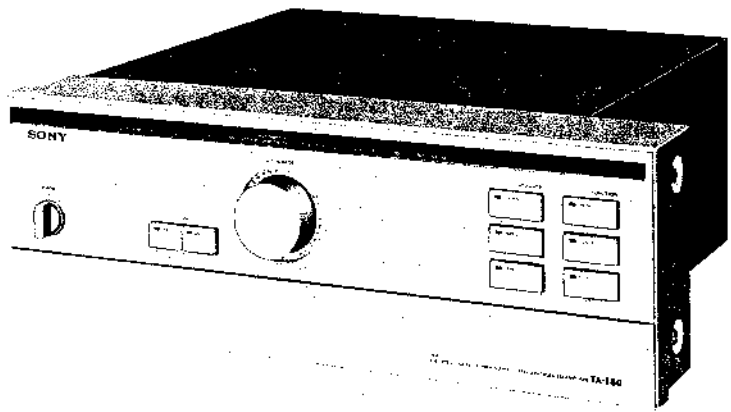
TA-F80

AEP Model



INTEGRATED STEREO AMPLIFIER

SPECIFICATIONS

GENERAL

System: Preamplifier section: low-noise head amp; direct-coupled, NF type equalizer amp; CR type tone control
Power amplifier section: pure-complementary SEPP dc power amplifier with all stages direct coupled
Power supply section: pulse-locked power supply circuitry; two regulated power supplies (for head amp and preamp)

Power Requirements: 220 V ac, 50/60 Hz

Power Consumption: 550 W

Dimensions: Approx. 430 (w) x 160 (h) x 410 (d) mm
17 (w) x 6 3/8 (h) x 16 1/4 (d) inches
including projecting parts and controls

Weight: Approx. 9.9 kg, 21 lb 13 oz (net)
Approx. 11.3 kg, 24 lb 14 oz (in shipping carton)

AMPLIFIER SECTION

Continuous RMS Power Output: (Less than 0.007% THD, both channels driven simultaneously)
At 1 kHz
120 + 120 W (8 Ω)
At 20 Hz – 20 kHz
120 + 120 W (8 Ω)
According to DIN 45500
120 + 120 W (8 Ω)

Power Bandwidth (IHF): 5 Hz – 30 kHz

Harmonic Distortion: Less than 0.007 % at rated output

Intermodulation (IM) Distortion (60Hz : 7kHz = 4 : 1): Less than 0.007 % at rated output
Less than 0.0025 % at 10 W output

Frequency Response: PHONO 1, 2 RIAA equalization curve ±0.2 dB
TUNER, AUX, TAPE 1, 2: DC – 100 kHz $^{+0}_{-1}$ dB

Residual Noise: Less than 100 μV (8 Ω, Network A)

Damping Factor: 100 (8 Ω, 1 kHz)

– Continued on page 2 –

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SONY®
SERVICE MANUAL

TA-F80

Inputs:

	PHONO 1, 2 (HEAD AMP selector)			TUNER, AUX, TAPE 1, 2
	PASS	40Ω	3Ω	
Sensitivity	2.5mV	0.125mV	0.125mV	150mV
Impedance	100Ω – 100kΩ	100Ω	33Ω	50kΩ
Capacitance	100pF – 400pF	—	—	—
Maximum input capability (1kHz)	300mV	15mV	15mV	—
S/N (weighting network, input level)	88dB (A, 2.5mV)	80dB (A, 0.25mV)	80dB (A, 0.25mV)	105dB (A, 150mV)

Outputs: REC OUT 1, 2
Voltage 150 mV
Impedance 4.7 kΩ
SPEAKER A, B
Accepts speakers of 8 – 16 Ω
HEADPHONES
Accepts low and high impedance headphones.

Tone Controls: BASS
± 10 dB at 25 Hz (turnover frequency 250 Hz)
TREBLE
± 10 dB at 50 kHz (turnover frequency 5 kHz)

Low Filter: 12 dB/octave attenuation below 15 Hz (operative only for phono input signals)

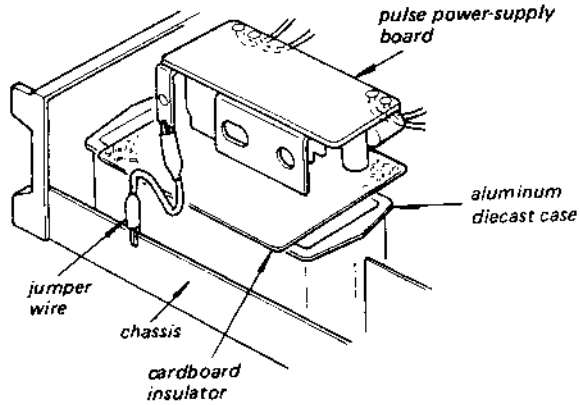
SERVICING NOTE

1. PULSE POWER SUPPLY BOARD REPAIRING

This set has a pulse power-supply circuit which is quite different from a conventional power-supply circuit. The pulse power-supply directly rectifies and smooths the ac input power to produce the higher dc voltages required in the power-supply circuit. When servicing this set, note the following.

a) To prevent unwanted radiation due to pulse signals in the pulse power-supply circuit, the pulse power-supply board is shielded by the aluminum diecast box.

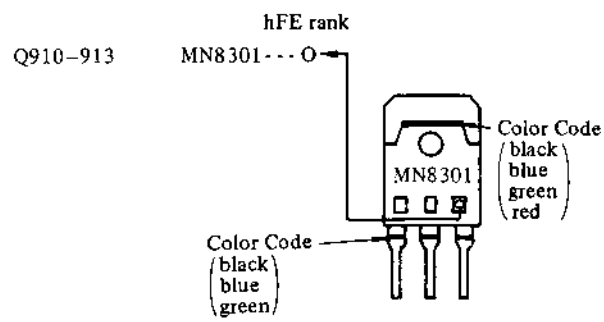
b) The negative circuit of the secondary rectifier in the pulse power-supply circuit is grounded by screws in the aluminum diecast box. When checking the pulse power-supply board out of the box, use a jumper wire and a cardboard insulator as shown on the right.



2. Take care that electrolytic capacitor C704 which is used after the rectification of ac power soure voltage is charged even if the POWER switch is turned off. Be sure to use a resistor of at least several hundred ohms to discharge the capacitor. Direct discharge by means of lead is dangerous.

3. INVERTER CIRCUIT TRANSISTOR REPLACEMENT (Q910–913)

When replacing Q910–913 in the pulse power-supply circuit, use those which have the same hFE rank and color code.



SECTION 1
OUTLINE

1-1. HEAT PIPE

Model TA-F80 uses a heat pipe to dissipate the heat generated by the power transistors. The heat pipe has been developed for use in spacecraft and can absorb heat very well. It is composed of a special fluid under low atmospheric pressure in an airtight container.

The operating principle of the heat pipe is illustrated in Fig. 1. One part of the pipe is the heat input or evaporation section, and the other part is the heat output or condensation section.

As heat is applied to the heat input section, the fluid in that section evaporates and is conveyed to the heat output where it condenses. From there it returns to the heat input section as fluid. This cycle takes place continuously, and allows very rapid heat conduction.

A heat pipe can dissipate heat from a power transistor several hundred times faster than the aluminum or copper of a conventional heat sink. For this reason a heat pipe has a cooling capacity 50 % higher than a heat sink.

Use of a heat pipe also permits the power transistor to be cooled without (detaching it) from the circuit board, and, as a result, the electromagnetic waves generated by the large signal current flowing in the leads are much decreased, and the distortion factor and signal-to-noise ratio of the power amplifier are improved.

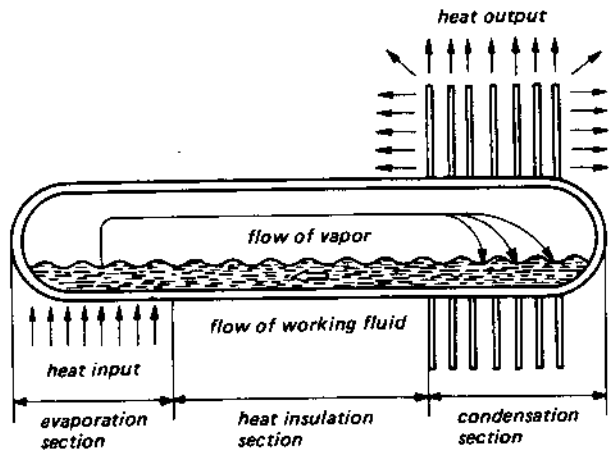


Fig. 1

1-2. LED PEAK LEVEL INDICATOR CIRCUIT

To indicate the output power, the Model TA-F80 uses a peak level indicator consisting of the light-emitting diodes (LEDs). This LED peak level indicator is described below.

