GoldStar

COLOUR TV SERVICE MANUAL

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

PC-04A CHASSIS

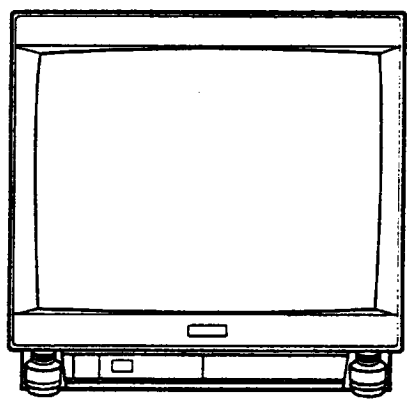
CBT-2168E
CBZ-9745E
CKT-2190/X
CKT-2191/X

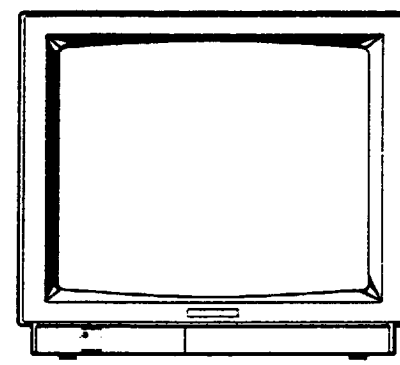
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brother

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CHASSIS: PC-04A(CBT-2168E)
MODEL: BR 7121

CHASSIS: PC-04A(CBZ-9745E)
MODEL: BR 7120

PART NO. 483-617C

DEC., 1992

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SPECIFICATIONS

Power Consumption 80W
Receiving TV System ..... CCIR Standard
Tuning ..... 40 Voltage Synthesizer
Audio Output 3W
Antenna Input Impedance ..... 75 ohm IEC Type

Picture Tube A48KMX12XX 25N7KD
Dimension ..... 492(W) × 465(D) × 458(H)
Weight ..... 18.4 Kg

COLOUR RECEIVING SYSTEM		PAL/SECAM-B/G	PAL B/G-SECAM D/K	PAL-I	PAL-H
Intermediate Frequency	Picture	38.9 MHz	38.9 MHz	39.5 MHz	38.9 MHz
	Sound	33.4 MHz	32.4 MHz	33.5 MHz	33.4 MHz
	Colour	34.47 MHz	34.47 MHz	35.07 MHz	34.47 MHz
Receiving Channel	VHF Low	2–4 CH, S_1	1–5 CH	NONE	0–5 CH
	VHF High	5–12 CH, S_2–S_{25}	6–12 CH	NONE	5A–11 CH
	UHF	21–69 CH	21–69 CH	21–69 CH	21–69 CH
Power Source		220V/50Hz (SMPS)		240V/50Hz (SMPS)	

SAFETY PRECAUTIONS

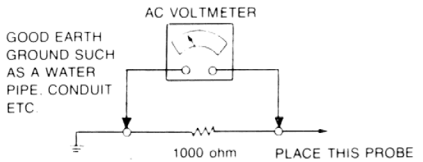
WARNING: BEFORE SERVICING THIS CHASSIS, READ THE "X-RAY RADIATION PRECAUTIONS", "SAFETY INSTRUCTIONS" AND "PRODUCT SAFETY NOTICE" DESCRIBED BELOW.

X-RAY RADIATION PRECAUTIONS

1. Excessive high voltage can produce potentially hazardous X-RAY RADIATION. To avoid such hazards, the high voltage must not be above the specified limit. The nominal value of the high voltage of this receiver is 24 ± 1.5 kV at High beam current (maximun brightness) under specified power source. The high voltage must not, under any circumstances, exceed 27.5 KV. Each time a receiver requires servicing, the high voltage should be checked. It is recommended the reading of the high voltage be recorded as a part of the service record. It is important to use an accurate and reliable high voltage meter.
2. The only source of X-RAY RADIATION in this TV receiver is the picture tube. For continued X-RAY RADIATION protection, the replacement tube must be exactly the same type tube as specified in the parts list.
3. Some parts in this receiver have special safety-related characteristics for X-RAY RADIATION protection. For continued safety, parts replacement should be undertaken only after referring to the PRODUCT SAFETY NOTICE below.

SAFETY INSTRUCTIONS

1. Potential as high as 25,000—27,000 volts is present when this receiver is operating. Operation of the receiver outside the cabinet or with the back cover removed involves a shock hazard from the receiver.
   (1) Servicing should not be attempted by anyone who don't know the precautions necessary through and through when working on high-voltage equipment.
   (2) Always discharge the picture tube anode to the CHASSIS GROUND to reduce the shock hazard before removing the anode cap.
   (3) Perfectly discharge the high potentical of the picture tube before handling.
   (WARNING: Risk of implosion. Handle with care.)
2. If any Fuse in this TV receiver is blown, replace it with the FUSE specified in the chassis parts list only.
3. When replacing parts or circuit boards, wind the lead wires around terminals before soldering.
4. When replacing a high wattage resistor (oxide metal film resistor) in circuit board, keep the resistor 10 mm. away from circuit board.
5. Keep wires away from high voltage or high temperature components.
6. Before returning the set to the customer, always perform an AC leakage current check on the exposed metallic parts of the cabinet, such as antennas, terminals, screwheads, metal overlays, control shafts, etc., to be sure the set is safe to operate without danger of electrical shock. Since this TV has AVC (Automatic Voltage Control) circuit, it may be operated nonadjustably within the voltage-area indicated in the label attached at back cover. (Do not use a line isolation transformer during this check.) Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner.
   Connect a 1000 ohm resistor between a known good earth ground, (water pipe, conduit, etc.) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of 1000 ohm resistor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 1 volt RMS. This corresponds to 1 mA. AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in this chassis have special safety-related characteristics. These characteristics are often passed unnoticed by a visual inspection and the X-RAY RADIATION protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified by ⚠ marks on the schematic diagram and the replacement parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts which do not have the same safety characteristics as specified in the parts list may create X-RAY RADIATION.

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 receiver 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 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 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 sufficent 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 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 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 circuit board 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 Removal/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 "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 Devi es 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 and heat sink 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.

Fuse 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 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 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 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.

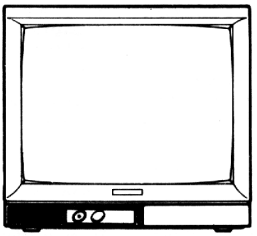
At Other Connections

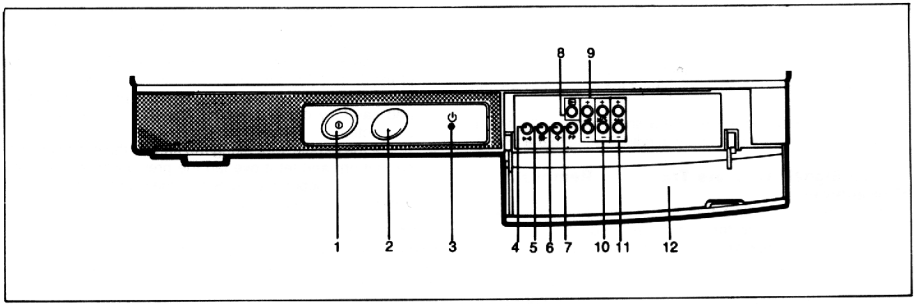
Use the following technique to repair defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.

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 that it does not touch components or sharp edges.

CONTROLS LOCATION

FRONT





1.	MAIN POWER SWITCH	7.	PERSONAL PREFERENCE SETTING KEY
2.	REMOTE CONTROL SENSOR	8.	NORMAL KEY
3.	STAND-BY LED	9.	VOLUME UP(+)/DOWN(−) KEYS
4.	SEARCH KEY	10.	MANUAL SEARCH UP(+)/DOWN(−) KEYS
5.	CLEAR KEY	11.	PROGRAM UP(+)/DOWN(−) KEYS
6.	STORE KEY	12.	PANEL DOOR

DISASSEMBLY INSTRUCTIONS

BACK CABINET REMOVAL

Remove 6 screws residing on the back cabinet and carefully separate the back cabinet from the front cabinet.

MAIN CHASSIS REMOVAL

Grasp both sides of the main chassis, pull it backward smoothly.

SPEAKER ASSY REMOVAL

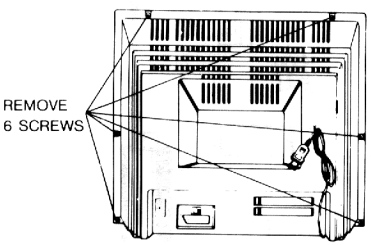
1. Remove P602 connector between the speaker and the main chassis.
2. Remove 4 screws holding SPEAKER to the front cabinet.

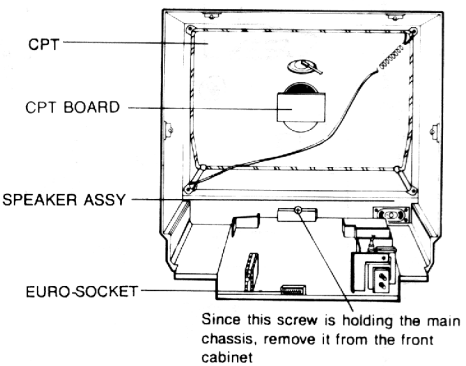
CPT REMOVAL

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

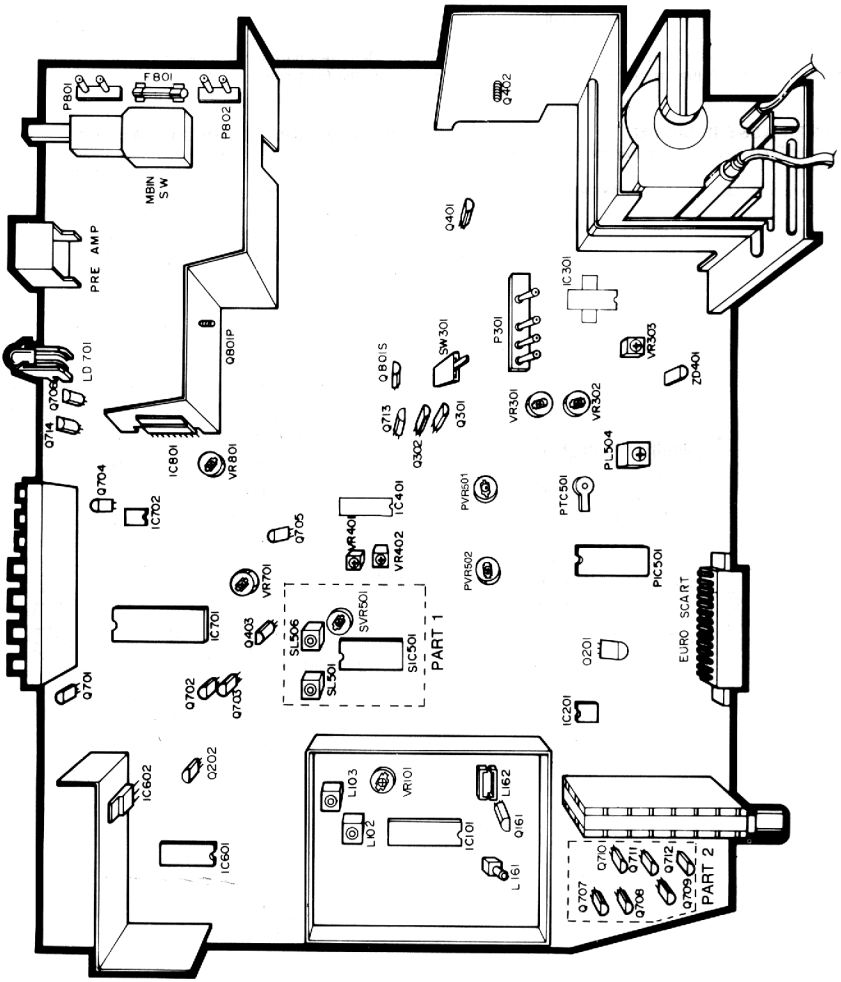
PICTURE TUBE HANDLING CAUTION

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.





PARTS LOCATION OF MAIN CHASSIS



*** NOTICE:**

In case of the model without teletext, get rid of Q301, Q302.
In case of the model without SECAM system, get rid of PART 1.
Inc ase of the model with PAL-I system, get rid of PART 1, 2 and L161.

PC-04A ALIGNMENT INSTRUCTIONS

1. APPLIANCE

This instruction is applicable for all models using the PC04A CHASSIS.

2. SPECIFICATION

2-1 CIRCUMFERENCE CONDITION

If there is no particular guidance, adjust under the following condition.

1) Circumference Temperature: 20°C ±5°C
2) Relative Humidity: 65% ±5%

2-2 NECESSARY INSTRUMENTS

1) DC Power Supplier (0-20V, 1A): 2EA
2) Sweep Generator and Marker unit or Each System
3) Alignment Scope
4) DC Voltmeter (High Impedance)
5) PAL/SECAM Colour Bar, Signal Generator
6) Frequency Counter

2-3 SIGNAL

Standard colour signal which is out from Goldstar standard digital signal Generator (PM5544).

2-4 POWER SOURCE (In Case of Receiver Operation)

AC 180V-270V, 50/60Hz.

3. ALIGNMENT

3-1 VIF ALIGNMENT

1) Connection Diagram of Equipments

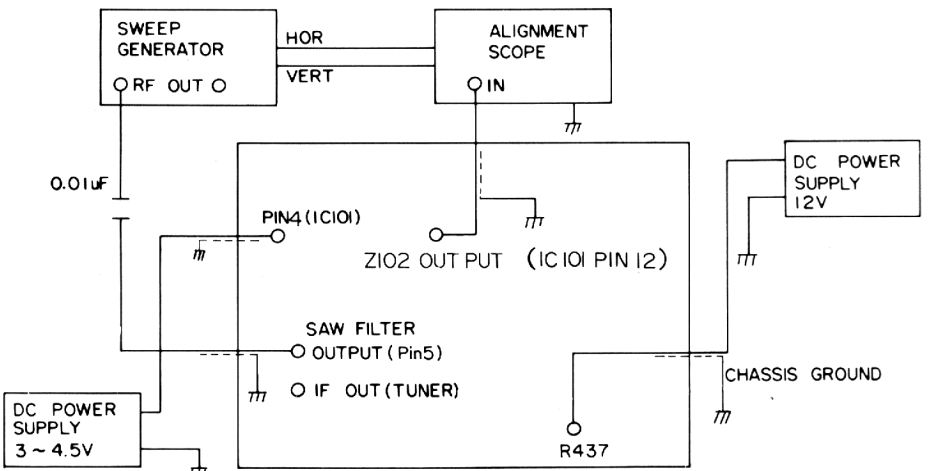


Figure 1

* Connect the ceramic condenser (0.01uF) between RF-OUT terminal of the SWEEP GENERATOR and SAW FILTER OUT terminal.

2) VIF Detection Coil Alignment

a) Do the connection as shown in figure 1 and then DC power suppliers on.

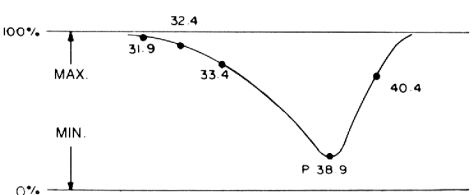


Figure 2

b) Adjust L103(Detection Special Quality Adjustment Coil) in order to minimize the PICTURE CARRIER MARK as shown in figure 2.
(For Mark Frequency of Each System, refer to the below note (*)).

* Each frequency carrier of system.

PAL B/G: 38.9 MHz
PAL I: 39.5 MHz
PAL I/I: 39.5 MHz
PAL D/K: 38.9 MHz
PAL/SECAM B/G: 38.9 MHz
PAL/SECAM B/G, D/K: 38.9 MHz

3) ASC (40.4 MHz) Alignment (L161)
   a) This alignment is only applicable to the model with ASC TRAP for FTZ.
   b) The connection of alignment is the same as figure 1 but connect RF OUT of the SWEEP GENERATOR to TURNER IF OUTPUT terminal of Main PCB.
   c) Turn L161 counterclockwise so that CORE may be appeared to maximum and then adjust it clockwise.
   d) After setting output of SWEEP GENERATOR to maximum, in crease IF AGC voltage of pin 4 (IC101) about 5V so that waveform may be distinguished the variation of L161 in the saturated state.
   e) Adjust L161 so that 40.4MHz POINT may be maximum.

3-2 AFT ALIGNMENT (L102)

NOTE) Cut the SLIT part of the C106(+) before adjusting.

1) The connecting of equipments is the same procedure as that above b) item. but the connection position of Alignment Scope must be changed from output terminal of Z102 to pin 12 of IC101.
2) Set VERTICAL GAIN of SCOPE to 1Vp-p/dIV and set the SWEEP GENERATOR output to a low state possibly.
3) Adjust L102 so that it may be the same as shown in figure 3.

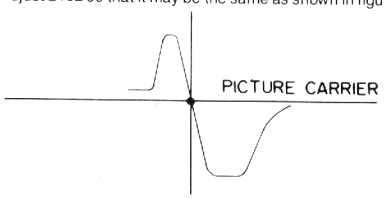


Figure 3 (AFT Alignment Waveform)

4) After finishing the adjustment, connect SLIT of the C106(+).

3-3 MAIN B+(112V or 118V DC) ALIGNMENT

1) Turn on the TV set.
2) Receive the standard colour signal. (digital pattern)
3) Set the portion of colour. Bright, Contrast to the maximum.
4) Adjust VR801 so that the voltage of J122(TP6) may be 112V for the model smaller than 21" and 118V for 21" model.

3-4 HORIZONTAL SYNCHRONIZATION ALIGNMENT

1) Receive the standard color signal on the TUNER ANTENNA.
2) Connect SYNC. SEPARATOR INPUT SIGNAL to the Ground.
   (Connect pin 11 of IC401 to the GND... J110, J111, TP3 part)
3) Adjust VR401 so that the screen may be maintained the synchronization in a horizontal and vertical direction.
4) Remove the connection of pin 11 of IC401 from GROUND.

3-5 HORIZONTAL CENTER ALIGNMENT (HOR.SHIFT ALIGNMENT)

1) Receive the standard colour signal.
2) Adjust the VR402 so that the screen may be the Geometric center.

3-6 VERTICAL OSCILLATOR FREQUENCY ALIGNMENT

1) Adjust the set in no signal condition.
2) Connect the frequency COUNTER to the CONNECTOR part (R304) which is connected with vertical DY.
   (Connect the (-) side of the connector to the heat sink of the chassis)
3) Adjust VR302 so that FREE-RUN frequency may be 46.00 ± 0.5Hz.

3-7 VERTICAL AMPLITUDE AND LINEARITY ALIGNMENT (VERT. HEIGHT AND LINEARITY ALIGNMENT)

1) When brightness of a screen is minimum as receiving the FuBK TEST PATTERN, adjust VR301 so that the outline signal of the upper and lower parts of the great circle on screen may be coincide with the edge of a effective screen.
2) After changing the signal to Digital, adjust VR303 so that the length of upper and lower of the great circle may be equal.

3-8 VERTIICAL CENTER ALIGNMENT

Adjust SW301 (Vertical Center SVC.S/W) so that CENTER of PATTERN may coincide with the Geometric center of an effective CPT screen.

3-9 COLOUR SYNCHRONIZATION ALIGNMENT

1) Receive the standard colour signal.
2) Set the Contrast, Brightness, Colour VR to maximum.
3) Connect the COLOUR SATURATION terminal to 12V.
4) Short the INPUT pin 21 (B-Y), PIN 22 (R-Y) of the IC501.
5) Adjust the PTC501 (TRIMMER CAPACITOR) so that COLOUR BAR should not flow down.
6) After finishing adjustment, remove the connection of item 3) and 4).

3-10 PAL MATRIX ALIGNMENT

1) Set the Contrast, Brightness, Colour Control VR to the maximum.
2) Receive the DEM. PATTERN (Colourless Pattern).
3) Connect the SCOPE to the B-OUT (Pin 16 of PIC501).
4) Adjust PVR501 to obtain a minimum fluctuation (A straight line) in figure 4-1.

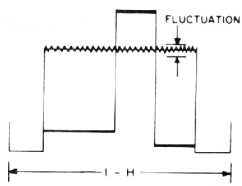


Figure 4-1. PVR501 Alignment

5) After changing the PATTERN into the PAL COLOUR BAR signal, adjust PL504 so that the fluctuation may be minimum and a straight line as shown in figure 4-2.

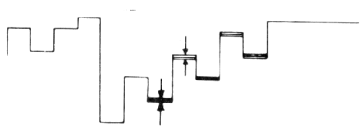


Figure 4-2. PL504 Alignment

6) Repeat the adjustment of the above items 4), 5) again by varing the pattern and then confirm.

3-11 RF AGC ALIGNMENT

1) Receive the standard colour signal (60dB ±1dB), but in case of PAL-I, receive 70dB ±1dB.
2) Connect DIGITAL MULTIMETER to AGC terminal of the TUNER (J20, TP1).
3) Refer to below diagram and then adjust VR101.

Tuner System	B/G	I	B-H	D/K
ALPS	4.8 ±0.1dc	4.9 ±0.1dc	4.8 ±0.1dc	4.8 ±0.1dc

* Select the best point in accordance with the TUNER SYSTEM or per production LOT.

3-12 SCREEN AND WHITE BALANCE ALIGNMENT

1) Set the Colour, Brightness, Contrast alignment VR to the minimum.
2) Set the BIAS ALIGNMENT VR(VR901-903) and DRIVE ALIGNMENT VR(VR904-905) of CPT BOARD to the mechanical center position.
3) Tune in channel No. 05CH.
4) Vary SCREEN VR of FBT until the screen will be cut off.
5) As using Color Analyze White Balance checker, adjust it to be X equal to 281 ±8 and Y equal to 288 ±8 in the Low light(4-5ft.L) and High Light(40-50ft.L).

3-13 FOCUS ALIGNMENT

1) Receive the standard Digital signal and adjust the Contrast, Brightness, Colour to be maximum.
2) Adjust it so that HALO situation should not appear on the portions as follows. (Center, edges and logo portion)

4. SECAM ALIGNMENT

4-1 SECAM BELL FILTER ALIGNMENT

1) Receive the SECAM BAR PATTERN.
2) Connect the LOW CAPACITANCE PROBE to pin 4 of SIC501. (Using FET PROBE)
3) Adjust SL501 to maximize and flatten the waveform.
4) In case of not using FET PROBE, precede the above adjustments (1 to 3).
   And then adjust the GS standard SECAM SIGNAL so that the COLOUR of 3.8MHz portion may be red and minimize the MAGENTA COLOUR of the COLOUR BAR and the shadows of the BLACK LEVEL BAR boundary.
5) In accordance with necessary, adjust the DIGITAL PATTERN signal with the maked scale.

4-2 SECAM REFERENCE COIL ALIGNMENT

1) Connect OSCILLOSCOPE PROBE to pin 24 of SIC501.
2) Ground pin 11 and pin 16 of SIC501. (Only SECAM MODE)
3) Turn out SVR501 clockwise to the maximum.
4) Adjust SL506 so that the DC LEVEL of the parts A,B (figure 6) may coincide.

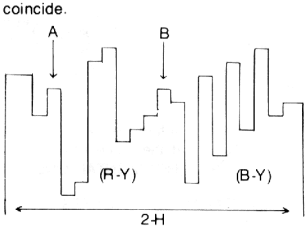


Figure 6. Pin 24 Waveform

5) Move the OSCILLOSCOPE PROBE to pin 10 of the SIC 501.
6) Adjust SVR501 so that the right and left LEVEL of R-Y and B-Y part may be equal and the waveform of part A may be coincide to be one.

To be equaled the whole size

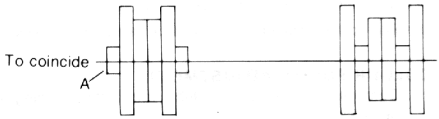


Figure 6. Pin 10 Waveform

7) If the field color differs from that of the pal signal, leaving SL506, adjust SVR501 in full detail.

5. OSD POSITION ALIGNMENT

1) Turn on the set and adjust it to be non-signal condition.
2) Push the SEARCH KEY.
3) Adjust VR701 so that the size of Analogue TUNING BAR may be coincide with the right and left side of the screen.

PURITY AND CONVERGENCE ADJUSTMENT

CAUTION: Convergence and Purity have been factory aligned. Do not attempt to tamper with these alignments. However, the effects of adjacent receiver components, or replacement of picture tube or deflection yoke may require the need to readjust purity and convergence. Convergence magnet assembly and rubber wedges need mechanical positioning following the figure 8. Before attempting any convergence adjustments this receiver should be operated for at least fifteen minutes. If adjustment s required the adjustments should be made in the following sequence.

COLOUR PURITY ADJUSTMENT

1. Demagnetize the picture tube and cabinet using a degaussing coil.
2. Turn the CONTRAST and BRIGHTNESS controls to maximum.
3. Select the purity pattern consisted of green only on the pattern generator.
4. Loosen the clamp screw holding the yoke, and slide the yoke backward to provide vertical green belt (zone) in the picture screen.
5. Remove the Rubber Wedges.
6. Rotate and spread the tabs of the purity magnet (See figure 9) around the neck of the picture tube until the green belt is in the center of the screen. At the same time, center the raster vertically.
7. Move the yoke slowly forward or backward until a uniform green screen is obtained. Tighten the clamp screw of the yoke temporarily.
8. Check purity of the red and blue rasters by selecting the purity pattern of pattern generator.
9. Obtain a white raster, refering to "WHITE BALANCE ADJUSTMENT".
10. Proceed with convergence adjustment.

