

# Service Manual

## Colour Television



### TX-29RX20M- MALAYSIA

GP41Z Chassis

## Specifications

**Power Source :** AC SINGLE 220-240 V, 50/60 Hz

**Power Consumption :** 95 W

**Aerial Impedance :** 75  $\Omega$  unbalanced  
Coaxial type

**Receiving System :** 17 Systems

#### SYSTEMS

#### FUNCTIONS

|   |                       |  |
|---|-----------------------|--|
| 1 | PAL B, G, H           |  |
| 2 | PAL I                 |  |
| 3 | PAL D, K              |  |
| 4 | SECAM B, G            |  |
| 5 | SECAM D, K            |  |
| 6 | SECAM K1              |  |
| 7 | NTSC M                |  |
|   | (NTSC 3.58 / 4.5 MHz) |  |

|    |                     |  |
|----|---------------------|--|
| 8  | NTSC 4.43 / 5.5 MHz |  |
| 9  | NTSC 4.43 / 6.0 MHz |  |
| 10 | NTSC 4.43 / 6.5 MHz |  |
| 11 | NTSC 3.58 / 5.5 MHz |  |
| 12 | NTSC 3.58 / 6.0 MHz |  |
| 13 | NTSC 3.58 / 6.5 MHz |  |
| 14 | SECAM I             |  |

|    |                     |  |
|----|---------------------|--|
| 15 | PAL 60 Hz / 5.5 MHz |  |
| 16 | PAL 60 Hz / 6.0 MHz |  |
| 17 | PAL 60 Hz / 6.5 MHz |  |

Reception  
of broadcast  
transmission and  
playback from  
video cassette tape  
recorders.

Playback from  
special VCR only.

Playback from  
special Disc player  
and VCR only.

#### Receiving Channels :

|      |                                    |
|------|------------------------------------|
| VHF  | 2-12 PAL / SECAM B, K1             |
|      | 0-12 PAL B (AUSTRALIA)             |
|      | 1-9 PAL B (N. ZEALAND)             |
|      | 1-12 PAL / SECAM D                 |
|      | 1-12 NTSC M (JAPAN)                |
|      | 2-13 NTSC M (U.S.A.)               |
| UHF  | 21-69 PAL G, H, I / SECAM G, K, K1 |
|      | 28-69 PAL B (AUSTRALIA)            |
|      | 13-57 PAL D, K                     |
|      | 13-62 NTSC M (JAPAN)               |
|      | 14-69 NTSC M (U.S.A.)              |
| CATV | S1-S20 (OSCAR)                     |
|      | 1-125 (U.S.A. CATV)                |
|      | C13-C49 (JAPAN)                    |
|      | S21-S41 (HYPER)                    |
|      | Z1-Z37 (CHINA)                     |
|      | 5A, 9A (AUSTRALIA)                 |

#### Video / Audio Terminals :

|          |                |                              |
|----------|----------------|------------------------------|
| DVD      |                |                              |
|          | Y              | 1.0 Vp-p, 75 $\Omega$        |
|          | P <sub>B</sub> | 0.7 Vp-p, 75 $\Omega$        |
|          | P <sub>R</sub> | 0.7 Vp-p, 75 $\Omega$        |
| AV 1,2,3 |                |                              |
|          | Video In       | 1 Vp-p, 75 $\Omega$          |
|          | Audio In       | Approx. 0.5 V, 47 k $\Omega$ |

# Panasonic®

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|                                 |                             |                                                                                                    |                      |
|---------------------------------|-----------------------------|----------------------------------------------------------------------------------------------------|----------------------|
| Monitor Out                     |                             |                                                                                                    | at zero beam current |
| Video Out                       | 1 Vp-p, 75 $\Omega$         | <b>Picture Tube :</b>                                                                              | A68MAU085X23         |
| Audio Out                       | Approx. 0.5 V, 1 k $\Omega$ |                                                                                                    | 68 cm (29 inches)    |
| <b>Intermediate Frequency :</b> |                             |                                                                                                    | Measured diagonally, |
| Video                           | 38.0 MHz                    |                                                                                                    | 90° deflection       |
| Sound                           | 31.5 MHz (D, K, K1)         | <b>Audio Output :</b>                                                                              | 20.0 W               |
|                                 | 32 MHz (I)                  | <b>Dimensions :</b>                                                                                | Height : 544 mm      |
|                                 | 32.5 MHz (B, G)             |                                                                                                    | Width : 762 mm       |
|                                 | 33.5 MHz (M)                |                                                                                                    | Depth : 494 mm       |
|                                 |                             | <b>Mass :</b>                                                                                      | 40.5 kg (Net)        |
| Colour                          | 33.57 MHz (PAL)             |                                                                                                    |                      |
|                                 | 33.6 MHz (SECAM)            |                                                                                                    |                      |
|                                 | 33.75 MHz (SECAM)           |                                                                                                    |                      |
|                                 | 34.42 MHz (NTSC)            |                                                                                                    |                      |
| <b>High Voltage :</b>           | 31.0 kV $\pm$ 1.0           | Specifications are subject to change without notice.<br>Mass and dimensions shown are approximate. |                      |

### **WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

## CONTENTS

|                                               | Page     |                                          | Page      |
|-----------------------------------------------|----------|------------------------------------------|-----------|
| <b>1 Safety Precautions</b> .....             | <b>3</b> | 4.4. Adjustment Procedure .....          | 9         |
| 1.1. General Guidelines .....                 | 3        | 4.5. Adjustment of Purity .....          | 10        |
| 1.2. Leakage Current Cold Check .....         | 3        | <b>5 Location of Lead Wiring</b> .....   | <b>20</b> |
| 1.3. Leakage Current Hot Check (Fig. 1) ..... | 3        | 5.1. Wire Dressing .....                 | 20        |
| 1.4. X-Radiation .....                        | 4        | 5.2. Wire Dressing and Connections ..... | 21        |
| 1.5. SW-Board Fix to Cabinet .....            | 4        | <b>6 Conductor Views</b> .....           | <b>22</b> |
| 1.6. GP41Z Chassis Block Diagram .....        | 5        | <b>7 Schematic Diagram</b> .....         | <b>23</b> |
| <b>2 Factory Mode Setting</b> .....           | <b>6</b> | 7.1. A Board .....                       | 25        |
| 2.1. Set to Factory Mode .....                | 6        | 7.2. L Board .....                       | 30        |
| 2.2. Operation on Aging mode .....            | 6        | 7.3. V Board .....                       | 33        |
| 2.3. Set to Normal mode .....                 | 6        | 7.4. G Board .....                       | 35        |
| <b>3 Service Mode Adjustment</b> .....        | <b>7</b> | 7.5. K Board .....                       | 37        |
| 3.1. Service Mode Access .....                | 7        | 7.6. SW Board .....                      | 38        |
| 3.2. Service Mode 1 Controls .....            | 7        | <b>8 Parts Locations</b> .....           | <b>40</b> |
| 3.3. Service Mode 2 Controls .....            | 7        | 8.1. Packing Exploded View - A .....     | 40        |
| 3.4. Service Mode 3 Controls .....            | 7        | 8.2. Packing Exploded View - B .....     | 41        |
| <b>4 Service Hints</b> .....                  | <b>8</b> | 8.3. Parts Locations .....               | 42        |
| 4.1. Service Position for E-Board .....       | 8        | <b>9 Replacement Parts List</b> .....    | <b>43</b> |
| 4.2. Adjustment for White Balance .....       | 8        | 9.1. Replacement Parts List .....        | 44        |
| 4.3. Adjustment for CRT CUT OFF .....         | 9        |                                          |           |

# 1 Safety Precautions

## 1.1. General Guidelines

1. It is advisable to insert an isolation transformer in the AC supply before servicing this hot chassis.
2. When servicing, observe the original lead dress, especially the lead dress in the high voltage circuits. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
3. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers, shields and isolation R-C combinations are properly installed.
4. When the receiver is not to be used for a long period of time, unplug the power cord from the AC power socket.
5. Potential, as high as **32.0 kV** is present when this receiver is in operation. Operation of the receiver without the rear cover involves the danger of a shock hazard from the receiver power supply. Servicing should not be attempted by anyone who is not thoroughly familiar with the precautions necessary when working on high voltage equipment. Always discharge the anode of the picture tube to the receiver chassis before handling the tube. After servicing, make the following leakage current check to prevent the customer from being exposed to shock hazards.

## 1.2. Leakage Current Cold Check

1. Unplug the power cord and connect a jumper between the two prongs on the plug.
2. Turn on the receiver's power switch.  
Measure the resistance value, with an ohmmeter, between the jumper and each exposed metallic cabinet part on the receiver, such as screw heads, aerials, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 4 M $\Omega$  and 20 M $\Omega$ . When the exposed metal does not have a return path to the chassis, the reading must be infinite.

## 1.3. Leakage Current Hot Check (Fig. 1)

1. Plug the power cord directly into the power socket. Do not use an isolation transformer for this check.
  2. Check that a 2 k $\Omega$  non-inductive resistor and an AC/DC current meter are in series with each exposed metallic part on the receiver in turn and an earth such as a water pipe.
- The current from any point should not exceed 0.7 mA peak AC or 2 mA DC. In the case of a measurement being outside of these limits specified, there is a possibility of a shock hazard and the receiver should be repaired and rechecked before it is returned to the customer.

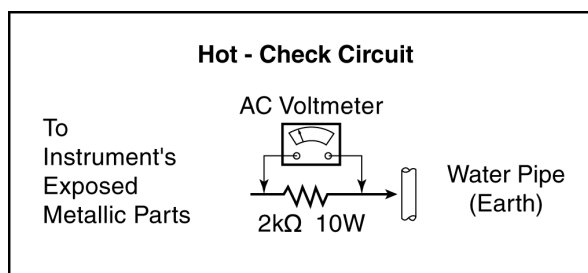


Fig. 1

## 1.4. X-Radiation

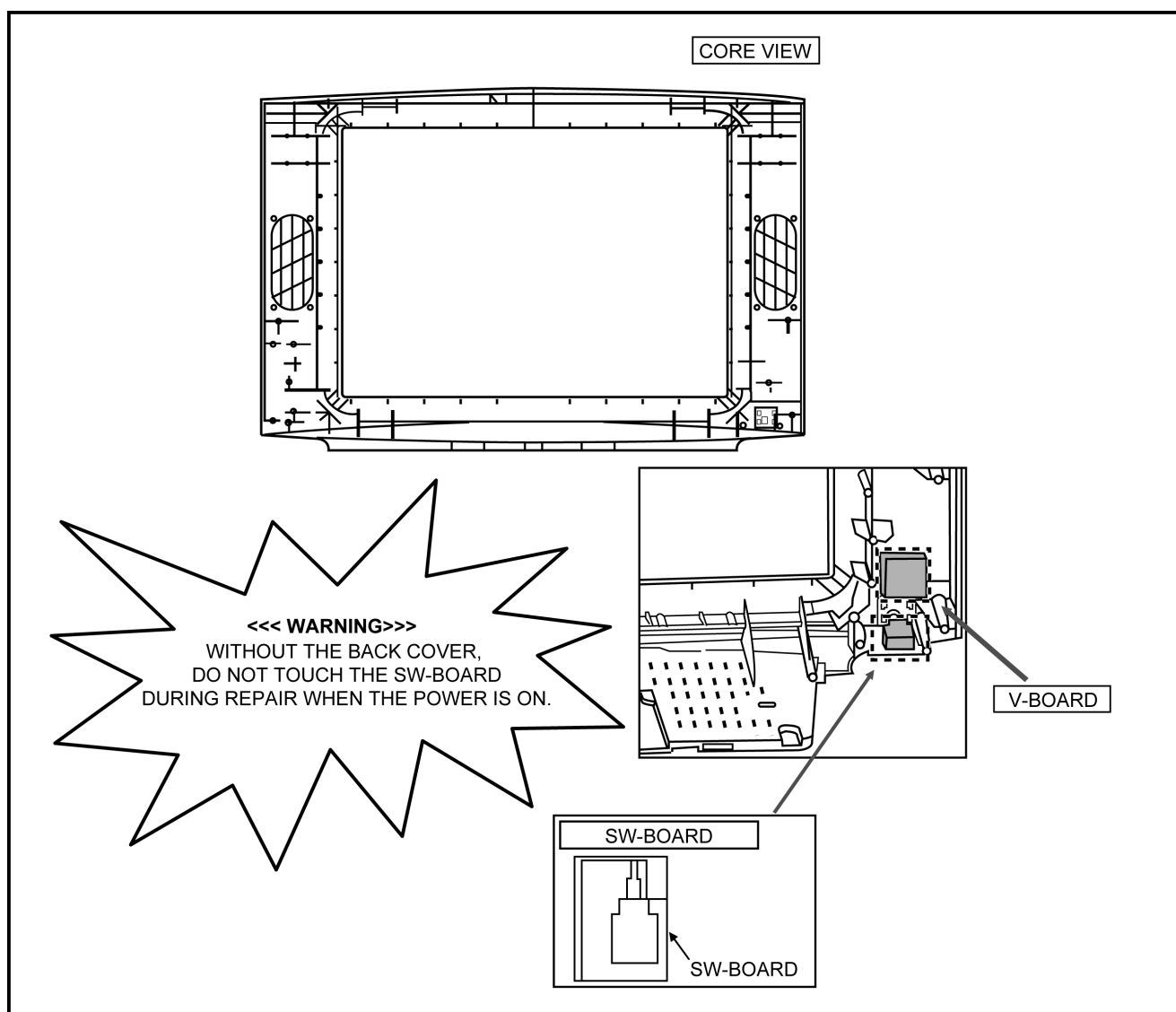
### Warning:

The potential sources of X-Radiation in TV set are the EHT section and the picture tube. When using a picture tube test jig for service, ensure that the jig is capable of handling **32.5 kV** without causing X-Radiation.

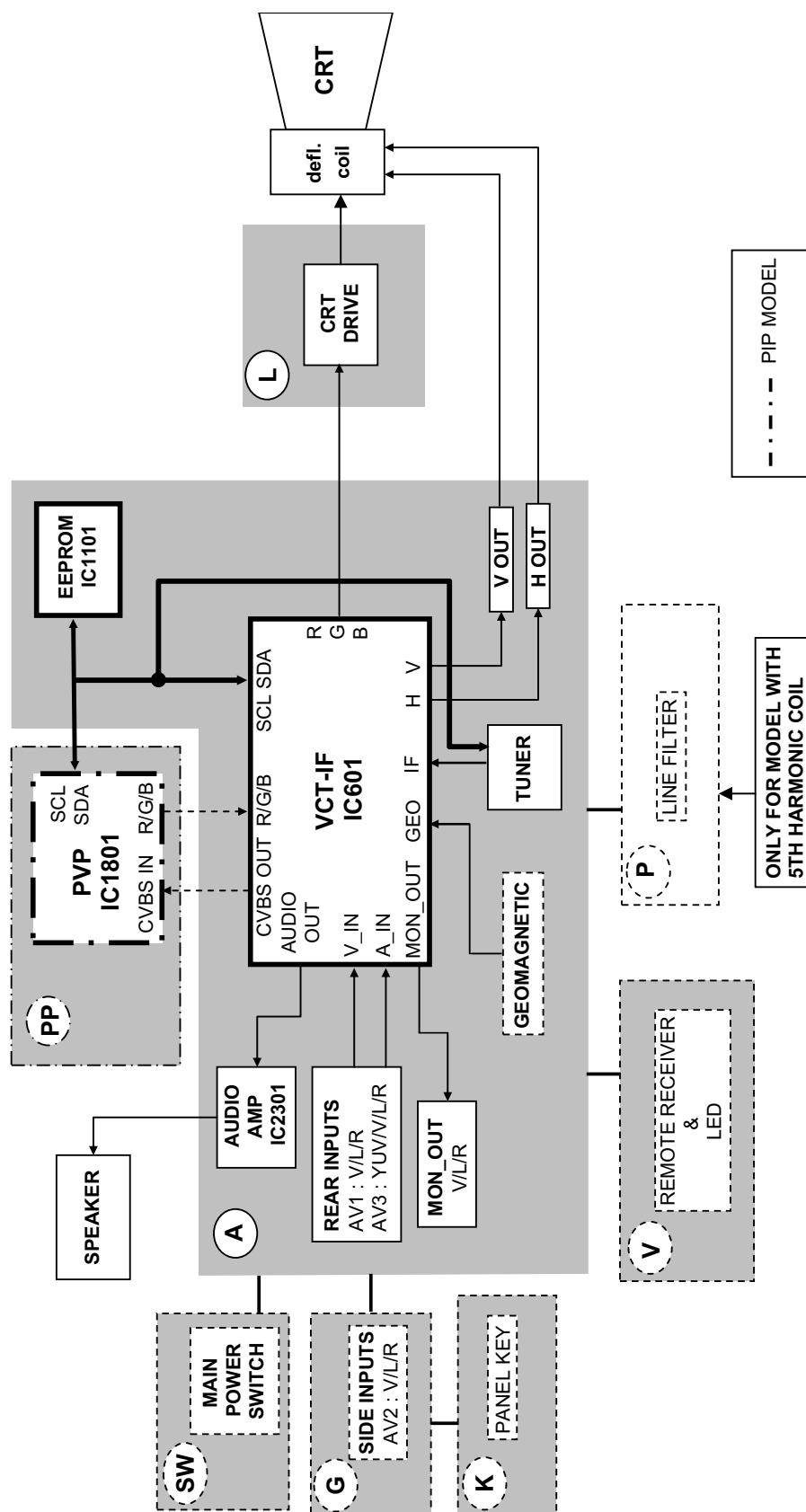
**Note:** It is important to use an accurate periodically calibrated high voltage meter.

1. Set the brightness to minimum.
2. Use the remote to get into Service Mode.
3. Measure the EHT. The meter reading should indicate **31.0 ± 1.0 kV**. If the meter indication is out of tolerance, immediate service and correction are required to prevent the possibility of premature component failure.
4. To prevent the possibility of X-Radiation, it is essential to use the specified picture tube, if service replacement becomes necessary.

## 1.5. SW-Board Fix to Cabinet



## 1.6. GP41Z Chassis Block Diagram



## 2 Factory Mode Setting

### 2.1. Set to Factory Mode

1. Press the factory set button on the remote and the volume down (front control) button together, then the white pattern will appear. In case of releasing the remote button, the black pattern will appear or in other case the volume bar (Volume down) appears.
2. Turn the power off and on, then set to aging mode.
3. Press any button on the remote or on the TV's front panel.  
Reset to aging mode (white pattern) and "CHK" will be displayed on screen.  
When there is no signal in this factory mode, it will change to aging mode.  
Aging set to aging mode method -- POWER OFF → ON

### 2.2. Operation on Aging mode

1. White pattern appears, when reset start (POWER ON).
2. Press the factory set button, so that change to screen color.  
White → Black → Red → Green → Blue

### 2.3. Set to Normal mode

1. Press SELF CHECK MODE button or press the volume down button on front control, together press the off timer button on the remote.

## 3 Service Mode Adjustment

### 3.1. Service Mode Access

1. Set the timer ON.
2. Press remote's RECALL ( $\oplus$ ) and panel's volume down key simultaneously to enter SERVICE 1.

### 3.2. Service Mode 1 Controls

|                 |                              |
|-----------------|------------------------------|
| Key 3/4         | Previous/Next Service 1 Item |
| Key 8/9         | Adjust user Brightness (-/+) |
| Program up/down | Program position up/down     |
| Volume +        | Increment of selected item   |
| Volume -        | Decrement of selected item   |
| OK              | Store/Save selected item     |
| Normalize       | Exit service mode            |

### 3.3. Service Mode 2 Controls

- To enter SERVICE 2; press channel key '1' in SERVICE 1 entry screen.

|                 |                              |
|-----------------|------------------------------|
| Key 3/4         | Previous/Next Service 2 Item |
| Key 8/9         | Toggle for option bit 0-7    |
| Program up/down | Program position up/down     |
| Volume +        | Increment of selected item   |
| Volume -        | Decrement of selected item   |
| OK              | Store/Save selected item     |
| Normalize       | Exit service mode            |

#### NOTE:-

- Service Mode 2 options bit refer to each model front cover spec.

