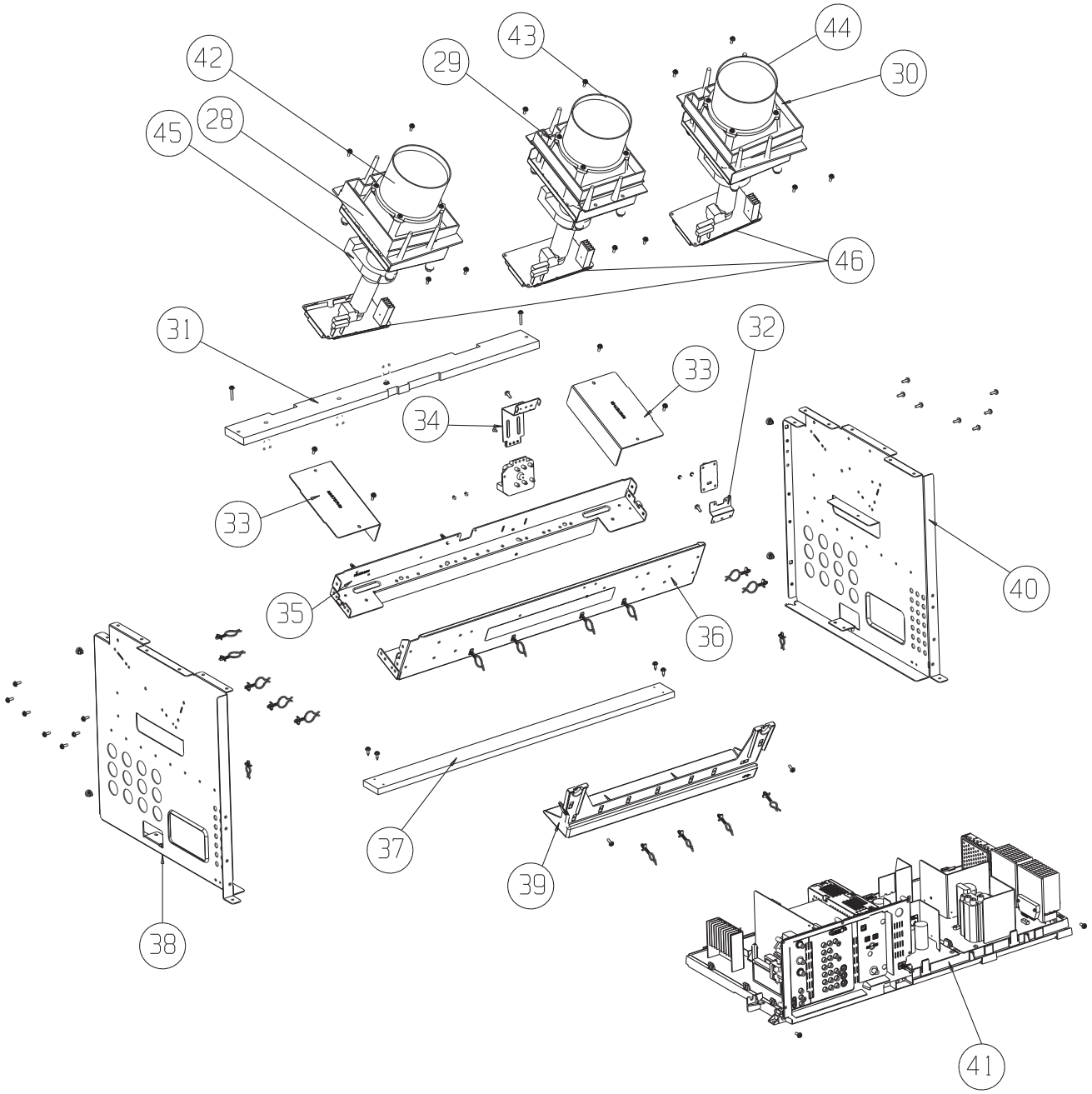
EXPLODED VIEW

46F500A Front View



NOTE: Some parts may appear different than those shown in the exploded view. When ordering, refer to the replacement parts list for the correct part number. The circled numbers correspond to the parts list shown on page 142.

EXPLODED VIEW
46F500A/510



NOTE: Some parts may appear different than those shown in the exploded view. When ordering, refer to the replacement parts list for the correct part number. The circled numbers correspond to the parts list shown on page 142.

EXPLODED VIEW PARTS LIST

Model 46F500/510

No	Part No	Description	Qty.
1	QD35413	SCREEN FRAME 46 F500	1
2	KR03051	46W SCREEN ASSY	1
3	NA60061	SCRN SIDE MTL 46F300	2
4	NA60051	SCREN T/B MTL 46F300	2
5	NA60781	MIRROR LOW METAL 46G	2
6	NA60771	MIRROR TOP METAL 46G	1
7	55050071	MIRROR BOARD SUB-ASSY	1
8	KS05782	1ST MIRROR 46F D250	1
9	NJ07072	MIROR COVER HOLDER L	1
10	NJ07071	MIROR COVER HOLDER R	1
11	QD35421	MIRROR COVER 46 F300	1
12			1
13	GK01181	SPEAKER SP-12CM C120RB506-10	2
14	52020112	FRONT ASSY	1
15	PH32812	DECO RAIL L 46F500A	1
16	PH32202	SP GRILL SASY 46F500A	1
17	PH33641	DECO RAIL RIGHT ASSY 46F500A	1
18	PH32735	CONTROL PANEL2003S500(1S P OXIN) PS	1
18A	PH32746	CONTROL DOOR 2003 W500 ABS	1
19			1
20			1
21	NA62121	CABI TOP COVER	1
22	NA62551	CABI COV FIX MTL 46W500	1
23			1
24	33010468	BARRIER BOARD 46F500	1
25	H512332	LOWER REAR BOARD 46W500	1
26	NA60742	BARR BRD FIX MTL L46	1
27	NA60741	BARR BRD FIX MTL R46	1
28	See page 161	Red PRT ASS'Y	1
29		Green PRT ASS'Y	1
30		Blue PRT ASS'Y	1
31	MF01101	BARRIER BOARD 46G500	1
32	NA57181	IR PWB FIX MTL DP2X	1
33	NA57577	LC METAL 2002-51 SIDE	2
34	NA60031	DP3X FOCUS FIX METAL	1
35	NA57221	LC METAL 2002-43 FRONT	1
36	NA56993	LC METAL 2002-25 REAR	1
37	NM00941	CHASSIS SUPPORT 2002	1
38	NA60015	SIDE METAL 46W R D250	1
39	NJ06581	DRIPPING HOLDER DP2X	1
40	NA60016	SIDE METAL 46W L D250	1
41	Not Avail.	DP33K CHASSIS ASY	1
42	KQ02333	DELTA LENS ASSY	1
43	KQ02333	DELTA LENS ASSY	1
44	KQ02333	DELTA LENS ASSY	1
45	BY01792	DY-V80-7SS (0.59)CYL	3
46	JT24053	DP33K CPT PWB ASSY	1

CH 2

TABLE OF CONTENTS

REPLACEMENT PARTS LIST

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

ABBREVIATIONS

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

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

Semiconductors:
- TR: Transistor
- DI: Diode
- ZD: Zener Diode
- VA: Varistor
- TH: Termistor
- IC: Integrated Circuit

SYMBOL NO.	PART NO.	PART DESCRIPTION
		CAPACITORS
C001	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE
C002	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
C003	0893131R	CAP 1608CHIP 220PFJCH 50V TAPE
C004	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
C005	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C006	0893193R	CAP 1608CHIP 10000PFKB 25V TAPE
C007	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
C010	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C011	0893104R	CAP 1608CHIP 2PFCCK 50V TAPE
C012	0893182R	CERAMIC CAPACITOR(15000PF 16V)
C013	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C014	0800326R	CAP.-ELECTRO. 100UF-M 16V
C015	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE
C016	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE
C017	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
C018	0893131R	CAP 1608CHIP 220PFJCH 50V TAPE
C019	0893204R	CAP 1608CHIP 470PFKB 50V TAPE
C020	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C021	0800326R	CAP.-ELECTRO. 100UF-M 16V
C022	0893204R	CAP 1608CHIP 470PFKB 50V TAPE
C023	0893213R	CAP1608CHIP 2200PFKB 50V TAPE
C024	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C025	0800326R	CAP.-ELECTRO. 100UF-M 16V
C027	0800303R	CAP.-ELECTRO. 22UF-M 50V
C028	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE
C029	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C030	0800326R	CAP.-ELECTRO. 100UF-M 16V
C031	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)
C032	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)
C033	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)
C034	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)
C035	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)
C036	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)
C037	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C038	0800326R	CAP.-ELECTRO. 100UF-M 16V
C039	0800326R	CAP.-ELECTRO. 100UF-M 16V
C040	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C041	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)
C042	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)
C050	0893205R	CAP 1608CHIP 560PFKB 50V TAPE
C051	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C052	0893205R	CAP 1608CHIP 560PFKB 50V TAPE
C053	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C054	0800326R	CAP.-ELECTRO. 100UF-M 16V
C055	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C065	0800326R	CAP.-ELECTRO. 100UF-M 16V
C066	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C067	0800326R	CAP.-ELECTRO. 100UF-M 16V
C068	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C069	0800326R	CAP.-ELECTRO. 100UF-M 16V
C070	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C071	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C074	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C075	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
C076	0893128R	CAP 1608CHIP 150PFJCH 50V TAPE
C077	0893126R	CAP 1608CHIP 100PFJCH 50V TAPE
C078	0893205R	CAP 1608CHIP 560PFKB 50V TAPE
C079	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE
C080	0800326R	CAP.-ELECTRO. 100UF-M 16V
C081	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C082	0800326R	CAP.-ELECTRO. 100UF-M 16V
C083	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C086	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
C087	0893183R	CERAMIC CAPACITOR(18000PF 16V)
C090	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE
C091	0800352R	CAP.-ELECTRO.470UF 10V
C092	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE
C093	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE

BACK TO TABLE OF CONTENTS

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
C096	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	C533	AA00964R	CERAMIC CAPACITOR(2.2UF 6.3V)
C098	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	C534	AA00964R	CERAMIC CAPACITOR(2.2UF 6.3V)
C099	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	C535	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C102	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	C536	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C103	0800352R	CAP.-ELECTRO.470UF 10V	C537	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C104	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	C538	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C106	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	C539	0800326R	CAP.-ELECTRO. 100UF-M 16V
C109	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	C540	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C111	0800352R	CAP.-ELECTRO.470UF 10V	C541	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C112	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	C542	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C113	0800326R	CAP.-ELECTRO. 100UF-M 16V	C545	0800326R	CAP.-ELECTRO. 100UF-M 16V
C114	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	C546	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
C119	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	C547	0800344R	CAP.-ELECTRO. 330UF-M(SMG) 16V
C120	0800326R	CAP.-ELECTRO. 100UF-M 16V	C548	0800326R	CAP.-ELECTRO. 100UF-M 16V
C121	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	C549	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C122	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	C552	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C123	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE	C553	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE
C124	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE	C554	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
C125	0800326R	CAP.-ELECTRO. 100UF-M 16V	C555	0893113R	CAP 1608CHIP 10PFCCH 50V TAPE
C126	0893208R	CAP 1608CHIP 1000PFKB 50V TAPE	C557	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C401	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	C558	0800318R	CAP.-ELECTRO. 47UF-M 25V
C402	0800352R	CAP.-ELECTRO.470UF 10V	C560	0800326R	CAP.-ELECTRO. 100UF-M 16V
C404	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	C561	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C405	0800352R	CAP.-ELECTRO.470UF 10V	C564	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C407	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	C565	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C408	0800326R	CAP.-ELECTRO. 100UF-M 16V	C568	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C409	0893115R	CAP 1608CHIP 15PFJCH 50V TAPE	C569	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C410	0893118R	CAP 1608CHIP 27PFJCH 50V TAPE	C572	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C418	0800358R	CAP.-ELECTRO. 1000UF-M 6.3V	C573	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C419	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	C576	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)
C420	0800326R	CAP.-ELECTRO. 100UF-M 16V	C577	0800326R	CAP.-ELECTRO. 100UF-M 16V
C421	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	C578	0800326R	CAP.-ELECTRO. 100UF-M 16V
C422	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	C579	0800326R	CAP.-ELECTRO. 100UF-M 16V
C423	0800326R	CAP.-ELECTRO. 100UF-M 16V	C580	0800353R	CAP.-ELECTRO.470UF-M 16V
C424	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	C581	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C425	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	C582	0800326R	CAP.-ELECTRO. 100UF-M 16V
C426	0800326R	CAP.-ELECTRO. 100UF-M 16V	C583	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C427	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	C584	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C428	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)	C585	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C429	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)	C586	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C491	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	C587	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
C492	0800326R	CAP.-ELECTRO. 100UF-M 16V	C589	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C493	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	C590	0800326R	CAP.-ELECTRO. 100UF-M 16V
C4A3	0800326R	CAP.-ELECTRO. 100UF-M 16V	C591	0800353R	CAP.-ELECTRO.470UF-M 16V
C4A6	0880194R	CAP.-POLYESTER 0.1UF-J 50V	C592	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
C501	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)	C602	0880194R	CAP.-POLYESTER 0.1UF-J 50V
C502	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	C603	0279693R	CAP.-POLYESTER FLM 0.1UF
C503	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	C604	0800347N	CAP.-ELECTRO. 330UF-M(SMG) 50V
C504	0800326R	CAP.-ELECTRO. 100UF-M 16V	C605	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V
C505	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE	C606	AL01162R	CAP.ELECTRO 10UF-M(YXF)50V
C506	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE	C607	AL01143S	CAP.ELECTROLYTIC 2200UF-M(YXF)25V
C507	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE	C608	AL01162R	CAP.ELECTRO 10UF-M(YXF)50V
C508	AA01113R	CCC225K06-B-16CT	C609	0279693R	CAP.-POLYESTER FLM 0.1UF
C509	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)	C610	0800318R	CAP.-ELECTRO. 47UF-M 25V
C510	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)	C611	0890033M	CAP.-CERAMIC 680PF-K B 50V CYLINDRICAL
C511	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	C701	0800361N	CAP.-ELECTRO 1000UF 16V
C512	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	C702	0880203R	CAP.-POLYESTER 0.47UF-J 50V
C513	0284634R	CAP.-ELECTRO 4.7UF-SME(BP) 50V	C707	0244505R	CAP-CERAMIC 0.0022UF-K 500V
C514	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	C708	0243509R	CAP.-CERAMIC 470PF-K 500V
C515	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	C709	0890081R	CAP.-CERAMIC 330PF 50V
C516	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	⚠ C710	AN01648F	4700PF 1500V METALLIZ PP FILM CAPA
C517	0800326R	CAP.-ELECTRO. 100UF-M 16V	⚠ C711	AN01648F	4700PF 1500V METALLIZ PP FILM CAPA
C518	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)	C713	AN01896F	CQ-394J251PHF FHSM165
C519	AA00964R	CERAMIC CAPACITOR(2.2UF 6.3V)	C714	AN01896F	CQ-394J251PHF FHSM165
C520	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	C715	0284634R	CAP.-ELECTRO 4.7UF-SME(BP) 50V
C521	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	C717	AN01631F	1000PF1500VMETALLIZ PP FILM CAPA
C522	0800361N	CAP.-ELECTRO 1000UF 16V	C718	0244505R	CAP-CERAMIC 0.0022UF-K 500V
C523	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	C719	0244505R	CAP-CERAMIC 0.0022UF-K 500V
C524	0893222R	CAP 1608CHIP10000PFKB 50V TAPE	C720	0800353R	CAP.-ELECTRO.470UF-M 16V
C525	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	C722	0890085R	CAP.-CERAMIC 680PF-K 50V
C527	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	C723	AN01901F	CQ-564J251PHF FHSM165
C528	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	C725	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V
C529	0800361N	CAP.-ELECTRO 1000UF 16V	C727	0800326R	CAP.-ELECTRO. 100UF-M 16V
C530	0893126R	CAP 1608CHIP 100PFJCH 50V TAPE	C801	0890077R	CAP.-CERAMIC 180PF-K 50V
C532	AA00964R	CERAMIC CAPACITOR(2.2UF 6.3V)	C802	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
C803	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	C950	0284647R	CAP.-ELECTRO.22UF-SME(BP) 16V
C804	0299622F	CAPACITOR-PP FILM 0.01UF-J 630V	C951	0800326R	CAP.-ELECTRO. 100UF-M 16V
C805	AL00031R	CAP.-ELECTORO. 33UF-M 250V	C952	0800334R	CAP.-ELECTRO. 220UF 10V
C807	0800352R	CAP.-ELECTRO.470UF 10V	C955	0244101R	CAPACITOR-CERAMIC 1000PF-K 50V TAPE
C808	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	C956	0244101R	CAPACITOR-CERAMIC 1000PF-K 50V TAPE
C812	AJ00559F	CC-222K202YBDF10	C957	AL00016R	ALUMINIUM ELECTROLYTIC CAP.(10UF200V)
C813	AL00025R	CAP.ALMI 2.2UF250V	⚠ C961	AJ00173F	CAP.CERAMIC CD85-B2GA221KYNS
C814	0800326R	CAP.-ELECTRO. 100UF-M 16V	CA01	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
C817	0800326R	CAP.-ELECTRO. 100UF-M 16V	CA02	0893215R	CAP 1608CHIP 3300PFKB 50V TAPE
C851	0890078R	CAP.-CERAMIC 220PF-K 50V	CA03	0893186R	CERAMIC CAPACITOR(33000PF 16V)
C852	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V	CA04	0893217R	CAP 1608CHIP 4700PFKB 50V TAPE
C853	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CA05	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C854	AL00031R	CAP.-ELECTORO. 33UF-M 250V	CA06	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
C857	0800352R	CAP.-ELECTRO.470UF 10V	CA07	0893221R	CAP 1608CHIP 8200PFKB 50V TAPE
C858	0880194R	CAP.-POLYESTER 0.1UF-J 50V	CA08	AA01128R	CERAMIC CAPACITOR(0.33UF 10V)
C862	AJ00559F	CC-222K202YBDF10	CA09	AA00936R	CERAMIC CAP. 2125-X5R 4.7UF 10V
C863	AL00025R	CAP.ALMI 2.2UF250V	CA10	AA00936R	CERAMIC CAP. 2125-X5R 4.7UF 10V
C871	0800326R	CAP.-ELECTRO. 100UF-M 16V	CA11	AA00936R	CERAMIC CAP. 2125-X5R 4.7UF 10V
C872	0800326R	CAP.-ELECTRO. 100UF-M 16V	CA12	0800326R	CAP.-ELECTRO. 100UF-M 16V
C8A1	0890079R	CAP.-CERAMIC 270PF-K 50V	CA13	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C8A2	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V	CA14	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
C8A3	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CA15	0893215R	CAP 1608CHIP 3300PFKB 50V TAPE
C8A4	AL00031R	CAP.-ELECTORO. 33UF-M 250V	CA16	0893186R	CERAMIC CAPACITOR(33000PF 16V)
C8A7	0800352R	CAP.-ELECTRO.470UF 10V	CA17	0893217R	CAP 1608CHIP 4700PFKB 50V TAPE
C8A8	0880194R	CAP.-POLYESTER 0.1UF-J 50V	CA18	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C8A9	0800352R	CAP.-ELECTRO.470UF 10V	CA19	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
C8C2	AJ00559F	CC-222K202YBDF10	CA20	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)
C8C3	AL00025R	CAP.ALMI 2.2UF250V	CA21	0893184R	CERAMIC CAPACITOR(22000PF 16V)
C8C5	0800326R	CAP.-ELECTRO. 100UF-M 16V	CA22	AA00936R	CERAMIC CAP. 2125-X5R 4.7UF 10V
⚠ C901	AN02085S	PLASTIC FILM CAP.CQ-224K251PVS-LE	CA23	AA00936R	CERAMIC CAP. 2125-X5R 4.7UF 10V
⚠ C902	AN02083S	PLASTIC FILM CAP.CQ-104K251PVS-LE	CA26	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
⚠ C903	AJ00183F	CAP. CERAMIC CD10-E2GA152MYNS	CA27	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
⚠ C904	AJ00183F	CAP. CERAMIC CD10-E2GA152MYNS	CA29	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
⚠ C905	AJ00182F	CAP. CERAMIC CD85-E2GA102MYNS	CA30	AA00936R	CERAMIC CAP. 2125-X5R 4.7UF 10V
⚠ C906	AJ00195F	CAP. CERAMIC CK45-F2EA472ZYNN	CA33	AA00936R	CERAMIC CAP. 2125-X5R 4.7UF 10V
⚠ C907	AJ00195F	CAP. CERAMIC CK45-F2EA472ZYNN	CA51	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
C908	AL00017R	ALUMINIUM ELECTROLYTIC CAP 22UF/200V	CA52	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
C909	AL02762	CAP.ELEC. 680UF 200V MXC SERIES	CA53	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
C910	AL02762	CAP.ELEC. 680UF 200V MXC SERIES	CA54	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
C911	0800337R	CAP.-ELECTRO 220UF 35V (SMG TY PE)	CA55	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
C912	0299616F	CAPACITOR-PP FILM 0.0033UF-J 630V	CA56	0284638R	CAP.-ELECTRO. 10UF-SME(BP) 16V
C914	0890085R	CAP.-CERAMIC 680PF-K 50V	CA58	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C915	0880194R	CAP.-POLYESTER 0.1UF-J 50V	CA59	0800326R	CAP.-ELECTRO. 100UF-M 16V
C917	0880198R	CAP.-PLOY. 0.22UF-J 50V	CA60	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
C918	0800359R	CAP.-ELECTRO. 1000UF-M 10V	CAA1	0800318R	CAP.-ELECTRO. 47UF-M 25V
C919	0800353R	CAP.-ELECTRO.470UF-M 16V	CAA2	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
C920	0880194R	CAP.-POLYESTER 0.1UF-J 50V	CAA3	0890087R	CAP.-CERAMIC 1000PF-K 50V
C921	0800319R	CAP.-ELECTRO. 47UF-M 35V	CAA4	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
C922	0244105R	CAP.-CERAMIC 2200PF-K 50V TAPE	CAA5	0890087R	CAP.-CERAMIC 1000PF-K 50V
C923	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V	CAA6	0800318R	CAP.-ELECTRO. 47UF-M 25V
C924	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE	CAA7	0800328R	CAP. ELECTRO. 100UF-M 35V
C925	AL01153S	CAP.ELECTR. 1000UF-M 35V	CAA8	0880194R	CAP.-POLYESTER 0.1UF-J 50V
C926	0880194R	CAP.-POLYESTER 0.1UF-J 50V	CAA9	0800355N	CAP.ELECTRO. 470UF-M 35V
C927	0244501R	CAP.-CERAMIC 1000PF-K 500V	CAC2	0800318R	CAP.-ELECTRO. 47UF-M 25V
C928	AL01851R	2200UF 16V ALUMINIUM ELECTROLYTIC CAP.	CAC3	0800328R	CAP. ELECTRO. 100UF-M 35V
C929	0244202R	CAP. CERAMIC DE0907R471K2K	CAC4	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C930	AL02323	CE-101M251EW(KMX)D16	CAC5	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
C931	0299610F	CAP.-POLYPRO.FILM 0.001UF 630V	CAC6	0880194R	CAP.-POLYESTER 0.1UF-J 50V
C932	0244501R	CAP.-CERAMIC 1000PF-K 500V	CAC7	0880194R	CAP.-POLYESTER 0.1UF-J 50V
C933	AL01866R	1000UF 35V ALUMINIUM ELECTROLYTIC CAP.	CAC8	0284824F	CAP.-ELECTRO. 2200UF 35V
C934	0800346R	CAP.-ELECTRO 330UF 35V	CAC9	0284824F	CAP.-ELECTRO. 2200UF 35V
C935	AL01153S	CAP.ELECTR. 1000UF-M 35V	CAE1	0880181R	CAP.METAL-POLY.FLM 0.01UF 50V
C936	AL01118S	CAP.ELECTROLYTIC 2200UF-M(YXF)10V	CAE2	0880181R	CAP.METAL-POLY.FLM 0.01UF 50V
C937	AL01153S	CAP.ELECTR. 1000UF-M 35V	CE01	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
C938	AL01117S	CAP.ELECTR.1000UF-M(YXF)10V	CE03	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V
C939	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE	CE04	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V
C940	AL01153S	CAP.ELECTR. 1000UF-M 35V	CE06	0244509R	CAP.-CERAMIC 4700PF-KB B 500V
C941	0800346R	CAP.-ELECTRO 330UF 35V	CE07	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V
C942	0244209R	CAP. CERAMIC DE1010R681K2K	CE08	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V
C943	AL02301	CE-331M 160V KMX160VB330ML31	CE09	AL00027R	CAP.-ELECTORO. 4.7UF-M 250V
C944	0880194R	CAP.-POLYESTER 0.1UF-J 50V	CE10	0800326R	CAP.-ELECTRO. 100UF-M 16V
C946	0800303R	CAP.-ELECTRO. 22UF-M 50V	CE11	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
C947	0880194R	CAP.-POLYESTER 0.1UF-J 50V	CE12	AL00032R	CAP.-ELECTORO. 47UF-M 250V
C948	0800319R	CAP.-ELECTRO. 47UF-M 35V	CE13	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V
C949	0800319R	CAP.-ELECTRO. 47UF-M 35V	CE14	0246836R	CAP.CERAMIC 18PF 500V TAPE

