

# SAVA-57

## SERVICE MANUAL

*US Model  
Canadian Model  
AEP Model  
UK Model  
E Model  
Australian Model  
Chinese Model*



• TRANSMITTER



• REAR SPEAKER



• FRONT SPEAKER SYSTEM

This speaker system incorporates the Dolby Pro Logic Surround System.\*

- \* Manufactured under license from Dolby Laboratories Licensing Corporation. DOLBY, the double-D symbol  and "PRO LOGIC" are trademarks of Dolby Laboratories Licensing Corporation.

### Audio Power Specifications

For front 2 way speakers: with 8 ohm loads, both channels driven, from 100 Hz – 20 kHz; rated 24 watts per channel minimum RMS power, with no more than 0.9% total harmonic distortion from 250 milliwatts to rated output.

### Amplifier section

#### Continuous RMS power output

|              |                                       |
|--------------|---------------------------------------|
|              | Total 200 W                           |
| Center       | 50 W (4 ohms at 1 kHz, 9% THD)        |
| Front        | 25 W + 25 W (8 ohms at 1 kHz, 9% THD) |
| Super woofer | 35 W + 35 W (6 ohms at 40 Hz, 9% THD) |
| Rear         | 30 W (8 ohms at 1 kHz, 9% THD)        |

#### Input sensitivity/Impedance

|     |                  |
|-----|------------------|
| 1/2 | 450 mV, 50 kohms |
|-----|------------------|

#### CONTROL S

(TV) (for U.S.A. and Canadian customers only)

Only for Sony XBR<sup>2</sup> and Sony Projection TV

(HCD)

Only for Sony HCD-VA550

#### Output

|                 |                                          |
|-----------------|------------------------------------------|
| 1/2             | 450 mV, 1 kohms                          |
| External center | 50 W (4 ohms at 1 kHz, 9% THD), 4-8 ohms |

Rear speaker Accepts only EMT-VA57

R-ch speaker Accepts only SAVA-57 R-ch speaker with supplied exclusive speaker cord

## SPECIFICATIONS

### Tone control

|       |                                                              |
|-------|--------------------------------------------------------------|
| Front | Bass: $\pm 10$ dB at 100 Hz<br>Treble: $\pm 10$ dB at 10 kHz |
|-------|--------------------------------------------------------------|

### Speaker section

|              |                  |
|--------------|------------------|
| Type         |                  |
| Front        | Bass reflex type |
| Center       | Bass reflex type |
| Super woofer | SAW type         |
| Rear         | Bass reflex type |

### Speaker unit

|                    |                      |
|--------------------|----------------------|
| Center full range: | 10 cm cone type (x2) |
| Front tweeter:     | 5 cm cone type (x2)  |
| Front woofer:      | 12 cm cone type (x2) |
| Super woofer:      | 16 cm cone type (x2) |
| Rear full range:   | 10 cm cone type (x2) |

### General

#### Power requirement

|                                                                           |                        |
|---------------------------------------------------------------------------|------------------------|
| US, Canadian model:                                                       | 120 V AC, 60 Hz        |
| AEP, UK, German, E, Singapore, Malaysia, Thai, Australian, Chinese model: | 220-230 V AC, 50/60 Hz |

#### Power consumption

|                                                                           |       |
|---------------------------------------------------------------------------|-------|
| Front speaker                                                             |       |
| US, Canadian model:                                                       | 130 W |
| AEP, UK, German, E, Singapore, Malaysia, Thai, Australian, Chinese model: | 120 W |
| Rear speaker                                                              | 30 W  |

### Dimensions

|                |                                                                                                                                                                       |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Front speaker: | Approx. 285 × 1100 × 460 mm (11 <sup>1</sup> / <sub>4</sub> × 43 <sup>3</sup> / <sub>4</sub> × 18 <sup>1</sup> / <sub>8</sub> inches) (w/h/d, including speaker base) |
| Rear speaker:  | Approx. 135 × 235 × 185 mm (5 <sup>3</sup> / <sub>8</sub> × 9 <sup>3</sup> / <sub>8</sub> × 7 <sup>3</sup> / <sub>8</sub> inches) (w/h/d)                             |

