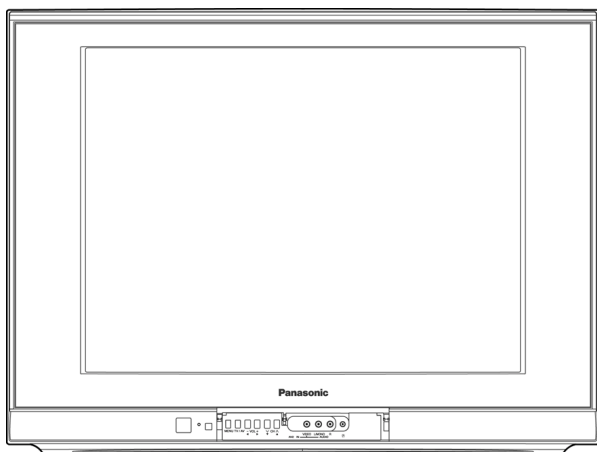


# Service Manual

## Colour Television



### TX-29GX20RF-IRAN

GP41N Chassis

## Specifications

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

**Power Consumption :** 95W

**Aerial Impedance :** 75Ω unbalanced  
Coaxial type

**Receiving System :** 17 Systems

#### Receiving Channels :

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

#### Video / Audio Terminals :

|     |              |
|-----|--------------|
| DVD |              |
| Y   | 1.0Vp-p, 75Ω |
| PB  | 0.7Vp-p, 75Ω |

PR 0.7Vp-p, 75Ω

AV 1,2,3

Video In 1Vp-p, 75Ω

Audio In Approx. 0.5V, 47kΩ

Monitor Out

Video Out 1Vp-p, 75Ω

Audio Out Approx. 0.5V, 1kΩ

#### Intermediate Frequency :

|       |                     |
|-------|---------------------|
| Video | 38.0 MHz            |
| Sound | 31.5 MHz (D, K, K1) |
|       | 32 MHz (I)          |
|       | 32.5 MHz (B, G)     |
|       | 33.5 MHz (M)        |

|        |                   |
|--------|-------------------|
| Colour | 33.57 MHz (PAL)   |
|        | 33.6 MHz (SECAM)  |
|        | 33.75 MHz (SECAM) |
|        | 34.42 MHz (NTSC)  |

#### High Voltage :

|                      |
|----------------------|
| 31.0kV ±1.0          |
| at zero beam current |
| A68QFN893X11         |
| 68cm (29 inches)     |
| Measured diagonally, |
| 90° deflection       |

#### Picture Tube :

#### Audio Output :

16.0W

#### Dimensions :

Height : 576 mm

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Width : 762 mm

Depth : 493 mm

Specifications are subject to change without notice.

Mass and dimensions shown are approximate.

Mass :

41 kg (Net Wt.)

**⚠ 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.

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# 1 Safety Precautions

## 1.1. General Guide Lines

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 cord outlet.
5. Potential, as high as **32.0kV** 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 checks to prevent the customer from being exposed to shock hazards.

## 1.2. Leakage Current Cold Check

1. Unplug the AC 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 AC plug 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 MΩ and 20 MΩ. 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 AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Check a 2 kΩ non-inductive resistor and an AC/DC current meter, 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.

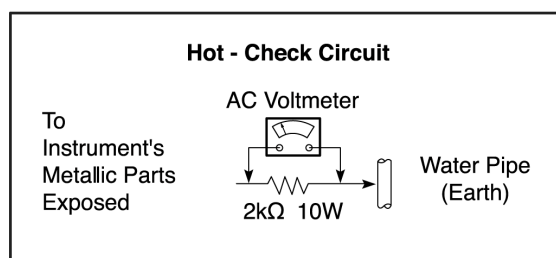


Fig. 1

## 1.4. X-Radiation

### Warning:

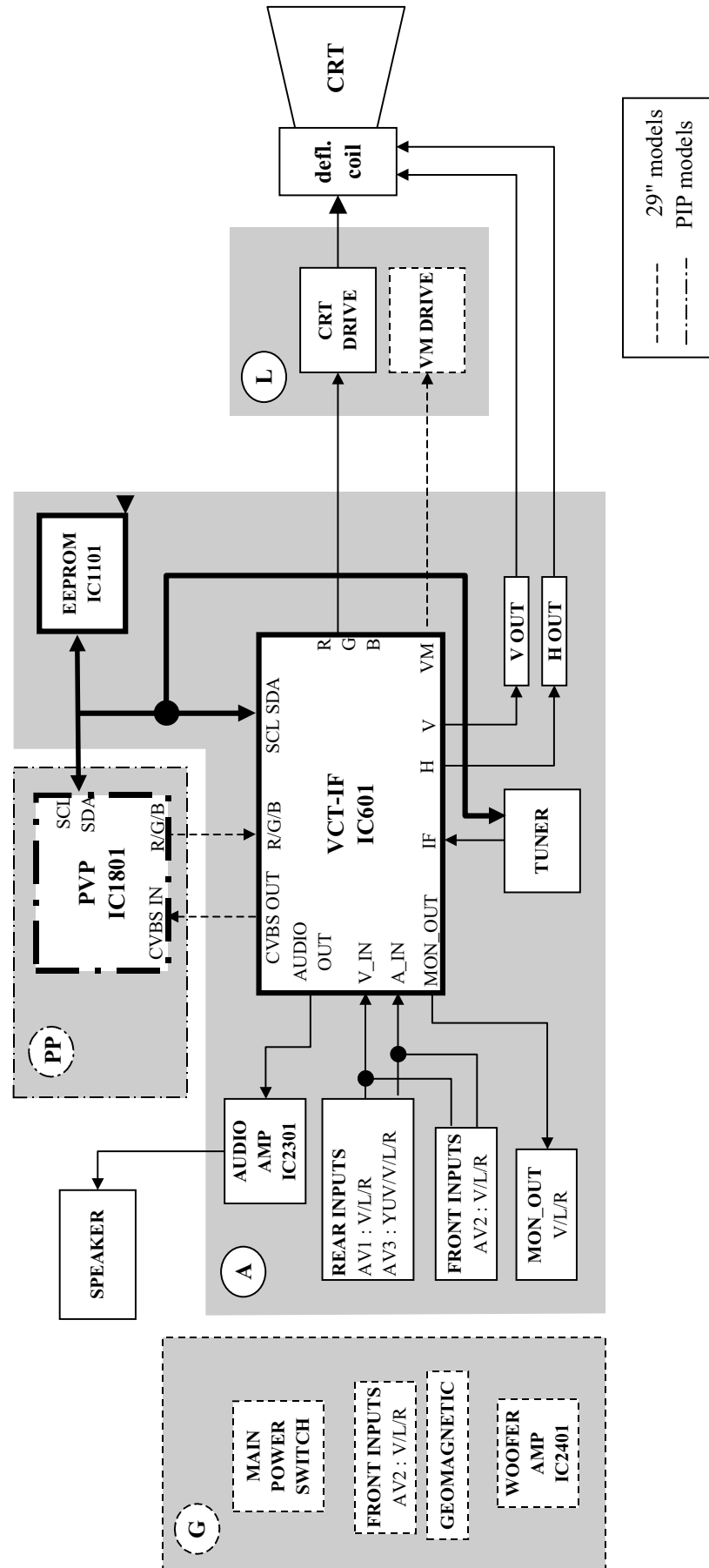
The potential sources of X-Radiation in TV set are the EHT section and the picture tube. When using a picture tube test jig for service, ensure that jig is capable of handling **32.0kV** without causing X-Radiation.

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

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

## 1.5. GP41N Chassis Block Diagram

### GP41N CHASSIS BLOCK DIAGRAM



## 2 Factory Mode Setting

### 2.1. Set to factory mode

1. Press the factory set button on remocon, together press volume down (front control), then appear the white pattern. In case of releasing the remocon button, appear the black pattern an other case appear the volume bar. (Volume down).
2. Turn off and on the power, and set to aging mode.
3. Press any button on remocon or front panel.

Reset to aging-mode (white pattern), and display "CHK" on screen.

When it is no signal in this factory mode, it change to aging mode.

Aging set to aging mode method -- POWER OFF → ON

### 2.2. Operation on Aging mode.

1. White pattern appear, 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 remote controller.

## 3 Service Mode Adjustment

### 3.1. Service Mode Access

1. Set timer ON.
2. Press remote's RECALL (  ) 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 Figure 2.

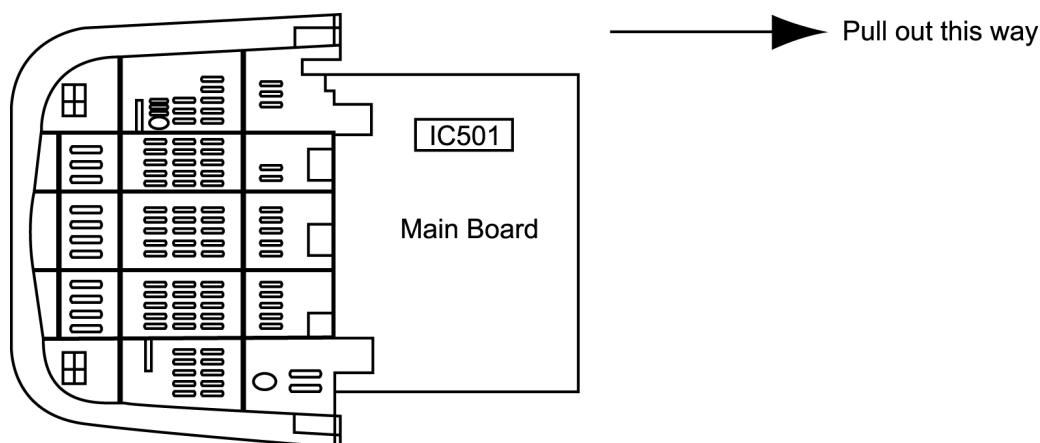


Fig. 2

### 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".

#### 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  $Y = 0.266 \pm 0.005$  nit.

#### Adjustment of High Light

1. Adjustment Sub Bright, so that  $Y = 150$  nit.
2. Adjustment R-Drive, so that  $X = 0.260 \pm 0.003$  nit.
3. Adjustment B-Drive, so that  $Y = 0.265 \pm 0.003$  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.

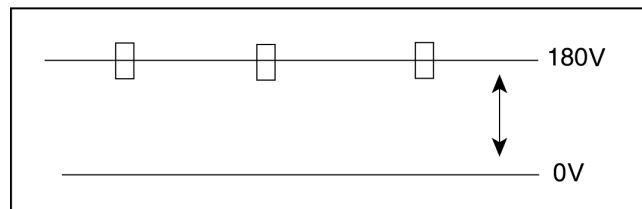


Table 1

## 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 :  $3.35 \pm 0.2V$   
 TPA 16 :  $141 \pm 2V$   
 TPA 17 :  $8.2 \pm 0.3V$   
 TPA 18 :  $1.9 \pm 0.2V$   
 TPA19 :  $5.2 \pm 0.2V$   
 TPA20 :  $220 \pm 15V$

### 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 the +B voltage is  $141.0 \pm 2V$ .
2. Connect a high frequency voltmeter to heater and confirm that voltage reads  $6.3 \pm 0.24$  (VRMS).
3. Normalize the brightness and contrast.

## 4.5. Adjustment

Before Colour Purity, Convergence and White Balance adjustment are attempted,  
V. Height, H. Centre and Focus adjustments must be completed.

### Colour Purity

1. Set the Brightness and Contrast controls to their maximum positions.
2. Operate the TV set for 60 minutes.
3. Fully degauss the picture tube by using an external degaussing coil.
4. Apply a crosshatch pattern signal and adjust the static convergence magnets to the approximately correct position.
5. Receive a black and white signal.
6. Set the control as follows:  
Red.....minimum  
Green.....minimum  
Blue.....minimum  
Press the Shipping button on the remote control twice to select CRT Adjustment Mode to select low light.
7. Loosen the clamp screw for the Deflection Yoke A in Fig. 10 and move the Deflection Yoke as close to the purity magnet as possible.
8. Adjust the purity magnetic rings so that a vertical green field is obtained at the centre of the screen.