1. The input signal is logarithmically compressed in IC820 in accordance with square-law characteristic of diode D821 (D871).

2. The logarithmically compressed input signal is rectified by D822 (D872), and it charges C821 (C871) for peak detection.

3. The charged dc voltage is applied to the terminal ③ (②) of IC821 as the LED-indicator driving signal.

4. IC821 that is used to drive the LED indicator signal is an LSI consisting of 20 dots x 2 channels, and converts the analog signals into the digital signals for each channel. In the Model TA-F80, the power amplifier output is capable of indicating by using 20 LEDs.

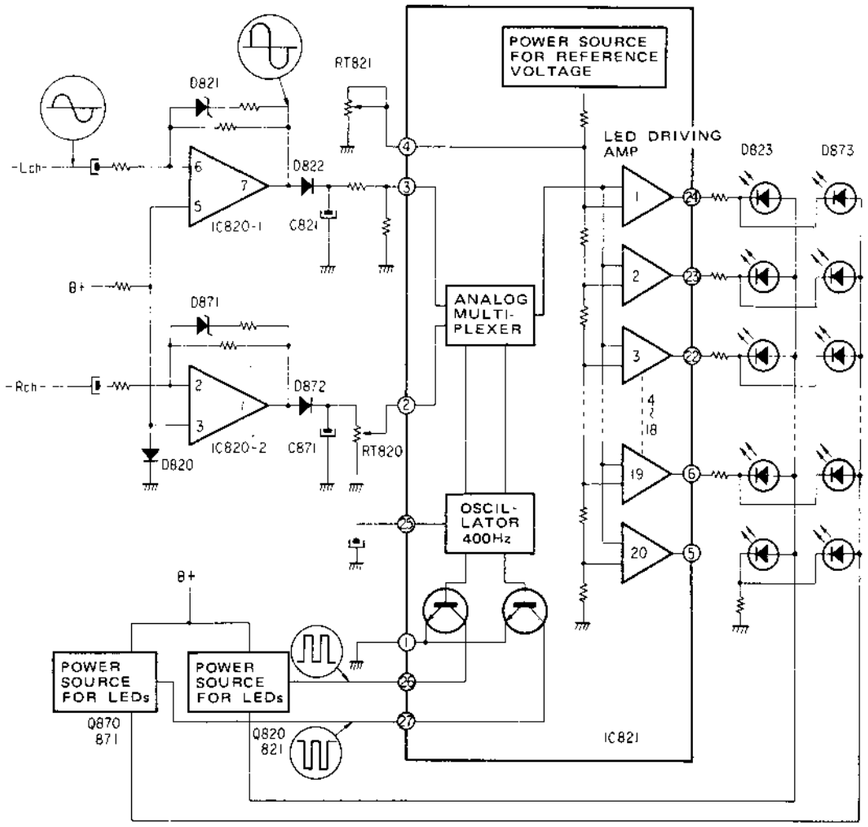
5. The termianls (26) and (27) of IC821 are grounded alternately at the intervals of 400 Hz by means of the internal oscillator of IC821. Accordingly, the L-CH and R-CH LEDs are turned on alternately at the intervals of 400 Hz.

6. With the POWER switch turned on, the LED D823 (D873) which indicates the lowest output level is always lit because this cathode is grounded through the resistor.

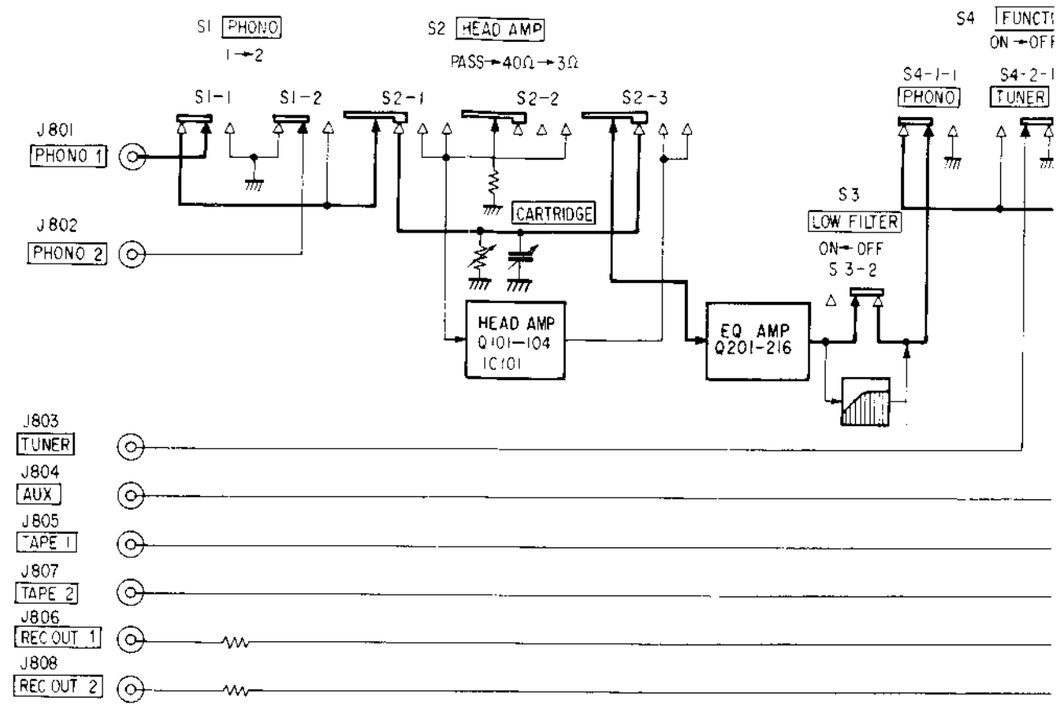
7. In the IC821, the reference voltage is divided into 20 parts by bleeder resistors, and the 20 divisional voltages are applied as reference voltages to the LED-driving amplifiers.

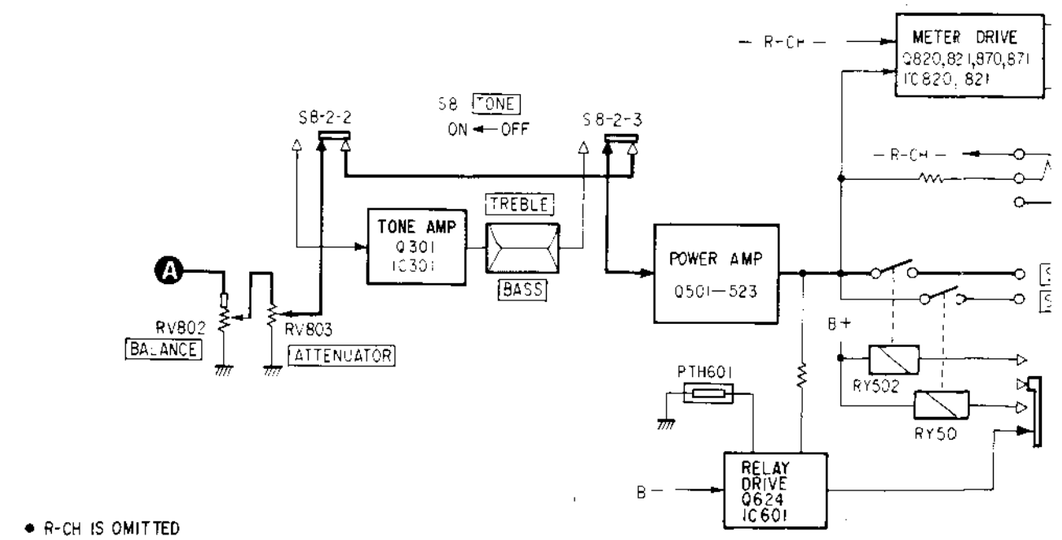
8. The digital signals are converted back into the analog signals by using 400 Hz signal generated in the internal oscillator at the analog multiplexer, and the signals are applied to the LED-driving amplifiers.