### Mass

|                        |               |
|------------------------|---------------|
| Front speaker(L):      | 24 kg (53 lb) |
| Front speaker(R):      | 21 kg (47 lb) |
| Rear speaker(active):  | 3 kg (7 lb)   |
| Rear speaker(passive): | 1.5 kg (4 lb) |

### Supplied accessories

Wireless rear speaker system  
SA-IF57 (active 1, passive 1)  
Wireless infrared transmitter  
EMT-VA57 (1)  
Front L/R speaker connecting cord, 3.5 m (1)  
Rear speaker connecting cord, 10 m (1)  
Audio connecting cord, 1.5 m (1)  
Remote commander RM-J57 (1)  
Sony SUM-3 (NS) batteries (2)  
SCART adaptor (1) (European model only)

Design and specifications are subject to change without notice.

## HOME THEATER ACTIVE SPEAKER SYSTEM



# SONY®

## SECTION 4 TEST MODE

### MODE ALL FLUORESCENT INDICATOR TUBES LIGHT

When the AC plug is inserted to the power outlet with pressing the [MASTER VOL +] button, the all fluorescent indicator tubes light.

### KEY CHECK, LED LIGHTING MODE

1. Pull out the AC plug from the power outlet and turn the power OFF.
2. Connect the lead wire to TP3 on the KEY board.
3. Insert the AC plug to the power outlet and set to STANDBY mode.
4. Let the lead wire connected in step 1 contact to the ground.
5. All fluorescent indicator tubes light, and enter the key check mode.
6. Pressing any buttons, the number of button will be displayed on the fluorescent indicator tube.
7. After all buttons are pressed, it will be in the STANDBY mode.

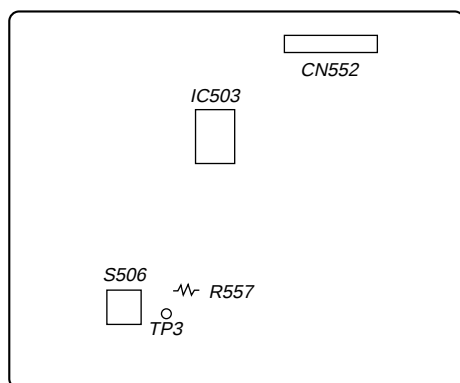
| Button       | Button Number | LED Color |
|--------------|---------------|-----------|
| POWER        | 2             | Red       |
| MASTER VOL – | 3             | Green     |
| MASTER VOL + | 4             | Red       |
| INPUT        | 5             | Green     |
| SURROUND     | 6             | Red       |
| CTR MODE     | 7             | Green     |
| S.WOOFER     | 8             | Red       |

#### Note:

1. The LED (D505) lights while pressing each button.  
The LED lights in red when even number of buttons are pressed, and it lights in green when odd number of buttons are pressed.
2. The LED lights even when the pressed button is pressed again.

#### • Parts Location

#### [KEY BOARD] — Conductor side —



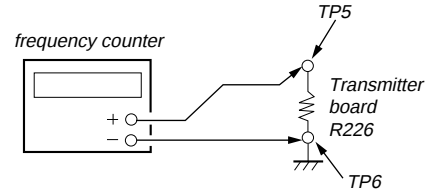
## SECTION 5 ELECTRICAL ADJUSTMENT

### CARRIER FREQUENCY Adjustment

#### Note:

Set the transmitter to the user's environment, connect it to the front speaker, and supply the power. (Refer to Service Note.)

#### Setting:



#### Procedure:

1. Connect the frequency counter to TP5 and TP6 of the two ends of the resistor (R226) of the TRANSMITTER board.
2. Turn ON the power of the front speaker.
3. Adjust L201 of the TRANSMITTER board, and adjust so that the reading of the frequency counter is  $4.3 \text{ MHz} \pm 0.01 \text{ MHz}$ .