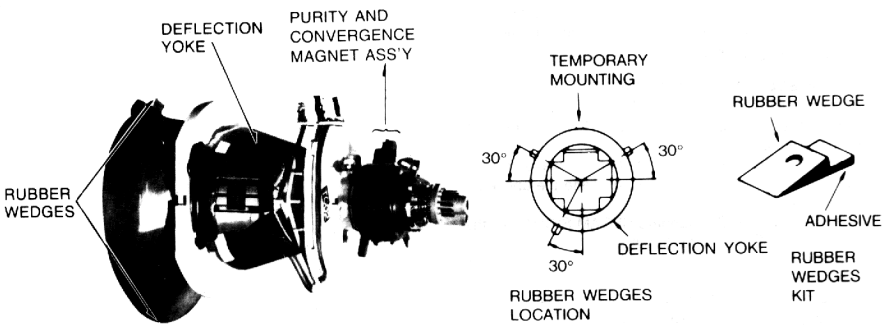


Figure 8

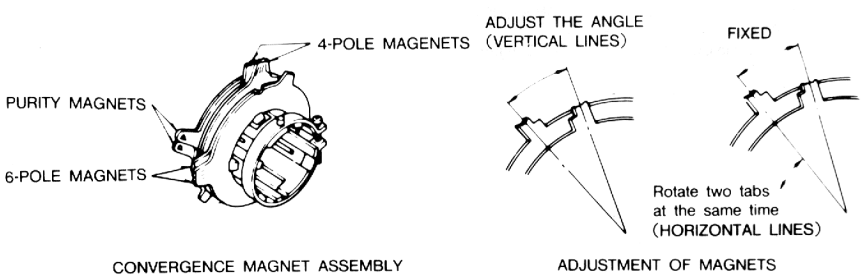


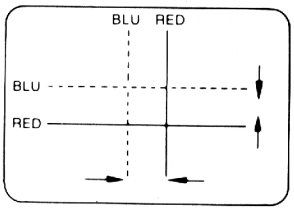
Figure 9

CENTER CONVERGENCE ADJUSTMENT

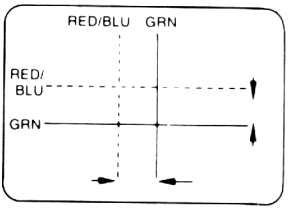
1. Receive crosshatch pattern with a colour bar signal generator.
2. Adjust the BRIGHTNESS and CONTRAST controls for well defined pattern.
3. Adjust two tabs of the 4-pole magnets to change the angle between them (See figure 9) and superimpose the red and blue vertical lines in the center area of the picture screen. (See figure 9.)
4. Turn both tabs at the same time keeping their angles constant to superimpose red and blue horizontal lines at the center of the screen. (See figure 10)
5. Adjust two tabs of 6-pole magnets to superimpose red/blue line with green one. Adjusting the angle affects the vertical lines and rotating both magnets affects the horizontal lines.
6. Repeat adjustments 1,2,3, keeping in mind red, green and blue movements, because 4-Pole magnets and 6-Pole magnets interact and make dot movement complex.

CIRCUMFERENCE CONVERGENCE ADJUSTMENT

1. Loosen the clamping screw of DY to allow the yoke to tilt.
2. Adjust DY to obtain a better convergence in the circumference by orbital movement of the front of the yoke, then secure the DY in appropriate position by placing the wedges as illustrates in figure 8. Tighten screw holding the DY. Stick 3 adhesive tapes on wedges as shown in figure 8.

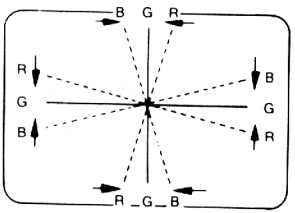


4-Pole Magnets Movement

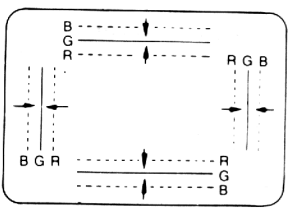


6-Pole Magntes Movement

Center Convergence by Convergence Magnets



Incline the Yoke up (or down)



Incline the Yoke right(or left)

Circumference convergence by Deflection Yoke

Figure 10 DOT MOVEMENT PATTERN

CIRCUIT DESCRIPTION

1. VIDEO IF AMPLIFIER CIRCUIT (IC101, μ4439BG)

1-1 The Basic Construction

Video IF Amplifier Circuit contains three symmetrics of IF AMP (Video IF Dtector & AMP, AFT circuit & AMP and AGC circuit). All of above functions are performed in IC101 (μ4439BG).
The schematic diagram is same as figure 11.

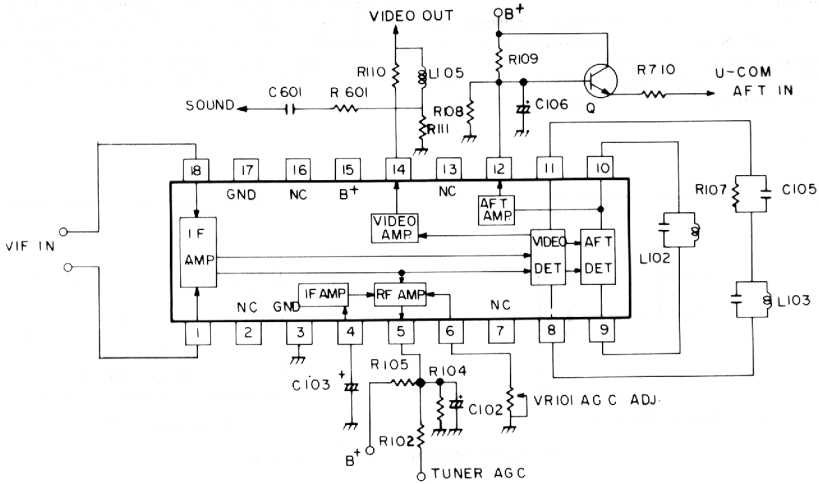


Figure 11. Schematic Diagram of IC101 (μ4439BG)

1-2 Pin Configuration of IC101

Pin No.	Description
1, 18	IF IN
2, 7, 16	NC
3, 17	Ground
4	IF AGC storage capacitor
5	The output terminal of RF out
6	RF AGC control terminal
8, 11	Video detector
9, 10	AFT detector
12	AFT output
14	Video output • Composite video output level: 3Vp-p • White level: 5.2V • Black clamping level: 1.9 V
15	Supply voltage terminal • voltage: about 12 V_{DC} • current: 75 mA

1-3 Operating Description of the Circuit

After the air signal is varied into the IF signal through the TUNER of the TV set, this signal which is passed via PRE-AMP and SAW FILTER input into pins1, 18 of IC101 via. This IF signal passes into the three stage AMP. and then video signal is detected by the detector coil connected to pins8, 11. AFT signal is also detected by the dector coil connected to pins9, 10.

They are output each video signal in pin14, AFT signal in pin12 through the AMP.

Also, AGC voltage passes pin5 after adjusting VR101 (AGC adjustment variable rasistor) connected pin6 and this voltage is connected to the AGC terminal of the TUNER, so that the AGC voltage is controlled.

2. SOUND IF AMPLIFIER CIRCUIT (IC601, TBA120T)

2-1 The Basic Construction

SIF AMP as FM IF AMP & Demodulator is composed of SIF AMP, SIF Detector, sound output, volume control and external audio in/out.

These circuits are operated within IC601.

The schematic diagram is same as figure 12.

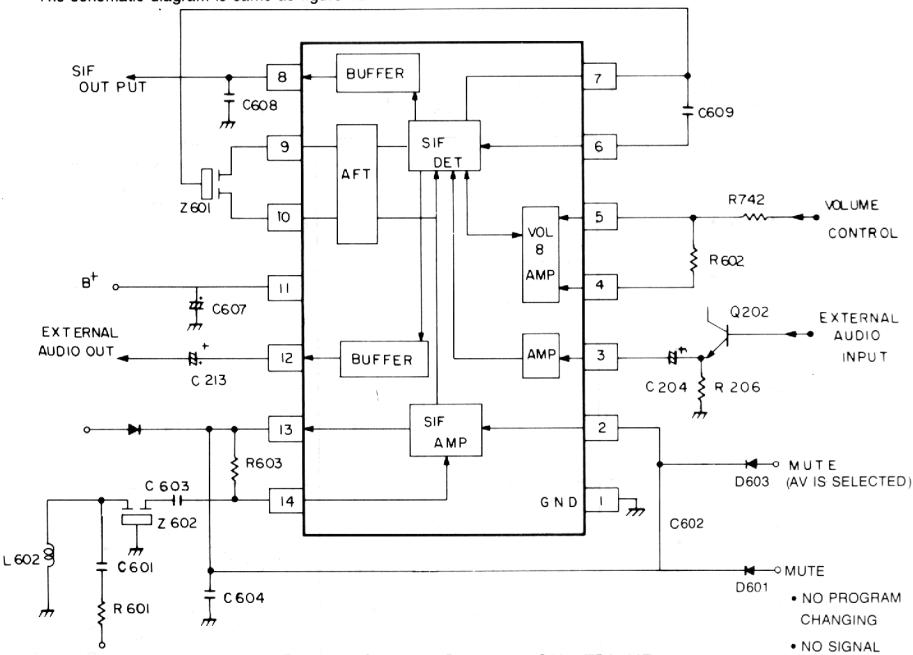


Figure 12. Schematic Diagram of IC601 (TBA120T)

2-2 Pin Configuration of IC601

Pin No.	Description
1	Ground
2, 13	Sound Amp. Negative feed back terminal
3	External audio input terminal
4	Volume control reference terminal Reference voltage: 4.8V
5	Volume control terminal
6, 7	SIF detector.
8	SIF output Output voltage: 4V
9, 10	FM detector
11	Supply voltage terminal; 12V
12	External audio output

2-3 Operating Description of the Circuit

Sound carrier is detected by the composite video signal gone through band pass filter(BPF), (which is composed of R601, C601, L601) and ceramic descriminator (Z602), and it is applied to SIF AMP. (pin13).

The amplified signal is applied to the SIF Detector Terminal.

And, after detection, this signal outputs into pin8 through the Buffer Circuit.

This output signal is controlled, by inputting to pin5 volume level which is controlled by the μ-com (IC701).

The detected Audio Signal outputs into pin12 through the Buffer Circuit and this signal is the Audio output signal.

The Audio signal input from the external is input into pin3 and is detected through AMP and is output at pin8 through the Buffer Circuit.

3. HORIZONTAL DEFLECTION CIRCUIT (IC401, TDA1940)

3-1 The Basic Construction

Horizontal Deflection Circuit consists of Sync. Seperator Circuit 01 & 02, Phase Comparator, Super Sandcastle(SSC) Pulse Generator, Horizontal Sync. output circuit, Vertical pulse Generator, burst gating Generator. Schematic Diagram of IC401 is same as figure 13.

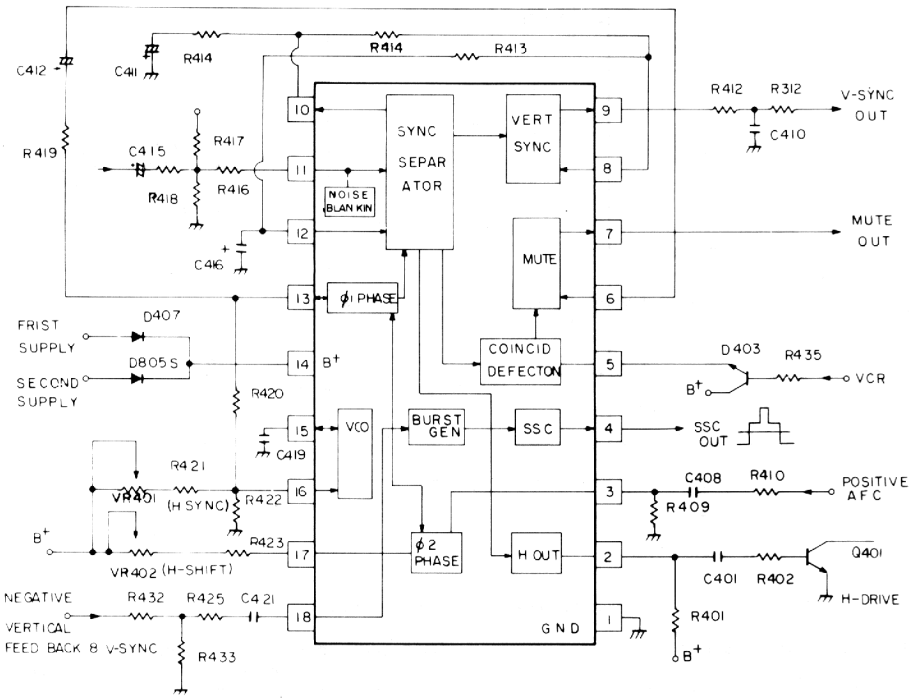


Figure 13. Schematic Diagram of IC401

3-2 Pin Configuration of IC401

Pin No.	Description
1	GND
2	Horizontal Sync output
3	Positive flyback pulse(AFC) input
4	Super sandcastle pulse(ssc) out
5	Output of coincidence detector : In case of the external VCR Mode, used as the auto time constant switching terminal.
6	Input time-constant switching stage
7	If there is the broadcast signal, as the muting circuit output stage, it is high. In case of non-signal condition, keeps the low condition.
8	The reference stage for the vertical sync pulse
9	Vertical sync pulse output
10	Horizontal pulse separator H/V clamping stage
11	Video signal input stage
12	Reference input stage for line pulse seperation
13	• First phase comparator • Used as H-sync of ON-SCREEN.
14	• Supply voltage stage • Supply voltage: 12V • Supply current: 40mA
15	Horizontal oscillator frequency control is selected with the time constant of R422 and C419.
16	• Horizontal oscillation frequency control stage. • Contols horizontal sync. with VR401
17	Second phase comparator stage (0, phase DET.)
18	• Vertical flyback pulse feedback input stage • Requires the negative vertical pulse. • Used as V-sync. of ON-SCREEN.

3-3 Operating Description of the Circuit

3-3-1. START-UP

If the power switch is ON, the supply voltage (12V) of SMPS transformer is applied to pin14 through D407. At that time IC401 begeins to oscillate with the starting voltage, and the horizontal sync. pulse outputs through pin2. And then the horizontal sync. pulse is applied to Q401 (Horizontal Drive Transistor) through C401 and C402 to drive Q401, which cause that the second supply voltage supplied from FBT is applied to pin14 through D805S by loading the horizontal output circuit.

3-3-2. HORIZONTAL OSCILLATION AND PHASE SHIFT

The oscillation signal controled by R422, C419 and VR401 makes the horizontal synchronizing signal which is divided by pins10, 11 and 12.
And then, by comparing with a part of compared-waveform vertical signal at the first phase and the second phase, the horizontal synchronizing signal makes the final output signal, and the phase shift is made by VR402.

3-3-3. SYNC. SEPARATOR

R417 and R418 connected to pin11 select the input level which IC401 of the sync. separator circuit demands and the slicing level for the sync. separator.
And it is the important factor of selecting the level which checks whether the broadcasting signal is or not.

3-3-4. SUPER SANDCASTLE PULSE

The super sandcastle pulse output from pin4 is composed of three levels, and it is applied to pin8 of PIC501 (PAL chroma IC) and pin23 of SIC501. (SECAM decoder IC).

3-3-5. VCR MODE SECTION

If the high voltage is supplied to pin5 of IC401 from tuning μ-com, the second phase detector is changed to the fast mode, this mode is selected to operate by the VCR or A/V signal which is input from the external.

3-3-6. VERTICAL SECTION

Video signal is received through pin11.
The vertical sync. signal is output from 9.
By dividing the vertical sync. signal at the vertical sync. signal separator circuit which is connected to pins8, 9.

4. VERTICAL DEFLECTION CIRCUIT (IC301, TDA1170N)

4-1 Basic Construction

The Vertical Deflection Circuit consists of the vertical Sync. Input terminal, Ramp Generator, Vertical Sync. Circuit, Flyback Generator (Vertical output stapge) Power Amplifier Circuit, Preamplifier Circuit.
The Schematic diagram of IC301 is same as figure 14.

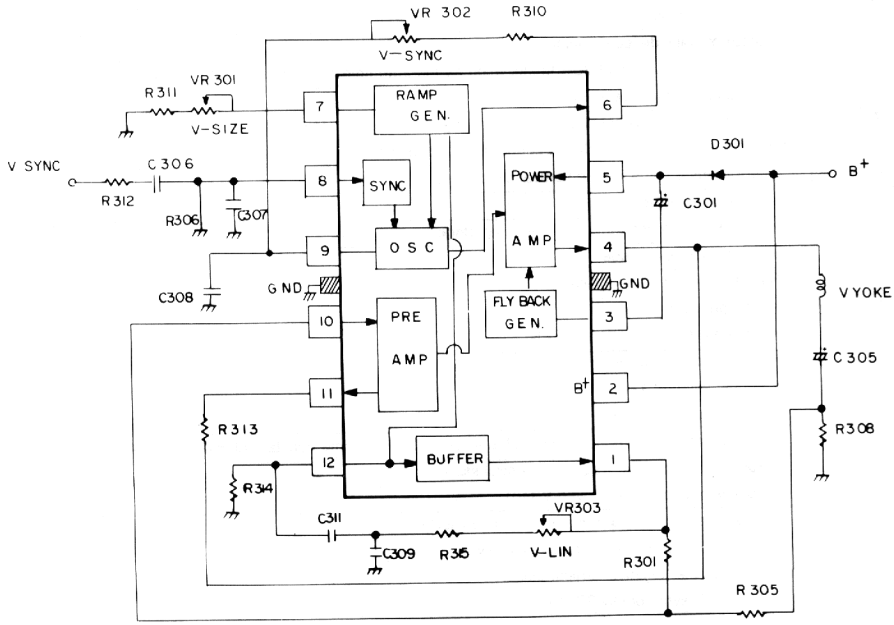


Figure 14. Schematic Diagram of IC301.

4-2 Pin Configuration of IC301

Pin No.	Description
1	Buffer stage
2	Voltage supply stage Supply voltage: 25V Supply current: 140mA
3	Flyback generator
4	Vertical output
5	The supply terminal of the vertical output circuit
6, 9	Vertical sync control stage. (Adjusts the frequency of V-sync. by VR302.)
7	• Ramp generator stage • Adjusts V-size by adjusting VR301.
8	Vertical sync. input & sync. amplifier
10, 11	Preamplifier reference input and vertical feedback
12	Adjusts the vertical linearity by adjusting reference current of the Ramp Generator.

4-3 Operating Description of the Circuit

The vertical sync. signal output through pin9 of IC401 enters the vertical sync. input circuit and AMP. circuit and makes the saw-form signal by the time constant of C308 connected to pin9 and R310 connected to pin6.
And then VR302 controls the vertical sync.
Also, this signal controls the vertical size by being supplied to the Ramp Generator circuit connected to pin7.
The signal phase generated from the oscillator and the Ramp Generator is compared with the phase of the vertical feedback signal, so that this signal may be obtain through the vertical amplifier, is output-through pin4 and supplied to the deflection yoke.

5. CHROMA & LUMINANCE CIRCUIT (PIC501, TDA3560A)

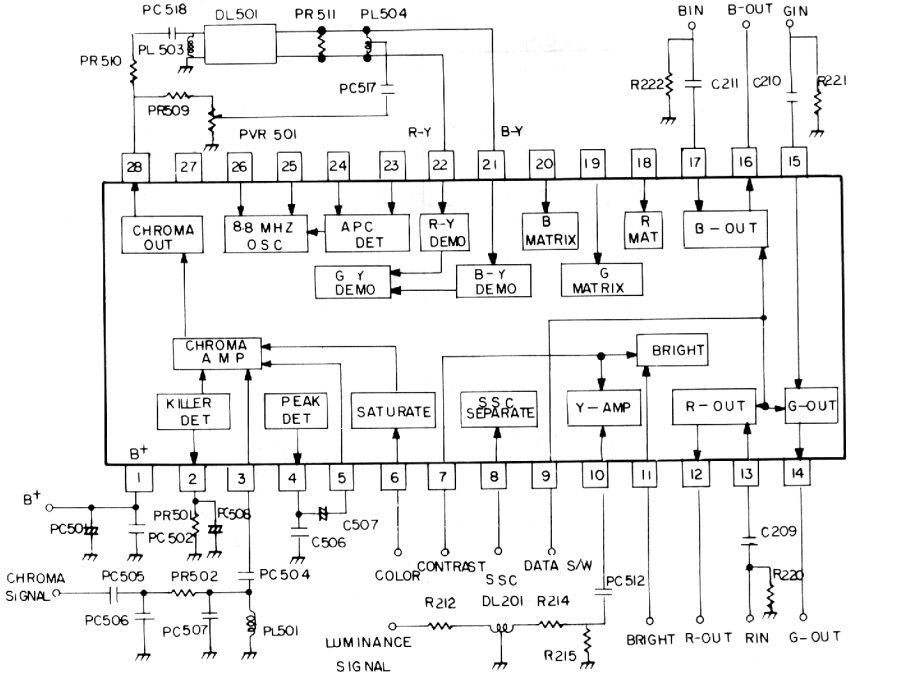


Figure 15. Schematic Diagram of PIC501 (TDA3560A)

5-1 Chroma Path

First, the chroma signal flows from B.P.F circuit into pin3 to be amplified, and then it flows into the second amplifier to be about 4Vp-p.

The amplifier signal output from pin28 is separated into two ways.

One flows through PR510, PC518 into 1H-Delay Line(DL501), the other flows through PR509, PVR501 and PC517 into mid-tap of PL504.

At PL504 two kinds of signal are vectored and adjusted, so that R-Y(u) signal is separated into B-Y(u) and B-Y(v). Each of the signals is demodulated inside pins21, 22, so that G-Y is generated by R-Y and B-Y.

In the course of demodulation, colour system is a carrier wave suppressed. Therefore pins25,26 oscillate to 8.86MHz to reconstitute a carrier wave.

The DC voltage the colour Burst of pins23,24 generates flows into oscillator for 8.86MHz and adjust the oscillating frequency and the false image so that they may concide with original signal.

After 8.86MHz generated in this way decrease by half, R-Y and B-Y flow into G-Y demodulator in order to generate a complete demodulation.

On the other hand, pin2 discharges its duty of controlling the first amplifier of an outcome so that colour killer should not generate colour noise during receiving black and white signal or electric field less than 35dBm.

That is to say, pin4 detects the colour Burst and makes it generate DC voltage, which is supplied and controlled on pin2, and kills the DC voltage of pin2 less than 3V.

Pin6 is a saturation control circuit.

5-2 Luminance Path

As much as chroma path needs to perform chroma signal, DL201 delays Luminance signal about 600nS, and then this flows into pin10 through PC512 and control contrast, brightness with pin7 and pin11 to be supplied for each of R.G.B matrix circuit luminance signal supplied on pin10 is commonly 0.5Vp-p.

5-3 R.G.B Data Input

When the DC voltage of pin9 is 1-3V, PIC501 is converted into it in data input and when each of R.G.B signals flows into pins 13,15,17 each signal is in output at pins 12,14,16. In case that DC voltage of pin9 remains less than 0.4V, normal state remains.

6. POWER SUPPLY (IC801, TDA4601)

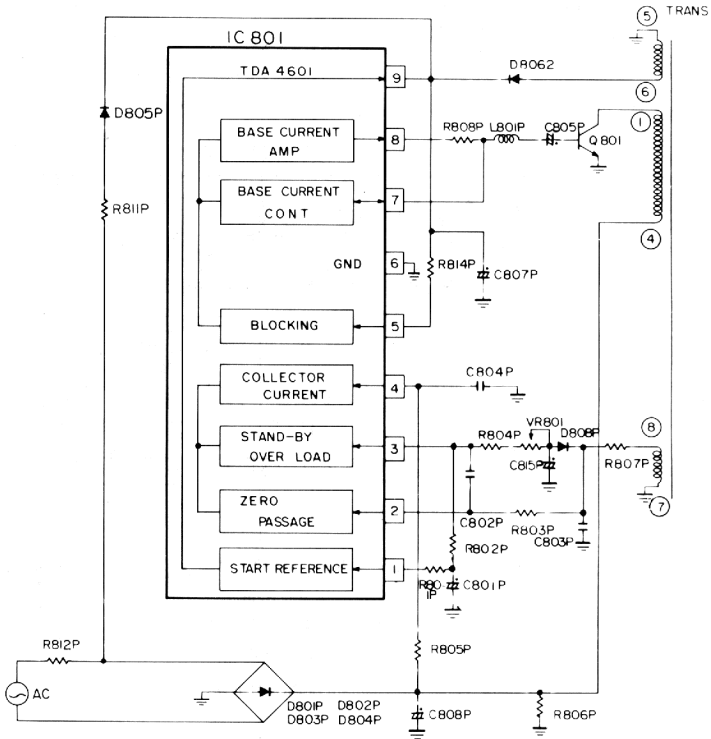


Figure 16. Schematic Diagram of IC801 (TDA4601)

6-1 Operating Description of the Circuit

START UP

If the power switch is ON, the voltage made by R811P, D805P and C807P, which is applied to pin9 of IC801.

