

# GoldStar

## COLOR TV SERVICE MANUAL

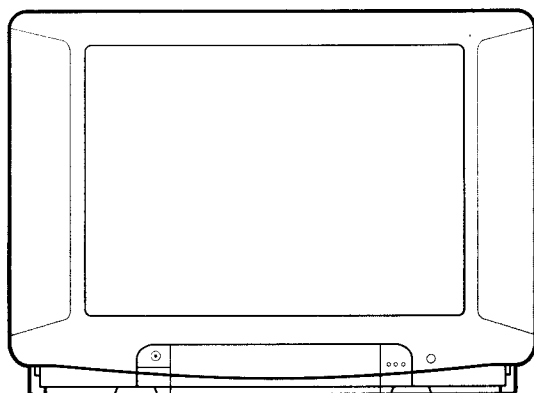
CHASSIS : MC-51B

**MODEL : CF-25/29C26 Series**

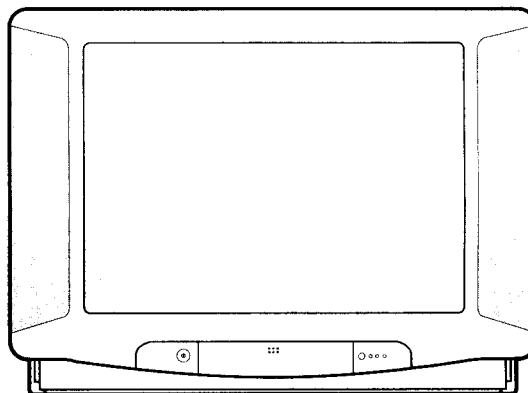
### CAUTION

BEFORE SERVICING THE CHASSIS, READ THE "SAFETY PRECAUTIONS"  
IN THIS MANUAL.

CF-25C26 Series



CF-29C26 Series



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## SAFETY PRECAUTIONS

### IMPORTANT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These parts are identified by  $\Delta$  in the Schematic Diagram and Replacement Parts List.

It is essential that these special safety parts should be replaced with the same components as recommended in this manual to prevent X-RADIATION, Shock, Fire, or other Hazards.

Do not modify the original design without permission of manufacturer.

### General Guidance

An **Isolation Transformer** should always be used during the servicing of a receiver whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks.

It will also protect the receiver and its components from being damaged by accidental shorts of the circuitry that may be inadvertently introduced during the service operation.

If any fuse (or Fusible Resistor) in this TV receiver is blown, replace it with the specified.

When replacing a high wattage resistor (Oxide Metal Film Resistor, over 1W), keep the resistor 10mm away from PCB.

Keep wires away from high voltage or high temperature parts.

Due to high vacuum and large surface area of picture tube, extreme care should be used in **handling the Picture Tube**. Do not lift the Picture tube by its Neck.

### X-RAY Radiation

#### Warning:

The source of X-RAY RADIATION in this TV receiver is the High Voltage Section and the Picture Tube. For continued X-RAY RADIATION protection, the replacement tube must be the same type tube as specified in the Replacement Parts List.

To determine the presence of high voltage, use an accurate high impedance HV meter.

Adjust brightness, color, contrast controls to minimum. Measure the high voltage.

The meter reading should indicate

23.5  $\pm$  1.5KV: 14-19 inch, 26  $\pm$  1.5KV: 19-21 inch,

29.0  $\pm$  1.5KV: 25-29 inch, 30.0  $\pm$  1.5KV: 32 inch

If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.

### Before returning the receiver to the customer,

always perform an **AC leakage current check** on the exposed metallic parts of the cabinet, such as antennas, terminals, etc., to be sure the set is safe to operate without damage of electrical shock.

#### Leakage Current Cold Check (Antenna Cold Check)

With the instrument AC plug removed from AC source, connect an electrical jumper across the two AC plug prongs. Place the AC switch in the on position, connect one lead of ohm-meter to the AC plug prongs tied together and touch other ohm-meter lead in turn to each exposed metallic parts such as antenna terminals, phone jacks, etc.

If the exposed metallic part has a return path to the chassis, the measured resistance should be between 1M $\Omega$  and 5.2M $\Omega$ .

When the exposed metal has no return path to the chassis the reading must be infinite.

Any other abnormality exists that must be corrected before the receiver is returned to the customer.

#### Leakage Current Hot Check (See below Figure)

Plug the AC cord directly into the AC outlet.

**Do not use a line Isolation Transformer during this check.**

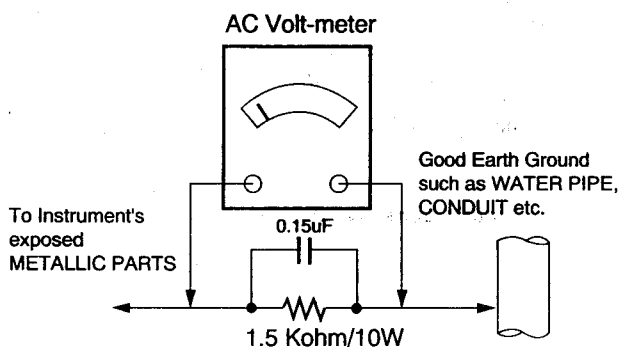
Connect 1.5K/10watt resistor in parallel with a 0.15 $\mu$ F capacitor between a known good earth ground (Water Pipe, Conduit, etc.) and the exposed metallic parts.

Measure the AC voltage across the resistor using AC voltmeter with 1000 ohms/volt or more sensitivity.

Reverse plug the AC cord into the AC outlet and repeat AC voltage measurements for each exposed metallic part. Any voltage measured must not exceed 0.75 volt RMS which is corresponds to 0.5mA.

In case any measurement is out of the limits specified, there is possibility of shock hazard and the set must be checked and repaired before it is returned to the customer.

#### Leakage Current Hot Check circuit



## SERVICING PRECAUTIONS

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

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

### General Servicing Precautions

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

**CAUTION:** A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.

- d. Discharging the picture tube anode.
2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM, etc) equipped with a suitable high voltage probe. Do not test high voltage by "drawing an arc".
3. Discharge the picture tube anode 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 anode button, using an insulating handle to avoid personal contact with high voltage.
4. Do not spray chemicals on or near this receiver or any of its assemblies.
5. Unless specified otherwise in this service manual, clean electrical contacts only 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 this service manual, lubrication of contacts is not required.

6. Do not defeat any plug/socket B+ voltage interlocks with which receivers covered by this service manual 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 receiver ground lead to the receiver chassis ground before connecting the test receiver positive lead.  
Always remove the test receiver ground lead last.
9. Use with this receiver only the test fixtures specified in this service manual.

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

### 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 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 to prevent 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 unsolder ES devices.
4. Use only an anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

**CAUTION:** Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

### General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range of 500°F to 600°F.
  2. Use an appropriate gauge of RMA resin-core solder composed of 60 parts tin/40 parts lead.
  3. Keep the soldering iron tip clean and well tinned.
  4. Thoroughly clean the surfaces to be soldered. Use a mall wirebrush (0.5 inch, or 1.25cm) brush with a metal handle. Do not use freon-propelled spray-on cleaners.
  5. Use the following unsoldering 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.
    - c. Quickly draw the melted solder with an anti-static, suction-type solder removal device or with solder braid.
- CAUTION:** Work quickly to avoid overheating the circuitboard printed foil.
6. Use the following soldering technique.
    - a. Allow the soldering iron tip to reach a normal temperature (500°F to 600°F)
    - b. First, hold the soldering iron tip and solder the 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.

- d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.

### IC Remove/Replacement

Some 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 the 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 the 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 Device

#### Removal/Replacement

1. Heat and remove all solder from around the transistor leads.
2. Remove the heatsink mounting screw (if so equipped).
3. Carefully remove the transistor from the heat sink of the circuit board.
4. Insert new transistor in the 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 perpendicular 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.

### Fuse and Conventional Resistor

#### Removal/Replacement

1. Clip each fuse or resistor lead at top of the circuit board hollow stake.
2. Securely crimp the leads of replacement component around notch at stake 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.

#### At IC Connections

To repair a 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.
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 out-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 the 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.

1. Remove the defective copper pattern with a sharp knife. Remove at least 1/4 inch of copper, to ensure that a hazardous condition will not exist if the jumper wire opens.
  2. Trace along the copper pattern from both sides of the pattern break and locate the nearest component that is directly connected to the affected copper pattern.
  3. Connect insulated 20-gauge jumper wire from the lead of 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 the it does not touch components or sharp edges.

## SPECIFICATIONS

**NOTE :** Specifications and others are subject to change without notice for improvement.

- **Video input system:**

Multi 26 System  
(Refer to Table 1)

- **Intermediate Frequency**

Vision IF : 38.0MHz  
Color IF : 33.57MHz ※ SECAM : 38.0-4.25MHz  
34.42MHz(M) ( 38.0-4.40625MHz  
Sound IF : 32.5MHz(B/G)  
32.0MHz(I)  
31.5MHz(D/K,K1)  
33.5MHz(M)

- **Tuning range**

Band		PAL/SECAM-B/G	
		For TV	For CATV
VHF-Low		Ch 2-4	
			S1'-S3', S1
VHF-High			S2-S10
		Ch 5-12	
			S11-S20
	Hyper		<b>S21-S41</b>
UHF		Ch 21-69	

- **OSD (On Screen Display):**

Menu Method

- **Antenna input impedance:** VHF/UHF 75ohm, Unbalanced

- **Voice coil impedance : 8 ohm**

- **External connections :**

S-VIDEO (Super Video)  
A/V in : 1 pair  
Headphone Jack  
Scart1 (Full)  
Scart2 (Half) or A/V Jack

Front(option)  
Rear(option)

	Specifications
Video in/out	1Vp-p $\pm$ 3dB, 75ohm
Audio in (2 way)	0.5Vrms $\pm$ 3dB, over 10Kohm
Audio out (2 way)	0.5Vrms $\pm$ 3dB, below 1Kohm
R. G. B in	0.7Vp-p $\pm$ 3dB

- **Power requirements :**

100-270 Vac, 50/60HZ

- **Power consumption :**

150 Wmax (25 inch)  
160 Wmax (29 inch)

- **Tuning system:**

VS (Voltage Synthesizer)  
80 Program Memory

- **Sound output:**

12 Wmax. X 2 way (at 50KHz deviation)  
Dual / Stereo : A2, NICAM(option)  
Speaker Jack(option)

- **Local button :**

Menu/OK  
Volume up(+)/down(-)  
Program up(+)/down(-)

- **LED Display**

TV on : Yellow color  
Stand-by : Red color  
Stereo & Dual : Red color

- **Function :**

- ACMS a (Auto Channel Memory System + Channel Exchange)
- Auto Program
- Manual Program
- Auto Sleep
- Quick View
- PSM (Picture status Memory)
- SSM (Sound status Memory)

**Child Lock :** In the Lock On state the TV can only be operated by the Remote Controller.

If any button on the front panel is pressed, "Child lock on" is displayed on the screen but the button's function is not performed.

To cancel of this mode, select lock off with menu button on remote controller only.

Hyper band ☐ (option)  
Teletext(FLOF/LIST/TOP) ☐

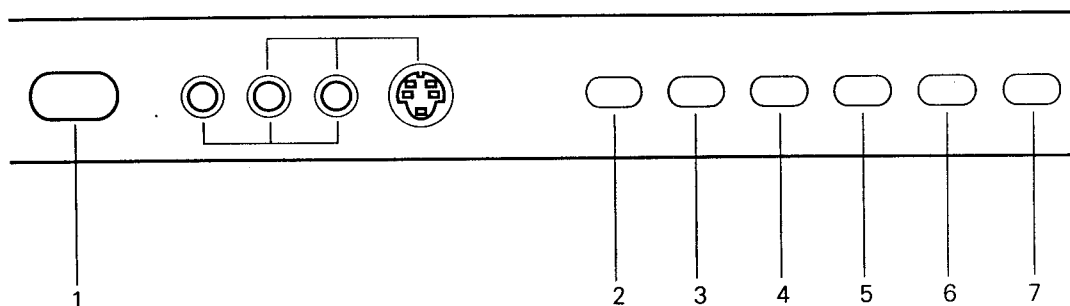
Table 1: Receiving System (26 System)

No	Receiving System	Function	Receiving Channel
1	PAL-B	Reception of broadcast and play-back for Video Tape Recorder	<b>VHF Band</b> PAL/SECAM-B : 2-12 PAL/SECAM-D : 1-12 SECAM-K1 : 2-9 NTSC-M (US) : 2-13 NTSC-M (JAPAN) : 1-12  <b>UHF Band</b> PAL/SECAM-G : 21-69 PAL-I : 21-69 SECAM-K : 21-69 PAL-K : 13-56 NTSC-M (US) : 14-78 NTSC-M (JAPAN) : 13-62
2	PAL-G		
3	PAL-I		
4	PAL-D		
5	PAL-K		
6	SECAM-B		
7	SECAM-G		
8	SECAM-D		
9	SECAM-K		
10	SECAM-K1		
11	NTSC-M		
12	NTSC 4.43/5.5MHZ	Play-back for special Video Tape Recorder	
13	NTSC 4.43/6.0MHZ		
14	NTSC 4.43/6.5MHZ		
15	SECAM-I (6.0MHZ)		
16	SECAM-L (Video In)		
17	NTSC 3.58/4.5MHZ/50HZ	Play-back for special Video tape/Video disk player	
18	PAL 5.5MHZ/60HZ		
19	PAL 6.0MHZ/60HZ		
20	PAL 6.5MHZ/60HZ		
21	SECAM 5.5MHZ/60HZ		
22	SECAM 6.0MHZ/60HZ		
23	SECAM 6.5MHZ/60HZ		
24	NTSC 3.58/5.5MHZ	Play-back for special Video Tape Recorder	
25	NTSC 3.58/6.0MHZ		
26	NTSC 3.58/6.5MHZ		

## CONTROL DESCRIPTIONS

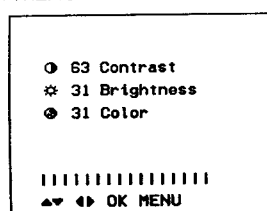
### ● Control locations on the TV

Note: The features may be different in accordance with the tool.

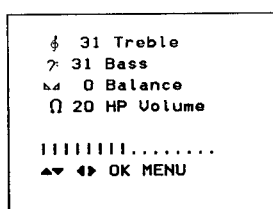


No.	The name of button	Descriptions
1	MAIN POWER	To turn on the TV
2	MENU	To watch the menu ※ Refer to the menu reference below.
3	OK	To keep the current status into memory.
4	VOLUME DOWN	To decrease volume.
5	VOLUME UP	To increase volume.
6	PROGRAM No. DOWN	To change program No. downwards.
7	PROGRAM No. UP	To change program No. upwards.

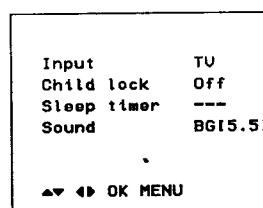
### ※ MENU REFERENCE



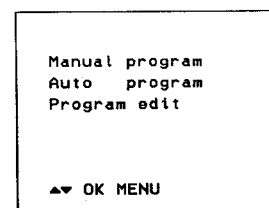
MENU 1



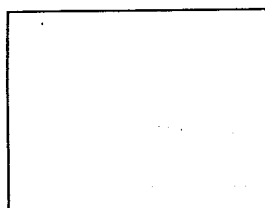
MENU 2



MENU 3



MENU 4



TV PROGRAM

### Note:

1. The menus automatically disappear in about 10 seconds if you do not press a button. However if you press the MENU button again, the last selected menu is displayed on the screen of the TV.
2. After selecting the menu, if you want to save the results, press the button OK.
3. In the AV mode, MENU 4 and sound of MENU 3 are not displayed.
4. In the teletext mode, only MENU 1 and 2 are displayed.
5. Only in a set with a built-in headphone socket, HP Volume is displayed in MENU 2.



## DISASSEMBLY INSTRUCTIONS

### Important note

This set is disconnected from the power supply through the converter transformer. An isolating transformer is necessary for service operations on the primary side of the converter transformer.

### Back Cabinet Removal

Remove the screws residing on the back cabinet and carefully separate the back cabinet from the front cabinet.

### CPT Removal

1. Pull out the CPT board from the CPT neck.
2. Place the front cabinet on soft material not to mar the front surface or damage control knobs.
3. Remove 4 screws securing the picture tube mounting brackets to the front cabinet.
4. Carefully separate CPT from the front cabinet.

### Chassis Assy Removal

Grasp both side of Frame and pull it backward smoothly.

### Speaker Assy Removal

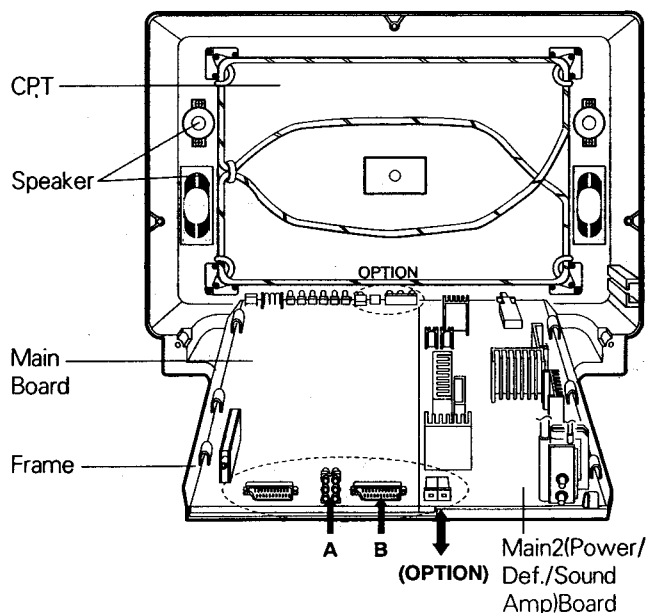
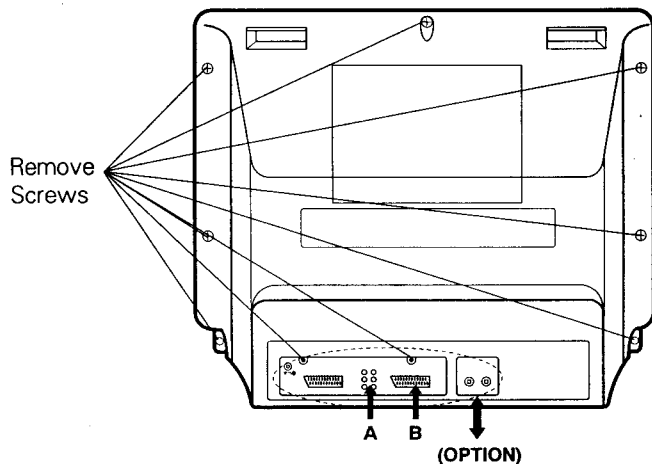
1. Remove P651 and P652 connector from Main 2(Power/Def./Sound-Amp) Board.
2. Remove respective 2 screws for tweeter speaker (R,L) and 4 screws for squawker speaker (R,L) on the front cabinet.

### PICTURE TUBE HANDLING CAUTION

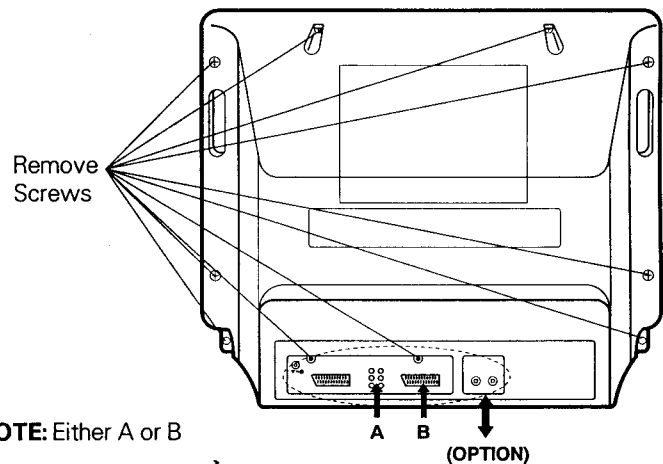
Due to high vacuum and large surface area of picture tube, great care must be exercised when handling picture tube. Always lift picture tube by grasping it firmly around faceplate.

NEVER LIFT TUBE BY ITS NECK! The picture tube must not be scratched or subjected to excessive pressure as fracture of glass may result in an implosion of considerable violence which can cause personal injury or property damage.