### 3.4. Service Mode 3 Controls

- To enter SERVICE 3; press channel key '1' in SERVICE 2 entry screen.

|                 |                              |
|-----------------|------------------------------|
| Key 3/4         | Previous/Next Service 1 Item |
| Program up/down | Program position up/down     |
| Volume +        | Increment of selected item   |
| Volume -        | Decrement of selected item   |
| OK              | Store/Save selected item     |
| Normalize       | Exit service mode            |

## 4 Service Hints

### 4.1. Service Position for E-Board

1. Remove the back cover.
2. Stand the TV set as shown in Fig. 2.
3. Remove the A-Board from the TV set by pulling the main board out as shown in Fig. 2.

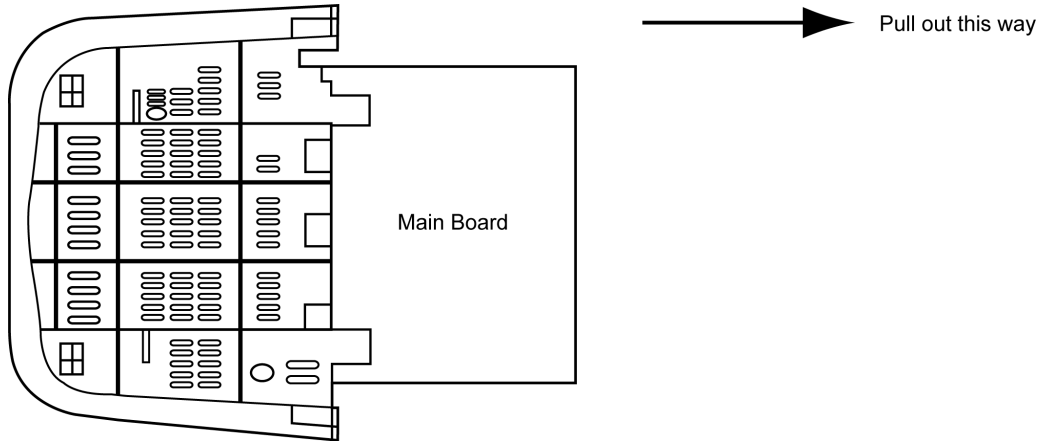


Fig. 2

### 4.2. Adjustment for White Balance

Preparation:

1. Receive the white balance pattern and aging should have been performed over 30 minutes.
2. Set the picture menu to DYNAMIC NORMAL.
3. Degauss the CRT face.
4. Fix the CRT colour analyzer receiver unit to CRT face.
5. Enter service mode "1".

**Note:**

1. In white balance mode, key 8 (REMOTE) & key 9 (REMOTE) can be used to adjust sub bright.
2. Press "OK" after white balance adjustment to store the data.

#### Adjustment of Low Light

1. Adjustment Sub Bright, so that  $Y = 6.5 \pm 1.0$  nit.
2. Adjustment R-CUT OFF, so that  $X = 0.241 \pm 0.005$  nit.
3. Adjustment G-CUT OFF, so that  $Y = 0.242 \pm 0.005$  nit.

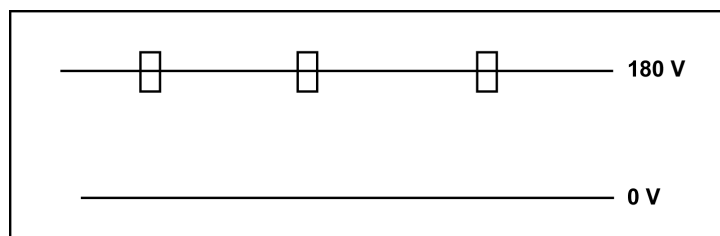
#### Adjustment of High Light

1. Adjustment Sub Bright, so that  $Y = 150$  nit.
2. Adjustment R-Drive, so that  $X = 0.263 \pm 0.003$  nit.
3. Adjustment B-Drive, so that  $Y = 0.261 \pm 0.003$  nit.

### 4.3. Adjustment for CRT CUT OFF

Preparation:

1. Connect the oscilloscope probe to (GREEN CATHODE) on L Board.
2. Screen VR min.
3. Set the data Sub Bright, Bright.
4. In service Mode at "Bright" dac press [5] in factory mode to enter vertical line and adjust by volume down or up button.
5. Adjust "Screen VR" to set voltage as in Table 1.



### 4.4. Adjustment Procedure

#### 4.4.1. +B Voltage

Item / preparation

1. Operate the TV set.
2. Set control as follows :  
 Brightness ..... minimum  
 Contrast ..... minimum

Adjustment procedure

1. Confirm the DC voltage at the indicated test points, as follows :  
 TPA 15 :  $3.35 \text{ V} \pm 0.2$   
 TPA 16 :  $141 \text{ V} \pm 2$   
 TPA 17 :  $8.2 \text{ V} \pm 0.35$   
 TPA 18 :  $1.85 \text{ V} \pm 0.15$   
 TPA19 :  $5.30 \text{ V} \pm 0.2$   
 TPA20 :  $220 \text{ V} \pm 15$

#### 4.4.2. High Voltage

Item / preparation

1. Receive the crosshatch pattern.
2. Set to 0 Beam.  
 Screen VR ..... minimum  
 Contrast ..... minimum

Adjustment procedure

1. Connect a DC voltage meter to TPA 16 and confirm that the +B voltage is  $141.0 \text{ V} \pm 2$ .
2. Connect a high frequency voltmeter to heater and confirm that voltage reads  $6.3 \text{ V (RMS)} \pm 0.3$ .
3. Normalize the brightness and contrast.

## 4.5. Adjustment of Purity

### 1. INSTRUMENTS

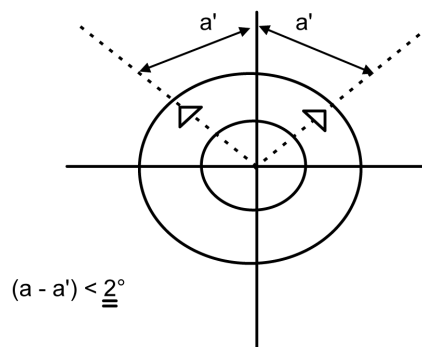
- a. Purity Jig
- b. Helmholtz device

### 2. PREPARATION

- a. Set the Helmholtz device to local magnetic field.  
Horizontal :  $0 \pm 0.03 \times 10^{-4}\text{T}$
- b. Aging should have been performed over 60 minutes.
- c. Receive the purity pattern (White pattern).
- d. Picture menu : CONTRAST ... Max. BRIGHT ... Max.
- e. Set V-CENTER to [4].
- f. Static convergence should have been roughly adjusted.
- g. Connect DC current meter through FBT (pin 3) and adjust to  $[1200 \pm 10\%] \mu\text{A}$ .

### 3. ADJUSTMENT

- a. Set both purity magnet's knobs to top.
- b. Adjust the purity so that the markers on monitor scope of purity jig become symmetrical in horizontal direction.
- c. Only for stripe CRT, correct vertical centre by purity magnet too.
- d. Set up deflection yoke so that the position of deflection yoke becomes  $[10 \mu\text{m} \pm 5]$  forward on monitor scope at this time by attention note to tile deflection yoke.
- e. Repeat procedures (a) ~ (d).
- f. Tighten deflection yoke band.
- g. Adjust beam landing by microscope. (Only for model change or check instruments)



## ADJUSTMENT OF CONVERGENCE

### 1. INSTRUMENT

- a. Helmholtz device

### 2. PREPARATION

- a. Set the Helmholtz device to local magnetic field.  
Horizontal :  $0 \pm 0.03 \times 10^{-4} \text{T}$
- b. Receive the crosshatch pattern.
- c. Picture menu : DYNAMIC Normal and adjust BRIGHT DAC until gray portion of crosshatch.
- d. Set DY to CRT not to tilt (up and down and left right).

### 3. ADJUSTMENT

#### a. Static Convergence Adjustment

- a. Make sure that the magnets are positioned as shown as in Fig. 1.
- b. Adjust the 4-pole magnets (Fig. 1) to align centre dots of R and B adjust 6-pole magnets to align centre dots to G.
- c. After adjustment, secure magnets with magnet lock of white lacquer.
  - Beams move with rotating when static magnet is turned. Rotational reduce of beams differs by angle of two magnets. Therefore, repeat magnet adjustment several times so that all aligned completely.

#### b. YHC, YV, XV Adjustment (Fig. 2)

- a. Adjust that static and Dynamic convergence is best with YHC VR, YV VR and XV coil. In case of static convergence is tilted, repeat (1) Static Convergence Adjustment.

#### c. Dynamic Convergence Adjustment

- a. When dynamic convergence is bad, fixing permalloy between neck and DY so that dynamic convergence best.

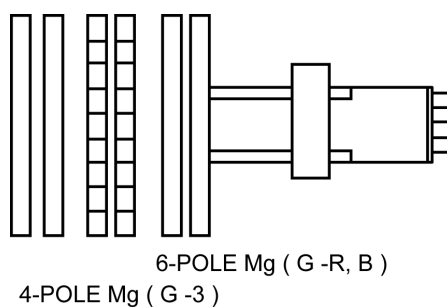


Fig. 1

### 4. CONFIRM THAT LEFT UPPER SIDE LINE IS STRAIGHT.

When left upper side line is not straight, put magnet on DY and adjust the left upper side line to straight.

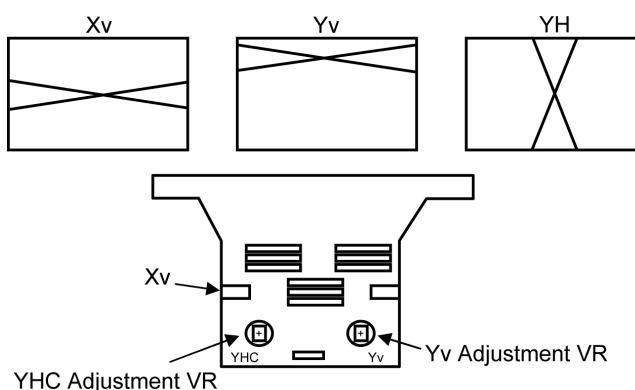


Fig. 2

## FOCUS ADJUSTMENT

### 1. PREPARATION

- a. Receive crosshatch pattern E-4.
- b. Picture menu : DYNAMIC NORMAL

For Philippines & Panamex model

- a. Receive the crosshatch pattern. ( US 6 )
- b. Picture menu : DYNAMIC NORMAL

### 2. ADJUSTMENT

- a. Adjust focus VR for best position.

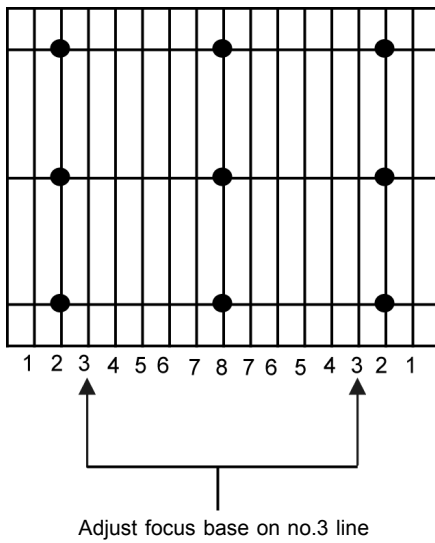


Fig 1. Crosshatch Pattern

## DEFLECTION

**Note:-** For Philippines model, all 50 Hz adjustment is made in AV mode.

### A . DEFLECTION ADJUSTMENT / CONFIRMATION (50 Hz, 4:3 Mode ONLY)

(Service 1)

#### 1. INSTRUMENT

- a. Helmholtz device

#### 2. PREPARATION

- a. Set the Helmholtz device to local magnetic field.
- b. Picture menu : DYNAMIC Normal

#### 3. CONFIRMATION AND ADJUSTMENT

- a. Adjustment of 50 Hz V-CENTER
  - a. Receive the monoscope pattern (E11).
  - b. Adjust V-POS so that centre of monoscope pattern is at CRT centre.
- b. Adjustment of 50 Hz V-AMP
  - a. Receive the monoscope pattern (E11).
  - b. Adjust V-AMP so that
    - C, D (Fig. 3) is  $2.0 \pm 0.1$
    - A, B (Fig. 3) is  $2.0 \pm 0.1$
- c. Adjustment of 50 Hz H-CENTER
  - a. Receive the monoscope pattern (E11).
  - b. Adjust H-POS so that horizontal position is at centre of CRT.

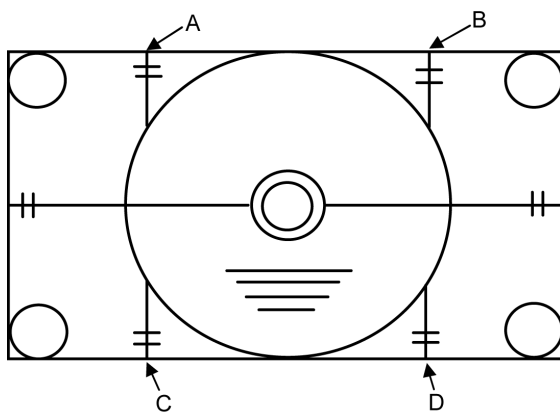


Fig. 3

**B . DEFLECTION ADJUSTMENT / CONFIRMATION (50 Hz, 4:3 Mode ONLY)**

(Service 1)

**1. INSTRUMENT**

- a. Helmholtz device

**2. PREPARATION**

- a. Set the Helmholtz device to local magnetic field.
- b. Picture menu : DYNAMIC Normal

**3. CONFIRMATION AND ADJUSTMENT**

## a. Adjustment of 50 Hz V-CENTER

- a. Receive the Philips pattern (US11).
- b. Adjust V-POS so that centre of Philips pattern is at 2/3 of Top and Bottom.  
A, B (Fig. 3c) is 2/3 of viewable size

## b. Adjustment of 50 Hz V-AMP

- a. Receive the Philips pattern (US11).
- b. Adjust V-AMP so that  
A (Fig. 3b) is 2/3 of viewable size

## c. Adjustment of 50 Hz H-CENTER

- a. Receive the Philips pattern (US11).
- b. Adjust H-POS so that horizontal position is at centre of CRT.  
C, D (Fig. 3c) is 2/3 of viewable size

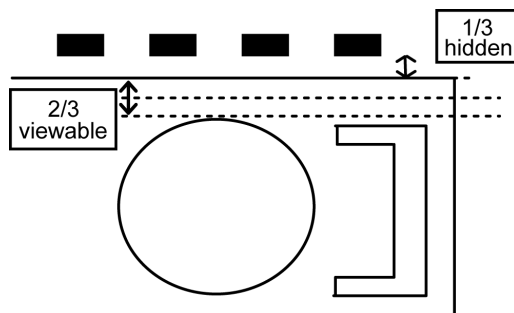


Fig. 3b

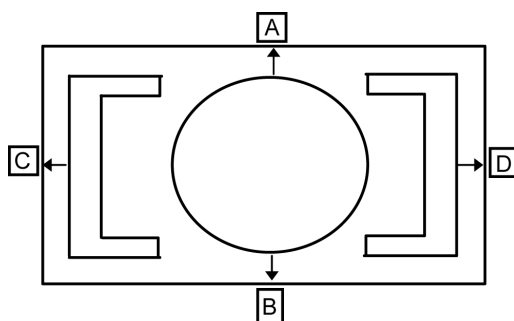


Fig. 3c

#### 4. ADJUSTMENT OF 50 Hz H-AMP

- a. Receive the monoscope pattern (E11).
- b. Adjust H-AMP so that both edges are within  $2.5 \pm 0.2$ . Refer to Fig. 1.

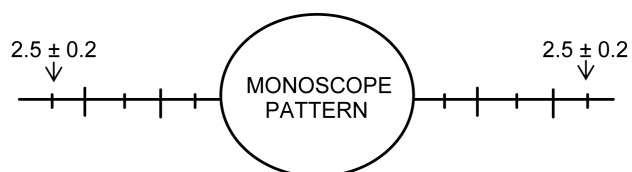


Fig. 1

#### 5. EW ADJUSTMENT / CONFIRMATION

##### a. PREPARATION

- a. Receive crosshatch pattern (E4).

##### b. EW ADJUSTMENT

- a. Adjust the vertical line no. 2 to straight line (parabola) by EW-AMP 1. (Refer to Fig. 1c)

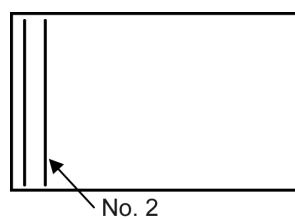


Fig. 1c

**(16:9 MODE) ADJUSTMENT / CONFIRMATION****1. V-ZOOM (16:9) ADJUSTMENT**

(Service 3)

- \*a. Receive PAL monoscope pattern E11. (If no burst signal : Set to force PAL)
- b. Set the aspect to 16:9.
- c. Confirm that A, B in Fig. 1 is  $4.0\text{ cm} \pm 1.5$ , if not, adjust V-ZOOM.
- d. Receive NTSC monoscope pattern US13. (If no burst signal : Set to force NTSC)
- c. Confirm that A, B in Fig. 1 is \*a, if not, adjust V- ZOOM.

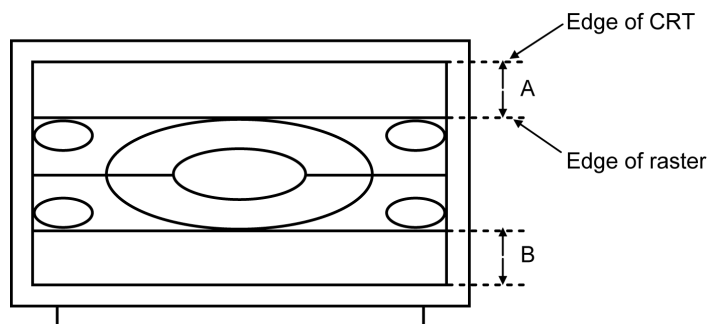


Fig. 1

1. Confirmation of deflection setting, if not in spec, touch up as below :-  
(Service 3)

A) For 60 Hz (4:3 only) :

a. Adjustment of 60 Hz V-CENTER

a. Receive the monoscope pattern (US13).

b. Adjust V-POS 60 Hz offset so that centre of monoscope pattern is at CRT centre.

b. Adjustment 60 Hz V-AMP

a. Receive the monoscope pattern (US13).

b. Adjust V-AMP 60 Hz offset so that

C, D (Fig. 3) is  $2.0 \pm 0.1$

A, B (Fig. 3) is  $2.0 \pm 0.1$

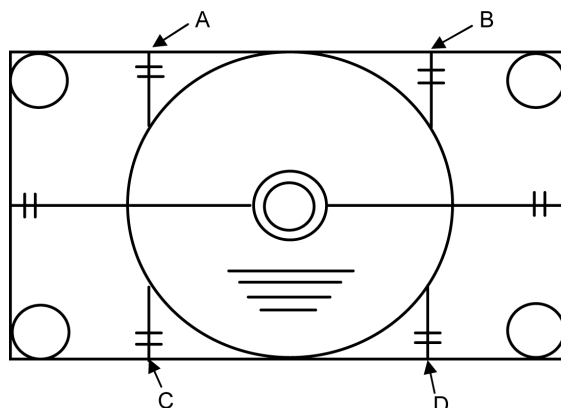


Fig. 3

c. Adjustment of 60 Hz H-CENTER

a. Receive the monoscope pattern (US13).

b. Adjust H-POS 60 Hz offset so that horizontal position is at centre of CRT.

d. Adjustment of 60 Hz H-AMP

a. Receive the monoscope pattern (US13).

b. Adjust H-AMP 60 Hz offset so that both edges are within  $2.5 \pm 0.2$ . Refer to Fig. 1.

c. Touch up if necessary.

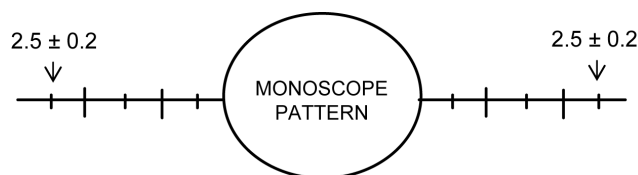


Fig. 1

e. EW ADJUSTMENT

a. Receive crosshatch pattern. (JA7)

b. Adjust the vertical line no. 2 to straight line (parabola) by EW-AMP1 60 Hz offset. (Fig. 3)

c. Touch up if necessary.

