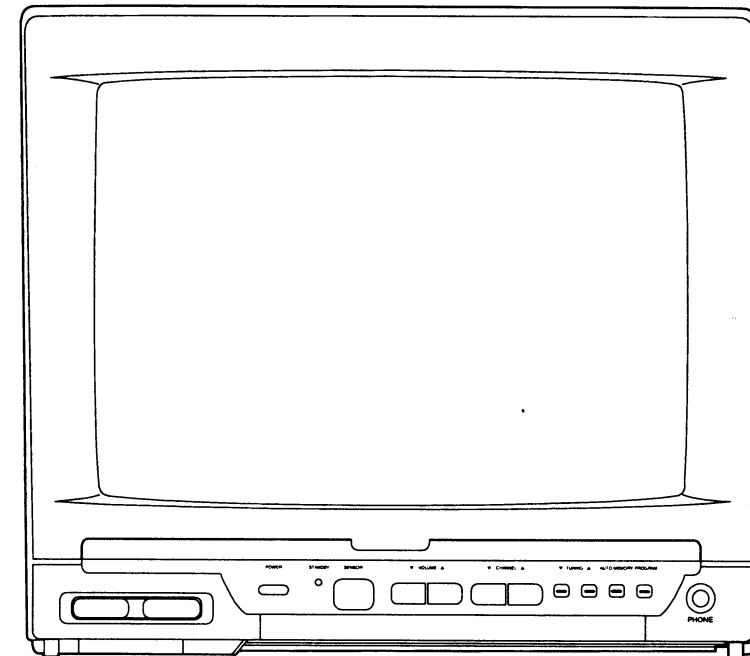




# SERVICE MANUAL

**14" COLOR TELEVISION  
with TELETEXT**

**TV-1400T MK8**



IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

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GENERAL SPECIFICATIONS \*

Feature and Specifications

|                                          |                                                                                                               |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Color System:                            | PAL - B/G,<br>SECAM - B/G, D/K<br>NTSC 3.58/4.43MHz<br>(Video Playback)                                       |
| Tuning System:                           | Voltage Synthesized                                                                                           |
| Receivable Channels:<br>(OIRT + CCIR ch) | VHF-L; R1~R5 /<br>E2~E4 ch (X~S1)<br>VHF-H; R6~R12<br>E5~E12 ch (S2~S20)<br>UHF; 21~69<br>CATV(OSCAR Channel) |
| Number of Preset:                        | Up to 57                                                                                                      |
| Antenna Impedance:                       | UHF/VHF 75Ω, Unbalanced                                                                                       |
| Picture Tube:                            | 14", Tinted                                                                                                   |
| Picture Control:                         | Color, Brightness, Contrast<br>Game(ON/OFF), Sharp/Soft                                                       |
| Picture Control<br>Memory:               | Standard Select                                                                                               |
| Speaker:                                 | 77mm Round Type, 8Ω                                                                                           |
| Output Power:                            | 3W                                                                                                            |
| Other Features:                          | Automatic Channel Preset<br>Automatic Degaussing                                                              |
| Power Source:                            | 220~240V, 50Hz AC                                                                                             |
| Power Consumption:                       | 68W                                                                                                           |
| Cabinet Size:                            | 362(W) x 327(H) x 354(D)mm                                                                                    |
| Weight:                                  | 8.5kg                                                                                                         |
| Regurations:                             | IEC-65 / GOST Passable                                                                                        |

Control and Switches

|                              |                                                                                                                                                                                                                                                                                                |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power:                       | Push (Front)                                                                                                                                                                                                                                                                                   |
| Channel Up/Down:             | Push (Front)                                                                                                                                                                                                                                                                                   |
| Volume Up/Down:              | Push (Front)                                                                                                                                                                                                                                                                                   |
| Tuning Up/Down:              | Push (Front)                                                                                                                                                                                                                                                                                   |
| Program:                     | Push (Front)                                                                                                                                                                                                                                                                                   |
| Auto Memo / Band:            | Push (Front)                                                                                                                                                                                                                                                                                   |
| Remote Control:<br>(31 keys) | Standby, 0/AV, 1~9, Cannel Up /<br>Page Up, Channel Down / Page<br>Down, Mute, Display, Previous<br>Picture Select<br>(Bright / Contrast / Color /<br>Video Mode)<br>Control / Volume Up/Down<br>Text/Mix, Reveal, Hold, Expand,<br>Update, Subcode, Index, Red,<br>Green, Yellow, Cyan, Sleep |

Display

|                    |                                                                                                                                                      |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| LED Indicator:     | Standby (Power ON, LED OFF)<br>* When turning on the power button stand-by<br>LED is put off.                                                        |
| On Screen Display: | Channel<br>Volume<br>Game ON-OFF<br>Brightness<br>Color<br>Contrast<br>Sharp-Soft<br>Sleep Timer (10~90 Minute)<br>Tuning Indicator<br>Band Position |

Jack and Terminals

|                  |            |
|------------------|------------|
| UHF/VHF Antenna: | IEC (75Ω)  |
| Video In:        | RCA        |
| Audio In:        | RCA - 2P   |
| Earphone:        | 3.5m/m CES |

Accessories

|                     |               |
|---------------------|---------------|
| Remote Control Unit |               |
| Battery:            | (R6, UM3 x 2) |
| Owner's Manual      |               |
| Rod Antenna         |               |

\* Specifications are subject to change  
without notice.

PERFORMANCE SPECIFICATIONS

<Tuner>

VHF/UHF Input: 75Ω Unbalanced, IEC connector  
Reference Level: 20Vp-p (CRT Green Cathode)  
Input Signal: 400Hz, 30%AM

| Description                          | Condition | Unit | Nominal   | Limit |
|--------------------------------------|-----------|------|-----------|-------|
| 1. Intermediate Frequency            | Picture   | MHz  | 38.0      | —     |
|                                      | Sound     | MHz  | 31.5(D/K) | —     |
|                                      | Sound     | MHz  | 32.5(B/G) | —     |
| 2. Peak Picture Sens.                | VHF       | dBμV | 20        | 30    |
|                                      | UHF       | dBμV | 20        | 40    |
| 3. AFT Pull In Range<br>(10mV Input) |           | MHz  | +1.5      | +1.0  |
|                                      |           | MHz  | -0.7      | -0.5  |

<Deflection>

| Description             | Condition              | Unit | Nominal | Limit |
|-------------------------|------------------------|------|---------|-------|
| 1. Deflection Frequency | Horizontal (PAL/SECAM) | KHz  | 15.625  | —     |
|                         | (NTSC)                 | KHz  | 15.750  | —     |
|                         | Vertical (PAL/SECAM)   | Hz   | 50      | —     |
|                         | (NTSC)                 | Hz   | 60      | —     |
| 2. Linearity            | Horizontal             | %    | —       | 15    |
|                         | Vertical               | %    | —       | 10    |
| 3. High Voltage         |                        | KV   | 23      | —     |
| 4. Over Scan            | Horizontal             | %    | 10      | —     |
|                         | Vertical               | %    | 10      | —     |

<Video & Chroma>

| Description          | Condition  | Unit | Nominal     | Limit |
|----------------------|------------|------|-------------|-------|
| 1. Misconvergence    | Center     | mm   | —           | 0.4   |
|                      | Side       | mm   | —           | 2.0   |
|                      | Corner     | mm   | —           | 1.5   |
| 2. Brightness        | APL100%    | Ft-L | 45          | 35    |
| 3. Color Temperature |            | °K   | 8000-10MPCD | —     |
| 4. Resolution        | Horizontal | Line | 300         | —     |
|                      | Vertical   | Line | 300         | —     |

<Audio>

All items are measured across 8Ω load at speaker output terminal.

| Description                 | Condition | Unit | Nominal | Limit |
|-----------------------------|-----------|------|---------|-------|
| 1. Audio Output Power       | 10%THD    | W    | 3.0     | 2.5   |
| 2. Audio Distortion         | 50mW      | %    | 2       | 5     |
| 3. Audio Frequency Response | -6dB      | Hz   | 55-8.0K | —     |

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Safety Precautions for TV Circuit

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

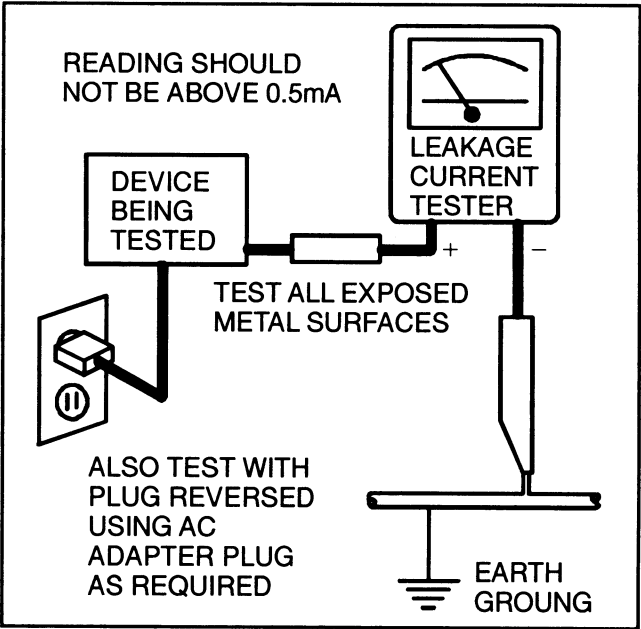
a. Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience.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

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

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

Repeat this test with the instrument AC switch in the off position.

d. **Leakage Current Hot Check** - With the instrument completely reassembled, plug the AC line cord directly into a AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester. With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milliampere. Reverse the instrument power cord plug in the outlet and repeat the test.



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

**e. X-Radiation and High Voltage Limits -** Because the picture tube is the primary potential source of X-radiation in solid-state TV receivers, it is specially constructed to prohibit X-radiation emissions. For continued X-radiation protection, the replacement picture tube must be the same type as the original. Also, because the picture tube shields and mounting hardware perform an X-radiation protection function, they must be correctly in place. High voltage must be measured each time servicing is performed that involves B+, horizontal deflection or high voltage. Correct operation of the X-radiation protection circuits also must be reconfirmed each time they are serviced. (X-radiation protection circuits also may be called "horizontal disable" or "hold down.") Read and apply the high voltage limits and, if the chassis is so equipped, the X-radiation protection circuit specifications given on instrument labels and in the Product Safety & X-Radiation Warning note on the service data chassis schematic. High voltage is maintained within specified limits by close tolerance safety-related components/adjustments in the high-voltage circuit. If high voltage exceeds specified limits, check each component specified on the chassis schematic and take corrective action.

**2.** Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.

**3. Design Alteration Warning -** Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.

**4. Picture Tube Implosion Protection Warning -** The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle

the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; because of potential hazard, do not try to remove such "permanently attached" yokes from the picture tube.

#### **5. Hot Chassis Warning -**

a. Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and may be safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, \*remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.

b. Some TV receiver chassis have a circuit which obtain voltage about 70% of AC voltage between chassis and earth ground regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.

c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.

**Note:** \* In case unit has no polarity AC plug only.

**6.** Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a. near sharp edges, b. near thermally hot parts-be sure that leads and components do not touch thermally hot parts, c. the AC supply, d. high voltage, and e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.

**7.** Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.

**8. Product Safety Notice -** Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual

inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc.. Parts that have special safety characteristics are identified by a (  $\triangle$  ) on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The Product's Safety is under review continu-

### **Precautions during Servicing**

- A.** Parts identified by the (  $\triangle$  ) symbol are critical for safety.  
Replace only with part number specified.
- B.** In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.  
Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.
- C.** Use specified internal wiring. Note especially:
- 1) Wires covered with PVC tubing
  - 2) Double insulated wires
  - 3) High voltage leads
- D.** Use specified insulating materials for hazardous live parts. Note especially:
- 1) Insulation Tape
  - 2) PVC tubing
  - 3) Spacers
  - 4) Insulators for transistors.
- E.** When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.
- F.** Observe that the wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)
- G.** Check that replaced wires do not contact sharp edged or pointed parts.

ously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are strictly inspected to confirm with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

- H.** When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.
- I.** Also check areas surrounding repaired locations.
- J.** Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.
- K.** Crimp type wire connector  
When replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, in order to prevent shock hazards, perform carefully and precisely the following steps.  
Replacement procedure
- 1) Remove the old connector by cutting the wires at a point close to the connector.
- Important: Do not re-use a connector (discard it).
- 2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.
  - 3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.
  - 4) Use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.
- L.** When connecting or disconnecting the VCR connectors, first, disconnect the AC plug from AC supply socket.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1 : Ratings for selected area

| AC Line Voltage | Region    | Clearance Distance (d) (d') |
|-----------------|-----------|-----------------------------|
| 200 to 240 V    | Europe    | ≥ 4mm (d)                   |
|                 | Australia | ≥ 6mm (d')                  |

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

2. Leakage Current Test

Confirm specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

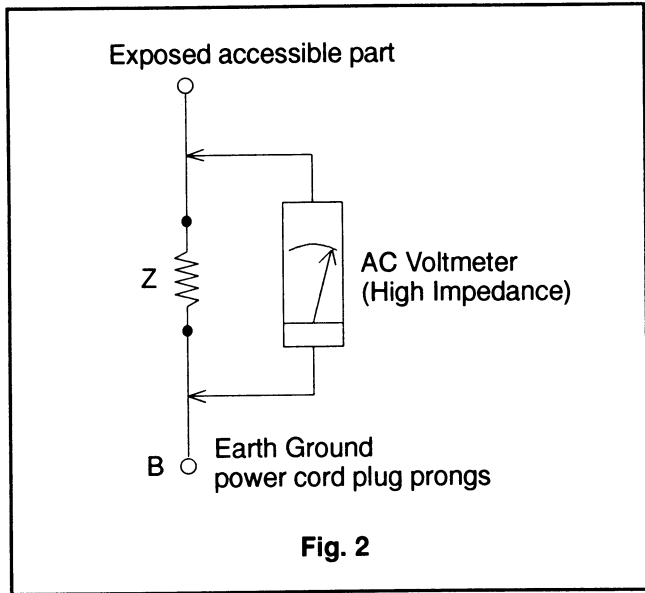
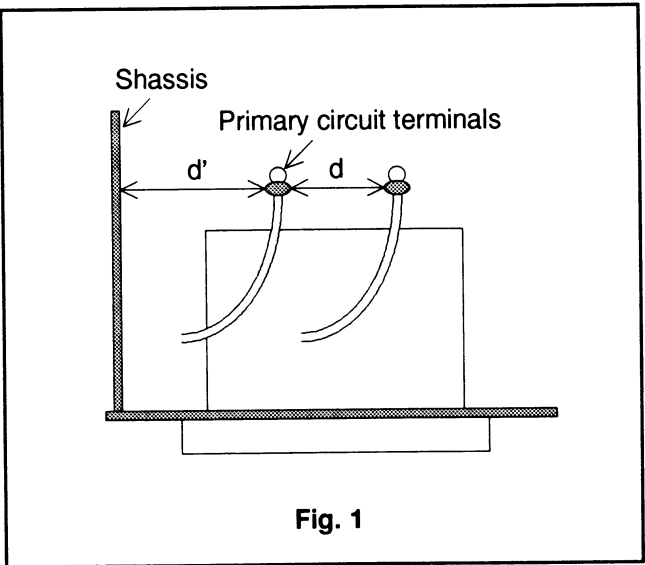
Measuring Method : (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig. 2 and following table.

Table 2 : Leakage current ratings for selected areas

| AC Line Voltage | Region              | Load Z                    | Leakage Current (i)     | Earth Ground (B) to: |
|-----------------|---------------------|---------------------------|-------------------------|----------------------|
| 200 to 240 V    | Europe<br>Australia | 2kΩ RES.<br>in connected  | i≤0.7mA rms<br>i≤2mA dc | Antenna terminals    |
|                 |                     | 50kΩ RES.<br>in connected | i≤0.7mA rms<br>i≤2mA dc | Other terminals      |

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

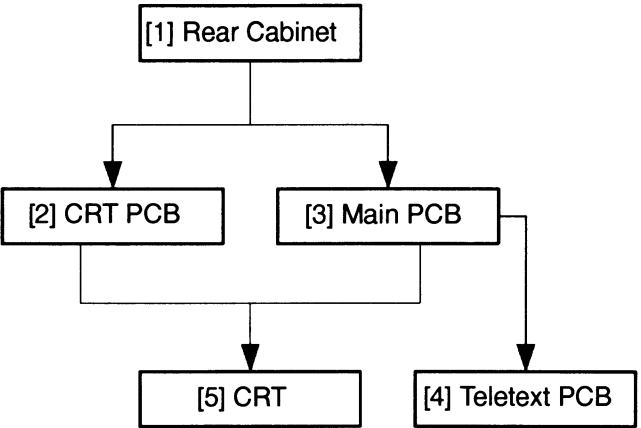


DISASSEMBLY INSTRUCTIONS

1. Disassembly Flow Chart

This flow chart indicates the disassembly steps of the cabinet parts and PCB in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in the reverse order. Bend, route and dress the cables as they were originally.

CAUTION ! : When removing the CRT, make sure to discharge Anode Lead of the CRT. Use the CRT Ground Wire to discharge the CRT before removing the Anode Cap.



2. Disassembly Method

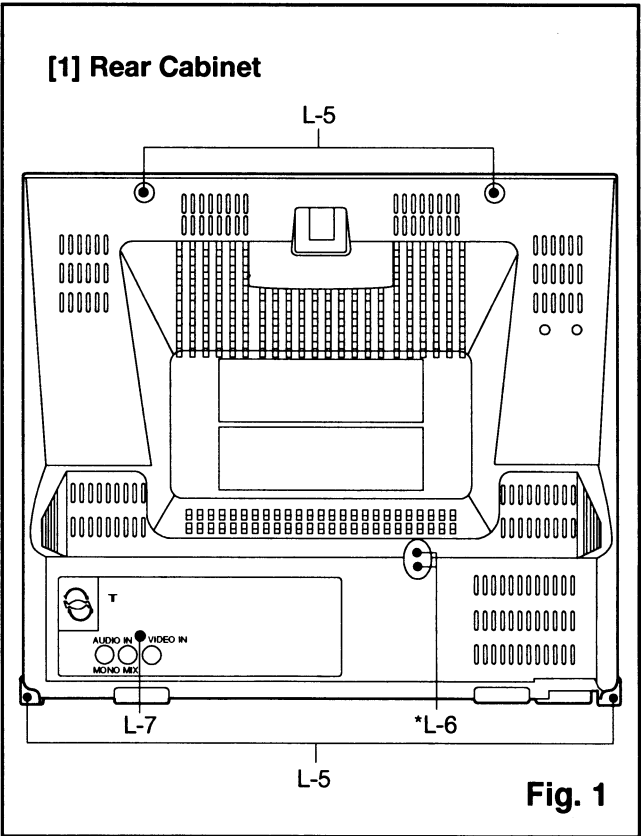
| STEP/LOC. NO. | PART         | REMOVAL  |                                                                                |      |
|---------------|--------------|----------|--------------------------------------------------------------------------------|------|
|               |              | FIG. NO. | REMOVE/*UNLOCK/RELEASE/UNPLUG/UNCLAMP/DESOLDER                                 | NOTE |
| [1]           | Rear Cabinet | 1, 2     | L-5 (4pcs), L-6, L-7                                                           | 1    |
| [2]           | CRT PCB      | 4, 5     | CN451B, CN452B, CN453, FOCUS WIRE, SCREEN WIRE                                 | 2    |
| [3]           | Main PCB     | 3, 5     | CN451A, CN452A, CN501, CN601, CN801, CN802, ANODE CAP, FOCUS WIRE, SCREEN WIRE | 3    |
| [4]           | Teletext PCB | 3        | CN951, CN952                                                                   | 4    |
| [5]           | CRT          | 4, 5     | B-2 (4pcs)                                                                     | 5    |

Reference <Notes> in Table

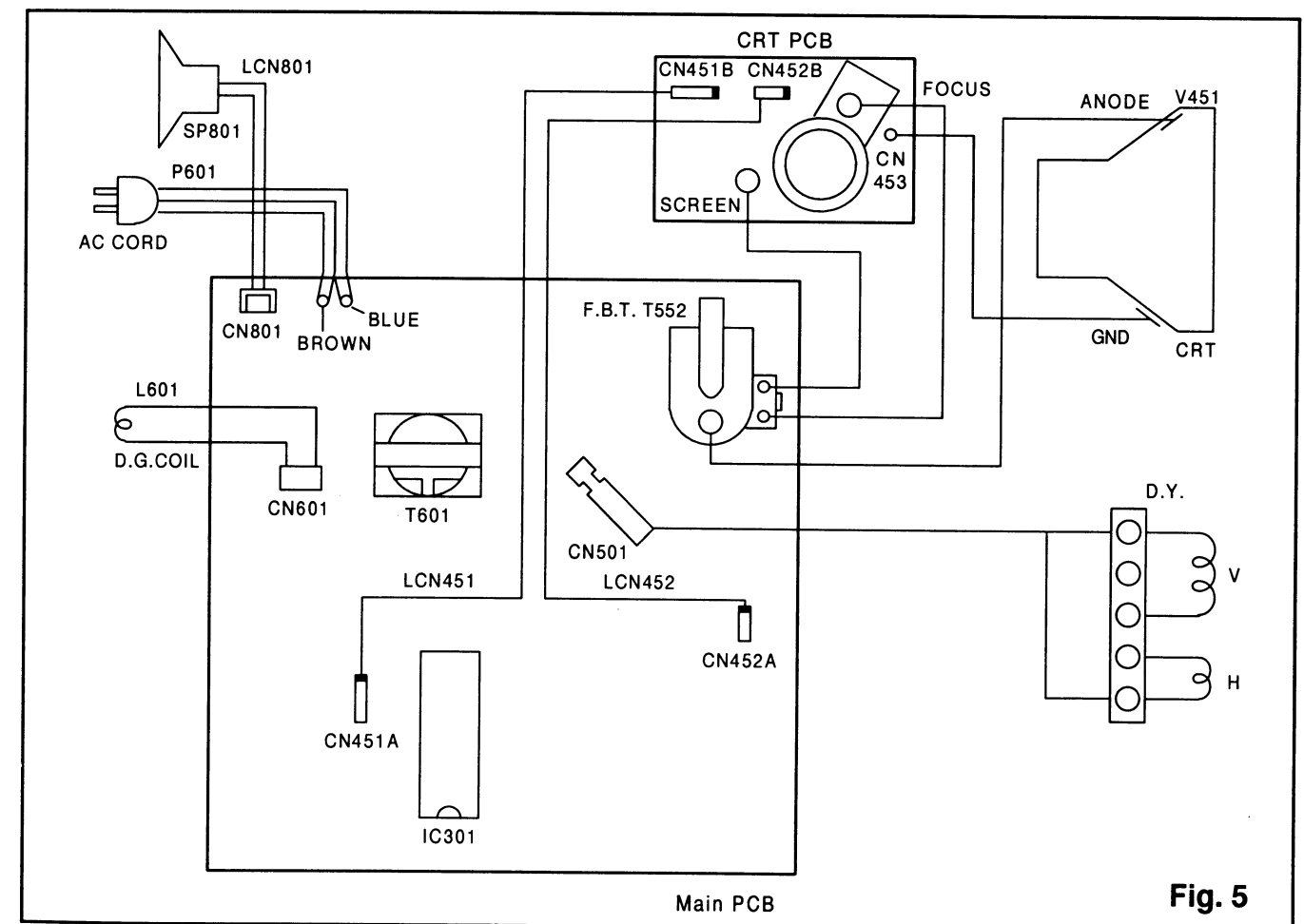
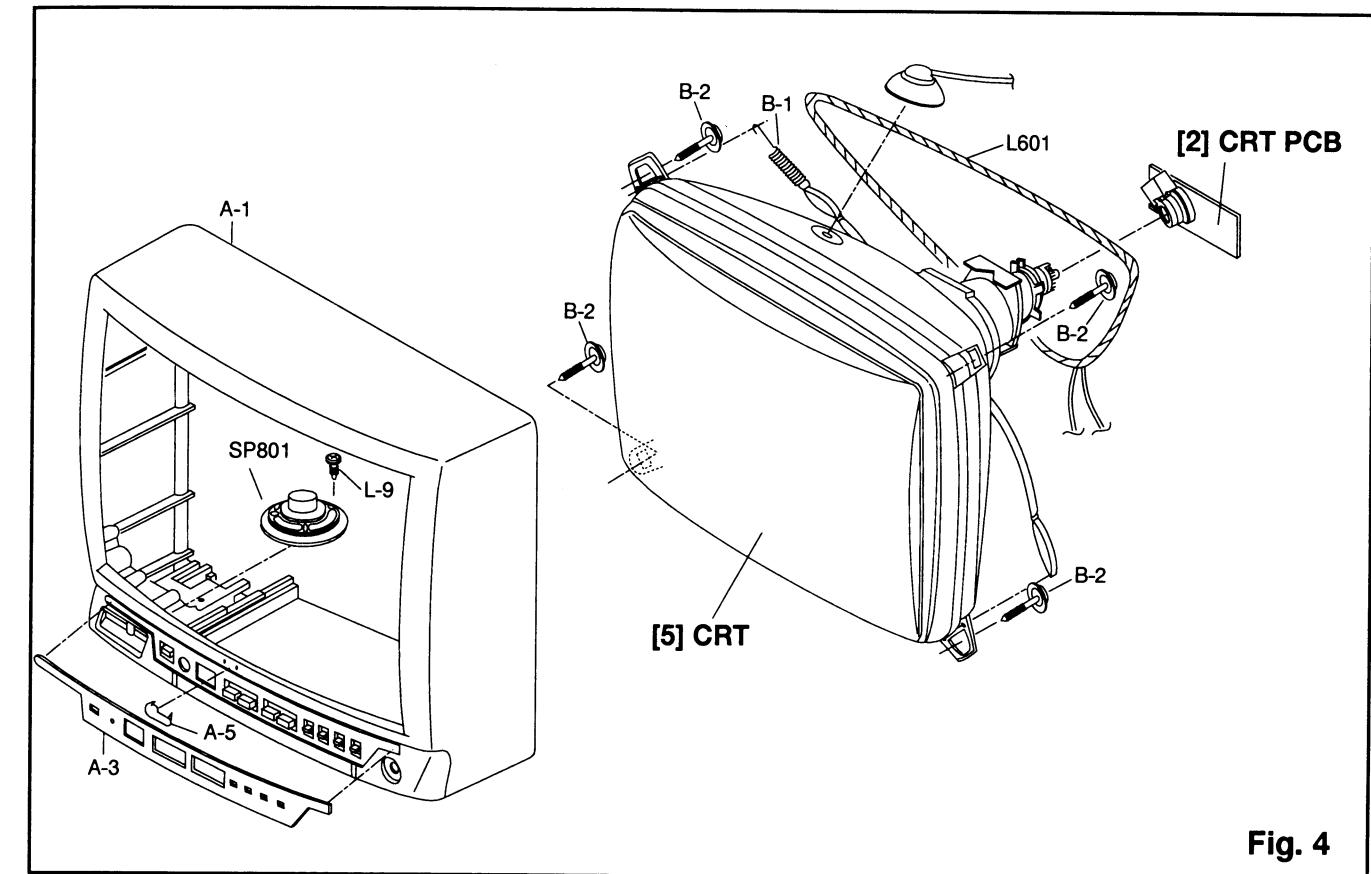
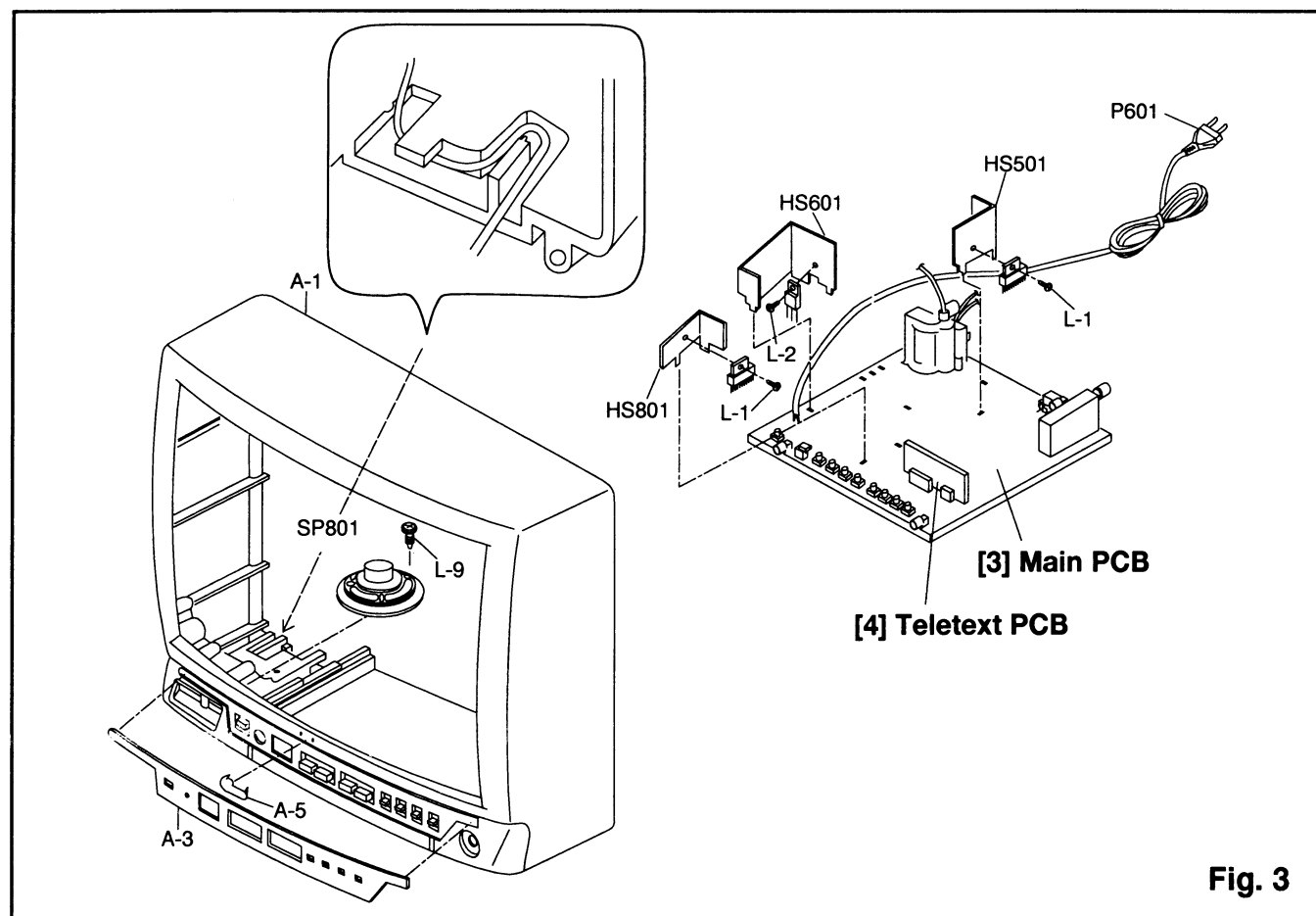
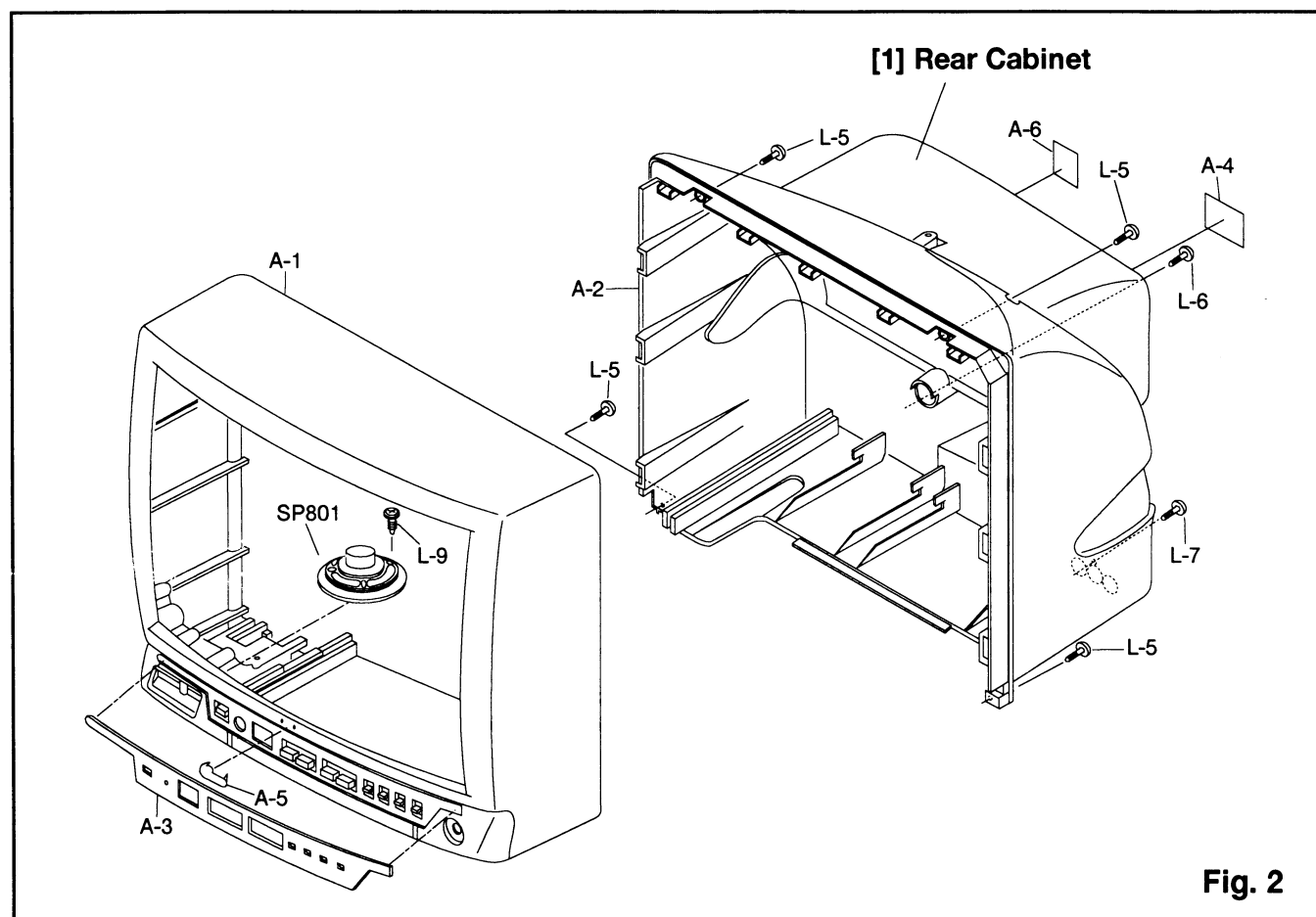
- 1. (1) Remove 6 screws (L-5, L-6, L-7) and slide the Rear Cabinet backward.
- 2. (1) If not already removed, first remove the Rear Cabinet.  
(2) Remove all relative wires, then pull the CRT PCB backward.
- 3. (1) If not already removed, first remove the Rear Cabinet.  
(2) Remove all relative wires on the Main PCB and remove the Anode Cap, then slide the Main PCB backward.
- 4. (1) If not already removed, first remove the Rear Cabinet.  
(2) Pull the Teletext PCB backward.