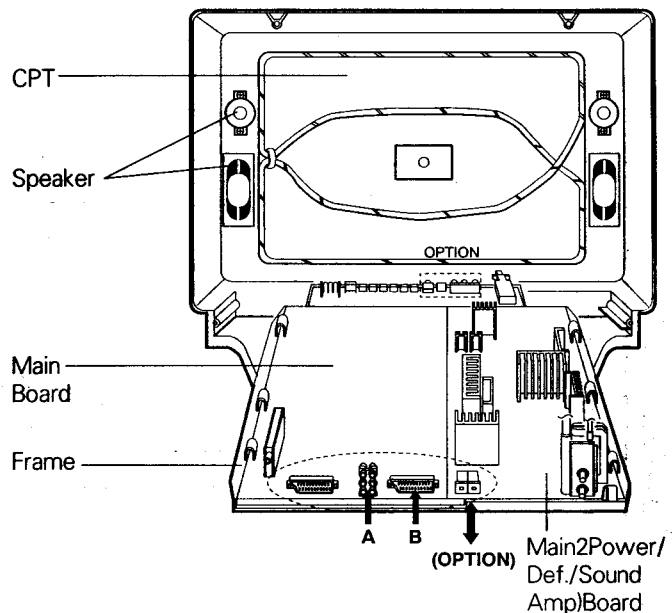
CF-25C26 Series



CF-29C26 Series



NOTE: Either A or B

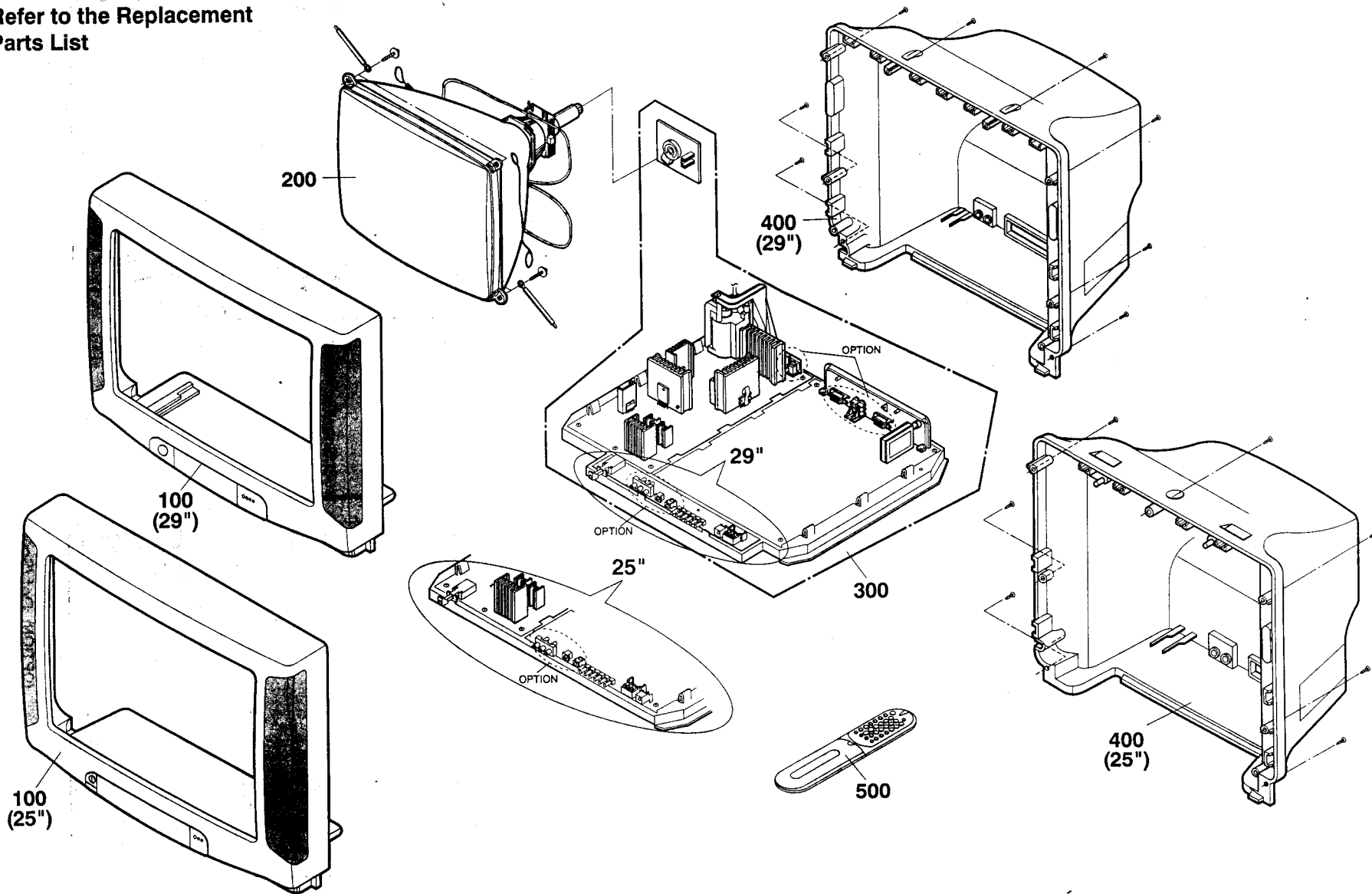


# Exploded View

MASTER SHEET

Refer to the Replacement  
Parts List

ES1BMA 3

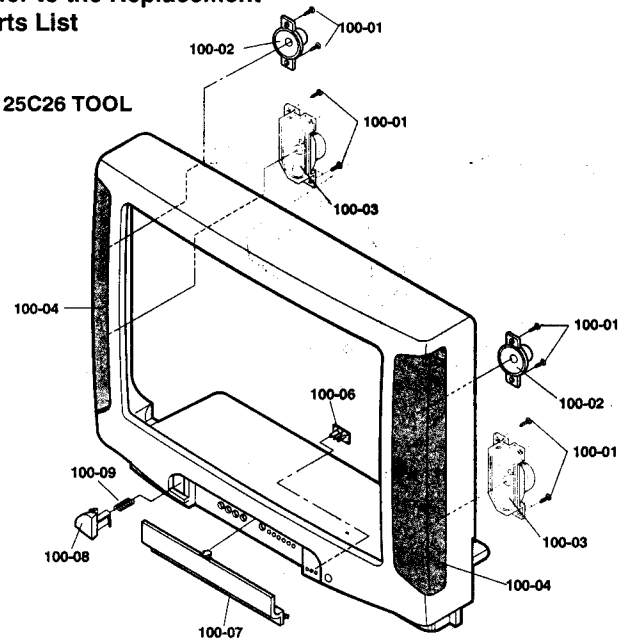


# Exploded View

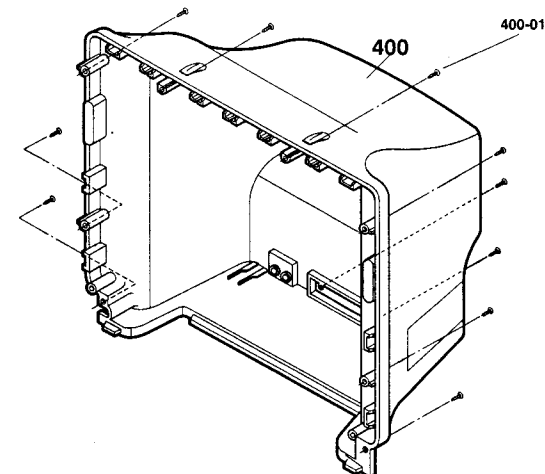
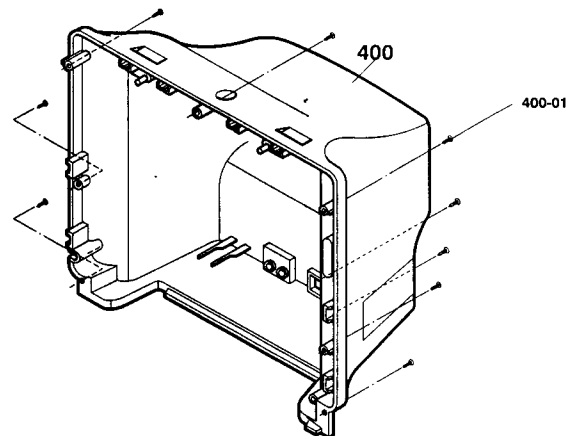
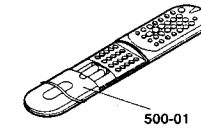
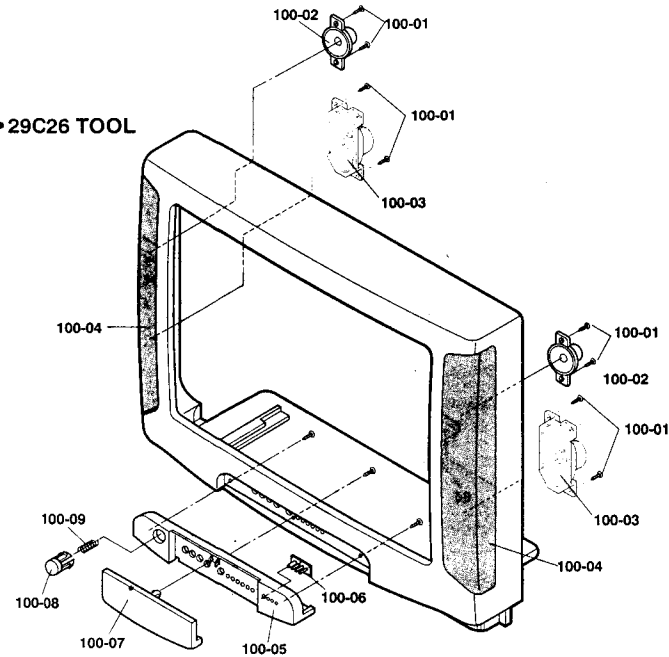
Cabinet, Back Cover  
& Transmitter

Refer to the Replacement  
Parts List

•25C26 TOOL



•29C26 TOOL

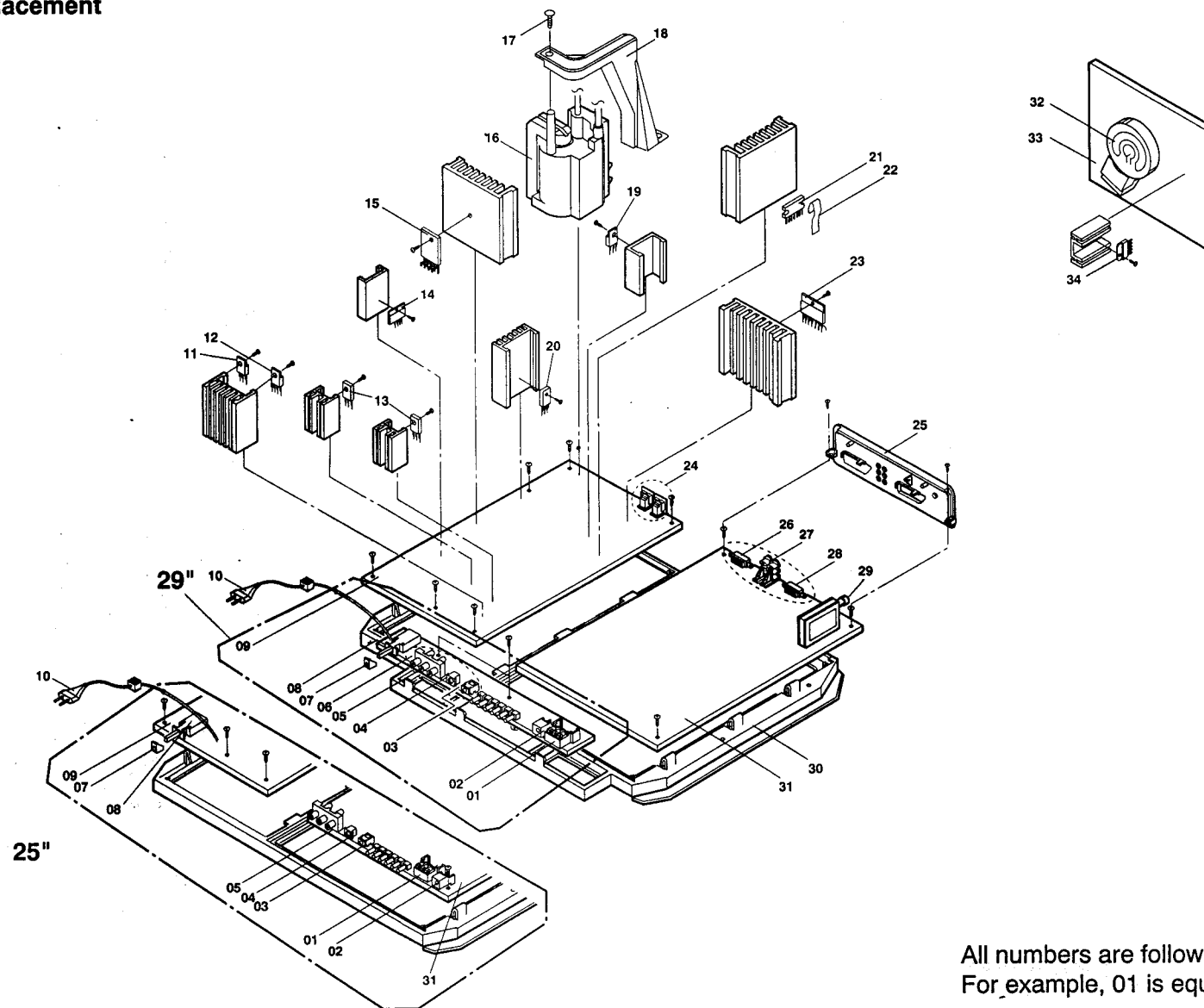


# Exploded View

Main Chassis Assy  
MC51B

Refer to the Replacement  
Parts List

E51BMC 3

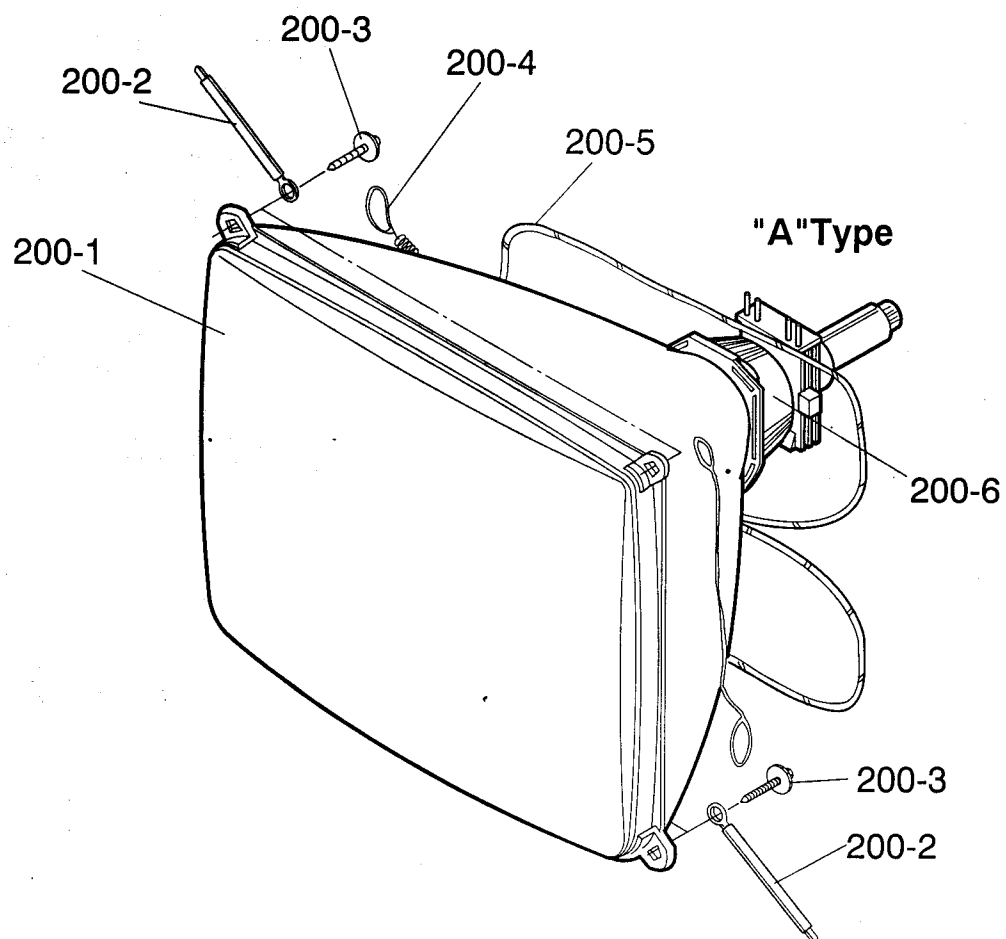


All numbers are followed by 300-.  
For example, 01 is equals to 300-01.

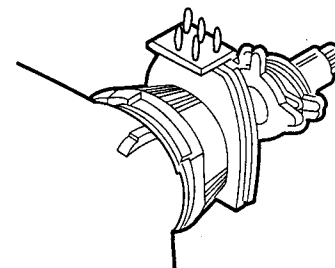
# Exploded View

CPT ASSY

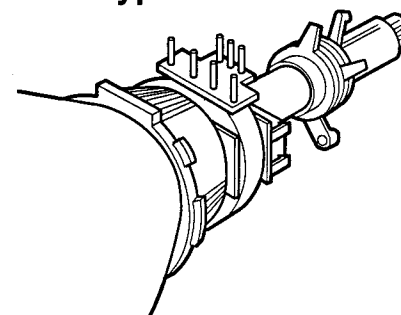
Refer to the Replacement  
Parts List



"B"Type



"C"Type



The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

## REPLACEMENT PARTS LIST

LOCA. NO	PART NO	DESCRIPTION	LOCA. NO	PART NO	DESCRIPTION
<b>CAPACITORS</b>					
C102	OCN2210K519	C,TUBULA(HIGH DIELE) 220PF 50V K	C206	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C103	OCQ1542K439	CAPACITOR MPE 50V 0.1UF J(TRI)	C207	OCE476DF618	C,ELECTROLYTIC 47UF STD 16V M FL TP5
C104	OCN1040K949	C,TUBULA(HIGH DIELE) 0.1M 50V Z	C208	OCE107DF618	C,ELECTROLYTIC 100UF STD 16V M FL TP5
C105	OCE475DK618	C,ELECTROLYTIC 4.7000UF STD 50V M FL TP5	C210	OCX0100K619	CAPACITOR TUBULA(T.C) 1P 50V M C TA52
C106	OCN1040K949	C,TUBULA(HIGH DIELE) 0.1M 50V Z	C211	OCX6R80K509	C,TUBULA(T.C) 6.8P 50V K
C107(25")	OCE477DD618	CAPACITOR,ELECTROLYTIC 470UF STD 10V M FL TP5	C212	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C108	OCN2210K519	C,TUBULA(HIGH DIELE) 220PF 50V K	C213	OCE476DF618	C,ELECTROLYTIC 47UF STD 16V M FL TP5
C109	OCN4710K519	C,TUBULA(HIGH DIELE) 470PF 50V K	C214	OCE476DF618	C,ELECTROLYTIC 47UF STD 16V M FL TP5
C110	OCN4710K519	C,TUBULA(HIGH DIELE) 470PF 50V K	C215	OCN1020K519	C,TUBULA(HIGH DIELE) 1000PF 50V K
C111	OCN3910K519	C,TUBULA(HIGH DIELE) 390P 50V K	C216	OCN1020K519	C,TUBULA(HIGH DIELE) 1000PF 50V K
C112	OCN1040K949	C,TUBULA(HIGH DIELE) 0.1M 50V Z	C217	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C113	OCN4710K519	C,TUBULA(HIGH DIELE) 470PF 50V K	C251	OCE106DF618	C,ELECTROLYTIC 10UF STD 16V M FL TP5
C114	OCC1500K415	C,CERAMIC(TEMP COMP) 15P 50V J	C253	OCE106DF618	C,ELECTROLYTIC 10UF STD 16V M FL TP5
C115	OCC1500K415	C,CERAMIC(TEMP COMP) 15P 50V J	C254	OCE106DF618	C,ELECTROLYTIC 10UF STD 16V M FL TP5
C116	OCC2200K415	CAPACITOR CERAMIC(TEMP COMP) 22P 50V J NPO TS	C255	OCE106DF618	C,ELECTROLYTIC 10UF STD 16V M FL TP5
C117	OCC2200K415	CAPACITOR CERAMIC(TEMP COMP) 22P 50V J NPO TS	C256	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C119	OCE335DK618	CAPACITOR,ELECTROLYTIC 3.3000UF STD 50V M FL TP5	C257	OCE107DF618	C,ELECTROLYTIC 100UF STD 16V M FL TP5
C120	OCN1010K519	C,TUBULA(HIGH DIELE) 100PF 50V K	C258	OCE106DF618	C,ELECTROLYTIC 10UF STD 16V M FL TP5
C121	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M	C259	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C122	OCE476DF618	C,ELECTROLYTIC 47UF STD 16V M FL TP5	C260	OCE476DF618	C,ELECTROLYTIC 47UF STD 16V M FL TP5
C123	OCE107DD618	CAPACITOR,ELECTROLYTIC 100UF STD 10V M FL TP5	C261(29")	OCE477DD618	CAPACITOR,ELECTROLYTIC 470UF STD 10V M FL TP5
C124	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M	C269	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C128	OCE477DF618	C,ELECTROLYTIC 470UF STD 16V M FL TP5	C270	OCE107DF618	C,ELECTROLYTIC 100UF STD 16V M FL TP5
C129	OCK2220K945	CAPACITOR CERAMIC(HIGH DIELE) 2200P 50V Z F TS	C351	OCE477DH618	C,ELECTROLYTIC 470UF STD 25V M FL TP5
C130	OCE476DF618	C,ELECTROLYTIC 47UF STD 16V M FL TP5	C352	OCE1076K618	C,ELECTROLYTIC 100MF SMS 50V M
C165	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M	C353	OCK1040K945	C,CERAMIC(HIGH DIELE) 0.1M 50V Z
C181	OCE107DF618	C,ELECTROLYTIC 100UF STD 16V M FL TP5	C354	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L
C182	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M	C355	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L
C183	OCE474DK618	C,ELECTROLYTIC 0.4700UF STD 50V M FL TP5	C356	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L
C184	OCE475DK618	C,ELECTROLYTIC 4.7000UF STD 50V M FL TP5	C357	OCQ1031N509	C,POLYESTER(MYLAR) 0.01U 100V K
C185	OCE225DK618	C,ELECTROLYTIC 2.2000UF STD 50V M FL TP5	C359	OCE6851K652	CAPACITOR,ELECTROLYTIC 6.8000UF SM 50V M FM7.5 BP(S)
C186	OCE475DK618	C,ELECTROLYTIC 4.7000UF STD 50V M FL TP5	C451	OCK3910K515	CAPACITOR CERAMIC(HIGH DIELE) 390P 50V K B TS
C187	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L	C452	OCQ1021N509	C,POLYESTER(MYLAR) 0.001U 100V K
C188	OCE475DK618	C,ELECTROLYTIC 4.7000UF STD 50V M FL TP5	C453	OCE475DP618	C,ELECTROLYTIC 4.7000UF STD 160V M FL TP5
C189	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M	C454(25")	1B1-014S	CAPACITOR MPP 2000V 0.0022UF J
C190	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M	C454(29")	1B1-011B	CAPACITOR PP 1600V 0.001UF J
C191	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L	$\Delta$ C455(25")	1B1-015L	CAPACITOR MPP 1600V 0.0095UF H
C192	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M	$\Delta$ C455(29")	1B1-014K	CAPACITOR MPP 1600V 0.0082UF J
C193	OCE476DF618	C,ELECTROLYTIC 47UF STD 16V M FL TP5	$\Delta$ C456(25")	1B1-015L	CAPACITOR MPP 1600V 0.0095UF H
C194	OCE107DF618	C,ELECTROLYTIC 100UF STD 16V M FL TP5	$\Delta$ C456(29")	1B1-015J	CAPACITOR MPP 1600V 0.0086UF H
C195	1B1-444G	C,POLYESTER(MYLAR) 0.15MF 100V K	$\Delta$ C457(25")	1B1-005E	CAPACITOR PP 400V 0.022UF K
C196	OCN1040K949	C,TUBULA(HIGH DIELE) 0.1M 50V Z	$\Delta$ C457(29")	1B1-005J	CAPACITOR PP 400V 0.033UF K
C197	OCN4710K519	C,TUBULA(HIGH DIELE) 470PF 50V K	$\Delta$ C458(25")	1B1-013J	CAPACITOR PP 200V 0.7UF J
C198	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L	$\Delta$ C458(29")	1B1-013G	CAPACITOR PP 200V 0.5UF J
C199	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L	C460(25")	OCE106BR618	C,ELECTROLYTIC 10UF KME 250V M
C200	OCE225DK618	C,ELECTROLYTIC 2.2000UF STD 50V M FL TP5	C501	OCQ1031N509	C,POLYESTER(MYLAR) 0.01U 100V K
C201	OCE226DF618	C,ELECTROLYTIC 22UF STD 16V M FL TP5	C502	OCQ1031N509	C,POLYESTER(MYLAR) 0.01U 100V K
C202	OCE106DF618	C,ELECTROLYTIC 10UF STD 16V M FL TP5	C503	OCQ1031N509	C,POLYESTER(MYLAR) 0.01U 100V K
C203	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M	C505	OCE105DK618	C,ELECTROLYTIC 1UF STD 50V M FL TP5
C204	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M	C509	OCQ2242K439	CAPACITOR MPE 50V 0.22UF J(TRI)
C205	OCE476DF618	C,ELECTROLYTIC 47UF STD 16V M FL TP5	C510	OCQ2242K439	CAPACITOR MPE 50V 0.22UF J(TRI)
			C511	OCQ2242K439	CAPACITOR MPE 50V 0.22UF J(TRI)

LOCA. NO	PART NO	DESCRIPTION
C512	OCQ3931N509	C,POLYESTER(MYLAR) 0.039 100V L
C513	OCQ1031N509	C,POLYESTER(MYLAR) 0.01MF 100V M FL TP5
C514	OCE105DK618	C,ELECTROLYTIC 1UF STD 50V M FL TP5
C515	181-027A	CAPACITOR,CK 50V 0.018MFM
C516	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L
C517	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L
C518	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L
C519	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L
C520	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L
C521	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L
C522	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C534	OCE476DD618	CAPACITOR,ELECTROLYTIC 47UF STD 10V M FL TP5
C535	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C536	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L
C537	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L
C538	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C539	OCE476DD618	CAPACITOR,ELECTROLYTIC 47UF STD 10V M FL TP5
C540	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C541	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L
C542	OCQ1041N455	CAPACITOR,POLYESTER(MYLAR) 0.1000UF 100V J PP NI FM7.5
C543	OCK1020K945	C,CERAMIC(HIGH DIELE) 1000P 50V Z
C544	OCQ3321N509	C,POLYESTER(MYLAR) 0.0033U 100V K
C545	OCE105DK618	C,ELECTROLYTIC 1UF STD 50V M FL TP5
C546	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L
C547	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L
C548	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L
C549	OCQ4742K439	CAPACITOR MPE 50V 0.47UF J(TR)
C550	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L
C551	OCQ4721N509	C,POLYESTER(MYLAR) 0.0047U 100V K
C552	OCQ2231N509	C,POLYESTER(MYLAR) 0.023MF 100V L
C553	OC1800K415	C,CERAMIC(TEMP COMP) 18P 50V J
C554	OC1500K415	C,CERAMIC(TEMP COMP) 15P 50V J
C555	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L
C559	OCE107DD618	CAPACITOR,ELECTROLYTIC 100UF STD 10V M FL TP5
C563	OCE107DF618	C,ELECTROLYTIC 100UF STD 16V M FL TP5
C6001	OCE107DF618	C,ELECTROLYTIC 100UF STD 16V M FL TP5
C6002	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C6003	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C6004	OCQ2721N409	C,POLYESTER(MYLAR) 2700PF 100V J
C6005	OCQ4742K439	CAPACITOR MPE 50V 0.47UF J(TR)
C6006	OCN3320F569	C,TUBULA(HIGH DIELE) 3300PF 16V K
C6007	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C6008	OCQ2721N409	C,POLYESTER(MYLAR) 2700PF 100V J
C6009	OCQ4742K439	CAPACITOR MPE 50V 0.47UF J(TR)
C601	OCX5600K409	C,TUBULA(T.C) 56P 50V J
C6010	OCN3320F569	C,TUBULA(HIGH DIELE) 3300PF 16V K
C6011	OCE106DF618	C,ELECTROLYTIC 10UF STD 16V M FL TP5
C6012	OCE106DF618	C,ELECTROLYTIC 10UF STD 16V M FL TP5
C6013	OCE107DH618	CAPACITOR,ELECTROLYTIC 100UF STD 25V M FL TP5
C6014	OCE107DF618	C,ELECTROLYTIC 100UF STD 16V M FL TP5
C602	OCX5600K409	C,TUBULA(T.C) 56P 50V J
C603	OCX5600K409	C,TUBULA(T.C) 56P 50V J