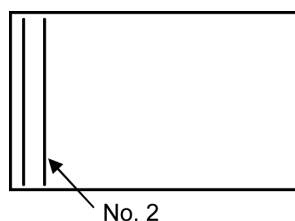


Fig. 3

B) For other Deflection touch up 50 & 60 Hz ; 4:3 & 16:9

### 1. Adjustment of V-Sym

- a. Adjust V-SYM so that  $a=b$  in Fig. 1

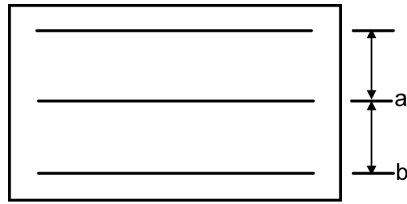


Fig. 1

### 2. Adjustment of V-LIN

- a. Adjust V-LIN  $a=b=c=d$  in Fig. 2.

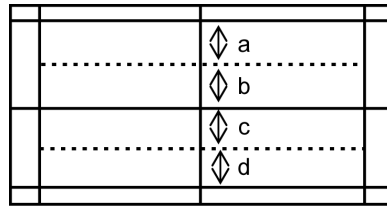


Fig. 2

### 3. Adjustment of TRAPEZOID

- a. Adjust the vertical line to straight line of both sides of vertical lines (trapezoid) in Fig. 3 by TRAPEZ 1.

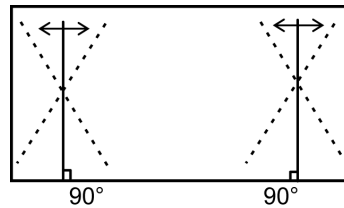


Fig. 3

### 4. Adjustment of UPPER CORNER AND LOWER CORNER

- a. Adjust the EW at corner in Fig. 4 by UPPER-CORNER and LOW-CORNER.



Fig. 4

### 5. Adjustment of ANGLE

- a. Adjust ANGLE so that the vertical line is orthogonal to the horizontal line (Fig. 5).

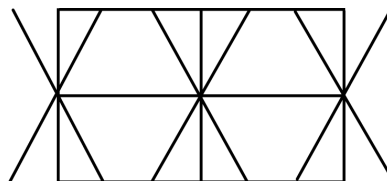


Fig. 5

## 6. Adjustment of BOW

- a. Adjust BOW so that the vertical lines are straight. (Fig. 6)

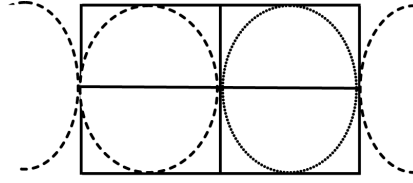
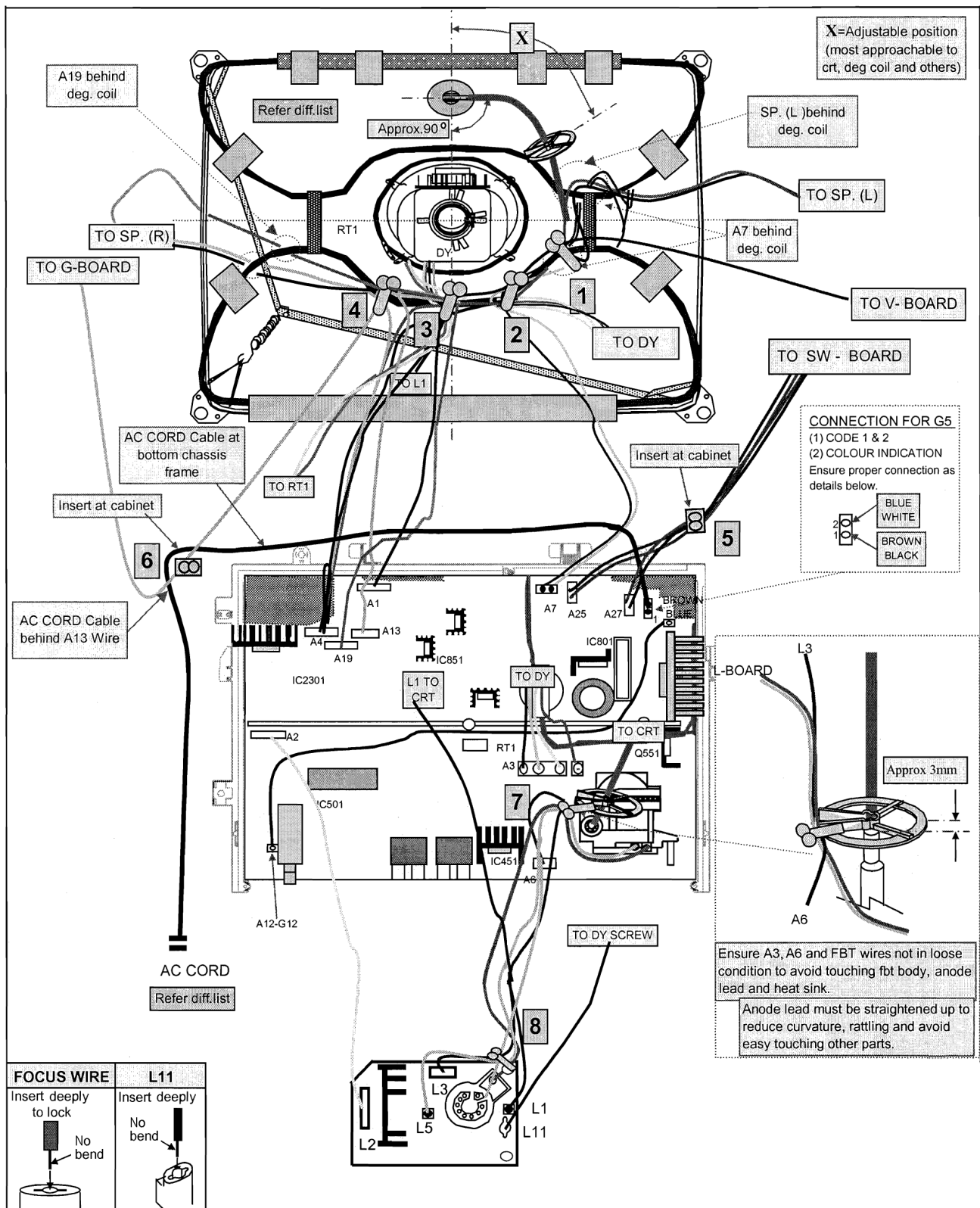


Fig. 6

## 5 Location of Lead Wiring

### 5.1. Wire Dressing



## 5.2. Wire Dressing and Connections

### < CONNECTIONS >

| LEAD \ CLAMPER | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |  |  |  |  |  |  |  |  |
|----------------|---|---|---|---|---|---|---|---|--|--|--|--|--|--|--|--|
| AC CORD ~ A15  |   |   |   |   |   | ⊗ |   |   |  |  |  |  |  |  |  |  |
| A1 ~ V1        | ● | ● |   |   |   |   |   |   |  |  |  |  |  |  |  |  |
| G19 ~ A19      |   |   | ● | ● |   |   |   |   |  |  |  |  |  |  |  |  |
| G13 ~ A13      |   |   |   | ● |   | ● |   |   |  |  |  |  |  |  |  |  |
| DEG ~ A7       | ● | ● |   |   |   |   |   |   |  |  |  |  |  |  |  |  |
| ROTATION ~ RT1 |   | ● | ● |   |   |   |   |   |  |  |  |  |  |  |  |  |
| A4 ~ SP (L)    | ● | ● | ● |   |   |   |   |   |  |  |  |  |  |  |  |  |
| A4 ~ SP (R)    |   |   | ● | ● |   |   |   |   |  |  |  |  |  |  |  |  |
| SW15 ~ A25     |   |   |   |   | ● |   |   |   |  |  |  |  |  |  |  |  |
| SW5 ~ A27      |   |   |   |   | ● |   |   |   |  |  |  |  |  |  |  |  |
| A3 ~ DY        |   | ● | ● |   |   |   |   |   |  |  |  |  |  |  |  |  |
| A6 ~ L3        |   |   |   | ● |   |   |   |   |  |  |  |  |  |  |  |  |
| FOCUS & SCREEN |   |   |   |   |   |   | ● | ● |  |  |  |  |  |  |  |  |
| CRT EARTH (L1) |   |   |   |   |   |   |   |   |  |  |  |  |  |  |  |  |
| DEG COIL       | ● | ● | ● | ● |   |   |   |   |  |  |  |  |  |  |  |  |

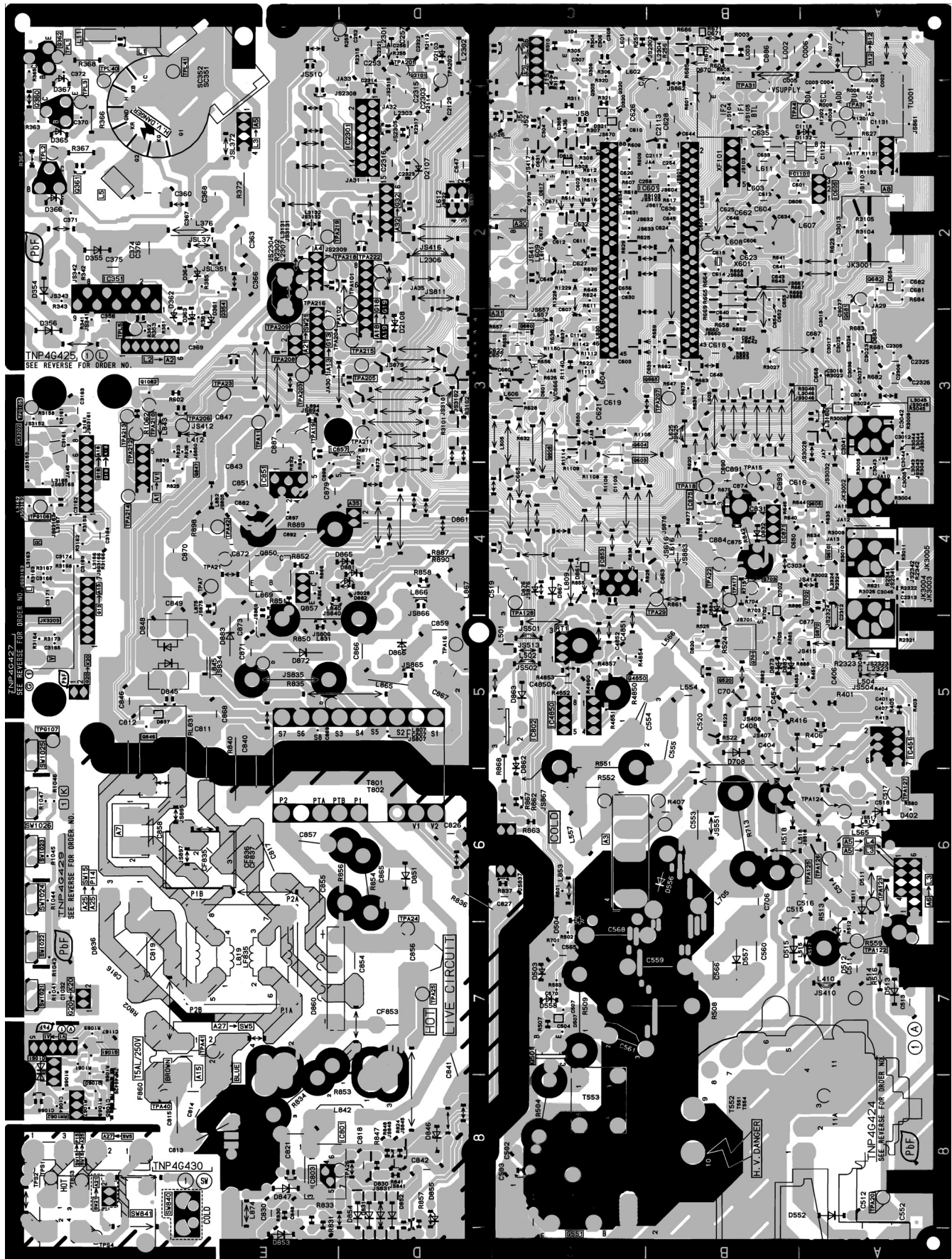
● = SINGLE CLAMP    ⊗ = DOUBLE CLAMP    ▲ = CLAMP IN CHASSIS ASS'Y

NOTE: ANY MODELS NOT USING ROTATION COIL, NO NEED CLAMP AT [2] [3] POSITION.

### < SAFETY CAUTION POINTS >

1. ALL LEAD MUST NOT TOUCH THE HIGH TEMPERATURE PARTS.  
(HEAT SINK / FBT / POWER CIRCUIT )
2. DY LEAD MUST BE KEPT A DISTANCE (MINIMUM 10 mm) FROM FBT BODY.
3. ANODE LEAD MUST BE KEPT A DISTANCE (MINIMUM 10 mm) FROM OTHER PARTS.
4. AC-CORD MUST BE INSERTED ACCORDING TO POLARITY AND COLOUR.

# 6 Conductor Views



## 7 Schematic Diagram

### Important Safety Notice

Components identified by  mark have special characteristics important for safety.  
When replacing any of these components, use only manufacturer's specified parts.

#### Notes :

##### 1. Resistor

All resistors are carbon 1/4 W resistors unless marked as follows :

Unit of resistance is OHM ( $\Omega$ ) (K = 1 000 M = 1 000 000)

|                                                                                   |              |                                                                                   |             |
|-----------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------------------|-------------|
|  | Nonflammable |  | Metal Oxide |
|  | Solid        |  | Metal Film  |
|  | Wire Wound   |  | Fuse        |

##### 2. Capacitor

All capacitors are ceramic 50 V capacitors unless marked as follows :

Unit of capacitance is  $\mu\text{F}$  unless otherwise noted.

|                                                                                     |                          |                                                                                     |                 |
|-------------------------------------------------------------------------------------|--------------------------|-------------------------------------------------------------------------------------|-----------------|
|  | Temperature Compensation |  | Electrolytic    |
|  | Polyester                |  | Bipolar         |
|  | Metalized Polyester      |  | Dipped Tantalum |
|  | Polypropylene            |  | Z-Type          |

##### 3. Coil

Unit of inductance is  $\mu\text{H}$ , unless otherwise noted.

##### 4. Test Point

 : Test Point position

##### 5. Earth Symbol

 : Chassis Earth (Cold)  : Line Earth (Hot)

##### 6. Voltage Measurement

Voltage is measured using DC voltmeter.

Conditions of the measurement are the following :

Power Source.....AC SINGLE 220-240 V, 50/60 Hz

Receiving Signal.....Colour Bar signal (RF)

All customer's controls.....Maximum positions

##### 7. Number in red circle indicates waveform number.

(See waveform pattern table)

8. When an arrow mark (  ) is found, connection is easily found from the direction of the arrow.
9.  : Indicates the major signal flow.
10. This schematic diagram is the latest at the time of printing and subject to change without notice.

**Remarks :**

The Power Circuit contains a circuit area which uses a separate power supply to isolate the earth connection.

The circuit is defined by HOT and COLD indications in the schematic diagram.

Take the following precautions:

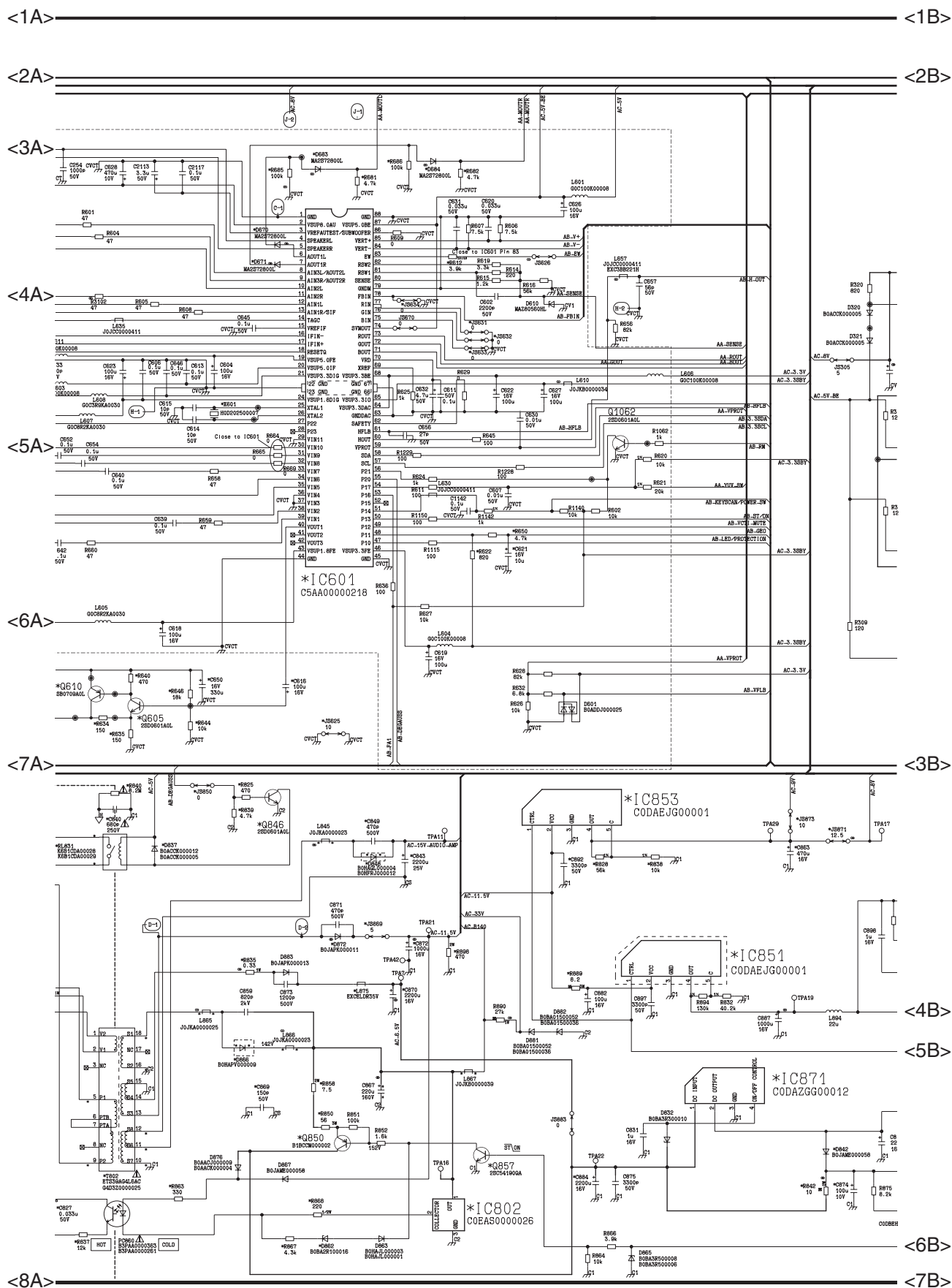
All circuits, except the Power Circuit are cold.

