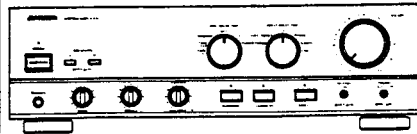


Service Manual



ORDER NO.
ARP1581

STEREO AMPLIFIER

A-443

A-443-S

A-333

A-333-S

A-443, A-443-S, AND A-333, A-333-S HAVE FIVE VERSIONS:

| Type | Applicable model | | | | Power requirement | Destination |
|------|------------------|---------|-------|---------|--|--|
| | A-443 | A-443-S | A-333 | A-333-S | | |
| HE | ○ | — | ○ | — | AC220V, 240V (switchable)* | European continent |
| HB | ○ | — | ○ | — | AC220V, 240V (switchable)* | United Kingdom |
| HEZ | ○ | ○ | ○ | ○ | AC220V, 240V (switchable)* | West Germany |
| KC | ○ | — | — | — | AC120V only | Canada |
| SD | ○ | — | — | — | AC110V, 120V-127V, 220V, 240V (switchable) | Kingdom of Saudi Arabia and general market |

*Change the primary wiring of the power transformer.

- This manual is applicable to the A-443/HE, HB, HEZ, A-443-S/HEZ, A-333/HE, HB, HEZ and A-333-S/HEZ types.
- For the other types, refer to additional service manual.
- The A-443-S is silver versions of A-443.
- The A-333-S is silver versions of A-333.

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| 2. PACKING | 5 | 7. FOR A-333/HE, HB, HEZ AND A-333-S/HEZ |
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PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE INC. P.O. Box 1760, Long Beach, California 90801 U.S.A.
PIONEER ELECTRONICS OF CANADA, INC. 505 Cochrane Drive, Markham, Ontario L3R 8E3 Canada
PIONEER ELECTRONIC [EUROPE] N.V. Keetberglaan 1, 2740 Beveren, Belgium
PIONEER ELECTRONICS AUSTRALIA PTY. LTD. 178-184 Boundary Road, Braeside, Victoria 3195, Australia TEL: [03] 580-9911

1. EXPLODED VIEW AND PARTS LIST

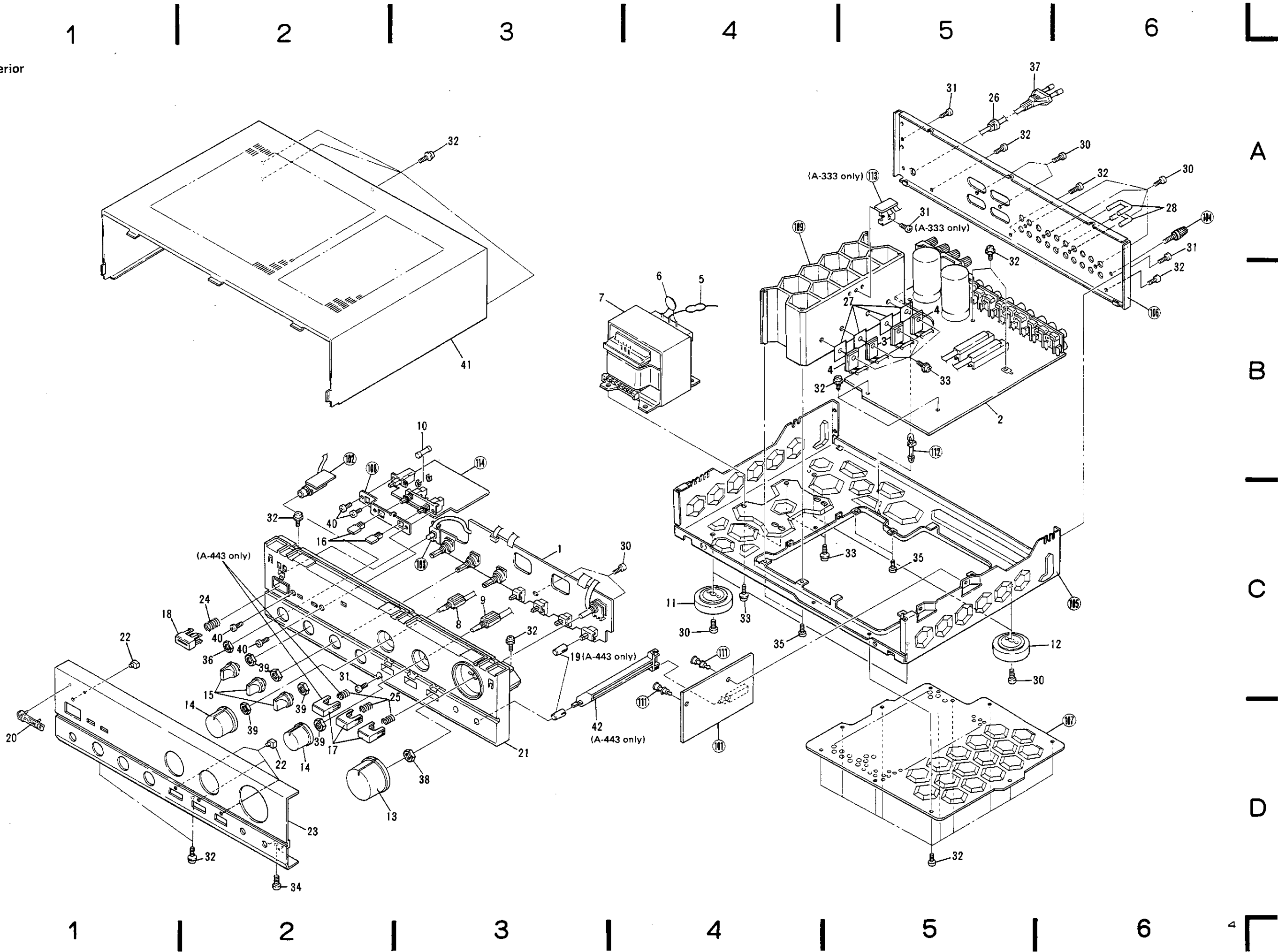
NOTES :

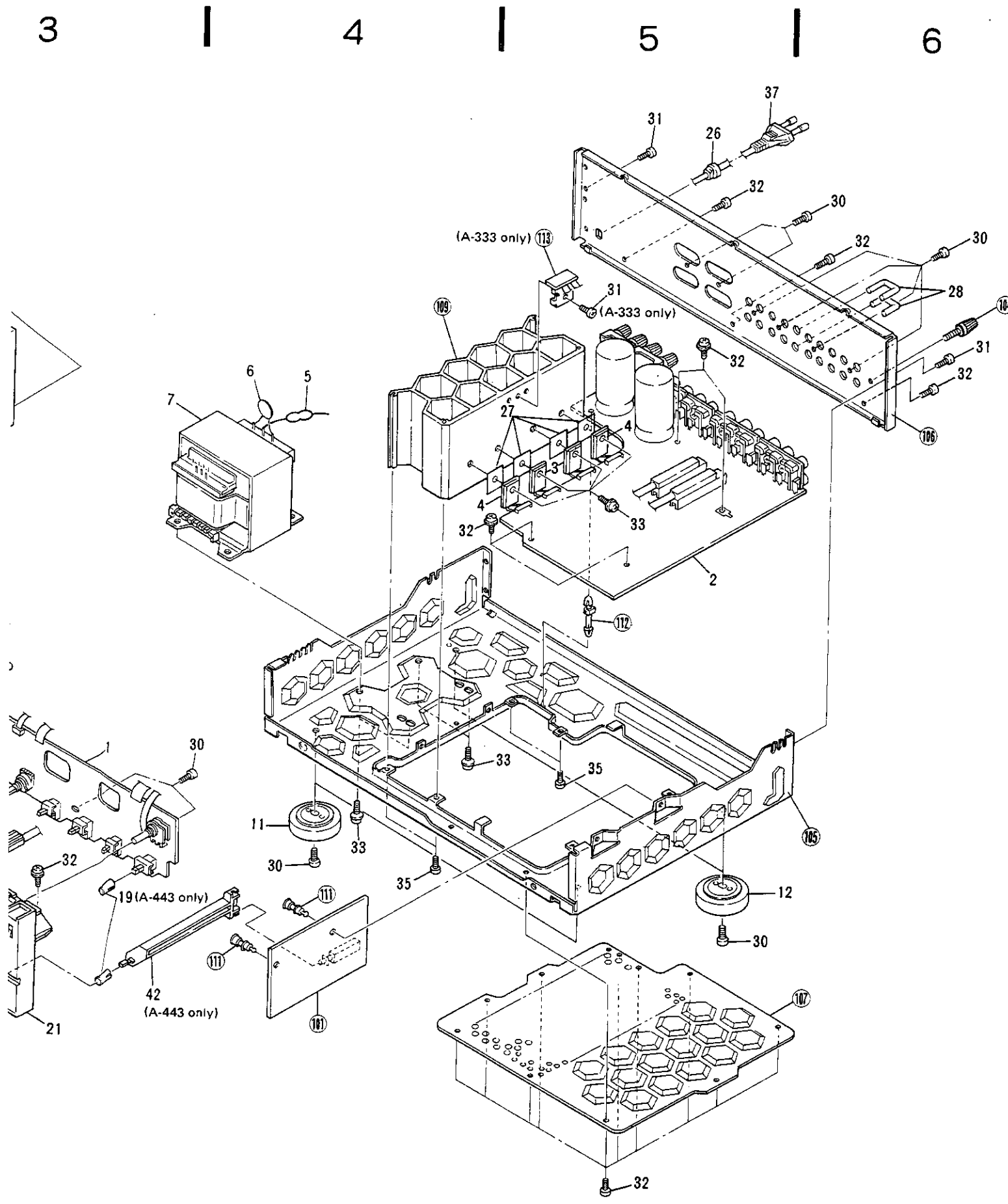
- Parts without part number cannot be supplied.
- The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- For your parts Stock Control, the fast moving items are indicated with the marks $\star\star$ and \star .
 $\star\star$ GENERALLY MOVES FASTER THAN \star .
 This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- 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

| Mark | No. | Part No. | Description | Mark | No. | Part No. | Description |
|--------------------|-----|--------------------------|--|----------|-----|--------------|-------------------------|
| | 1 | AWZ1885 | TONE assembly | | 36 | ABN-065 | Nut |
| | 2 | AWZ1890 | AF complex assembly | Δ | 37 | ADG1019 | AC power cord |
| $\Delta\star\star$ | 3 | 2SA1302 | Transistor (Q3, Q4) | | 38 | NK70FUC | Nut |
| $\Delta\star\star$ | 4 | 2SC3281 | Transistor (Q1, Q2) | | 39 | NK90FUC | Nut |
| | 5 | RDR $\frac{1}{4}$ PM6R8J | Carbon resistor (R1) | | 40 | VMZ30P060FCU | Screw |
| | 6 | CQMxA104J100 | Capacitor (C1) | | 41 | AZN1746 | Bonnet |
| $\Delta \star$ | 7 | ATS1137 | Power transformer (T1 AC220/240V) | | 42 | AMR1161 | Joint arm |
| $\star\star$ | 8 | ASU1012 | Remote slide switch (REC SELECTOR : S2) | | 101 | | PHONO AMP assembly |
| $\star\star$ | 9 | ASU1014 | Remote slide switch (INPUT SELECTOR : S1) | | 102 | | HEAD PHONE assembly |
| $\Delta\star\star$ | 10 | AEK-403 | Fuse (FU1 T2.5A) | | 103 | | LED assembly |
| | 11 | AMR1350 | Insulator assembly | | 104 | | Terminal (GND) |
| | 12 | AMR1353 | Insulator assembly | | 105 | | Chassis |
| | 13 | AAB1064 | Knob (VOLUME) | | 106 | | Rear panel |
| | 14 | AAB1066 | Knob (REC SELECTOR, INPUT SELECTOR) | | 107 | | Bottom plate |
| | 15 | AAB1068 | Knob (BASS, TREBLE, BALANCE) | | 108 | | Switch holder |
| | | | | | 109 | | Heat sink |
| | | | | | 110 |  | ..... |
| | 16 | AAD-418 | Knob B (SPEAKERS) | | 111 | | Nylon rivet |
| | 17 | AAD1162 | Knob (SUBSONIC, LOUDNESS, DIRECT) | | 112 | | Spacer |
| | 18 | AAD1343 | Knob (POWER) | | 113 | | TRANSISTOR assembly |
| | 19 | AAD1366 | Knob C (MUTING, PHONO SELECTOR) | | 114 | | Speaker switch assembly |
| | 20 | AAM-030 | Name plate | | | | |
| | 21 | AMB1334 | Panel base | | | | |
| | 22 | AMR1160 | LED lens | | | | |
| | 23 | ANB1180 | Front panel | | | | |
| | 24 | ABH-052 | Coil spring B | | | | |
| | 25 | ABH1034 | Coil spring B | | | | |
| Δ | 26 | AEC-882 | Strain relief | | | | |
| | 27 | AEE1014 | Mica sheet | | | | |
| | 28 | AKM1019 | Pin jack joint | | | | |
| | 29 | ABA-297 | Screw M4 \times 0.7 | | | | |
| | 30 | ABA-298 | Screw | | | | |
| | 31 | ABA1009 | Screw | | | | |
| | 32 | ABA1011 | Screw | | | | |
| | 33 | ABA1034 | Screw | | | | |
| | 34 | ABA1048 | Screw | | | | |
| | 35 | ABA1050 | Screw | | | | |