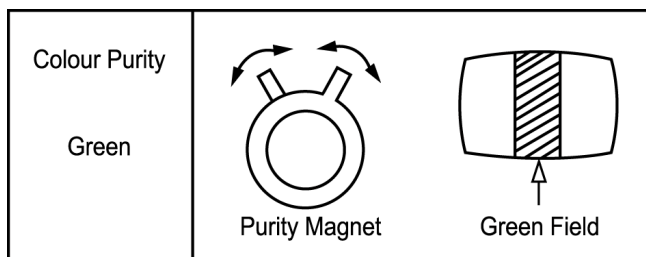


Fig. 6

9. Slowly push the Deflection Yoke and set it where a uniform green field is obtained.

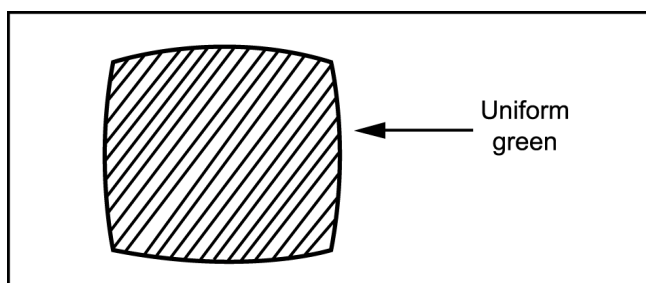


Fig. 21

10. Re-adjust the Low Light controls to their correct settings and make sure that a uniform white field is obtained.
11. Tighten the clamp screw A in Fig. 10.

### Convergence

1. Apply a crosshatch pattern signal and Normalize Contrast control to the maximum positions.
2. Adjust Brightness until the grey position of the crosshatch pattern just becomes black.
3. Adjust the Red and Blue line at the centre of the screen by rotating the R-B static.

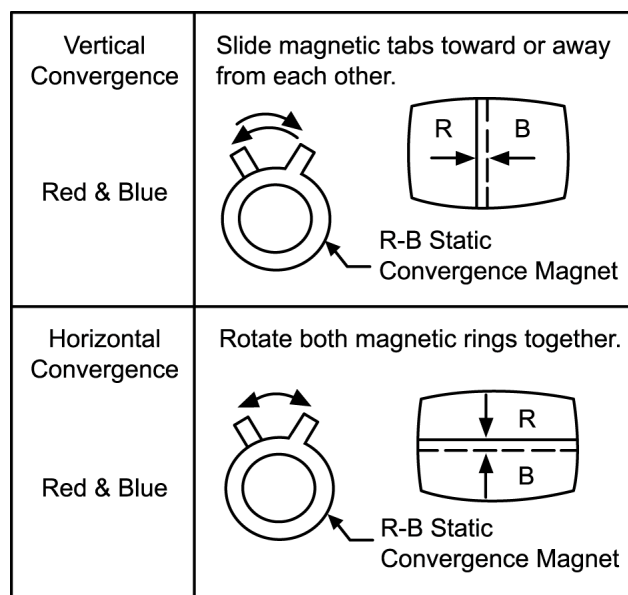


Fig. 8

4. Adjust Red and Blue with Green line at centre of the screen by rotating (RB)-G static convergence magnetic rings.
5. Lock convergence magnets with silicone sealer.
6. Remove the DY wedges and slightly tilt the Deflection Yoke vertically and horizontally to obtain the good overall convergence.

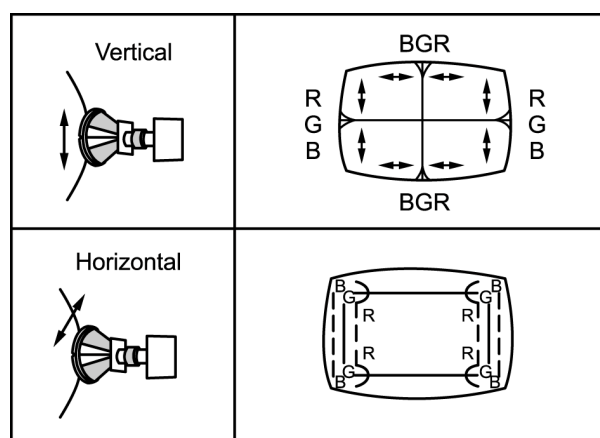


Fig. 9

7. Fix the Deflection Yoke by reinserting the DY wedges. Refer to Fig. 10.
8. If purity error is found, repeat "Colour Purity" adjustment.

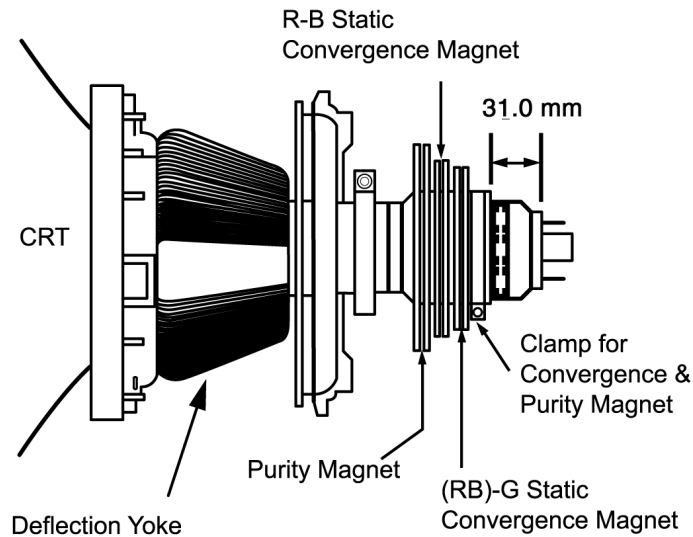


Fig. 10

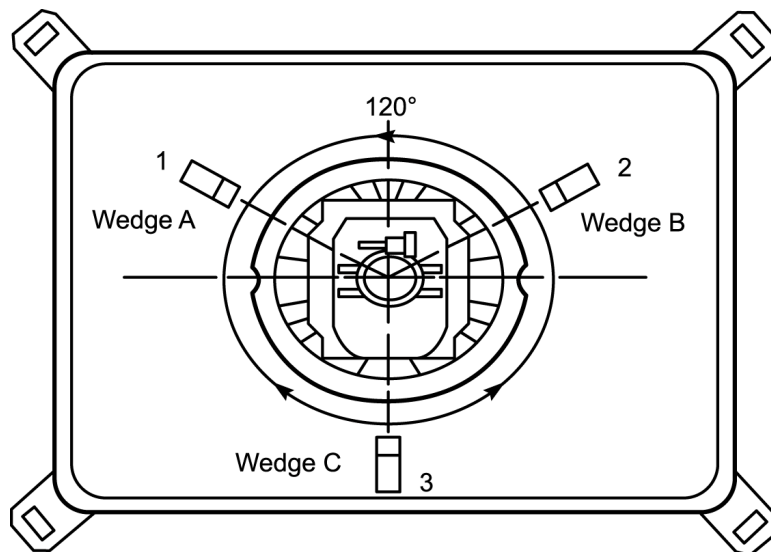
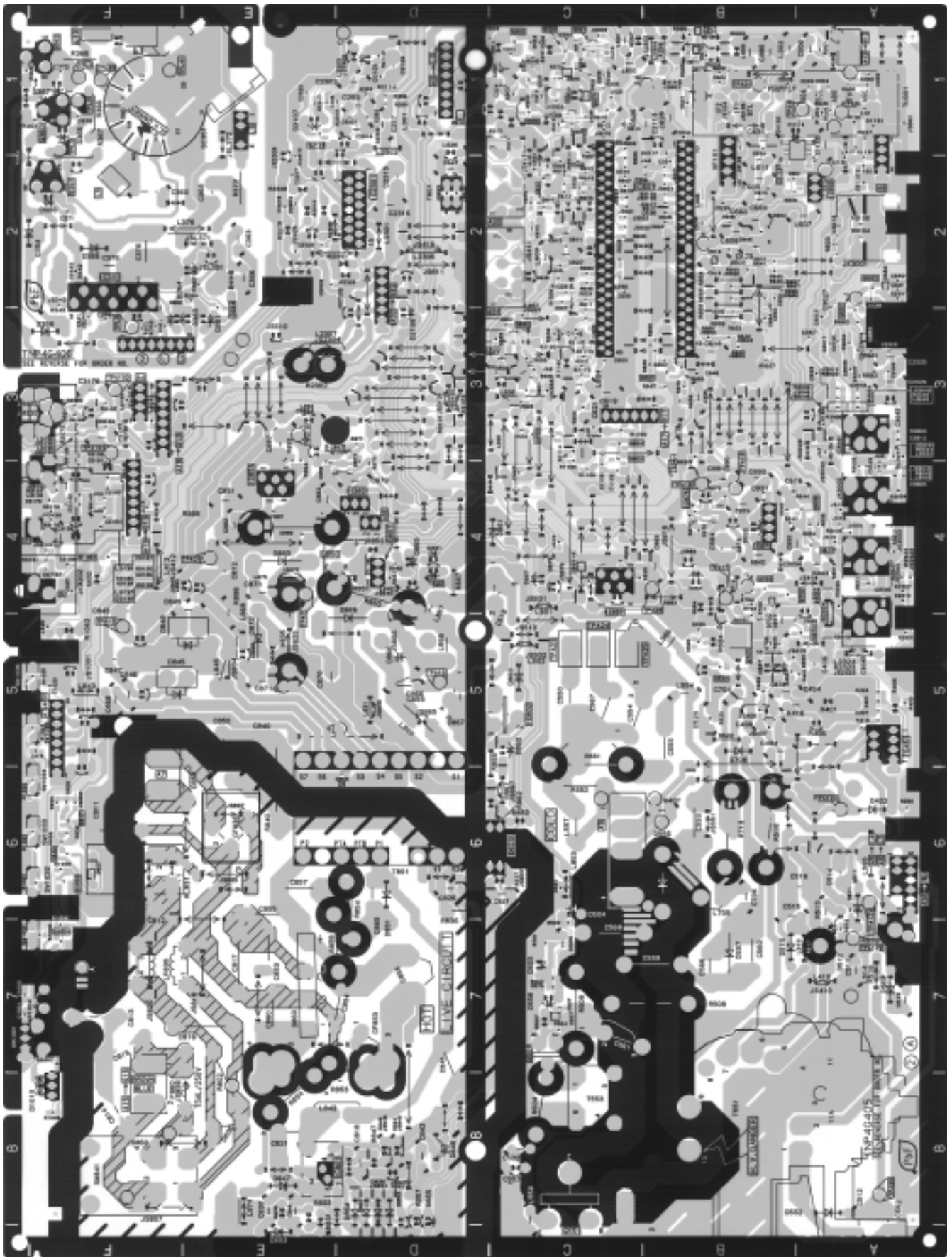


Fig. 11

**Notes:**

1. Wedge A, B and C should be inserted following the sequence of 1, 2 and 3 shown in Fig. 11.
2. The wedges should be set 120° apart from each other.
3. Be certain that three wedges are firmly fixed and the Deflection Yoke is tightly clamped in place. Otherwise the Deflection Yoke may shift its position and cause a loss of convergence and purity.

