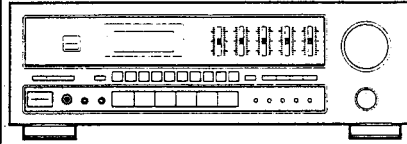


# Service Manual

**PIONEER**  
The Art of Entertainment



ORDER NO.  
ARP2479

STEREO RECEIVER

# SX-311R

## SX-301

## SX-251R

## SX-201

SX-311R, SX-301, SX-251R AND SX-201 HAVE THE FOLLOWING :

| Type   | Model   |        |         |        | Power Requirement                          | Remarks |
|--------|---------|--------|---------|--------|--|---------|
|        | SX-311R | SX-301 | SX-251R | SX-201 |  |         |
| KUC    | ○       | ○      | ○       | ○      | AC120V only                                |         |
| SD     | ○       | —      | —       | ○      | AC110V, 120V-127V, 220V, 240V (switchable) |         |
| KUC/CA | ○       | —      | ○       | ○      | AC120V only                                |         |

- This manual is applicable to the following : SX-311R/KUC, SD and KUC/CA ; SX-301/KUC ; SX-251R/KUC and KUC/CA ; SX-201/KUC, SD and KUC/CA.
- For the following : SX-311R/SD and KUC/CA ; SX-301/KUC ; SX-251R/KUC and KUC/CA ; SX-201/KUC, SD and KUC/CA, refer to pages 33-41.
- KUC/CA type is identical to KUC type with French operating instruction. For all information except for the instruction, refer to KUC type.

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# SX-311R/SX-301 SX-251R/SX-201

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

## WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).

When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

## 1. SAFETY INFORMATION

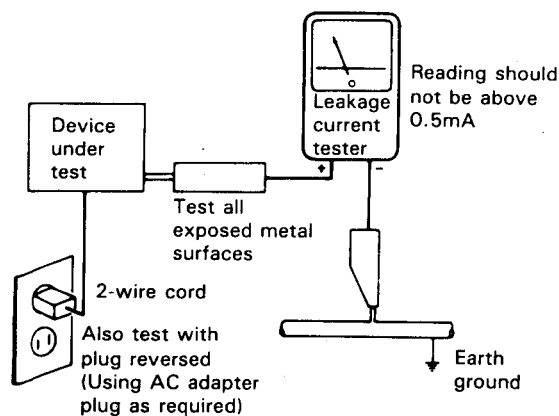
(FOR USA MODEL ONLY)

### 1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

#### LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

### 2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a  $\Delta$  on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

## 2. SPECIFICATIONS

### <SX-311R, SX-301>

#### Amplifier Section

Continuous Average Power Output is 70 watts\* per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz with no more than 0.8% total harmonic distortion.\*\*

|   |   |
|---|---|
| Continuous Power Output (both channel driven)**         |   |
| 20 Hz / 20 kHz, T.H.D. 0.8%, 8 Ω                        | 70 W + 70 W                                   |
| Dynamic power output (with EIA test signal)             |   |
| 2/4/8 Ω   | 145 W/130 W/90 W                              |
| Input (Sensitivity/Impedance)                           |   |
| PHONO   | 2.5 mV/47 kΩ                                  |
| CD, VCR/LD, TAPE 1/DAT, TAPE 2                          | 150 mV/22 kΩ                                  |
| Phono Overload Level (T.H.D. 0.01%, 1 kHz)              |   |
| PHONO   | 130 mV  |
| Output Level  |   |
| TAPE REC  | 150 mV/2.2 kΩ                                 |
| Frequency Response                                      |   |
| PHONO (RIAA Equalization)                               | 20 Hz to 20,000 Hz ±0.5 dB                    |
| CD, VCR/LD, TAPE 1/DAT, TAPE 2                          | 10 Hz to 70,000 Hz ±3/8 dB                    |
| Signal-to-Noise Ratio (IHF, short circuited, A network) |   |
| PHONO   | 72 dB   |
| CD, VCR/LD, TAPE 1/DAT, TAPE 2                          | 96 dB   |
| Graphic Equalizer frequency band                        | 100 Hz, 330 Hz, 1 kHz, 3.3 kHz, 10 kHz, ±8 dB |

#### FM Tuner Section

|                               |                                 |
|-------------------------------|---------------------------------|
| Frequency range               | 87.5 MHz to 108 MHz             |
| Usable Sensitivity            | 12.3 dBf, IHF (1.1 μV/75 Ω)     |
| 50 dB Quieting Sensitivity    |                                 |
| MONO                          | 16.8 dBf (1.6 μV/75 Ω)          |
| STEREO                        | 38.6 dBf (19.5 μV/75 Ω)         |
| Signal-to-Noise Ratio         |                                 |
| MONO                          | 73 dB (at 85 dBf)               |
| STEREO                        | 70 dB (at 85 dBf)               |
| Distortion                    |                                 |
| STEREO                        | 0.3% (1 kHz)                    |
| Alternate Channel Selectivity | 50 dB (400 kHz)                 |
| Stereo Separation             | 35 dB (1 kHz)                   |
| Frequency Response            | 30 Hz to 15 kHz (±1 dB)         |
| Antenna Input                 | 300 Ω balanced, 75 Ω unbalanced |

#### AM Tuner Section

|                       |                      |
|-----------------------|----------------------|
| Frequency range       |                      |
| When 10 kHz step      | 530 kHz to 1,700 kHz |
| (SX-311R only)        |                      |
| When 9 kHz step       | 531 kHz to 1,602 kHz |
| Sensitivity           |                      |
| IHF, Loop antenna     | 350 μV/m             |
| Selectivity           | 20 dB                |
| Signal-to-Noise Ratio | 50 dB                |
| Antenna               | AM Loop Antenna      |

#### Miscellaneous

|                          |  |
|--------------------------|--|
| Power Requirements       |  |
| U.S., Canadian models    | AC 120 Volts, 60 Hz  |
| (SX-311R only)           |  |
| Multi-voltage model      | ~AC 110 V/120 V - 127 V /220 V/240 V (switchable), 50/60 Hz              |
| Power Consumption        |  |
| U.S., Canadian models    | 250 W (UL), 335 VA (CSA)   |
| (SX-311R only)           |  |
| Multi-voltage model      | 410 W  |
| AC Outlet                | SWITCHED x 1 : 100W MAX  |
| Dimensions               |  |
| SX-311R                  | 420 (W) X 140 (H) X 289 (D) mm<br>16-9/16(W) X 5-1/2 (H) X 11-3/8(D) in  |
| SX-301                   | 420 (W) X 135 (H) X 289 (D) mm<br>16-9/16(W) X 5-5/16 (H) X 11-3/8(D) in |
| Weight (without package) | 5.8 kg (12 lb 13 oz)   |

#### Furnished Parts

|  |   |
|--|---|
| FM Antenna                               | 1 |
| AM Loop Antenna                          | 1 |
| Operating Instructions                   | 1 |
| (SX-311R only)                           |   |
| Remote control unit                      | 1 |
| Dry cell battery (size "AAA" (R03/UM-4)) | 2 |

\* Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier.  
\*\* Measured By Audio Spectrum Analyzer.

NOTE:  
Specifications and design subject to possible modification without notice due to improvements.

### <SX-251R, SX-201>

#### Amplifier Section

Continuous Average Power Output is 50 watts\* per channel, min., at 8 ohms from 40 Hertz to 20,000 Hertz with no more than 0.8% total harmonic distortion.\*\*

|   |   |
|---|---|
| Continuous Power Output (both channel driven)**         |   |
| 40 Hz / 20 kHz, T.H.D. 0.8%, 8 Ω                        | 50 W + 50 W                                   |
| Dynamic power output (with EIA test signal)             |   |
| 4/8 Ω   | 85 W/65 W                                     |
| Input (Sensitivity/Impedance)                           |   |
| PHONO   | 2.5 mV/47 kΩ                                  |
| CD, VCR/LD, TAPE 1/DAT, TAPE 2                          | 150 mV/22 kΩ                                  |
| Phono Overload Level (T.H.D. 0.01%, 1 kHz)              |   |
| PHONO   | 130 mV  |
| Output Level  |   |
| TAPE REC  | 150 mV/2.2 kΩ                                 |
| Frequency Response                                      |   |
| PHONO (RIAA Equalization)                               | 20 Hz to 20,000 Hz ±0.5 dB                    |
| CD, VCR/LD, TAPE 1/DAT, TAPE 2                          | 10 Hz to 70,000 Hz ±3/8 dB                    |
| Signal-to-Noise Ratio (IHF, short circuited, A network) |   |
| PHONO   | 72 dB   |
| CD, VCR/LD, TAPE 1/DAT, TAPE 2                          | 96 dB   |
| Graphic Equalizer frequency band                        | 100 Hz, 330 Hz, 1 kHz, 3.3 kHz, 10 kHz, ±8 dB |

#### FM Tuner Section

|                               |                                 |
|-------------------------------|---------------------------------|
| Frequency range               | 87.5 MHz to 108 MHz             |
| Usable Sensitivity            | 12.3 dBf, IHF (1.1 μV/75 Ω)     |
| 50 dB Quieting Sensitivity    |                                 |
| MONO                          | 16.8 dBf (1.6 μV/75 Ω)          |
| STEREO                        | 38.6 dBf (19.5 μV/75 Ω)         |
| Signal-to-Noise Ratio         |                                 |
| MONO                          | 73 dB (at 85 dBf)               |
| STEREO                        | 70 dB (at 85 dBf)               |
| Distortion                    |                                 |
| STEREO                        | 0.3% (1 kHz)                    |
| Alternate Channel Selectivity | 50 dB (400 kHz)                 |
| Stereo Separation             | 35 dB (1 kHz)                   |
| Frequency Response            | 30 Hz to 15 kHz (±1 dB)         |
| Antenna Input                 | 300 Ω balanced, 75 Ω unbalanced |

#### AM Tuner Section

|                       |                      |
|-----------------------|----------------------|
| Frequency range       |                      |
| When 10 kHz step      | 530 kHz to 1,700 kHz |
| (SX-201 only)         |                      |
| When 9 kHz step       | 531 kHz to 1,602 kHz |
| Sensitivity           |                      |
| IHF, Loop antenna     | 350 μV/m             |
| Selectivity           | 20 dB                |
| Signal-to-Noise Ratio | 50 dB                |
| Antenna               | AM Loop Antenna      |

#### Miscellaneous

|                          |  |
|--------------------------|--|
| Power Requirements       |  |
| U.S., Canadian models    | AC 120 Volts, 60 Hz  |
| (SX-201 only)            |  |
| Multi-voltage model      | ~AC 110 V/120 V - 127 V /220 V/240 V (switchable), 50/60 Hz              |
| Power Consumption        |  |
| U.S., Canadian models    | 190 W (UL), 240 VA (CSA)   |
| (SX-201 only)            |  |
| Multi-voltage model      | 290 W  |
| AC Outlet                | SWITCHED x 1 : 100W MAX  |
| Dimensions               | 420 (W) X 135 (H) X 289 (D) mm<br>16-9/16(W) X 5-5/16 (H) X 11-3/8(D) in |
| Weight (without package) | 5.3 kg (11 lb 11 oz)   |

#### Furnished Parts

|  |   |
|--|---|
| FM Antenna                               | 1 |
| AM Loop Antenna                          | 1 |
| Operating Instructions                   | 1 |
| (SX-251R only)                           |   |
| Remote control unit                      | 1 |
| Dry cell battery (size "AAA" (R03/UM-4)) | 2 |

\* Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier.  
\*\* Measured By Audio Spectrum Analyzer.

NOTE:  
Specifications and design subject to possible modification without notice due to improvements.

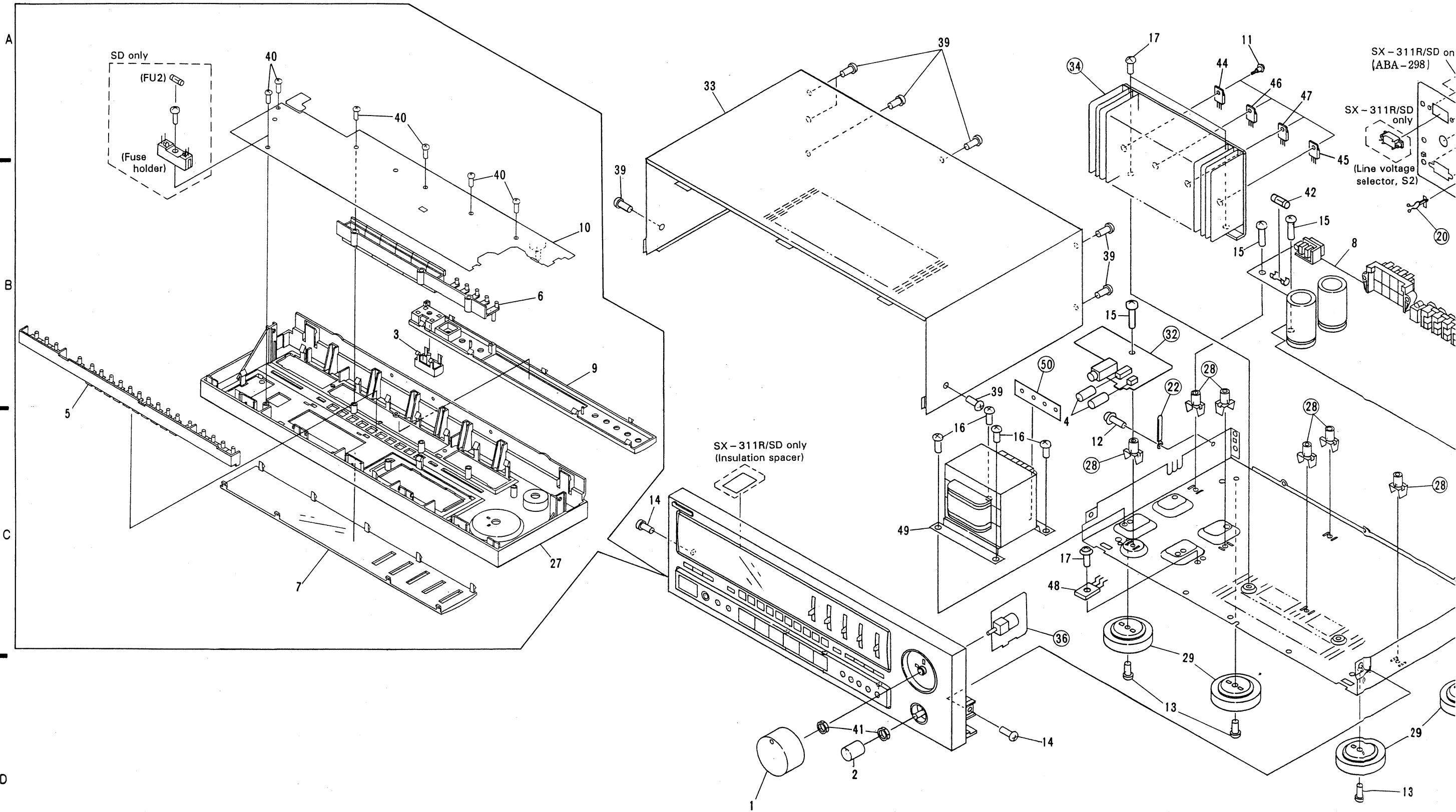
### 3. EXPLODED VIEWS, PACKING AND PARTS LIST

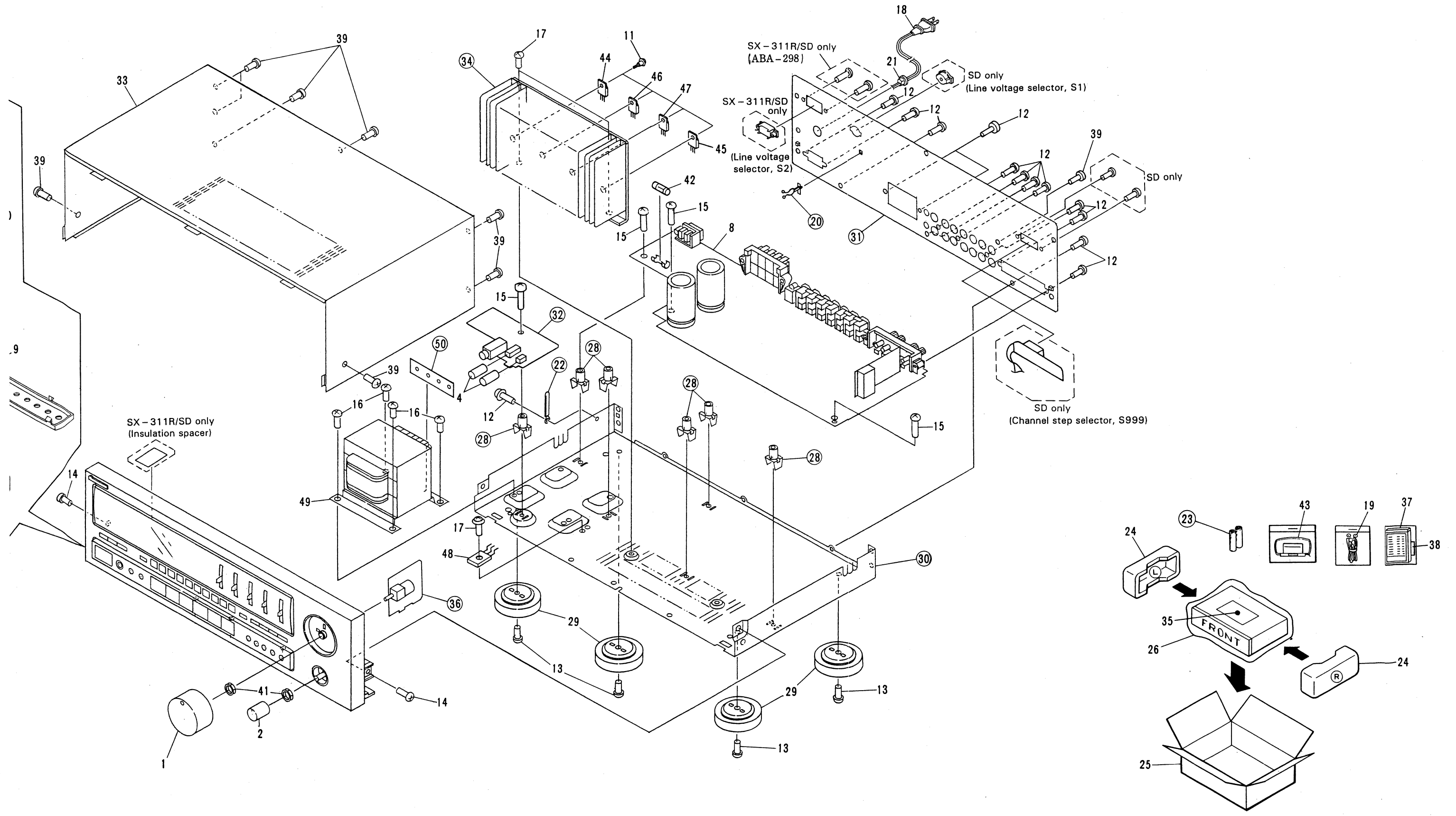
**NOTES:**

- The parts with an encircled number are generally unavailable because they are not in our Master Spare Parts List.
- The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

**Parts list of Exterior and Packing**

| Mark     | No. | Description                      | Parts No.    | Mark     | No. | Description            | Parts No. |
|----------|-----|----------------------------------|--------------|----------|-----|------------------------|-----------|
|          | 1   | ROTARY KNOB ASSY (VOLUME)        | AAB1275      |          | 41  | NUT                    | NK90FUC   |
|          | 2   | ROTARY KNOB S (BALANCE)          | AAB1276      | $\Delta$ | 42  | FUSE (4A/125V, FU1)    | AEK-125   |
|          | 3   | POWER KNOB                       | AAD1984      |          | 43  | LOOP ANTENNA (L)       | ATB1005   |
|          | 4   | BUTTON (SPEAKER)                 | AAD2211      | $\Delta$ | 44  | POWER TRANSISTOR (Q1)  | 2SC4689   |
|          | 5   | BUTTON A (PLS)                   | AAD2212      | $\Delta$ | 45  | POWER TRANSISTOR (Q2)  | 2SC4689   |
|          | 6   | BUTTON B (PLS)                   | AAD2213      | $\Delta$ | 46  | POWER TRANSISTOR (Q3)  | 2SA1804   |
|          | 7   | DISPLAY PANEL (PLS)              | AAK2277      | $\Delta$ | 47  | POWER TRANSISTOR (Q4)  | 2SA1804   |
| ●        | 8   | COMPLEX ASSEMBLY                 | AWZ4023      | $\Delta$ | 48  | POWER TRANSISTOR (Q5)  | 2SC4688   |
|          | 9   | SUB PANEL                        | AAP1232      | $\Delta$ | 49  | POWER TRANSFORMER (T1) | ATS1409   |
| ●        | 10  | CONTROL ASSEMBLY                 | AWZ4019      |          | 50  | TRANS ASSEMBLY         | AWZ4016   |
|          | 11  | SCREW (STEEL)                    | ABA-297      |          |     |                        |           |
|          | 12  | SCREW                            | ABA-298      |          |     |                        |           |
|          | 13  | SCREW (STEEL)                    | ABA1009      |          |     |                        |           |
|          | 14  | SCREW (STEEL)                    | ABA1011      |          |     |                        |           |
|          | 15  | SCREW                            | ABA1018      |          |     |                        |           |
|          | 16  | SCREW                            | ABA1027      |          |     |                        |           |
|          | 17  | SCREW                            | ABA1054      |          |     |                        |           |
| $\Delta$ | 18  | AC POWER CORD                    | ADG1058      |          |     |                        |           |
|          | 19  | FM ANTENNA                       | ADH1008      |          |     |                        |           |
|          | 20  | PURSE LOCK                       | AEC1325      |          |     |                        |           |
| $\Delta$ | 21  | CORD STOPPER                     | AEP-113      |          |     |                        |           |
|          | 22  | BINDER                           | AEP-215      |          |     |                        |           |
|          | 23  | BATTERY (R03, AAA)               | AEX-021      |          |     |                        |           |
|          | 24  | SIDE PAD (PS)                    | AHA1482      |          |     |                        |           |
|          | 25  | PACKING CASE                     | AHD2225      |          |     |                        |           |
|          | 26  | PACKING SHEET                    | AHG1016      |          |     |                        |           |
|          | 27  | FRONT PANEL (PLS)                | AMB1950      |          |     |                        |           |
|          | 28  | PCB MOULD                        | AMR1525      |          |     |                        |           |
|          | 29  | INSULATOR ASSY                   | AMR2140      |          |     |                        |           |
|          | 30  | CHASSIS                          | ANA1163      |          |     |                        |           |
|          | 31  | REAR PANEL (MTL)                 | ANC1842      |          |     |                        |           |
|          | 32  | SP SWITCH ASSEMBLY               | AWZ4020      |          |     |                        |           |
|          | 33  | BONNET CASE                      | ANE1334      |          |     |                        |           |
|          | 34  | HEAT SINK                        | ANH1364      |          |     |                        |           |
|          | 35  | OPERATING INSTRUCTIONS (ENGLISH) | ARB1357      |          |     |                        |           |
|          | 36  | VR ASSEMBLY                      | AWZ4024      |          |     |                        |           |
|          | 37  | REMOTE CONTROL UNIT (CU-SX042)   | AXD1259      |          |     |                        |           |
|          | 38  | BATTERY COVER                    | AZA1297      |          |     |                        |           |
|          | 39  | SCREW                            | BCZ30P080FZK |          |     |                        |           |
|          | 40  | SCREW                            | BPZ26P080FMC |          |     |                        |           |