Exterior



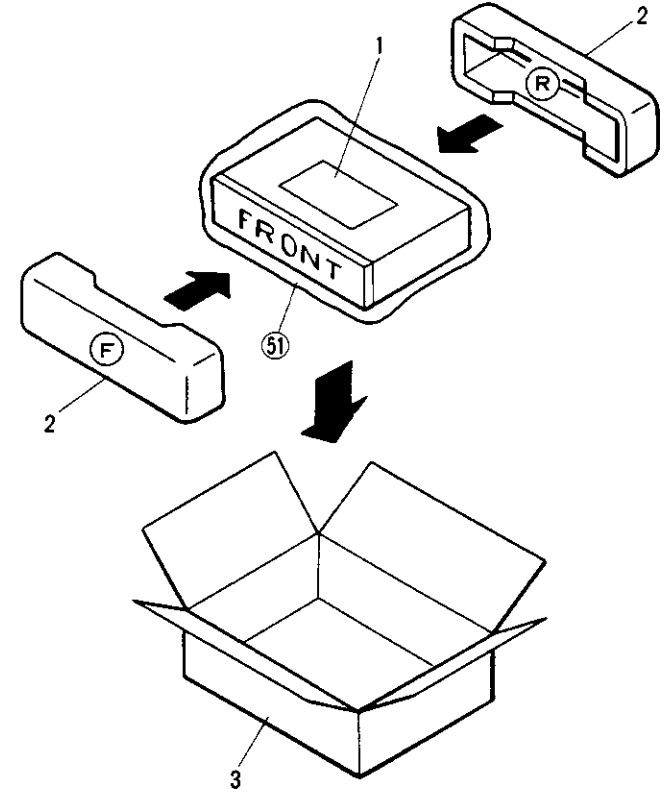


PACKING

Part List

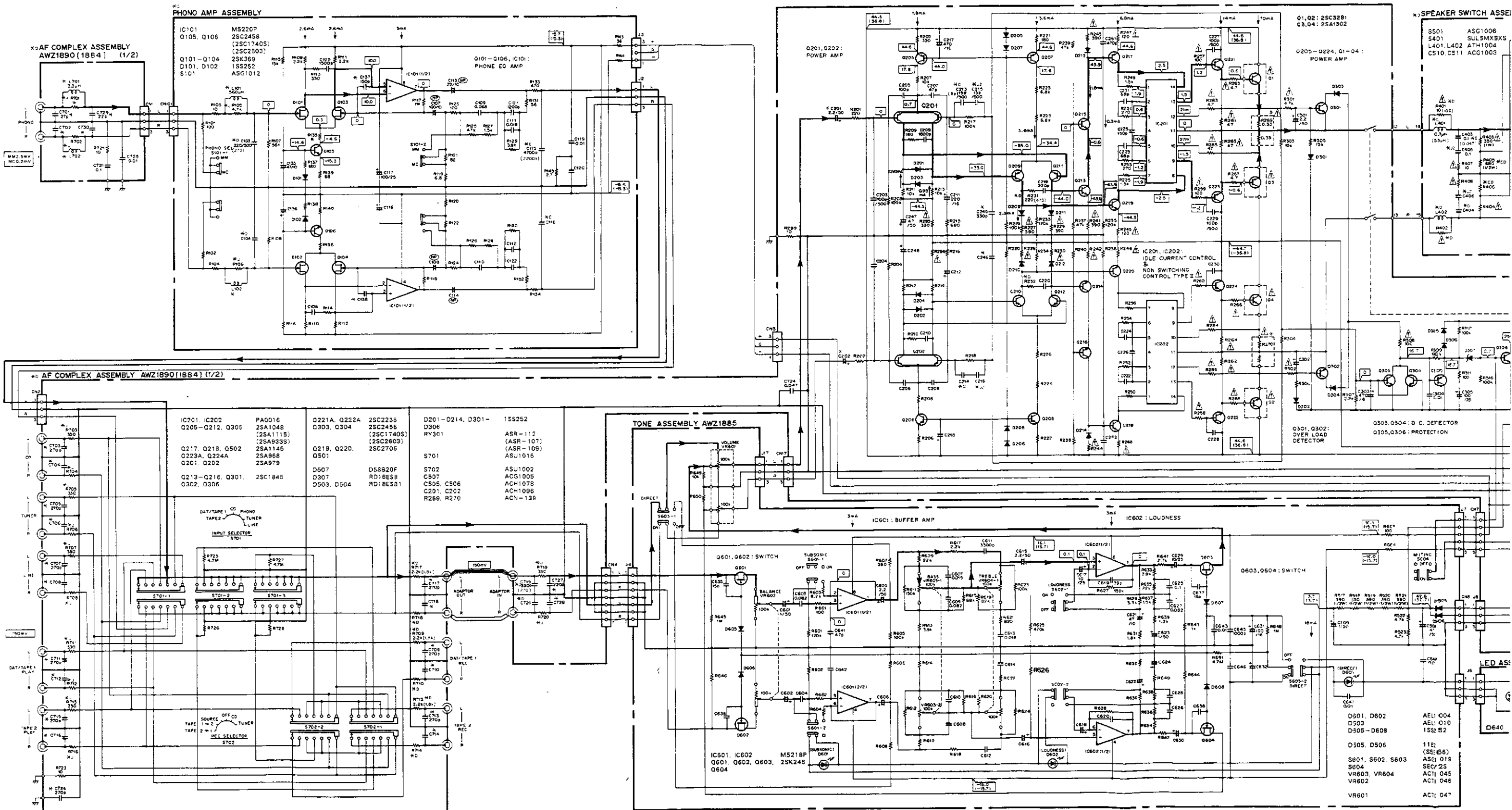
| Mark | No. | Part No. | Description |
|------|-----|----------|------------------------|
| | 1 | ARE1073 | Operating instructions |
| | 2 | AHA1015 | Front rear pad |
| | 3 | AHD1392 | Packing case |
| | 51 | | Packing seat |

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3. SCHEMATIC DIAGRAM

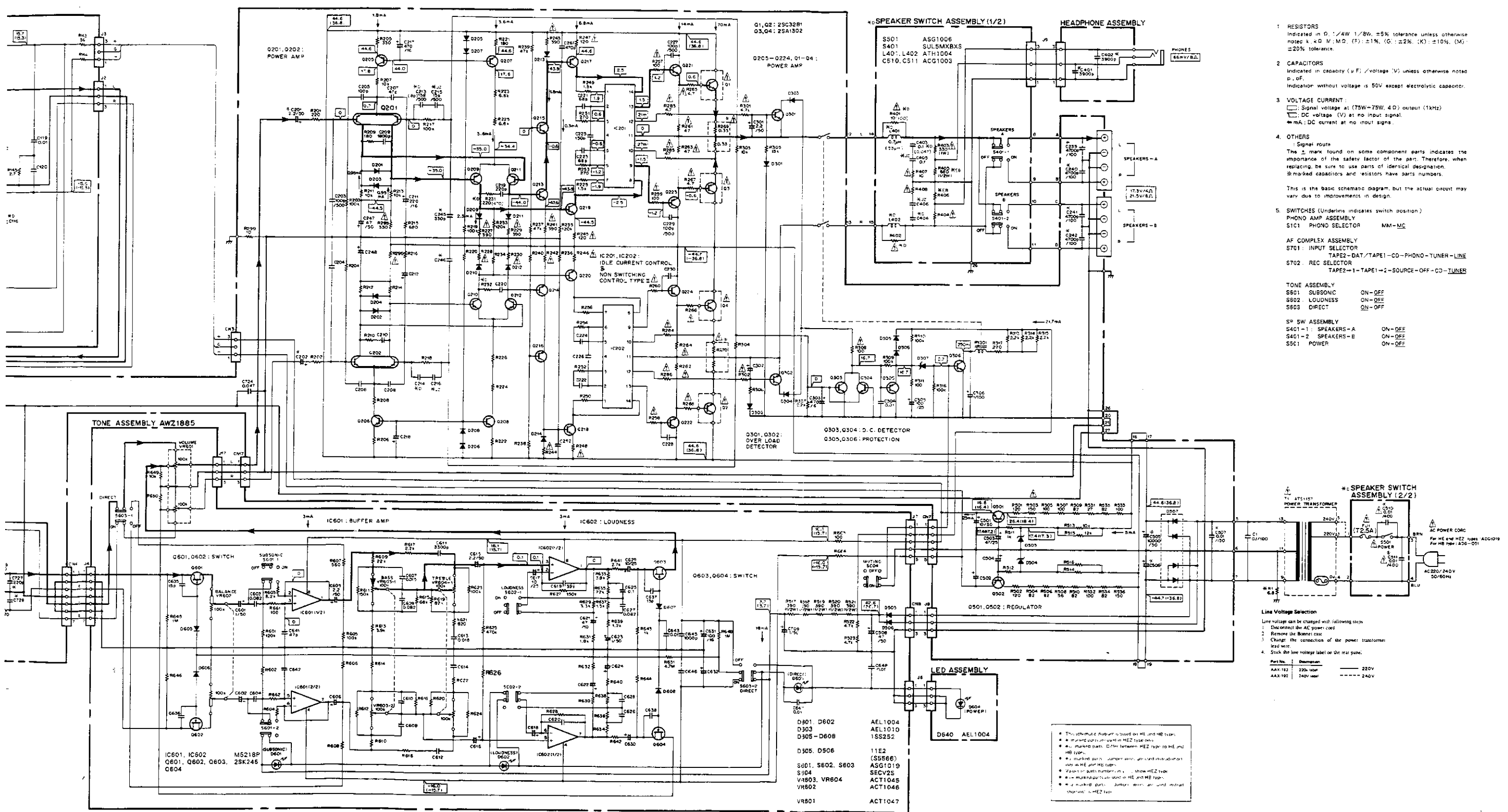


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- RESISTORS**
Indicated in Ω, 1/4W 1/8W, ±5% tolerance unless otherwise noted. k, M, MΩ, (F) ±1%, (G) ±2%, (K) ±10%, (M) ±20% tolerance.
- CAPACITORS**
Indicated in capacity (μF), voltage (V) unless otherwise noted p, n, f.
Indication without voltage is 50V except electrolytic capacitor.
- VOLTAGE CURRENT**
□ Signal voltage at (75W-75W, 4 Ω) output (1kHz)
▭ DC voltage (V) at no input signal.
mA, DC current at no input signal.
- OTHERS**
The S 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. S-marked capacitors and resistors have parts numbers.
This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.
- SWITCHES** (Underline indicates switch position)
PHONO AMP ASSEMBLY
S1C1 PHONO SELECTOR MM-MC
AF COMPLEX ASSEMBLY
S701 INPUT SELECTOR TAPE2-DAT/TAPE1-CO-PHONO-TUNER-LINE
S702 REC SELECTOR TAPE2-1-TAPE1-2-SOURCE-OFF-CO-TUNER

- LED ASSEMBLY**
D640 AEL1004

- SP SW ASSEMBLY**
S401-1 SPEAKERS-A ON-OFF
S401-2 SPEAKERS-B ON-OFF
S501 POWER ON-OFF

- LINE VOLTAGE SELECTION**
Line voltage can be changed with following steps:
1. Disconnect the AC power cord.
2. Remove the bottom case.
3. Change the connection of the power transformer lead wire.
4. Stick the line voltage label on the rear panel.

| Part No. | Description | Dimension |
|----------|-------------|-----------|
| AAK-182 | 220 volt | 220V |
| AAK-192 | 240 volt | 240V |

- This schematic diagram is based on HE and HE type.
- * If marked parts are HEZ type only.
- * If marked parts are HEZ type only.
- * If marked parts are HEZ type only.
- * Values in parts numbers in ... show HEZ type.
- * If marked parts are HE and HE type.
- * If marked parts are HE and HE type.
- * If marked parts are HE and HE type.

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4. P.C. BOARDS CONNECTION DIAGRAM

● View from component side

NOTE

1. This P.C. board connection diagram is shown from the component side.
2. The parts which have been mounted on the board can be replaced with their spares with the same lead length as indicated in the following table.

| P.C. board pattern diagram indicator | QPL mechanical part symbol | Part Name |
|--------------------------------------|----------------------------|------------|
| | | Transistor |
| | | Resistor |
| | | Capacitor |
| | | Diode |
| | | Relay |
| | | Connector |
| | | Switch |

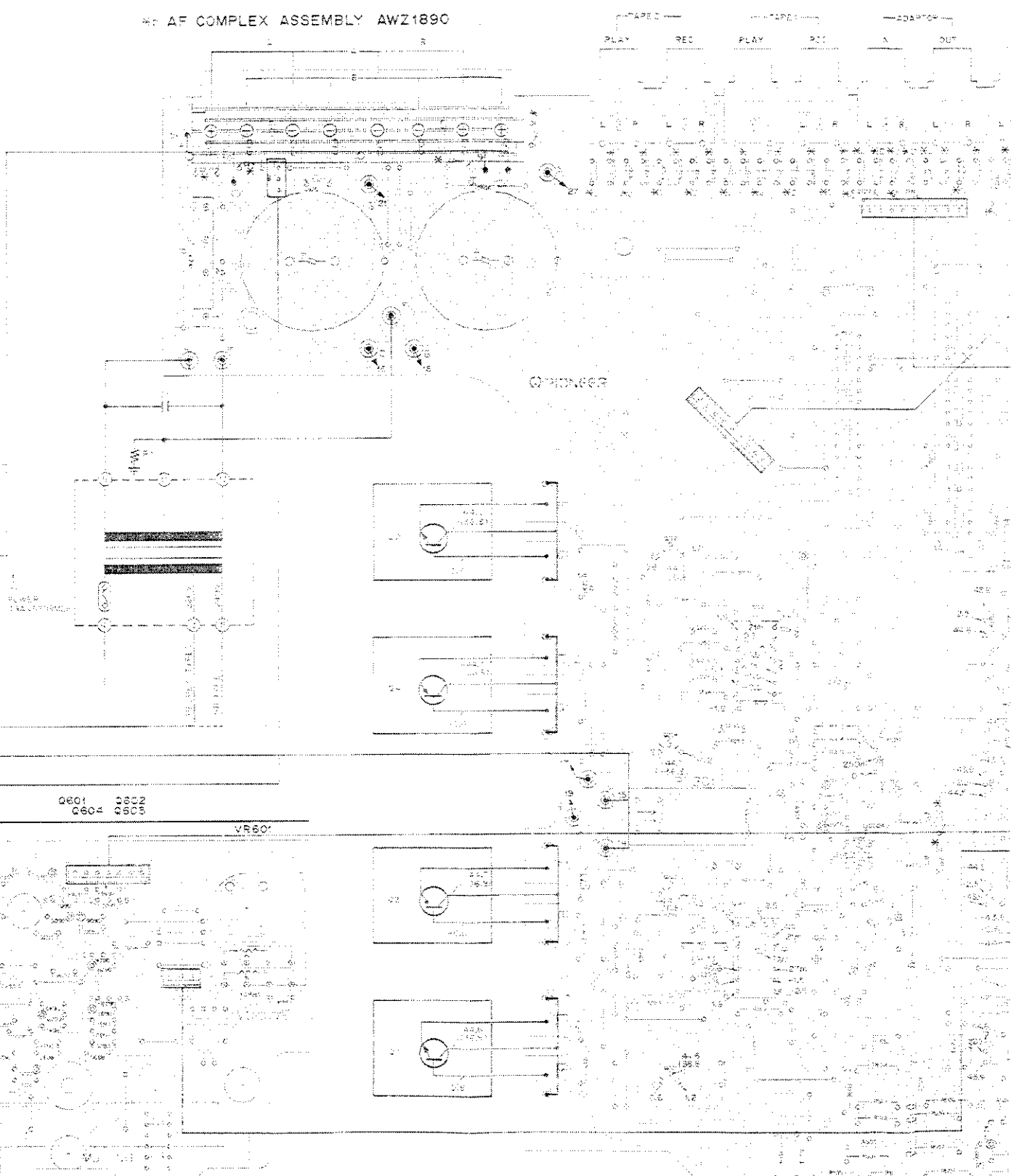
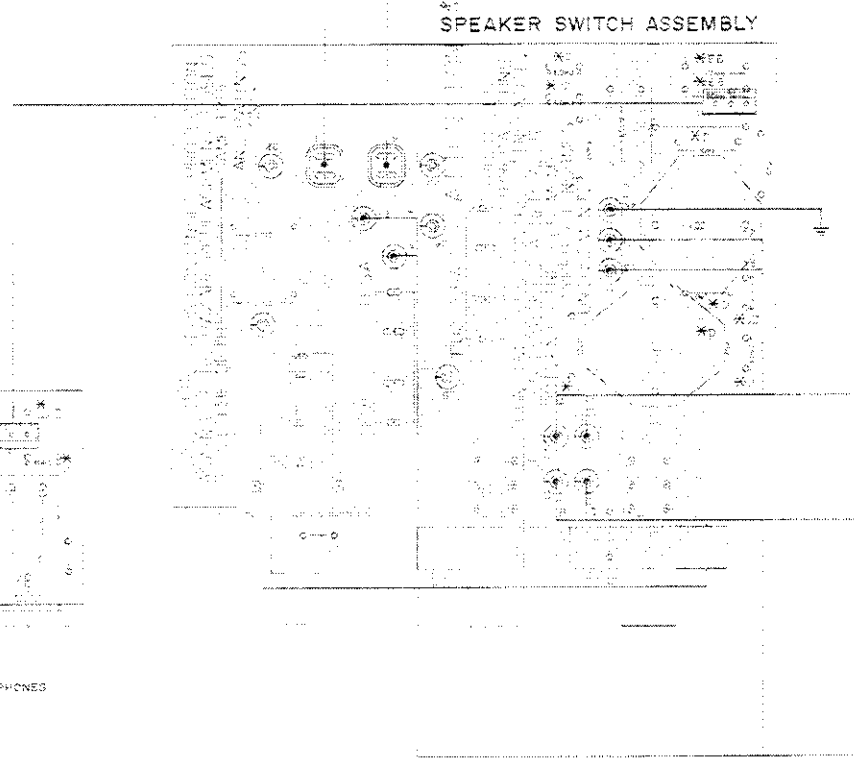
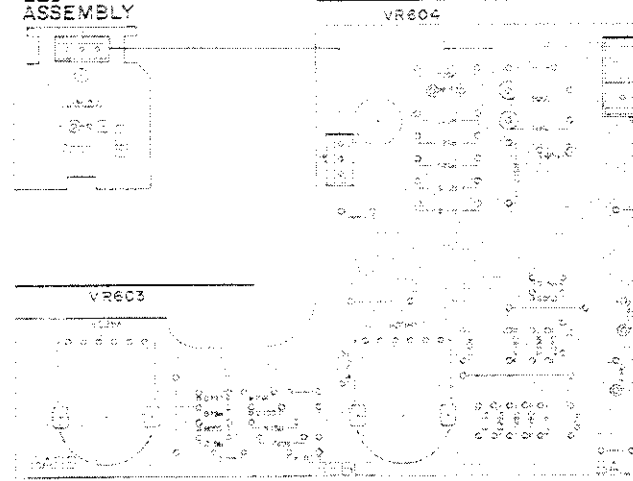
| QPL symbol diagram indicator | Part Name |
|------------------------------|------------|
| | Resistor |
| | Capacitor |
| | Diode |
| | Transistor |
| | Relay |
| | Connector |
| | Switch |

1. This is a reference diagram only. It does not show the actual wiring.
2. The above wiring is made to the standard wiring diagram.
3. The wiring is made to the standard wiring diagram.