9. The converted signals are compared with the reference voltages in each LED-driving amplifier. If the signal level is lower than the reference voltage, the LED-driving amplifier output becomes high level. Then, the LED is turned off. If the signal level is found to be higher than the reference voltage, the appropriate LED is lit.



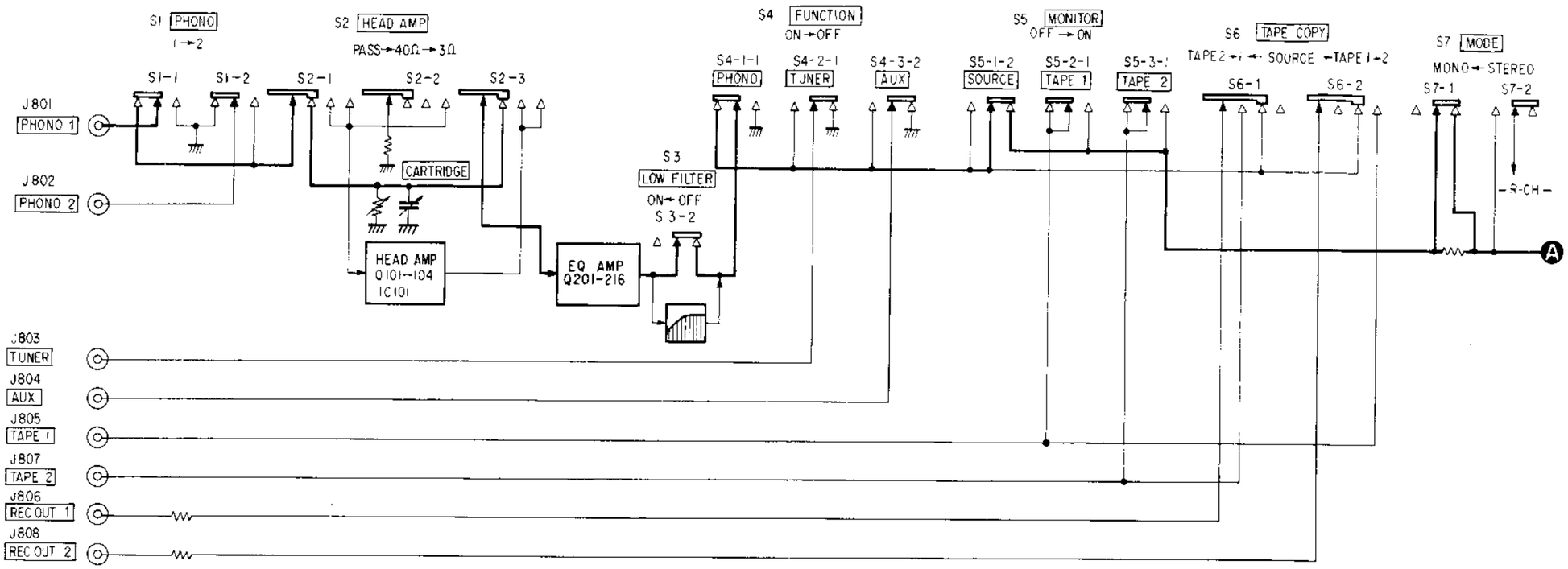
1-3. BLOCK DIAGRAM

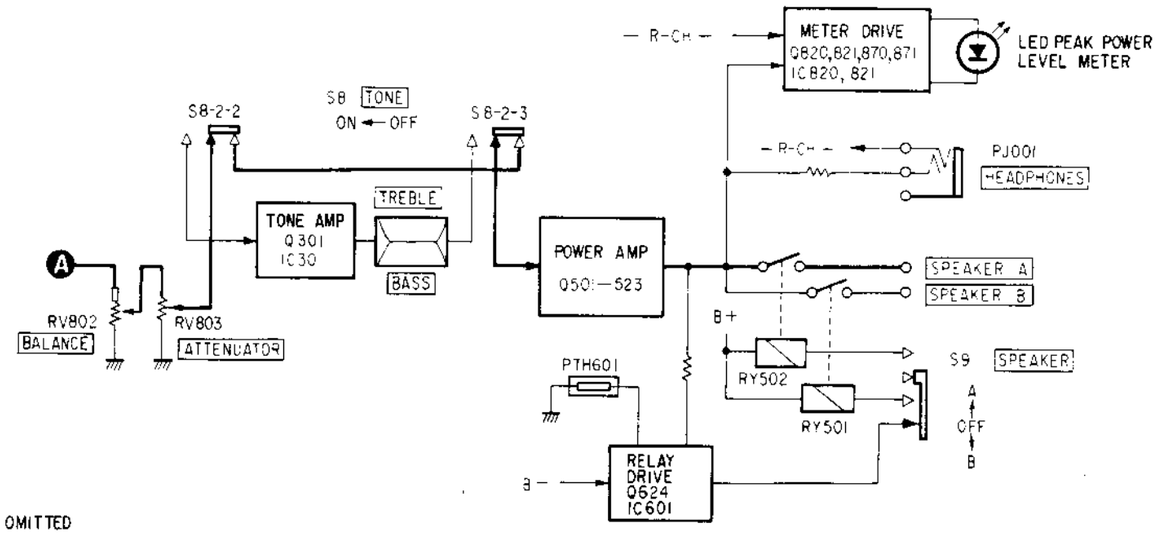


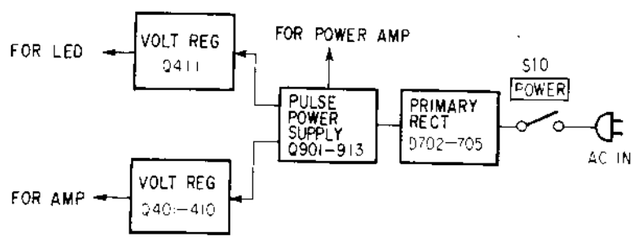


● R-CH IS OMITTED

1-3. BLOCK DIAGRAM







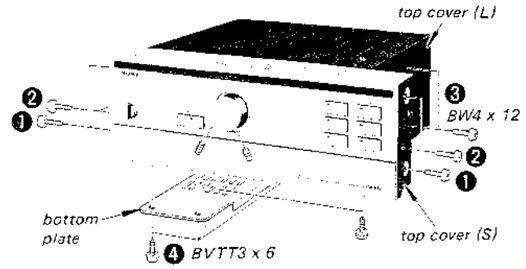
• R-CH IS OMITTED

SECTION 2
DISASSEMBLY

Note: Follow the disassembly procedure in the numerical order given.

Top Covers and Bottom Plate Removal

- Top Cover (S) Removal . . . . . ❶
- Top Cover (L) Removal . . . . . ❷ , ❸
- Bottom Plate Removal . . . . . ❹



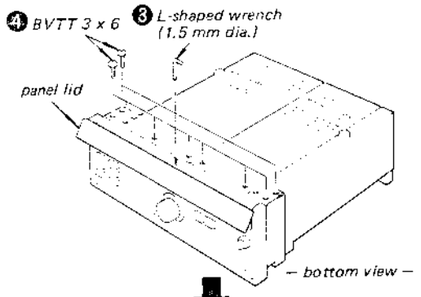
Front Panel Removal

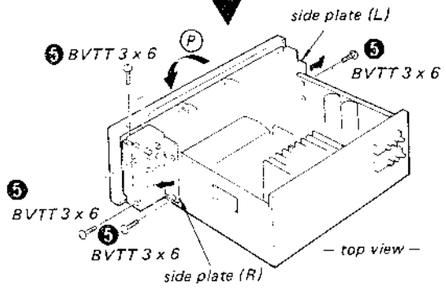
Note: When the set is turned on with the front panel having circuit boards separated from the main chassis, connect them by a jumper wire.

❶ Remove two top covers (big one and small one).

❷ Turn the set up side down.

❸ Loosen the setscrews by using an L-shaped wrench from the bottom with the panel lid half-open and remove the knobs.