A

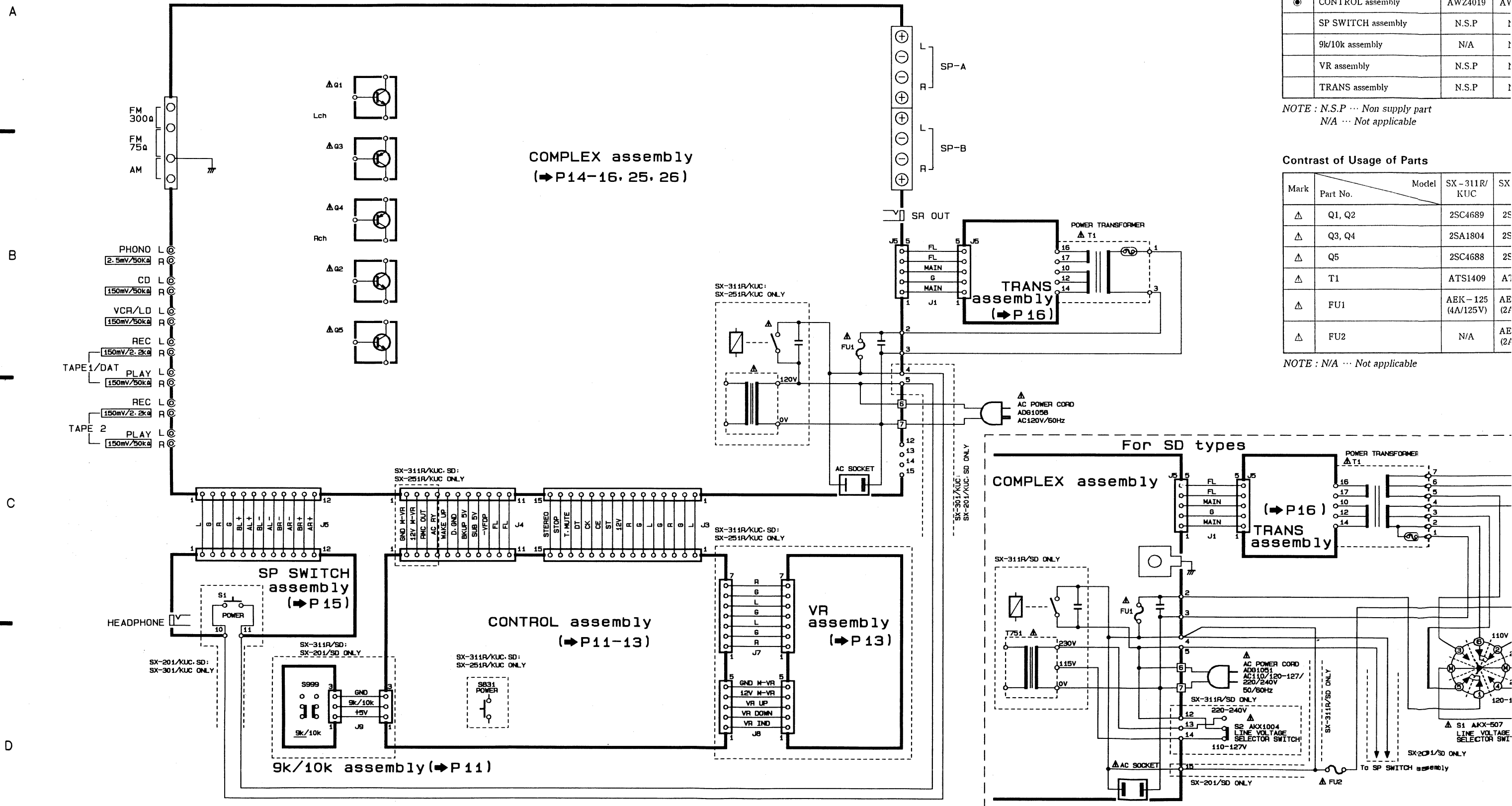
B

C

D

# 4. SCHEMATIC DIAGRAMS AND PCB CONNECTION DIAGRAM

## 4.1 OVERALL SCHEMATIC DIAGRAM



Contrast of Usage of Assemblies

| Mark | Assembly Name      | Model   | SX-311R/<br>KUC | SX |
|------|--------------------|---------|-----------------|----|
| ●    | COMPLEX assembly   | AWZ4023 |                 | AV |
| ●    | CONTROL assembly   | AWZ4019 |                 | AV |
|      | SP SWITCH assembly | N.S.P   |                 | 1  |
|      | 9k/10k assembly    | N/A     |                 | 1  |
|      | VR assembly        | N.S.P   |                 | 1  |
|      | TRANS assembly     | N.S.P   |                 | 1  |

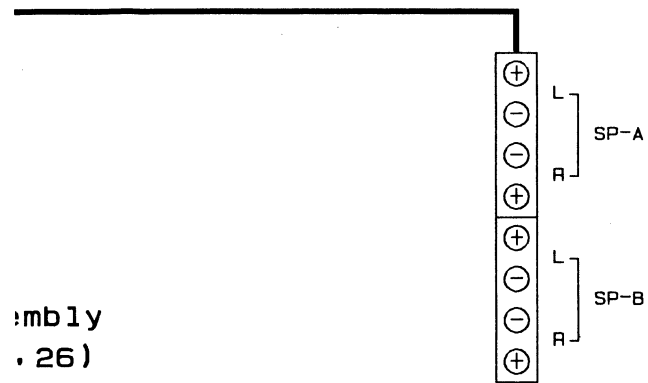
NOTE : N.S.P ... Non supply part  
N/A ... Not applicable

Contrast of Usage of Parts

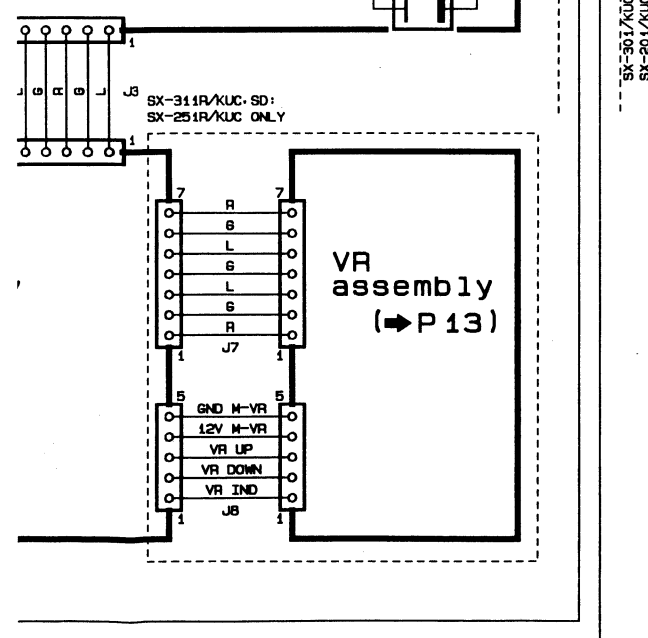
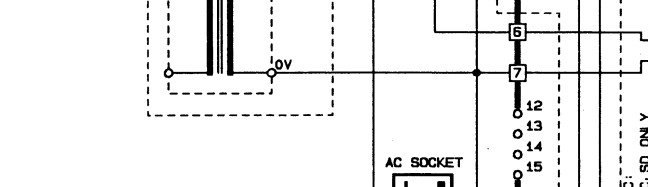
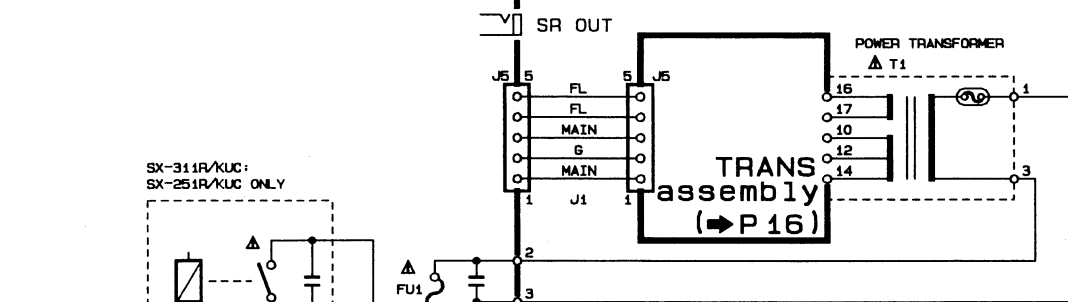
| Mark | Part No. | Model                | SX-311R/<br>KUC | SX         |
|------|----------|----------------------|-----------------|------------|
| △    | Q1, Q2   | 2SC4689              |                 | 2S         |
| △    | Q3, Q4   | 2SA1804              |                 | 2S         |
| △    | Q5       | 2SC4688              |                 | 2S         |
| △    | T1       | ATS1409              |                 | A1         |
| △    | FU1      | AEK-125<br>(4A/125V) |                 | AE<br>(2f) |
| △    | FU2      | N/A                  |                 | AE<br>(2f) |

NOTE : N/A ... Not applicable

VI



assembly  
. 26)



Contrast of Usage of Assemblies

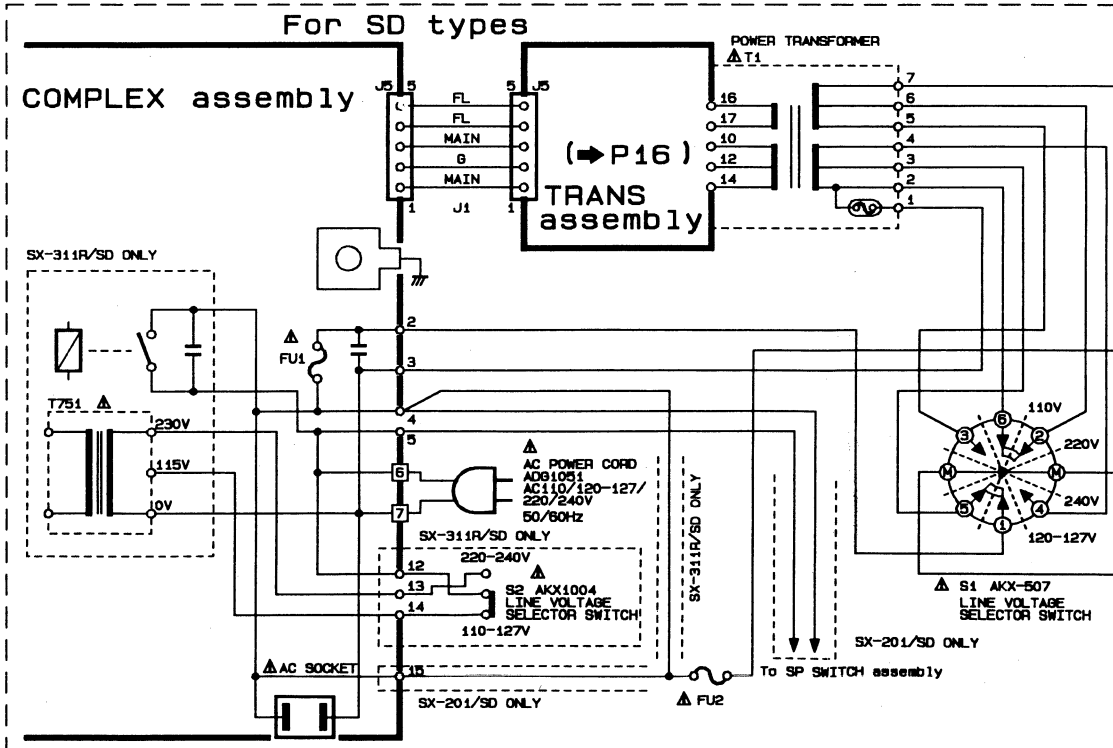
| Mark | Assembly Name      | Model | SX-311R/<br>KUC | SX-311R/<br>SD | SX-301/<br>KUC | SX-251R/<br>KUC | SX-201/<br>KUC | SX-201/<br>SD |
|------|--------------------|-------|-----------------|----------------|----------------|-----------------|----------------|---------------|
| ⊙    | COMPLEX assembly   |       | AWZ4023         | AWZ4028        | AWZ4022        | AWZ4018         | AWZ4014        | AWZ4025       |
| ⊙    | CONTROL assembly   |       | AWZ4019         | AWZ4082        | AWZ4015        | AWZ4019         | AWZ4015        | AWZ4026       |
|      | SP SWITCH assembly |       | N.S.P           | N.S.P          | N.S.P          | N.S.P           | N.S.P          | N.S.P         |
|      | 9k/10k assembly    |       | N/A             | N.S.P          | N/A            | N/A             | N/A            | N.S.P         |
|      | VR assembly        |       | N.S.P           | N.S.P          | N/A            | N.S.P           | N/A            | N/A           |
|      | TRANS assembly     |       | N.S.P           | N.S.P          | N.S.P          | N.S.P           | N.S.P          | N.S.P         |

NOTE : N.S.P ... Non supply part  
N/A ... Not applicable

Contrast of Usage of Parts

| Mark | Part No. | Model | SX-311R/<br>KUC      | SX-311R/<br>SD       | SX-301/<br>KUC       | SX-251R/<br>KUC         | SX-201/<br>KUC          | SX-201/<br>SD          |
|------|----------|-------|----------------------|----------------------|----------------------|-------------------------|-------------------------|------------------------|
| △    | Q1, Q2   |       | 2SC4689              | 2SC4689              | 2SC4689              | 2SC4688                 | 2SC4688                 | 2SC4688                |
| △    | Q3, Q4   |       | 2SA1804              | 2SA1804              | 2SA1804              | 2SA1803                 | 2SA1803                 | 2SA1803                |
| △    | Q5       |       | 2SC4688              | 2SC4688              | 2SC4688              | 2SC4688                 | 2SC4688                 | 2SC4688                |
| △    | T1       |       | ATS1409              | ATS1411              | ATS1409              | ATS1408                 | ATS1408                 | ATS1410                |
| △    | FU1      |       | AEK-125<br>(4A/125V) | AEK-122<br>(2A/125V) | AEK-125<br>(4A/125V) | AEK-124<br>(3.15A/125V) | AEK-124<br>(3.15A/125V) | AEK-121<br>(1.6A/125V) |
| △    | FU2      |       | N/A                  | AEK-122<br>(2A/125V) | N/A                  | N/A                     | N/A                     | AEK-121<br>(1.6A/125V) |

NOTE : N/A ... Not applicable



- RESISTORS:**  
Indicated in Ω, ¼W, ½W, ±5% tolerance unless otherwise noted k : kΩ, M : MΩ, (F) : ±1%, (G) : ±2%, (K) : ±10% (M) : ±20% tolerance
- CAPACITORS:**  
Indicated in capacity (μF)/voltage (V) unless otherwise noted p : pF  
Indication without voltage is 50V except electrolytic capacitor.
- VOLTAGE, CURRENT:**  
□ : Signal voltage at ( W + W 8Ω)output (1kHz)  
□ : DC voltage (V) at no input signal  
Value in ( ) is DC voltage at rated power.  
↔ mA : DC current at no input signal  
mV : Signal voltage at FM 1kHz ±75kHz DEV.

- OTHERS:**  
➔ : Signal route.  
⊙ : Adjusting point.  
The △ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.  
\* marked capacitors and resistors have parts numbers.  
▼ (RED) : Measurement point  
This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

5. SWITCHES (The underline indicates the switch position)

- S1 VOLTAGE SELECTOR  
110/120 - 127/220/240V  
(SX-311R/SD; SX-201/SD ONLY)
  - S2 VOLTAGE SELECTOR  
110 - 127V/220 - 240V  
(SX-311R/SD ONLY)
- SP SWITCH assembly  
S570 SP A/B  
S1 POWER  
(SX-301/KUC; SX-201/KUC, SD ONLY)

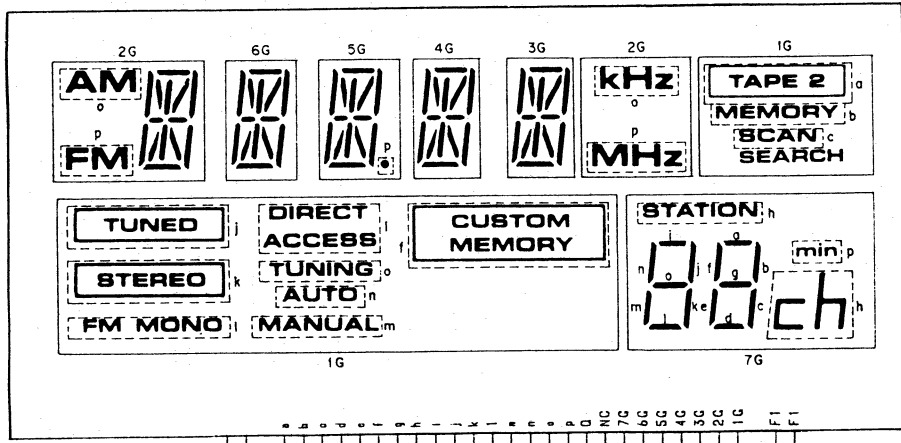
- 9k/10k assembly  
S999 9k/10k  
(SX-311R/SD; SX-201/SD ONLY)

- CONTROL assembly
- S801 FREQ UP
  - S802 FREQ DOWN
  - S803 2
  - S804 1
  - S805 FM
  - S806 AM
  - S807 MEMORY
  - S808 MEMORY SCAN
  - S809 POP
  - S810 ROCK
  - S811 OTHER
  - S812 HITS
  - S813 CD
  - S814 TUNER
  - S815 PHONO
  - S816 AUTO/MONO
  - S817 AUTO/MANUAL
  - S818 DIRECT ACCESS
  - S819 VCR/LD
  - S820 TAPE1/DAT
  - S821 TAPE2/MONITOR
  - S822 0
  - S823 9
  - S824 8
  - S825 RETURN
  - S826 7
  - S827 6
  - S828 5
  - S829 4
  - S830 3
  - S831 POWER  
(SX-311R/KUC, SD; SX-251R/KUC ONLY)