- The wiring is made to the standard wiring diagram.
- The wiring is made to the standard wiring diagram.
- The wiring is made to the standard wiring diagram.
- The wiring is made to the standard wiring diagram.
- The wiring is made to the standard wiring diagram.
- The wiring is made to the standard wiring diagram.



TONE ASSEMBLY AWZ1888



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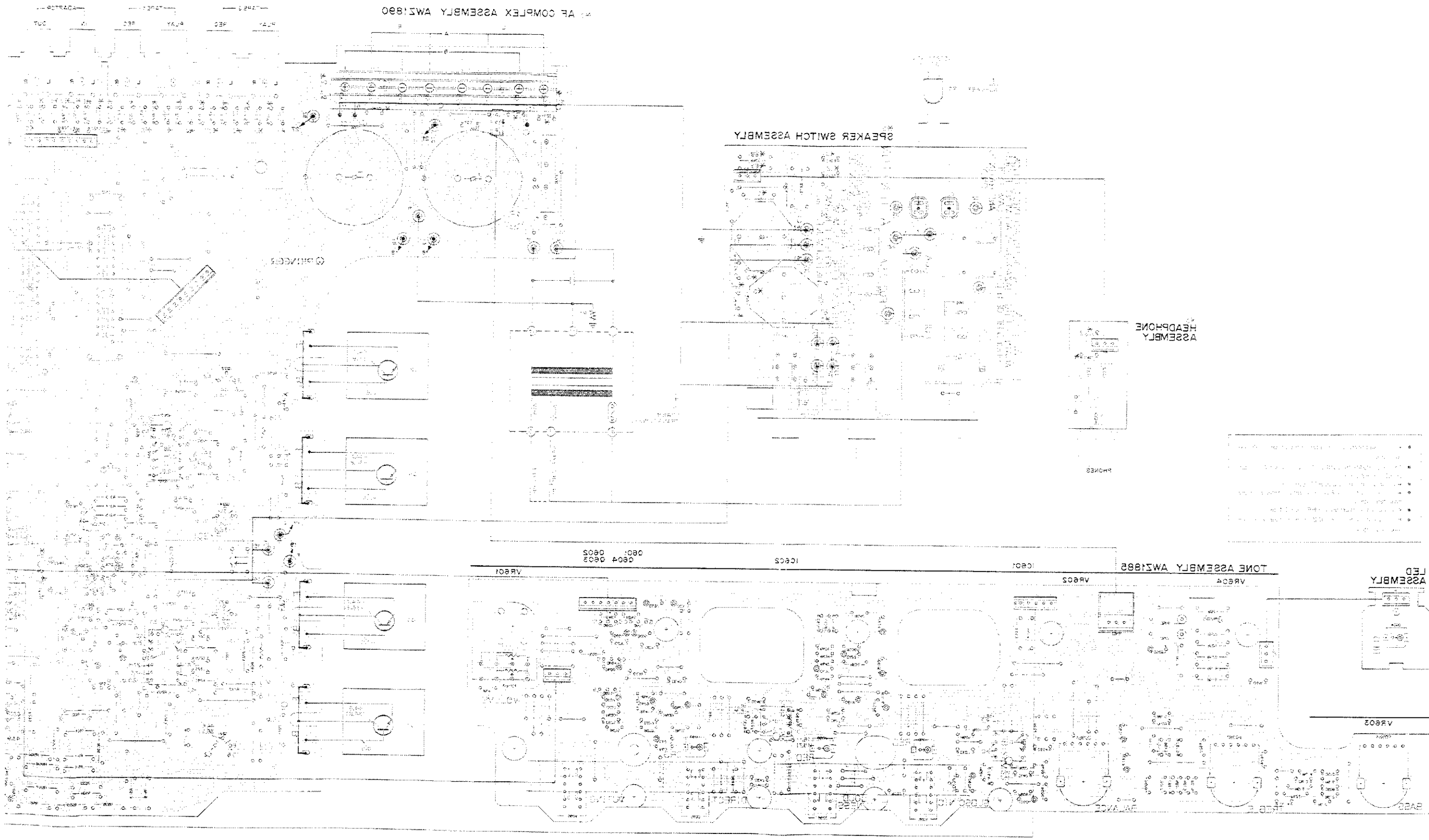
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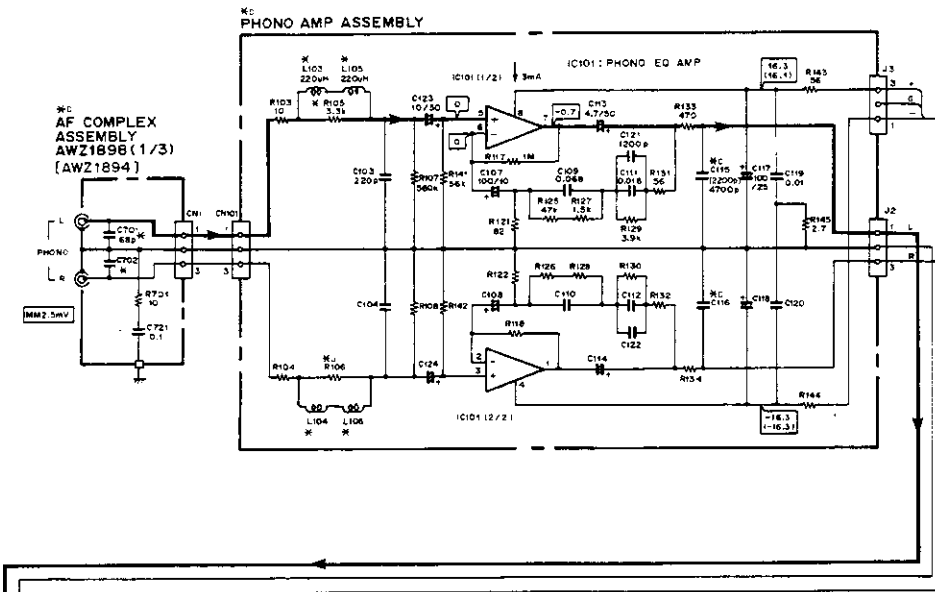
7.2 SCHEMATIC DIAGRAM

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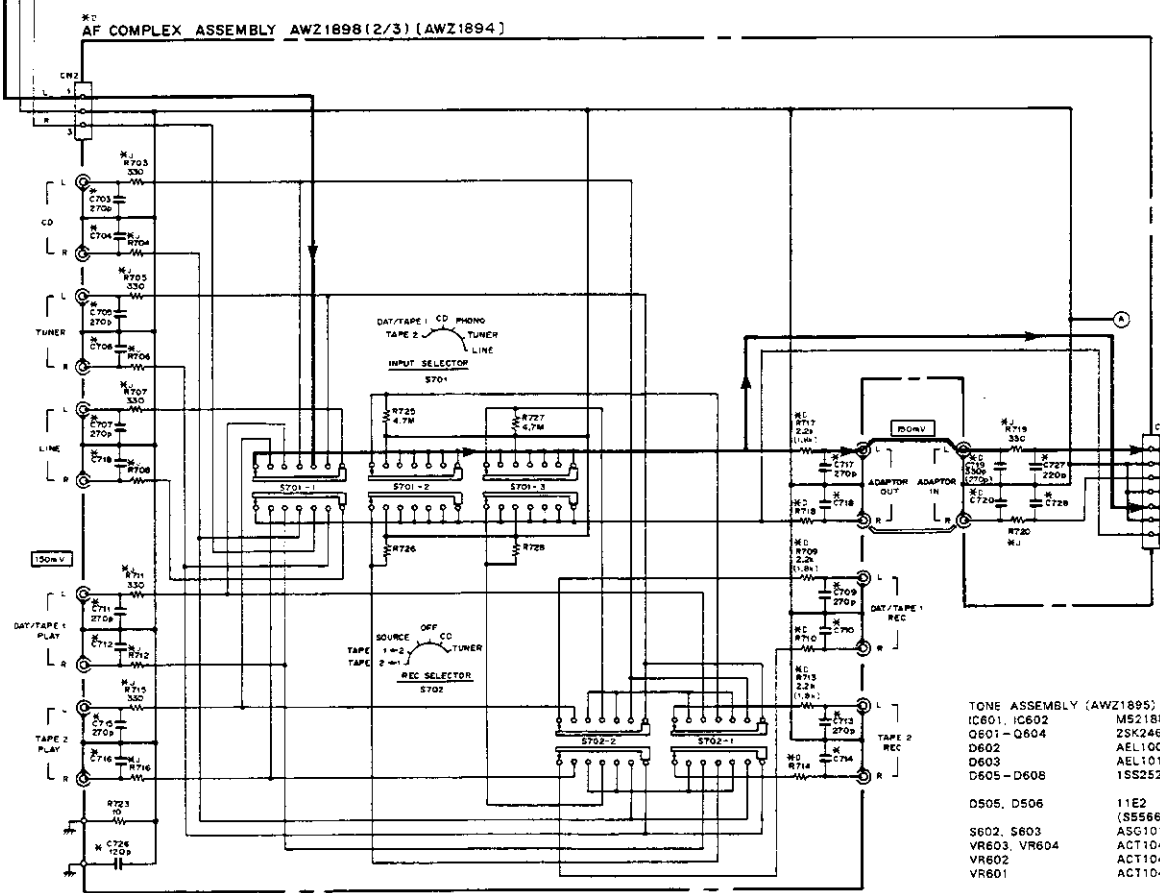
B

C

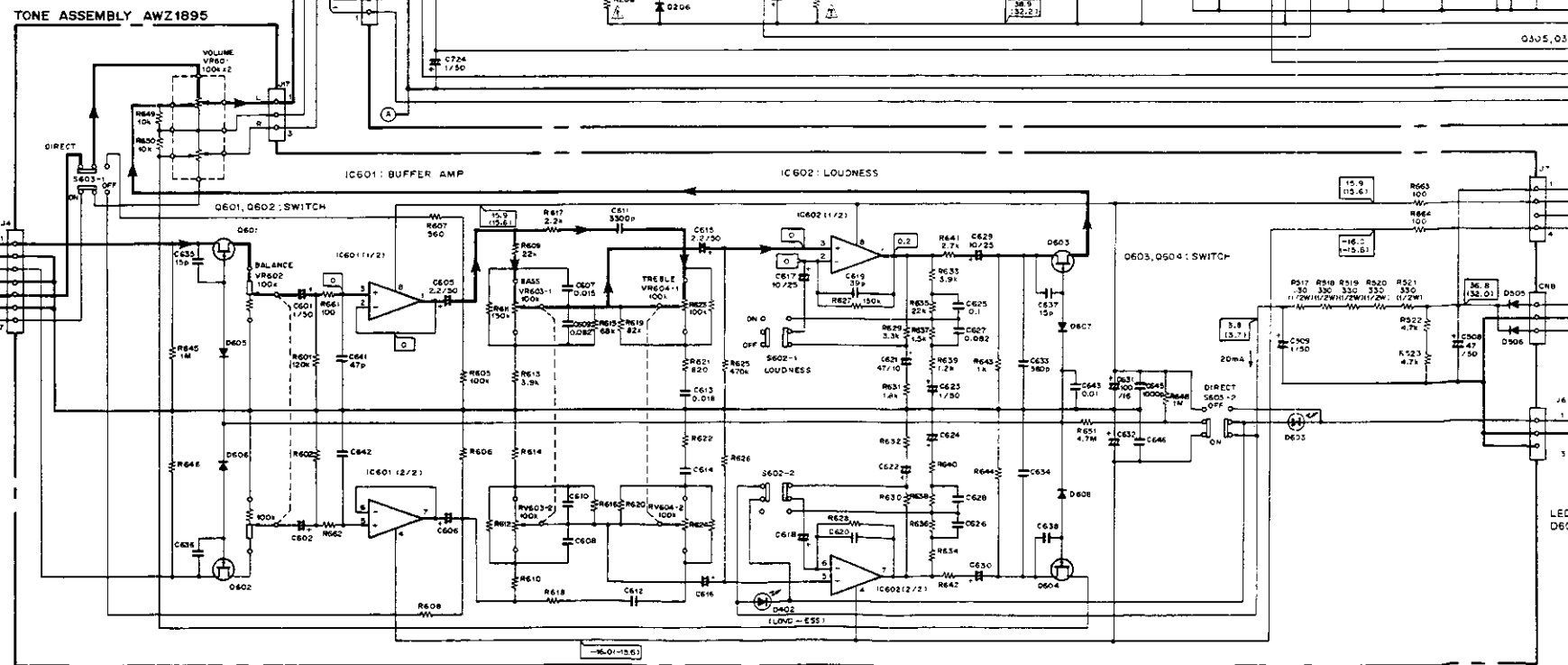
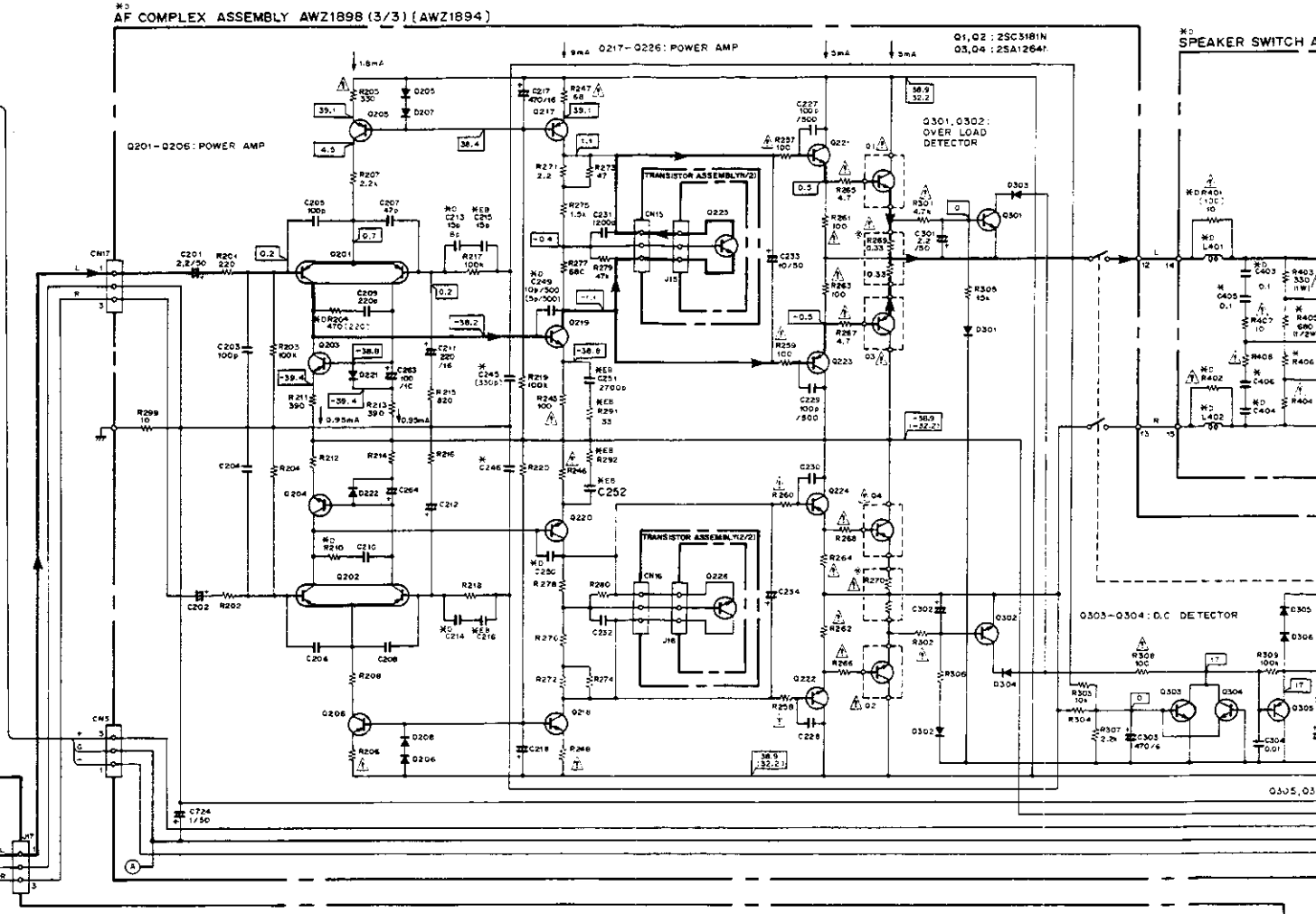
D