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
CE51	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CJ37	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CE53	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V	CJ38	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CE54	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V	CJ39	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CE56	0244509R	CAP.-CERAMIC 4700PF-KB B 500V	CJ40	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
CE57	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V	CJ41	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CE58	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V	CJ42	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CE60	AL00032R	CAP.-ELECTORO. 47UF-M 250V	CJ43	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CE61	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V	CJ44	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CE62	0246836R	CAP.CERAMIC 18PF 500V TAPE	CJ45	0800326R	CAP.-ELECTRO. 100UF-M 16V
CE63	AL00027R	CAP.-ELECTORO. 4.7UF-M 250V	CJ46	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CEA1	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CJ47	0800318R	CAP.-ELECTRO. 47UF-M 25V
CEA3	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V	CJ48	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)
CEA4	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V	CK03	0800326R	CAP.-ELECTRO. 100UF-M 16V
CEA6	0244509R	CAP.-CERAMIC 4700PF-KB B 500V	CK04	0880194R	CAP.-POLYESTER 0.1UF-J 50V
CEA7	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V	CK05	0800328R	CAP. ELECTRO. 100UF-M 35V
CEA8	0800329R	CAP.-ELECTRO. 100UF-M(SMG) 50V	CK06	0880194R	CAP.-POLYESTER 0.1UF-J 50V
CEC1	AL00025R	CAP.ALMI 2.2UF250V	CK07	0800326R	CAP.-ELECTRO. 100UF-M 16V
CEC2	AL00032R	CAP.-ELECTORO. 47UF-M 250V	CK08	0880194R	CAP.-POLYESTER 0.1UF-J 50V
CEC3	0244541F	CAPACITOR-CERAMIC 0.01MF-K B 500V	CK09	0880194R	CAP.-POLYESTER 0.1UF-J 50V
CEC4	0246836R	CAP.CERAMIC 18PF 500V TAPE	CK10	0800326R	CAP.-ELECTRO. 100UF-M 16V
CEC5	AL00027R	CAP.-ELECTORO. 4.7UF-M 250V	CK11	0880035R	CAP.-POLY 2200PF-50V
CF01	AN01889F	CQ-224J251PHF FHSM	CK18	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
CF02	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CK19	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
CF03	AJ00138R	CAP. CERAMIC CK45-R3DD222K-VR	CK20	0890079R	CAP.-CERAMIC 270PF-K 50V
CF04	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CK21	0890079R	CAP.-CERAMIC 270PF-K 50V
CH01	0800326R	CAP.-ELECTRO. 100UF-M 16V	CK22	0890079R	CAP.-CERAMIC 270PF-K 50V
CH02	0890078R	CAP.-CERAMIC 220PF-K 50V	CK23	0890079R	CAP.-CERAMIC 270PF-K 50V
CH03	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V	CK24	0890079R	CAP.-CERAMIC 270PF-K 50V
CH05	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CK25	0890079R	CAP.-CERAMIC 270PF-K 50V
CH06	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CK27	0800355N	CAP.ELECTRO. 470UF-M 35V
CH07	0880033R	CAP.-POLYESTER 0.0015UF-KEB50V	CK28	0800355N	CAP.ELECTRO. 470UF-M 35V
CH08	0800326R	CAP.-ELECTRO. 100UF-M 16V	CK29	0890024M	CAP.-CERAMIC 150PF-K B 50V CYLINDORICAL
CH09	0880207R	CAP.-POLYESTER 1.0UF-J 50V	CK30	0890024M	CAP.-CERAMIC 150PF-K B 50V CYLINDORICAL
CH10	0880194R	CAP.-POLYESTER 0.1UF-J 50V	CK31	0890024M	CAP.-CERAMIC 150PF-K B 50V CYLINDORICAL
⚠ CH13	AN01113F	1200PF 1800V METALLIZ PP FILM CAPA	CK32	0890024M	CAP.-CERAMIC 150PF-K B 50V CYLINDORICAL
CH14	0279692R	CAP.-POLYESTER 0.068UF 100V	CK33	0890024M	CAP.-CERAMIC 150PF-K B 50V CYLINDORICAL
CH15	0880038R	CAP.-POLYESTER 0.0039UF-KEB50V	CK34	0890024M	CAP.-CERAMIC 150PF-K B 50V CYLINDORICAL
CH16	AL02752	CAP.ELEC. 390UF 160V MXC SERIES	CK36	0800355N	CAP.ELECTRO. 470UF-M 35V
⚠ CH17	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V	CK37	0800355N	CAP.ELECTRO. 470UF-M 35V
CH18	0880198R	CAP.-PLOY. 0.22UF-J 50V	CK43	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
CH19	0890029M	CAP.-CERAMIC 390PF-K B 50V	CK51	0890024M	CAP.-CERAMIC 150PF-K B 50V CYLINDORICAL
⚠ CH20	AN01113F	1200PF 1800V METALLIZ PP FILM CAPA	CL01	0880053R	CAP.-POLYESTER 0.047UF-KEB 50V
CH21	0279690R	CAP.-POLYESTOR 0.033UF 100V	CL02	0880053R	CAP.-POLYESTER 0.047UF-KEB 50V
CH99	0880203R	CAP.-POLYESTER 0.47UF-J 50V	CL03	0880053R	CAP.-POLYESTER 0.047UF-KEB 50V
CJ05	0800358R	CAP.-ELECTRO. 1000UF-M 6.3V	CL04	0880053R	CAP.-POLYESTER 0.047UF-KEB 50V
CJ06	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CL05	0880053R	CAP.-POLYESTER 0.047UF-KEB 50V
CJ07	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CL06	0880053R	CAP.-POLYESTER 0.047UF-KEB 50V
CJ08	0800352R	CAP.-ELECTRO.470UF 10V	CL07	0880053R	CAP.-POLYESTER 0.047UF-KEB 50V
CJ09	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CL08	0880053R	CAP.-POLYESTER 0.047UF-KEB 50V
CJ10	0800326R	CAP.-ELECTRO. 100UF-M 16V	CL09	0800326R	CAP.-ELECTRO. 100UF-M 16V
CJ12	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CL10	0880194R	CAP.-POLYESTER 0.1UF-J 50V
CJ13	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CM02	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
CJ14	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CM03	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CJ15	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CM04	0880039R	CAP.-POLYESTER 0.0047UF-KEB50V
CJ16	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CM06	0880194R	CAP.-POLYESTER 0.1UF-J 50V
CJ17	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CM09	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V
CJ18	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CM10	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
CJ19	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CM11	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
CJ20	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CM12	0800318R	CAP.-ELECTRO. 47UF-M 25V
CJ21	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CM14	0880194R	CAP.-POLYESTER 0.1UF-J 50V
CJ22	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CM16	0880194R	CAP.-POLYESTER 0.1UF-J 50V
CJ23	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CM17	0800325R	CAP.-ELECTRO. 100UF-M 10V
CJ24	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CM18	0880044R	CAP.-POLYESTER 0.01UF-KEB 50V (46F500A)
CJ25	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CM19	0800325R	CAP.-ELECTRO. 100UF-M 10V (46F500A)
CJ26	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CM20	0880039R	CAP.-POLYESTER 0.0047UF-KEB50V (46F500A)
CJ27	0800326R	CAP.-ELECTRO. 100UF-M 16V	CN01	0890084R	CAP.-CERAMIC 560PF-K 50V
CJ28	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CN02	0880051R	CAP.-POLYESTER 0.033UF-KEB 50V
CJ29	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CN03	0800288R	CAP.-ELECTRO. 4.7UF-M(SMG) 50V
CJ30	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CN04	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CJ31	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CN05	0880035R	CAP.-POLY 2200PF-50V
CJ32	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	CN06	0800326R	CAP.-ELECTRO. 100UF-M 16V
CJ33	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CU01	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CJ34	0893126R	CAP 1608CHIP 100PFJCH 50V TAPE	CU02	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CJ35	0893126R	CAP 1608CHIP 100PFJCH 50V TAPE	CU03	0800279R	CAP.-ELECTORO. 1.0UF-M(SMG) 50V
CJ36	0893126R	CAP 1608CHIP 100PFJCH 50V TAPE	CU04	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
CU05	0800303R	CAP.-ELECTRO. 22UF-M 50V	CV13	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)
CU06	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CV14	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)
CU07	0800326R	CAP.-ELECTRO. 100UF-M 16V	CV15	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)
CU08	0800352R	CAP.-ELECTRO.470UF 10V	CV16	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)
CU09	0800352R	CAP.-ELECTRO.470UF 10V	CV17	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)
CU10	0800352R	CAP.-ELECTRO.470UF 10V	CV18	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)
CU11	0800326R	CAP.-ELECTRO. 100UF-M 16V	CV19	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)
CU12	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CV20	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)
CU15	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CV21	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)
CU16	0800352R	CAP.-ELECTRO.470UF 10V	CV22	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CU18	0893131R	CAP 1608CHIP 220PFJCH 50V TAPE	CV23	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)
CU21	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CV24	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)
CU22	0800353R	CAP.-ELECTRO.470UF-M 16V	CV25	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)
CU23	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CV26	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)
CU24	0800326R	CAP.-ELECTRO. 100UF-M 16V	CV27	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CU25	0893122R	CAP 1608CHIP 47PFJCH 50V TAPE	CV28	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
CU26	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CV29	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
CU27	0893175R	CAP 1608CHIP 1000PFJSL 50V TAPE	CV30	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
CU28	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CV31	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
CU29	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CV36	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CU31	0893131R	CAP 1608CHIP 220PFJCH 50V TAPE	CV37	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)
CU32	0893122R	CAP 1608CHIP 47PFJCH 50V TAPE	CV38	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CU33	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CV39	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)
CU34	0893175R	CAP 1608CHIP 1000PFJSL 50V TAPE	CV40	0800326R	CAP.-ELECTRO. 100UF-M 16V
CU35	0800326R	CAP.-ELECTRO. 100UF-M 16V	CV41	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CU36	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CV42	0800352R	CAP.-ELECTRO.470UF 10V
CU37	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE	CV43	0800352R	CAP.-ELECTRO.470UF 10V
CU39	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CV44	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE
CU40	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CV45	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
CU41	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CV46	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CU42	0800326R	CAP.-ELECTRO. 100UF-M 16V	CV47	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)
CU43	0893117R	CAP 1608CHIP 22PFJCH 50V TAPE	CV48	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
⚠ CU91	AN02083S	PLASTIC FILM CAP.CQ-104K251PVS-LE	CV49	0800326R	CAP.-ELECTRO. 100UF-M 16V
⚠ CU92	AJ00176F	CAP. CERAMIC CD95-B2GA471KYNS	CV53	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CU95	AL02312	CE-151M201EW KMX	CV54	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)
CU96	0880194R	CAP.-POLYESTER 0.1UF-J 50V	CV55	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)
CU97	0800319R	CAP.-ELECTRO. 47UF-M 35V	CV56	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)
CU99	0299981F	CAP.-POLYESTER 0.01UF-J 630V	CV57	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)
CUA2	0243509R	CAP.-CERAMIC 470PF-K 500V	CV58	0800326R	CAP.-ELECTRO. 100UF-M 16V
CUA3	0880207R	CAP.-POLYESTER 1.0UF-J 50V	CV59	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CUA4	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE	CV60	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
CUA5	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE	CV61	0893118R	CAP 1608CHIP 27PFJCH 50V TAPE
CUA6	0800319R	CAP.-ELECTRO. 47UF-M 35V	CV62	0893115R	CAP 1608CHIP 15PFJCH 50V TAPE
CUA7	0800326R	CAP.-ELECTRO. 100UF-M 16V	CV63	0893111R	CAP 1608CHIP 8PFCCH 50V TAPE
CUA8	0800334R	CAP.-ELECTRO. 220UF 10V	CV64	AA01121R	CERAMIC CAPACITOR(0.47UF 10V)
CUA9	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE	CV65	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CUC1	AL01833R	1000UF 6.3V ALUMINIUM ELECTROLYTIC CAPACITOR	CV66	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE
CUC2	AL01833R	1000UF 6.3V ALUMINIUM ELECTROLYTIC CAPACITOR	CV67	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE
CUC3	0800318R	CAP.-ELECTRO. 47UF-M 25V	CV68	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE
CUC5	AL01833R	1000UF 6.3V ALUMINIUM ELECTROLYTIC CAPACITOR	CV69	0800326R	CAP.-ELECTRO. 100UF-M 16V
CUC6	0800352R	CAP.-ELECTRO.470UF 10V	CV70	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE
CUC7	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE	CV71	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE
CUC8	AL01842F	1000UF 10V ALUMINIUM ELECTROLYTIC CAPACITOR	CV72	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE
CUC9	0800352R	CAP.-ELECTRO.470UF 10V	CV73	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CUE1	0800352R	CAP.-ELECTRO.470UF 10V	CV74	0800352R	CAP.-ELECTRO.470UF 10V
CUE4	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE	CV75	0893129R	CAP 1608CHIP 180PFJCH 50V TAPE
CUE5	AL01848R	470UF 16V ALUMINIUM ELECTROLYTIC CAPACITOR	CV76	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE
CUE6	0800353R	CAP.-ELECTRO.470UF-M 16V	CV77	0893127R	CAP 1608CHIP 120PFJCH 50V TAPE
CUE7	0800352R	CAP.-ELECTRO.470UF 10V	CV78	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V
CUE8	0800326R	CAP.-ELECTRO. 100UF-M 16V	CV80	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CUF1	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE	CV81	0800326R	CAP.-ELECTRO. 100UF-M 16V
CUF3	0243511R	CAP.-CERAMIC 680PF-K 500V TAPE	CV83	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE
CUF4	AL01833R	1000UF 6.3V ALUMINIUM ELECTROLYTIC CAPACITOR	CV85	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CV01	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	CV86	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)
CV02	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CV87	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)
CV03	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)	CV88	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)
CV04	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)	CV89	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)
CV05	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CV90	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)
CV06	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)	CV91	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)
CV07	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)	CV92	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)
CV08	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)	CV93	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)
CV09	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)	CV94	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)
CV10	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	CV95	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)
CV11	0800326R	CAP.-ELECTRO. 100UF-M 16V	CV96	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)
CV12	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	CV97	AA00966R	CERAMIC CAPACITOR(4.7UF 6.3V)

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
CV98	0800326R	CAP.-ELECTRO. 100UF-M 16V	CY55	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CV99	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CY56	AL01842R	1000UF 10V ALUMINIUM ELECTROLYTIC CAP.
CW15	0800326R	CAP.-ELECTRO. 100UF-M 16V	CY57	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CW18	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	CY58	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CW19	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	CY59	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CW20	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	CY60	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CW21	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	CY61	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)
CW22	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	CY62	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
CW23	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	CY63	0893126R	CAP 1608CHIP 100PFJCH 50V TAPE
CW27	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CY64	0893126R	CAP 1608CHIP 100PFJCH 50V TAPE
CW30	0800326R	CAP.-ELECTRO. 100UF-M 16V	CY65	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CW31	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CY66	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CW32	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CY67	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
CW33	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CY68	0893213R	CAP1608CHIP 2200PFKB 50V TAPE
CW34	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	CY69	0893114R	CAP 1608CHIP 12PFJCH 50V TAPE
CW35	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	CY70	0800351R	CAP.-ELECTRO. 470UF-M 6.3V
CW36	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	CY71	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)
CW37	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CY72	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CW38	0800326R	CAP.-ELECTRO. 100UF-M 16V	CY73	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CW39	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CY74	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CW40	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CY75	0800326R	CAP.-ELECTRO. 100UF-M 16V
CW41	0800326R	CAP.-ELECTRO. 100UF-M 16V	CY76	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CW43	0800326R	CAP.-ELECTRO. 100UF-M 16V	CY77	AL01842R	1000UF 10V ALUMINIUM ELECTROLYTIC CAP.
CW44	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	CY78	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CW57	0800326R	CAP.-ELECTRO. 100UF-M 16V	CY79	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CXA0	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)	CY80	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CY01	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CY81	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CY02	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)	CY82	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)
CY03	0893114R	CAP 1608CHIP 12PFJCH 50V TAPE	CY83	0893222R	CAP 1608CHIP10000PFKB 50V TAPE
CY04	0893121R	CAP 1608CHIP 39PFJCH 50V TAPE	CY84	0893126R	CAP 1608CHIP 100PFJCH 50V TAPE
CY05	0893114R	CAP 1608CHIP 12PFJCH 50V TAPE	CY85	0893126R	CAP 1608CHIP 100PFJCH 50V TAPE
CY06	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V	CY86	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CY07	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V	CY87	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CY08	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	CY88	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V
CY09	AA01111R	CERAMIC CAPACITOR(1.0UF 6.3V)	CY89	0893213R	CAP1608CHIP 2200PFKB 50V TAPE
CY10	0893135R	CAP 1608CHIP 470PFJCH 50V TAPE	CY90	0893114R	CAP 1608CHIP 12PFJCH 50V TAPE
CY11	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	CY91	0800358R	CAP.-ELECTRO. 1000UF-M 6.3V
CY12	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)	CY92	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)
CY13	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	CY93	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CY14	0800326R	CAP.-ELECTRO. 100UF-M 16V	CY94	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CY15	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)	CY95	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CY16	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE	CY96	0800326R	CAP.-ELECTRO. 100UF-M 16V
CY17	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE	CY97	0893232R	CAP 1608CHIP 100000PFZF25V TAPE
CY18	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE	CYA0	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CY19	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE	CYA1	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CY20	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	CYA2	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CY21	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE	CYA3	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CY22	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE	CYA4	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE
CY23	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE			
CY24	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE			**DIODES**
CY25	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	D004	2344041M	DIODE 1SS254TA/1SS270TA
CY26	0800326R	CAP.-ELECTRO. 100UF-M 16V	D010	2331849M	ZENER HZ12C3 (TA) SI 500MW
CY27	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	D011	2331849M	ZENER HZ12C3 (TA) SI 500MW
CY28	0800352R	CAP.-ELECTRO.470UF 10V	D012	2331849M	ZENER HZ12C3 (TA) SI 500MW
CY29	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	D013	2331849M	ZENER HZ12C3 (TA) SI 500MW
CY30	0800352R	CAP.-ELECTRO.470UF 10V	D014	2331849M	ZENER HZ12C3 (TA) SI 500MW
CY31	0893117R	CAP 1608CHIP 22PFJCH 50V TAPE	D015	2331849M	ZENER HZ12C3 (TA) SI 500MW
CY32	0893117R	CAP 1608CHIP 22PFJCH 50V TAPE	D016	2331849M	ZENER HZ12C3 (TA) SI 500MW
CY35	AA01101R	CERAMIC CAPACITOR(1UF 10V-F)	D022	2344041M	DIODE 1SS254TA/1SS270TA
CY36	0800282R	CAP.-ELECTORO. 2.2UF-M(SMG) 50V	D023	2344041M	DIODE 1SS254TA/1SS270TA
CY37	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	D024	2331827M	ZENER DIODE HZ-9 TAPE (C1) SI 500MW 9.3V
CY38	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	D025	2331827M	ZENER DIODE HZ-9 TAPE (C1) SI 500MW 9.3V
CY39	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE	D026	2331809M	ZENER DIODE HZ-6 TAPE (C3) SI 500MW
CY40	0893134R	CAP 1608CHIP 390PFJCH 50V TAPE	D027	2339971M	ZENER HZS33-1 TA
CY41	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE	D028	2339971M	ZENER HZS33-1 TA
CY42	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	D029	2331849M	ZENER HZ12C3 (TA) SI 500MW
CY43	0800294R	CAP.-ELECTRO. 10UF-M(SMG) 50V	D030	2331849M	ZENER HZ12C3 (TA) SI 500MW
CY45	0800326R	CAP.-ELECTRO. 100UF-M 16V	D031	2331849M	ZENER HZ12C3 (TA) SI 500MW
CY47	0893179R	CAP.CHIP-CERAMIC 100000PF 16V TAPE	D032	2331849M	ZENER HZ12C3 (TA) SI 500MW
CY48	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	D033	2331849M	ZENER HZ12C3 (TA) SI 500MW
CY50	0800326R	CAP.-ELECTRO. 100UF-M 16V	D034	2331849M	ZENER HZ12C3 (TA) SI 500MW
CY51	0893232R	CAP 1608CHIP 100000PFZF25V TAPE	D035	2331849M	ZENER HZ12C3 (TA) SI 500MW
CY52	0893121R	CAP 1608CHIP 39PFJCH 50V TAPE	D036	2331849M	ZENER HZ12C3 (TA) SI 500MW
CY53	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	D038	2331849M	ZENER HZ12C3 (TA) SI 500MW
CY54	0893239R	CAP 1608CHIP 10000PFZF 50V TAPE	D039	2344041M	DIODE 1SS254TA/1SS270TA

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
D040	2344041M	DIODE 1SS254TA/1SS270TA	D8A4	2344041M	DIODE 1SS254TA/1SS270TA
D401	CH02001M	DIODE 1SR139-400	D8A5	2344041M	DIODE 1SS254TA/1SS270TA
D402	CH02001M	DIODE 1SR139-400	D8A6	2344041M	DIODE 1SS254TA/1SS270TA
D403	CH02001M	DIODE 1SR139-400	D8A7	2344041M	DIODE 1SS254TA/1SS270TA
D404	CH02001M	DIODE 1SR139-400	D8C3	CH02001M	DIODE 1SR139-400
D406	2344041M	DIODE 1SS254TA/1SS270TA	D8C4	CH02001M	DIODE 1SR139-400
D455	2344041M	DIODE 1SS254TA/1SS270TA	D8C5	CH02001M	DIODE 1SR139-400
D4A1	2337341M	DIODE 1SS270A (TP)	D8C6	CH02001M	DIODE 1SR139-400
D4A2	CH02001M	DIODE 1SR139-400	⚠ D901	2338313	DIODE RBV-406M (60V) SI 0.1USEC
D4A3	CH02001M	DIODE 1SR139-400	⚠ D902	CH00051	DIODE SD-S1WB(A)60B (600V)
D4A4	2337341M	DIODE 1SS270A (TP)	D906	CH02001M	DIODE 1SR139-400
D4A5	2331849M	ZENER HZ12C3 (TA) SI 500MW	D907	CH02011M	DIODE 1SR153-400
D501	2344041M	DIODE 1SS254TA/1SS270TA	D908	CH02011M	DIODE 1SR153-400
D502	2344041M	DIODE 1SS254TA/1SS270TA	D910	2331844M	ZENER HZ12-B1
D503	2344041M	DIODE 1SS254TA/1SS270TA	D911	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
D504	2339801M	ZENER HZS-2 TAPE (B1) SI 400MW 2.0V	D912	CH02671R	LED SR3517F6T (RED)
D507	2344041M	DIODE 1SS254TA/1SS270TA	D913	CH02673R	LED SR3517F6T (GREEN)
D508	2344041M	DIODE 1SS254TA/1SS270TA	D917	2331844M	ZENER HZ12-B1
D509	2344041M	DIODE 1SS254TA/1SS270TA	D918	2344041M	DIODE 1SS254TA/1SS270TA
D510	2344041M	DIODE 1SS254TA/1SS270TA	D919	2337951S	DIODE RU4Z(LF015-302)
D511	2344041M	DIODE 1SS254TA/1SS270TA	D920	CH02751	FMN-G12S
D512	2344041M	DIODE 1SS254TA/1SS270TA	D921	2359314G	DIODE RU-3C P12.5
D513	2344041M	DIODE 1SS254TA/1SS270TA	D922	CH02751	FMN-G12S
D514	2344041M	DIODE 1SS254TA/1SS270TA	D923	2337951S	DIODE RU4Z(LF015-302)
D515	2344041M	DIODE 1SS254TA/1SS270TA	D925	CH02731	DIO-FMUP-1056E
D516	2331849M	ZENER HZ12C3 (TA) SI 500MW	D926	2334304M	ZENER RD30E (B3 T2/TP/TA) SI 5MA 30.51V
D518	2344041M	DIODE 1SS254TA/1SS270TA	D927	2331841M	ZENER DIODE HZ-12 TAPE (A1) SI 500MW
D519	2344041M	DIODE 1SS254TA/1SS270TA	D928	2339961M	ZENER HZS30-1 TA
D520	2344041M	DIODE 1SS254TA/1SS270TA	D929	2344041M	DIODE 1SS254TA/1SS270TA
D521	2344041M	DIODE 1SS254TA/1SS270TA	D930	2344041M	DIODE 1SS254TA/1SS270TA
D601	2331815M	ZENER HZ7-B2	D931	2339857M	ZENER HZS7C1 SI
D603	CH02001M	DIODE 1SR139-400	D932	CH02673R	LED SR3517F6T (GREEN)
D605	CH02011M	DIODE 1SR153-400	D933	2344041M	DIODE 1SS254TA/1SS270TA
D606	2334305M	ZENER RD30E (B4 T2/TP/TA) SI 5MA 30.51V	D934	2339847M	ZENER HZS6C1 TA
D607	CH02001M	DIODE 1SR139-400	D935	2344041M	DIODE 1SS254TA/1SS270TA
D608	2344041M	DIODE 1SS254TA/1SS270TA	D936	2344041M	DIODE 1SS254TA/1SS270TA
D610	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V	D938	2344041M	DIODE 1SS254TA/1SS270TA
D611	2334315M	ZENER DIODE RD33E TAPE (B4)	D939	2344041M	DIODE 1SS254TA/1SS270TA
D701	CH02001M	DIODE 1SR139-400	D940	2344041M	DIODE 1SS254TA/1SS270TA
D706	2339882M	ZENER DIODE HZS-12(A2) TAPE	D941	CH02001M	DIODE 1SR139-400
⚠ D708	CH02161	DIODE FMQ-G2FLS (1500V)	D942	CH02001M	DIODE 1SR139-400
D709	2344041M	DIODE 1SS254TA/1SS270TA	D943	2344041M	DIODE 1SS254TA/1SS270TA
D711	CH00041M	DIODE ES1FV1 (1500V)	D944	2344041M	DIODE 1SS254TA/1SS270TA
D712	CH00041M	DIODE ES1FV1 (1500V)	D945	2339836M	ZENER HZS-5 B3
D713	2339802M	ZENER DIODE HZS2B2 TAPE	D946	2344041M	DIODE 1SS254TA/1SS270TA
D714	2339847M	ZENER HZS6C1 TA	D947	2339857M	ZENER HZS7C1 SI
D715	CH02001M	DIODE 1SR139-400	D948	2344041M	DIODE 1SS254TA/1SS270TA
D801	2344041M	DIODE 1SS254TA/1SS270TA	D949	2339816M	ZENER HZS3B3 TAPE
D802	2344041M	DIODE 1SS254TA/1SS270TA	D950	2344041M	DIODE 1SS254TA/1SS270TA
D803	2344041M	DIODE 1SS254TA/1SS270TA	D951	2344041M	DIODE 1SS254TA/1SS270TA
D804	2344041M	DIODE 1SS254TA/1SS270TA	D952	2339827M	ZENER HZS4C1 TA
D806	2344041M	DIODE 1SS254TA/1SS270TA	D953	2344041M	DIODE 1SS254TA/1SS270TA
D808	2344041M	DIODE 1SS254TA/1SS270TA	D954	CH02673R	LED SR3517F6T (GREEN)
D809	2344041M	DIODE 1SS254TA/1SS270TA	D955	CH02673R	LED SR3517F6T (GREEN)
D813	CH02001M	DIODE 1SR139-400	D956	CH02673R	LED SR3517F6T (GREEN)
D814	CH02001M	DIODE 1SR139-400	D957	2339887M	ZENER HZS12C1 TA
D815	CH02001M	DIODE 1SR139-400	D958	2344041M	DIODE 1SS254TA/1SS270TA
D816	CH02001M	DIODE 1SR139-400	D959	2344041M	DIODE 1SS254TA/1SS270TA
D817	2331849M	ZENER HZ12C3 (TA) (46F500A)	D960	2339841M	ZENER HZS6A1 TAPE
D817	2348212M	ZENER DIODE MTZ-J15B (46F510)	D961	2344041M	DIODE 1SS254TA/1SS270TA
D851	2344041M	DIODE 1SS254TA/1SS270TA	DA01	2331849M	ZENER HZ12C3 (TA) SI 500MW
D852	2344041M	DIODE 1SS254TA/1SS270TA	DA02	2331849M	ZENER HZ12C3 (TA) SI 500MW
D853	2344041M	DIODE 1SS254TA/1SS270TA	DA03	2344041M	DIODE 1SS254TA/1SS270TA
D854	2344041M	DIODE 1SS254TA/1SS270TA	DA04	2344041M	DIODE 1SS254TA/1SS270TA
D856	2344041M	DIODE 1SS254TA/1SS270TA	DA05	2344041M	DIODE 1SS254TA/1SS270TA
D858	2344041M	DIODE 1SS254TA/1SS270TA	DA06	2344041M	DIODE 1SS254TA/1SS270TA
D859	2344041M	DIODE 1SS254TA/1SS270TA	DA07	2344041M	DIODE 1SS254TA/1SS270TA
D860	2331849M	ZENER HZ12C3 (TA) (46F500A)	DA51	2331771M	ZENER HZ-3A1 TAPE
D860	2348212M	ZENER DIODE MTZ-J15B (46F510)	DA52	2331771M	ZENER HZ-3A1 TAPE
D863	CH02001M	DIODE 1SR139-400	DA53	2344041M	DIODE 1SS254TA/1SS270TA
D864	CH02001M	DIODE 1SR139-400	DA54	2344041M	DIODE 1SS254TA/1SS270TA
D865	CH02001M	DIODE 1SR139-400	DAA1	2344041M	DIODE 1SS254TA/1SS270TA
D866	CH02001M	DIODE 1SR139-400	DAA2	2344041M	DIODE 1SS254TA/1SS270TA
D8A1	2344041M	DIODE 1SS254TA/1SS270TA	DAA3	2337341M	DIODE 1SS270A (TP)
D8A2	2344041M	DIODE 1SS254TA/1SS270TA	DAA4	2337341M	DIODE 1SS270A (TP)
D8A3	2344041M	DIODE 1SS254TA/1SS270TA	DAA5	2337341M	DIODE 1SS270A (TP)