LOCA. NO	PART NO	DESCRIPTION
C606	OCE106DF618	C,ELECTROLYTIC 10UF STD 16V M FL TP5
C607	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C608	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C609	OCE106DF618	C,ELECTROLYTIC 10UF STD 16V M FL TP5
C610	OCQ3342K439	CAPACITOR MPE 50V 0.33UF J(TR)
C6101	OCQ4742K439	CAPACITOR MPE 50V 0.47UF J(TR)
C6102	OCQ4742K439	CAPACITOR MPE 50V 0.47UF J(TR)
C6103	OCN3320F569	C,TUBULA(HIGH DIELE) 3300PF 16V K
C6104	OCN3320F569	C,TUBULA(HIGH DIELE) 3300PF 16V K
C6105	OCE226DF618	C,ELECTROLYTIC 22UF STD 16V M FL TP5
C6106	OCE226DF618	C,ELECTROLYTIC 22UF STD 16V M FL TP5
C6107	OCE227DF618	C,ELECTROLYTIC 220UF STD 16V M FL TP5
C6108	OCE227DF618	C,ELECTROLYTIC 220UF STD 16V M FL TP5
C6109	OCE227DF618	C,ELECTROLYTIC 220UF STD 16V M FL TP5
C611	OCQ3342K439	CAPACITOR MPE 50V 0.33UF J(TR)
C6110	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C612	OCE105DK618	C,ELECTROLYTIC 1UF STD 50V M FL TP5
C613	OCE105DK618	C,ELECTROLYTIC 1UF STD 50V M FL TP5
C614	OCE105DK618	C,ELECTROLYTIC 1UF STD 50V M FL TP5
C615	OCE105DK618	C,ELECTROLYTIC 1UF STD 50V M FL TP5
C616	OCN4710K519	C,TUBULA(HIGH DIELE) 470PF 50V K
C617	OCN4710K519	C,TUBULA(HIGH DIELE) 470PF 50V K
C618	OCN1040K949	C,TUBULA(HIGH DIELE) 0.1M 50V Z
C619	OCE335DK618	CAPACITOR,ELECTROLYTIC 3.3000UF STD 50V M FL TP5
C620	OCN1020K519	C,TUBULA(HIGH DIELE) 1000PF 50V K
C621	OCE107DD618	CAPACITOR,ELECTROLYTIC 100UF STD 10V M FL TP5
C622	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C623	OCE106DF618	C,ELECTROLYTIC 10UF STD 16V M FL TP5
C624	OCE226DF618	C,ELECTROLYTIC 22UF STD 16V M FL TP5
C625	OCE226DF618	C,ELECTROLYTIC 22UF STD 16V M FL TP5
C626	OCE226DF618	C,ELECTROLYTIC 22UF STD 16V M FL TP5
C627	OCE226DF618	C,ELECTROLYTIC 22UF STD 16V M FL TP5
C629	OCE106DF618	C,ELECTROLYTIC 10UF STD 16V M FL TP5
C630	OCE335DK618	CAPACITOR,ELECTROLYTIC 3.3000UF STD 50V M FL TP5
C631	OCX1000K409	C,TUBULA(T.C) 10P 50V J
C632	OCX1000K409	C,TUBULA(T.C) 10P 50V J
C633	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C634	OCE476DF618	C,ELECTROLYTIC 47UF STD 16V M FL TP5
C635	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C636	OCN1020K519	C,TUBULA(HIGH DIELE) 1000PF 50V K
C637	OCN1020K519	C,TUBULA(HIGH DIELE) 1000PF 50V K
C638	OCN1020K519	C,TUBULA(HIGH DIELE) 1000PF 50V K
C639	OCN1020K519	C,TUBULA(HIGH DIELE) 1000PF 50V K
C640	OCN3910K519	C,TUBULA(HIGH DIELE) 390P 50V K
C641	OCE105DK618	C,ELECTROLYTIC 1UF STD 50V M FL TP5
C642	OCE105DK618	C,ELECTROLYTIC 1UF STD 50V M FL TP5
C643	OCN1020K519	C,TUBULA(HIGH DIELE) 1000PF 50V K
C644	OCN1020K519	C,TUBULA(HIGH DIELE) 1000PF 50V K
C645	OCN1020K519	C,TUBULA(HIGH DIELE) 1000PF 50V K
C646	OCN3910K519	C,TUBULA(HIGH DIELE) 390P 50V K
C651	OCE476DF618	C,ELECTROLYTIC 47UF STD 16V M FL TP5
C652	OCQ4742K439	CAPACITOR MPE 50V 0.47UF J(TR)

The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

LOCA. NO	PART NO	DESCRIPTION	LOCA. NO	PART NO	DESCRIPTION
C653	OCQ1021N509	C,POLYESTER(MYLAR) 0.001U 100V K	C828	OCE477DF618	C,ELECTROLYTIC 470UF STD 16V M FL TP5
C654	OCQ4742K439	CAPACITOR MPE 50V 0.47UF J(TR)	C829	181-003D	CAPACITOR CE 160V 100UF T HR (85)
C655	OCQ1021N509	C,POLYESTER(MYLAR) 0.001U 100V K	C831	OCK4710W515	C,CERAMIC(HIGH DIELE) 470PF 500V K
C656	OCE476DF618	C,ELECTROLYTIC 47UF STD 16V M FL TP5	C832	181-091D	CAPACITOR DE0905 R 102K 1KV TP5
C657	OCE476DF618	C,ELECTROLYTIC 47UF STD 16V M FL TP5	C833	181-091D	CAPACITOR DE0905 R 102K 1KV TP5
C658	OCE105DK618	C,ELECTROLYTIC 1UF STD 50V M FL TP5	C834	OCE476DF618	C,ELECTROLYTIC 47UF STD 16V M FL TP5
C659	OCK1040K945	C,CERAMIC(HIGH DIELE) 0.1M 50V Z	C834	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L
C660	OCE228DJ650	CAPACITOR,ELECTROLYTIC 2200UF STD 35V M FM7.5 BULK	C837	OCE228DK650	CAPACITOR,ELECTROLYTIC 2200UF STD 50V M FM7.5 BULK
C661	OCE225DK618	C,ELECTROLYTIC 2.2000UF STD 50V M FL TP5	C838	OCN1040K949	C,TUBULA(HIGH DIELE) 0.1M 50V Z
C662	OCK1030K945	C,CERAMIC(HIGH DIELE) 0.01MF 50V Z	C839	OCE108DK61A	CAPACITOR,ELECTROLYTIC 1000UF STD 50V M FL TP7.5
C663	OCQ1041N509	C,POLYESTER(MYLAR) 0.1MF 100V L	C840	OCN1040K949	C,TUBULA(HIGH DIELE) 0.1M 50V Z
C664	OCE228DH61A	CAPACITOR,ELECTROLYTIC 2200UF STD 25V M FL TP7.5	$\Delta$ C850	181-120G	CAPACITOR ACT 4KV E 472M FL10
C665	OCE228DH61A	CAPACITOR,ELECTROLYTIC 2200UF STD 25V M FL TP7.5	$\Delta$ C850(28")	181-120E	CAPACITOR ACT 4KV E 472M FL10
C666	OCQ4721N509	C,POLYESTER(MYLAR) 0.0047U 100V K	$\Delta$ C851	181-120G	CAPACITOR ACT 4KV E 472M FL10
C667	OCQ4721N509	C,POLYESTER(MYLAR) 0.0047U 100V K	C901	OCX2200K409	C,TUBULA(T.C) 22PF 50V J
C668	OCQ1042K439	CAPACITOR MPE 50V 0.1UF J(TR)	C902	OCX2200K409	C,TUBULA(T.C) 22PF 50V J
C695	OCN4710K519	C,TUBULA(HIGH DIELE) 470PF 50V K	C903	OCX2200K409	C,TUBULA(T.C) 22PF 50V J
C696	OCN4710K519	C,TUBULA(HIGH DIELE) 470PF 50V K	C904	OCK1020K945	C,CERAMIC(HIGH DIELE) 1000P 50V Z
C701	181-009V	CAPACITOR PP 200V 0.047UF K	C905	OCK1020K945	C,CERAMIC(HIGH DIELE) 1000P 50V Z
C702	OCE106BR618	C,ELECTROLYTIC 10UF KME 250V M	C906	OCX5600K415	C,CERAMIC(TEMP COMP) 56P 50V J
C703	OCK2710W515	C,CERAMIC(HIGH DIELE) 270P 500V K	C911	OCN1040K949	C,TUBULA(HIGH DIELE) 0.1M 50V Z
C704	OCE106BR618	C,ELECTROLYTIC 10UF KME 250V M	C912	OCE107DF618	C,ELECTROLYTIC 100UF STD 16V M FL TP5
C705	OCK2710W515	C,CERAMIC(HIGH DIELE) 270P 500V K	C913	OCN2210K519	C,CERAMIC(HIGH DIELE) 220PF 50V K
C706	OCE477DH618	C,ELECTROLYTIC 470UF STD 25V M FL TP5	C914	OCK1020W515	C,CERAMIC(HIGH DIELE) 1000PF 500V K
C707	OCK2710W515	C,CERAMIC(HIGH DIELE) 270P 500V K	C915	OCK10202510	C,CERAMIC(HIGH DIELE) 1000P 2KV K
$\Delta$ C708	OCE4766N618	C,ELECTROLYTIC 47U SMS 100V M	$\Delta$ C916	OCE2261R618	C,ELECTROLYTIC 22M SM 250V M
C710	OCK5610W515	C,CERAMIC(HIGH DIELE) 560PF 500V K	C919	OCE476DF618	C,ELECTROLYTIC 47UF STD 16V M FL TP5
C711	OCX5600K415	C,CERAMIC(TEMP COMP) 56P 50V J	C940	OCE2251R618	C,ELECTROLYTIC 2.2M SM 250V M
$\Delta$ C801	181-008F	CAPACITOR MPE AC 250V 0.22UF M(VDE)	Z202	OCX2200K409	C,TUBULA(T.C) 22PF 50V J
$\Delta$ C802	181-017C	CAPACITOR MPP(BOX)AC250V 0.47UF K	<b>DIODES</b>		
C803	181-017A	CAPACITOR MPP(BOX)AC250V 0.10UF M	D101	ODD414809ED	DIODE DS4148
C804	181-091D	CAPACITOR DE0905 R 102K 1KV TP5	D102	ODD414809ED	DIODE DS4148
C805	181-091D	CAPACITOR DE0905 R 102K 1KV TP5	D103	ODD414809ED	DIODE DS4148
C806	181-091D	CAPACITOR DE0905 R 102K 1KV TP5	D109	ODD414809ED	DIODE DS4148
C807	181-091D	CAPACITOR DE0905 R 102K 1KV TP5	D110	ODD414809ED	DIODE DS4148
C808	181-001F	CAPACITOR CE 400V 220UF M LUG (85)	D111	ODD414809ED	DIODE DS4148
C809	181-001F	CAPACITOR CE 400V 220UF M LUG (85)	D181	ODD414809ED	DIODE DS4148
C810	OCE477DF618	C,ELECTROLYTIC 470UF STD 16V M FL TP5	D201	ODD859009AA	DIODE SILICON MA859 TAPING
C811	OCE2276H618	CAPACITOR,ELECTROLYTIC 220UF 25V M FL TP5	D202	ODD859009AA	DIODE SILICON MA859 TAPING
C812	OCE226DN618	CAPACITOR,ELECTROLYTIC 22UF STD 100V M FL TP5	D251(25")	ODL210000AC	DIODE LED LED,RED DS2(DL-1LRN)
C813	OCK1020K515	C,CERAMIC(HIGH DIELE) 1000PF 500V K	D252(25")	ODL210000AC	DIODE LED LED,RED DS2(DL-1LRN)
C814	181-011D	CAPACITOR PP 1600V 0.0022UF J	D253(25")	ODL138000AA	DIODE,LED KLRG138A,DUAL LED,KEC
C815	OCE476DF618	C,ELECTROLYTIC 47UF STD 16V M FL TP5	D261(29")	ODL210000AC	DIODE LED LED,RED DS2(DL-1LRN)
C817	181-091C	CAPACITOR DE0705 R 471K 1KV TP5	D262(29")	ODL210000AC	DIODE LED LED,RED DS2(DL-1LRN)
C820	OCE2271P640	C,ELECTROLYTIC 220MF SMS 160V M	D707(29")	ODD400509AA	DIODE 1N4005 GP TA
C821	OCE107DN618	CAPACITOR,ELECTROLYTIC 100UF STD 100V M FL TP5	$\Delta$ D451	ODD410000AC	DIODE RU4DS,LF-L1
C822	OCE1051K636	CAPACITOR,ELECTROLYTIC 1UF SM 50V M FM5 BP(D) TP	$\Delta$ D452	ODD410000AC	DIODE RU4DS,LF-L1
C824	OCE108DF618	CAPACITOR,ELECTROLYTIC 1000UF STD 16V M FL TP5	D453	ODD150009CA	DIODE RGP15J
C825	OCE337DH618	C,ELECTROLYTIC 330UF STD 25V M FL TP5	D501	ODD414809ED	DIODE DS4148
C826	OCE3386H610	CAPACITOR,ELECTROLYTIC 3300M SMS 25V M FL	D502	ODD414809ED	DIODE DS4148
C826(28")	OCE2286H610	CAPACITOR,ELECTROLYTIC 2200M SMS 25V M FL	D503	ODD340009CA	DIODE 1K34A TP-A
C827	OCK4710W515	C,CERAMIC(HIGH DIELE) 470PF 500V K			



The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

LOCA. NO	PART NO	DESCRIPTION
D504	0DD414809ED	DIODE DS4148
D505	0DD414809ED	DIODE DS4148
D506	0DD414809ED	DIODE DS4148
D507	0DD414809ED	DIODE DS4148
D508	0DD414809ED	DIODE DS4148
D509	0DD414809ED	DIODE DS4148
D601	0DD414809ED	DIODE DS4148
D701	0DD060009AC	DIODE TVR06J 0.6A/600V 250NS
D702	0DD100009DA	DIODE RGP10J,TP(52MM),GI
D704	0DD060009AC	DIODE TVR06J 0.6A/600V 250NS
D801	0DD560000AA	DIODE D5SB60 BRIDGE (5A/600V)S.D.G
D802	0DD150009CE	DIODE GP15J TP (1.5A/600V) GI
D803	0DD100009AL	DIODE EH-12V
D804	0DD060009AC	DIODE TVR06J 0.6A/600V 250NS
D805	0DD060009AC	DIODE TVR06J 0.6A/600V 250NS
D807	0DD060009AC	DIODE TVR06J 0.6A/600V 250NS
D808	0DD060009AC	DIODE TVR06J 0.6A/600V 250NS
D822	0DD420000BB	DIODE DAL20U
D823	0DD060009AC	DIODE TVR06J 0.6A/600V 250NS
D824	0DD060009AC	DIODE TVR06J 0.6A/600V 250NS
D825	0DD410000AD	DIODE RU4AM,LF-L1
D826	0DD060009AC	DIODE TVR06J 0.6A/600V 250NS
D827	0DD414809ED	DIODE DS4148
D828	0DD414809ED	DIODE DS4148
D829	0DD420000BB	DIODE DAL20U
D830	0DD414809ED	DIODE DS4148
D831	0DD414809ED	DIODE DS4148
D832	0DD414809ED	DIODE DS4148
D833	0DD414809ED	DIODE DS4148
D834	0DD414809ED	DIODE DS4148
D901	0DD414809ED	DIODE DS4148
D902	0DD414809ED	DIODE DS4148
$\Delta$ D903	0DD414809ED	DIODE DS4148
D904	0DD414809ED	DIODE DS4148
D905	0DD414809ED	DIODE DS4148
D906	0DD414809ED	DIODE DS4148
D907	0DD414809ED	DIODE DS4148
D910	0DD400309AD	DIODE IN4003A RECT K-ROHM TP
R507	0DZ510009AB	DIODE ZENER MTZ5.1B
R508	0DZ510009AB	DIODE ZENER MTZ5.1B
R509	0DZ510009AB	DIODE ZENER MTZ5.1B
ZD101	0DZ330009BA	DIODE ZENER HZT33
ZD102	0DZ750009AA	DIODE ZENER MTZ7.5B
ZD103	0DZ750009AA	DIODE ZENER MTZ7.5B
ZD104	0DZ750009AA	DIODE ZENER MTZ7.5B
ZD106	0DZ510009AB	DIODE ZENER MTZ5.1B
ZD358	0DZ240009BB	DIODE ZENER MTZ24B
ZD359	0DZ240009BB	DIODE ZENER MTZ24B
ZD360	0DZ330009CA	DIODE ZENER MTZ 33B,TP(52MM),ROHM
ZD501	0DZ820009AA	DIODE ZENER MTZ8.2B TP ROHM-K
ZD502	0DZ510009AB	DIODE ZENER MTZ5.1B
ZD601	0DD414809ED	DIODE IN4148

LOCA. NO	PART NO	DESCRIPTION
ZD705	0DZ750009AA	DIODE ZENER MTZ7.5B
ZD708	0DZ820009DA	DIODE ZENER MTZ8.2C 0.5W(52MM)TP TP ROHM N
ZD808	0DZ750009AA	DIODE ZENER MTZ7.5B
ZD828	0DZ910009BA	DIODE ZENER MTZ9.1B
ZD901	0DZ910009BA	DIODE ZENER MTZ9.1B
<b>FERRITE CORES</b>		
FB451	125-022K	CORE FERRITE 1UH
FB452	125-022K	CORE FERRITE 1UH
FB801	125-123A	CORE FERRITE BFD3565R2F
FB802	125-022K	CORE FERRITE 1UH
FB803	125-022K	CORE FERRITE 1UH
FB804	125-022K	CORE FERRITE 1UH
FB806	125-123A	CORE FERRITE BFD3565R2F
$\Delta$ FB809	125-022K	CORE FERRITE 1UH
L3	125-022K	CORE FERRITE 1UH
<b>RESISTORS</b>		
$\Delta$ FR351	0RF0221K607	RESISTOR,FUSIBLE 220 2W 5% TA62
$\Delta$ FR651	0RF0470J607	R,FUSIBLE 0.47 1W 5%
$\Delta$ FR701	0RF0470H609	R,FUSIBLE 0.47 1/2W 5
$\Delta$ FR702(25")	0RF0101K607	R,FUSIBLE 12W 5%
$\Delta$ FR702(29")	0RF0470J607	R,FUSIBLE 0.47 1W 5%
$\Delta$ FR703	0RF0470J607	R,FUSIBLE 0.47 1W 5%
$\Delta$ FR704	0RF0470H609	R,FUSIBLE 0.47 1/2W 5
$\Delta$ FR705	0RF0121K607	R,FUSIBLE 1.20 2W 5%
$\Delta$ FR901	0RF0470K607	R,FUSIBLE 0.47 2W 5%
R101	0RD6801F609	R,CARBON FILM 6.8K 1/6W 5
R102	0RD9100F609	R,CARBON FILM 910 1/6W 5
R103	0RN9102F409	RESISTOR,FIX METAL FILM 91K 1/6W 1% TA52
R104	0RD2702F609	R,CARBON FILM 27K 1/6W 5
R106	0RN1202F609	RESISTOR FIX METAL FILM 12K 1/6W 5 TA52
R107	0RD1501H609	R,CARBON FILM 15K 1/2W 5
R108	0RD5602F609	R,CARBON FILM 56K 1/6W 5
R109	0RD4700F609	R,CARBON FILM 470 1/6W 5
R110	0RD5602F609	R,CARBON FILM 56K 1/6W 5
R111	0RD4700F609	R,CARBON FILM 470 1/6W 5
R112	0RD5602F609	R,CARBON FILM 56K 1/6W 5
R113	0RD4700F609	R,CARBON FILM 470 1/6W 5
R114	0RD4701F609	R,CARBON FILM 4.7K 1/6W 5
R115	0RD2200F609	R,CARBON FILM 220 1/6W 5
R116	0RD1000F609	R,CARBON FILM 100 1/6W 5
R117	0RD1000F609	R,CARBON FILM 100 1/6W 5
R118	0RD4701F609	R,CARBON FILM 4.7K 1/6W 5
R121	0RD1000F609	R,CARBON FILM 100 1/6W 5
R122	0RD2701F609	R,CARBON FILM 2.7K 1/6W 5
R123	0RD3302F609	R,CARBON FILM 33K 1/6W 5
R124	0RD1002F609	R,CARBON FILM 10K 1/6W 5
R125	0CE227DF618	C,ELECTROLYTIC 220UF STD 16V M FL TP5
R125	0RD1002F609	R,CARBON FILM 10K 1/6W 5
R126	0RD1000F609	R,CARBON FILM 100 1/6W 5
R127	0CE227DF618	C,ELECTROLYTIC 220UF STD 16V M FL TP5

The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

LOCA. NO	PART NO	DESCRIPTION
R451	ORD4700F609	R,CARBON FILM 470 1/6W 5
R452	180-B01C	RESISTOR RS RECT S 5W 3.3K J DOUBLE
R453	ORS3301J607	R,METAL FILM OXIDE 3.30K 1W 5% TA62
R454	ORD0472H609	R,CARBON FILM 47 1/2W 5
$\Delta$ R455	ORS1201J607	R,METAL FILM OXIDE 120K 1W 5%
R457(25")	ORS1002J607	R,METAL FILM OXIDE 10K 1W 5%
R457(29")	ORS1502K607	R,METAL FILM OXIDE 15K 2W 5%
R458(25")	ORS1002J607	R,METAL FILM OXIDE 10K 1W 5%
R458(29")	ORS1502K607	R,METAL FILM OXIDE 15K 2W 5%
R505	ORD1004F609	R,CARBON FILM 10M 1/6W 5
R510	ORD1000F609	R,CARBON FILM 100 1/6W 5
R511	ORD1000F609	R,CARBON FILM 100 1/6W 5
R512	ORD1000F609	R,CARBON FILM 100 1/6W 5
R516	ORD1000F609	R,CARBON FILM 100 1/6W 5
R517	ORD1000F609	R,CARBON FILM 100 1/6W 5
R518	ORD5600F609	R,CARBON FILM 560 1/6W 5
R519	ORD5603F609	R,CARBON FILM 560K 1/6W 5
R520	ORD3302F609	R,CARBON FILM 33K 1/6W 5
R521	ORD3302F609	R,CARBON FILM 33K 1/6W 5
R522	ORD8202F609	R,CARBON FILM 82K 1/6W 5
R523	OCE227DF618	C,ELECTROLYTIC 220UF STD 16V M FL TP5
R523	ORD4701F609	R,CARBON FILM 4.7K 1/6W 5
R524	ORD3901F609	R,CARBON FILM 3.9K 1/6W 5
R525	ORD1001F609	R,CARBON FILM 1.0K 1/6W 5
R526	ORD1001F609	R,CARBON FILM 1.0K 1/6W 5
R527	ORD1001F609	R,CARBON FILM 1.0K 1/6W 5
R534	ORD1500F609	R,CARBON FILM 150 1/6W 5
R535	ORD0102F609	R,CARBON FILM 10 1/6W 5
R536	ORD0102F609	R,CARBON FILM 10 1/6W 5
R537	ORD1000F609	R,CARBON FILM 100 1/6W 5
R538	ORD1000F609	R,CARBON FILM 100 1/6W 5
R540	ORN3902F409	R, METAL FILM 39K 1/6W 1%
R541	ORD2702F609	R,CARBON FILM 27K 1/6W 5
R542	ORD1003F609	R,CARBON FILM 100K 1/6W 5
R543	ORD3903F609	R,CARBON FILM 390K 1/6W 5
R544	ORD4701F609	R,CARBON FILM 4.7K 1/6W 5
R545	ORD1002F609	R,CARBON FILM 10K 1/6W 5
R546	ORD1802F609	R,CARBON FILM 18K 1/6W 5
R549	ORD0682F609	R,CARBON FILM 68 1/6W 5
R550	ORD1000F609	R,CARBON FILM 100 1/6W 5
R551	ORD5102F609	R,CARBON FILM 51K 1/6W 5
R552	ORD2701F609	R,CARBON FILM 2.7K 1/6W 5
R560	ORD0752F609	R,CARBON FILM 75 1/6W 5
R561	ORD0752F609	R,CARBON FILM 75 1/6W 5
R562	ORD0752F609	R,CARBON FILM 75 1/6W 5
R563	ORD0752F609	R,CARBON FILM 75 1/6W 5
R564	ORD1001F609	R,CARBON FILM 1.0K 1/6W 5
R565	ORD1001F609	R,CARBON FILM 1.0K 1/6W 5
R566	ORD1001F609	R,CARBON FILM 1.0K 1/6W 5
R567	ORD1001F609	R,CARBON FILM 1.0K 1/6W 5
R568	ORD1001F609	R,CARBON FILM 1.0K 1/6W 5
R569	ORD1001F609	R,CARBON FILM 1.0K 1/6W 5