- AF COMPLEX ASSEMBLY (AWZ1898)
 Q205, Q206, Q305 2SA1048 (2SA1115)
 Q217, Q218 2SA1145
 Q223A, Q224A 2SA968
 Q201, Q202 2SA979
 Q301, Q302, Q306 2SC1845
 Q221A, Q222A 2SC2238
 Q203, Q204, Q303, Q304 2SC2458
 Q219, Q220 2SC2705
 D807, D808 DS9820F
 D307 RD16E58
 D501, D502 RD16E58B3
 D205-D208, D221, D222, D301-D306 1SS252
 RY301 ASR-112 (ASR-107) (ASR-109)
 S702 ASU1002
 S701 ASU016
 C507 ACG1005
 C505, C506 ACM1077
 R269, R270 ACN-139
- PHONO AMP ASSEMBLY
 IC101 MS220P
- TRANSISTOR ASSEMBLY
 Q225, Q226 2SC2603



- TONE ASSEMBLY (AWZ1895)
 IC601, IC602 MS218P
 Q601-Q604 2SK246
 D602 AEL1004
 D603 AEL1010
 D605-D608 1SS252
 D505, D506 11E2 (1SS568)
 S602, S603 ASG1016
 VR603, VR604 ACT1045
 VR602 ACT1046
 VR601 ACT1047



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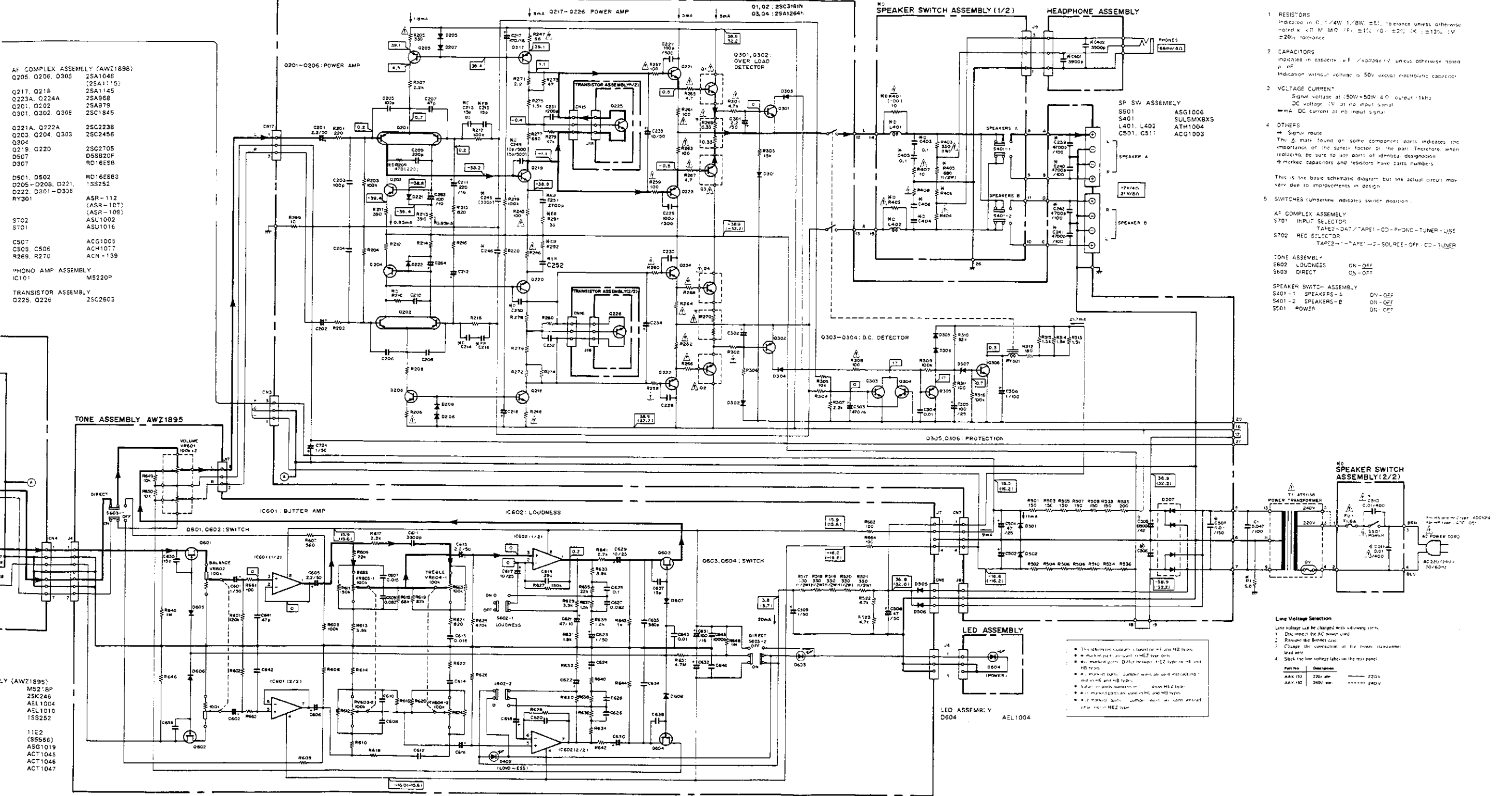
9

AF COMPLEX ASSEMBLY AWZ1898 (3/3) (AWZ1894)

- AF COMPLEX ASSEMBLY (AWZ1898)
- Q205, Q206, Q305: 2SA1048 (2SA1115)
- Q217, Q218: 2SA1145
- Q223A, Q224A: 2SA968
- Q201, Q202: 2SA979
- Q301, Q302, Q306: 2SC1845
- Q221A, Q222A: 2SC2238
- Q203, Q204, Q303: 2SC2458
- Q304: 2SC2458
- Q219, Q220: 2SC2705
- D507: D5SB20F
- D307: RD16ESB
- D501, D502: RD16ESB3
- D205-D208, D221: 1SS252
- D222, D301-D306: RY301
- D501, D502: ASR-112 (ASR-107) (ASR-108)
- S702: ASU1002
- S701: ASU1016
- C507, C508: ACG1005
- C505, C506: ACH1077
- R269, R270: ACN-139
- PHONO AMP ASSEMBLY IC101: M5220P
- TRANSISTOR ASSEMBLY Q225, Q226: 2SC2603

TONE ASSEMBLY AWZ1895

- IC101 (AWZ1895): M5218P, 25K246, AEL1004, AEL1010, 1SS252
- 11E2 (S5566): ASG1019, ACT1045, ACT1046, ACT1047



- RESISTORS**
Indicate in Ω, 1/4W 1/BW, ±5%, tolerance unless otherwise noted. $\times 0.1$ M, $\times 100$ K, $\times 10^3$ Ω, $\times 10^4$ Ω, $\times 10^5$ Ω, $\times 10^6$ Ω, $\times 10^7$ Ω, $\times 10^8$ Ω, $\times 10^9$ Ω, $\times 10^{10}$ Ω, $\times 10^{11}$ Ω, $\times 10^{12}$ Ω, $\times 10^{13}$ Ω, $\times 10^{14}$ Ω, $\times 10^{15}$ Ω, $\times 10^{16}$ Ω, $\times 10^{17}$ Ω, $\times 10^{18}$ Ω, $\times 10^{19}$ Ω, $\times 10^{20}$ Ω, $\times 10^{21}$ Ω, $\times 10^{22}$ Ω, $\times 10^{23}$ Ω, $\times 10^{24}$ Ω, $\times 10^{25}$ Ω, $\times 10^{26}$ Ω, $\times 10^{27}$ Ω, $\times 10^{28}$ Ω, $\times 10^{29}$ Ω, $\times 10^{30}$ Ω.
 - CAPACITORS**
Indicate in capacity μF / voltage V unless otherwise noted. $\times 10^3$ μF, $\times 10^4$ μF, $\times 10^5$ μF, $\times 10^6$ μF, $\times 10^7$ μF, $\times 10^8$ μF, $\times 10^9$ μF, $\times 10^{10}$ μF, $\times 10^{11}$ μF, $\times 10^{12}$ μF, $\times 10^{13}$ μF, $\times 10^{14}$ μF, $\times 10^{15}$ μF, $\times 10^{16}$ μF, $\times 10^{17}$ μF, $\times 10^{18}$ μF, $\times 10^{19}$ μF, $\times 10^{20}$ μF, $\times 10^{21}$ μF, $\times 10^{22}$ μF, $\times 10^{23}$ μF, $\times 10^{24}$ μF, $\times 10^{25}$ μF, $\times 10^{26}$ μF, $\times 10^{27}$ μF, $\times 10^{28}$ μF, $\times 10^{29}$ μF, $\times 10^{30}$ μF.
 - VOLTAGE CURRENT**
Signal voltage at 150W-50W 4.0 output 1kHz
DC voltage 1V at no input signal
mA DC current at no input signal
 - OTHERS**
Signal route
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.
 Φ marked capacitors and resistors have parts numbers.
This is the basic schematic diagram but the actual circuit may vary due to improvements in design.
 - SWITCHES** (underline indicates switch position)
- AF COMPLEX ASSEMBLY**
S701 INPUT SELECTOR
TAPES-DAT/TAPE1-CD-PHONE-TUNER-LINE
S702 REC SELECTOR
TAPES-1-TAPE1-2-SOURCE-OFF-CD-TUNER
- SP SW ASSEMBLY**
S501 ASG1006
S401 SLSMXXBS
L401, L402 ATH1004
C501, C511 ACG1003
- LED ASSEMBLY**
D604 AEL1004
- Line Voltage Selection**
Line voltage can be changed with following steps:
1. Disconnect the AC power cord.
2. Remove the Bottom Case.
3. Change the connection of the power transformer lead wire.
4. Stick the line voltage label on the rear panel.
- | Part No. | Description | 220V | 240V |
|----------|-------------|-------|------|
| AAK193 | 220V | ----- | 220V |
| AAK192 | 240V | ----- | 240V |

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7.3 P. C. BOARDS CONNECTION DIAGRAM

• View from component side

NOTE

1. This P.C.B. connection diagram is viewed from the front mounting side.
2. The parts which have been mounted on this board can be replaced with those shown with the corresponding wiring symbols in the following Table.

| P.C.B. pattern diagram indication | Corresponding part symbol | Part Name |
|-----------------------------------|---------------------------|---------------------------|
| Q504 E5 | | Transistor |
| Q515 E5 | | Resistor type transistor |
| Q503 E5 | | Diode |
| Q517 E5 | | Resistor |
| Q502 E5 | | Capacitor (Polarized) |
| Q508 E5 | | Capacitor (Non-polarized) |

Others

| P.C.B. pattern diagram indication | Part Name |
|-----------------------------------|--|
| C | IC |
| S | Switch |
| RV | Relay |
| CP | Coil |
| R | Relay |
| VR | Variable resistor or Semi-conductor variable |

1. The capacitor terminal marked with "A" shows anode terminal.
2. The diode terminal marked with "E" shows cathode terminal.
3. The transistor terminal to which "E" is affixed shows emitter.

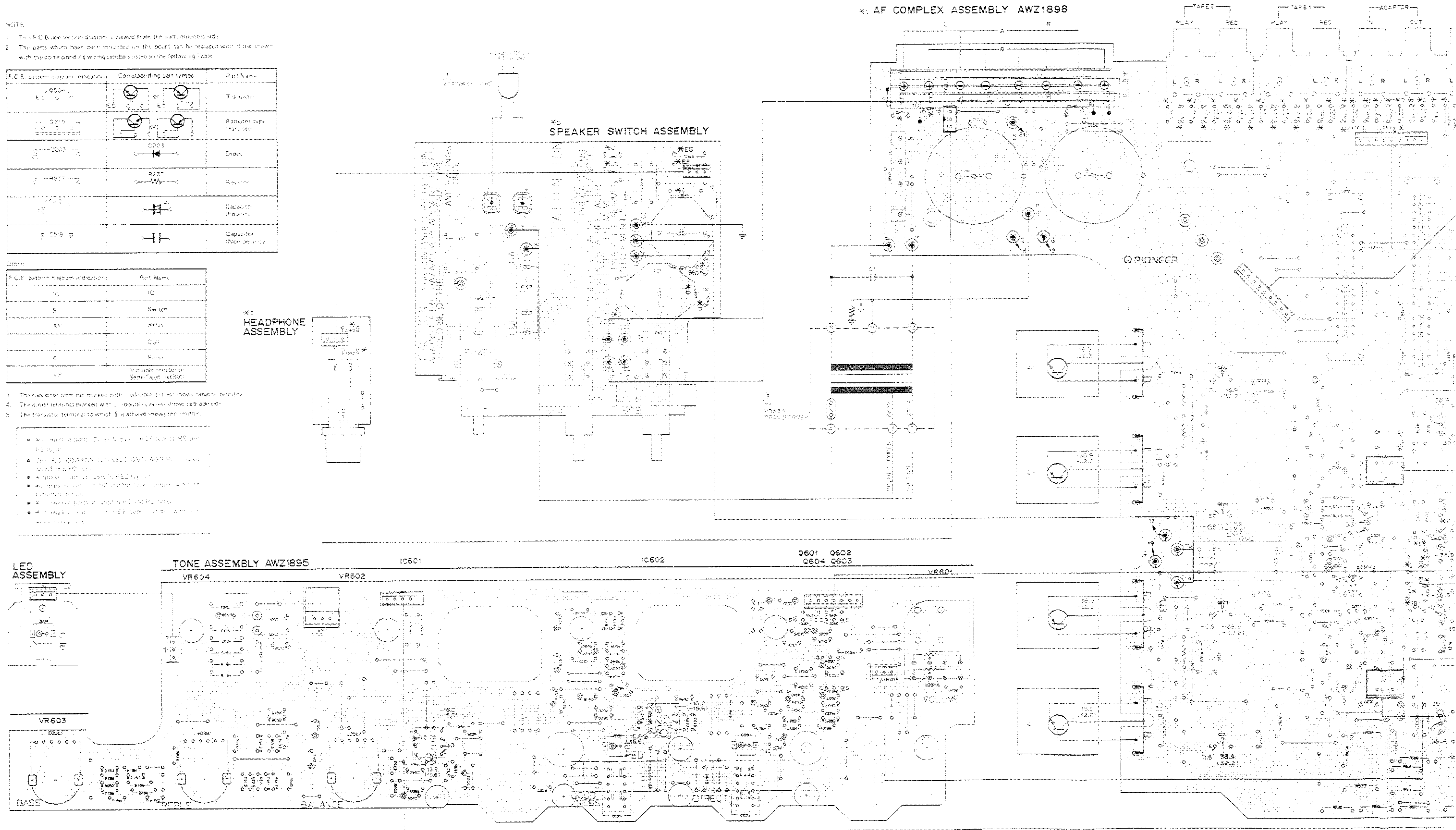
- All parts are parts of the complex assembly AWZ1898.
- The A-2 BOARD (AWZ1898) ON THE BOARD is used for the P.C.B.
- The parts are all of the type shown in the diagram.
- The parts are all of the type shown in the diagram.
- The parts are all of the type shown in the diagram.
- The parts are all of the type shown in the diagram.