Precautions:

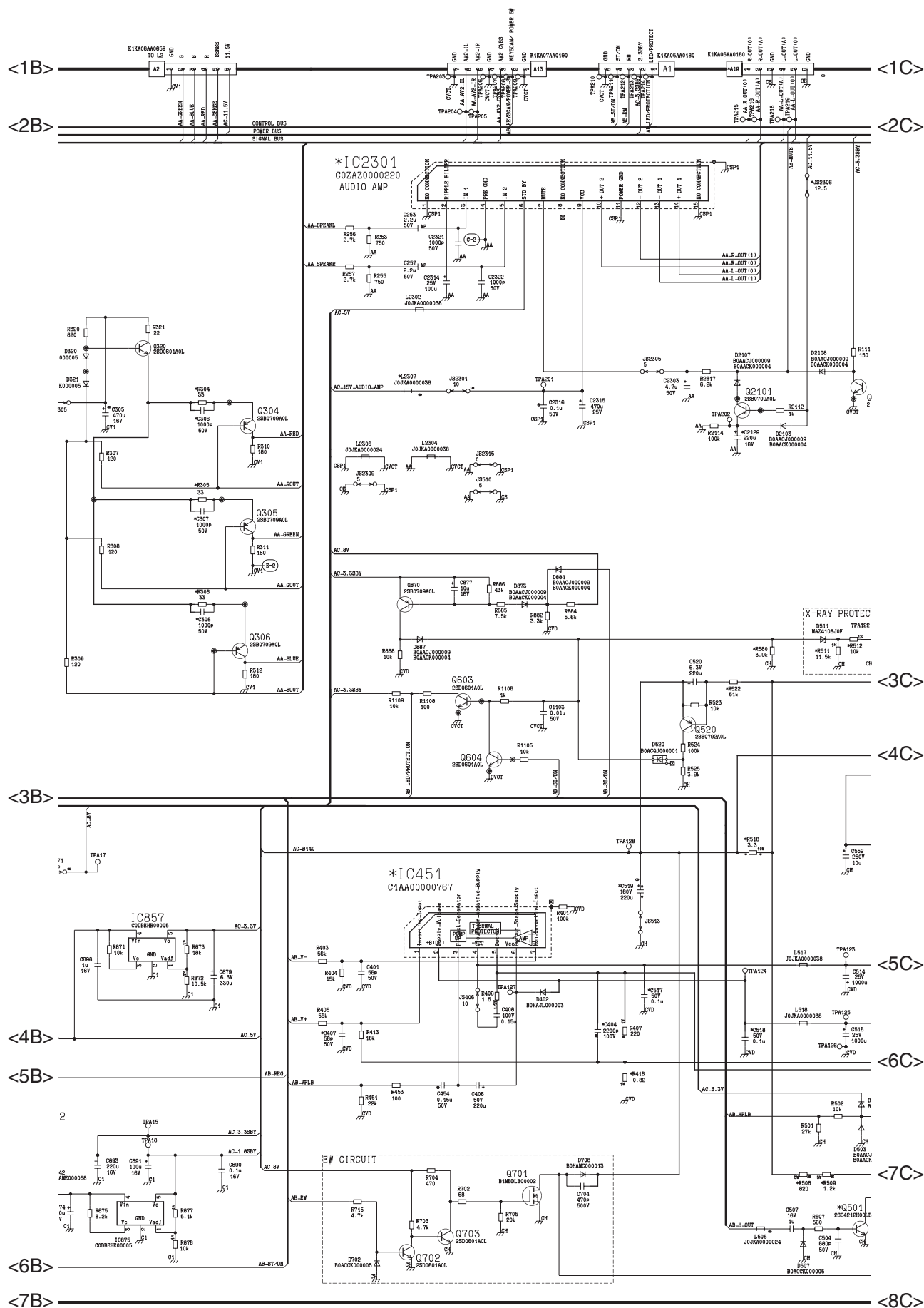
- a. Do not touch the hot part or the hot and cold parts at the same time or you may be shocked.
- b. Do not short-circuit the hot and cold circuits or a fuse may blow and parts may break.
- c. Do not connect an instrument such as an oscilloscope to the hot and cold circuits simultaneously or a fuse may blow.  
Connect the earth of instruments to the earth connection of the circuit being measured.
- d. Make sure to disconnect the power plug before removing the chassis.



### 7.1.2. A Board (2/5)



### 7.1.3. A Board (3/5)

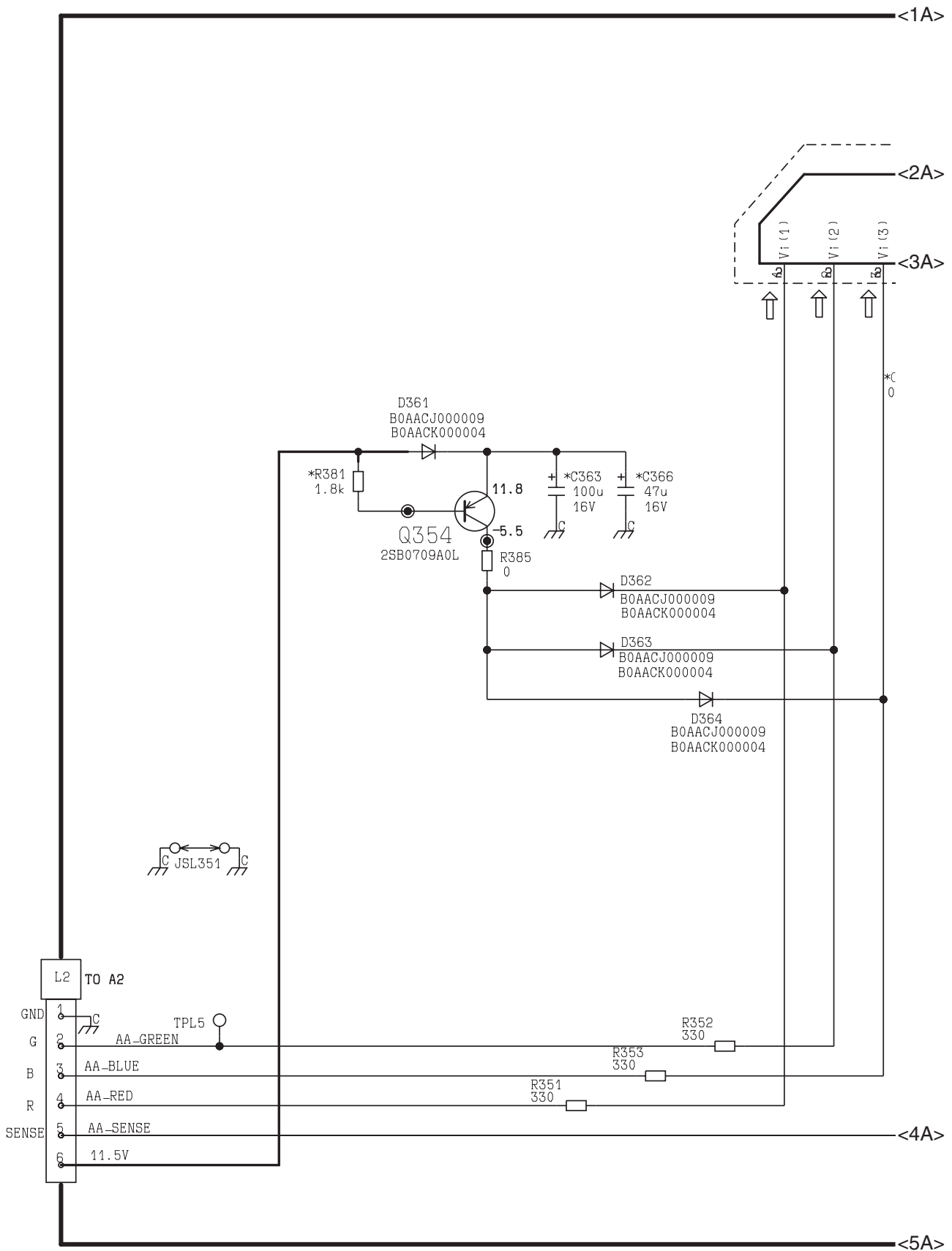




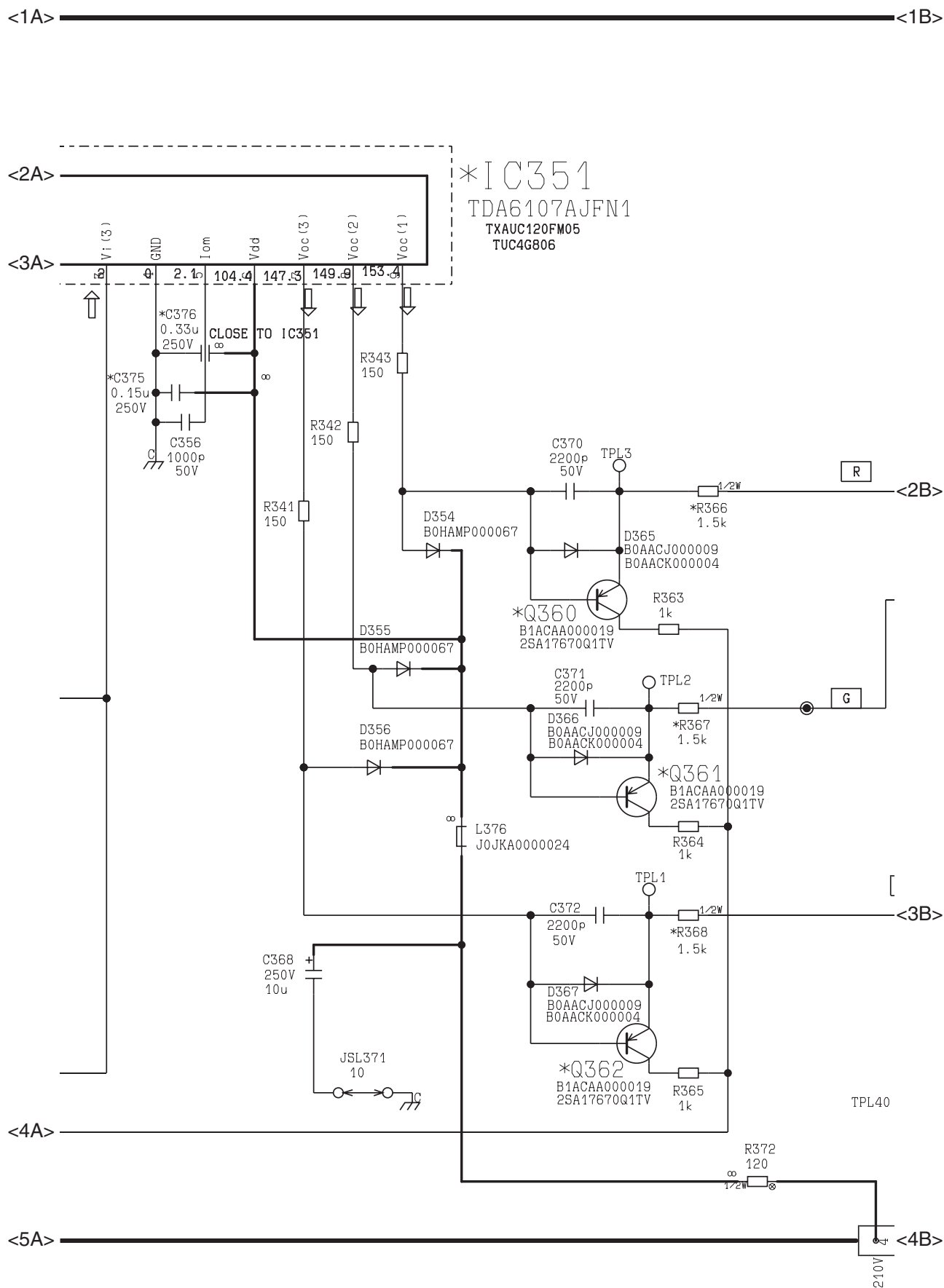


## 7.2. L Board

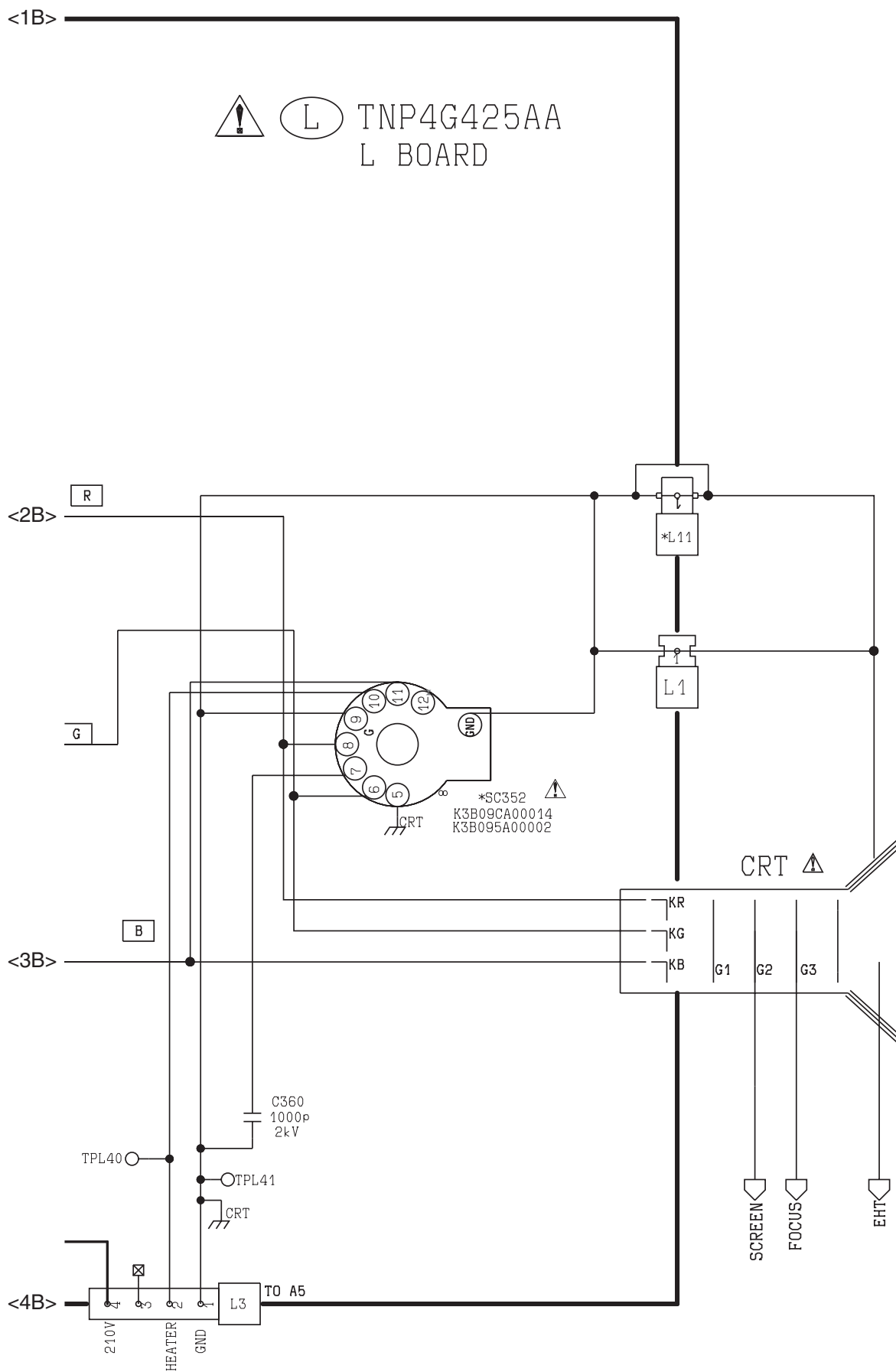
### 7.2.1. L Board (1/3)