## 5 Conductor Views



## 6 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 1/4W 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 50V 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 AUTO 110-240V, 50/60Hz

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 arrow mark ( ↗ ) is found, connection is easily found from the direction of 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 :

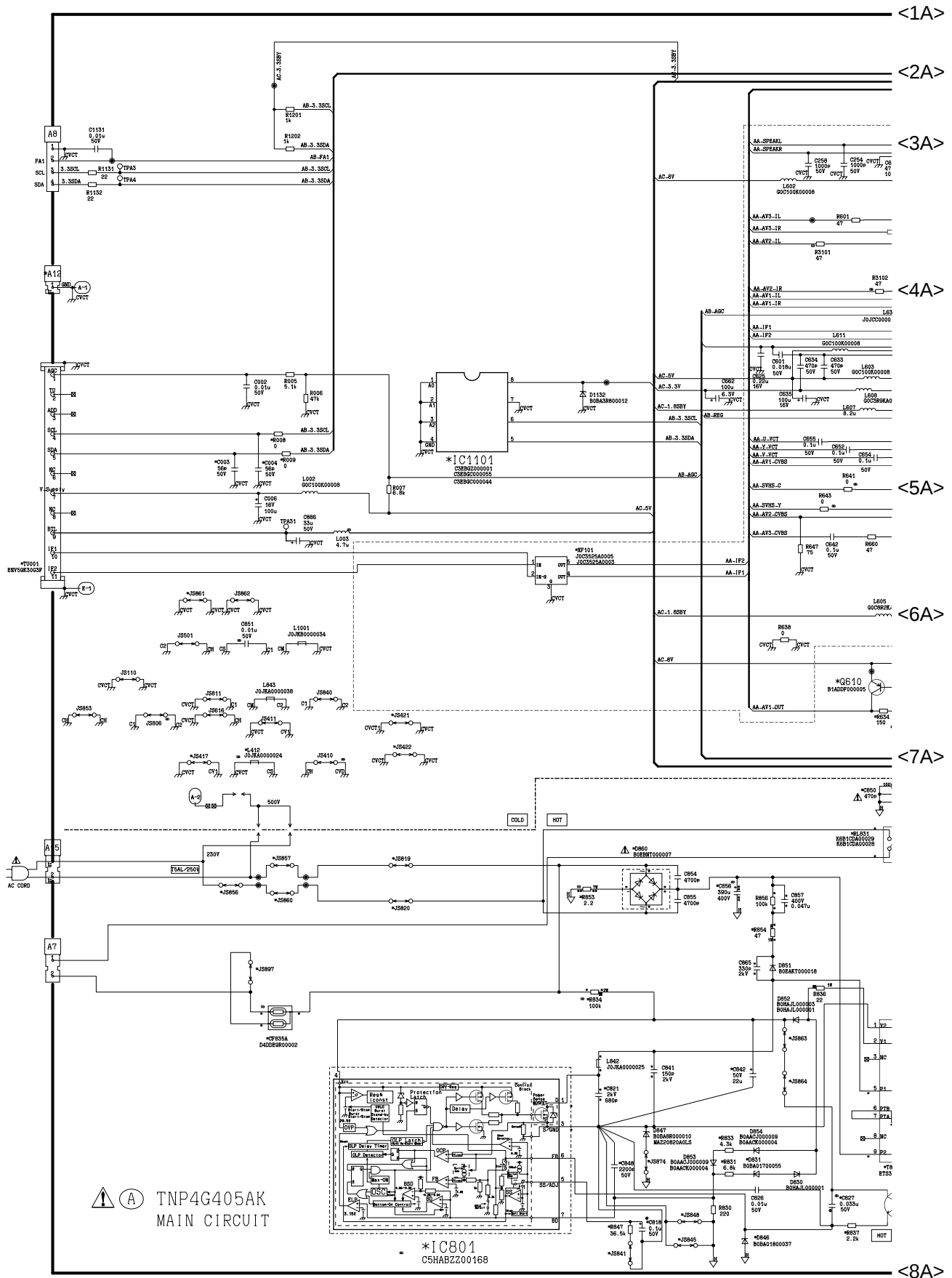
All circuits, except the Power Circuit are cold.

Precautions :

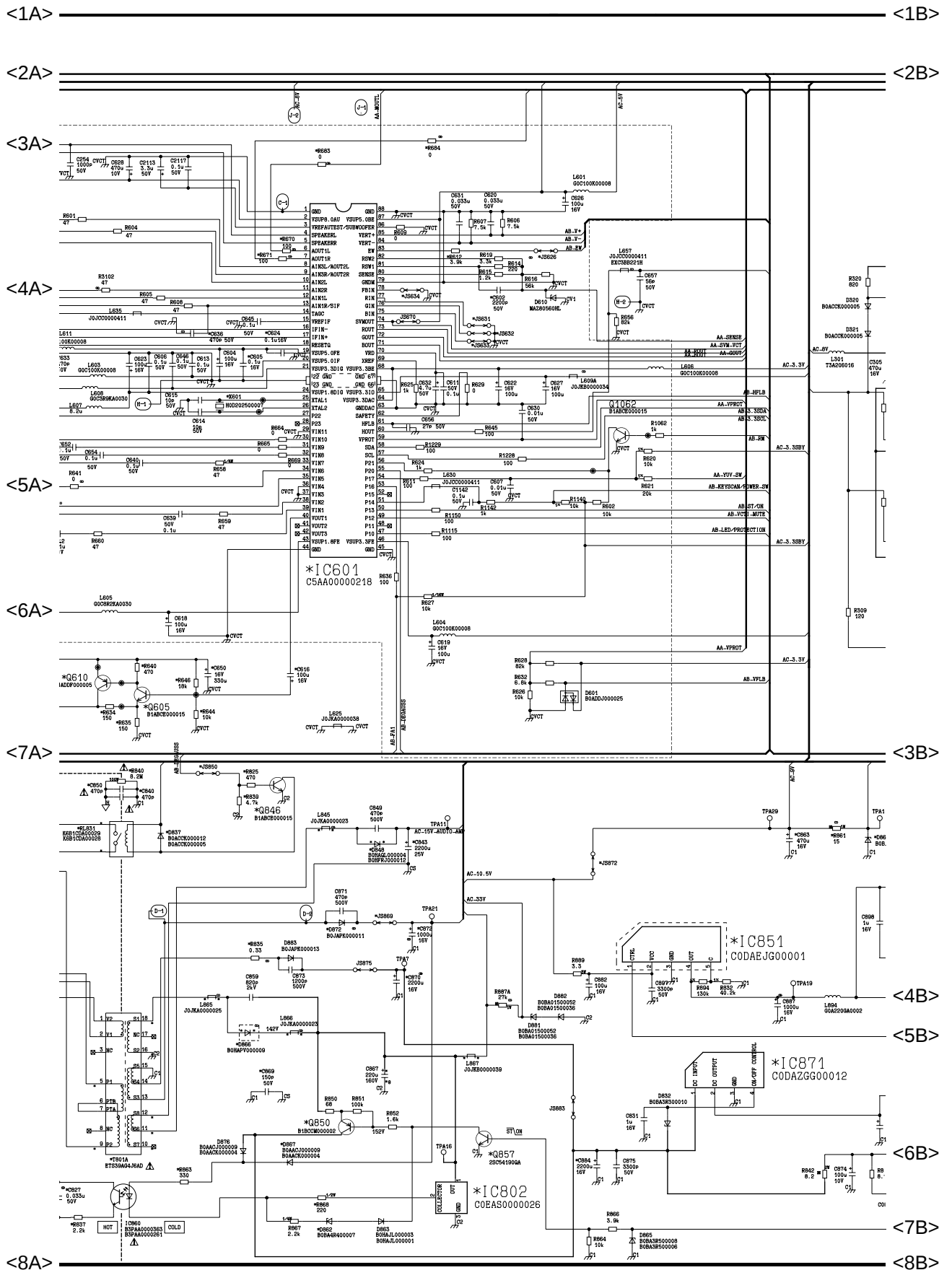
- a. Do not touch the hot part or the hot and cold parts at the same time or you may be shocked.
- b. Do not short-circuit the hot and cold circuits or a fuse may blow and parts may break.
- c. Do not connect an instrument such as an oscilloscope to the hot and cold circuits simultaneously or a fuse may be blown.  
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.