Caution ! Discharge Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

- 5. (1) If not already removed, first remove the Rear Cabinet and Main PCB.  
(2) Remove 4 screws (B-2), then the CRT can be removed.



\*L-6 Upper: used FBT; LTF00EPGS005 (154-064U) Lower: used FBT; LTF-EPMS006 (FCK-14B040)



# ELECTRICAL ADJUSTMENT INSTRUCTIONS

### Note:

Electrical adjustments are required after replacing circuit components. It is important to perform these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.

### Test Equipment Required:

1. Monoscope
2. PAL and SECAM Pattern Generator
3. IF Sweeper and Scope
4. Spectrum Analyzer
5. DC Volt Meter
6. Oscilloscope: Dual Trace with 10:1 probe
7. Color Analyzer
8. AM S.S.G. (Standard Signal Generator)

### How to Set Up the Service Mode:

**Preset Mode:** Press Picture Select button on the remote control unit, then press the number "1" button.

- Brightness ——— Center
- Color ——— Center
- Contrast ——— Approx 70%

All adjustment procedures must be performed in order of numbering.

Operate the unit more than 20 minutes.

## 1. Power Supply DC Voltage Adjustment

**Purpose:** To get correct voltage.

**Symptom of Misadjustment:** The picture is dark and unit does not operate correctly.

| Test Point                 | Adjustment Point | Input             |
|----------------------------|------------------|-------------------|
| R621<br>TP1 (GND)          | VR621            | Monoscope Pattern |
| Equipment                  |                  | Spec.             |
| Monoscope<br>DC Volt Meter |                  | DC +112±0.5V      |

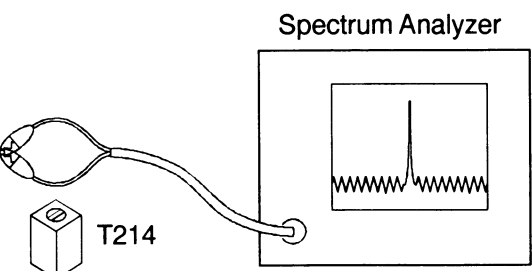
**Reference Notes:** R621, TP1, VR621 — Main PCB

- Adjust VR621 so that the + of C623 becomes DC +112±0.5V.

## 2. VCO Adjustment

**Purpose:** To set the IF (Intermediate Frequency).

**Symptom of Misadjustment:** Proper picture cannot be obtained.

| Test Point                                                                         | Adjustment Point | Input        |
|------------------------------------------------------------------------------------|------------------|--------------|
| T214                                                                               | T214             | —            |
| Equipment                                                                          |                  | Spec.        |
| Spectrum Analyzer                                                                  |                  | 38.0±0.05MHz |
| Connections of M. EQ.                                                              |                  |              |
|  |                  |              |

**Reference Notes:** T214 — Main PCB

1. Short C214.
2. Set the Spectrum Analyzer as shown in the above table. (Make a loop by connecting both probes of the Spectrum Analyzer and bring the loop near T214 to pick up the leakage wave.)
3. Adjust T214 for reading 38.0±0.05MHz on the Spectrum Analyzer.

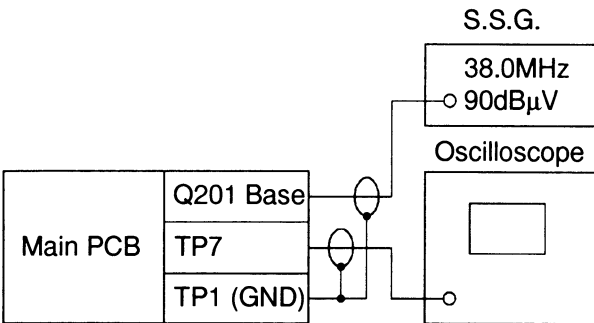
### <without Spectrum Analyzer>

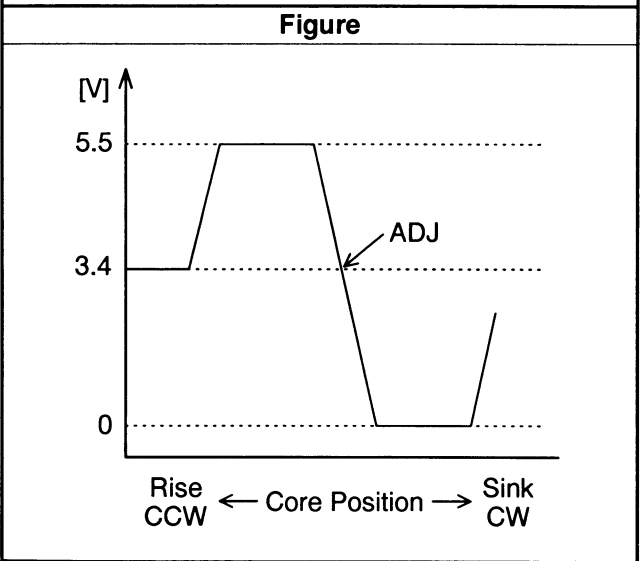
1. Turn T214 in both directions, right and left, far enough to find the point where Noise Bands or Beats appear on the TV Screen.
2. After finding those points in both directions, adjust T214 so that it is exactly half-way between those two points.
3. After the above adjustment, tune in another Local Broadcast. Then confirm that no Noise Bands or Beats appear on the TV Screen.

## 3. AFT Adjustment

**Purpose:** To operate AFT correctly.

**Symptom of Misadjustment:** AFT does not work correctly and/or synchronization is faulty.

| Test Point                                                                          | Adjustment Point | Input        |
|-------------------------------------------------------------------------------------|------------------|--------------|
| TP7<br>TP1 (GND)                                                                    | T211             | —            |
| Equipment                                                                           |                  | Spec.        |
| AM S.S.G.<br>Oscilloscope                                                           |                  | DC +3.4±0.2V |
| Connections of M. EQ.                                                               |                  |              |
|  |                  |              |



**Reference Notes:** Q201, T211, TP1, TP7 — Main PCB

1. Input the 38.0MHz (90dBµV) no modulating signal from Q201 base.
2. Turn the core inside of T211 counterclockwise until the top of core is the same height as metal case.
3. Turn the core of T211 clockwise and find the point where the voltage drops from approximately 5.5V to 0V immediately on the oscilloscope.
4. Turn the core of T211 little by little and find the point where DC +3.4±0.2V is obtained between the area mentioned in step 3.

**Note:** Before the adjustment, confirm that the tuner output does not have any noise except white noise.

## 4. AGC Adjustment

**Purpose:** Set AGC (Auto Gain Control) Level.

**Symptom of Misadjustment:** AGC does not synchronize correctly when RF Input Level is too weak and picture distortion may occur if it is too strong.

| Test Point                             | Adjustment Point | Input         |
|----------------------------------------|------------------|---------------|
| TP8<br>TP1 (GND)                       | VR211            | PAL Color Bar |
| Equipment                              |                  | Spec.         |
| PAL Pattern Generator<br>DC Volt Meter |                  | DC +4.9±0.1V  |

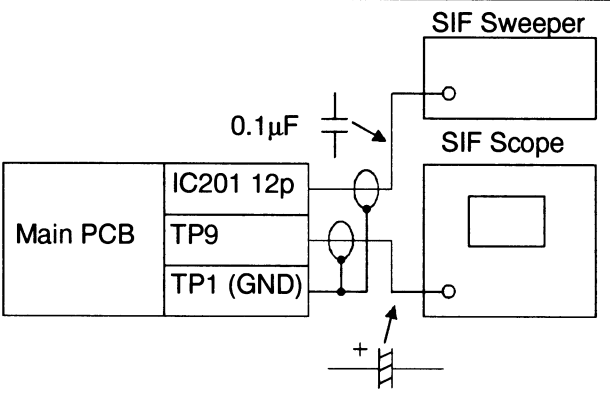
**Reference Notes:** TP1, TP8, VR211 — Main PCB

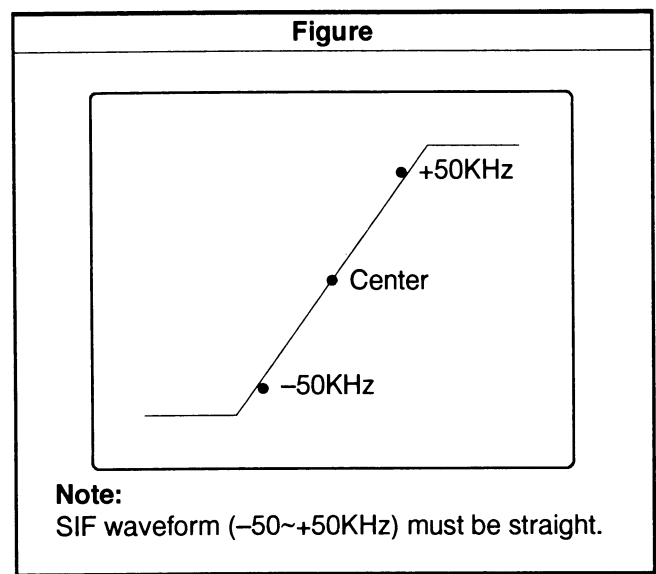
1. Receive the PAL Color Bar signal for channel 2 (48.25MHz). (RF Input Level: 80dBµV)
2. Adjust VR211 so that the voltage of TP8 becomes DC +4.9±0.1V.

## 5. SIF Adjustment

**Purpose:** To set the SIF (Sound Intermediate Frequency).

**Symptom of Misadjustment:** Not sound.

| Test Point                                                                            | Adjustment Point | Input     |
|---------------------------------------------------------------------------------------|------------------|-----------|
| TP9<br>TP1 (GND)                                                                      | T212, T213       | —         |
| Equipment                                                                             |                  | Spec.     |
| SIF Sweeper & Scope                                                                   |                  | See below |
| Connections of M. EQ.                                                                 |                  |           |
|  |                  |           |



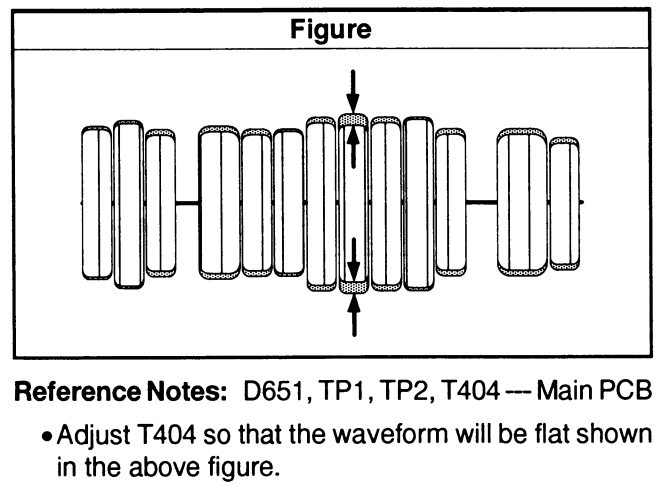
- Reference Notes:** TP1, TP9, T212, T213 — Main PCB
1. Connect SIF Sweeper & Scope shown in the above table.
  2. Adjust T212 (SIF=6.5MHz) so that the center mark will be center of SIF waveform and its waveform is straight.
  3. Adjust T213 (SIF=5.5MHz) so that the center mark will be center of SIF waveform and its waveform is straight.
  4. Repeat 2 & 3.

## 6. Bell Filter Adjustment

**Purpose:** To adjust the center frequency of SECAM bell filter.

**Symptom of Misadjustment:** The color will be reversed when the SECAM signal is entered.

| Test Point                              | Adjustment Point | Input           |
|-----------------------------------------|------------------|-----------------|
| TP2<br>TP1 (GND)                        | T404             | SECAM Color Bar |
| Equipment                               |                  | Spec.           |
| SECAM Pattern Generator<br>Oscilloscope |                  | See below       |
| Connections of M. EQ.                   |                  |                 |
|                                         |                  |                 |



## 7. SECAM Ident Coil Adjustment

**Purpose:** To adjust the peak value of SECAM Ident signal.

**Symptom of Misadjustment:** The display is not colored when the SECAM signal is entered.

| Test Point                              | Adjustment Point | Input           |
|-----------------------------------------|------------------|-----------------|
| TP5<br>TP1 (GND)                        | T403             | SECAM Color Bar |
| Equipment                               |                  | Spec.           |
| SECAM Pattern Generator<br>Oscilloscope |                  | See below       |

- Reference Notes:** TP1, TP5, T403 — Main PCB
1. Set oscilloscope to 10:1 probe, 0.2V/div (DC) and Range 5µS/div.
  2. Adjust T403 so that the TP5 will be peak DC Voltage.

## 8. SECAM Demodulate Coil Adjustment

**Purpose:** To adjust the level of R-Y and (B-Y) color difference signal.

**Symptom of Misadjustment:** The Red, Green and Blue will be unbalanced.

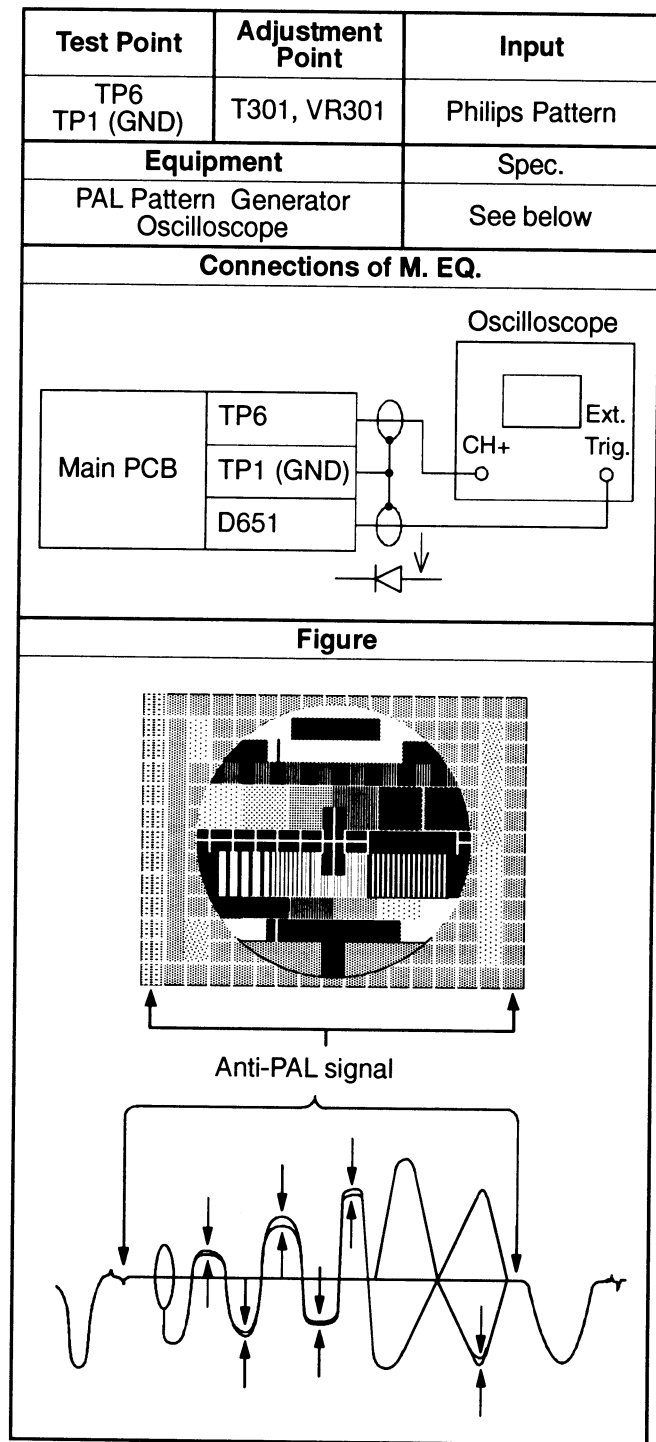
| Test Point                              | Adjustment Point         | Input              |
|-----------------------------------------|--------------------------|--------------------|
| TP3 (R-Y)<br>TP4 (B-Y)<br>TP1 (GND)     | T402 (R-Y)<br>T401 (B-Y) | SECAM Black Raster |
| Equipment                               |                          | Spec.              |
| SECAM Pattern Generator<br>Oscilloscope |                          | See below          |
| Connections of M. EQ.                   |                          |                    |
|                                         |                          |                    |
| Figure                                  |                          |                    |
|                                         |                          |                    |

- Reference Notes:**  
D651, TP1, TP3, TP4, T401, T402 — Main PCB
1. Adjust T402 with core driver so that (A) becomes center of (B) as shown in the above table. (TP3)
  2. Adjust T401 with core driver so that (A) becomes center of (B) as shown in the above table. (TP4)

## 9. 1H Delay Line Adjustment

**Purpose:** To get correct 1H delay line when the PAL signal is entered.

**Symptom of Misadjustment:** The Anti-PAL signal part is colored when the Philips Pattern is entered. Each scanning line is colored on the color bar.



- Reference Notes:**  
D651, TP1, TP6, T301, VR301 — Main PCB
- Adjust VR301 and T301 so that the amplitude at Anti-PAL signal part becomes minimum (no color) and the waveform at the color bar part is not seen in double ("Venetian Blind" does not appear at the color bar signal part).

10. Black Level Adjustment

**Purpose:** To obtain optimum picture quality.  
**Symptom of Misadjustment:** Black color may not be properly displayed (lighter or darker).

| Test Point                        | Adjustment Point | Input         |
|-----------------------------------|------------------|---------------|
| TP6<br>TP1 (GND)                  | VR351            | Black Raster  |
| Equipment                         |                  | Spec.         |
| Pattern Generator<br>Oscilloscope |                  | DC +3.2±0.05V |
| Figure                            |                  |               |
|                                   |                  |               |

**Reference Notes:** TP1, TP6, VR351 — Main PCB

1. Preset the picture control to initial position.
2. Receive the Black Raster pattern.
3. Adjust VR351 so that the TP6 becomes DC +3.2±0.05V as shown in the above table. (TP6 waveform)

11. Cut Off Adjustment

**Purpose:** To adjust the beam current of Red, Green, Blue and screen voltage.  
**Symptom of Misadjustment:** White color may be red-dish, greenish or bluish. When the screen voltage is too high, the scanning line is appeared on the screen.

| Test Point        | Adjustment Point                     | Input        |
|-------------------|--------------------------------------|--------------|
| Screen            | VR451<br>VR452<br>VR453<br>Screen-VR | Black Raster |
| Equipment         |                                      | Spec.        |
| Pattern Generator |                                      | See below    |
| Figure            |                                      |              |
|                   |                                      |              |

**Reference Notes:** VR451, VR452, VR453, VR454, VR455 — CRT PCB  
Screen-VR — Main PCB (FBT)

1. Degauss the CRT using Degaussing Coil..
2. Set the Screen-VR to minimum. (Counterclockwise)
3. Set the drive VRs (VR454, VR455) to mechanical center, and cut off VRs (VR451, VR452, VR453) to 10 o'clock position.
4. Short the Emitter and Collector of Q125. (Horizontal One Line)
5. Slowly turn the Screen-VR (FBT) to the point where horizontal line is just visible.
6. Adjust VR451 (R. Cut Off), VR452 (G. Cut Off) and VR453 (B. Cut Off) so that horizontal line becomes pure white.
7. Re-adjust the Screen-VR (FBT) to the point where horizontal line is just visible.
8. Open the Emitter and Collector of Q125.

**Note:** Confirm that White Balance Adj. is correct after this adjustment, and attempt White Balance Adj. if needed.

12. White Balance Adjustment

**Purpose:** To mix red, green and blue beams correctly for pure white.  
**Symptom of Misadjustment:** White becomes bluish or reddish.

| Test Point                          | Adjustment Point | Input                      |
|-------------------------------------|------------------|----------------------------|
| Screen                              | VR454<br>VR455   | White Raster<br>(APL 100%) |
| Equipment                           |                  | Spec.                      |
| Pattern Generator<br>Color Analyzer |                  | See below                  |

**Reference Notes:** VR454, VR455 — CRT PCB

1. Degauss the CRT using Degaussing Coil..
2. Set the color analyzer to the CHROMA mode and after zero point calibration, bring the optical sensor into close contact with center on the CRT surface.
3. Adjust VR454 (R. DRIVE) and VR455 (B. DRIVE) so that the respective chroma temperatures becomes 8000K-10MPCD (x : 0.300 / y : 0.290) ±3%.

**Note:** Confirm that Cut Off Adj. is correct after this adjustment, and attempt Cut Off Adj. if needed.

13. Sub Bright Adjustment

**Purpose:** To get proper brightness.  
**Symptom of Misadjustment:** Proper brightness cannot be obtained by adjusting the Brightness Control.

| Test Point        | Adjustment Point | Input               |
|-------------------|------------------|---------------------|
| Screen            | Screen-VR        | Gray Scale (8 step) |
| Equipment         |                  | Spec.               |
| Pattern Generator |                  | See Below           |
| Figure            |                  |                     |
|                   |                  |                     |

**Reference Notes:** Screen-VR — Main PCB (FBT)

- Adjust Screen-VR so that the level of dark gray bar (as shown above) is just visible.

**Note:** Use the Gray Scale Signal without set up.

14. Text VCO Adjustment

**Purpose:** To synchronize Teletext signal.  
**Symptom of Misadjustment:** Teletext is not displayed synchronously.

| Test Point          | Adjustment Point | Input         |
|---------------------|------------------|---------------|
| TP902<br>TP901(GND) | L962             | PAL Color Bar |
| Equipment           |                  | Spec.         |
| Oscilloscope        |                  | DC+2.5±0.2V   |

**Reference Note:** TP901, TP902, L962 — Teletext PCB

- Adjust TP902 so that the L962 becomes DC +2.5±0.2V.

15. Focus Adjustment

**Purpose:** Set the optimum Focus.  
**Symptom of Misadjustment:** Blurred images are shown on the display.

| Test Point | Adjustment Point | Input             |
|------------|------------------|-------------------|
| Screen     | Focus VR         | Monoscope Pattern |
| Equipment  |                  | Spec.             |
| Monoscope  |                  | See below         |

**Reference Note:** Focus VR — Main PCB (FBT)

- Adjust Focus-VR (FBT) to be obtained clear picture.

16. V. Position & Size Adjustment

**Purpose:** To get correct vertical position and size of screen image.  
**Symptom of Misadjustment:** Vertical position and size of screen image may not be properly displayed.

| Test Point | Adjustment Point | Input             |
|------------|------------------|-------------------|
| Screen     | VR501, VR521     | Monoscope Pattern |
| Equipment  |                  | Spec.             |
| Monoscope  |                  | See below         |

**Reference Note:** VR501, VR521 — Main PCB

1. Adjust VR521 so that the top & bottom of Monoscope pattern will be equal.
2. Adjust VR501 so that the vertical size will be 90±5% of Monoscope Pattern and the circle is round.