❻ Lay down the front panel block in the direction shown by the arrow Ⓟ with the two side plates slightly open.

❼ Remove the five screws.
(Be careful not to damage the flat cable board.)

❽ Pull off the front panel from the front sub-chassis.

❾ Raise the front panel as shown.
(Be careful not to pull out the LED lead wires.)

SECTION 3
ADJUSTMENTS

Note: 1. Idling Current and DC BALANCE adjustments should be made about several minutes later after the POWER switch (S10) is turned on.
2. Repeat Idling Current and DC BALANCE adjustments two or three times.
3. After replacing the power transistors Idling Current and DC BALANCE adjustments should be performed.

Idling Current Adjustment

Note: Make this adjustment before starting the dc balance adjustment.

Settings:

ATTENUATOR knob:	0 dB
PHONO switch:	1
HEAD AMP switch:	PASS
FUNCTION switch:	PHONO

Procedure:

Adjust RV502 (L-CH) and RV602 (R-CH) so that the VOM reads 8.8 mV dc across the test point (with no signal input and no load).

DC Balance Adjustment

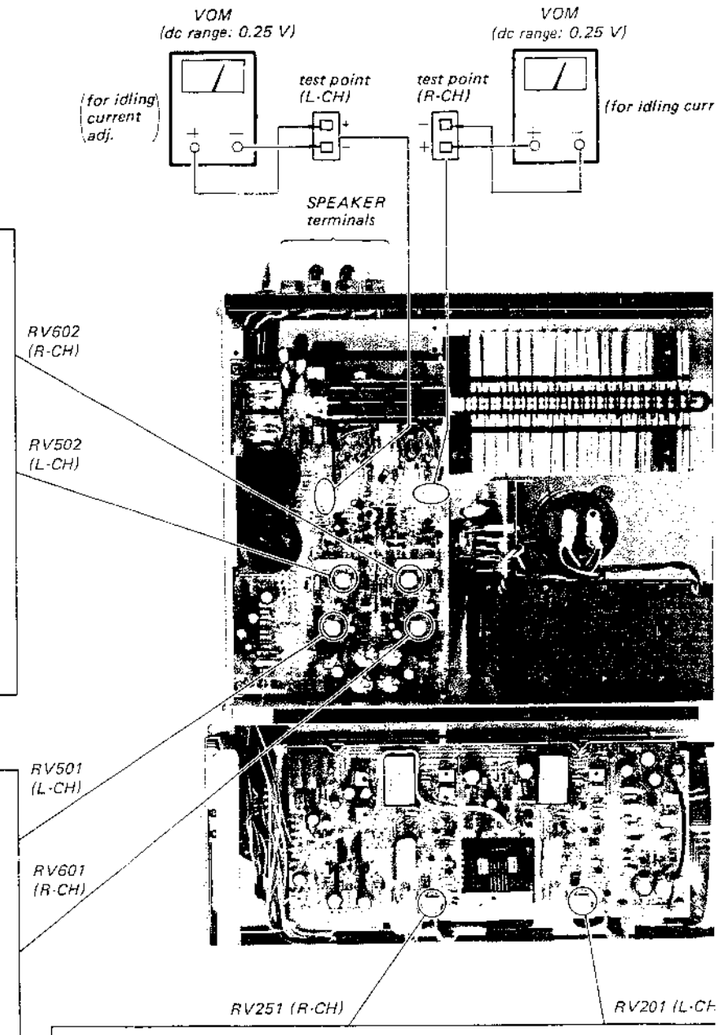
Note: Make this adjustment after completing the idling current adjustment.

Settings:

ATTENUATOR knob:	0 dB
PHONO switch:	1
HEAD AMP switch:	PASS
FUNCTION switch:	PHONO

Procedure:

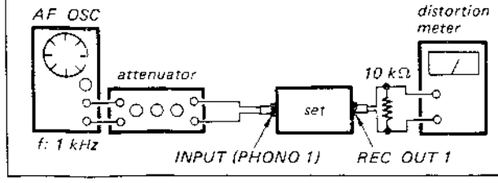
Adjust RV501 (L-CH) and RV601 (R-CH) so that the VOM reads 0 V dc across the SPEAKER terminal (with no signal input and no load).



Maximum Input Level Adjustment

Settings:

ATTENUATOR knob:	0 dB
PHONO switch:	1
HEAD AMP switch:	PASS
FUNCTION switch:	PHONO



Procedure:

1. Feed a signal c
2. Adjust the a distortion met
3. Adjust RV20 0.01 % or less meter.

SECTION 3
ADJUSTMENTS

Note: 1. Idling Current and DC BALANCE adjustments should be made about several minutes later after the POWER switch (S10) is turned on.
2. Repeat Idling Current and DC BALANCE adjustments two or three times.
3. After replacing the power transistors Idling Current and DC BALANCE adjustments should be performed.

Idling Current Adjustment

Note: Make this adjustment before starting the dc balance adjustment.

Settings:

ATTENUATOR knob:	0 dB
PHONO switch:	1
HEAD AMP switch:	PASS
FUNCTION switch:	PHONO

Procedure:

Adjust RV502 (L-CH) and RV602 (R-CH) so that the VOM reads 8.8 mV dc across the test point (with no signal input and no load).

DC Balance Adjustment

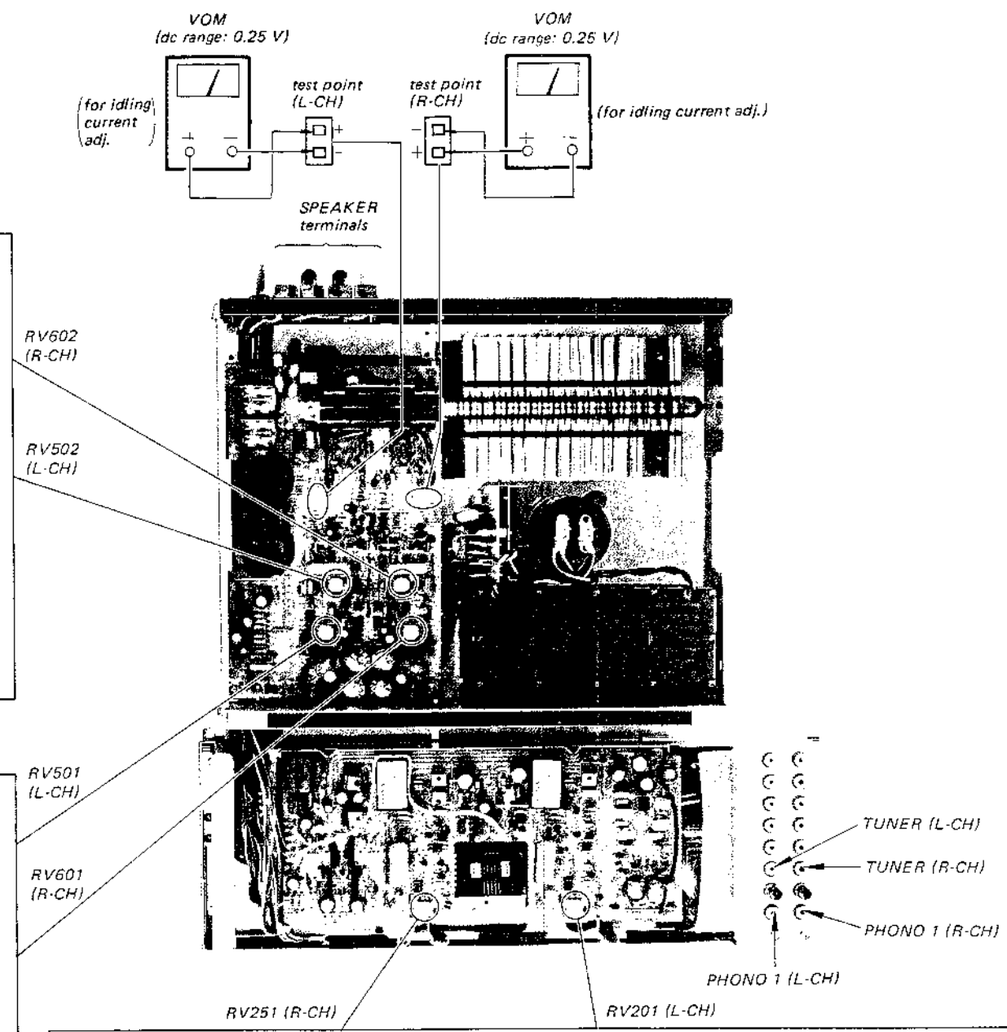
Note: Make this adjustment after completing the idling current adjustment.