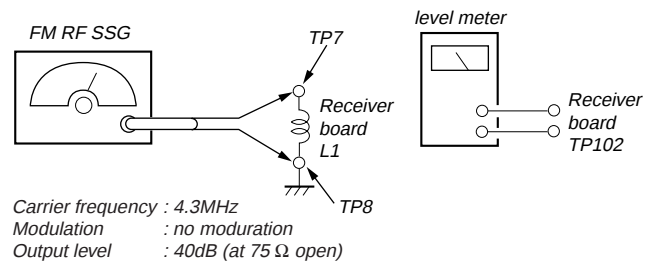
### RECEIVING FREQUENCY, MUTING LEVEL adjustment

#### Note:

Perform procedure 1 if using FM RF SSG and procedure 2 if not. However, as procedure 2 is a simple procedure, adjustment is not accurate.

#### • Procedure 1

#### Setting:



#### Procedure:

1. Connect SSG to TP7 and TP8 of the two ends of the coil (L1) of the RECEIVER board.
2. Set the output level of SSG to 40 dB.
3. Insert the AC plug of the unit to the power outlet and supply the power.
4. Adjust IFT103 of the RECEIVER board, and adjust so that the voltage of both ends of TP102 becomes 0V. (RECEIVING FREQUENCY adjustment)
5. Adjust the output level of SSG to 22 dB.
6. Adjust RV102 until D109 turns green from red. (MUTING LEVEL adjustment)

## • Procedure 2

### Note:

The adjustment results of this procedure differs according to the distance between the transmitter and rear speaker.

Leave ample distance between the transmitter and rear speaker according to the user's using environment when performing the adjustment.

### Procedure:

1. Connect the transmitter to the front speaker and turn the power supply on.
2. Adjust IFT103 of the RECEIVER board, and adjust so that the voltage of the two ends of TP102 becomes 0V. (RECEIVING FREQUENCY adjustment)
3. Adjust RV102 of the RECEIVER board of the rear speaker until D109 turns green. (MUTING LEVEL adjustment)
4. Turn OFF the power turned on at STEP 1.
5. Check that D109 of the RECEIVER board of the rear speaker becomes red.  
If green, adjust RV102 so that it turns red, turn ON the power again, and repeat from step 3.
6. After adjusting, check that D109 becomes red when the power of the front speaker is turned OFF and it becomes green when the power is turned ON.

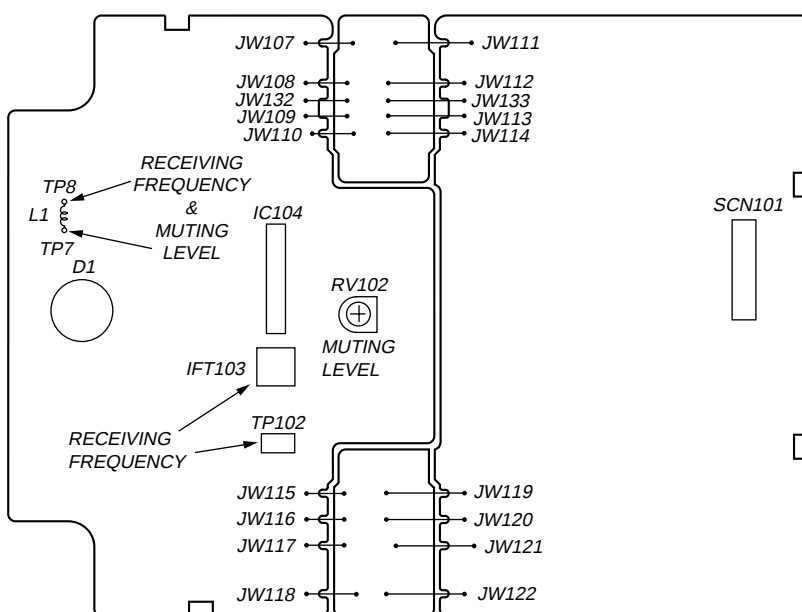
### Reference Information:

For this adjustment, the reaching distance of the infrared rays increases when the MUTING LEVEL (sensitivity) is raised, but if the power of the front speaker is turned OFF, pop noises are produced from the rear speaker.