## 6.1. A Board

### 6.1.1. A Board (1/5)

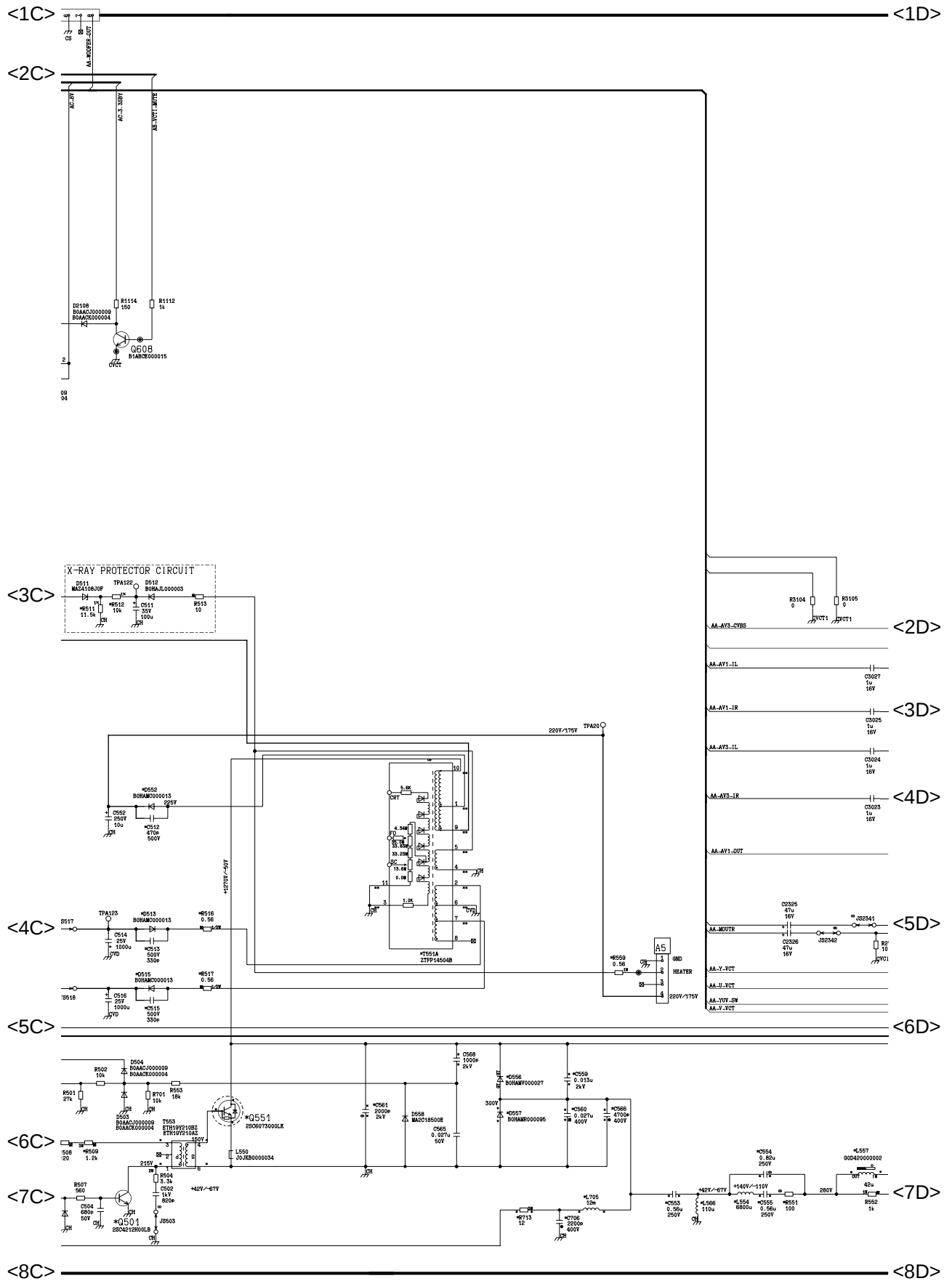


## 6.1.2. A Board (2/5)

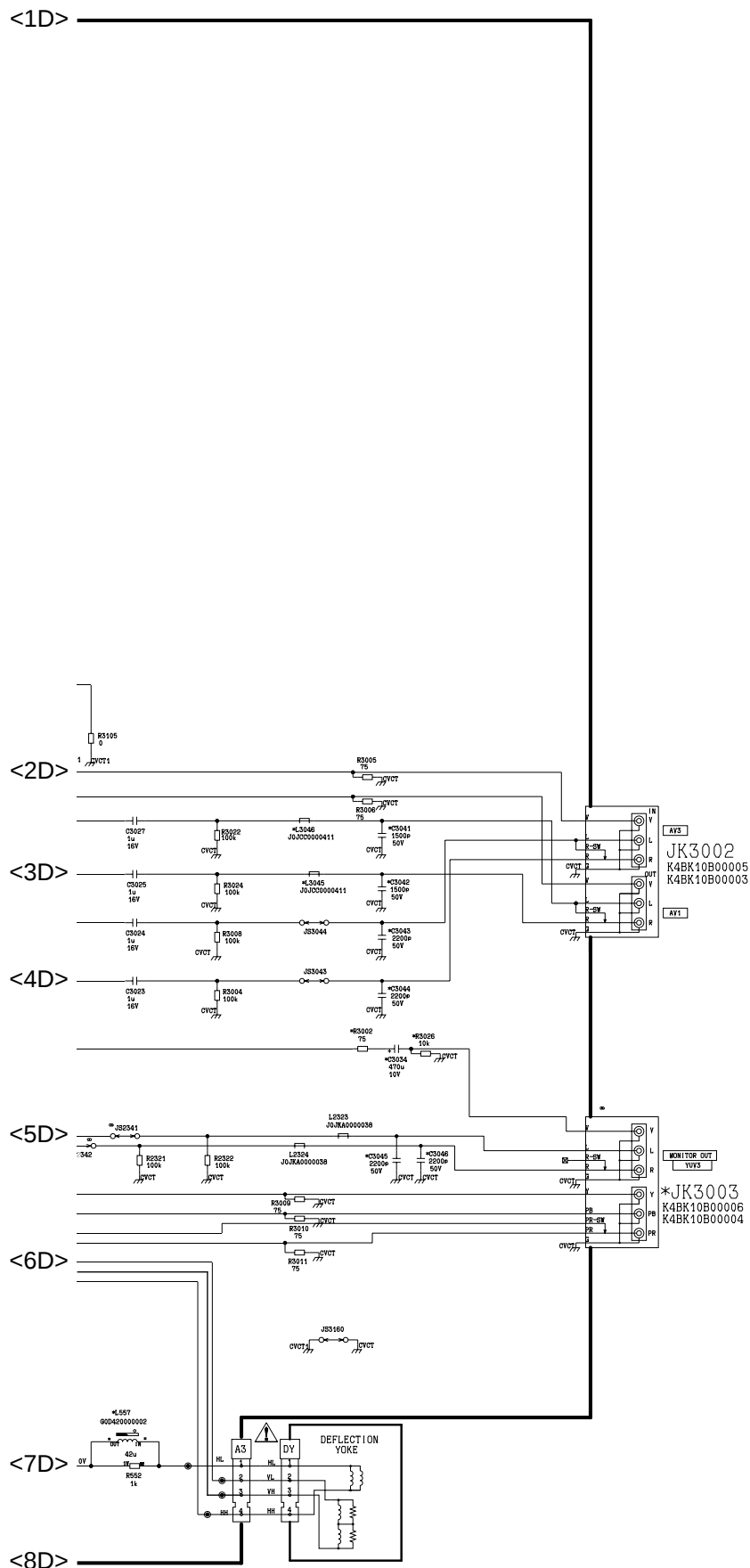




## 6.1.4. A Board (4/5)

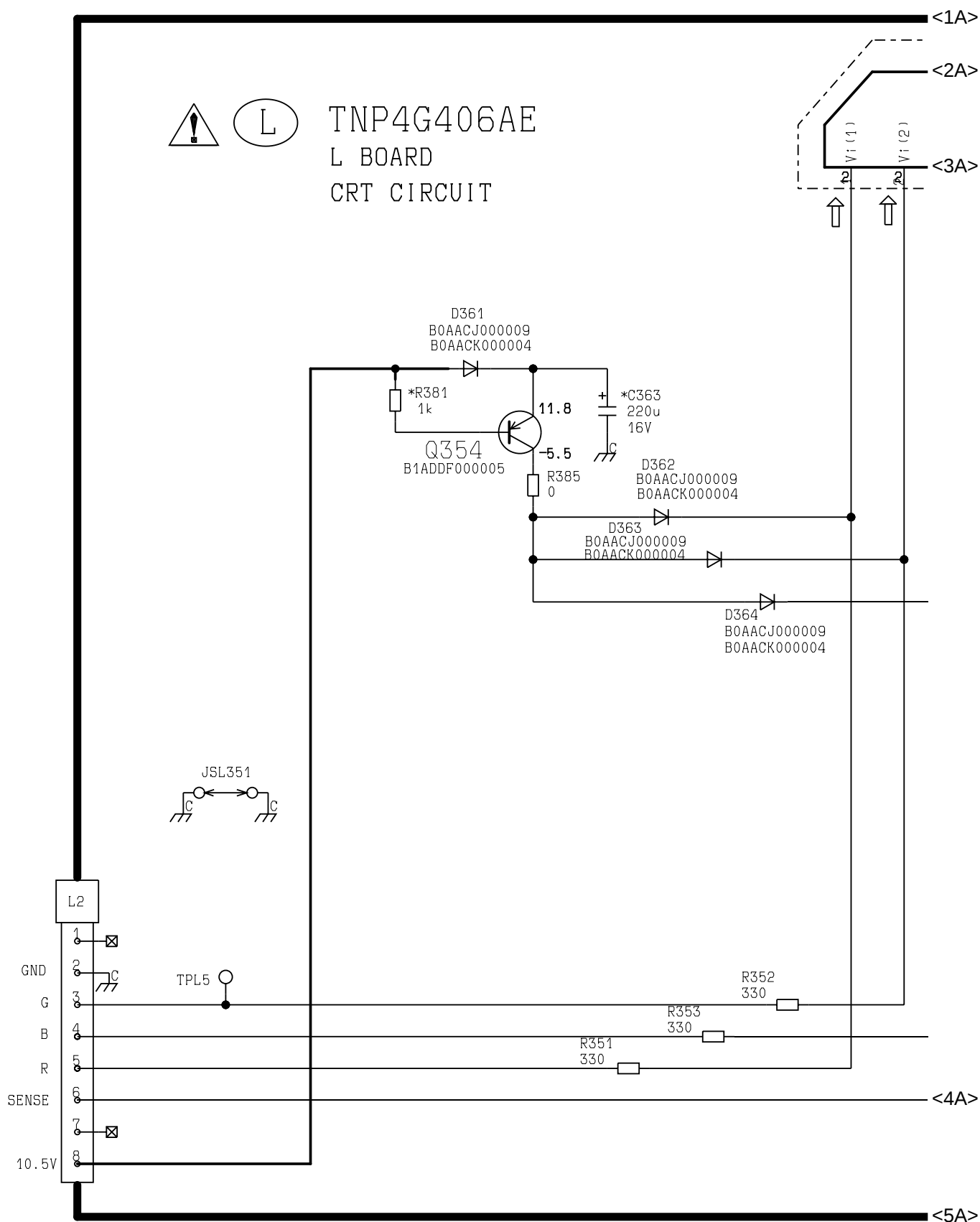


### 6.1.5. A Board (5/5)

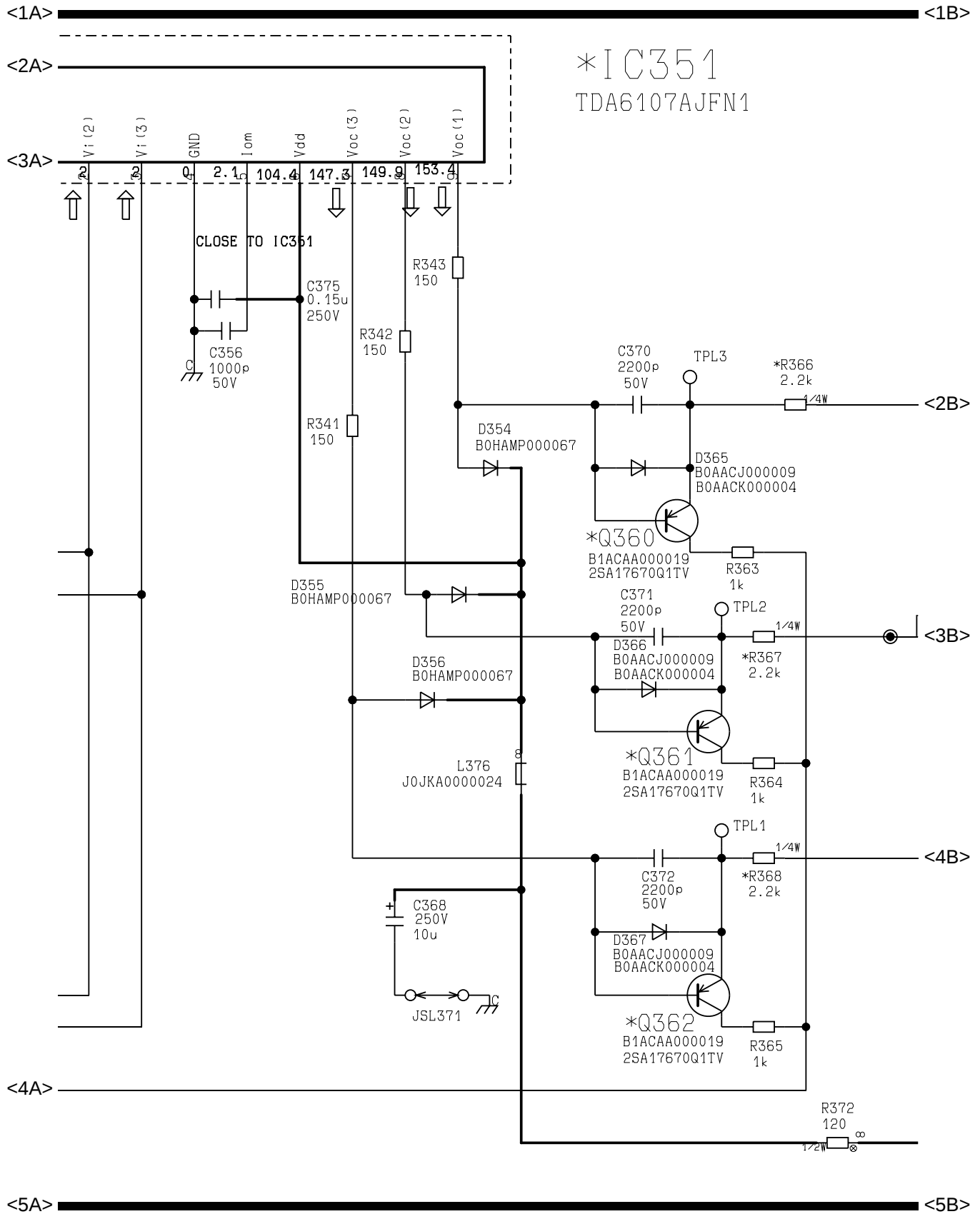


## 6.2. L Board

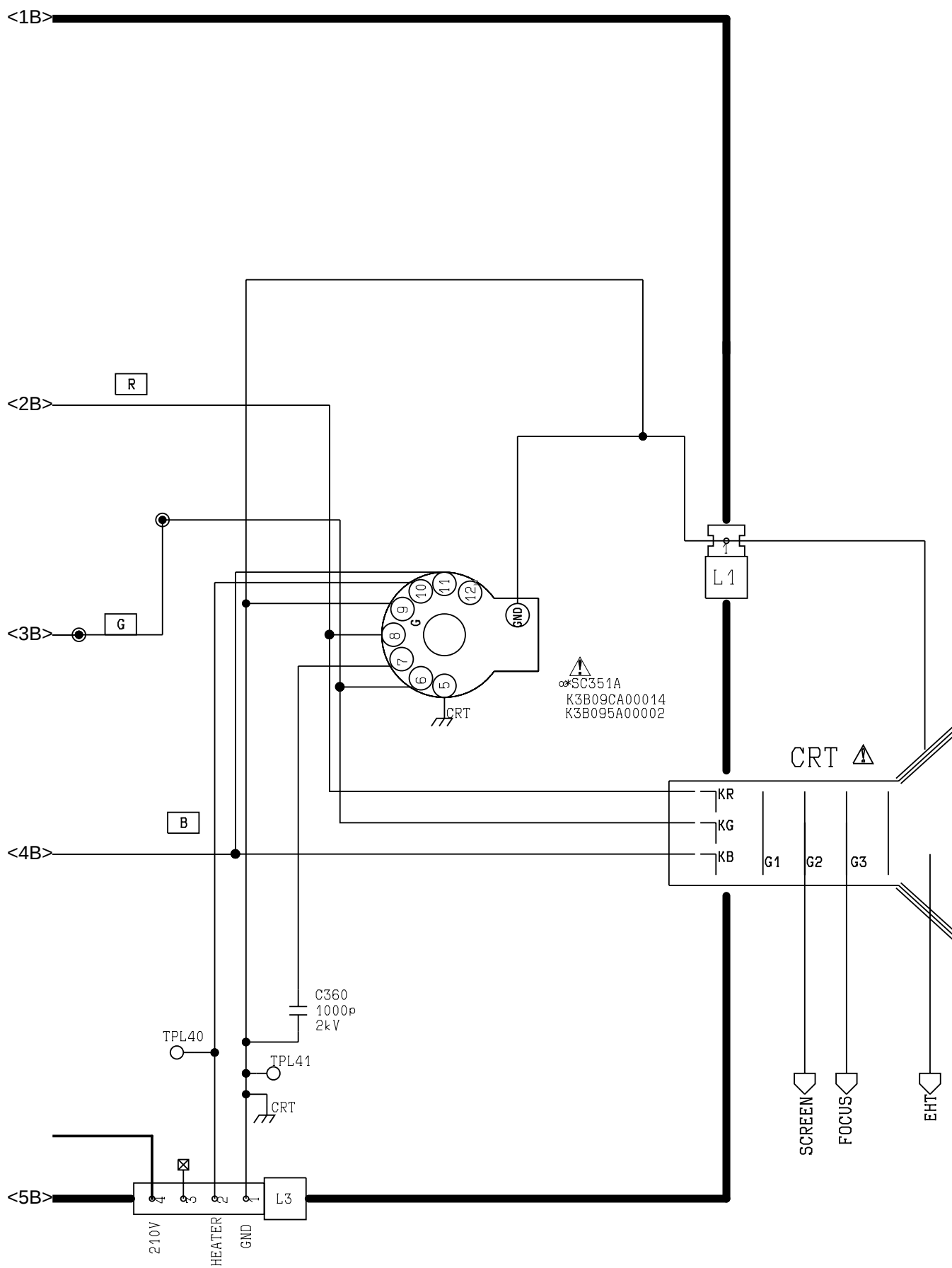
### 6.2.1. L Board (1/3)