LOCA. NO	PART NO	DESCRIPTION
R570	ORD1001F609	R,CARBON FILM 1.0K 1/6W 5
R571	ORD1001F609	R,CARBON FILM 1.0K 1/6W 5
R572	ORD3001F609	R,CARBON FILM 3.0K 1/6W 5
R6001	ORD0472F609	R,CARBON FILM 47 1/6W 5
R6002	ORD5602F609	R,CARBON FILM 56K 1/6W 5
R6003	ORD2701F609	R,CARBON FILM 2.7K 1/6W 5
R6004	ORD6801F609	R,CARBON FILM 6.8K 1/6W 5
R6005	ORD2000F609	R,CARBON FILM 200 1/6W 5
R6006	ORD0472F609	R,CARBON FILM 47 1/6W 5
R6007	ORD5602F609	R,CARBON FILM 56K 1/6W 5
R6008	ORD6801F609	R,CARBON FILM 6.8K 1/6W 5
R6009	ORD2701F609	R,CARBON FILM 2.7K 1/6W 5
R601	ORD1001F609	R,CARBON FILM 1.0K 1/6W 5
R6010	ORD2000F609	R,CARBON FILM 200 1/6W 5
R6011	ORD1301H609	RESISTOR, FIXED CARBON FILM 1.3K 1/2W 5 TA52
R602	ORD1001F609	R,CARBON FILM 1.0K 1/6W 5
R603	ORD4702F609	R,CARBON FILM 47K 1/6W 5
R604	ORD4702F609	R,CARBON FILM 47K 1/6W 5
R605	ORD4702F609	R,CARBON FILM 47K 1/6W 5
R606	ORD4702F609	R,CARBON FILM 47K 1/6W 5
R607	ORD1000F609	R,CARBON FILM 100 1/6W 5
R608	ORD1000F609	R,CARBON FILM 100 1/6W 5
R609	ORD1000F609	R,CARBON FILM 100 1/6W 5
R610	ORD1000F609	R,CARBON FILM 100 1/6W 5
R6101	ORD2001F609	R,CARBON FILM 2.0K 1/6W 5
R6102	ORD2001F609	R,CARBON FILM 2.0K 1/6W 5
R6103	ORD1201F609	R,CARBON FILM 1.2K 1/6W 5
R6104	ORD1201F609	R,CARBON FILM 1.2K 1/6W 5
R6105	ORD2200F609	R,CARBON FILM 220 1/6W 5
R6106	ORD2200F609	R,CARBON FILM 220 1/6W 5
R6107	ORD7501F609	R,CARBON FILM 7.5K 1/6W 5
R6108	ORD7501F609	R,CARBON FILM 7.5K 1/6W 5
R6109	ORD0101H609	R,CARBON FILM 10 1/2W 5
R611	ORD4700F609	R,CARBON FILM 470 1/6W 5
R6110	ORD3300H609	R,CARBON FILM 330 1/2W 5
R6111	ORD3300H609	R,CARBON FILM 330 1/2W 5
R612	ORD4700F609	R,CARBON FILM 470 1/6W 5
R613	ORD1002F609	R,CARBON FILM 10K 1/6W 5
R614	ORD1000F609	R,CARBON FILM 100 1/6W 5
R615	ORD1000F609	R,CARBON FILM 100 1/6W 5
R616	ORD4700F609	R,CARBON FILM 470 1/6W 5
R617	ORD4700F609	R,CARBON FILM 470 1/6W 5
R618	ORD4702F609	R,CARBON FILM 47K 1/6W 5
R619	ORD4702F609	R,CARBON FILM 47K 1/6W 5
R620	ORS0222J607	R,METAL FILM OXIDE 22 1W 5%
R621	ORD2203F609	R,CARBON FILM 220K 1/6W 5
R622	ORD2203F609	R,CARBON FILM 220K 1/6W 5
R648	OCE227DF618	C,ELECTROLYTIC 220UF STD 16V M FL TP5
R649	OCE227DF618	C,ELECTROLYTIC 220UF STD 16V M FL TP5
R651	ORD4300F609	R,CARBON FILM 430 1/6W 5
R652(25")	ORD2702F609	R,CARBON FILM 27K 1/6W 5
R652(29")	ORD3300H609	R,CARBON FILM 330 1/2W 5

The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

LOCA NO	PART NO	DESCRIPTION
R653	ORD2002F609	R,CARBON FILM 20K 1/6W 5
R654	ORD2702F609	R,CARBON FILM 27K 1/6W 5
R655(25")	ORD2002F609	R,CARBON FILM 20K 1/6W 5
R655(29")	ORD3300H609	R,CARBON FILM 330 1/2W 5
R656	ORD4300F609	R,CARBON FILM 430 1/6W 5
R657	ORD0221H609	R,CARBON FILM 2.2 1/2W 5
R658	ORD0221H609	R,CARBON FILM 2.2 1/2W 5
R695	ORD2203F609	R,CARBON FILM 220K 1/6W 5
R696	ORD2203F609	R,CARBON FILM 220K 1/6W 5
R697	ORD2203F609	R,CARBON FILM 220K 1/6W 5
R698	ORD2203F609	R,CARBON FILM 220K 1/6W 5
R701	ORD1001H609	R,CARBON FILM 1.0K 1/2W 5
R702(25")	ORD5101F609	R,CARBON FILM 5.1K 1/6W 5
R702(29")	ORD8201F609	R,CARBON FILM 8.2K 1/6W 5
R703(25")	ORD3901F609	R,CARBON FILM 3.9K 1/6W 5
R703(29")	ORD5101F609	R,CARBON FILM 5.1K 1/6W 5
R704	ORD5601F609	R,CARBON FILM 5.6K 1/6W 5
R705	ORS2702J607	R, FIX METAL FILM OXIDE 27K 1W 5% TA62
$\Delta$ R706	ORD201H609	R,CARBON FILM 12K 1/2W 5
R707	ORD2701H609	R,CARBON FILM 2.7K 1/2W 5
R708	ORD2203H609	R,CARBON FILM 220K 1/2W 5
R710	ORS3901J607	RESISTOR, FIX METAL FILM OXIDE 3.90K 1W 5% TA62
R711	ORD4701H609	R,CARBON FILM 4.7K 1/2W 5
R801	180-822M	R,RWR 15W 1.0 OHM J
R803	180-783D	RESISTOR RC 1/2W 474 K TAPING
R804	ORD1000H609	R,CARBON FILM 100 1/2W 5
R805	ORS2202K607	R,METAL FILM OXIDE 22K 2W 5%
R806	ORS2202K607	R,METAL FILM OXIDE 22K 2W 5%
$\Delta$ R807	180-A0D	RESISTOR RW ROUND G 2W 0.16 J TA31(63)
R808	ORS0202K607	R,METAL FILM OXIDE 20 2W 5%
R809	ORN0910H609	R,METAL FILM 0.91 1/2W 5
R810	ORS0152K607	R,METAL FILM OXIDE 15 2W 5%
R811	ORD2002H609	R,CARBON FILM 20K 1/2W 5
R812	ORD6801H609	R,CARBON FILM 6.8K 1/2W 5
R813	ORD2001F609	R,CARBON FILM 2.0K 1/6W 5
R814	ORD1001F609	R,CARBON FILM 1.0K 1/6W 5
R815	ORN0910H609	R,METAL FILM 0.91 1/2W 5
R816	ORD1001F609	R,CARBON FILM 1.0K 1/6W 5
R817	ORD4701F609	R,CARBON FILM 4.7K 1/6W 5
R818	ORD4701F609	R,CARBON FILM 4.7K 1/6W 5
R819	ORS0472J607	R,METAL FILM OXIDE 47 1W 5%
R820	ORD1001H609	R,CARBON FILM 1.0K 1/2W 5
R821	ORD4701F609	R,CARBON FILM 4.7K 1/6W 5
R822	ORD1002F609	R,CARBON FILM 10K 1/6W 5
R823	ORD4701F609	R,CARBON FILM 4.7K 1/6W 5
R825	ORD1002H609	R,CARBON FILM 10K 1/2W 5
R827	ORD2001F609	R,CARBON FILM 2.0K 1/6W 5
R828	ORD7501F609	R,CARBON FILM 7.5K 1/6W 5
R830	ORD1502H609	R,CARBON FILM 15K 1/2W 5
R832	ORD1801F609	R,CARBON FILM 18K 1/6W 5
$\Delta$ R851	180-C0C	RESISTOR RC 1/2W 8.2MK TA52
R902	ORD5600G609	RESISTOR, FIXED CARBON FILM 560 1/4W 5 TA52

LOCA NO	PART NO	DESCRIPTION
R903	ORD2201G609	R,CARBON FILM 2.2K 1/4W 5
R904	ORD3300G609	R,CARBON FILM 330 1/4W 5
R905	ORD4701G609	R,CARBON FILM 4.7K 1/4W 5
R906	ORS5602K607	R,METAL FILM OXIDE 56K 2W 5%
R907	ORD1001H609	R,CARBON FILM 1.0K 1/2W 5
R909	ORD1500G609	R,CARBON FILM 150 1/4W 5
R912	ORD5600G609	RESISTOR, FIXED CARBON FILM 560 1/4W 5 TA52
R913	ORD2201G609	R,CARBON FILM 2.2K 1/4W 5
R914	ORD3300G609	R,CARBON FILM 330 1/4W 5
R915	ORD4701G609	R,CARBON FILM 4.7K 1/4W 5
R916	ORS5602K607	R,METAL FILM OXIDE 56K 2W 5%
R917	ORD1001H609	R,CARBON FILM 1.0K 1/2W 5
R919	ORD1500G609	R,CARBON FILM 150 1/4W 5
R922	ORD5600G609	RESISTOR, FIXED CARBON FILM 560 1/4W 5 TA52
R923	ORD2201G609	R,CARBON FILM 2.2K 1/4W 5
R924	ORD3300G609	R,CARBON FILM 330 1/4W 5
R925	ORD4701G609	R,CARBON FILM 4.7K 1/4W 5
R926	ORS5602K607	R,METAL FILM OXIDE 56K 2W 5%
R927	ORD1001H609	R,CARBON FILM 1.0K 1/2W 5
R929	ORD1500G609	R,CARBON FILM 150 1/4W 5
R931	ORD0102H609	R,CARBON FILM 10 1/2W 5
R933	ORD1002G609	R,CARBON FILM 10K 1/4W 5
R939	ORD1002G609	R,CARBON FILM 10K 1/4W 5
R940	ORD2203H609	R,CARBON FILM 220K 1/2W 5
R941	ORD2204H609	RESISTOR, FIXED CARBON FILM 2.2M 1/2W 5 TA52
TH801	163-051A	THERMISTOR J5 03 P5 3D 140M 290S
VR181	180-F01J	RESISTOR EVN-DJAA03 B203 SEMI-FIX(H) TA
ZNR801	164-003D	VARIATOR SVC 561D-14A
ICs		
IC101	01T843417B	IC, TEXAS INSTRUMENT LG8434-17B(TMS73C167-XXX) 54SD
IC102	01NS240800A	IC, NATIONAL SEMICONDUCTOR NM24C08N 8D EEPROM(8K, IC)
IC103	01KE704200B	IC, KECE KIA7042P 3P 4.2V RESET(TAPING)
IC104	01KE780500K	IC, KECE KIA7805PI 3P(TO-220IS) 5V, 1A
IC182	01KE780500P	IC, KECE KIA78L05BP(TA)3P 5V, 150MA
IC201	01PH980800A	IC, PHILIPS TDA9808-V1 20D SPLIT PLL VIF
IC202	01GS382000A	IC, GOLDSTAR ELECTRON GL3820(A/V SWITCHING)
IC204	01GS381200A	IC, GOLDSTAR ELECTRON GL3812(HA1518)
IC351	01PH835030A	IC, PHILIPS TDA8350Q/N3 13SIP V/DEF+E/W
IC502	01PH468710A	IC, PHILIPS TDA4687/V1 28D VIDEO PROCESSOR
IC504	01PH466120A	IC, PHILIPS TDA4661/V2 16D 1H DELAY LINE
IC505	01PH916030A	IC, PHILIPS TDA9160A/N3 32SD P/N/S DECODER
IC6001	01KE781200F	IC, KECE KIA78L12BP(TA) TO-92L 12V, 150
IC601	01IT341000B	IC, ITT MSP3410 64SD AUDIO PROCE+NICAM
IC602	01KE704200B	IC, KECE KIA7042P 3P 4.2V RESET(TAPING)
IC603	01KE780500K	IC, KECE KIA7805PI 3P(TO-220IS) 5V, 1A
IC651	01TO820000A	IC, TOSHIBA TAB200AH 10W*2 PR T/B
$\Delta$ IC801	01SK800000A	IC, SANKEN STU8000 3P 5V 1A
$\Delta$ IC802	01TU721000A	IC, TOSHIBA TLP7210 4-GR 40 PHOTO(SENK)
$\Delta$ IC803	01SK251000A	IC, SANKEN SE125MLF12 125V ERROR AMP
IC805	01KE780800A	IC, KECE KIA7808PI 3P(TO-220IS) 1A, 8V
IC806	01SH122100A	IC, SHARP PQ12RF21 4P(TO-220) 12V S/W RE

The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

LOCA. NO	PART NO	DESCRIPTION
IC901	0ISG510100A	IC,SGS-THOMSON TEA5101A 15MULTIWATT VIDEO AMP
<b>COILS &amp; TRANSFORMERS</b>		
J101	0LA0102K119	INDUCTOR 10UH K
L101	0LA0561K119	INDUCTOR 5.6UH K
L102	0LA0392K119	INDUCTOR 39UH K
L103	0LA0102K119	INDUCTOR 10UH K
L181	0LA0561K119	INDUCTOR 5.6UH K
L182	150-C01D	COIL CHOKE 0.55UH A 1105
L185	0LA1000K119	INDUCTOR 100UH K
L186	0LA1000K119	INDUCTOR 100UH K
L187	0LA0102K119	INDUCTOR 10UH K
L201	0LA0821K119	INDUCTOR 8.2UH K
L202	0LA0102K119	INDUCTOR 10UH K
L203	0LA0222K119	INDUCTOR 22UH K
L204	0LA0561K119	INDUCTOR 5.6UH K
L263(29")	0LA0182K119	INDUCTOR 18UH K
L351	150-717J	COIL CHOKE 560UH (E/W)
L453(25")	150-L01E	COIL H-LINEARITY 21UH
L453(29")	150-L01D	COIL H-LINEARITY 20UH
L501	0LA0102K119	INDUCTOR 10UH K
L502	0LA0102K119	INDUCTOR 10UH K
L6001	0LA0102K119	INDUCTOR 10UH K
L601	0LA0562K119	INDUCTOR 56UH K
L604	0LA0102K119	INDUCTOR 10UH K
L605	0LA0101K119	INDUCTOR 1.0UH K
L610	0LA0102K119	INDUCTOR 10UH K
L684	0LA0102K119	INDUCTOR 10UH K
L685	0LA0102K119	INDUCTOR 10UH K
L800	150-C02F	COIL CHOKE 82UH R1217
L801	150-C03A	COIL CHOKE 1.04UH R3.5/05
L802	150-C02F	COIL CHOKE 82UH R1217
L901	0LA0102K139	INDUCTOR 10UH K
$\Delta$ RL801	141-0138	RELAY HR-CR323DC12V(HANGUK)
$\Delta$ T451	151-C02B	TRANSFORMER H-DRIVE E1-BULK
$\Delta$ T801	150-982C	COIL LINE FILTER 23MH SOE
$\Delta$ T802	150-982C	COIL LINE FILTER 23MH SOE
$\Delta$ T803	151-A01N	TRANSFORMER SMPS COIL EER5345,STR-S6709 W
VL181	150-E058	COIL VAR,07S 1B 77.8MHZ
<b>JACKS &amp; CONNECTORS</b>		
PJ601	380-392A	JACK A/V IN-OUT(6P)
P257(25")	380-068A	JACK HEADPHONE,HSJ0914-01-110
P258(25")	380-394A	JACK DIN(SW LESS) PJ6030
P267(29")	380-068A	JACK HEADPHONE,HSJ0914-01-110
P268(29")	380-394A	JACK DIN(SW LESS) PJ6030
P269(29")	380-395A	JACK PHONE 3P PJ6036 HORIZONTAL
P270(29")	380-395A	JACK PHONE 3P PJ6036 HORIZONTAL
P271(29")	380-395A	JACK PHONE 3P PJ6036 HORIZONTAL
P803A	387-812F	CONNECTOR ASSY YJN250 7P(PCB TO PCB, YEONHO)
P804A	387-812J	CONNECTOR ASSY YJN250 10P(PCB TO PCB YEONHO)
P805A	387-812F	CONNECTOR ASSY YJN250 7P(PCB TO PCB, YEONHO)

LOCA. NO	PART NO	DESCRIPTION
<b>TRANSISTORS</b>		
Q101	0TR319809AB	TRANSISTOR KTC3198-TP-GR (KTC1815) KEC
Q102	0TR126609AA	TRANSISTOR KTA1266-TP-Y (KTA1015) KEC
Q103	0TR126609AA	TRANSISTOR KTA1266-TP-Y (KTA1015) KEC
Q104	0TR126609AA	TRANSISTOR KTA1266-TP-Y (KTA1015) KEC
Q105	0TR319809AA	TRANSISTOR KTC3198-TP-Y (KTC1815)KEC
Q106	0TR319809AA	TRANSISTOR KTC3198-TP-Y (KTC1815)KEC
Q107	0TR319809AA	TRANSISTOR KTC3198-TP-Y (KTC1815)KEC
Q108	0TR319809AA	TRANSISTOR KTC3198-TP-Y (KTC1815)KEC
Q109	0TR319809AA	TRANSISTOR KTC3198-TP-Y (KTC1815)KEC
Q110	0TR319809AA	TRANSISTOR KTC3198-TP-Y (KTC1815)KEC
Q111	0TR126609AA	TRANSISTOR KTA1266-TP-Y (KTA1015) KEC
Q112	0TR319809AA	TRANSISTOR KTC3198-TP-Y (KTC1815)KEC
Q113	0TR319809AA	TRANSISTOR KTC3198-TP-Y (KTC1815)KEC
Q114	0TR319809AA	TRANSISTOR KTC3198-TP-Y (KTC1815)KEC
Q181	0TR114009AA	TRANSISTOR DTA114ES,TP,ROHM
Q182	0TR114009AA	TRANSISTOR DTA114ES,TP,ROHM
Q183	0TR114009AA	TRANSISTOR DTA114ES,TP,ROHM
Q202	0TR319809AA	TRANSISTOR KTC3198-TP-Y (KTC1815)KEC
Q203	0TR319809AA	TRANSISTOR KTC3198-TP-Y (KTC1815)KEC
Q251	0TR319809AA	TRANSISTOR KTC3198-TP-Y (KTC1815)KEC
Q351	0TR988000AC	TRANSISTOR KTB988-Y,W/AIKTB834,KEC
Q451	0TR322900AA	TRANSISTOR KTC3229 (KTC2068),KEC
Q452	0TR487120AA	TRANSISTOR ON4871(BU2508DF) PHILIPS
Q502	0TR126609AA	TRANSISTOR KTA1266-TP-Y (KTA1015) KEC
Q504	0TR126609AA	TRANSISTOR KTA1266-TP-Y (KTA1015) KEC
Q505	0TR126609AA	TRANSISTOR KTA1266-TP-Y (KTA1015) KEC
Q506	0TR126609AA	TRANSISTOR KTA1266-TP-Y (KTA1015) KEC
Q507	0TR126609AA	TRANSISTOR KTA1266-TP-Y (KTA1015) KEC
Q508	0TR102009AB	TRANSISTOR KRC102M,TP(KRC1202),KEC
Q6001	0TR319809AA	TRANSISTOR KTC3198-TP-Y (KTC1815)KEC
Q6002	0TR319809AA	TRANSISTOR KTC3198-TP-Y (KTC1815)KEC
Q801	0TR385200AA	TRANSISTOR 2SC3852A SANKEN
Q802	0TR968000AA	TRANSISTOR KTA968A-Y KEC
Q803	0TR322809AA	TRANSISTOR KTC3228-0 TP(KTC2383),KEC
Q804	0TR319809AA	TRANSISTOR KTC3198-TP-Y (KTC1815)KEC
Q805	0TR319809AA	TRANSISTOR KTC3198-TP-Y (KTC1815)KEC
Q806	0TR322709AA	TRANSISTOR KTC3227-Y,TP(KTC1627A),KEC
Q931	0TR319809AA	TRANSISTOR KTC3198-TP-Y (KTC1815)KEC
Q933	0TR319809AA	TRANSISTOR KTC3198-TP-Y (KTC1815)KEC
<b>SWITCHES</b>		
SW10(25")	140-248D	SWITCH TACT S/W 2P,SKH11NJ
SW102(25")	140-248D	SWITCH TACT S/W 2P,SKH11NJ
SW103(25")	140-248D	SWITCH TACT S/W 2P,SKH11NJ
SW104(25")	140-248D	SWITCH TACT S/W 2P,SKH11NJ
SW105(25")	140-248D	SWITCH TACT S/W 2P,SKH11NJ
SW106(25")	140-248D	SWITCH TACT S/W 2P,SKH11NJ
SW02(29")	140-248D	SWITCH TACT S/W 2P,SKH11NJ
SW03(29")	140-248D	SWITCH TACT S/W 2P,SKH11NJ
SW04(29")	140-248D	SWITCH TACT S/W 2P,SKH11NJ

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Replace only with part number specified.

LOCA. NO	PART NO	DESCRIPTION
SW05(29")	140-248D	SWITCH TACT S/W 2PSKHNNJ
SW06(29")	140-248D	SWITCH TACT S/W 2PSKHNNJ
SW07(29")	140-248D	SWITCH TACT S/W 2PSKHNNJ
$\Delta$ SW801	140-289B	SWITCH SDDF-3BJ-ALPS) TV-8
<b>FILTERS &amp; OSCILLATORS</b>		
X101	156-007C	OSCILLATOR OSC.X-TAL 6.0MHZ
X501	156-A05B	CRYSTAL 4.433619 SER.00262 TP PHILIPS
X502	156-001C	OSCILLATOR CRYSTAL 3.58MHZ
X601	156-A02M	CRYSTAL 18.432000 10PF 20 OHM BULK
Z181	166-A01E	FILTER OFWK6266K
Z182	166-A01K	FILTER OFWK9352M
Z201	166-C04B	FILTER TRAP TPWA03B-TF2(15.5/6.0)
Z203	166-C02B	FILTER TRAP TPS4.5MB-TF21
<b>TELETEXT PARTS</b>		
C1	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C11	OCE107DF618	C,ELECTROLYTIC 100UF STD 16V M FL TP5
C12	OCK1020K515	C,CERAMIC(HIGH DIELE) 1000PF 500V K
C13	OCE104DK618	CAPACITOR,ELECTROLYTIC 0.1000UF STD 50V M FL TP5
C14	OCN1040K949	C,TUBULA(HIGH DIELE) 0.1M 50V Z
C15	OCK1020K515	C,CERAMIC(HIGH DIELE) 1000PF 500V K
C16	OCE476DF618	C,ELECTROLYTIC 47UF STD 16V M FL TP5
C17	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C18	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
C19	OCE476DF618	C,ELECTROLYTIC 47UF STD 16V M FL TP5
C2	OCN2210K519	C,TUBULA(HIGH DIELE) 220PF 50V K
C3	OCX1500K409	C,TUBULA(T.C) 15PF 50V J
C30	OCX4700K409	C,TUBULA(T.C) 47PF 50V J
C4	OCX1500K409	C,TUBULA(T.C) 15PF 50V J
C5	OCN2210K519	C,TUBULA(HIGH DIELE) 220PF 50V K
C6	OCE476DF618	C,ELECTROLYTIC 47UF STD 16V M FL TP5
C7	OCE107DF618	C,ELECTROLYTIC 100UF STD 16V M FL TP5
C8	OCN1020K519	C,TUBULA(HIGH DIELE) 1000PF 50V K
C9	OCN1030F679	C,TUBULA(HIGH DIELE) 0.01MF 16V M
D10	ODD414809ED	DIODE DS4148
D104	ODD414809ED	DIODE DS4148
D105	ODD414809ED	DIODE DS4148
D2	ODD414809ED	DIODE DS4148
D6	ODD414809ED	DIODE DS4148
D7	ODD414809ED	DIODE DS4148
D707	ODD400509AA	DIODE 1N4005 GP
D8	ODD414809ED	DIODE DS4148
D9	ODD414809ED	DIODE DS4148
IC1	OIT1723060A	IC,TEXAS INSTRUMENT CF72306 20D TXT DATA SLICER
IC2	OIT1702090A	IC,TEXAS INSTRUMENT CF702090A 28D 8P-EURO TXT DECO
	OIT1702000A	IC,TEXAS INSTRUMENT CF70200NW 28D 89-EURO
IC3	OIKE780500K	IC,KEC KIA7805PI 3P(TO-220S) 5V,1A
L1	OLA0102K119	INDUCTOR 10UH K
L2	OLA0102K119	INDUCTOR 10UH K
L3	125-022K	CORE FERRITE 1UH
L4	OLA0102K119	INDUCTOR 10UH K

LOCA. NO	PART NO	DESCRIPTION
Q1	OTR319809AA	TRANSISTOR KTC3198-TP-Y (KTC1815)KEC
Q2	OTR319809AA	TRANSISTOR KTC3198-TP-Y (KTC1815)KEC
Q3	OTR126609AA	TRANSISTOR KTA1266-TP-Y (KTA1015) KEC
R1	ORD7501F609	R,CARBON FILM 7.5K 1/6W 5
R10	ORD0681F609	RESISTOR, FIXED CARBON FILM 6.8 1/6W 5 TA52
R11	ORD1000F609	R,CARBON FILM 100 1/6W 5
R12	ORD1001F609	R,CARBON FILM 1.0K 1/6W 5
R120	ORD4701F609	R,CARBON FILM 4.7K 1/6W 5
R13	ORD1503F609	R,CARBON FILM 150K 1/6W 5
R14	ORD1002F609	R,CARBON FILM 10K 1/6W 5
R15	ORD2200F609	R,CARBON FILM 220 1/6W 5
R151	ORD1000F609	R,CARBON FILM 100 1/6W 5
R159	ORD4701F609	R,CARBON FILM 4.7K 1/6W 5
R16	ORD1001F609	R,CARBON FILM 1.0K 1/6W 5
R160	ORD1000F609	R,CARBON FILM 100 1/6W 5
R18	ORD1001F609	R,CARBON FILM 1.0K 1/6W 5
R2	ORD1001F609	R,CARBON FILM 1.0K 1/6W 5
R20	ORD1001F609	R,CARBON FILM 1.0K 1/6W 5
R21	ORD3600F609	R,CARBON FILM 360 1/6W 5
R22	ORD3600F609	R,CARBON FILM 360 1/6W 5
R23	ORD3600F609	R,CARBON FILM 360 1/6W 5
R26	ORN1202F409	R,METAL FILM 12K 1/6W 1%
R29	ORD0752F609	R,CARBON FILM 75 1/6W 5
R3	ORD1000F609	R,CARBON FILM 100 1/6W 5
R30	ORD0822F609	R,CARBON FILM 82 1/6W 5
R547	ORD0682F609	R,CARBON FILM 6.8M 1/6W 5
R548	ORD0102F609	R,CARBON FILM 10 OHM 1/6W 5
R553	ORD6804F609	R,CARBON FILM 6.8M 1/6W 5
R6	ORD6801F609	R,CARBON FILM 6.8K 1/6W 5
R7	ORD1000F609	R,CARBON FILM 100 1/6W 5
R8	ORD1000F609	R,CARBON FILM 100 1/6W 5
R9	ORD1000F609	R,CARBON FILM 100 1/6W 5
<b>EXPLODED VIEW PARTS</b>		
100(25")	300-A94U	CABINET ASSY CF-25C26 FPGRW
(25")	300-A94V	CABINET ASSY CF-25C26X UPGRJ2
(29")	300-B80R	CABINET ASSY CF-29C26F RPGRF
(29")	300-B80S	CABINET ASSY SCF29C26X TPGRB2
(29")	300-B40J	CABINET ASSY SCF28C26X UPGRZ7
100-01	1PTF0403016	SCREW, TRUSS HEAD D4 L14
100-02	120-C76A	SPEAKER TWEETER C050D06H0151
100-03	120-C77F	SPEAKER 8OHM 5W
100-04(25")	314-299B	GRILL SPEAKER(CB-25C20X)
(28")	314-325A	GRILL SPEAKER(CB-28C22X)
(29")	314-289B	GRILL SPEAKER(CB-29C20X)
100-05	313-244A	PANEL CONTROL(CB-29C20)
100-06(25")	316-425A	WINDOW LED(CB-25C20)
(25")	316-402A	WINDOW PRE-AMP(CB-25C20X UPGRZ3)
(29")	316-403A	WINDOW PRE-AMP(CB-29C20)
100-07(25")	315-607J	DOOR ASSY, CONTROL(CF-25C26J)
(28")	315-613F	DOOR CONTROL(IMC-51B)CF-28C26X
(29")	315-575P	DOOR CONTROL(IMC-51B)
100-08(25")	441-363A	BUTTON POWER (CB-25C20)

The components identified by shading and mark **Δ** are critical for safety.  
Replace only with part number specified.