If the voltage of pin9 is above 8.5V, IC801 begins the generation.

The voltage rectified by D801P, D802P, D803P, D804P and C808P, which is applied to pin4 of SMPS transformer (T801).

At this time, PWM signal outputs from pin7 of IC801 and drives Q801.

If Q801 is drived, the voltage generated at pins5,6 of SMPS TRANS is rectified at D806P and C807P, and supplieds about 13V to pin9 of IC801 continually.

NORMAL OPERATION

The square wave output which make Q801 on and off flows out of pin8, and its extend is adjusted by pin7.

Also the sources generated by the load variation are detected from the wire wound pins7,8 of T801.

The detected variation sources which is communated with the D808P and C815P input the voltage to pin3.

Pin2 and pin3 have the function assisting the control operation.

And VR801 controls the secondary output voltage.

OVER LOAD OPERATION

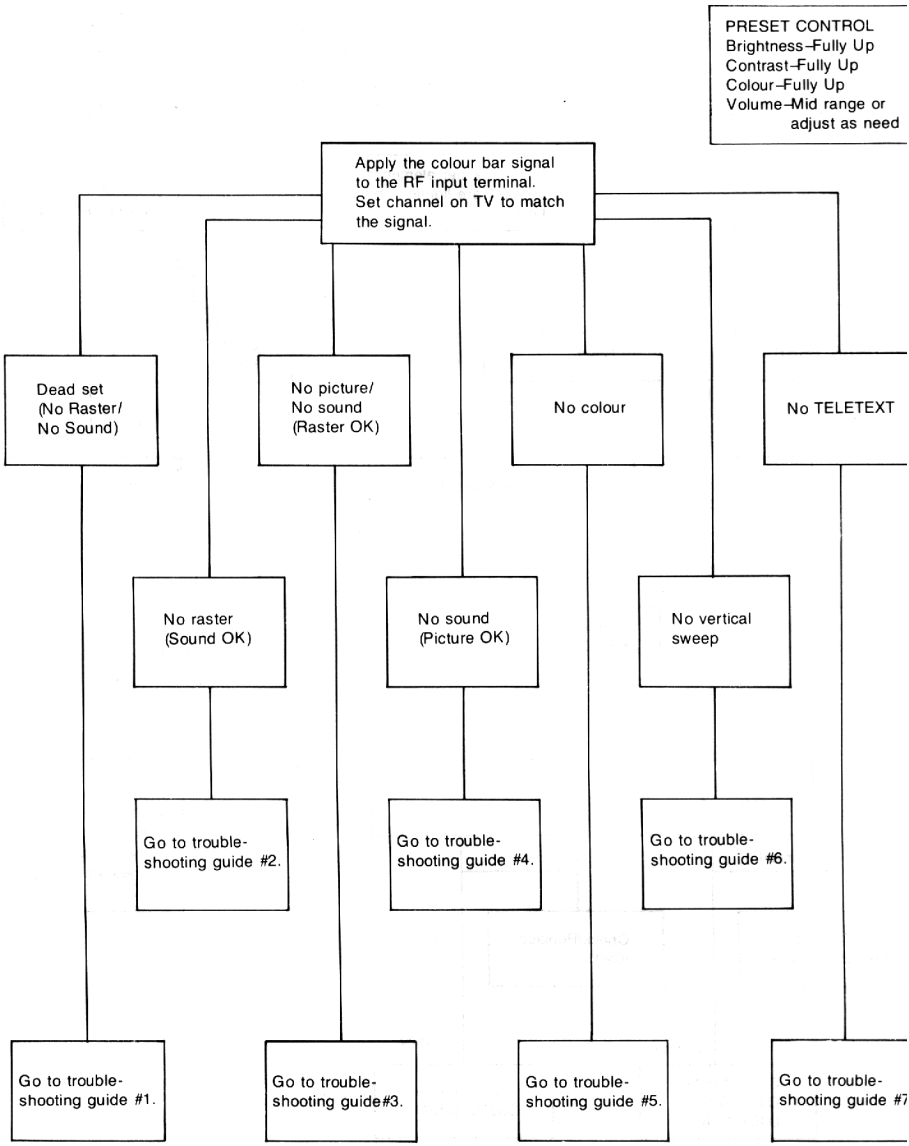
The maximum collector current is decided by R805P and C804P connected to the pin4. When this identified value is exceed over load operation, fix R805P for 270K ohm and change the value of C804P to adjust the maximum over load.

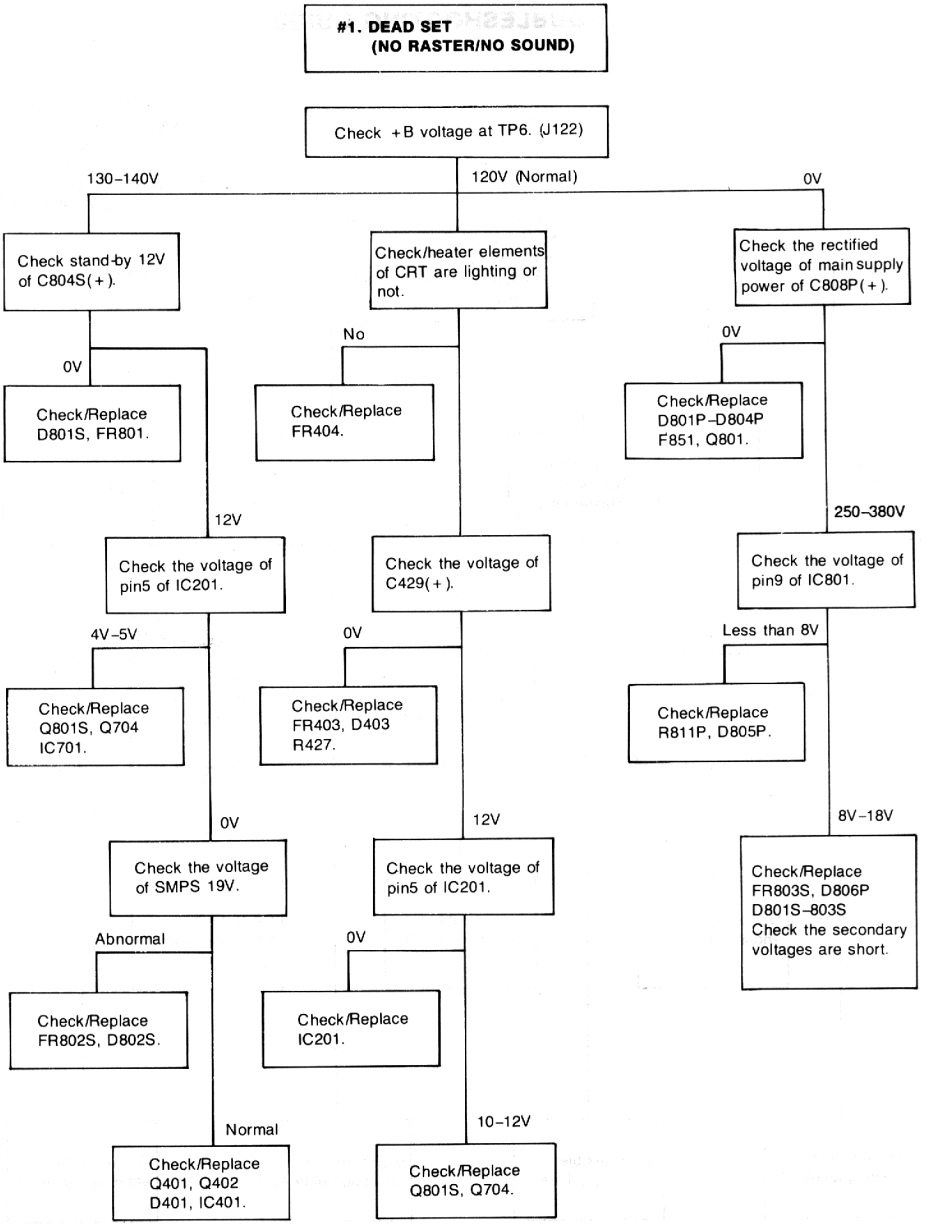
If you use a big capacitor of C804P, the maximum load electric power will increase.

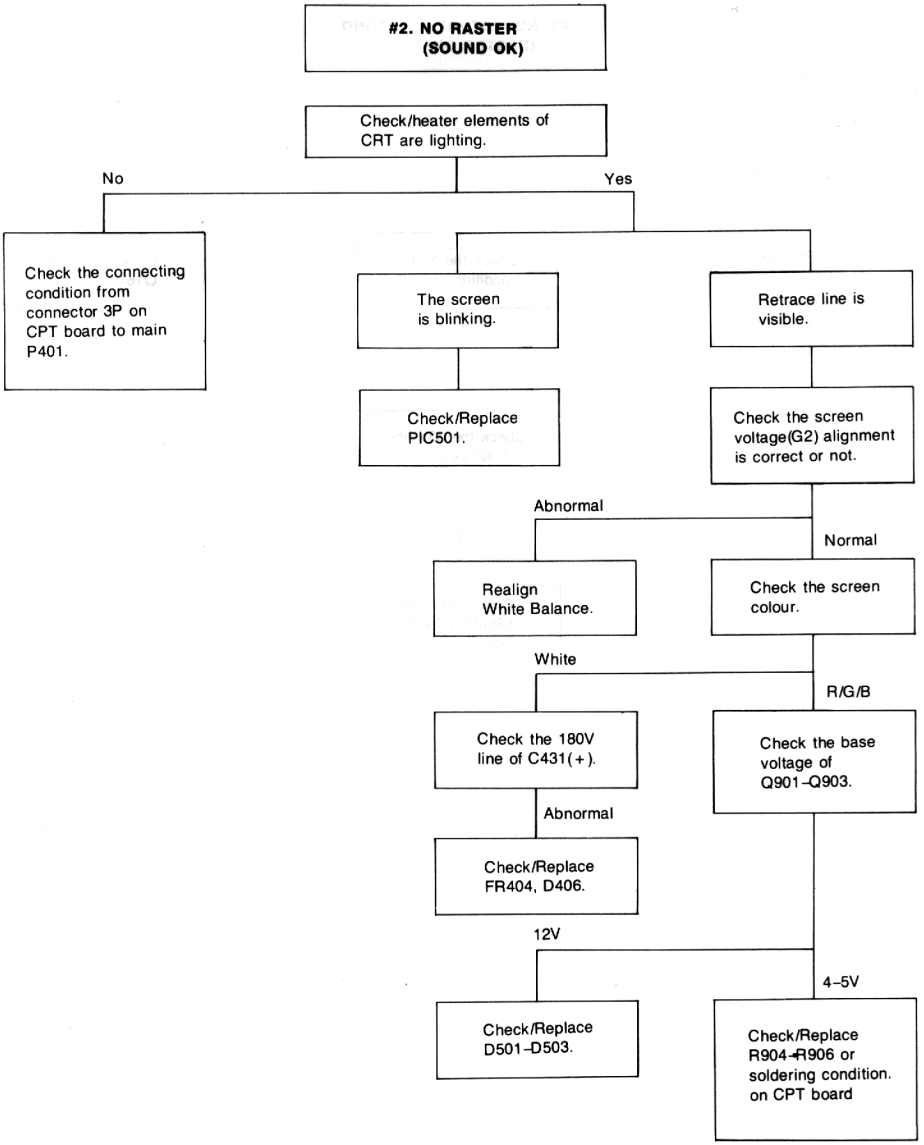
HIGH VOLTAGE PROTECTION

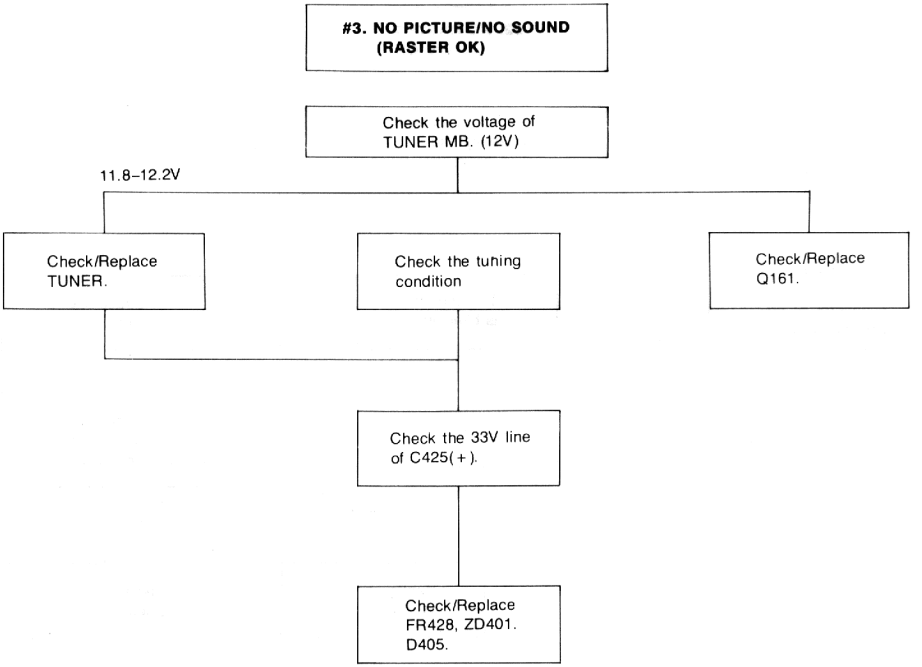
This is decided by R814P connected at pin5 if the voltage of pin5 increase above the fixed voltage, the switching motion will stop.

TROUBLESHOOTING GUIDE

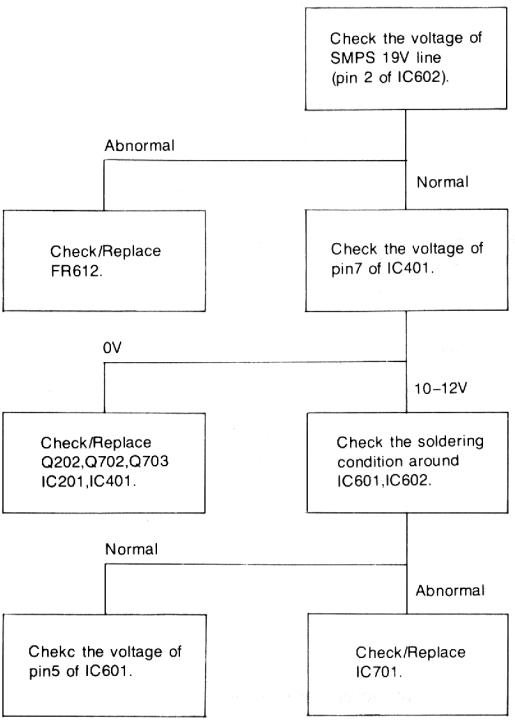



#1. DEAD SET
(NO RASTER/NO SOUND)
Check +B voltage at TP6. (J122)
130–140V
120V (Normal)
0V
Check stand-by 12V of C804S(+).
Check/heater elements of CRT are lighting or not.
Check the rectified voltage of main supply power of C808P(+).
0V
Check/Replace D801S, FR801.
No
Check/Replace FR404.
0V
Check/Replace D801P–D804P F851, Q801.
12V
Check the voltage of pin5 of IC201.
Check the voltage of C429(+).
250–380V
Check the voltage of pin9 of IC801.
4V–5V
Check/Replace Q801S, Q704 IC701.
0V
Check/Replace FR403, D403 R427.
Less than 8V
Check/Replace R811P, D805P.
0V
Check the voltage of SMPS 19V.
12V
Check the voltage of pin5 of IC201.
8V–18V
Check/Replace FR803S, D806P D801S–803S Check the secondary voltages are short.
Abnormal
Check/Replace FR802S, D802S.
0V
Check/Replace IC201.
Normal
Check/Replace Q401, Q402 D401, IC401.
10–12V
Check/Replace Q801S, Q704.


#2. NO RASTER
(SOUND OK)
Check/heater elements of CRT are lighting.
No
Yes
Check the connecting condition from connector 3P on CPT board to main P401.
The screen is blinking.
Retrace line is visible.
Check/Replace PIC501.
Check the screen voltage(G2) alignment is correct or not.
Abnormal
Normal
Realign White Balance.
Check the screen colour.
White
R/G/B
Check the 180V line of C431(+).
Check the base voltage of Q901-Q903.
Abnormal
Check/Replace FR404, D406.
12V
4-5V
Check/Replace D501-D503.
Check/Replace R904-R906 or soldering condition. on CPT board

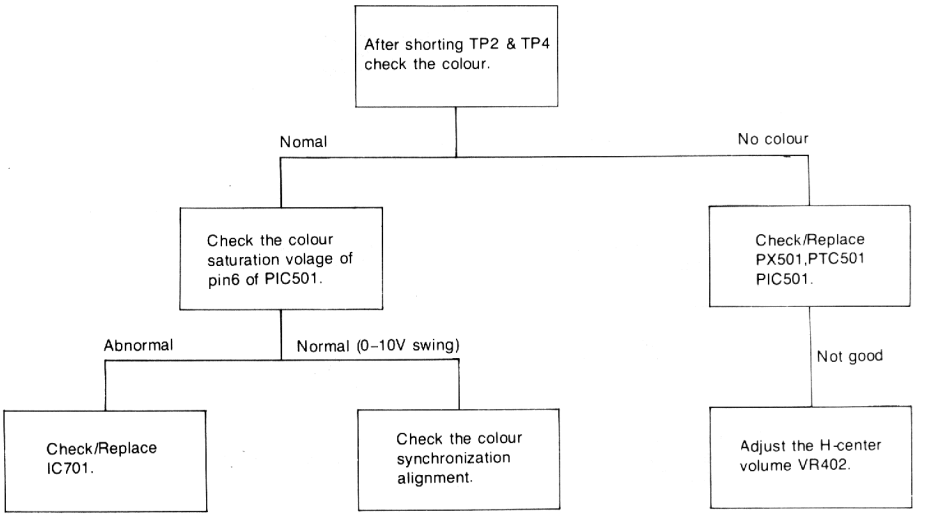

#3. NO PICTURE/NO SOUND
(RASTER OK)
Check the voltage of
TUNER MB. (12V)
11.8–12.2V
Check/Replace
TUNER.
Check the tuning
condition
Check/Replace
Q161.
Check the 33V line
of C425(+).
Check/Replace
FR428, ZD401.
D405.

#4. NO SOUND (PICTURE OK)



NOTE:
Sound is muted whenever the screen is noise condition, that is, broadcasting signal is not found.

#5. NO COLOUR



#6. NO VERTICAL SWEEP

Check the around IC301 soldering condition check/Replace IC301.

#7. NO TELETEXT
(not in use)

Check the voltage of C32(+).

11.8–12.2V

Abnormal

Check the Emittor voltage of Q1.

Check/Replace L6.

Abnormal

4.9–5V

Check/Replace Q1,ZD1.

Check the pin6 of P101 (CCVS signal).

Yes

No

Check the pin 1,2 of P102 (SCL, SDA).

Check/whether A/V condition or NOT.

No

Check/Replace IC5,IC701 IC4, PCF8582. Check all the connection of SCL, SDA.

Yes

Check the pin2 of P101 (FB).

No

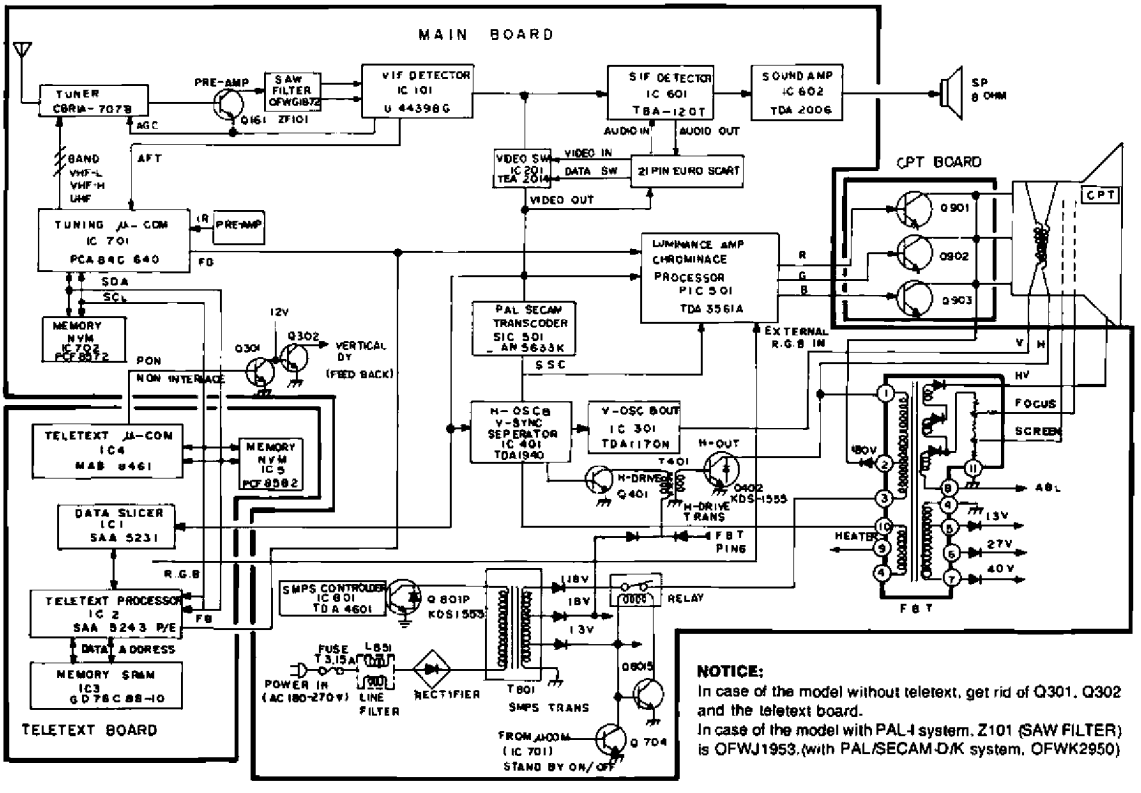
Check/Replace IC2.

Yes

Check the R.G.B connection from IC2 to PIC501 of main board.

* If TELETEXT SYNC is not correct, the teletext picture be move to left or right, then readjust TC1 to be 6.0MHz.
* If TELETEXT data error occurs, readjust channel memory or VIF and AFT ALIGNMENT.

GOLDSTAR PC04A CHASSIS BLOK DIAGRAM

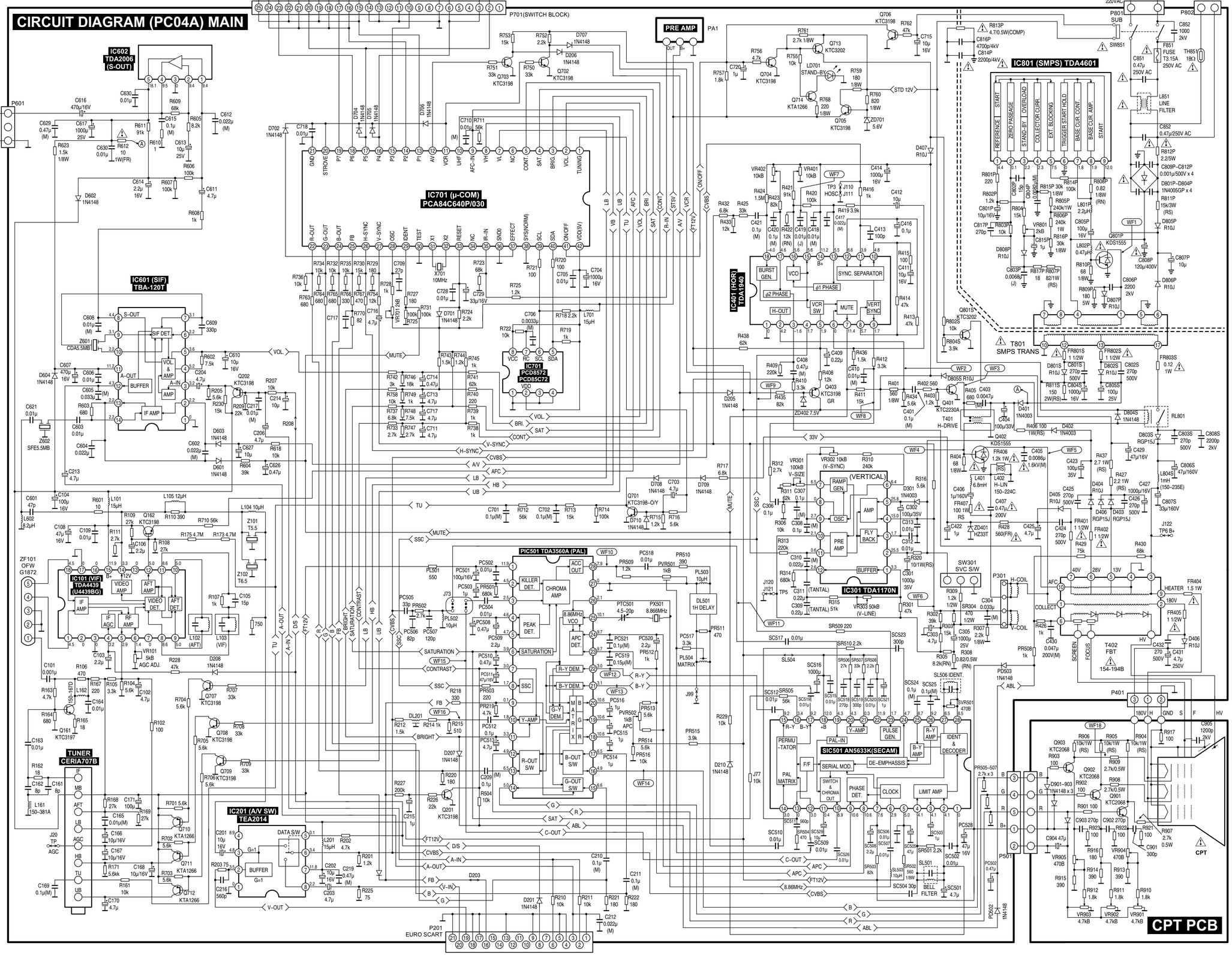


NOTICE:

In case of the model without teletext, get rid of Q301, Q302 and the teletext board.