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AF COMPLEX ASSEMBLY AWZ1898

SPEAKER SWITCH ASSEMBLY

PHONO AMP ASSEMBLY

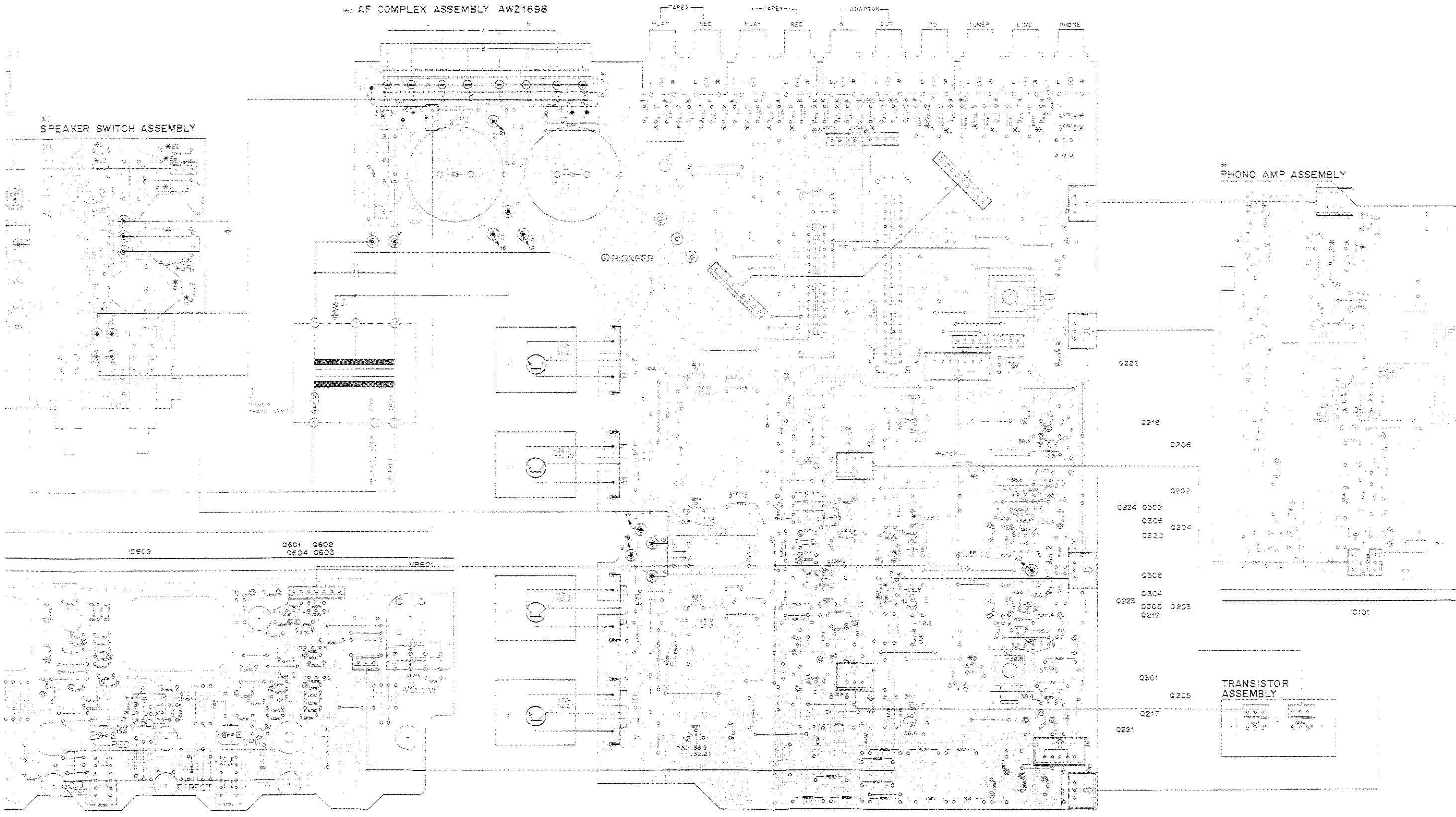
TRANSISTOR ASSEMBLY

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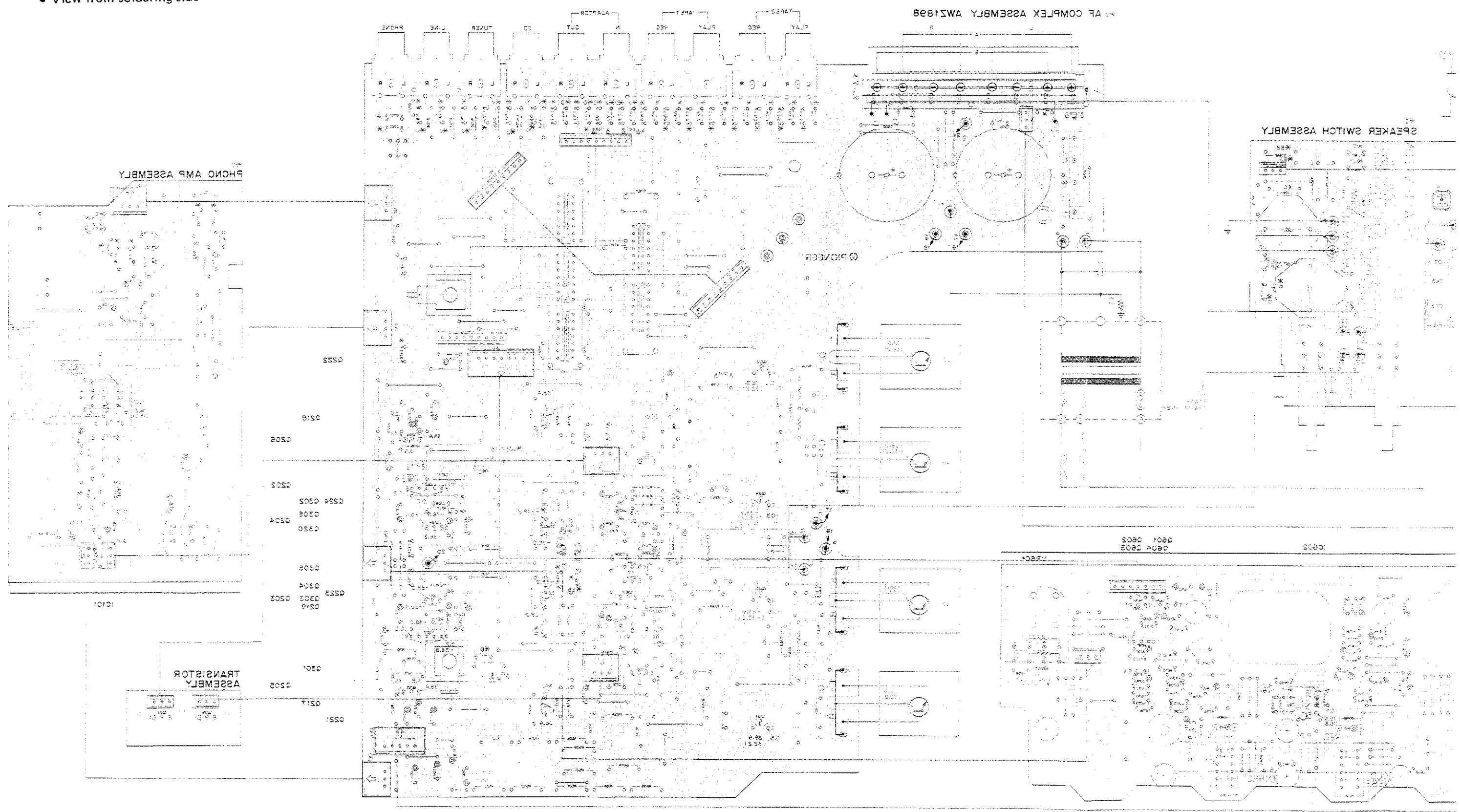
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3 | 4 | 5 | 6 | 7 | 8 | 9

• View from soldering side

A | B | C | D



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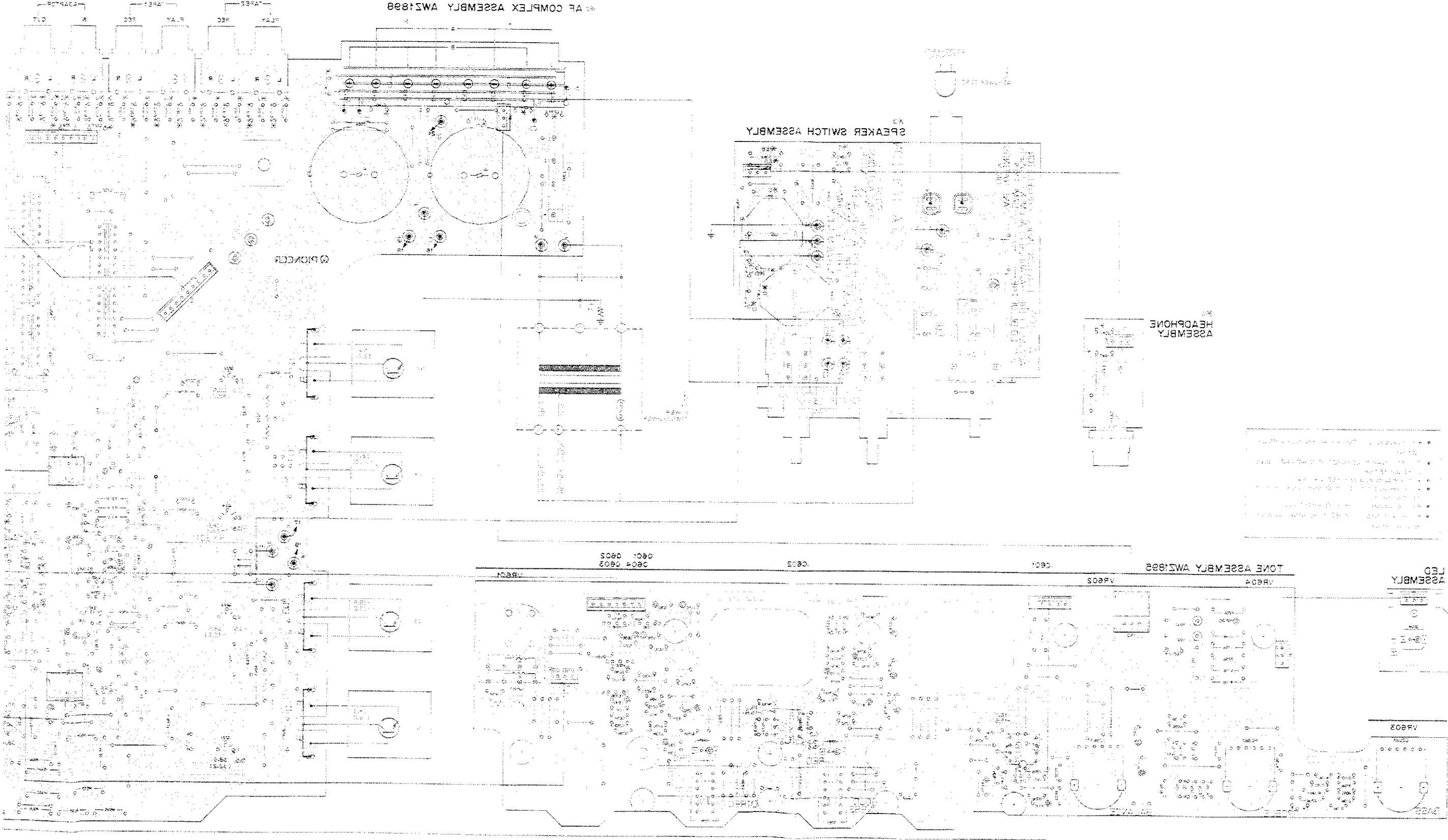
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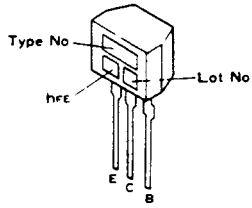
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7

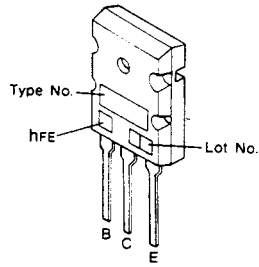
L

External appearance of transistors and ICs

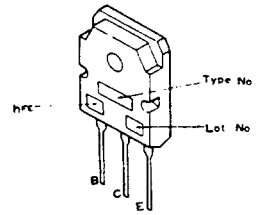
2SA933S
2SC1740S



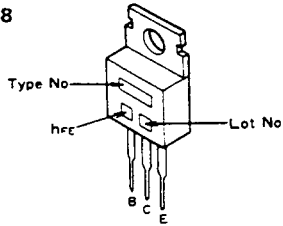
2SA1302
2SA3281



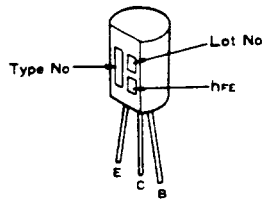
2SA1264N
2SC3181N



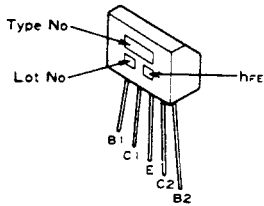
2SA968
2SC2238



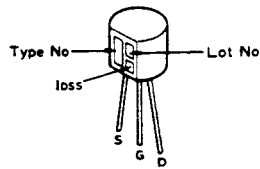
2SC1845



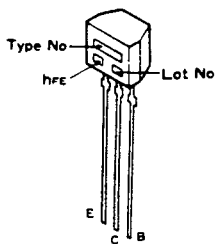
2SA979



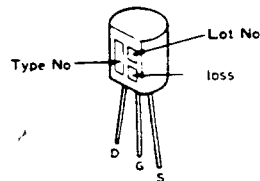
2SK246



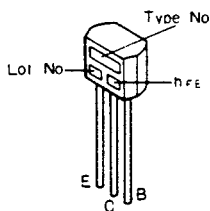
2SA1048
2SC2458



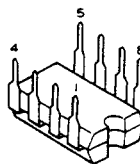
2SK369



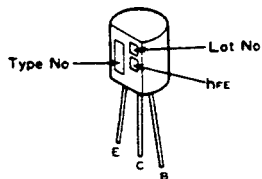
2SA1115
2SC2603



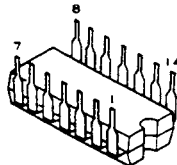
M5218P
M5220P



2SA1145
2SC2705



PA0016



5. ELECTRICAL PARTS LIST

NOTES :

- Parts 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.
- For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.
- ★★ GENERALLY MOVES FASTER THAN ★.