17. H. Position & Size\* Adjustment

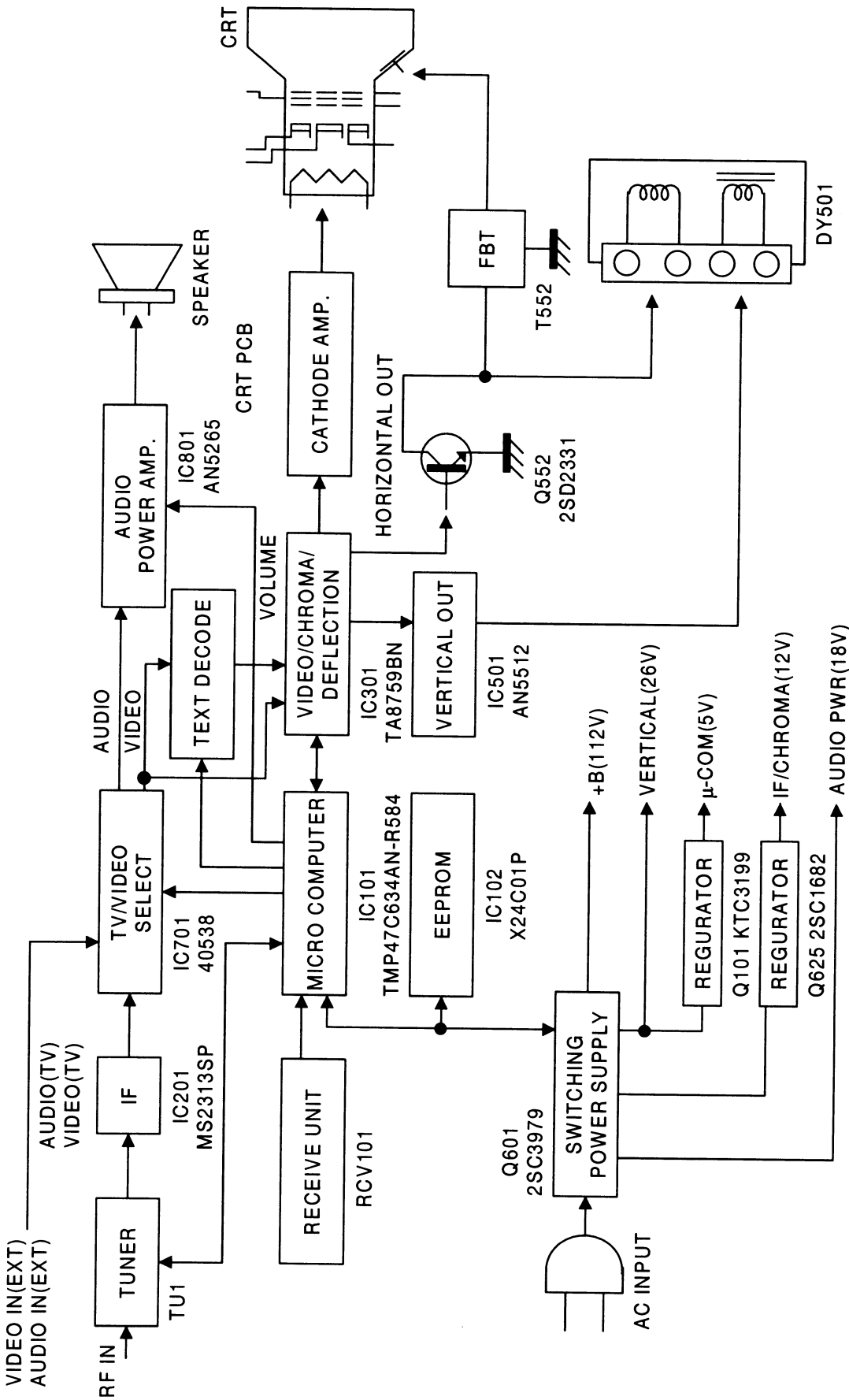
**Purpose:** To get correct horizontal position and size of screen image.

**Symptom of Misadjustment:** Horizontal position and size of screen image may not be properly displayed.

| Test Point | Adjustment Point | Input             |
|------------|------------------|-------------------|
| Screen     | VR331 , L551     | Monoscope Pattern |
| Equipment  |                  | Spec.             |
| Monoscope  |                  | See below         |

- Reference Note:** VR331, L551 — Main PCB
- 1. Adjust VR331 so that the right & left of monoscope pattern will be equal.
  - 2. Adjust L551 so that the horizontal size will be 90±5% of Monoscope Pattern and the circle is round.
- \* Only model with L551.

BLOCK DIAGRAM



SCHEMATIC DIAGRAMS / PCB'S AND TEST POINTS

Standard Notes

Warning

Critical components having special safety characteristics are identified with a  by the Ref. No. in the parts list and enclosed within a broken line \* (where several critical components are grouped in one area) along with the safety symbol  on the schematics or exploded views.

Use of substitute replacement parts which do not have the same specified safety characteristics may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from Funai Electric Company. Funai assumes no liability,

express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.

Notes:

- ① Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
- ② All resistance values are indicated in ohms (K=10<sup>3</sup>, M=10<sup>6</sup>).
- ③ Resistor wattages are 1/5W or 1/6W unless otherwise specified.
- ④ All capacitance values are indicated in  $\mu$ F (P=10<sup>-6</sup>  $\mu$ F).

VOLTAGE CHART

(Unit: Volt)

| Pin No. | IC101 | IC102 | IC201 | IC501 | IC601 | IC701 | IC801 |  |
|---------|-------|-------|-------|-------|-------|-------|-------|--|
| 1       | 2.6   | 0.0   | 2.2   | 0.0   | 49.3  | 0.3   | 11.1  |  |
| 2       | 3.2   | 0.0   | 0.2   | 14.4  | 48.4  | 6.0   | 4.9   |  |
| 3       | 2.8   | 0.0   | 5.0   | 0.0   | -2.3  | 0.0   | 0.0   |  |
| 4       | 1.7   | 0.0   | 2.7   | 26.6  | -     | 0.9   | 4.2   |  |
| 5       | 2.2   | 4.9   | 1.5   | 15.1  |       | 0.9   | 8.5   |  |
| 6       | 0.0   | 4.0   | 1.5   | 0.7   |       | 0.0   | 8.6   |  |
| 7       | 0.0   | 0.0   | 0.0   | 0.6   |       | 0.0   | 0.0   |  |
| 8       | 0.0   | 4.9   | 2.0   | 1.1   |       | 0.0   | 8.7   |  |
| 9       | 2.7   |       | 3.2   | 26.2  |       | 12.0  | 18.0  |  |
| 10      | 1.6   |       | 2.0   |       |       | 0.0   |       |  |
| 11      | 1.6   |       | 3.3   |       |       | 12.0  |       |  |
| 12      | 1.6   |       | 2.8   |       |       | 2.3   |       |  |
| 13      | 0.0   |       | 5.3   |       |       | 2.3   |       |  |
| 14      | 0.0   |       | 4.4   |       |       | 2.4   |       |  |
| 15      | 0.0   |       | 4.4   |       |       | 6.0   |       |  |
| 16      | 4.3   |       | 5.2   |       |       | 12.0  |       |  |
| 17      | 0.0   |       | 2.6   |       |       |       |       |  |
| 18      | 5.0   |       | 12.0  |       |       |       |       |  |
| 19      | 5.9   |       | 2.6   |       |       |       |       |  |
| 20      | 0.0   |       | 2.4   |       |       |       |       |  |
| 21      | 0.0   |       |       |       |       |       |       |  |
| 22      | 0.0   |       |       |       |       |       |       |  |
| 23      | 0.0   |       |       |       |       |       |       |  |
| 24      | 0.0   |       |       |       |       |       |       |  |
| 25      | 0.0   |       |       |       |       |       |       |  |
| 26      | 3.7   |       |       |       |       |       |       |  |
| 27      | 4.7   |       |       |       |       |       |       |  |
| 28      | 2.7   |       |       |       |       |       |       |  |
| 29      | 2.8   |       |       |       |       |       |       |  |
| 30      | 0.0   |       |       |       |       |       |       |  |
| 31      | 2.0   |       |       |       |       |       |       |  |
| 32      | 2.2   |       |       |       |       |       |       |  |
| 33      | 4.9   |       |       |       |       |       |       |  |
| 34      | 0.0   |       |       |       |       |       |       |  |
| 35      | 4.5   |       |       |       |       |       |       |  |
| 36      | 4.4   |       |       |       |       |       |       |  |
| 37      | 0.0   |       |       |       |       |       |       |  |
| 38      | 0.0   |       |       |       |       |       |       |  |
| 39      | 4.9   |       |       |       |       |       |       |  |
| 40      | 4.9   |       |       |       |       |       |       |  |
| 41      | 4.0   |       |       |       |       |       |       |  |
| 42      | 4.9   |       |       |       |       |       |       |  |

| Pin No. | IC301 | Pin No. | IC301 |
|---------|-------|---------|-------|
| 1       | 8.5   | 33      | 6.8   |
| 2       | 7.9   | 34      | 3.1   |
| 3       | 8.5   | 35      | 6.8   |
| 4       | 6.5   | 36      | 7.8   |
| 5       | 6.5   | 37      | 6.1   |
| 6       | 11.9  | 38      | 7.1   |
| 7       | 3.0   | 39      | 2.1   |
| 8       | 6.5   | 40      | 8.6   |
| 9       | 6.5   | 41      | 9.1   |
| 10      | 0.0   | 42      | 3.4   |
| 11      | 0.0   | 43      | 3.4   |
| 12      | 5.2   | 44      | 3.4   |
| 13      | 5.2   | 45      | 5.0   |
| 14      | 7.7   | 46      | 5.0   |
| 15      | 6.0   | 47      | 7.0   |
| 16      | 10.5  | 48      | 3.2   |
| 17      | 3.4   | 49      | 6.8   |
| 18      | 4.4   | 50      | 0.0   |
| 19      | 0.0   | 51      | 7.1   |
| 20      | 5.9   | 52      | 0.0   |
| 21      | 0.0   | 53      | 0.0   |
| 22      | 11.3  | 54      | 0.0   |
| 23      | 5.2   | 55      | 6.0   |
| 24      | 5.8   | 56      | 3.1   |
| 25      | 4.8   | 57      | 5.9   |
| 26      | 3.2   | 58      | 4.8   |
| 27      | 11.0  | 59      | 3.2   |
| 28      | 3.9   | 60      | 6.0   |
| 29      | 0.7   | 61      | 12.0  |
| 30      | 8.6   | 62      | 6.0   |
| 31      | 6.6   | 63      | 12.3  |
| 32      | 6.5   | 64      | 4.0   |

Input: PAL Color Bar Signal (with 1KHz Audio Signal)

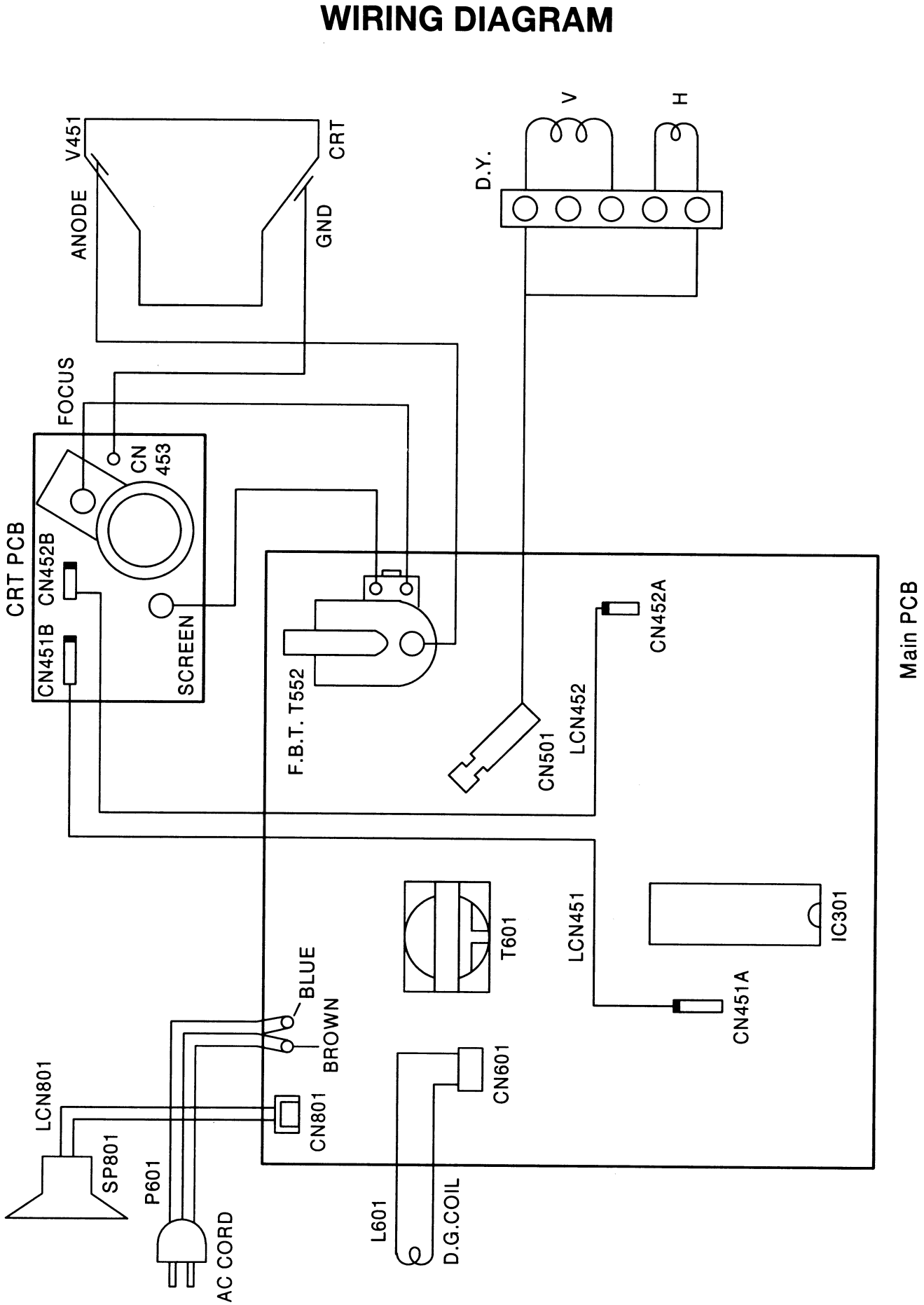
Receiving Ch.: E2 ch (48.25MHz)

Preset Mode: Press Picture Select button on the remote control unit, then press the number "1" button.

Brightness--- Center  
Color--- Center  
Contrast--- Approx 70%

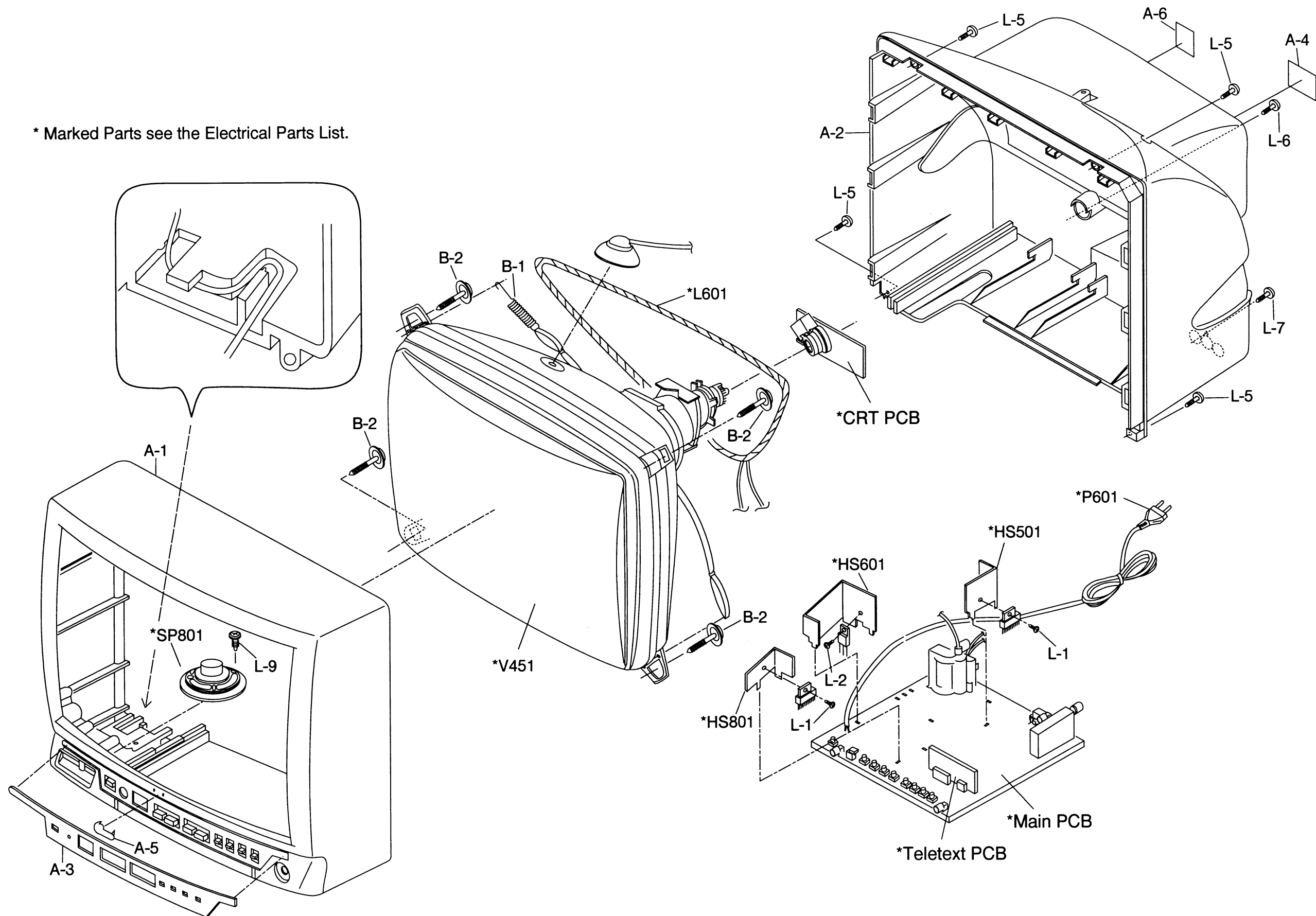
| Pin NO. | IC961 | IC962 | IC963 | IC964 |
|---------|-------|-------|-------|-------|
| 1       | 0.9   | 1.9   | 5.0   | 0.0   |
| 2       | 3.1   | 1.9   | 0.0   | 5.1   |
| 3       | 3.1   | 0.6   | 12.0  | 4.9   |
| 4       | 5.0   | 0.0   |       |       |
| 5       | 5.0   | 2.4   |       |       |
| 6       | 0.0   | 2.2   |       |       |
| 7       | 0.0   | 2.9   |       |       |
| 8       | 0.0   | 5.4   |       |       |
| 9       | 5.0   | 0.0   |       |       |
| 10      | 0.0   | 1.6   |       |       |
| 11      | 0.0   | 0.0   |       |       |
| 12      | 4.6   | 0.0   |       |       |
| 13      | 5.0   | 0.0   |       |       |
| 14      | 0.0   | 0.0   |       |       |
| 15      | 0.3   | 2.2   |       |       |
| 16      | 0.0   | 5.0   |       |       |
| 17      | 4.0   | 0.2   |       |       |
| 18      | 4.9   | 0.0   |       |       |
| 19      | 0.3   | 4.6   |       |       |
| 20      | 0.2   | 0.0   |       |       |
| 21      | 5.0   |       |       |       |
| 22      | 0.2   |       |       |       |
| 23      | 0.2   |       |       |       |
| 24      | 0.0   |       |       |       |
| 25      | 2.3   |       |       |       |
| 26      | 2.3   |       |       |       |
| 27      | 2.9   |       |       |       |
| 28      | 2.9   |       |       |       |

| Pin No. | E    | C    | B    | Pin No. | E    | C    | B    |
|---------|------|------|------|---------|------|------|------|
| Q1      | 0.0  | 1.3  | 0.6  | Q396    | 0.0  | 5.3  | 0.0  |
| Q2      | 11.9 | 0.0  | 11.6 | Q397    | 0.0  | 0.0  | 0.0  |
| Q3      | 11.9 | 0.0  | 11.9 | Q451    | 3.0  | 117  | 3.5  |
| Q4      | 11.9 | 11.8 | 11.9 | Q452    | 3.0  | 116  | 3.4  |
| Q101    | 4.9  | 8.8  | 5.6  | Q453    | 3.0  | 114  | 3.4  |
| Q102    | 5.6  | 5.6  | 4.9  | Q551    | 0.0  | 27.3 | 0.5  |
| Q103    | 0.0  | 3.6  | 0.0  | Q552    | -    | -    | -    |
| Q104    | 25.2 | 8.9  | 27.7 | Q601    | -    | -    | -    |
| Q105    | 0.0  | 26.2 | 0.0  | Q603    | -    | -    | -    |
| Q121    | 0.0  | 4.7  | 0.0  | Q604    | -    | -    | -    |
| Q122    | 0.0  | 3.9  | 0.0  | Q605    | -    | -    | -    |
| Q123    | 0.0  | 4.6  | 0.0  | Q621    | 6.8  | 48.4 | 0.0  |
| Q125    | 0.0  | 0.0  | 0.0  | Q622    | 2.5  | 112  | 0.0  |
| Q126    | 4.0  | 4.0  | 3.4  | Q623    | 0.0  | 0.4  | 0.6  |
| Q127    | 0.0  | 0.0  | 0.6  | Q625    | 12.0 | 13.1 | 12.6 |
| Q201    | 0.8  | 9.4  | 1.5  | Q702    | 2.4  | 11.9 | 2.8  |
| Q281    | 0.0  | 4.3  | 0.0  | Q703    | -    | -    | -    |
| Q301    | 0.0  | 12.0 | 0.1  | Q704    | 0.0  | 0.0  | 0.6  |
| Q381    | 0.0  | 0.5  | 0.0  | Q705    | 0.0  | 12.0 | 0.0  |
| Q391    | 0.0  | 0.1  | 0.7  | Q721    | -    | -    | -    |
| Q392    | 0.0  | 6.0  | 0.0  | Q801    | 0.0  | 1.2  | 0.6  |
| Q393    | 5.1  | 0.0  | 4.5  | Q952    | 0.0  | 0.4  | 0.0  |
| Q394    | 5.1  | 0.0  | 6.0  | Q961    | 2.5  | 0.0  | 0.0  |
| Q395    | 0.0  | 6.5  | 0.0  |         |      |      |      |

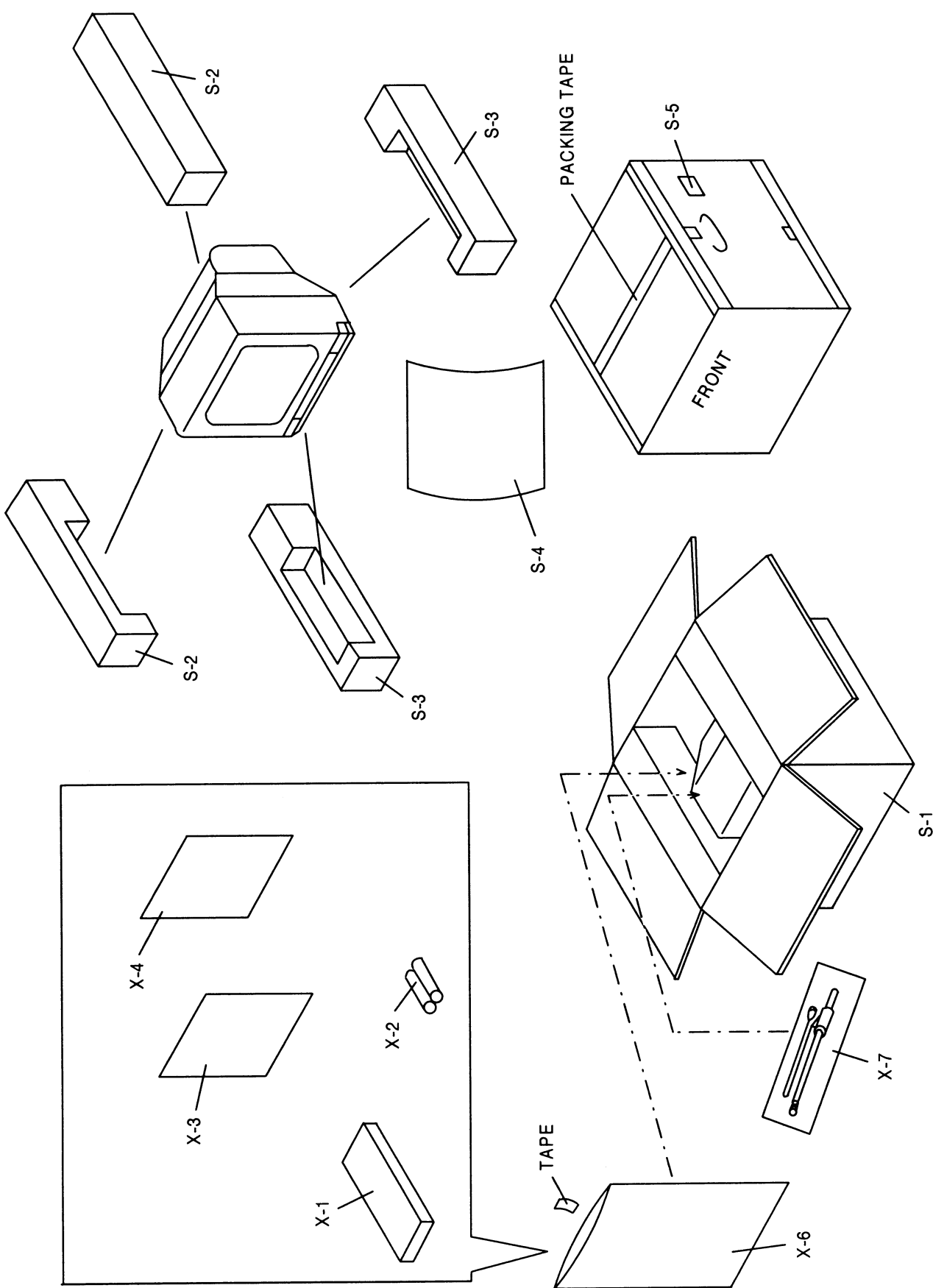


# EXPLODED VIEW

\* Marked Parts see the Electrical Parts List.



PACKING EXPLODED VIEW



MECHANICAL PARTS LIST

**PRODUCT SAFETY NOTE:** Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

| Ref. No.                                                                                  | Description                     | Part No.     |
|-------------------------------------------------------------------------------------------|---------------------------------|--------------|
| A-1                                                                                       | FRONT CABINET                   | 0EM000162    |
| A-2                                                                                       | REAR CABINET                    | 0EM000163    |
| A-3                                                                                       | CONTROL PLATE                   | 0EM300777    |
| A-4    | RATING LABEL                    | 0EM402446    |
| A-5                                                                                       | BRAND BADGE                     | 0EM400975    |
| A-6    | MARK OF CONFIRMITY LABEL        | 0EM402171    |
| B-1                                                                                       | TENTION SPRING                  | 26WH006      |
| B-2                                                                                       | CRT MOUNTING SCREW              | 8A00083      |
| L-1                                                                                       | B-TIGHT SCREW 3X8 BIND HEAD+    | GBMB3080     |
| L-2                                                                                       | B-TIGHT SCREW 3X10 BIND HEAD+   | GBMB3100     |
| L-5                                                                                       | P-TIGHT SCREW 4X16 BIND HEAD+   | GBMP4160     |
| L-6                                                                                       | P-TIGHT SCREW 4X12 BIND HEAD+   | GBKP4120     |
| L-7                                                                                       | P-TIGHT SCREW 3X10 BIND HEAD+   | GBKP3100     |
| L-9                                                                                       | P-TIGHT SCREW 3X8 ø12-PAN HEAD+ | GCMP3080     |
| S-1                                                                                       | CARTON                          | 0EM402447    |
| S-2                                                                                       | STYROFORM TOP                   | 0EM000165    |
| S-3                                                                                       | STYROFORM BOTTOM                | 0EM000166    |
| S-4                                                                                       | SET SHEET                       | 0EM401153    |
| S-5                                                                                       | SERIAL NO. LABEL                | 24LH033      |
| X-1                                                                                       | REMOCON UNIT                    | UREMT31MM001 |
| X-2                                                                                       | BATTERY UM-3X2 or               | 1790849      |
|                                                                                           | BATTERY UM-3X2 or               | 1813020      |
|                                                                                           | BATTERY UM-3X2                  | 579W099      |
| X-3  | OWNER'S MANUAL (R)              | 0EMN00900    |
| X-4  | OWNER'S MANUAL (E)              | 0EMN00901    |
| X-6                                                                                       | POLYETHYLENE BAG                | Z220300      |
| X-7                                                                                       | ROD ANTENNA                     | 0EMN00542    |

ELECTRICAL PARTS LIST

**PRODUCT SAFETY NOTE:** Products marked with a  have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

**NOTE:** Parts that not assigned part numbers (-----) are not available.

Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25%      D.....±0.5%      F.....±1%  
G.....±2%      J.....±5%      K.....±10%  
M.....±20%      N.....±30%      Z.....+80/-20%

PCB Assembly

| Ref. No. | Description                | Part No.        |
|----------|----------------------------|-----------------|
|          | <b>PCB Assembly</b>        | <b>MMA-132A</b> |
|          | Consists of the following: |                 |
|          | Main PCB Assembly          | _____           |
|          | CRT PCB Assembly           | _____           |
|          | Teletext PCB Assembly      | _____           |