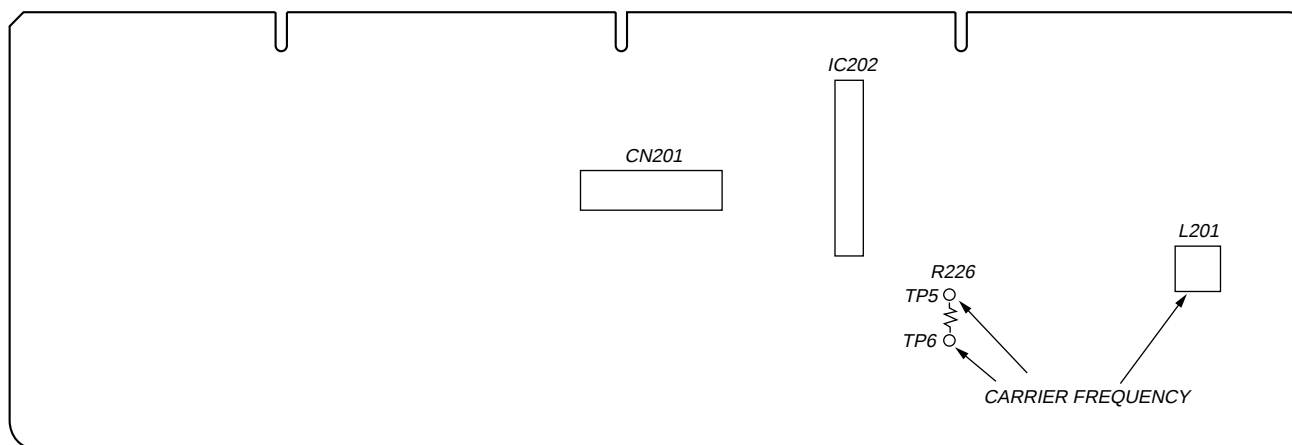
If the MUTING LEVEL (sensitivity) is dropped on the other hand, pop noises are reduced, but the reaching distance of the infrared rays decreases.

Adjust according to the user's using environment.