## 6.2.2. L Board (2/3)

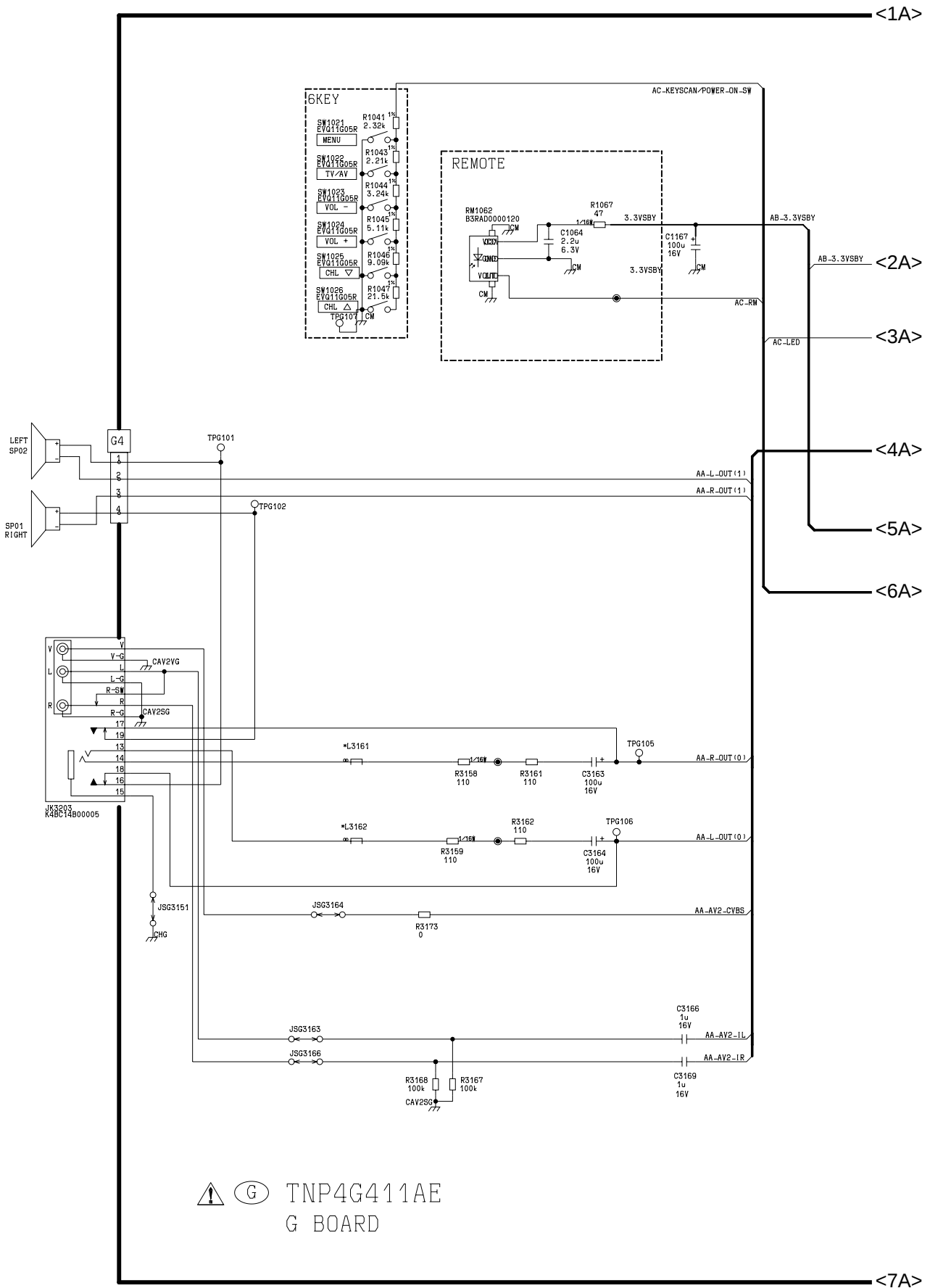


## 6.2.3. L Board (3/3)

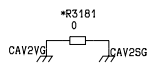
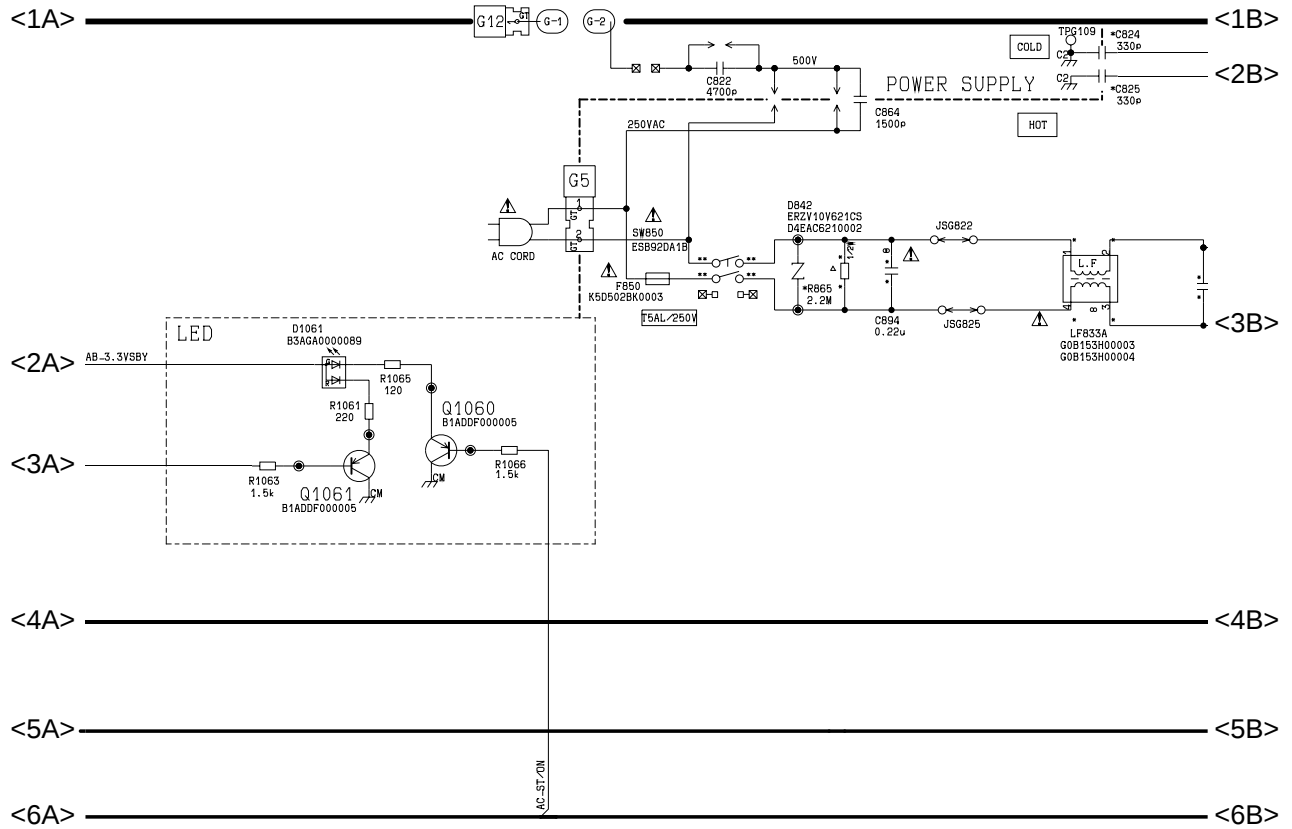