Settings:

ATTENUATOR knob:	0 dB
PHONO switch:	1
HEAD AMP switch:	PASS
FUNCTION switch:	PHONO

Procedure:

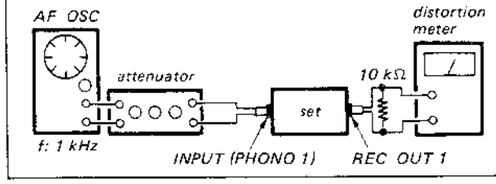
Adjust RV501 (L-CH) and RV601 (R-CH) so that the VOM reads 0 V dc across the SPEAKER terminal (with no signal input and no load).



Maximum Input Level Adjustment

Settings:

ATTENUATOR knob:	0 dB
PHONO switch:	1
HEAD AMP switch:	PASS
FUNCTION switch:	PHONO



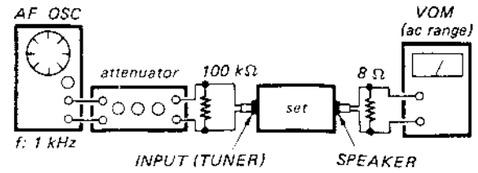
Procedure:

1. Feed a signal of 1 kHz from an af oscillator.
2. Adjust the attenuator for 18 V reading on the distortion meter.
3. Adjust RV201 (L-CH) and RV251 (R-CH) for 0.01 % or less distortion reading on the distortion meter.

LED Meter Adjustment

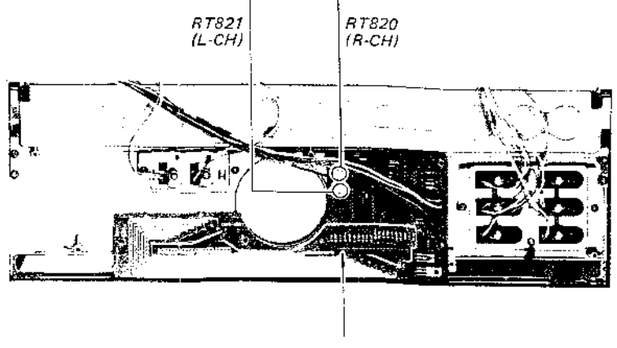
Settings:

ATTENUATOR knob:	0 dB
PHONO switch:	1
HEAD AMP switch:	PASS
FUNCTION switch:	TUNER



Procedure:

1. Adjust RT821 (L-CH) and RT820 (R-CH) so that the 10 W indicating LED lights darker than the LED located just at the left side of it.
2. Make sure that all LEDs which indicate the output of 30 W and less light when adjusting the attenuator for 15.5 V on the VOM.
3. Make sure that all LEDs which indicate the output of 0.01 W and less light when adjusting the attenator for 0.283 V on the VOM.



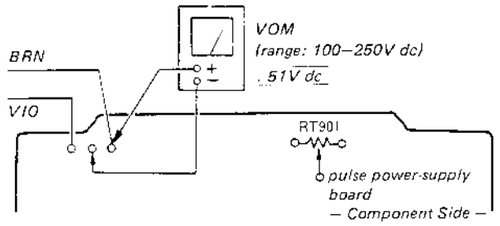
DC Voltage Adjustment

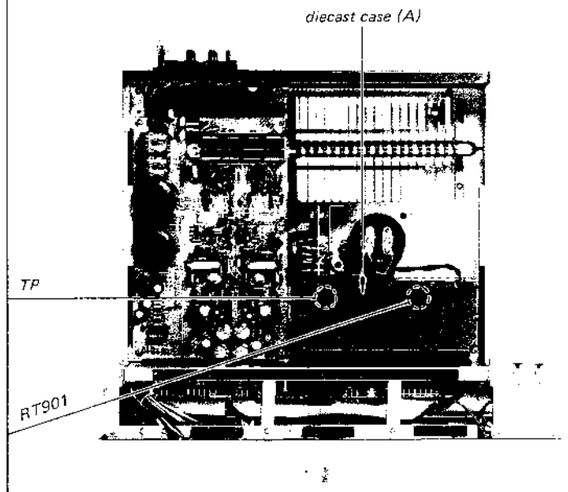
Settings:

POWER switch: ON

Procedure:

1. Remove the diecast case (A).
2. Adjust RT901 for +51V dc reading on the VOM connected as shown below.



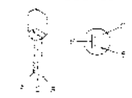


Replacement Semiconductors

For replacement, use semiconductors except in ( ).

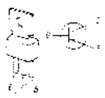
Q501, 601: 2SK150A (2SK150)

Q502–504, 510
Q602–604, 610, 624 : 2SC1775
Q909 : 2SC1364



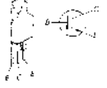
Q505, 506
Q605, 606 : 2SA1027R (2SA906G)

Q507, 508
Q607, 608 : 2SA964A



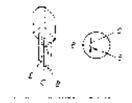
Q511, 611: 2SC2224A

Q512, 612: 2SD760 (2SD759)

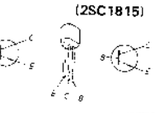


Q513, 613: 2SB720 (2SB719)

Q514, 518, 519
Q614, 618, 619 : 2SA1027R (2SA1015)
Q906–908 : 2SA1027R (2SA678)



Q515–517
Q615–617 : 2SC1364 (2SC1815)

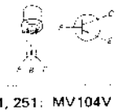


Q520, 522
Q620, 622 : 2SC2571
Q901, 902
Q910–913 : MN8301

Q521, 523
Q621, 623 : 2SA1097

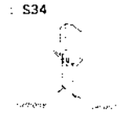
Q903, 905: 2SC1723 (2SC1810)

Q904: 2SA911



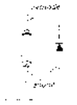
D201, 251: MV104V

D501, 502
D601, 602 : HZ12A-3L (HZ12A-2L)
D509, 609 : HZ6A-3L (HZ6A-2L)
D901 : S34



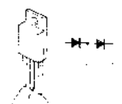
D503, 603: MV203V

D505–508
D605–608
D510, 514, 610
D612, 613, 701 : 1S2076A
D708, 903
D902 : 1S1555
: RD5.6EB



D511, 611: 10YG3.5

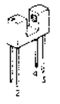
D905, 906: CTU22U



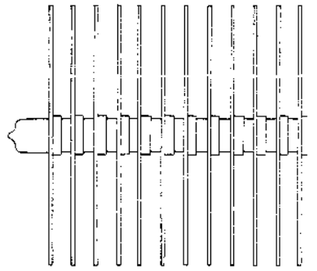
D702–706: U05G (30D4FA)

IC601: HA12002

D707: SPI201

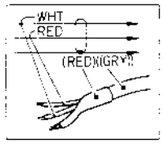


4-1. MOUNTING DIAGRAM (1) — Conductor Side —



Note:

- Color code of sleeving over the end of the jacket.



- ⎓ : parts extracted from the component side.
- ⎓ : parts extracted from the conductor side.
- ■ : part mounted on the conductor side.
- : B+ pattern.

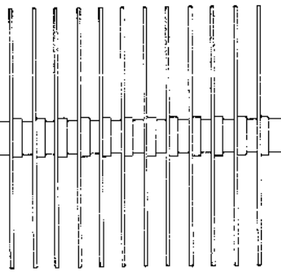
- Signal Path
  ⟶ : L-CH
  ⟶ : R-CH
- 1% indicates component tolerance.