Main PCB Assembly

| Ref. No.          | Description                                                           | Part No.                 |
|-------------------|-----------------------------------------------------------------------|--------------------------|
|                   | <b>Main PCB Assembly</b>                                              | _____                    |
|                   | Consists of the following:                                            |                          |
| <b>CAPACITORS</b> |                                                                       |                          |
| C 1               | ELECTROLYTIC CAP. 10µF/50V                                            | 126F106S                 |
| C 2               | CHIP CERAMIC CAP. CH 100pF/50V or<br>CHIP CERAMIC CAP. CH 100pF/50V   | 12CH101C<br>CHE1JJ8CH101 |
| C 3               | TF CAP. 0.1µF/50V or<br>TF CAP. 0.1µF/50V                             | 125U104S<br>122Z309S     |
| C 4               | TF CAP. 0.1µF/50V or<br>TF CAP. 0.1µF/50V                             | 125U104S<br>122Z309S     |
| C 5               | TF CAP. 0.1µF/50V or<br>TF CAP. 0.1µF/50V                             | 125U104S<br>122Z309S     |
| C 6               | ELECTROLYTIC CAP. 10µF/50V                                            | 126F106S                 |
| C 7               | ELECTROLYTIC CAP. 10µF/50V                                            | 126F106S                 |
| C 8               | ELECTROLYTIC CAP. 10µF/50V                                            | 126F106S                 |
| C 9               | ELECTROLYTIC CAP. 1µF/50V                                             | 126F105S                 |
| C 10              | CHIP CERAMIC CAP. F 0.01µF/50V or<br>CHIP CERAMIC CAP. F 0.01µF/50V   | 12F3103C<br>CHE1JZ80F103 |
| C 11              | ELECTROLYTIC CAP. 10µF/50V                                            | 126F106S                 |
| C 101             | ELECTROLYTIC CAP. 47µF/16V                                            | 126C476S                 |
| C 102             | CHIP CERAMIC CAP. F 0.01µF/50V or<br>CHIP CERAMIC CAP. F 0.01µF/50V   | 12F3103C<br>CHE1JZ80F103 |
| C 103             | CHIP CERAMIC CAP. F 0.01µF/50V or<br>CHIP CERAMIC CAP. F 0.01µF/50V   | 12F3103C<br>CHE1JZ80F103 |
| C 105             | ELECTROLYTIC CAP. 220µF/6.3V                                          | 126A227S                 |
| C 110             | ELECTROLYTIC CAP. 47µF/16V                                            | 126C476S                 |
| C 111             | CHIP CERAMIC CAP. F 0.022µF/50V or<br>CHIP CERAMIC CAP. F 0.022µF/50V | 12F3223C<br>CHE1JZ80F223 |
| C 155             | ELECTROLYTIC CAP. 1µF/50V                                             | 126F105S                 |
| C 156             | ELECTROLYTIC CAP. 1µF/50V                                             | 126F105S                 |
| C 171             | CHIP CERAMIC CAP. SL 100pF/50V or<br>CHIP CERAMIC CAP. SL 100pF/50V   | 1270101C<br>CHE1JJ8SL101 |
| C 172             | CHIP CERAMIC CAP. SL 100pF/50V or<br>CHIP CERAMIC CAP. SL 100pF/50V   | 1270101C<br>CHE1JJ8SL101 |
| C 173             | CHIP CERAMIC CAP. SL 100pF/50V or<br>CHIP CERAMIC CAP. SL 100pF/50V   | 1270101C<br>CHE1JJ8SL101 |
| C 174             | CHIP CERAMIC CAP. SL 100pF/50V or<br>CHIP CERAMIC CAP. SL 100pF/50V   | 1270101C<br>CHE1JJ8SL101 |
| C 175             | CHIP CERAMIC CAP. CH 24pF/50V or<br>CHIP CERAMIC CAP. CH 24pF/50V     | 12CH240C<br>CHE1JJ8CH240 |
| C 176             | CHIP CERAMIC CAP. CH 24pF/50V or<br>CHIP CERAMIC CAP. CH 24pF/50V     | 12CH240C<br>CHE1JJ8CH240 |

| Ref. No. | Description                                                           | Part No.                 |
|----------|-----------------------------------------------------------------------|--------------------------|
| C 185    | CHIP CERAMIC CAP. SL 100pF/50V or<br>CHIP CERAMIC CAP. SL 100pF/50V   | 1270101C<br>CHE1JJ8SL101 |
| C 186    | CHIP CERAMIC CAP. SL 100pF/50V or<br>CHIP CERAMIC CAP. SL 100pF/50V   | 1270101C<br>CHE1JJ8SL101 |
| C 187    | CHIP CERAMIC CAP. SL 100pF/50V or<br>CHIP CERAMIC CAP. SL 100pF/50V   | 1270101C<br>CHE1JJ8SL101 |
| C 188    | CHIP CERAMIC CAP. SL 100pF/50V or<br>CHIP CERAMIC CAP. SL 100pF/50V   | 1270101C<br>CHE1JJ8SL101 |
| C 204    | CHIP CERAMIC CAP. F 0.01µF/50V or<br>CHIP CERAMIC CAP. F 0.01µF/50V   | 12F3103C<br>CHE1JZ80F103 |
| C 205    | CHIP CERAMIC CAP. F 0.01µF/50V or<br>CHIP CERAMIC CAP. F 0.01µF/50V   | 12F3103C<br>CHE1JZ80F103 |
| C 206    | CHIP CERAMIC CAP. F 0.01µF/50V or<br>CHIP CERAMIC CAP. F 0.01µF/50V   | 12F3103C<br>CHE1JZ80F103 |
| C 207    | CHIP CERAMIC CAP. F 0.01µF/50V or<br>CHIP CERAMIC CAP. F 0.01µF/50V   | 12F3103C<br>CHE1JZ80F103 |
| C 210    | CERAMIC CAP. CH 27pF                                                  | 32CH270S                 |
| C 211    | CHIP CERAMIC CAP. CH 10pF/50V or<br>CHIP CERAMIC CAP. CH 10pF/50V     | 12CH100C<br>CHE1JD8CH100 |
| C 212    | CHIP CERAMIC CAP. F 0.01µF/50V or<br>CHIP CERAMIC CAP. F 0.01µF/50V   | 12F3103C<br>CHE1JZ80F103 |
| C 213    | TF CAP. 0.1µF/50V or<br>TF CAP. 0.1µF/50V                             | 125U104S<br>122Z309S     |
| C 214    | TF CAP. 0.47µF/50V or<br>TF CAP. 0.47µF/50V                           | 125U474S<br>122Z317S     |
| C 215    | CHIP CERAMIC CAP. F 0.01µF/50V or<br>CHIP CERAMIC CAP. F 0.01µF/50V   | 12F3103C<br>CHE1JZ80F103 |
| C 216    | ELECTROLYTIC CAP. 100µF/10V                                           | 126B107S                 |
| C 217    | ELECTROLYTIC CAP. 0.47µF/50V                                          | 126F474S                 |
| C 219    | CHIP CERAMIC CAP. SL 39pF/50V or<br>CHIP CERAMIC CAP. SL 39pF/50V     | 1270390C<br>CHE1JJ8SL390 |
| C 220    | CHIP CERAMIC CAP. SL 47pF/50V or<br>CHIP CERAMIC CAP. SL 47pF/50V     | 1270470C<br>CHE1JJ8SL470 |
| C 221    | CHIP CERAMIC CAP. SL 33pF/50V or<br>CHIP CERAMIC CAP. SL 33pF/50V     | 1270330C<br>CHE1JJ8SL330 |
| C 223    | ELECTROLYTIC CAP. 100µF/16V                                           | 126C107S                 |
| C 224    | CHIP CERAMIC CAP. F 0.01µF/50V or<br>CHIP CERAMIC CAP. F 0.01µF/50V   | 12F3103C<br>CHE1JZ80F103 |
| C 226    | CHIP CERAMIC CAP. F 0.01µF/50V or<br>CHIP CERAMIC CAP. F 0.01µF/50V   | 12F3103C<br>CHE1JZ80F103 |
| C 227    | CHIP CERAMIC CAP. F 0.01µF/50V or<br>CHIP CERAMIC CAP. F 0.01µF/50V   | 12F3103C<br>CHE1JZ80F103 |
| C 230    | CHIP CERAMIC CAP. U J 39pF/50V                                        | CHE1JJ8UJ390             |
| C 281    | ELECTROLYTIC CAP. 1µF/50V                                             | 126F105S                 |
| C 301    | CERAMIC CAP. Z 0.022µF/50V                                            | 3F40223S                 |
| C 302    | CHIP CERAMIC CAP. F 0.022µF/50V or<br>CHIP CERAMIC CAP. F 0.022µF/50V | 12F3223C<br>CHE1JZ80F223 |
| C 303    | CHIP CERAMIC CAP. F 0.01µF/50V or<br>CHIP CERAMIC CAP. F 0.01µF/50V   | 12F3103C<br>CHE1JZ80F103 |
| C 304    | CHIP CERAMIC CAP. F 0.01µF/50V or<br>CHIP CERAMIC CAP. F 0.01µF/50V   | 12F3103C<br>CHE1JZ80F103 |
| C 305    | ELECTROLYTIC CAP. 0.47µF/50V                                          | 126F474S                 |
| C 306    | CHIP CERAMIC CAP. F 0.01µF/50V or                                     | 12F3103C                 |

| Ref. No. | Description                                                                        | Part No.                             |
|----------|------------------------------------------------------------------------------------|--------------------------------------|
| C 307    | CHIP CERAMIC CAP. F 0.01μF/50V<br>*MYLAR CAP. 0.056μF K or<br>MYLAR CAP. 0.056μF K | CHE1JZ80F103<br>1250563S<br>2250563S |
| C 308    | CHIP CERAMIC CAP. B 0.01μF/50V or<br>CHIP CERAMIC CAP. B 0.01μF/50V                | 12B3103C<br>CHE1JJ80B103             |
| C 309    | ELECTROLYTIC CAP. 2.2μF/50V                                                        | 126X225S                             |
| C 310    | CHIP CERAMIC CAP. SL 13pF/50V or<br>CHIP CERAMIC CAP. SL 13pF/50V                  | 1270130C<br>CHE1JJ8SL130             |
| C 311    | CHIP CERAMIC CAP. CH 39pF/50V or<br>CHIP CERAMIC CAP. CH 39pF/50V                  | 12CH390C<br>CHE1JJ8CH390             |
| C 312    | CHIP CERAMIC CAP. CH 27pF/50V or<br>CHIP CERAMIC CAP. CH 27pF/50V                  | 12CH270C<br>CHE1JJ8CH270             |
| C 313    | SEMICONDUCTOR CAP. 0.027μF/25V K                                                   | CDA1EKS0X273                         |
| C 314    | CHIP CERAMIC CAP. F 0.01μF/50V or<br>CHIP CERAMIC CAP. F 0.01μF/50V                | 12F3103C<br>CHE1JZ80F103             |
| C 317    | CHIP CERAMIC CAP. SL 33pF/50V or<br>CHIP CERAMIC CAP. SL 33pF/50V                  | 1270330C<br>CHE1JJ8SL330             |
| C 318    | CHIP CERAMIC CAP. F 0.01μF/50V or<br>CHIP CERAMIC CAP. F 0.01μF/50V                | 12F3103C<br>CHE1JZ80F103             |
| C 319    | ELECTROLYTIC CAP. 100μF/16V                                                        | 126C107S                             |
| C 331    | SEMICONDUCTOR CAP. 0.015μF/25V K                                                   | CDA1EKS0X153                         |
| C 333    | ELECTROLYTIC CAP. 0.47μF/50V (LL) or<br>ELECTROLYTIC CAP. 0.47μF/50V (LL)          | CE1JMAULLR47<br>CE1JMASLLR47         |
| C 334    | ELECTROLYTIC CAP. 100μF/16V                                                        | 126C107S                             |
| C 335    | CHIP CERAMIC CAP. F 0.01μF/50V or<br>CHIP CERAMIC CAP. F 0.01μF/50V                | 12F3103C<br>CHE1JZ80F103             |
| C 336    | SEMICONDUCTOR CAP. 0.022μF/25V K                                                   | CDA1EKS0X223                         |
| C 337    | ELECTROLYTIC CAP. 3.3μF/50V                                                        | 126F335S                             |
| C 338    | CHIP CERAMIC CAP. B 0.01μF/50V or<br>CHIP CERAMIC CAP. B 0.01μF/50V                | 12B3103C<br>CHE1JJ80B103             |
| C 339    | CHIP CERAMIC CAP. B 330pF/50V or<br>CHIP CERAMIC CAP. B 330pF/50V                  | 12B3331C<br>CHE1JJ80B331             |
| C 340    | CHIP CERAMIC CAP. B 0.001μF/50V or<br>CHIP CERAMIC CAP. B 0.001μF/50V              | 12B3102C<br>CHE1JJ80B102             |
| C 351    | CHIP CERAMIC CAP. CH 180pF/50V or<br>CHIP CERAMIC CAP. CH 180pF/50V                | 12CH181C<br>CHE12JJ8CH181            |
| C 352    | CHIP CERAMIC CAP. CH 180pF/50V or<br>CHIP CERAMIC CAP. CH 180pF/50V                | 12CH181C<br>CHE12JJ8CH181            |
| C 353    | SEMICONDUCTOR CAP. 0.1μF/25V K                                                     | CDA1EKS0X104                         |
| C 354    | ELECTROLYTIC CAP. 4.7μF/50V                                                        | 126F475S                             |
| C 355    | SEMICONDUCTOR CAP. 0.1μF/25V K                                                     | CDA1EKS0X104                         |
| C 356    | ELECTROLYTIC CAP. 10μF/50V                                                         | 126F106S                             |
| C 357    | CHIP CERAMIC CAP. CH 22pF/50V or<br>CHIP CERAMIC CAP. CH 22pF/50V                  | 12CH220C<br>CHE1JJ8CH220             |
| C 358    | ELECTROLYTIC CAP. 1μF/50V                                                          | 126F105S                             |
| C 359    | CHIP CERAMIC CAP. SL 120pF/50V or<br>CHIP CERAMIC CAP. SL 120pF/50V                | 1270121C<br>CHE1JJ8SL121             |
| C 360    | CHIP CERAMIC CAP. SL 56pF/50V or<br>CHIP CERAMIC CAP. SL 56pF/50V                  | 1270560C<br>CHE1JJ8SL560             |
| C 361    | ELECTROLYTIC CAP. 0.1μF/50V                                                        | 126F104S                             |
| C 362    | ELECTROLYTIC CAP. 0.1μF/50V                                                        | 126F104S                             |
| C 363    | ELECTROLYTIC CAP. 1μF/50V                                                          | 126F105S                             |
| C 364    | ELECTROLYTIC CAP. 0.1μF/50V                                                        | 126F104S                             |
| C 365    | ELECTROLYTIC CAP. 0.47μF/50V                                                       | 126F474S                             |
| C 366    | ELECTROLYTIC CAP. 0.47μF/50V                                                       | 126F474S                             |
| C 367    | ELECTROLYTIC CAP. 0.47μF/50V                                                       | 126F474S                             |
| C 381    | CHIP CERAMIC CAP. SL 68pF/50V or<br>CHIP CERAMIC CAP. SL 68pF/50V                  | 1270680C<br>CHE1JJ8SL680             |
| C 382    | CHIP CERAMIC CAP. SL 33pF/50V or<br>CHIP CERAMIC CAP. SL 33pF/50V                  | 1270330C<br>CHE1JJ8SL330             |
| C 383    | CHIP CERAMIC CAP. SL 47pF/50V or<br>CHIP CERAMIC CAP. SL 47pF/50V                  | 1270470C<br>CHE1JJ8SL470             |
| C 401    | CHIP CERAMIC CAP. CH 180pF/50V or<br>CHIP CERAMIC CAP. CH 180pF/50V                | 12CH181C<br>CHE12JJ8CH181            |

\* Mylar is a registered trademark of E. I. DuPont de Nemours and Company.

| Ref. No. | Description                                                                                                                   | Part No.                                           |
|----------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| C 402    | CHIP CERAMIC CAP. CH 180pF/50V or<br>CHIP CERAMIC CAP. CH 180pF/50V                                                           | 12CH181C<br>CHE12JJ8CH181                          |
| C 403    | CHIP CERAMIC CAP. CH 7pF/50V                                                                                                  | 12CH709C                                           |
| C 404    | CHIP CERAMIC CAP. CH 20pF/50V or<br>CHIP CERAMIC CAP. CH 20pF/50V                                                             | 12CH200C<br>CHE1JJ8CH200                           |
| C 405    | CHIP CERAMIC CAP. CH 6pF/50V                                                                                                  | 12CH609C                                           |
| C 406    | CHIP CERAMIC CAP. CH 20pF/50V or<br>CHIP CERAMIC CAP. CH 20pF/50V                                                             | 12CH200C<br>CHE1JJ8CH200                           |
| C 407    | MYLAR CAP. 0.056μF K or<br>MYLAR CAP. 0.056μF K                                                                               | 1250563S<br>2250563S                               |
| C 408    | CHIP CERAMIC CAP. F 0.01μF/50V or<br>CHIP CERAMIC CAP. F 0.01μF/50V                                                           | 12F3103C<br>CHE1JZ80F103                           |
| C 409    | CHIP CERAMIC CAP. F 0.01μF/50V or<br>CHIP CERAMIC CAP. F 0.01μF/50V                                                           | 12F3103C<br>CHE1JZ80F103                           |
| C 410    | CHIP CERAMIC CAP. SL 27pF/50V or<br>CHIP CERAMIC CAP. SL 27pF/50V                                                             | 1270270C<br>CHE1JJ8SL270                           |
| C 412    | CHIP CERAMIC CAP. F 0.01μF/50V or<br>CHIP CERAMIC CAP. F 0.01μF/50V                                                           | 12F3103C<br>CHE1JZ80F103                           |
| C 501    | CHIP CERAMIC CAP. B 0.001μF/50V or<br>CHIP CERAMIC CAP. B 0.001μF/50V                                                         | 12B3102C<br>CHE1JJ80B102                           |
| C 502    | ELECTROLYTIC CAP. 2.2μF/50V (LL) or<br>ELECTROLYTIC CAP. 2.2μF/50V (LL)                                                       | CE1JMAULL2R2<br>CE1JMASLL2R2                       |
| C 503    | TF CAP. 0.1μF/50V or<br>TF CAP. 0.1μF/50V                                                                                     | 125U104S<br>122Z309S                               |
| C 504    | CHIP CERAMIC CAP. B 470pF/50V or<br>CHIP CERAMIC CAP. B 470pF/50V                                                             | 12B3471C<br>CHE1JJ80B471                           |
| C 505    | MYLAR CAP. 0.033μF K or<br>MYLAR CAP. 0.033μF K                                                                               | 1250333S<br>2250333S                               |
| C 506    | ELECTROLYTIC CAP. 100μF/35V                                                                                                   | 126E107S                                           |
| C 507    | ELECTROLYTIC CAP. 100μF/35V                                                                                                   | 126E107S                                           |
| C 508    | ELECTROLYTIC CAP. 3.3μF/50V (LL) or<br>ELECTROLYTIC CAP. 3.3μF/50V (LL)                                                       | CE1JMAULL3R3<br>CE1JMASLL3R3                       |
| C 509    | ELECTROLYTIC CAP. 1000μF/25V                                                                                                  | 626D108                                            |
| C 510    | TF CAP. 0.1μF/50V or<br>TF CAP. 0.1μF/50V                                                                                     | 125U104S<br>122Z309S                               |
| C 511    | ELECTROLYTIC CAP. 3.3μF/50V (LL) or<br>ELECTROLYTIC CAP. 3.3μF/50V (LL)                                                       | CE1JMAULL3R3<br>CE1JMASLL3R3                       |
| C 551    | CHIP CERAMIC CAP. B 330pF/50V or<br>CHIP CERAMIC CAP. B 330pF/50V                                                             | 12B3331C<br>CHE1JJ80B331                           |
| C 552    | CERAMIC CAP. 330pF/500V                                                                                                       | CCD2JKS0B331                                       |
| C 553    | CERAMIC CAP. 0.0022μF/500V                                                                                                    | CCD2JKS0B222                                       |
| C 554    | P.P. CAP. 0.0068μF/1.6KV or<br>P.P. CAP. 0.0068μF/1.6KV or<br>P.P. CAP. 0.0068μF/1.6KV                                        | 122Z283<br>1220498<br>CCD3DKA0B102                 |
| C 555    | CERAMIC CAP. 0.001μF/2KV BN TYPE<br>[used CRT: 37GDA85X-TC01/<br>A34KPU02XX48]                                                | CCD3DKA0B681                                       |
| C 556    | P.P. CAP. 0.47μF/200V or<br>P.P. CAP. 0.47μF/200V                                                                             | CT2E474DT003<br>122Z256                            |
| C 557    | ELECTROLYTIC CAP. 1μF/250V or<br>ELECTROLYTIC CAP. 1μF/250V or<br>ELECTROLYTIC CAP. 1μF/250V or<br>ELECTROLYTIC CAP. 1μF/250V | CE2EMZNTL010<br>122Z340<br>6220690<br>CE2EMZDDL010 |
| C 601    | LINE ACROSS CAP. 0.1μF/250V or<br>LINE ACROSS CAP. 0.1μF/250V or<br>LINE ACROSS CAP. 0.1μF/250V                               | CT2E104DT001<br>122Z181<br>CA2E104MS005            |
| C 603    | CERAMIC CAP. 0.0022μF AC250V or<br>CERAMIC CAP. 0.0022μF AC250V                                                               | CCH2EZP0E222<br>CCD2EZA0E222                       |
| C 604    | CERAMIC CAP. 0.0022μF AC250V or<br>CERAMIC CAP. 0.0022μF AC250V                                                               | CCH2EZP0E222<br>CCD2EZA0E222                       |
| C 605    | CERAMIC CAP. 0.0022μF AC250V or<br>CERAMIC CAP. 0.0022μF AC250V                                                               | CCH2EZP0E222<br>CCD2EZA0E222                       |

| Ref. No.   | Description                                                                                                | Part No.                           |
|------------|------------------------------------------------------------------------------------------------------------|------------------------------------|
| C 606      | CERAMIC CAP. 0.0022μF AC250V or<br>CERAMIC CAP. 0.0022μF AC250V                                            | CCH2EZP0E222<br>CCD2EZA0E222       |
| C 607      | ELECTROLYTIC CAP. 100μF/400V                                                                               | CA2H101NC008                       |
| C 608      | ELECTROLYTIC CAP. 33μF/25V                                                                                 | 126D336S                           |
| C 611      | MYLAR CAP. 0.039μF K or<br>MYLAR CAP. 0.039μF K                                                            | 1250393S<br>2250393S               |
| C 612      | MYLAR CAP. 0.022μF K or<br>MYLAR CAP. 0.022μF K                                                            | 1250223S<br>2250223S               |
| C 617      | CERAMIC CAP. 0.0047μF AC400V or<br>CERAMIC CAP. 0.0047μF AC400V                                            | CCG2HZP0Z472<br>1220353            |
| C 618      | CERAMIC CAP. 0.0047μF AC400V or<br>CERAMIC CAP. 0.0047μF AC400V                                            | CCG2HZP0Z472<br>1220353            |
| C 619      | CERAMIC CAP. 0.0047μF AC400V or<br>CERAMIC CAP. 0.0047μF AC400V                                            | CCG2HZP0Z472<br>1220353            |
| C 620      | MYLAR CAP. 0.022μF K or<br>MYLAR CAP. 0.022μF K                                                            | 1250223S<br>2250223S               |
| C 621      | CERAMIC CAP. 0.0015μF/2KV or<br>CERAMIC CAP. 0.0015μF/2KV                                                  | CCD3DKP0B152<br>6220586            |
| C 622      | ELECTROLYTIC CAP. 100μF/16V                                                                                | 126C107S                           |
| C 623      | ELECTROLYTIC CAP. 100μF/160V (105°C) or<br>ELECTROLYTIC CAP. 100μF/160V (105°C)                            | CA2C101NC009<br>CE2CMZDEH101       |
| C 624      | CERAMIC CAP. 470pF/500V                                                                                    | CCD2JKS0B471                       |
| C 625      | ELECTROLYTIC CAP. 2200μF/16V or<br>ELECTROLYTIC CAP. 2200μF/16V                                            | CE1CMRDDL222<br>626C228            |
| C 626      | MYLAR CAP. 0.001μF K or<br>MYLAR CAP. 0.001μF K                                                            | 1250102S<br>2250102S               |
| C 627      | ELECTROLYTIC CAP. 470μF/35V or<br>ELECTROLYTIC CAP. 470μF/35V                                              | CE1GMRDDL471<br>626E477            |
| C 628      | CERAMIC CAP. 0.001μF/500V                                                                                  | CCD2JKS0B102                       |
| C 629      | ELECTROLYTIC CAP. 470μF/25V or<br>ELECTROLYTIC CAP. 470μF/25V                                              | CE1EMRDDL471<br>626D477            |
| C 631      | ELECTROLYTIC CAP. 220μF/16V                                                                                | 126C227S                           |
| C 634      | CERAMIC CAP. SL 15pF                                                                                       | 3S41150S                           |
| C 635      | ELECTROLYTIC CAP. 47μF/160V (105°C) or<br>ELECTROLYTIC CAP. 47μF/160V (105°C)                              | CA2C470NC009<br>CE2CMZDEH470       |
| C 651      | CERAMIC CAP. 0.001μF/500V                                                                                  | CCD2JKS0B102                       |
| C 652      | ELECTROLYTIC CAP. 4.7μF/100V                                                                               | CE2AMASDL4R7                       |
| C 653      | CERAMIC CAP. 0.0047μF/500V                                                                                 | CCD2JKD0B472                       |
| C 701      | ELECTROLYTIC CAP. 47μF/16V                                                                                 | 126C476S                           |
| C 702      | ELECTROLYTIC CAP. 4.7μF/50V                                                                                | 126F475S                           |
| C 703      | SEMICONDUCTOR CAP. 0.056μF/25V K                                                                           | CDA1EKS0X563                       |
| C 704      | ELECTROLYTIC CAP. 1μF/50V                                                                                  | 126F105S                           |
| C 801      | ELECTROLYTIC CAP. 10μF/50V                                                                                 | 126F106S                           |
| C 802      | ELECTROLYTIC CAP. 2.2μF/50V                                                                                | 126F225S                           |
| C 803      | CHIP CERAMIC CAP. B 0.018μF/50V or<br>CHIP CERAMIC CAP. B 0.018μF/50V                                      | 12B3183C<br>CHE1JJ80B183           |
| C 804      | ELECTROLYTIC CAP. 10μF/50V                                                                                 | 126F106S                           |
| C 805      | ELECTROLYTIC CAP. 10μF/50V                                                                                 | 126F106S                           |
| C 806      | ELECTROLYTIC CAP. 470μF/25V or<br>ELECTROLYTIC CAP. 470μF/25V                                              | CE1EMRDDL471<br>626D477            |
| C 807      | ELECTROLYTIC CAP. 470μF/10V                                                                                | 126B477S                           |
| C 808      | ELECTROLYTIC CAP. 470μF/10V                                                                                | 126B477S                           |
| C 809      | SEMICONDUCTOR CAP. 0.1μF/25V K                                                                             | CDA1EKS0X104                       |
| CONNECTORS |                                                                                                            |                                    |
| CN501      | CONNECTOR BASE 5P or (for D.Y.)<br>CONNECTOR BASE 5P or (for D.Y.)                                         | J3RTC05JG001<br>1780168            |
| CN601      | CONNECTOR BASE 5P (for D.Y.)<br>CONNECTOR BASE 2P or (for D.G.COIL)<br>CONNECTOR BASE 2P or (for D.G.COIL) | 1730812<br>J3RTC02JG001<br>1780165 |
| CN801      | CONNECTOR BASE 2P (for D.G.COIL)<br>CONNECTOR BASE 2P or (for SPEAKER)<br>CONNECTOR BASE 2P (for SPEAKER)  | 1780276<br>J383C02UG002<br>1770258 |
| DIODES     |                                                                                                            |                                    |
| D 1        | ZENER DIODE UZT33M or<br>ZENER DIODE L5631                                                                 | QCSZ00UZT33M<br>L5631              |
| D 2        | DIODE 1N4148M or                                                                                           | QDSZ01N4148M                       |

| Ref. No. | Description                                                                            | Part No.                                                 |
|----------|----------------------------------------------------------------------------------------|----------------------------------------------------------|
| D 3      | DIODE 1SS176 or<br>DIODE 1SS133<br>DIODE 1N4148M or<br>DIODE 1SS176 or<br>DIODE 1SS133 | 1SS176S<br>1SS133S<br>QDSZ01N4148M<br>1SS176S<br>1SS133S |
| D 4      | ZENER DIODE UZ-7.5BS (B) or<br>ZENER DIODE MTZJ7.5 (B)                                 | QDSB0UZ7R5BS<br>QDSB0MTZJ7R5                             |
| D 5      | ZENER DIODE UZ-7.5BS (B) or<br>ZENER DIODE MTZJ7.5 (B)                                 | QDSB0UZ7R5BS<br>QDSB0MTZJ7R5                             |
| D 101    | ZENER DIODE UZ-5.6BS (B) or<br>ZENER DIODE MTZJ5.6 (B)                                 | QDSB0UZ5R6BS<br>QDSB0MTZJ5R6                             |
| D 102    | ZENER DIODE UZ-4.3BS (B) or<br>ZENER DIODE MTZJ4.3 (B)                                 | QDSB0UZ4R3BS<br>QDSB0MTZJ4R3                             |
| D 111    | LED 5132T or<br>LED SLR-55VC 3F                                                        | NP4Z0005132T<br>1401273                                  |
| D 171    | DIODE 1N4148M or<br>DIODE 1SS176 or<br>DIODE 1SS133                                    | QDSZ01N4148M<br>1SS176S<br>1SS133S                       |
| D 173    | DIODE 1N4148M or<br>DIODE 1SS176 or<br>DIODE 1SS133                                    | QDSZ01N4148M<br>1SS176S<br>1SS133S                       |
| D 174    | DIODE 1N4148M or<br>DIODE 1SS176 or<br>DIODE 1SS133                                    | QDSZ01N4148M<br>1SS176S<br>1SS133S                       |
| D 201    | ZENER DIODE UZ-5.1BS (B) or<br>ZENER DIODE MTZJ5.1 (B)                                 | QDSB0UZ5R1BS<br>QDSB0MTZJ5R1                             |
| D 283    | ZENER DIODE UZ-20BS (B) or<br>ZENER DIODE MTZJ20 (B)                                   | QDSB00UZ20BS<br>QDSB00MTZJ20                             |
| D 284    | DIODE 1N4148M or<br>DIODE 1SS176 or<br>DIODE 1SS133                                    | QDSZ01N4148M<br>1SS176S<br>1SS133S                       |
| D 285    | DIODE 1N4148M or<br>DIODE 1SS176 or<br>DIODE 1SS133                                    | QDSZ01N4148M<br>1SS176S<br>1SS133S                       |
| D 286    | ZENER DIODE UZ-12BS (B) or<br>ZENER DIODE MTZJ12 (B)                                   | QDSB00UZ12BS<br>QDSB00MTZJ12                             |
| D 287    | DIODE 1N4148M or<br>DIODE 1SS176 or<br>DIODE 1SS133                                    | QDSZ01N4148M<br>1SS176S<br>1SS133S                       |
| D 331    | ZENER DIODE UZ-9.1BS (C) or<br>ZENER DIODE MTZJ9.1 (C)                                 | QDSB00UZ9R1BS<br>QDSB00MTZJ9R1                           |
| D 501    | ZENER DIODE UZ-7.5BS (B) or<br>ZENER DIODE MTZJ7.5 (B)                                 | QDSB0UZ7R5BS<br>QDSB0MTZJ7R5                             |
| D 502    | DIODE ERA15-02KFRB                                                                     | QDNZ0ERA1502                                             |
| D 503    | DIODE 1N4148M or<br>DIODE 1SS130                                                       | QDSZ01N4148M<br>1SS130S                                  |
| D 555    | DIODE ERB44-04L3                                                                       | QDQZ0ERB4404                                             |
| D 603    | DIODE ERB12-10L3                                                                       | QDQZ0ERB1210                                             |
| D 604    | DIODE ERB12-10L3                                                                       | QDQZ0ERB1210                                             |
| D 605    | DIODE ERB12-10L3                                                                       | QDQZ0ERB1210                                             |
| D 606    | DIODE ERB12-10L3                                                                       | QDQZ0ERB1210                                             |
| D 611    | ZENER DIODE UZ-12BS (B) or<br>ZENER DIODE MTZJ12 (B)                                   | QDSB00UZ12BS<br>QDSB00MTZJ12                             |
| D 612    | DIODE 1N4148M or<br>DIODE 1SS176 or<br>DIODE 1SS133                                    | QDSZ01N4148M<br>1SS176S<br>1SS133S                       |
| D 615    | DIODE 1N4148M or<br>DIODE 1SS130                                                       | QDSZ01N4148M<br>1SS130S                                  |
| D 616    | DIODE 1N4148M or<br>DIODE 1SS130                                                       | QDSZ01N4148M<br>1SS130S                                  |
| D 617    | DIODE 5ELS-TA2B5                                                                       | QDSZ00005ELS                                             |
| D 618    | DIODE 1N4148M or<br>DIODE 1SS176 or<br>DIODE 1SS133                                    | QDSZ01N4148M<br>1SS176S<br>1SS133S                       |
| D 619    | ZENER DIODE UZ-7.5BS (B) or<br>ZENER DIODE MTZJ7.5 (B)                                 | QDSB0UZ7R5BS<br>QDSB0MTZJ7R5                             |