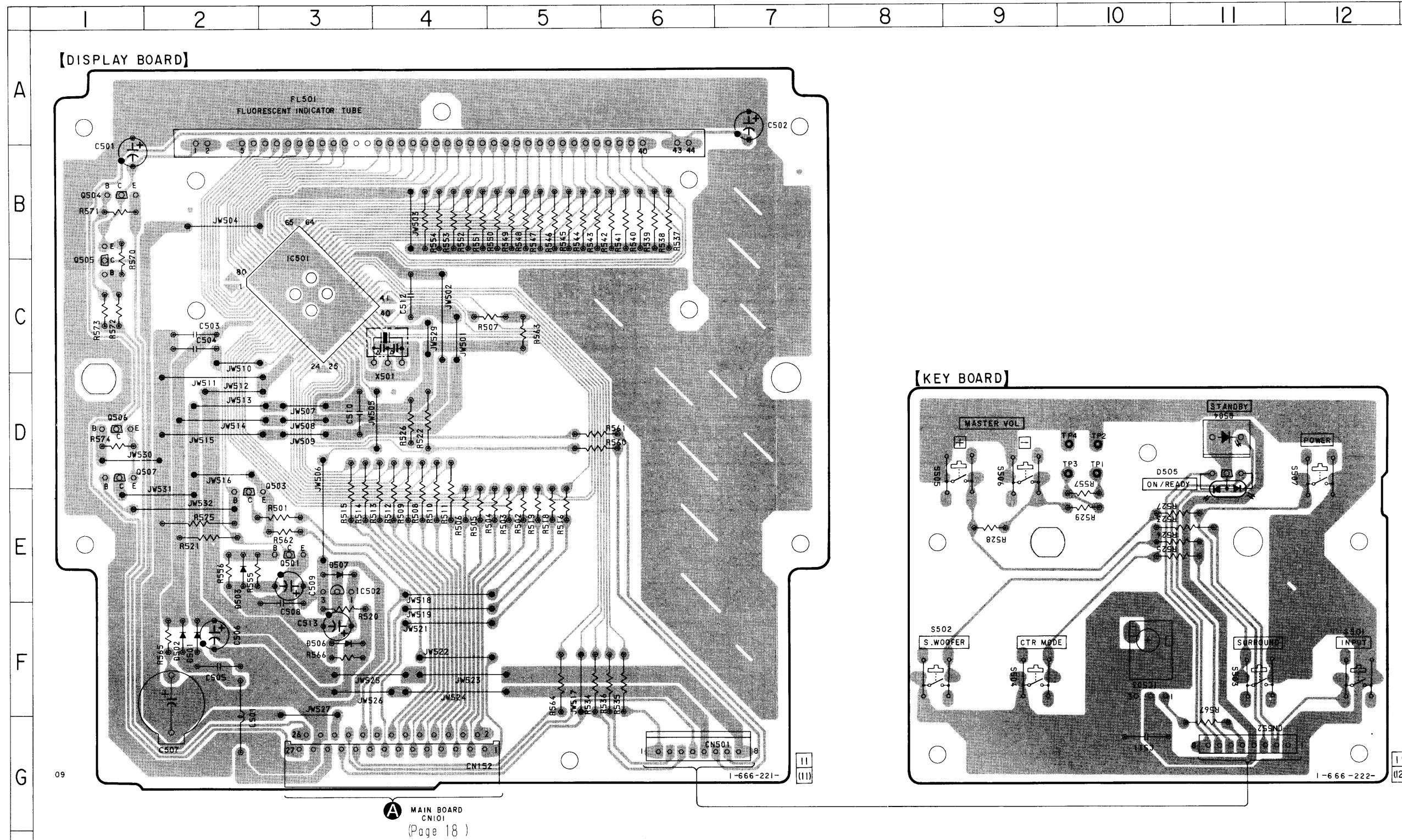
### [RECEIVER BOARD] — Component side —



### [TRANSMITTER BOARD] — Component side —

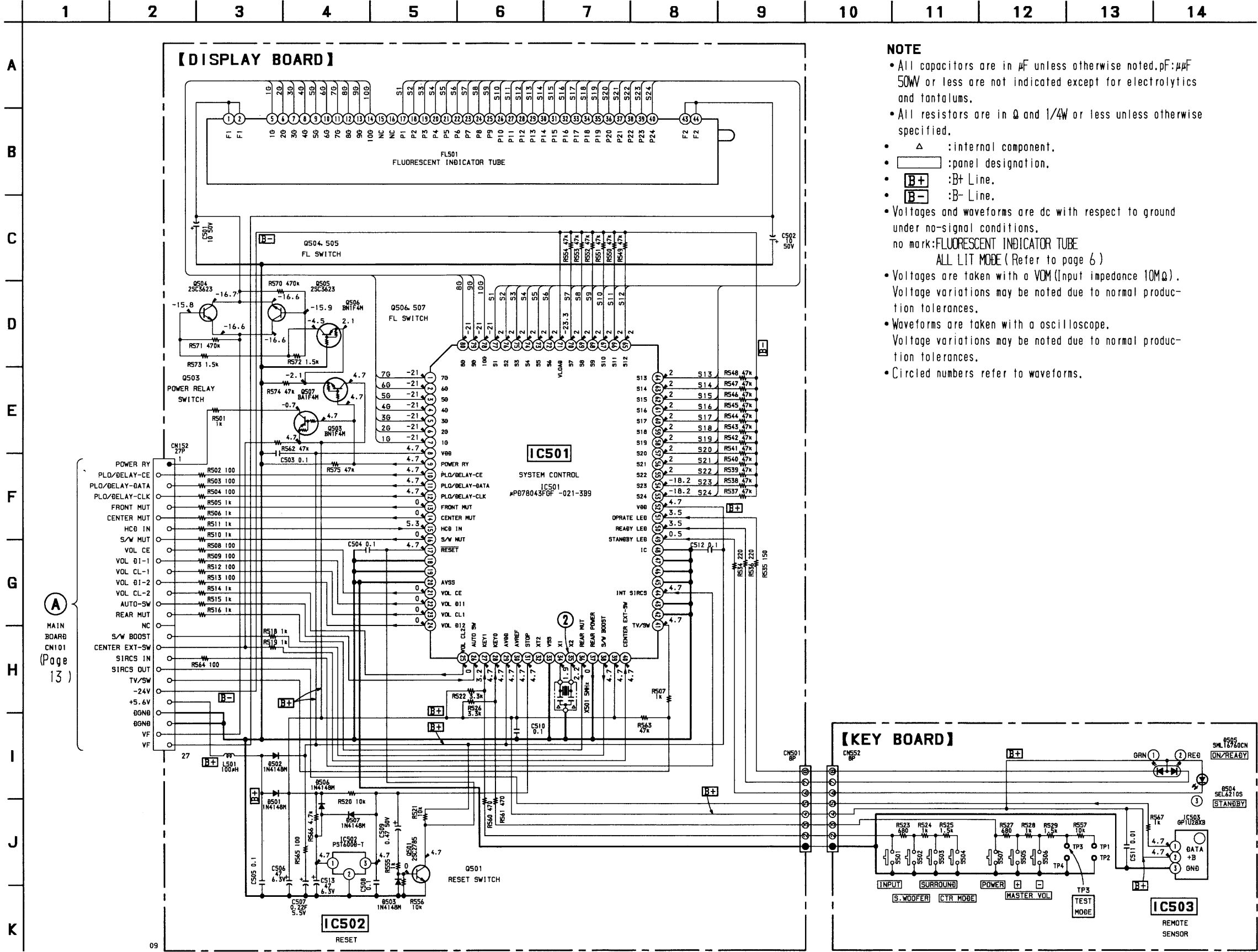


6-2. PRINTED WIRING BOARD — DISPLAY SECTION —  
• See page 8 for Circuit Boards Location.

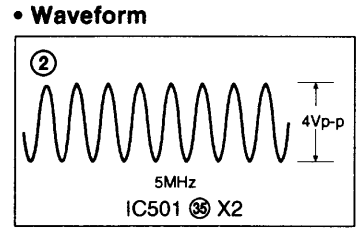


MAIN BOARD  
CN101  
(Page 18)

6-3. SCHEMATIC DIAGRAM — DISPLAY SECTION —  
• See page 36 for IC Pin Functions.



- NOTE**
- All capacitors are in  $\mu\text{F}$  unless otherwise noted;  $\text{pF} = \mu\text{F} \times 10^{-6}$   
50W or less are not indicated except for electrolytics and tantalums.
  - All resistors are in  $\Omega$  and  $1/4\text{W}$  or less unless otherwise specified.
  - $\Delta$  : internal component.
  - $\square$  : panel designation.
  - $\text{B}+$  : B+ Line.
  - $\text{B}-$  : B- Line.
  - Voltages and waveforms are dc with respect to ground under no-signal conditions.
  - no mark: FLUORESCENT INDICATOR TUBE  
ALL LIT MODE (Refer to page 6)
  - Voltages are taken with a VOM (input impedance  $10\text{M}\Omega$ ).  
Voltage variations may be noted due to normal production tolerances.
  - Waveforms are taken with an oscilloscope.  
Voltage variations may be noted due to normal production tolerances.
  - Circled numbers refer to waveforms.