## 6.3. G Board

### 6.3.1. G Board (1/3)

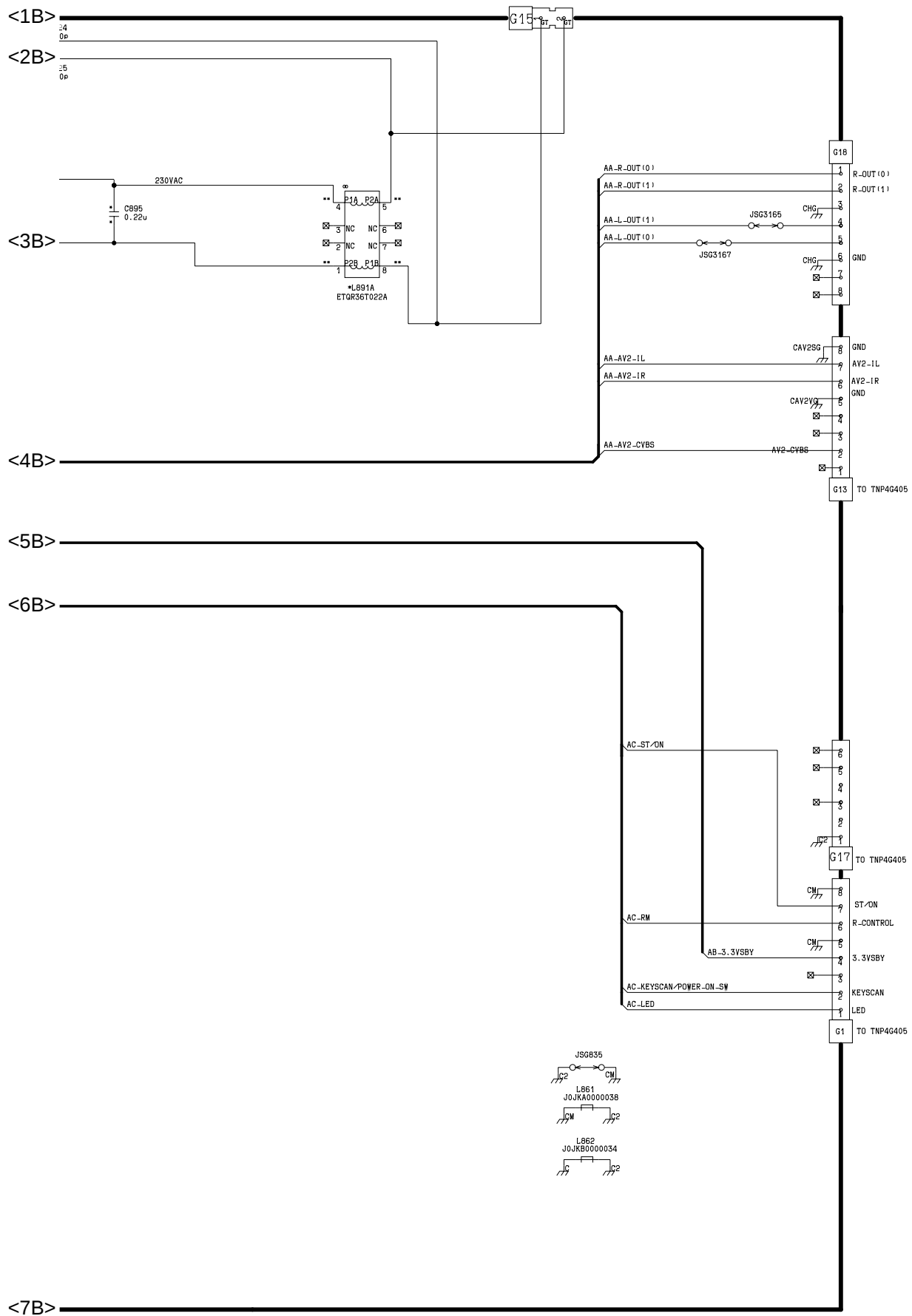


### 6.3.2. G Board (2/3)



<7A> \_\_\_\_\_ <7B>

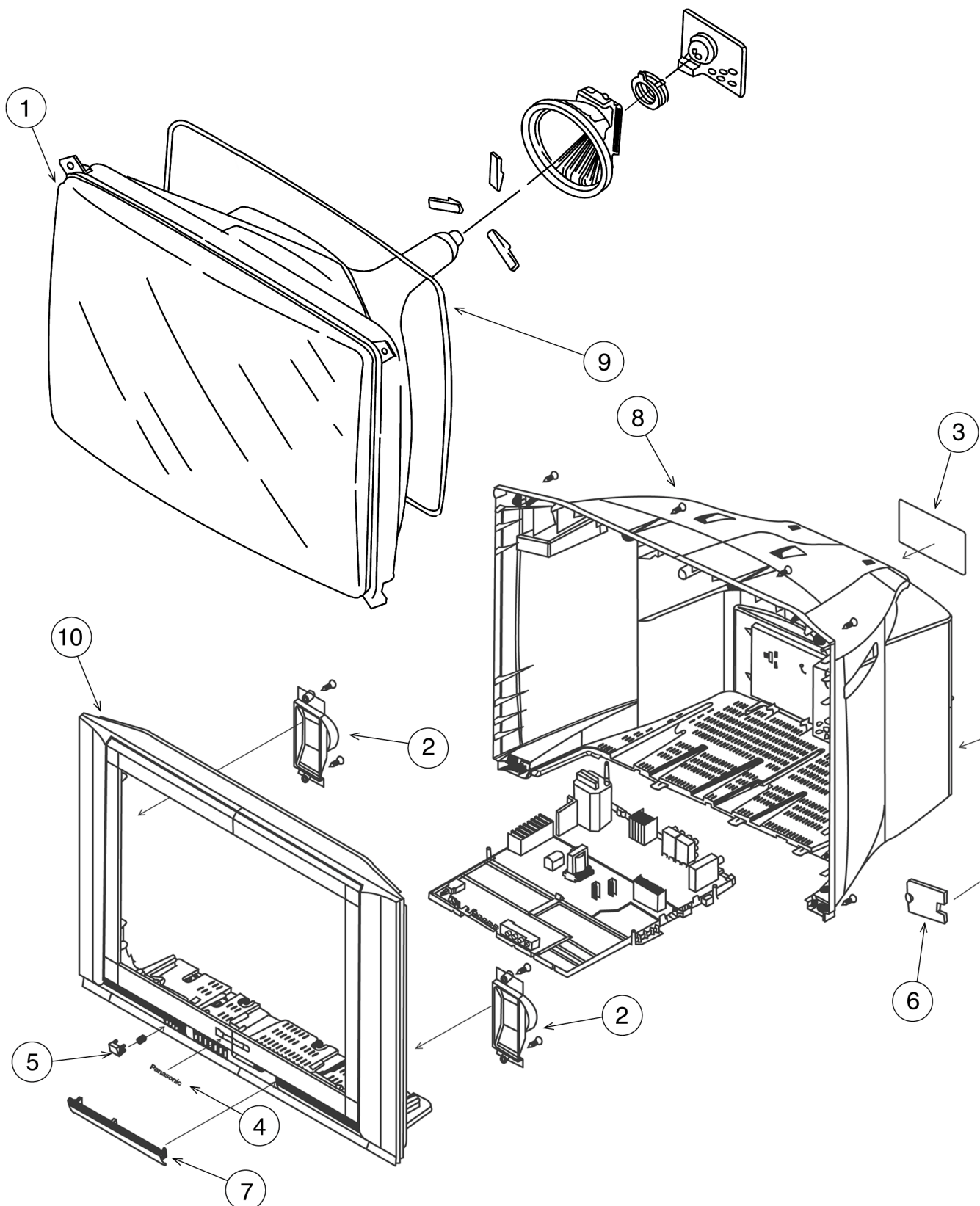
### 6.3.3. G Board (3/3)



## 7 Parts Locations

### PARTS LOCATION

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



## 8 Replacement Parts List

### Important Safety Notice

Components identified by  mark have special characteristics important for safety.  
When replacing any of these components, use 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** 100K $\Omega$ , **J**, 1/4W  
                                   Type           Allowance

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

#### 2. Capacitor

Example :

ECKF1H103ZF **C** 0.01 $\mu$ F, **Z**, 50V  
                                   Type           Allowance

| Type                           | Allowance                                                                                                             |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| C : Carbon                     | C : $\pm 0.25\text{pF}$                                                                                               |
| E : Electrolytic               | D : $\pm 0.5\text{pF}$                                                                                                |
| P : Polyester<br>Polypropylene | F : $\pm 1\text{pF}$<br>G : $\pm 3\%$                                                                                 |
| T : Tantalum                   | J : $\pm 5\%$<br>K : $\pm 10\%$<br>L : $\pm 15\%$<br>M : $\pm 20\%$<br>P : $\pm 100\%$ , -0%<br>Z : $\pm 80\%$ , -20% |

## 8.1. Replacement Parts List

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| 1        | A68QFN893X11 | ITC                     | △       |
| 2        | L0AA11C00004 | SPEAKER                 |         |
|          | N2QAHB000068 | REMOTE CONTROL          |         |
| 3        | TBM4G1496    | MODEL NAME PLATE        | △       |
| 4        | TBM4G3021    | PANASONIC BADGE         |         |
| 5        | TBX4G91201   | POWER BUTTON            |         |
|          | TES4G214     | SPRING (POWER BUTTON)   |         |
|          | TES4G406     | COIL SPRING             |         |
|          | TES4G409-1   | SPRING (DOOR)           |         |
|          | THT4G10139   | SCREW                   |         |
| 6        | TKP4G11744   | AC CORD BRACKET         |         |
| 7        | TKP4G13541   | DOOR                    |         |
| 8        | TKU4GA2800   | BACK COVER              |         |
| 9        | TLK4G9100X   | DEGAUSSING COIL         | △       |
| NLA      | TNP4G405AK   | A BOARD                 | △       |
| NLA      | TNP4G406AE   | L BOARD                 | △       |
| NLA      | TNP4G411AE   | G BOARD                 | △       |
|          | TPE4G14038   | SET COVER               |         |
|          | TQB4G5211    | FAN BAG                 |         |
|          | TSX4G161L-1  | AC POWER CORD           | △       |
| 10       | TXFKY01EG20  | CABINET ASSY            |         |
|          | TXFPC01EG20  | CARTON                  |         |
|          | TXFPD01EG11  | CUSHION (TOP)           |         |
|          | TXFPD02EG11  | CUSHION (BOTTOM)        |         |
|          | CAPACITORS   |                         |         |
| C002     | ECJ1VF1H103Z | C 0.01UF, Z, 50V        |         |
| C003     | ECJ1VC1H560J | C 56PF, J, 50V          |         |
| C004     | ECJ1VC1H560J | C 56PF, J, 50V          |         |
| C006     | F2A1C101A310 | E 100UF, 16V            |         |
| 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    | F2A1C102A317 | E 1000UF, 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            |         |
| C3041    | ECJ2VC1H152J | C 1500PF, J, 50V        |         |
| C3042    | ECJ2VC1H152J | C 1500PF, J, 50V        |         |
| C3043    | ECJ2VC1H222J | C 2200PF, J, 50V        |         |
| C3044    | ECJ2VC1H222J | C 2200PF, J, 50V        |         |
| C3045    | ECJ2VC1H222J | C 2200PF, J, 50V        |         |
| C3046    | ECJ2VC1H222J | C 2200PF, J, 50V        |         |
| 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    | F2A1C101A310 | E 100UF, 16V            |         |
| C3166    | ECJ1VF1C105Z | C 1UF, Z, 16V           |         |
| C3169    | ECJ1VF1C105Z | C 1UF, Z, 16V           |         |
| C356     | ECJ1VC1H102J | C 1000PF, J, 50V        |         |
| C360     | ECKW3D102KBP | C 1000PF, K, 2KV        |         |
| C363     | F2A1C221A338 | E 220UF, 16V            |         |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| 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          |         |
| C401     | ECJ1VC1H560J | C 56PF, J, 50V          |         |
| C404     | ECQB1222JF   | P 2200PF, J, 100V       |         |
| C406     | F2A1H221A247 | E 220UF, 50V            |         |
| C407     | ECJ1VC1H560J | C 56PF, J, 50V          |         |
| C408     | ECQB1154JF   | P 0.15UF, J, 50V        |         |
| C454     | ECQV1H154JM  | P 0.15UF, J, 50V        |         |
| C502     | ECKR3A821KBP | C 820PF, K, 1KV         |         |
| C504     | F1J1H681A590 | C 680PF, J, 50V         |         |
| C507     | ECJ1VF1C105Z | C 1UF, J, 16V           |         |
| C511     | F2A1V101A246 | E 100UF, 35V            |         |
| C512     | F1B2H471A022 | C 470PF, 500V           |         |
| C513     | F1B2H331A025 | C 330PF, 500V           |         |
| C514     | F2A1E102A199 | E 1000UF, 25V           |         |
| C515     | F1B2H331A025 | C 330PF, 500V           |         |
| C516     | F2A1E102A199 | E 1000UF, 25V           |         |
| C519     | F2A2C2210013 | E 220UF, 160V           |         |
| C520     | F2A0J221A317 | E 220UF, 6.3V           |         |
| C552     | F2A2E1000023 | E 10UF, 250V            |         |
| C553     | F0C2E564A059 | P 0.56UF, 250V          |         |
| C554     | F0C2E824A189 | P 0.68UF, 250V          |         |
| C555     | F0C2E564A088 | P 0.027UF, 50V          |         |
| C559     | ECWH20133JVB | P 0.013UF, 2kV          |         |
| C560     | ECQF4273JZH  | P 0.027UF, 400V         |         |
| C561     | F0C3D202A003 | P 2000PF, 2kV           |         |
| C565     | F0A1H273A039 | C 0.027UF, 50V          |         |
| C566     | ECQM4472JZ   | P 4700PF, J, 400V       |         |
| C568     | F0C3D102A003 | P 1000PF, 2kV           |         |
| C601     | F1J1H183A021 | C 0.018UF, 50V          |         |
| C602     | ECJ1VB1H222K | C 2200PF, K, 50V        |         |
| C604     | F2A1C101A310 | E 100UF, 16V            |         |
| C605     | ECJ2VB1C104K | C 0.1UF, K, 16V         |         |
| C606     | ECJ1VF1H104Z | C 0.1UF, Z, 50V         |         |
| C607     | ECJ1VF1H103Z | 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 100UF, 16V            |         |
| C618     | F2A1C101A310 | E 100UF, 16V            |         |
| C619     | F2A1C101A310 | E 100UF, 16V            |         |
| C620     | ECJ1VB1H333K | C 0.033UF, K, 50V       |         |
| C622     | F2A1C101A310 | E 100UF, 16V            |         |
| C623     | F2A1C101A310 | E 100UF, 16V            |         |
| C624     | ECJ2VB1C104K | C 0.1UF, K, 16V         |         |
| C625     | ECJ1VB1C224K | C 0.22UF, K, 16V        |         |
| C626     | F2A1C101A310 | E 100UF, 16V            |         |
| C627     | F2A1C101A310 | E 100UF, 16V            |         |
| C628     | F2A1A471A274 | E 470UF, 10V            |         |
| C630     | ECJ1VF1H103Z | C 0.01UF, Z, 50V        |         |
| C631     | ECJ1VB1H333K | 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 100UF, 16V            |         |
| C636     | F1J1H4710002 | C 470PF, 50V            |         |
| 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         |         |
| 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     | F1B2H471A022 | C 470PF, 500V           | △       |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| C706     | ECQM4222JZ   | P 2200PF, 400V          | △       |
| C818     | ECQB1H104JF  | P 0.1UF, 50V            |         |
| C821     | ECKW3D681KBP | C 680PF, K, 2KV         |         |
| C822     | ECKCNA472ME7 | C 4700PF, M,            |         |
| C824     | F1A2E331A002 | C 330PF, 240V           |         |
| C825     | F1A2E331A002 | C 330PF, 240V           |         |
| C826     | F0A1H103A039 | C 0.01UF, 50V           |         |
| C827     | ECQB1H333JF  | P 0.033UF, J, 50V       |         |
| C831     | ECJ1VF1C105Z | C 1UF, 16V              |         |
| C840     | F1A2E471A002 | C 470PF, 100V           |         |
| C841     | ECKW3D151KBR | C 150PF, K, 2KV         |         |
| C842     | F2A1H220A536 | E 22UF, 50V             |         |
| C843     | F2B1E222A005 | E 2200UF, 25V           |         |
| C848     | F0A1H222A039 | P 2200PF, 50V           |         |
| C849     | F1B2H471A022 | C 470PF, 500V           | △       |
| C850     | F1A2E471A002 | C 470PF, 500V           | △       |
| C851     | F0A1H103A039 | P 0.01UF, 50V           |         |
| C854     | ECKWAE472ZED | C 4700PF, Z, 500V       | △       |
| C855     | ECKWAE472ZED | C 4700PF, Z, 500V       | △       |
| C856     | F2B2G3910006 | E 330PF, 2KV            |         |
| C857     | ECQM4473JZ   | P 0.047UF, J, 400V      | △       |
| C859     | ECKW3D821KBP | C 820PF, K, 2KV         |         |
| C863     | F2A1C471A339 | E 470UF, 16V            |         |
| C864     | ECKCNA152ME7 | C 1500PF, M,            |         |
| C865     | ECKW3D331JBP | C 330PF, J, 2KV         |         |
| C867     | F2A2C2210013 | E 220UF, 160V           |         |
| C869     | ECJ1VC1H151J | C 150PF, J, 50V         |         |
| C870     | F2A1C222A241 | E 2200UF, 16V           |         |
| C871     | F1B2H471A022 | C 470PF, 500V           | △       |
| C872     | F2A1C102A240 | E 1000UF, 16V           |         |
| C873     | L6Y5P4B122K  | C 1200PF, K, 500V       | △       |
| C874     | F2A1A101A159 | E 100UF, 10V            |         |
| C875     | F1J1H332A021 | E 4700UF, 16V           |         |
| C877     | F2A1C1000079 | C 470PF, 500V           |         |
| C879     | F2A0J331A260 | E 3300UF, 16V           |         |
| C882     | F2A1C101A310 | E 100UF, 16V            |         |
| C884     | F2A1C222A232 | E 2200UF, 16V           |         |
| C886     | F2A1H330A342 | E 33UF, 50V             |         |
| C887     | F2A1C102A317 | E 1000UF, 16V           |         |
| C890     | ECJ1VB1C104K | C 0.1UF, K, 16V         |         |
| C891     | F2A1C101A310 | E 100UF, 16V            |         |
| C893     | F2A1C221A338 | E 22UF, 160V            |         |
| C894     | F0CAF224A066 | P 0.22UF                |         |
| C895     | F0CAF224A066 | P 0.22UF                |         |
| C897     | F1J1H332A021 | C 3300PF, 50V           |         |
| C898     | ECJ1VF1C105Z | C 1UF, 16V              |         |
|          | DIODES       |                         |         |
| D1061    | B3AGA0000089 | DIODE                   |         |
| 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                   |         |
| D511     | MA4108J      | DIODE                   |         |
| D512     | B0HAJL000003 | DIODE                   |         |
| D513     | EU02         | DIODE                   |         |
| D515     | EU02         | DIODE                   |         |
| D520     | B0ACDJ000008 | DIODE                   |         |