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
DAA6	2337341M	DIODE 1SS270A (TP)	DK35	2331815M	ZENER HZ7-B2
DE01	2344041M	DIODE 1SS254TA/1SS270TA	DK36	2331815M	ZENER HZ7-B2
DE02	2344041M	DIODE 1SS254TA/1SS270TA	DK37	2331815M	ZENER HZ7-B2
DE05	CH02001M	DIODE 1SR139-400	DK39	2344041M	DIODE 1SS254TA/1SS270TA
DE06	CH02001M	DIODE 1SR139-400	DK45	2331815M	ZENER HZ7-B2
DE07	CH02001M	DIODE 1SR139-400	DK46	2331815M	ZENER HZ7-B2
DE08	CH02001M	DIODE 1SR139-400	DK47	2331815M	ZENER HZ7-B2
DE09	2344041M	DIODE 1SS254TA/1SS270TA	DK48	2331815M	ZENER HZ7-B2
DE10	2344041M	DIODE 1SS254TA/1SS270TA	DK49	2331815M	ZENER HZ7-B2
DE51	2344041M	DIODE 1SS254TA/1SS270TA	DK50	2331815M	ZENER HZ7-B2
DE52	2344041M	DIODE 1SS254TA/1SS270TA	DK53	2331815M	ZENER HZ7-B2
DE55	CH02001M	DIODE 1SR139-400	DK54	2339551M	DIODE ED14(V1) SI 5MA 45V
DE56	CH02001M	DIODE 1SR139-400	DK55	2339551M	DIODE ED14(V1) SI 5MA 45V
DE57	CH02001M	DIODE 1SR139-400	DK61	2331815M	ZENER HZ7-B2
DE58	CH02001M	DIODE 1SR139-400	DK62	2331815M	ZENER HZ7-B2
DE59	2344041M	DIODE 1SS254TA/1SS270TA	DK63	2331815M	ZENER HZ7-B2
DE60	2344041M	DIODE 1SS254TA/1SS270TA	DK64	2331815M	ZENER HZ7-B2
DEA1	2344041M	DIODE 1SS254TA/1SS270TA	DK65	2331815M	ZENER HZ7-B2
DEA2	2344041M	DIODE 1SS254TA/1SS270TA	DK66	2331815M	ZENER HZ7-B2
DEA5	CH02001M	DIODE 1SR139-400	DK67	2331815M	ZENER HZ7-B2
DEA6	CH02001M	DIODE 1SR139-400	DK68	2331815M	ZENER HZ7-B2
DEA7	CH02001M	DIODE 1SR139-400	DK69	2331815M	ZENER HZ7-B2
DEA8	CH02001M	DIODE 1SR139-400	DK70	2331815M	ZENER HZ7-B2
DEC0	2344041M	DIODE 1SS254TA/1SS270TA	DK71	2331815M	ZENER HZ7-B2
DEC9	2344041M	DIODE 1SS254TA/1SS270TA	DK72	2331815M	ZENER HZ7-B2
DF01	2344041M	DIODE 1SS254TA/1SS270TA	DK83	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
⚠ DH01	2339834M	ZENER HZS5(B1) TAPE	DK84	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V
DH04	2339832M	ZENER HZS5A2 TA	DK90	2344041M	DIODE 1SS254TA/1SS270TA
DH05	2339882M	ZENER DIODE HZS-12(A2) TAPE	DK91	2331154M	ZENER HZ-12 (A1-3 B1-3.TA) SI 200MA 14.3V
DH06	2344041M	DIODE 1SS254TA/1SS270TA	DL01	2331815M	ZENER HZ7-B2
⚠ DH07	2359312S	DIODE RU3C LF-C4 (1000V 1.5A)	DL02	2331815M	ZENER HZ7-B2
DH08	2334243M	ZENER RD16E (B2 T2/TP/TA) SI 10MA 16.51V	DL03	2331815M	ZENER HZ7-B2
⚠ DH09	CH00041M	DIODE ES1FV1 (1500V)	DL04	2331815M	ZENER HZ7-B2
DH10	CH02001M	DIODE 1SR139-400	DL05	2331815M	ZENER HZ7-B2
DH11	CH02001M	DIODE 1SR139-400	DL06	2331815M	ZENER HZ7-B2
⚠ DH13	CH00031M	DIODE AU02V1(280V)	DL07	2331815M	ZENER HZ7-B2
DH14	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V	DL08	2331815M	ZENER HZ7-B2
⚠ DH15	2335042M	ZENER HZ-22 (2L TP) SI 200MA 400MW	DL10	2344041M	DIODE 1SS254TA/1SS270TA
DH16	2334305M	ZENER RD30E (B4 T2/TP/TA) SI 5MA 30.51V	DL11	2344041M	DIODE 1SS254TA/1SS270TA
DH17	2344041M	DIODE 1SS254TA/1SS270TA	DL12	2344041M	DIODE 1SS254TA/1SS270TA
DH18	2344041M	DIODE 1SS254TA/1SS270TA	DL13	2344041M	DIODE 1SS254TA/1SS270TA
DJ01	CC10721R	DIODE CHIP DA204K-TPTX	DL14	2344041M	DIODE 1SS254TA/1SS270TA
DJ02	CC10721R	DIODE CHIP DA204K-TPTX	DL15	2344041M	DIODE 1SS254TA/1SS270TA
DJ03	CC10721R	DIODE CHIP DA204K-TPTX	DL16	2344041M	DIODE 1SS254TA/1SS270TA
DJ04	CC10721R	DIODE CHIP DA204K-TPTX	DL17	2344041M	DIODE 1SS254TA/1SS270TA
DJ05	CC10721R	DIODE CHIP DA204K-TPTX	DL20	2331815M	ZENER HZ7-B2
DJ06	CC10721R	DIODE CHIP DA204K-TPTX	DL21	2331815M	ZENER HZ7-B2
DJ07	CC10721R	DIODE CHIP DA204K-TPTX	DL22	2331815M	ZENER HZ7-B2
DJ08	CC10721R	DIODE CHIP DA204K-TPTX	DL23	2331815M	ZENER HZ7-B2
DJ09	2344041M	DIODE 1SS254TA/1SS270TA	DL24	2331815M	ZENER HZ7-B2
DJ10	2344041M	DIODE 1SS254TA/1SS270TA	DL25	2331815M	ZENER HZ7-B2
DJ11	CC00003R	DIODE.CHIP 1SS355	DL26	2331815M	ZENER HZ7-B2
DJ12	CC00003R	DIODE.CHIP 1SS355	DL27	2331815M	ZENER HZ7-B2
DJ13	2331849M	ZENER HZ12C3 (TA) SI 500MW	DL28	2331824M	ZENER HZ9B1 TA
DJ14	2331849M	ZENER HZ12C3 (TA) SI 500MW	DL30	2331824M	ZENER HZ9B1 TA
DJ15	2331849M	ZENER HZ12C3 (TA) SI 500MW	DL31	2331824M	ZENER HZ9B1 TA
DJ16	2331849M	ZENER HZ12C3 (TA) SI 500MW	DL32	2331824M	ZENER HZ9B1 TA
DJJ1	2331849M	ZENER HZ12C3 (TA) SI 500MW	DL33	2331824M	ZENER HZ9B1 TA
DJJ2	2331849M	ZENER HZ12C3 (TA) SI 500MW	DL34	2331824M	ZENER HZ9B1 TA
DJJ3	2331849M	ZENER HZ12C3 (TA) SI 500MW	DL35	2331824M	ZENER HZ9B1 TA
DJJ4	2331849M	ZENER HZ12C3 (TA) SI 500MW	DL36	2331824M	ZENER HZ9B1 TA
DJJ5	2331849M	ZENER HZ12C3 (TA) SI 500MW	DL37	2331824M	ZENER HZ9B1 TA
DK16	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V	DM03	CH02671	LED SR3517F6 (RED)
DK17	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V	DM04	2331849M	ZENER HZ12C3 (TA) (46F500A)
DK18	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V	DM04	2348212M	ZENER DIODE MTZ-J15B (46F510)
DK19	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V	DM05	2331849M	ZENER HZ12C3 (TA) (46F500A)
DK20	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V	DM05	2348212M	ZENER DIODE MTZ-J15B (46F510)
DK21	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V	DM07	2331849M	ZENER HZ12C3 (TA) (46F500A)
DK22	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V	DM07	2348212M	ZENER DIODE MTZ-J15B (46F510)
DK23	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V	DM08	2331849M	ZENER HZ12C3 (TA) (46F500A)
DK24	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V	DM08	2348212M	ZENER DIODE MTZ-J15B (46F510)
DK25	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V	DM09	2331849M	ZENER HZ12C3 (TA) (46F500A)
DK26	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V	DM09	2348212M	ZENER DIODE MTZ-J15B (46F510)
DK27	2334324M	ZENER DIODE RD36E TAPE (B3) SI 500MW 36V	DM10	2331849M	ZENER HZ12C3 (TA) (46F500A)
DK30	2331815M	ZENER HZ7-B2	DM10	2348212M	ZENER DIODE MTZ-J15B (46F510)
DK31	2331815M	ZENER HZ7-B2	DM11	2331849M	ZENER HZ12C3 (TA) (46F500A)
DK32	2331815M	ZENER HZ7-B2	DM11	2348212M	ZENER DIODE MTZ-J15B (46F510)
DK33	2331815M	ZENER HZ7-B2	DM12	2331849M	ZENER HZ7-B2 (46F500A)
DK34	2331815M	ZENER HZ7-B2	DM12	2348212M	ZENER DIODE MTZ-J15B (46F510)

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION
DM13	2331849M	ZENER HZ12C3 (TA) (46F500A)
DM17	2483392	LIGHT EMITTING DIODE (SLR-37) (46F510)
DM18	2348212M	ZENER DIODE MTZ-J15B (46F510)
DM20	2348212M	ZENER DIODE MTZ-J15B (46F510)
DN01	2344041M	DIODE 1SS254TA/1SS270TA
DN02	2339802M	ZENER DIODE HZS2B2 TAPE
DN03	2344041M	DIODE 1SS254TA/1SS270TA
DN06	2344041M	DIODE 1SS254TA/1SS270TA
DN07	2344041M	DIODE 1SS254TA/1SS270TA
DN08	2344041M	DIODE 1SS254TA/1SS270TA
DN09	2344041M	DIODE 1SS254TA/1SS270TA
DN10	2344041M	DIODE 1SS254TA/1SS270TA
DN11	2344041M	DIODE 1SS254TA/1SS270TA
DN12	2331815M	ZENER HZ7-B2
DN13	2344041M	DIODE 1SS254TA/1SS270TA
DU01	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU02	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU03	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU04	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU05	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU06	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU07	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU08	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU09	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU10	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU11	2344041M	DIODE 1SS254TA/1SS270TA
DU12	2344041M	DIODE 1SS254TA/1SS270TA
DU13	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU14	2331809M	ZENER DIODE HZ-6 TAPE (C3) SI 500MW
DU17	2337341M	DIODE 1SS270A (TP)
DU18	2337341M	DIODE 1SS270A (TP)
DU19	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU20	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU21	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU22	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU23	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU24	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU25	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU26	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU27	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU28	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU29	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU30	2331849M	ZENER HZ12C3 (TA) SI 500MW
DU31	2331849M	ZENER HZ12C3 (TA) SI 500MW
⚠ DU91	CH00051	DIODE SD-S1WB(A)60B (600V)
DU92	2339952M	ZENER DIODE HZS27.2 TA
DU94	2338532M	DIODE EG01A (V1)
DU95	CH02011M	DIODE 1SR153-400
DU97	CH02751	FMN-G12S
DU98	CH02011M	DIODE 1SR153-400
DU99	2337951S	DIODE RU4Z(LF015-302)
DUA2	2344041M	DIODE 1SS254TA/1SS270TA
DUA4	2331844M	ZENER HZ12-B1
DUA8	2344041M	DIODE 1SS254TA/1SS270TA
DUC2	2344041M	DIODE 1SS254TA/1SS270TA
DUC3	CH02751	FMN-G12S
DUC5	2344041M	DIODE 1SS254TA/1SS270TA
DV02	2331771M	ZENER HZ-3A1 TAPE
DV03	2331771M	ZENER HZ-3A1 TAPE
DV05	2331849M	ZENER HZ12C3 (TA) SI 500MW
DV07	2331849M	ZENER HZ12C3 (TA) SI 500MW
DV15	2331849M	ZENER HZ12C3 (TA) SI 500MW
DY01	2344041M	DIODE 1SS254TA/1SS270TA
DY02	2344041M	DIODE 1SS254TA/1SS270TA
		FUSES, PROTECTORS
⚠ E901	AZ00109M	PROTECTOR CRXT491007
⚠ E902	AZ00109M	PROTECTOR CRXT491007
⚠ E903	AZ00107M	PROTECTOR CRXT491004
⚠ E904	AZ00421M	PROTECTOR 491010T52
⚠ E905	AZ00421M	PROTECTOR 491010T52
⚠ E906	AZ00101M	PROTECTOR(CRXT491.500)
⚠ E907	AZ00106M	PROTECTOR CRXT491003
⚠ EAG1	AZ00102M	PROTECTOR(CRXT491001)
EU91	AZ00104M	PROTECTOR(CRXT491002)

SYMBOL NO.	PART NO.	PART DESCRIPTION
⚠ F901	FN00378	FUSE 51MS 100 L 125V 10A
⚠ F903	FN00373	FUSE 51MS 050 L 125V 5A
⚠ FU91	FN00366	FUSE 51MS 016 L 125V 1.6A
		SPARK GAPS
⚠ G801	CJ00071R	SPARK GAP 1.5KV
⚠ G802	CJ00071R	SPARK GAP 1.5KV
⚠ G851	CJ00071R	SPARK GAP 1.5KV
⚠ G852	CJ00071R	SPARK GAP 1.5KV
⚠ G8A1	CJ00071R	SPARK GAP 1.5KV
⚠ G8A2	CJ00071R	SPARK GAP 1.5KV
⚠ GF01	CJ00072R	SPARK GAP 2.5KV
⚠ GF02	CJ00072R	SPARK GAP 2.5KV
		COMPOUND COMPONENTS
EANT	HP00772	ANTENNA SWITCH BOX
HM01	C 71 ZRVC	RECEIVER 1
HM02	C 61 ZRVC	RECEIVER 2
⚠ U301	HC00514	MAIN TUNER
⚠ U302	HC00464	PIP TUNER
U401	CS00623	FLEX CONVERTER/PIP ASSY
⚠ U901	CW00352	UPM0518SA
⚠ UFPK	AZ00722	FOCUS PACK ASSY
UKDG	CS00731	DCU ASSY
		INTEGRATED CIRCUITS
I001	CK38651U	MAIN MICROPROCESSOR IC
I002	CK37051R	ANALOG MONOLITHIC IC(BD4729G)
I003	CK35894R	IC CAT24WC32J1
I004	CK01872R	IC BU4053BCFV-E2
I008	CK01872R	IC BU4053BCFV-E2
I009	CK37216R	MONO IC TK11133CSCL
I010	CK38491R	IC MM74HCT245MTCX
I011	CK39301R	IC MM1096AF
I301	CK01872R	IC BU4053BCFV-E2
I401	CK37191R	MONO IC SI-3018LSA-TL
I402	CK37406R	MONO IC SI-3012KS
I403	CP04232	ANALOG MONOLITHIC IC BA033T
I404	CK37212R	MONO IC TK11125CSCL
I453	CK37406R	MONO IC SI-3012KS
I501	CK38711U	IC TA1360AFG(HIT)
I502	CK01872R	IC BU4053BCFV-E2
I503	CP05163F	IC SI-3090F
I504	CP04234	IC BA09T
I601	CP06891	IC TDA8174A
I701	2362606	IC NJM4558D
⚠ I901	C 865Z00	IC STR-F6629B(LF1359)
⚠ I902	CP08261U	IC H11A817B-300W
⚠ I903	CP08261U	IC H11A817B-300W
⚠ I904	2381343	IC (SE115N)
I905	CP08301	IC STA821M
I906	CP08291	IC STA811M
IA01	CK38621R	IC NJM1160M-TE1
IAA1	2004751	IC TA8200AH
⚠ IH01	CP07091	IC M62501P
IJ01	CK37193R	MONO IC SI-3033LSA-TL
IJ02	CK37051R	ANALOG MONOLITHIC IC(BD4729G)
IJ03	CK35163R	IC SII907BCQ52
IJ04	CA01301R	TRS.CHIP NDC7002N
IJ05	CK35895R	IC CAT24WC02J1
IK01	CP06081	ANALOG MONOLITHIC IC (SI-3050N)
IK02	CP05011R	IC PST994D-T
IK04	CZ01142	IC STK394-250
IK05	CZ01142	IC STK394-250
IU01	CK38731R	IC MM1623XFBE
IU02	CK38471R	IC SN74LV244ANSR
IU03	2362606	IC NJM4558D
⚠ IU91	CP08331F	IC MIP2E3DMY0LZ
⚠ IU92	CP08261U	IC H11A817B-300W
⚠ IU93	CP08351R	IC NJM2380L(T1)
IU94	CP08341F	IC SI-3010KF
IU95	CP05162F	IC SI-3050F
IU96	CP05163F	IC SI-3090F
IV01	CK30941U	IC CXA2069Q
IV02	CK07631R	DIGITAL MONOLITHIC IC (TC90A45F)
IV03	CK34811U	IC MM1519XQ
IV04	CK38101R	NJM2584M(SW 50MHz)
IV08	CK01872R	IC BU4053BCFV-E2

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION
IV11	CK31071R	IC CXA1875AM
IY01	CK38701U	IC UPD64084GC-8EA-A
IY02	CK37053R	RESET IC BD4727G
IY03	CK38721R	ANALOG MONOLITHIC IC(TA1383FG)
IY04	CK38721R	ANALOG MONOLITHIC IC(TA1383FG)
		COILS
L001	BH00697R	FILTER COIL 100UH
L002	BH00697R	FILTER COIL 100UH
L004	BH00697R	FILTER COIL 100UH
L005	BH00697R	FILTER COIL 100UH
L006	BH00697R	FILTER COIL 100UH
L008	BH00697R	FILTER COIL 100UH
L009	BH00697R	FILTER COIL 100UH
L010	BH00697R	FILTER COIL 100UH
L011	BH00697R	FILTER COIL 100UH
L015	2123781R	FILTER COIL 100UH(EL0607)
L017	BH00697R	FILTER COIL 100UH
L019	2123781R	FILTER COIL 100UH(EL0607)
L021	2123781R	FILTER COIL 100UH(EL0607)
L026	BH00697R	FILTER COIL 100UH
L027	BH00697R	FILTER COIL 100UH
L401	BH00697R	FILTER COIL 100UH
L402	2123781R	FILTER COIL 100UH(EL0607)
L403	BH00697R	FILTER COIL 100UH
L404	BH00675R	COIL 2.2UH
L405	BH00677R	COIL 3.3UH
L4A0	BM00138R	FILTER BLM11B141SPT
L501	BH00697R	FILTER COIL 100UH
L502	BH00697R	FILTER COIL 100UH
L503	BH00697R	FILTER COIL 100UH
L504	BH00697R	FILTER COIL 100UH
L507	BH00697R	FILTER COIL 100UH
L601	2125803N	FILT.COIL(LHL08 27UH)
L602	2125803N	FILT.COIL(LHL08 27UH)
L703	BH00228R	COIL 332K-1T7608A
L704	BZ05572	HORIZONTAL LINEARITY COIL 14UH
L705	BZ05571	HORIZONTAL LINEARITY COIL 9UH
L801	BH00679R	COIL 4.7UH
L803	BH00685R	COIL 12UH
L804	BH00683R	COIL 8.2UH(FLR50)
L805	BH00677R	COIL 3.3UH
L806	BH00697R	FILTER COIL 100UH
L851	BH00678R	COIL 3.9UH
L853	BH00685R	COIL 12UH
L854	BH00679R	COIL 4.7UH
L855	BH00677R	COIL 3.3UH
L856	BH00697R	FILTER COIL 100UH
L8A1	BH00678R	COIL 3.9UH
L8A3	BH00685R	COIL 12UH
L8A4	BH00685R	COIL 12UH
L8A5	BH00677R	COIL 3.3UH
L8A6	BH00697R	FILTER COIL 100UH
L8A7	BH00671R	COIL 1.0UH
⚠ L901	BZ05691	LINE FILTER 7.5MH
⚠ L903	BZ04581	LINE FILTER 4.7MH 3.5A
L904	BH01342M	COIL FERRITE BEADS 2.3UH
L905	BH01342M	COIL FERRITE BEADS 2.3UH
L906	BH01341M	COIL FERRITE BEADS 0.8UH
L907	BH01341M	COIL FERRITE BEADS 0.8UH
L908	BH01342M	COIL FERRITE BEADS 2.3UH
L909	2125797N	FILT.COIL(LHL08 10UH)
L910	2125797N	FILT.COIL(LHL08 10UH)
L911	2125811N	FILT.COIL(LHL08 100UH)
L912	2125797N	FILT.COIL(LHL08 10UH)
L913	2125811N	FILT.COIL(LHL08 100UH)
L914	BH01851	7312H TYPE COIL 100UH
L915	2125797N	FILT.COIL(LHL08 10UH)
L916	BH01734	7312N TYPE COIL 100UH 1.34A
L917	2125806N	FILT.COIL(LHL08 47UH)
L918	2125797N	FILT.COIL(LHL08 10UH)
L919	2125803N	FILT.COIL(LHL08 27UH)
L920	2125808N	FILT.COIL(LHL08 68UH)
L921	2125811N	FILT.COIL(LHL08 100UH)
L922	2125808N	FILT.COIL(LHL08 68UH)
L923	2125808N	FILT.COIL(LHL08 68UH)
L924	2125806N	FILT.COIL(LHL08 47UH)
L925	2125806N	FILT.COIL(LHL08 47UH)
⚠ L926	BZ05633	LINE FILTER 10MH
L927	2125797N	FILT.COIL(LHL08 10UH)
LA01	BH00697R	FILTER COIL 100UH
LA51	BH00697R	FILTER COIL 100UH
LAA2	BH01341M	COIL FERRITE BEADS 0.8UH
LAA3	BH01341M	COIL FERRITE BEADS 0.8UH
LE04	BH01341M	COIL FERRITE BEADS 0.8UH
LE07	BH00697R	FILTER COIL 100UH
LE54	BH01341M	COIL FERRITE BEADS 0.8UH
LE57	BH00697R	FILTER COIL 100UH
LEA4	BH01341M	COIL FERRITE BEADS 0.8UH
LEA7	BH00697R	FILTER COIL 100UH
LH01	2125817N	FILT.COIL(LHL08 330UH)
LH03	BH01342M	COIL FERRITE BEADS 2.3UH
⚠ LH06	2125824N	FILT.COIL(LHL08 1000UH)
LJ01	BH00697R	FILTER COIL 100UH
LJ02	BM00289R	FILTER BLM18BD471SN1D
LJ03	BM00289R	FILTER BLM18BD471SN1D
LJ04	BM00289R	FILTER BLM18BD471SN1D
LJ05	BM00289R	FILTER BLM18BD471SN1D
LJ06	BM00289R	FILTER BLM18BD471SN1D
LJ07	BM00289R	FILTER BLM18BD471SN1D
LJ08	BM00289R	FILTER BLM18BD471SN1D
LJ09	BM00289R	FILTER BLM18BD471SN1D
LJ10	BM00289R	FILTER BLM18BD471SN1D
LK07	BH01341M	COIL FERRITE BEADS 0.8UH
LK08	BH01341M	COIL FERRITE BEADS 0.8UH
LL01	2125811N	FILT.COIL(LHL08 100UH)
LU01	BH00697R	FILTER COIL 100UH
LU02	BH00697R	FILTER COIL 100UH
LU04	BH00697R	FILTER COIL 100UH
LU05	BH00697R	FILTER COIL 100UH
LU06	BM00481R	LXCTZJYS51R5-4PT-01
LU07	BH00697R	FILTER COIL 100UH
⚠ LU91	BZ05633	LINE FILTER 10MH
LU92	2125806N	FILT.COIL(LHL08 47UH)
LU93	2125811N	FILT.COIL(LHL08 100UH)
LU94	2125806N	FILT.COIL(LHL08 47UH)
LU95	2125811N	FILT.COIL(LHL08 100UH)
LU96	2125811N	FILT.COIL(LHL08 100UH)
LU97	2125811N	FILT.COIL(LHL08 100UH)
LV01	BH00697R	FILTER COIL 100UH
LV02	BH00697R	FILTER COIL 100UH
LV03	BH00697R	FILTER COIL 100UH
LV04	BH00697R	FILTER COIL 100UH
LV05	BH00697R	FILTER COIL 100UH
LV06	BH00697R	FILTER COIL 100UH
LV07	BH00686R	COIL 15UH
LV08	BH00697R	FILTER COIL 100UH
LV10	BH00697R	FILTER COIL 100UH
LV11	BH00697R	FILTER COIL 100UH
LV15	BH00697R	FILTER COIL 100UH
LY01	BH00691R	COIL 33UH
LY02	BH00691R	COIL 33UH
LY03	BH00697R	FILTER COIL 100UH
LY04	BH00697R	FILTER COIL 100UH
LY05	BH00697R	FILTER COIL 100UH
LY06	BH00697R	FILTER COIL 100UH
LY07	BH00679R	COIL 4.7UH
LY08	BH00697R	FILTER COIL 100UH
LY09	BH00697R	FILTER COIL 100UH
LY10	2123107M	LAL02 AXIAL COIL 22UH-K
LY11	BH00697R	FILTER COIL 100UH
LY12	BH00697R	FILTER COIL 100UH
LY13	BH00697R	FILTER COIL 100UH
LY14	BH00697R	FILTER COIL 100UH
		TRANSISTORS
Q001	CA01271R	TRS.CHIP 2SC5343S
Q002	CA01271R	TRS.CHIP 2SC5343S
Q003	CA01271R	TRS.CHIP 2SC5343S
Q004	CA01271R	TRS.CHIP 2SC5343S