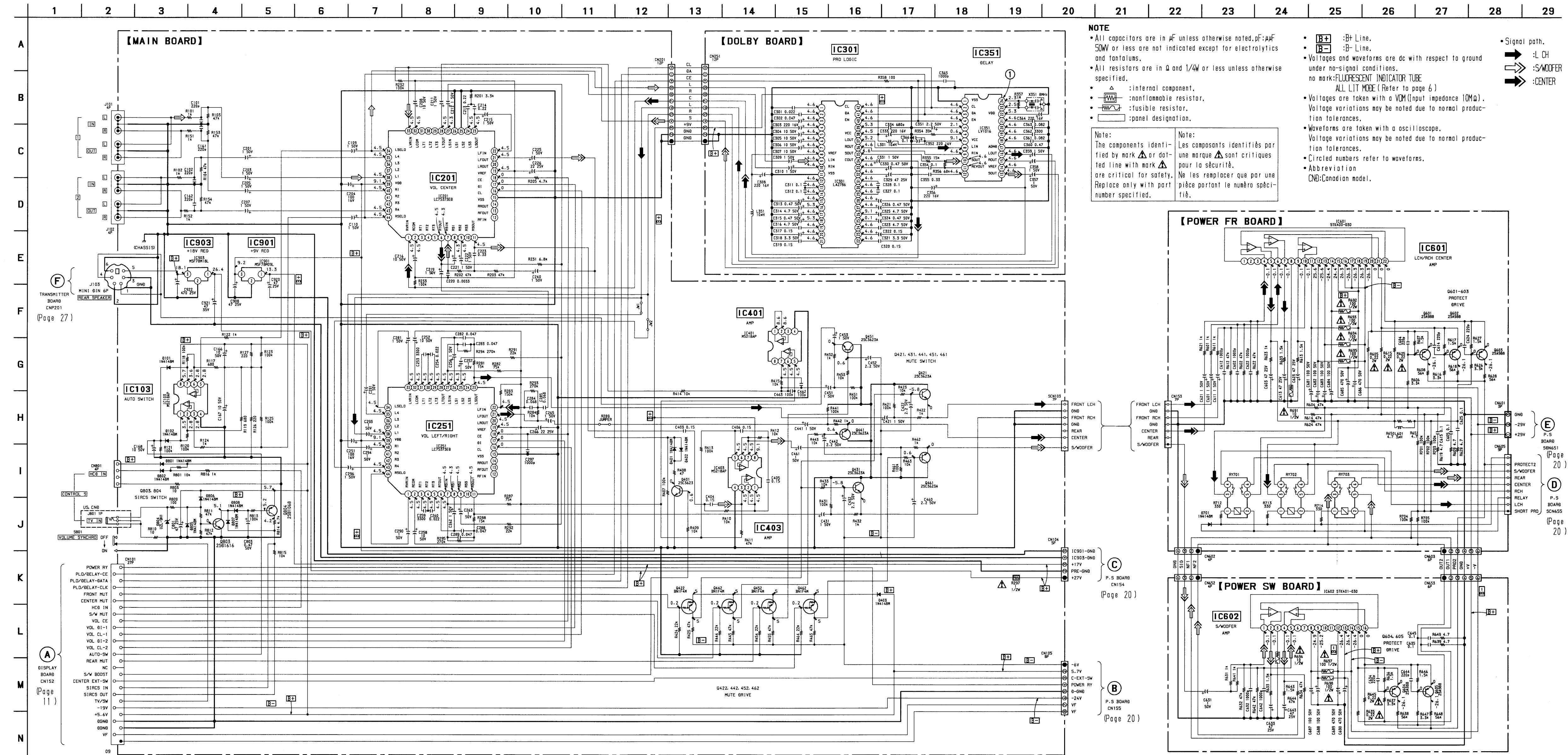


• Semiconductor Location

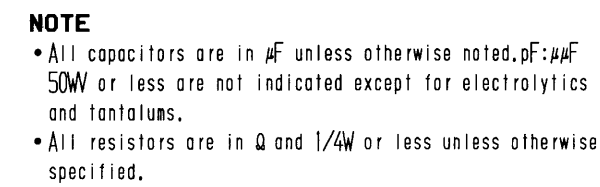
| Ref. No. | Location |
|----------|----------|
| D501     | F-1      |
| D502     | F-1      |
| D503     | E-2      |
| D504     | D-11     |
| D505     | D-11     |
| D506     | F-3      |
| D507     | E-3      |
| IC501    | C-3      |
| IC502    | E-3      |
| IC503    | F-10     |
| Q501     | E-3      |
| Q502     | F-2      |
| Q503     | F-2      |
| Q504     | B-1      |
| Q505     | B-1      |
| Q506     | D-1      |
| Q507     | D-1      |

- Note:**
- $\square$  : parts extracted from the component side.
  - $\square$  : parts extracted from the conductor side.
  - $\Delta$  : internal component.
  - $\square$  : Pattern from the side which enable seeing.

6-4. SCHEMATIC DIAGRAM — MAIN SECTION —  
• See page 33 for IC Block Diagrams.



- See page 34 for IC Block Diagrams.