4.2 CONTROL ASSEMBLY, 9k/10k ASSEMBLY AND VR ASSEMBLY

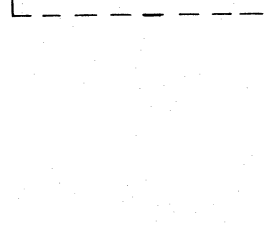
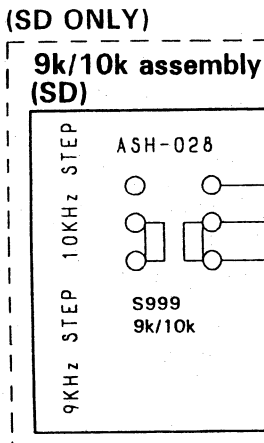
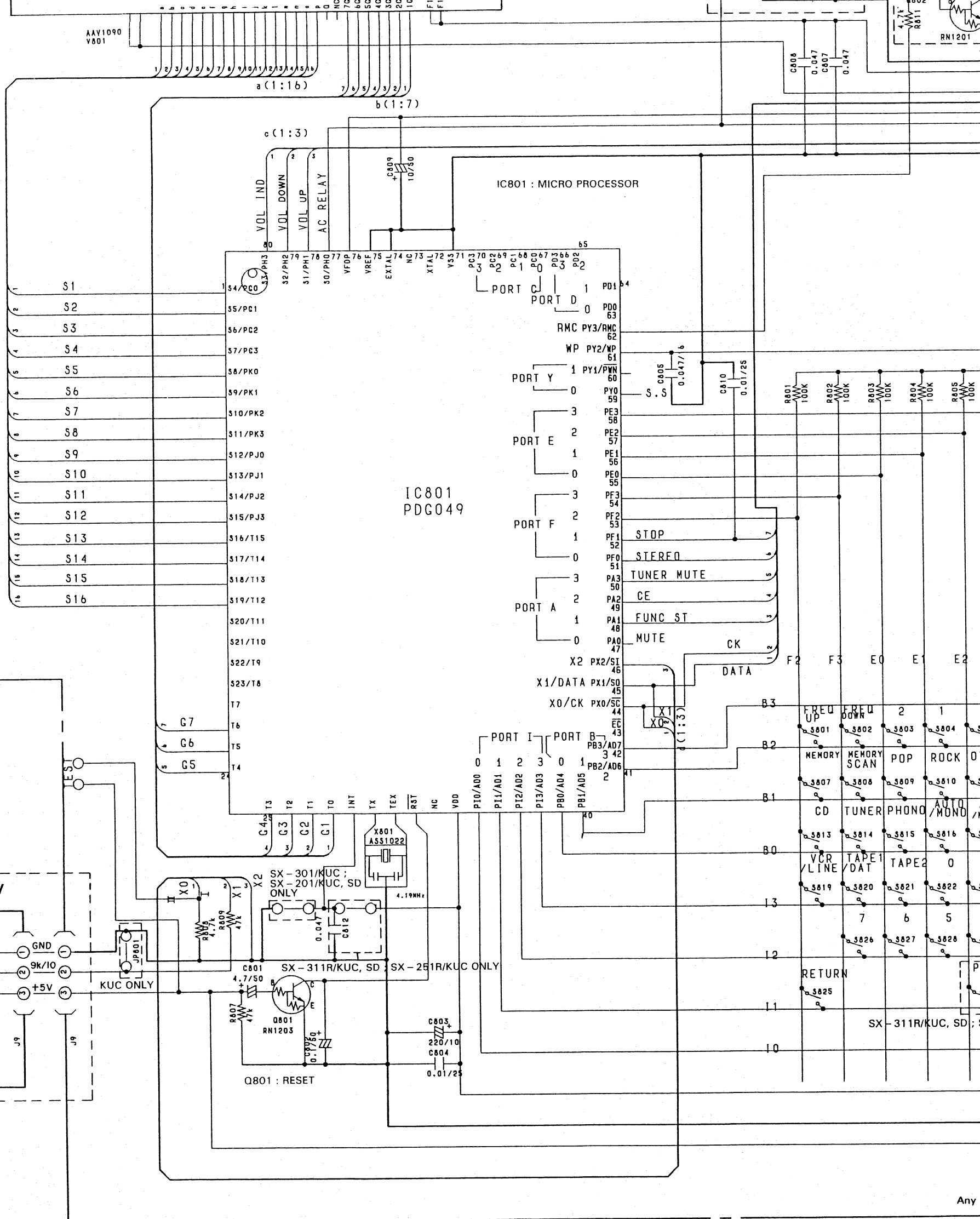
CONTROL ASSEMBLY (AWZ4019 : SX - 311R/KUC and SX - 251R/KUC)  
 (AWZ4082 : SX - 311R/SD)  
 (AWZ4015 : SX - 301/KUC and SX - 201/KUC)  
 (AWZ4026 : SX - 201/SD)



Q804, 805 : STANDBY INDI. DRIVER  
 SX - 311R/SD ONLY

Q802 : BUFFER  
 Q803 : INVERTER

SX - 311R/KUC, SD  
 SX - 251R/KUC ONLY

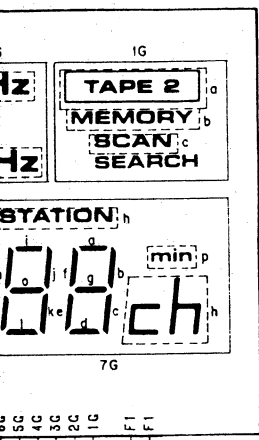


SX - 311R/KUC, SD ; S

Any c

and SX - 251R/KUC)

and SX - 201/KUC)



To COMPLEX assembly (1/2) J4 (P16)

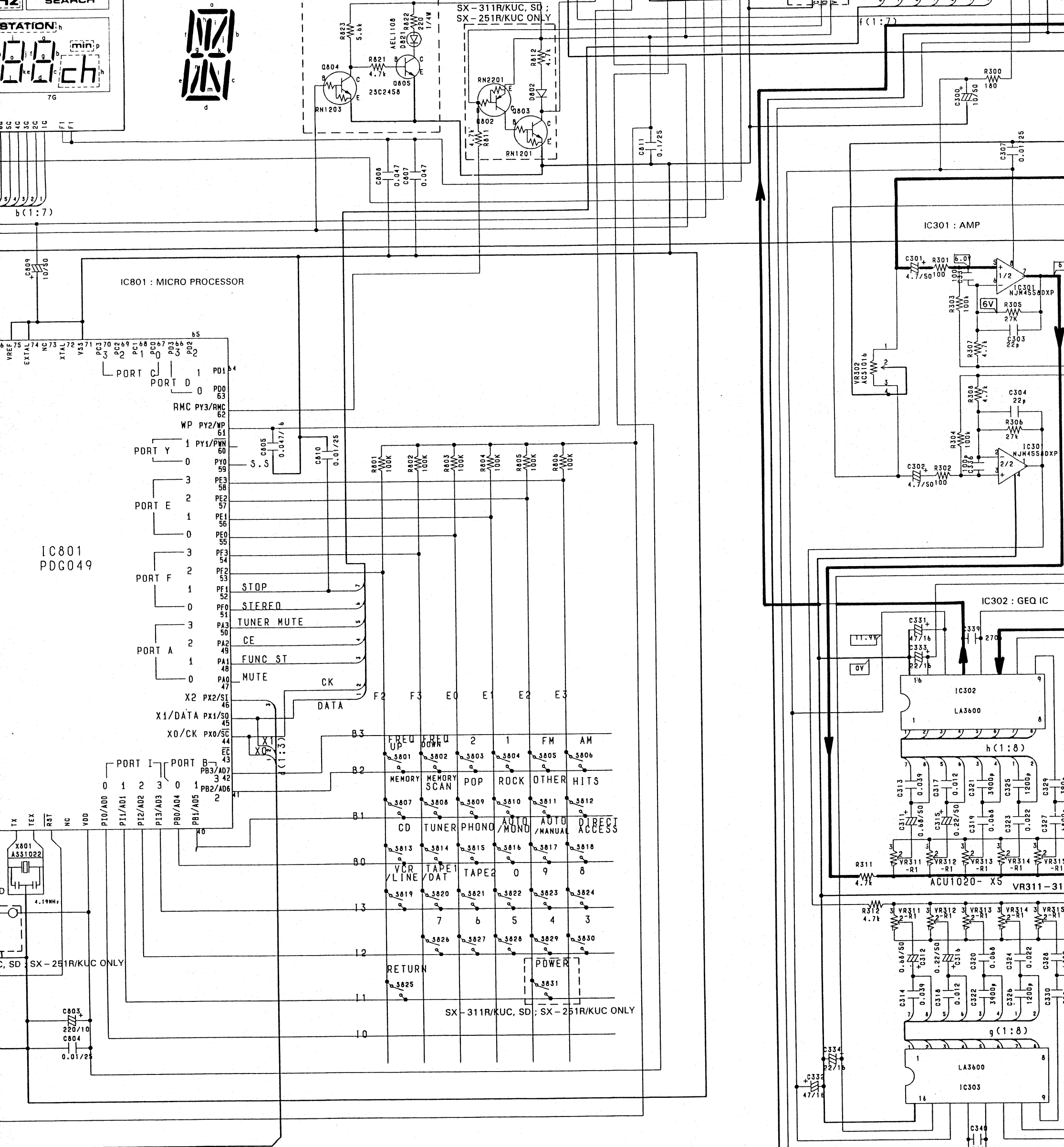
To COMPLEX assembly (1/2)

Q804, 805 : STANDBY INDI. DRIVER  
SX - 311R/SD ONLY

Q802 : BUFFER  
Q803 : INVERTER

SX - 311R/KUC, SD ;  
SX - 251R/KUC ONLY

SX - 311R/KUC, SD ;  
SX - 251R/KUC ONLY



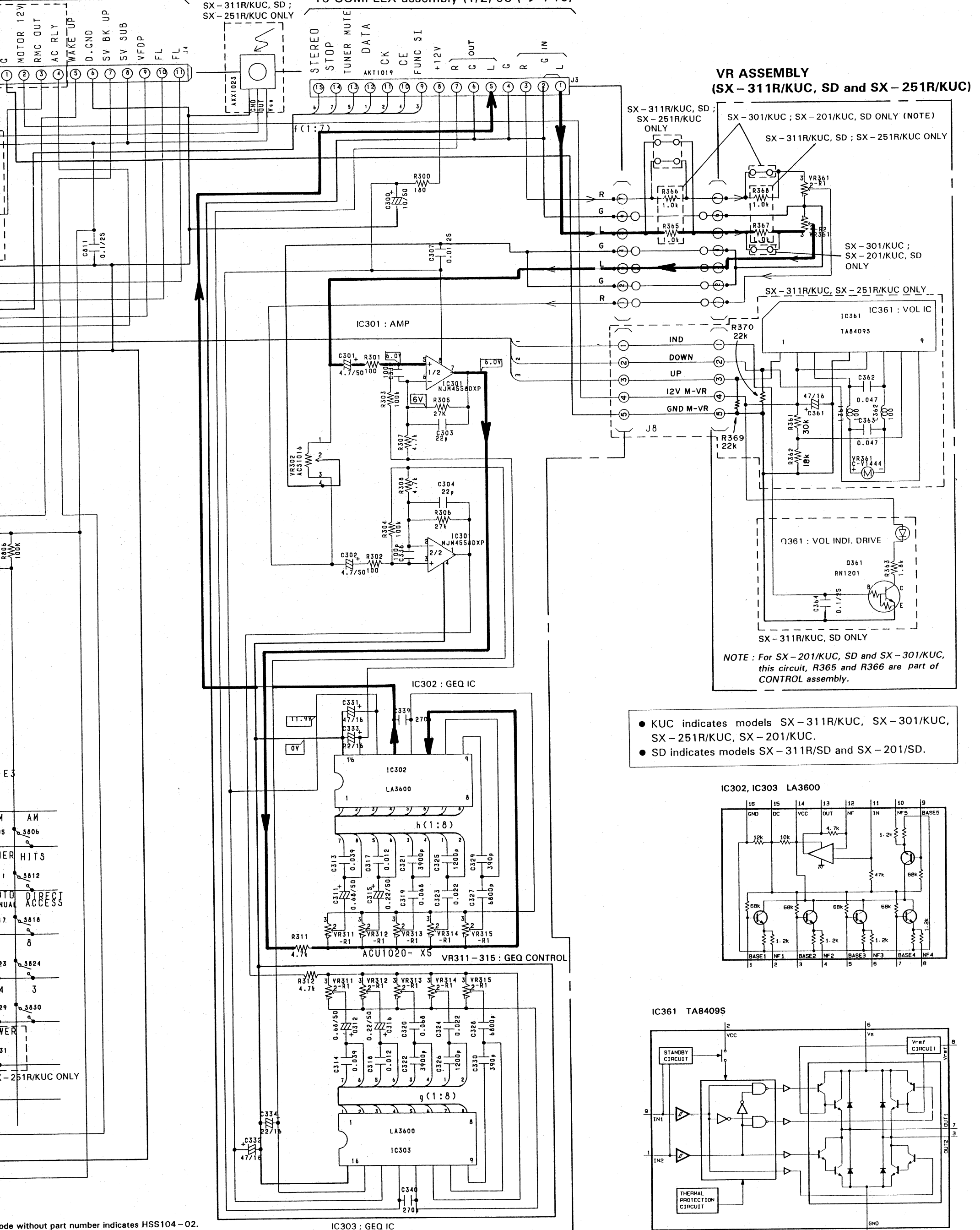
IC801  
PDG049

Any diode without part number indicates HSS104 - 02.

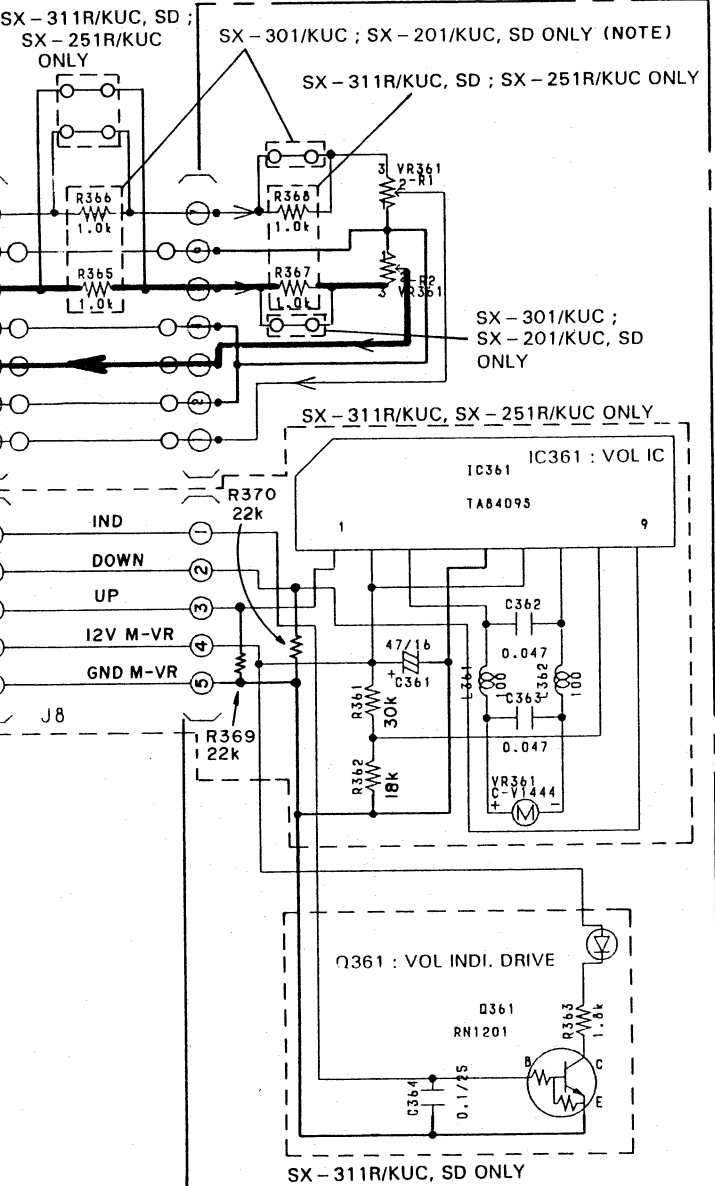
IC303 : GEQ IC

COMPLEX assembly (1/2) J4 (→ P16)

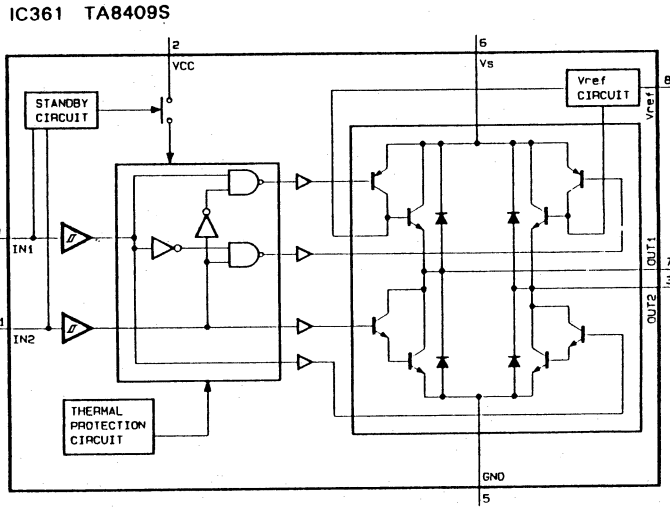
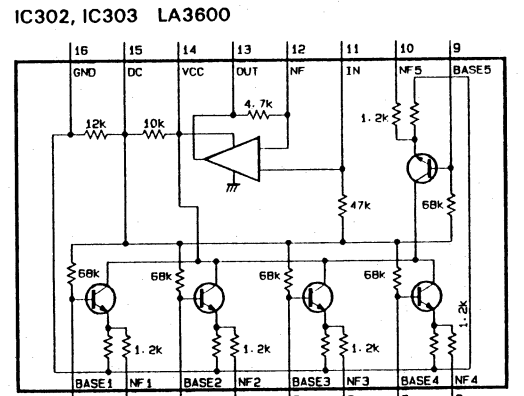
To COMPLEX assembly (1/2) J3 (→ P15)



VR ASSEMBLY (SX-311R/KUC, SD and SX-251R/KUC)



- KUC indicates models SX-311R/KUC, SX-301/KUC, SX-251R/KUC, SX-201/KUC.
- SD indicates models SX-311R/SD and SX-201/SD.

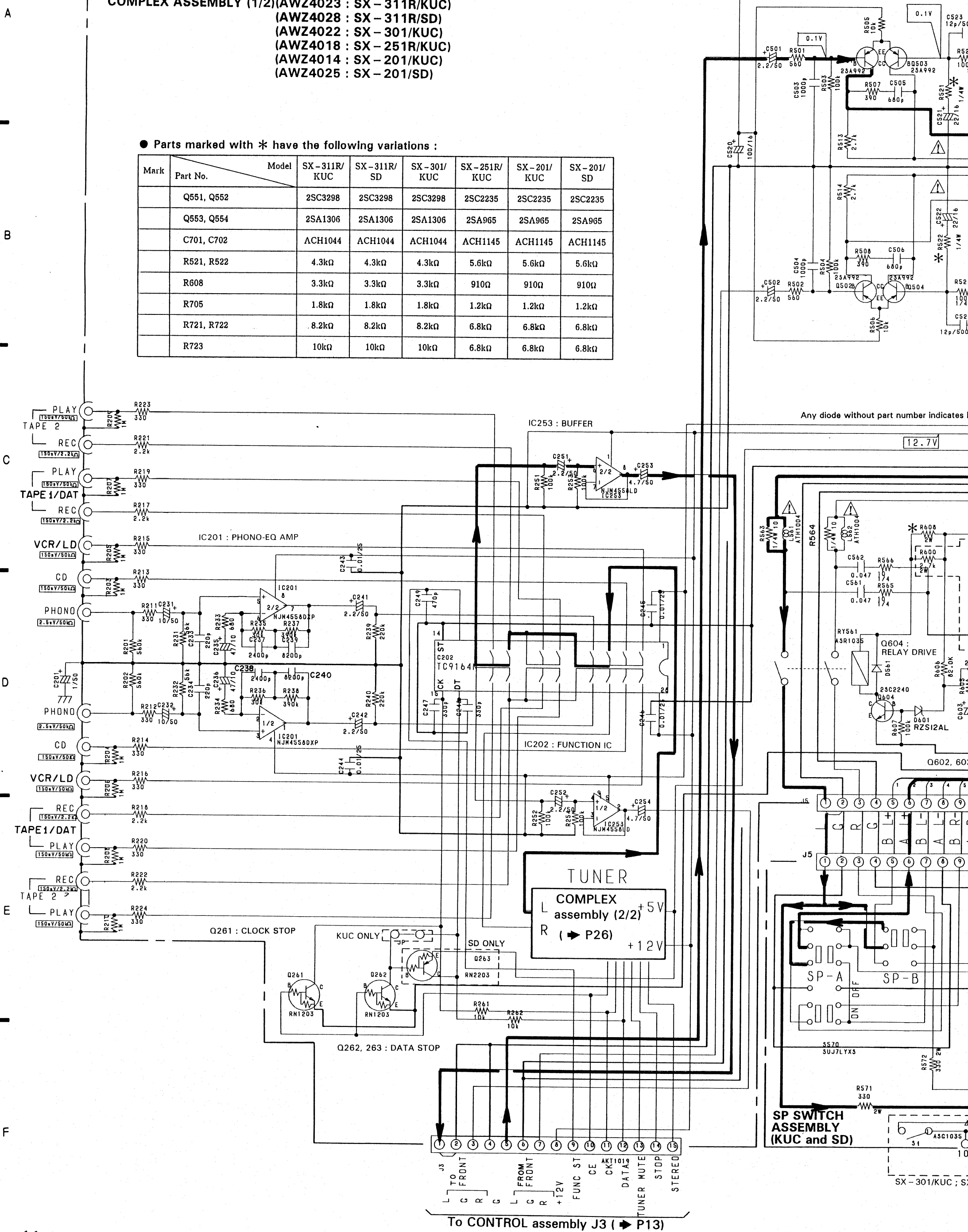


code without part number indicates HSS104-02.