This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

- 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%).

| | | | | | | | |
|-------|----------------------|-----|---------|---|---|---|---|
| 560 Ω | 56 × 10 ¹ | 561 | RD1/4PS | 5 | 6 | 1 | J |
| 47k Ω | 47 × 10 ³ | 473 | RD1/4PS | 4 | 7 | 3 | J |
| 0.5 Ω | 0R5 | | RN2H | 0 | R | 5 | K |
| 1 Ω | 010 | | RS1P | 0 | 1 | 0 | K |

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

| | | | | | | | | |
|---------|-----------------------|------|---------|---|---|---|---|---|
| 5.62k Ω | 562 × 10 ¹ | 5621 | RN1/4SR | 5 | 6 | 2 | 1 | F |
|---------|-----------------------|------|---------|---|---|---|---|---|

Miscellaneous Parts

P. C. BOARD ASSEMBLY

| Mark | Symbol & Description | Part No. |
|------|-------------------------|----------|
| | Tone assembly | AWZ1885 |
| | AF Complex assembly | AWZ1890 |
| | Phono amp assembly | |
| | Speaker switch assembly | |
| | Headphone assembly | |
| | LED assembly | |

OTHERS

| Mark | Symbol & Description | Part No. |
|------|--------------------------------------|--------------|
| ★★ | Q3, Q4 | 2SA1302 |
| ★★ | Q1, Q2 | 2SC3281 |
| | R1 | RDR¼PM6R8J |
| | C1 | CQMXA104J100 |
| Δ ★ | T1 Power transformer (220V/240V) | ATS1137 |
| ★★ | S2 Rotary switch (REC SELECTOR) | ASU1012 |
| ★★ | S1 Rotary switch (INPUT SELECTOR) | ASU1014 |
| Δ★★ | FU1 Fuse (T2.5A) | AEK-403 |
| Δ | AC Strain relief | AEC-882 |
| Δ | AC Power cord | ADG1019 |

Tone assembly (AWZ1885)

SEMICONDUCTORS

| Mark | Symbol & Description | Part No. |
|------|------------------------|-----------------|
| ★★ | IC601, IC602 | M5218P |
| ★★ | Q601, Q602, Q603, Q604 | 2SK246 |
| ★ | D601, D602 | AEL1004 |
| ★ | D603 | AEL1010 |
| ★ | D605-D608 | 1SS252 |
| ★ | D505, D506 | 11E2 (S5566) |

SWITCHES

| Mark | Symbol & Description | Part No. |
|------|---|----------|
| ★★ | S601, S602, S603 Push switch (SUBSONIC, LOUDNESS, DIRECT) | ASG1019 |
| ★★ | S604 Push switch (MUTING) | SECV2S |

CAPACITORS

| Mark | Symbol & Description | Part No. |
|------|------------------------------|------------------------------|
| | C635-C638 | CCMSL150J50 |
| | C619, C620 | CCMSL390J50 |
| | C641, C642 | CCMSL470J50 |
| | C509, C601, C602, C623, C624 | CEAS010M50 |
| | C617, C618, C629, C630 | CEAS100M25 |
| | C631, C632 | CEAS101M16 |
| | C605, C606, C615, C616 | CEAS2R2M50 |
| | C621, C622 | CEAS470M10 |
| | C508 | CEAS470M50 |
| | C603, C604 | CFTXA823J50 |
| | C611, C612 | CGMYB332M25 |
| | C643 | CKCYB103K50 (CKDYB103K50) |
| | C647, C648 | CKDYF103Z50 |
| | C625, C626 | CKDYX104M25 |
| | C607, C608 | CKDYX153M25 |
| | C613, C614 | CKDYX183M25 |
| | C609, C610, C627, C628 | CKDYX823M25 |
| | C645, C646 | CKDYB102K50 |

RESISTORS

| Mark | Symbol & Description | Part No. |
|------|---|-----------|
| ★ | VR603, VR604 Variable resistor (BASS, TREBLE : 100k×2) | ACT1045 |
| ★ | VR602 Variable resistor (BALANCE : 100k×2) | ACT1046 |
| ★ | VR601 Variable resistor (VOLUME : 100k×2) | ACT1047 |
| | R517-R523 | RD½PM□□□J |
| | R663, R664, R651 | RD¼PM□□□J |
| | Other resistors | RD⅛PM□□□J |

AF complex assembly (AWZ1890)

SEMICONDUCTORS

| Mark | Symbol & Description | Part No. |
|------|-----------------------------|------------------------------------|
| ★★ | IC201, IC202 | PA0016 |
| ★★ | Q205-Q212, Q305 | 2SA1048 (2SA1115) (2SA933S) |
| ★★ | Q217, Q218, Q502 | 2SA1145 |
| ★★ | Q223, Q224 | 2SA968 |
| ★★ | Q201, Q202 | 2SA979 |
| ★★ | Q213-Q216, Q301, Q302, Q306 | 2SC1845 |
| ★★ | Q221, Q222 | 2SC2238 |
| ★★ | Q303, Q304 | 2SC2458 (2SC1740S) (2SC2603) |
| ★★ | Q219, Q220, Q501 | 2SC2705 |
| ★ | D507 | D5SB20F |
| ★ | D307 | RD16ESB |
| ★ | D503, D504 | RD18ESB1 |
| ★ | D201-D214, D301-D306 | 1SS252 |

SWITCHES AND RELAY

| Mark | Symbol & Description | Part No. |
|------|---|-----------------------------------|
| ★★ | RY301 Relay (PROTECTION) | ASR-112 (ASR-107) (ASR-109) |
| ★★ | S701 Remote slid switch (INPUT SELECTOR) | ASU1016 |
| ★★ | S702 Remote slid switch (REC SELECTOR) | ASU1002 |

CAPACITORS

| Mark | Symbol & Description | Part No. |
|------|-----------------------|--------------------------------|
| | C507 (0.01/AC150) | ACG1005 |
| | C505, C506 (10000/50) | ACH1078 |
| | C201, C202 (2.2/50) | ACH1096 |
| | C203, C204, C227-C230 | CCCSL101K500 (CCDSL101K500) |
| | C213-C216 | CCCSL150K500 (CCDSL150K500) |
| | C205, C206 | CCMSL101J50 |
| | C207, C208 | CCMSL470J50 |
| | C221-C224 | CCMSL680J50 |
| | C306 | CEAS010M100 |
| | C501, C502 | CEAS100M50 |
| | C305 | CEAS101M25 |
| | C301, C302 | CEAS2R2M50 |
| | C503, C504 | CEAS470M25 |
| | C247, C248 | CEAS470M50 |
| | C217, C218, C303 | CEAS471M6 |
| | C211, C212 | CEYA221M16 |
| | C209, C210 | CKCYB182K50 (CKDYB182K50) |
| | C304, C725 | CKCYF103Z50 (CKDYF103Z50) |
| | C721 | CKCYX104M25 (CKDYX104M25) |
| | C724 | CKDYF473Z50 |

| Mark | Symbol & Description | Part No. |
|------|----------------------|-------------|
| | C225, C226 | CKMYB151K50 |
| | C219, C220 | CKMYB221K50 |
| | C719, C720 | CKMYB331K50 |
| | C261, C262 | CKMYB471K50 |

RESISTORS

| Mark | Symbol & Description | Part No. |
|------|---|---|
| ⊥ | R269, R270 Wire wound (0.33 Ω × 2/5W) | ACN-139 |
| | R201-R204, R215-R218 | RDR $\frac{1}{4}$ PM□□□J |
| ⊥ | R503 | RD $\frac{1}{4}$ PMFL151J |
| ⊥ | R227-R230, R257-R268, R301, R302, R283-R286, R295, R296, R308 | RD $\frac{1}{4}$ PMF□□□J |
| | R723, R309, R310, R316, R307, R709, R710, R713, R714, R717, R718, R725-R728 | RD $\frac{1}{8}$ PM□□□J |
| ⚠ | R241-R248 Other resistors | RFA $\frac{1}{4}$ PS□□□J RD $\frac{1}{4}$ PM□□□J |

OTHERS

| Mark | Symbol & Description | Part No. |
|------|-----------------------------------|----------|
| | Terminal 4P (TAPE2, ADAPTOR) | AKB1007 |
| | Terminal 6P (PHONO, CD, TUNER) | AKB1008 |
| | Terminal 6P (LINE, TAPE1) | AKB1024 |
| | Terminal 8P (SPEAKER) | AKE1011 |

Phono Amp Assembly

SEMICONDUCTORS

| Mark | Symbol & Description | Part No. |
|------|----------------------|------------------------------------|
| ★★ | IC101 | M5220P |
| ★★ | Q105, Q106 | 2SC2458 (2SC1740S) (2SC2603) |
| ★★ | Q101-Q104 | 2SK389 |
| ★ | D101, D102 | 1SS252 |

SWITCHES

| Mark | Symbol & Description | Part No. |
|------|--------------------------|----------|
| ★★ | S101 Push switch (MM-MC) | ASG1012 |

CAPACITORS

| Mark | Symbol & Description | Part No. |
|------|----------------------|--------------------------------|
| | C103, C104 | CCCSL221K500 (CCDSL221K500) |
| | C107, C108 | CEANP101M10 |
| | C113, C114 | CEANP220M10 |
| | C117, C118 | CEASO1M25 |
| | C135, C136 | CEAS70M10 |
| | C111, C112 | CFTXA183J50 |
| | C109, C110 | CFTXA583J50 |
| | C119, C120 | CKCYF103Z50 (CKDYF103Z50) |
| | C105, C106 | CKMYB152K50 |
| | C121, C122 | CQM4122J50 |
| | C115, C116 | CQM4472K50 |

RESISTORS

| Mark | Symbol & Description | Part No. |
|------|--|--------------------------|
| | R101, R102, R107, R108, R119-R122, R133, R134 | RDR $\frac{1}{4}$ PM□□□J |
| | R104, R103 | RDR $\frac{1}{6}$ PU100J |
| | R145 | RD $\frac{1}{8}$ PM2R7J |
| | Other resistors | RD $\frac{1}{4}$ PM□□□J |

Speaker Switch Assembly

SWITCHES

| Mark | Symbol & Description | Part No. |
|------|----------------------------|-----------|
| △ | S501 Push switch (POWER) | ASG1006 |
| | S401 Push switch (SP. A-B) | SUL5MXBXS |

COILS

| Mark | Symbol & Description | Part No. |
|------|---|----------|
| | L401, L402 AF choke coil (0.7 μ H) | ATH1004 |

CAPACITORS

| Mark | Symbol & Description | Part No. |
|------|--------------------------------|-------------|
| △ | C510, C511 (0.01 μ F/400V) | ACG1003 |
| △ | C403-C406 | CFTXA104J50 |

RESISTORS

| Mark | Symbol & Description | Part No. |
|------|------------------------|---------------------------|
| | R405, R406 | RD $\frac{1}{2}$ PM681J |
| △ | R401, R402, R407, R408 | RD $\frac{1}{4}$ PMFL100J |
| △ | R403, R404 | RS1LMF331J |

Headphone Assembly

OTHERS

| Mark | Symbol & Description | Part No. |
|------|----------------------|----------|
| | Jack (PHONES) | AKN1002 |

LED Assembly

SEMICONDUCTORS

| Mark | Symbol & Description | Part No. |
|------|----------------------|----------|
| ★ | D640 LED assembly | AEL1004 |

6. FOR A-443/HB, HEZ AND A-443-S/HEZ TYPES

NOTES :

- Parts without part number cannot be supplied.
- The i 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.
- For your parts Stock Control, the fast moving items are indicated with the marks **★★** and **★**.
★★ GENERALLY MOVES FASTER THAN ★.
- This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- Parts marked by "⊙" are not always kept in stock, Their delivery time may be longer than usual or they may be unavailable.

The A-443/HB, HEZ and A-443-S/HEZ types are the same as the A-443/HE type with the exception of the following sections.

| Mark | Symbol & Description | Part No. | | | | Remarks |
|-----------------------|--|---------------|---------------|----------------|------------------|---------|
| | | A-443 HE type | A-443 HB type | A-443 HEZ type | A-443-S HEZ type | |
| <u>i</u> ★★ | AF complex assembly | AWZ1890 | AWZ1890 | AWZ1884 | AWZ1884 | |
| | Phono amp assembly | Non supply | Non supply | Non supply | Non supply | |
| | Speaker switch assembly | Non supply | Non supply | Non supply | Non supply | |
| | AC power cord | ADG1019 | ADG-051 | ADG1019 | ADG1019 | |
| | FU1 Fuse (T2.5A/250V) | AEK-403 | AEK-512 | AEK-403 | AEK-403 | |
| | Headphone assembly | Non supply | Non supply | Non supply | Non supply | |
| | Knob (VOLUME) | AAB1064 | AAB1064 | AAB1064 | AAB1065 | |
| | Knob (REC SELECTOR, INPUT SELECTOR) | AAB1066 | AAB1066 | AAB1066 | AAB1067 | |
| | Knob (BASS, TREBLE, BALANCE) | AAB1068 | AAB1068 | AAB1068 | AAB1069 | |
| | Knob B (SPEAKERS A, B) | AAD-418 | AAD-418 | AAD-418 | AAD1368 | |
| R1 | Knob (SUBSONIC, LOUDNESS, DIRECT) | AAD1162 | AAD1162 | AAD1162 | AAD1163 | |
| | Knob C (MUTING, PHONO SELECTOR) | AAD1366 | AAD1366 | AAD1366 | AAD1367 | |
| | Knob (POWER) | AAD1343 | AAD1343 | AAD1343 | AAD1344 | |
| | Packing case | AHD1392 | AHD1392 | AHD1392 | AHD1412 | |
| | Panel base | AMB1334 | AMB1334 | AMB1334 | AMB1335 | |
| | Front panel | ANB1180 | ANB1180 | ANB1180 | ANB1181 | |
| | Carbon resistor (6.8 Ω) | ..... | ..... | RD¼PM6R8J | RD¼PM6R8J | |
| | Operating instructions (English, German, French, Italian, Dutch, Swedish, Spanish, Portuguese) | ARE1073 | ..... | ..... | ..... |  |
| | (German) | ..... | ..... | ARC1077 | ARC1077 | |
| | (English) | ..... | ARB1102 | ..... | ..... |  |
| Screw | ..... | ..... | BBT30P060FZK | ABA-274 | For bonnet | |
| Bonnet | AZN1746 | AZN1746 | AZN1799 | AZN1800 | | |

AF COMPLEX ASSEMBLY (AWZ1884)

The AF complex assembly (AWZ1884) for HEZ type is the same as the AF complex assembly (AWZ1890) for HE and HB types with the exception of the following sections.

| Mark | Symbol & Description | Part No. | | Remarks |
|------|--|---|---|---------|
| | | AWZ1890 (HE and HB types) | AWZ1884 (HEZ type) | |
| | C215, C216 C213, C214 | CCCSL150K500 CCCSL150K500 | CCDSL080D500 (CCCSL080D500) | |
| | C239-C242 C245, C246 C701, C702 | ..... ..... ..... | CQMXA472J100 CKMYB331K50 CCMSL270J50 | |
| | C703-C718 C719, C720 C724 | CKMYB331K50 CKDYF473Z50 | CKMYB271K50 CKMYB271K50 CKCYF473Z50 (CKDYF473Z50) | |
| | C727, C728 C729, C730 | ..... ..... | CKMYB221K50 CCMSL220J50 | |
| | C726 R231, R232 R701, R702 R703, R704 R705-R708 | RD $\frac{1}{4}$ PM221J | CKMYB271K50 RD $\frac{1}{4}$ PM471J RD $\frac{1}{4}$ PM102J RDR $\frac{1}{4}$ PPM331J RD $\frac{1}{4}$ PM331J | |
| | R709, R710, R713, R714, R717, R718 R711, R712, R715, R716, R719, R720 L701, L702 | RD $\frac{1}{8}$ PM222J | RD $\frac{1}{8}$ PM182J RD $\frac{1}{8}$ PM331J LAU3R3K | |

PHONO AMP ASSEMBLY

The phono amp assembly (for HEZ type) is the same as the phono amp assembly (for HE and HB types) with the exception of the following sections.

| Mark | Symbol & Description | Part No. | | Remarks |
|------|---|---------------------------------------|---|---------|
| | | For HE and HB types | For HEZ type | |
| | C103, C104 | CCCSL221K500 | CCDSL271K500 (CCCSL271K500) | |
| | C115, C116 C137, C138 L101, L102 Coil (560 μ H) R105, R106 | CQMA472K50 | CQMA222K50 CKMYB151K50 ATH1024 RD $\frac{1}{8}$ PM472J | |

SPEAKER SWITCH ASSEMBLY

The Speaker switch assembly (for HEZ type) is the same as the Speaker switch assembly (for HE and HB types) with the exception of the following sections.

| Mark | Symbol & Description | Part No. | | Remarks |
|------|--|---|---|---------|
| | | For HE and HB types | For HEZ type | |
| | C403, C404 C405, C406 L401, L402 AF choke coil R401, R402 R405, R406 | CFTXA104J50 CFTXA104J50 ATH1004 RD½PMFL100J RD½PM681J | CFTXA473J50 ATH1009 RD½PMFL101J | |

HEADPHONE ASSEMBLY

The Headphone assembly (for HEZ type) is the same as the Headphone assembly (for HE and HB types) with the exception of the following sections.

| Mark | Symbol & Description | Part No. | | Remarks |
|------|----------------------|---------------------|--------------|---------|
| | | For HE and HB types | For HEZ type | |
| | C401, C402 | ..... | CKCYB392K50 | |

7. FOR A-333/HE, HB, HEZ AND A-333-S/HEZ TYPES

The A-333/HE, HB, HEZ and A-333-S/HEZ types are the same as the A-443/HE type with the exception of the following sections.