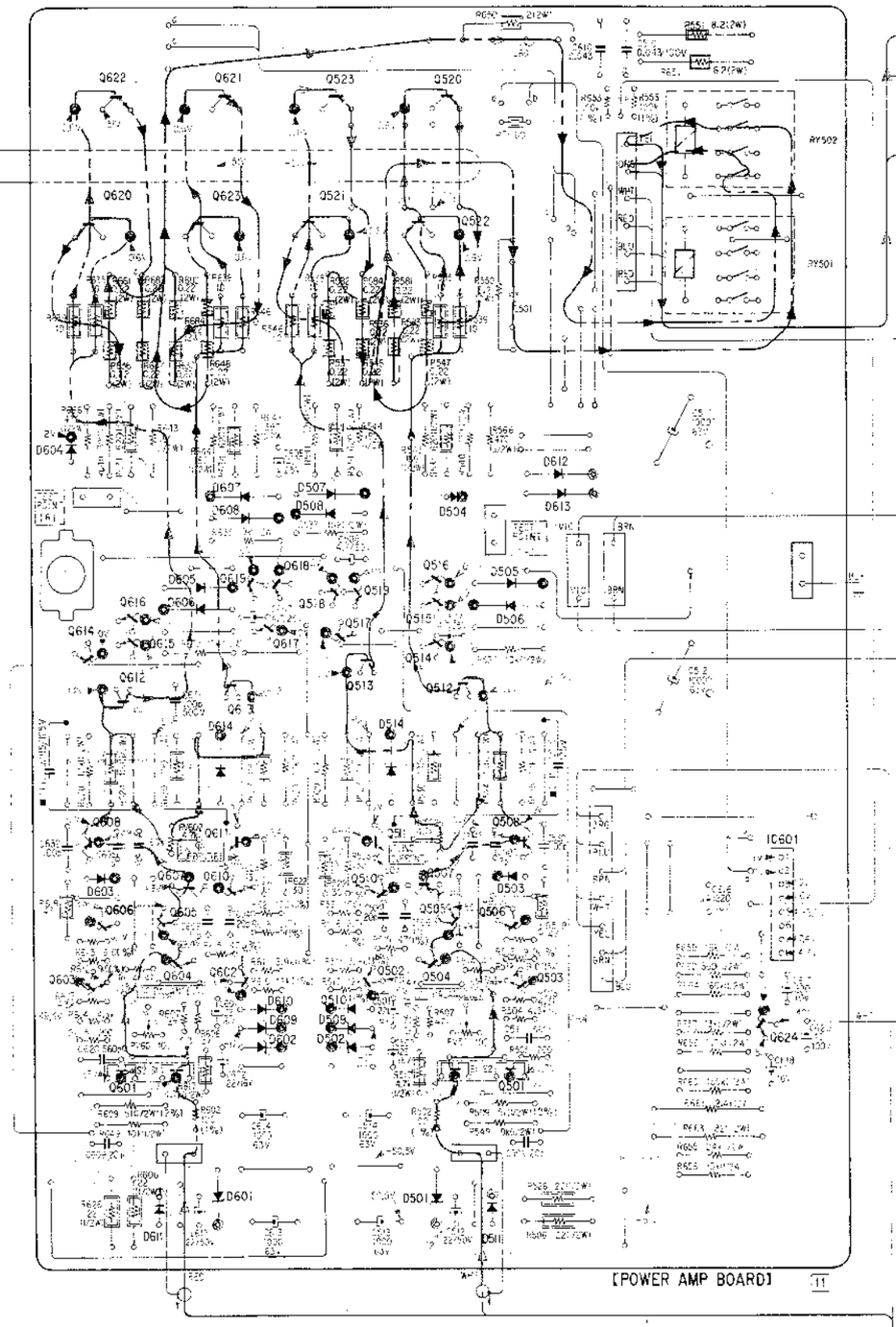
M (1) – Conductor Side –

over the end of the jacket.

d from the component side.
d from the conductor side.
on the conductor side.

nt tolerance.





Q IC	620 622 623 621 523 520 508 614,608 616 613 619,618 521 518,519 522 516 512 506 606 615 605,607 611 617 517 513,511 507,515,505 503 603 601,612 604 610,602 502,510 504,514,515 501 IC601 624	Q IC
D	604 605 607 507 514 504 505 612 603 606 608,610 508 510 506 613 614 609 509 611 601 602 502 501 511 503	D

4-2. MOUNTING DIAGRAM (2) – *Conductor Side* –

Replacement Semiconductors

For replacement, use semiconductors except in ( ).

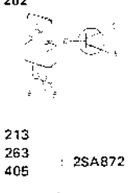
Q101, 102, Q151, 152: 2SC2014

Q103, 153: 2SD666A (2SD666)

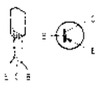
Q104, 154, 202, 203, Q208–210, 252, 253, Q258–260, 215, 216, Q265, 266, 401, 402, Q412: 2SC1775

Q201, 251: 2SK97
Q301, 351: 2SK150A (2SK150)

Q204, 205, 212, Q254, 255, 262: 2SA984A

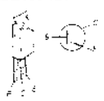


Q206, 207, 213, Q256, 257, 263, Q214, 264, 405, Q406: 2SA872

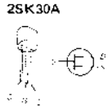


Q211, 261: 2SC2224A

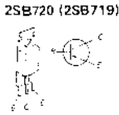
Q403, 413: 2SD760 (2SD759)



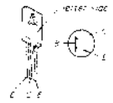
Q404, 408: 2SK30A



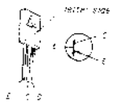
Q407, 412: 2SB720 (2SB719)



D409, 411, Q821, 871: 2SD669A (2SD669)



Q410: 2SB649A (2SB649)



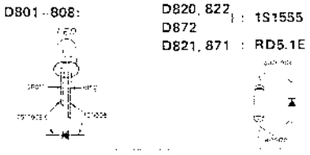
Q820, 870: 2SA1027R (2SA1015)

D202, 203, D252, 253: MV203V

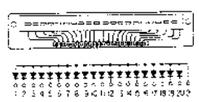
D401, 402, 405, 406: HZ12A-3L (HZ12A-2L)
D403, 404: HZ16-3L (HZ16-2L)