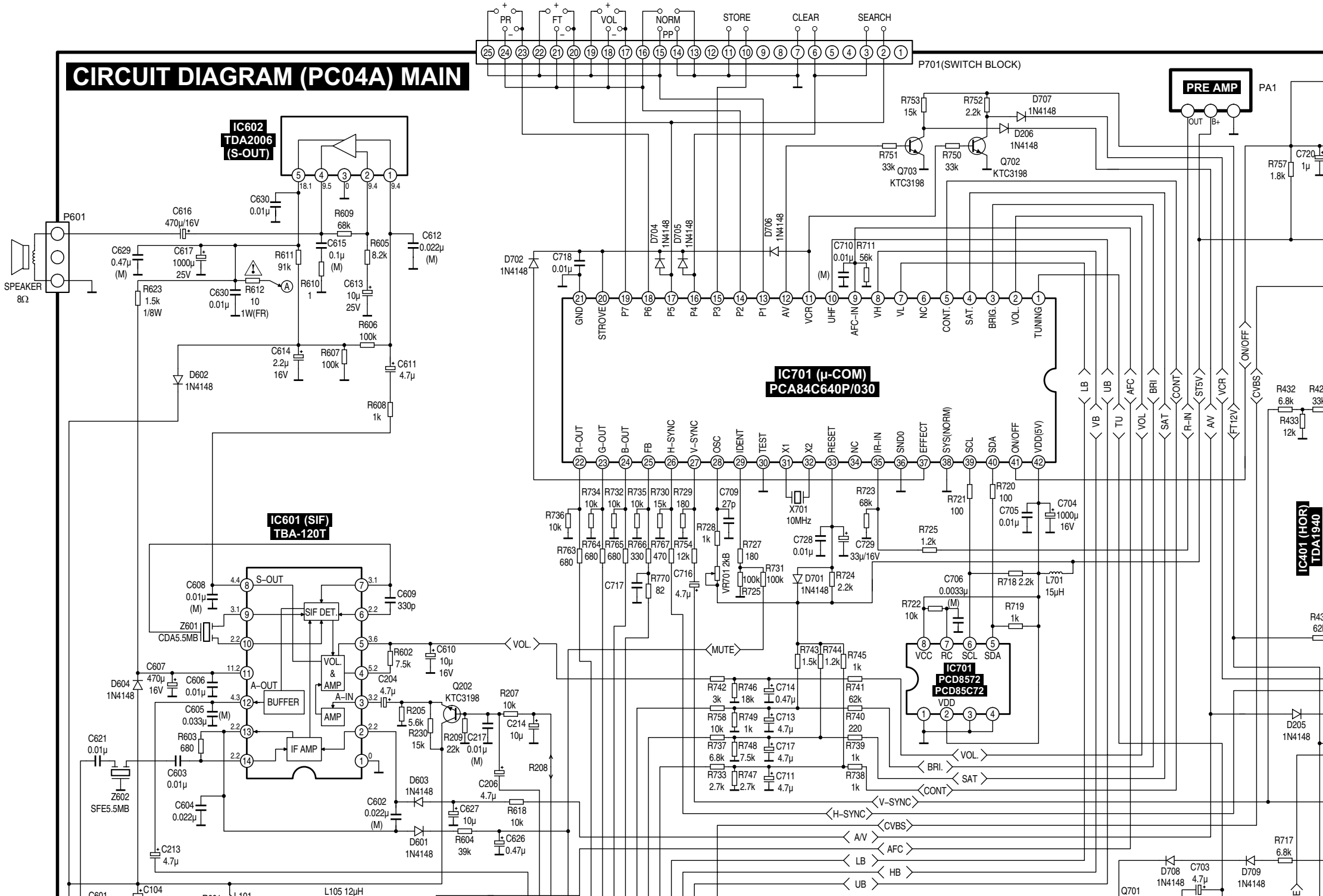
In case of the model with PAL-I system, Z101 (SAW FILTER) is OFWJ1953.(with PAL/SECAM-D/K system, OFWK2950)

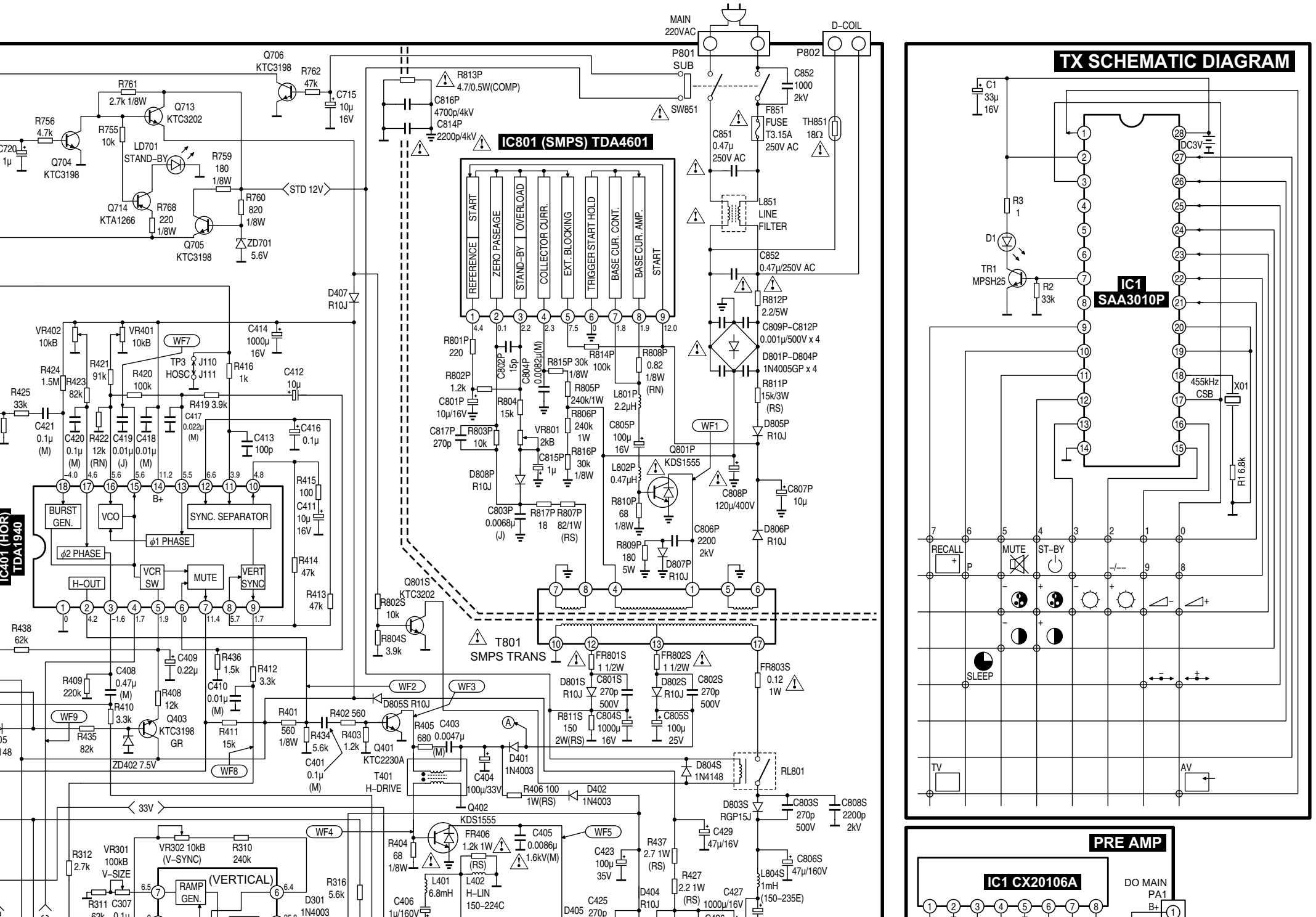
CIRCUIT DIAGRAM (PC04A) MAIN



CIRCUIT NO.	INCH 14"	INCH 20"	INCH 21"	REMARK
R302	47kΩ	56kΩ	56kΩ	CARBON FILM RESISTOR
R311	91kΩ	91kΩ	82kΩ	CARBON FILM RESISTOR
R315	27kΩ	39kΩ	51kΩ	CARBON FILM RESISTOR
R427	2Ω 1W	2.7Ω 1W	2.2Ω 1W	METAL OXIDE FILM RESISTOR
R437	2Ω 1W	2.7Ω 1W	2.7Ω 1W	METAL OXIDE FILM RESISTOR
R429	10kΩ	75kΩ	75kΩ	CARBON FILM RESISTOR
FR404	1.2Ω	1.5Ω	1.5Ω	FUSIBLE RESISTOR
FR428	390Ω	1.2kΩ	560Ω	FUSIBLE RESISTOR
C303	3.3μF	4.7μF	4.7μF	CE CAPACITOR
C405	0.073μF/1.6kV	0.0082μF/1.6kV	0.0082μF/1.6kV	MPP CAPACITOR
C407	0.39μF/200V	0.39μF/200V	0.47μF/200V	MPP CAPACITOR
L401	3.3μH	6.8μH	6.8μH	PEAKING COIL
L402	150–224L	150–224C	150–224C	LINEARITY COIL
T402	154–064F	154–177J	154–194B	FBT

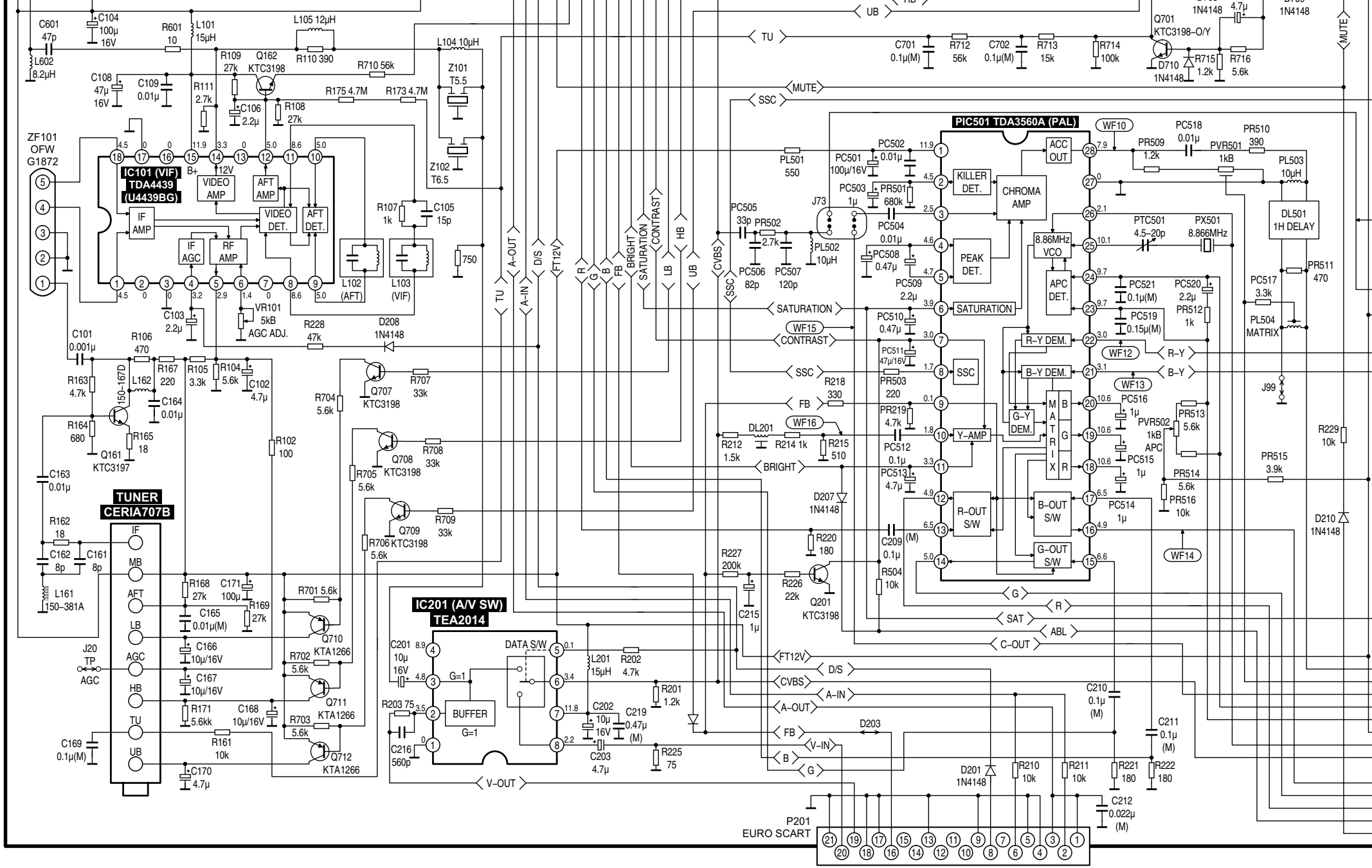
CIRCUIT DIAGRAM (PC04A) MAIN

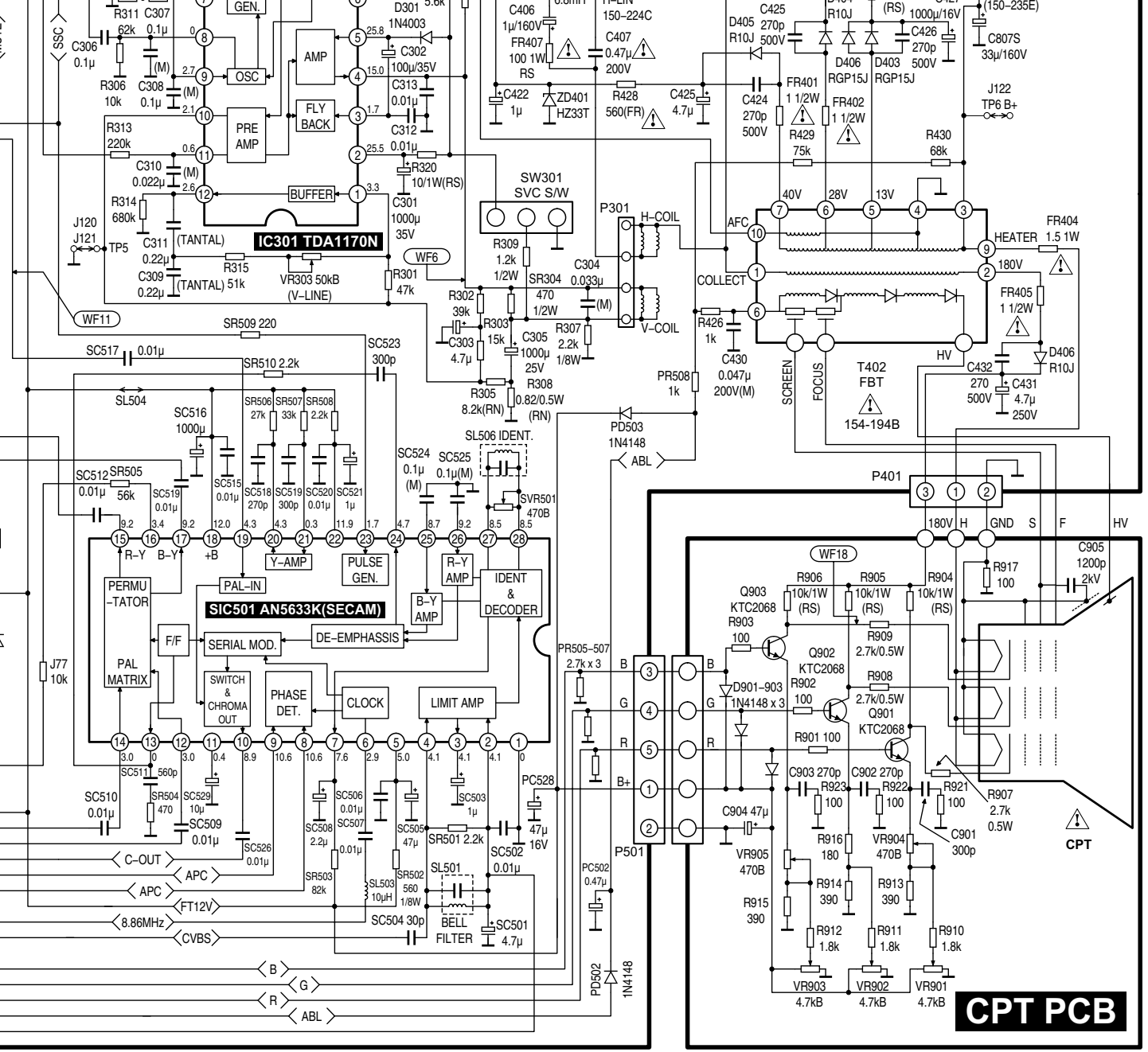


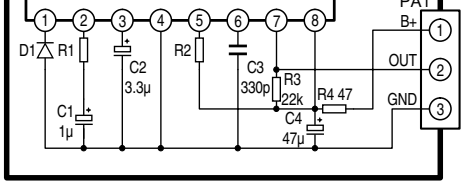

IC801 (SMPS) TDA4601
REFERENCE
START
ZERO PASEAGE
STAND–BY
OVERLOAD
COLLECTOR CURR.
EXT. BLOCKING
TRIGGER START HOLD
BASE CUR. CONT.
BASE CUR. AMP.
START
IC401 (HOR) TDA1940
BURST GEN.
VCO
SYNC. SEPARATOR
ϕ1 PHASE
ϕ2 PHASE
H–OUT
VCR SW
MUTE
VERT SYNC
B+
T801
SMPS TRANS
MAIN 220VAC
P801 SUB
P802
D–COIL
SW851
F851 FUSE T3.15A 250V AC
TH851 18Ω
L851 LINE FILTER
RL801
STD 12V
33V
(VERTICAL)
RAMP GEN.
T401 H–DRIVE
L402 H–LIN 150–224C
KDS1555
KTC2230A
KTC3202
KTC3198 GR
KTA1266
KTC3198
KTC3198
KTC3202
KTC3198
1N4003
1N4148
RGP15J
R10J
1N4005GP x 4
ZD701 5.6V
ZD402 7.5V
LD701 STAND–BY
WF1
WF2
WF3
WF4
WF5
WF7
WF8
WF9

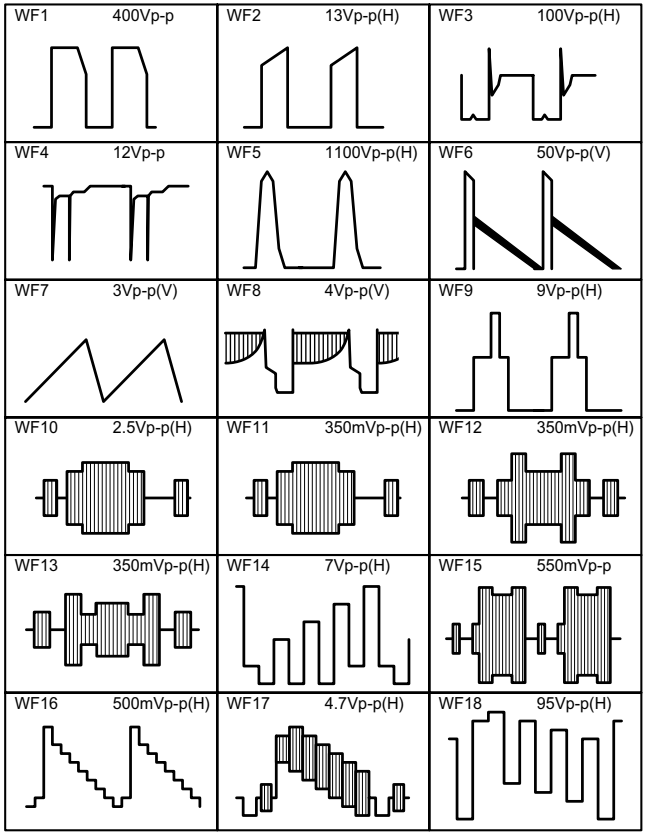
TX SCHEMATIC DIAGRAM
IC1
SAA3010P
DC3V
455kHz
CSB
X01
RECALL
MUTE
ST–BY
SLEEP
TV
AV

PRE AMP
IC1 CX20106A
DO MAIN
PA1
B+

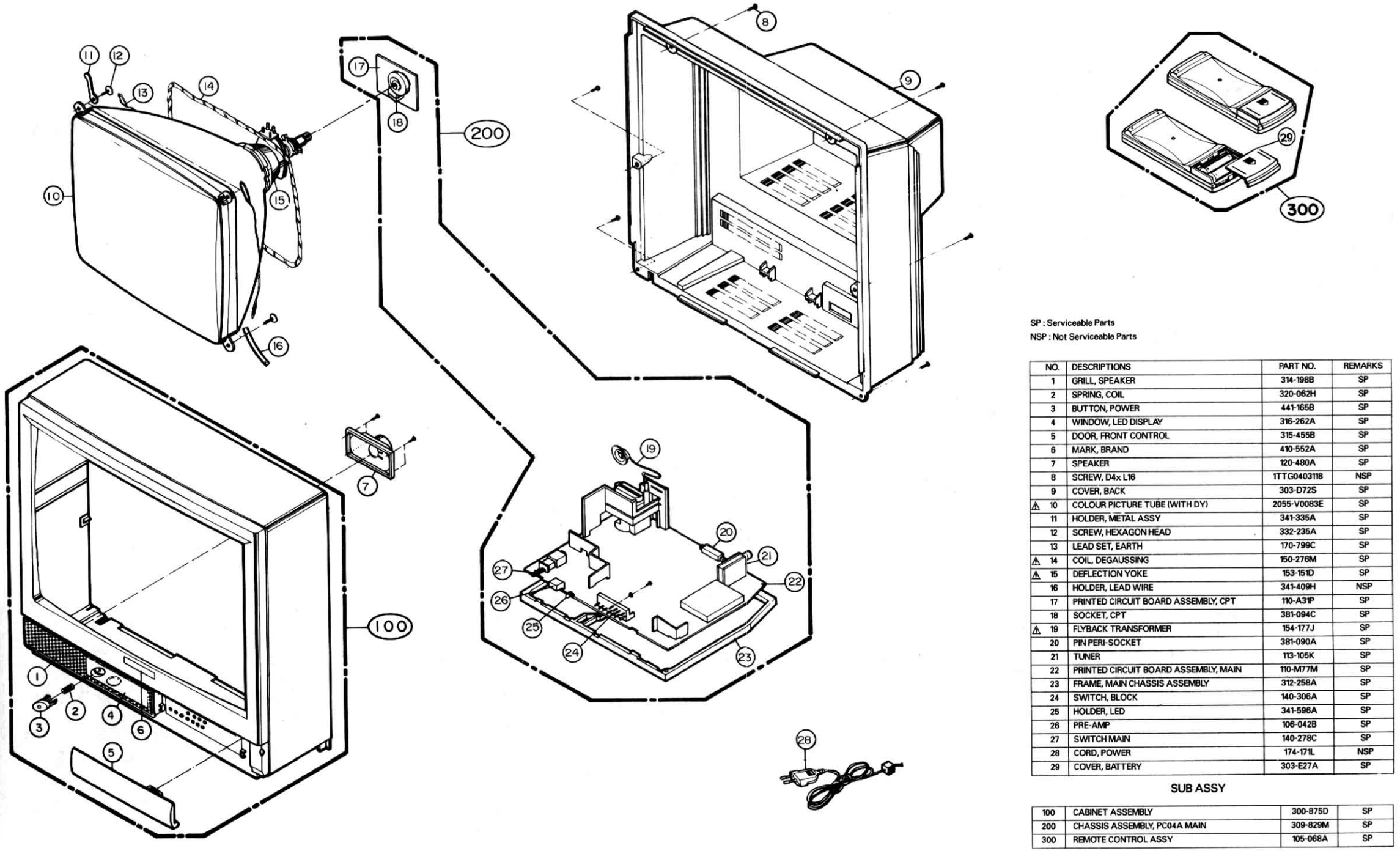

PIC501 TDA3560A (PAL)
IC101 (VIF)
TDA4439
(U4439BG)
IC201 (A/V SW)
TEA2014
TUNER
CERIA707B
ZF101
OFW
G1872
P201
EURO SCART
PC501 100µ/16V
PC502 0.01µ
PC503 1µ
PC504 0.01µ
PC505 33p
PC506 82p
PC507 120p
PC508 0.47µ
PC509 2.2µ
PC510 0.47µ
PC511 47µ/16V
PC512 0.1µ
PC513 4.7µ
PC514 1µ
PC515 1µ
PC516 1µ
PC517 3.3k
PC518 0.01µ
PC520 2.2µ
PC521 0.1µ(M)
PR501 680k
PR502 2.7k
PR503 220
PR509 1.2k
PR510 390
PR511 470
PR512 1k
PR513 5.6k
PR514 5.6k
PR515 3.9k
PR516 10k
PVR501 1kB
PVR502 1kB APC
PTC501 4.5–20p
PX501 8.866MHz
PL501 550
PL502 10µH
PL503 10µH
PL504 MATRIX
DL501 1H DELAY
DL201
J73
J99
J20 TP AGC
VR101 5kB AGC ADJ.
R228 47k
D208 1N4148
D201 1N4148
D203
D207 1N4148
D210 1N4148
Q701 KTC3198–O/Y
Q707 KTC3198
Q708 KTC3198
Q709 KTC3198
Q710 KTA1266
Q711 KTA1266
Q712 KTA1266
Q161 KTC3197
Q201 KTC3198
Z101 T5.5
Z102 T6.5
L101 15µH
L102 (AFT)
L103 (VIF)
L104 10µH
L105 12µH
L161 150–381A
L162 150–167D
L201 15µH
L602 8.2µH
IF AMP
VIDEO AMP
VIDEO DET.
AFT AMP
AFT DET.
IF AGC
RF AMP
ACC OUT
KILLER DET.
CHROMA AMP
PEAK DET.
8.86MHz VCO
APC DET.
SATURATION
R–Y DEM.
B–Y DEM.
G–Y DEM.
MATRIX
Y–AMP
R–OUT S/W
B–OUT S/W
G–OUT S/W
BUFFER
DATA S/W
WF10
WF12
WF13
WF14
WF15
WF16
MUTE
SSC
TU
UB
A–OUT
A–IN
D/S
FT12V
R
G
B
FB
BRIGHT
SATURATION
CONTRAST
LB
HB
CVBS
SSC
R–Y
B–Y
ABL
C–OUT
SAT
V–OUT
V–IN