| Mark | Symbol & Description | Part No. | | | | |
|------|--|---------------|---------------|---------------|----------------|------------------|
| | | A-443 HE type | A-333 HE type | A-333 HB type | A-333 HEZ type | A-333-S HEZ type |
| ⬇ ★ | AF complex assembly | AWZ1890 | AWZ1898 | AWZ1898 | AWZ1894 | AWZ1894 |
| | Phono amp assembly | Non supply | Non supply | Non supply | Non supply | Non supply |
| | Speaker switch assembly | Non supply | Non supply | Non supply | Non supply | Non supply |
| | Tone assembly | AWZ1885 | AWZ1895 | AWZ1895 | AWZ1895 | AWZ1895 |
| | T1 Power transformer (220/240V) | ATS1137 | ATS1138 | ATS1138 | ATS1138 | ATS1138 |
| ⬇★★★ | Transistor assembly | ..... | Non supply | Non supply | Non supply | Non supply |
| | Headphone assembly | Non supply | Non supply | Non supply | Non supply | Non supply |
| ⬇★★★ | FU1 Fuse (T2.5A/250V) | AEK-403 | ..... | ..... | ..... | ..... |
| ⬇★★★ | FU1 Fuse (T1.6A/250V) | ..... | AEK-405 | AEK-510 | AEK-405 | AEK-405 |
| | C1 | CQMXA104J100 | CQMXA473J100 | CQMXA473J100 | CQMXA473J100 | CQMXA473J100 |
| ★★ | R1 | ..... | ..... | ..... | RD¼PM6R8J | RD¼PM6R8J |
| ★★ | Q3, Q4 | 2SA1302 | 2SA1264N | 2SA1264N | 2SA1264N | 2SA1264N |
| ★★ | Q1, Q2 | 2SC3281 | 2SC3181N | 2SC3181N | 2SC3181N | 2SA3181N |
| | Knob B (SPEAKERS) | AAD-418 | AAD-418 | AAD-418 | AAD-418 | AAD1368 |
| | Knob (SUBSONIC) | AAD1162 | ..... | ..... | ..... | ..... |
| | Knob (LOUDNESS, DIRECT) | AAD1162 | AAD1162 | AAD1162 | AAD1162 | AAD1163 |
| | Knob C (MUTING, PHONO SELECTOR) | AAD1366 | ..... | ..... | ..... | ..... |
| | Knob (POWER) | AAD1343 | AAD1343 | AAD1343 | AAD1343 | AAD1344 |
| | Joint arm | AMR1161 | ..... | ..... | ..... | ..... |
| | Front panel | ANB1180 | ANB1182 | ANB1182 | ANB1182 | ANB1183 |
| | Panel base | AMB1334 | AMB1334 | AMB1334 | AMB1334 | AMB1335 |
| | Bonnet | AZN1746 | AZN1746 | AZN1746 | AZN1799 | AZN1800 |
| | Screw (For bonnet) | ..... | ..... | ..... | BBZ30P060FZK | ABA-274 |
| | Screw (For heat sink) | ABA1050 | ..... | ..... | ..... | ..... |
| | Packing case | AHD1392 | AHD1393 | AHD1393 | AHD1393 | AHD1413 |
| | Knob (VOLUME) | AAB1064 | AAB1064 | AAB1064 | AAB1064 | AAB1065 |
| | Knob (REC SELECTOR, INPUT SELECTOR) | AAB1066 | AAB1066 | AAB1066 | AAB1066 | AAB1067 |
| | Knob (BASS, TREBLE, BALANCE) | AAB1068 | AAB1068 | AAB1068 | AAB1068 | AAB1069 |
| | Operating instructions (English, German, French, Italian, Dutch, Swedish, Spanish, Portuguese) | ARE1073 | ARE1073 | ARE1073 | ..... | ..... |
| | (English) | ..... | ..... | ARB1102 | ..... | ..... |
| | (German) | ..... | ..... | ..... | ARC1077 | ARC1077 |
| ★★ | S2 Rotary switch (REC SELECTOR) | ASU1012 | ASU1013 | ASU1013 | ASU1013 | ASU1013 |
| ★★ | S1 Rotary switch (INPUT SELECTOR) | ASU1014 | ASU1015 | ASU1015 | ASU1015 | ASU1015 |
| ⬇ | AC power cord | ADG1019 | ADG1019 | ADG-051 | ADG1019 | ADG1019 |

7.1 ELECTRICAL PARTS LIST OF A-333/HE, HB AND HEZ types

• For A-333/HE and HB types

NOTES :

- Parts 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.
- For your parts Stock Control, the fast moving items are indicated with the marks **★★** and **★**.

★★ GENERALLY MOVES FASTER THAN ★.

This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.

- 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%).

560 Ω 56×10^1 561RD1/4PS **561J**

47k Ω 47×10^3 473RD1/4PS **473J**

0.5 Ω 0R5RN2H **0R5K**

1 Ω 010RS1P **010K**

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

5.62k Ω 562×10^1 5621RN1/4SR **5621F**

Miscellaneous Parts

P. C. BOARD ASSEMBLIES

| Mark | Symbol & Description | Part No. |
|------|-------------------------|----------|
| | Tone assembly | AWZ1895 |
| | AF complex assembly | AWZ1898 |
| | Phono amp assembly | |
| | Transistor assembly | |
| | Speaker switch assembly | |
| | Headphone assembly | |
| | LED assembly | |

OTHERS

| Mark | Symbol & Description | Part No. |
|-------------|--------------------------------------|--------------|
| Δ ★★ | Q3, Q4 | 2SA1264N |
| Δ ★★ | Q1, Q2 | 2SC3181N |
| | C1 | COMXA473J100 |
| Δ ★ | T1 Power transformer (AC220/240V) | ATS1138 |
| ★★ | S2 Rotary switch (REC SELECTOR) | ASU1013 |
| ★★ | S1 Rotary switch (INPUT SELECTOR) | ASU1015 |
| Δ ★★ | FU1 Fuse (T1.6A/250V) | AEK-405 |
| Δ | Stain relief | AEC-882 |
| Δ | AC Power cord | ADG1019 |

Tone Assembly (AWZ1895)

SEMICONDUCTORS

| Mark | Symbol & Description | Part No. |
|------|----------------------|-----------------|
| ★★ | IC601, IC602 | M5218P |
| ★★ | Q601-Q604 | 2SK246 |
| ★ | D602 | AEL1004 |
| ★ | D603 | AEL1010 |
| ★ | D605-D608 | 1SS252 |
| ★ | D505, D506 | 11E2 (S5566) |

SWITCHES

| Mark | Symbol & Description | Part No. |
|------|--|----------|
| ★★ | S602, S603 Push switch (LOUDNESS, DIRECT) | ASG1019 |

CAPACITORS

| Mark | Symbol & Description | Part No. |
|------|------------------------------|------------------------------|
| | C635-C638 | CCMSL150J50 |
| | C619, C620 | CCMSL390J50 |
| | C641, C642 | CCMSL470J50 |
| | C509, C601, C602, C623, C624 | CEAS010M50 |
| | C617, C618, C629, C630 | CEAS100M25 |
| | C631, C632 | CEAS101M16 |
| | C605, C606, C615, C616 | CEAS2R2M50 |
| | C621, C622 | CEAS470M10 |
| | C508 | CEAS470M50 |
| | C611, C612 | CGMYB332M25 |
| | C643 | CKCYB103K50 (CKDYB103K50) |
| | C625, C626 | CKDYX104M25 |
| | C607, C608 | CKDYX153M25 |
| | C613, C614 | CKDYX183M25 |
| | C609, C610, C627, C628 | CKDYX823M25 |
| | C645, C646 | CKNYB102K50 |
| | C633, C634 | CKNYB561K50 |

RESISTORS

| Mark | Symbol & Description | Part No. |
|------|---|-----------|
| ★ | VR603, VR604 Variable resistor (BASS, TREBLE : 100k×2) | ACT1045 |
| ★ | VR602 Variable resistor (BALANCE : 100k×2) | ACT1046 |
| ★ | VR601 Variable resistor (VOLUME : 100k×2) | ACT1047 |
| | R517 - R521 | RD½PM331J |
| | R522, R523, R651, R663, R664 | RD¼PM□□□J |
| | Other resistors | RD¼PM□□□J |

AF Complex Assembly (AWZ1898)

SEMICONDUCTORS

| Mark | Symbol & Description | Part No. |
|------|---|----------------------|
| ★★ | Q205, Q206, Q305 | 2SA1048 (2SA1115) |
| ★★ | Q217, Q218 | 2SA1145 |
| ★★ | Q223, Q224 | 2SA968 |
| ★★ | Q201, Q202 | 2SA979 |
| ★★ | Q301, Q302, Q306 | 2SC1845 |
| ★★ | Q221, Q222 | 2SC2238 |
| ★★ | Q203, Q204, Q303, Q304 | 2SC2458 |
| ★★ | Q219, Q220 | 2SC2705 |
| ★ | D507 | D5SB20F |
| ★ | D307 | RD16ESB |
| ★ | D501, D502 | RD16ESB3 |
| ★ | D205 - D208, D221, D222, D301 - D306 | 1SS252 |

SWITCH AND RELAY

| Mark | Symbol & Description | Part No. |
|------|---------------------------------------|-----------------------------------|
| ★ | RY301 Relay (PROTECTION) | ASR-112 (ASR-107) (ASR-109) |
| ★★ | S702 Slide switch (INPUT SELECTOR) | ASU1002 |
| ★★ | S701 Slide switch (REC SELECTOR) | ASU1016 |

CAPACITORS

| Mark | Symbol & Description | Part No. |
|------|-----------------------------|--------------------------------|
| | C507 (0.01 μ F / 150V) | ACG1005 |
| | C505, C506 (6800 μ F / 42V) | ACH1077 |
| | C249, C250 | CCCSL100D500 (CCDSL100D500) |
| | C227 - C230 | CCCSL101K500 (CCDSL101K500) |
| | C209, C210 | CCCSL221J50 (CCDSL221J50) |
| | C203 - C206 | CCMSL101J50 |
| | C213 - C216 | CCMSL150J50 |
| | C207, C208 | CCMSL470J50 |
| | C306 | CEAS010M100 |
| | C724 | CEAS010M50 |

| Mark | Symbol & Description | Part No. |
|------|----------------------|------------------------------|
| | C233, C234 | CEAS100M50 |
| | C263, C264 | CEAS101M10 |
| | C305 | CEAS101M25 |
| | C301, C302 | CEAS2R2M50 |
| | C501, C502 | CEAS470M25 |
| | C217, C218, C303 | CEAS471M6 |
| | C201, C202 | CEYA2R2M50 |
| | C211, C212 | CEYA221M16 |
| | C251, C252 | CKCYB272K50 (CKDYB272K50) |
| | C304 | CKCYF103Z50 (CKDYF103Z50) |
| | C721 | CKCYX104M25 (CKDYX104M25) |
| | C231, C232 | CKMYB122K50 |
| | C719, C720 | CKMYB331K50 |

RESISTORS

| Mark | Symbol & Description | Part No. |
|------|---|--------------------------|
| ⊥ | R269, R270 (0.33 Ω × 2) | ACN-139 |
| | R201 - R204, R215 - R218 | RDR¼PM□□□J |
| ⊥ | R205, R206, R247, R248, R261 - R264, R301, R302, R308 | RD¼PMF□□□J |
| | R291, R292, R307, R309, R310, R316, R709, R710, R713, R714, R717, R718, R723, R725 - R728 | RD¼PM□□□J |
| ⊥ | R245, R246, R257 - R260 | RFA¼PS101J |
| ⊥ | R265 - R268 R275, R276 | RFA¼PS4R7J RN¼PQ1501F |
| | Other resistors | RD¼PM□□□J |

OTHERS

| Mark | Symbol & Description | Part No. |
|------|-----------------------------------|----------|
| | Terminal 4P (TAPE2, ADAPTOR) | AKB1007 |
| | Terminal 6P (PHONO, CD, TUNER) | AKB1008 |
| | Terminal 6P (LINE, TAPE1) | AKB1024 |
| | Terminal 8P (SPEAKER) | AKE1011 |

Phono Amp Assembly

SEMICONDUCTORS

| Mark | Symbol & Description | Part No. |
|------|----------------------|----------|
| ★★ | IC101 | M5220P |

CAPACITORS

| Mark | Symbol & Description | Part No. |
|------|----------------------|------------------------------|
| | C107, C108 | CEAS101M10 |
| | C117, C118 | CEAS101M25 |
| | C113, C114 | CEAS4R7M50 |
| | C111, C112 | CFTXA183J50 |
| | C109, C110 | CFTXA683J50 |
| | C123, C124 | CEAS100M50 |
| | C119, C120 | CKCYF103Z50 (CKDYF103Z50) |
| | C103, C104 | CKMYB221K50 |
| | C121, C122 | CQMA122J50 |
| | C115, C116 | CQMA472K50 |

RESISTORS

| Mark | Symbol & Description | Part No. |
|------|------------------------|--------------------------|
| | R133, R134, R121, R122 | RDR $\frac{1}{4}$ PM□□□J |
| | R103, R104, R141, R142 | RDR $\frac{1}{6}$ PU□□□J |
| | R145 | RD $\frac{1}{8}$ PM2R7J |
| | Other resistors | RD $\frac{1}{4}$ PM□□□J |

Transistor Assembly

SEMICONDUCTORS

| Mark | Symbol & Description | Part No. |
|------|----------------------|----------|
| ★★ | Q225, Q226 | 2SC2603 |

Speaker switch Assembly

SWITCHES

| Mark | Symbol & Description | Part No. |
|------|-----------------------------|-----------|
| △★★ | S501 Push switch (POWER) | ASG1006 |
| ★★ | S401 Push switch (SPEAKERS) | SUL5MXBXS |

COILS

| Mark | Symbol & Description | Part No. |
|------|---|----------|
| | L401, L402 AF choke coil (0.7 μ H) | ATH1004 |

CAPACITORS

| Mark | Symbol & Description | Part No. |
|------|---|------------------------|
| △ | C501, C511 (0.01 μ F/400V) C403-C406 | ACG1003 CFTXA104J50 |

RESISTORS

| Mark | Symbol & Description | Part No. |
|------|------------------------|---------------------------|
| | R405, R406 | RD $\frac{1}{2}$ PM681J |
| △ | R401, R402, R407, R408 | RD $\frac{1}{4}$ PMFL100J |
| △ | R403, R404 | RS1LMF331J |

Headphone Assembly

OTHERS

| Mark | Symbol & Description | Part No. |
|------|----------------------|----------|
| | Jack (PHONES) | AKN1002 |

LED Assembly

SEMICONDUCTOR

| Mark | Symbol & Description | Part No. |
|------|----------------------|----------|
| * | D604 LED assembly | AEL1004 |

• For A-333/HEZ and A-333-S/HEZ types.