| Ref. No. | Part No.             | Part Name & Description | Remarks |
|----------|----------------------|-------------------------|---------|
| D552     | EU02                 | DIODE                   |         |
| D556     | B0HAMV000027         | DIODE                   |         |
| D557     | B0HAMR000095         | DIODE                   |         |
| D558     | MA185                | DIODE                   |         |
| D601     | B0ADDJ000025         | DIODE                   |         |
| D610     | MAZ80560HL           | DIODE                   |         |
| D702     | B0ACCK000005         | DIODE                   |         |
| D708     | EU02                 | DIODE                   |         |
| D830     | B0HAJL000001         | DIODE                   |         |
| D831     | B0BA01700055         | DIODE                   |         |
| D832     | B0BA3R300010         | ZENER DIODE             |         |
| D837     | B0ACCK000012         | DIODE                   |         |
| D842     | ERZV10V621CS         | VARISTOR                | △       |
| 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                   |         |
| D861     | B0BA8R000010         | DIODE                   |         |
| D862     | B0BA4R400007         | ZENER DIODE             |         |
| D863     | B0HAJL000003         | DIODE                   |         |
| D865     | B0BA3R500008         | DIODE                   |         |
| D866     | B0HAPV000009         | DIODE                   |         |
| D867     | B0AACJ000009         | 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   | TVR4GAS617           | EEPROM IC               |         |
| IC2301   | C0ZAZ0000220         | IC                      |         |
| IC351    | TDA6107AJFN1         | IC                      |         |
| IC451    | C1AA00000767         | IC                      |         |
| IC601    | TVR4G19-15           | FLASH MEMORY IC         |         |
| IC801    | C5HABZZ00168         | IC, HYBRID              | △       |
| IC802    | C0EAS0000026         | IC                      |         |
| IC851    | C0DAEJG00001         | IC, POWER SUPPLY        |         |
| IC857    | C0DBEHE00005         | IC, POWER SUPPLY        |         |
| IC860    | B3PAA0000363         | PHOTO COUPLER           | △       |
| IC871    | C0DAZGG00012         | IC, POWER SUPPLY        |         |
| IC875    | C0DBEHE00005         | IC, POWER SUPPLY        |         |
|          | COILS                |                         |         |
| L002     | G0C100K00008         | COIL                    |         |
| L003     | G0C4R7JA0055         | PEAKING COIL            |         |
| L1001    | J0JKB0000034         | EMI FILTER              |         |
| L2302    | J0JKA0000038         | BEAD CORE               |         |
| L2304    | J0JKA0000038         | BEAD CORE               |         |
| L2306    | J0JKA0000024         | EMI FILTER              |         |
| L2307    | J0JKA0000038         | BEAD CORE               |         |
| L2323    | J0JKA0000038         | BEAD CORE               |         |
| L2324    | J0JKA0000038         | BEAD CORE               |         |
| L3045    | J0JCC0000411         | BEAD CORE               |         |
| L3046    | J0JCC0000411         | BEAD CORE               |         |
| L3161    | TSK1045              | BEAD CORE               |         |
| L3162    | TSK1045              | BEAD CORE               |         |
| L376     | J0JKA0000024         | EMI FILTER              |         |
| L412     | J0JKA0000024         | EMI FILTER              |         |
| L505     | J0JKA0000024         | EMI FILTER              |         |
| L550     | J0JKB0000034         | EMI FILTER              |         |
| L554     | ELC08D682E           | CHOKE COIL              |         |
| L557     | G0D420000002         | COIL                    |         |
| L566     | G0B111F00001         | CHOKE COIL              |         |
| L601     | G0C100K00008         | COIL                    |         |
| L602     | G0C100K00008         | COIL                    |         |
| L603     | G0C100K00008         | COIL                    |         |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| L604     | G0C100K00008 | COIL                    |         |
| L605     | TALV35VB8R2K | PEAKING COIL            |         |
| L606     | G0C100K00008 | COIL                    |         |
| L607     | TALV35VB8R2K | PEAKING COIL            |         |
| L608     | G0C3R9KA0030 | PEAKING COIL            |         |
| L609     | J0JKB0000034 | EMI FILTER              |         |
| L611     | G0C100K00008 | COIL                    |         |
| L625     | J0JKA0000038 | BEAD CORE               |         |
| L630     | J0JCC0000411 | BEAD CORE               |         |
| L635     | J0JCC0000411 | BEAD CORE               |         |
| L657     | J0JCC0000411 | BEAD CORE               |         |
| L705     | ELC10D123E   | CHOKE COIL              |         |
| L842     | J0JKA0000025 | BEAD CORE               |         |
| L843     | J0JKA0000038 | BEAD CORE               |         |
| L845     | J0JKA0000023 | BEAD CORE               |         |
| L861     | J0JKA0000038 | BEAD CORE               |         |
| L862     | J0JKB0000034 | EMI FILTER              |         |
| L865     | J0JKA0000025 | BEAD CORE               |         |
| L866     | J0JKA0000023 | BEAD CORE               |         |
| L867     | J0JKB0000039 | EMI FILTER              |         |
| L891     | ETQR36T022A  | CHOKE COIL              |         |
| L894     | G0A220GA0002 | CHOKE COIL              |         |
| LF833    | G0B153H00003 | CHOKE COIL              |         |
|          | TRANSISTORS  |                         |         |
| Q1060    | B1ADDF000005 | TRANSISTOR              |         |
| Q1061    | B1ADDF000005 | TRANSISTOR              |         |
| Q1062    | B1ABCE000015 | TRANSISTOR              |         |
| Q2101    | B1ADDF000005 | TRANSISTOR              |         |
| Q304     | B1ADDF000005 | TRANSISTOR              |         |
| Q305     | B1ADDF000005 | TRANSISTOR              |         |
| Q306     | B1ADDF000005 | TRANSISTOR              |         |
| Q320     | B1ABCE000015 | TRANSISTOR              |         |
| Q354     | B1ADDF000005 | TRANSISTOR              |         |
| Q360     | B1ACAA000019 | TRANSISTOR              |         |
| Q361     | B1ACAA000019 | TRANSISTOR              |         |
| Q362     | B1ACAA000019 | TRANSISTOR              |         |
| Q501     | 2SC4212H     | TRANSISTOR              |         |
| Q520     | B1ADBM000004 | TRANSISTOR              |         |
| Q551     | 2SC6073000LK | TRANSISTOR              |         |
| Q603     | B1ABCE000015 | TRANSISTOR              |         |
| Q604     | B1ABCE000015 | TRANSISTOR              |         |
| Q605     | B1ABCE000015 | TRANSISTOR              |         |
| Q608     | B1ABCE000015 | TRANSISTOR              |         |
| Q610     | B1ADDF000005 | TRANSISTOR              |         |
| Q701     | B1DFDM000012 | TRANSISTOR              |         |
| Q702     | B1ABCE000015 | TRANSISTOR              |         |
| Q703     | B1ABCE000015 | TRANSISTOR              |         |
| Q846     | B1ABCE000015 | TRANSISTOR              |         |
| Q850     | B1BCCM000002 | TRANSISTOR              |         |
| Q857     | 2SC54190QA   | TRANSISTOR              |         |
| Q870     | B1ADDF000005 | 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     | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| R009     | ERJ3GEY0R00  | M 00HM, 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    | ERJ3EKF2152  | M21.5KOHM, F, 1/16W     |         |
| R1061    | ERJ3GEYJ221  | M 220OHM, J, 1/16W      |         |
| R1062    | ERDS2TJ102   | C 1KOHM, J, 1/4W        |         |
| R1063    | ERJ3GEYJ152  | M 1.5KOHM, J, 1/16W     |         |
| R1065    | ERJ3GEYJ121  | M 120OHM, J, 1/16W      |         |
| R1066    | ERJ3GEYJ152  | M 1.5KOHM, J, 1/16W     |         |
| R1067    | ERJ3GEYJ470  | M 470HM, 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      |         |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| R1112    | ERJ3GEYJ102  | M 1KOHM, J, 1/16W       |         |
| R1114    | ERJ3GEYJ151  | M 150OHM, J, 1/16W      |         |
| R1115    | ERJ3GEYJ101  | M 100OHM, J, 1/16W      |         |
| R1131    | ERJ3GEYJ220  | M 220HM, J, 1/16W       |         |
| R1132    | ERJ3GEYJ220  | M 220HM, 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 750HM, J, 1/16W       |         |
| R3004    | ERJ3GEYJ104  | M 100KOHM, J, 1/16W     |         |
| R3005    | ERJ3GEYJ750  | M 750HM, J, 1/16W       |         |
| R3006    | ERJ3GEYJ750  | M 750HM, J, 1/16W       |         |
| R3008    | ERJ3GEYJ104  | M 100KOHM, J, 1/16W     |         |
| R3009    | ERJ3GEYJ750  | M 750HM, J, 1/16W       |         |
| R3010    | ERJ3GEYJ750  | M 750HM, J, 1/16W       |         |
| R3011    | ERJ3GEYJ750  | M 750HM, 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 330HM, J, 1/16W       |         |
| R305     | ERJ3GEYJ330  | M 330HM, J, 1/16W       |         |
| R306     | ERJ3GEYJ330  | M 330HM, 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 470HM, J, 1/4W        |         |
| R3102    | ERDS2TJ470   | C 470HM, J, 1/4W        |         |
| R3104    | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| R3105    | ERJ3GEY0R00  | M 00HM, 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 00HM, J, 1/16W        |         |
| R3181    | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| R320     | ERJ3GEYJ821  | M 820OHM, J, 1/16W      |         |
| R321     | ERDS2TJ220   | C 220HM, 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     | ERC146K222   | S 2.2KOHM, J, 1/4W      |         |
| R367     | ERC146K222   | S 2.2KOHM, J, 1/4W      |         |
| R368     | ERC146K222   | S 2.2KOHM, J, 1/4W      |         |
| R372     | ERQ12AJ121P  | F 120OHM, J, 1/2W       |         |
| R381     | ERJ3GEYJ102  | M 1KOHM, J, 1/16W       |         |
| R385     | ERJ3GEY0R00  | 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      |         |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| R405     | ERDS2TJ563   | C 56KOHM, J, 1/4W       |         |
| R406     | ERDS1TJ1R5   | C 1.50HM, J, 1/2W       |         |
| R407     | ERG1SJ221E   | M 220OHM, J, 1W         |         |
| R413     | ERJ3GEYJ183  | M 18KOHM, J, 1/16W      |         |
| R416     | ERX1SJR68E   | M 0.820HM, J, 1W        |         |
| R451     | ERJ3GEYJ223  | M 22KOHM, J, 1/16W      |         |
| R453     | ERJ3GEYJ101  | M 100OHM, J, 1/16W      |         |
| R501     | ERJ3GEYJ273  | M 27KOHM, J, 1/16W      |         |
| R502     | ERJ3GEYJ103  | M 10KOHM, J, 1/16W      |         |
| R504     | ERG2SJS332H  | M 3.3KOHM, J, 2W        |         |
| R507     | ERDS2TJ561   | C 560OHM, J, 1/4W       |         |
| R508     | ERG3FJ821H   | M 820OHM, J, 3W         |         |
| R509     | ERG3FJ122    | M 1.2KOHM, J, 3W        |         |
| R511     | ERJ3EKF1152  | M11.5KOHM, 1/10W        |         |
| R512     | ERJ3EKF1002  | M 10KOHM, F, 1/16W      |         |
| R513     | ERQ14AJ100E  | F 100HM, J, 1/4W        |         |
| R516     | ERX12SJR56P  | M 0.560HM, 1/2W         |         |
| R517     | ERX12SJR56P  | M 0.560HM, 1/2W         |         |
| R518     | D0DK3R3J0002 | W 3.30HM, 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 1KOHM, J, 1W          |         |
| R552     | ERG1SJ102P   | M 1KOHM, J, 1W          |         |
| R553     | ERJ3GEYJ183  | M 18KOHM, J, 1/16W      |         |
| R559     | D0C1R56JA042 | M 0.560HM, J, 1W        |         |
| R580     | ERJ3GEYJ392  | M 3.9KOHM, J, 1/16W     |         |
| R601     | ERJ3GEYJ470  | M 470HM, J, 1/16W       |         |
| R602     | ERDS2TJ103   | C 10KOHM, J, 1/4W       |         |
| R604     | ERJ3GEYJ470  | M 470HM, J, 1/16W       |         |
| R605     | ERJ3GEYJ470  | M 470HM, J, 1/16W       |         |
| R606     | ERJ3GEYJ752  | M 7.5KOHM, J, 1/16W     |         |
| R607     | ERJ3GEYJ752  | M 7.5KOHM, J, 1/16W     |         |
| R608     | ERJ3GEYJ470  | M 470HM, J, 1/16W       |         |
| R609     | ERJ3GEY0R00  | 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, 1/10W         |         |
| 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     | ERJ3GEY0R00  | 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     | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| R640     | ERJ3GEYJ471  | M 470OHM, J, 1/16W      |         |
| R641     | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| R643     | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| 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       |         |
| R656     | ERJ3GEYJ823  | M 82KOHM, J, 1/16W      |         |
| R658     | ERDS2TJ470   | C 470HM, J, 1/4W        |         |
| R659     | ERJ3GEYJ470  | M 470HM, J, 1/16W       |         |
| R660     | ERJ3GEYJ470  | M 470HM, J, 1/16W       |         |
| R664     | ERDS2T0T     | C 00HM, 1/4W            |         |
| R665     | ERDS2T0T     | C 00HM, 1/4W            |         |
| R669     | ERDS2T0T     | C 00HM, 1/4W            |         |
| R670     | ERJ3GEYJ101  | M 100OHM, J, 1/16W      |         |
| R671     | ERJ3GEYJ101  | M 100OHM, J, 1/16W      |         |
| R683     | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| R684     | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| R701     | ERJ3GEYJ103  | M 10KOHM, J, 1/16W      |         |
| R702     | ERJ3GEYJ680  | M 680HM, 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 120HM, J, 3W          |         |
| R715     | ERDS2TJ472   | C 4.7KOHM, J, 1/4W      |         |
| R825     | ERJ3GEYJ471  | M 470OHM, J, 1/16W      |         |
| R830     | ERDS2TJ221   | C 220OHM, J, 1/4W       |         |
| R831     | ERDS2TJ682   | C 6.8KOHM, J, 1/4W      |         |
| R832     | ERJ3EKF4022  | F 40.2KOHM, 1/8W        |         |
| R833     | D0AE432JA046 | C 4.3KOHM, J, 1/4W      |         |
| R834     | ERG2FJ104H   | M 100KOHM, J, 2W        |         |
| R835     | D0C1R33JA042 | M 2.20HM, J, 15W        |         |
| R836     | ERG1SJ220P   | M 220HM, J, 1W          |         |
| R837     | ERDS2TJ222   | C 2.2KOHM, J, 1/4W      |         |
| R839     | ERJ3GEYJ472  | M 4.7KOHM, J, 1/16W     |         |
| R840     | D0AW825JA001 | M 8.2MOHM, J, 100W      |         |
| R842     | ERX2SJ8R2E   | M 8.2MOHM, J, 2W        |         |
| R847     | D1AC3652A094 | C 36.5KOHM, J, 1/4W     |         |
| R850     | ERG3SJS680H  | M 470HM, J, 2W          |         |
| R851     | ERDS2TJ104   | C 100KOHM, J, 1/4W      |         |
| R852     | D0AE162JA046 | C 1.6KOHM, J, 1/10W     |         |
| R853     | D0D72R2KA002 | W 2.20HM, K, 7W         | △       |
| R854     | ERQ1ABJP470S | F 470HM, J, 1W          |         |
| R856     | ERG2SJS104H  | M 100KOHM, J, 2W        |         |
| R861     | ERG1SJ150P   | M 150HM, J, 1W          |         |
| R863     | ERDS2TJ331   | C 330OHM, J, 1/4W       |         |
| R864     | ERJ3GEYJ103  | M 10KOHM, J, 1/16W      |         |
| R865     | ERC12ZGK225D | S 2.2MOHM, J, 1/2W      |         |
| R866     | ERJ3GEYJ392  | M 3.9KOHM, J, 1/16W     |         |
| R867     | ERDS2TJ222   | C 2.2KOHM, J, 1/4W      |         |
| R868     | ERDS1TJ221   | C 220OHM, J, 1/2W       |         |
| R871     | ERJ3GEYJ103  | M 10KOHM, J, 1/16W      |         |
| R872     | ERJ3EKF1052  | F 15KOHM, J, 1W         |         |
| 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         |         |
| R887     | ERG1SJ273P   | M 27KOHM, J, 1W         |         |
| R888     | ERJ3GEYJ103  | M 10KOHM, J, 1/16W      |         |
| R889     | ERX3FJ3R3H   | M 3.30HM, J, 3W         |         |
| R894     | ERJ3EKF1303  | M 130KOHM, 1/10W        |         |
|          | TRANSFORMERS |                         |         |
| T551     | ZTFP14504B   | FLYBACK TRANS           | △       |
| T553     | ETH19Y210BZ  | H DRIVE TRANS           | △       |
| T801     | ETS39AG4J6AD | SWITCHING TRANS         | △       |
|          | OTHERS       |                         |         |
| A1       | K1KA08AA0659 | CONNECTOR               |         |
| A13      | K1KA08AA0659 | CONNECTOR               |         |
| A18      | K1KA08AA0659 | CONNECTOR               |         |
| A2       | K1KA08AA0659 | CONNECTOR               |         |
| A5       | K1KA04AA0190 | CONNECTOR               |         |
| A8       | K1KA04AA0093 | CONNECTOR               |         |
| CF835    | D4DDE9R00002 | POSISTOR                | △       |
| F850     | K5D502BK0003 | FUSE                    | △       |
| G4       | K1KA04AA0190 | CONNECTOR               |         |
| JA10     | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JA11     | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JA12     | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JA13     | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JA14     | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JA15     | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JA16     | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JA17     | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JA2      | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JA20     | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JA21     | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JA25     | ERJ8GEY0R00  | M 00HM, J, 1/8W         |         |