**COMPLEX ASSEMBLY (1/2)(AWZ4023 : SX-311R/KUC)  
 (AWZ4028 : SX-311R/SD)  
 (AWZ4022 : SX-301/KUC)  
 (AWZ4018 : SX-251R/KUC)  
 (AWZ4014 : SX-201/KUC)  
 (AWZ4025 : SX-201/SD)**

● Parts marked with \* have the following variations :

| Mark | Part No.   | Model   | SX-311R/<br>KUC | SX-311R/<br>SD | SX-301/<br>KUC | SX-251R/<br>KUC | SX-201/<br>KUC | SX-201/<br>SD |
|------|------------|---------|-----------------|----------------|----------------|-----------------|----------------|---------------|
|      | Q551, Q552 | 2SC3298 | 2SC3298         | 2SC3298        | 2SC2235        | 2SC2235         | 2SC2235        | 2SC2235       |
|      | Q553, Q554 | 2SA1306 | 2SA1306         | 2SA1306        | 2SA965         | 2SA965          | 2SA965         | 2SA965        |
|      | C701, C702 | ACH1044 | ACH1044         | ACH1044        | ACH1145        | ACH1145         | ACH1145        | ACH1145       |
|      | R521, R522 | 4.3kΩ   | 4.3kΩ           | 4.3kΩ          | 5.6kΩ          | 5.6kΩ           | 5.6kΩ          | 5.6kΩ         |
|      | R608       | 3.3kΩ   | 3.3kΩ           | 3.3kΩ          | 910Ω           | 910Ω            | 910Ω           | 910Ω          |
|      | R705       | 1.8kΩ   | 1.8kΩ           | 1.8kΩ          | 1.2kΩ          | 1.2kΩ           | 1.2kΩ          | 1.2kΩ         |
|      | R721, R722 | 8.2kΩ   | 8.2kΩ           | 8.2kΩ          | 6.8kΩ          | 6.8kΩ           | 6.8kΩ          | 6.8kΩ         |
|      | R723       | 10kΩ    | 10kΩ            | 10kΩ           | 6.8kΩ          | 6.8kΩ           | 6.8kΩ          | 6.8kΩ         |



Any diode without part number indicates HS

12.7V

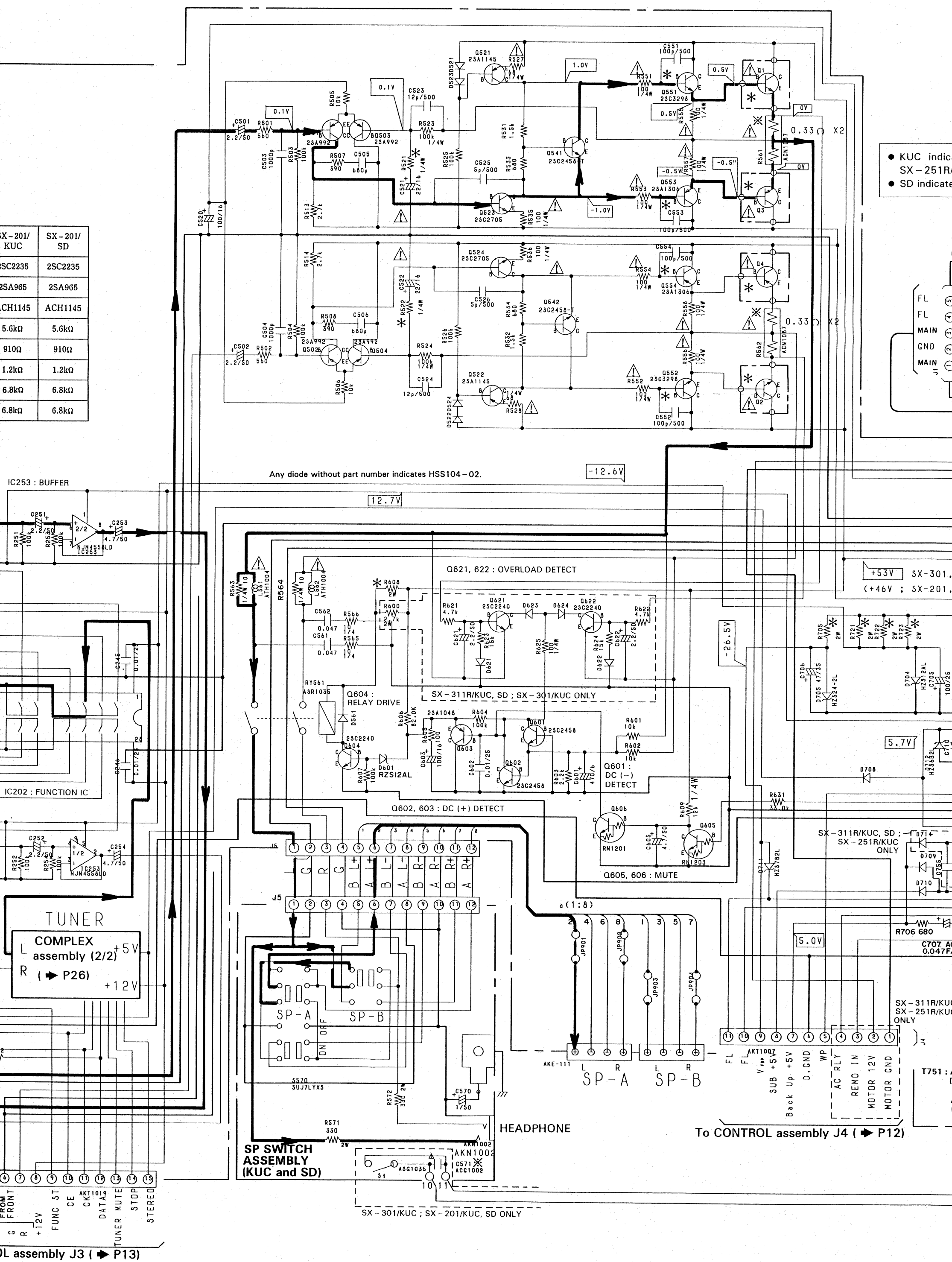
TUNER  
 COMPLEX  
 assembly (2/2)  
 L  
 R ( → P26)  
 +5V  
 +12V

SP SWITCH  
 ASSEMBLY  
 (KUC and SD)

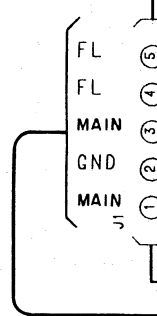
To CONTROL assembly J3 ( → P13)

SX-301/KUC; SX-

|                |               |
|----------------|---------------|
| SX-201/<br>KUC | SX-201/<br>SD |
| 2SC2235        | 2SC2235       |
| 2SA965         | 2SA965        |
| ACH1145        | ACH1145       |
| 5.6kΩ          | 5.6kΩ         |
| 910Ω           | 910Ω          |
| 1.2kΩ          | 1.2kΩ         |
| 6.8kΩ          | 6.8kΩ         |
| 6.8kΩ          | 6.8kΩ         |



- KUC indic
- SX-251R
- SD indicat



+53V SX-301,  
(+46V ; SX-201)

5.7V

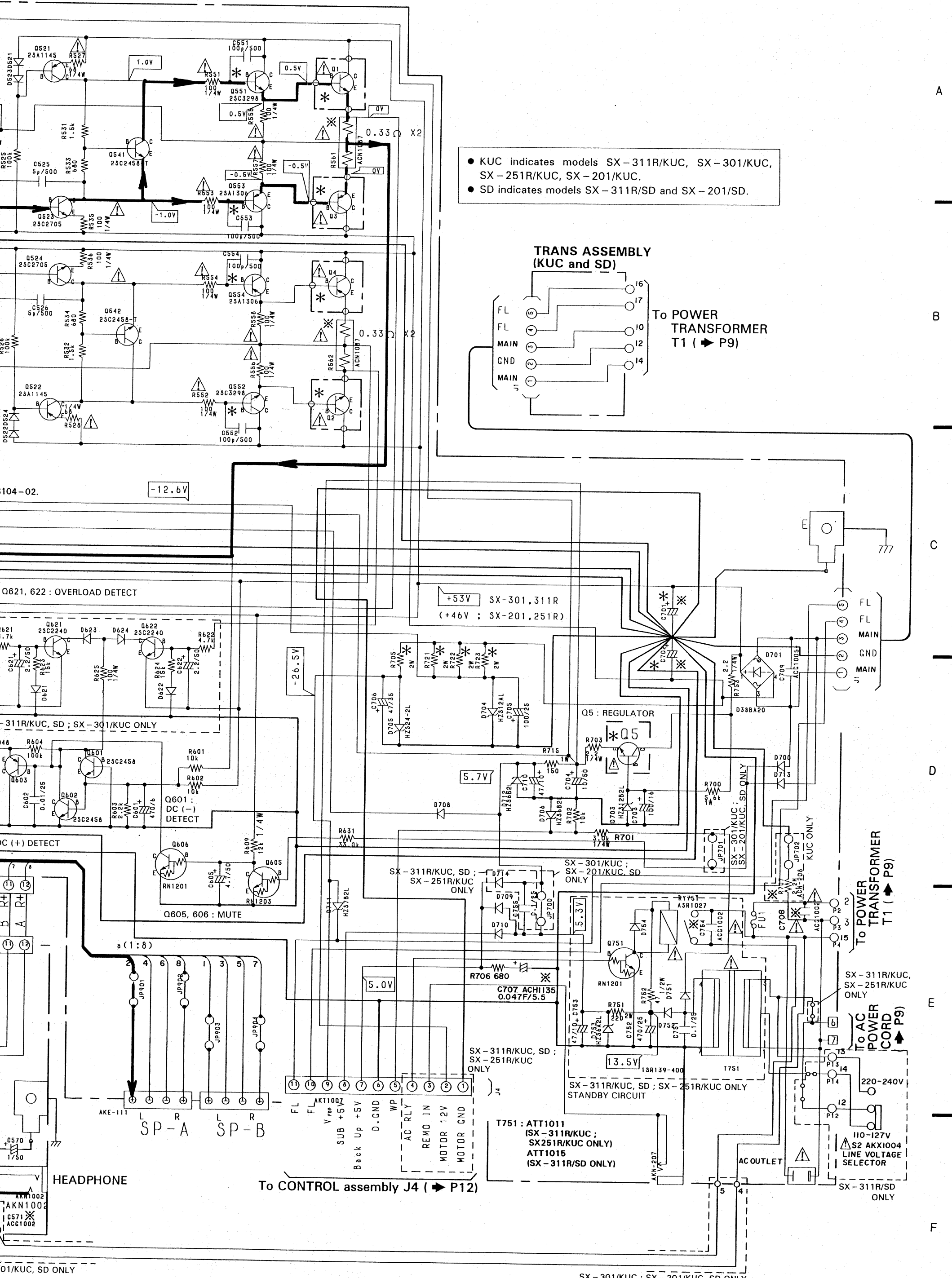
SX-311R/KUC, SD ;  
SX-251R/KUC  
ONLY

SX-311R/KUC,  
SX-251R/KUC  
ONLY

T751 :

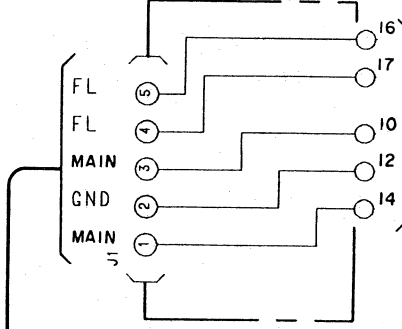
SX-301/KUC ; SX-201/KUC, SD ONLY

DL assembly J3 (P13)



• KUC indicates models SX-311R/KUC, SX-301/KUC, SX-251R/KUC, SX-201/KUC.  
 • SD indicates models SX-311R/SD and SX-201/SD.

**TRANS ASSEMBLY (KUC and SD)**



To POWER TRANSFORMER T1 (P9)

+5.3V SX-301, 311R  
(+4.6V : SX-201, 251R)

**Q5 : REGULATOR**

5.7V

5.0V

13.5V

To CONTROL assembly J4 (P12)

To POWER TRANSFORMER T1 (P9)

To AC POWER CORD (P9)

110-127V S2 AKX1004 LINE VOLTAGE SELECTOR

A  
B  
C  
D  
E  
F

# 4.4 PCB CONNECTION DIAGRAM

## NOTE

1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.
3. The capacitor terminal marked with ⊕ (double circles) shows negative terminal.
4. The diode terminal marked with ⊕ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

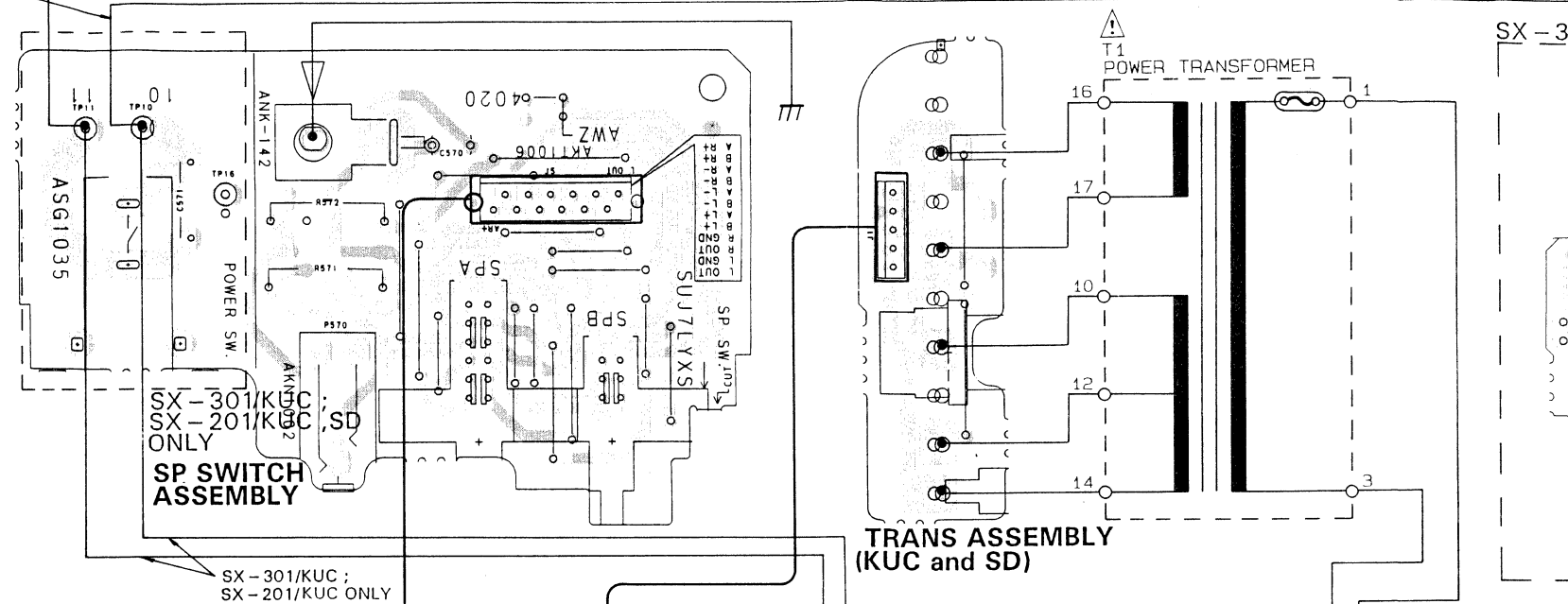
| P.C.B. pattern diagram indication | Corresponding part symbol | Part Name                 |
|-----------------------------------|---------------------------|---------------------------|
|                                   |                           | Transistor                |
|                                   |                           | Radiator type transistor  |
|                                   |                           | Diode                     |
|                                   |                           | Resistor                  |
|                                   |                           | Capacitor (Polarized)     |
|                                   |                           | Capacitor (Non-polarized) |

| P.C.B. pattern diagram indication | Part Name                                |
|-----------------------------------|--|
| IC                                | IC                                       |
| S                                 | Switch                                   |
| RY                                | Relay                                    |
| L                                 | Coil                                     |
| F                                 | Filter                                   |
| VR                                | Variable resistor or Semi-fixed resistor |

(FOR CANADIAN MODEL ONLY)  
Fuse symbols and/or (slow operating fuse) on P.C.B. indicate that replacement parts must be of identical designation.

(POUR MODÈLE CANADIEN SEULEMENT)  
Sur P.C.B., les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) indiquent que les pièces de remplacement doivent avoir la même désignation.

SX-201/SD ONLY

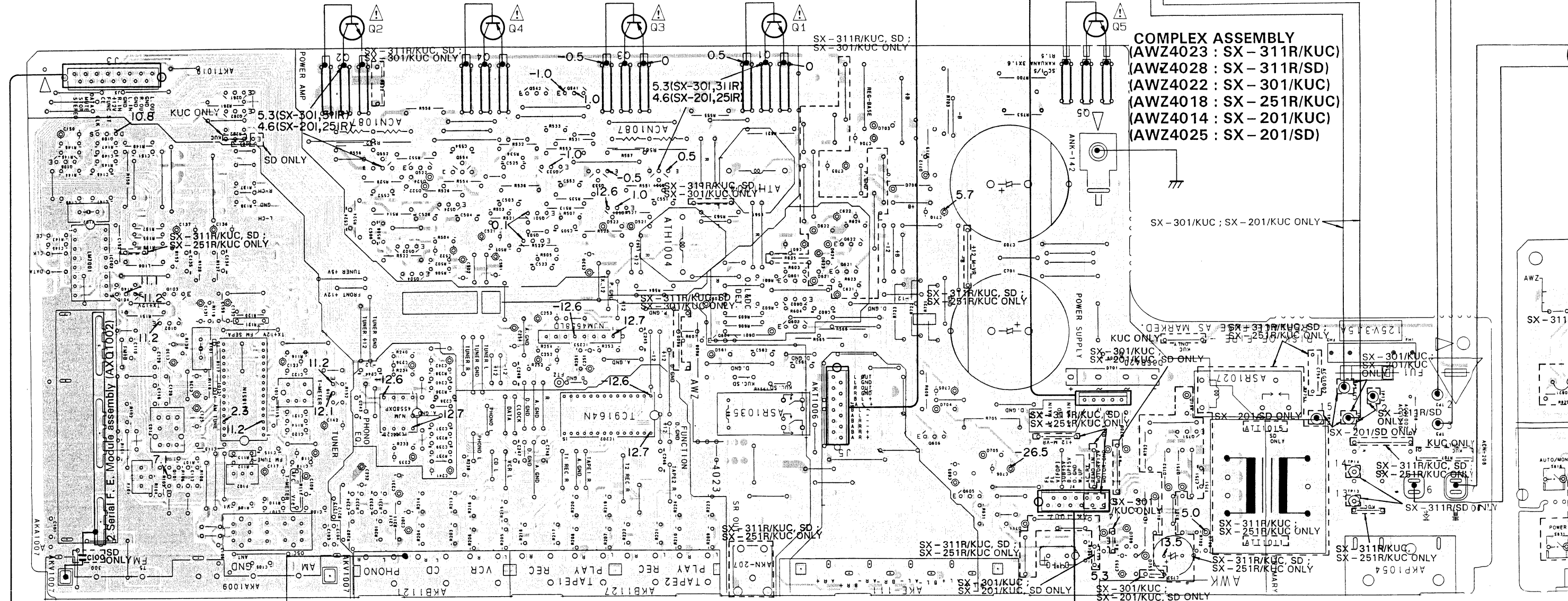


SX-301/KUC ;  
SX-201/KUC ;  
SD ONLY

SX-301/KUC ;  
SX-201/KUC ONLY

COMPLEX ASSEMBLY  
(AWZ4023 : SX-311R/KUC)  
(AWZ4028 : SX-311R/SD)  
(AWZ4022 : SX-301/KUC)  
(AWZ4018 : SX-251R/KUC)  
(AWZ4014 : SX-201/KUC)  
(AWZ4025 : SX-201/SD)

SX-301/KUC ; SX-201/KUC ONLY



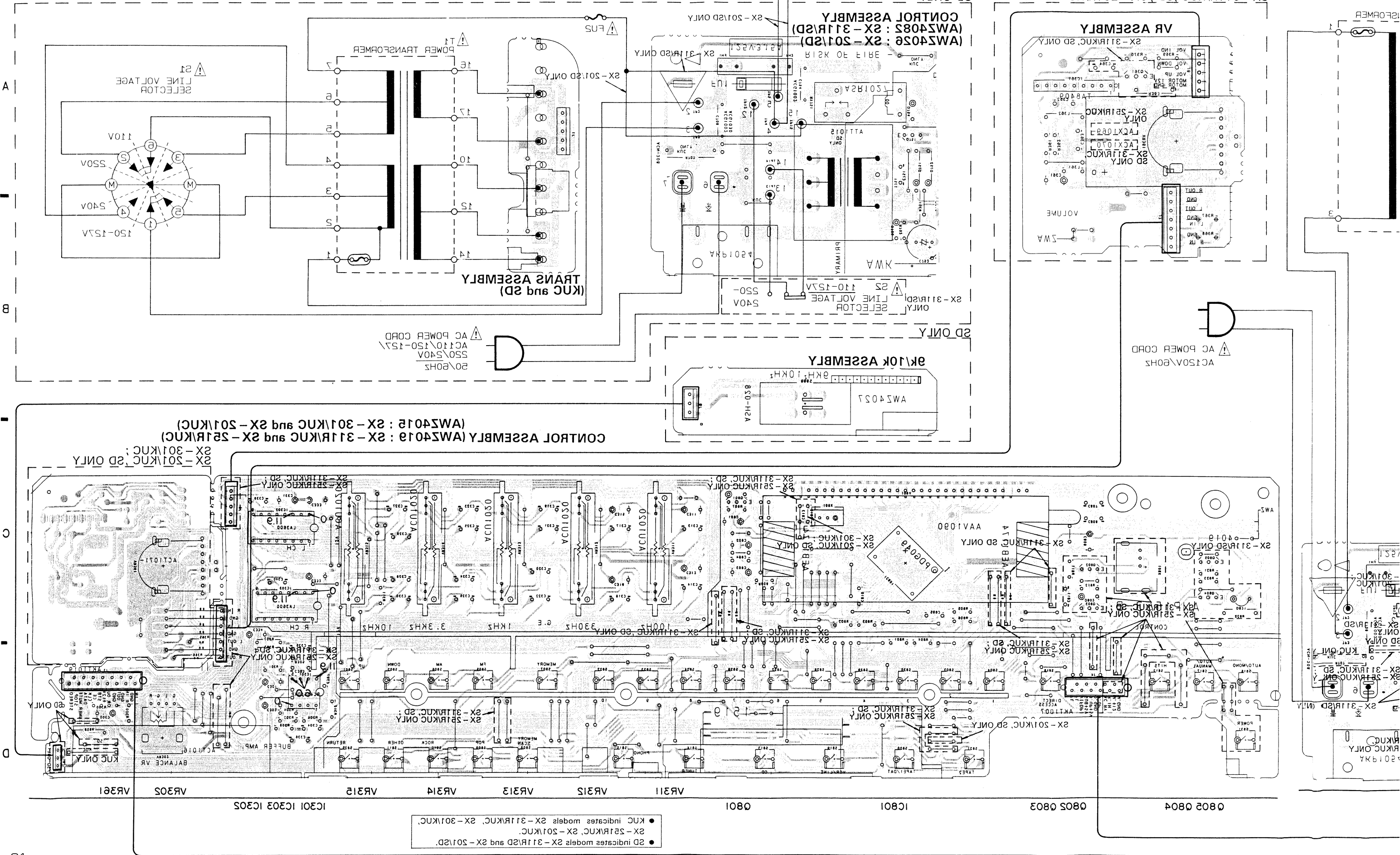
Q108 Q109 Q261-Q263 Q2 Q552 Q522 Q524 Q554 Q4 Q501 Q542 Q523 Q541 Q553 Q3 Q521 Q551 Q1 Q5  
IC102 Q102-Q104 IC101 Q110 Q502 Q504 Q503 IC253 IC202 Q604 Q601-Q603 Q621 Q622 Q606 Q605 Q751