## 7.2.2. L Board (2/3)

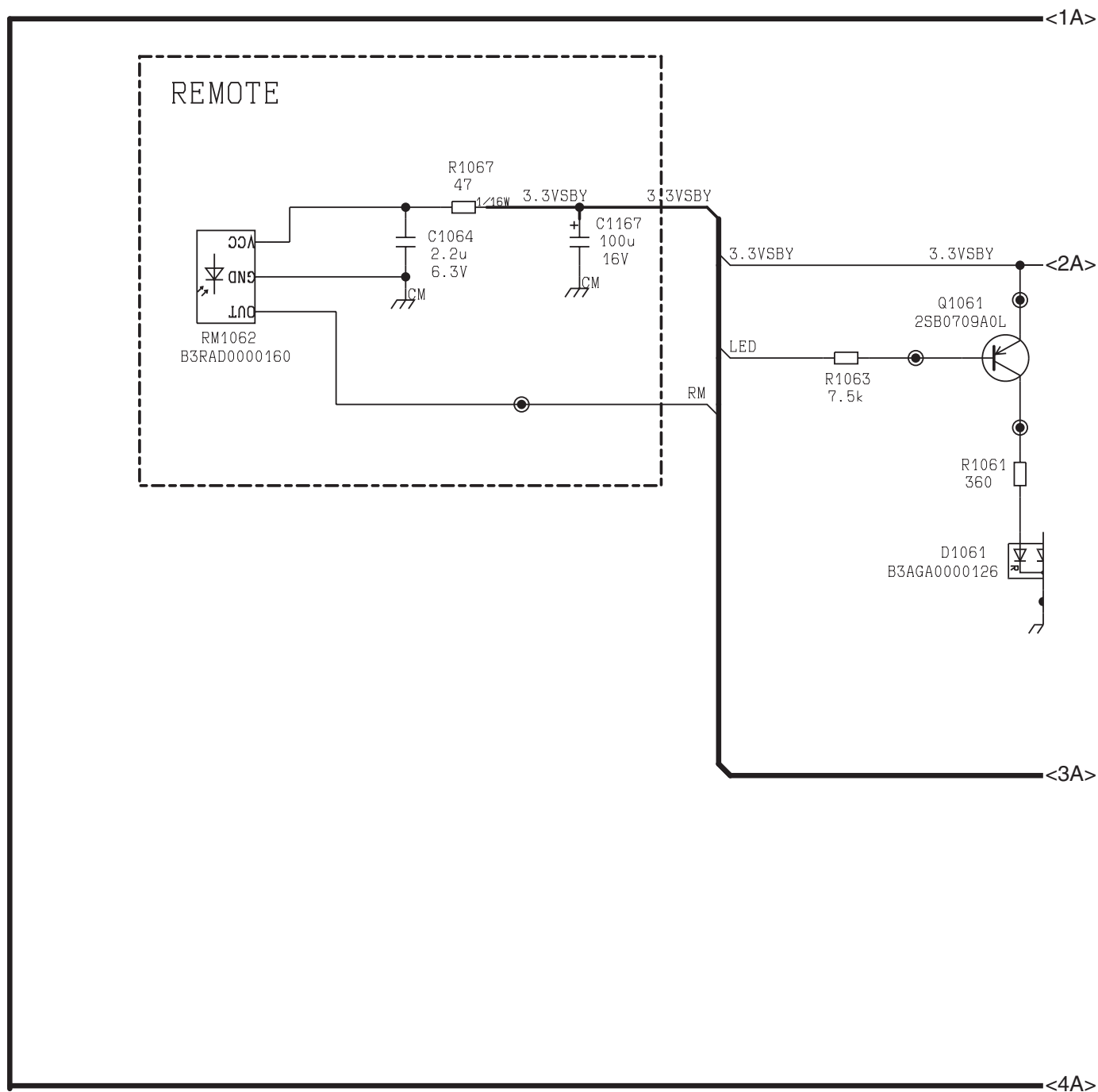


### 7.2.3. L Board (3/3)

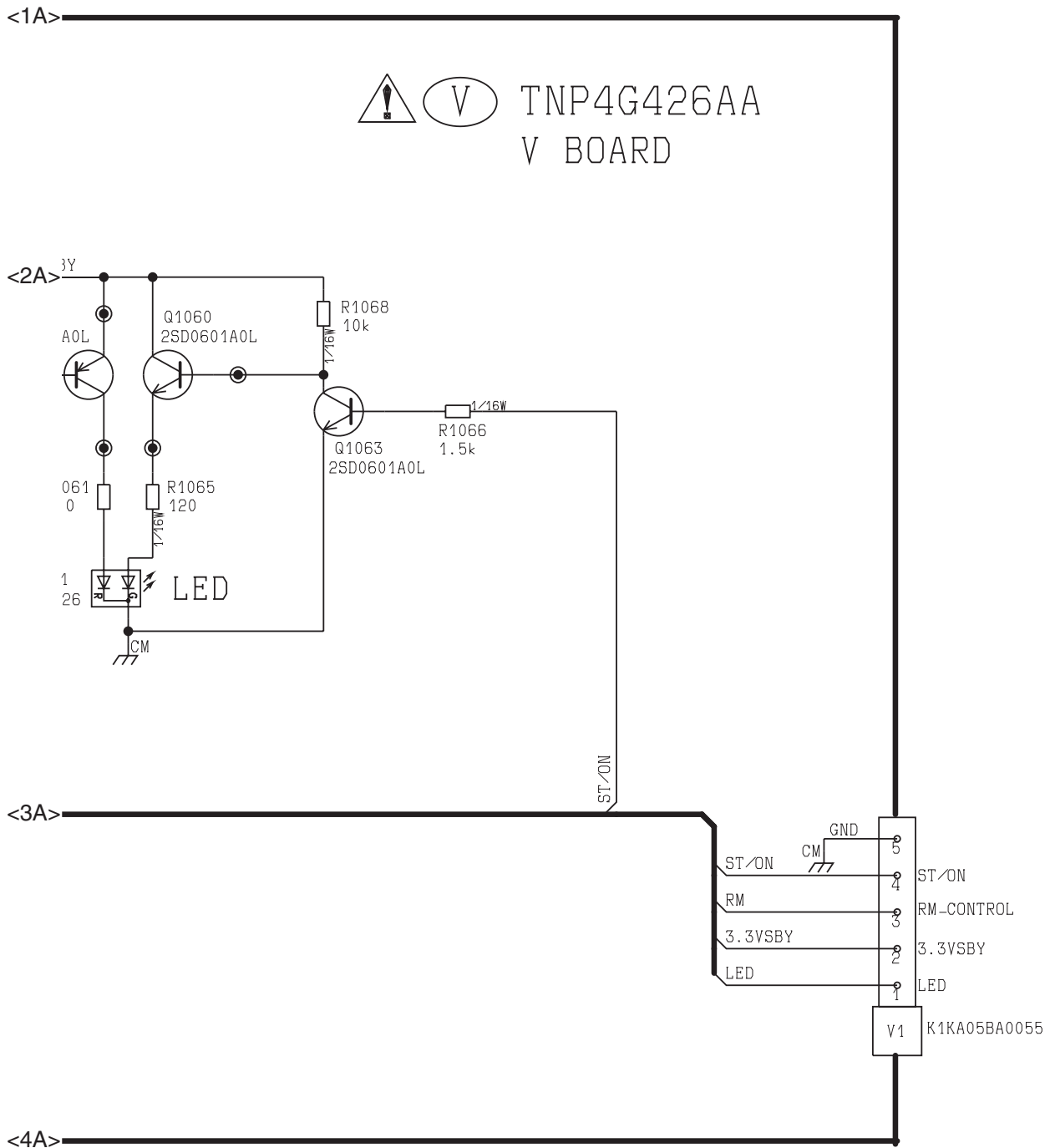


### 7.3. V Board

### 7.3.1. V Board (1/2)

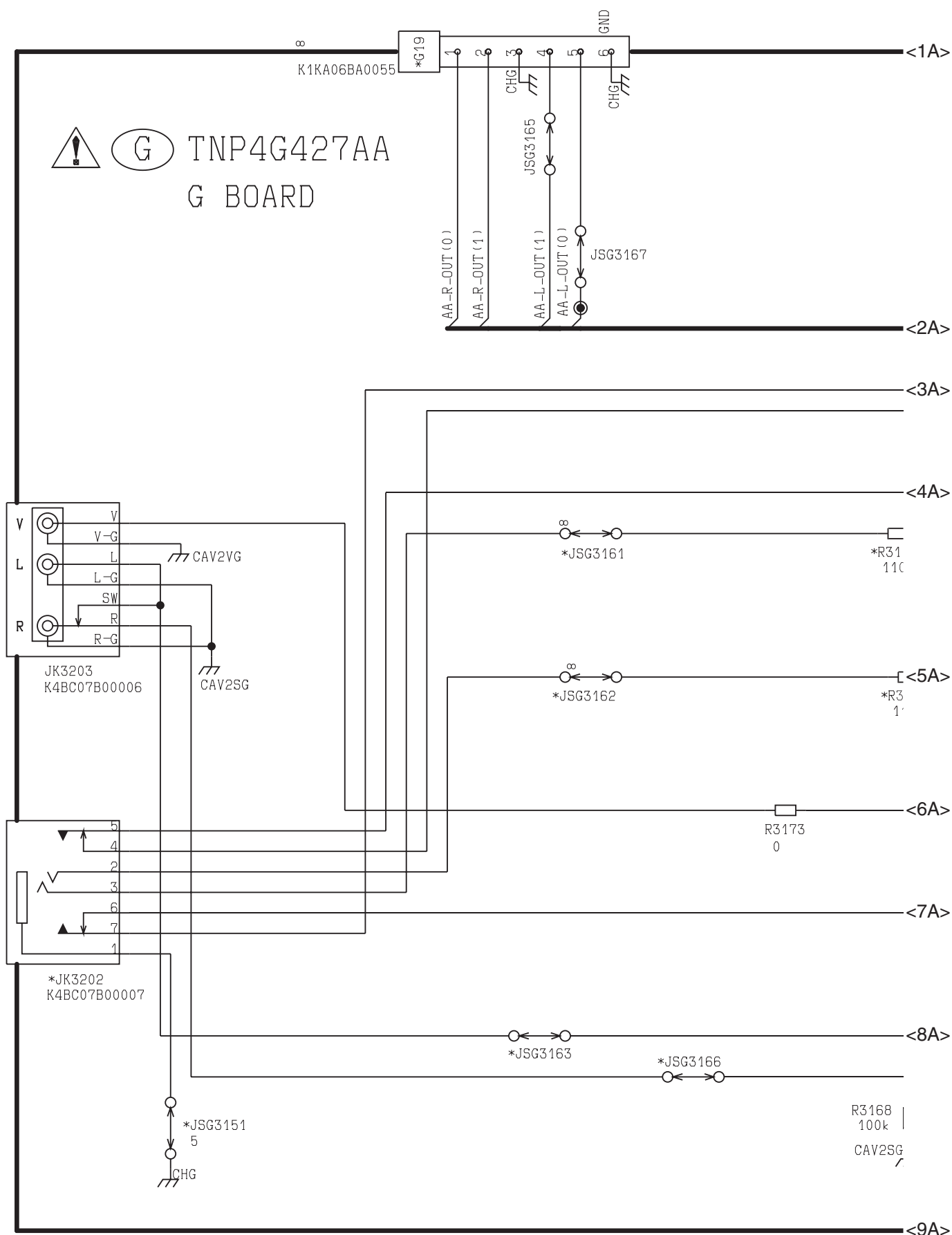


## 7.3.2. V Board (2/2)

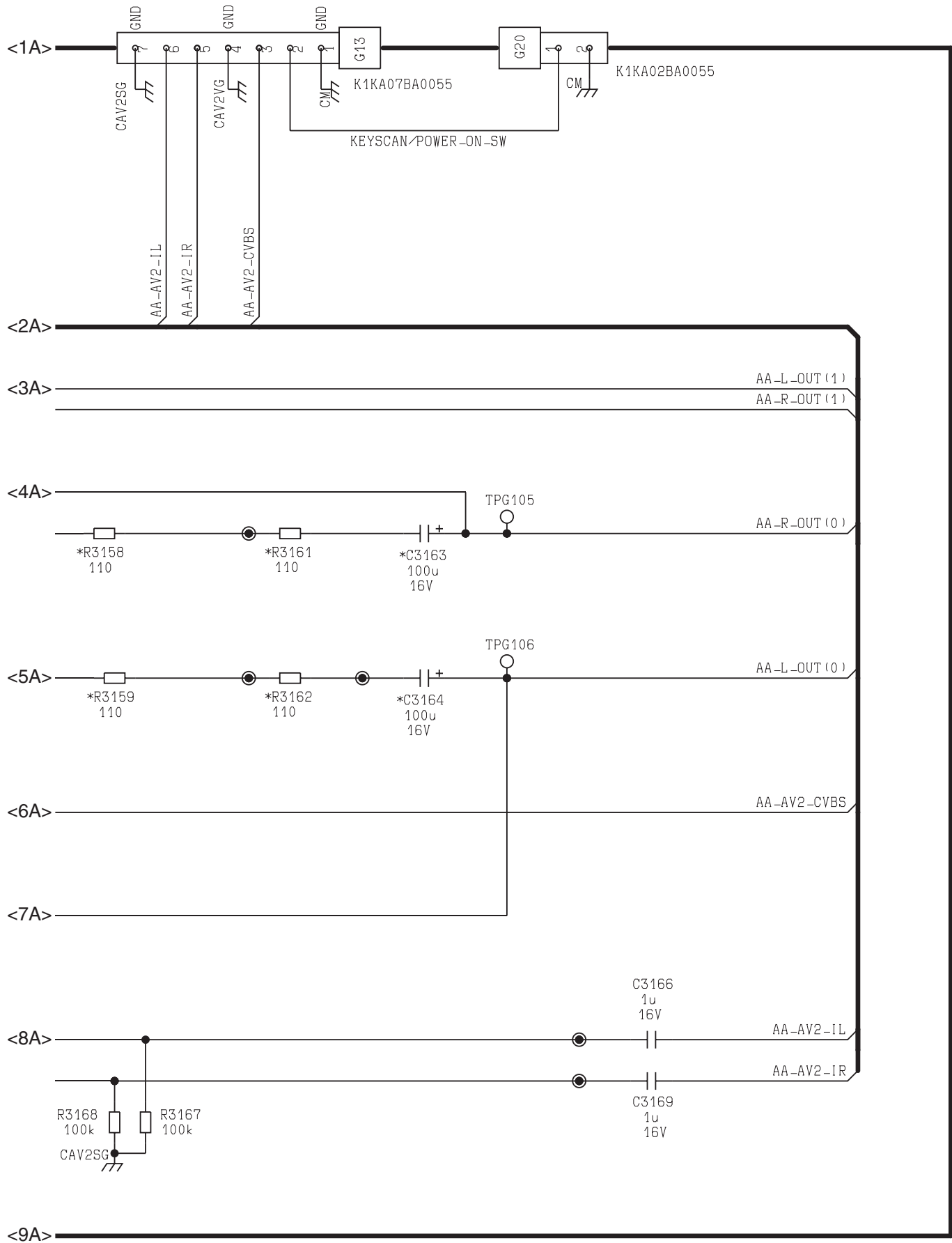


## 7.4. G Board

### 7.4.1. G Board (1/2)

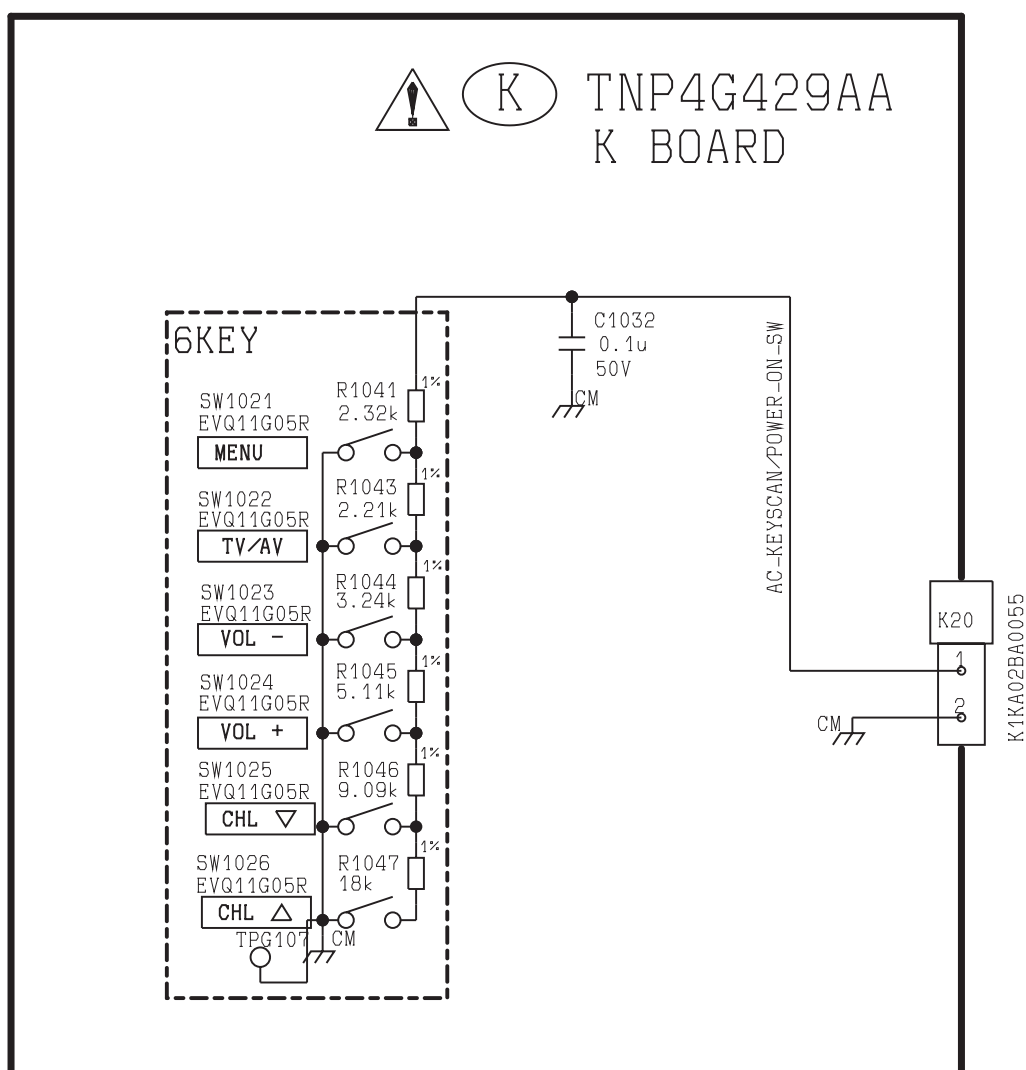


### 7.4.2. G Board (2/2)



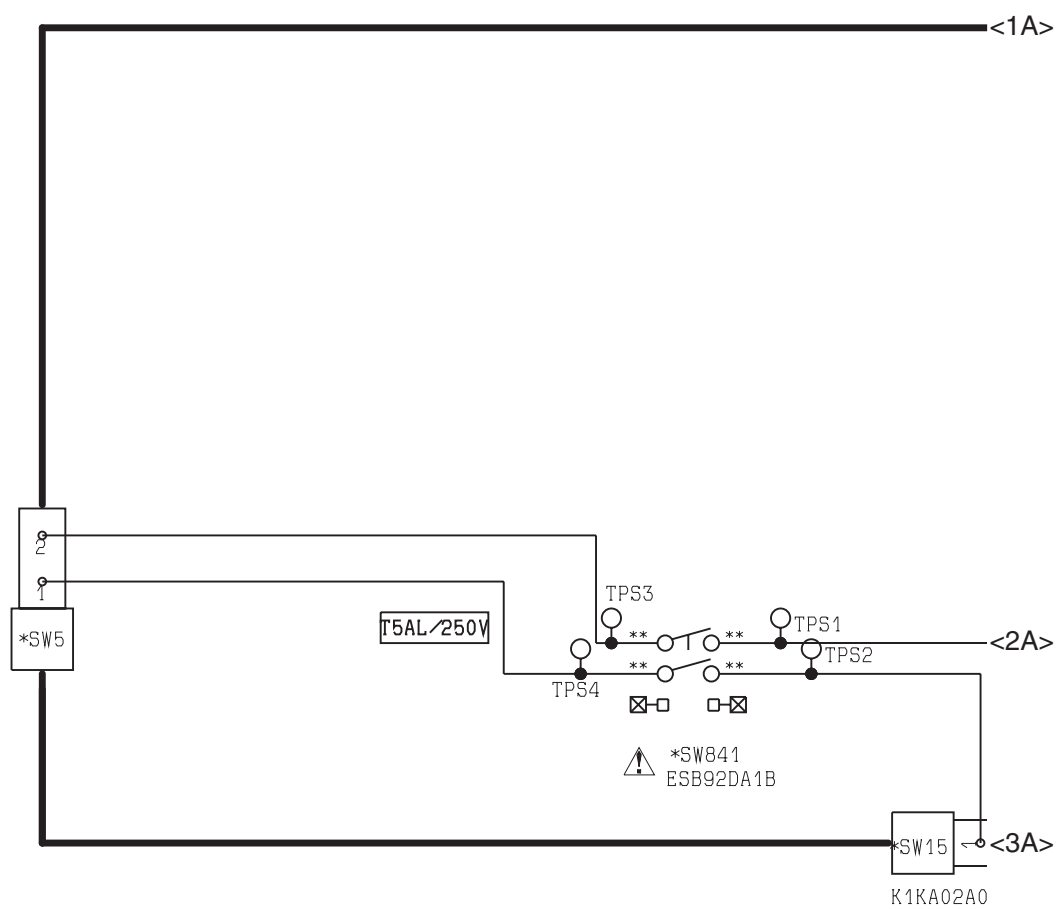
## 7.5. K Board

### 7.5.1. K Board

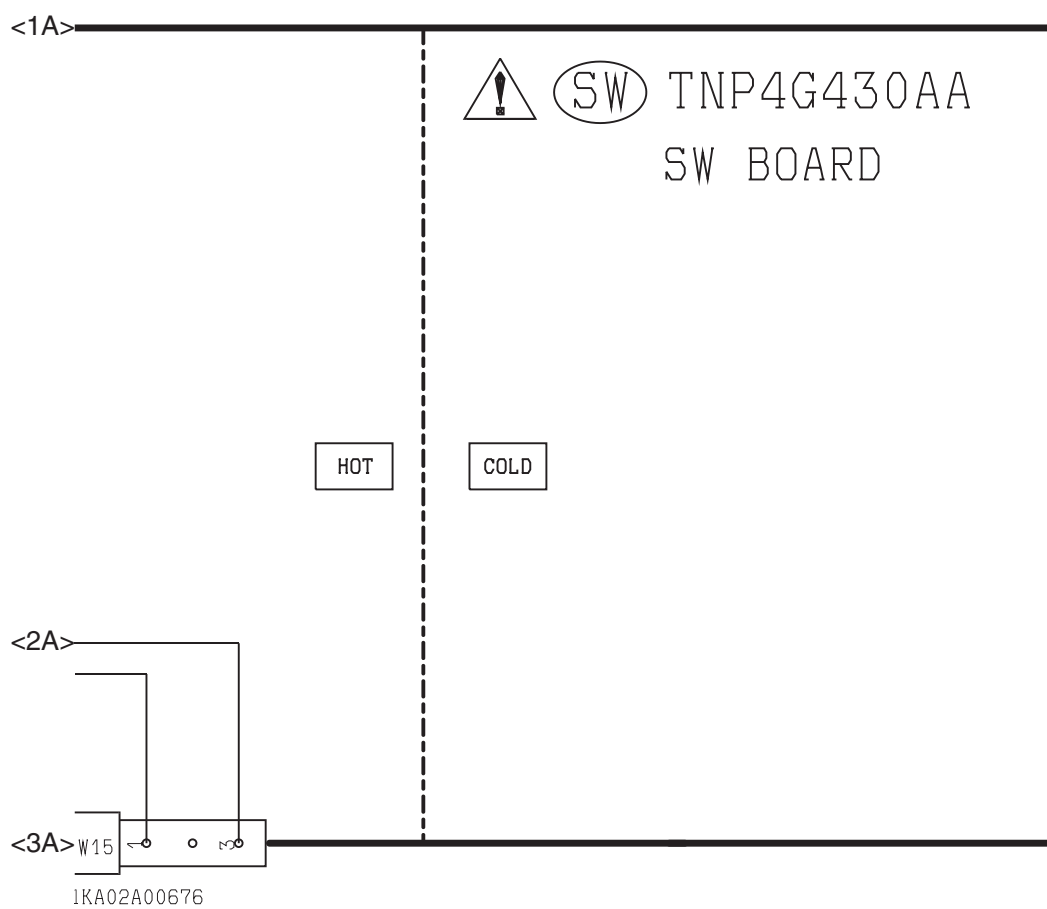


## 7.6. SW Board

### 7.6.1. SW Board (1/2)

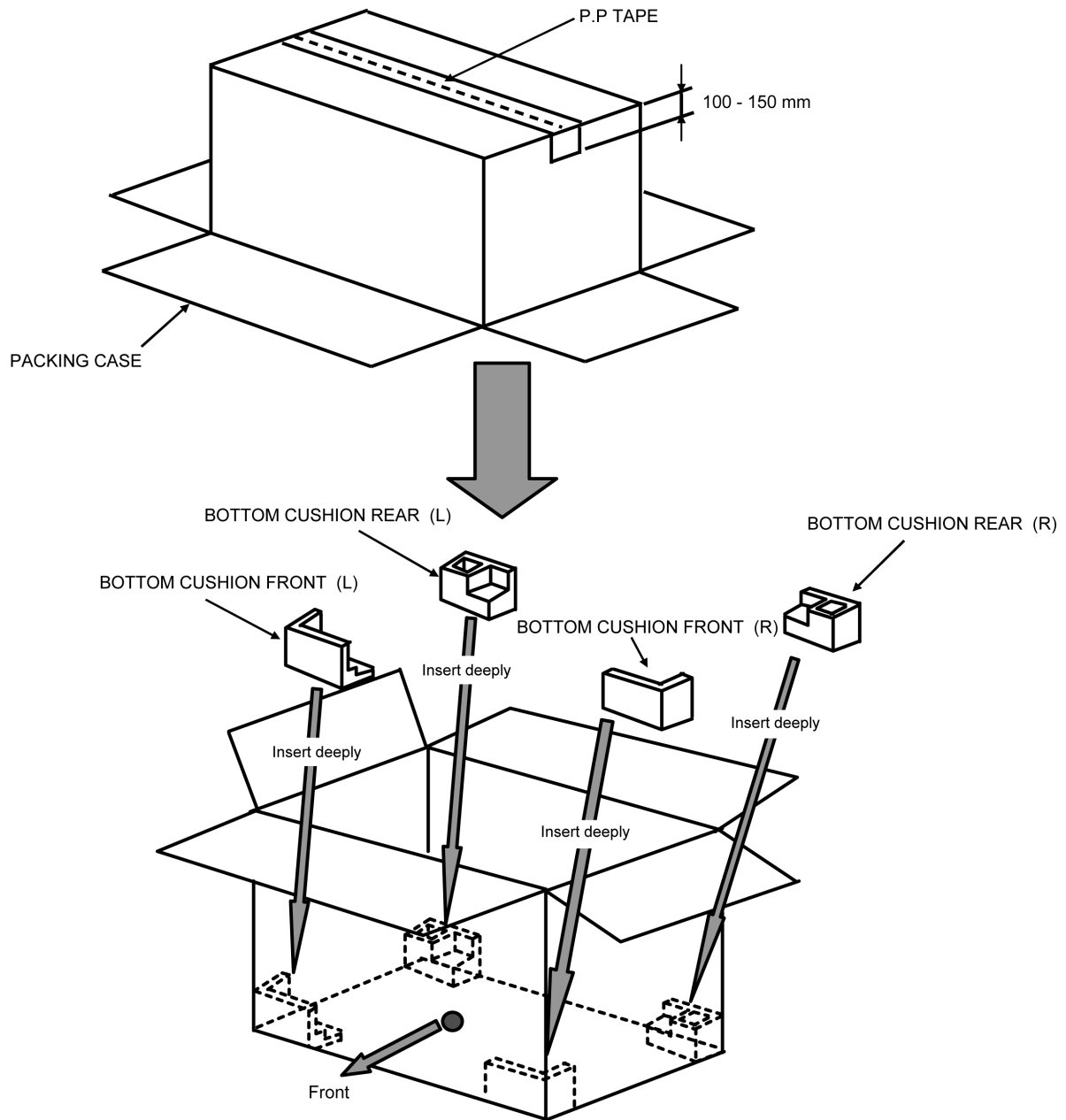


### 7.6.2. SW Board (2/2)

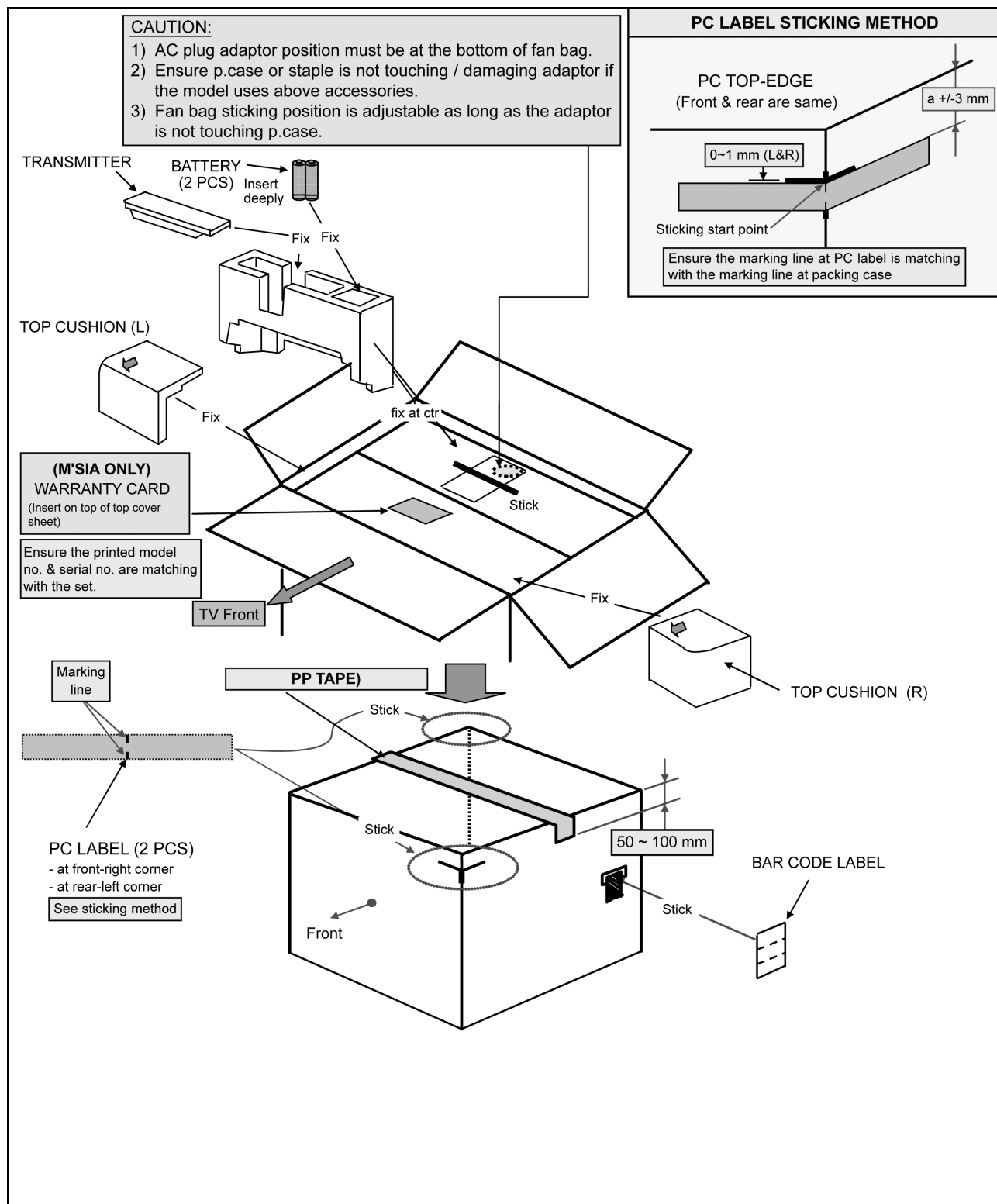


## 8 Parts Locations

### 8.1. Packing Exploded View - A

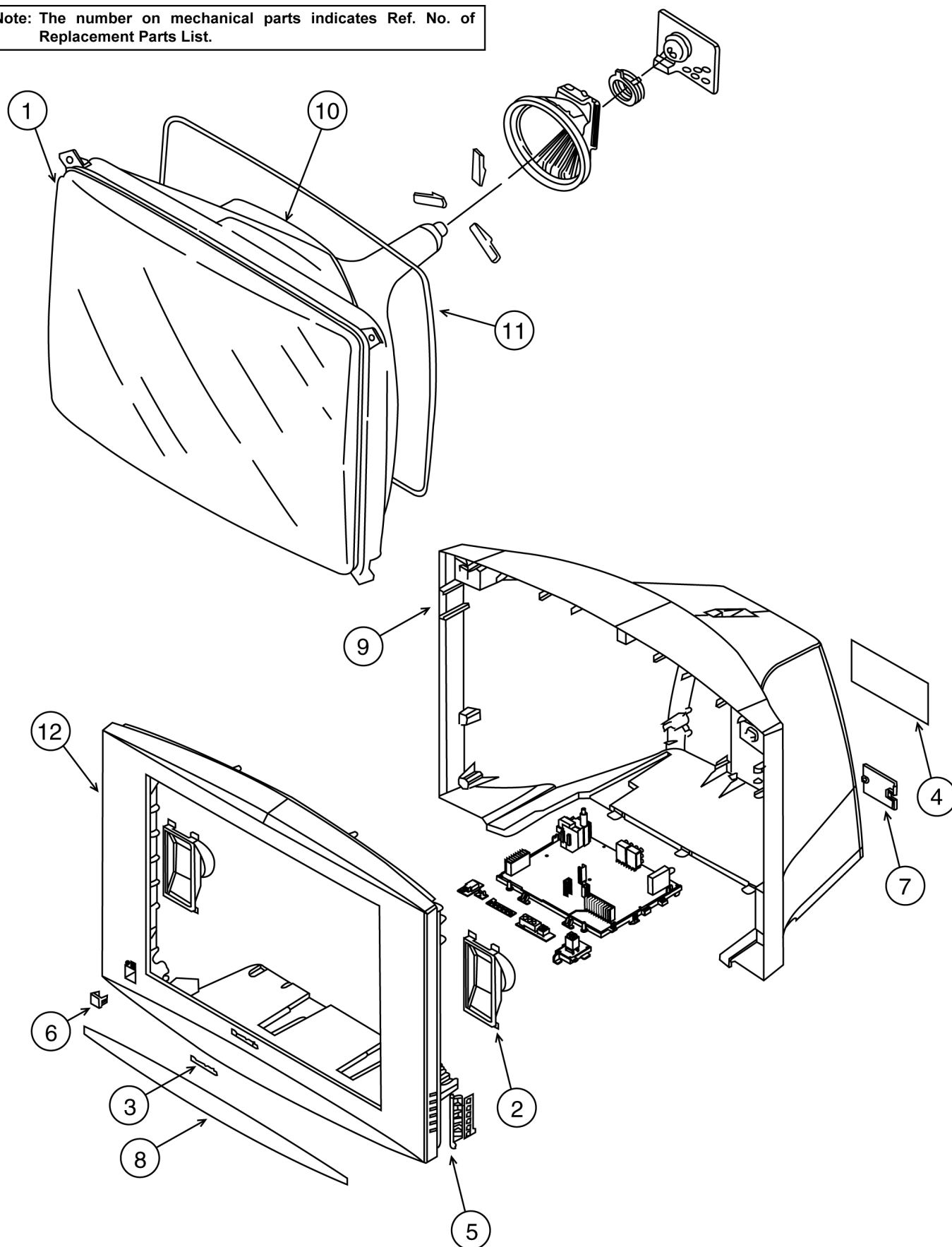


## 8.2. Packing Exploded View - B



### 8.3. Parts Locations

**Note: The number on mechanical parts indicates Ref. No. of Replacement Parts List.**



## 9 Replacement Parts List

### Important Safety Notice

Components identified by  mark have special characteristics important for safety.  
When replacing any of these components, use only manufacturer's specified parts.

Note : Printed circuit board assembly with "NLA" is no longer available after production discontinuation of the complete set.

### Abbreviation of part name and description

#### 1. Resistor

Example :

ERD25TJ104 C 100 kΩ, J, 1/4 W

| Type                         | Allowance |
|------------------------------|-----------|
| C: Carbon                    | F: ± 1%   |
| F: Fuse                      | G: ± 2%   |
| M: Metal Oxide<br>Metal Film | J: ± 5%   |
|                              | K: ± 10%  |
| S: Solid                     | M: ± 20%  |
| W: Wire Wound                |           |

#### 2. Capacitor

Example :

ECKF1H103ZF C 0.01 μF, Z, 50 V

| Type                          | Allowance      |
|-------------------------------|----------------|
| C: Carbon                     | C: ± 0.25 pF   |
| F: Electrolytic               | D: ± 0.5 pF    |
| P: Polyester<br>Polypropylene | F: ± 1 pF      |
|                               | G: ± 3%        |
| S: Tantalum                   | J: ± 5%        |
|                               | K: ± 10%       |
|                               | L: ± 15%       |
|                               | M: ± 20%       |
|                               | P: ± 100%, -0% |
|                               | Z: ± 80%, -20% |

## 9.1. Replacement Parts List

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| 1        | A68MAU085X43 | ITC                     | △       |
| 2        | L0AA11C00004 | SPEAKER                 |         |
|          | N2QAHB000073 | REMOTE CONTROL          |         |
| 3        | TBM4G3021    | PANASONIC BADGE         |         |
| 4        | TBM4GC006    | MODEL NAME PLATE        | △       |
| 5        | TBX4GA00401  | 6 KEY BUTTON            |         |
| 6        | TBX4GA00502  | POWER SWITCH BUTTON     |         |
|          | TES4G214     | SPRING (POWER BUTTON)   |         |
|          | TES4G406     | COIL SPRING             |         |
|          | THT4G10139   | SCREW                   |         |
|          | TKK4GC5003   | SMOKED PANEL            |         |
| 7        | TKP4G11745   | AC CORD BRACKET         |         |
| 8        | TKR4GA00401  | ORNAMENT PANEL          |         |
| 9        | TKU4GC00601  | BACK COVER              |         |
| 10       | TLK4G9083X   | ROTATION COIL           | △       |
| 11       | TLK4G9104J   | DEGAUSSING COIL         | △       |
| NLA      | TNP4G424AA   | A BOARD                 | △       |
| NLA      | TNP4G425AA   | L BOARD                 | △       |
| NLA      | TNP4G426AA   | V BOARD                 | △       |
| NLA      | TNP4G427AA   | G BOARD                 | △       |
| NLA      | TNP4G429AA   | K BOARD                 | △       |
| NLA      | TNP4G430AA   | SW BOARD                |         |
|          | TPE4G14023   | SET COVER               |         |
|          | TPE4G14024   | TOP COVER               |         |
|          | TQZ4GB002    | FAN BAG                 |         |
|          | TSX4G166L-1  | AC POWER CORD           | △       |
| 12       | TTY4GA0020   | CABINET                 |         |
|          | TXFPC01FM06  | PACKING CASE            |         |
|          | TXFPD01FM06  | TOP CUSHION             |         |
|          | TXFPD02FM06  | BOTTOM CUSHION          |         |
|          | CAPACITORS   |                         |         |
| C002     | F1H1H103A975 | C 0.01UF, Z, 50V        |         |
| C003     | ECJ1VC1H330J | C 33PF, J, 50V          |         |
| C004     | ECJ1VC1H330J | C 33PF, J, 50V          |         |
| C006     | F2A1C101A310 | E 100UF, 16V            |         |
| C1032    | ECJ2VF1H104Z | C 0.1UF, Z, 50V         |         |
| C1064    | ECJ2FB0J225K | C 2.2UF, J, 6.3V        |         |
| C1103    | F1J1H103A590 | C 0.01UF, J, 50V        |         |
| C1131    | F1J1H103A590 | C 0.01UF, J, 50V        |         |
| C1142    | ECJ1VF1H104Z | C 0.1UF, Z, 50V         |         |
| C1167    | F2A1C101A310 | E 100UF, 16V            |         |
| C2113    | F2A1H3R3A317 | E 3.3UF, 50V            |         |
| C2117    | ECJ1VF1H104Z | C 0.1UF, Z, 50V         |         |
| C2129    | F2A1C221A338 | E 220UF, 16V            |         |
| C2303    | F2A1H4R7A317 | E 4.7UF, 50V            |         |
| C2314    | F2A1E101A273 | E 100UF, 25V            |         |
| C2315    | F2A1E471A299 | E 470UF, 25V            |         |
| C2316    | ECQV1H104JL  | P 0.1UF, J, 50V         |         |
| C2321    | F1J1H102A018 | E 1000UF, 50V           |         |
| C2322    | F1J1H102A018 | E 1000UF, 50V           |         |
| C2325    | F2A1C470A310 | E 47UF, 16V             |         |
| C2326    | F2A1C470A310 | E 47UF, 16V             |         |
| C253     | ECA1HEN2R2B  | E 1000UF, 50V           |         |
| C254     | F1J1H102A018 | E 1000UF, 50V           |         |
| C257     | ECA1HEN2R2B  | E 2.2UF, 50V            |         |
| C258     | F1J1H102A018 | E 1000UF, 50V           |         |
| C3023    | ECJ1VF1C105Z | C 1UF, Z, 16V           |         |
| C3024    | ECJ1VF1C105Z | C 1UF, Z, 16V           |         |
| C3025    | ECJ1VF1C105Z | C 1UF, Z, 16V           |         |
| C3027    | ECJ1VF1C105Z | C 1UF, Z, 16V           |         |
| C3034    | F2A1A471A274 | E 470UF, 10V            |         |
| C305     | F2A1C471A339 | E 470UF, 16V            |         |
| C306     | ECJ1VB1H102K | C 1000PF, K, 50V        |         |
| C307     | ECJ1VB1H102K | C 1000PF, K, 50V        |         |
| C308     | ECJ1VB1H102K | C 1000PF, K, 50V        |         |
| C3163    | F2A1C101A310 | E 100UF, 16V            |         |
| C3164    | F2A1C101A263 | E 100UF, 16V            |         |
| C3166    | ECJ1VF1C105Z | C 1UF, Z, 16V           |         |
| C3169    | ECJ1VF1C105Z | C 1UF, Z, 16V           |         |
| C356     | F1H1H102A971 | C 1000PF, J, 50V        |         |
| C360     | ECKW3D102KBP | C 1000PF, K, 2KV        |         |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| C363     | F2A1C101A310 | E 100UF, 16V            |         |
| C366     | F2A1C470A310 | E 47UF, 16V             |         |
| C368     | ECA2EM100B   | E 10UF, 250V            |         |
| C370     | F1J1H222A590 | C 2200PF, 50V           |         |
| C371     | F1J1H222A590 | C 2200PF, 50V           |         |
| C372     | F1J1H222A590 | C 2200PF, 50V           |         |
| C375     | F0C2E154A087 | P 0.15UF, 250V          |         |
| C376     | F0C2E334A039 | P 0.33UF, 250V          |         |
| C401     | ECJ1VC1H560J | C 56PF, J, 50V          |         |
| C404     | ECQB1222JF   | P 2200PF, 100V          |         |
| C406     | F2A1H221A247 | E 220UF, 50V            |         |
| C407     | ECJ1VC1H560J | C 56PF, J, 50V          |         |
| C408     | ECQB1154JF   | P 0.15UF, J, 100V       |         |
| C454     | ECQV1H154JM  | P 0.15UF, J, 50V        |         |
| C4850    | F2A1C101A310 | E 100UF, 16V            |         |
| C4851    | F2A1C471A339 | E 470UF, 16V            |         |
| C4852    | ECJ1VC1H101J | C 100PF, J, 50V         |         |
| C502     | ECKR3A821KBP | C 820PF, K, 1KV         |         |