| Ref. No.     | Description                                                               | Part No.                                                     |
|--------------|---------------------------------------------------------------------------|--------------------------------------------------------------|
| D 621        | DIODE ERD38-06L or<br>DIODE ERC25-06L3                                    | AERD3806L000<br>QD4Z0ERC2506                                 |
| D 622        | DIODE ERB44-04L3                                                          | QDQZ0ERB4404                                                 |
| D 623        | DIODE ERB44-04L3                                                          | QDQZ0ERB4404                                                 |
| D 624        | DIODE ERB44-04L3                                                          | QDQZ0ERB4404                                                 |
| D 625        | DIODE 1N4148M or<br>DIODE 1SS176 or<br>DIODE 1SS133                       | 1SS176S<br>1SS133S<br>QDSZ01N4148M                           |
| D 626        | DIODE 1N4148M or<br>DIODE 1SS176 or<br>DIODE 1SS133                       | 1SS176S<br>1SS133S<br>QDSZ01N4148M                           |
| D 627        | DIODE 1Z150 (LC6) or<br>DIODE EQB01-150                                   | QD4Z0001Z150<br>AEQB01150000                                 |
| D 628        | ZENER DIODE UZ-6.8BS (B) or<br>ZENER DIODE MTZJ6.8 (B)                    | QDSB0UZ6R8BS<br>QDSB0MTZJ6R8                                 |
| D 629        | DIODE 1N4148M or<br>DIODE 1SS176 or<br>DIODE 1SS133                       | QDSZ01N4148M<br>1SS176S<br>1SS133S                           |
| D 631        | ZENER DIODE UZ-12BS (B) or<br>ZENER DIODE MTZJ12 (B)                      | QDSB00UZ12BS<br>QDSB00MTZJ12                                 |
| D 632        | DIODE 1N4148M or<br>DIODE 1SS176 or<br>DIODE 1SS133                       | QDSZ01N4148M<br>1SS176S<br>1SS133S                           |
| D 633        | ZENER DIODE UZ-3.9BS (B) or<br>ZENER DIODE MTZJ3.9 (B)                    | QDSB0UZ3R9BS<br>QDSB0MTZJ3R9                                 |
| D 634        | DIODE 1N4148M or<br>DIODE 1SS176 or<br>DIODE 1SS133                       | QDSZ01N4148M<br>1SS176S<br>1SS133S                           |
| D 635        | DIODE 1N4148M or<br>DIODE 1SS176 or<br>DIODE 1SS133                       | QDSZ01N4148M<br>1SS176S<br>1SS133S                           |
| D 651        | DIODE ERB44-04L3                                                          | QDQZ0ERB4404                                                 |
| D 652        | ZENER DIODE UZ-12BS (B) or<br>ZENER DIODE MTZJ12 (B)                      | QDSB00UZ12BS<br>QDSB00MTZJ12                                 |
| D 701        | DIODE 1N4148M or<br>DIODE 1SS176 or<br>DIODE 1SS133                       | QDSZ01N4148M<br>1SS176S<br>1SS133S                           |
| D 702        | DIODE 1N4148M or<br>DIODE 1SS176 or<br>DIODE 1SS133                       | QDSZ01N4148M<br>1SS176S<br>1SS133S                           |
| D 801        | DIODE 1N4148M or<br>DIODE 1SS176 or<br>DIODE 1SS133                       | QDSZ01N4148M<br>1SS176S<br>1SS133S                           |
| <b>ICS</b>   |                                                                           |                                                              |
| IC101        | IC TMP47C634AN-R584                                                       | QSMQA0ZTS045                                                 |
| IC102        | IC 24LC01B/P or<br>IC X24C01AP or<br>IC ST24C01CB1 or<br>IC AT24C01A-10PC | NSMMA0SMH002<br>NSMMA0ZXC003<br>NSMMA0ZSS002<br>NSMMA0ZAZ003 |
| IC201        | IC M52313SP                                                               | QSBLA0SMB011                                                 |
| IC301        | IC TA8759BN                                                               | QSBLOZTS042                                                  |
| IC501        | IC AN5512                                                                 | QSBLOSMS006                                                  |
| IC601        | PHOTO COUPLER PC120                                                       | QPEZ00PC120F                                                 |
| IC701        | IC TC4053BP or<br>IC BU4053B or<br>IC MC14053BCP or<br>IC NJU4053BD       | 14DW168<br>14LF166<br>14D0168<br>14D0436                     |
| IC801        | IC AN5265                                                                 | 14LN160                                                      |
| <b>COILS</b> |                                                                           |                                                              |
| L 171        | MICRO INDUCTOR 39μH J                                                     | 2164390S                                                     |
| L 201        | MICRO INDUCTOR 1μH K                                                      | 2165109S                                                     |
| L 202        | MICRO INDUCTOR 2.2μH K                                                    | 2165229S                                                     |
| L 212        | MICRO INDUCTOR 10μH K                                                     | 2165100S                                                     |
| L 213        | MICRO INDUCTOR 8.2μH K                                                    | 2165829S                                                     |
| L 301        | MICRO INDUCTOR 8.2μH K                                                    | 2165829S                                                     |
| L 351        | MICRO INDUCTOR 68μH K                                                     | 2165680S                                                     |

| Ref. No.           | Description                                                                                                                                   | Part No.                                                                     |
|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| L 352              | MICRO INDUCTOR 33μH K                                                                                                                         | 2165330S                                                                     |
| L 353              | MICRO INDUCTOR 68μH K                                                                                                                         | 2165680S                                                                     |
| L 381              | MICRO INDUCTOR 18μH K                                                                                                                         | 2165180S                                                                     |
| T 211              | CASING COIL                                                                                                                                   | LFA07V0MM041                                                                 |
| T 212              | CASING COIL                                                                                                                                   | LFA07V0MM040                                                                 |
| T 213              | CASING COIL                                                                                                                                   | LFA07V0MM039                                                                 |
| T 214              | CASING COIL                                                                                                                                   | LFA07V0MM042                                                                 |
| L 621              | POT TYPE COIL 47μH or<br>POT TYPE COIL 47μH                                                                                                   | LLARZGZSF470<br>LLBD**DMM001                                                 |
| T 301              | CASING COIL                                                                                                                                   | LFA07V0MM029                                                                 |
| T 401              | CASING COIL                                                                                                                                   | LFA07V0MM031                                                                 |
| T 402              | CASING COIL                                                                                                                                   | LFA07V0MM031                                                                 |
| T 403              | CASING COIL                                                                                                                                   | LFA07V0MM030                                                                 |
| T 404              | CASING COIL                                                                                                                                   | LFA07V0MM032                                                                 |
| <b>TRANSISTORS</b> |                                                                                                                                               |                                                                              |
| Q 1                | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |
| Q 2                | TRANSISTOR KTA1266 (GR) or<br>TRANSISTOR KTA1267 (GR) or<br>TRANSISTOR 2SA1318 (T) or<br>TRANSISTOR 2SA1318 (U) or<br>TRANSISTOR 2SA1015 (GR) | NQS40KTA1266<br>NQS10KTA1267<br>2SA1318TZ<br>2SA1318UZ<br>QQS102SA1015       |
| Q 3                | TRANSISTOR KTA1266 (GR) or<br>TRANSISTOR KTA1267 (GR) or<br>TRANSISTOR 2SA1318 (T) or<br>TRANSISTOR 2SA1318 (U) or<br>TRANSISTOR 2SA1015 (GR) | NQS40KTA1266<br>NQS10KTA1267<br>2SA1318TZ<br>2SA1318UZ<br>QQS102SA1015       |
| Q 4                | TRANSISTOR KTA1266 (GR) or<br>TRANSISTOR KTA1267 (GR) or<br>TRANSISTOR 2SA1318 (T) or<br>TRANSISTOR 2SA1318 (U) or<br>TRANSISTOR 2SA1015 (GR) | NQS40KTA1266<br>NQS10KTA1267<br>2SA1318TZ<br>2SA1318UZ<br>QQS102SA1015       |
| Q 101              | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |
| Q 102              | TRANSISTOR KTA1266 (GR) or<br>TRANSISTOR KTA1267 (GR) or<br>TRANSISTOR 2SA1318 (T) or<br>TRANSISTOR 2SA1318 (U) or<br>TRANSISTOR 2SA1015 (GR) | NQS40KTA1266<br>NQS10KTA1267<br>2SA1318TZ<br>2SA1318UZ<br>QQS102SA1015       |
| Q 103              | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |
| Q 104              | TRANSISTOR KTA1266 (GR) or<br>TRANSISTOR KTA1267 (GR) or<br>TRANSISTOR 2SA1318 (T) or<br>TRANSISTOR 2SA1318 (U) or<br>TRANSISTOR 2SA1015 (GR) | NQS40KTA1266<br>NQS10KTA1267<br>2SA1318TZ<br>2SA1318UZ<br>QQS102SA1015       |
| Q 105              | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |
| Q 121              | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |
| Q 122              | TRANSISTOR KTC3198 (GR) or                                                                                                                    | NQS40KTC3198                                                                 |

| Ref. No. | Description                                                                                                                                   | Part No.                                                                     |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Q 123    | TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR)                               | NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815                 |
| Q 125    | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |
| Q 126    | TRANSISTOR KTA1266 (GR) or<br>TRANSISTOR KTA1267 (GR) or<br>TRANSISTOR 2SA1318 (T) or<br>TRANSISTOR 2SA1318 (U) or<br>TRANSISTOR 2SA1015 (GR) | NQS40KTA1266<br>NQS10KTA1267<br>2SA1318TZ<br>2SA1318UZ<br>QQS102SA1015       |
| Q 127    | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |
| Q 201    | TRANSISTOR 2SC3000 (D) or<br>TRANSISTOR 2SC3000 (E)                                                                                           | 2SC3000DZ<br>2SC3000EZ                                                       |
| Q 281    | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |
| Q 301    | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |
| Q 381    | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |
| Q 391    | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |
| Q 392    | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |
| Q 393    | TRANSISTOR KTA1266 (GR) or<br>TRANSISTOR KTA1267 (GR) or<br>TRANSISTOR 2SA1318 (T) or<br>TRANSISTOR 2SA1318 (U) or<br>TRANSISTOR 2SA1015 (GR) | NQS40KTA1266<br>NQS10KTA1267<br>2SA1318TZ<br>2SA1318UZ<br>QQS102SA1015       |
| Q 394    | TRANSISTOR KTA1266 (GR) or<br>TRANSISTOR KTA1267 (GR) or<br>TRANSISTOR 2SA1318 (T) or<br>TRANSISTOR 2SA1318 (U) or<br>TRANSISTOR 2SA1015 (GR) | NQS40KTA1266<br>NQS10KTA1267<br>2SA1318TZ<br>2SA1318UZ<br>QQS102SA1015       |
| Q 395    | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |

| Ref. No.         | Description                                                                                                                                   | Part No.                                                                     |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Q 396            | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |
| Q 397            | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |
| Q 551            | TRANSISTOR 2SC2271 (D) or<br>TRANSISTOR 2SC2271 (E)                                                                                           | 2SC2271DZ<br>2SC2271EZ                                                       |
| Q 552            | TRANSISTOR 2SD2331LS                                                                                                                          | QQPZ02SD2331                                                                 |
| Q 601            | TRANSISTOR 2SC3979                                                                                                                            | QQPZ02SC3979                                                                 |
| Q 603            | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |
| Q 604            | TRANSISTOR 2SB698 (F) or<br>TRANSISTOR 2SB698 (G) or<br>TRANSISTOR 2SA950 (Y)                                                                 | QQSF002SB698<br>QQS002SB698<br>Q2SA950YTP2                                   |
| Q 605            | TRANSISTOR 2SD734 (G) or<br>TRANSISTOR 2SD734 (F)                                                                                             | QQSG002SD734<br>QQSF002SD734                                                 |
| Q 621            | TRANSISTOR 2SC2271 (D) or<br>TRANSISTOR 2SC2271 (E)                                                                                           | 2SC2271DZ<br>2SC2271EZ                                                       |
| Q 622            | TRANSISTOR 2SC2271 (D) or<br>TRANSISTOR 2SC2271 (E)                                                                                           | 2SC2271DZ<br>2SC2271EZ                                                       |
| Q 623            | TRANSISTOR 2SC2271 (D) or<br>TRANSISTOR 2SC2271 (E)                                                                                           | 2SC2271DZ<br>2SC2271EZ                                                       |
| Q 625            | TRANSISTOR 2SD1682(S) or<br>TRANSISTOR 2SD1682(T)                                                                                             | QQ3S02SD1682<br>QQ3T02SD1682                                                 |
| Q 702            | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |
| Q 703            | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |
| Q 704            | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |
| Q 705            | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |
| Q 801            | TRANSISTOR KTC3198 (GR) or<br>TRANSISTOR KTC3199 (GR) or<br>TRANSISTOR 2SC3331 (T) or<br>TRANSISTOR 2SC3331 (U) or<br>TRANSISTOR 2SC1815 (GR) | NQS40KTC3198<br>NQS10KTC3199<br>QSC3331TNPAA<br>QSC3331UNPAA<br>QQS102SC1815 |
| <b>RESISTORS</b> |                                                                                                                                               |                                                                              |
| R 1              | CHIP RES. 1/10W 10KΩ                                                                                                                          | 134F103C                                                                     |
| R 2              | CHIP RES. 1/10W 10KΩ                                                                                                                          | RRXAJR8Z0103                                                                 |
| R 3              | CHIP RES. 1/10W 22KΩ                                                                                                                          | 134F223C                                                                     |
| R 4              | CHIP RES. 1/10W 22KΩ                                                                                                                          | RRXAJR8Z0223                                                                 |
|                  | CHIP RES. 1/10W 15KΩ                                                                                                                          | 134F153C                                                                     |
|                  | CHIP RES. 1/10W 15KΩ                                                                                                                          | RRXAJR8Z0153                                                                 |

| Ref. No. | Description                                       | Part No.                 |
|----------|---------------------------------------------------|--------------------------|
| R 5      | CHIP RES. 1/10W 15KΩ or<br>CHIP RES. 1/10W 15KΩ   | 134F153C<br>RRXAJR8Z0153 |
| R 6      | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ   | 134F223C<br>RRXAJR8Z0223 |
| R 7      | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ   | 134F223C<br>RRXAJR8Z0223 |
| R 8      | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ   | 134F223C<br>RRXAJR8Z0223 |
| R 9      | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ   | 134F223C<br>RRXAJR8Z0223 |
| R 10     | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ   | 134F223C<br>RRXAJR8Z0223 |
| R 11     | CHIP RES. 1/10W 3.3KΩ or<br>CHIP RES. 1/10W 3.3KΩ | 134F332C<br>RRXAJR8Z0332 |
| R 12     | CHIP RES. 1/10W 3.3KΩ or<br>CHIP RES. 1/10W 3.3KΩ | 134F332C<br>RRXAJR8Z0332 |
| R 13     | CHIP RES. 1/10W 5.6KΩ or<br>CHIP RES. 1/10W 5.6KΩ | 134F562C<br>RRXAJR8Z0562 |
| R 14     | CHIP RES. 1/10W 5.6KΩ or<br>CHIP RES. 1/10W 5.6KΩ | 134F562C<br>RRXAJR8Z0562 |
| R 15     | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ   | 134F223C<br>RRXAJR8Z0223 |
| R 16     | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ   | 134F103C<br>RRXAJR8Z0103 |
| R 17     | CHIP RES. 1/10W 4.7Ω                              | 134F479C                 |
| R 101    | CARBON RES. 1/4W 10Ω                              | RCX4JASZ0100             |
| R 102    | CARBON RES. 1/4W 330Ω                             | RCX4JASZ0331             |
| R 103    | CHIP RES. 1/10W 1KΩ or<br>CHIP RES. 1/10W 1KΩ     | 134F102C<br>RRXAJR8Z0102 |
| R 104    | CHIP RES. 1/10W 1KΩ or<br>CHIP RES. 1/10W 1KΩ     | 134F102C<br>RRXAJR8Z0102 |
| R 105    | CHIP RES. 1/10W 1KΩ or<br>CHIP RES. 1/10W 1KΩ     | 134F102C<br>RRXAJR8Z0102 |
| R 106    | CHIP RES. 1/10W 8.2KΩ or<br>CHIP RES. 1/10W 8.2KΩ | 134F822C<br>RRXAJR8Z0822 |
| R 107    | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ   | 134F103C<br>RRXAJR8Z0103 |
| R 108    | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ   | 134F103C<br>RRXAJR8Z0103 |
| R 109    | CHIP RES. 1/10W 4.7KΩ or<br>CHIP RES. 1/10W 4.7KΩ | 134F472C<br>RRXAJR8Z0472 |
| R 110    | CARBON RES. 1/4W 1KΩ                              | RCX4JASZ0102             |
| R 111    | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ   | 134F223C<br>RRXAJR8Z0223 |
| R 112    | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ   | 134F223C<br>RRXAJR8Z0223 |
| R 113    | CHIP RES. 1/10W 220Ω or<br>CHIP RES. 1/10W 220Ω   | 134F221C<br>RRXAJR8Z0221 |
| R 115    | CHIP RES. 1/10W 100KΩ or<br>CHIP RES. 1/10W 100KΩ | 134F104C<br>RRXAJR8Z0104 |
| R 116    | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ   | 134F103C<br>RRXAJR8Z0103 |
| R 117    | CARBON RES. 1/4W 22KΩ                             | RCX4JASZ0223             |
| R 118    | CHIP RES. 1/10W 4.7KΩ or<br>CHIP RES. 1/10W 4.7KΩ | 134F472C<br>RRXAJR8Z0472 |
| R 119    | CARBON RES. 1/4W 10KΩ                             | RCX4JASZ0103             |
| R 121    | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ   | 134F223C<br>RRXAJR8Z0223 |
| R 122    | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ   | 134F103C<br>RRXAJR8Z0103 |
| R 123    | CHIP RES. 1/10W 1KΩ or<br>CHIP RES. 1/10W 1KΩ     | 134F102C<br>RRXAJR8Z0102 |
| R 124    | CHIP RES. 1/10W 390Ω or<br>CHIP RES. 1/10W 390Ω   | 134F391C<br>RRXAJR8Z0391 |
| R 125    | CHIP RES. 1/10W 47KΩ or<br>CHIP RES. 1/10W 47KΩ   | 134F473C<br>RRXAJR8Z0473 |

| Ref. No. | Description                                       | Part No.                 |
|----------|---------------------------------------------------|--------------------------|
| R 127    | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ   | 134F103C<br>RRXAJR8Z0103 |
| R 128    | CHIP RES. 1/10W 100Ω or<br>CHIP RES. 1/10W 100Ω   | 134F101C<br>RRXAJR8Z0101 |
| R 130    | CHIP RES. 1/10W 100KΩ or<br>CHIP RES. 1/10W 100KΩ | 134F104C<br>RRXAJR8Z0104 |
| R 133    | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ   | 134F223C<br>RRXAJR8Z0223 |
| R 135    | CHIP RES. 1/10W 2.2KΩ or<br>CHIP RES. 1/10W 2.2KΩ | 134F222C<br>RRXAJR8Z0222 |
| R 136    | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ   | 134F103C<br>RRXAJR8Z0103 |
| R 137    | CARBON RES. 1/4W 220Ω                             | RCX4JASZ0221             |
| R 138    | CHIP RES. 1/10W 220Ω or<br>CHIP RES. 1/10W 220Ω   | 134F221C<br>RRXAJR8Z0221 |
| R 139    | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ   | 134F223C<br>RRXAJR8Z0223 |
| R 140    | CHIP RES. 1/10W 1KΩ or<br>CHIP RES. 1/10W 1KΩ     | 134F102C<br>RRXAJR8Z0102 |
| R 145    | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ   | 134F223C<br>RRXAJR8Z0223 |
| R 146    | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ   | 134F223C<br>RRXAJR8Z0223 |
| R 152    | CARBON RES. 1/4W 4.7KΩ                            | RCX4JASZ0472             |
| R 153    | CHIP RES. 1/10W 4.7KΩ or<br>CHIP RES. 1/10W 4.7KΩ | 134F472C<br>RRXAJR8Z0472 |
| R 154    | CHIP RES. 1/10W 15KΩ or<br>CHIP RES. 1/10W 15KΩ   | 134F153C<br>RRXAJR8Z0153 |
| R 155    | CHIP RES. 1/10W 6.8KΩ or<br>CHIP RES. 1/10W 6.8KΩ | 134F682C<br>RRXAJR8Z0682 |
| R 156    | CHIP RES. 1/10W 6.8KΩ or<br>CHIP RES. 1/10W 6.8KΩ | 134F682C<br>RRXAJR8Z0682 |
| R 158    | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ   | 134F103C<br>RRXAJR8Z0103 |
| R 159    | CARBON RES. 1/4W 10KΩ                             | RCX4JASZ0103             |
| R 161    | CHIP RES. 1/10W 6.8KΩ or<br>CHIP RES. 1/10W 6.8KΩ | 134F682C<br>RRXAJR8Z0682 |
| R 162    | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ   | 134F223C<br>RRXAJR8Z0223 |
| R 164    | CHIP RES. 1/10W 68KΩ or<br>CHIP RES. 1/10W 68KΩ   | 134F683C<br>RRXAJR8Z0683 |
| R 165    | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ   | 134F223C<br>RRXAJR8Z0223 |
| R 166    | CHIP RES. 1/10W 15KΩ or<br>CHIP RES. 1/10W 15KΩ   | 134F153C<br>RRXAJR8Z0153 |
| R 167    | CHIP RES. 1/10W 1.8KΩ or<br>CHIP RES. 1/10W 1.8KΩ | 134F182C<br>RRXAJR8Z0182 |
| R 169    | CHIP RES. 1/10W 47KΩ or<br>CHIP RES. 1/10W 47KΩ   | 134F473C<br>RRXAJR8Z0473 |
| R 171    | CARBON RES. 1/4W 1.5KΩ                            | RCX4JASZ0152             |
| R 172    | CARBON RES. 1/4W 1.5KΩ                            | RCX4JASZ0152             |
| R 173    | CARBON RES. 1/4W 1.5KΩ                            | RCX4JASZ0152             |
| R 174    | CARBON RES. 1/4W 680Ω                             | RCX4JASZ0681             |
| R 175    | CHIP RES. 1/10W 68KΩ or<br>CHIP RES. 1/10W 68KΩ   | 134F683C<br>RRXAJR8Z0683 |
| R 178    | CHIP RES. 1/10W 1KΩ or<br>CHIP RES. 1/10W 1KΩ     | 134F102C<br>RRXAJR8Z0102 |
| R 179    | CHIP RES. 1/10W 220Ω or<br>CHIP RES. 1/10W 220Ω   | 134F221C<br>RRXAJR8Z0221 |
| R 180    | CHIP RES. 1/10W 220Ω or<br>CHIP RES. 1/10W 220Ω   | 134F221C<br>RRXAJR8Z0221 |
| R 181    | CHIP RES. 1/10W 220Ω or<br>CHIP RES. 1/10W 220Ω   | 134F221C<br>RRXAJR8Z0221 |
| R 185    | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ   | 134F223C<br>RRXAJR8Z0223 |
| R 186    | CHIP RES. 1/10W 22KΩ or                           | 134F223C                 |

| Ref. No. | Description                                                               | Part No.                                 |
|----------|---------------------------------------------------------------------------|------------------------------------------|
| R 187    | CHIP RES. 1/10W 22KΩ<br>CHIP RES. 1/10W 4.7KΩ or<br>CHIP RES. 1/10W 4.7KΩ | RRXAJR8Z0223<br>134F472C<br>RRXAJR8Z0472 |
| R 188    | CHIP RES. 1/10W 47KΩ or<br>CHIP RES. 1/10W 47KΩ                           | 134F473C<br>RRXAJR8Z0473                 |
| R 189    | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ                           | 134F103C<br>RRXAJR8Z0103                 |
| R 190    | CHIP RES. 1/10W 47KΩ or<br>CHIP RES. 1/10W 47KΩ                           | 134F473C<br>RRXAJR8Z0473                 |
| R 201    | CHIP RES. 1/10W 82Ω or<br>CHIP RES. 1/10W 82Ω                             | 134F820C<br>RRXAJR8Z0820                 |
| R 202    | CHIP RES. 1/10W 6.8KΩ or<br>CHIP RES. 1/10W 6.8KΩ                         | 134F682C<br>RRXAJR8Z0682                 |
| R 203    | CHIP RES. 1/10W 1.5KΩ or<br>CHIP RES. 1/10W 1.5KΩ                         | 134F152C<br>RRXAJR8Z0152                 |
| R 204    | CHIP RES. 1/10W 330Ω or<br>CHIP RES. 1/10W 330Ω                           | 134F331C<br>RRXAJR8Z0331                 |
| R 205    | CHIP RES. 1/10W 33Ω or<br>CHIP RES. 1/10W 33Ω                             | 134F330C<br>RRXAJR8Z0330                 |
| R 206    | CHIP RES. 1/10W 100Ω or<br>CHIP RES. 1/10W 100Ω                           | 134F101C<br>RRXAJR8Z0101                 |
| R 207    | CHIP RES. 1/10W 2.2KΩ or<br>CHIP RES. 1/10W 2.2KΩ                         | 134F222C<br>RRXAJR8Z0222                 |
| R 211    | CHIP RES. 1/10W 3.3KΩ or<br>CHIP RES. 1/10W 3.3KΩ                         | 134F332C<br>RRXAJR8Z0332                 |
| R 213    | CHIP RES. 1/10W 15KΩ or<br>CHIP RES. 1/10W 15KΩ                           | 134F153C<br>RRXAJR8Z0153                 |
| R 214    | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ                           | 134F103C<br>RRXAJR8Z0103                 |
| R 215    | CHIP RES. 1/10W 47Ω or<br>CHIP RES. 1/10W 47Ω                             | 134F470C<br>RRXAJR8Z0470                 |
| R 216    | CHIP RES. 1/10W 560Ω or<br>CHIP RES. 1/10W 560Ω                           | 134F561C<br>RRXAJR8Z0561                 |
| R 217    | CHIP RES. 1/10W 1KΩ or<br>CHIP RES. 1/10W 1KΩ                             | 134F102C<br>RRXAJR8Z0102                 |
| R 218    | CHIP RES. 1/10W 180Ω or<br>CHIP RES. 1/10W 180Ω                           | 134F181C<br>RRXAJR8Z0181                 |
| R 219    | CHIP RES. 1/10W 4.7KΩ or<br>CHIP RES. 1/10W 4.7KΩ                         | 134F472C<br>RRXAJR8Z0472                 |
| R 220    | CHIP RES. 1/10W 270KΩ or<br>CHIP RES. 1/10W 270KΩ                         | 134F274C<br>RRXAJR8Z0274                 |
| R 221    | METAL RES. 1W 120Ω or<br>METAL RES. 1W 120Ω                               | RN01JZDZ0121<br>RN01121KE004             |
| R 222    | CHIP RES. 1/10W 1.5KΩ or<br>CHIP RES. 1/10W 1.5KΩ                         | 134F152C<br>RRXAJR8Z0152                 |
| R 283    | CARBON RES. 1/4W 10KΩ                                                     | RCX4JASZ0103                             |
| R 284    | CARBON RES. 1/4W 1KΩ                                                      | RCX4JASZ0102                             |
| R 285    | CARBON RES. 1/4W 220KΩ                                                    | RCX4JASZ0224                             |
| R 286    | CARBON RES. 1/4W 27KΩ                                                     | RCX4JASZ0273                             |
| R 301    | CHIP RES. 1/10W 560Ω or<br>CHIP RES. 1/10W 560Ω                           | 134F561C<br>RRXAJR8Z0561                 |
| R 302    | CHIP RES. 1/10W 8.2KΩ or<br>CHIP RES. 1/10W 8.2KΩ                         | 134F822C<br>RRXAJR8Z0822                 |
| R 303    | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ                           | 134F103C<br>RRXAJR8Z0103                 |
| R 304    | CHIP RES. 1/10W 6.8KΩ or<br>CHIP RES. 1/10W 6.8KΩ                         | 134F682C<br>RRXAJR8Z0682                 |
| R 305    | CHIP RES. 1/10W 390Ω or<br>CHIP RES. 1/10W 390Ω                           | 134F391C<br>RRXAJR8Z0391                 |
| R 306    | CHIP RES. 1/10W 2.2KΩ or<br>CHIP RES. 1/10W 2.2KΩ                         | 134F222C<br>RRXAJR8Z0222                 |
| R 307    | CHIP RES. 1/10W 330KΩ or<br>CHIP RES. 1/10W 330KΩ                         | 134F334C<br>RRXAJR8Z0334                 |
| R 308    | CHIP RES. 1/10W 3.3KΩ or<br>CHIP RES. 1/10W 3.3KΩ                         | 134F332C<br>RRXAJR8Z0332                 |
| R 309    | CHIP RES. 1/10W 1.8MΩ or                                                  | 134F185C                                 |