AF COMPLEX ASSEMBLY (AWZ1894)

The AF complex assembly (AWZ1894) for HEZ type is the same as the AF complex assembly (AWZ1898) for HE and HB types with the exception of the following sections.

| Mark | Symbol & Description | Part No. | | Remarks |
|------|------------------------------------|------------------------------|-------------------------|---------|
| | | AWZ1898 (HE and HB types) | AWZ1894 (HEZ type) | |
| | C215, C216 | CCDSL150K500 | ..... |  |
| | C213, C214 | CCDSL150K500 | CCDSL080D500 | |
| | C239-C242 | ..... | CQMXA472J100 | |
| | C245, C246 | ..... | CKMYB331K50 | |
| | C249, C250 | CCCSL100D500 | CCCSL050C500 | |
| | C251, C252 | CKCYB272K50 | ..... |  |
| | C701, C702 | ..... | CCMSL680J50 | |
| | C703-C718 | ..... | CKMYB271K50 | |
| | C719, C720 | CKMYB331K50 | CKMYB271K50 | |
| | C726 | ..... | CCMSL121J50 | |
| | C727, C728 | ..... | CKMYB221K50 | |
| | R209, R210 | RD $\frac{1}{4}$ PM471J | RD $\frac{1}{4}$ PM221J | |
| | R291, R292 | RD $\frac{1}{8}$ PM330J | ..... |  |
| | R703-R708 | ..... | RD $\frac{1}{4}$ PM331J | |
| | R709, R710, R713, R714, R717, R718 | RD $\frac{1}{8}$ PM222J | RD $\frac{1}{8}$ PM182J | |
| | R711, R712, R715, R716, R719, R720 | ..... | RD $\frac{1}{8}$ PM331J | |

PHONO AMP ASSEMBLY

The phono amp assembly (for HEZ type) is the same as the phono amp assembly (for HE and HB types) with the exception of the following sections.

| Mark | Symbol & Description | Part No. | | Remarks |
|------|----------------------|------------------------|-------------------------|---------|
| | | For HE and HB types | For HEZ type | |
| | C115, C116 | CQMA472K50 | CQMA222K50 | |
| | L103-L106 Inductor | ..... | LAU221K | |
| | R105, R106 | ..... | RD $\frac{1}{8}$ PM332J | |

SPEAKER SWITCH ASSEMBLY

The Speaker switch assembly (for HEZ type) is the same as the Speaker switch assembly (for HE and HB types) with the exception of the following sections.

| Mark | Symbol & Description | Part No. | | Remarks |
|------|--|---|---|---------|
| | | For HE and HB types | For HEZ type | |
| | C403, C404 C405, C406 L401, L402 AF choke coil R401, R402 R405, R406 | CFTXA104J50 CFTXA104J50 ATH1004 RD $\frac{1}{4}$ PMFL100J RD $\frac{1}{4}$ PM681J | CFTXA473J50 ATH1009 RD $\frac{1}{4}$ PMFL101J | |

HEADPHONE ASSEMBLY

The Headphone assembly (for HEZ type) is the same as the Headphone assembly (for HE and HB types) with the exception of the following sections.

| Mark | Symbol & Description | Part No. | | Remarks |
|------|----------------------|---------------------|--------------|---------|
| | | For HE and HB types | For HEZ type | |
| | C401, C402 | ..... | CKCYB392K50 | |

8. SPECIFICATIONS

• A-443

Amplifier Section

Continuous power output (both channels driven at 20 Hz to 20 kHz) * *

T.H.D. 0.008%, 8 Ω 60W + 60W *

T.H.D. 0.02%, 4 Ω 80W + 80W *

DIN Continuous power output (both channels driven at 1 kHz)

T.H.D. 1.0%, 8 Ω 70W + 70W

T.H.D. 1.0%, 4 Ω 100W + 100W

Dynamic power output (on EIA dynamic test signal)

8 Ω 75W + 75W

4 Ω 110W + 110W

2 Ω 150W + 150W

Total harmonic distortion * *

20 Hz to 20 kHz, 60W, 8 Ω 0.008% *

20 Hz to 20 kHz, 80W, 4 Ω 0.02% *

Input sensitivity/impedance

PHONO (MM) 2.5 mV/50 k Ω

PHONO (MC) 0.2 mV/100 Ω

CD, TUNER, LINE, TAPE 150 mV/40 k Ω

PHONO overload level

1 kHz, T.H.D. 0.008% (MM/MC) ... 150 mV/12 mV

Output level/impedance

TAPE REC, ADAPTOR OUTPUT 150 mV/2.2 k Ω

Frequency response

PHONO (MM), 20 Hz to 20 kHz ± 0.3 dB

PHONO (MC), 20 Hz to 20 kHz ± 0.5 dB

CD, TUNER, LINE, TAPE 5Hz to 100 kHz ... $\begin{matrix} +0 \\ -3 \end{matrix}$ dB *

Tone control (volume control set at -40 dB position)

BASS ± 8 dB (100 Hz)

TREBLE ± 8 dB (10 kHz)

Loudness contour (volume control set at -40 dB position)

+5dB (100 Hz)/+3 dB (10 kHz)

Filter (SUBSONIC) 17 Hz (12 dB/oct.)

Signal-to-Noise ratio (IHF short circuit, A network)

PHONO (MM, 5 mV input/MC, 0.5 mV input) 93 dB/74 dB * *

CD, TUNER, LINE, TAPE 107 dB * *

Signal-to-Noise ratio (DIN, continuous power/50 mW)

PHONO (MM) 74 dB/63 dB *

CD, TUNER, LINE, TAPE 87 dB/65 dB *

Power Supply/Miscellaneous

Power requirements

U.K. model a.c.240V, 50/60 Hz

Other destination models AC 110V/120-127V,

/220V/240V (switchable), 50/60 Hz

Power consumption 550W

Dimensions 420(W) \times 348(D) \times 126(H) mm

16-1/2(W) \times 13-11/16(D) \times 4-15/16(H) in

Weight (without package) 8.1 kg (17 lb 14 oz)

Accessories

Operating instructions 1

- Specifications and design subject to possible modification without notice, due to improvements.

* Measured with the DIRECT switch set to ON.

* * Measured by Audio Spectrum Analyzer.

• **A-333**

Amplifier Section

Continuous power output (both channels driven at 20 Hz to 20 kHz) * *

T.H.D. 0.02%, 8Ω 40W + 40W *
 T.H.D. 0.03%, 4Ω 50W + 50W *

DIN Continuous power output (both channels driven at 1 kHz)

T.H.D. 1.0%, 8Ω 55W + 55W
 T.H.D. 1.0%, 4Ω 72W + 72W

Dynamic power output (on EIA dynamic test signal)

8Ω 55W + 55W
 4Ω 90W + 90W
 2Ω 100W + 100W

Total harmonic distortion * *

20 Hz to 20 kHz, 40W, 8Ω 0.02% *
 20 Hz to 20 kHz, 50W, 4Ω 0.03% *

Input sensitivity/impedance

PHONO (MM) 2.5 mV/50 kΩ
 CD, TUNER, LINE, TAPE 150 mV/40 kΩ

PHONO overload level

1 kHz, T.H.D. 0.02% (MM) 150 mV

Output level/impedance

TAPE REC, ADAPTOR OUTPUT 150 mV/2.2 kΩ

Frequency response

PHONO (MM), 20 Hz to 20 kHz ±0.3 dB
 CD, TUNER, LINE, TAPE 5Hz to 100 kHz .. +0
 -3 dB *

Tone control (volume control set at -40 dB position)

BASS ± 8 dB (100 Hz)
 TREBLE ± 8 dB (10 kHz)

Loudness contour (volume control set at -40 dB position)
 + 5dB (100 Hz)/+ 3 dB (10 kHz)

Signal-to-Noise ratio (IHF short circuit, A network)

PHONO (MM, 5 mV input) 89 dB *
 CD, TUNER, LINE, TAPE 107 dB *

Signal-to-Noise ratio (DIN, continuous power/50 mW)

PHONO (MM) 73 dB/63 dB *
 CD, TUNER, LINE, TAPE 86 dB/65 dB *

Power Supply/Miscellaneous

Power requirements

U.K. model a.c.240V, 50/60 Hz

Power consumption

U.K. models 410W

Dimensions 420(W) × 348(D) × 126(H) mm

16-1/2(W) × 13-11/16(D) × 4-15/16(H) in

Weight (without package) 7.0 kg (17 lb 7 oz)

Accessories

Operating instructions 1

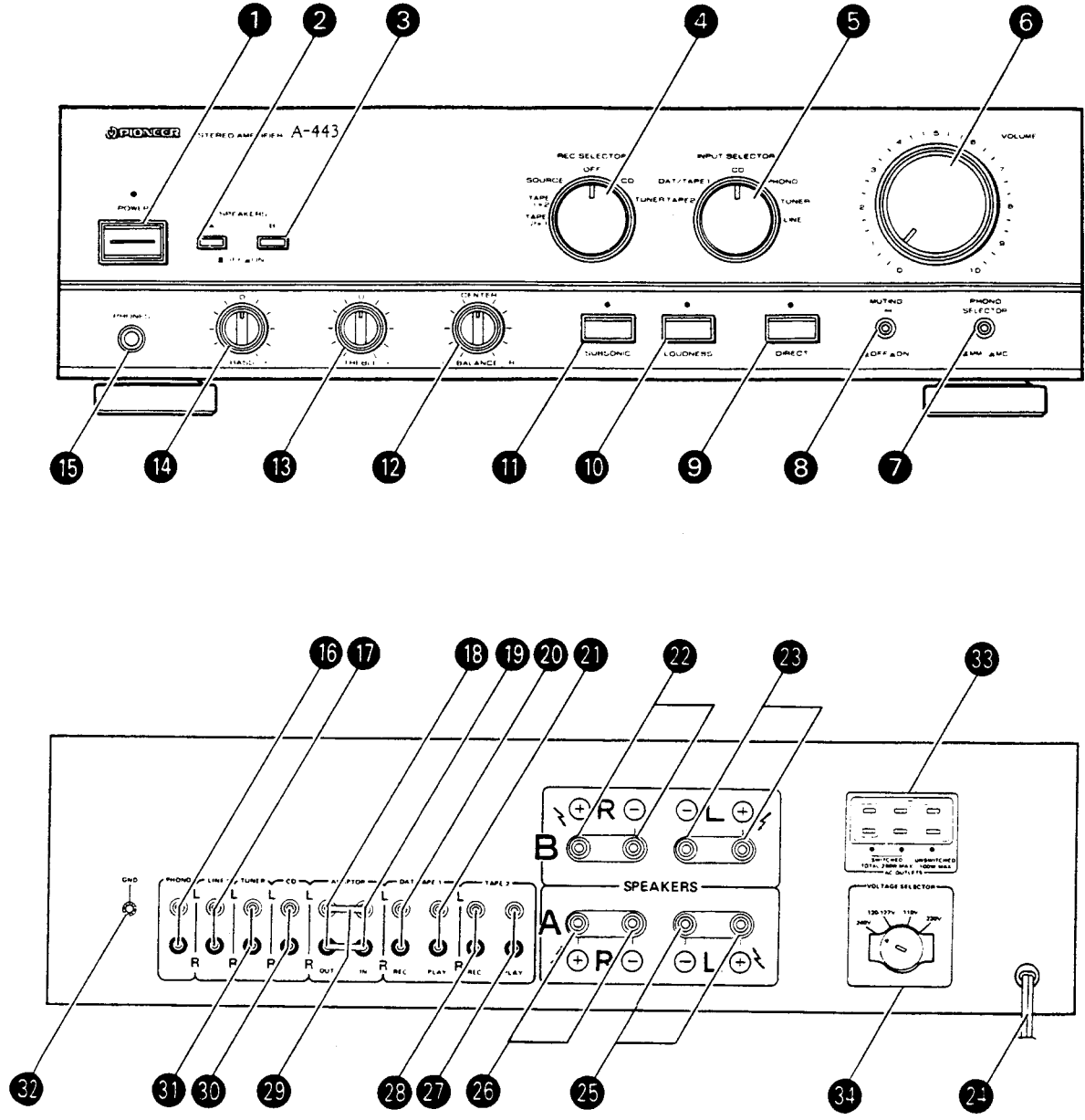
• Specifications and design subject to possible modification without notice due to improvements.

* Measured with the DIRECT switch set to ON.

* * Measured by Audio Spectrum Analyzer.

9. PANEL FACILITIES

The illustration shows model A-443.
 Model A-333 is not equipped 7, 8 and 11.



The U.K. models (A-443 and A-333) are not equipped with 33, 34.

[FRONT PANEL]**① POWER switch/indicator**


Press to turn power to the unit ON and OFF.

② SPEAKERS A selector switch

Use this switch to listen to the speaker systems connected to the SPEAKERS A terminals.

ON () :

Depressed position: Sound is heard from the speaker systems.

OFF () :


Released position: No sound is heard from the speaker systems. Set to this position when listening with headphones.

③ SPEAKERS B selector switch

Use this switch to listen to the speaker systems connected to the SPEAKERS B terminals.

ON () :

Depressed position: Sound is heard from the speaker systems.

OFF () :

Released position: No sound is heard from the speaker systems. Set to this position when listening with headphones.

④ REC SELECTOR switch

When this switch is set to a position other than SOURCE or OFF, the equipment selected by the REC SELECTOR switch can be recorded from, irrespective of the settings of the INPUT SELECTOR and DIRECT switches.

TUNER:

To record from the equipment connected to TUNER terminals.

CD:

To record from the equipment connected to CD terminals.

OFF:

In this position, nothing from the REC terminals of DAT/TAPE 1 and TAPE 2 is output. Set to this position when not recording; the tape deck will be disconnected, improving sound quality.

SOURCE:

To record from the equipment selected by the INPUT SELECTOR switch.

TAPE:

1 ► 2 — To record (copy) from the tape deck of DAT/TAPE 1 terminals, to the tape deck of TAPE 2 terminals.

2 ► 1 — To record (copy) from the tape deck of TAPE 2 terminals, to the tape deck of DAT/TAPE 1 terminals.

⑤ INPUT SELECTOR switch

Use to select the playback source.

LINE:

For playback with a component connected to the LINE terminals.

TUNER:

For AM or FM broadcast reception with a tuner.

PHONO:

For record playback with a turntable.

CD:

For compact disc playback with a CD player.

DAT/TAPE 1:

For playback with a tape deck or digital audio tape deck connected to the DAT/TAPE 1 terminals.

TAPE 2:

For playback with a tape deck connected to the TAPE 2 terminals.

⑥ VOLUME control

Use to adjust the volume level.

NOTE:

This unit is equipped with a circuit that attenuates the LOUDNESS and TONE effect as volume is turned up.

⑦ PHONO SELECTOR switch (Model A-443 only)

Set in accordance with the type of cartridge used with your turntable.

MM () :

Set to this position when using a moving magnet cartridge, or a moving coil cartridge with a high output of 1 mV or more.

MC () :

Set to this position when using a moving coil cartridge.

⑧ MUTING switch (Model A-443 only)

Use to temporarily cut sound volume.

ON () :

The sound is cut off.

OFF () :

The sound will return to its previous volume.

⑨ DIRECT switch/indicator

Use this switch/indicator when you do not wish to pass the output from input terminal equipment through the various frequency adjusting circuits (SUBSONIC, BASS, TREBLE, BALANCE, LOUDNESS) and adaptor terminals (ADPT).

ON:

The indicator lights: The signals input through the input terminals are reproduced without passing through the various frequency adjusting circuits. This results in flat, pure sound which is a more faithful reproduction of the input source.

OFF:

The indicator goes out: The signal passes through the various frequency adjusting circuits.

10 LOUDNESS switch/indicator

Use when listening at low volume levels.

ON:

The indicator lights: Boosts low and high frequencies to give added punch to playback even at low volume levels.

OFF:

The indicator goes off: Should normally be left in this position.

NOTE:

This switch does not operate when the DIRECT switch is in the ON position.

11 SUBSONIC filter switch/indicator (Model A-443 only)

Use this switch when playing records with coarse grooves.

OFF:

Released position; leave in this position for normal playback.

ON:

Depressed position (the indicator lights). In this position, frequencies of 17 Hz and below are cut, eliminating super-low-frequency noise caused by coarse record grooves, and thus helping prevent sound distortion.

NOTE:

This switch does not operate when the DIRECT switch is in the ON position.

12 BALANCE control

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

NOTE:

This control does not operate when the DIRECT switch is in the ON position.

13 TREBLE tone control

Use to adjust the high-frequency tone. The center position is the flat (normal) position. When turned to the right, high-frequency tones are emphasized; when turned to the left, high-frequency tones are de-emphasized.

NOTE:

- *This control does not operate when the DIRECT switch is in the ON position.*
- *At volume levels lower than "4", the set tone control effect is obtained.*
At volume levels higher than "4", the effect becomes increasingly weaker.

14 BASS tone control

Use to adjust the low-frequency tone. The center position is the flat (normal) position. When turned to the right, low-frequency tones are emphasized; when turned to the left, low-frequency tones are de-emphasized.

NOTE:

- *This control does not operate when the DIRECT switch is in the ON position.*
- *At volume levels lower than "4", the set tone control effect is obtained.*
At volume levels higher than "4", the effect becomes increasingly weaker.

15 PHONES jack

When using headphones, insert the plug into this jack.

[REAR PANEL]**16 PHONO terminals.****17 LINE terminals.****18 ADAPTOR OUT terminals.****19 ADAPTOR IN terminals.****20 DAT/TAPE 1 REC terminals.****21 DAT/TAPE 1 PLAY terminals.****22 SPEAKERS B terminals (right channel).****23 SPEAKERS B terminals (left channel).****24 Power cord.**

Connect this cord to an AC wall socket, or the AC outlet of an audio timer.

25 SPEAKERS A terminals (left channel)**26 SPEAKERS A terminals (right channel)****27 TAPE 2 PLAY terminals.****28 TAPE 2 REC terminals.****29 Shorting bars.****30 CD terminals.****31 TUNER terminals.****32 Turntable ground terminal (GND).****33 AC OUTLETS****34 VOLTAGE SELECTOR**