D504, 604: SV04S

D801–808: D820, 822, D872: 1S1555
D821, 871: RD5.1E



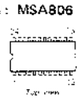
D823, 873: SEL8802

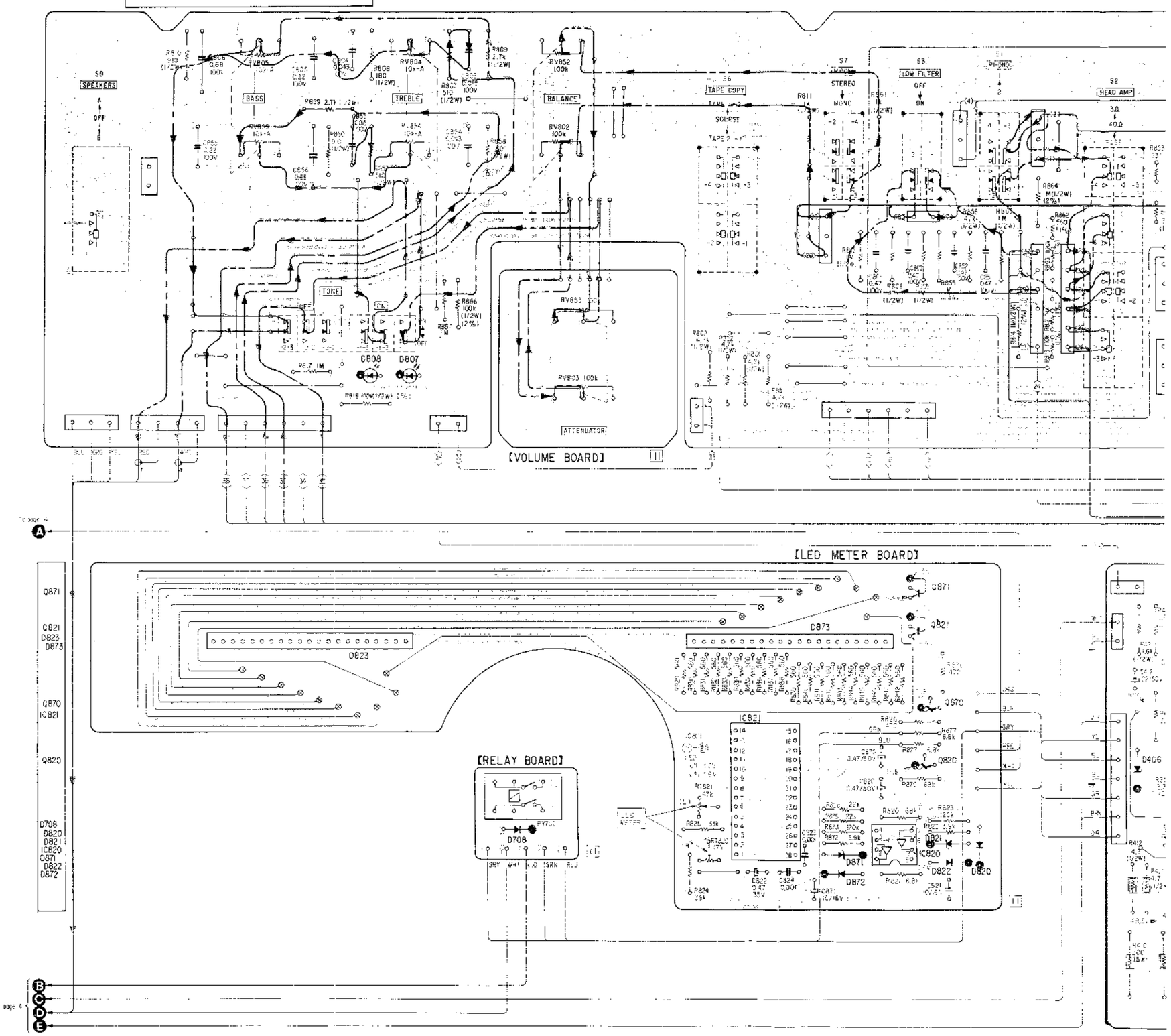


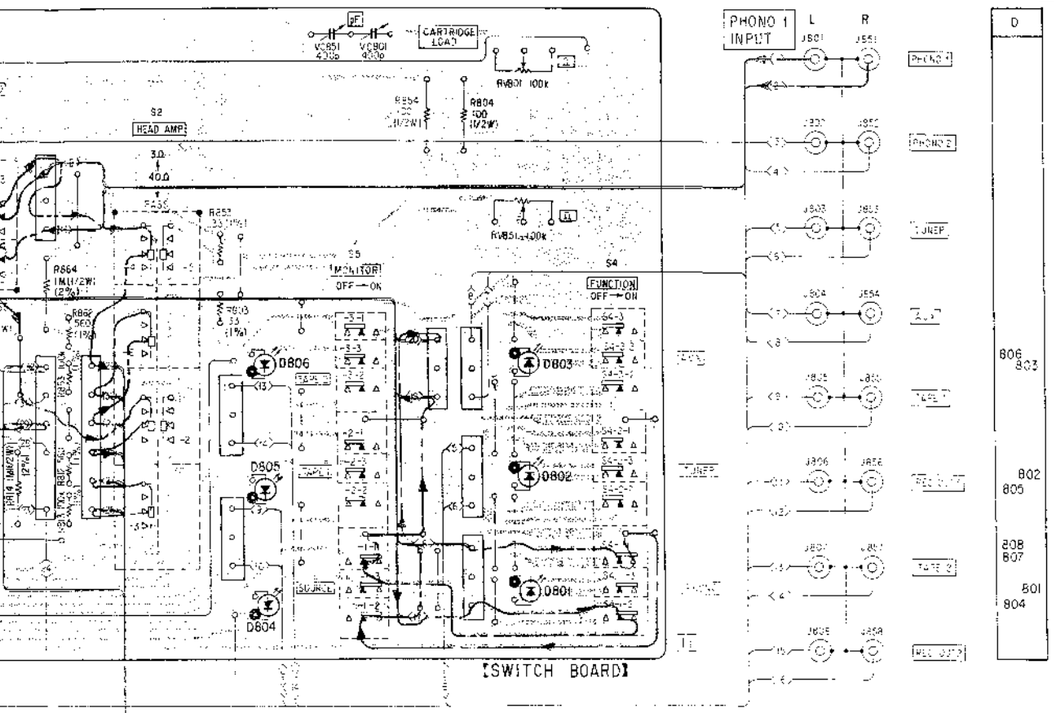
IC101, 820: μPC4558C (μPC4558)

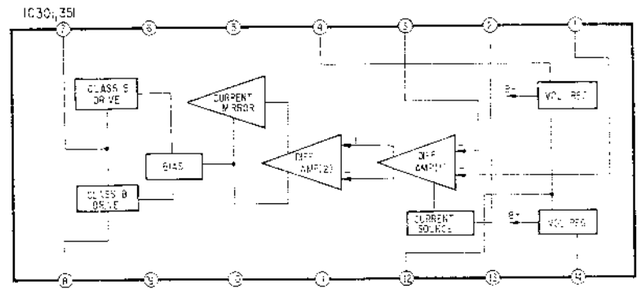
IC301, 351: HA1457

IC821: MSA806



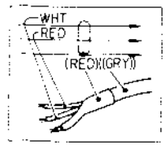






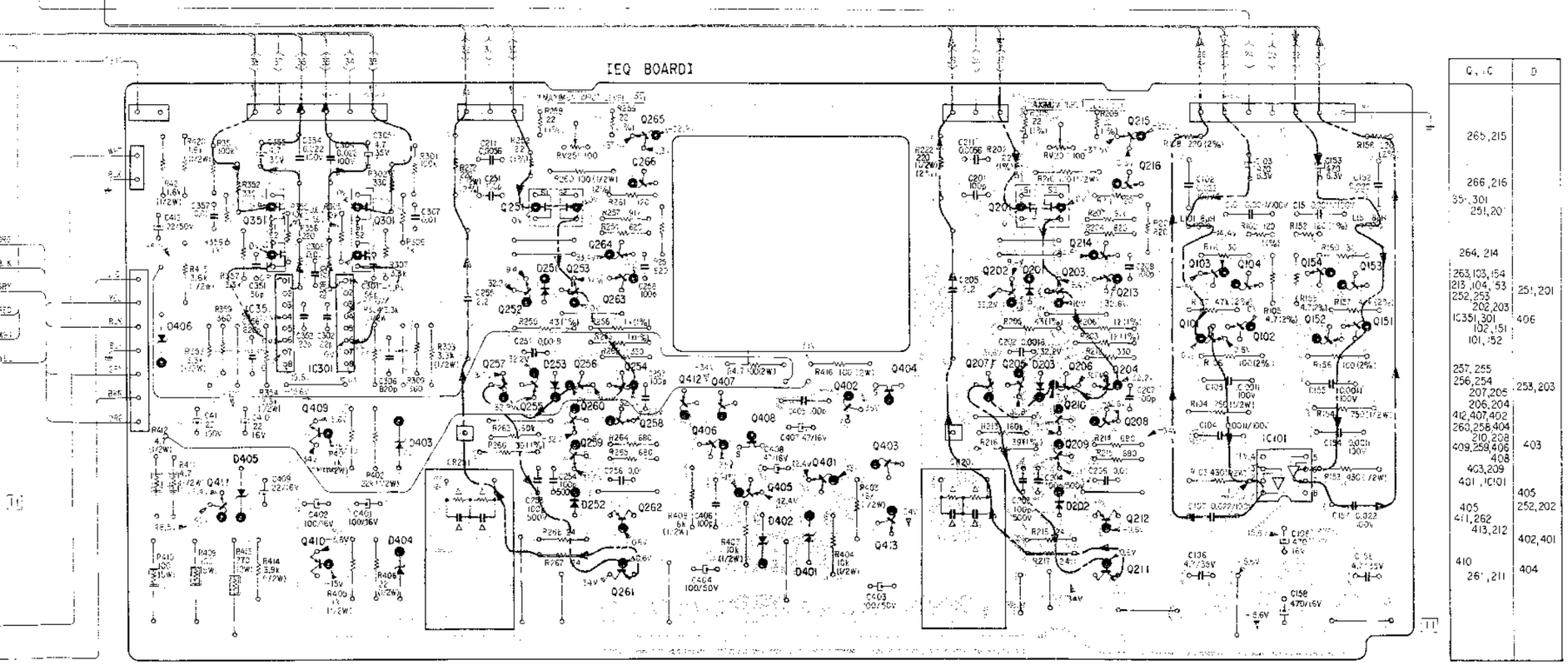
Note:

- Color code of sleeving over the end of the jacket.