1 2 3 4 5 6





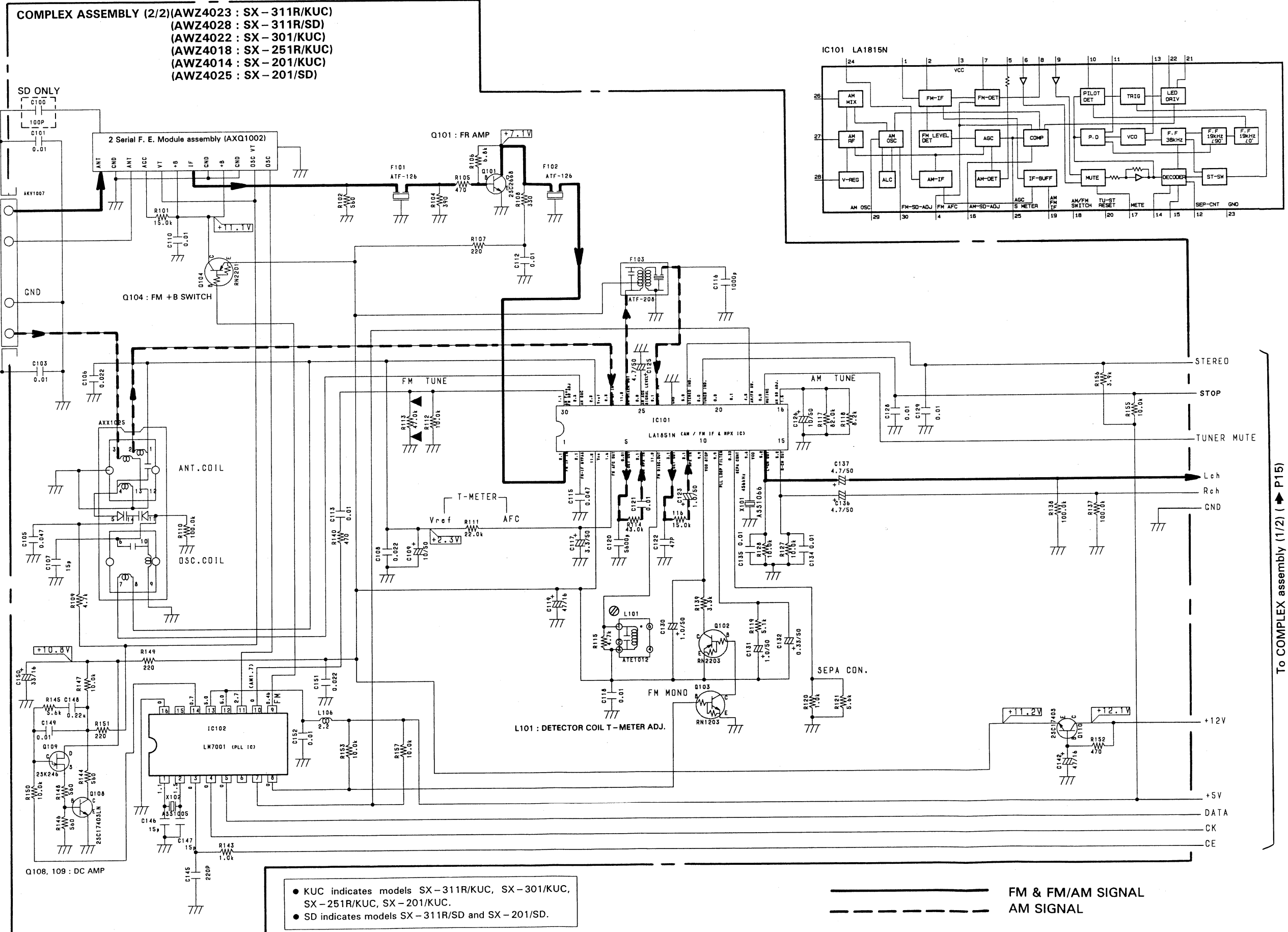
This P. C. B. connection diagram is viewed from the foil side.



- SD indicates models SX-311R/SD and SX-201R/SD.
- SX-251R/UC, SX-201R/UC.
- KUC indicates models SX-311R/KUC, SX-301R/KUC.



**4.5 COMPLEX ASSEMBLY (2/2)(TUNER SECTION)**



To COMPLEX assembly (1/2) (P15)

**5. PCB PARTS LIST**

**NOTES:**

- Part without part number cannot be supplied.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

|      |                      |          |                 |
|------|----------------------|----------|-----------------|
| 560Ω | 56 × 10 <sup>1</sup> | 561..... | RD1/8PM ⊠ ⊠ ⊠ J |
| 47kΩ | 47 × 10 <sup>3</sup> | 473..... | RD1/4PS ⊠ ⊠ ⊠ J |
| 0.5Ω | 0R5.....             |          | RN2H ⊠ ⊠ ⊠ K    |
| 1Ω   | 010.....             |          | RS1P ⊠ ⊠ ⊠ K    |

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

|        |                       |           |                 |
|--------|-----------------------|-----------|-----------------|
| 5.62kΩ | 562 × 10 <sup>1</sup> | 5621..... | RN1/4SR ⊠ ⊠ ⊠ F |
|--------|-----------------------|-----------|-----------------|

| Mark No.                  | Description   | Parts No.   | Mark No.  | Description             | Parts No.    |
|---------------------------|---|-------------|-----------|-------------------------|--------------|
| <b>LIST OF ASSEMBLIES</b> |   |             |           |                         |              |
| ⊙                         | CONTROL ASSEMBLY  | AWZ4019     | C307      | AXIAL CERAMIC CAPACITOR | CKPUYF103Z25 |
| ⊙                         | SP SWITCH ASSEMBLY  |             | C311, 312 | ELECTR. CAPACITOR       | CEASR68M50   |
| ⊙                         | COMPLEX ASSEMBLY  | AWZ4023     | C313, 314 | MYLAR FILM CAPACITOR    | CQMA393K50   |
|                           | VR ASSEMBLY   |             | C315, 316 | ELECTR. CAPACITOR       | CEASR22M50   |
|                           | TRANS ASSEMBLY  |             | C317, 318 | MYLAR FILM CAPACITOR    | CQMA123K50   |
| ⊙                         | <b>CONTROL ASSEMBLY (AWZ4019)</b>   |             | C319, 320 | MYLAR FILM CAPACITOR    | CQMA683K50   |
| <b>SEMICONDUCTORS</b>     |   |             |           |                         |              |
| IC301                     | OP-AMP IC   | NJM4558DXP  | C321, 322 | MYLAR FILM CAPACITOR    | CQMA392K50   |
| IC302, 303                | AUDIO IC  | LA3600      | C323, 324 | MYLAR FILM CAPACITOR    | CQMA223J50   |
| IC801                     | RECEIVER CONTROL  | PDG049-B    | C325, 326 | CERAMIC CAPACITOR       | CKCYB122K50  |
| Q801                      | TRANSISTOR  | RN1203      | C327, 328 | MYLAR FILM CAPACITOR    | CQMA682K50   |
| Q802                      | TRANSISTOR  | RN2201      | C329, 330 | CERAMIC CAPACITOR       | CKCYB391K50  |
| Q803                      | TRANSISTOR  | RN1201      | C331, 332 | ELECTR. CAPACITOR       | CEAS470M16   |
| D802                      | DIODE   | HSS104-02   | C333, 334 | ELECTR. CAPACITOR       | CEAS220M16   |
| <b>SWITCHES</b>           |   |             |           |                         |              |
| S801-831                  | SWITCH (FREQ. UP, FREQ. DOWN, 2, 1, FM, AM, MEMORY, MEMORY SCAN, POP, ROCK, OTHER, HITS, CD, TUNER, PHONO, AUTO/MONO, AUTO/MANUAL, DIRECT ACCESS, VCR/LINE, TAPE1/DAT, TAPE2, 10, 9, 8, RETURN, 7, 6, 5, 4, 3, POWER) | ASG1034     | C335, 336 | CERAMIC CAPACITOR       | CCMSL101J50  |
|                           |   |             | C339, 340 | CERAMIC CAPACITOR       | CCCSL271J50  |
|                           |   |             | C801      | ELECTR. CAPACITOR       | CEAS4R7M50   |
|                           |   |             | C802      | ELECTR. CAPACITOR       | CEAS0R1M50   |
|                           |   |             | C803      | ELECTR. CAPACITOR       | CEAS221M10   |
|                           |   |             | C804      | AXIAL CERAMIC CAPACITOR | CKPUYF103Z25 |
|                           |   |             | C805      | AXIAL CERAMIC CAPACITOR | CKPUYF473Z16 |
|                           |   |             | C807, 808 | CERAMIC CAPACITOR       | CKCYF473Z50  |
|                           |   |             | C809      | ELECTR. CAPACITOR       | CEAS100M50   |
|                           |   |             | C810      | AXIAL CERAMIC CAPACITOR | CKPUYF103Z25 |
|                           |   |             | C811      | CERAMIC CAPACITOR       | CKCYX104M25  |
|                           |   |             | C812      | AXIAL CERAMIC CAPACITOR | CKPUYF473Z16 |
| <b>CAPACITORS</b>         |   |             |           |                         |              |
| C300                      | ELECTR. CAPACITOR   | CEJA100M16  |           |                         |              |
| C301, 302                 | ELECTR. CAPACITOR   | CEAS4R7M50  |           |                         |              |
| C303, 304                 | CERAMIC CAPACITOR   | CCCSL220J50 |           |                         |              |

| Mark No.                            | Description                  | Parts No.       | Mark No.          | Description             | Parts No.    |
|-------------------------------------|------------------------------|-----------------|-------------------|-------------------------|--------------|
| <b>RESISTORS</b>                    |                              |                 |                   |                         |              |
| VR302                               | VARIABLE (500k-X1)           | ACS1016         | Q605              | TRANSISTOR              | RN1203       |
| VR311-315                           | VR                           | ACU1020         | Q606              | TRANSISTOR              | RN1201       |
|                                     |                              |                 | Q621, 622         | TRANSISTOR              | 2SC2240      |
|                                     | Other resistors              | RD1/8PM ⊠ ⊠ ⊠ J | Q751              | TRANSISTOR              | RN1201       |
| <b>OTHERS</b>                       |                              |                 |                   |                         |              |
|                                     | FL SPACER                    | AEB1174         | D521-524          | DIODE                   | HSS104-02    |
|                                     | REMOTE RECEIVER UNIT         | AXX1023         | D561              | DIODE                   | HSS104-02    |
|                                     |                              |                 | D601              | ZENER DIODE             | HZS12AL      |
| V801                                | FL TUBE                      | AAV1090         | D621-624          | DIODE                   | HSS104-02    |
| X801                                | CERAMIC OSCILLATOR (4.19MHz) | ASS1022         | D700              | DIODE                   | HSS104-02    |
| <b>SP SWITCH ASSEMBLY</b>           |                              |                 |                   |                         |              |
| <b>SWITCH</b>                       |                              |                 |                   |                         |              |
| S570                                | PUSH SWITCH                  | SUJ7LYXS        | D701              | DIODE                   | D3SBA20 (A)  |
| <b>CAPACITORS</b>                   |                              |                 |                   |                         |              |
| C570                                | ELECTR. CAPACITOR            | CEAS010M50      | D703              | ZENER DIODE             | HZS12B2L     |
| <b>RESISTORS</b>                    |                              |                 |                   |                         |              |
| R571, 572                           | METAL OXIDE RESISTOR         | RS2LMF331J      | D704              | ZENER DIODE             | HZS12AL      |
| <b>OTHERS</b>                       |                              |                 |                   |                         |              |
|                                     | JACK (HEADPHONE)             | AKN1002         | D705              | ZENER DIODE             | HZS24-2L     |
|                                     |                              |                 | D706              | ZENER DIODE             | HZS6B2L      |
|                                     |                              |                 | D708-710          | DIODE                   | HSS104-02    |
| <b>RELAY</b>                        |                              |                 |                   |                         |              |
|                                     |                              |                 | D711              | ZENER DIODE             | HZS7B2L      |
|                                     |                              |                 | D712              | ZENER DIODE             | HZS6B2L      |
|                                     |                              |                 | D713, 714         | DIODE                   | HSS104-02    |
|                                     |                              |                 | D751              | DIODE                   | HSS104-02    |
|                                     |                              |                 | D752              | DIODE                   | S5566        |
|                                     |                              |                 | D753              | ZENER DIODE             | HZS6A2L      |
|                                     |                              |                 | D754              | DIODE                   | HSS104-02    |
| <b>COILS &amp; TRANSFORMER</b>      |                              |                 |                   |                         |              |
|                                     |                              |                 | F101, 102         | CERAMIC FILTER          | ATF-126      |
|                                     |                              |                 | F103              | CERAMIC FILTER          | ATF-208      |
| <b>⊙ COMPLEX ASSEMBLY (AWZ4023)</b> |                              |                 |                   |                         |              |
| <b>SEMICONDUCTORS</b>               |                              |                 |                   |                         |              |
| IC101                               | AM/FM IC                     | LA1851N         | L101              | COIL                    | ATE1012      |
| IC102                               | PLL IC                       | LM7001          | L106              | AXIAL INDUCTOR          | LAU2R2M      |
| IC201                               | OP-AMP IC                    | NJM4558DXP      | L561, 562         | COIL                    | ATH1004      |
| IC202                               | E-SW IC                      | TC9164N         | T751              | POWER TRANSFORMER       | ATT1011      |
| IC253                               | OP-AMP IC                    | NJM4558LD       |                   |                         |              |
| Q101                                | TRANSISTOR                   | 2SC2668         | <b>CAPACITORS</b> |                         |              |
| Q102                                | TRANSISTOR                   | RN2203          | C101, 103         | CERAMIC CAPACITOR       | CKPUYY103N16 |
| Q103                                | TRANSISTOR                   | RN1203          | C105              | AXIAL CERAMIC CAPACITOR | CKPUYF473Z16 |
| Q104                                | TRANSISTOR                   | RN2201          | C106              | AXIAL CERAMIC CAPACITOR | CKPUYF223Z25 |
| Q108                                | TRANSISTOR                   | 2SC1740SLN      | C107              | AXIAL CERAMIC C.        | CCPUCH150J50 |
| Q109                                | N-FET                        | 2SK246          | C108              | AXIAL CERAMIC CAPACITOR | CKPUYF223Z25 |
| Q110                                | TRANSISTOR                   | 2SC1740S        | C109              | ELECTR. CAPACITOR       | CEAS100M50   |
| Q261, 262                           | TRANSISTOR                   | RN1203          | C110              | CERAMIC CAPACITOR       | CKPUYY103N16 |
| Q501-504                            | TRANSISTOR                   | 2SA992          | C112, 113         | CERAMIC CAPACITOR       | CKPUYY103N16 |
| Q521, 522                           | TRANSISTOR                   | 2SA1145         | C115              | CERAMIC CAPACITOR       | CKDYX473M25  |
| Q523, 524                           | TRANSISTOR                   | 2SC2705         | C116              | CERAMIC CAPACITOR       | CKPUYB102Z50 |
| Q541, 542                           | TRANSISTOR                   | 2SC2458         | C117              | ELECTR. CAPACITOR       | CEAS3R3M50   |
| Q551, 552                           | TRANSISTOR                   | 2SC3298         | C118              | CERAMIC CAPACITOR       | CKPUYY103N16 |
| Q553, 554                           | TRANSISTOR                   | 2SA1306         | C119              | ELECTR. CAPACITOR       | CEAS470M16   |
| Q601, 602                           | TRANSISTOR                   | 2SC2458         | C120              | CERAMIC CAPACITOR       | CKPUYX562M16 |
| Q603                                | TRANSISTOR                   | 2SA1048         |                   |                         |              |
| Q604                                | TRANSISTOR                   | 2SC2240         |                   |                         |              |

| Mark No.  | Description             | Parts No.    | Mark No.         | Description           | Parts No.    |
|-----------|-------------------------|--------------|------------------|-----------------------|--------------|
| C121      | CERAMIC CAPACITOR       | CKPUYY103N16 | C703             | ELECTR. CAPACITOR     | CEAS101M16   |
| C122      | AXIAL CERAMIC C.        | CCPUSL470J50 | C704             | ELECTR. CAPACITOR     | CEAS100M50   |
| C123      | ELECTR. CAPACITOR       | CEAS010M50   | C705             | ELECTR. CAPACITOR     | CEAS101M25   |
| C125      | ELECTR. CAPACITOR       | CEAS4R7M50   | C706             | ELECTROLYTIC CAPACIT  | CEHAQ470M35  |
| C126      | ELECTR. CAPACITOR       | CEAS100M50   | C707             | CAPACITOR (0.047/5.5) | ACH1135      |
| C128, 129 | CERAMIC CAPACITOR       | CKPUYY103N16 | △ C708           | CKA (0.01/AC400V)     | ACG1002      |
| C130, 131 | ELECTR. CAPACITOR       | CEAS010M50   | C709             | CKA (0.01/AC250V)     | ACG1005      |
| C132      | ELECTR. CAPACITOR       | CEASR33M50   | C710             | ELECTROLYTIC CAPACIT  | CEHAQ470M10  |
| C134, 135 | CERAMIC CAPACITOR       | CKCYB103K50  | C751             | CERAMIC CAPACITOR     | CKCYX104M25  |
| C136, 137 | ELECTR. CAPACITOR       | CEAS4R7M50   | C752             | ELECTROLYTIC CAPACIT  | CEAS471M25   |
| C142      | ELECTR. CAPACITOR       | CEAS470M16   | C753             | ELECTR. CAPACITOR     | CEAS470M10   |
| C145      | CERAMIC CAPACITOR       | CKPUYB221K50 | △ C754           | CKA (0.01/AC400V)     | ACG1002      |
| C146, 147 | AXIAL CERAMIC C.        | CCPUCH150J50 | C755             | CERAMIC CAPACITOR     | CKCYX104M25  |
| C148      | AUDIO FILM CAPACITOR    | CFTXA224J50  | <b>RESISTORS</b> |                       |              |
| C149      | AUDIO FILM CAPACITOR    | CFTXA103J50  | R521, 522        | CARBON FILM RESISTOR  | RD1/4PM432J  |
| C150      | ELECTR. CAPACITOR       | CEAS330M16   | R523, 524        | CARBON FILM RESISTOR  | RD1/4PM104J  |
| C151      | AXIAL CERAMIC CAPACITOR | CKPUYF223Z25 | △ R527, 528      | CARBON FILM RESISTOR  | RD1/4PMF680J |
| C152      | CERAMIC CAPACITOR       | CKPUYY103N16 | △ R535, 536      | FUSLIBLE RESISTOR     | RFA1/4PS101J |
| C201      | ELECTR. CAPACITOR       | CEAS010M50   | △ R551-554       | FUSLIBLE RESISTOR     | RFA1/4PS101J |
| C231, 232 | ELECTR. CAPACITOR       | CEAS100M50   | R555-558         | CARBON FILM RESISTOR  | RD1/4PMF101J |
| C233, 234 | CERAMIC CAPACITOR       | CCCSL221J50  | △ R561, 562      | RESISTOR (0.33, 5W)   | ACN1087      |
| C235, 236 | ELECTR. CAPACITOR       | CEAS470M10   | △ R563, 564      | CARBON FILM RESISTOR  | RD1/4PMF100J |
| C237, 238 | MYLAR FILM CAPACITOR    | CQMA242J50   | R565, 566        | CARBON FILM RESISTOR  | RD1/4PMF100J |
| C239, 240 | MYLAR FILM CAPACITOR    | CQMA822K50   | △ R600           | METAL OXIDE RESISTOR  | RS2LMF272J   |
| C241, 242 | ELECTR. CAPACITOR       | CEAS2R2M50   | △ R608           | METAL OXIDE RESISTOR  | RS2LMF332J   |
| C243-246  | AXIAL CERAMIC CAPACITOR | CKPUYF103Z25 | R609             | CARBON FILM RESISTOR  | RD1/4PM123J  |
| C247, 248 | CERAMIC CAPACITOR       | CKCYB331K50  | R625             | CARBON FILM RESISTOR  | RD1/4PMF101J |
| C249      | CERAMIC CAPACITOR       | CKCYB471K50  | △ R700           | METAL OXIDE RESISTOR  | RS1PMF562J   |
| C251, 252 | ELECTR. CAPACITOR       | CEAS2R2M50   | R701             | CARBON FILM RESISTOR  | RD1/4PM302J  |
| C253, 254 | ELECTR. CAPACITOR       | CEAS4R7M50   | △ R703           | CARBON FILM RESISTOR  | RD1/4PMF2R2J |
| C501, 502 | ELECTR. CAPACITOR       | CEAS2R2M50   | △ R705           | METAL OXIDE RESISTOR  | RS2LMF182J   |
| C503, 504 | CERAMIC CAPACITOR       | CKCYB102K50  | R707             | RESISTOR (2.2M, 1/2W) | ACN-208      |
| C505, 506 | CERAMIC CAPACITOR       | CKDYB681K50  | △ R715           | METAL OXIDE RESISTOR  | RS1LMF151J   |
| C520      | ELECTR. CAPACITOR       | CEAS101M16   | R721, 722        | METAL OXIDE RESISTOR  | RS2LMF822J   |
| C521, 522 | ELECTR. CAPACITOR       | CEAS220M16   | △ R723           | METAL OXIDE RESISTOR  | RS2LMF103J   |
| C523, 524 | CERAMIC CAPACITOR       | CCCSL120K500 |                  |                       |              |
| C525, 526 | CERAMIC CAPACITOR       | CCCSL050C500 |                  |                       |              |
| C551-554  | CERAMIC CAPACITOR       | CCCSL101K500 |                  |                       |              |
| C561, 562 | MYLAR FILM CAPACITOR    | CQMA473K50   |                  |                       |              |
| C601      | ELECTROLYTIC CAPACIT    | CEAS471M6    |                  |                       |              |
| C602      | AXIAL CERAMIC CAPACITOR | CKPUYF103Z25 |                  |                       |              |
| C603      | ELECTR. CAPACITOR       | CEAS101M16   |                  |                       |              |
| C605      | ELECTR. CAPACITOR       | CEAS4R7M50   |                  |                       |              |
| C621, 622 | ELECTR. CAPACITOR       | CEAS2R2M50   |                  |                       |              |
| C701, 702 | ELECTROLYTIC CAPACIT    | ACH1044      |                  |                       |              |

# SX-311R

| Mark No. | Description          | Parts No.     |
|----------|----------------------|---------------|
| △ R751   | METAL OXIDE RESISTOR | RS2LMF221J    |
| R752     | CARBON FILM RESISTOR | RD1/2PM470J   |
| △ R753   | CARBON FILM RESISTOR | RD1/4PMFL2R2J |
|          | Other resistors      | RD1/8PM□□□J   |

## OTHERS

|      |  |         |
|------|--|---------|
| X101 | CRYSTAL RESONATOR (456kHz)   | ASS1066 |
| X102 | CRYSTAL RESONATOR (7.2MHz)   | ASS1005 |
|      | ANTENNA TERMINAL 4-P   | AKA1009 |
|      | PIN JACK 6P (PHONO, CD, VCR/LD)                                    | AKB1121 |
|      | PIN JACK 8P (TAPE1/DAT, TAPE2 MONITOR)                             | AKB1127 |
|      | SPEAKER TERMINAL 8-P   | AKE-111 |
|      | JACK (CONTROL)   | AKN-207 |
|      | AC OUTLET (1P)   | AKP1054 |
|      | AM RF TUNING BLOCK   | AXX1025 |
|      | 2 SERIAL F.E. MODULE ASSEMBLY (This assembly has no service part.) | AXQ1002 |

## VR ASSEMBLY

### SEMICONDUCTORS

|       |                     |         |
|-------|---------------------|---------|
| IC361 | MECHANISM DRIVER IC | TA8409S |
| Q361  | TRANSISTOR          | RN1201  |

### COILS

|           |                |         |
|-----------|----------------|---------|
| L361, 362 | AXIAL INDUCTOR | LAU101K |
|-----------|----------------|---------|

### CAPACITORS

|           |                   |             |
|-----------|-------------------|-------------|
| C361      | ELECTR. CAPACITOR | CEAS470M16  |
| C362, 363 | CERAMIC CAPACITOR | CKCYF473Z50 |
| C364      | CERAMIC CAPACITOR | CKCYX104M25 |

### RESISTORS

|       |                   |             |
|-------|-------------------|-------------|
| VR361 | MOTOR VR WITH LED | ACX1070     |
|       | Other resistors   | RD1/8PM□□□J |

## TRANS ASSEMBLY

TRANS assembly has no service part.