| Ref. No. | Part No.     | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| JA26     | ERJ8GEY0R00  | M 00HM, J, 1/8W         |         |
| JA28     | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JA29     | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JA4      | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JA5      | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JA7      | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JA8      | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JA9      | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JK3002   | K4BK10B00005 | AV TERMINAL             |         |
| JK3003   | K4BK10B00006 | AV TERMINAL             |         |
| JK3203   | K4BC14B00005 | FRONT AV TERMINAL       |         |
| JS110    | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JS2315   | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JS2341   | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JS2342   | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JS301    | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JS302    | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JS303    | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JS3043   | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JS3044   | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JS631    | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JS632    | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JS633    | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JS634    | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JS670    | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JS850    | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JS861    | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JSG3163  | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JSG3164  | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JSG3165  | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JSG3166  | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JSG3167  | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| JSG835   | ERJ3GEY0R00  | M 00HM, J, 1/16W        |         |
| L2       | K1KA08AA0659 | CONNECTOR               |         |
| L3       | K1KA04AA0190 | CONNECTOR               |         |
| RL831    | K6B1CDA00029 | RELAY                   | ⚠       |
| RM1062   | B3RAD0000120 | REMOCON RECEIVER        |         |
| SC351    | K3B09CA00014 | CRT SOCKET              | ⚠       |
| SW1021   | EVQ11G05R    | SWITCH                  |         |
| SW1022   | EVQ11G05R    | SWITCH                  |         |
| SW1023   | EVQ11G05R    | SWITCH                  |         |
| SW1024   | EVQ11G05R    | SWITCH                  |         |
| SW1025   | EVQ11G05R    | SWITCH                  |         |
| SW1026   | EVQ11G05R    | SWITCH                  |         |
| SW850    | ESB92DA1B    | SWITCH                  | ⚠       |
| TU001    | ENV59K30G3F  | TUNER                   | ⚠       |
| X601     | H0D202500007 | CRYSTAL OSC             | ⚠       |
| XF101    | J0C3525A0003 | SAW FILTER              | ⚠       |