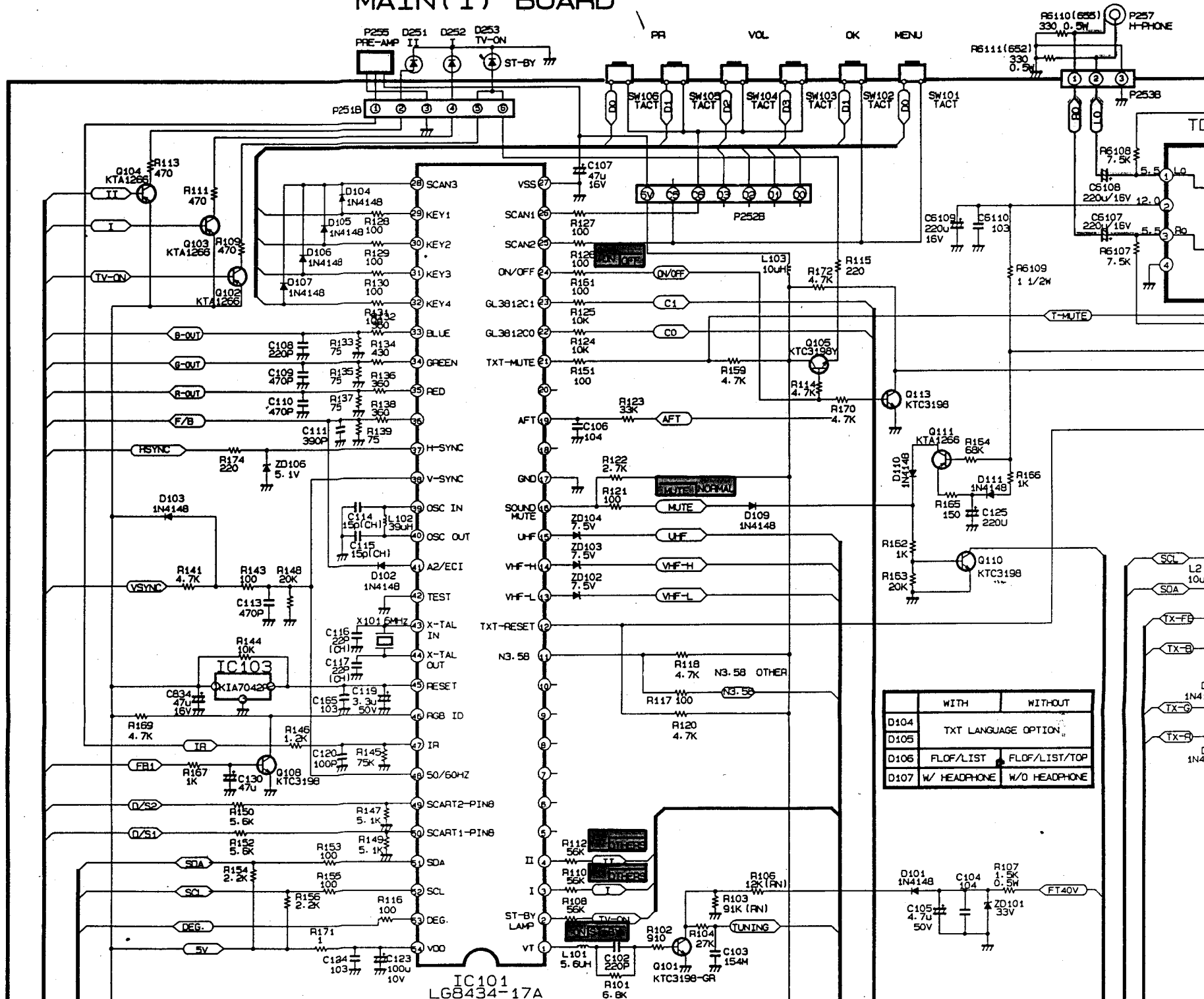
LOCA. NO	PART NO	DESCRIPTION
(29")	441-330A	BUTTON POWER (CB-29C20)
100-09(25")	320-062F	SPRING KNOB
(29")	320-062J	SPRING KNOB
<b>Δ</b> 200(25")	2055-V1011N	CPT A59KYL220X 01K7ND
<b>Δ</b> (25")	2055-01011L	CPT A59KYL220X 01N7ND(LUKAS)
<b>Δ</b> (28")	112-D28B	CPT A66EAK71X01(LUKAS)
<b>Δ</b> (29")	112-D29D	CPT A68AGA25X201(+0.24G,RCA)
<b>Δ</b> (29")	112-D29E	CPT A68AGA25X401(-0.12G,RCA)
<b>Δ</b> (29")	112-D29F	CPT A68AGA25X501(-0.50G,RCA)
200-02	341-919A	HOLDER D-COIL
	341-721B	HOLDER D-COIL
200-03(25")	332-237A	SCREW CPT FIX
(29")	332-229G	SCREW HEXAGON HEAD(L=40,D:22)
<b>Δ</b> 200-04(25")	170-844B	LEAD SET CPT EARTH 25"
<b>Δ</b> (29")	170-586Y	LEAD SET CPT EARTH 29"
<b>Δ</b> (29")	170-797G	LEAD SET CPT EARTH 28"
<b>Δ</b> 200-05(25")	150-D05N	COIL DEGAUSSING,CU 25" 70T 150HM
<b>Δ</b> (29")	150-D05D	COIL DEGAUSSING,CU 29" 60T 8.70HM
<b>Δ</b> 200-06(25")	153-144L	DY DCAW1-25SLBA
300-01	341-752A	HOLDER LED (3P)
300-02	106-047B	PRE-AMP SBX1620-72(SONY)
300-03	380-068A	JACK HEADPHONE,HSJ0914-01-110
300-04	380-394A	JACK DIN(SW LESS) PJ6030
300-05	380-395A	JACK PHONE 3P PJ6036
300-06(29")	109-628B	PCB ASSY CONTROL(FOR C26)MC-51B M-IN
300-07(25")	351-012A	LINK POWER S/W
(29")	351-008A	LINK POWER S/W
<b>Δ</b> 300-08	140-289B	SWITCH SDDF-3B(J-ALPS) TV-8
300-09(25")	109-626B	PCB ASSY MAIN2 51B 25" W/CNTL (M-IN)
(25")	109-873E	PCB ASSY MAIN2 51B 25" C26X M-IN,LUKAS
(29")	109-626C	PCB ASSY MAIN2 51B 29" C26 M-IN
(28")	109-873F	PCB ASSY MAIN2 51B 28" C26 M-IN,LUKAS
<b>Δ</b> 300-10	174-225F	CORD ASSY POWER PC-33J (U.K)
<b>Δ</b>	174-199T	CORD ASSY POWER(L=300,242F)
<b>Δ</b>	174-009V	CORD POWER
<b>Δ</b>	174-222D	CORD ASSY POWER
300-11	01KE780800A	IC,KEC KIA7808PI 3P(TO-220IS) 1A,8V
300-12	01SH122100A	IC,SHARP PQ12RF21 4P(TO-220) 12V S/W RE
300-13	0DD420000BB	DIODE D4L20J
300-14	0DD560000AA	DIODE D5SB60 BRIDGE (5A/600V)S.D.G
300-15	01SK670900A	IC,SANKEN STR/S6709 9S SMPS-CNTR
<b>Δ</b> 300-16	154-374A	FBT KFS-6164(DUGO) 25MULTI TOP
300-17	1PTF0403016	SCREW,TRUSS HEAD D4 L14
300-18	343-B06A	SUPPORTER FBT(TOP LOADING,PC-33A)
300-19	0TR988000AC	TRANSISTOR KTB988-Y,W/AIKTB834),KEC
300-20	0TR487120AA	TRANSISTOR ON4871(BU2508DF) PHILIPS
300-21	01PH835030A	IC,PHILIPS TDA8350Q/N3 13SIP V/DEF+E/W
300-22	320-174A	SPRING KNOB(CF-29C32)
300-23	01TO820000A	IC, TOSHIBA TA8200AH 10W*2 PR T/B
300-25	401-721C	BOARD A/V (CF-29C20T)

LOCA. NO	PART NO	DESCRIPTION
300-27	380-392A	JACK A/V IN-OUT(6P)
300-28	381-091A	SOCKET SCART JACK 21P IN
300-29	113-238F	TUNER TUKG4-D07P(38.0MHZ HYPER)
300-30(25")	312-384A	FRAME MAIN CHASSIS (NC-35A/PC-33A)
(29")	312-374A	FRAME MAIN CHASSIS (PC-33A,MC-25A,NC-35A)
300-31(25")	109-624K	PCB ASSY MAIN1 51B CF25C26T M-IN
(25")	109-872E	PCB ASSY MAIN1 51B (A2/2S,TX,W/O N) LUKAS
(25")	109-B05D	PCB ASSY MAIN1 51B (FOR STORMA)
(25")	109-624P	PCB ASSY MAIN1 51B (FOR LGEMK)
(29")	109-624B	PCB ASSY MAIN1 51B (W/O CTI) M-IN
(29")	109-624N	PCB ASSY MAIN1 51B (CATV,T) M-IN
(28")	109-871F	PCB ASSY MAIN1 51B (A2,2S) LUKAS
(29")	109-624J	PCB ASSY MAIN1 51B (W/O TXT,CTI) M-IN
300-32	381-226D	SOCKET CPT PCS628-01S/LESS BULK(IN05)
300-33(25")	110-Y22C	PCB ASSY CPT PC33A 25"(GS CPT)
(25")	110-Y22G	PCB ASSY CPT 51B 25" M-IN,LUKAS
(29")	110-Y22A	PCB ASSY CPT PC33J 29" M-IN
(28")	110-Y22W	PCB ASSY CPT 51B 28"/29" M-IN LUKAS
300-34	01SG510100A	IC,SGS-THOMSON TEA5101A 15MULTIWATT VIDEO AMP
400(25")	303-G90Q	COVER ASSY,BACK(ICF-25C26F,737A)
(25")	303-G90N	COVER ASSY,BACK(ICF-25C26X,UPGRZ7)
(29")	303-J49G	COVER ASSY,BACK(ICF-29C26F,51B)
(28,29")	303-J49H	COVER ASSY,BACK(ICF29C26X,51B)
(29")	303-J49K	COVER ASSY,BACK(IMC-51B,412-855A)
(29")	303-J49N	COVER ASSY,BACK(IMC-51B,412-892A)
(29")	303-J49L	COVER ASSY,BACK(IMC-51B,CF-29C26,51B,GS)
400-01	1PPF0403116	SCREW,PAN HEAD TAP TITE + D4 L16 MSWR3/BK
500	105-224F	TRANSMITTER ASSY(PC45A,G/S)
	105-104F	TRANSMITTER PC-33J 2ND TX
500-01	303-H73A	COVER BATTERY (105-212)
	303-E82A	COVER (T-34,2ND TX)
<b>TRANSMITTER PARTS</b>		
	01GS848905A	IC, GOLDSTAR ELECTRON GS8489-05A(GMS30140-R015) 24SO
	303-H73A	COVER BATTERY (105-212)
<b>MISCELLANEOUS</b>		
	120-D23A	SPEAKER CB29C20X
	120-D23M	SPEAKER ASSY,CF-29C44 2P
	174-003H	CORD POWER
	174-224A	CORD POWER FOR UK
	305-002D	HOUSING 2P AMP 171E5-7(110)
	316-402A	WINDOW PREAMP
	320-174A	SPRING FOR NC-39A CHASSIS
	327-062K	SEAT RUBBER(FOR FRAME FIX)
	341-184D	HOLDER LEAD TWISTER
	341-242F	HOLDER POWER CORD
	341-685A	HOLDER D-COIL SPRING TYPE
	341-869A	HOLDER ANODE RING,SONY
	387-A11L	CONNECTOR ASSY 2P(700MM)

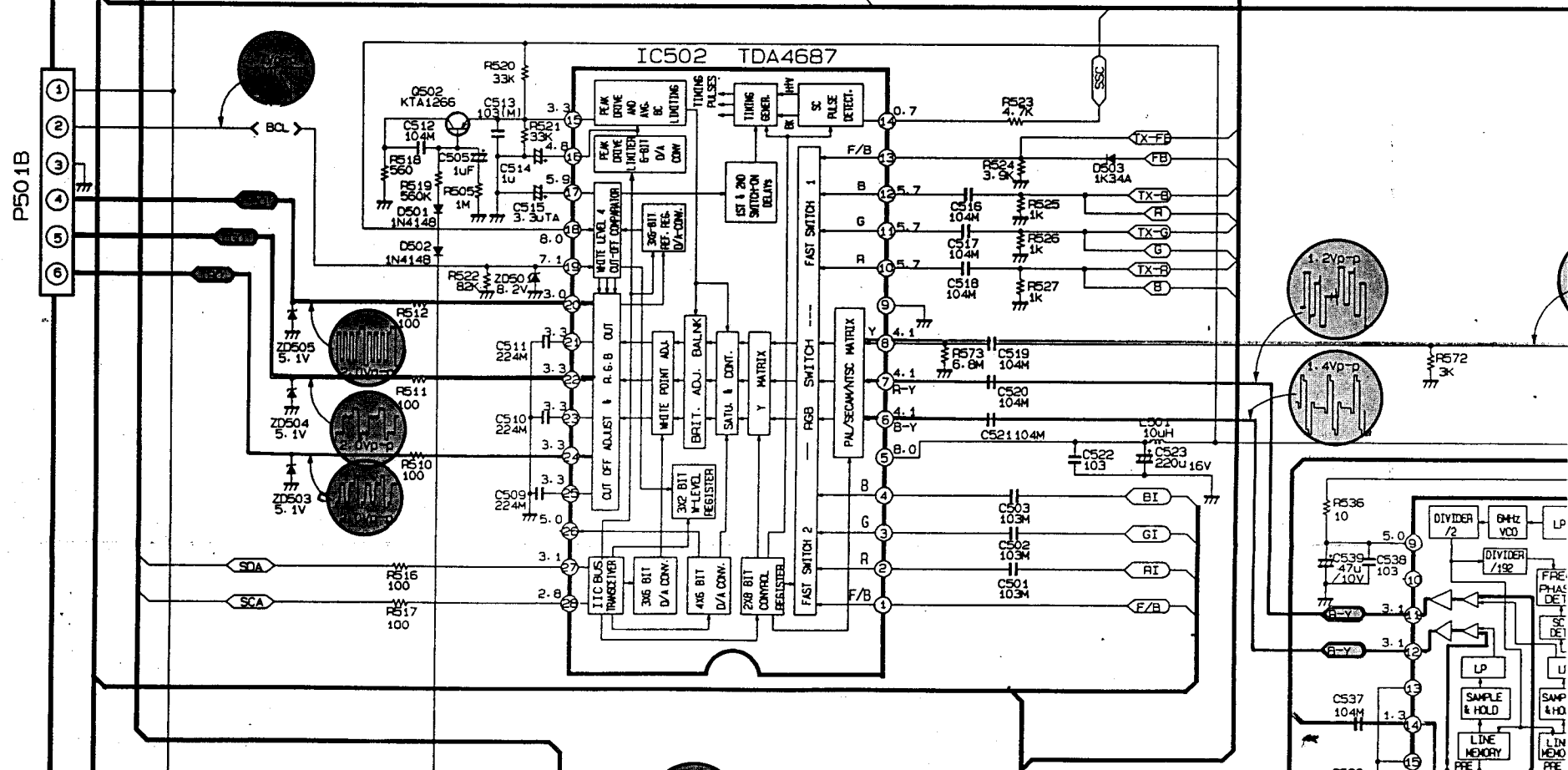
The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

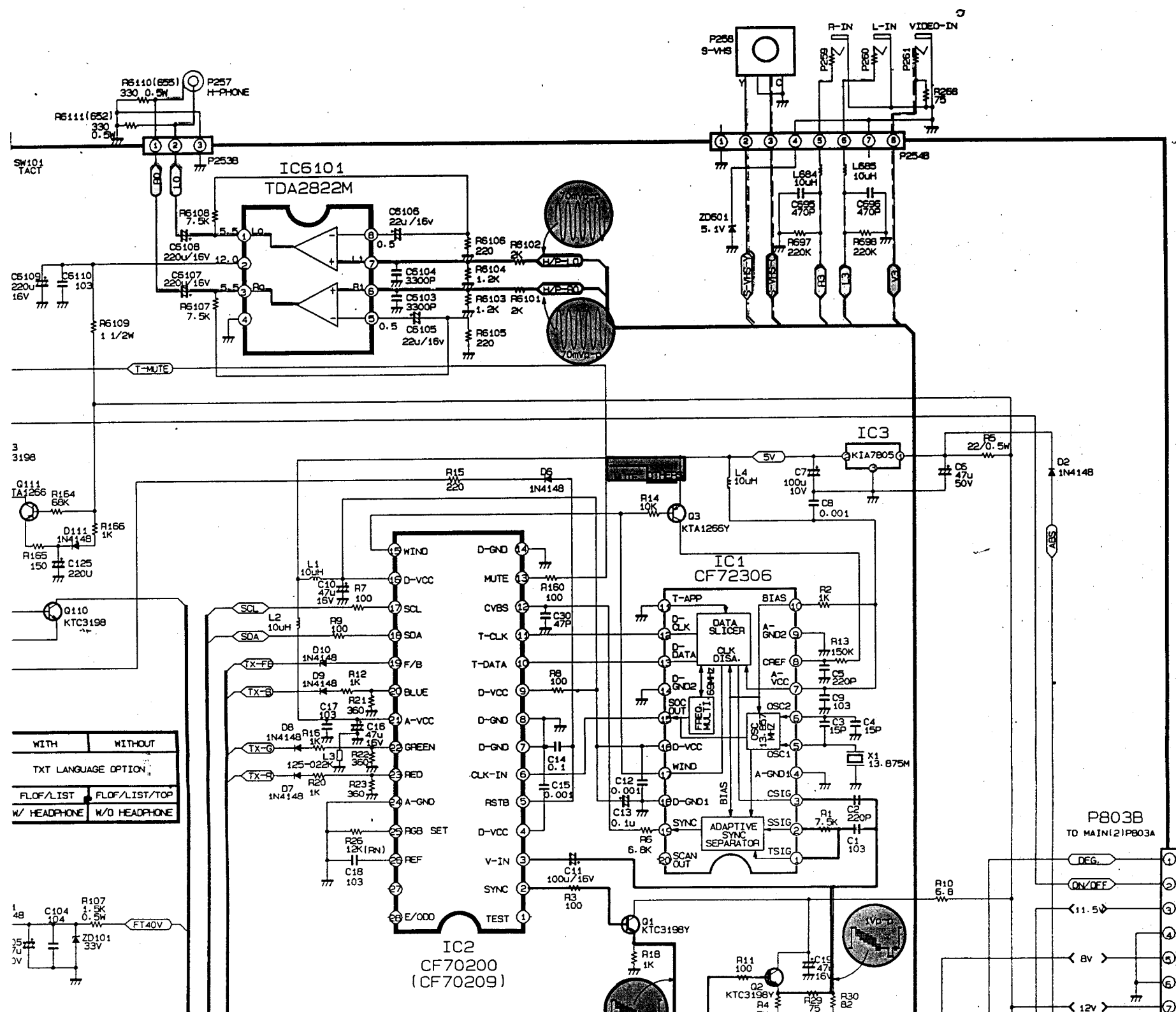
LOCA. NO	PART NO	DESCRIPTION
	387-A12L	CONNECTOR ASSY 3P (700 M/M)
	407-Q36C	PLATE CONTROL DECO(MC51B,CF-25C26)
	410-585A	MARK BRAND GS(FORGING,25"-29")
	430-861A	METAL CPT FIXING
	450-018C	ADAPTER ANT.(300 TO 75) PAL
	470-861A	LOCK ASSY,DOOR KIFCO
	482-H39C	INSTRUCTIONS(OWNER'S MANUAL) MC51B,GS,C/E,224F TX
	484-919A	DIAGRAM CIRCUIT MC51B
PA101	106-047B	PRE-AMP SBX1620-72(SONY)
SK101	381-091A	SOCKET SCART JACK 21PIN
SK901	381-226D	SOCKET CPT PCS628-01S/LESS BULK(NO5)
TU181	113-238F	TUNER TUKG4-D07P(38.0MHZ HYPER)
	113-238D	TUNER TUKEYC07BP(38.0MHZ)
$\Delta$ T701	$\Delta$ 154-374A	FBT KFS-61164(DUGO) 25MULTI TOP