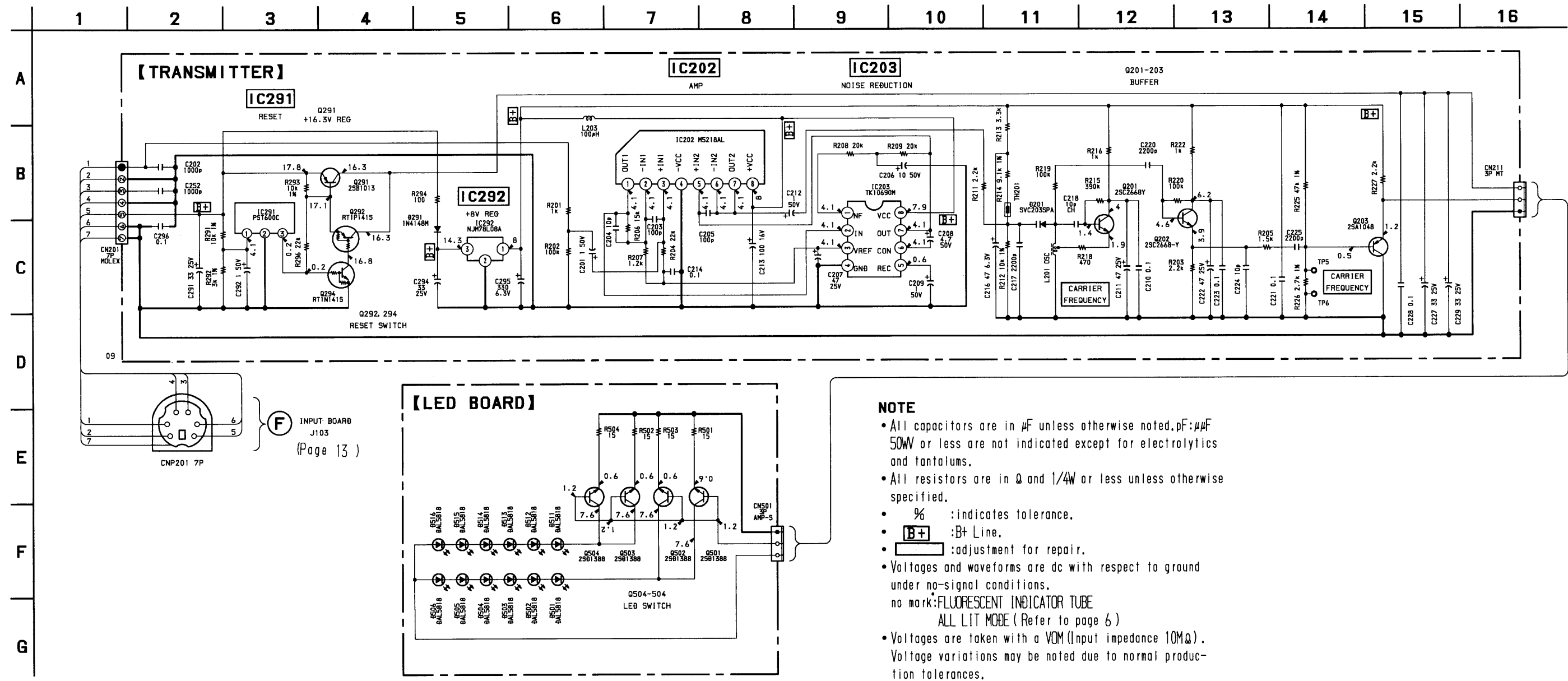
**NOTE**

- All capacitors are in  $\mu\text{F}$  unless otherwise noted, pF:  $\mu\text{F}$  50W or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $1/4\text{W}$  or less unless otherwise specified.
-  : nonflammable resistor.
-  : fusible resistor.
-  : panel designation.

|                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Note:</b><br/>The components identified by mark  or dotted line with mark  are critical for safety. Replace only with part number specified.</p> | <p><b>Note:</b><br/>Les composants identifiés par une marque  sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

-  :B+ Line.
-  :B- Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.  
no mark:FLUORESCENT INDICATOR TUBE  
ALL LIT MODE ( Refer to page 6 )
- Voltages are taken with a VOM (Input impedance 10M $\Omega$ ).  
Voltage variations may be noted due to normal production tolerances.
- Abbreviation  
CNB :Canadian model.  
G :German model.  
SP :Singapore model.  
MY :Malaysia model.  
AUS:Australian model.  
CH :Chinese model.  
TH :Thai model.
- Signal path.  
 :L CH  
 :S/WOOFER  
 :CENTER

# 6-9. SCHEMATIC DIAGRAM — TRANSMITTER SECTION — • See page 35 for IC Block Diagrams.



6-11. SCHEMATIC DIAGRAM — RECEIVER SECTION —  
• See page 35 for IC Block Diagrams.