CIRCUIT NO.	INCH			REMARK
	14"	20"	21"	
R302	47kΩ	56kΩ	56kΩ	CARBON FILM RESISTOR
R311	91kΩ	91kΩ	82kΩ	CARBON FILM RESISTOR
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FR404	1.2Ω	1.5Ω	1.5Ω	FUSIBLE RESISTOR
FR428	390Ω	1.2kΩ	560Ω	FUSIBLE RESISTOR
C303	3.3μF	4.7μF	4.7μF	CE CAPACITOR
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L401	3.3μH	6.8μH	6.8μH	PEAKING COIL
L402	150-224L	150-224C	150-224C	LINEARITY COIL
T402	154-064F	154-177J	154-194B	FBT

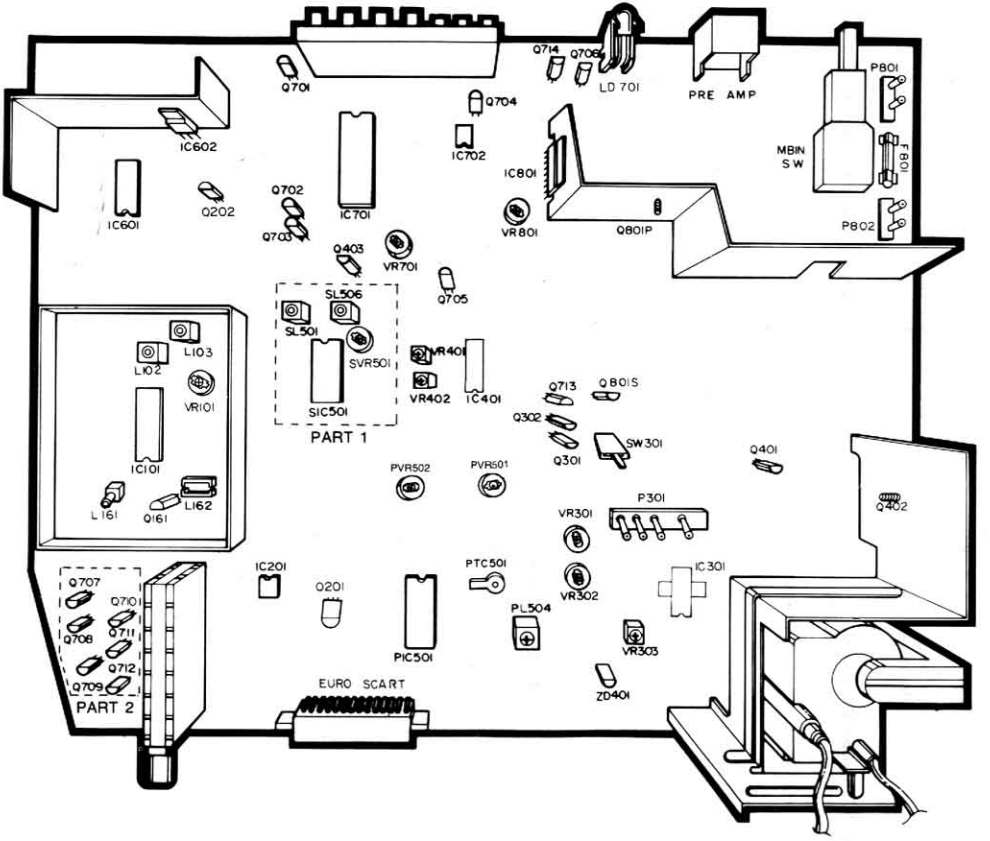


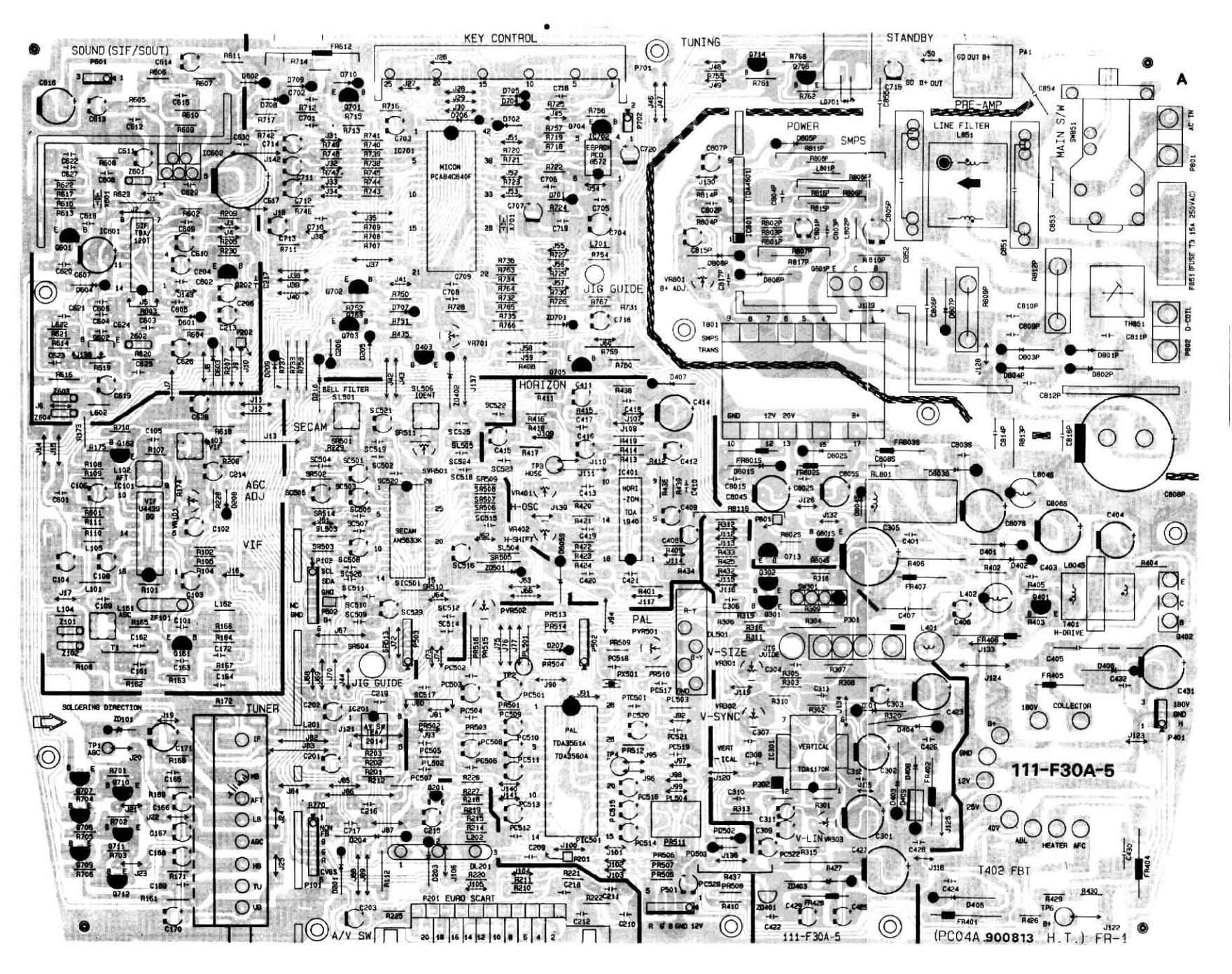
SP : Serviceable Parts
NSP : Not Serviceable Parts

NO.	DESCRIPTIONS	PART NO.	REMARKS
1	GRILL, SPEAKER	314-198B	SP
2	SPRING, COIL	320-062H	SP
3	BUTTON, POWER	441-165B	SP
4	WINDOW, LED DISPLAY	316-262A	SP
5	DOOR, FRONT CONTROL	315-455B	SP
6	MARK, BRAND	410-552A	SP
7	SPEAKER	120-480A	SP
8	SCREW, D4x L16	1TTG0403118	NSP
9	COVER, BACK	303-D72S	SP
⚠ 10	COLOUR PICTURE TUBE (WITH DY)	2055-V0083E	SP
11	HOLDER, METAL ASSY	341-335A	SP
12	SCREW, HEXAGON HEAD	332-235A	SP
13	LEAD SET, EARTH	170-799C	SP
⚠ 14	COIL, DEGAUSSING	150-276M	SP
⚠ 15	DEFLECTION YOKE	153-151D	SP
16	HOLDER, LEAD WIRE	341-409H	NSP
17	PRINTED CIRCUIT BOARD ASSEMBLY, CPT	110-A31P	SP
18	SOCKET, CPT	381-094C	SP
⚠ 19	FLYBACK TRANSFORMER	154-177J	SP
20	PIN PERI-SOCKET	381-090A	SP
21	TUNER	113-105K	SP
22	PRINTED CIRCUIT BOARD ASSEMBLY, MAIN	110-M77M	SP
23	FRAME, MAIN CHASSIS ASSEMBLY	312-258A	SP
24	SWITCH, BLOCK	140-306A	SP
25	HOLDER, LED	341-596A	SP
26	PRE-AMP	106-042B	SP
27	SWITCH MAIN	140-278C	SP
28	CORD, POWER	174-171L	NSP
29	COVER, BATTERY	303-E27A	SP

SUB ASSY

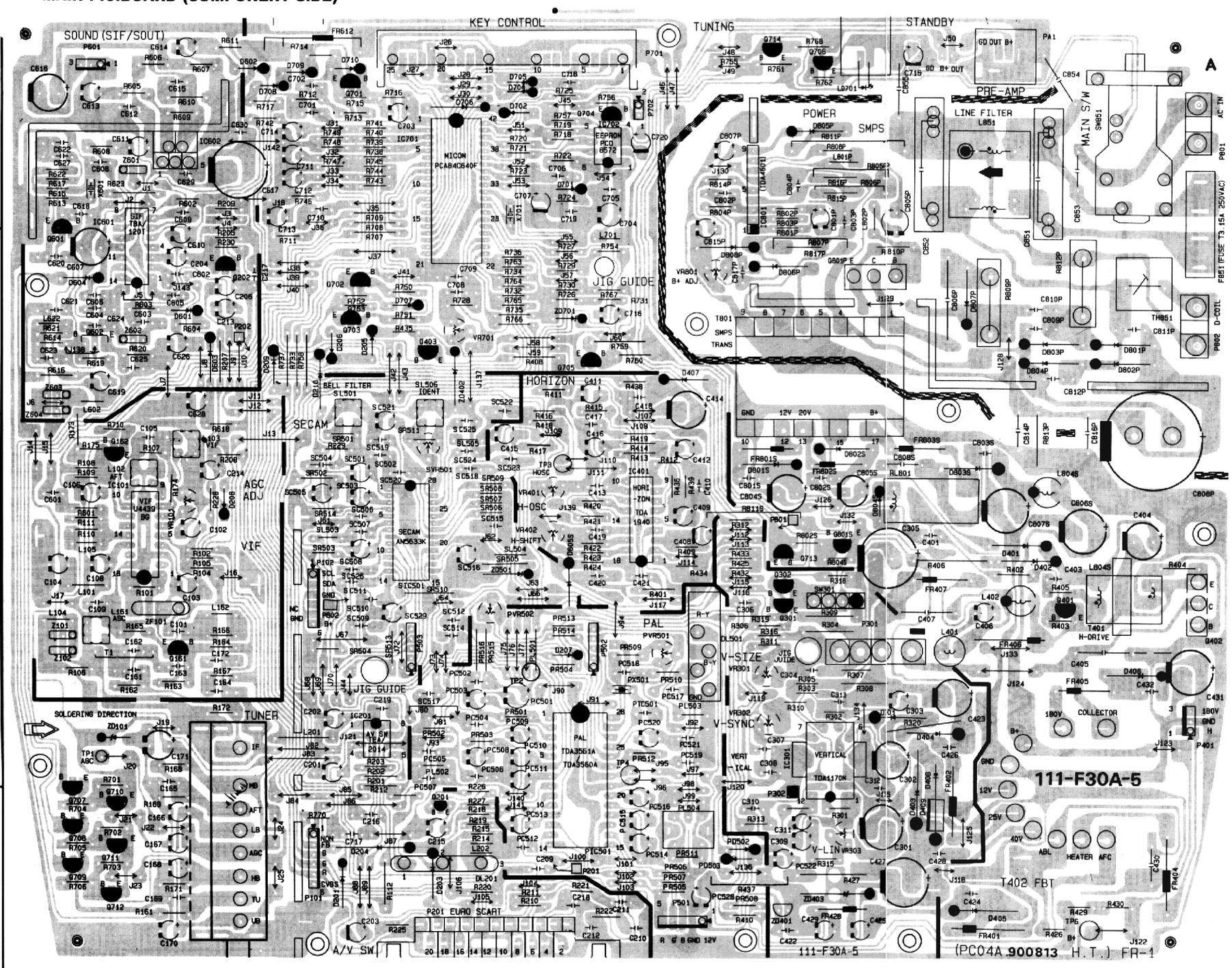
100	CABINET ASSEMBLY	300-875D	SP
200	CHASSIS ASSEMBLY, PC04A MAIN	309-829M	SP
300	REMOTE CONTROL ASSY	105-068A	SP


Q701
Q714
Q706
LD 701
PRE AMP
P801
Q704
IC602
IC702
MBIN
SW
F801
IC801
IC601
Q202
Q702
IC701
Q703
VR801
Q801P
P802
Q403
VR701
Q705
SL506
SL501
SVR501
L103
L102
VR101
VR402
IC401
Q713
Q801S
SIC501
Q302
PART 1
SW301
Q401
Q301
PVR502
PVR501
P301
Q402
L161
Q161
L162
IC101
VR301
IC201
PTC501
IC301
Q707
Q710
Q708
Q711
Q712
Q709
Q201
VR302
PL504
VR303
PIC501
ZD401
PART 2
EURO SCART

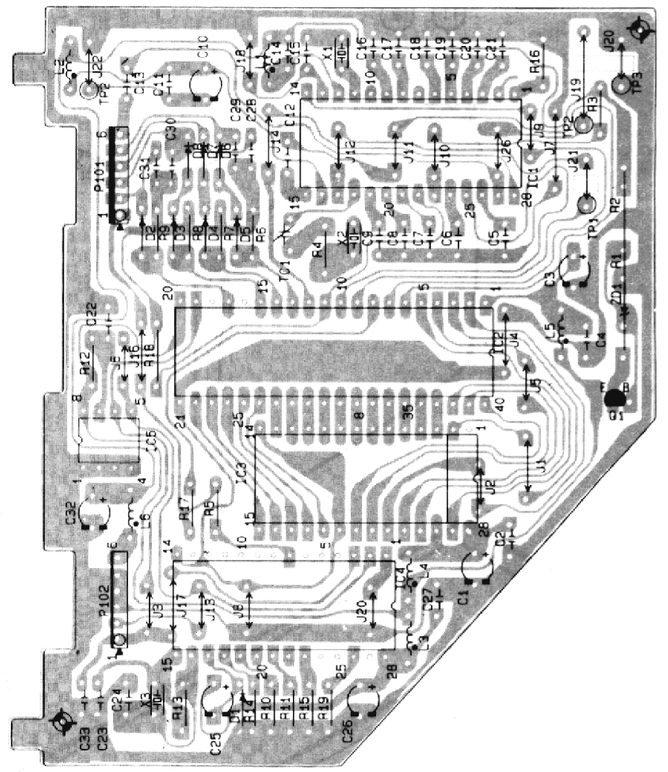

SOUND (SIF/SOUT)
KEY CONTROL
TUNING
STANDBY
PRE-AMP
POWER
SMPS
LINE FILTER
MAIN S/W
JIG GUIDE
HORIZON
SECAM
AGC ADJ
VIF
H-OSC
H-SHIFT
PAL
V-SIZE
V-SYNC
V-LIN
TUNER
SOLDERING DIRECTION
A/V SW
P201 EURO SCART
T402 FBT
111-F30A-5
(PC04A 900813 H.T.) FR-1

PRINTED CIRCUIT BOARD

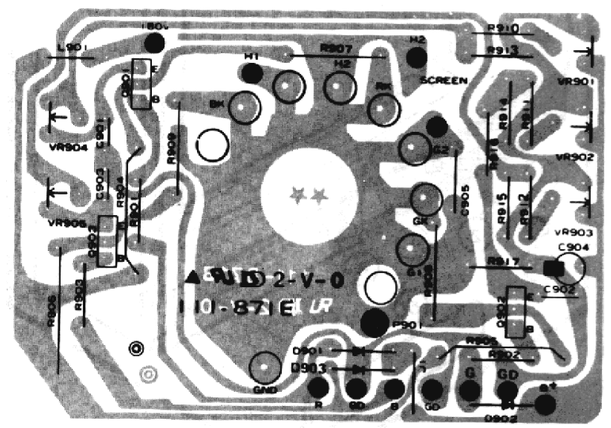
MAIN P.C.BOARD (COMPONENT SIDE)



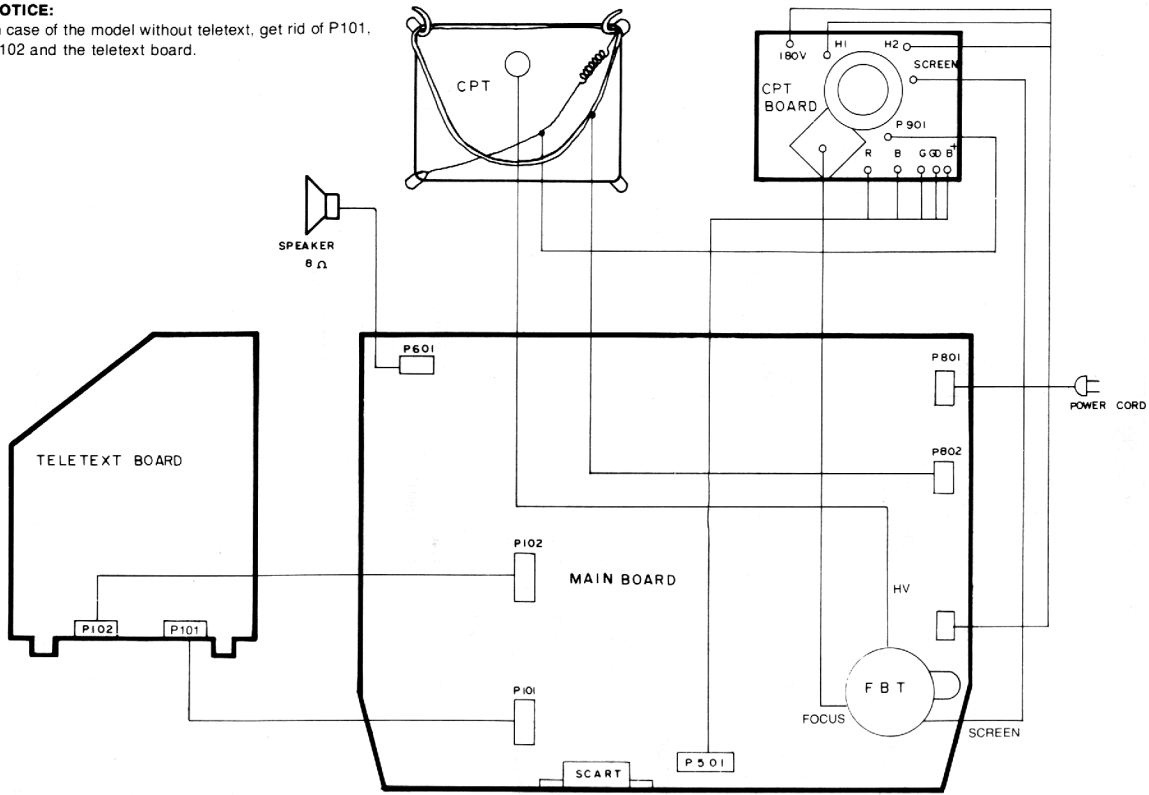
TXT P.C.BOARD (COMPONENT SIDE) : (NOT IN USE)



CPT P.C.BOARD (COMPONENT SIDE)

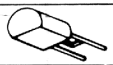
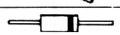
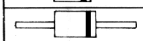


NOTICE:
In case of the model without teletext, get rid of P101, P102 and the teletext board.