| Ref. No. | Description                                                                | Part No.                                 |
|----------|----------------------------------------------------------------------------|------------------------------------------|
| R 310    | CHIP RES. 1/10W 1.8MΩ<br>CHIP RES. 1/10W 1.2KΩ or<br>CHIP RES. 1/10W 1.2KΩ | RRXAJR8Z0185<br>134F122C<br>RRXAJR8Z0122 |
| R 311    | CHIP RES. 1/10W 1.8KΩ or<br>CHIP RES. 1/10W 1.8KΩ                          | 134F182C<br>RRXAJR8Z0182                 |
| R 312    | CHIP RES. 1/10W 5.6KΩ or<br>CHIP RES. 1/10W 5.6KΩ                          | 134F562C<br>RRXAJR8Z0562                 |
| R 313    | CHIP RES. 1/10W 15KΩ or<br>CHIP RES. 1/10W 15KΩ                            | 134F153C<br>RRXAJR8Z0153                 |
| R 314    | CHIP RES. 1/10W 5.6KΩ or<br>CHIP RES. 1/10W 5.6KΩ                          | 134F562C<br>RRXAJR8Z0562                 |
| R 315    | CHIP RES. 1/10W 1KΩ or<br>CHIP RES. 1/10W 1KΩ                              | 134F102C<br>RRXAJR8Z0102                 |
| R 316    | CHIP RES. 1/10W 33KΩ or<br>CHIP RES. 1/10W 33KΩ                            | 134F333C<br>RRXAJR8Z0333                 |
| R 321    | CHIP RES. 1/10W 4.7MΩ or<br>CHIP RES. 1/10W 4.7MΩ                          | 134F475C<br>RRXAJR8Z0475                 |
| R 322    | CHIP RES. 1/10W 15KΩ or<br>CHIP RES. 1/10W 15KΩ                            | 134F153C<br>RRXAJR8Z0153                 |
| R 331    | CHIP RES. 1/10W 2.7KΩ or<br>CHIP RES. 1/10W 2.7KΩ                          | 134F272C<br>RRXAJR8Z0272                 |
| R 332    | CHIP RES. 1/10W 4.7KΩ or<br>CHIP RES. 1/10W 4.7KΩ                          | 134F472C<br>RRXAJR8Z0472                 |
| R 333    | CHIP RES. 1/10W 150Ω or<br>CHIP RES. 1/10W 150Ω                            | 134F151C<br>RRXAJR8Z0151                 |
| R 334    | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ                            | 134F223C<br>RRXAJR8Z0223                 |
| R 335    | CHIP RES. 1/10W 270Ω or<br>CHIP RES. 1/10W 270Ω                            | 134F271C<br>RRXAJR8Z0271                 |
| R 336    | CHIP RES. 1/10W 1KΩ or<br>CHIP RES. 1/10W 1KΩ                              | 134F102C<br>RRXAJR8Z0102                 |
| R 337    | CHIP RES. 1/10W 470Ω or<br>CHIP RES. 1/10W 470Ω                            | 134F471C<br>RRXAJR8Z0471                 |
| R 338    | CHIP RES. 1/10W 3.3KΩ or<br>CHIP RES. 1/10W 3.3KΩ                          | 134F332C<br>RRXAJR8Z0332                 |
| R 339    | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ                            | 134F223C<br>RRXAJR8Z0223                 |
| R 340    | CHIP RES. 1/10W 150Ω or<br>CHIP RES. 1/10W 150Ω                            | 134F151C<br>RRXAJR8Z0151                 |
| R 341    | CHIP RES. 1/10W 120Ω or<br>CHIP RES. 1/10W 120Ω                            | 134F121C<br>RRXAJR8Z0121                 |
| R 342    | CHIP RES. 1/10W 330KΩ or<br>CHIP RES. 1/10W 330KΩ                          | 134F334C<br>RRXAJR8Z0334                 |
| R 343    | CHIP RES. 1/10W 120KΩ or<br>CHIP RES. 1/10W 120KΩ                          | 134F124C<br>RRXAJR8Z0124                 |
| R 351    | CHIP RES. 1/10W 560Ω or<br>CHIP RES. 1/10W 560Ω                            | 134F561C<br>RRXAJR8Z0561                 |
| R 352    | CHIP RES. 1/10W 8.2KΩ or<br>CHIP RES. 1/10W 8.2KΩ                          | 134F822C<br>RRXAJR8Z0822                 |
| R 353    | CHIP RES. 1/10W 4.7KΩ or<br>CHIP RES. 1/10W 4.7KΩ                          | 134F472C<br>RRXAJR8Z0472                 |
| R 354    | CHIP RES. 1/10W 33KΩ or<br>CHIP RES. 1/10W 33KΩ                            | 134F333C<br>RRXAJR8Z0333                 |
| R 355    | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ                            | 134F103C<br>RRXAJR8Z0103                 |
| R 357    | CHIP RES. 1/10W 1KΩ or<br>CHIP RES. 1/10W 1KΩ                              | 134F102C<br>RRXAJR8Z0102                 |
| R 360    | CARBON RES. 1/4W 680Ω                                                      | RCX4JASZ0681                             |
| R 361    | CHIP RES. 1/10W 220Ω or<br>CHIP RES. 1/10W 220Ω                            | 134F221C<br>RRXAJR8Z0221                 |
| R 362    | CHIP RES. 1/10W 220Ω or<br>CHIP RES. 1/10W 220Ω                            | 134F221C<br>RRXAJR8Z0221                 |
| R 363    | CHIP RES. 1/10W 220Ω or<br>CHIP RES. 1/10W 220Ω                            | 134F221C<br>RRXAJR8Z0221                 |
| R 365    | CHIP RES. 1/10W 1.2KΩ or<br>CHIP RES. 1/10W 1.2KΩ                          | 134F122C<br>RRXAJR8Z0122                 |

| Ref. No. | Description                                                             | Part No.                                |
|----------|-------------------------------------------------------------------------|-----------------------------------------|
| R 366    | CHIP RES. 1/10W 1.5KΩ or<br>CHIP RES. 1/10W 1.5KΩ                       | 134F152C<br>RRXAJR8Z0152                |
| R 367    | CHIP RES. 1/10W 12KΩ or<br>CHIP RES. 1/10W 12KΩ                         | 134F123C<br>RRXAJR8Z0123                |
| R 368    | CHIP RES. 1/10W 15KΩ or<br>CHIP RES. 1/10W 15KΩ                         | 134F153C<br>RRXAJR8Z0153                |
| R 369    | CHIP RES. 1/10W 15KΩ or<br>CHIP RES. 1/10W 15KΩ                         | 134F153C<br>RRXAJR8Z0153                |
| R 370    | CHIP RES. 1/10W 470Ω or<br>CHIP RES. 1/10W 470Ω                         | 134F471C<br>RRXAJR8Z0471                |
| R 383    | CHIP RES. 1/10W 470Ω or<br>CHIP RES. 1/10W 470Ω                         | 134F471C<br>RRXAJR8Z0471                |
| R 385    | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ                         | 134F223C<br>RRXAJR8Z0223                |
| R 386    | CHIP RES. 1/10W 4.7KΩ or<br>CHIP RES. 1/10W 4.7KΩ                       | 134F472C<br>RRXAJR8Z0472                |
| R 391    | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ                         | 134F103C<br>RRXAJR8Z0103                |
| R 392    | CHIP RES. 1/10W 8.2KΩ or<br>CHIP RES. 1/10W 8.2KΩ                       | 134F822C<br>RRXAJR8Z0822                |
| R 393    | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ                         | 134F103C<br>RRXAJR8Z0103                |
| R 394    | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ                         | 134F103C<br>RRXAJR8Z0103                |
| R 395    | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ                         | 134F223C<br>RRXAJR8Z0223                |
| R 396    | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ                         | 134F223C<br>RRXAJR8Z0223                |
| R 397    | CHIP RES. 1/10W 220KΩ or<br>CHIP RES. 1/10W 220KΩ                       | 134F224C<br>RRXAJR8Z0224                |
| R 401    | CHIP RES. 1/10W 3.3KΩ or<br>CHIP RES. 1/10W 3.3KΩ                       | 134F332C<br>RRXAJR8Z0332                |
| R 402    | CHIP RES. 1/10W 6.8KΩ or<br>CHIP RES. 1/10W 6.8KΩ                       | 134F682C<br>RRXAJR8Z0682                |
| R 403    | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ                         | 134F103C<br>RRXAJR8Z0103                |
| R 404    | CHIP RES. 1/10W 150Ω or<br>CHIP RES. 1/10W 150Ω                         | 134F151C<br>RRXAJR8Z0151                |
| R 405    | CHIP RES. 1/10W 4.7MΩ or<br>CHIP RES. 1/10W 4.7MΩ                       | 134F475C<br>RRXAJR8Z0475                |
| R 423    | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ                         | 134F223C<br>RRXAJR8Z0223                |
| R 501    | CHIP RES. 1/10W 82KΩ or<br>CHIP RES. 1/10W 82KΩ                         | 134F823C<br>RRXAJR8Z0823                |
| R 502    | CHIP RES. 1/10W 1KΩ or<br>CHIP RES. 1/10W 1KΩ                           | 134F102C<br>RRXAJR8Z0102                |
| R 503    | CARBON RES. 1/4W 15KΩ                                                   | RCX4JASZ0153                            |
| R 504    | CHIP RES. 1/10W 1KΩ or<br>CHIP RES. 1/10W 1KΩ                           | 134F102C<br>RRXAJR8Z0102                |
| R 505    | CARBON RES. 1/4W 68KΩ                                                   | RCX4JASZ0683                            |
| R 506    | CARBON RES. 1/4W 6.8KΩ                                                  | RCX4JASZ0682                            |
| R 507    | CARBON RES. 1/4W 1KΩ                                                    | RCX4JASZ0102                            |
| R 508    | CARBON RES. 1/4W 56KΩ                                                   | RCX4JASZ0563                            |
| R 509    | CARBON RES. 1/4W 3.3Ω                                                   | 1345339S                                |
| R 510    | CARBON RES. 1/4W 3.3Ω                                                   | 1345339S                                |
| R 511    | CARBON RES. 1/4W 1KΩ                                                    | RCX4JASZ0102                            |
| R 512    | CARBON RES. 1/4W 1KΩ                                                    | RCX4JASZ0102                            |
| R 513    | FUSE RES. 1/4W 4.7Ω or<br>FUSE RES. 1/4W 4.7Ω or<br>FUSE RES. 1/4W 4.7Ω | RFX44R7MS002<br>5366479<br>RFX44R7QJ001 |
| R 514    | CARBON RES. 1/4W 68KΩ                                                   | RCX4JASZ0683                            |
| R 521    | CARBON RES. 1/4W 1KΩ                                                    | RCX4JASZ0102                            |
| R 522    | CARBON RES. 1/4W 560Ω                                                   | RCX4JASZ0561                            |
| R 551    | METAL RES. 3W 220Ω or<br>METAL RES. 3W 220Ω                             | RN03JZDZ0221<br>RN03221KE003            |
| R 552    | CARBON RES. 1/4W 10KΩ                                                   | RCX4JASZ0103                            |

| Ref. No. | Description                                                                | Part No.                                     |
|----------|----------------------------------------------------------------------------|----------------------------------------------|
| R 553    | CEMENT RES. 5W 1.8KΩ or<br>CEMENT RES. 5W 1.8KΩ or<br>CEMENT RES. 5W 1.8KΩ | RW05182PG004<br>RW05182UB004<br>RW05182KA004 |
| R 554    | METAL RES. 1W 15KΩ or<br>METAL RES. 1W 15KΩ                                | RN01JZDZ0153<br>RN01153KE004                 |
| R 555    | CARBON RES. 1/4W 0.47Ω                                                     | 1345478S                                     |
| R 556    | CARBON RES. 1/4W 10KΩ                                                      | RCX4JASZ0103                                 |
| R 557    | CHIP RES. 1/10W 330Ω or<br>CHIP RES. 1/10W 330Ω                            | 134F331C<br>RRXAJR8Z0331                     |
| R 558    | CARBON RES. 1/4W 100KΩ                                                     | RCX4JASZ0104                                 |
| R 559    | CARBON RES. 1/4W 56KΩ                                                      | RCX4JASZ0563                                 |
| R 560    | CARBON RES. 1/4W 1KΩ                                                       | RCX4JASZ0102                                 |
| R 561    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω                                | 134F000C<br>RRXAJR8Z0000                     |
| R 601    | CEMENT RES. 5W 1.2Ω or<br>CEMENT RES. 5W 1.2Ω or<br>CEMENT RES. 5W 1.2Ω    | RW051R2PG001<br>RW051R2UB001<br>RW051R2KA006 |
| R 603    | CEMENT RES. 5W 47Ω or<br>CEMENT RES. 5W 47Ω or<br>CEMENT RES. 5W 47Ω       | RW05470PG001<br>RW05470UB001<br>RW05470KA006 |
| R 604    | CARBON RES. 1/4W 15KΩ                                                      | RCX4JASZ0153                                 |
| R 606    | CARBON RES. 1/4W 6.8KΩ                                                     | RCX4JASZ0682                                 |
| R 607    | CARBON RES. 1/4W 560KΩ                                                     | RCX4JASZ0564                                 |
| R 608    | CARBON RES. 1/4W 3.9KΩ                                                     | RCX4JASZ0392                                 |
| R 609    | CARBON RES. 1/4W 390Ω                                                      | RCX4JASZ0391                                 |
| R 610    | CARBON RES. 1/4W 270Ω                                                      | RCX4JASZ0271                                 |
| R 611    | CARBON RES. 1/4W 1.5MΩ                                                     | 1345155S                                     |
| R 612    | CARBON RES. 1/4W 47KΩ                                                      | RCX4JASZ0473                                 |
| R 614    | CEMENT RES. 5W 3.3Ω or<br>CEMENT RES. 5W 3.3Ω or<br>CEMENT RES. 5W 3.3Ω    | RW053R3PG001<br>RW053R3UB001<br>RW053R3KA006 |
| R 615    | CARBON RES. 1/4W 1.2KΩ                                                     | RCX4JASZ0122                                 |
| R 618    | CARBON RES. 1/4W 680Ω                                                      | RCX4JASZ0681                                 |
| R 619    | CARBON RES. 1/4W 100Ω                                                      | RCX4JASZ0101                                 |
| R 620    | CARBON RES. 1/4W 56KΩ                                                      | RCX4JASZ0563                                 |
| R 621    | METAL RES. 2W 0.68Ω                                                        | RN02JZDZ0R68                                 |
| R 622    | CARBON RES. 1/4W 5.6KΩ                                                     | RCX4JASZ0562                                 |
| R 626    | CARBON RES. 1/4W 56KΩ                                                      | RCX4JASZ0563                                 |
| R 627    | CARBON RES. 1/4W 56KΩ                                                      | RCX4JASZ0563                                 |
| R 628    | CARBON RES. 1/4W 56KΩ                                                      | RCX4JASZ0563                                 |
| R 631    | CARBON RES. 1/4W 820Ω                                                      | RCX4JASZ0821                                 |
| R 632    | METAL RES. 2W 4.7Ω                                                         | RN02JZDZ04R7                                 |
| R 633    | CARBON RES. 1/4W 100Ω                                                      | RCX4JASZ0101                                 |
| R 634    | CARBON RES. 1/4W 560Ω                                                      | RCX4JASZ0561                                 |
| R 635    | CARBON RES. 1/4W 6.8KΩ                                                     | RCX4JASZ0682                                 |
| R 636    | CARBON RES. 1/4W 15KΩ                                                      | RCX4JASZ0153                                 |
| R 637    | CARBON RES. 1/4W 39KΩ                                                      | RCX4JASZ0393                                 |
| R 638    | CARBON RES. 1/4W 33KΩ                                                      | RCX4JASZ0333                                 |
| R 639    | CARBON RES. 1/4W 18KΩ                                                      | RCX4JASZ0183                                 |
| R 640    | CARBON RES. 1/4W 6.8KΩ                                                     | RCX4JASZ0682                                 |
| R 641    | CARBON RES. 1/4W 220KΩ                                                     | RCX4JASZ0224                                 |
| R 642    | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ                            | 134F223C<br>RRXAJR8Z0223                     |
| R 643    | CHIP RES. 1/10W 47KΩ or<br>CHIP RES. 1/10W 47KΩ                            | 134F473C<br>RRXAJR8Z0473                     |
| R 644    | CARBON RES. 1/4W 3.3KΩ                                                     | RCX4JASZ0332                                 |
| R 645    | CARBON RES. 1/4W 12KΩ                                                      | RCX4JASZ0123                                 |
| R 650    | CARBON RES. 1/4W 1KΩ                                                       | RCX4JASZ0102                                 |
| R 651    | FUSE RES. 1/4W 2.2Ω or<br>FUSE RES. 1/4W 2.2Ω or<br>FUSE RES. 1/4W 2.2Ω    | RFX42R2MS002<br>5366229<br>RFX42R2QJ001      |
| R 652    | CHIP RES. 1/10W 1MΩ or<br>CHIP RES. 1/10W 1MΩ                              | 134F105C<br>RRXAJR8Z0105                     |
| R 653    | CARBON RES. 1/4W 4.7KΩ                                                     | RCX4JASZ0472                                 |
| R 655    | FUSE RES. 1W 3.3Ω or<br>FUSE RES. 1W 3.3Ω or                               | RF013R3UB001<br>RF01339KA004                 |

| Ref. No. | Description                                         | Part No.                 |
|----------|-----------------------------------------------------|--------------------------|
|          | FUSE RES. 1W 3.3Ω or<br>FUSE RES. 1W 3.3Ω           | 5363339<br>RF013R3QJ001  |
| R 701    | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ     | 134F103C<br>RRXAJR8Z0103 |
| R 702    | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ     | 134F103C<br>RRXAJR8Z0103 |
| R 703    | CHIP RES. 1/10W 3.3KΩ or<br>CHIP RES. 1/10W 3.3KΩ   | 134F332C<br>RRXAJR8Z0332 |
| R 704    | CHIP RES. 1/10W 2.2KΩ or<br>CHIP RES. 1/10W 2.2KΩ   | 134F222C<br>RRXAJR8Z0222 |
| R 705    | CHIP RES. 1/10W 330Ω or<br>CHIP RES. 1/10W 330Ω     | 134F331C<br>RRXAJR8Z0331 |
| R 706    | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ     | 134F103C<br>RRXAJR8Z0103 |
| R 707    | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ     | 134F103C<br>RRXAJR8Z0103 |
| R 708    | CHIP RES. 1/10W 27KΩ or<br>CHIP RES. 1/10W 27KΩ     | 134F273C<br>RRXAJR8Z0273 |
| R 709    | CHIP RES. 1/10W 2.2KΩ or<br>CHIP RES. 1/10W 2.2KΩ   | 134F222C<br>RRXAJR8Z0222 |
| R 710    | CHIP RES. 1/10W 150KΩ or<br>CHIP RES. 1/10W 150KΩ   | 134F154C<br>RRXAJR8Z0154 |
| R 711    | CHIP RES. 1/10W 120KΩ or<br>CHIP RES. 1/10W 120KΩ   | 134F124C<br>RRXAJR8Z0124 |
| R 712    | CHIP RES. 1/10W 47KΩ or<br>CHIP RES. 1/10W 47KΩ     | 134F473C<br>RRXAJR8Z0473 |
| R 713    | CHIP RES. 1/10W 47KΩ or<br>CHIP RES. 1/10W 47KΩ     | 134F473C<br>RRXAJR8Z0473 |
| R 714    | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ     | 134F223C<br>RRXAJR8Z0223 |
| R 715    | CHIP RES. 1/10W 22KΩ or<br>CHIP RES. 1/10W 22KΩ     | 134F223C<br>RRXAJR8Z0223 |
| R 716    | CHIP RES. 1/10W 1.5KΩ or<br>CHIP RES. 1/10W 1.5KΩ   | 134F152C<br>RRXAJR8Z0152 |
| R 718    | CHIP RES. 1/10W 2.2KΩ or<br>CHIP RES. 1/10W 2.2KΩ   | 134F222C<br>RRXAJR8Z0222 |
| R 719    | CHIP RES. 1/10W 47KΩ or<br>CHIP RES. 1/10W 47KΩ     | 134F473C<br>RRXAJR8Z0473 |
| R 720    | CHIP RES. 1/10W 1.5KΩ or<br>CHIP RES. 1/10W 1.5KΩ   | 134F152C<br>RRXAJR8Z0152 |
| R 724    | CHIP RES. 1/10W 1.5KΩ or<br>CHIP RES. 1/10W 1.5KΩ   | 134F152C<br>RRXAJR8Z0152 |
| R 732    | CHIP RES. 1/10W 10KΩ or<br>CHIP RES. 1/10W 10KΩ     | 134F103C<br>RRXAJR8Z0103 |
| R 801    | CARBON RES. 1/4W 100Ω                               | RCX4JASZ0101             |
| R 802    | CHIP RES. 1/10W 5.6KΩ or<br>CHIP RES. 1/10W 5.6KΩ   | 134F562C<br>RRXAJR8Z0562 |
| R 804    | CHIP RES. 1/10W 12KΩ or<br>CHIP RES. 1/10W 12KΩ     | 134F123C<br>RRXAJR8Z0123 |
| R 805    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω         | 134F000C<br>RRXAJR8Z0000 |
| R 806    | CHIP RES. 1/10W 560Ω or<br>CHIP RES. 1/10W 560Ω     | 134F561C<br>RRXAJR8Z0561 |
| R 807    | CARBON RES. 1/4W 10KΩ                               | RCX4JASZ0103             |
| R 808    | CARBON RES. 1/4W 4.7Ω                               | 1345479S                 |
| R 809    | METAL RES. 2W 5.6Ω                                  | RN02JZDZ05R6             |
| R 810    | CARBON RES. 1/4W 100Ω                               | RCX4JASZ0101             |
| R 813    | CARBON RES. 1/10W 47KΩ or<br>CARBON RES. 1/10W 47KΩ | RRXAJR8Z0473<br>134F473C |
| C 315    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω         | 134F000C<br>RRXAJR8Z0000 |
| C 316    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω         | 134F000C<br>RRXAJR8Z0000 |
| C 413    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω         | 134F000C<br>RRXAJR8Z0000 |
| JC 11    | CHIP RES. 1/10W 0Ω or                               | 134F000C                 |

| Ref. No. | Description                                 | Part No.                 |
|----------|---------------------------------------------|--------------------------|
| JC 12    | CHIP RES. 1/10W 0Ω<br>CHIP RES. 1/10W 0Ω or | RRXAJR8Z0000<br>134F000C |
| JC 13    | CHIP RES. 1/10W 0Ω<br>CHIP RES. 1/10W 0Ω or | RRXAJR8Z0000<br>134F000C |
| JC 14    | CHIP RES. 1/10W 0Ω<br>CHIP RES. 1/10W 0Ω or | RRXAJR8Z0000<br>134F000C |
| JC 15    | CHIP RES. 1/10W 0Ω<br>CHIP RES. 1/10W 0Ω or | RRXAJR8Z0000<br>134F000C |
| JC 16    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 17    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 18    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 19    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 20    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 21    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 22    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 23    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 24    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 25    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 26    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 27    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 29    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 30    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 31    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 33    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 34    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 35    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 36    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 38    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 39    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 40    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 41    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 42    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 43    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 44    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 45    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 46    | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω | RRXAJR8Z0000<br>134F000C |
| JC 47    | CHIP RES. 1/10W 0Ω or                       | RRXAJR8Z0000<br>134F000C |

| Ref. No.           | Description                                                                               | Part No.                                     |
|--------------------|-------------------------------------------------------------------------------------------|----------------------------------------------|
| JC 48              | CHIP RES. 1/10W 0Ω                                                                        | RRXAJR8Z0000                                 |
| JC 49              | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω                                               | 134F000C<br>RRXAJR8Z0000                     |
| JC 51              | CHIP RES. 1/10W 0Ω or<br>CHIP RES. 1/10W 0Ω                                               | 134F000C<br>RRXAJR8Z0000                     |
| SWITCHES           |                                                                                           |                                              |
| SW101              | TACT SWITCH or<br>TACT SWITCH or<br>TACT SWITCH                                           | SST0101AL013<br>SST0101MS013<br>SST0101HH016 |
| SW102              | TACT SWITCH or<br>TACT SWITCH or<br>TACT SWITCH                                           | SST0101AL013<br>SST0101MS013<br>SST0101HH016 |
| SW103              | TACT SWITCH or<br>TACT SWITCH or<br>TACT SWITCH                                           | SST0101AL013<br>SST0101MS013<br>SST0101HH016 |
| SW104              | TACT SWITCH or<br>TACT SWITCH or<br>TACT SWITCH                                           | SST0101AL013<br>SST0101MS013<br>SST0101HH016 |
| SW105              | TACT SWITCH or<br>TACT SWITCH or<br>TACT SWITCH                                           | SST0101AL013<br>SST0101MS013<br>SST0101HH016 |
| SW107              | TACT SWITCH or<br>TACT SWITCH or<br>TACT SWITCH                                           | SST0101AL013<br>SST0101MS013<br>SST0101HH016 |
| SW108              | TACT SWITCH or<br>TACT SWITCH or<br>TACT SWITCH                                           | SST0101AL013<br>SST0101MS013<br>SST0101HH016 |
| SW109              | TACT SWITCH or<br>TACT SWITCH or<br>TACT SWITCH                                           | SST0101AL013<br>SST0101MS013<br>SST0101HH016 |
| SW110              | TACT SWITCH or<br>TACT SWITCH or<br>TACT SWITCH                                           | SST0101AL013<br>SST0101MS013<br>SST0101HH016 |
| TRANSFORMERS       |                                                                                           |                                              |
| T 551              | H. DRIVE TRANS                                                                            | 1150325                                      |
| T 552              | F.B.T. 154-064U or<br>F.B.T. FCK-14B040                                                   | LTF00EPGS005<br>LTF00EPSM006                 |
| T 601              | POWER TRANS or<br>POWER TRANS                                                             | LTT00EPSA007<br>LTT00EPMS016                 |
| T 602              | LINE FILTER or<br>LINE FILTER                                                             | LLBG00ZTZ001<br>LLBG00ZMS008                 |
| VARIABLE RESISTORS |                                                                                           |                                              |
| VR211              | SEMIFIXED RES. 10KΩ B or<br>SEMIFIXED RES. 10KΩ B                                         | 138J781<br>638A103                           |
| VR301              | SEMIFIXED RES. 1KΩ B or<br>SEMIFIXED RES. 1KΩ B                                           | 138J777<br>638A102                           |
| VR331              | SEMIFIXED RES. 200 Ω B or<br>SEMIFIXED RES. 200 Ω B                                       | 238J113<br>638A221                           |
| VR351              | SEMIFIXED RES. 5KΩ B or<br>SEMIFIXED RES. 5KΩ B                                           | 138J780<br>638A472                           |
| VR501              | SEMIFIXED RES. 50KΩ B or<br>SEMIFIXED RES. 50KΩ B                                         | 138J784<br>638A473                           |
| VR521              | SEMIFIXED RES. 10KΩ B or<br>SEMIFIXED RES. 10KΩ B                                         | 138J781<br>638A103                           |
| VR621              | SEMIFIXED RES. 20KΩ B or<br>SEMIFIXED RES. 20KΩ B                                         | 138J782<br>638A223                           |
| CRYSTAL OSCILLATOR |                                                                                           |                                              |
| X 101              | CERAMIC RESONATOR 4.19MHz or<br>CERAMIC RESONATOR 4.19MHz or<br>CERAMIC RESONATOR 4.19MHz | FY0415LMS002<br>1813682<br>1812885           |
| X 301              | CRYSTAL OSCILLATOR 4.43MHz                                                                | 1811387                                      |
| X 302              | CRYSTAL OSCILLATOR 3.58MHz                                                                | 1811291                                      |
| X 331              | CERAMIC RESONATOR CSB503F30                                                               | 1813527                                      |

| Ref. No.      | Description                                                                                  | Part No.                           |
|---------------|----------------------------------------------------------------------------------------------|------------------------------------|
| MISCELLANEOUS |                                                                                              |                                    |
|               | CABLE TIE or<br>CABLE TIE<br>LABEL 15mmX5mm<br>SUMI TUBE ø12X25mm<br>F2 TYPE (for C618 used) | 1790256<br>1790356                 |
|               | LED HOLDER (for D111)<br>SENSOR HOLDER (for RCV101)                                          | 0EM300760<br>0EM402360             |
| BC551         | BEADS CORE                                                                                   | 1190029                            |
| BC601         | BEADS CORE                                                                                   | 1190038                            |
| BC621         | BEADS CORE                                                                                   | 1190038                            |
| CF211         | CERAMIC TRAP 5.5MHz+6.5MHz                                                                   | FBE655PMR002                       |
| CF212         | CERAMIC FILTER 5.5MHz or<br>CERAMIC FILTER 5.5MHz                                            | 1812018<br>FBB555PMS001            |
| CF213         | CERAMIC FILTER 6.5MHz or<br>CERAMIC FILTER 6.5MHz                                            | 1813595<br>FBB655PMS001            |
| CN451A        | CABLE HOLDER 5P or<br>CABLE HOLDER 5P                                                        | XW01D05NF001<br>XW01B05NF001       |
| CN452A        | CABLE HOLDER 4P or<br>CABLE HOLDER 4P                                                        | XW01D04NF001<br>XW01B04NF001       |
| DL301         | DELAY LINE                                                                                   | 11N852                             |
| DL311         | GLASS DELAY or<br>GLASS DELAY                                                                | FD0445PXX001<br>1812056            |
| F 601         | FUSE T4.0A 250V                                                                              | 1790998                            |
| FH601         | FUSE HOLDER or<br>FUSE HOLDER                                                                | XH01Z00DK001<br>1790424<br>1790848 |
| FH602         | FUSE HOLDER or<br>FUSE HOLDER                                                                | XH01Z00DK001<br>1790424<br>1790848 |
| HS501         | HEAT SINK PH (for V OUT IC)                                                                  | 0EM400958                          |
| HS601         | HEAT SINK SP (for POWER TR.)                                                                 | 0EM300787                          |
| HS801         | HEAT SINK MP (for POWER AMP)                                                                 | 0EM402332                          |
| J 701         | RCA JACK (2 PIN)                                                                             | JXRL020JC013                       |
| J 702         | RCA JACK (1 PIN)                                                                             | JXRL010JC018                       |
| J 801         | EARPHONE JACK or<br>EARPHONE JACK                                                            | JYSL030HD002<br>JYSL030SR001       |
| LCN451        | RIBBON WIRE 5P (for CRT PCB)                                                                 | WX1L8400-002                       |
| LCN452        | RIBBON WIRE 4P (for CRT PCB)                                                                 | WX1L8400-001                       |
| P 601         | AC CORD                                                                                      | 5750112                            |
| PT601         | THERMISTER or<br>THERMISTER                                                                  | QN4ZPA2A5200<br>5790117            |
| RCV101        | REMOCON RECEIVING UNIT                                                                       | USESJRSKK011                       |
| SF201         | SAW FILTER                                                                                   | FBB386PKC001                       |
| TP 1          | TEST PIN or<br>TEST PIN                                                                      | 1700093<br>1740354                 |
| TP 2          | TEST PIN or<br>TEST PIN                                                                      | 1700093<br>1740354                 |
| TP 3          | TEST PIN or<br>TEST PIN                                                                      | 1700093<br>1740354                 |
| TP 4          | TEST PIN or<br>TEST PIN                                                                      | 1700093<br>1740354                 |
| TP 5          | TEST PIN or<br>TEST PIN                                                                      | 1700093<br>1740354                 |
| TP 6          | TEST PIN or<br>TEST PIN                                                                      | 1700093<br>1740354                 |
| TP 7          | TEST PIN or<br>TEST PIN                                                                      | 1700093<br>1740354                 |
| TP 8          | TEST PIN or<br>TEST PIN                                                                      | 1700093<br>1740354                 |
| TP 9          | TEST PIN or<br>TEST PIN                                                                      | 1700093<br>1740354                 |
| TU 1          | TUNER TEKE1-026A, 084A                                                                       | UTUNPSDAL005                       |