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
Q005	CA01271R	TRS.CHIP 2SC5343S	Q543	CA01261R	TRS.CHIP 2SA1980S
Q006	CA01271R	TRS.CHIP 2SC5343S	Q544	CF02771R	TRS. KTA1270
Q007	CA01271R	TRS.CHIP 2SC5343S	Q545	CA01271R	TRS.CHIP 2SC5343S
Q008	CA01271R	TRS.CHIP 2SC5343S	Q546	CA01261R	TRS.CHIP 2SA1980S
Q009	CA01261R	TRS.CHIP 2SA1980S	Q547	CA01261R	TRS.CHIP 2SA1980S
Q010	CA01261R	TRS.CHIP 2SA1980S	Q548	CF02771R	TRS. KTA1270
Q011	CA01271R	TRS.CHIP 2SC5343S	Q554	CA01271R	TRS.CHIP 2SC5343S
Q012	CA01261R	TRS.CHIP 2SA1980S	Q603	2320591M	TRS. 2SC458 (B TZ/C TZ) SI 230MHZ200MW
Q013	CA01271R	TRS.CHIP 2SC5343S	Q604	CF02771R	TRS. KTA1270
Q014	CA01261R	TRS.CHIP 2SA1980S	Q701	2328102	TRS.FN-521
Q015	CA01271R	TRS.CHIP 2SC5343S	Q703	2324321M	TRANSISTOR 2SC2610-05
Q016	CA01261R	TRS.CHIP 2SA1980S	Q706	CF01421R	TRS. KTC3198 (GR) TAPE
Q017	CA01271R	TRS.CHIP 2SC5343S	Q709	2326216	TRS. 2SC3116 (S/T)
Q023	CA01271R	TRS.CHIP 2SC5343S	Q710	CF01421R	TRS. KTC3198 (GR) TAPE
Q025	CA01271R	TRS.CHIP 2SC5343S	⚠ Q777	CF02811F	TRS. 2SC5909000LT
Q026	CA01271R	TRS.CHIP 2SC5343S	Q801	2327471F	TRS.2SC3950 (HIT D/E)
Q027	CA01271R	TRS.CHIP 2SC5343S	Q802	CF01421R	TRS. KTC3198 (GR) TAPE
Q028	CA01271R	TRS.CHIP 2SC5343S	Q803	2312372F	TRS-2SC3942
Q033	CA01271R	TRS.CHIP 2SC5343S	Q804	2312773F	TRS-2SA1546(2)M/L
Q035	CA01261R	TRS.CHIP 2SA1980S	Q805	2312372F	TRS-2SC3942
Q036	CA01271R	TRS.CHIP 2SC5343S	Q806	2320637M	TRS. 2SA673 (C 26TZ/D 26TZ) SI 80MHZ 400MW
Q037	CA01271R	TRS.CHIP 2SC5343S	Q812	2312372F	TRS-2SC3942
Q038	CA01271R	TRS.CHIP 2SC5343S	Q851	2327471F	TRS.2SC3950 (HIT D/E)
Q039	CA01271R	TRS.CHIP 2SC5343S	Q852	CF01421R	TRS. KTC3198 (GR) TAPE
Q040	CA01271R	TRS.CHIP 2SC5343S	Q853	2312372F	TRS-2SC3942
Q041	CA01261R	TRS.CHIP 2SA1980S	Q854	2312773F	TRS-2SA1546(2)M/L
Q042	CA01271R	TRS.CHIP 2SC5343S	Q855	2312372F	TRS-2SC3942
Q044	CA01271R	TRS.CHIP 2SC5343S	Q856	CF01421R	TRS. KTC3198 (GR) TAPE
Q050	CA01271R	TRS.CHIP 2SC5343S	Q862	2312372F	TRS-2SC3942
Q053	CA01271R	TRS.CHIP 2SC5343S	Q8A1	2327471F	TRS.2SC3950 (HIT D/E)
Q054	CA01271R	TRS.CHIP 2SC5343S	Q8A2	CF01421R	TRS. KTC3198 (GR) TAPE
Q401	CA01271R	TRS.CHIP 2SC5343S	Q8A3	2312372F	TRS-2SC3942
Q402	CA01271R	TRS.CHIP 2SC5343S	Q8A4	2312773F	TRS-2SA1546(2)M/L
Q403	CA01271R	TRS.CHIP 2SC5343S	Q8A5	2312372F	TRS-2SC3942
Q404	CA01261R	TRS.CHIP 2SA1980S	Q8A6	CF02771R	TRS. KTA1270
Q501	CA01271R	TRS.CHIP 2SC5343S	Q8A7	CF01421R	TRS. KTC3198 (GR) TAPE
Q502	CA01261R	TRS.CHIP 2SA1980S	Q8A8	CF01421R	TRS. KTC3198 (GR) TAPE
Q503	CA01271R	TRS.CHIP 2SC5343S	Q8C2	2312372F	TRS-2SC3942
Q504	CA01261R	TRS.CHIP 2SA1980S	Q901	CF01421R	TRS. KTC3198 (GR) TAPE
Q505	CA01271R	TRS.CHIP 2SC5343S	Q902	CF01421R	TRS. KTC3198 (GR) TAPE
Q506	CA01271R	TRS.CHIP 2SC5343S	Q903	CF02771R	TRS. KTA1270
Q507	CA01271R	TRS.CHIP 2SC5343S	⚠ Q904	CF01421R	TRS. KTC3198 (GR) TAPE
Q508	CA01261R	TRS.CHIP 2SA1980S	Q905	CF02281R	TRS. 2SA821S
Q509	CA01261R	TRS.CHIP 2SA1980S	Q906	CF02771R	TRS. KTA1270
Q510	CA01261R	TRS.CHIP 2SA1980S	QA01	CA00461R	TRS.CHIP 2SD2114K 20V TAPE
Q511	CA01271R	TRS.CHIP 2SC5343S	QA02	CA00461R	TRS.CHIP 2SD2114K 20V TAPE
Q512	CA01271R	TRS.CHIP 2SC5343S	QA51	CA01271R	TRS.CHIP 2SC5343S
Q513	CA01261R	TRS.CHIP 2SA1980S	QA52	CA01261R	TRS.CHIP 2SA1980S
Q514	CA01271R	TRS.CHIP 2SC5343S	QA53	CA01271R	TRS.CHIP 2SC5343S
Q515	CA01261R	TRS.CHIP 2SA1980S	QA54	CA01271R	TRS.CHIP 2SC5343S
Q516	CA01261R	TRS.CHIP 2SA1980S	QA55	CA01261R	TRS.CHIP 2SA1980S
Q517	CA01261R	TRS.CHIP 2SA1980S	QA56	CA01271R	TRS.CHIP 2SC5343S
Q518	CA01271R	TRS.CHIP 2SC5343S	QAA1	CF01421R	TRS. KTC3198 (GR) TAPE
Q519	CA01261R	TRS.CHIP 2SA1980S	QAA2	CF01421R	TRS. KTC3198 (GR) TAPE
Q520	CA01261R	TRS.CHIP 2SA1980S	QE01	CF01421R	TRS. KTC3198 (GR) TAPE
Q521	CA01261R	TRS.CHIP 2SA1980S	QE02	CF01421R	TRS. KTC3198 (GR) TAPE
Q522	CA01271R	TRS.CHIP 2SC5343S	QE03	CF02771R	TRS. KTA1270
Q523	CA01271R	TRS.CHIP 2SC5343S	QE06	2315381	TRS. 2SA1837
Q525	CA01261R	TRS.CHIP 2SA1980S	QE07	2315391	TRS. 2SC4793
Q526	CA01271R	TRS.CHIP 2SC5343S	QE08	2326821R	TRANSISTOR 2SA1371 (E/F)
Q527	CA01271R	TRS.CHIP 2SC5343S	QE51	CF01421R	TRS. KTC3198 (GR) TAPE
Q528	CA01261R	TRS.CHIP 2SA1980S	QE52	CF01421R	TRS. KTC3198 (GR) TAPE
Q529	CA01271R	TRS.CHIP 2SC5343S	QE53	CF02771R	TRS. KTA1270
Q531	CA01271R	TRS.CHIP 2SC5343S	QE56	2315381	TRS. 2SA1837
Q532	CA01271R	TRS.CHIP 2SC5343S	QE57	2315391	TRS. 2SC4793
Q533	CA01271R	TRS.CHIP 2SC5343S	QEA1	CF01421R	TRS. KTC3198 (GR) TAPE
Q534	CA01271R	TRS.CHIP 2SC5343S	QEA2	CF01421R	TRS. KTC3198 (GR) TAPE
Q535	CA01261R	TRS.CHIP 2SA1980S	QEA3	CF02771R	TRS. KTA1270
Q536	CF02771R	TRS. KTA1270	QEA6	2315381	TRS. 2SA1837
Q537	CA01271R	TRS.CHIP 2SC5343S	QEA7	2315391	TRS. 2SC4793
Q538	CA01261R	TRS.CHIP 2SA1980S	QEA8	2326821R	TRANSISTOR 2SA1371 (E/F)
Q539	CA01261R	TRS.CHIP 2SA1980S	QF01	CF00821F	TRS. 2SC4686A 1200V
Q540	CF02771R	TRS. KTA1270	⚠ QH01	CF01583F	TRS.2SK2771-01R-F168R
Q541	CA01271R	TRS.CHIP 2SC5343S	QH02	CF02781R	TRS. KTC200YAT
Q542	CA01261R	TRS.CHIP 2SA1980S	QH04	2326811R	TRANSISTOR 2SC3468 (E/F)

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
QH05	2326811R	TRANSISTOR 2SC3468 (E/F)	QV32	CA01271R	TRS.CHIP 2SC5343S
QJ01	CA01261R	TRS.CHIP 2SA1980S	QV33	CA01261R	TRS.CHIP 2SA1980S
QJ02	CA01261R	TRS.CHIP 2SA1980S	QV34	CA01261R	TRS.CHIP 2SA1980S
QJ03	CA01261R	TRS.CHIP 2SA1980S	QV35	CA01261R	TRS.CHIP 2SA1980S
QJ04	CA01271R	TRS.CHIP 2SC5343S	QV36	CA01261R	TRS.CHIP 2SA1980S
QJ05	CA01271R	TRS.CHIP 2SC5343S	QV37	CA01261R	TRS.CHIP 2SA1980S
QK01	2312171	TRS. 2SC3852	QV38	CA01261R	TRS.CHIP 2SA1980S
QK02	CF02771R	TRS. KTA1270	QV42	CA01271R	TRS.CHIP 2SC5343S
QK03	CF02771R	TRS. KTA1270	QXA0	CA01271R	TRS.CHIP 2SC5343S
QK05	CF01421R	TRS. KTC3198 (GR) TAPE	QXA1	CA01271R	TRS.CHIP 2SC5343S
QK06	CF01421R	TRS. KTC3198 (GR) TAPE	QY01	CA01271R	TRS.CHIP 2SC5343S
QK07	CF01421R	TRS. KTC3198 (GR) TAPE	QY02	CA01261R	TRS.CHIP 2SA1980S
QK08	CF01421R	TRS. KTC3198 (GR) TAPE	QY03	CA01271R	TRS.CHIP 2SC5343S
QL10	CF02771R	TRS. KTA1270	QY04	CA01261R	TRS.CHIP 2SA1980S
QL11	CF02771R	TRS. KTA1270	QY05	CA01261R	TRS.CHIP 2SA1980S
QL12	CF02771R	TRS. KTA1270	QY06	CA01271R	TRS.CHIP 2SC5343S
QL13	CF02771R	TRS. KTA1270	QY07	CA01261R	TRS.CHIP 2SA1980S
QL14	CF02771R	TRS. KTA1270	QY08	CA01271R	TRS.CHIP 2SC5343S
QL15	CF02771R	TRS. KTA1270	QY09	CA01261R	TRS.CHIP 2SA1980S
QL16	CF02771R	TRS. KTA1270	QY10	CA01271R	TRS.CHIP 2SC5343S
QL17	CF02771R	TRS. KTA1270	QY11	CA01261R	TRS.CHIP 2SA1980S
QM01	CF01421R	TRS. KTC3198 (GR) TAPE	QY12	CA01271R	TRS.CHIP 2SC5343S
QM03	CF01421R	TRS. KTC3198 (GR) TAPE	QY13	CA01261R	TRS.CHIP 2SA1980S
QM04	CF01421R	TRS. KTC3198 (GR) TAPE	QY14	CA01271R	TRS.CHIP 2SC5343S
QM05	CF01421R	TRS. KTC3198 (GR) TAPE	QY15	CA01261R	TRS.CHIP 2SA1980S
QM06	CF01421R	TRS. KTC3198 (GR) TAPE (46F500A)	QY16	CA01271R	TRS.CHIP 2SC5343S
QM07	CF01421R	TRS. KTC3198 (GR) TAPE (46F500A)	QY17	CA01271R	TRS.CHIP 2SC5343S
QN01	CF01421R	TRS. KTC3198 (GR) TAPE	QY18	CA01271R	TRS.CHIP 2SC5343S
QN02	CF02771R	TRS. KTA1270	QY19	CA01271R	TRS.CHIP 2SC5343S
QN03	CF01421R	TRS. KTC3198 (GR) TAPE	QY20	CA01261R	TRS.CHIP 2SA1980S
QN04	CF01421R	TRS. KTC3198 (GR) TAPE	QY21	CA01261R	TRS.CHIP 2SA1980S
QN05	CF01421R	TRS. KTC3198 (GR) TAPE	QY22	CA01261R	TRS.CHIP 2SA1980S
QN06	CF01421R	TRS. KTC3198 (GR) TAPE	QY23	CA01261R	TRS.CHIP 2SA1980S
QU01	CF02771R	TRS. KTA1270	QY24	CA01261R	TRS.CHIP 2SA1980S
QU02	CF01421R	TRS. KTC3198 (GR) TAPE	QY25	CA01271R	TRS.CHIP 2SC5343S
QU03	CF02771R	TRS. KTA1270	QY26	CA01271R	TRS.CHIP 2SC5343S
QU04	CF01421R	TRS. KTC3198 (GR) TAPE	QY28	CA01261R	TRS.CHIP 2SA1980S
QU05	CF01421R	TRS. KTC3198 (GR) TAPE	QY29	CA01261R	TRS.CHIP 2SA1980S
QU06	CF01421R	TRS. KTC3198 (GR) TAPE	QY30	CA01261R	TRS.CHIP 2SA1980S
QU07	CF01421R	TRS. KTC3198 (GR) TAPE	QY31	CA01271R	TRS.CHIP 2SC5343S
QU91	CF02771R	TRS. KTA1270	QY32	CA01271R	TRS.CHIP 2SC5343S
⚠ QU92	CF01421R	TRS. KTC3198 (GR) TAPE			
QU93	CF02771R	TRS. KTA1270			**RESISTORS**
QU94	CF01421R	TRS. KTC3198 (GR) TAPE	R001	0790037R	RES.CHIP 1/16W 1.0K OHM
QV01	CA01271R	TRS.CHIP 2SC5343S	R002	0790059R	RES.CHIP 1/16W 47K OHM
QV02	CA01261R	TRS.CHIP 2SA1980S	R003	0790059R	RES.CHIP 1/16W 47K OHM
QV03	CA01271R	TRS.CHIP 2SC5343S	R004	0790037R	RES.CHIP 1/16W 1.0K OHM
QV04	CA01271R	TRS.CHIP 2SC5343S	R006	0790024R	RES.CHIP 1/16W 100 OHM
QV05	CA01261R	TRS.CHIP 2SA1980S	R007	0790024R	RES.CHIP 1/16W 100 OHM
QV06	CA01261R	TRS.CHIP 2SA1980S	R008	0790037R	RES.CHIP 1/16W 1.0K OHM
QV07	CA01271R	TRS.CHIP 2SC5343S	R009	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
QV08	CA01271R	TRS.CHIP 2SC5343S	R010	0790051R	RES.CHIP 1/16W 10K OHM
QV09	CA01271R	TRS.CHIP 2SC5343S	R011	0790024R	RES.CHIP 1/16W 100 OHM
QV10	CF02781R	TRS. KTC200YAT	R012	0790051R	RES.CHIP 1/16W 10K OHM
QV11	CF02781R	TRS. KTC200YAT	R013	0790024R	RES.CHIP 1/16W 100 OHM
QV12	CF02781R	TRS. KTC200YAT	R016	0790055R	RES.CHIP 1/16W 22K OHM
QV13	CA01271R	TRS.CHIP 2SC5343S	R017	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
QV14	CA01271R	TRS.CHIP 2SC5343S	R019	0790037R	RES.CHIP 1/16W 1.0K OHM
QV15	CA01261R	TRS.CHIP 2SA1980S	R020	0790042R	RES.CHIP 1/16W 2.2K OHM
QV16	CA01271R	TRS.CHIP 2SC5343S	R021	0790024R	RES.CHIP 1/16W 100 OHM
QV17	CA01261R	TRS.CHIP 2SA1980S	R022	0790024R	RES.CHIP 1/16W 100 OHM
QV18	CA01271R	TRS.CHIP 2SC5343S	R023	0790024R	RES.CHIP 1/16W 100 OHM
QV19	CA01271R	TRS.CHIP 2SC5343S	R024	0790024R	RES.CHIP 1/16W 100 OHM
QV20	CA01261R	TRS.CHIP 2SA1980S	R026	0790037R	RES.CHIP 1/16W 1.0K OHM
QV21	CA01271R	TRS.CHIP 2SC5343S	R028	0790024R	RES.CHIP 1/16W 100 OHM
QV22	CA01261R	TRS.CHIP 2SA1980S	R030	0790051R	RES.CHIP 1/16W 10K OHM
QV23	CA01271R	TRS.CHIP 2SC5343S	R032	0790051R	RES.CHIP 1/16W 10K OHM
QV24	CA01261R	TRS.CHIP 2SA1980S	R033	0790051R	RES.CHIP 1/16W 10K OHM
QV25	CA01271R	TRS.CHIP 2SC5343S	R034	0790051R	RES.CHIP 1/16W 10K OHM
QV26	CA01271R	TRS.CHIP 2SC5343S	R035	0790051R	RES.CHIP 1/16W 10K OHM
QV27	CA01261R	TRS.CHIP 2SA1980S	R036	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
QV28	CA01271R	TRS.CHIP 2SC5343S	R038	0790024R	RES.CHIP 1/16W 100 OHM
QV29	CA01271R	TRS.CHIP 2SC5343S	R039	0790024R	RES.CHIP 1/16W 100 OHM
QV30	CA01271R	TRS.CHIP 2SC5343S	R041	0790024R	RES.CHIP 1/16W 100 OHM
QV31	CA01261R	TRS.CHIP 2SA1980S	R042	0790024R	RES.CHIP 1/16W 100 OHM

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R043	0790024R	RES.CHIP 1/16W 100 OHM	R125	0790047R	RES.CHIP 1/16W 5.6K OHM
R044	0790024R	RES.CHIP 1/16W 100 OHM	R128	0790037R	RES.CHIP 1/16W 1.0K OHM
R045	0790024R	RES.CHIP 1/16W 100 OHM	R129	0790037R	RES.CHIP 1/16W 1.0K OHM
R046	0790033R	RES.CHIP 1/16W 470 OHM	R131	0790038R	RES.CHIP 1/16W 1.2K OHM
R047	0790033R	RES.CHIP 1/16W 470 OHM	R132	0790037R	RES.CHIP 1/16W 1.0K OHM
R048	0790033R	RES.CHIP 1/16W 470 OHM	R133	0790033R	RES.CHIP 1/16W 470 OHM
R049	0790024R	RES.CHIP 1/16W 100 OHM	R134	0790077R	RES.CHIP 1/16W 1.0M OHM
R050	0790024R	RES.CHIP 1/16W 100 OHM	R135	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R051	0790037R	RES.CHIP 1/16W 1.0K OHM	R136	0790033R	RES.CHIP 1/16W 470 OHM
R053	0790051R	RES.CHIP 1/16W 10K OHM	R137	0790077R	RES.CHIP 1/16W 1.0M OHM
R055	0790042R	RES.CHIP 1/16W 2.2K OHM	R138	0790024R	RES.CHIP 1/16W 100 OHM
R056	0790042R	RES.CHIP 1/16W 2.2K OHM	R139	0790046R	RES.CHIP 1/16W 4.7K OHM
R057	0790051R	RES.CHIP 1/16W 10K OHM	R140	0790046R	RES.CHIP 1/16W 4.7K OHM
R058	0790024R	RES.CHIP 1/16W 100 OHM	R141	0790051R	RES.CHIP 1/16W 10K OHM
R059	0790024R	RES.CHIP 1/16W 100 OHM	R142	0790064R	RES.CHIP 1/16W 100K OHM
R060	0790037R	RES.CHIP 1/16W 1.0K OHM	R143	0790028R	RES.CHIP 1/16W 220 OHM
R061	0790037R	RES.CHIP 1/16W 1.0K OHM	R144	0790064R	RES.CHIP 1/16W 100K OHM
R062	0790059R	RES.CHIP 1/16W 47K OHM	R146	0790037R	RES.CHIP 1/16W 1.0K OHM
R063	0790059R	RES.CHIP 1/16W 47K OHM	R151	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R064	0790037R	RES.CHIP 1/16W 1.0K OHM	R152	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R065	0790037R	RES.CHIP 1/16W 1.0K OHM	R154	0790059R	RES.CHIP 1/16W 47K OHM
R066	0790037R	RES.CHIP 1/16W 1.0K OHM	R155	0790051R	RES.CHIP 1/16W 10K OHM
R067	0790037R	RES.CHIP 1/16W 1.0K OHM	R156	0790059R	RES.CHIP 1/16W 47K OHM
R069	0790037R	RES.CHIP 1/16W 1.0K OHM	R157	0790051R	RES.CHIP 1/16W 10K OHM
R070	0790059R	RES.CHIP 1/16W 47K OHM	R158	0790059R	RES.CHIP 1/16W 47K OHM
R071	0790051R	RES.CHIP 1/16W 10K OHM	R159	0790051R	RES.CHIP 1/16W 10K OHM
R072	0790034R	RES.CHIP 1/16W 560 OHM	R160	0790024R	RES.CHIP 1/16W 100 OHM
R073	0790024R	RES.CHIP 1/16W 100 OHM	R165	0790024R	RES.CHIP 1/16W 100 OHM
R074	0790024R	RES.CHIP 1/16W 100 OHM	R166	0790024R	RES.CHIP 1/16W 100 OHM
R075	0790024R	RES.CHIP 1/16W 100 OHM	R168	0790024R	RES.CHIP 1/16W 100 OHM
R076	0790024R	RES.CHIP 1/16W 100 OHM	R170	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R077	0790024R	RES.CHIP 1/16W 100 OHM	R171	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R079	0790037R	RES.CHIP 1/16W 1.0K OHM	R174	0790024R	RES.CHIP 1/16W 100 OHM
R080	0790047R	RES.CHIP 1/16W 5.6K OHM	R175	0790024R	RES.CHIP 1/16W 100 OHM
R081	0790037R	RES.CHIP 1/16W 1.0K OHM	R176	0790059R	RES.CHIP 1/16W 47K OHM
R083	0790028R	RES.CHIP 1/16W 220 OHM	R177	0790059R	RES.CHIP 1/16W 47K OHM
R085	0790028R	RES.CHIP 1/16W 220 OHM	R178	0790058R	RES.CHIP 1/16W 39K OHM
R086	0790024R	RES.CHIP 1/16W 100 OHM	R179	0790046R	RES.CHIP 1/16W 4.7K OHM
R087	0790024R	RES.CHIP 1/16W 100 OHM	R180	0790024R	RES.CHIP 1/16W 100 OHM
R088	0790024R	RES.CHIP 1/16W 100 OHM	R181	0790044R	RES.CHIP 1/16W 3.3K OHM
R090	0790037R	RES.CHIP 1/16W 1.0K OHM	R182	0790047R	RES.CHIP 1/16W 5.6K OHM
R091	0790037R	RES.CHIP 1/16W 1.0K OHM	R183	0790059R	RES.CHIP 1/16W 47K OHM
R092	0790037R	RES.CHIP 1/16W 1.0K OHM	R184	0790051R	RES.CHIP 1/16W 10K OHM
R093	0790037R	RES.CHIP 1/16W 1.0K OHM	R185	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R094	0790051R	RES.CHIP 1/16W 10K OHM	R186	0790051R	RES.CHIP 1/16W 10K OHM
R095	0790051R	RES.CHIP 1/16W 10K OHM	R187	0790057R	RES.CHIP 1/16W 33K OHM
R096	0790037R	RES.CHIP 1/16W 1.0K OHM	R188	0790037R	RES.CHIP 1/16W 1.0K OHM
R097	0790037R	RES.CHIP 1/16W 1.0K OHM	R189	0790044R	RES.CHIP 1/16W 3.3K OHM
R098	0790024R	RES.CHIP 1/16W 100 OHM	R190	0790024R	RES.CHIP 1/16W 100 OHM
R099	0790037R	RES.CHIP 1/16W 1.0K OHM	R191	0790059R	RES.CHIP 1/16W 47K OHM
R0C1	0790037R	RES.CHIP 1/16W 1.0K OHM	R192	0790059R	RES.CHIP 1/16W 47K OHM
R0C2	0790051R	RES.CHIP 1/16W 10K OHM	R193	0790058R	RES.CHIP 1/16W 39K OHM
R0C3	0790051R	RES.CHIP 1/16W 10K OHM	R194	0790046R	RES.CHIP 1/16W 4.7K OHM
R0C4	0790051R	RES.CHIP 1/16W 10K OHM	R195	0790024R	RES.CHIP 1/16W 100 OHM
R0C5	0790051R	RES.CHIP 1/16W 10K OHM	R196	0790059R	RES.CHIP 1/16W 47K OHM
R0C6	0790037R	RES.CHIP 1/16W 1.0K OHM	R197	0790059R	RES.CHIP 1/16W 47K OHM
R0C7	0790051R	RES.CHIP 1/16W 10K OHM	R198	0790046R	RES.CHIP 1/16W 4.7K OHM
R0C8	0790051R	RES.CHIP 1/16W 10K OHM	R199	0790024R	RES.CHIP 1/16W 100 OHM
R0C9	0790037R	RES.CHIP 1/16W 1.0K OHM	R200	0790024R	RES.CHIP 1/16W 100 OHM
R100	0790037R	RES.CHIP 1/16W 1.0K OHM	R201	0790024R	RES.CHIP 1/16W 100 OHM
R101	0790051R	RES.CHIP 1/16W 10K OHM	R202	0790051R	RES.CHIP 1/16W 10K OHM
R108	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R203	0790059R	RES.CHIP 1/16W 47K OHM
R111	0790037R	RES.CHIP 1/16W 1.0K OHM	R204	0790051R	RES.CHIP 1/16W 10K OHM
R112	0790059R	RES.CHIP 1/16W 47K OHM	R205	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R113	0790028R	RES.CHIP 1/16W 220 OHM	R206	0790024R	RES.CHIP 1/16W 100 OHM
R115	0790024R	RES.CHIP 1/16W 100 OHM	R207	0790024R	RES.CHIP 1/16W 100 OHM
R116	0790024R	RES.CHIP 1/16W 100 OHM	R208	0790042R	RES.CHIP 1/16W 2.2K OHM
R117	0790037R	RES.CHIP 1/16W 1.0K OHM	R209	0790042R	RES.CHIP 1/16W 2.2K OHM
R118	0790037R	RES.CHIP 1/16W 1.0K OHM	R210	0790042R	RES.CHIP 1/16W 2.2K OHM
R119	0790037R	RES.CHIP 1/16W 1.0K OHM	R211	0790037R	RES.CHIP 1/16W 1.0K OHM
R120	0790037R	RES.CHIP 1/16W 1.0K OHM	R224	0790037R	RES.CHIP 1/16W 1.0K OHM
R121	0790037R	RES.CHIP 1/16W 1.0K OHM	R225	0790037R	RES.CHIP 1/16W 1.0K OHM
R122	0790037R	RES.CHIP 1/16W 1.0K OHM	R226	0790037R	RES.CHIP 1/16W 1.0K OHM
R123	0790051R	RES.CHIP 1/16W 10K OHM	R227	0790037R	RES.CHIP 1/16W 1.0K OHM
R124	0790051R	RES.CHIP 1/16W 10K OHM	R228	0790037R	RES.CHIP 1/16W 1.0K OHM