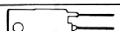
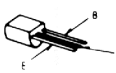


TERMINAL VIEW OF SEMICONDUCTOR

DIODE

FIGURE	DESCRIPTION	REFERENCE NO.
	1N4148TA	D1-D8,D201,D203 D205,D206,D207 D208,D210,D601 D602,D603,D604 D701,D703 D704-D709 D901-D903,D804S PD502,503,SD501
	1N4003TA	D301,D401,D402
	R10J	D404-D407,D801S D802S,D805S D805P-D808P
	RGP15J	D403,D408
	1N4005TA	D801P-D804P
	GU3C	D803S
	KA33V	ZD401
	HZ33T	
	Z5.6BM Z7.5BM	ZD1,ZD701 ZD402

TRANSISTOR

	2SD1555	Q402,Q801
	KTC1815-GR	Q403
	KTC1815-O/Y	Q201,Q202,Q301 Q302 Q701-Q709
	KTC388A	Q161
	KTA1015-O/Y	Q710,Q711,Q712 Q714
	KTC2230A	Q401
	KTC1959-Y	Q713,Q801S
	KTC2236A-O	Q1
	KTC2068	Q901-Q903

IC

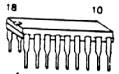
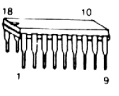
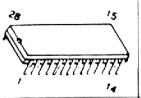
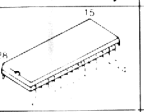
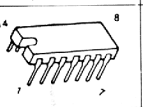
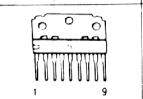
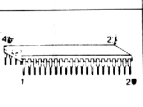
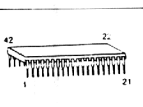
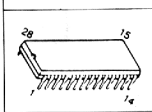
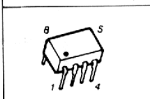
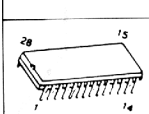
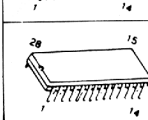
	TDA4439 u4439BG	IC101
	TEA1014	IC201
	TDA1170N	IC301

FIGURE	DESCRIPTION	REFERENCE NO.
	TDA1940	IC401
	GD76C88-10	IC3
	TDA-3560B GD76C88-15	PIC501
	TDA-3560A	IC601
	TDA4601	IC801
	SAA5243P/E	IC2
	PCF84C640/030	IC701
	AN5633K	SIC501
	PCF84C640/030 PCD8582	IC5
	PCD85C72 PCD8572	IC702
	MAB8461	IC4
	SAA5231-2 SAA5231	IC1

COMPONENT LOCATION GUIDE

(Refer to page 33)

R101 2A	R319 2D	R702 1A	R761 5D	PR502 2B
R102 3A	R320 1D	R703 1A	R762 5D	PR503 2B
R104 2A	R401 2C	R704 1A	R763 4C	PR504 2C
R105 3A	R402 3E	R705 1A	R764 4C	PR505 1C
R106 2A	R403 2E	R706 1A	R765 4C	PR506 1C
R107 3A	R404 3E	R707 4B	R766 4C	PR507 1C
R108 3A	R405 2E	R708 4B	R767 4C	PR508 1D
R109 3A	R406 2D	R709 4B	R768 5D	PR509 2C
R110 3A	R408 4C	R710 3A	R769 4C	PR510 2C
R111 3A	R409 3C	R711 4B	R770 1B	PR511 1C
R112 1B	R410 1D	R712 5B	R771 4C	PR512 2C
R161 1A	R411 3C	R713 5B	R801S 3D	PVR501 2C
R162 2A	R412 3C	R714 5B	R802S 3D	
R163 2A	R413 3C	R715 5B	R804S 3D	C101 2A
R164 2A	R414 3C	R716 5B	R811S 3D	C102 3A
R165 2A	R415 3C	R717 5B	R801P 4D	C103 2A
R166 2A	R416 3C	R718 5C	R802P 4D	C104 2A
R167 2A	R417 3C	R719 5C	R803P 4D	C105 3A
R168 1A	R418 3C	R720 5C	R804P 4C	C106 3A
R169 1A	R419 3C	R721 5C	R805P 4D	C108 2A
R171 1A	R420 3C	R722 5C	R806P 5D	C109 2A
R172 2A	R421 3C	R723 5C	R807P 4D	C161 2A
R201 1B	R422 3C	R724 4C	R808P 5D	C162 2A
R202 1B	R423 3C	R725 5C	R809P 4E	C163 2A
R203 1B	R424 3C	R726 4C	R810P 4D	C164 2A
R205 4A	R425 3C	R727 4C	R811P 5D	C165 1A
R207 4A	R426 1E	R728 4B	R812P 4E	C166 1A
R208 3A	R427 1D	R729 4C	R813P 3E	C167 1A
R209 4A	R429 1E	R729 4C	R814P 5C	C168 1A
R210 1C	R430 1E	R730 4C	VR101 3A	C169 1A
R211 1C	R432 3C	R731 4C	VR301 2C	C170 1A
R212 1B	R433 3C	R732 4C	VR302 2C	C171 2A
R214 1B	R434 2C	R733 4B	VR303 1D	C201 1B
R215 1B	R435 4B	R734 4C	VR401 3C	C202 2B
R218 1B	R436 3C	R735 4C	VR701 4B	C203 2B
R219 1B	R437 1D	R736 4C	VR801 4C	C204 4A
R220 1B	R601 3A	R737 4B	FR401 1D	C206 4A
R221 1C	R602 4A	R738 5B	FR402 1D	C209 1C
R222 1C	R603 4A	R739 5B	FR403 1D	C210 1C
R225 1B	R604 4A	R740 5B	FR404 1E	C211 1C
R226 1B	R605 5A	R741 5B	FR405 2E	C212 1C
R227 1B	R606 5A	R742 5B	FR406 2E	C213 4A
R229 3B	R607 5A	R743 5B	FR407 2D	C214 3A
R301 1D	R608 5A	R744 5B	FR428 1D	C215 1B
R302 2D	R609 5A	R745 5B	FR801S 3D	C301 1D
R303 2D	R610 5A	R746 4B	FR802S 3D	C302 2D
R304 2D	R611 5A	R747 5B	FR803S 3D	C303 2D
R305 2D	R612 5B	R748 5B	SR501 3B	C304 2D
R306 2C	R613 4A	R749 5B	SR502 3B	C305 3D
R307 2D	R614 4A	R750 4B	SR503 3B	C306 2D
R308 2D	R615 5A	R751 4B	SR504 2B	C307 2D
R309 2D	R616 4A	R752 4B	SR505 2C	C308 2D
R310 2D	R617 5A	R753 4B	SR506 3B	C309 1D
R311 2D	R618 3A	R754 4C	SR507 3B	C310 1D
R312 3C	R619 3A	R755 5C	SR508 3B	C311 1D
R313 1D	R620 3A	R756 5C	SR509 3B	C401 3E
R314 1D	R621 4A	R757 5C	SR510 2B	C403 3E
R315 1D	R622 5A	R758 4B	SR513 2B	C404 3E
R316 2D	R623 5A	R759 4C	SVR501 3B	C405 2E
R318 2D	R701 1A	R760 4C	PR501 3C	C406 2D

C407 ..... 2D
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C815P 4C
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D803P 4E
D804P 4E
D805P 5D
D806P 4D
D807P 4D
D808P 4C
D801S 3D
D802S 3D
D803S 3D
D804S 3D
D805S 2C
SD501 ..... 2C
PD502 ..... 1C
PD503 ..... 1D
ZD401 ..... 1D
ZD701 ..... 4C
ZD702 ..... 4C
LD701 ..... 5D

T401 ..... 2E
T801 ..... 4C

Q161 ..... 2A
Q201 ..... 1B
Q202 ..... 4A
Q301 ..... 2D
Q302 ..... 2D
Q402 ..... 2E
Q403 ..... 4B
Q601 ..... 4A
Q602 ..... 4A
Q701 ..... 5B
Q702 ..... 4B
Q703 ..... 4B
Q704 ..... 5C
Q705 ..... 4C
Q706 ..... 5D
Q707 ..... 1A
Q708 ..... 1A
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Q710 ..... 1A
Q711 ..... 1A
Q712 ..... 1A
Q713 ..... 3D
Q714 ..... 5D
Q715 ..... 4C
Q801S 3D
Q801P 4D

IC101 ..... 3A
IC201 ..... 2B
IC301 ..... 2D
IC401 ..... 3C
IC601 ..... 4A
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IC701 ..... 5B
IC702 ..... 5C
IC801 ..... 4D
SIC501 ..... 2B
PIC501 ..... 1C

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L402 ..... 2E
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L701 ..... 4C
L801P 5D
L804S 3E
L851 ..... 5E
PL501 ..... 2C
PL502 ..... 1B
PL503 ..... 2C
PL504 ..... 1C
SL501 ..... 3B
SL503 ..... 3B
SL504 ..... 3C
SL505 ..... 3B
SL506 ..... 3B
DL201 ..... 1B

PA1 ..... 5E
P101 ..... 1B
P102 ..... 3B
P201 ..... 1B
P301 ..... 2D
P401 ..... 2E
P501 ..... 1C
P601 ..... 5A
P701 ..... 5C
P702 ..... 5C
P801 ..... 5E
P802 ..... 4E
PX501 ..... 2C
X501 ..... 5A
X701 ..... 4C
F851 ..... 4E
SW301 ..... 2D
SW851 ..... 5E
Z101 ..... 2A
Z102 ..... 2A
Z601 ..... 5A
Z602 ..... 4A
Z603 ..... 3A
Z604 ..... 3A
ZF101 ..... 2A
TH851 ..... 4E
RL801 ..... 3D
TP1 ..... 2A
TP2 ..... 2C
TP3 ..... 3C
TP4 ..... 2C
TP5 ..... 1C
TP6 ..... 1E

S	AL	LOCA.NO	PART NO(GSS)	DESCRIPTION	SPECIFICATION	REMARKS
			QCC0300K710	CAPACITOR CERAMIC(TEMP COMP)	3P 50V D M0 S	
			QCC3300K410	CAPACITOR CERAMIC(TEMP COMP)	33P 50V J M0 S	
			QCE3366F630	CAPACITOR.ELECTROLYTIC	33MF SMS 16V M FM5	
			01PH301000A	IC. PHILIPS	SAA3010.28D.TX IC	
			QRD1003F609	RESISTOR,FIXED CARBON FILM	100K 1/6W 5 TA52	
			1TB003D201B	BRAIZER HEAD TO SCREW + 1	D 3.0 L 12 MSWR3/FZY	
			1TT004D311B	TRUSS HEAD TAPPING SCREW + 1	D 4.0 L 16 MSWR3/FZY	
			105-060A	TRANSMITTER	ASSY(W/O TXT,PCO4A."WA")	
			110-M1TA	PWB ASSY	CPT PCO9X2 19"(COME BOARD)	
			110-M7TM	PCB ASSY	MAIN(O/X.W/O TXT)	
			120-480A	SPEAKER	C112PX-716K14	
			132-204D	ANTENNA	ASSY.RODS1 SECT.,FL, 400.STS)	
⚠			150-276M	COIL	DEGAUSSING(10"OD) SHORT LEAD	
⚠			153-151D	DY	M0-B 2D 231C 271R1-2M-170	
			155-003C	COMPOUND	MU-B 2D 231C 271R1-2M-170	
			166-015F	FILTER	CSB455EBL(LONG LEAD)	
			170-799C	LEAD SET	ASSY.CPT EARTH (19")	
⚠			2055-V0083E	CPT	6480901Z2X 25NTKD	
			300-875D	CABINET ASSY	ASSY(CKD)	
			303-072S	COVER	ASSY(CKD)	
			305-E27A	COVER	BATTERY(O/A8TX."AA")	
			309-829M	CHASSIS ASSY	MAIN(O/X.W/O TXT)	
			314-198B	GRILL	SPEAKER(CBT-9902/SGM4186)	
			315-455B	DOOR	CONTROL(V9902.SGM4186)	
			316-242A	WINDOW	DISPLAY CBT-9902	
			320-062H	SPRING	COIL	
			332-235A	SCREW	HEXAGON HEAD(W/RUBBER)	
			332-235C	SCREW	ASSY HEXAGON HEAD(W/HOLDER20"	
			334-102A	WASHER	PVC	
			341-184D	HOLDER	LEAD TWISTER	
			341-335A	HOLDER	METAL ASSY	
			341-596A	HOLDER	LED	
			371-765A	PACKING	TOP(CBT-9902/05)	
			371-764A	PACKING	BOTTOM(CBT-9902/05)	
			372-M12N	BOX	INNER CKT-9902 UPGRR	
			381-094C	SOCKET	CPT(PCS-6243.W/CAP	
			387-956P	CONNECTOR ASSY	ASSY.3P	
			407-074D	PLATE	CONTROL	
			410-552A	MARK	BRAND	
			413-718A	LABEL.ID	(YU60-JUS W ROK)	
			441-165B	BUTTON	POWER(V902-ABS.IG-175)	
			450-018C	ADAPTER	ANT.(300 TO 75) PAL	
			482-F82G	INSTRUCTIONS(OWNER'S MANUAL)	CKT-9902 UPGRR2	
			489-532K	KIT PRINTING	CKT-9902 UPGRR	
	C101		QCK1020K515	CAPACITOR.CERAMIC(HIGH DIELE)	1000PF 500V K B S	
	C102		QCE4756K618	CAPACITOR.ELECTROLYTIC	4.7MF SMS 50V M FM5 TP5	
	C103		QCE2256K618	CAPACITOR.ELECTROLYTIC	2.2MF SMS 50V M FM5 TP5	
	C104		QCE1076F618	CAPACITOR.ELECTROLYTIC	100MF SMS 16V M FM5 TP5	
	C105		QCC1500K415	CAPACITOR.CERAMIC(TEMP COMP)	15P 50V J M0 TP	

S	AL	LOCA.NO	PART NO(GSS)	DESCRIPTION	SPECIFICATION	REMARKS
		C106	QCE2256K618	CAPACITOR.ELECTROLYTIC	2.2MF SMS 50V M FM5 TP5	
		C108	QCE4766F618	CAPACITOR.ELECTROLYTIC	47MF SMS 16V M FM5 TP5	
		C109	QCK1030K945	CAPACITOR.CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		C163	QCK1030K945	CAPACITOR.CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		C164	QCK1030K945	CAPACITOR.CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		C165	QCK1030K945	CAPACITOR.CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		C166	QCE1066F618	CAPACITOR.ELECTROLYTIC	10MF SMS 16V M FM5 TP5	
		C167	QCE1066F618	CAPACITOR.ELECTROLYTIC	10MF SMS 16V M FM5 TP5	
		C168	QCE1066F618	CAPACITOR.ELECTROLYTIC	10MF SMS 16V M FM5 TP5	
		C169	QC01041N509	CAPACITOR POLYESTER(MYLAR)	0.1MF 100V L POLY TP	
		C170	QCE4756K618	CAPACITOR.ELECTROLYTIC	4.7MF SMS 50V M FM5 TP5	
		C171	QCE1076F618	CAPACITOR.ELECTROLYTIC	100MF SMS 16V M FM5 TP5	
		C201	QCE2066F618	CAPACITOR.ELECTROLYTIC	10MF SMS 50V M FM5 TP5	
		C202	QCE1066F618	CAPACITOR.ELECTROLYTIC	10MF SMS 16V M FM5 TP5	
		C203	QCE4756K618	CAPACITOR.ELECTROLYTIC	4.7MF SMS 50V M FM5 TP5	
		C204	QCE4756K618	CAPACITOR.ELECTROLYTIC	4.7MF SMS 50V M FM5 TP5	
		C206	QCE4756K618	CAPACITOR.ELECTROLYTIC	4.7MF SMS 50V M FM5 TP5	
		C209	QC01041N509	CAPACITOR POLYESTER(MYLAR)	0.1MF 100V L POLY TP	
		C210	QC01041N509	CAPACITOR POLYESTER(MYLAR)	0.1MF 100V L POLY TP	
		C211	QC01041N509	CAPACITOR POLYESTER(MYLAR)	0.1MF 100V L POLY TP	
		C213	QCE2256K618	CAPACITOR.ELECTROLYTIC	2.2MF SMS 50V M FM5 TP5	
		C214	QCE1066K618	CAPACITOR.ELECTROLYTIC	10MF SMS 50V M FM5 TP5	
		C215	QCE1056K618	CAPACITOR.ELECTROLYTIC	1.0MF SMS 50V M FM5 TP5	
		C216	QCC5610K405	CAPACITOR CERAMIC(TEMP COMP)	560P 50V J SL TS	
		C217	QC01031N509	CAPACITOR POLYESTER(MYLAR)	0.01U 100V K POLY TP	
		C218	QCK1030K945	CAPACITOR.CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		C301	181-221H	CAPACITOR.ELECTROLYTIC	1000MF 35V	
		C302	QCE1076A618	CAPACITOR.ELECTROLYTIC	100M SMS 35V M FM5(S) TP(S)	
		C303	QCE4756K618	CAPACITOR.ELECTROLYTIC	4.7MF SMS 50V M FM5 TP5	
		C304	QC0333N509	CAPACITOR POLYESTER(MYLAR)	0.033U 100V K POLY TP	
		C305	QCE4776H618	CAPACITOR.ELECTROLYTIC	470U SMS 25V M FM5 TP(S)	
		C306	QC01041N509	CAPACITOR POLYESTER(MYLAR)	0.1MF 100V L POLY TP	
		C307	QC01041N509	CAPACITOR POLYESTER(MYLAR)	0.1MF 100V L POLY TP	
		C308	QC01041N509	CAPACITOR POLYESTER(MYLAR)	0.1MF 100V L POLY TP	
		C309	181-032Z	CAPACITOR	TANTAL 35V 0.22MFX TAPING	
		C310	QC0223N509	CAPACITOR POLYESTER(MYLAR)	0.022MF 100V K POLY TP	
		C311	181-032Z	CAPACITOR	TANTAL 35V 0.22MFX TAPING	
		C312	QC01031N509	CAPACITOR POLYESTER(MYLAR)	0.01U 100V K POLY TP	
		C313	QC01031N501	CAPACITOR POLYESTER(MYLAR)	0.01U 100V K POLY F5	
		C402	QC01041N509	CAPACITOR POLYESTER(MYLAR)	0.1MF 100V L POLY TP	
		C403	QC04721N509	CAPACITOR POLYESTER(MYLAR)	0.0047U 100V K POLY TP	
		C404	QCE1076J618	CAPACITOR.ELECTROLYTIC	100M SMS 35V M FM(S) TP(S)	
		C405	181-131G	CAPACITOR	CAPACITOR MPP 1.6KV 0.0091MFJ	
		C406	QCE1051F618	CAPACITOR.ELECTROLYTIC	1MF SMS 160V M FM5 TPM	
		C407	181-128B	CAPACITOR.METAL POLYPROPYLENE	0.47MF 200V J	
		C408	181-444N	CAPACITOR.METALPOLYESTER	0.47MF 50V J TR	
		C409	QCE2246K618	CAPACITOR.ELECTROLYTIC	0.22M SMS 50V M FM5 TP(S)	
		C410	QC01031N509	CAPACITOR POLYESTER(MYLAR)	0.01U 100V K POLY TP	
		C411	QCE1066F618	CAPACITOR.ELECTROLYTIC	10MF SMS 16V M FM5 TP5	
		C412	QCE1066K618	CAPACITOR.ELECTROLYTIC	10MF SMS 50V M FM5 TP5	

S	AL	LOCA.NO	PART NO(GSS)	DESCRIPTION	SPECIFICATION	REMARKS
		C413	QCC101DK415	CAPACITOR.CERAMIC(TEMP COMP)	100P 50V J M0 TS	
		C414	QCE108A6F618	CAPACITOR.ELECTROLYTIC	1000M SMS16V M FM(S) TP(S)	
		C416	QCE1046K618	CAPACITOR.ELECTROLYTIC	0.1U SMS 50V M FM5 TP5	
		C417	QC0223N509	CAPACITOR POLYESTER(MYLAR)	0.022MF 100V K POLY TP	
		C418	QCK1030K945	CAPACITOR.CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		C419	181-095Q	CAPACITOR	PE 100V 0.01MFJ	
		C420	QC01041N509	CAPACITOR POLYESTER(MYLAR)	0.1MF 100V L POLY TP	
		C421	QC01041N509	CAPACITOR POLYESTER(MYLAR)	0.1MF 100V L POLY TP	
		C422	QCE1056K618	CAPACITOR.ELECTROLYTIC	1.0MF SMS 50V M FM5 TP5	
		C423	QCE107A618	CAPACITOR.ELECTROLYTIC	100M SMS 35V M FM(S) TP(S)	
		C424	QCK2710K515	CAPACITOR CERAMIC(HIGH DIELE)	270P 500V K B TS	
		C425	QC4766K618	CAPACITOR.ELECTROLYTIC	47M SMS 50V M FM5 TP(S)	
		C426	QCK2710K515	CAPACITOR CERAMIC(HIGH DIELE)	270P 500V K B TS	
		C427	QCE1086F618	CAPACITOR.ELECTROLYTIC	1000M SMS16V M FM(S) TP(S)	
		C428	QCK2710K515	CAPACITOR CERAMIC(HIGH DIELE)	270P 500V K B TS	
		C429	QC4766F618	CAPACITOR.ELECTROLYTIC	47MF SMS 16V M FM5 TP5	
		C430	181-059D	CAPACITOR	PP 200V 0.047MFJ	
		C431	QCE4751R618	CAPACITOR.ELECTROLYTIC	4.7M SM 250V M TP5	
		C432	QCK2710K515	CAPACITOR CERAMIC(HIGH DIELE)	270P 500V K B TS	
		C601	QCC4700K415	CAPACITOR CERAMIC(TEMP COMP)	47P 50V J M0 TP	
		C602	QC0223N509	CAPACITOR POLYESTER(MYLAR)	0.022MF 100V K POLY TP	
		C603	QCK1030K945	CAPACITOR CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		C604	QC0223N509	CAPACITOR POLYESTER(MYLAR)	0.022MF 100V K POLY TP	
		C606	QCK1030K945	CAPACITOR CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		C607	QCE4776F618	CAPACITOR.ELECTROLYTIC	470MF SMS 16V M FM5 TP5	
		C608	QC01031N509	CAPACITOR POLYESTER(MYLAR)	0.01U 100V K POLY TP	
		C609	QCC3310K405	CAPACITOR CERAMIC(TEMP COMP)	330P 50V J SL TS	
		C610	QCE1066F618	CAPACITOR.ELECTROLYTIC	10MF SMS 16V M FM5 TP5	
		C611	QCE4756K618	CAPACITOR.ELECTROLYTIC	4.7MF SMS 50V M FM5 TP5	
		C612	QC0223N509	CAPACITOR POLYESTER(MYLAR)	0.022MF 100V K POLY TP	
		C613	QCE1066N618	CAPACITOR.ELECTROLYTIC	10M SMS 25V M FM5 TP(S)	
		C614	QCE2256K618	CAPACITOR.ELECTROLYTIC	2.2MF SMS 50V M FM5 TP5	
		C615	QC01041N509	CAPACITOR POLYESTER(MYLAR)	0.1MF 100V L POLY TP	
		C616	QCE4776F618	CAPACITOR.ELECTROLYTIC	470MF SMS 16V M FM5 TP5	
		C617	181-221H	CAPACITOR.ELECTROLYTIC	1000MF 35V	
		C618	QCK1030K945	CAPACITOR CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		C620	QCE1B00K415	CAPACITOR CERAMIC(TEMP COMP)	18P 50V J M0 TP	
		C621	QCK1030K945	CAPACITOR CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		C622	QCC3310K405	CAPACITOR CERAMIC(TEMP COMP)	330P 50V J SL TS	
		C623	QCC1500K405	CAPACITOR CERAMIC(TEMP COMP)	150P 50V J SL TS	
		C624	QCK1030K945	CAPACITOR CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		C625	QCK1030K945	CAPACITOR CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		C626	QCE4746K618	CAPACITOR.ELECTROLYTIC	0.47MF SMS 50V M FM5 TP5	
		C627	QCC4710K405	CAPACITOR CERAMIC(TEMP COMP)	470P 50V J SL TP	
		C628	QCE1066K618	CAPACITOR.ELECTROLYTIC	10MF SMS 50V M FM5 TP5	
		C630	QCK1030K945	CAPACITOR CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		C701	QC01041N509	CAPACITOR POLYESTER(MYLAR)	0.1MF 100V L POLY TP	
		C702	QC01041N509	CAPACITOR POLYESTER(MYLAR)	0.1MF 100V L POLY TP	
		C703	QCC2710K405	CAPACITOR CERAMIC(TEMP COMP)	270P 50V J SL TP	
		C704	QCE1086F618	CAPACITOR.ELECTROLYTIC	1000M SMS16V M FM(S) TP(S)	

S	AL	LOCA.NO	PART NO(GSS)	DESCRIPTION	SPECIFICATION	REMARKS
		C705	QCK1030K945	CAPACITOR CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		C707	QCE3366F618	CAPACITOR.ELECTROLYTIC	33MF SMS 16V M FM5 TP5	
		C709	QCC2700K415	CAPACITOR CERAMIC(TEMP COMP)	27P 50V J M0 TP	
		C710	QC01031N509	CAPACITOR POLYESTER(MYLAR)	0.01U 100V K POLY TP	
		C711	QCE4756K618	CAPACITOR.ELECTROLYTIC	4.7MF SMS 50V M FM5 TP5	
		C712	QCE4756K618	CAPACITOR.ELECTROLYTIC	4.7MF SMS 50V M FM5 TP5	
		C713	QCE4756K618	CAPACITOR.ELECTROLYTIC	4.7MF SMS 50V M FM5 TP5	
		C714	QCE4746K618	CAPACITOR.ELECTROLYTIC	0.47MF SMS 50V M FM5 TP5	
		C715	QCE1066F618	CAPACITOR.ELECTROLYTIC	10MF SMS 16V M FM5 TP5	
		C716	QCE4756K618	CAPACITOR.ELECTROLYTIC	4.7MF SMS 50V M FM5 TP5	
		C717	QCK5610K515	CAPACITOR CERAMIC(HIGH DIELE)	560P 50V K B TS	
		C718	QCK1030K945	CAPACITOR CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		C719	QCK1030K945	CAPACITOR CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		C720	QCE1056K618	CAPACITOR.ELECTROLYTIC	1.0MF SMS 50V M FM5 TP5	
		C801P	QCE1066F618	CAPACITOR.ELECTROLYTIC	10MF SMS 16V M FM5 TP5	
		C801S	QC2710V515	CAPACITOR CERAMIC(HIGH DIELE)	270P 500V K B TS	
		C802P	QCC1500K415	CAPACITOR CERAMIC(TEMP COMP)	15P 50V J M0 TP	
		C802S	QC2710V515	CAPACITOR CERAMIC(HIGH DIELE)	270P 500V K B TS	
		C803P	QC4682I1N519	CAPACITOR POLYESTER(MYLAR)	0.0068U 100V K POLY NI TP	
		C803S	QC2710V515	CAPACITOR CERAMIC(HIGH DIELE)	270P 500V K B TS	
		C804P	181-059X	CAPACITOR	PE 100V 0.0082MFJ	
		C804S	QCE1086F618	CAPACITOR.ELECTROLYTIC	1000M SMS16V M FM(S) TP(S)	
		C805P	QCE1076F618	CAPACITOR.ELECTROLYTIC	100MF SMS 16V M FM5 TP5	
		C805S	QCE1076H618	CAPACITOR.ELECTROLYTIC	100M SMS 25V M FM5 TP(S)	
		C806P	181-131E	CAPACITOR	MPP 2KV 222J	
		C806S	QCE4761F61A	CAPACITOR.ELECTROLYTIC	47M SM 160V M TP7.5	
		C807P	QCE1066K618	CAPACITOR.ELECTROLYTIC	10MF SMS 50V M FM5 TP5	
		C807S	QCE3361P618	CAPACITOR.ELECTROLYTIC	330 SM 160V M TP5	
⚠		C808P	181-124A	CAPACITOR	CE (400V/120UF)	
		C808S	181-434L	CAPACITOR	CK45B3D222KY LEAD7.0 CERAMIC	
		C809P	QCK1020K515	CAPACITOR CERAMIC(HIGH DIELE)	1000PF 500V K B TS	
		C810P	QCK1020K515	CAPACITOR CERAMIC(HIGH DIELE)	1000PF 500V K B TS	
		C811P	QCK1020K515	CAPACITOR CERAMIC(HIGH DIELE)	1000PF 500V K B TS	
		C812P	QCK1020K515	CAPACITOR CERAMIC(HIGH DIELE)	1000PF 500V K B TS	
⚠		C816P	181-157A	CAPACITOR	ECK-DNS 222 MEX	
		C815P	QCE1056K618	CAPACITOR.ELECTROLYTIC	1.0MF SMS 50V M FM5 TP5	
		C816P	181-410A	CAPACITOR	ECK-DNS472MEX	
		C817P	QCC2710K405	CAPACITOR CERAMIC(TEMP COMP)	270P 50V J SL TP	
⚠		C851	181-408C	CAPACITOR	250V 0.47UF(153KRA)	
⚠		C852	181-408C	CAPACITOR	250V 0.47UF(153KRA)	
⚠		C853	181-093A	CAPACITOR	DE 7090B 102KVA 1MKC4-14	
		C901	QCC3010K400	CAPACITOR CERAMIC(TEMP COMP)	300P 50V J SL S	
		C902	QCC2710K400	CAPACITOR CERAMIC(TEMP COMP)	270P 50V J SL S	
		C903	QCC2710K400	CAPACITOR CERAMIC(TEMP COMP)	270P 50V J SL S	
		C904	QCE4766F618	CAPACITOR.ELECTROLYTIC	47MF SMS 16V M FM5 TP5	
		C905	QCK12202510	CAPACITOR.CERAMIC(HIGH DIELE)	1200P 2KV K B S	
		DL201	150-377I	COIL	Y-DELAY600NS/4.43TRAP)	
		DL501	175-013A	DELAY LINE	1H SD-11 PTD	
		D201	0DD414809ED	DIODE	(DSA148) TA	
		D204	0DD414809ED	DIODE	(DSA148) TA	