## 6. ADJUSTMENTS

• For connections and points to be adjusted, refer to Fig. 6-1, Fig. 6-2 and Fig. 6-3.

### 6.1 AM TUNER ADJUSTMENT

• Set the BAND selector "AM".

| Step No. | Adjustment Title                  | AM SG (400Hz 30% Mod.) |                    | Reception Frequency Display | Adjustment Location | Specifications  |
|----------|-----------------------------------|------------------------|--------------------|-----------------------------|---------------------|---|
|          |                                   | Frequency (kHz)        | Level (dB $\mu$ V) |                             |                     |   |
| 1        | TUNED indicator sensitivity check | 1000                   | —                  | 1000kHz                     | R117                | Check that the indicator lights up when the level is less than 64dB $\mu$ V/m. *1 |

\*1. Remove R117 if the indicator does not light up.

### 6.2 FM TUNER ADJUSTMENT

• Set the BAND selector to "FM".

• Perform VCO adjustment two minutes or more after turning the power ON.

*Note :*

*Stereo modulation : Main 1kHz L+R  $\pm$  68.25kHz dev.*

*Pilot 19kHz  $\pm$  6.75kHz dev.*

| Step No. | Adjustment Title                  | FM SG (1kHz $\pm$ 75kHz dev.) |                    | Reception Frequency Display | Adjustment Location | Specifications  |
|----------|-----------------------------------|-------------------------------|--------------------|-----------------------------|---------------------|---|
|          |                                   | Frequency (MHz)               | Level (dB $\mu$ V) |                             |                     |   |
| 1        | Detector coil T-meter adjustment  | 98.0                          | 60                 | 98.0MHz                     | L101                | Adjust so that the DC voltage between both sides of R111 is 0 $\pm$ 50mV. |
| 2        | Separation check                  | 98.0                          | 60                 | 98.0MHz                     | R121 *1             | Check that the separation is 23dB or more (at 1kHz).                      |
| 3        | TUNED indicator sensitivity check | 98.0                          | 20 $\pm$ 13        | 98.0MHz                     | R113 *2             | Check that the indicator lights up.                                       |

\*1. Remove R121 if the separation is less than 23dB.

\*2. Remove R113 if the indicator does not light up.

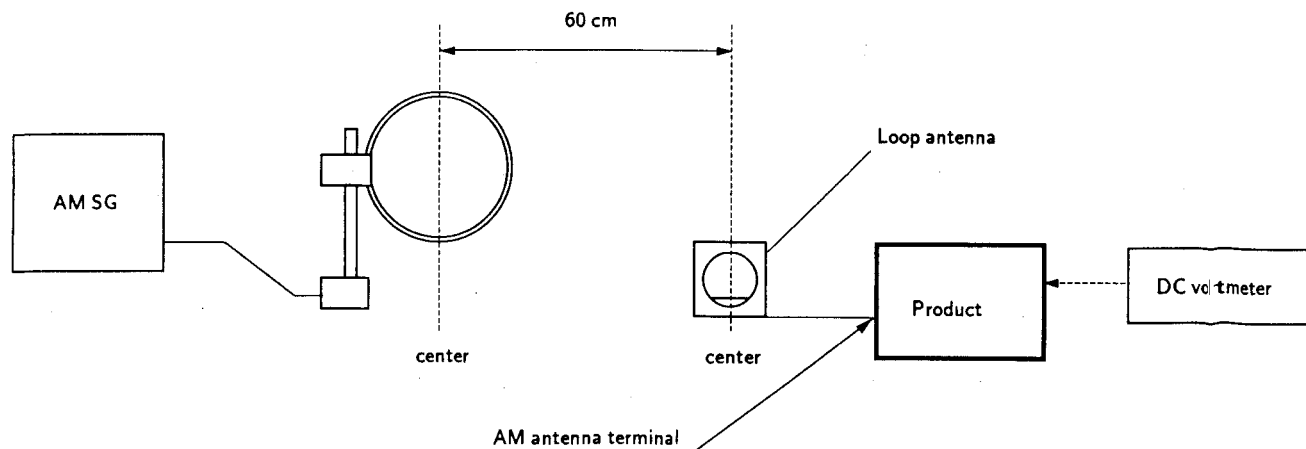


Fig. 6-1 AM Adjustment Connection Diagram

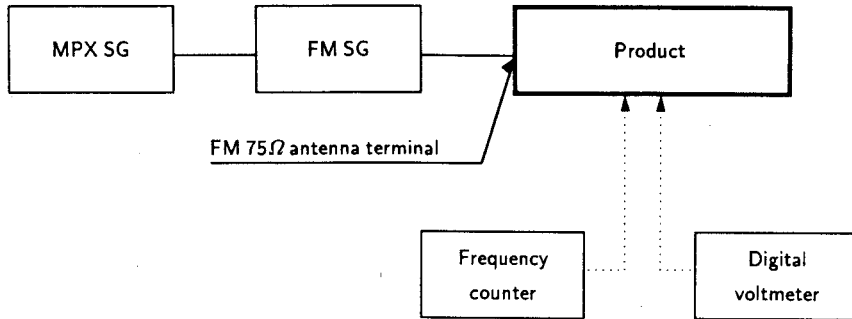


Fig. 6-2 FM Adjustment Connection Diagram

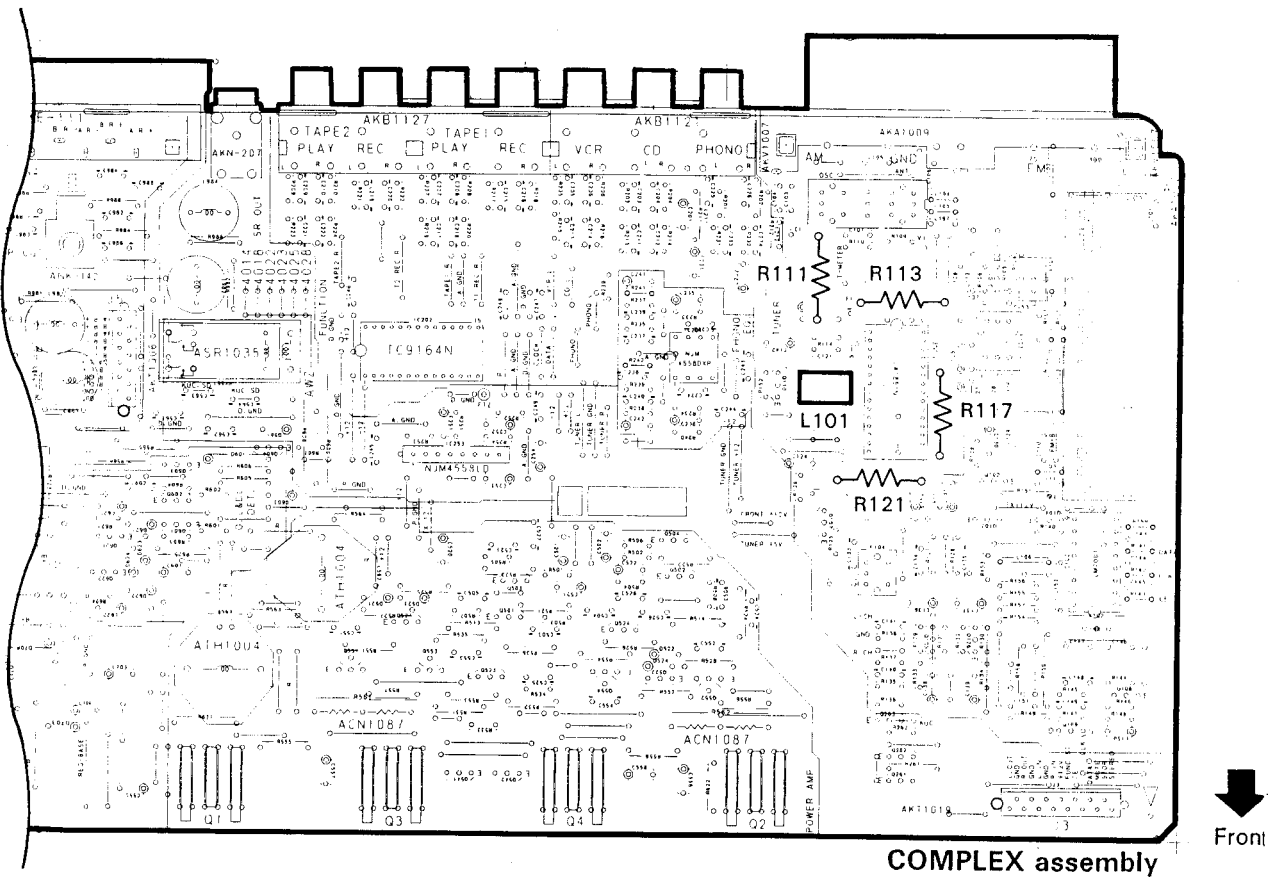


Fig. 6-3 Adjustment Points



## 7. FOR SX – 311R/SD, KUC/CA, SX – 301/KUC, SX – 251R/KUC, KUC/CA, SX – 201/KUC, SD AND KUC/CA TYPES

- KUC/CA type is identical to KUC type but with additional (French) operating instructions :

| Model Name       | Operating Instructions (French) |
|------------------|---------------------------------|
| SX – 311R/KUC/CA | ARC1348                         |
| SX – 251R/KUC/CA | ARC1348                         |
| SX – 201/KUC/CA  | ARC1348                         |

### 7.1 CONTRAST OF MISCELLANEOUS PARTS

**NOTES:**

- Part without part number cannot be supplied.
- The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

SX – 311R/SD, SX – 301/KUC, SX – 251R/KUC, SX – 201/KUC, SD and SX – 311R/KUC have the same construction except for the following :

| Mark     | Symbol & Description                                    | Part No.               |                       |                       |                        |                       |                      | Remarks |
|----------|---|------------------------|-----------------------|-----------------------|------------------------|-----------------------|----------------------|---------|
|          |   | SX – 311R/<br>KUC type | SX – 311R/<br>SD type | SX – 301/<br>KUC type | SX – 251R/<br>KUC type | SX – 201/<br>KUC type | SX – 201/<br>SD type |         |
| ●        | COMPLEX assembly  | AWZ4023                | AWZ4028               | AWZ4022               | AWZ4018                | AWZ4014               | AWZ4025              |         |
| ●        | CONTROL assembly  | AWZ4019                | AWZ4082               | AWZ4015               | AWZ4019                | AWZ4015               | AWZ4026              |         |
|          | SP SWITCH assembly                                      | Non supply             | Non supply            | Non supply            | Non supply             | Non supply            | Non supply           | *1      |
|          | 9k/10k assembly   | .....                  | Non supply            | .....                 | .....                  | .....                 | Non supply           | *2      |
|          | VR assembly   | Non supply             | Non supply            | .....                 | Non supply             | .....                 | .....                | *3      |
| $\Delta$ | Q1, Q2 Transistor                                       | 2SC4689                | 2SC4689               | 2SC4689               | 2SC4688                | 2SC4688               | 2SC4688              |         |
| $\Delta$ | Q3, Q4 Transistor                                       | 2SA1804                | 2SA1804               | 2SA1804               | 2SA1803                | 2SA1803               | 2SA1803              |         |
| $\Delta$ | S1 Line voltage selector<br>(AC110V/120–127V/220V/240V) | .....                  | AKX – 507             | .....                 | .....                  | .....                 | AKX – 507            |         |
| $\Delta$ | S2 Line voltage selector<br>(AC110–127V/220–240V)       | .....                  | AKX1004               | .....                 | .....                  | .....                 | .....                |         |
| $\Delta$ | T1 Power transformer                                    | ATS1409                | ATS1411               | ATS1409               | ATS1408                | ATS1408               | ATS1410              |         |
| $\Delta$ | FU1 Fuse (4A/125V)                                      | AEK – 125              | .....                 | AEK – 125             | .....                  | .....                 | .....                |         |
| $\Delta$ | FU1 Fuse (2A/125V)                                      | .....                  | AEK – 122             | .....                 | .....                  | .....                 | .....                |         |
| $\Delta$ | FU1 Fuse (3.15A/125V)                                   | .....                  | .....                 | .....                 | AEK – 124              | AEK – 124             | .....                |         |
| $\Delta$ | FU1 Fuse (1.6A/125V)                                    | .....                  | .....                 | .....                 | .....                  | .....                 | AEK – 121            |         |
| $\Delta$ | FU2 Fuse (2A/125V)                                      | .....                  | AEK – 122             | .....                 | .....                  | .....                 | .....                |         |
| $\Delta$ | FU2 Fuse (1.6A/125V)                                    | .....                  | .....                 | .....                 | .....                  | .....                 | AEK – 121            |         |
| $\Delta$ | Fuse holder   | .....                  | AKR1001               | .....                 | .....                  | .....                 | AKR1001              |         |
| $\Delta$ | AC Power cord   | ADG1058                | ADG1051               | ADG1058               | ADG1058                | ADG1058               | ADG1051              |         |
| $\Delta$ | Strain relief   | AEP – 113              | AEC – 882             | AEP – 113             | AEP – 113              | AEP – 113             | AEC – 882            |         |
|          | Display panel   | AAK2277                | AAK2278               | AAK2276               | AAK2277                | AAK2276               | AAK2276              |         |
|          | Rotary knob assy  | AAB1275                | AAB1275               | .....                 | .....                  | .....                 | .....                |         |
|          | Rotary knob   | .....                  | .....                 | AAB1277               | AAB1277                | AAB1277               | AAB1277              |         |
|          | Insulation spacer                                       | .....                  | Non supply            | .....                 | .....                  | .....                 | .....                |         |

**SX-311R/SX-301**  
**SX-251R/SX-201**

| Mark | Symbol & Description              | Part No.             |                     |                     |                      |                     |                    | Remarks           |
|------|-----------------------------------|----------------------|---------------------|---------------------|----------------------|---------------------|--------------------|-------------------|
|      |                                   | SX-311R/<br>KUC type | SX-311R/<br>SD type | SX-301/<br>KUC type | SX-251R/<br>KUC type | SX-201/<br>KUC type | SX-201/<br>SD type |                   |
|      | Front panel                       | AMB1950              | AMB1950             | AMB1970             | AMB1969              | AMB1949             | AMB1949            |                   |
|      | Insulator assy                    | AMR2140              | AMR2140             | .....               | .....                | .....               | .....              |                   |
|      | Leg assy                          | .....                | .....               | AEC-784             | AEC-784              | AEC-784             | AEC-784            |                   |
|      | Bonnet case                       | ANE1334              | ANE1334             | ANE1334             | ANE1343              | ANE1343             | ANE1343            |                   |
|      | Screw                             | .....                | BBZ26P120FMC        | .....               | .....                | .....               | BBZ26P120FMC       | Fuse holder<br>*4 |
|      | Screw                             | .....                | PMZ30P040FMC        | .....               | .....                | .....               | PMZ30P040FMC       |                   |
|      | Screw                             | ABA1009              | ABA1009             | .....               | .....                | .....               | .....              |                   |
|      | Packing case                      | AHD2225              | AHD2227             | AHD2224             | AHD2223              | AHD2222             | AHD2226            |                   |
|      | Remote control unit<br>(CU-SX042) | AXD1259              | AXD1259             | .....               | AXD1259              | .....               | .....              |                   |
|      | Battery cover                     | AZA1297              | AZA1297             | .....               | AZA1297              | .....               | .....              |                   |
|      | Operating instructions (Spanish)  | .....                | ARC1332             | .....               | .....                | .....               | ARC1332            |                   |

\*1 : SP SWITCH assemblies of SX-311R/KUC, SD and SX-251R/KUC types are the same.

SP SWITCH assemblies of SX-301/KUC, SX-201/KUC and SD types are the same.

\*2 : 9k/10k assemblies of SX-311R/SD and SX-201/SD types are the same.

\*3 : VR assemblies of SX-311R/KUC and SD types are the same.

\*4 : For Channel step selector.