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R229	0790037R	RES.CHIP 1/16W 1.0K OHM	R370	0790051R	RES.CHIP 1/16W 10K OHM
R234	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R371	0790024R	RES.CHIP 1/16W 100 OHM
R235	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R372	0790024R	RES.CHIP 1/16W 100 OHM
R236	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R373	0790059R	RES.CHIP 1/16W 47K OHM
R237	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R380	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R239	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R381	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R244	0790024R	RES.CHIP 1/16W 100 OHM	R383	0790037R	RES.CHIP 1/16W 1.0K OHM
R246	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R384	0790061R	RES.CHIP 1/16W 56K OHM
R247	0790042R	RES.CHIP 1/16W 2.2K OHM	R386	0790045R	RES.CHIP 1/16W 3.9K OHM
R248	0790024R	RES.CHIP 1/16W 100 OHM	R390	0790051R	RES.CHIP 1/16W 10K OHM
R250	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R391	0790037R	RES.CHIP 1/16W 1.0K OHM
R251	0790042R	RES.CHIP 1/16W 2.2K OHM	R392	0790042R	RES.CHIP 1/16W 2.2K OHM
R279	0790037R	RES.CHIP 1/16W 1.0K OHM	R394	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R292	0790037R	RES.CHIP 1/16W 1.0K OHM	R395	0790028R	RES.CHIP 1/16W 220 OHM
R293	0790064R	RES.CHIP 1/16W 100K OHM	R396	0790028R	RES.CHIP 1/16W 220 OHM
R294	0790047R	RES.CHIP 1/16W 5.6K OHM	R398	0790037R	RES.CHIP 1/16W 1.0K OHM
R295	0790069R	RES.CHIP 1/16W 270K OHM	R399	0790037R	RES.CHIP 1/16W 1.0K OHM
R299	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R3A5	0790037R	RES.CHIP 1/16W 1.0K OHM
R300	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R3A6	0790037R	RES.CHIP 1/16W 1.0K OHM
R301	0790052R	RES.CHIP 1/16W 12K OHM	R3A7	0790037R	RES.CHIP 1/16W 1.0K OHM
R302	0790047R	RES.CHIP 1/16W 5.6K OHM	R3A8	0790037R	RES.CHIP 1/16W 1.0K OHM
R303	0790064R	RES.CHIP 1/16W 100K OHM	R3A9	0790037R	RES.CHIP 1/16W 1.0K OHM
R304	0790052R	RES.CHIP 1/16W 12K OHM	R3C0	0790051R	RES.CHIP 1/16W 10K OHM
R305	0790047R	RES.CHIP 1/16W 5.6K OHM	R3C1	0790051R	RES.CHIP 1/16W 10K OHM
R306	0790052R	RES.CHIP 1/16W 12K OHM	R3C2	0790051R	RES.CHIP 1/16W 10K OHM
R307	0790047R	RES.CHIP 1/16W 5.6K OHM	R3C3	0790051R	RES.CHIP 1/16W 10K OHM
R308	0790059R	RES.CHIP 1/16W 47K OHM	R3C4	0790059R	RES.CHIP 1/16W 47K OHM
R309	0790051R	RES.CHIP 1/16W 10K OHM	R3C5	0790059R	RES.CHIP 1/16W 47K OHM
R310	0790039R	RES.CHIP 1/16W 1.5K OHM	R3C6	0790051R	RES.CHIP 1/16W 10K OHM
R311	0790059R	RES.CHIP 1/16W 47K OHM	R3C7	0790051R	RES.CHIP 1/16W 10K OHM
R312	0790051R	RES.CHIP 1/16W 10K OHM	R3C8	0790051R	RES.CHIP 1/16W 10K OHM
R313	0790037R	RES.CHIP 1/16W 1.0K OHM	R3C9	0790051R	RES.CHIP 1/16W 10K OHM
R314	0790051R	RES.CHIP 1/16W 10K OHM	R3E0	0790055R	RES.CHIP 1/16W 22K OHM
R320	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R3E1	0790055R	RES.CHIP 1/16W 22K OHM
R325	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R3E4	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R326	0790024R	RES.CHIP 1/16W 100 OHM	R3E5	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R327	0790024R	RES.CHIP 1/16W 100 OHM	R3E7	0790037R	RES.CHIP 1/16W 1.0K OHM
R328	0790024R	RES.CHIP 1/16W 100 OHM	R3F0	0790051R	RES.CHIP 1/16W 10K OHM
R329	0790024R	RES.CHIP 1/16W 100 OHM	R3F1	0790037R	RES.CHIP 1/16W 1.0K OHM
R330	0790024R	RES.CHIP 1/16W 100 OHM	R3F2	0790042R	RES.CHIP 1/16W 2.2K OHM
R331	0790024R	RES.CHIP 1/16W 100 OHM	R3F8	0790028R	RES.CHIP 1/16W 220 OHM
R332	0790024R	RES.CHIP 1/16W 100 OHM	R3F9	0790028R	RES.CHIP 1/16W 220 OHM
R333	0790024R	RES.CHIP 1/16W 100 OHM	R3H0	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R334	0790024R	RES.CHIP 1/16W 100 OHM	R3H1	0790037R	RES.CHIP 1/16W 1.0K OHM
R335	0790037R	RES.CHIP 1/16W 1.0K OHM	R3H2	0790037R	RES.CHIP 1/16W 1.0K OHM
R336	0790037R	RES.CHIP 1/16W 1.0K OHM	R3H3	0790024R	RES.CHIP 1/16W 100 OHM
R337	0790024R	RES.CHIP 1/16W 100 OHM	R3H4	0790051R	RES.CHIP 1/16W 10K OHM
R338	0790024R	RES.CHIP 1/16W 100 OHM	R3H5	0790059R	RES.CHIP 1/16W 47K OHM
R339	0790037R	RES.CHIP 1/16W 1.0K OHM	R3H6	0790055R	RES.CHIP 1/16W 22K OHM
R340	0790037R	RES.CHIP 1/16W 1.0K OHM	R3H7	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R341	0790037R	RES.CHIP 1/16W 1.0K OHM	R3H8	0790058R	RES.CHIP 1/16W 39K OHM
R344	0790037R	RES.CHIP 1/16W 1.0K OHM	R3H9	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R345	0790037R	RES.CHIP 1/16W 1.0K OHM	R3J0	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R346	0790037R	RES.CHIP 1/16W 1.0K OHM	R3J1	0195250R	RES 2125 CHIP JAMPER WIRE
R347	0790037R	RES.CHIP 1/16W 1.0K OHM	R3K1	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R348	0790037R	RES.CHIP 1/16W 1.0K OHM	R3K2	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R349	0790037R	RES.CHIP 1/16W 1.0K OHM	R3L5	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R350	0790037R	RES.CHIP 1/16W 1.0K OHM	R3L6	0790037R	RES.CHIP 1/16W 1.0K OHM
R351	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R3M1	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R352	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R3N0	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R353	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R3N1	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R354	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R3N7	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R355	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R3P1	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R356	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R3P2	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R359	0790024R	RES.CHIP 1/16W 100 OHM	R3P4	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R360	0790024R	RES.CHIP 1/16W 100 OHM	R3Q4	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R361	0790024R	RES.CHIP 1/16W 100 OHM	R3Q5	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R362	0790024R	RES.CHIP 1/16W 100 OHM	R3R2	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R363	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R3R3	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R364	0790059R	RES.CHIP 1/16W 47K OHM	R3R4	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R365	0790059R	RES.CHIP 1/16W 47K OHM	R401	0790024R	RES.CHIP 1/16W 100 OHM
R366	0790059R	RES.CHIP 1/16W 47K OHM	R402	0790035R	RES.CHIP 1/16W 680 OHM
R367	0790061R	RES.CHIP 1/16W 56K OHM	R403	0790028R	RES.CHIP 1/16W 220 OHM
R368	0790061R	RES.CHIP 1/16W 56K OHM	R404	0790024R	RES.CHIP 1/16W 100 OHM
R369	0790051R	RES.CHIP 1/16W 10K OHM	R405	0790024R	RES.CHIP 1/16W 100 OHM

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R406	0790024R	RES.CHIP 1/16W 100 OHM	R539	0790037R	RES.CHIP 1/16W 1.0K OHM
R407	0790031R	RES.CHIP 1/16W 330 OHM	R540	0790043R	RES.CHIP 1/16W 2.7K OHM
R408	0790031R	RES.CHIP 1/16W 330 OHM	R541	0790047R	RES.CHIP 1/16W 5.6K OHM
R409	0790033R	RES.CHIP 1/16W 470 OHM	R542	0790037R	RES.CHIP 1/16W 1.0K OHM
R410	0790021R	RES.CHIP 1/16W 56 OHM	R543	0790037R	RES.CHIP 1/16W 1.0K OHM
R411	0790021R	RES.CHIP 1/16W 56 OHM	R544	0790024R	RES.CHIP 1/16W 100 OHM
R412	0790021R	RES.CHIP 1/16W 56 OHM	R546	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R414	0790021R	RES.CHIP 1/16W 56 OHM	R547	0790024R	RES.CHIP 1/16W 100 OHM
R415	0790021R	RES.CHIP 1/16W 56 OHM	R548	0790024R	RES.CHIP 1/16W 100 OHM
R416	0790021R	RES.CHIP 1/16W 56 OHM	R549	0790024R	RES.CHIP 1/16W 100 OHM
R417	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R550	0790045R	RES.CHIP 1/16W 3.9K OHM
R419	0790055R	RES.CHIP 1/16W 22K OHM	R551	0790037R	RES.CHIP 1/16W 1.0K OHM
R420	0790037R	RES.CHIP 1/16W 1.0K OHM	R552	0790037R	RES.CHIP 1/16W 1.0K OHM
R421	0790024R	RES.CHIP 1/16W 100 OHM	R555	0790049R	RES.CHIP 1/16W 8.2K OHM
R422	0790024R	RES.CHIP 1/16W 100 OHM	R556	0790033R	RES.CHIP 1/16W 470 OHM
R423	0790024R	RES.CHIP 1/16W 100 OHM	R557	0790051R	RES.CHIP 1/16W 10K OHM
R424	0790024R	RES.CHIP 1/16W 100 OHM	R558	0790046R	RES.CHIP 1/16W 4.7K OHM
R425	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R559	0790042R	RES.CHIP 1/16W 2.2K OHM
R426	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R560	0790037R	RES.CHIP 1/16W 1.0K OHM
R427	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R561	0790037R	RES.CHIP 1/16W 1.0K OHM
R428	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R562	0790024R	RES.CHIP 1/16W 100 OHM
R429	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R563	0790037R	RES.CHIP 1/16W 1.0K OHM
R430	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R564	0790042R	RES.CHIP 1/16W 2.2K OHM
R431	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R565	0790043R	RES.CHIP 1/16W 2.7K OHM
R432	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R566	0790038R	RES.CHIP 1/16W 1.2K OHM
R433	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R567	0790038R	RES.CHIP 1/16W 1.2K OHM
R434	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R568	0790038R	RES.CHIP 1/16W 1.2K OHM
R436	0790051R	RES.CHIP 1/16W 10K OHM	R569	0790038R	RES.CHIP 1/16W 1.2K OHM
R437	0790051R	RES.CHIP 1/16W 10K OHM	R570	0790038R	RES.CHIP 1/16W 1.2K OHM
R489	0790035R	RES.CHIP 1/16W 680 OHM	R571	0790024R	RES.CHIP 1/16W 100 OHM
R490	AQ00229R	RES.CHIP 1/16W 22K OHM TAPE	R572	0790037R	RES.CHIP 1/16W 1.0K OHM
R493	0790024R	RES.CHIP 1/16W 100 OHM	R573	0790024R	RES.CHIP 1/16W 100 OHM
R494	AQ00229R	RES.CHIP 1/16W 22K OHM TAPE	R574	0790024R	RES.CHIP 1/16W 100 OHM
R495	AQ00234R	RES.CHIP 1/16W 33K OHM TAPE	R575	0790024R	RES.CHIP 1/16W 100 OHM
R496	AQ00234R	RES.CHIP 1/16W 33K OHM TAPE	R576	0790043R	RES.CHIP 1/16W 2.7K OHM
R497	0790051R	RES.CHIP 1/16W 10K OHM	R577	0790043R	RES.CHIP 1/16W 2.7K OHM
R498	AQ00234R	RES.CHIP 1/16W 33K OHM TAPE	R578	0790043R	RES.CHIP 1/16W 2.7K OHM
R499	AQ00234R	RES.CHIP 1/16W 33K OHM TAPE	R579	0790051R	RES.CHIP 1/16W 10K OHM
R4A0	0790051R	RES.CHIP 1/16W 10K OHM	R580	0790037R	RES.CHIP 1/16W 1.0K OHM
R501	0790037R	RES.CHIP 1/16W 1.0K OHM	R581	0790024R	RES.CHIP 1/16W 100 OHM
R502	0790039R	RES.CHIP 1/16W 1.5K OHM	R582	0790037R	RES.CHIP 1/16W 1.0K OHM
R503	0790037R	RES.CHIP 1/16W 1.0K OHM	R583	0790043R	RES.CHIP 1/16W 2.7K OHM
R504	0790039R	RES.CHIP 1/16W 1.5K OHM	R584	0790043R	RES.CHIP 1/16W 2.7K OHM
R505	0790037R	RES.CHIP 1/16W 1.0K OHM	R585	0790043R	RES.CHIP 1/16W 2.7K OHM
R507	0790051R	RES.CHIP 1/16W 10K OHM	R586	0790029R	RES.CHIP 1/16W 270 OHM
R508	0790037R	RES.CHIP 1/16W 1.0K OHM	R587	0790029R	RES.CHIP 1/16W 270 OHM
R509	0790037R	RES.CHIP 1/16W 1.0K OHM	R588	0790029R	RES.CHIP 1/16W 270 OHM
R510	0790037R	RES.CHIP 1/16W 1.0K OHM	R589	0790037R	RES.CHIP 1/16W 1.0K OHM
R511	0790044R	RES.CHIP 1/16W 3.3K OHM	R590	0790037R	RES.CHIP 1/16W 1.0K OHM
R512	0790044R	RES.CHIP 1/16W 3.3K OHM	R591	0790037R	RES.CHIP 1/16W 1.0K OHM
R513	0790044R	RES.CHIP 1/16W 3.3K OHM	R596	0790061R	RES.CHIP 1/16W 56K OHM
R514	0790044R	RES.CHIP 1/16W 3.3K OHM	R597	0790051R	RES.CHIP 1/16W 10K OHM
R515	0790044R	RES.CHIP 1/16W 3.3K OHM	R598	0790024R	RES.CHIP 1/16W 100 OHM
R516	0790044R	RES.CHIP 1/16W 3.3K OHM	R599	0790053R	RES.CHIP 1/16W 15K OHM
R517	0790037R	RES.CHIP 1/16W 1.0K OHM	R5A0	0790037R	RES.CHIP 1/16W 1.0K OHM
R518	0790037R	RES.CHIP 1/16W 1.0K OHM	R5A1	0790037R	RES.CHIP 1/16W 1.0K OHM
R519	0790037R	RES.CHIP 1/16W 1.0K OHM	R5A3	0790037R	RES.CHIP 1/16W 1.0K OHM
R520	0790024R	RES.CHIP 1/16W 100 OHM	R5A4	0790055R	RES.CHIP 1/16W 22K OHM
R521	0790024R	RES.CHIP 1/16W 100 OHM	R5A5	0790037R	RES.CHIP 1/16W 1.0K OHM
R522	0790024R	RES.CHIP 1/16W 100 OHM	R5A6	0790059R	RES.CHIP 1/16W 47K OHM
R523	0790042R	RES.CHIP 1/16W 2.2K OHM	R5A7	0790051R	RES.CHIP 1/16W 10K OHM
R524	0790042R	RES.CHIP 1/16W 2.2K OHM	R5C5	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R525	0790042R	RES.CHIP 1/16W 2.2K OHM	R5C6	0790063R	RES.CHIP 1/16W 82K OHM
R526	0790076R	RES.CHIP 1/16W 820K OHM	R5C7	0790056R	RES.CHIP 1/16W 27K OHM
R528	0790056R	RES.CHIP 1/16W 27K OHM	R5C8	0790051R	RES.CHIP 1/16W 10K OHM
R529	0790037R	RES.CHIP 1/16W 1.0K OHM	R5C9	0790051R	RES.CHIP 1/16W 10K OHM
R530	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R5E0	0790044R	RES.CHIP 1/16W 3.3K OHM
R531	0790038R	RES.CHIP 1/16W 1.2K OHM	R5E1	0790044R	RES.CHIP 1/16W 3.3K OHM
R532	0790045R	RES.CHIP 1/16W 3.9K OHM	R5E2	0790024R	RES.CHIP 1/16W 100 OHM
R533	0790051R	RES.CHIP 1/16W 10K OHM	R5E3	0790021R	RES.CHIP 1/16W 56 OHM
R534	0790024R	RES.CHIP 1/16W 100 OHM	R5E4	0790021R	RES.CHIP 1/16W 56 OHM
R535	0790024R	RES.CHIP 1/16W 100 OHM	R5E5	AT03864M	330OHM 1/2W RDS50 CARBON FILM RESISTOR
R536	0790037R	RES.CHIP 1/16W 1.0K OHM	R5E7	0790031R	RES.CHIP 1/16W 330 OHM
R537	0790043R	RES.CHIP 1/16W 2.7K OHM	R5E8	0790059R	RES.CHIP 1/16W 47K OHM
R538	0790051R	RES.CHIP 1/16W 10K OHM	R5E9	0790051R	RES.CHIP 1/16W 10K OHM

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R5F0	0790024R	RES.CHIP 1/16W 100 OHM	R629	AT03184S	METAL OX. 0.68OHM 1W
R5F1	0790031R	RES.CHIP 1/16W 330 OHM	R630	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R5F2	0790024R	RES.CHIP 1/16W 100 OHM	R631	0700059M	RES.-CARBON FLM 1/16W 27K-JB
R5F3	0790033R	RES.CHIP 1/16W 470 OHM	R632	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R5F4	0790024R	RES.CHIP 1/16W 100 OHM	R701	0100109M	RES.-CARBON FLM 1/8W 68K-JB
R5F5	AT03857M	100OHM 1/2W RDS50 CARBON FILM RESISTOR	R702	0100115M	RES.-CARBON FLM 1/8W 120K-JB
R5F6	0790024R	RES.CHIP 1/16W 100 OHM	R703	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R5F8	0790024R	RES.CHIP 1/16W 100 OHM	R704	AT03857M	100OHM 1/2W RDS50 CARBON FILM RESISTOR
R5F9	0790031R	RES.CHIP 1/16W 330 OHM	R706	AT03881M	5.6KOHM 1/2W RDS50 CARBON FILM RESISTOR
R5G0	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R707	AT03882M	6.8KOHM 1/2W RDS50 CARBON FILM RESISTOR
R5G1	0790024R	RES.CHIP 1/16W 100 OHM	R708	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R5G4	0790035R	RES.CHIP 1/16W 680 OHM	R709	0700064M	RES.-CARBON FLM 1/16W 56K-JB
R5G5	0790021R	RES.CHIP 1/16W 56 OHM	R710	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R5G6	0790052R	RES.CHIP 1/16W 12K OHM	R711	AW00333	6R 2KOHM 0.3W VZ067TH7 TRIMMER RESISTOR
R5G7	0790057R	RES.CHIP 1/16W 33K OHM	R712	0700055M	RES.-CARBON FLM 1/16W 12K-JB
R5G8	0790025R	RES.CHIP 1/16W 120 OHM	R713	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
R5G9	0790024R	RES.CHIP 1/16W 100 OHM	R714	0700039M	RES.-CARBON FLM 1/16W 820-JB
R5H1	0790024R	RES.CHIP 1/16W 100 OHM	R715	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R5H2	0790031R	RES.CHIP 1/16W 330 OHM	R721	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB
R5H3	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R722	0700032M	RES.-CARBON FLM 1/16W 220-JB
R5H4	0790024R	RES.CHIP 1/16W 100 OHM	R723	AT03862M	220OHM 1/2W RDS50 CARBON FILM RESISTOR
R5H7	0790035R	RES.CHIP 1/16W 680 OHM	R725	0100085M	RES.-CARBON FLM 1/8W 6.8K-JB
R5H8	0790021R	RES.CHIP 1/16W 56 OHM	R729	AT03562S	METAL OX. 100OHM 3W
R5H9	0790052R	RES.CHIP 1/16W 12K OHM	R730	AT03417S	METAL OX. 390OHM 2W
R5J0	0790057R	RES.CHIP 1/16W 33K OHM	R731	AT01532S	METAL FILM RESISTOR(0.12OHM 1/2W)
R5J1	0790025R	RES.CHIP 1/16W 120 OHM	R732	AT03844M	10.0OHM 1/2W RDS50 CARBON FILM RESISTOR
R5J2	0790024R	RES.CHIP 1/16W 100 OHM	R735	0700033M	RES.-CARBON FLM 1/16W 270-JB
R5J4	0790024R	RES.CHIP 1/16W 100 OHM	R736	0700033M	RES.-CARBON FLM 1/16W 270-JB
R5J5	0790031R	RES.CHIP 1/16W 330 OHM	R737	AT03869M	820OHM 1/2W RDS50 CARBON FILM RESISTOR
R5J6	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	R738	AT03588S	METAL OX. 1.0KOHM 3W
R5J7	0790024R	RES.CHIP 1/16W 100 OHM	R739	AT03251S	METAL OX. 220OHM 1W
R5K0	0790035R	RES.CHIP 1/16W 680 OHM	R740	AT03417S	METAL OX. 390OHM 2W
R5K1	0790021R	RES.CHIP 1/16W 56 OHM	R742	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
R5K2	0790048R	RES.CHIP 1/16W 6.8K OHM	R747	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R5K3	0790053R	RES.CHIP 1/16W 15K OHM	R748	AT03419S	METAL OX. 470 OHM 2W
R5K4	0790024R	RES.CHIP 1/16W 100 OHM	R759	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R5K5	0790023R	RES.CHIP 1/16W 82 OHM	R802	0100035M	RES.-CARBON FLM 1/8W 56-JB
R5K6	0790037R	RES.CHIP 1/16W 1.0K OHM	R803	0100031M	RES.-CARBON FLM 1/8W 39-JB
R5K7	0790037R	RES.CHIP 1/16W 1.0K OHM	R804	0100017M	RES.-CARBON FLM 1/8W 10-JB
R5K8	0790024R	RES.CHIP 1/16W 100 OHM	R805	0100073M	RES.-CARBON FLM 1/8W 2.2K-JB
R5K9	0790037R	RES.CHIP 1/16W 1.0K OHM	R806	AT00116M	RES.CARBON FLM 1/2W 9.1 OHM
R5L0	0790024R	RES.CHIP 1/16W 100 OHM	R807	AT03867M	560OHM 1/2W RDS50 CARBON FILM RESISTOR
R5L1	0790024R	RES.CHIP 1/16W 100 OHM	R808	0100113M	RES.-CARBON FLM 1/8W 100K-JB
R5L3	0790037R	RES.CHIP 1/16W 1.0K OHM	R809	AT03866M	470OHM 1/2W RDS50 CARBON FILM RESISTOR
R5L4	0790024R	RES.CHIP 1/16W 100 OHM	R811	AT04381	METAL OXIDE RESISTOR (1.2KOHM 7W)
R5N0	0790051R	RES.CHIP 1/16W 10K OHM	R812	AT04381	METAL OXIDE RESISTOR (1.2KOHM 7W)
R5N1	AQ00161R	RES.CHIP 1/16W 56 OHM TAPE	R813	0100035M	RES.-CARBON FLM 1/8W 56-JB
R5N2	AQ00203R	RES.CHIP 1/16W 2.2K OHM TAPE	R814	0100035M	RES.-CARBON FLM 1/8W 56-JB
R5R3	0790038R	RES.CHIP 1/16W 1.2K OHM	R815	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J
R5T1	0790024R	RES.CHIP 1/16W 100 OHM	R816	AT03906M	470KOHM 1/2W RDS50 CARBON FILM RESISTOR
R5T2	0790024R	RES.CHIP 1/16W 100 OHM	R821	0100073M	RES.-CARBON FLM 1/8W 2.2K-JB
R5T3	0790024R	RES.CHIP 1/16W 100 OHM	R822	0100054M	RES.-CARBON FLM 1/8W 360-JB
R5T4	0790062R	RES.CHIP 1/16W 68K OHM	R823	0100065M	RES.-CARBON FLM 1/8W 1K-JB
R5T5	0790043R	RES.CHIP 1/16W 2.7K OHM	R830	0100049M	RES.-CARBON FLM 1/8W 220-JB
R602	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	R831	0100075M	RES.-CARBON FLM 1/8W 2.7K-JB
R604	0700055M	RES.-CARBON FLM 1/16W 12K-JB	R832	0100077M	RES.-CARBON FLM 1/8W 3.3K-JB
R605	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB	R852	0100035M	RES.-CARBON FLM 1/8W 56-JB
R606	0700048M	RES.-CARBON FLM 1/16W 3.9K-JB	R853	0100031M	RES.-CARBON FLM 1/8W 39-JB
R607	AW00341	6R 100KOHM 0.3W VZ067TH7 TRIMMER RESISTOR	R854	0100017M	RES.-CARBON FLM 1/8W 10-JB
R608	0100115M	RES.-CARBON FLM 1/8W 120K-JB	R855	0100073M	RES.-CARBON FLM 1/8W 2.2K-JB
R611	0700059M	RES.-CARBON FLM 1/16W 27K-JB	R856	AT00116M	RES.CARBON FLM 1/2W 9.1 OHM
R612	0700054M	RES.-CARBON FLM 1/16W 10K-JB	R857	AT03867M	560OHM 1/2W RDS50 CARBON FILM RESISTOR
R613	0100053M	RES.-CARBON FLM 1/8W 330-JB	R858	0100113M	RES.-CARBON FLM 1/8W 100K-JB
R614	0100053M	RES.-CARBON FLM 1/8W 330-JB	R859	AT03866M	470OHM 1/2W RDS50 CARBON FILM RESISTOR
R616	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	R861	AT04381	METAL OXIDE RESISTOR (1.2KOHM 7W)
R617	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB	R862	AT04381	METAL OXIDE RESISTOR (1.2KOHM 7W)
R618	0700065M	RES.-CARBON FLM 1/16W 68K-JB	R863	0100035M	RES.-CARBON FLM 1/8W 56-JB
R619	AT03191S	METAL OX. 1.2OHM 1W	R864	0100035M	RES.-CARBON FLM 1/8W 56-JB
R620	AT03191S	METAL OX. 1.2OHM 1W	R865	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J
R621	0100045M	RES.-CARBON FLM 1/8W 150-JB	R866	AT03906M	470KOHM 1/2W RDS50 CARBON FILM RESISTOR
R622	0188093M	ES.-CARBON FLM 1/2W 1.5-J	R869	AT03902M	220KOHM 1/2W RDS50 CARBON FILM RESISTOR
R625	AT03251S	METAL OX. 220OHM 1W	R870	AT03902M	220KOHM 1/2W RDS50 CARBON FILM RESISTOR
R626	AT03857M	100OHM 1/2W RDS50 CARBON FILM RESISTOR	R880	0100049M	RES.-CARBON FLM 1/8W 220-JB
R627	AT03857M	100OHM 1/2W RDS50 CARBON FILM RESISTOR	R881	0100075M	RES.-CARBON FLM 1/8W 2.7K-JB
R628	AT03857M	100OHM 1/2W RDS50 CARBON FILM RESISTOR	R882	0100077M	RES.-CARBON FLM 1/8W 3.3K-JB