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S	AL	LOCA.NO	PART NO(GSS)	DESCRIPTION	SPECIFICATION	REMARKS
		D205	0DD414809ED	DIODE	(DS4148) TA	
		D206	0DD414809ED	DIODE	(DS4148) TA	
		D207	0DD414809ED	DIODE	(DS4148) TA	
		D208	0DD414809ED	DIODE	(DS4148) TA	
		D210	0DD414809ED	DIODE	(DS4148) TA	
		D301	0DD400509BA	DIODE	1N4003TA	
		D401	0DD400309BA	DIODE	1N4003TA	
		D402	0DD400309BA	DIODE	1N4003TA	
		D403	0DD150009CA	DIODE	RGP15J,TP(52MM).GI	
		D404	0DD100009BA	DIODE	R10J SYMBOL TP	
		D405	0DD100009BA	DIODE	R10J SYMBOL TP	
		D406	0DD100009AE	DIODE	RU-1A V	
		D407	0DD100009BA	DIODE	R10J SYMBOL TP	
		D601	0DD414809ED	DIODE	(DS4148) TA	
		D602	0DD414809ED	DIODE	(DS4148) TA	
		D603	0DD414809ED	DIODE	(DS4148) TA	
		D604	0DD414809ED	DIODE	(DS4148) TA	
		D702	0DD414809ED	DIODE	(DS4148) TA	
		D704	0DD414809ED	DIODE	(DS4148) TA	
		D705	0DD414809ED	DIODE	(DS4148) TA	
		D706	0DD414809ED	DIODE	(DS4148) TA	
		D707	0DD414809ED	DIODE	(DS4148) TA	
		D708	0DD414809ED	DIODE	(DS4148) TA	
		D709	0DD414809ED	DIODE	(DS4148) TA	
		D801P	0DD400509WA	DIODE	1N4005 GP TA	
		D801S	0DD100009BA	DIODE	R10J SYMBOL TP	
		D802P	0DD400509WA	DIODE	1N4005 GP TA	
		D802S	0DD100009BA	DIODE	R10J SYMBOL TP	
		D803P	0DD400509WA	DIODE	1N4005 GP TA	
		D803S	0DD300000EJ	DIODE	GUSC	
		D804P	0DD400509WA	DIODE	1N4005 GP TA	
		D805P	0DD100009BA	DIODE	R10J SYMBOL TP	
		D805S	0DD100009BA	DIODE	R10J SYMBOL TP	
		D806P	0DD100009BA	DIODE	R10J SYMBOL TP	
		D807P	0DD100009BA	DIODE	R10J SYMBOL TP	
		D808P	0DD100009BA	DIODE	R10J SYMBOL TP	
		D901	0DD414809ED	DIODE	(DS4148) TA	
		D902	0DD414809ED	DIODE	(DS4148) TA	
		D903	0DD414809ED	DIODE	(DS4148) TA	
⚠		FR401	0RF0101H600	RESISTOR FUSIBLE	1.0 1/2W 5 A	
⚠		FR402	0RF0101H600	RESISTOR FUSIBLE	1.0 1/2W 5 A	
⚠		FR404	180-305G	RESISTOR	FUSING 1W 1.5 OHM	
⚠		FR405	0RF0101H600	RESISTOR FUSIBLE	1.0 1/2W 5 A	
⚠		FR406	0RS1201J665	RESISTOR,FIX METAL FILM OXIDE	1.2K 1W 5 SF20	
⚠		FR407	0RS1000J665	RESISTOR,FIX METAL FILM OXIDE	100 1W 5 SF20	
⚠		FR428	180-305H	RESISTOR	FUSING 1/2W 1.2K	
⚠		FR612	0RF0561J607	RESISTOR FUSIBLE	5.60 1W SF TA62	
⚠		FR801S	0RF0101H600	RESISTOR FUSIBLE	1.0 1/2W 5 A	
⚠		FR802S	0RF0101H600	RESISTOR FUSIBLE	1.0 1/2W 5 A	
⚠		FR803S	0RF0470J765	RESISTOR FUSIBLE	0.47 1W 10 SF20	

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S	AL	LOCA.NO	PART NO(GSS)	DESCRIPTION	SPECIFICATION	REMARKS
		PC522	0CE4748K618	CAPACITOR,ELECTROLYTIC	0.47MF SMS 50V M FMS TP5	
		PC528	0CE4746F618	CAPACITOR,ELECTROLYTIC	47MF SMS 16V M FMS TP5	
		PD502	0DD414809ED	DIODE	(DS4148) TA	
		PI503	0DD414809ED	DIODE	(DS4148) TA	
		PIC501	01IT356000A	IC, TELEFUNKEN	TDA-3560-B(TPK)	
		PL501	0RD0561A609	RESISTOR,FIXED CARBON FILM	5.6 1/4W 5 TA52	
		PL502	0LA0102K119	INDUCTOR AXIAL LEAD	10UH K 2.3x5.4 TP	
		PL503	0LA0102K119	INDUCTOR AXIAL LEAD	10UH K 2.3x5.4 TP	
		PL504	150-163G	COIL	PWTR1X ADJ(PC07A)	
		PR501	0RG6803F609	RESISTOR,FIXED CARBON FILM	680K 1/6W 5 TA52	
		PR502	0RD2701F609	RESISTOR,FIXED CARBON FILM	2.7K 1/6W 5 TA52	
		PR503	0RD2200F609	RESISTOR,FIXED CARBON FILM	220 1/6W 5 TA52	
		PR504	0RD1002F609	RESISTOR,FIXED CARBON FILM	10K 1/6W 5 TA52	
		PR505	0RD2701F609	RESISTOR,FIXED CARBON FILM	2.7K 1/6W 5 TA52	
		PR506	0RD2701F609	RESISTOR,FIXED CARBON FILM	2.7K 1/6W 5 TA52	
		PR507	0RD2701F609	RESISTOR,FIXED CARBON FILM	2.7K 1/6W 5 TA52	
		PR508	0RD1001F609	RESISTOR,FIXED CARBON FILM	1.0K 1/6W 5 TA52	
		PR509	0RD1201F609	RESISTOR,FIXED CARBON FILM	1.2K 1/6W 5 TA52	
		PR510	0RD3900F609	RESISTOR,FIXED CARBON FILM	390 1/6W 5 TA52	
		PR511	0RD4700F609	RESISTOR,FIXED CARBON FILM	470 1/6W 5 TA52	
		PR512	0RD1001F609	RESISTOR,FIXED CARBON FILM	1.0K 1/6W 5 TA52	
		PR513	0RD5601F609	RESISTOR,FIXED CARBON FILM	5.6K 1/6W 5 TA52	
		PR514	0RD5601F609	RESISTOR,FIXED CARBON FILM	5.6K 1/6W 5 TA52	
		PR515	0RD3901F609	RESISTOR,FIXED CARBON FILM	3.9K 1/6W 5 TA52	
		PR516	0RD1002F609	RESISTOR,FIXED CARBON FILM	10K 1/6W 5 TA52	
		PTC501	181-169A	CAPACITOR	CAPACITOR TRIMMER 4.5P-20P	
		PVR501	180-451D	RESISTOR	EVN-DJAA03 B102 HORIZONTAL(TA	
		PVR502	180-451D	RESISTOR	EVN-DJAA03 B102 HORIZONTAL(TA	
		PX501	156-002E	OSCILLATOR	8.867238MHZ (TAPING)	
			312-258A	FRAME	MAIN CHASSIS (PC91A)	
		P201	381-090A	PERI-CON	ASSY,21PIN PERI-SOCKET	
		P701	140-306A	SWITCH	BLOCK,RKDPVAA10-SWX11(G/S)	
		Q161	0TR3197D9AB	TRANSISTOR	KTC3197,TP(KTC9884)	
		Q162	0TR3198D9AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q201	0TR3198D9AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q202	0TR3198D9AF	TRANSISTOR	KTC3198-0,TP(KTC1815),KEC	
		Q401	0TR2350D9AA	TRANSISTOR	KTC2350-Y, TP, KEC	
		Q402	0TR16510OAB	TRANSISTOR	2SD1651 (SANYO)	
		Q403	0TR3198D9AB	TRANSISTOR	KTC3198-TP-GR (KTC1815) KE	
		Q601	0TR3198D9AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q602	0TR3198D9AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q701	0TR3198D9AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q702	0TR3198D9AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q703	0TR3198D9AF	TRANSISTOR	KTC3198-0,TP(KTC1815),KEC	
		Q704	0TR3198D9AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q705	0TR3198D9AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q706	0TR3198D9AA	TRANSISTOR	KTC3198-TP-Y (KTC1815)KEC	
		Q707	0TR3198D9AF	TRANSISTOR	KTC3198-0,TP(KTC1815),KEC	
		Q708	0TR3198D9AF	TRANSISTOR	KTC3198-0,TP(KTC1815),KEC	
		Q709	0TR3198D9AF	TRANSISTOR	KTC3198-0,TP(KTC1815),KEC	

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S	AL	LOCA.NO	PART NO(GSS)	DESCRIPTION	SPECIFICATION	REMARKS
		F851	0F13151B513	FUSE TIME LAG	3.15A 250V 5.2X20 G SMK	
		IC101	01TF443900A	IC, TELEFUNKEN	TDA4439C(TPK)	
		IC201	01GS382000A	IC, GOLDSTAR ELECTRON	GL3820(A/V SWITCHING)	
		IC301	01TF117010A	IC, TELEFUNKEN	TDA1170N-A1(TPK)	
		IC401	01TF194000A	IC, TELEFUNKEN	TDA1940-A(TPK)	
		IC601	01TF120000A	IC, TELEFUNKEN	TBA120T-A (TPK)	
		IC602	01SG200600A	IC, SGS-THOMSON	TDA2006A,SOUND	
		IC701	01PH844600A	IC, PHILIPS	PCA 84C640	
		IC702	01XI24002OB	IC, XICOR	X24C02P-BD,EEPROM(2K,CMOS)	
		IC801	01SM460100A	IC, SIEMENS	TDA4601	
⚠		J77	0RD1002F609	RESISTOR,FIXED CARBON FILM	10K 1/6W 5 TA52	
		LD701	0DD000000BA	DIODE	LAMP(DIFFUSION TYPE)	
		L101	0LA0152K119	INDUCTOR AXIAL LEAD	150H K 2.3x5.4 TP	
		L102	150-813G	COIL	IFT(7MM)38.9MHZ,68PF	
		L103	150-813M	COIL	IFT(7MM)38.9MHZ,33PF	
		L104	0LA0102K119	INDUCTOR AXIAL LEAD	10UH K 2.3x5.4 TP	
		L105	0LA0152K119	INDUCTOR AXIAL LEAD	150H K 2.3x5.4 TP	
		L162	150-167D	COIL	CHOKE 1.0 UH	
		L201	0LA0152K119	INDUCTOR AXIAL LEAD	150H K 2.3x5.4 TP	
		L401	0LR6801J540	INDUCTOR RADIAL LEAD	680OH J AX7 F BULK	
		L402	150-224C	COIL	LINEAR1/2	
		L602	0LA0471K119	INDUCTOR AXIAL LEAD	4.7UH K 2.3x5.4 TP	
		L622	0LA0561K119	INDUCTOR AXIAL LEAD	5.6UH K 2.3x5.4 TP	
		L701	0LA0152K119	INDUCTOR AXIAL LEAD	150H K 2.3x5.4 TP	
		L801P	0LA0223K119	INDUCTOR AXIAL LEAD	2.2UH K 2.3x5.4 TP	
		L802P	0LA0470K119	INDUCTOR AXIAL LEAD	0.47UH K 2.3x5.4 TP	
		L804S	150-235E	COIL	HOR.CHOKE 1MH(1A)	
		L851	150-670B	COIL	LINE FILTER(70MH)	
		PA1	106-042B	PRE-AMP	VOL.RC-37V1	
		PC501	0CE3376F618	CAPACITOR,ELECTROLYTIC	330M SMS 16V M FMS TP5	
		PC502	0CK1030K945	CAPACITOR,CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		PC503	181-032I	CAPACITOR,TANTAL	1.0MF 25V K TAPING	
		PC504	0CK1030K945	CAPACITOR,CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		PC505	0CC3300K415	CAPACITOR,CERAMIC(TEMP COMP)	33P 50V J NPO TP	
		PC506	0CC8200K415	CAPACITOR,CERAMIC(TEMP COMP)	82P 50V J NPO TP	
		PC507	0CC1210K415	CAPACITOR,CERAMIC(TEMP COMP)	1200 50V J NPO TP	
		PC508	0CE4746K618	CAPACITOR,ELECTROLYTIC	0.47MF SMS 50V M FMS TP5	
		PC509	0CE2256K618	CAPACITOR,ELECTROLYTIC	2.2MF SMS 50V M FMS TP5	
		PC510	0CE4746K618	CAPACITOR,ELECTROLYTIC	0.47MF SMS 50V M FMS TP5	
		PC511	0CE4746F618	CAPACITOR,ELECTROLYTIC	47MF SMS 16V M FMS TP5	
		PC512	0CQ104IN509	CAPACITOR POLYESTER(MYLAR)	0.1MF 100V L POLY TP	
		PC513	0CE4756K618	CAPACITOR,ELECTROLYTIC	4.7MF SMS 50V M FMS TP5	
		PC514	0CE1056K618	CAPACITOR,ELECTROLYTIC	1.0MF SMS 50V M FMS TP5	
		PC515	0CE1056K618	CAPACITOR,ELECTROLYTIC	1.0MF SMS 50V M FMS TP5	
		PC516	0CE1056K618	CAPACITOR,ELECTROLYTIC	1.0MF SMS 50V M FMS TP5	
		PC517	0RD3301F609	RESISTOR,FIXED CARBON FILM	3.3K 1/6W 5 TA52	
		PC518	0CQ103IN509	CAPACITOR POLYESTER(MYLAR)	0.01U 100V K POLY TP	
		PC519	0CQ154IN501	CAPACITOR POLYESTER(MYLAR)	0.15U 100V K POLY P5	
		PC520	0CE2256K618	CAPACITOR,ELECTROLYTIC	2.2MF SMS 50V M FMS TP5	
		PC521	0CQ104IN509	CAPACITOR POLYESTER(MYLAR)	0.1MF 100V L POLY TP	

MODEL : SCK1990Z UPGRR2 BUYER NAME : ELECTRONUM RUN-DATE : 92.01.29

S	AL	LOCA.NO	PART NO(GSS)	DESCRIPTION	SPECIFICATION	REMARKS
		Q710	0TR12660NAC	TRANSISTOR	KTA1266-0,TP(KTA1015),KEC	
		Q711	0TR12660NAC	TRANSISTOR	KTA1266-0,TP(KTA1015),KEC	
		Q712	0TR12660NAC	TRANSISTOR	KTA1266-0,TP(KTA1015),KEC	
		Q713	0TR3202O9WA	TRANSISTOR	KTC3202-TP-Y (KTC1959)KEC	
		Q714	0TR12660J9WA	TRANSISTOR	KTA1266-TP-Y (KTA1015) KEC	
⚠		Q801P	0TR1555O0AA	TRANSISTOR	KTD 1555	
		Q801S	0TR3202O9WA	TRANSISTOR	KTC3202-TP-Y (KTC1959)KEC	
		Q901	0TR2068O0BA	TRANSISTOR	KTC2068,KEC	
		Q902	0TR2068O0BA	TRANSISTOR	KTC2068,KEC	
		Q903	0TR2068O0BA	TRANSISTOR	KTC2068,KEC	
		RD710	0DD414809ED	DIODE	(DS4148) TA	
		RL801	141-018A	RELAY	D612JI-0(M)	
		R102	0RD1002F609	RESISTOR,FIXED CARBON FILM	100 1/6W 5 TA52	
		R104	0RD5601F609	RESISTOR,FIXED CARBON FILM	5.6K 1/6W 5 TA52	
		R105	0RD3301F609	RESISTOR,FIXED CARBON FILM	3.3K 1/6W 5 TA52	
		R106	0RD7500F609	RESISTOR,FIXED CARBON FILM	750 1/6W 5 TA52	
		R107	0RD1001F609	RESISTOR,FIXED CARBON FILM	1.0K 1/6W 5 TA52	
		R108	0RD2702F609	RESISTOR,FIXED CARBON FILM	27K 1/6W 5 TA52	
		R109	0RD2702F609	RESISTOR,FIXED CARBON FILM	27K 1/6W 5 TA52	
		R110	0RD2200F609	RESISTOR,FIXED CARBON FILM	220 1/6W 5 TA52	
		R111	0RD2701F609	RESISTOR,FIXED CARBON FILM	2.7K 1/6W 5 TA52	
		R161	0RD1002F609	RESISTOR,FIXED CARBON FILM	10K 1/6W 5 TA52	
		R162	0RD1802F609	RESISTOR,FIXED CARBON FILM	18 1/6W 5 TA52	
		R163	0RD4701F609	RESISTOR,FIXED CARBON FILM	4.7K 1/6W 5 TA52	
		R164	0RD6800F609	RESISTOR,FIXED CARBON FILM	680 1/6W 5 TA52	
		R165	0RD1802F609	RESISTOR,FIXED CARBON FILM	18 1/6W 5 TA52	
		R166	0RD4700F609	RESISTOR,FIXED CARBON FILM	470 1/6W 5 TA52	
		R167	0RD2200F609	RESISTOR,FIXED CARBON FILM	220 1/6W 5 TA52	
		R168	0RD2702F609	RESISTOR,FIXED CARBON FILM	27K 1/6W 5 TA52	
		R169	0RD2702F609	RESISTOR,FIXED CARBON FILM	27K 1/6W 5 TA52	
		R171	0RD5601F609	RESISTOR,FIXED CARBON FILM	5.6K 1/6W 5 TA52	
		R173	0RD4704F609	RESISTOR,FIXED CARBON FILM	4.7M 1/6W 5 TA52	
		R175	0RD4704F609	RESISTOR,FIXED CARBON FILM	4.7M 1/6W 5 TA52	
		R201	0RD1201F609	RESISTOR,FIXED CARBON FILM	1.2K 1/6W 5 TA52	
		R202	0RD4701F609	RESISTOR,FIXED CARBON FILM	4.7K 1/6W 5 TA52	
		R203	0RD1200F609	RESISTOR,FIXED CARBON FILM	120 1/6W 5 TA52	
		R205	0RD5601F609	RESISTOR,FIXED CARBON FILM	5.6K 1/6W 5 TA52	
		R207	0RD1002F609	RESISTOR,FIXED CARBON FILM	10K 1/6W 5 TA52	
		R209	0RD2202F609	RESISTOR,FIXED CARBON FILM	22K 1/6W 5 TA52	
		R210	0RD1002F609	RESISTOR,FIXED CARBON FILM	10K 1/6W 5 TA52	
		R211	0RD1002F609	RESISTOR,FIXED CARBON FILM	10K 1/6W 5 TA52	
		R212	0RD1501F609	RESISTOR,FIXED CARBON FILM	1.5K 1/6W 5 TA52	
		R214	0RD1001F609	RESISTOR,FIXED CARBON FILM	1.0K 1/6W 5 TA52	
		R215	0RD5100F609	RESISTOR,FIXED CARBON FILM	510 1/6W 5 TA52	
		R218	0RD3300F609	RESISTOR,FIXED CARBON FILM	330 1/6W 5 TA52	
		R219	0RD4701F609	RESISTOR,FIXED CARBON FILM	4.7K 1/6W 5 TA52	
		R220	0RD1800F609	RESISTOR,FIXED CARBON FILM	180 1/6W 5 TA52	
		R221	0RD1800F609	RESISTOR,FIXED CARBON FILM	180 1/6W 5 TA52	
		R222	0RD1800F609	RESISTOR,FIXED CARBON FILM	180 1/6W 5 TA52	
		R225	0RD0752F609	RESISTOR,FIXED CARBON FILM	75 1/6W 5 TA52	

S	ALT	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		R226	ORD202F609	RESISTOR,FIXED CARBON FILM	22K 1/6W 5 TAS2	
		R227	ORD203F609	RESISTOR,FIXED CARBON FILM	200K 1/6W 5 TAS2	
		R228	ORD470Z609	RESISTOR,FIXED CARBON FILM	47K 1/6W 5 TAS2	
		R229	ORD100Z609	RESISTOR,FIXED CARBON FILM	10K 1/6W 5 TAS2	
		R230	ORD150Z609	RESISTOR,FIXED CARBON FILM	15K 1/6W 5 TAS2	
		R301	ORN4702F609	RESISTOR,FIX METAL FILM	47K 1/6W 5 TAS2	
		R302	ORD560Z609	RESISTOR,FIXED CARBON FILM	56K 1/6W 5 TAS2	
		R303	ORD150Z609	RESISTOR,FIXED CARBON FILM	15K 1/6W 5 TAS2	
		R304	ORD470DH609	RESISTOR,FIXED CARBON FILM	470 1/2W 5 TAS2	
		R305	ORN8201F609	RESISTOR,FIX METAL FILM	8.2K 1/6W 5 TAS2	
		R306	ORD100Z609	RESISTOR,FIXED CARBON FILM	10K 1/6W 5 TAS2	
		R307	ORD150I6609	RESISTOR,FIXED CARBON FILM	1.5K 1/4W 5 TAS2	
		R308	ORN0151H609	RESISTOR,FIX METAL FILM	1.5 1/2W 5 TAS2	
		R309	ORD120IH609	RESISTOR,FIXED CARBON FILM	1.2K 1/2W 5 TAS2	
		R310	ORD240JF609	RESISTOR,FIXED CARBON FILM	240K 1/6W 5 TAS2	
		R311	ORD910Z609	RESISTOR,FIXED CARBON FILM	91K 1/6W 5 TAS2	
		R312	ORD270IF609	RESISTOR,FIXED CARBON FILM	2.7K 1/6W 5 TAS2	
		R313	ORD223SF609	RESISTOR,FIXED CARBON FILM	220K 1/6W 5 TAS2	
		R314	ORD683SF609	RESISTOR,FIXED CARBON FILM	680K 1/6W 5 TAS2	
		R315	ORD390Z609	RESISTOR,FIXED CARBON FILM	39K 1/6W 5 TAS2	
		R316	ORD560I609	RESISTOR,FIXED CARBON FILM	5.6K 1/6W 5 TAS2	
		R320	ORS0102J665	RESISTOR,FIX METAL FILM OXIDE	10 1W 5 SF20	
		R401	ORD560Q609	RESISTOR,FIXED CARBON FILM	560 1/4W 5 TAS2	
		R402	ORD560F609	RESISTOR,FIXED CARBON FILM	560 1/6W 5 TAS2	
		R403	ORD120IF609	RESISTOR,FIXED CARBON FILM	1.2K 1/6W 5 TAS2	
		R404	ORD682S609	RESISTOR,FIXED CARBON FILM	68 1/4W 5 TAS2	
		R405	ORD680F609	RESISTOR,FIXED CARBON FILM	680 1/6W 5 TAS2	
		R406	ORS1000J665	RESISTOR,FIX METAL FILM OXIDE	100 1W 5 SF20	
		R409	ORD220SF609	RESISTOR,FIXED CARBON FILM	220K 1/6W 5 TAS2	
		R410	ORD330IF609	RESISTOR,FIXED CARBON FILM	3.3K 1/6W 5 TAS2	
		R411	ORD150Z609	RESISTOR,FIXED CARBON FILM	15K 1/6W 5 TAS2	
		R412	ORD330IF609	RESISTOR,FIXED CARBON FILM	3.3K 1/6W 5 TAS2	
		R413	ORD470Z609	RESISTOR,FIXED CARBON FILM	47K 1/6W 5 TAS2	
		R414	ORD470Z609	RESISTOR,FIXED CARBON FILM	47K 1/6W 5 TAS2	
		R415	ORD100OF609	RESISTOR,FIXED CARBON FILM	100 1/6W 5 TAS2	
		R416	ORD100IF609	RESISTOR,FIXED CARBON FILM	1.0K 1/6W 5 TAS2	
		R419	ORD390IF609	RESISTOR,FIXED CARBON FILM	3.9K 1/6W 5 TAS2	
		R420	ORD100SF609	RESISTOR,FIXED CARBON FILM	100K 1/6W 5 TAS2	
		R421	ORD910Z609	RESISTOR,FIXED CARBON FILM	91K 1/6W 5 TAS2	
		R422	ORN120Z609	RESISTOR,FIX METAL FILM	12K 1/6W 5 TAS2	
		R423	ORD820Z609	RESISTOR,FIXED CARBON FILM	82K 1/6W 5 TAS2	
		R424	ORD150AF609	RESISTOR,FIXED CARBON FILM	1.5M 1/6W 5 TAS2	
		R425	ORD330Z609	RESISTOR,FIXED CARBON FILM	33K 1/6W 5 TAS2	
		R426	ORD100IF609	RESISTOR,FIXED CARBON FILM	1.0K 1/6W 5 TAS2	
		R427	ORNQ271J665	RESISTOR,FIX METAL FILM	2.7 1W 5 SF20	
		R429	ORD750Z609	RESISTOR,FIXED CARBON FILM	75K 1/6W 5 TAS2	
		R430	ORD100SF609	RESISTOR,FIXED CARBON FILM	100K 1/6W 5 TAS2	
		R432	ORD680IF609	RESISTOR,FIXED CARBON FILM	6.8K 1/6W 5 TAS2	
		R433	ORD100SF609	RESISTOR,FIXED CARBON FILM	100K 1/6W 5 TAS2	
		R434	ORD560IF609	RESISTOR,FIXED CARBON FILM	5.6K 1/6W 5 TAS2	