| C504     | F1J1H681A590 | C 680PF, J, 50V         |         |
| C507     | ECJ1VF1C105Z | C 1UF, Z, 16V           |         |
| C511     | F2A1V101A246 | E 100UF, 35V            |         |
| C512     | F1B2H471A025 | C 470PF, 500V           |         |
| C513     | F1B2H331A058 | C 330PF, 500V           |         |
| C514     | F2A1E102A199 | E 1000UF, 25V           |         |
| C515     | F1B2H331A058 | C 330PF, 500V           |         |
| C516     | F2A1E102A199 | E 1000UF, 25V           |         |
| C517     | ECJ1VF1H104Z | C 0.1UF, Z, 50V         |         |
| C518     | ECJ1VF1H104Z | C 0.1UF, Z, 50V         |         |
| C519     | F2A2C2210013 | E 220UF, 160V           |         |
| C520     | F2A0J221A317 | E 220UF, 6.3V           |         |
| C552     | F2A2E1000023 | E 10UF, 250V            |         |
| C553     | F0C2E684A040 | P 0.68UF, 250V          |         |
| C554     | F0C2E824A189 | P 0.82UF, 250V          |         |
| C555     | F0C2E564A088 | P 0.47UF, 250V          |         |
| C559     | ECWH20133JVB | P 0.47UF, 250V          |         |
| C560     | ECQF4273JZH  | P 0.027UF, 400V         |         |
| C561     | F0C3D182A003 | C 1800PF, 2kV           |         |
| C565     | F0A1H273A039 | C 0.027UF, 50V          |         |
| C566     | ECQM4472JZ   | P 4700PF, J, 400V       |         |
| C568     | F0C3D102A003 | P0.013 UF, 2kV          |         |
| C601     | F1J1H183A021 | C 0.018UF, 50V          |         |
| C602     | F1J1H222A590 | C 2200PF, 50V           |         |
| C604     | F2A1C101A310 | E 330UF, 6.3V           |         |
| C606     | ECJ1VF1H104Z | C 0.1UF, Z, 50V         |         |
| C607     | F1H1H103A975 | C 0.01UF, Z, 50V        |         |
| C611     | ECJ1VF1H104Z | C 0.1UF, Z, 50V         |         |
| C613     | ECJ1VF1H104Z | C 0.1UF, Z, 50V         |         |
| C614     | ECJ1VC1H100C | C 10PF, C, 50V          |         |
| C615     | ECJ1VC1H100C | C 10PF, C, 50V          |         |
| C616     | F2A1C101A310 | E 330UF, 6.3V           |         |
| C618     | F2A1C101A310 | E 330UF, 6.3V           |         |
| C619     | F2A1C101A310 | E 330UF, 6.3V           |         |
| C620     | F1H1H333A970 | C 0.033UF, K, 50V       |         |
| C621     | F2A1C1000079 | C 0.033UF, K, 50V       |         |
| C622     | F2A1C101A310 | E 330UF, 6.3V           |         |
| C623     | F2A1C101A310 | E 330UF, 6.3V           |         |
| C625     | F1H1C224A065 | C 0.22UF, K, 16V        |         |
| C626     | F2A1C101A310 | E 330UF, 6.3V           |         |
| C627     | F2A1C101A310 | E 330UF, 6.3V           |         |
| C628     | F2A1A471A274 | E 470UF, 10V            |         |
| C630     | F1H1H103A975 | C 0.01UF, Z, 50V        |         |
| C631     | F1H1H333A970 | C 0.033UF, K, 50V       |         |
| C632     | F2A1H4R7A317 | E 4.7UF, 50V            |         |
| C633     | ECJ1VC1H471J | C 470PF, J, 50V         |         |
| C634     | ECJ1VC1H471J | C 470PF, J, 50V         |         |
| C635     | F2A1C101A310 | E 330UF, 6.3V           |         |
| C639     | ECJ1VF1H104Z | C 0.1UF, Z, 50V         |         |
| C640     | ECJ1VF1H104Z | C 0.1UF, Z, 50V         |         |
| C642     | ECJ1VF1H104Z | C 0.1UF, Z, 50V         |         |
| C645     | ECJ1VF1H104Z | C 0.1UF, Z, 50V         |         |
| C646     | ECJ1VF1H104Z | C 0.1UF, Z, 50V         |         |
| C650     | F2A1C331A245 | E 330UF, 16V            |         |
| C652     | ECJ1VF1H104Z | C 0.1UF, Z, 50V         |         |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| C654     | ECJ1VF1H104Z | C 0.1UF, Z, 50V         |         |
| C655     | ECJ1VF1H104Z | C 0.1UF, Z, 50V         |         |
| C656     | ECJ1VC1H270J | C 27PF, J, 50V          |         |
| C657     | ECJ1VC1H560J | C 56PF, J, 50V          |         |
| C662     | F2A0J101A317 | E 100UF, 6.3V           |         |
| C704     | F1B2H471A025 | C 470PF, 500V           |         |
| C706     | ECQM4222JZ   | P 2200PF, 400V          |         |
| C811     | F1A2E101A002 | C 100PF, 250V           | △       |
| C812     | F1A2E102A001 | C 1000PF, 100V          | △       |
| C813     | F1AAF472A009 | C 4700PF, M             | △       |
| C815     | F1AAF152A005 | C 1500PF, M             | △       |
| C816     | F0CAF224A066 | P 0.22PF                | △       |
| C817     | F0CAF224A066 | P 0.22PF                | △       |
| C818     | ECQB1H104JF  | P 0.1UF, 50V            |         |
| C821     | ECKW3D681KBP | C 680PF, K, 2KV         |         |
| C826     | F0A1H103A039 | C 0.01UF, 50V           |         |
| C827     | ECQB1H333JF  | P 0.033UF, J, 50V       |         |
| C831     | ECJ1VF1C105Z | C 1UF, 16V              |         |
| C840     | F1A2E681A002 | C 680PF, 250V           | △       |
| C841     | ECKW3D151KBR | C 150PF, K, 2KV         |         |
| C842     | F2A1H1000084 | E 10UF, 50V             |         |
| C843     | F2B1E222A005 | E 2200UF, 25V           |         |
| C848     | F0A1H222A039 | P 2200PF, 50V           |         |
| C849     | F1B2H471A025 | E 470PF, 500V           |         |
| C854     | ECKWAE472ZED | C 4700PF, Z, 500V       |         |
| C855     | ECKWAE472ZED | C 4700PF, Z, 500V       |         |
| C856     | F2B2G3910006 | E 390UF, 400V           |         |
| C857     | F0C2G473A099 | P 0.047UF, J, 400V      |         |
| C859     | ECKW3D821KBP | C 820PF, K, 2KV         |         |
| C863     | F2A1C4710045 | E 470UF, 16V            |         |
| C865     | ECKW3D331JBP | C 330PF, J, 2KV         |         |
| C867     | F2A2C2210013 | E 220UF, 160V           |         |
| C869     | ECJ1VC1H151J | C 150PF, J, 50V         |         |
| C870     | F2A1C222A241 | E 2200UF, 16V           |         |
| C871     | F1B2H471A025 | C 470PF, 500V           |         |
| C872     | F2A1C102A240 | E 1000UF, 16V           |         |
| C873     | L6Y5P4B122K  | C 1200PF, K, 500V       |         |
| C874     | F2A1A101A159 | E 100UF, 10V            |         |
| C875     | F1J1H332A021 | E 220UF, 16V            |         |
| C877     | F2A1C1000079 | C 3300PF, 50V           |         |
| C879     | F2A0J331A260 | E 10UF, 16V             |         |
| C882     | F2A1C101A310 | E 330UF, 6.3V           |         |
| C884     | F2A1C222A232 | E 2200UF, 16V           |         |
| C886     | F2A1H330A342 | E 33UF, 50V             |         |
| C887     | F2A1C102A317 | E 1000UF, 16V           |         |
| C890     | F1H1C104A143 | C 0.1UF, K, 16V         |         |
| C891     | F2A1C101A310 | E 330UF, 6.3V           |         |
| C892     | F1J1H332A021 | E 220UF, 16V            |         |
| C893     | F2A1C221A338 | E 22UF, 160V            |         |
| C897     | F1J1H332A021 | E 220UF, 16V            |         |
| C898     | ECJ1VF1C105Z | C 1UF, 16V              |         |
|          | DIODES       |                         |         |
| D1061    | B3AGA0000126 | DIODE (LED LIGHT)       |         |
| D1132    | B0BA3R800012 | DIODE                   |         |
| D2103    | B0AACJ000009 | DIODE                   |         |
| D2107    | B0AACJ000009 | DIODE                   |         |
| D2108    | B0AACJ000009 | DIODE                   |         |
| D320     | B0ACCK000005 | DIODE                   |         |
| D321     | B0ACCK000005 | DIODE                   |         |
| D354     | B0HAMP000067 | DIODE                   |         |
| D355     | B0HAMP000067 | DIODE                   |         |
| D356     | B0HAMP000067 | DIODE                   |         |
| D361     | B0AACJ000009 | DIODE                   |         |
| D362     | B0AACJ000009 | DIODE                   |         |
| D363     | B0AACJ000009 | DIODE                   |         |
| D364     | B0AACJ000009 | DIODE                   |         |
| D365     | B0AACJ000009 | DIODE                   |         |
| D366     | B0AACJ000009 | DIODE                   |         |
| D367     | B0AACJ000009 | DIODE                   |         |
| D402     | B0HAJL000003 | DIODE                   |         |
| D503     | B0AACJ000009 | DIODE                   |         |
| D504     | B0AACJ000009 | DIODE                   |         |
| D507     | B0ACCK000005 | DIODE                   |         |