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
R883	0100089M	RES.-CARBON FLM 1/8W 10K-JB	R954	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R884	0100105M	RES.-CARBON FLM 1/8W 47K-JB	R955	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
R8A2	0100035M	RES.-CARBON FLM 1/8W 56-JB	R956	0700063M	RES.-CARBON FLM 1/16W 47K-JB
R8A3	0100039M	RES.-CARBON FLM 1/8W 82-JB	R957	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R8A4	0100017M	RES.-CARBON FLM 1/8W 10-JB	R958	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R8A5	0100057M	RES.-CARBON FLM 1/8W 470-JB	R959	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R8A6	AT00116M	RES.CARBON FLM 1/2W 9.1 OHM	R960	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R8A7	AT03867M	560OHM 1/2W RDS50 CARBON FILM RESISTOR	R961	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R8A8	0100113M	RES.-CARBON FLM 1/8W 100K-JB	R962	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R8A9	AT03867M	560OHM 1/2W RDS50 CARBON FILM RESISTOR	R963	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
R8C1	AT04381	METAL OXIDE RESISTOR (1.2KOHM 7W)	R964	AT03886M	15KOHM 1/2W RDS50 CARBON FILM RESISTOR
R8C2	AT04381	METAL OXIDE RESISTOR (1.2KOHM 7W)	R965	AT03886M	15KOHM 1/2W RDS50 CARBON FILM RESISTOR
R8C3	0100035M	RES.-CARBON FLM 1/8W 56-JB	RA01	0790046R	RES.CHIP 1/16W 4.7K OHM
R8C4	0100035M	RES.-CARBON FLM 1/8W 56-JB	RA02	0790037R	RES.CHIP 1/16W 1.0K OHM
R8C5	0113725M	RESISTOR CARBON FILM SRD1/2P-B 100-J	RA03	0790037R	RES.CHIP 1/16W 1.0K OHM
R8C6	AT03906M	470KOHM 1/2W RDS50 CARBON FILM RESISTOR	RA04	0790037R	RES.CHIP 1/16W 1.0K OHM
R8E0	0100041M	RES.-CARBON FLM 1/8W 100-JB	RA05	0790037R	RES.CHIP 1/16W 1.0K OHM
R8E2	0100057M	RES.-CARBON FLM 1/8W 470-JB	RA07	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R8E3	0100065M	RES.-CARBON FLM 1/8W 1K-JB	RA08	0790042R	RES.CHIP 1/16W 2.2K OHM
R8E4	0100079M	RES.-CARBON FLM 1/8W 3.9K-JB	RA09	0790042R	RES.CHIP 1/16W 2.2K OHM
R8E5	0100045M	RES.-CARBON FLM 1/8W 150-JB	RA10	0790051R	RES.CHIP 1/16W 10K OHM
R8E6	0100077M	RES.-CARBON FLM 1/8W 3.3K-JB	RA11	0790051R	RES.CHIP 1/16W 10K OHM
R8E7	0100069M	RES.-CARBON FLM 1/8W 1.5K-JB	RA12	0790042R	RES.CHIP 1/16W 2.2K OHM
R8E8	0100042M	RES.-CARBON FLM 1/8W 110-JB	RA13	0790042R	RES.CHIP 1/16W 2.2K OHM
R8F0	0100049M	RES.-CARBON FLM 1/8W 220-JB	RA51	0790064R	RES.CHIP 1/16W 100K OHM
R8F1	0100075M	RES.-CARBON FLM 1/8W 2.7K-JB	RA52	0790037R	RES.CHIP 1/16W 1.0K OHM
R8F2	0100077M	RES.-CARBON FLM 1/8W 3.3K-JB	RA53	0790063R	RES.CHIP 1/16W 82K OHM
⚠ R901	AT03672M	RES.MTL GRAZD FLM 1/2W 3.3M	RA54	0790028R	RES.CHIP 1/16W 220 OHM
R902	AT04371	W/WRE-R62K15W AKANE	RA55	0790037R	RES.CHIP 1/16W 1.0K OHM
⚠ R903	AT03676M	RES.MTL GRAZD FLM 1/2W 6.8M	RA56	0790037R	RES.CHIP 1/16W 1.0K OHM
R904	AT03897M	100KOHM 1/2W RDS50 CARBON FILM RESISTOR	RA57	0790031R	RES.CHIP 1/16W 330 OHM
R905	AT04428M	ASR 12 TB 390KOHM J	RA58	0790037R	RES.CHIP 1/16W 1.0K OHM
R906	AT03444S	METAL OX. 3.9KOHM 2W	RA59	0790024R	RES.CHIP 1/16W 100 OHM
R907	AT03444S	METAL OX. 3.9KOHM 2W	RA60	0790058R	RES.CHIP 1/16W 39K OHM
R908	AT03171S	METAL OX. 0.22OHM 1W	RA61	0790052R	RES.CHIP 1/16W 12K OHM
R909	AT03171S	METAL OX. 0.22OHM 1W	RA62	0790064R	RES.CHIP 1/16W 100K OHM
R910	AT03171S	METAL OX. 0.22OHM 1W	RA63	0790037R	RES.CHIP 1/16W 1.0K OHM
R911	AT03171S	METAL OX. 0.22OHM 1W	RA64	0790063R	RES.CHIP 1/16W 82K OHM
R912	0700038M	RES.-CARBON FLM 1/16W 680-JB	RA65	0790028R	RES.CHIP 1/16W 220 OHM
R913	AT03844M	10.0OHM 1/2W RDS50 CARBON FILM RESISTOR	RA66	0790037R	RES.CHIP 1/16W 1.0K OHM
R914	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB	RA67	0790037R	RES.CHIP 1/16W 1.0K OHM
R916	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RA68	0790031R	RES.CHIP 1/16W 330 OHM
R917	AT03665M	RES.MTL GRAZD FLM 1/2W 1M	RA69	0790037R	RES.CHIP 1/16W 1.0K OHM
R918	0700055M	RES.-CARBON FLM 1/16W 12K-JB	RA70	0790024R	RES.CHIP 1/16W 100 OHM
R919	0700056M	RES.-CARBON FLM 1/16W 15K-JB	RA71	0790058R	RES.CHIP 1/16W 39K OHM
R920	AT03186S	METAL OX. 0.82OHM 1W	RA72	0790052R	RES.CHIP 1/16W 12K OHM
R921	AT03191S	METAL OX. 1.2OHM 1W	RA87	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R922	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB	RA88	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
R924	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RAA1	0700027M	RES.-CARBON FLM 1/16W 100-JB
R925	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RAA2	0700027M	RES.-CARBON FLM 1/16W 100-JB
R927	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RAA3	0700036M	RES.-CARBON FLM 1/16W 470-JB
R928	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RAA4	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R929	0700032M	RES.-CARBON FLM 1/16W 220-JB	RAA5	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
R930	AT03288S	METAL OX. 5.6KOHM 1W	RAA6	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R931	AT03886M	15KOHM 1/2W RDS50 CARBON FILM RESISTOR	RAA7	0700054M	RES.-CARBON FLM 1/16W 10K-JB
R932	0700028M	RES.-CARBON FLM 1/16W 120-JB	RAA8	0700067M	RES.-CARBON FLM 1/16W 100K-JB
R933	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB	RAA9	AT03197S	METAL OX. 2.2OHM 1W
R934	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB	RAC1	AT03197S	METAL OX. 2.2OHM 1W
R935	2974432M	JUMPER WIRE (0.5 L=52MM)	RAC2	0700065M	RES.-CARBON FLM 1/16W 68K-JB
R937	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RAC3	0700065M	RES.-CARBON FLM 1/16W 68K-JB
R938	AT03571S	METAL OX. 220OHM 3W	RAC4	AT03871M	1KOHM 1/2W RDS50 CARBON FILM RESISTOR
R939	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RAC5	AT03871M	1KOHM 1/2W RDS50 CARBON FILM RESISTOR
R940	AT03608S	METAL OX. 5.6KOHM 3W	RE01	0700017M	RES.-CARBON FLM 1/16W 18-J
R941	AT03879M	4.7KOHM 1/2W RDS50 CARBON FILM RESISTOR	RE02	AT03862M	220OHM 1/2W RDS50 CARBON FILM RESISTOR
R942	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RE03	0700014M	RES.-CARBON FLM 1/16W 10-J
R943	0700032M	RES.-CARBON FLM 1/16W 220-JB	RE04	0700014M	RES.-CARBON FLM 1/16W 10-J
R944	AT03177S	METAL OX. 0.39OHM 1W	RE05	AT03844M	10.0OHM 1/2W RDS50 CARBON FILM RESISTOR
R946	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RE12	0100017M	RES.-CARBON FLM 1/8W 10-JB
R947	0700058M	RES.-CARBON FLM 1/16W 22K-JB	RE13	0100017M	RES.-CARBON FLM 1/8W 10-JB
R948	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RE15	AT03895M	68KOHM 1/2W RDS50 CARBON FILM RESISTOR
⚠ R949	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	RE16	AT03895M	68KOHM 1/2W RDS50 CARBON FILM RESISTOR
⚠ R950	0700036M	RES.-CARBON FLM 1/16W 470-JB	RE18	AT03876M	2.7KOHM 1/2W RDS50 CARBON FILM RESISTOR
R951	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RE19	0100075M	RES.-CARBON FLM 1/8W 2.7K-JB
R952	AT03896M	82KOHM 1/2W RDS50 CARBON FILM RESISTOR	RE20	AT03885M	12KOHM 1/2W RDS50 CARBON FILM RESISTOR
R953	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RE21	AT03862M	220OHM 1/2W RDS50 CARBON FILM RESISTOR

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
RE22	AT03862M	220OHM 1/2W RDS50 CARBON FILM RESISTOR	RH21	AT03878M	6.9KOHM 1/2W RDS50 CARBON FILM RESISTOR
RE23	0113686M	RES.-CARBON FLM 1/2W 2.7-J	RH22	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RE24	0113686M	RES.-CARBON FLM 1/2W 2.7-J	⚠ RH23	AT03882M	3.8KOHM 1/2W RDS50 CARBON FILM RESISTOR
RE25	AT03571S	METAL OX. 220OHM 3W	⚠ RH24	0119646M	RES.-MTL FLM 1/8W 43K-FB (46F500A)
RE27	AT03579S	METAL OX. 470OHM 3W	⚠ RH24	0119645M	RES.-MTL FLM 1/8W 39K-FB (46F510)
RE29	0100081M	RES.-CARBON FLM 1/8W 4.7K-JB	⚠ RH25	0119633M	RES.-MTL FLM 1/8W 12K-FB
RE31	0100089M	RES.-CARBON FLM 1/8W 10K-JB	RH26	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RE34	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RH27	AT03889M	27KOHM 1/2W RDS50 CARBON FILM RESISTOR (46F500A)
RE35	AT00287S	RES.MTL OXIDE FLM 3W 2.2 OHM	⚠ RH27	0100100M	RES.-CARBON FLM 1/8 30K-JB (46F510)
RE51	0700017M	RES.-CARBON FLM 1/16W 18-J	RH28	AT03892M	39KOHM 1/2W RDS50 CARBON FILM RESISTOR
RE52	AT03862M	220OHM 1/2W RDS50 CARBON FILM RESISTOR	RH31	AT03291S	METAL OX. 6.8KOHM 1W
RE53	0700014M	RES.-CARBON FLM 1/16W 10-J	⚠ RH32	0100119M	RES.-CARBON FLM 1/8W 180K-JB (46F500A)
RE54	0700014M	RES.-CARBON FLM 1/16W 10-J	⚠ RH32	0100121M	RES.-CARBON FLM 1/8 220K-JB (46F510)
RE55	AT03844M	10.0OHM 1/2W RDS50 CARBON FILM RESISTOR	RH34	AT03215S	METAL OX. 10.0OHM 1W
RE62	0100017M	RES.-CARBON FLM 1/8W 10-JB	RH36	0100119M	RES.-CARBON FLM 1/8W 180K-JB
RE63	0100017M	RES.-CARBON FLM 1/8W 10-JB	RH37	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RE66	AT03876M	2.7KOHM 1/2W RDS50 CARBON FILM RESISTOR	RH38	AT03893M	47KOHM 1/2W RDS50 CARBON FILM RESISTOR
RE67	AT03895M	68KOHM 1/2W RDS50 CARBON FILM RESISTOR	RH39	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RE68	AT03895M	68KOHM 1/2W RDS50 CARBON FILM RESISTOR	RH41	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RE69	0100075M	RES.-CARBON FLM 1/8W 2.7K-JB	RH42	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RE70	AT03885M	12KOHM 1/2W RDS50 CARBON FILM RESISTOR	RJ06	0790051R	RES.CHIP 1/16W 10K OHM
RE71	AT03862M	220OHM 1/2W RDS50 CARBON FILM RESISTOR	RJ09	AQ00172R	RES.CHIP 1/16W 150 OHM TAPE
RE72	0113686M	RES.-CARBON FLM 1/2W 2.7-J	RJ10	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE
RE73	AT03862M	220OHM 1/2W RDS50 CARBON FILM RESISTOR	RJ11	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE
RE74	0113686M	RES.-CARBON FLM 1/2W 2.7-J	RJ12	0790015R	RES.CHIP 1/16W 22 OHM
RE75	AT03571S	METAL OX. 220OHM 3W	RJ14	0790024R	RES.CHIP 1/16W 100 OHM
REA1	0700017M	RES.-CARBON FLM 1/16W 18-J	RJ15	0790039R	RES.CHIP 1/16W 1.5K OHM
REA2	AT03862M	220OHM 1/2W RDS50 CARBON FILM RESISTOR	RJ16	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
REA3	0700014M	RES.-CARBON FLM 1/16W 10-J	RJ17	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE
REA4	0700014M	RES.-CARBON FLM 1/16W 10-J	RJ18	AQ00165R	RES.CHIP 1/16W 82 OHM TAPE
REA5	AT03844M	10.0OHM 1/2W RDS50 CARBON FILM RESISTOR	RJ19	0790015R	RES.CHIP 1/16W 22 OHM
REC3	0100017M	RES.-CARBON FLM 1/8W 10-JB	RJ21	0790024R	RES.CHIP 1/16W 100 OHM
REC4	0100017M	RES.-CARBON FLM 1/8W 10-JB	RJ22	0790039R	RES.CHIP 1/16W 1.5K OHM
REC7	AT03876M	2.7KOHM 1/2W RDS50 CARBON FILM RESISTOR	RJ23	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
REC8	AT03895M	68KOHM 1/2W RDS50 CARBON FILM RESISTOR	RJ24	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE
REC9	AT03895M	68KOHM 1/2W RDS50 CARBON FILM RESISTOR	RJ25	AQ00165R	RES.CHIP 1/16W 82 OHM TAPE
REE1	0100075M	RES.-CARBON FLM 1/8W 2.7K-JB	RJ26	0790015R	RES.CHIP 1/16W 22 OHM
REE2	AT03885M	12KOHM 1/2W RDS50 CARBON FILM RESISTOR	RJ28	0790024R	RES.CHIP 1/16W 100 OHM
REE3	AT03862M	220OHM 1/2W RDS50 CARBON FILM RESISTOR	RJ29	0790039R	RES.CHIP 1/16W 1.5K OHM
REE4	0113686M	RES.-CARBON FLM 1/2W 2.7-J	RJ30	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
REE5	AT03862M	220OHM 1/2W RDS50 CARBON FILM RESISTOR	RJ31	0790057R	RES.CHIP 1/16W 33K OHM
REE6	0113686M	RES.-CARBON FLM 1/2W 2.7-J	RJ33	0790051R	RES.CHIP 1/16W 10K OHM
REE7	AT03571S	METAL OX. 220OHM 3W	RJ34	0790051R	RES.CHIP 1/16W 10K OHM
REE9	0700027M	RES.-CARBON FLM 1/16W 100-JB	RJ35	0790037R	RES.CHIP 1/16W 1.0K OHM
REF1	0100021M	RES.-CARBON FLM 1/8W 15-JB	RJ36	0790024R	RES.CHIP 1/16W 100 OHM
REF2	AT03857M	100OHM 1/2W RDS50 CARBON FILM RESISTOR	RJ37	0790024R	RES.CHIP 1/16W 100 OHM
REF4	0700027M	RES.-CARBON FLM 1/16W 100-JB	RJ38	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
REF5	0700067M	RES.-CARBON FLM 1/16W 100K-JB	RJ39	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
REF6	0700027M	RES.-CARBON FLM 1/16W 100-JB	RJ40	0790057R	RES.CHIP 1/16W 33K OHM
RF01	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RJ42	AQ00149R	RES.CHIP 1/16W 22 OHM TAPE
RF02	AT04431M	ASR 12 TB 560KOHM J	RJ43	AQ00183R	RES.CHIP 1/16W 390 OHM TAPE
RF03	AT04431M	ASR 12 TB 560KOHM J	RJ44	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RF04	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB	RJ45	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RF05	0700059M	RES.-CARBON FLM 1/16W 27K-JB	RJ46	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RF06	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB	RJ47	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RF07	AT03871M	1KOHM 1/2W RDS50 CARBON FILM RESISTOR	RJ48	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RF09	AT03213S	METAL OX. 8.2OHM 1W	RJ49	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RF10	AT03213S	METAL OX. 8.2OHM 1W	RJ50	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RH01	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB	RJ51	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RH02	0700055M	RES.-CARBON FLM 1/16W 12K-JB	RJ53	0790057R	RES.CHIP 1/16W 33K OHM
RH03	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RJ54	0790057R	RES.CHIP 1/16W 33K OHM
RH04	0700062M	RES.-CARBON FLM 1/16W 39K-JB	RJ57	0790059R	RES.CHIP 1/16W 47K OHM
RH05	0700059M	RES.-CARBON FLM 1/16W 27K-JB	RJ58	0790059R	RES.CHIP 1/16W 47K OHM
RH07	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RJ59	0790042R	RES.CHIP 1/16W 2.2K OHM
RH08	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB	RJ60	0790059R	RES.CHIP 1/16W 47K OHM
RH09	0700055M	RES.-CARBON FLM 1/16W 12K-JB	RJ62	0790024R	RES.CHIP 1/16W 100 OHM
RH10	AT03869M	820OHM 1/2W RDS50 CARBON FILM RESISTOR	RJ63	0790059R	RES.CHIP 1/16W 47K OHM
⚠ RH11	AT03195S	METAL OX. 1.8OHM 1W	RJ64	0790024R	RES.CHIP 1/16W 100 OHM
⚠ RH12	AT03195S	METAL OX. 1.8OHM 1W	RJ65	0790037R	RES.CHIP 1/16W 1.0K OHM
RH13	0100033M	RES.-CARBON FLM 1/8W 47-JB	RJ66	0790024R	RES.CHIP 1/16W 100 OHM
RH14	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RJ67	0790024R	RES.CHIP 1/16W 100 OHM
⚠ RH15	AT03195S	METAL OX. 1.8OHM 1W	RJ68	0790024R	RES.CHIP 1/16W 100 OHM
⚠ RH16	0100047M	RES.-CARBON FLM 1/8W 180-JB	RJ70	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
⚠ RH17	AW00208	TRIMMER RESISTOR 100KOHM 1/2W	RJH8	0790055R	RES.CHIP 1/16W 22K OHM
⚠ RH18	0700061M	RES.-CARBON FLM 1/16W 33K-JB	RJJ2	0700027M	RES.-CARBON FLM 1/16W 100-JB
⚠ RH19	0119653M	RES.-MTL FLM 1/8W 82K-FB	RJJ3	0700027M	RES.-CARBON FLM 1/16W 100-JB
⚠ RH20	0119633M	RES.-MTL FLM 1/8W 12K-FB			