S	ALT	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		R727	ORD180DF609	RESISTOR,FIXED CARBON FILM	180 1/6W 5 TAS2	
		R728	ORD100IF609	RESISTOR,FIXED CARBON FILM	1.0K 1/6W 5 TAS2	
		R729	ORD820IF609	RESISTOR,FIXED CARBON FILM	8.2K 1/6W 5 TAS2	
		R730	ORD150Z609	RESISTOR,FIXED CARBON FILM	15K 1/6W 5 TAS2	
		R731	ORD100SF609	RESISTOR,FIXED CARBON FILM	100K 1/6W 5 TAS2	
		R732	ORD100Z609	RESISTOR,FIXED CARBON FILM	10K 1/6W 5 TAS2	
		R733	ORD560IF609	RESISTOR,FIXED CARBON FILM	5.6K 1/6W 5 TAS2	
		R734	ORD100Z609	RESISTOR,FIXED CARBON FILM	10K 1/6W 5 TAS2	
		R735	ORD100Z609	RESISTOR,FIXED CARBON FILM	10K 1/6W 5 TAS2	
		R736	ORD100Z609	RESISTOR,FIXED CARBON FILM	10K 1/6W 5 TAS2	
		R737	ORD680IF609	RESISTOR,FIXED CARBON FILM	6.8K 1/6W 5 TAS2	
		R738	ORD120IF609	RESISTOR,FIXED CARBON FILM	1.2K 1/6W 5 TAS2	
		R739	ORD100IF609	RESISTOR,FIXED CARBON FILM	1.0K 1/6W 5 TAS2	
		R740	ORD220OF609	RESISTOR,FIXED CARBON FILM	220 1/6W 5 TAS2	
		R741	ORD620Z609	RESISTOR,FIXED CARBON FILM	62K 1/6W 5 TAS2	
		R742	ORD300IF609	RESISTOR,FIXED CARBON FILM	3.0K 1/6W 5 TAS2	
		R743	ORD150IF609	RESISTOR,FIXED CARBON FILM	1.5K 1/6W 5 TAS2	
		R744	ORD120IF609	RESISTOR,FIXED CARBON FILM	1.2K 1/6W 5 TAS2	
		R745	ORD100IF609	RESISTOR,FIXED CARBON FILM	1.0K 1/6W 5 TAS2	
		R746	ORD180ZF509	RESISTOR,FIXED CARBON FILM	18K 1/6W 2 TAS2	
		R747	ORD270IF609	RESISTOR,FIXED CARBON FILM	2.7K 1/6W 5 TAS2	
		R748	ORD750IF609	RESISTOR,FIXED CARBON FILM	7.5K 1/6W 5 TAS2	
		R749	ORD100IF609	RESISTOR,FIXED CARBON FILM	1.0K 1/6W 5 TAS2	
		R750	ORD330Z609	RESISTOR,FIXED CARBON FILM	33K 1/6W 5 TAS2	
		R751	ORD330Z609	RESISTOR,FIXED CARBON FILM	33K 1/6W 5 TAS2	
		R752	ORD150Z609	RESISTOR,FIXED CARBON FILM	15K 1/6W 5 TAS2	
		R753	ORD220IF609	RESISTOR,FIXED CARBON FILM	2.2K 1/6W 5 TAS2	
		R754	ORD120ZF609	RESISTOR,FIXED CARBON FILM	12K 1/6W 5 TAS2	
		R755	ORD100Z609	RESISTOR,FIXED CARBON FILM	10K 1/6W 5 TAS2	
		R756	ORD470IF609	RESISTOR,FIXED CARBON FILM	4.7K 1/6W 5 TAS2	
		R757	ORD180IF609	RESISTOR,FIXED CARBON FILM	1.8K 1/6W 5 TAS2	
		R758	ORD100Z609	RESISTOR,FIXED CARBON FILM	10K 1/6W 5 TAS2	
		R759	ORD180DG609	RESISTOR,FIXED CARBON FILM	180 1/4W 5 TAS2	
		R760	ORD820DG609	RESISTOR,FIXED CARBON FILM	820 1/4W 5 TAS2	
		R761	ORD270IG609	RESISTOR,FIXED CARBON FILM	2.7K 1/4W 5 TAS2	
		R762	ORD470Z609	RESISTOR,FIXED CARBON FILM	47K 1/6W 5 TAS2	
		R763	ORD680DF609	RESISTOR,FIXED CARBON FILM	680 1/6W 5 TAS2	
		R764	ORD680DF609	RESISTOR,FIXED CARBON FILM	680 1/6W 5 TAS2	
		R765	ORD680DF609	RESISTOR,FIXED CARBON FILM	680 1/6W 5 TAS2	
		R766	ORD330DF609	RESISTOR,FIXED CARBON FILM	330 1/6W 5 TAS2	
		R767	ORD270ZF609	RESISTOR,FIXED CARBON FILM	27K 1/6W 2 TAS2	
		R768	ORD220DG609	RESISTOR,FIXED CARBON FILM	220 1/4W 5 TAS2	
		R770	ORD820DF609	RESISTOR,FIXED CARBON FILM	820 1/6W 5 TAS2	
		R772	ORD220IF609	RESISTOR,FIXED CARBON FILM	2.2K 1/6W 5 TAS2	
		R775	ODD4148D9ED	DIODE	(DS4148) TA	
		R801P	ORD220DF609	RESISTOR,FIXED CARBON FILM	220 1/6W 5 TAS2	
		R802P	ORD120IF609	RESISTOR,FIXED CARBON FILM	1.2K 1/6W 5 TAS2	
		R802S	ORD100ZF609	RESISTOR,FIXED CARBON FILM	10K 1/6W 2 TAS2	
		R803P	ORD100ZF609	RESISTOR,FIXED CARBON FILM	10K 1/6W 2 TAS2	
		R804P	ORD150ZF609	RESISTOR,FIXED CARBON FILM	15K 1/6W 2 TAS2	

S	ALT	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		R435	ORD820ZF609	RESISTOR,FIXED CARBON FILM	82K 1/6W 5 TAS2	
		R436	ORD150IF609	RESISTOR,FIXED CARBON FILM	1.5K 1/6W 5 TAS2	
		R437	ORNQ271J665	RESISTOR,FIX METAL FILM	2.7 1W 5 SF20	
		R438	ORD820ZF609	RESISTOR,FIXED CARBON FILM	82K 1/6W 5 TAS2	
		R601	ORD010ZF609	RESISTOR,FIXED CARBON FILM	10 1/6W 5 TAS2	
		R602	ORD750IF609	RESISTOR,FIXED CARBON FILM	7.5K 1/6W 5 TAS2	
		R603	ORD680IF609	RESISTOR,FIXED CARBON FILM	680 1/6W 5 TAS2	
		R604	ORD390ZF609	RESISTOR,FIXED CARBON FILM	39K 1/6W 5 TAS2	
		R605	ORD820IF609	RESISTOR,FIXED CARBON FILM	8.2K 1/6W 5 TAS2	
		R606	ORD100SF609	RESISTOR,FIXED CARBON FILM	100K 1/6W 5 TAS2	
		R607	ORD100SF609	RESISTOR,FIXED CARBON FILM	100K 1/6W 5 TAS2	
		R608	ORD100IF609	RESISTOR,FIXED CARBON FILM	1.0K 1/6W 5 TAS2	
		R609	ORD560ZF609	RESISTOR,FIXED CARBON FILM	56K 1/6W 5 TAS2	
		R610	ORD010IF609	RESISTOR,FIXED CARBON FILM	1.0 1/6W 5 TAS2	
		R611	ORD110SF609	RESISTOR,FIXED CARBON FILM	110K 1/6W 5 TAS2	
		R613	ORD680ZF609	RESISTOR,FIXED CARBON FILM	68K 1/6W 5 TAS2	
		R614	ORD680IF609	RESISTOR,FIXED CARBON FILM	6.8K 1/6W 5 TAS2	
		R615	ORD180ZF609	RESISTOR,FIXED CARBON FILM	18K 1/6W 5 TAS2	
		R616	ORD100OF609	RESISTOR,FIXED CARBON FILM	100 1/6W 5 TAS2	
		R617	ORD100SF609	RESISTOR,FIXED CARBON FILM	100K 1/6W 5 TAS2	
		R618	ORD100ZF609	RESISTOR,FIXED CARBON FILM	10K 1/6W 5 TAS2	
		R619	ORD560IF609	RESISTOR,FIXED CARBON FILM	5.6K 1/6W 5 TAS2	
		R620	ORD200IF609	RESISTOR,FIXED CARBON FILM	2.0K 1/6W 5 TAS2	
		R621	ORD100IF609	RESISTOR,FIXED CARBON FILM	1.0K 1/6W 5 TAS2	
		R622	ORD100OF609	RESISTOR,FIXED CARBON FILM	100 1/6W 5 TAS2	
		R623	ORD150IG609	RESISTOR,FIXED CARBON FILM	1.5K 1/4W 5 TAS2	
		R701	ORD560IF609	RESISTOR,FIXED CARBON FILM	5.6K 1/6W 5 TAS2	
		R702	ORD560IF609	RESISTOR,FIXED CARBON FILM	5.6K 1/6W 5 TAS2	
		R703	ORD560IF609	RESISTOR,FIXED CARBON FILM	5.6K 1/6W 5 TAS2	
		R704	ORD560IF609	RESISTOR,FIXED CARBON FILM	5.6K 1/6W 5 TAS2	
		R705	ORD560IF609	RESISTOR,FIXED CARBON FILM	5.6K 1/6W 5 TAS2	
		R706	ORD560IF609	RESISTOR,FIXED CARBON FILM	5.6K 1/6W 5 TAS2	
		R707	ORD330ZF609	RESISTOR,FIXED CARBON FILM	33K 1/6W 5 TAS2	
		R708	ORD330ZF609	RESISTOR,FIXED CARBON FILM	33K 1/6W 5 TAS2	
		R709	ORD330ZF609	RESISTOR,FIXED CARBON FILM	33K 1/6W 5 TAS2	
		R710	ORD560ZF609	RESISTOR,FIXED CARBON FILM	56K 1/6W 5 TAS2	
		R711	ORD560ZF609	RESISTOR,FIXED CARBON FILM	56K 1/6W 5 TAS2	
		R712	ORD560ZF609	RESISTOR,FIXED CARBON FILM	56K 1/6W 5 TAS2	
		R713	ORD150ZF609	RESISTOR,FIXED CARBON FILM	15K 1/6W 5 TAS2	
		R714	ORD100SF609	RESISTOR,FIXED CARBON FILM	100K 1/6W 5 TAS2	
		R715	ORD390ZF609	RESISTOR,FIXED CARBON FILM	39K 1/6W 5 TAS2	
		R716	ORD270ZF609	RESISTOR,FIXED CARBON FILM	27K 1/6W 5 TAS2	
		R717	ORD680IF609	RESISTOR,FIXED CARBON FILM	6.8K 1/6W 5 TAS2	
		R718	ORD220IF609	RESISTOR,FIXED CARBON FILM	2.2K 1/6W 5 TAS2	
		R719	ORD100IF609	RESISTOR,FIXED CARBON FILM	1.0K 1/6W 5 TAS2	
		R720	ORD100OF609	RESISTOR,FIXED CARBON FILM	100 1/6W 5 TAS2	
		R721	ORD100OF609	RESISTOR,FIXED CARBON FILM	100 1/6W 5 TAS2	
		R723	ORD680ZF609	RESISTOR,FIXED CARBON FILM	68K 1/6W 5 TAS2	
		R725	ORD120IF609	RESISTOR,FIXED CARBON FILM	1.2K 1/6W 5 TAS2	
		R726	ORD100SF609	RESISTOR,FIXED CARBON FILM	100K 1/6W 5 TAS2	

S	ALT	LOCA.NO	PART NO(GS)	DESCRIPTION	SPECIFICATION	REMARKS
		R8045	ODD4148D9ED	DIODE	(DS4148) TA	
		R8045	ORS3901F609	RESISTOR,FIX METAL FILM OXIDE	3.9K 1/6W 5 TAS2	
		R8059	ORS2403J665	RESISTOR,FIX METAL FILM OXIDE	240K 1W 5 SF20	
		R8079	ORS0822J665	RESISTOR,FIX METAL FILM OXIDE	82 1W 5 SF20	
		R808P	ORN0686D609	RESISTOR,FIX METAL FILM	0.68 1/6W 5 TAS2	
		R809P	180-142E	RESISTOR	CEMENT 8WF 5W 180 OHM	
		R810P	ORD682Z609	RESISTOR,FIXED CARBON FILM	68 1/6W 5 TAS2	
		R811P	ORS150Z1667	RESISTOR,FIX METAL FILM OXIDE	15K 3W 5 SF30	
		R811S	ORS150OK600	RESISTOR,FIX METAL FILM OXIDE	150 2W 5 A	
		R812P	180-142F	RESISTOR	CEMENT 8WF 5W 2.2J	
⚠		R813P	180-142B	RESISTOR	1/2W 6F 4.7KOHM K(UL)	
		R814P	ORD100SF609	RESISTOR,FIXED CARBON FILM	100K 1/6W 5 TAS2	
		R815P	ORD300Z609	RESISTOR,FIXED CARBON FILM	30K 1/6W 5 TAS2	
		R816P	ORD300Z609	RESISTOR,FIXED CARBON FILM	30K 1/6W 5 TAS2	
		R817P	ORD018Z609	RESISTOR,FIXED CARBON FILM	18 1/6W 5 TAS2	
		R8806P	ORS2403J665	RESISTOR,FIX METAL FILM OXIDE	240K 1W 5 SF20	
		R901	ORD100OG609	RESISTOR,FIXED CARBON FILM	100 1/4W 5 TAS2	
		R902	ORD100OG609	RESISTOR,FIXED CARBON FILM	100 1/4W 5 TAS2	
		R903	ORD100OG609	RESISTOR,FIXED CARBON FILM	100 1/4W 5 TAS2	
		R904	ORS100Z2J665	RESISTOR,FIX METAL FILM OXIDE	10K 1W 5 SF20	
		R905	ORS100Z2J665	RESISTOR,FIX METAL FILM OXIDE	10K 1W 5 SF20	
		R906	ORS100Z2J665	RESISTOR,FIX METAL FILM OXIDE	10K 1W 5 SF20	
		R907	ORD270IN609	RESISTOR,FIXED CARBON FILM	2.7K 1/2W 5 TAS2	
		R908	ORD270IN609	RESISTOR,FIXED CARBON FILM	2.7K 1/2W 5 TAS2	
		R909	ORD270IN609	RESISTOR,FIXED CARBON FILM	2.7K 1/2W 5 TAS2	
		R910	ORD180IG609	RESISTOR,FIXED CARBON FILM	1.8K 1/4W 5 TAS2	
		R911	ORD180IG609	RESISTOR,FIXED CARBON FILM	1.8K 1/4W 5 TAS2	
		R912	ORD180IG609	RESISTOR,FIXED CARBON FILM	1.8K 1/4W 5 TAS2	
		R913	ORD390OG609	RESISTOR,FIXED CARBON FILM	39Ω 1/4W 5 TAS2	
		R914	ORD390OG609	RESISTOR,FIXED CARBON FILM	39Ω 1/4W 5 TAS2	
		R915	ORD390OG609	RESISTOR,FIXED CARBON FILM	39Ω 1/4W 5 TAS2	
		R916	ORD180OG609	RESISTOR,FIXED CARBON FILM	180 1/4W 5 TAS2	
		R917	ORD100OG609	RESISTOR,FIXED CARBON FILM	100 1/4W 5 TAS2	
		R921	ORD100OG609	RESISTOR,FIXED CARBON FILM	100 1/4W 5 TAS2	
		R922	ORD100OG609	RESISTOR,FIXED CARBON FILM	100 1/4W 5 TAS2	
		R923	ORD100OG609	RESISTOR,FIXED CARBON FILM	100 1/4W 5 TAS2	
		SC501	OCE475A6618	CAPACITOR,ELECTROLYTIC	4.7MF 10V M FMS TP5	
		SC502	OCK5003K945	CAPACITOR,CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		SC503	OCK103N509	CAPACITOR-POLYESTER(MYLAR)	0.01U 100V K POLY TP	
		SC504	OCC5000K415	CAPACITOR,CERAMIC(TEMP COMP)	50P 50V J NPO TP	
		SC505	OCE476A6618	CAPACITOR,ELECTROLYTIC	47MF 5M5 16V M FMS TP5	
		SC506	OCK1030K945	CAPACITOR,CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		SC507	OCC1010K405	CAPACITOR,CERAMIC(TEMP COMP)	100P 50V J SL TS	
		SC508	OCE225A6618	CAPACITOR,ELECTROLYTIC	2.2MF 5M5 50V M FMS TP5	
		SC509	OCK1030K945	CAPACITOR,CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		SC510	OCK1030K945	CAPACITOR,CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		SC511	OCC5610K405	CAPACITOR,CERAMIC(TEMP COMP)	560P 50V J SL TS	
		SC512	OCK1030K945	CAPACITOR,CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		SC514	OCK1030K945	CAPACITOR,CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		SC515	OCK1030K945	CAPACITOR,CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	

<REPLACEMENT PARTS LIST>

MODEL : SCKT9902 UPGRR2 BUYER NAME : ELECTROHOM RUN-DATE : 92.01.29

S	ALT	LOCA.NO	PART NO(GSY)	DESCRIPTION	SPECIFICATION	REMARKS
		SCS16	QCE1086F618	CAPACITOR.ELECTROLYTIC	1000M SMS16V M FM(5) TP(5)	
		SCS17	QCK1030K945	CAPACITOR.CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		SCS18	QCC2710K405	CAPACITOR CERAMIC(TEMP COMP)	270P 50V J SL TP	
		SCS19	QCC3010K405	CAPACITOR CERAMIC(TEMP.COMP)	300P 50V J SL TS	
		SCS20	QCK1030K945	CAPACITOR.CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		SCS21	QCE1056K618	CAPACITOR.ELECTROLYTIC	1.0MF SMS 50V M FMS TP5	
		SCS23	QCC3010K405	CAPACITOR CERAMIC(TEMP.COMP)	300P 50V J SL TS	
		SCS24	QC41041N509	CAPACITOR POLYESTER(MYLAR)	0.1MF 100V L POLY TP	
		SCS25	QC41041N509	CAPACITOR POLYESTER(MYLAR)	0.1MF 100V L POLY TP	
		SCS26	QCK1030K945	CAPACITOR.CERAMIC(HIGH DIELE)	0.01MF 50V Z F TS	
		SCS29	QCE4756K618	CAPACITOR.ELECTROLYTIC	4.7MF SMS 50V M FMS TP5	
		SIC501	01MA56330A	IC: MATSUSHITA	AN5633(ONLY.)	
		SL501	150-489B	COIL	SEGAM BELL FILTER	
		SL503	QLA0102K119	INDUCTOR AXIAL LEAD	10UH K 2.3x3.4 TP	
		SL506	150-489D	COIL	SEGAM DEM.	
		SR501	QRD2201F609	RESISTOR.FIXED CARBON FILM	2.2K 1/6W 5 TA52	
		SR502	QRD5600G609	RESISTOR.FIXED CARBON FILM	560 1/4W 5 TA52	
		SR503	QRD822F609	RESISTOR.FIXED CARBON FILM	82K 1/6W 5 TA52	
		SR504	QRD4700F609	RESISTOR.FIXED CARBON FILM	470 1/6W 5 TA52	
		SR505	QRD5602F609	RESISTOR.FIXED CARBON FILM	56K 1/6W 5 TA52	
		SR506	QRD2702F609	RESISTOR.FIXED CARBON FILM	27K 1/6W 5 TA52	
		SR507	QRD3302F609	RESISTOR.FIXED CARBON FILM	33K 1/6W 5 TA52	
		SR508	QRD2201F609	RESISTOR.FIXED CARBON FILM	2.2K 1/6W 5 TA52	
		SR509	QRD2200F609	RESISTOR.FIXED CARBON FILM	220 1/6W 5 TA52	
		SR510	QRD2201F609	RESISTOR.FIXED CARBON FILM	2.2K 1/6W 5 TA52	
		SVR501	180-451C	RESISTOR	EVN-DJAA03 B501 HORIZONTAL<TA	
		SW301	140-111A	SWITCH	SVC P12121	
⚠		SW851	140-278C	SWITCH	MAIN.MESC(TV-S)	
⚠		TH851	163-012A	THERMISTOR	PTC.PTH451A102BG180M290	
		TUNER	113-105K	TUNER	CER1A-707B(ALPS).PAL B/G	
		T401	151-587A	TRANSFORMER	H.DRIVE	
⚠		T402	154-177J	FBT	FCC(29A177J-19SP3	
⚠		T801	151-425A	TRANSFORMER	SMPS PC04A (FOIL)	
		VR101	180-428G	RESISTOR	SEMI VR EVN-D4A A01 B5.0KOHM	
		VR301	180-434L	RESISTOR	VZ068TLT B104 HORIZONTAL(TA)	
		VR302	180-434L	RESISTOR	VZ068TLT B104 HORIZONTAL(TA)	
		VR303	QRV1503D230	VARIABLE RESISTOR.CARBON FILM	50K 6 ST P3 L2.5 5	
		VR401	180-451H	RESISTOR	EVN-DJAA03 B103 HORIZONTAL<TA	
		VR402	180-451H	RESISTOR	EVN-DJAA03 B103 HORIZONTAL<TA	
		VR701	180-451E	RESISTOR	EVN-DJAA03 B202 HORIZONTAL<TA	
		VR801	180-451G	RESISTOR	EVN-DJAA03 B502 HORIZONTAL<TA	
		VR901	180-428G	RESISTOR	SEMI VR EVN-D4A A01 B5.0KOHM	
		VR902	180-428G	RESISTOR	SEMI VR EVN-D4A A01 B5.0KOHM	
		VR903	180-428G	RESISTOR	SEMI VR EVN-D4A A01 B5.0KOHM	
		VR904	180-428C	RESISTOR	SEMI VR EVN-D4A A01 B500 OHM	
		VR905	180-428C	RESISTOR	SEMI VR EVN-D4A A01 B500 OHM	
		X401	166-015B	FILTER	CSB500E	
		X701	156-007L	OSCILLATOR	X-TAL 10.000MHZ	
		ZDMB0T	0QZ5600099AA	DIODE ZENER	MTZ5.6B.TP(52MM).ROHM	
		ZD401	0QZ3300099BA	DIODE ZENER	ZENER HZ133 TAPING	

<REPLACEMENT PARTS LIST>

MODEL : SCKT9902 UPGRR2 BUYER NAME : ELECTROHOM RUN-DATE : 92.01.29

S	ALT	LOCA.NO	PART NO(GSY)	DESCRIPTION	SPECIFICATION	REMARKS
		ZD402	0QZ7500099AA	DIODE ZENER	MTZ7.5B.TP(52MM).ROHM	
		ZD701	0QZ5600099AA	DIODE ZENER	MTZ5.6B.TP(52MM).ROHM	
		ZD730	0QZ5600099AA	DIODE ZENER	MTZ5.6B.TP(52MM).ROHM	
		ZF101	166-227A	FILTER	SAW FILTER K2950	
		Z101	166-031B	FILTER	CERAMIC TPS 5.5MB	
		Z102	166-031E	FILTER	TPS 6.5MB	
		Z601	166-126D	FILTER	CDA 6.0MC24B	
		Z602	166-002E	FILTER	SFE 6.0MBF	
		Z603	166-002D	FILTER	CERAMIC SFE 5.5MB	
		Z604	166-002F	FILTER	SFE 6.5MBF	
				*** END OF DATA ***		