● **CONTROL ASSEMBLY (AWZ4082, AWZ4015, AWZ4026)**

CONTROL assembly (AWZ4082, AWZ4015, AWZ4026) and CONTROL assembly (AWZ4019) have the same construction except for the following :

| Mark | Symbol & Description       | Part No.     |              |             |             | Remarks |
|------|----------------------------|--------------|--------------|-------------|-------------|---------|
|      |                            | AWZ4019      | AWZ4082      | AWZ4015     | AWZ4026     |         |
|      | Q802                       | RN2201       | RN2201       | .....       | .....       |         |
|      | Q803                       | RN1201       | RN1201       | .....       | .....       |         |
|      | Q804                       | .....        | RN1203       | .....       | .....       |         |
|      | Q805                       | .....        | 2SC2458      | .....       | .....       |         |
|      | D802                       | HSS104-02    | HSS104-02    | .....       | .....       |         |
|      | D821                       | .....        | AEL1108      | .....       | .....       |         |
|      | S831                       | ASG1034      | ASG1034      | .....       | .....       |         |
|      | C811                       | CKCYX104M25  | CKCYX104M25  | .....       | .....       |         |
|      | C812                       | CKPUYF473Z16 | CKPUYF473Z16 | .....       | .....       |         |
|      | VR361                      | .....        | .....        | ACT1071     | ACT1071     |         |
|      | R365, R366                 | .....        | .....        | RD1/8PM102J | RD1/8PM102J |         |
|      | R811, R812                 | RD1/8PM472J  | RD1/8PM472J  | .....       | .....       |         |
|      | R821                       | .....        | RD1/8PM472J  | .....       | .....       |         |
|      | R822                       | .....        | RD1/4PM221J  | .....       | .....       |         |
|      | R823                       | .....        | RD1/8PM562J  | .....       | .....       |         |
|      | Remote control sensor unit | AXX1023      | AXX1023      | .....       | .....       |         |

◎ **COMPLEX ASSEMBLY (AWZ4028, AWZ4022)**

COMPLEX assembly (AWZ4028, AWZ4022) and COMPLEX assembly (AWZ4023) have the same construction except for the following :

| Mark | Symbol & Description | Part No.    |             |         | Remarks |
|------|----------------------|-------------|-------------|---------|---------|
|      |                      | AWZ4023     | AWZ4028     | AWZ4022 |         |
|      | Q263                 | .....       | RN2203      | .....   |         |
|      | Q751                 | RN1201      | RN1201      | .....   |         |
|      | D714, D751, D754     | HSS104-02   | HSS104-02   | .....   |         |
|      | D752                 | S5566       | S5566       | .....   |         |
|      | D753                 | HZS6A2L     | HZS6A2L     | .....   |         |
|      | RY751                | ASR1027     | ASR1027     | .....   |         |
|      | T751                 | ATT1011     | ATT1015     | .....   |         |
|      | C100                 | .....       | CCDSL101J50 | .....   |         |
| △    | C708 (0.01/AC400V)   | ACG1002     | .....       | ACG1002 |         |
| △    | C708 (0.022/AC400V)  | .....       | ACG1030     | .....   |         |
|      | C751, C755           | CKCYX104M25 | CKCYX104M25 | .....   |         |
|      | C752                 | CEAS471M25  | CEAS471M25  | .....   |         |
|      | C753                 | CEAS470M10  | CEAS470M10  | .....   |         |
| △    | C754 (0.01/AC400V)   | ACG1002     | ACG1002     | .....   |         |
|      | R707 (2.2M, 1/2W)    | ACN-208     | .....       | ACN-208 |         |
| △    | R751                 | RS2LMF221J  | RS2LMF221J  | .....   |         |
|      | R752                 | RD1/2PM470J | RD1/2PM470J | .....   |         |
|      | Mini jack (CONTROL)  | AKN-207     | AKN-207     | .....   |         |

→ **VR ASSEMBLY (SX-251R/KUC)**

VR assembly (SX-251R/KUC) and VR assembly (SX-311R/KUC) have the same construction except for the following :

| Mark | Symbol & Description | Part No.    |             | Remarks |
|------|----------------------|-------------|-------------|---------|
|      |                      | SX-311R/KUC | SX-251R/KUC |         |
|      | Q361                 | RN1201      | .....       |         |
|      | C364                 | CKCYX104M25 | .....       |         |
|      | VR361                | ACX1070     | ACX1069     |         |
|      | R363                 | RD1/8PM182J | .....       |         |

# SX-311R/SX-301 SX-251R/SX-201

## SP SWITCH ASSEMBLY (SX-301/KUC, SX-201/KUC and SX-201/SD)

SP SWITCH assembly (SX-301/KUC, SX-201/KUC, SD) and SP SWITCH assembly (SX-311R/KUC) have the same construction except for the following :

| Mark | Symbol & Description | Part No.    |                               | Remarks |
|------|----------------------|-------------|-------------------------------|---------|
|      |                      | SX-311R/KUC | SX-301/KUC,<br>SX-201/KUC, SD |         |
|      | S1                   | .....       | ASG1035                       |         |
| △    | C571 (0.01/AC400V)   | .....       | ACG1002                       |         |

## 7.2 PCB PARTS LIST

### NOTES:

- Part without part number cannot be supplied.
- Parts marked by "●" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The △ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

|      |                      |          |         |         |
|------|----------------------|----------|---------|---------|
| 560Ω | 56 × 10 <sup>1</sup> | 561..... | RD1/8PM | □ □ □ J |
| 47kΩ | 47 × 10 <sup>3</sup> | 473..... | RD1/4PS | □ □ □ J |
| 0.5Ω | 0R5.....             |          | RN2H    | □ □ □ K |
| 1Ω   | 010.....             |          | RS1P    | □ □ □ K |

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

|        |                       |           |         |         |
|--------|-----------------------|-----------|---------|---------|
| 5.62kΩ | 562 × 10 <sup>1</sup> | 5621..... | RN1/4SR | □ □ □ F |
|--------|-----------------------|-----------|---------|---------|

| Mark No.  | Description | Parts No.  | Mark No.     | Description | Parts No.  |
|---|-------------|------------|--------------|-------------|------------|
| <b>● COMPLEX ASSEMBLY (AWZ4018 : SX-251R/KUC)</b> |             |            |              |             |            |
| <b>SEMICONDUCTORS</b>                             |             |            |              |             |            |
| IC101   | AM/FM IC    | LA1851N    | Q605         | TRANSISTOR  | RN1203     |
| IC102   | PLL IC      | LM7001     | Q606         | TRANSISTOR  | RN1201     |
| IC201   | OP-AMP IC   | NJM4558DXP | Q751         | TRANSISTOR  | RN1201     |
| IC202   | E-SW IC     | TC9164N    | D521-524     | DIODE       | HSS104-12  |
| IC253   | OP-AMP IC   | NJM4558LD  | D561         | DIODE       | HSS104-12  |
|   |             |            | D601         | ZENER DIODE | HZS12AL    |
|   |             |            | D700         | DIODE       | HSS104-12  |
|   |             |            | D701         | DIODE       | D3SBA20(A) |
| Q101  | TRANSISTOR  | 2SC2668    | D703         | ZENER DIODE | HZS12B2L   |
| Q102  | TRANSISTOR  | RN2203     | D704         | ZENER DIODE | HZS12AL    |
| Q103  | TRANSISTOR  | RN1203     | D705         | ZENER DIODE | HZS24-2L   |
| Q104  | TRANSISTOR  | RN2201     | D706         | ZENER DIODE | HZS6B2L    |
| Q108  | TRANSISTOR  | 2SC1740SLN | D708-710     | DIODE       | HSS104-12  |
| Q109  | N-FET       | 2SK246     |              |             |            |
| Q110  | TRANSISTOR  | 2SC1740S   | D711         | ZENER DIODE | HZS7B2L    |
| Q261, 262   | TRANSISTOR  | RN1203     | D712         | ZENER DIODE | HZS6B2L    |
| Q501-504  | TRANSISTOR  | 2SA992     | D713, 714    | DIODE       | HSS104-12  |
| Q521, 522   | TRANSISTOR  | 2SA1145    | D751         | DIODE       | HSS104-12  |
|   |             |            | D752         | DIODE       | S5566      |
| Q523, 524   | TRANSISTOR  | 2SC2705    |              |             |            |
| Q541, 542   | TRANSISTOR  | 2SC2458    | D753         | ZENER DIODE | HZS6A2L    |
| Q551, 552   | TRANSISTOR  | 2SC2235    | D754         | DIODE       | HSS104-12  |
| Q553, 554   | TRANSISTOR  | 2SA965     |              |             |            |
| Q601, 602   | TRANSISTOR  | 2SC2458    | <b>RELAY</b> |             |            |
|   |             |            | RY561        | RELAY       | ASR1035    |
| Q603  | TRANSISTOR  | 2SA1048    | RY751        | RELAY       | ASR1027    |
| Q604  | TRANSISTOR  | 2SC2240    |              |             |            |

| Mark No.                       | Description             | Parts No.    | Mark No.         | Description             | Parts No.     |
|--------------------------------|-------------------------|--------------|------------------|-------------------------|---------------|
| <b>COILS &amp; TRANSFORMER</b> |                         |              | C239, 240        | MYLAR FILM CAPACITOR    | CQMA822K50    |
| F101, 102                      | CERAMIC FILTER          | ATF-126      | C241, 242        | ELECTR. CAPACITOR       | CEAS2R2M50    |
| F103                           | CERAMIC FILTER          | ATF-208      | C243-246         | AXIAL CERAMIC CAPACITOR | CKPUYF103Z25  |
| L101                           | COIL                    | ATE1012      | C247, 248        | CERAMIC CAPACITOR       | CKCYB331K50   |
| L106                           | AXIAL INDUCTOR          | LAU2R2M      | C249             | CERAMIC CAPACITOR       | CKCYB471K50   |
| L561, 562                      | COIL                    | ATH1004      | C251, 252        | ELECTR. CAPACITOR       | CEAS2R2M50    |
| T751                           | POWER TRANSFORMER       | ATT1011      | C253, 254        | ELECTR. CAPACITOR       | CEAS4R7M50    |
| <b>CAPACITORS</b>              |                         |              | C501, 502        | ELECTR. CAPACITOR       | CEAS2R2M50    |
| C101, 103                      | CERAMIC CAPACITOR       | CKPUYY103N16 | C503, 504        | CERAMIC CAPACITOR       | CKCYB102K50   |
| C105                           | AXIAL CERAMIC CAPACITOR | CKPUYF473Z16 | C505, 506        | CERAMIC CAPACITOR       | CKDYB681K50   |
| C106                           | AXIAL CERAMIC CAPACITOR | CKPUYF223Z25 | C520             | ELECTR. CAPACITOR       | CEAS101M16    |
| C107                           | AXIAL CERAMIC C.        | CCPUCH150J50 | C521, 522        | ELECTR. CAPACITOR       | CEAS220M16    |
| C108                           | AXIAL CERAMIC CAPACITOR | CKPUYF223Z25 | C523, 524        | CERAMIC CAPACITOR       | CCCSL120K500  |
| C109                           | ELECTR. CAPACITOR       | CEAS100M50   | C525, 526        | CERAMIC CAPACITOR       | CCCSL050C500  |
| C110                           | CERAMIC CAPACITOR       | CKPUYY103N16 | C551-554         | CERAMIC CAPACITOR       | CCCSL101K500  |
| C112, 113                      | CERAMIC CAPACITOR       | CKPUYY103N16 | C561, 562        | MYLAR FILM CAPACITOR    | CQMA473K50    |
| C115                           | CERAMIC CAPACITOR       | CKDYX473M25  | C601             | ELECTROLYTIC CAPACIT    | CEAS471M6     |
| C116                           | CERAMIC CAPACITOR       | CKPUYB102K50 | C602             | AXIAL CERAMIC CAPACITOR | CKPUYF103Z25  |
| C117                           | ELECTR. CAPACITOR       | CEAS3R3M50   | C603             | ELECTR. CAPACITOR       | CEAS101M16    |
| C118                           | CERAMIC CAPACITOR       | CKPUYY103N16 | C605             | ELECTR. CAPACITOR       | CEAS4R7M50    |
| C119                           | ELECTR. CAPACITOR       | CEAS470M16   | C701, 702        | ELECTROLYTIC CAPACIT    | ACH1145       |
| C120                           | CERAMIC CAPACITOR       | CKPUYX562M16 | C703             | ELECTR. CAPACITOR       | CEAS101M16    |
| C121                           | CERAMIC CAPACITOR       | CKPUYY103N16 | C704             | ELECTR. CAPACITOR       | CEAS100M50    |
| C122                           | AXIAL CERAMIC C.        | CCPUSL470J50 | C705             | ELECTR. CAPACITOR       | CEAS101M25    |
| C123                           | ELECTR. CAPACITOR       | CEAS010M50   | C706             | ELECTROLYTIC CAPACIT    | CEHAQ470M35   |
| C125                           | ELECTR. CAPACITOR       | CEAS4R7M50   | C707             | CAPACITOR (0.047/5.5)   | ACH1135       |
| C126                           | ELECTR. CAPACITOR       | CEAS100M50   | △ C708           | CKA (0.01/AC400V)       | ACG1002       |
| C128, 129                      | CERAMIC CAPACITOR       | CKPUYY103N16 | C709             | CKA (0.01/AC250V)       | ACG1005       |
| C130, 131                      | ELECTR. CAPACITOR       | CEAS010M50   | C710             | ELECTROLYTIC CAPACIT    | CEHAQ470M10   |
| C132                           | ELECTR. CAPACITOR       | CEASR33M50   | C751             | CERAMIC CAPACITOR       | CKCYX104M25   |
| C134, 135                      | CERAMIC CAPACITOR       | CKCYB103K50  | C752             | ELECTROLYTIC CAPACIT    | CEAS471M25    |
| C136, 137                      | ELECTR. CAPACITOR       | CEAS4R7M50   | C753             | ELECTR. CAPACITOR       | CEAS470M10    |
| C142                           | ELECTR. CAPACITOR       | CEAS470M16   | △ C754           | CKA (0.01/AC400V)       | ACG1002       |
| C145                           | CERAMIC CAPACITOR       | CKPUYB221K50 | C755             | CERAMIC CAPACITOR       | CKCYX104M25   |
| C146, 147                      | AXIAL CERAMIC C.        | CCPUCH150J50 | <b>RESISTORS</b> |                         |               |
| C148                           | AUDIO FILM CAPACITOR    | CFTXA224J50  | R521, 522        | CARBON FILM RESISTOR    | RD1/4PM562J   |
| C149                           | AUDIO FILM CAPACITOR    | CFTXA103J50  | R523, 524        | CARBON FILM RESISTOR    | RD1/4PM104J   |
| C150                           | ELECTR. CAPACITOR       | CEAS330M16   | △ R527, 528      | CARBON FILM RESISTOR    | RD1/4PMF680J  |
| C151                           | AXIAL CERAMIC CAPACITOR | CKPUYF223Z25 | △ R535, 536      | FUSLIBLE RESISTOR       | RFA 1/4PS101J |
| C152                           | CERAMIC CAPACITOR       | CKPUYY103N16 | △ R551-554       | FUSLIBLE RESISTOR       | RFA 1/4PS101J |
| C201                           | ELECTR. CAPACITOR       | CEAS010M50   | R555-558         | CARBON FILM RESISTOR    | RD1/4PMF101J  |
| C231, 232                      | ELECTR. CAPACITOR       | CEAS100M50   | △ R561, 562      | RESISTOR (0.33, 5W)     | ACN1087       |
| C233, 234                      | CERAMIC CAPACITOR       | CCCSL221J50  |                  |                         |               |
| C235, 236                      | ELECTR. CAPACITOR       | CEAS470M10   |                  |                         |               |
| C237, 238                      | MYLAR FILM CAPACITOR    | CQMA242J50   |                  |                         |               |

# SX-311R/SX-301 SX-251R/SX-201

| Mark No.      | Description                            | Parts No.     |
|---------------|--|---------------|
| △ R563, 564   | CARBON FILM RESISTOR                   | RD1/4PMF100J  |
| R565, 566     | CARBON FILM RESISTOR                   | RD1/4PMF100J  |
| △ R608        | METAL OXIDE RESISTOR                   | RS2LMF911J    |
| R609          | CARBON FILM RESISTOR                   | RD1/4PM123J   |
| △ R700        | METAL OXIDE RESISTOR                   | RS1PMF562J    |
| R701          | CARBON FILM RESISTOR                   | RD1/4PM302J   |
| △ R703        | CARBON FILM RESISTOR                   | RD1/4PMF2R2J  |
| △ R705        | METAL OXIDE RESISTOR                   | RS2LMF122J    |
| R707          | RESISTOR (2.2M, 1/2W)                  | ACN-208       |
| △ R715        | METAL OXIDE RESISTOR                   | RS1LMF151J    |
| △ R721-723    | METAL OXIDE RESISTOR                   | RS2LMF682J    |
| △ R751        | METAL OXIDE RESISTOR                   | RS2LMF221J    |
| R752          | CARBON FILM RESISTOR                   | RD1/2PM470J   |
| △ R753        | CARBON FILM RESISTOR                   | RD1/4PMFL2R2J |
|               | Other resistors                        | RD1/8PM□□□J   |
| <b>OTHERS</b> |  |               |
| X101          | CRYSTAL RESONATOR (456kHz)             | ASS1066       |
| X102          | CRYSTAL RESONATOR (7.2MHz)             | ASS1005       |
|               | ANTENNA TERMINAL 4-P                   | AKA1009       |
|               | PIN JACK 6P (PHONO, CD, VCR/LD)        | AKB1121       |
|               | PIN JACK 8P (TAPE1/DAT, TAPE2 MONITOR) | AKB1127       |
|               | SPEAKER TERMINAL 8-P                   | AKE-111       |
|               | JACK (CONTROL)                         | AKN-207       |
|               | AC OUTLET (1P)                         | AKP1054       |
|               | AM RF TUNING BLOCK                     | AXX1025       |
|               | 2 SERIAL F.E. MODULE ASSEMBLY          | AXQ1002       |
|               | (This assembly has no service part.)   |               |

## ◎ COMPLEX ASSEMBLY (AWZ4014 : SX-201/KUC) SEMICONDUCTORS

| IC        | Description | Parts No.   |
|-----------|-------------|-------------|
| IC101     | AM/FM IC    | LA1851N     |
| IC102     | PLL IC      | LM7001      |
| IC201     | OP-AMP IC   | NJM4558DXP  |
| IC202     | E-SW IC     | TC9164N     |
| IC253     | OP-AMP IC   | NJM4558LD   |
| Q101      | TRANSISTOR  | 2SC2668     |
| Q102      | TRANSISTOR  | RN2203      |
| Q103      | TRANSISTOR  | RN1203      |
| Q104      | TRANSISTOR  | RN2201      |
| Q108      | TRANSISTOR  | 2SC1740SLN  |
| Q109      | N-FET       | 2SK246      |
| Q110      | TRANSISTOR  | 2SC1740S    |
| Q261, 262 | TRANSISTOR  | RN1203      |
| Q501-504  | TRANSISTOR  | 2SA992      |
| Q521, 522 | TRANSISTOR  | 2SA1145     |
| Q523, 524 | TRANSISTOR  | 2SC2705     |
| Q541, 542 | TRANSISTOR  | 2SC2458     |
| Q551, 552 | TRANSISTOR  | 2SC2235     |
| Q553, 554 | TRANSISTOR  | 2SA965      |
| Q601, 602 | TRANSISTOR  | 2SC2458     |
| Q603      | TRANSISTOR  | 2SA1048     |
| Q604      | TRANSISTOR  | 2SC2240     |
| Q605      | TRANSISTOR  | RN1203      |
| Q606      | TRANSISTOR  | RN1201      |
| D521-524  | DIODE       | HSS104-02   |
| D561      | DIODE       | HSS104-02   |
| D601      | ZENER DIODE | HZS12AL     |
| D700      | DIODE       | HSS104-02   |
| D701      | DIODE       | D3SBA20 (A) |
| D703      | ZENER DIODE | HZS12B2L    |
| D704      | ZENER DIODE | HZS12AL     |
| D705      | ZENER DIODE | HZS24-2L    |
| D706      | ZENER DIODE | HZS6B2L     |
| D708-710  | DIODE       | HSS104-02   |
| D711      | ZENER DIODE | HZS7B2L     |
| D712      | ZENER DIODE | HZS6B2L     |
| D713      | DIODE       | HSS104-02   |

### RELAY

|       |       |         |
|-------|-------|---------|
| RY561 | RELAY | ASR1035 |
|-------|-------|---------|

### COILS

|           |                |         |
|-----------|----------------|---------|
| F101, 102 | CERAMIC FILTER | ATF-126 |
| F103      | CERAMIC FILTER | ATF-208 |
| L101      | COIL           | ATE1012 |
| L106      | AXIAL INDUCTOR | LAU2R2M |
| L561, 562 | COIL           | ATH1004 |

### CAPACITORS

|           |                         |              |
|-----------|-------------------------|--------------|
| C101, 103 | CERAMIC CAPACITOR       | CKPUYY103N16 |
| C105      | AXIAL CERAMIC CAPACITOR | CKPUYF473Z16 |



# SX-311R/SX-301 SX-251R/SX-201

| Mark No. | Description   | Parts No.          |
|----------|---|--------------------|
| △ R753   | CARBON FILM RESISTOR  | RD1/4PMFL2R2J      |
|          | Other resistors   | RD1/8PM□□□J        |
| OTHERS   |   |                    |
| X101     | CRYSTAL RESONATOR (456kHz)  | ASS1066            |
| X102     | CRYSTAL RESONATOR (7.2MHz)  | ASS1005            |
|          | ANTENNA TERMINAL 4-P  | AKA1009            |
|          | PIN JACK 6P (PHONO, CD, VCR/LD)   | AKB1121            |
|          | PIN JACK 8P (TAPE1/DAT, TAPE2 MONITOR)  | AKB1127            |
|          | SPEAKER TERMINAL 8-P  | AKE-111            |
|          | AC OUTLET (1P)  | AKP1054            |
|          | AM RF TUNING BLOCK 2 SERIAL F.E. MODULE ASSEMBLY (This assembly has no service part.) | AXX1025<br>AXQ1002 |