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
RJJ5	0700027M	RES.-CARBON FLM 1/16W 100-JB	RL24	0100129M	RES.-CARBON FLM 1/8W 470K-JB
RJJ6	0700027M	RES.-CARBON FLM 1/16W 100-JB	RL25	0700066M	RES.-CARBON FLM 1/16W 82K-JB
RJJ7	0700027M	RES.-CARBON FLM 1/16W 100-JB	RL26	0100129M	RES.-CARBON FLM 1/8W 470K-JB
RK01	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RL27	0100123M	RES.-CARBON FLM 1/8W 270K-JB
RK02	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RL30	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK03	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RL31	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK04	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RL32	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK05	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RL33	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK06	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RL34	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK07	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RL35	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK08	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RL36	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK09	0700036M	RES.-CARBON FLM 1/16W 470-JB	RL37	0700027M	RES.-CARBON FLM 1/16W 100-JB
RK10	0700042M	RES.-CARBON FLM 1/16W 1.2K-JB	RM01	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK11	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RM03	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RK12	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RM04	0100065M	RES.-CARBON FLM 1/8W 1K-JB (46F500A)
RK13	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RM05	0100065M	RES.-CARBON FLM 1/8W 1K-JB
RK17	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RM06	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK18	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RM07	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB
RK20	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RM08	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB
RK23	0100085M	RES.-CARBON FLM 1/8W 6.8K-JB	RM09	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB
RK24	0700043M	RES.-CARBON FLM 1/16W 1.5K-JB	RM10	0700065M	RES.-CARBON FLM 1/8W 1K-JB (46F510)
RK25	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RM13	AT03871M	1KOHM 1/2W RDS50 CARBON FILM RESISTOR (46F500A)
RK26	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RM15	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RK27	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RM20	0100041M	RES.-CARBON FLM 1/8W 100-JB
RK28	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RM21	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK29	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RM22	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK30	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RM23	0700064M	RES.-CARBON FLM 1/16W 56K-JB
RK31	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RM24	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
RK32	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RM25	0100123M	RES.-CARBON FLM 1/8W 270K-JB
RK33	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB	RM26	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB
RK34	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RM27	0700064M	RES.-CARBON FLM 1/16W 56K-JB
RK35	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RM28	0100123M	RES.-CARBON FLM 1/8W 270K-JB
RK36	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RM29	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK37	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RM30	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK38	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RM31	0100041M	RES.-CARBON FLM 1/8W 100-JB
RK39	0700063M	RES.-CARBON FLM 1/16W 47K-JB	RM35	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK40	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RM38	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK41	AT03213S	METAL OX. 8.2OHM 1W	RM41	0700032M	RES.-CARBON FLM 1/16W 220-JB (46F500A)
RK42	AT03213S	METAL OX. 8.2OHM 1W	RM41	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB (46F510)
RK43	AT03411S	METAL OX. 220OHM 2W	RM42	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB (46F500A)
RK44	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RM43	0700059M	RES.-CARBON FLM 1/16W 27K-JB (46F500A)
RK45	AT03206S	METAL OX. 4.7OHM 1W	RM44	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB (46F500A)
RK46	AT03206S	METAL OX. 4.7OHM 1W	RM46	0700059M	RES.-CARBON FLM 1/16W 27K-JB (46F500A)
RK47	AT03406S	METAL OX. 150OHM 2W	RM47	0700049M	RES.-CARBON FLM 1/16W 4.7K-JB (46F500A)
RK48	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RM48	0700032M	RES.-CARBON FLM 1/16W 220-JB (46F500A)
RK49	AT03211S	METAL OX. 6.8OHM 1W	RM49	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB (46F500A)
RK50	AT03211S	METAL OX. 6.8OHM 1W	RM50	0100065M	RES.-CARBON FLM 1/8W 1K-JB (46F500A)
RK51	AT03411S	METAL OX. 220OHM 2W	RM68	AT03867M	RES.-560OHM 1/2W RDS50 CARBON FLM (46F510)
RK52	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RM71	0700059M	RES.-CARBON FLM 1/16W 27K-JB
RK53	AT03206S	METAL OX. 4.7OHM 1W	RM72	0700059M	RES.-CARBON FLM 1/16W 27K-JB (46F500A)
RK54	AT03206S	METAL OX. 4.7OHM 1W	RM73	0700054M	RES.-CARBON FLM 1/16W 10K-JB (46F510)
RK55	AT03406S	METAL OX. 150OHM 2W	RN01	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RK56	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RN02	0700057M	RES.-CARBON FLM 1/16W 18K-JB
RK57	AT03215S	METAL OX. 10.0OHM 1W	RN03	0700061M	RES.-CARBON FLM 1/16W 33K-JB
RK58	AT03215S	METAL OX. 10.0OHM 1W	RN04	0700058M	RES.-CARBON FLM 1/16W 22K-JB
RK59	AT03411S	METAL OX. 220OHM 2W	RN05	0700051M	RES.-CARBON FLM 1/16W 5.6K-JB
RK60	0700047M	RES.-CARBON FLM 1/16W 3.3K-JB	RN06	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK61	AT03208S	METAL OX. 5.6OHM 1W	RN09	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
RK62	AT03208S	METAL OX. 5.6OHM 1W	RN10	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RK63	AT03406S	METAL OX. 150OHM 2W	RN11	0700067M	RES.-CARBON FLM 1/16W 100K-JB
RK64	0700054M	RES.-CARBON FLM 1/16W 10K-JB	RN12	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK65	0700053M	RES.-CARBON FLM 1/16W 8.2K-JB	RN13	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
RK66	0700062M	RES.-CARBON FLM 1/16W 39K-JB	RN14	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RK97	0700044M	RES.-CARBON FLM 1/16W 1.8K-JB	RN15	0700052M	RES.-CARBON FLM 1/16W 6.8K-JB
RK98	0700046M	RES.-CARBON FLM 1/16W 2.7K-JB	RN16	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RL10	0100129M	RES.-CARBON FLM 1/8W 470K-JB	RN17	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RL11	0100129M	RES.-CARBON FLM 1/8W 470K-JB	RN18	0700055M	RES.-CARBON FLM 1/16W 12K-JB
RL12	0100129M	RES.-CARBON FLM 1/8W 470K-JB	RN19	0700063M	RES.-CARBON FLM 1/16W 47K-JB
RL13	0100129M	RES.-CARBON FLM 1/8W 470K-JB	RU01	0790037R	RES.CHIP 1/16W 1.0K OHM
RL14	0100129M	RES.-CARBON FLM 1/8W 470K-JB	RU02	0790039R	RES.CHIP 1/16W 1.5K OHM
RL15	0100129M	RES.-CARBON FLM 1/8W 470K-JB	RU03	0790043R	RES.CHIP 1/16W 2.7K OHM
RL16	0100129M	RES.-CARBON FLM 1/8W 470K-JB	RU04	0790046R	RES.CHIP 1/16W 4.7K OHM
RL17	0100129M	RES.-CARBON FLM 1/8W 470K-JB	RU05	0790051R	RES.CHIP 1/16W 10K OHM
RL20	0100129M	RES.-CARBON FLM 1/8W 470K-JB	RU06	AQ00155R	RES.CHIP 1/16W 36 OHM TAPE
RL21	0700066M	RES.-CARBON FLM 1/16W 82K-JB	RU08	AQ00155R	RES.CHIP 1/16W 36 OHM TAPE
RL22	0100129M	RES.-CARBON FLM 1/8W 470K-JB	RU10	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE
RL23	0100123M	RES.-CARBON FLM 1/8W 270K-JB	RU11	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION
RU12	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RU13	0790024R	RES.CHIP 1/16W 100 OHM
RU14	0790024R	RES.CHIP 1/16W 100 OHM
RU15	0790051R	RES.CHIP 1/16W 10K OHM
RU16	0790051R	RES.CHIP 1/16W 10K OHM
RU17	0790024R	RES.CHIP 1/16W 100 OHM
RU18	0790024R	RES.CHIP 1/16W 100 OHM
RU19	0790024R	RES.CHIP 1/16W 100 OHM
RU21	0790024R	RES.CHIP 1/16W 100 OHM
RU22	0790024R	RES.CHIP 1/16W 100 OHM
RU23	0700027M	RES.-CARBON FLM 1/16W 100-JB
RU24	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RU25	0700027M	RES.-CARBON FLM 1/16W 100-JB
RU26	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RU28	0700027M	RES.-CARBON FLM 1/16W 100-JB
RU29	0700027M	RES.-CARBON FLM 1/16W 100-JB
RU30	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RU31	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
RU32	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
RU33	0790064R	RES.CHIP 1/16W 100K OHM
RU34	0790037R	RES.CHIP 1/16W 1.0K OHM
RU35	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
RU36	0700045M	RES.-CARBON FLM 1/16W 2.2K-JB
RU37	0790064R	RES.CHIP 1/16W 100K OHM
RU38	0700041M	RES.-CARBON FLM 1/16W 1.0K-JB
RU40	0700061M	RES.-CARBON FLM 1/16W 33K-JB
RU41	0790058R	RES.CHIP 1/16W 39K OHM
RU42	0790068R	RES.CHIP 1/16W 220K OHM
RU43	0790068R	RES.CHIP 1/16W 220K OHM
RU45	AQ00228R	RES.CHIP 1/16W 20K OHM TAPE
RU46	AQ00233R	RES.CHIP 1/16W 30K OHM TAPE
RU47	0790049R	RES.CHIP 1/16W 8.2K OHM
RU49	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RU50	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RU51	0790064R	RES.CHIP 1/16W 100K OHM
RU52	0790033R	RES.CHIP 1/16W 470 OHM
RU53	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RU54	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RU55	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RU56	AQ00228R	RES.CHIP 1/16W 20K OHM TAPE
RU57	AQ00233R	RES.CHIP 1/16W 30K OHM TAPE
RU58	0790049R	RES.CHIP 1/16W 8.2K OHM
RU59	0790064R	RES.CHIP 1/16W 100K OHM
RU60	0790033R	RES.CHIP 1/16W 470 OHM
RU67	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE
RU68	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE
RU69	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE
RU70	0700027M	RES.-CARBON FLM 1/16W 100-JB
RU71	0790024R	RES.CHIP 1/16W 100 OHM
RU72	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RU74	0790051R	RES.CHIP 1/16W 10K OHM
RU75	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RU76	0790029R	RES.CHIP 1/16W 270 OHM
RU77	0790024R	RES.CHIP 1/16W 100 OHM
RU78	0700027M	RES.-CARBON FLM 1/16W 100-JB
RU79	0700054M	RES.-CARBON FLM 1/16W 10K-JB
RU80	0790059R	RES.CHIP 1/16W 47K OHM
RU81	0700027M	RES.-CARBON FLM 1/16W 100-JB
RU82	0790061R	RES.CHIP 1/16W 56K OHM
RU83	0790045R	RES.CHIP 1/16W 3.9K OHM
RU84	0790059R	RES.CHIP 1/16W 47K OHM
RU85	0700027M	RES.-CARBON FLM 1/16W 100-JB
RU86	0790061R	RES.CHIP 1/16W 56K OHM
RU87	0790045R	RES.CHIP 1/16W 3.9K OHM
RU92	AT03315S	METAL OX. 56K OHM 1W
RU93	AT03315S	METAL OX. 56K OHM 1W
RU94	0790008R	RES.CHIP 1/16W 6.8 OHM
RU95	0790008R	RES.CHIP 1/16W 6.8 OHM
RU97	0790022R	RES.CHIP 1/16W 68 OHM
RU98	0790042R	RES.CHIP 1/16W 2.2K OHM
RU99	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RUA1	0119591M	RES.-MTL FLM 1/8W 220-FB
RUA2	AQ00189R	RES.CHIP 1/16W 680 OHM TAPE
RUA3	AQ00203R	RES.CHIP 1/16W 2.2K OHM TAPE
RUA4	0790051R	RES.CHIP 1/16W 10K OHM
⚠ RUA5	0790046R	RES.CHIP 1/16W 4.7K OHM
⚠ RUA6	0790033R	RES.CHIP 1/16W 470 OHM
RUA7	0790051R	RES.CHIP 1/16W 10K OHM
RUA8	0790048R	RES.CHIP 1/16W 6.8K OHM
RUA9	0790059R	RES.CHIP 1/16W 47K OHM
RUC1	0790047R	RES.CHIP 1/16W 5.6K OHM
RUC2	0790051R	RES.CHIP 1/16W 10K OHM
RUC3	0790028R	RES.CHIP 1/16W 220 OHM
RUC5	0790028R	RES.CHIP 1/16W 220 OHM
RUC7	0790059R	RES.CHIP 1/16W 47K OHM
RUC8	0790037R	RES.CHIP 1/16W 1.0K OHM
RUC9	0790028R	RES.CHIP 1/16W 220 OHM
RUE2	0790042R	RES.CHIP 1/16W 2.2K OHM
RUE3	0790042R	RES.CHIP 1/16W 2.2K OHM
RUK3	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RUK4	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RV01	0790061R	RES.CHIP 1/16W 56K OHM
RV02	0790057R	RES.CHIP 1/16W 33K OHM
RV03	0790024R	RES.CHIP 1/16W 100 OHM
RV04	0790037R	RES.CHIP 1/16W 1.0K OHM
RV05	0790037R	RES.CHIP 1/16W 1.0K OHM
RV06	0790037R	RES.CHIP 1/16W 1.0K OHM
RV07	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RV08	0790069R	RES.CHIP 1/16W 270K OHM
RV09	0790069R	RES.CHIP 1/16W 270K OHM
RV10	0790059R	RES.CHIP 1/16W 47K OHM
RV11	0790061R	RES.CHIP 1/16W 56K OHM
RV12	0790059R	RES.CHIP 1/16W 47K OHM
RV13	0790061R	RES.CHIP 1/16W 56K OHM
RV14	0790024R	RES.CHIP 1/16W 100 OHM
RV15	0790024R	RES.CHIP 1/16W 100 OHM
RV16	0790037R	RES.CHIP 1/16W 1.0K OHM
RV17	0790037R	RES.CHIP 1/16W 1.0K OHM
RV20	0790037R	RES.CHIP 1/16W 1.0K OHM
RV21	0790069R	RES.CHIP 1/16W 270K OHM
RV22	0790069R	RES.CHIP 1/16W 270K OHM
RV23	0790047R	RES.CHIP 1/16W 5.6K OHM
RV24	0790047R	RES.CHIP 1/16W 5.6K OHM
RV25	0790059R	RES.CHIP 1/16W 47K OHM
RV26	0790059R	RES.CHIP 1/16W 47K OHM
RV27	0790037R	RES.CHIP 1/16W 1.0K OHM
RV28	0790051R	RES.CHIP 1/16W 10K OHM
RV29	0790064R	RES.CHIP 1/16W 100K OHM
RV30	0790064R	RES.CHIP 1/16W 100K OHM
RV31	0790064R	RES.CHIP 1/16W 100K OHM
RV32	0790064R	RES.CHIP 1/16W 100K OHM
RV33	0790051R	RES.CHIP 1/16W 10K OHM
RV34	0790051R	RES.CHIP 1/16W 10K OHM
RV35	0790053R	RES.CHIP 1/16W 15K OHM
RV36	0790024R	RES.CHIP 1/16W 100 OHM
RV37	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE
RV38	0790069R	RES.CHIP 1/16W 270K OHM
RV39	0790069R	RES.CHIP 1/16W 270K OHM
RV40	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE
RV41	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE
RV42	0790037R	RES.CHIP 1/16W 1.0K OHM
RV43	0790024R	RES.CHIP 1/16W 100 OHM
RV44	0790047R	RES.CHIP 1/16W 5.6K OHM
RV45	0790047R	RES.CHIP 1/16W 5.6K OHM
RV46	0790024R	RES.CHIP 1/16W 100 OHM
RV47	0790024R	RES.CHIP 1/16W 100 OHM
RV48	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE
RV49	0790069R	RES.CHIP 1/16W 270K OHM
RV50	0790069R	RES.CHIP 1/16W 270K OHM
RV51	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE
RV52	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE
RV53	0790024R	RES.CHIP 1/16W 100 OHM
RV54	0790047R	RES.CHIP 1/16W 5.6K OHM
RV55	0790047R	RES.CHIP 1/16W 5.6K OHM
RV56	0790024R	RES.CHIP 1/16W 100 OHM
RV57	0790024R	RES.CHIP 1/16W 100 OHM
RV58	0790037R	RES.CHIP 1/16W 1.0K OHM
RV59	0790064R	RES.CHIP 1/16W 100K OHM
RV60	0790064R	RES.CHIP 1/16W 100K OHM
RV61	0790064R	RES.CHIP 1/16W 100K OHM

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
RV62	0790064R	RES.CHIP 1/16W 100K OHM	RW32	0790047R	RES.CHIP 1/16W 5.6K OHM
RV63	0790064R	RES.CHIP 1/16W 100K OHM	RW33	0790037R	RES.CHIP 1/16W 1.0K OHM
RV64	0790037R	RES.CHIP 1/16W 1.0K OHM	RW34	0790037R	RES.CHIP 1/16W 1.0K OHM
RV65	0790028R	RES.CHIP 1/16W 220 OHM	RW35	0790047R	RES.CHIP 1/16W 5.6K OHM
RV66	0790037R	RES.CHIP 1/16W 1.0K OHM	RW36	0790056R	RES.CHIP 1/16W 27K OHM
RV67	0790028R	RES.CHIP 1/16W 220 OHM	RW37	0790064R	RES.CHIP 1/16W 100K OHM
RV68	0790063R	RES.CHIP 1/16W 82K OHM	RW38	0790024R	RES.CHIP 1/16W 100 OHM
RV69	0790063R	RES.CHIP 1/16W 82K OHM	RW40	AQ00185R	RES.CHIP 1/16W 470 OHM TAPE
RV70	0790037R	RES.CHIP 1/16W 1.0K OHM	RW41	AQ00191R	RES.CHIP 1/16W 750 OHM TAPE
RV71	0790037R	RES.CHIP 1/16W 1.0K OHM	RW42	AQ00191R	RES.CHIP 1/16W 750 OHM TAPE
RV72	AQ00163R	RES.CHIP 1/16W 68 OHM TAPE	RW43	0790024R	RES.CHIP 1/16W 100 OHM
RV73	AQ00163R	RES.CHIP 1/16W 68 OHM TAPE	RW44	0790043R	RES.CHIP 1/16W 2.7K OHM
RV74	AQ00163R	RES.CHIP 1/16W 68 OHM TAPE	RW46	0790036R	RES.CHIP 1/16W 820 OHM
RV75	0790034R	RES.CHIP 1/16W 560 OHM	RW47	0790024R	RES.CHIP 1/16W 100 OHM
RV76	0790034R	RES.CHIP 1/16W 560 OHM	RW48	0790043R	RES.CHIP 1/16W 2.7K OHM
RV77	0790034R	RES.CHIP 1/16W 560 OHM	RW49	0790034R	RES.CHIP 1/16W 560 OHM
RV78	0790034R	RES.CHIP 1/16W 560 OHM	RW50	0790047R	RES.CHIP 1/16W 5.6K OHM
RV79	0790034R	RES.CHIP 1/16W 560 OHM	RW51	0790059R	RES.CHIP 1/16W 47K OHM
RV80	0790034R	RES.CHIP 1/16W 560 OHM	RW52	0790059R	RES.CHIP 1/16W 47K OHM
RV81	0790034R	RES.CHIP 1/16W 560 OHM	RW53	0790024R	RES.CHIP 1/16W 100 OHM
RV82	0790034R	RES.CHIP 1/16W 560 OHM	RW54	0790035R	RES.CHIP 1/16W 680 OHM
RV83	0790034R	RES.CHIP 1/16W 560 OHM	RW55	AQ00205R	RES.CHIP 1/16W 2.7K OHM TAPE
RV84	0790024R	RES.CHIP 1/16W 100 OHM	RW56	AQ00196R	RES.CHIP 1/16W 1.2K OHM TAPE
RV85	0790024R	RES.CHIP 1/16W 100 OHM	RW57	0790024R	RES.CHIP 1/16W 100 OHM
RV86	0790024R	RES.CHIP 1/16W 100 OHM	RW58	0790041R	RES.CHIP 1/16W 1.8K OHM
RV95	0790047R	RES.CHIP 1/16W 5.6K OHM	RW59	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RV96	0790024R	RES.CHIP 1/16W 100 OHM	RW60	0790024R	RES.CHIP 1/16W 100 OHM
RV97	0790047R	RES.CHIP 1/16W 5.6K OHM	RW61	0790044R	RES.CHIP 1/16W 3.3K OHM
RV98	0790024R	RES.CHIP 1/16W 100 OHM	RW62	0790034R	RES.CHIP 1/16W 560 OHM
RVA0	0790047R	RES.CHIP 1/16W 5.6K OHM	RW63	0790047R	RES.CHIP 1/16W 5.6K OHM
RVA1	0790047R	RES.CHIP 1/16W 5.6K OHM	RW64	0790059R	RES.CHIP 1/16W 47K OHM
RVA4	0790051R	RES.CHIP 1/16W 10K OHM	RW65	0790055R	RES.CHIP 1/16W 22K OHM
RVA5	0790051R	RES.CHIP 1/16W 10K OHM	RW66	0790024R	RES.CHIP 1/16W 100 OHM
RVA6	0790059R	RES.CHIP 1/16W 47K OHM	RW67	0790035R	RES.CHIP 1/16W 680 OHM
RVA9	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RW68	0790041R	RES.CHIP 1/16W 1.8K OHM
RVC0	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RW69	0790037R	RES.CHIP 1/16W 1.0K OHM
RVC1	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RW70	0790024R	RES.CHIP 1/16W 100 OHM
RVC2	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RW71	0790041R	RES.CHIP 1/16W 1.8K OHM
RVC3	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RW72	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RVC4	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RW76	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE
RVE2	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE	RW77	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE
RVE3	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE	RW78	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE
RVE4	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE	RW82	0790024R	RES.CHIP 1/16W 100 OHM
RVF4	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RW83	0790024R	RES.CHIP 1/16W 100 OHM
RVF5	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RW84	0790024R	RES.CHIP 1/16W 100 OHM
RVF6	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RW85	0790024R	RES.CHIP 1/16W 100 OHM
RW01	0790024R	RES.CHIP 1/16W 100 OHM	RW86	0790024R	RES.CHIP 1/16W 100 OHM
RW02	0790047R	RES.CHIP 1/16W 5.6K OHM	RW87	0790024R	RES.CHIP 1/16W 100 OHM
RW03	0790024R	RES.CHIP 1/16W 100 OHM	RW88	0790037R	RES.CHIP 1/16W 1.0K OHM
RW04	0790047R	RES.CHIP 1/16W 5.6K OHM	RW89	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RW05	0790024R	RES.CHIP 1/16W 100 OHM	RW90	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RW06	0790037R	RES.CHIP 1/16W 1.0K OHM	RW91	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RW07	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE	RW92	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE
RW08	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE	RW93	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE
RW09	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE	RW94	AQ00164R	RES.CHIP 1/16W 75 OHM TAPE
RW12	0790024R	RES.CHIP 1/16W 100 OHM	RX11	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RW13	0790024R	RES.CHIP 1/16W 100 OHM	RX18	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RW14	0790024R	RES.CHIP 1/16W 100 OHM	RX24	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RW15	0790042R	RES.CHIP 1/16W 2.2K OHM	RX30	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RW16	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RX31	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RW17	0790024R	RES.CHIP 1/16W 100 OHM	RX32	0790024R	RES.CHIP 1/16W 100 OHM
RW18	0790024R	RES.CHIP 1/16W 100 OHM	RX33	0790024R	RES.CHIP 1/16W 100 OHM
RW19	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	RX34	0790024R	RES.CHIP 1/16W 100 OHM
RW20	AQ00193R	RES.CHIP 1/16W 910 OHM TAPE	RX35	0790024R	RES.CHIP 1/16W 100 OHM
RW21	0790047R	RES.CHIP 1/16W 5.6K OHM	RX36	0790024R	RES.CHIP 1/16W 100 OHM
RW22	0790037R	RES.CHIP 1/16W 1.0K OHM	RX37	0790024R	RES.CHIP 1/16W 100 OHM
RW23	0790037R	RES.CHIP 1/16W 1.0K OHM	RX38	0790024R	RES.CHIP 1/16W 100 OHM
RW24	0790047R	RES.CHIP 1/16W 5.6K OHM	RX45	0790037R	RES.CHIP 1/16W 1.0K OHM
RW25	0790024R	RES.CHIP 1/16W 100 OHM	RX47	0790024R	RES.CHIP 1/16W 100 OHM
RW26	0790042R	RES.CHIP 1/16W 2.2K OHM	RX48	0790024R	RES.CHIP 1/16W 100 OHM
RW27	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RX49	0790024R	RES.CHIP 1/16W 100 OHM
RW28	0790024R	RES.CHIP 1/16W 100 OHM	RX50	0790024R	RES.CHIP 1/16W 100 OHM
RW29	0790024R	RES.CHIP 1/16W 100 OHM	RX54	0790037R	RES.CHIP 1/16W 1.0K OHM
RW30	AQ00194R	RES.CHIP 1/16W 1.0K OHM TAPE	RX55	0790037R	RES.CHIP 1/16W 1.0K OHM
RW31	AQ00193R	RES.CHIP 1/16W 910 OHM TAPE	RX56	0790037R	RES.CHIP 1/16W 1.0K OHM

PRODUCT SERVICE NOTE: Components marked with a ⚠ 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.

SYMBOL NO.	PART NO.	PART DESCRIPTION	SYMBOL NO.	PART NO.	PART DESCRIPTION
RX57	0790041R	RES.CHIP 1/16W 1.8K OHM	RY48	0790047R	RES.CHIP 1/16W 5.6K OHM
RX58	0790041R	RES.CHIP 1/16W 1.8K OHM	RY49	0790058R	RES.CHIP 1/16W 39K OHM
RX59	0790041R	RES.CHIP 1/16W 1.8K OHM	RY50	0790051R	RES.CHIP 1/16W 10K OHM
RX60	AQ00195R	RES.CHIP 1/16W 1.1K OHM TAPE	RY51	0790024R	RES.CHIP 1/16W 100 OHM
RX61	AQ00195R	RES.CHIP 1/16W 1.1K OHM TAPE	RY52	0790037R	RES.CHIP 1/16W 1.0K OHM
RX62	AQ00195R	RES.CHIP 1/16W 1.1K OHM TAPE	RY53	0790034R	RES.CHIP 1/16W 560 OHM
RX66	0790037R	RES.CHIP 1/16W 1.0K OHM	RY54	0790039R	RES.CHIP 1/16W 1.5K OHM
RX67	0790037R	RES.CHIP 1/16W 1.0K OHM	RY55	0790024R	RES.CHIP 1/16W 100 OHM
RX68	0790037R	RES.CHIP 1/16W 1.0K OHM	RY56	0790032R	RES.CHIP 1/16W 390 OHM
RX69	0790041R	RES.CHIP 1/16W 1.8K OHM	RY57	0790032R	RES.CHIP 1/16W 390 OHM
RX70	0790041R	RES.CHIP 1/16W 1.8K OHM	RY58	0790034R	RES.CHIP 1/16W 560 OHM
RX71	0790041R	RES.CHIP 1/16W 1.8K OHM	RY59	0790053R	RES.CHIP 1/16W 15K OHM
RX72	AQ00195R	RES.CHIP 1/16W 1.1K OHM TAPE	RY60	0790052R	RES.CHIP 1/16W 12K OHM
RX73	AQ00195R	RES.CHIP 1/16W 1.1K OHM TAPE	RY61	0790024R	RES.CHIP 1/16W 100 OHM
RX74	AQ00195R	RES.CHIP 1/16W 1.1K OHM TAPE	RY62	0790037R	RES.CHIP 1/16W 1.0K OHM
RX90	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RY63	0790024R	RES.CHIP 1/16W 100 OHM
RX91	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RY64	0790049R	RES.CHIP 1/16W 8.2K OHM
RX92	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RY65	0790054R	RES.CHIP 1/16W 18K OHM
RX93	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RY66	0790051R	RES.CHIP 1/16W 10K OHM
RX94	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RY67	0790051R	RES.CHIP 1/16W 10K OHM
RX95	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RY69	0790024R	RES.CHIP 1/16W 100 OHM
RX96	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RY71	0790051R	RES.CHIP 1/16W 10K OHM
RX97	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RY72	0790024R	RES.CHIP 1/16W 100 OHM
RX98	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RY74	0790024R	RES.CHIP 1/16W 100 OHM
RXA1	0790037R	RES.CHIP 1/16W 1.0K OHM	RY75	0790024R	RES.CHIP 1/16W 100 OHM
RXA2	0790037R	RES.CHIP 1/16W 1.0K OHM	RY76	0790024R	RES.CHIP 1/16W 100 OHM
RXA3	0790051R	RES.CHIP 1/16W 10K OHM	RY77	0790024R	RES.CHIP 1/16W 100 OHM
RXA5	0790051R	RES.CHIP 1/16W 10K OHM	RY78	AQ00215R	RES.CHIP 1/16W 6.2K OHM TAPE
RXA6	0790037R	RES.CHIP 1/16W 1.0K OHM	RY79	0790033R	RES.CHIP 1/16W 470 OHM
RXA7	0790051R	RES.CHIP 1/16W 10K OHM	RY80	0790037R	RES.CHIP 1/16W 1.0K OHM
RY01	0790055R	RES.CHIP 1/16W 22K OHM	RY81	0790037R	RES.CHIP 1/16W 1.0K OHM
RY02	0790056R	RES.CHIP 1/16W 27K OHM	RY82	0790037R	RES.CHIP 1/16W 1.0K OHM
RY03	0790024R	RES.CHIP 1/16W 100 OHM	RY84	0790024R	RES.CHIP 1/16W 100 OHM
RY04	0790042R	RES.CHIP 1/16W 2.2K OHM	RY85	0790042R	RES.CHIP 1/16W 2.2K OHM
RY05	0790037R	RES.CHIP 1/16W 1.0K OHM	RY86	0790042R	RES.CHIP 1/16W 2.2K OHM
RY06	AQ00174R	RES.CHIP 1/16W 180 OHM TAPE	RY87	0790024R	RES.CHIP 1/16W 100 OHM
RY07	AQ00192R	RES.CHIP 1/16W 820 OHM TAPE	RY88	0790024R	RES.CHIP 1/16W 100 OHM
RY08	0790044R	RES.CHIP 1/16W 3.3K OHM	RY89	0790033R	RES.CHIP 1/16W 470 OHM
RY09	0790061R	RES.CHIP 1/16W 56K OHM	RY90	0790033R	RES.CHIP 1/16W 470 OHM
RY10	0790055R	RES.CHIP 1/16W 22K OHM	RY91	0790024R	RES.CHIP 1/16W 100 OHM
RY11	0790052R	RES.CHIP 1/16W 12K OHM	RY92	AQ00233R	RES.CHIP 1/16W 30K OHM TAPE
RY12	0790041R	RES.CHIP 1/16W 1.8K OHM	RY93	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RY13	0790024R	RES.CHIP 1/16W 100 OHM	RY94	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RY14	0790039R	RES.CHIP 1/16W 1.5K OHM	RY95	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RY15	0790028R	RES.CHIP 1/16W 220 OHM	RY96	0790042R	RES.CHIP 1/16W 2.2K OHM
RY16	0790068R	RES.CHIP 1/16W 220K OHM	RY97	0790033R	RES.CHIP 1/16W 470 OHM
RY17	0790059R	RES.CHIP 1/16W 47K OHM	RY98	0790033R	RES.CHIP 1/16W 470 OHM
RY18	0790056R	RES.CHIP 1/16W 27K OHM	RY99	0790033R	RES.CHIP 1/16W 470 OHM
RY19	0790051R	RES.CHIP 1/16W 10K OHM	RZ01	0790024R	RES.CHIP 1/16W 100 OHM
RY20	0790033R	RES.CHIP 1/16W 470 OHM	RZ02	0790024R	RES.CHIP 1/16W 100 OHM
RY21	0790046R	RES.CHIP 1/16W 4.7K OHM	RZ03	0790024R	RES.CHIP 1/16W 100 OHM
RY22	0790043R	RES.CHIP 1/16W 2.7K OHM	RZ04	0790024R	RES.CHIP 1/16W 100 OHM
RY23	0790028R	RES.CHIP 1/16W 220 OHM	RZ05	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RY24	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608	RZ06	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RY25	0790024R	RES.CHIP 1/16W 100 OHM	RZ07	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RY26	0790024R	RES.CHIP 1/16W 100 OHM	RZ09	0790024R	RES.CHIP 1/16W 100 OHM
RY27	0790064R	RES.CHIP 1/16W 100K OHM	RZ11	0790051R	RES.CHIP 1/16W 10K OHM
RY28	0790032R	RES.CHIP 1/16W 390 OHM	RZ12	0790024R	RES.CHIP 1/16W 100 OHM
RY29	0790037R	RES.CHIP 1/16W 1.0K OHM	RZ14	0790024R	RES.CHIP 1/16W 100 OHM
RY32	0790047R	RES.CHIP 1/16W 5.6K OHM	RZ15	0790024R	RES.CHIP 1/16W 100 OHM
RY33	0790011R	RES.CHIP 1/16W 10 OHM	RZ16	0790024R	RES.CHIP 1/16W 100 OHM
RY34	0790042R	RES.CHIP 1/16W 2.2K OHM	RZ17	0790024R	RES.CHIP 1/16W 100 OHM
RY35	AQ00187R	RES.CHIP 1/16W 560 OHM TAPE	RZ18	AQ00215R	RES.CHIP 1/16W 6.2K OHM TAPE
RY36	AQ00214R	RES.CHIP 1/16W 5.6K OHM	RZ19	0790033R	RES.CHIP 1/16W 470 OHM
RY37	0790058R	RES.CHIP 1/16W 39K OHM	RZ21	0790037R	RES.CHIP 1/16W 1.0K OHM
RY38	0790056R	RES.CHIP 1/16W 27K OHM	RZ22	0790037R	RES.CHIP 1/16W 1.0K OHM
RY39	0790024R	RES.CHIP 1/16W 100 OHM	RZ23	0790037R	RES.CHIP 1/16W 1.0K OHM
RY40	0790037R	RES.CHIP 1/16W 1.0K OHM	RZ24	0790024R	RES.CHIP 1/16W 100 OHM
RY41	AQ00205R	RES.CHIP 1/16W 2.7K OHM TAPE	RZ25	0790042R	RES.CHIP 1/16W 2.2K OHM
RY42	AQ00196R	RES.CHIP 1/16W 1.2K OHM TAPE	RZ26	0790042R	RES.CHIP 1/16W 2.2K OHM
RY43	0790024R	RES.CHIP 1/16W 100 OHM	RZ27	0790024R	RES.CHIP 1/16W 100 OHM
RY44	0790042R	RES.CHIP 1/16W 2.2K OHM	RZ28	0790024R	RES.CHIP 1/16W 100 OHM
RY45	0790011R	RES.CHIP 1/16W 10 OHM	RZ29	0790033R	RES.CHIP 1/16W 470 OHM
RY46	0790042R	RES.CHIP 1/16W 2.2K OHM	RZ30	0790033R	RES.CHIP 1/16W 470 OHM
RY47	0790034R	RES.CHIP 1/16W 560 OHM	RZ31	0790024R	RES.CHIP 1/16W 100 OHM