| Ref. No. | Part No.             | Part Name & Description | Remarks |
|----------|----------------------|-------------------------|---------|
| D511     | MA4108J              | DIODE                   |         |
| D512     | B0HAJL000003         | DIODE                   |         |
| D513     | EU02                 | DIODE                   |         |
| D515     | EU02                 | DIODE                   |         |
| D520     | B0ACQJ000001         | DIODE                   |         |
| D552     | EU02                 | DIODE                   |         |
| D556     | B0HAMV000027         | DIODE                   |         |
| D557     | B0HAMQ000001         | DIODE                   |         |
| D558     | MA185                | DIODE                   |         |
| D601     | B0ADDJ000025         | DIODE                   |         |
| D610     | MAZ80560HL           | DIODE                   |         |
| D670     | MA2S72800L           | DIODE                   |         |
| D671     | MA2S72800L           | DIODE                   |         |
| D683     | MA2S72800L           | DIODE                   |         |
| D684     | MA2S72800L           | DIODE                   |         |
| D702     | B0ACCK000005         | DIODE                   |         |
| D708     | EU02                 | DIODE                   |         |
| D830     | B0HAJL000001         | DIODE                   |         |
| D831     | B0BA01700055         | DIODE                   |         |
| D832     | B0BA3R300010         | ZENER DIODE             |         |
| D836     | D4EAC6210002         | VARISTOR                | △       |
| D837     | B0ACCK000012         | DIODE                   |         |
| D842     | B0JAME000058         | DIODE                   |         |
| D846     | B0BA01800037         | ZENER DIODE             |         |
| D847     | B0BA8R000010         | DIODE                   |         |
| D848     | B0HAQL000004         | DIODE                   |         |
| D851     | B0EAKT000018         | DIODE                   |         |
| D852     | B0HAJL000003         | DIODE                   |         |
| D853     | B0AACJ000009         | DIODE                   |         |
| D854     | B0AACJ000009         | DIODE                   |         |
| D860     | B0EBNT000007         | DIODE                   | △       |
| D862     | MTZJ2.0B             | ZENER DIODE             |         |
| D863     | B0HAJL000003         | DIODE                   |         |
| D865     | B0BA3R500008         | DIODE                   |         |
| D866     | B0HAPV000009         | DIODE                   |         |
| D867     | B0JAME000058         | DIODE                   |         |
| D872     | B0JAPK000011         | DIODE                   |         |
| D873     | B0AACJ000009         | DIODE                   |         |
| D876     | B0AACJ000009         | DIODE                   |         |
| D881     | B0BA01500052         | DIODE                   |         |
| D882     | B0BA01500052         | DIODE                   |         |
| D883     | B0JAPK000013         | DIODE                   |         |
| D884     | B0AACJ000009         | DIODE                   |         |
| D887     | B0AACJ000009         | DIODE                   |         |
|          | INTEDGRATED CIRCUITS |                         |         |
| IC1101   | TVR4GAS723           | EEPROM IC               |         |
| IC2301   | C0ZAZ0000220         | IC                      |         |
| IC351    | TDA6107AJFN1         | IC                      |         |
| IC451    | C1AA00000767         | IC                      |         |
| IC4850   | AN15530B             | IC                      |         |
| IC601    | TVR4G46-2            | ROM VERSION IC          |         |
| IC801    | C5HABZZ00168         | IC, HYBRID              | △       |
| IC802    | C0EAS0000026         | IC                      |         |
| IC851    | C0DAEJG000001        | IC, POWER SUPPLY        |         |
| IC853    | C0DAEJG000001        | IC, POWER SUPPLY        |         |
| IC857    | C0DBEHE000005        | IC, POWER SUPPLY        |         |
| IC871    | C0DAZGG000012        | IC, POWER SUPPLY        |         |
| IC875    | C0DBEHE000005        | IC, POWER SUPPLY        |         |
|          | COILS                |                         |         |
| L2302    | J0JKA0000038         | BEAD CORE               |         |
| L2304    | J0JKA0000038         | BEAD CORE               |         |
| L2306    | J0JKA0000024         | EMI FILTER              |         |
| L2307    | J0JKA0000038         | BEAD CORE               |         |
| L2323    | J0JKA0000038         | BEAD CORE               |         |
| L2324    | J0JKA0000038         | BEAD CORE               |         |
| L376     | J0JKA0000024         | EMI FILTER              |         |
| L412     | J0JKA0000024         | EMI FILTER              |         |
| L501     | J0JKA0000038         | BEAD CORE               |         |
| L504     | J0JKA0000038         | BEAD CORE               |         |
| L505     | J0JKA0000024         | EMI FILTER              |         |
| L517     | J0JKA0000038         | BEAD CORE               |         |
| L518     | J0JKA0000038         | BEAD CORE               |         |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| L550     | J0JKB0000034 | EMI FILTER              |         |
| L554     | ELC08D682E   | CHOKE COIL              |         |
| L557     | G0D320000003 | LINEARITY COIL          |         |
| L565     | EXCELSA39V   | BEAD CORE               |         |
| L566     | G0B111F00001 | CHOKE COIL              |         |
| L601     | G0C100K00008 | COIL                    |         |
| L602     | G0C100K00008 | COIL                    |         |
| L603     | G0C100K00008 | COIL                    |         |
| L604     | G0C100K00008 | COIL                    |         |
| L605     | TALV35VB8R2K | PEAKING COIL            |         |
| L606     | G0C100K00008 | COIL                    |         |
| L607     | TALV35VB8R2K | PEAKING COIL            |         |
| L608     | G0C3R9KA0030 | PEAKING COIL            |         |
| L610     | J0JKB0000034 | EMI FILTER              |         |
| L611     | G0C100K00008 | COIL                    |         |
| L630     | J0JCC0000411 | BEAD CORE               |         |
| L635     | J0JCC0000411 | BEAD CORE               |         |
| L657     | J0JCC0000411 | BEAD CORE               |         |
| L705     | ELC18B103L   | CHOKE COIL              |         |
| L842     | J0JKA0000025 | BEAD CORE               |         |
| L843     | J0JKA0000038 | BEAD CORE               |         |
| L845     | J0JKA0000023 | BEAD CORE               |         |
| L853     | J0JKA0000022 | BEAD CORE               |         |
| L865     | J0JKA0000025 | BEAD CORE               |         |
| L866     | J0JKA0000023 | BEAD CORE               |         |
| L867     | J0JKB0000039 | EMI FILTER              |         |
| L875     | EXCELD35V    | CORE                    |         |
| L894     | G0A220GA0002 | CHOKE COIL              |         |
|          | TRANSISTORS  |                         |         |
| Q1060    | 2SD0601A0L   | TRANSISTOR              |         |
| Q1061    | 2SB709ATX    | TRANSISTOR              |         |
| Q1062    | 2SD0601A0L   | TRANSISTOR              |         |
| Q1063    | 2SD0601A0L   | TRANSISTOR              |         |
| Q2101    | 2SB709ATX    | TRANSISTOR              |         |
| Q304     | 2SB709ATX    | TRANSISTOR              |         |
| Q305     | 2SB709ATX    | TRANSISTOR              |         |
| Q306     | 2SB709ATX    | TRANSISTOR              |         |
| Q320     | 2SD0601A0L   | TRANSISTOR              |         |
| Q354     | 2SB709ATX    | TRANSISTOR              |         |
| Q360     | B1ACAA000019 | TRANSISTOR              |         |
| Q361     | B1ACAA000019 | TRANSISTOR              |         |
| Q362     | B1ACAA000019 | TRANSISTOR              |         |
| Q4850    | 2SB709ATX    | TRANSISTOR              |         |
| Q501     | 2SC4212H     | TRANSISTOR              |         |
| Q520     | 2SB0792A0L   | TRANSISTOR              |         |
| Q551     | 2SC6073000LK | TRANSISTOR              |         |
| Q603     | 2SD0601A0L   | TRANSISTOR              |         |
| Q604     | 2SD0601A0L   | TRANSISTOR              |         |
| Q605     | 2SD0601A0L   | TRANSISTOR              |         |
| Q608     | 2SD0601A0L   | TRANSISTOR              |         |
| Q610     | 2SB709ATX    | TRANSISTOR              |         |
| Q701     | B1MBDLB00002 | TRANSISTOR              |         |
| Q702     | 2SD0601A0L   | TRANSISTOR              |         |
| Q703     | 2SD0601A0L   | TRANSISTOR              |         |
| Q846     | 2SD0601A0L   | TRANSISTOR              |         |
| Q850     | B1BCCM000002 | TRANSISTOR              |         |
| Q857     | 2SC54190QA   | TRANSISTOR              |         |
| Q870     | 2SB709ATX    | TRANSISTOR              |         |
|          | RESISTORS    |                         |         |
| R005     | D0GB512JA008 | F 5.1KOHM, J, 1W        |         |
| R006     | ERJ3GEYJ473  | M 47KOHM, J, 1/16W      |         |
| R007     | ERJ3GEYJ682  | M 6.8KOHM, J, 1/16W     |         |
| R008     | ERJ3GEYJ0R00 | M 0OHM, J, 1/16W        |         |
| R009     | ERJ3GEYJ0R00 | M 0OHM, J, 1/16W        |         |
| R1041    | ERJ3EKF2321  | M2.32KOHM, F, 1/16W     |         |
| R1043    | ERJ3EKF2211  | M2.21KOHM, F, 1/16W     |         |
| R1044    | ERJ3EKF3241  | M3.24KOHM, F, 1/16W     |         |
| R1045    | ERJ3EKF5111  | M5.11KOHM, F, 1/16W     |         |
| R1046    | ERJ3EKF9091  | M9.09KOHM, F, 1/16W     |         |
| R1047    | ERJ3EKF1802  | M 18KOHM, F, 1/16W      |         |
| R1061    | ERJ3GEYJ361  | F 360OHM, J, 1/2W       |         |
| R1062    | ERDS2TJ102   | C 1KOHM, J, 1/4W        |         |
| R1063    | ERJ3GEYJ752  | M 7.5KOHM, J, 1/16W     |         |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| R1065    | ERJ3GEYJ121  | M 120OHM, J, 1/16W      |         |
| R1066    | ERJ3GEYJ152  | M 1.5KOHM, J, 1/16W     |         |
| R1067    | ERJ3GEYJ470  | M 47OHM, J, 1/16W       |         |
| R1068    | ERJ3GEYJ103  | M 10KOHM, J, 1/16W      |         |
| R1105    | ERJ3GEYJ103  | M 10KOHM, J, 1/16W      |         |
| R1106    | ERJ3GEYJ102  | M 1KOHM, J, 1/16W       |         |
| R1108    | ERJ3GEYJ101  | M 100OHM, J, 1/16W      |         |
| R1109    | ERJ3GEYJ103  | M 10KOHM, J, 1/16W      |         |
| R1112    | ERJ3GEYJ102  | M 1KOHM, J, 1/16W       |         |
| R1114    | ERJ3GEYJ151  | M 150OHM, J, 1/16W      |         |
| R1115    | ERJ3GEYJ101  | M 100OHM, J, 1/16W      |         |
| R1131    | ERJ3GEYJ220  | M 22OHM, J, 1/16W       |         |
| R1132    | ERJ3GEYJ220  | M 22OHM, J, 1/16W       |         |
| R1140    | D1AC1002A094 | M 10KOHM, F, 1/16W      |         |
| R1142    | ERJ3EKF1001  | M 1KOHM, F, 1/16W       |         |
| R1150    | ERJ3GEYJ101  | M 100OHM, J, 1/16W      |         |
| R1201    | ERJ3GEYJ102  | M 1KOHM, J, 1/16W       |         |
| R1202    | ERJ3GEYJ102  | M 1KOHM, J, 1/16W       |         |
| R1228    | ERJ3GEYJ101  | M 100OHM, J, 1/16W      |         |
| R1229    | ERJ3GEYJ101  | M 100OHM, J, 1/16W      |         |
| R2112    | ERJ3GEYJ102  | M 1KOHM, J, 1/16W       |         |
| R2114    | ERJ3GEYJ104  | M 100KOHM, J, 1/16W     |         |
| R2317    | D0GB622JA008 | F 6.2KOHM, J, 1/2W      |         |
| R2321    | ERJ3GEYJ104  | M 100KOHM, J, 1/16W     |         |
| R2322    | ERJ3GEYJ104  | M 100KOHM, J, 1/16W     |         |
| R253     | D0GB751JA008 | F 750OHM, J, 1/2W       |         |
| R255     | D0GB751JA008 | F 750OHM, J, 1/2W       |         |
| R256     | ERDS2TJ272   | C 2.7KOHM, J, 1/4W      |         |
| R257     | ERDS2TJ272   | C 2.7KOHM, J, 1/4W      |         |
| R3002    | ERJ3GEYJ750  | M 75OHM, J, 1/16W       |         |
| R3004    | ERJ3GEYJ104  | M 100KOHM, J, 1/16W     |         |
| R3005    | ERJ3GEYJ750  | M 75OHM, J, 1/16W       |         |
| R3006    | ERJ3GEYJ750  | M 75OHM, J, 1/16W       |         |
| R3008    | ERJ3GEYJ104  | M 100KOHM, J, 1/16W     |         |
| R3009    | ERJ3GEYJ750  | M 75OHM, J, 1/16W       |         |
| R3010    | ERJ3GEYJ750  | M 75OHM, J, 1/16W       |         |
| R3011    | ERJ3GEYJ750  | M 75OHM, J, 1/16W       |         |
| R3022    | ERJ3GEYJ104  | M 100KOHM, J, 1/16W     |         |
| R3024    | ERJ3GEYJ104  | M 100KOHM, J, 1/16W     |         |
| R3026    | ERJ3GEYJ103  | M 10KOHM, J, 1/16W      |         |
| R304     | ERJ3GEYJ330  | M 33OHM, J, 1/16W       |         |
| R305     | ERJ3GEYJ330  | M 33OHM, J, 1/16W       |         |
| R306     | ERJ3GEYJ330  | M 33OHM, J, 1/16W       |         |
| R307     | ERJ3GEYJ121  | M 120OHM, J, 1/16W      |         |
| R308     | ERJ3GEYJ121  | M 120OHM, J, 1/16W      |         |
| R309     | ERJ3GEYJ121  | M 120OHM, J, 1/16W      |         |
| R310     | D0AE181JA046 | C 180OHM, J, 1/4W       |         |
| R3101    | ERDS2TJ470   | C 47OHM, J, 1/4W        |         |
| R3102    | ERDS2TJ470   | C 47OHM, J, 1/4W        |         |
| R3104    | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| R3105    | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| R311     | D0AE181JA046 | C 180OHM, J, 1/4W       |         |
| R312     | D0AE181JA046 | C 180OHM, J, 1/4W       |         |
| R3158    | D0GB111JA008 | F 110OHM, J, 1/16W      |         |
| R3159    | D0GB111JA008 | F 110OHM, J, 1/16W      |         |
| R3161    | D0GB111JA008 | F 110OHM, J, 1/16W      |         |
| R3162    | D0GB111JA008 | F 110OHM, J, 1/16W      |         |
| R3167    | ERJ3GEYJ104  | M 100KOHM, J, 1/16W     |         |
| R3168    | ERJ3GEYJ104  | M 100KOHM, J, 1/16W     |         |
| R3173    | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| R320     | ERJ3GEYJ821  | M 820OHM, J, 1/16W      |         |
| R321     | D0AE220JA046 | C 22OHM, J, 1/4W        |         |
| R341     | ERJ3GEYJ151  | M 150OHM, J, 1/16W      |         |
| R342     | ERJ3GEYJ151  | M 150OHM, J, 1/16W      |         |
| R343     | ERJ3GEYJ151  | M 150OHM, J, 1/16W      |         |
| R351     | ERJ3GEYJ331  | M 330OHM, J, 1/16W      |         |
| R352     | ERJ3GEYJ331  | M 330OHM, J, 1/16W      |         |
| R353     | ERJ3GEYJ331  | M 330OHM, J, 1/16W      |         |
| R363     | ERJ3GEYJ102  | M 1KOHM, J, 1/16W       |         |
| R364     | ERJ3GEYJ102  | M 1KOHM, J, 1/16W       |         |
| R365     | ERJ3GEYJ102  | M 1KOHM, J, 1/16W       |         |
| R366     | ERDS1TJ152   | C 1.5KOHM, J, 1/2W      |         |
| R367     | ERDS1TJ152   | C 1.5KOHM, J, 1/2W      |         |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| R368     | ERDS1TJ152   | C 1.5KOHM,J, 1/2W       |         |
| R372     | ERQ12AJ121P  | F 120OHM,J,1/2W         |         |
| R381     | ERJ3GEYJ182  | M 1.8KOHM,J,1/16W       |         |
| R385     | ERJ3GEYJ0R00 | M 00HM,J,1/16W          |         |
| R401     | ERDS2TJ104   | C 100KOHM,J, 1/4W       |         |
| R403     | ERJ3GEYJ563  | M 56KOHM,J,1/16W        |         |
| R404     | ERJ3GEYJ153  | M 15KOHM,J,1/16W        |         |
| R405     | ERDS2TJ563   | C 56KOHM,J, 1/4W        |         |
| R406     | ERDS1TJ1R5   | C 1.5OHM,J, 1/2W        |         |
| R407     | ERG1SJ221E   | M 220OHM,J, 1W          |         |
| R413     | ERJ3GEYJ183  | M 18KOHM,J,1/16W        |         |
| R416     | ERX1SJR82E   | M 0.82OHM,J, 1W         |         |
| R451     | ERJ3GEYJ223  | M 22KOHM,J,1/16W        |         |
| R453     | ERJ3GEYJ101  | M 100OHM,J,1/16W        |         |
| R4850    | ERG2FJ100H   | M 100OHM,J, 2W          |         |
| R4851    | ERJ3GEYJ101  | M 100OHM,J,1/16W        |         |
| R4852    | ERJ3GEYJ333  | M 33KOHM,J,1/16W        |         |
| R4853    | ERJ3GEYJ243  | M 24KOHM,J,1/16W        |         |
| R4854    | ERJ3GEYJ681  | M 680OHM,J,1/16W        |         |
| R4857    | ERJ3GEYJ681  | M 680OHM,J,1/16W        |         |
| R4860    | ERJ3GEYJ243  | M 24KOHM,J,1/16W        |         |
| R501     | ERJ3GEYJ273  | M 27KOHM,J,1/16W        |         |
| R502     | ERJ3GEYJ103  | M 10KOHM,J,1/16W        |         |
| R504     | ERG2SJS332H  | M 10KOHM,J,1/10W        |         |
| R507     | ERDS2TJ561   | C 560OHM,J, 1/4W        |         |
| R508     | ERG3FJ821H   | M 820OHM,J, 3W          |         |
| R509     | ERG3FJ122    | M 1.2KOHM,J, 3W         |         |
| R511     | ERJ3EKF1152  | F 11.5KOHM,J, 1/4W      |         |
| R512     | ERJ3EKF1002  | M 10KOHM,F,1/16W        |         |
| R513     | ERQ14AJ100E  | F 10OHM,J, 1/4W         |         |
| R516     | ERX12SJR56P  | M 0.56OHM, 1/2W         |         |
| R517     | ERX12SJR56P  | M 0.56OHM, 1/2W         |         |
| R518     | D0DK3R3J0002 | W 3.3OHM,J,1/10W        |         |
| R522     | ERDS2TJ513   | C 51KOHM,J, 1/4W        |         |
| R523     | ERJ3GEYJ103  | M 10KOHM,J,1/16W        |         |
| R524     | ERDS2TJ104   | C 100KOHM,J, 1/4W       |         |
| R525     | ERJ3GEYJ392  | M 3.9KOHM,J,1/16W       |         |
| R551     | ERG1FJ101P   | M 100OHM,J, 1W          |         |
| R552     | ERG1SJ102P   | M 1KOHM,J, 1W           |         |
| R553     | ERJ3GEYJ183  | M 18KOHM,J,1/16W        |         |
| R559     | D0C1R68JA042 | M 0.68OHM,J, 1W         |         |
| R580     | ERJ3GEYJ392  | M 3.9KOHM,J,1/16W       |         |
| R601     | ERJ3GEYJ470  | M 47OHM,J,1/16W         |         |
| R602     | ERDS2TJ103   | C 10KOHM,J, 1/4W        |         |
| R604     | ERJ3GEYJ470  | M 47OHM,J,1/16W         |         |
| R605     | ERJ3GEYJ470  | M 47OHM,J,1/16W         |         |
| R606     | ERJ3GEYJ752  | M 7.5KOHM,J,1/16W       |         |
| R607     | ERJ3GEYJ752  | M 7.5KOHM,J,1/16W       |         |
| R608     | ERJ3GEYJ470  | M 47OHM,J,1/16W         |         |
| R609     | ERJ3GEYJ0R00 | M 00HM,J,1/16W          |         |
| R611     | ERJ3GEYJ101  | M 100OHM,J,1/16W        |         |
| R612     | ERJ3GEYJ392  | M 3.9KOHM,J,1/16W       |         |
| R614     | ERJ3GEYJ221  | M 220OHM,J,1/16W        |         |
| R615     | ERJ3GEYJ122  | M 1.2KOHM,J,1/16W       |         |
| R616     | ERJ3GEYJ563  | M 56KOHM,J,1/16W        |         |
| R619     | ERJ3GEYJ332  | M 3.3KOHM,J,1/16W       |         |
| R620     | ERJ3EKF1002  | M 10KOHM,F,1/16W        |         |
| R621     | ERJ3EKF2002  | M 20KOHM,F,1/16W        |         |
| R622     | ERJ3GEYJ821  | M 820OHM,J,1/16W        |         |
| R624     | ERJ3GEYJ102  | M 1KOHM,J,1/16W         |         |
| R625     | ERJ3GEYJ102  | M 1KOHM,J,1/16W         |         |
| R626     | ERJ3GEYJ103  | M 10KOHM,J,1/16W        |         |
| R627     | ERJ3GEYJ103  | M 10KOHM,J,1/16W        |         |
| R628     | ERJ3GEYJ823  | M 82KOHM,J,1/16W        |         |
| R629     | ERJ3GEYJ0R00 | M 00HM,J,1/16W          |         |
| R632     | ERJ3GEYJ682  | M 6.8KOHM,J,1/16W       |         |
| R634     | ERJ3GEYJ151  | M 150OHM,J,1/16W        |         |
| R635     | ERJ3GEYJ151  | M 150OHM,J,1/16W        |         |
| R636     | ERJ3GEYJ101  | M 100OHM,J,1/16W        |         |
| R638     | ERJ3GEYJ0R00 | M 00HM,J,1/16W          |         |
| R640     | ERJ3GEYJ471  | M 470OHM,J,1/16W        |         |
| R641     | ERJ3GEYJ0R00 | M 00HM,J,1/16W          |         |
| R643     | ERJ3GEYJ0R00 | M 00HM,J,1/16W          |         |