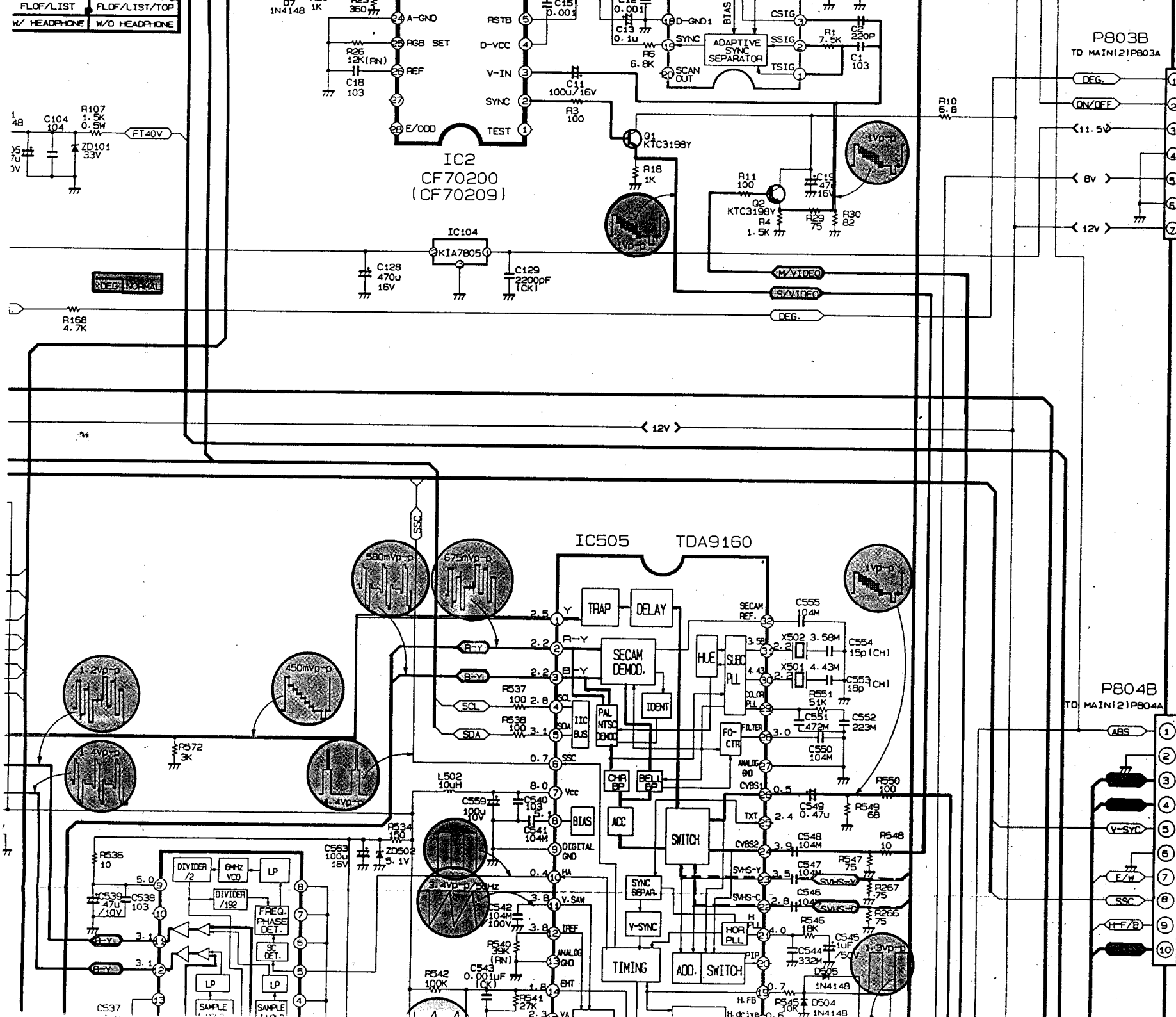
# MAIN(1) BOARD

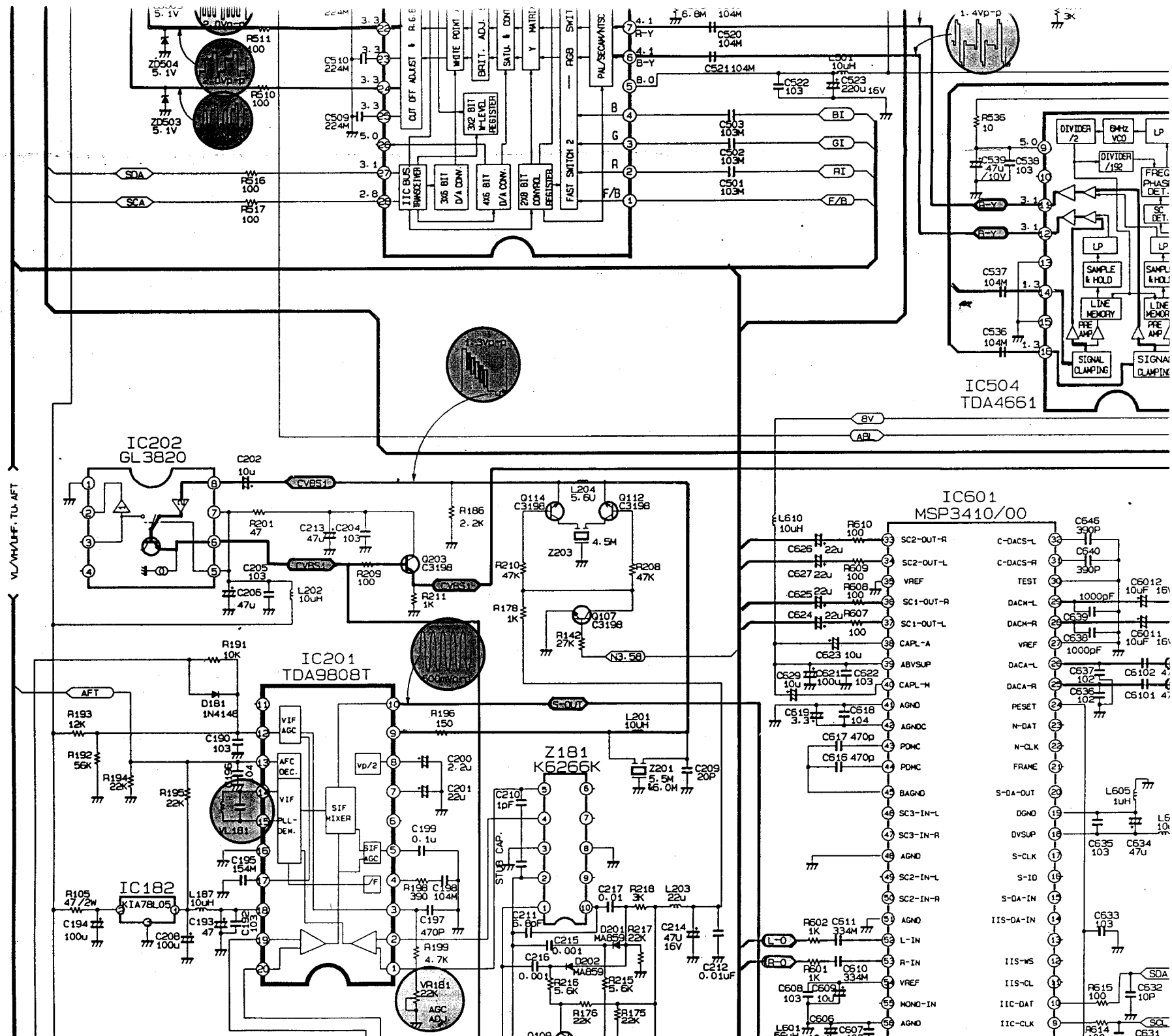


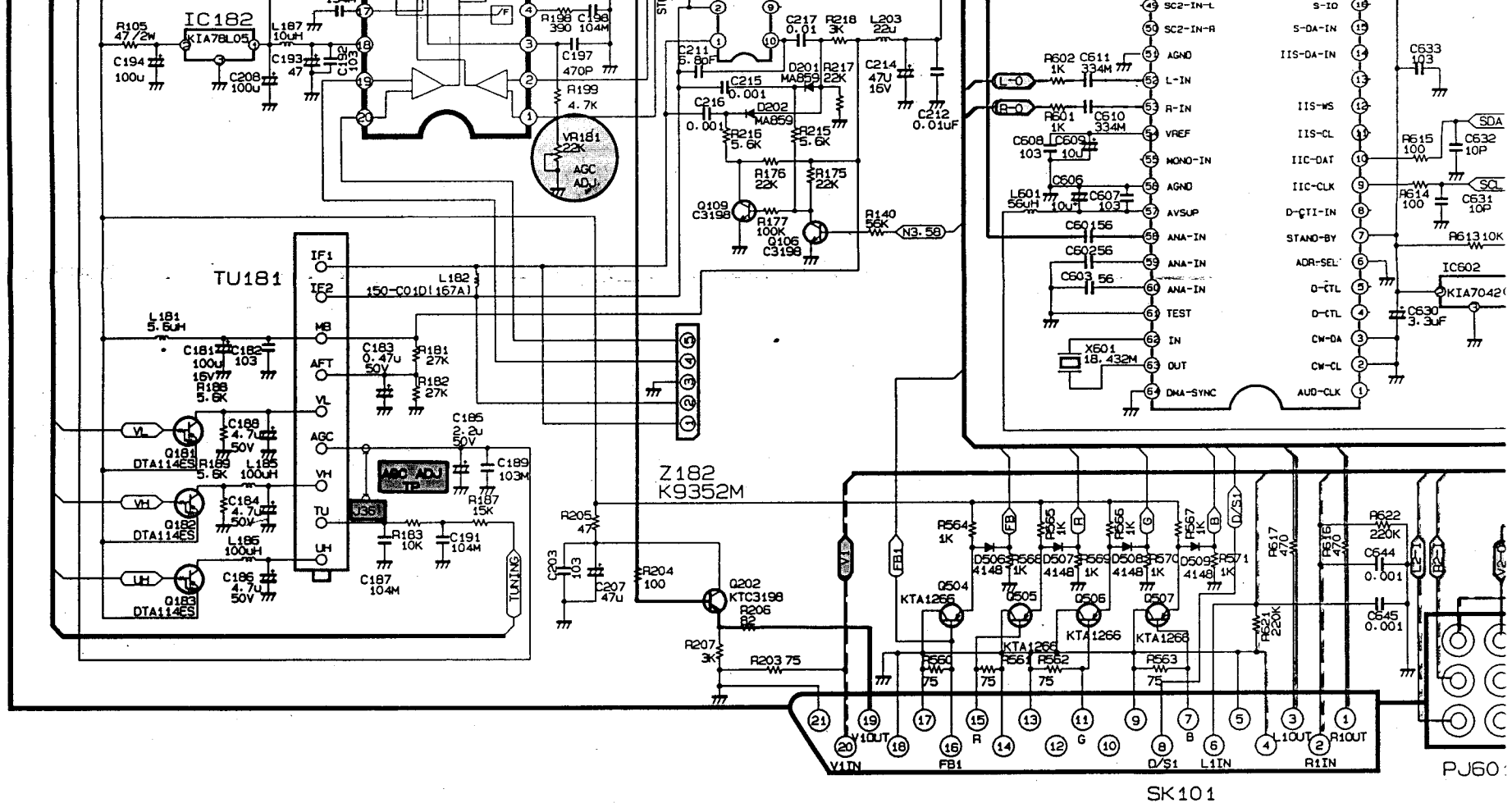










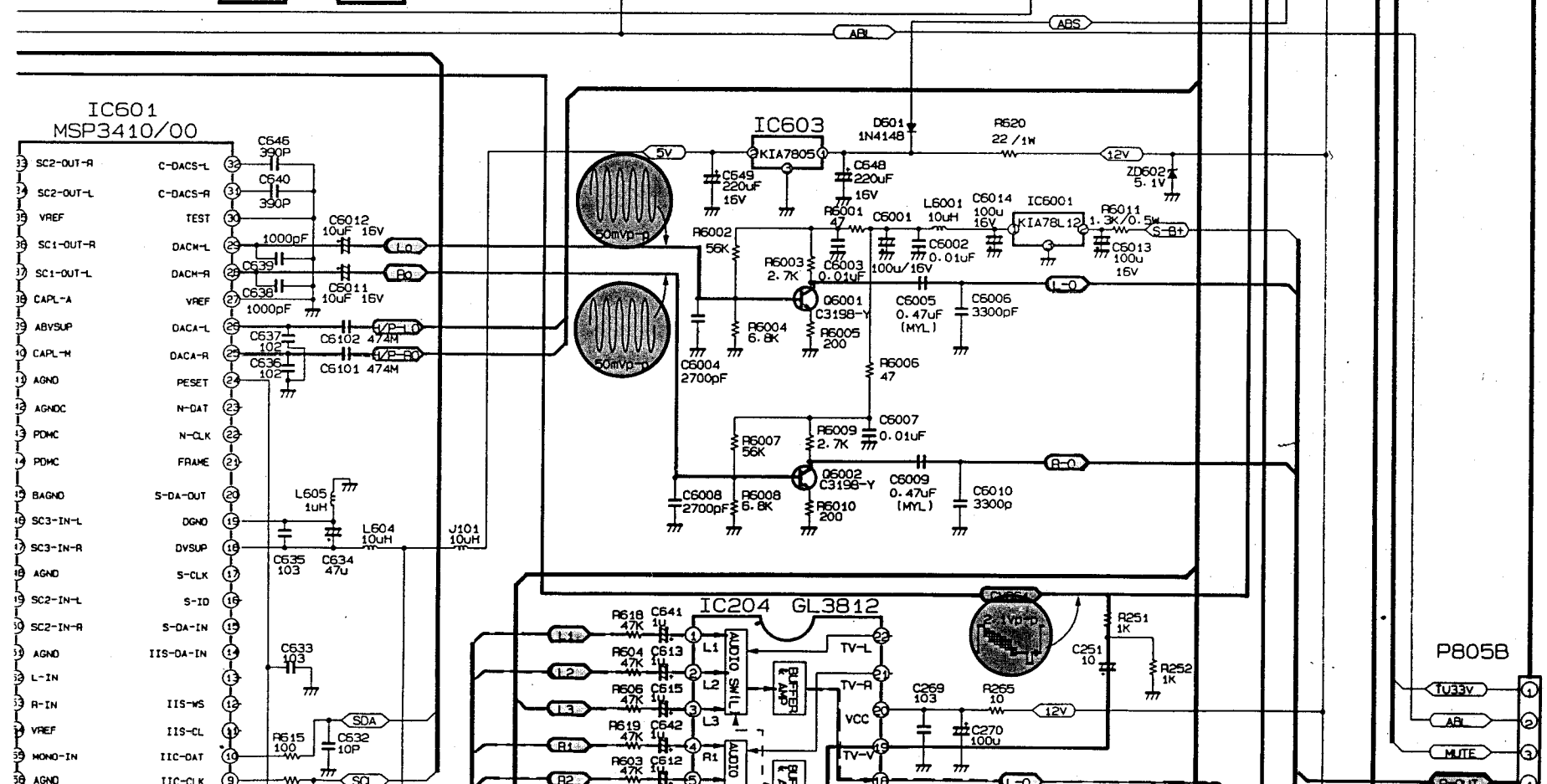
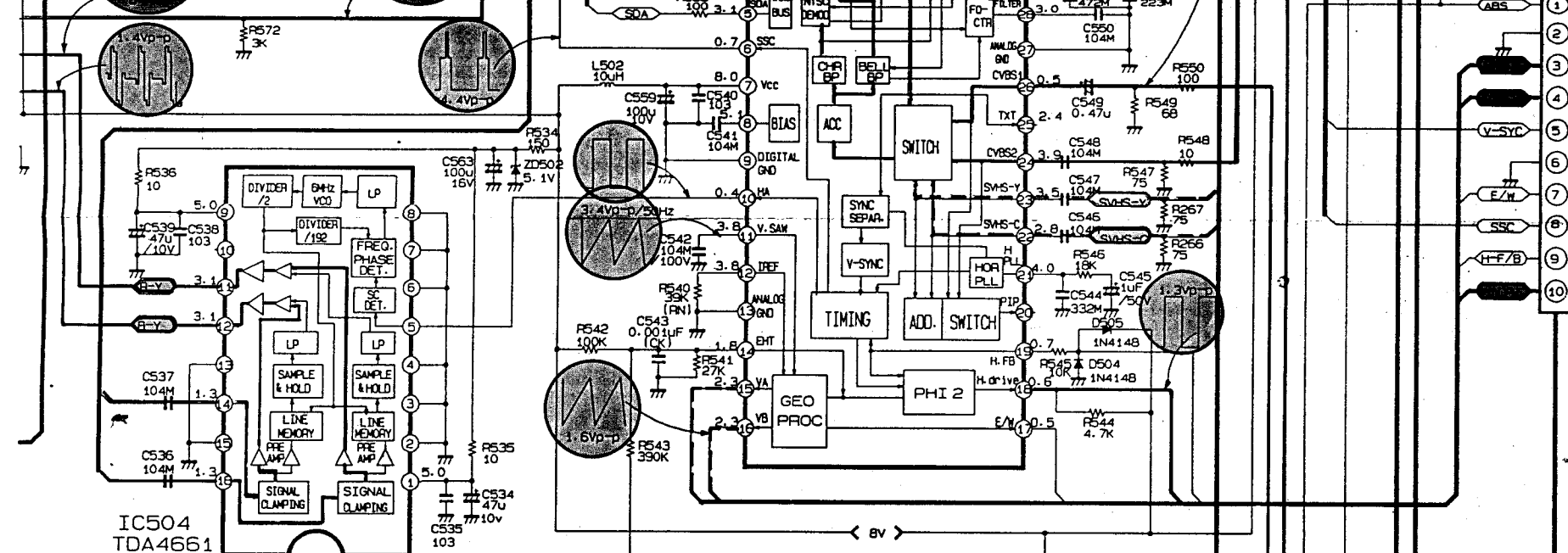