## ◎ COMPLEX ASSEMBLY (AWZ4025 : SX-201/SD)

### SEMICONDUCTORS

|           |             |            |
|-----------|-------------|------------|
| IC101     | AM/FM IC    | LA1851N    |
| IC102     | PLL IC      | LM7001     |
| IC201     | OP-AMP IC   | NJM4558DXP |
| IC202     | E-SW IC     | TC9164N    |
| IC253     | OP-AMP IC   | NJM4558LD  |
| Q101      | TRANSISTOR  | 2SC2668    |
| Q102      | TRANSISTOR  | RN2203     |
| Q103      | TRANSISTOR  | RN1203     |
| Q104      | TRANSISTOR  | RN2201     |
| Q108      | TRANSISTOR  | 2SC1740SLN |
| Q109      | N-FET       | 2SK246     |
| Q110      | TRANSISTOR  | 2SC1740S   |
| Q261, 262 | TRANSISTOR  | RN1203     |
| Q263      | TRANSISTOR  | RN2203     |
| Q501-504  | TRANSISTOR  | 2SA992     |
| Q521, 522 | TRANSISTOR  | 2SA1145    |
| Q523, 524 | TRANSISTOR  | 2SC2705    |
| Q541, 542 | TRANSISTOR  | 2SC2458    |
| Q551, 552 | TRANSISTOR  | 2SC2235    |
| Q553, 554 | TRANSISTOR  | 2SA965     |
| Q601, 602 | TRANSISTOR  | 2SC2458    |
| Q603      | TRANSISTOR  | 2SA1048    |
| Q604      | TRANSISTOR  | 2SC2240    |
| Q605      | TRANSISTOR  | RN1203     |
| Q606      | TRANSISTOR  | RN1201     |
| D521-524  | DIODE       | HSS104-02  |
| D561      | DIODE       | HSS104-02  |
| D601      | ZENER DIODE | HZS12AL    |

| Mark No.   | Description             | Parts No.    |
|------------|-------------------------|--------------|
| D700       | DIODE                   | HSS104-02    |
| D701       | DIODE                   | D3SBA20 (A)  |
| D703       | ZENER DIODE             | HZS12B2L     |
| D704       | ZENER DIODE             | HZS12AL      |
| D705       | ZENER DIODE             | HZS24-2L     |
| D706       | ZENER DIODE             | HZS6B2L      |
| D708-710   | DIODE                   | HSS104-02    |
| D711       | ZENER DIODE             | HZS7B2L      |
| D712       | ZENER DIODE             | HZS6B2L      |
| D713       | DIODE                   | HSS104-02    |
| RELAY      |                         |              |
| RY561      | RELAY                   | ASR1035      |
| COILS      |                         |              |
| F101, 102  | CERAMIC FILTER          | ATF-126      |
| F103       | CERAMIC FILTER          | ATF-208      |
| L101       | COIL                    | ATE1012      |
| L106       | AXIAL INDUCTOR          | LAU2R2M      |
| L561, 562  | COIL                    | ATH1004      |
| CAPACITORS |                         |              |
| C100       | CERAMIC CAPACITOR       | CCDSL101J50  |
| C101, 103  | CERAMIC CAPACITOR       | CKPUYY103N16 |
| C105       | AXIAL CERAMIC CAPACITOR | CKPUYF473Z16 |
| C106       | AXIAL CERAMIC CAPACITOR | CKPUYF223Z25 |
| C107       | AXIAL CERAMIC C.        | CCPUCH150J50 |
| C108       | AXIAL CERAMIC CAPACITOR | CKPUYF223Z25 |
| C109       | ELECTR. CAPACITOR       | CEAS100M50   |
| C110       | CERAMIC CAPACITOR       | CKPUYY103N16 |
| C112, 113  | CERAMIC CAPACITOR       | CKPUYY103N16 |
| C115       | CERAMIC CAPACITOR       | CKDYX473M25  |
| C116       | CERAMIC CAPACITOR       | CKPUYB102K50 |
| C117       | ELECTR. CAPACITOR       | CEAS3R3M50   |
| C118       | CERAMIC CAPACITOR       | CKPUYY103N16 |
| C119       | ELECTR. CAPACITOR       | CEAS470M16   |
| C120       | CERAMIC CAPACITOR       | CKPUYX52M16  |
| C121       | CERAMIC CAPACITOR       | CKPUYY103N16 |
| C122       | AXIAL CERAMIC C.        | CCPUSL47J50  |
| C123       | ELECTR. CAPACITOR       | CEAS010M50   |
| C125       | ELECTR. CAPACITOR       | CEAS4R7M50   |
| C126       | ELECTR. CAPACITOR       | CEAS100M50   |
| C128, 129  | CERAMIC CAPACITOR       | CKPUYY103N16 |
| C130, 131  | ELECTR. CAPACITOR       | CEAS010M50   |
| C132       | ELECTR. CAPACITOR       | CEASR33M50   |
| C134, 135  | CERAMIC CAPACITOR       | CKCYB103K50  |
| C136, 137  | ELECTR. CAPACITOR       | CEAS4R7M50   |
| C142       | ELECTR. CAPACITOR       | CEAS470M16   |
| C145       | CERAMIC CAPACITOR       | CKPUYB221K50 |
| C146, 147  | AXIAL CERAMIC C.        | CCPUCH150J50 |
| C148       | AUDIO FILM CAPACITOR    | CFTA224J50   |



| Mark No.  | Description             | Parts No.    |
|-----------|-------------------------|--------------|
| C149      | AUDIO FILM CAPACITOR    | CFTXA103J50  |
| C150      | ELECTR. CAPACITOR       | CEAS330M16   |
| C151      | AXIAL CERAMIC CAPACITOR | CKPUYF223Z25 |
| C152      | CERAMIC CAPACITOR       | CKPUYY103N16 |
| C201      | ELECTR. CAPACITOR       | CEAS010M50   |
| C231, 232 | ELECTR. CAPACITOR       | CEAS100M50   |
| C233, 234 | CERAMIC CAPACITOR       | CCCSL221J50  |
| C235, 236 | ELECTR. CAPACITOR       | CEAS470M10   |
| C237, 238 | MYLAR FILM CAPACITOR    | CQMA242J50   |
| C239, 240 | MYLAR FILM CAPACITOR    | CQMA822K50   |
| C241, 242 | ELECTR. CAPACITOR       | CEAS2R2M50   |
| C243-246  | AXIAL CERAMIC CAPACITOR | CKPUYF103Z25 |
| C247, 248 | CERAMIC CAPACITOR       | CKCYB331K50  |
| C249      | CERAMIC CAPACITOR       | CKCYB471K50  |
| C251, 252 | ELECTR. CAPACITOR       | CEAS2R2M50   |
| C253, 254 | ELECTR. CAPACITOR       | CEAS4R7M50   |
| C501, 502 | ELECTR. CAPACITOR       | CEAS2R2M50   |
| C503, 504 | CERAMIC CAPACITOR       | CKCYB102K50  |
| C505, 506 | CERAMIC CAPACITOR       | CKDYB681K50  |
| C520      | ELECTR. CAPACITOR       | CEAS101M16   |
| C521, 522 | ELECTR. CAPACITOR       | CEAS220M16   |
| C523, 524 | CERAMIC CAPACITOR       | CCCSL120K500 |
| C525, 526 | CERAMIC CAPACITOR       | CCCSL050C500 |
| C551-554  | CERAMIC CAPACITOR       | CCCSL101K500 |
| C561, 562 | MYLAR FILM CAPACITOR    | CQMA473K50   |
| C601      | ELECTROLYTIC CAPACIT    | CEAS471M6    |
| C602      | AXIAL CERAMIC CAPACITOR | CKPUYF103Z25 |
| C603      | ELECTR. CAPACITOR       | CEAS101M16   |
| C605      | ELECTR. CAPACITOR       | CEAS4R7M50   |
| C701, 702 | ELECTROLYTIC CAPACIT    | ACH1145      |
| C703      | ELECTR. CAPACITOR       | CEAS101M16   |
| C704      | ELECTR. CAPACITOR       | CEAS100M50   |
| C705      | ELECTR. CAPACITOR       | CEAS101M25   |
| C706      | ELECTROLYTIC CAPACIT    | CEHAQ470M35  |
| C707      | CAPACITOR (0.047/5.5)   | ACH1135      |
| △ C708    | CKA (0.01/AC400V)       | ACG1002      |
| C709      | CKA (0.01/AC250V)       | ACG1005      |
| C710      | ELECTROLYTIC CAPACIT    | CEHAQ470M10  |

**RESISTORS**

|             |                      |              |
|-------------|----------------------|--------------|
| R521, 522   | CARBON FILM RESISTOR | RD1/4PM562J  |
| R523, 524   | CARBON FILM RESISTOR | RD1/4PM104J  |
| △ R527, 528 | CARBON FILM RESISTOR | RD1/4PMF680J |

| Mark No.    | Description          | Parts No.     |
|-------------|----------------------|---------------|
| △ R535, 536 | FUSLIBLE RESISTOR    | RFA1/4PS101J  |
| △ R551-554  | FUSLIBLE RESISTOR    | RFA1/4PS101J  |
| R555-558    | CARBON FILM RESISTOR | RD1/4PMF101J  |
| △ R561, 562 | RESISTOR (0.33, 5W)  | ACN1087       |
| △ R563, 564 | CARBON FILM RESISTOR | RD1/4PMF100J  |
| R565, 566   | CARBON FILM RESISTOR | RD1/4PMF100J  |
| △ R608      | METAL OXIDE RESISTOR | RS2LMF911J    |
| R609        | CARBON FILM RESISTOR | RD1/4PM123J   |
| △ R700      | METAL OXIDE RESISTOR | RS1PMF562J    |
| R701        | CARBON FILM RESISTOR | RD1/4PM302J   |
| △ R703      | CARBON FILM RESISTOR | RD1/4PMF2R2J  |
| △ R705      | METAL OXIDE RESISTOR | RS2LMF122J    |
| △ R715      | METAL OXIDE RESISTOR | RS1LMF151J    |
| △ R721-723  | METAL OXIDE RESISTOR | RS2LMF682J    |
| △ R753      | CARBON FILM RESISTOR | RD1/4PMFL2R2J |
|             | Other resistors      | RD1/8PM□□□J   |

**OTHERS**

|      |                                      |         |
|------|--------------------------------------|---------|
| X101 | CRYSTAL RESONATOR (456kHz)           | ASS1066 |
| X102 | CRYSTAL RESONATOR (7.2MHz)           | ASS1005 |
|      | ANTENNA TERMINAL 4-P                 | AKA1009 |
|      | PIN JACK 6P                          | AKB1121 |
|      | (PHONO, CD, VCR/LD)                  |         |
|      | PIN JACK 8P                          | AKB1127 |
|      | (TAPE1/DAT, TAPE2 MONITOR)           |         |
|      | SPEAKER TERMINAL 8-P                 | AKE-111 |
|      | AC OUTLET (1P)                       | AKP1054 |
|      | AM RF TUNING BLOCK                   | AXY1025 |
|      | 2 SERIAL F.E. MODULE ASSEMBLY        | AXQ1002 |
|      | (This assembly has no service part.) |         |

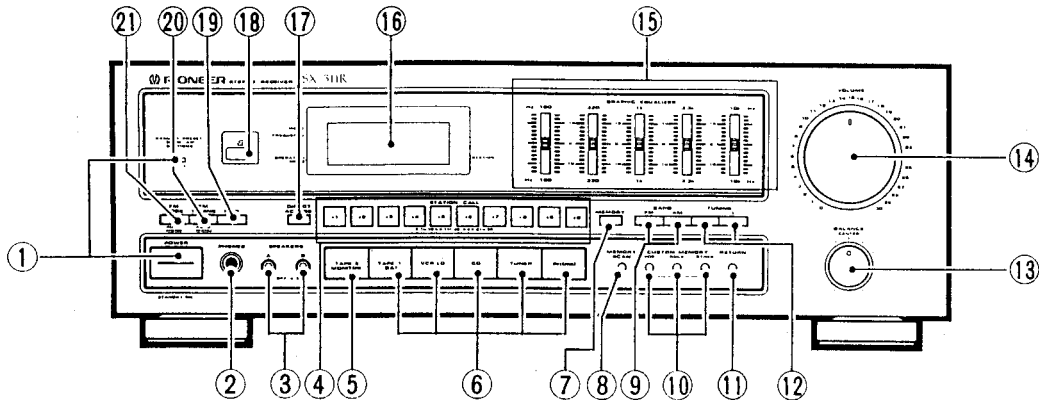
**9k/10k ASSEMBLY (SX-311R/SD, SX-201/SD)**

**SWITCH**

|      |        |         |
|------|--------|---------|
| S999 | SWITCH | ASE-028 |
|------|--------|---------|

## 8. PANEL FACILITIES

- The illustration shows SX-311R multi-voltage model.



### ① POWER (STANDBY/ON) switch

(SX-311R, SX-251R)

STANDBY indicator

(SX-311R multi-voltage model only)

This is the switch for electric power.

**ON:** When set to the ON position, power is supplied and the unit becomes operational.

**STANDBY:** When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

- The accessory remote control unit can also be used to operate STANDBY/ON.

[For SX-311R multi-voltage model]

Even when the power is in STANDBY, the STANDBY indicator remains lit.

**NOTE:**

When the power is initially turned ON, muting will be applied to prevent sound from being output for approx. 5 seconds.

### ① POWER ( OFF, ON) switch

(SX-301, SX-201)

When this switch is pressed, power is supplied to the unit.

Press the switch again to turn power OFF.

[Timer ON/OFF possible]

When the unit is switched ON, ON/OFF control can be performed by means of the optional timer.

**NOTE:**

When the power is initially turned ON, muting will be applied to prevent sound from being output for about 5 seconds.

### ② PHONES jack

Connect the plug on your headphones to this jack. To listen to a program through the headphones, set both SPEAKERS A and B switches to the OFF position.

### ③ SPEAKERS ( OFF, ON) buttons

These are used to select the speaker through which you wish to listen.

**A:** When the speakers connected to A terminals are in use.

**B:** When the speakers connected to B terminals are in use.

- Turn both A and B speakers to OFF position when only the headphones are in use.

**NOTE:**

No sound will be heard through the speakers when both A and B buttons are depressed if only one set of speakers has been connected to either A or B SPEAKERS terminals.

### ④ STATION CALL buttons

These buttons are used to preset and recall desired broadcasting stations.

### ⑤ TAPE 2 MONITOR button

Press when listening to tape playback with the cassette deck 2.

### ⑥ Function buttons

Use to select playback source.

**[TAPE 1/DAT]** – Press when listening to tape playback with the cassette deck 1 or digital audio tape deck.

**[VCR/LD]** – Press when listening to programs from a component connected to the VCR/LD terminals.

**[CD]** – Press when listening to compact disc playback with a CD player.

**[TUNER]** – Press when listening to AM or FM broadcasts with a tuner.

**[PHONO]** – Press when listening to record playback on a turntable.

### ⑦ MEMORY button

When the unit is in the frequency display mode, pressing this button will result in the memorization of the current broadcast band, reception frequency, and FM AUTO/MONO mode.

This button is also used to input custom memory names.

### ⑧ MEMORY SCAN button

This button is used for both station memory scan and custom memory scan.

### ⑨ BAND Selector buttons

These buttons are used to select either AM or FM reception.

### ⑩ CUSTOM MEMORY buttons

Stations can be assigned to STATION CALL buttons according to the genre of material broadcast (POP, ROCK, OTHER). You can recall a particular genre, and scan all the stations of that genre with Memory Scan until you reach the desired one.

**⑪ RETURN button**

This is helpful during troubleshooting or when no sound is output. Pressing this button returns the receiver to the following settings, the sound level being controlled by VOLUME control.

- TAPE 2 MONITOR OFF
- FUNCTION TUNER
- BAND FM\*

\* The last FM broadcast you were listening to will be received. When reception is not possible, search begins for frequency that can be received.

**NOTE:**

If no sound is output after the RETURN button is pressed, make sure that SPEAKERS switches are turned on.

**⑫ TUNING buttons (-, +)**

+: The FM or AM band is scanned in the direction of increasing frequency.

-: The opposite operation to that of the UP button takes place.

**⑬ BALANCE control**

Should normally be left in the center position. Adjust balance if the sound is louder from one of the speakers. If the right side is louder, turn toward the L position and if the left side is louder, turn toward the R position.

**⑭ VOLUME control**

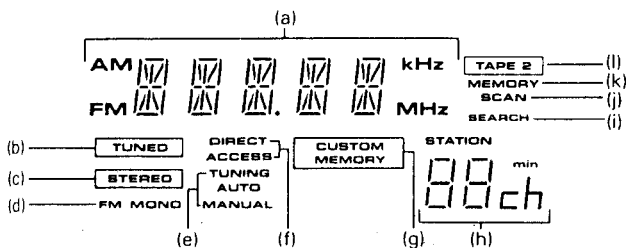
Use to adjust volume level.

**⑮ GRAPHIC EQUALIZER controls**

The equalizer is divided into five frequency ranges (100 Hz, 330 Hz, 1 kHz, 3.3 kHz, 10 kHz) to tailor music to the individual taste of the listener.

**⑯ OPERATION DISPLAY panel**

- (a) Indicates the function or frequency by the function switches.
- (b) TUNED indicator
- (c) FM STEREO indicator
- (d) FM MONO indicator
- (e) TUNING AUTO/MANUAL indicator
- (f) DIRECT ACCESS tuning indicator
- (g) CUSTOM MEMORY indicator
- (h) Indicates channel, STATION CALL number or sleep time.
- (i) SEARCH indicator
- (j) SCAN indicator
- (k) MEMORY indicator
- (l) TAPE 2 monitor indicator.



**⑰ DIRECT ACCESS tuning button**

When this button is pressed, the STATION CALL buttons function as ten-key number buttons for direct input of the desired reception frequency. Press again to cancel this mode.

If the input station falls outside of the receiver's tuning range, the display section will display a message: "UPPER" if the frequency is too high and "LOWER" if it is too low.

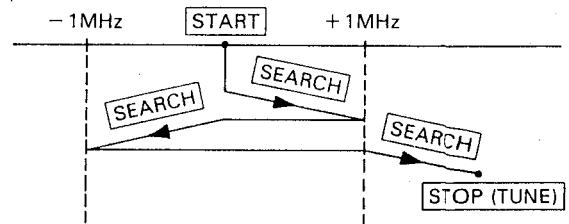
**⑱ Remote sensor window**

(SX-311R, SX-251R models only)

**⑲ HITS button**

- Works during FM reception.
- If the HITS button is pressed during input of numbers for DIRECT ACCESS tuning, the receiver sets the remaining digits which have not yet been input to "0", searches for the corresponding frequencies, and stops on the first station it finds.
- If the HITS button is pressed at the currently displayed station frequency, the receiver searches up and down the frequency band for the next station (the SEARCH indicator in the display section lights at this time) and stops at the first one it finds.

(FM)



**NOTE:**

- The system searches for stations within successive 1 MHz ranges for FM. During DIRECT ACCESS tuning, it searches up and down for a station until it reaches the edges of the band. If no receivable station is found within the band range, the receiver returns to the state it was in before the HITS button was pressed.
- If the upper (or lower) frequency limit of the receiver is encountered during HITS operation, the receiver stops searching in that direction but continues to search in the other.

**⑳ FM TUNING AUTO/MANU button**

Works during FM reception.

Use this button to select either the AUTO mode or the MANUAL mode.

When the "AUTO" indicator is lit, the receiver is in the AUTO mode.

**㉑ FM MODE AUTO/MONO selector button**

Use to select the auto stereo mode or monaural mode when listening to FM broadcasts. The monaural mode has been selected when the FM MONO indicator is lighted.

**Auto stereo mode:**

Normally leave in this mode for reception. When a stereo FM broadcast is received, it will be automatically reproduced in stereo sound.

**Monaural mode:**

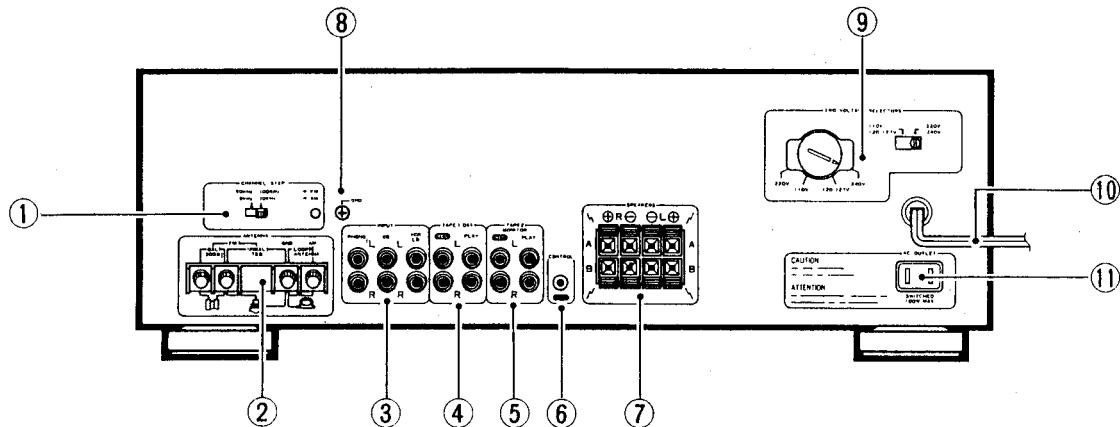
When receiving distant stations or stations with weak broadcast signals, the input signal may be weak, thus resulting in increased noise during FM stereo broadcasts. In this event, setting the receiver to the monaural mode will reduce the noise. In this case, however, FM stereo broadcasts will be reproduced in monaural sound.

**NOTE:**

This button has no effect on reception of AM broadcasts.

# SX-311R/SX-301 SX-251R/SX-201

- The illustration shows SX-311R multi-voltage model.



① **CHANNEL STEP** switch

② **FM/AM ANTENNA** terminals

Use these antenna terminals for receiving FM and AM broadcasts.

③ **INPUT** jacks

PHONO ..... Connect to the output cables from a turntable.  
CD ..... Connect to the output jacks of a compact disc player.  
VCR/LD ... Connect to the output jacks of a video cassette recorder or LD player, etc.


④ **TAPE 1/DAT** jacks

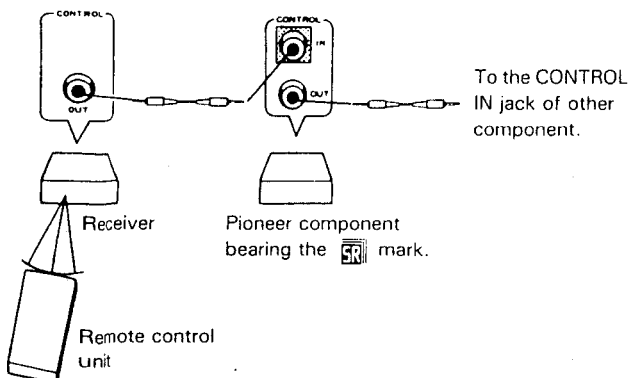
Connect these jacks to the cassette deck or digital audio tape deck.

⑤ **TAPE 2** jacks

Connect these jacks to the cassette deck.

⑥ **CONTROL OUT** jacks  
(SX-311R, SX-251R only)

Connect this jack to other Pioneer components bearing the  mark when using the remote control of this unit to control the other components.



⑦ **SPEAKERS** terminals

A: Connect to a first set speakers.  
B: Connect to a second set of speakers.

**NOTE:**

No sound will be heard through the speakers when both A and B buttons are depressed if only one set of speakers has been connected to either A or B SPEAKERS terminals.

⑧ **GND** terminal

Connect to the ground lead of a turntable.  
Use a screwdriver to connect with the ground terminal.

⑨ **VOLTAGE SELECTORS**  
(SX-311R, SX-201 multi-voltage models only)

⑩ **Power cord**

Connect to AC wall socket.

⑪ **AC OUTLET**

**AC OUTLET**

[U.S. and Canadian models]  
**SWITCHED 100 W MAX (0.8 A MAX)**

Power supplied through this outlet is turned on and off by the receiver's POWER switch. Electrical power consumption of the connected equipment should not exceed 100 W (0.8 A MAX).

The equipment should be disconnected by removing the mains plug from the wall socket when not in regular use, e.g. when on vacation.

[Multi-voltage model]  
**SWITCHED 100 W MAX**

Power supplied through this outlet is turned on and off by the receiver's POWER switch. Electrical power consumption of the connected equipment should not exceed 100 W. The equipment should be disconnected by removing the mains plug from the wall socket when not in regular use, e.g. when on vacation.

**CAUTION:**  
DO NOT CONNECT MONITOR OR TV SET.

**NOTE:**

Do not connect appliances with high power consumption such as heaters, irons, or television sets to the AC OUTLET, in order to avoid overheating or fire risk.  
This can cause the receiver to malfunction.