| Ref. No.     | Part No.     | Part Name & Description | Remarks |
|--------------|--------------|-------------------------|---------|
| R644         | ERJ3GEYJ103  | M 10KOHM,J,1/16W        |         |
| R645         | ERJ3GEYJ101  | M 100OHM,J,1/16W        |         |
| R646         | ERJ3GEYJ183  | M 18KOHM,J,1/16W        |         |
| R647         | ERJ3GEYJ750  | M 75OHM,J,1/16W         |         |
| R650         | ERJ3GEYJ472  | M 4.7KOHM,J,1/16W       |         |
| R656         | ERJ3GEYJ823  | M 82KOHM,J,1/16W        |         |
| R658         | ERDS2TJ470   | C 47OHM,J, 1/4W         |         |
| R659         | ERJ3GEYJ470  | M 47OHM,J,1/16W         |         |
| R660         | ERJ3GEYJ470  | M 47OHM,J,1/16W         |         |
| R664         | ERDS2T0T     | C 00HM, 1/4W            |         |
| R665         | ERDS2T0T     | C 00HM, 1/4W            |         |
| R669         | ERDS2T0T     | C 00HM, 1/4W            |         |
| R681         | ERJ3GEYJ472  | M 4.7KOHM,J,1/16W       |         |
| R682         | ERJ3GEYJ472  | M 4.7KOHM,J,1/16W       |         |
| R685         | ERJ3GEYJ104  | M 100KOHM,J,1/16W       |         |
| R686         | ERJ3GEYJ104  | M 100KOHM,J,1/16W       |         |
| R701         | ERJ3GEYJ103  | M 10KOHM,J,1/16W        |         |
| R702         | ERJ3GEYJ680  | M 68OHM,J,1/16W         |         |
| R703         | ERJ3GEYJ472  | M 4.7KOHM,J,1/16W       |         |
| R704         | ERJ3GEYJ471  | M 470OHM,J,1/16W        |         |
| R705         | D0GB203JA008 | F 20KOHM,J, 1W          |         |
| R713         | ERG3SJS120H  | M 12OHM,J, 3W           |         |
| R715         | ERDS2TJ472   | C 4.7KOHM,J, 1/4W       |         |
| R802         | ERC12ZGK225D | S 2.2MOHM,J, 1/2W       | ⚠       |
| R825         | ERJ3GEYJ471  | M 470OHM,J,1/16W        |         |
| R828         | ERJ3EKF5602  | F 4.3KOHM,J, 1W         |         |
| R830         | ERDS2TJ221   | C 220OHM,J, 1/4W        |         |
| R831         | ERDS2TJ682   | C 6.8KOHM,J, 1/4W       |         |
| R832         | ERJ3EKF4022  | M 40.2KOHM,J,1/16W      |         |
| R833         | D0AE432JA046 | C 4.3KOHM,J, 1/4W       |         |
| R834         | ERG2FJ104H   | M 100KOHM,J, 2W         |         |
| R835         | ERQ1CJPR33S  | F 0.33OHM,J, 1W         |         |
| R836         | ERG1SJ470P   | M 47OHM,J, 1W           |         |
| R837         | ERDS2TJ123   | C 12KOHM,J, 1/4W        |         |
| R838         | ERJ3EKF1002  | M 10KOHM,F,1/16W        |         |
| R839         | ERJ3GEYJ472  | M 4.7KOHM,J,1/16W       |         |
| R840         | D0AW825JA001 | C 8.2MOHM,J, 1W         | ⚠       |
| R842         | ERG2FJ100H   | M 10OHM,J, 2W           |         |
| R847         | ER0S2CHF3902 | M 39KOHM,F, 1/4W        |         |
| R850         | ERG3SJS560H  | M 56OHM,J, 3W           |         |
| R851         | ERDS2TJ104   | C 100KOHM,J, 1/4W       |         |
| R852         | D0AE162JA046 | C 1.6KOHM,J, 1W         |         |
| R853         | D0D72R2KA002 | W 2.2OHM,K, 7W          |         |
| R854         | ERQ1ABJP470S | F 47OHM,J, 1W           |         |
| R856         | ERG2SJS104H  | M 100KOHM,J, 2W         |         |
| R858         | ERX2SJ7R5E   | M 7.5OHM,J, 2W          |         |
| R863         | ERDS2TJ331   | C 330OHM,J, 1/4W        |         |
| R864         | ERJ3GEYJ103  | M 10KOHM,J,1/16W        |         |
| R866         | ERJ3GEYJ392  | M 3.9KOHM,J,1/16W       |         |
| R867         | D0AE432JA046 | C 4.3KOHM,J, 1/4W       |         |
| R868         | ERDS1TJ221   | C 220OHM,J, 1/2W        |         |
| R871         | ERJ3GEYJ103  | M 10KOHM,J,1/16W        |         |
| R872         | ERJ3EKF1052  | F 10.5KOHM,J, 1/10W     |         |
| R873         | ERJ3EKF1802  | M 18KOHM,F,1/16W        |         |
| R875         | ERJ3GEYJ822  | M 8.2KOHM,J,1/16W       |         |
| R876         | ERJ3EKF1002  | M 10KOHM,F,1/16W        |         |
| R877         | ERJ3EKF5101  | F 27KOHM,J, 1W          |         |
| R882         | ERJ3GEYJ332  | M 3.3KOHM,J,1/16W       |         |
| R884         | ERDS2TJ562   | C 5.6KOHM,J, 1/4W       |         |
| R885         | ERJ3GEYJ752  | M 7.5KOHM,J,1/16W       |         |
| R886         | D0GB433JA008 | F 43KOHM,J, 1W          |         |
| R888         | ERJ3GEYJ103  | M 10KOHM,J,1/16W        |         |
| R889         | ERX3FJ8R2H   | M 8.2OHM,J, 3W          |         |
| R890         | ERG1SJ273P   | M 27KOHM,J, 1W          |         |
| R894         | ERJ3EKF1303  | F 27KOHM,J, 1W          |         |
| R898         | ERG2SJ471E   | M 470OHM,J, 2W          |         |
| TRANSFORMERS |              |                         |         |
| T553         | ETH19Y210BZ  | H DRIVE TRANS           | ⚠       |
| T554         | BSC29-0195K  | FLYBACK TRANS           | ⚠       |
| T802         | ETS39AG4L6AC | SWITCHING TRANS         | ⚠       |
| OTHERS       |              |                         |         |
| A1           | K1KA05AA0180 | CONNECTOR               |         |
| A13          | K1KA07AA0190 | CONNECTOR               |         |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| A19      | K1KA06AA0180 | CONNECTOR               |         |
| A2       | K1KA06AA0659 | CONNECTOR               |         |
| A25      | K1KA02A00676 | CONNECTOR               |         |
| A27      | K1KA02A00720 | CONNECTOR               |         |
| A4       | K1KA04AA0190 | CONNECTOR               |         |
| A5       | K1KA04AA0190 | CONNECTOR               |         |
| A8       | K1KA04AA0093 | CONNECTOR               |         |
| CF836    | D4DDE9R00002 | POSISTOR                | △       |
| F860     | K5D502BL0009 | FUSE                    | △       |
| G13      | K1KA07BA0055 | CONNECTOR               |         |
| G19      | K1KA06BA0055 | CONNECTOR               |         |
| G20      | K1KA02BA0055 | CONNECTOR               |         |
| J321     | ERDS2T0T     | C 0OHM, 1/4W            |         |
| J35      | ERDS2T0T     | C 0OHM, 1/4W            |         |
| JA10     | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JA11     | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JA12     | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JA13     | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JA16     | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JA17     | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JA2      | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JA29     | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JA30     | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JA31     | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JA32     | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JA33     | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JA35     | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JA36     | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JA4      | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JA45     | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JA5      | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JA6      | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JA7      | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JA8      | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JA9      | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JK3002   | K4BK10B00005 | AV TERMINAL             |         |
| JK3003   | K4BK10B00006 | AV TERMINAL             |         |
| JK3202   | K4BC07B00007 | AV TERMINAL             |         |
| JK3203   | K4BC07B00006 | AV TERMINAL             |         |
| JS104    | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JS105    | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JS110    | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JS2315   | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JS2341   | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JS2342   | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JS3043   | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JS3044   | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JS3045   | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JS3046   | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JS3131   | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JS3132   | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JS631    | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JS632    | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JS633    | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JS634    | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JS670    | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JS807    | ERJ6GEY0R00  | M 0OHM, J, 1/10W        |         |
| JS850    | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JS883    | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JSG3161  | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JSG3162  | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JSG3163  | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JSG3165  | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JSG3166  | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| JSG3167  | ERJ3GEY0R00  | M 0OHM, J, 1/16W        |         |
| K20      | K1KA02BA0055 | CONNECTOR               |         |
| L002     | G0C100K00008 | COIL                    |         |
| L003     | G0C4R7JA0055 | PEAKING COIL            |         |
| L11      | K1ZZ00001300 | CONNECTOR               |         |
| L2       | K1KA06AA0659 | CONNECTOR               |         |
| L3       | K1KA04AA0190 | CONNECTOR               |         |
| LF835    | ELF21V012S   | LINE FILTER             | △       |
| PC860    | B3PAA0000363 | PHOTO COUPLER           | △       |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| RL831    | K6B1CDA00028 | RELAY                   | △       |
| RM1062   | B3RAD0000160 | REMOCON RECEIVER        |         |
| RT1      | K1KA03AA0190 | CONNECTOR               |         |
| SC352    | K3B09CA00014 | CRT SOCKET              | △       |
| SW1021   | EVQ11G05R    | SWITCH                  |         |
| SW1022   | EVQ11G05R    | SWITCH                  |         |
| SW1023   | EVQ11G05R    | SWITCH                  |         |
| SW1024   | EVQ11G05R    | SWITCH                  |         |
| SW1025   | EVQ11G05R    | SWITCH                  |         |
| SW1026   | EVQ11G05R    | SWITCH                  |         |
| SW15     | K1KA02A00676 | CONNECTOR               |         |
| SW5      | K1KA02A00720 | CONNECTOR               |         |
| SW841    | ESB92DA1B    | SWITCH                  | △       |
| TU001    | ENV59K33G3F  | TUNER                   | △       |
| V1       | K1KA05BA0055 | CONNECTOR               |         |
| X601     | H0D202500007 | CRYSTAL OSC             |         |
| XF101    | J0C3525A0005 | SAW FILTER              | △       |