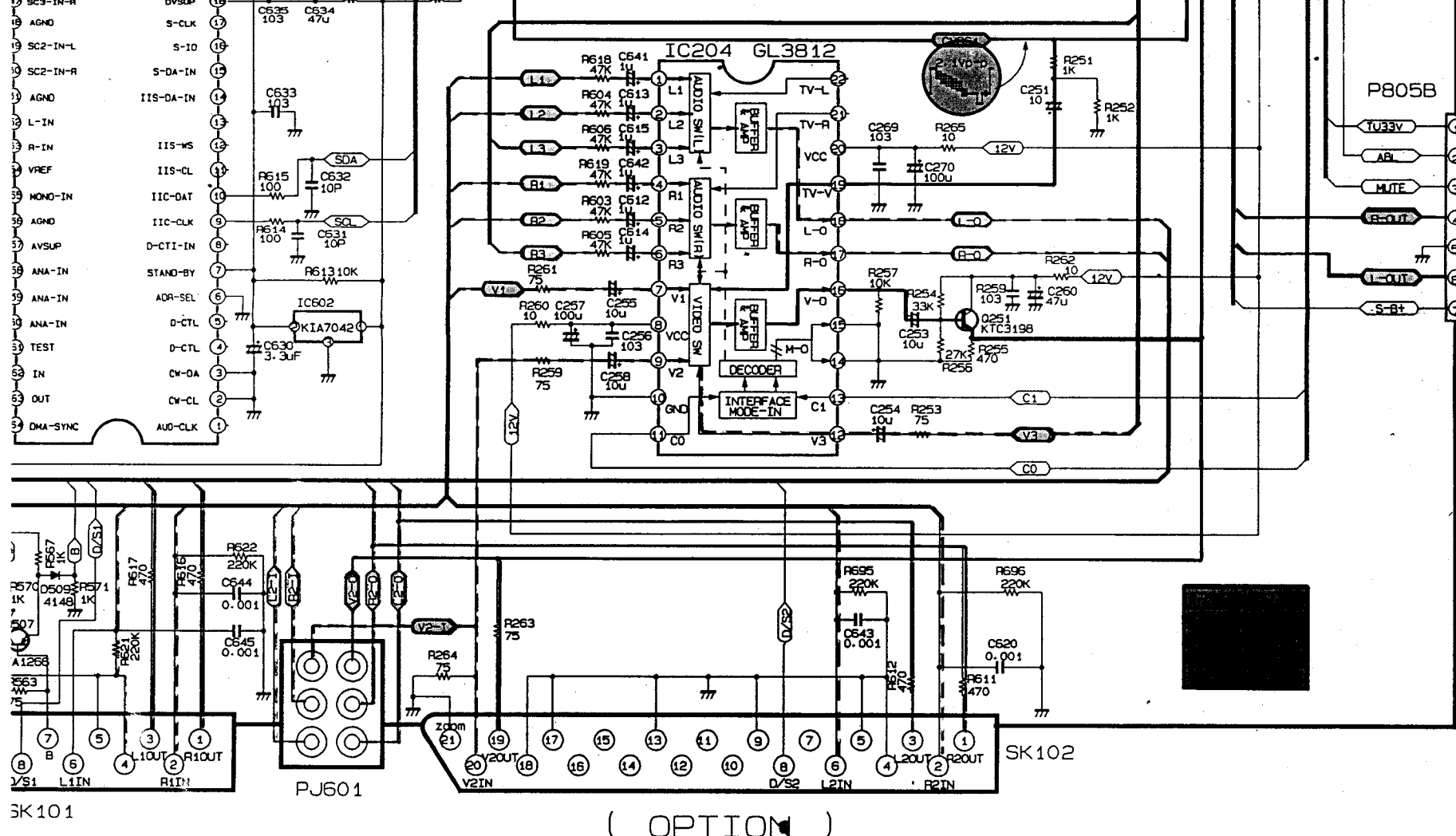
— SOUND, SIF  
 --- EXT. SOUND

— CHROMA  
 --- EXT. CHROMA

— CVBS, PIF  
 --- EXT. CVBS

— LUMINANCE  
 --- EXT. LUM





— LUMINANCE

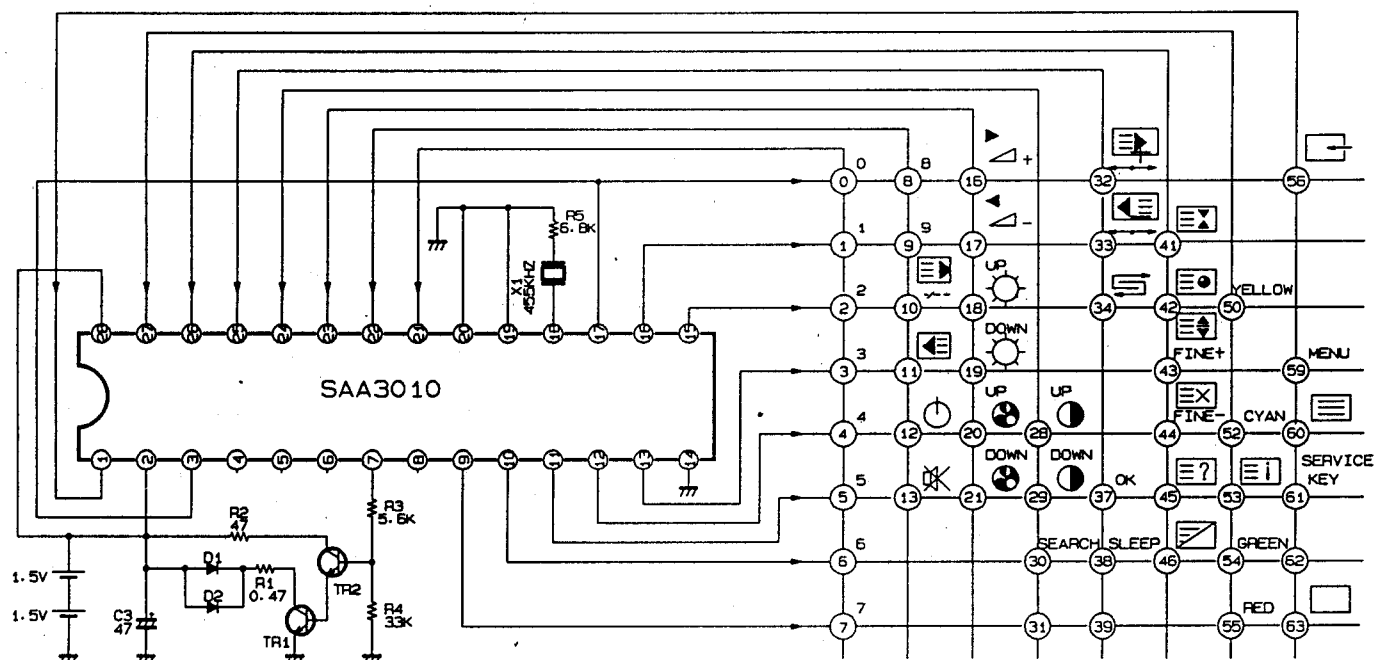
— HORIZONTAL

--- EXT. LUMINANCE

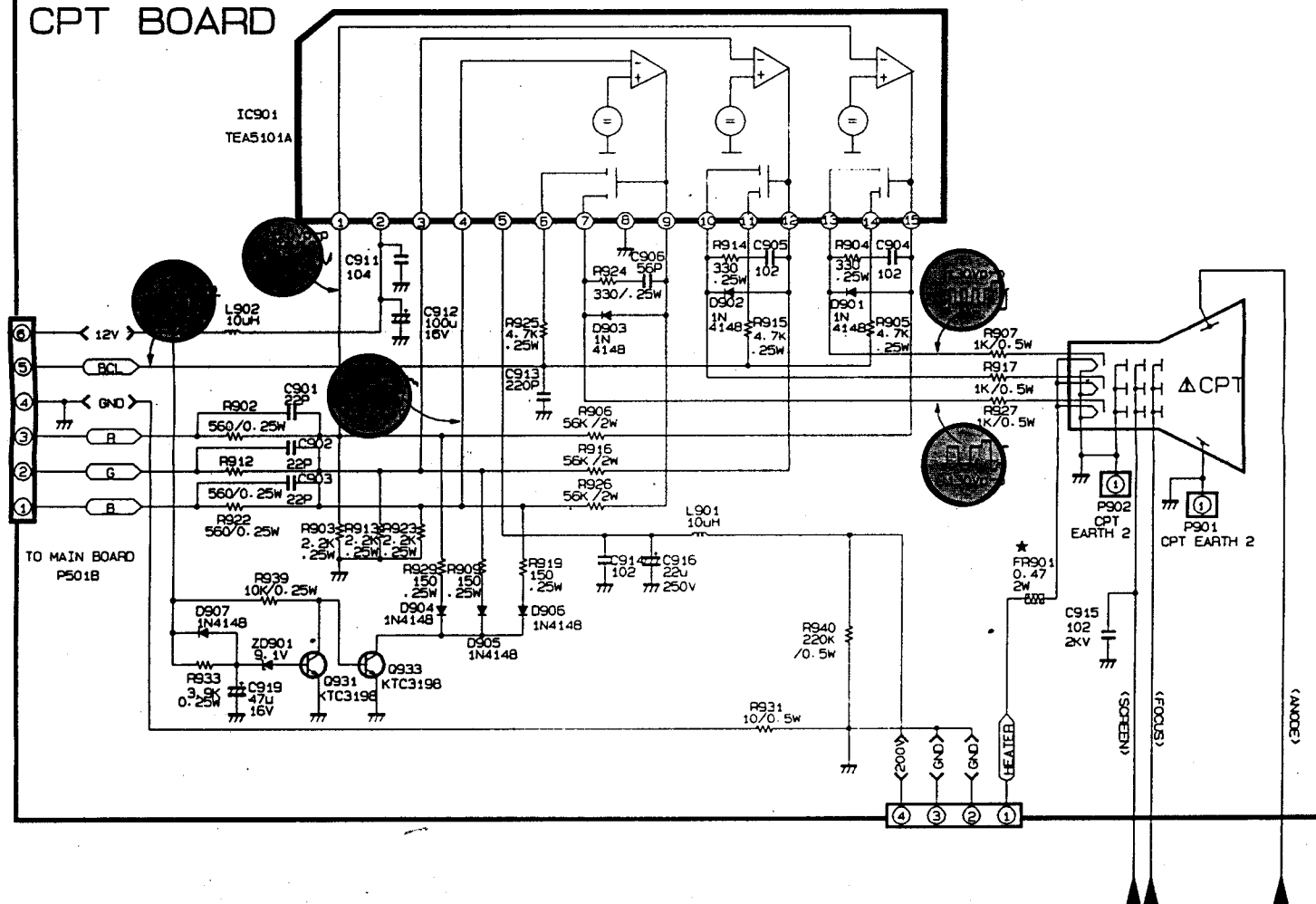
--- VERTICAL

# SCHEMATIC D

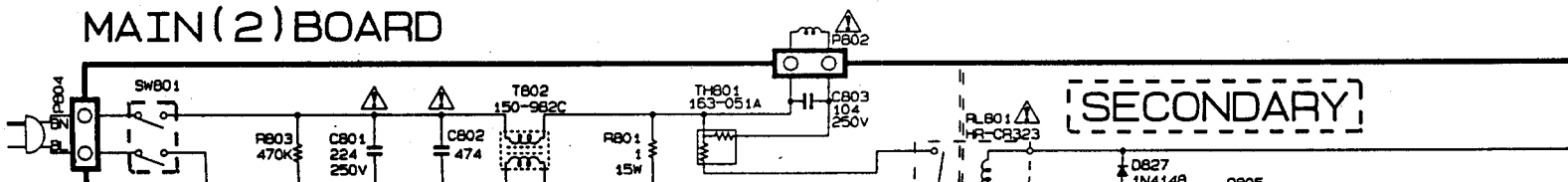
# REMOTE CONTROL CIRCUIT



CPT BOARD

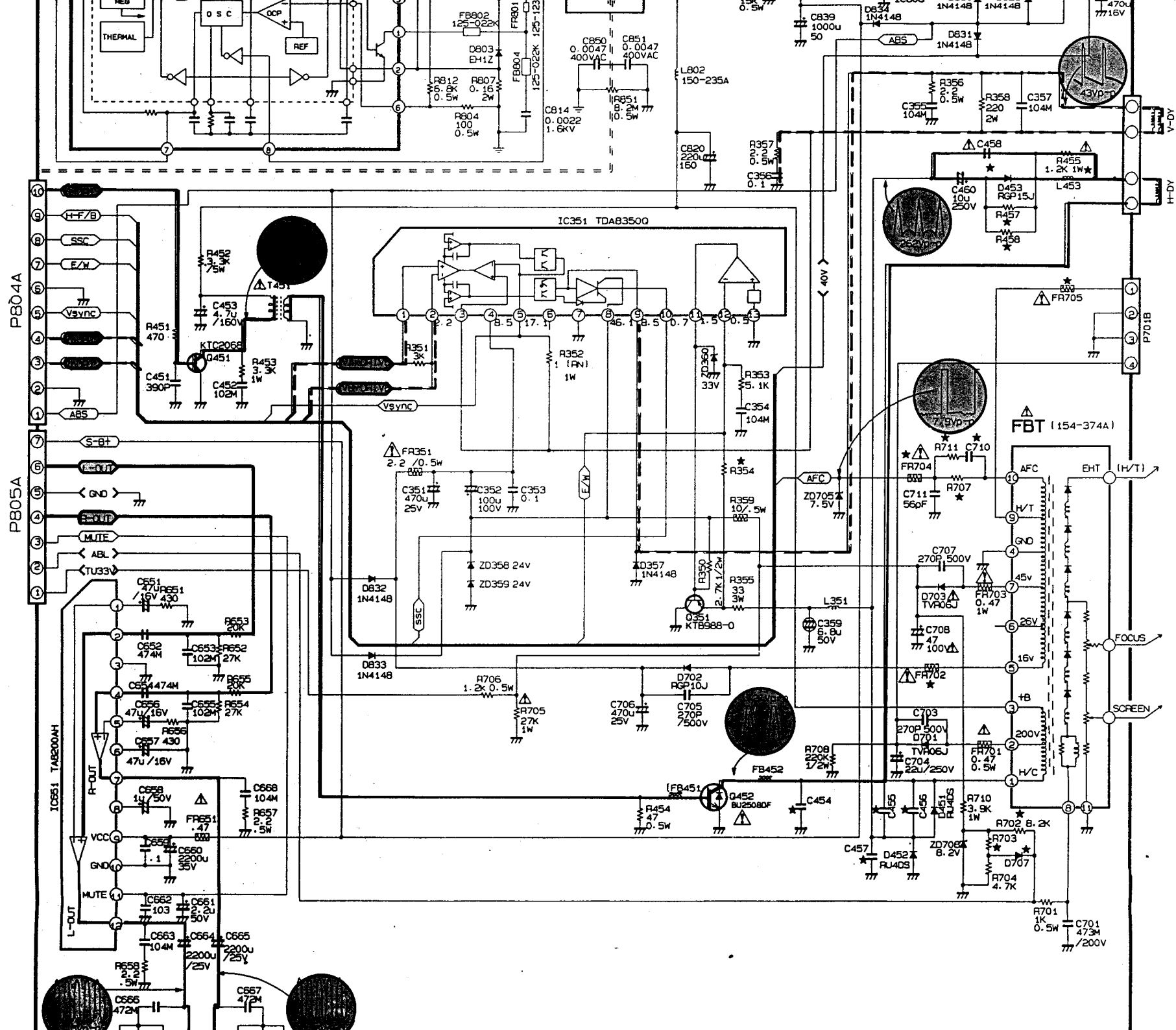


MAIN(2) BOARD





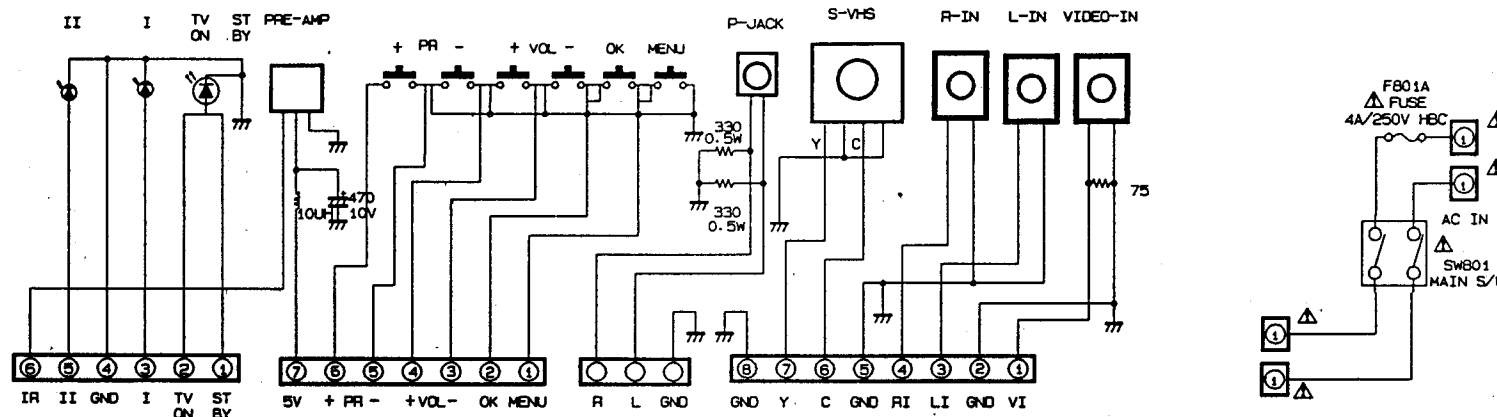




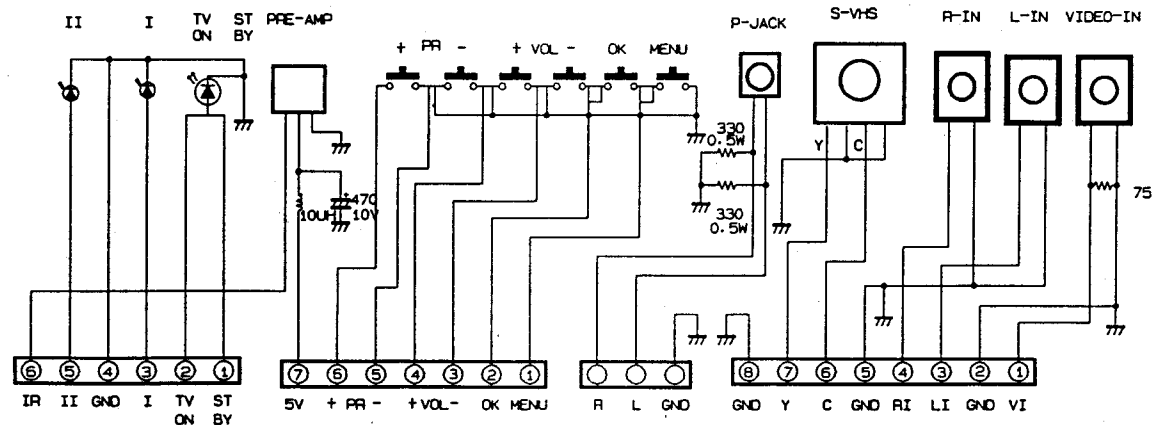


# RAM(MC51B, SUB)

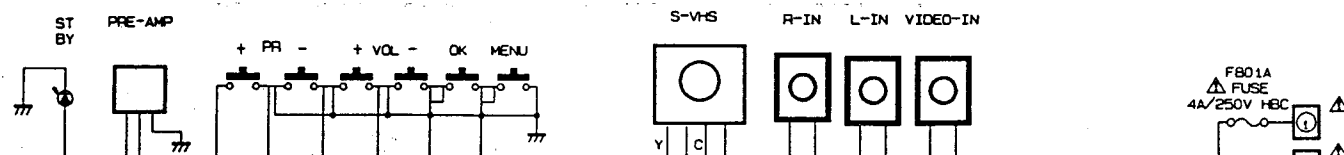
## CONTROL BOARD OPTION FOR TOOLS (29C26, 28C26, 25C26)



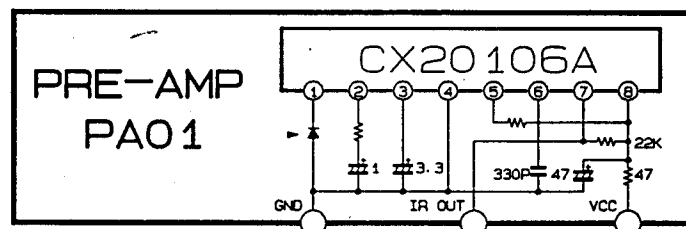
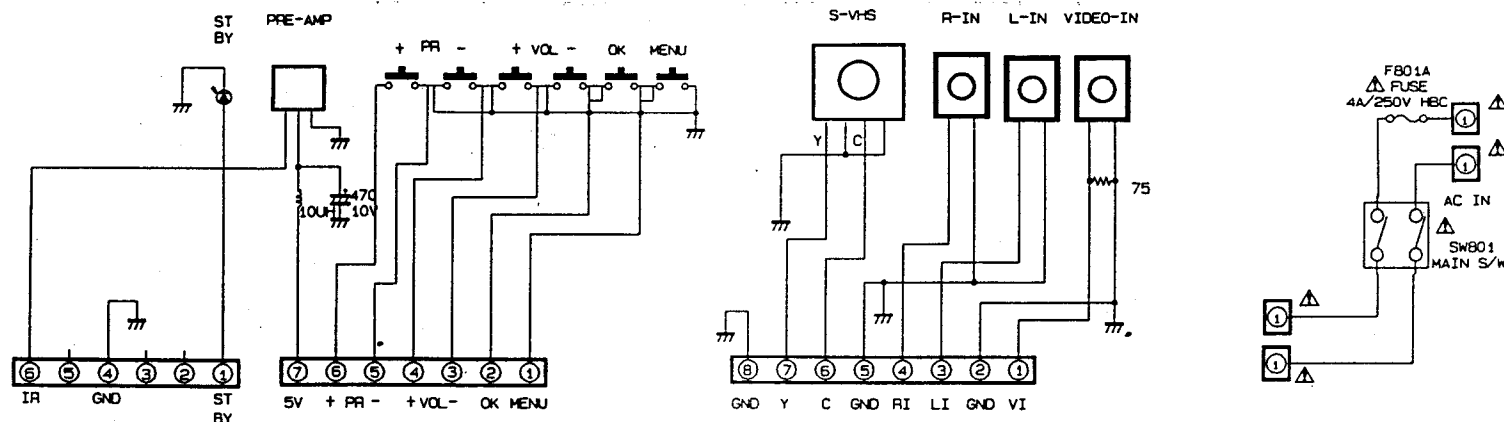
## CONTROL BOARD OPTION FOR TOOLS (29C36, 25C36)



## CONTROL BOARD OPTION FOR TOOLS (29C76, 25C76)



# CONTROL BOARD OPTION FOR TOOLS (29C76, 25C76)



## NOTICE

Since this is basic circuit diagram.  
The value of components and some  
partial connection are subject to  
change for improvement without notice.

The components marked  $\Delta$  conform  
to the TEC guide-lines and are  
essential for safe operation of the  
equipment.  
The components marked  $\Delta$  are required  
for the safe operation.  
The components marked  $\Delta$  are required  
for the safe operation.

Value of resistor,  
capacitor and inductor

1. Resistances are shown in ohm.

## Value of resistor, capacitor and inductor

1. Resistances are shown in ohm.  
K=1,000. M=1,000,000.
2. Unless otherwise noted in schematic.  
All capacitor values less than 1  
are expressed in mfd and the values  
more than 1 in pF.
3. Unless otherwise noted in schematic.  
all inductor values more than 1  
are expressed in uH and the values  
less than 1 in Henry(H).

## Observation of voltages and waveforms

1. Voltages read with VTVM from point  
to chassis ground.  
line voltage is 230+/-20% volts.  
signal pattern is colour-bar.
2. The schematic shown is  
representative only.
3. All waveforms are taken using a  
wide band oscilloscope and a low  
capacity probe.
4. Check FINE TUNING. AGC. CONTRAST.  
BRIGHTNESS and COLOUR controls for  
best picture. make sure that  
COLOUR and BRIGHTNESS are in mid-  
point and CONTRAST is in 75%.
5. Waveforms are taken using a  
standard colour signal.

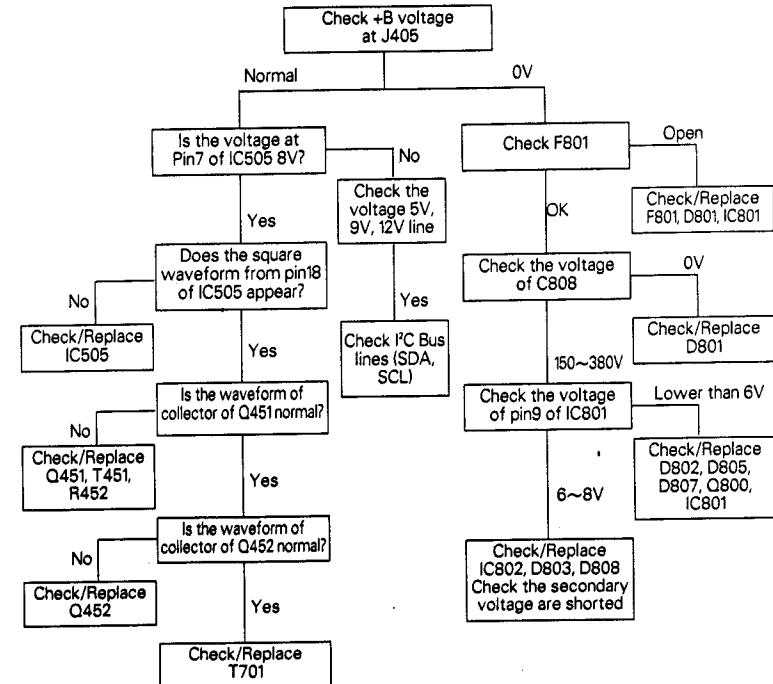
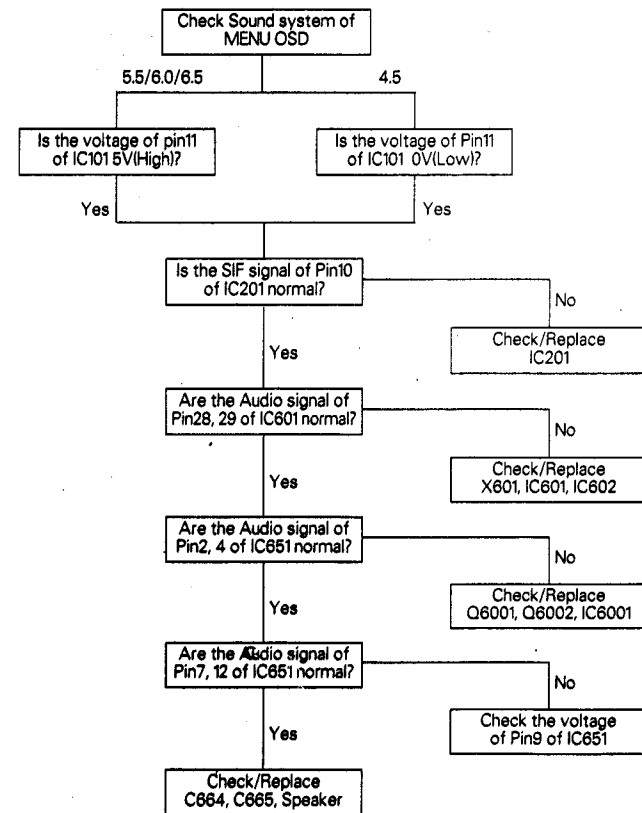
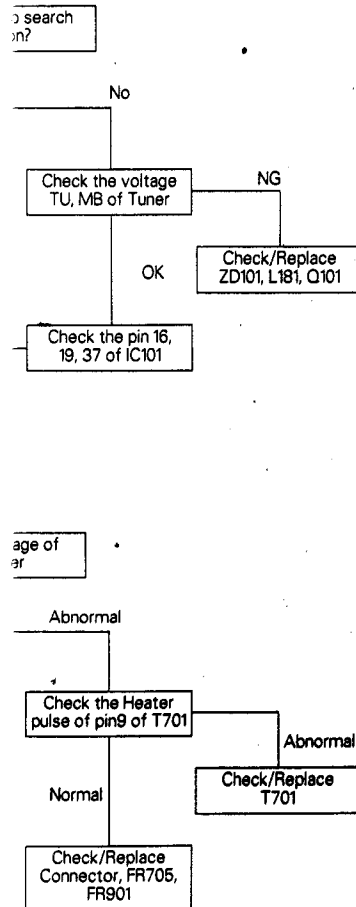
## ★ INCH CONVERSION PARTS

CIR. -NO	25INCH	28INCH	29INCH
C454	MPP1.6K222	MPP2K222	MPP1.6K102
C455	MPP1.6K952	PP1.6K102	MPP1.6K822
C456	MPP1.6K952	MPP2K103	MPP1.6K862
C457	PE400V223	PE400V333	PE400V333
C458	MPP200V704	MPP400V224	MPP200V504
L453	150-L01E	150-L01J	150-L01D
R351	RN1/6W3.3K	RN1/6W3K	RN1/6W3K
R457 458	RS2W10K	RS2W20K	RS2W15K

C452	MPP1.6K952	MPP2K103	MPP1.6K862
C457	PE400V223	PE400V333	PE400V333
C458	MPP200V704	MPP400V224	MPP200V504
L453	150-L01E	150-L01J	150-L01D
R351	RN1/6W3.3K	RN1/6W3K	RN1/6W3K
R457 458	RS2W10K	RS2W20K	RS2W15K
R702	RD1/6W5.1K	RD1/6W4.7K	RD1/6W8.2K
FR702	RF2W1	RF1W0.47	RF1W0.47
FR705	RF 2W 1.2	RF2W5.6	RF 2W 1.2
D707	--	1N4005	1N4005
R703	RD1/6W3.9K	RD1/6W5.1K	RD1/6W5.1K
R707	RF1/2W0.47	--	RF1/2W0.47
FR704	RS1W2.7K	TIN WIRE	RS1W2.7K
R711	RD1/2W4.7K	TIN WIRE	RD1/2W4.7K
C710	CK500V560P	CQ682	CK500V560P
R354	RD1/6W51K	RD1/6W62K	RD1/6W51K

NO SOUND  
(PICTURE OK)

NO RASTER



# ADJUSTMENT INSTRUCTIONS

## ■ Alignment procedures

1. It is safe to adjust after using insulating transformer between the power supply line and chassis input to prevent the risk of electric shock and protect the instrument.
2. Never disconnect leads while the TV receiver is on.
3. Don't short any portion of circuits while power is on.
4. The adjustment must be done by the correct appliances. But this is changeable in view of productivity.
5. Unless other-wise noted, set the line voltage to 100V~270V, 50hz.

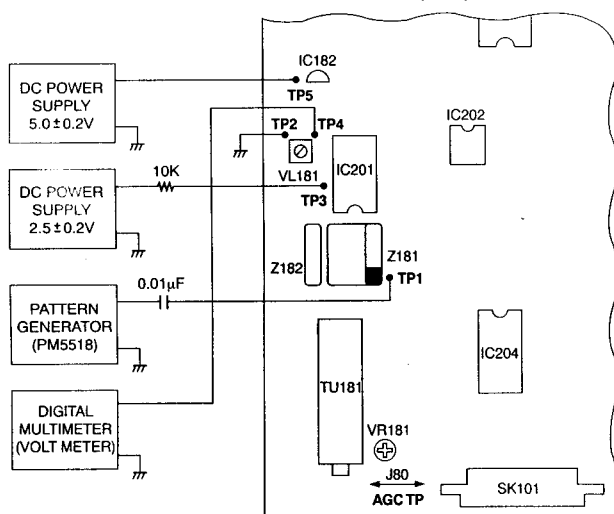
## ■ Test Equipment required

1. Pattern generator(PM5518 or equivalent)
2. Oscilloscope
3. DC power supply x 2
4. Digital multi-meter
5. Color analyzer

### Preparation for VIF Adjustment

1. Connect the measuring equipment to the Main PCB as shown in Fig.1
2. Set system and pattern of pattern generator to PAL-B/G and color-bar pattern.
3. Set RF frequency and output level of pattern generator to 38.0MHz and Max.(over 60dBμV).

MAIN Board(Component side view)



**NOTE:** TP point is on the copper side of PCB.

Fig. 1: Connection Diagram of Equipment for VIF Adjustment

## ● VIF(Video Intermediate Frequency) Adjustment

**Test Point** : TP4

**Adjust** : VL181

- 1) Turn on DC power supplies.
- 2) Adjust Video Detector Coil (VL181) so that TP4 is  $2.5 \pm 0.1V$  on Digital multimeter.

## ● RF AGC(Auto Gain Control) Adjustment

**Test Point** : J80 or Observing Display





**Adjust** : VR181

The RF AGC control (**VR181**) was aligned at the time of manufacture for optimum performance over a wide range conditions. Readjust of VR181 should not be necessary unless unusual local conditions exist, such as:

- 1) Channel interference in a CATV system
- 2) Picture bending and/or color beats, which are unusually due to excessive RF signal input when the receiver is too close to a transmitting tower or when the receiver is connected to an antenna distribution system where the RF signal has been amplified.  
In this case, the input signal should be attenuated (with pad or filter) to a satisfactory level.
- 3) Picture noise caused by "broadcast noise" or weak signal. If the broadcast is "clean" and the RF signal is at least 1mV (60dBμV), the picture will be noise free in any area.