CRT PCB Assembly

| Ref. No.                   | Description                                                                                                                   | Part No.                               |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| CRT PCB Assembly           |                                                                                                                               |                                        |
| Consists of the following: |                                                                                                                               |                                        |
| CAPACITORS                 |                                                                                                                               |                                        |
| C 451                      | CERAMIC CAP. 220pF B                                                                                                          | 3B42221                                |
| C 452                      | CERAMIC CAP. 220pF B                                                                                                          | 3B42221                                |
| C 453                      | CERAMIC CAP. 330pF B<br>[used CRT: 370KRB22-TC09(SPYB)]<br>CERAMIC CAP. 220pF B<br>[used CRT: 37GDA85X-TC01/<br>A34KPU02XX48] | 3B42331<br>3B42221                     |
| C 454                      | CERAMIC CAP. 0.001μF 2KV or<br>CERAMIC CAP. 0.001μF 2KV                                                                       | CCD3DKP0B102<br>6220585                |
| C 455                      | ELECTROLYTIC CAP. 10μF/50V                                                                                                    | 126F106S                               |
| CONNECTOR                  |                                                                                                                               |                                        |
| CN453                      | CONNECTOR PIN 1P or (for CRT GND)<br>CONNECTOR PIN 1P or (for CRT GND)<br>CONNECTOR PIN 1P (for CRT GND)                      | 1700576<br>1730688<br>JTEA000LC001     |
| COIL                       |                                                                                                                               |                                        |
| L 451                      | MICRO INDUCTOR 180μH K                                                                                                        | 2162181S                               |
| TRANSISTORS                |                                                                                                                               |                                        |
| Q 451                      | TRANSISTOR 2SC2271 (D) or<br>TRANSISTOR 2SC2271 (E) or<br>TRANSISTOR 2SC2482                                                  | 2SC2271DZ<br>2SC2271EZ<br>QQSZ02SC2482 |
| Q 452                      | TRANSISTOR 2SC2271 (D) or<br>TRANSISTOR 2SC2271 (E) or<br>TRANSISTOR 2SC2482                                                  | 2SC2271DZ<br>2SC2271EZ<br>QQSZ02SC2482 |
| Q 453                      | TRANSISTOR 2SC2271 (D) or<br>TRANSISTOR 2SC2271 (E) or<br>TRANSISTOR 2SC2482                                                  | 2SC2271DZ<br>2SC2271EZ<br>QQSZ02SC2482 |
| RESISTORS                  |                                                                                                                               |                                        |
| R 451                      | METAL RES. 1W 15KΩ or<br>METAL RES. 1W 15KΩ                                                                                   | RN01JZDZ0153<br>RN01153KE004           |
| R 452                      | METAL RES. 1W 15KΩ or<br>METAL RES. 1W 15KΩ                                                                                   | RN01JZDZ0153<br>RN01153KE004           |
| R 453                      | METAL RES. 1W 15KΩ or<br>METAL RES. 1W 15KΩ                                                                                   | RN01JZDZ0153<br>RN01153KE004           |
| R 454                      | CARBON RES. 1/4W 2.7KΩ                                                                                                        | RCX4JASZ0272                           |
| R 456                      | CARBON RES. 1/4W 2.7KΩ                                                                                                        | RCX4JASZ0272                           |
| R 458                      | CARBON RES. 1/4W 2.7KΩ                                                                                                        | RCX4JASZ0272                           |
| R 460                      | CARBON RES. 1/4W 1.5KΩ                                                                                                        | RCX4JASZ0152                           |
| R 461                      | CARBON RES. 1/4W 1.5KΩ                                                                                                        | RCX4JASZ0152                           |
| R 462                      | CARBON RES. 1/4W 1.5KΩ                                                                                                        | RCX4JASZ0152                           |
| R 463                      | CARBON RES. 1/4W 820Ω                                                                                                         | RCX4JASZ0821                           |
| R 464                      | CARBON RES. 1/4W 820Ω                                                                                                         | RCX4JASZ0821                           |
| R 465                      | CARBON RES. 1/4W 820Ω                                                                                                         | RCX4JASZ0821                           |
| R 466                      | CARBON RES. 1/4W 220Ω                                                                                                         | RCX4JASZ0221                           |
| R 467                      | CARBON RES. 1/4W 220Ω                                                                                                         | RCX4JASZ0221                           |
| R 468                      | CARBON RES. 1/4W 220Ω                                                                                                         | RCX4JASZ0221                           |
| R 469                      | CARBON RES. 1/4W 1.5KΩ                                                                                                        | RCX4JASZ0152                           |
| R 470                      | CARBON RES. 1/4W 1.5KΩ                                                                                                        | RCX4JASZ0152                           |
| R 471                      | CARBON RES. 1/4W 1.5KΩ                                                                                                        | RCX4JASZ0152                           |
| R 472                      | CARBON RES. 1/4W 390Ω                                                                                                         | RCX4JASZ0391                           |
| R 473                      | CARBON RES. 1/4W 390Ω                                                                                                         | RCX4JASZ0391                           |
| R 474                      | CARBON RES. 1/4W 390Ω                                                                                                         | RCX4JASZ0391                           |
| R 475                      | CARBON RES. 1/4W 560Ω                                                                                                         | RCX4JASZ0561                           |
| VARIABLE RESISTORS         |                                                                                                                               |                                        |
| VR451                      | SEMIFIXED RES. 5KΩ B or<br>SEMIFIXED RES. 5KΩ B                                                                               | 138J916<br>138A957                     |
| VR452                      | SEMIFIXED RES. 5KΩ B or<br>SEMIFIXED RES. 5KΩ B                                                                               | 138J916<br>138A957                     |
| VR453                      | SEMIFIXED RES. 5KΩ B or<br>SEMIFIXED RES. 5KΩ B                                                                               | 138J916<br>138A957                     |
| VR454                      | SEMIFIXED RES. 1KΩ B or<br>SEMIFIXED RES. 1KΩ B                                                                               | 138J913<br>138A953                     |
| VR455                      | SEMIFIXED RES. 1KΩ B or                                                                                                       | 138J913                                |

| Ref. No.      | Description                                  | Part No.                           |
|---------------|----------------------------------------------|------------------------------------|
|               | SEMIFIXED RES. 1KΩ B                         | 138A953                            |
| MISCELLANEOUS |                                              |                                    |
| CN451B        | CABLE HOLDER 5P or<br>CABLE HOLDER 5P        | XW01D05NF001<br>XW01B05NF001       |
| CN452B        | CABLE HOLDER 4P or<br>CABLE HOLDER 4P        | XW01D04NF001<br>XW01B04NF001       |
| SO451         | CRT SOCKET or<br>CRT SOCKET or<br>CRT SOCKET | JSCC220PK001<br>1780080<br>1780218 |

Teletext PCB Assembly

| Ref. No.                   | Description                                                             | Part No.                           |
|----------------------------|-------------------------------------------------------------------------|------------------------------------|
| Teletext PCB Assembly      |                                                                         |                                    |
| Consists of the following: |                                                                         |                                    |
| CAPACITORS                 |                                                                         |                                    |
| C 951                      | CHIP CERAMIC CAP. B 220pF/50V or<br>CHIP CERAMIC CAP. B 220pF/50V       | 12B3221C<br>CHE1JJ80B221           |
| C 961                      | CHIP CERAMIC CAP. F 0.01μF/50V or<br>CHIP CERAMIC CAP. F 0.01μF/50V     | 12F3103C<br>CHE1JZ80F103           |
| C 962                      | CHIP CERAMIC CAP. B 220pF/50V or<br>CHIP CERAMIC CAP. B 220pF/50V       | 12B3221C<br>CHE1JJ80B221           |
| C 963                      | CHIP CERAMIC CAP. CH 15pF/50V or<br>CHIP CERAMIC CAP. CH 15pF/50V       | 12CH150C<br>CHE1JJ8CH150           |
| C 964                      | CHIP CERAMIC CAP. CH 15pF/50V or<br>CHIP CERAMIC CAP. CH 15pF/50V       | 12CH150C<br>CHE1JJ8CH150           |
| C 965                      | SEMICONDUCTOR CAP. K 0.1μF/25V                                          | CDA1EKS0X104                       |
| C 966                      | CHIP CERAMIC CAP. B 0.001μF/50V or<br>CHIP CERAMIC CAP. B 0.001μF/50V   | 12B3102C<br>CHE1JJ80B102           |
| C 967                      | CHIP CERAMIC CAP. B 220pF/50V or<br>CHIP CERAMIC CAP. B 220pF/50V       | 12B3221C<br>CHE1JJ80B221           |
| C 968                      | ELECTROLYTIC CAP. 10μF/50V                                              | 126F106S                           |
| C 969                      | ELECTROLYTIC CAP. 1μF/50V                                               | 126F105S                           |
| C 970                      | CHIP CERAMIC CAP. F 0.01μF/50V or<br>CHIP CERAMIC CAP. F 0.01μF/50V     | 12F3103C<br>CHE1JZ80F103           |
| C 972                      | SEMICONDUCTOR CAP. K 0.1μF/25V                                          | CDA1EKS0X104                       |
| C 973                      | CHIP CERAMIC CAP. B 0.001μF/50V or<br>CHIP CERAMIC CAP. B 0.001μF/50V   | 12B3102C<br>CHE1JJ80B102           |
| C 974                      | CHIP CERAMIC CAP. SL 47pF/50V or<br>CHIP CERAMIC CAP. SL 47pF/50V       | 1270470C<br>CHE1JJ8SL470           |
| C 975                      | CHIP CERAMIC CAP. B 0.0022μF/50V or<br>CHIP CERAMIC CAP. B 0.0022μF/50V | 12B3222C<br>CHE1JJ80B222           |
| C 976                      | SEMICONDUCTOR CAP. K 0.1μF/25V                                          | CDA1EKS0X104                       |
| C 977                      | CHIP CERAMIC CAP. B 270pF/50V or<br>CHIP CERAMIC CAP. B 270pF/50V       | 12B3271C<br>CHE1JJ80B271           |
| C 978                      | CHIP CERAMIC CAP. CH 10pF/50V or<br>CHIP CERAMIC CAP. CH 10pF/50V       | 12CH100C<br>CHE1JD8CH100           |
| C 979                      | CHIP CERAMIC CAP. SL 82pF/50V or<br>CHIP CERAMIC CAP. SL 82pF/50V       | 1270820C<br>CHE1JJ8SL820           |
| C 980                      | CHIP CERAMIC CAP. B 330pF/50V or<br>CHIP CERAMIC CAP. B 330pF/50V       | 12B3331C<br>CHE1JJ80B331           |
| C 981                      | CHIP CERAMIC CAP. B 330pF/50V or<br>CHIP CERAMIC CAP. B 330pF/50V       | 12B3331C<br>CHE1JJ80B331           |
| C 983                      | ELECTROLYTIC CAP. 220μF/6.3V                                            | 126A227S                           |
| C 984                      | CHIP CERAMIC CAP. SL 100pF/50V or<br>CHIP CERAMIC CAP. SL 100pF/50V     | 1270101C<br>CHE1JJ8SL101           |
| C 985                      | CHIP CERAMIC CAP. B 330pF/50V or<br>CHIP CERAMIC CAP. B 330pF/50V       | 12B3331C<br>CHE1JJ80B331           |
| CONNECTORS                 |                                                                         |                                    |
| CN951                      | PIN HEADER 7P                                                           | 1770990                            |
| CN952                      | PIN HEADER 4P                                                           | 1770987                            |
| DIODES                     |                                                                         |                                    |
| D 951                      | DIODE 1N4148M or<br>DIODE 1SS176 or<br>DIODE 1SS133                     | QDSZ01N4148M<br>1SS176S<br>1SS133S |
| D 952                      | DIODE 1N4148M or                                                        | QDSZ01N4148M                       |

| Ref. No.    | Description                 | Part No.      |
|-------------|-----------------------------|---------------|
| D 953       | DIODE 1SS176 or             | 1SS176S       |
|             | DIODE 1SS133                | 1SS133S       |
|             | DIODE 1N4148M or            | QDSZ01N4148M  |
|             | DIODE 1SS176 or             | 1SS176S       |
| D 954       | DIODE 1SS133                | 1SS133S       |
|             | DIODE 1N4148M or            | QDSZ01N4148M  |
|             | DIODE 1SS176 or             | 1SS176S       |
|             | DIODE 1SS133                | 1SS133S       |
| D 955       | DIODE 1N4148M or            | QDSZ01N4148M  |
|             | DIODE 1SS176 or             | 1SS176S       |
|             | DIODE 1SS133                | 1SS133S       |
|             | DIODE 1N4148M or            | QDSZ01N4148M  |
| D 956       | DIODE 1SS176 or             | 1SS176S       |
|             | DIODE 1SS133                | 1SS133S       |
|             | DIODE 1N4148M or            | QDSZ01N4148M  |
|             | DIODE 1SS176 or             | 1SS176S       |
| D 957       | DIODE 1SS133                | 1SS133S       |
|             | DIODE 1N4148M or            | QDSZ01N4148M  |
|             | DIODE 1SS176 or             | 1SS176S       |
|             | DIODE 1SS133                | 1SS133S       |
| D 959       | ZENER DIODE UZ-6.8BS (B) or | QDSB0UZ6R8BS  |
|             | ZENER DIODE MTZJ6.8 (B)     | QDSB0MTZJ6R8  |
| D 961       | BALI. CAP. DIODE SVC201SPA  | ASVC201SPACD  |
| D 962       | DIODE 1N4148M or            | QDSZ01N4148M  |
|             | DIODE 1SS176 or             | 1SS176S       |
|             | DIODE 1SS133                | 1SS133S       |
| ICS         |                             |               |
| IC961       | IC CF70195                  | GC91000TY004  |
| IC962       | IC CF72306                  | NSMFA0STY001  |
| IC963       | IC KIA78S05P or             | NSBLA0ZJY026  |
|             | IC AN78L05                  | AN78L05       |
| IC964       | IC MN1380R                  | QSMILA0ZMS001 |
| COILS       |                             |               |
| L 961       | MICRO INDUCTOR 22μH K       | 2165220S      |
| L 962       | CASING COIL                 | LFA07V0MM016  |
| TRANSISTORS |                             |               |
| Q 952       | TRANSISTOR KTC3198 (GR) or  | NQS40KTC3198  |
|             | TRANSISTOR KTC3199 (GR) or  | NQS10KTC3199  |
|             | TRANSISTOR 2SC3331 (T) or   | QSC3331TNPAA  |
|             | TRANSISTOR 2SC3331 (U) or   | QSC3331UNPAA  |
| Q 961       | TRANSISTOR 2SC1815 (GR)     | QQS102SC1815  |
|             | TRANSISTOR KTC3198 (GR) or  | NQS40KTC3198  |
|             | TRANSISTOR KTC3199 (GR) or  | NQS10KTC3199  |
|             | TRANSISTOR 2SC3331 (T) or   | QSC3331TNPAA  |
|             | TRANSISTOR 2SC3331 (U) or   | QSC3331UNPAA  |
|             | TRANSISTOR 2SC1815 (GR)     | QQS102SC1815  |
| RESISTORS   |                             |               |
| R 954       | CHIP RES. 1/10W 10KΩ or     | 134F103C      |
|             | CHIP RES. 1/10W 10KΩ        | RRXAJR8Z0103  |
| R 955       | CHIP RES. 1/10W 0Ω or       | RRXAJR8Z0000  |
|             | CHIP RES. 1/10W 0Ω          | 134F000C      |
| R 961       | CHIP RES. 1/10W 10KΩ or     | 134F103C      |
|             | CHIP RES. 1/10W 10KΩ        | RRXAJR8Z0103  |
| R 962       | CHIP RES. 1/10W 1KΩ or      | 134F102C      |
|             | CHIP RES. 1/10W 1KΩ         | RRXAJR8Z0102  |
| R 963       | CHIP RES. 1/10W 1KΩ or      | 134F102C      |
|             | CHIP RES. 1/10W 1KΩ         | RRXAJR8Z0222  |
| R 964       | CHIP RES. 1/10W 2.2KΩ or    | 134F102C      |
|             | CHIP RES. 1/10W 2.2KΩ       | RRXAJR8Z0222  |
| R 965       | CHIP RES. 1/10W 6.8KΩ or    | 134F682C      |
|             | CHIP RES. 1/10W 6.8KΩ       | RRXAJR8Z0682  |
| R 966       | CHIP RES. 1/10W 18KΩ or     | 134F183C      |
|             | CHIP RES. 1/10W 18KΩ        | RRXAJR8Z0183  |
| R 967       | CHIP RES. 1/10W 47KΩ or     | RRXAJR8Z0473  |
|             | CHIP RES. 1/10W 47KΩ        | 134F473C      |
| R 968       | CHIP RES. 1/10W 220Ω or     | 134F221C      |
|             | CHIP RES. 1/10W 220Ω        | RRXAJR8Z0221  |
| R 969       | CHIP RES. 1/10W 10KΩ or     | 134F103C      |

| Ref. No.      | Description                  | Part No.     |
|---------------|------------------------------|--------------|
| R 970         | CHIP RES. 1/10W 10KΩ         | RRXAJR8Z0103 |
|               | CHIP RES. 1/10W 8.2KΩ or     | 134F822C     |
|               | CHIP RES. 1/10W 8.2KΩ        | RRXAJR8Z0822 |
| R 971         | CHIP RES. 1/10W 33KΩ or      | 134F333C     |
|               | CHIP RES. 1/10W 33KΩ         | RRXAJR8Z0333 |
| R 972         | CHIP RES. 1/10W 10KΩ or      | 134F103C     |
|               | CHIP RES. 1/10W 10KΩ         | RRXAJR8Z0103 |
| R 973         | CHIP RES. 1/10W 1KΩ or       | 134F102C     |
|               | CHIP RES. 1/10W 1KΩ          | RRXAJR8Z0222 |
| R 974         | CHIP RES. 1/10W 1.5KΩ or     | 134F152C     |
|               | CHIP RES. 1/10W 1.5KΩ        | RRXAJR8Z0152 |
| R 975         | CHIP RES. 1/10W 1.5KΩ or     | 134F152C     |
|               | CHIP RES. 1/10W 1.5KΩ        | RRXAJR8Z0152 |
| R 976         | CHIP RES. 1/10W 1.5KΩ or     | 134F152C     |
|               | CHIP RES. 1/10W 1.5KΩ        | RRXAJR8Z0152 |
| R 977         | CHIP RES. 1/10W 680Ω or      | 134F681C     |
|               | CHIP RES. 1/10W 680Ω         | RRXAJR8Z0681 |
| R 978         | CHIP RES. 1/10W 680Ω or      | 134F681C     |
|               | CHIP RES. 1/10W 680Ω         | RRXAJR8Z0681 |
| R 979         | CHIP RES. 1/10W 680Ω or      | 134F681C     |
|               | CHIP RES. 1/10W 680Ω         | RRXAJR8Z0681 |
| R 980         | CHIP RES. 1/10W 33KΩ or      | 134F333C     |
|               | CHIP RES. 1/10W 33KΩ         | RRXAJR8Z0333 |
| R 981         | CHIP RES. 1/10W 1KΩ or       | 134F102C     |
|               | CHIP RES. 1/10W 1KΩ          | RRXAJR8Z0222 |
| R 982         | CHIP RES. 1/10W 22KΩ or      | 134F223C     |
|               | CHIP RES. 1/10W 22KΩ         | RRXAJR8Z0223 |
| MISCELLANEOUS |                              |              |
| TP901         | TEST PIN or                  | 1700093      |
|               | TEST PIN                     | 1740354      |
| TP902         | TEST PIN or                  | 1700093      |
|               | TEST PIN                     | 1740354      |
| X 961         | CRYSTAL OSCILLATOR 13.875MHz | FXD136LCT001 |

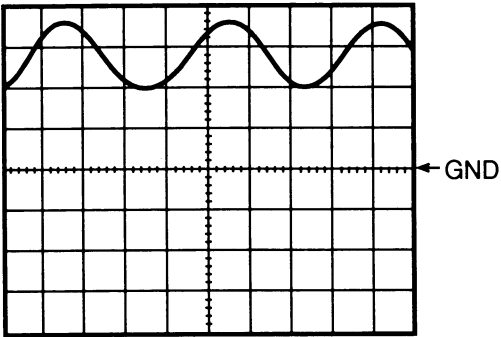
Chassis Electrical Parts

| Ref. No. | Description                 | Part No.      |
|----------|-----------------------------|---------------|
| V 451 ⚠  | CRT 370KRB22-TC09(SPYB) or  | 1812341       |
|          | CRT 37GDA85X-TC01 or        | 1812724       |
|          | CRT A34KPU02XX48            | TCRT190GS011  |
| L 601 ⚠  | DEGAUSING COIL              | LLBH00ZTZ011  |
| SP801    | SPEAKER 8 Ω or              | DSD0808SM002  |
|          | SPEAKER 8 Ω                 | DSD0808SY001  |
| LCN453   | WIRE ASSEMBLY (for CRT GND) | WX1L7401-001A |
| LCN801   | WIRE ASSEMBLY (for SPEAKER) | WX1L5360-01   |

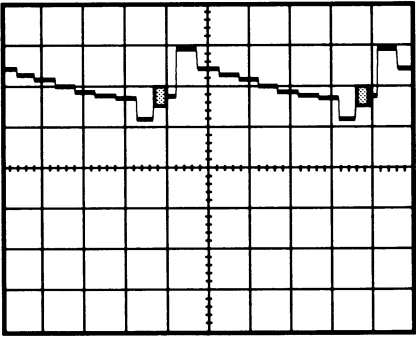
WAVEFORMS

Input: PAL Color Bar Signal (with 1KHz Audio Signal)  
Receiving Ch.: E2 ch (48.25MHz)  
Preset Mode: Press Picture Select button on the remote control unit,  
then press the number "1" button.  
(Brightness—Center Color—Center Contrast—Approx 70%)

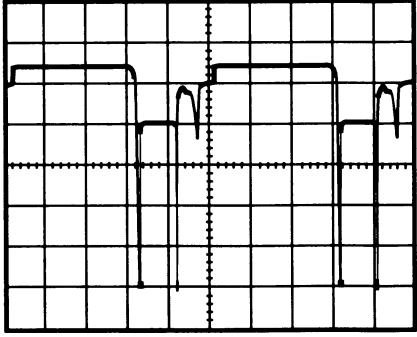
WFa ~ WFt = Waveforms to be observed at  
Waveform check points.  
(Shown in Schematic Diagram.)