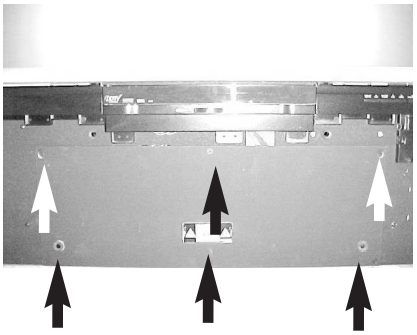
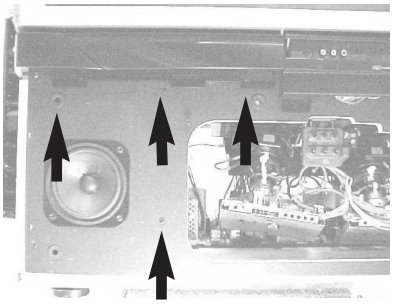
PRODUCT SERVICE NOTE: Components marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully, the PRODUCT SAFETY NOTICE of this Service Manual. Don't degrade the safety of the receiver through improper servicing.

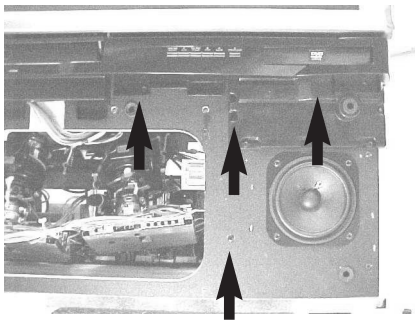
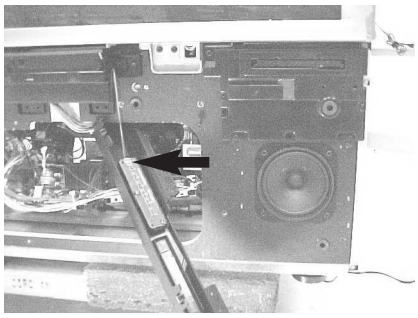
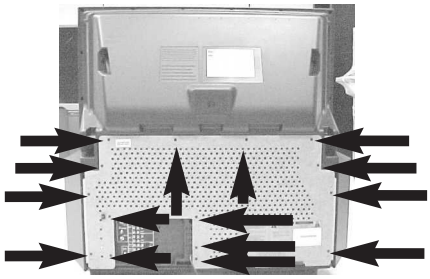
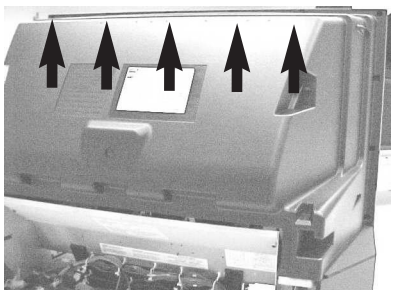
SYMBOL NO.	PART NO.	PART DESCRIPTION
RZ32	AQ00233R	RES.CHIP 1/16W 30K OHM TAPE
RZ33	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RZ34	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RZ35	0790001R	CHIP RESISTOR RECJUMPER-1-16C16T1608
RZ37	0790033R	RES.CHIP 1/16W 470 OHM
RZ38	0790033R	RES.CHIP 1/16W 470 OHM
RZ39	0790033R	RES.CHIP 1/16W 470 OHM
RZ41	0790024R	RES.CHIP 1/16W 100 OHM
RZ42	0790024R	RES.CHIP 1/16W 100 OHM
RZ43	0790024R	RES.CHIP 1/16W 100 OHM
RZ44	0790019R	RES.CHIP 1/16W 47 OHM
RZ45	0790019R	RES.CHIP 1/16W 47 OHM
RZ46	0790019R	RES.CHIP 1/16W 47 OHM
		RELAYS, SWITCHES
⚠ S901	FJ00142	RELAY ALKS329
SK01	FE10332R	SWITCH (TYPE SWP01N01TKSH0636BT)
SM01	FE10402R	PUSH SWITCH SKQNAB (46F500A)
SM02	FE10402R	PUSH SWITCH SKQNAB
SM03	FE10402R	PUSH SWITCH SKQNAB
SM04	FE10402R	PUSH SWITCH SKQNAB
SM05	FE10402R	PUSH SWITCH SKQNAB
SM06	FE10402R	PUSH SWITCH SKQNAB
SM07	FE10402R	PUSH SWITCH SKQNAB
SM08	FE10402R	PUSH SWITCH SKQNAB
SM09	FE10402R	PUSH SWITCH SKQNAB
SU01	FE10402R	PUSH SWITCH SKQNAB
SU02	FE10402R	PUSH SWITCH SKQNAB
SU03	FE10402R	PUSH SWITCH SKQNAB
SU04	FE10402R	PUSH SWITCH SKQNAB
SU05	FE10402R	PUSH SWITCH SKQNAB
SU06	FE10402R	PUSH SWITCH SKQNAB
⚠ SU91	FJ00142	RELAY ALKS329
		TRANSFORMERS
⚠ T701	BT01232	HORIZONTAL OUTPUT TRANSFORMER
⚠ T702	BZ03061	DRIVE TRANS.-DJ81
⚠ T901	BT02162	SW TRANS EE49F17US-DP3X(B)
TF01	BT02141	EE22 DYNAMIC FOCUS TRANSFORMER (46F500A)
⚠ TH01	BW03004	FLYBACK TRANSFORMER
⚠ TU91	BT02171	EE28 SWITCHING TRANSFORMER
		FILTERS, CRYSTALS
X001	BP01311R	CSTLS16M0X
X501	2168771	VFL-CSB503F30
XV01	BJ00642	COIL (LC FILTER 6M LPF)
XV02	BJ00642	COIL (LC FILTER 6M LPF)
XY01	BJ00642	COIL (LC FILTER 6M LPF)
XY02	BJ00642	COIL (LC FILTER 6M LPF)
XY03	BP01191	OSCILLATOR 20HHZ HC-49US
XY04	2168771	VFL-CSB503F30
XY05	BP01241	OSCILLATOR 3.58 49U
XY06	2168771	VFL-CSB503F30
XY07	BP01241	OSCILLATOR 3.58 49U
⚠ X901	AJ00832	ERZV10D241
		SPEAKERS
U402	GK01181	12CM SPEAKER
U404	GK01181	12CM SPEAKER
		MISCELLANEOUS
#	K 547	46W500 SCREEN ASY
#	QG01581	46F500 R. COVER ASY
#	U	RED PART ASSY
#	U	GREEN PART ASSY
#	U	BLUE PART ASSY
#	U 323	DP33W CONTROL B.ASY
#	H312275	46" SCREEN JIG
#010C	PH32735	CONTROL PANEL2003S500(1S P OXIN) PS
#011	UE22291	46W500 CORE B.ASY
#022	PH32746	CONTROL DOOR 2003 W500 ABS
#031	NT03022	46W500 FRAME ASY
#041	QG01581	46F500 R. COVER ASY
#042	NJ07071	MIROR COVER HOLDER R
#043	NJ07071	MIROR COVER HOLDER R
#043	NJ07072	MIROR COVER HOLDER L

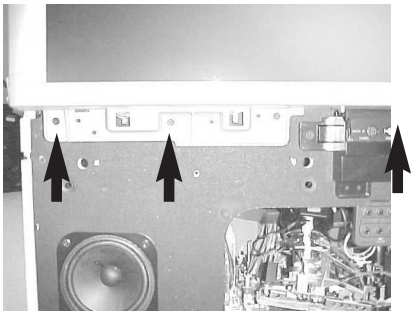
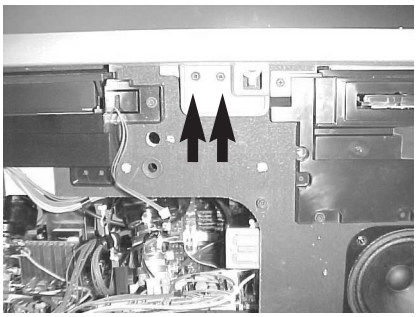
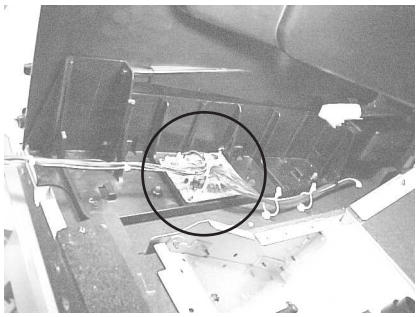
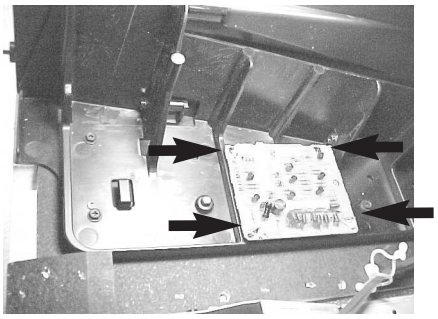
SYMBOL NO.	PART NO.	PART DESCRIPTION
#044	NJ07072	MIROR COVER HOLDER L
#051	UE22181	DP33W DVD B.ASY
#101	QD35421	REAR COVER 46W500
#111	33010468	BARRIER BOARD 46F500
#111A	NA60741	BARR BRD FIX MTL R46
#111B	NA60742	BARR BRD FIX MTL L46
#112	55020112	FRONT BOARD ASSY 46W500
#113	KS05782	MIRROR 46W500
#115	MN05002	CORE COVER CUSHION B
#200	PH32832	DVD FRONT COVER 46W500 PS (94HB)
#201	PH32821	DVD DOOR 46W500
#201	PH32821	DVD DOOR 46W500
#211A	PC05691	DVD CONTROL BUTTON 46W500
#212	PH32812	DECO RAIL L 46W500
#415	H512332	LOWER REAR BOARD 46W500
#428	3727972	POWER CORD HANGER
#510	PH32202	SP GRILL SASY 46W500
#80	PH33641	DECO RAIL RIGHT ASSY 46W500
⚠ E801	EY01353	CRT SOCKET
⚠ E851	EY01353	CRT SOCKET
⚠ E8A1	EY01353	CRT SOCKET
⚠ E999	EV00559	AC CORD
J401	EY01782	JACK OC-0805T*002OPT BLK
JA01	EU01041	TERMINAL(TERMINAL BOARD) 2P PIN JACK
JX03	ES00351	JACK LAP5120-0101F US9P Y/C3P
PADJ	ED [illegible]	PLUG 6P LOCK 2.5MM JST
PAS1	ED00389	PLUG 10P WITH LOCK
PCB	ED00385	PLUG 6P LOCK 2.5MM JST
PCG	ED00385	PLUG 6P LOCK 2.5MM JST
PCR	ED00385	PLUG 6P LOCK 2.5MM JST
PDC1	ED [illegible]	PLUG 4P JST2.5ROCK
PDG	ED01782	22P PLUG PIN
PDS	ED01782	22P PLUG PIN
PET	ED03196	20P 2.5MM PITCH PLUG TAC-L20P-A3
PFC1	ED [illegible]	22P PLUG PIN
PFC2	ED [illegible]	22P PLUG PIN
PMB	ED01597U	PLUG CP-06BP5R0VU-TBL#3,5N
PMG	ED01597U	PLUG CP-06BP5R0VU-TBL#3,5N
PMR	ED01597U	PLUG CP-06BP5R0VU-TBL#3,5N
PPC1	ED00383	PLUG 4P JST2.5ROCK
PPD3	ED01493U	CONNECTOR 13BS1R2VUTWGX-A1
PPD4	ED01471U	PLUG 07BP1R2HUTWGP-A1
PPS3	ED01493U	CONNECTOR 13BS1R2VUTWGX-A1
PPS4	ED01471U	PLUG 07BP1R2HUTWGP-A1
PPS5	ED01492U	CONNECTOR 11BS1R2VUTWGX-A1
PPS6	ED01471U	PLUG 07BP1R2HUTWGP-A1
PS3	2959055	CONNECTOR-6P(PH)
PSP	ED00385	PLUG 6P LOCK 2.5MM JST
PVMB	2902263	PLUG PIN SUB MINI 4P
PVMG	2902263	PLUG PIN SUB MINI 4P
PVMR	2902263	PLUG PIN SUB MINI 4P
		OWNER ASSY & ACCESSORIES
E203	FQ00021	DRY BATTERY(R6P-AA)
E301	HL01838	REMOTE CONTROL UNIT
N201	QR61541	INST.BOOK - 46F510
	QR62281	INST.BOOK - 46F500A
N202	H462168	PTV WARRANTY CARD W/ C/R/C 04
N203	H462168	WARRANTY CARD (F) 02
N211	QT45491	EASY GRAPHIC GUIDE 46F510
	QT45441	EASY GRAPHIC GUIDE 46F500A
N214	QT45501	QUICK R/C GUIDE 46F510
	QT45451	QUICK R/C GUIDE 46F500A

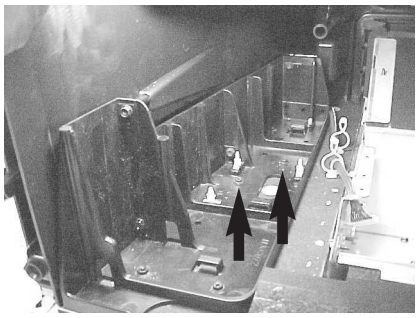
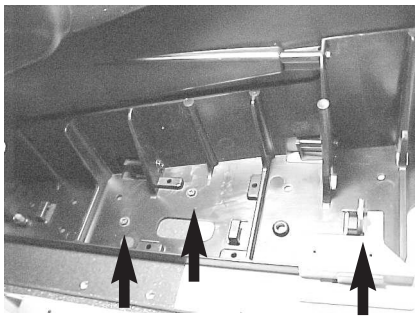
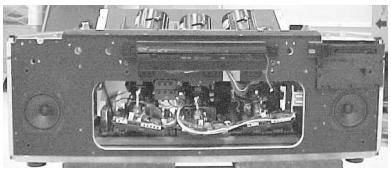
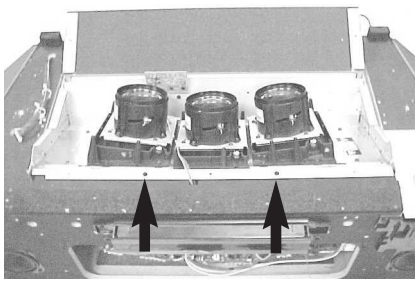
The following instructions are for models with a Light Box design. This new cabinet design will enable servicers to remove the Light Box assembly, with out the need to take a complete PTV out for service.

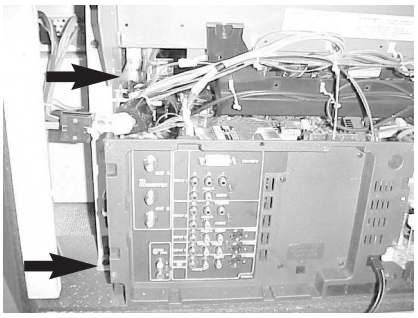
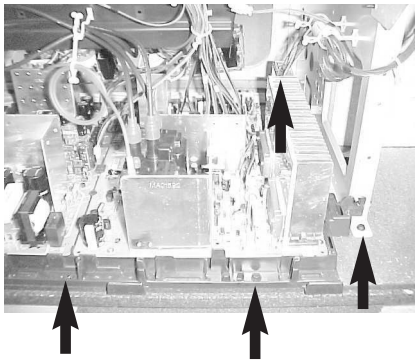
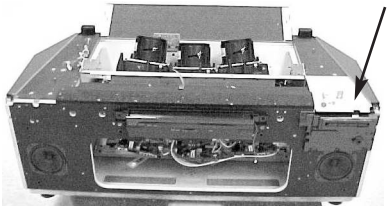
Disassembly Instructions for Screen Frame Assemblies and Light Box (46F500A)

STEP	INSTRUCTIONS	IMAGE
1	The image shows the front view of the TV. The front speaker grille needs to be removed.	
2	Pull the speaker grille off by placing your hands behind the outside corners and pulling straight out. The image at the right shows the left side of the TV only.	
3	The Front Door needs to be removed. Loosen the top left and top right screws about half way. Remove the other 4 screws. Lift the Front Door up and remove.	
4	Remove the left Deco Panel, which are held by 2 screws under the Deco Panel. Remove 2 screws which hold the left side of Light Box Assembly.	

STEP	INSTRUCTIONS	IMAGE
5	Do the same thing on the right side of the TV.	
6	Disconnect the wiring to the right Deco Panel as shown.	
7	Now move to the chassis area on the back of the TV. Remove 15 screws that hold the lower rear board.	
8	Remove 16 screws that hold the back cover assembly and screen assembly to the cabinet as shown. The picture only shows one side of the TV.	

STEP	INSTRUCTIONS	IMAGE
9	Remove 3 screws which hold the lower left corner of the screen assembly.	
10	Remove 2 screws which hold the lower right corner of the screen assembly.	
11	Before removing the screen assembly completely out, remove all of the wires (with 4 connectors) connecting to the Magic Focus sensor board first. Get additional help if necessary.	
12	Remove the Magic Focus sensor board which is held in place by 4 plastic clips at the corners.	

STEP	INSTRUCTIONS	IMAGE
13	Continue at the front, remove 4 screws that hold the left side of the back cover assembly.	
14	Remove 3 screws and a piece of metal (slide outward) that holds the right side of the back cover assembly.	
15	Lift the back cover assembly straight up from the cabinet. The picture shows the cabinet and the Light Box assembly (with the screen assembly and back cover assembly removed).	
16	Remove 2 screws that hold the Light Box to the cabinet.	

STEP	INSTRUCTIONS	IMAGE
17	Remove 2 screws that hold the Light Box to the cabinet. For easier removal, one of the screws has to be removed from the front.	
18	Remove 2 screws that hold the chassis to the cabinet, and 2 screws that hold the Light Box to the cabinet. For easier removal, one of the screws has to be removed from the front.	
19	Slightly slide the Light Box and chassis backwards until it is out. Use additional help if necessary. The Light Box is now ready for easy transport to a designated service and repair facility.	(Does not apply) 

NOTE: The only difference between the Disassembly Instructions for the 46F510 and 46F500A are the speaker grill and control panel.

QUICK REFERENCE PARTS LIST (IC & UNIT)

No.	Symbol	Part #	DESCRIPTION	FUNCTION	PWB
1	I001	CK38651U	M306V7MH-XXXFP	TV U-COM (Mask) ROM1	Signal
2	I002	CK37051R	BD4729G-TR	Reset IC for I001	Signal
3	I003	CK35894R	CAT24WC32J1	E2PROM for I001	Signal
4	I004	CK01872R	BU4053BCFV-E2	Flash mode Selector	Signal
5	I008	CK01872R	BU4053BCFV-E2	CCD Selector	Signal
6	I009	CK37216R	TK11133CSCL	+3.3V Regulator	Signal
7	I010	CK38491R	MM74HCT245MTCX	Buffer for Bus line	Signal
8	I301	CK01872R	BU4053BCFV-E2	TV Audio Selector	Signal
9	I401	CK37191R	SI03018LSA-TL	+1.8V Regulator	Signal
10	I402	CK37406R	SI-3012KS-TL	+5.0V Regulator	Signal
11	I403	CP04232	AB033T	+3.3V Regulator	Signal
12	I404	CK37212R	TK11125CSCL	+2.5V Regulator	Signal
13	I453	CK37406R	SI-3012KS-TL	+5.0V Regulator	Signal
14	I501	CK38711U	TA1350AFG(Hit)	RGB Processor	Signal
15	I502	CK01872R	BU4053BCFV-E2	Hsync. Selector for FC Unit	Signal
16	I503	CP05163F	SI-3090F	+9.3V Regulator	Signal
17	I504	CP04234	BA09T	+9.0V Regulator	Signal
18	IA01	CK38621R	NJW1160M-TE1	Audio Processor w/ BBE and SRS	Signal
19	U301	HC00514	F-E-ENGE6106DR	Main Tuner	Signal
20	U302	HC00464	F-E-ENG36626G	Sub Tuner	Signal
21	U401	CS00623	HC5623-ASS'Y	Flex Control Unit	Signal
22	IV01	CK30941U	CXA2069Q	A/V Selector	Terminal
23	IV02	CK07631R	TC90A45F	Dig. 2 Line Y/C Separator	Terminal
24	IV03	CK34811U	MM1519XQ	YPbPr Selector	Terminal
25	IV04	CK38101R	NJM2584M(TE1)	Comp1/DVI1 Selector	Terminal
26	IV08	CK01872R	BU4053BCFV-E2	Audio Selector	Terminal
27	IV11	CK31071R	CXA1875AM	DAC for DVI	Terminal
28	IY01	CK38701U	UPD64084GC-8EA-A	Dig. 3D Y/C separator	Terminal
29	IY02	CK37053R	BD4727G-TR	Reset for IY01	Terminal
30	IY03	CK38721R	TA1383GF(DRY EL)	Sub Y/C YPbPr Selector	Terminal
31	IY04	CK38721R	TA1383GF(DRY EL)	Main Y/C YPbPr Selector	Terminal
32	IJ01	CK37193R	SI-3033LSA-TL	+3.3V Regulator	DVI
33	IJ02	CK37051R	BD4729G-TR	Reset IC for IJ03	DVI
34	IJ03	CK35163R	SII907BCQ52	DVI IC	DVI
35	IJ04	CA01301R	NDC7002N	Voltage Converter	DVI

TABLE OF CONTENTS

No.	Symbol	Part #	DESCRIPTION	FUNCTION	PWB
36	IJ05	CK35895R	CAT24WC02J1	EDID E2PROM for Input 1	DVI
37	I901	CZ00865	STR-F6629B(LF1359)	Switching Regulator	Power
38	I902	CP08261U	IC H11A817B-300W	OPT. Isolator	Power
39	I903	CP08261U	IC H11a817B-300W	OPT. Isolator	Power
40	I904	2381343	SE115N	+B(115V) Regulator	Power
41	I905	CP08301	STA821M	+5.5V Regulator	Power
42	I906	CP08291	STA811M	+6.3V Regulator	Power
43	IAA1	2004751	TA8258H	Audio Amp (20+20W)	Power
44	T901	BT02162	PT-EE49F17US-DP3X(B)	Switching Transformer	Power
45	U901	CW00352	UPM0518SA	Stand by Power Module	Power
46	I601	CP06891	TDA8147A	Ver. Output	Deflection
47	I701	2362606	NJM4558D	Gain Amp (side Pin corr.)	Deflection
48	IH01	CP07091	M62501P	HV Contoller	Deflection
49	IK01	CP06081	SI-3050N	+5V Regulator	Deflection
50	IK02	CP05011R	PST994D-T	Mute	Deflection
51	IK04	CZ01142	STK394-250	Conv. Amp.	Deflection
52	IK05	CZ01142	STK394-250	Conv. Amp.	Deflection
53	T701	BT01232	Horiz. Output Transformer	HOT	Deflection
54	T702	BZ03061	LX-DRIVE TRANS.-DJ81	Hor Drive Transformer	Deflection
55	TF01	BT02141	PT-EE22F06U-DP25H-2F	Dynamic Focus Transformer	Deflection
56	TH01	BW03002	HVT-MSU1AUR103(DP3X)	FBT	Deflection
57	UKDG	CS00731	HC2191-ASS'Y	Digital Conv. Unit	Deflection
58	HM01	CZ01171	GP1UM281RK	IR Receiver on Control	Control
59	HM02	CZ01161	GP1UM281QK	IR Receiver	Control
60	EANT	HP00772	UNX ANT SW BOX	ANT SW BOX	Main Chas.

46F500 CRT Assembly part numbers

UE23431 RED
UE23432 GREEN
UE23433 BLUE

46F510 CRT Assembly part numbers

UE23434 RED
UE23435 GREEN
UE23436 BLUE

CH 2

HITACHI