Adjusting the VR181 (RF AGC) control to one end of rotation will usually cause a relatively poor signal to noise ratio; Adjusting to the other end of rotation will usually cause a degradation of over load capabilities resulting in color beats or adjacent channel reference.

For best results, adjust the VR181 control while performing on all over local channels, or the voltage at **J80** will be  $6.0 \pm 0.1V_{dc}$  in RF level  $60 \pm 1dB_{\mu V}$ .

Button	OSD	Adjustment	Reference
6	VL --	Vertical Linearity	
9	VS --	Vertical Shift	
7	VH --	Vertical Height	
8	SC--	Vertical "S" Compensation	Receive cross hatch pattern.
1	HS --	Horizontal Shift	
2	EW --	Horizontal Width	
3	EP --	East-West Parabolic	Receive cross hatch pattern.
4	EC --	East-West Corner	Receive cross hatch pattern.
5	ET --	East-West Trapezium	Receive cross hatch pattern.
TXT/M	PL --	Peak Limit	 , Set to PL45
INDEX	GG --	White Balance	 , Set to GG31
Reveal	RG --		
UPDATE	BG --		

Ref) "--" of OSD column means variable number, for example 35, from 00 to 63.

**NOTE :** These adjustments are possible with serviceable remote controller installed SVC button.  
If you don't have serviceable remote controller, press MENU, VOL- and PR- buttons on control board simultaneously then TV is changed from normal mode to SVC mode.

Table 1: Corresponding buttons for each adjustment.



## ● Vertical/Horizontal/E-W(East-West) Adjustment

**NOTE:** These adjustments are already aligned at the time of manufacture for optimum performance. Readjust of them should not be necessary unless IC102(EEPROM) is defective. Because all the information of these adjustment are memorized in that IC.

### Adjustment Procedures

- 1) Tune the TV set to receive a digital pattern unless otherwise noted.
- 2) Press SVC button on remote controller for about 3 seconds.
- 3) Press corresponding button (Refer to Table 1) on remote controller then you can find respective On Screen Display (OSD) around upper-left of screen.
- 4) Adjust Volume up or down button for correct picture.
- 5) Press OK button to memorize all the adjusted data.
- 6) After finishing adjustment, press stand-by ON/OFF button on the remote controller then TV is changed from SVC mode to normal mode.

### Adjustment(Refer to Table 1)

#### VL--(Vertical Linearity)

**NOTE:** When you press volume up or down button, the colour will disappear at lower half of the screen.  
- excepting  $\mu$ -COM "A" version

Adjust so that the boundary line between upper and lower half is in accord with geometric horizontal center of the picture tube.

#### VS--(Vertical Shift)

Adjust so that the horizontal center line of digital circle pattern is in accord with geometric horizontal center of the picture tube.

#### VH--(Vertical Height)

Adjust for 1/8" overscan at top and bottom display.

#### SC--(Vertical "S" Compensation)

Adjust so that all distance between each horizontal lines are to be the same.

#### HS--(Horizontal Shift)

Adjust so that vertical center line of the digital pattern is in accord with geometric vertical center of picture tube.

#### EW--(Horizontal Width)

Adjust so that digital circle pattern looks like exact circle.

#### EP--(East-west Parabolar)

Adjust so that middle portion of the outermost left and right vertical line looks like parallel with vertical lines of the picture tube.

#### EC--(East-west Corner)

Adjust so that the vertical line at every 4 corners of the screen looks like parallel with the vertical lines of the picture tube.

## ET--(East-west Trapezium)

Adjust to make the length of top horizontal line same with it of the bottom horizontal line.

## ● Screen Voltage Adjustment

**Test Point** : RK (Red Cathod of CPT Board)

**Adjust** : Screen Control of FBT

- 1) Tune the TV set to receive digital pattern.
- 2) Set contrast to 47, brightness and color to 31 respectively.
- 3) Connect the probe of oscilloscope to the RK(Red Cathod of CPT Board).
- 4) Adjust Screen Volume of FBT so that the waveform is the same as below Fig.2.

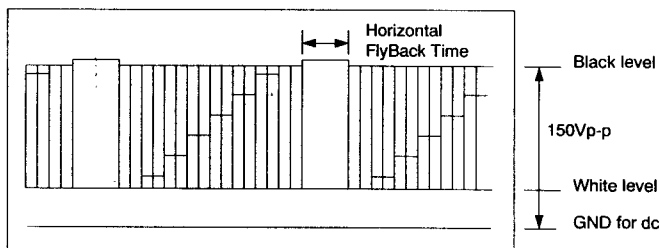


Fig. 2: The waveform at RK(Red Cathod) on CPT Board

## ● Peak Limit Adjustment (Refer to Table 1)

- 1) Press TXT/M (E) button on remote controller then you can find "PL--" OSD around upper-left of screen.
- 2) Adjust volume up or down button for PL 45.

## ● White Balance Adjustment (Refer to Table 1)

**NOTE:** This adjustment should be performed after screen voltage adjustment.

- 1) Tune the TV set to receive 87.5% white pattern.
- 2) Set contrast to 47, brightness and color to 31 respectively.
- 3) Press INDEX (E) button on remote controller then you can find "GG--" OSD around upper-left of screen.
- 4) Adjust volume up or down button for GG31.
- 5) Press Reveal (E) / UP DATE (E) button you can find "RG--"/"BG--" OSD around upper-left of screen.
- 6) Adjust volume up or down button in each status of "RG--"/"BG--" for  $X=281 \pm 10$ ,  $Y=287 \pm 10$  with color analyzer.

## ● Focus Adjustmnt

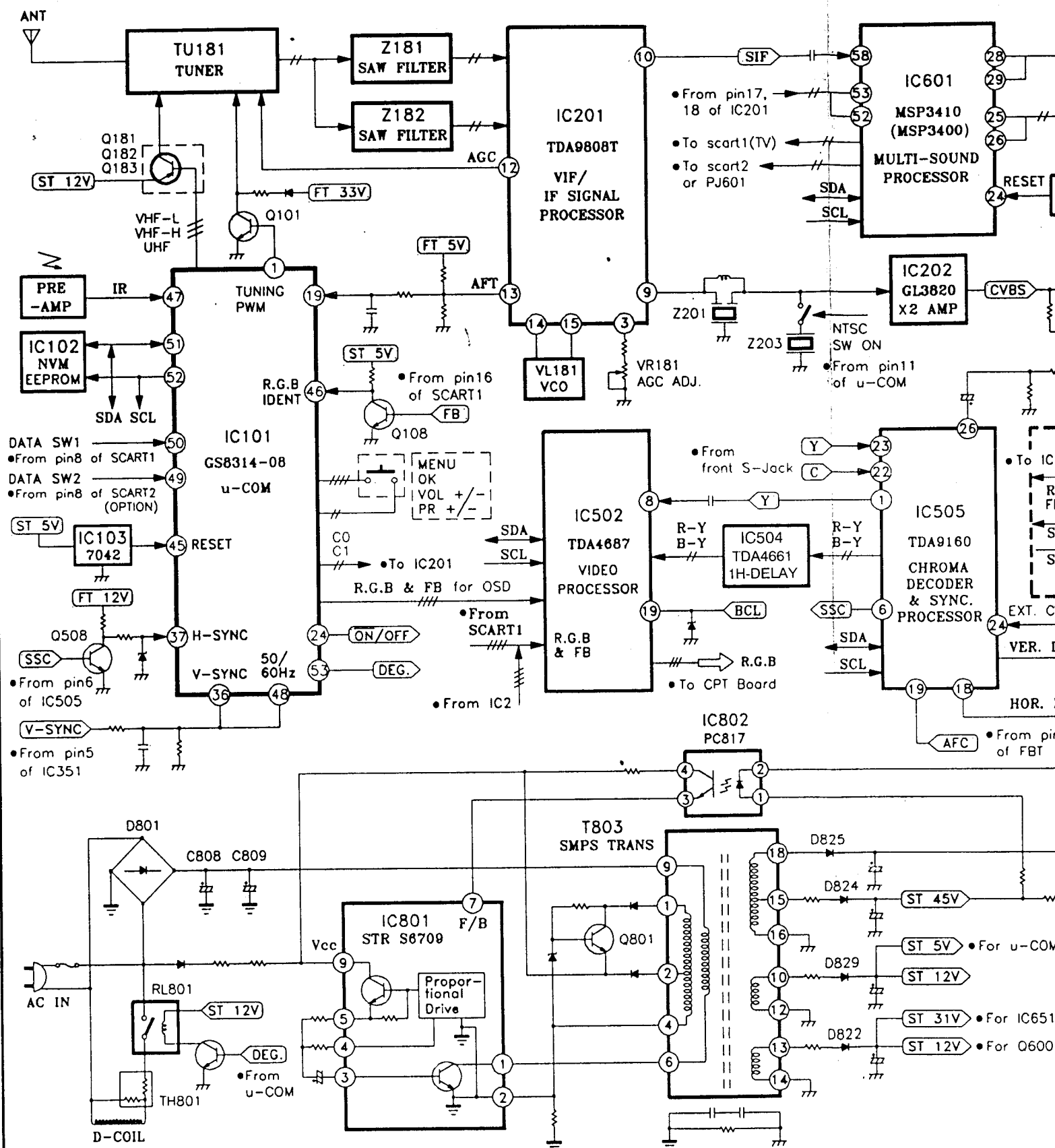
**NOTE:** This adjustment should be performed after warming up for 10 minutes.

**Test Point** : Observing display

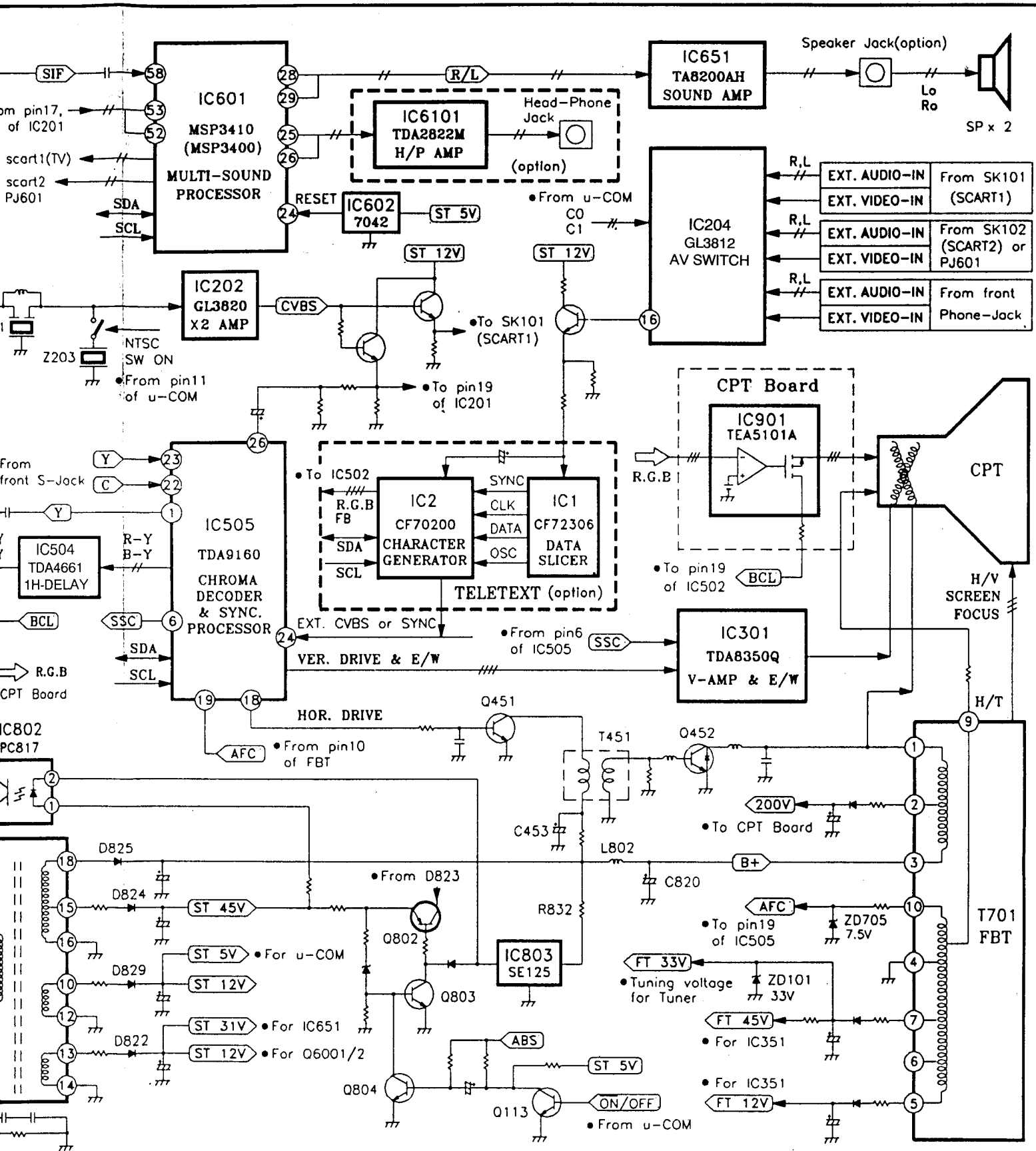
**Adjust** : Focus control of FBT

- 1) Tune the TV set to an inactive channel station.
- 2) Adjust the Focus control for best overall focus.

## Wiring Diagram

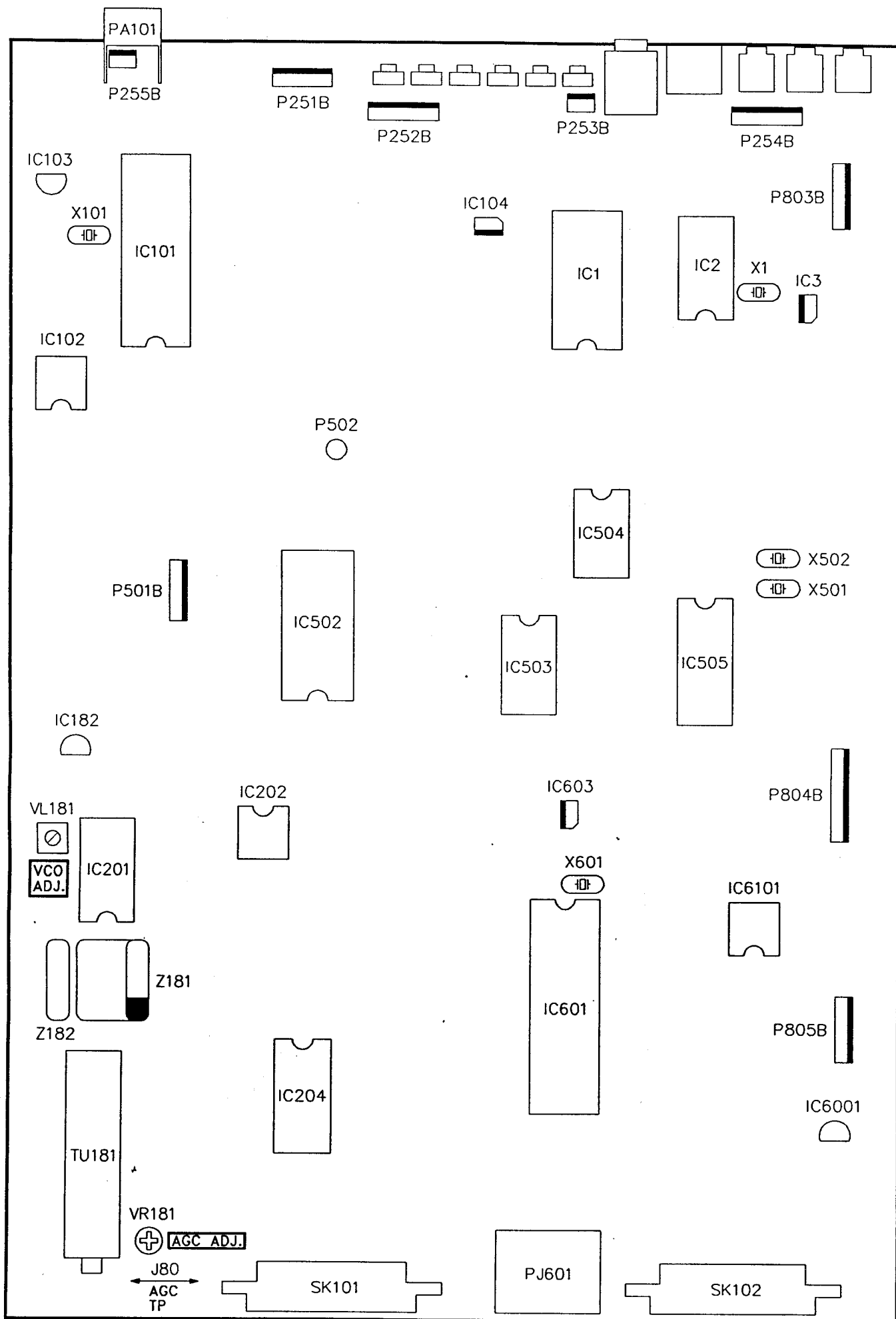


## Block Diagram

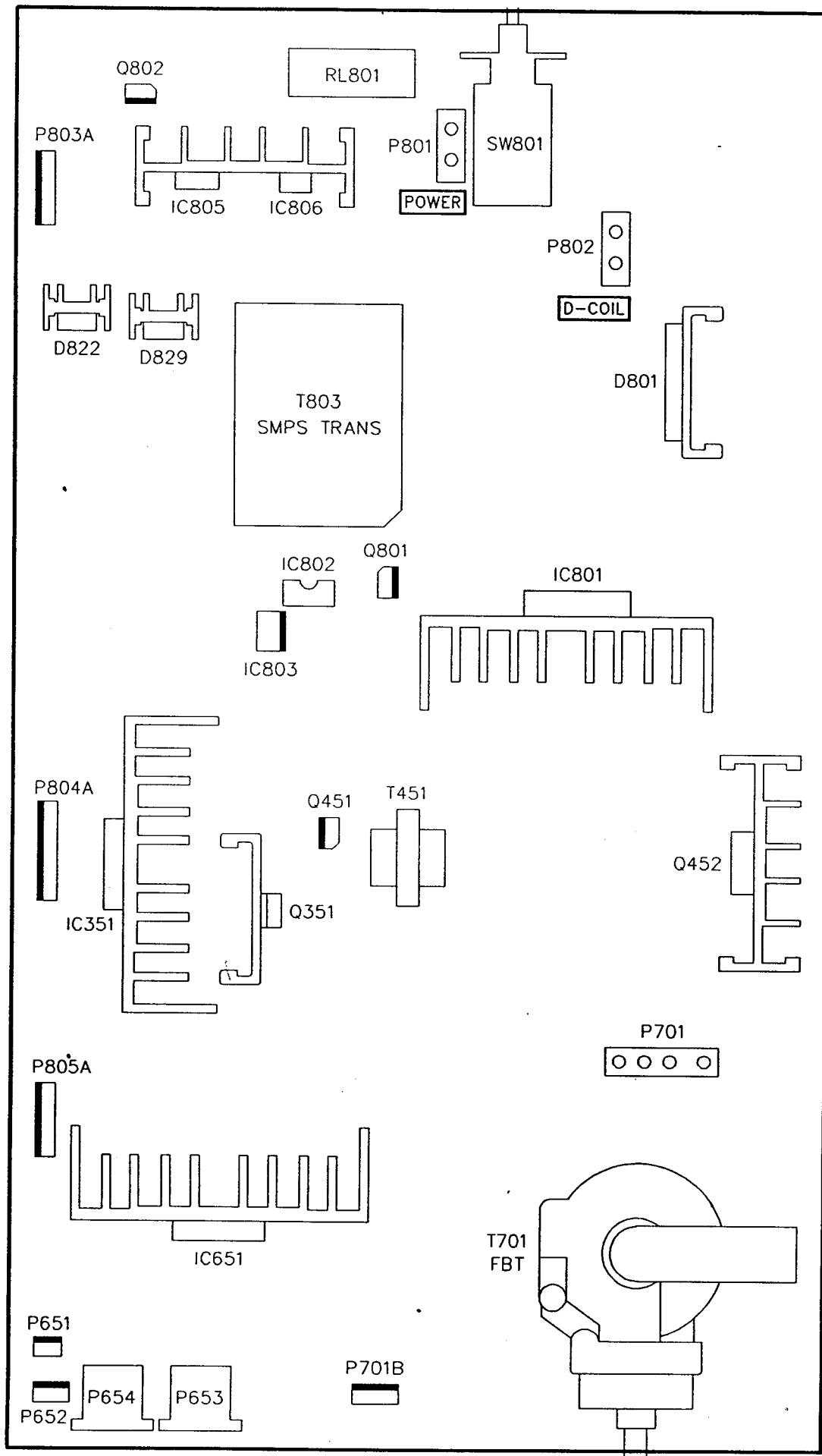


## Wiring Diagram

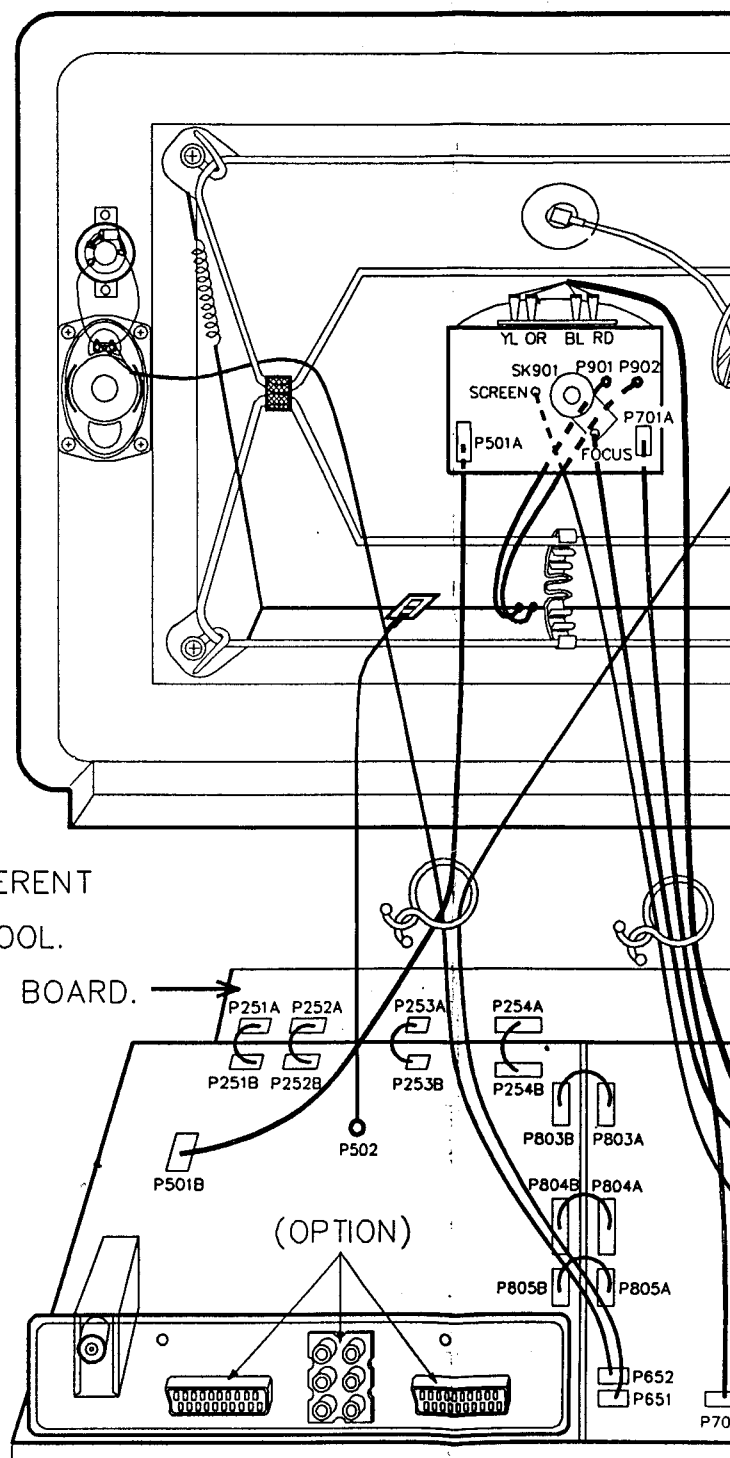
# Alignment/Test Point Location Guide (MAIN 1 BOARD)



(MAIN 2 BOARD)-POWER, DEFLECTION & SOUND AMP



# Wiring Diagram



(NOTE)

- 1) THE FEATURES MAY BE DIFFERENT  
IN ACCORDANCE WITH THE TOOL.
- 2) 25C26 MODEL HAS NOT THIS BOARD.

# Wiring Diagram