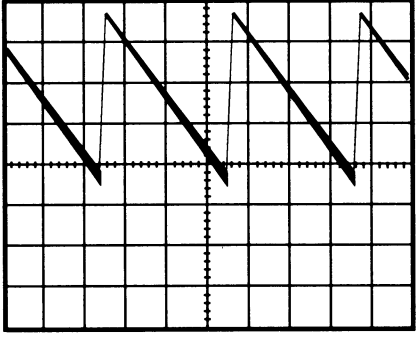
WFa 1DIV: 1V 0.2msec



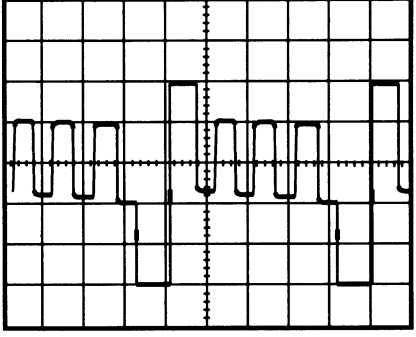
WFe 1DIV: 0.5V 10μsec



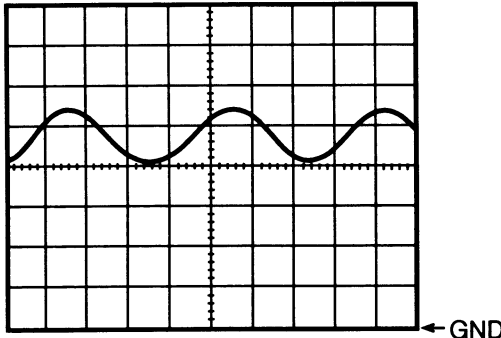
WFi 1DIV: 2V 10μsec



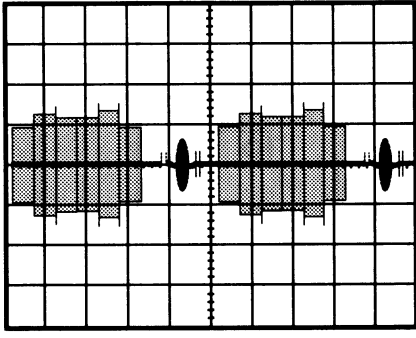
WFn 1DIV: 0.5V 5msec



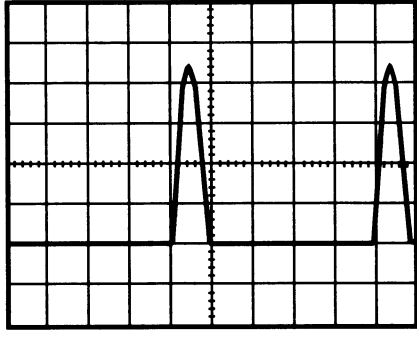
WFq 1DIV: 1V 10μsec



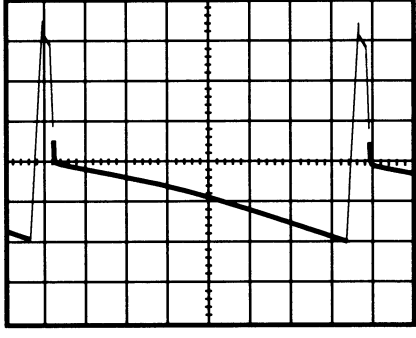
WFb 1DIV: 1V 0.2msec



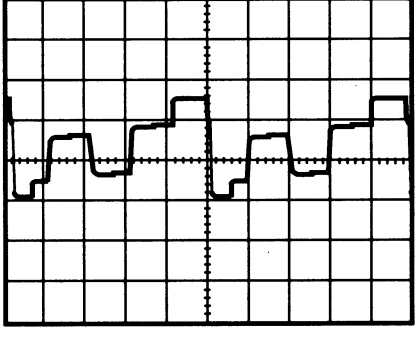
WFf 1DIV: 0.2V 10μsec



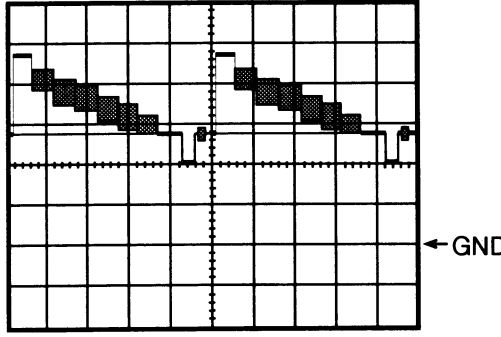
WFj 1DIV: 250V 10μsec



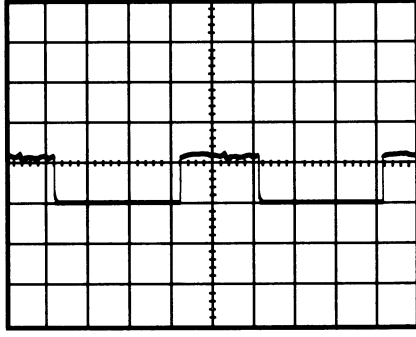
WFn 1DIV: 10V 2msec



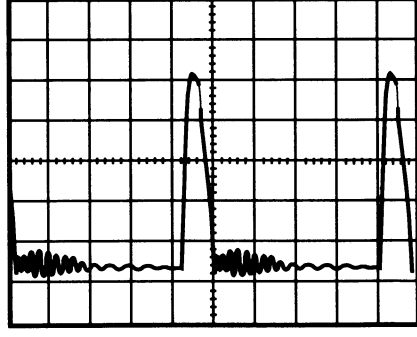
WFr 1DIV: 50V 10μsec



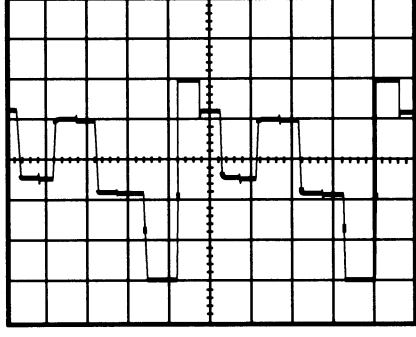
WFc 1DIV: 1V 10μsec



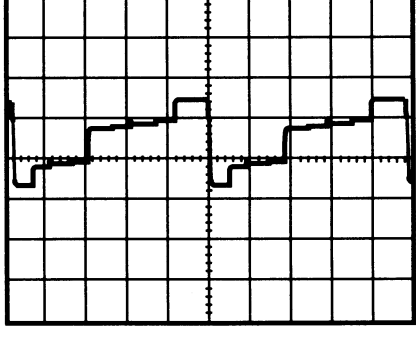
WFg 1DIV: 0.5V 10μsec



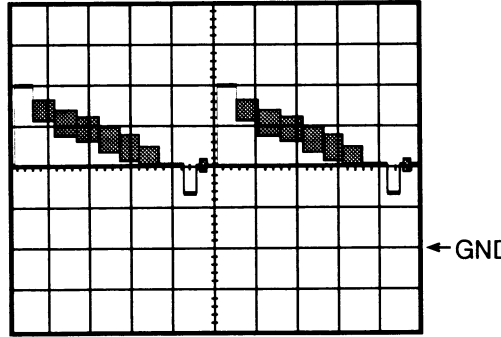
WFk 1DIV: 5V 10μsec



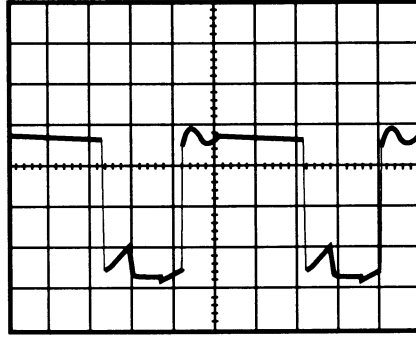
WFO 1DIV: 1V 10μsec



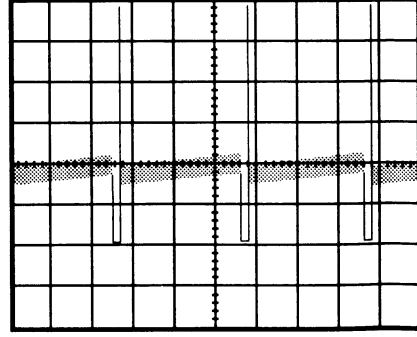
WFS 1DIV: 50V 10μsec



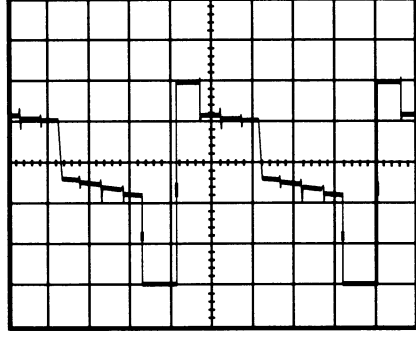
WFd 1DIV: 1V 10μsec



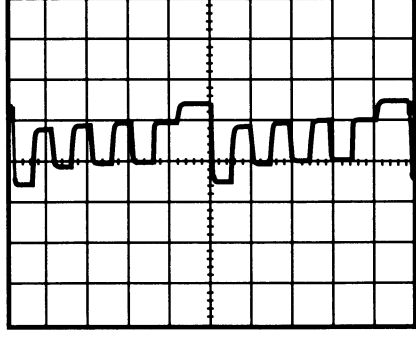
WFh 1DIV: 50V 10μsec



WFi 1DIV: 0.5V 5msec

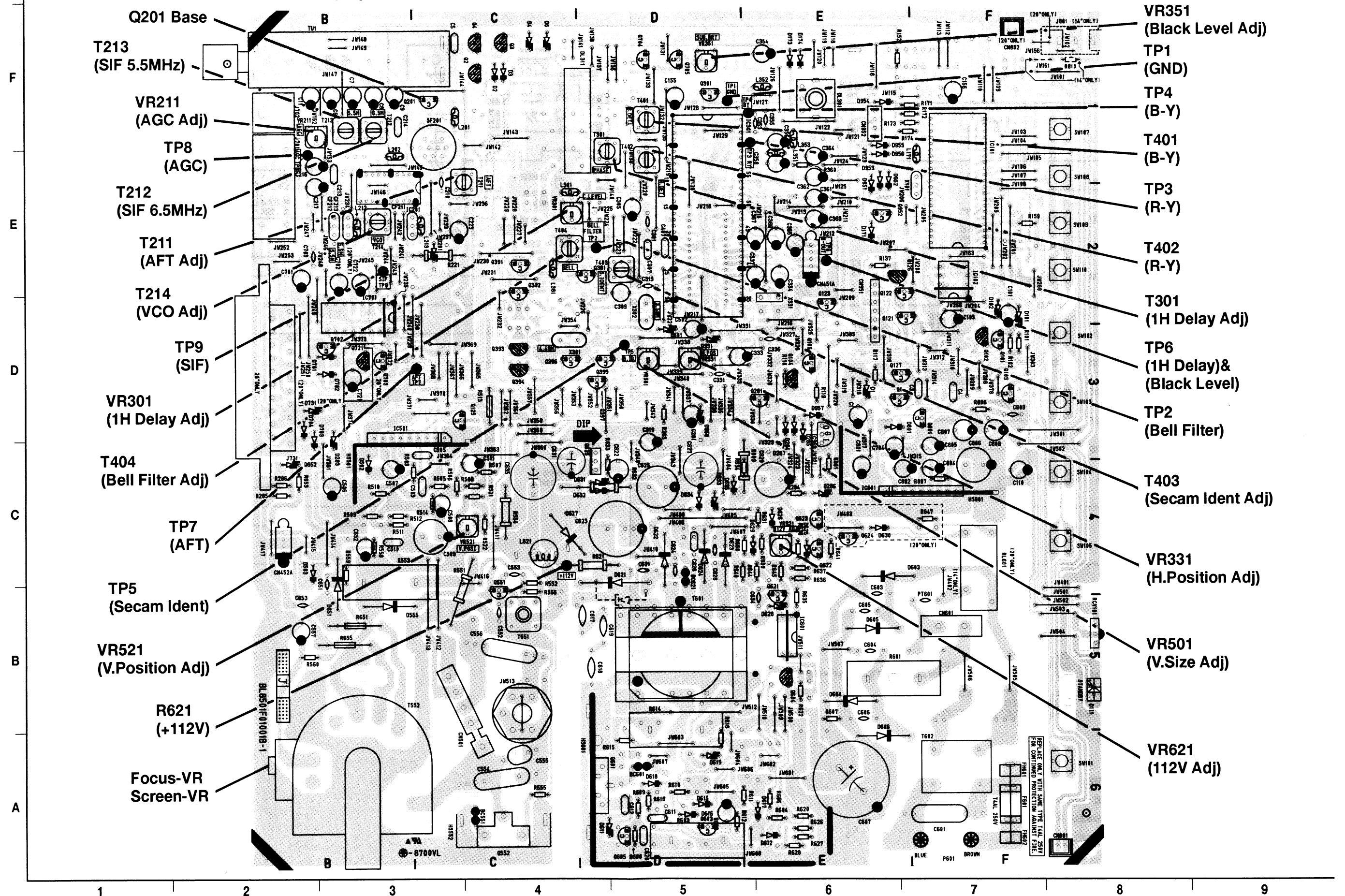


Wfp 1DIV: 1V 10μsec

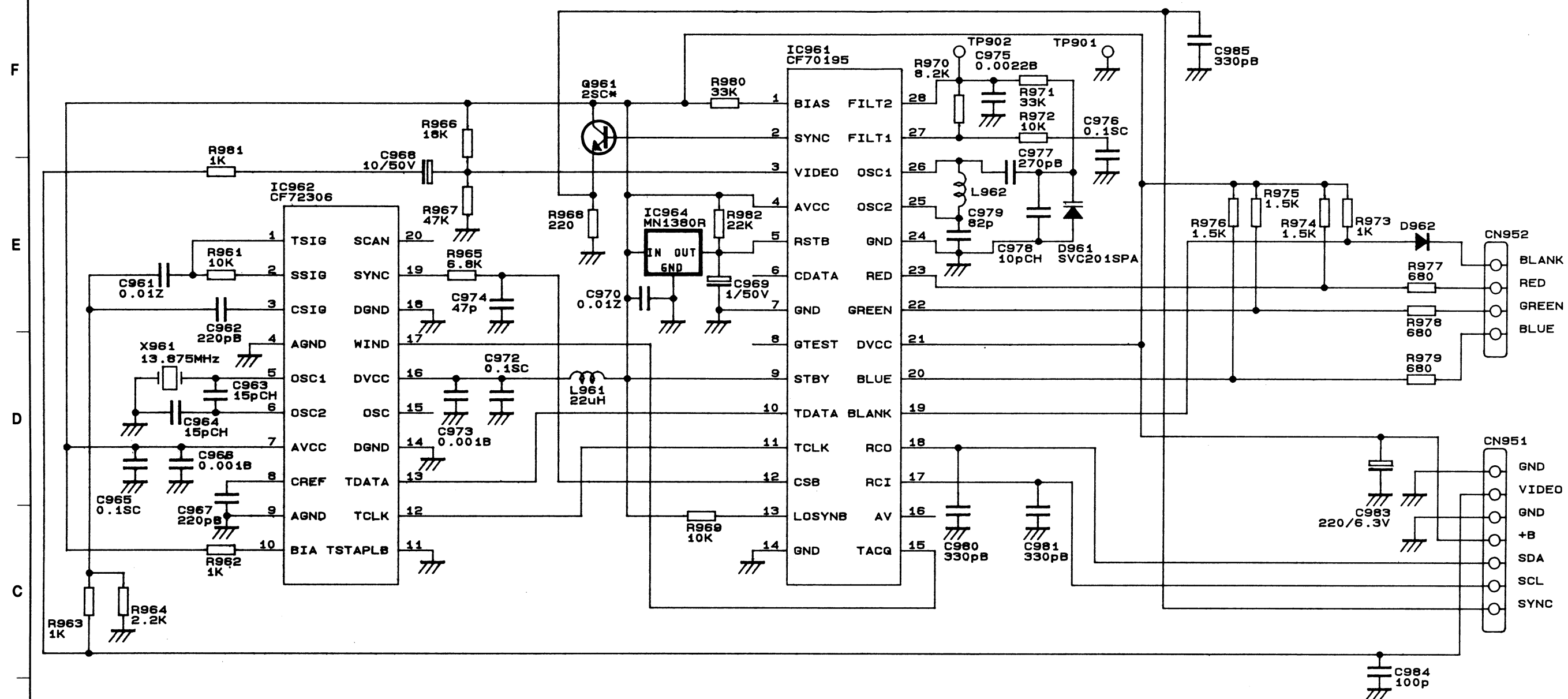


WFt 1DIV: 50V 10μsec

# Main PCB (Top View)



# Teletext Schematic Diagram



## NOTES:

### CHASSIS SCHEMATIC DIAGRAM NOTES.

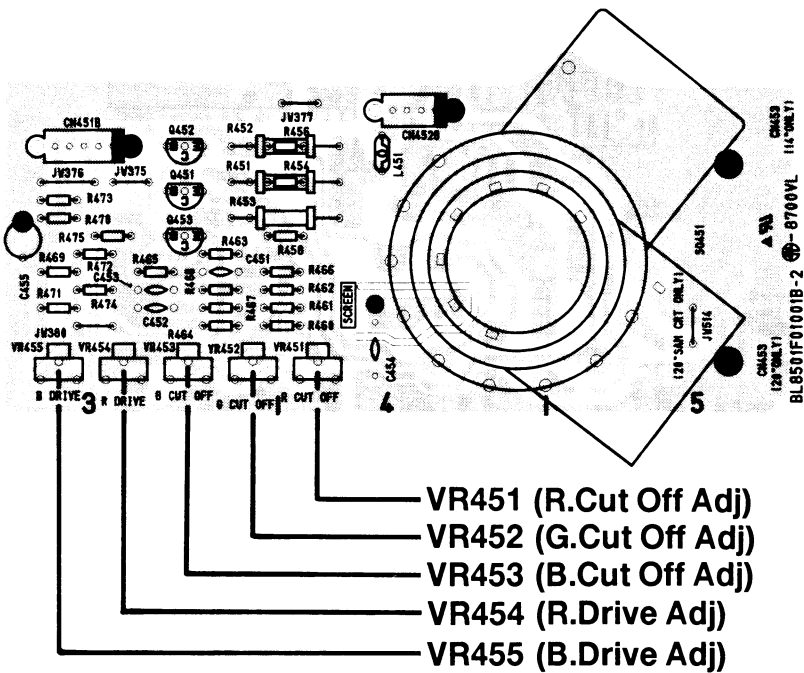
1. ALL RESISTOR VALUES ARE IN OHMS. K=1000, M=1000K.
2. ALL CAPACITANCE VALUES ARE IN uF UNLESS OTHERWISE NOTED. pF=uuF.

3. SAFETY REQUIREMENTS COMPONENT IN ACCORDANCE WITH PRESENT SAFETY REGULATIONS. THESE COMPONENTS MUST ONLY BE REPLACED BY ORIGINAL PARTS.

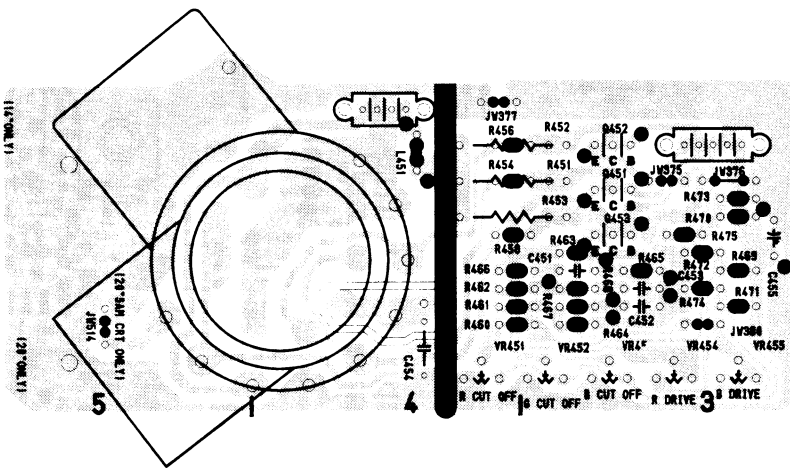
4. IS COLD GROUND.
5. IS HOT GROUND.
6. WAVEFORM READINGS.

7. NO INDICATED DIODES ARE USED 1N4148M.
8. NO INDICATED 2SC\* ARE USED KTC3199.
9. NO INDICATED 2SA\* ARE USED KTA1267.

CRT PCB (Top View)

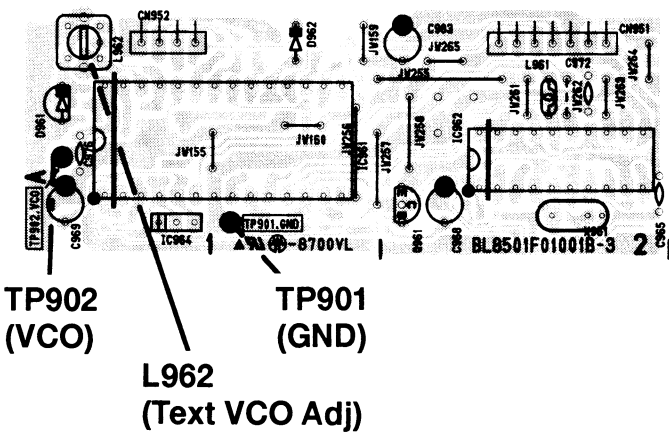


CRT PCB (Bottom View)

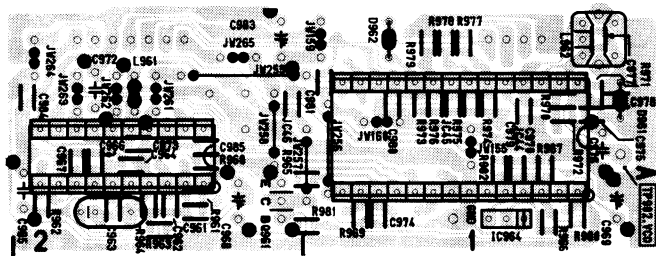


(BL8501F01001B-2)

Teletext PCB (Top View)

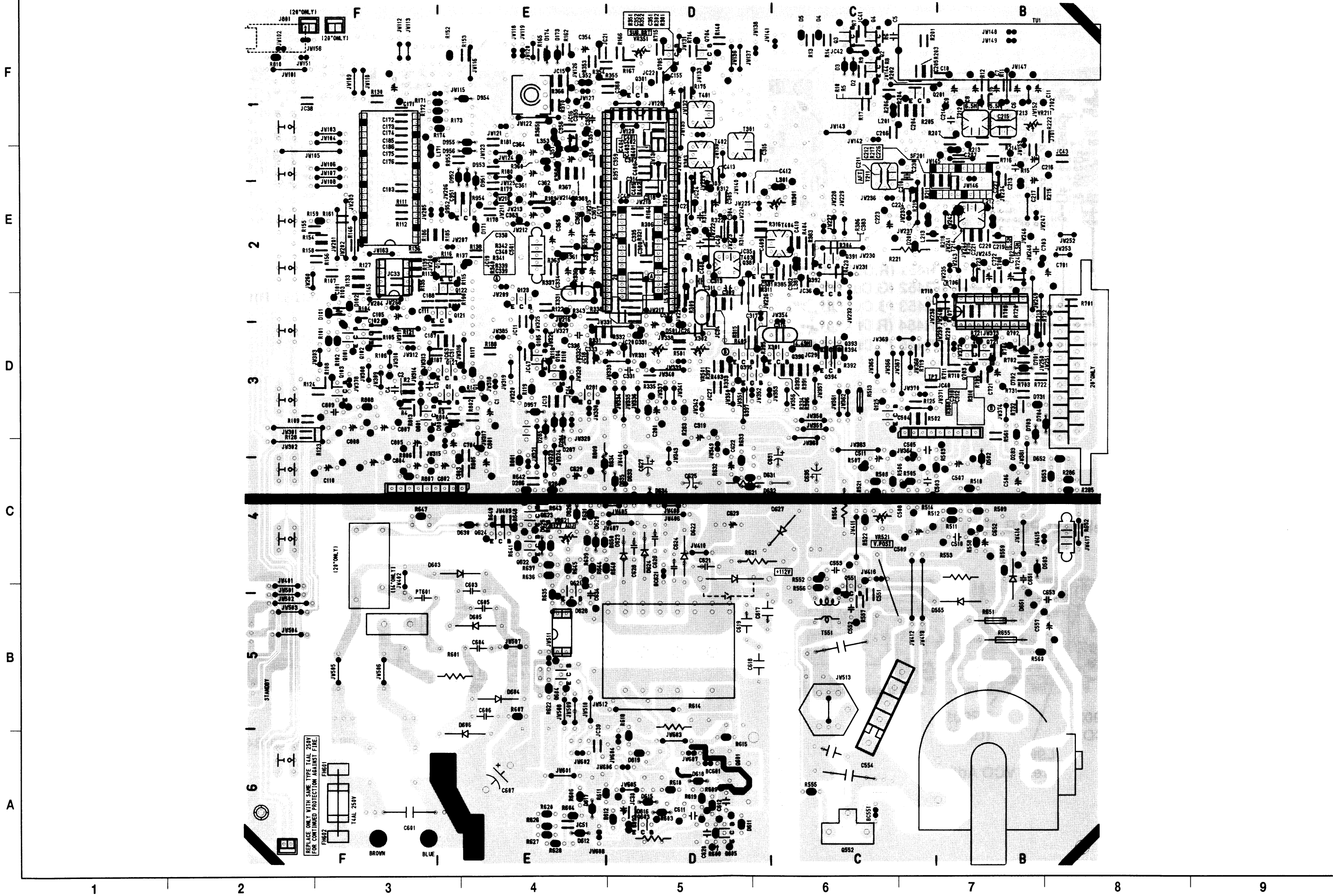


Teletext PCB (Bottom View)



(BL8501F01001B-3)

Main PCB (Bottom View)



# Power Supply Schematic Diagram

F

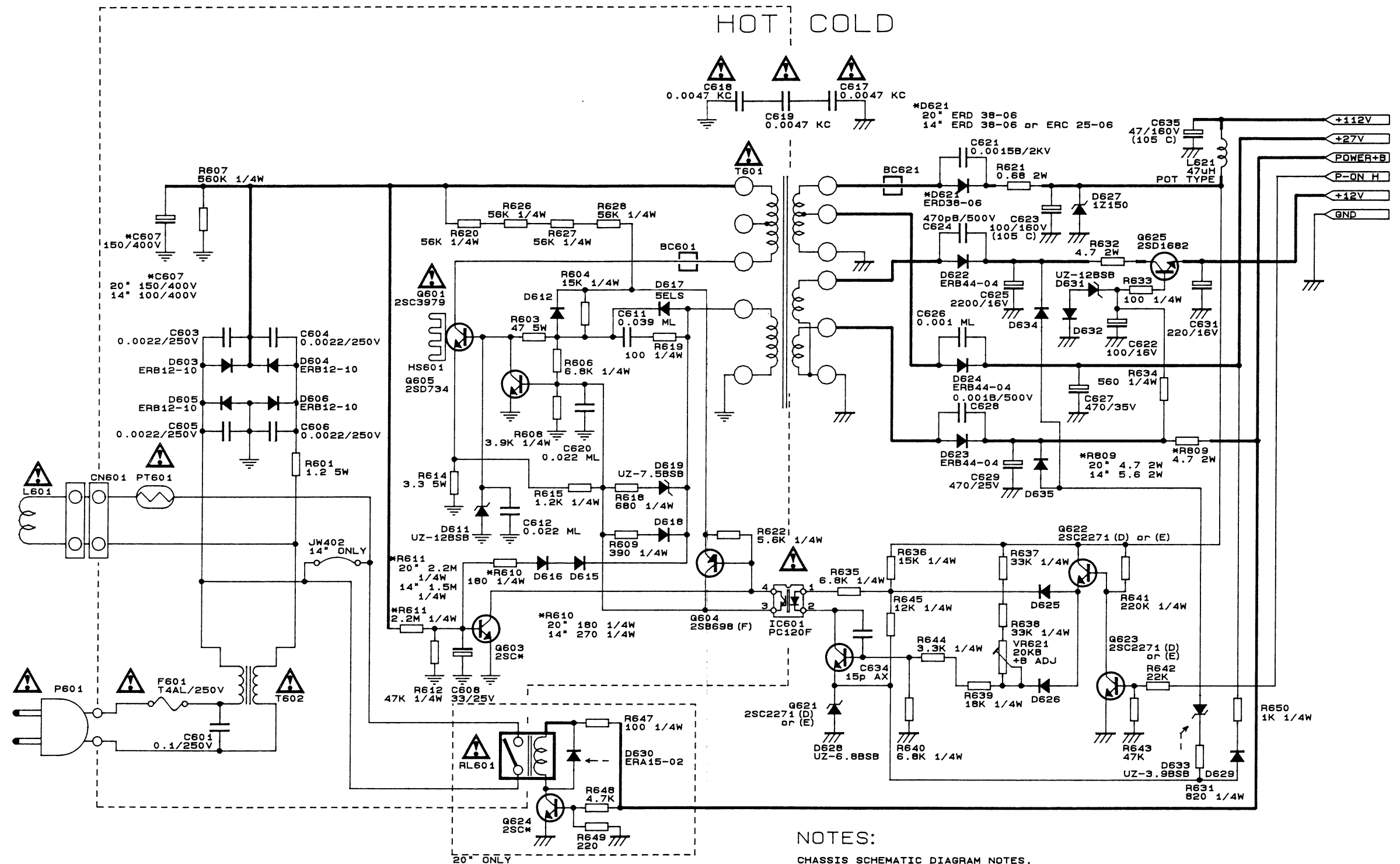
E

D

C

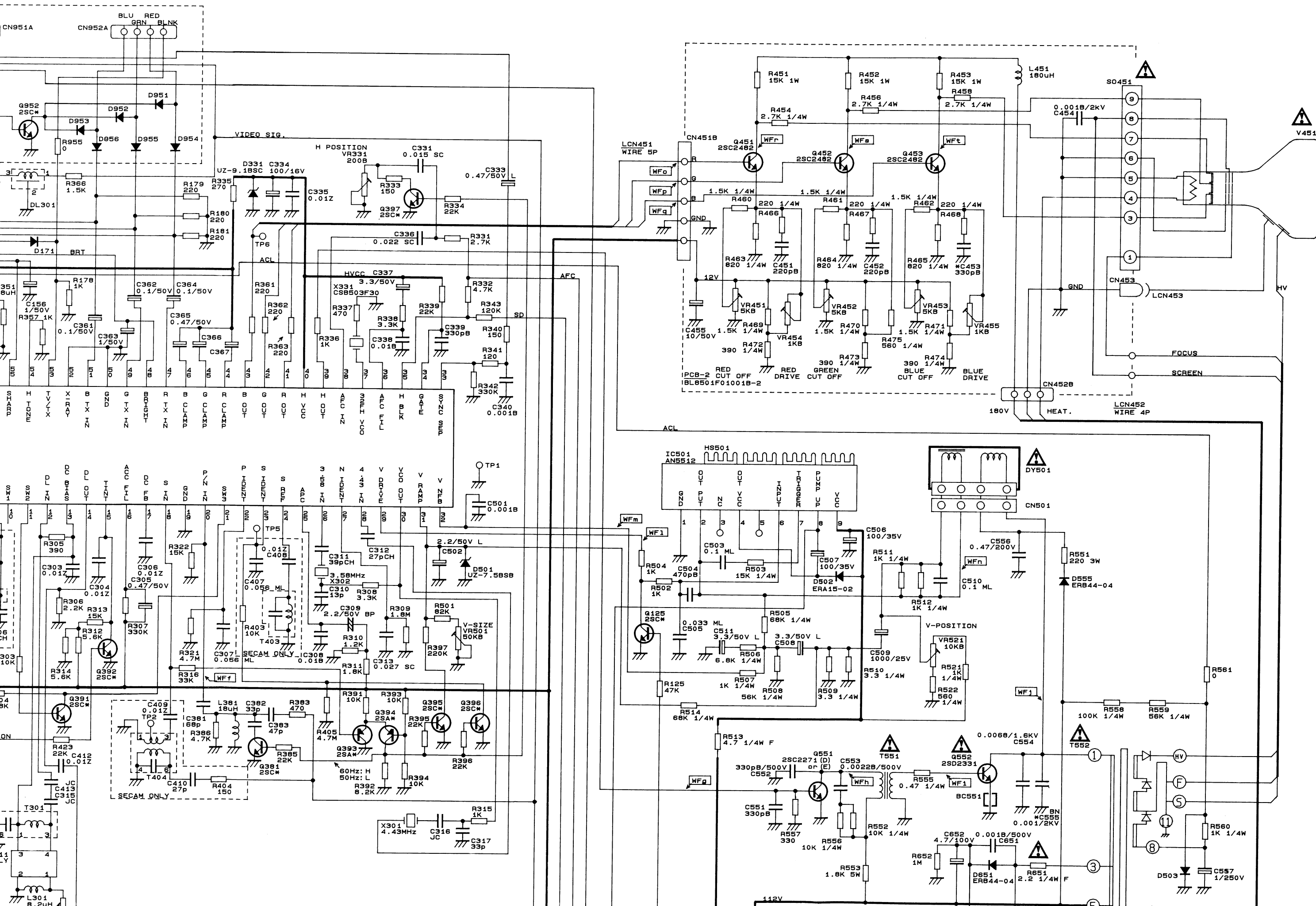
B

A



## NOTES:

- CHASSIS SCHEMATIC DIAGRAM NOTES.
1. ALL RESISTOR VALUES ARE IN OHMS. K=1000, M=1000K.
2. ALL CAPACITANCE VALUES ARE IN uF UNLESS OTHERWISE NOTED. pF=uuF.
3. SAFETY REQUIREMENTS COMPONENT IN ACCORDANCE WITH PRESENT SAFETY REGULATIONS. THESE COMPONENTS MUST ONLY BE REPLACED BY ORIGINAL PARTS.
4. IS COLD GROUND.
5. IS HOT GROUND.
6. WAVEFORM READINGS.
7. NO INDICATED DIODES ARE USED 1N4148M.
8. NO INDICATED 2SC\* ARE USED KTC3199.
9. NO INDICATED 2SA\* ARE USED KTA1267.



# Main / CRT Schematic Diagram