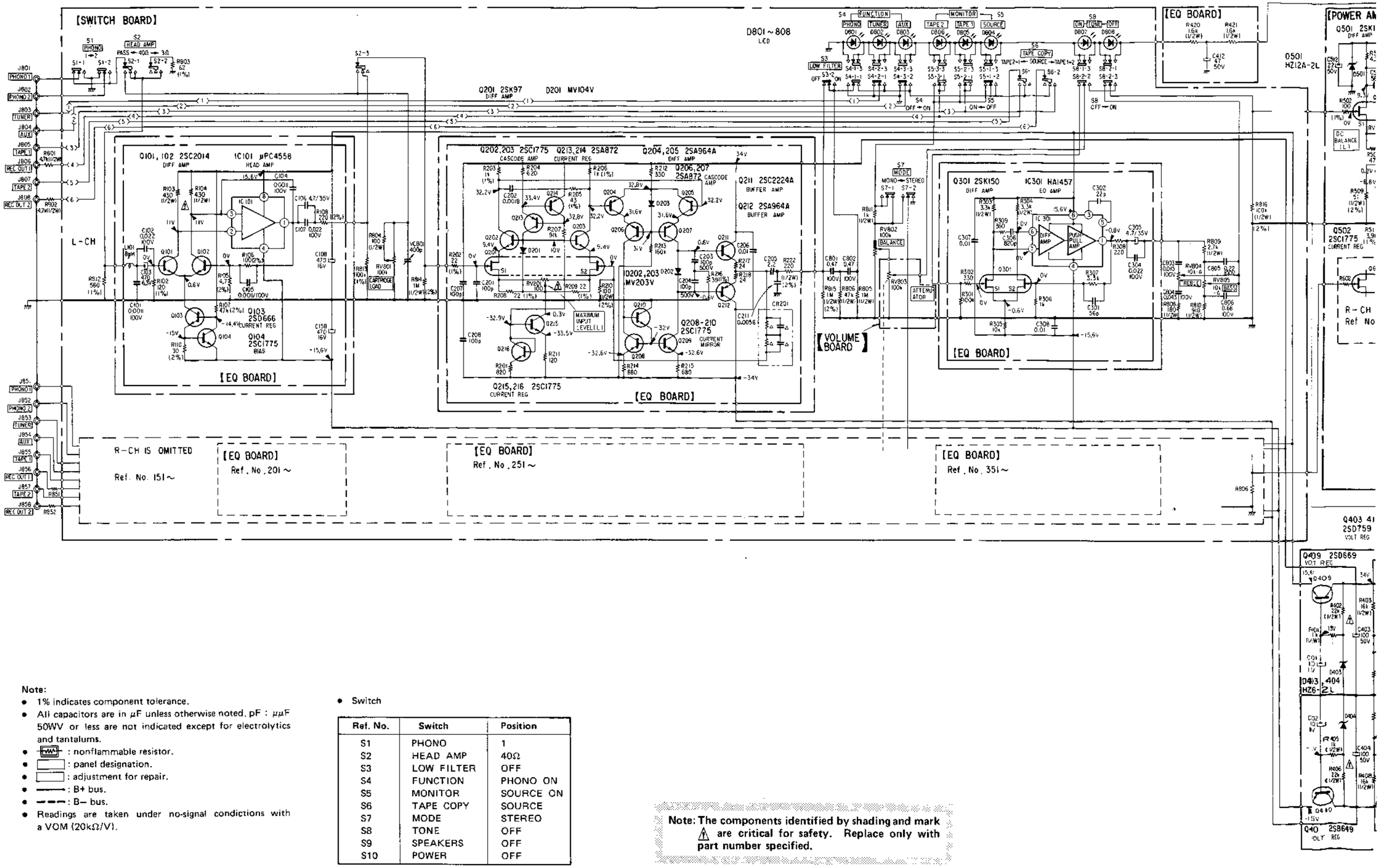


- ——: parts extracted from the component side.
- ●——: parts extracted from the conductor side.
- ■: part mounted on the conductor side.
- : B+ pattern.

- Signal Path
  ——→: L-CH
  - - →: R-CH
- 1% indicates component tolerance.



4-3. SCHEMATIC DIAGRAM



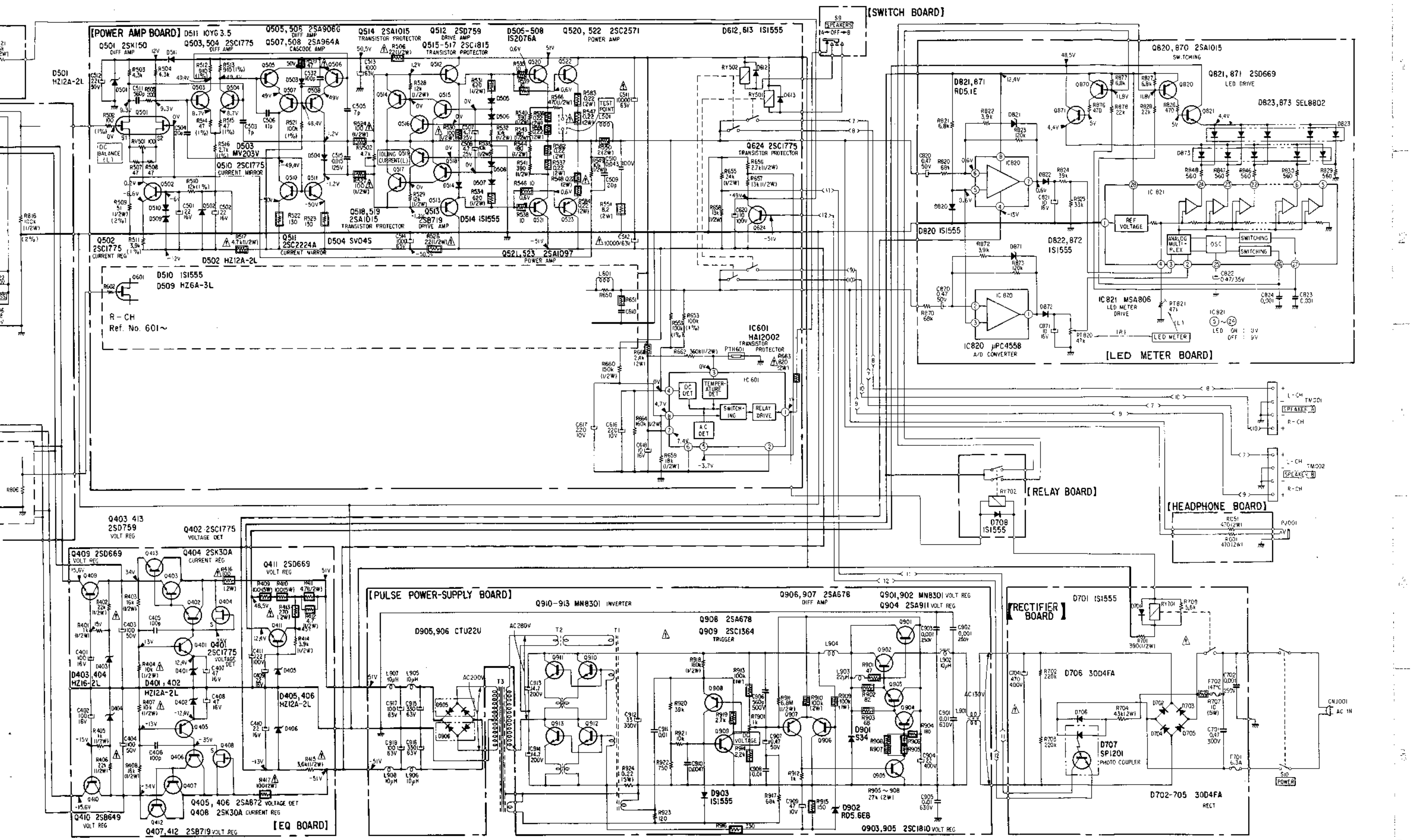
Note:

- 1% indicates component tolerance.
- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- : nonflammable resistor.
- : panel designation.
- : adjustment for repair.
- : B+ bus.
- : B– bus.
- Readings are taken under no-signal condictions with a VOM (20kΩ/V).

- Switch

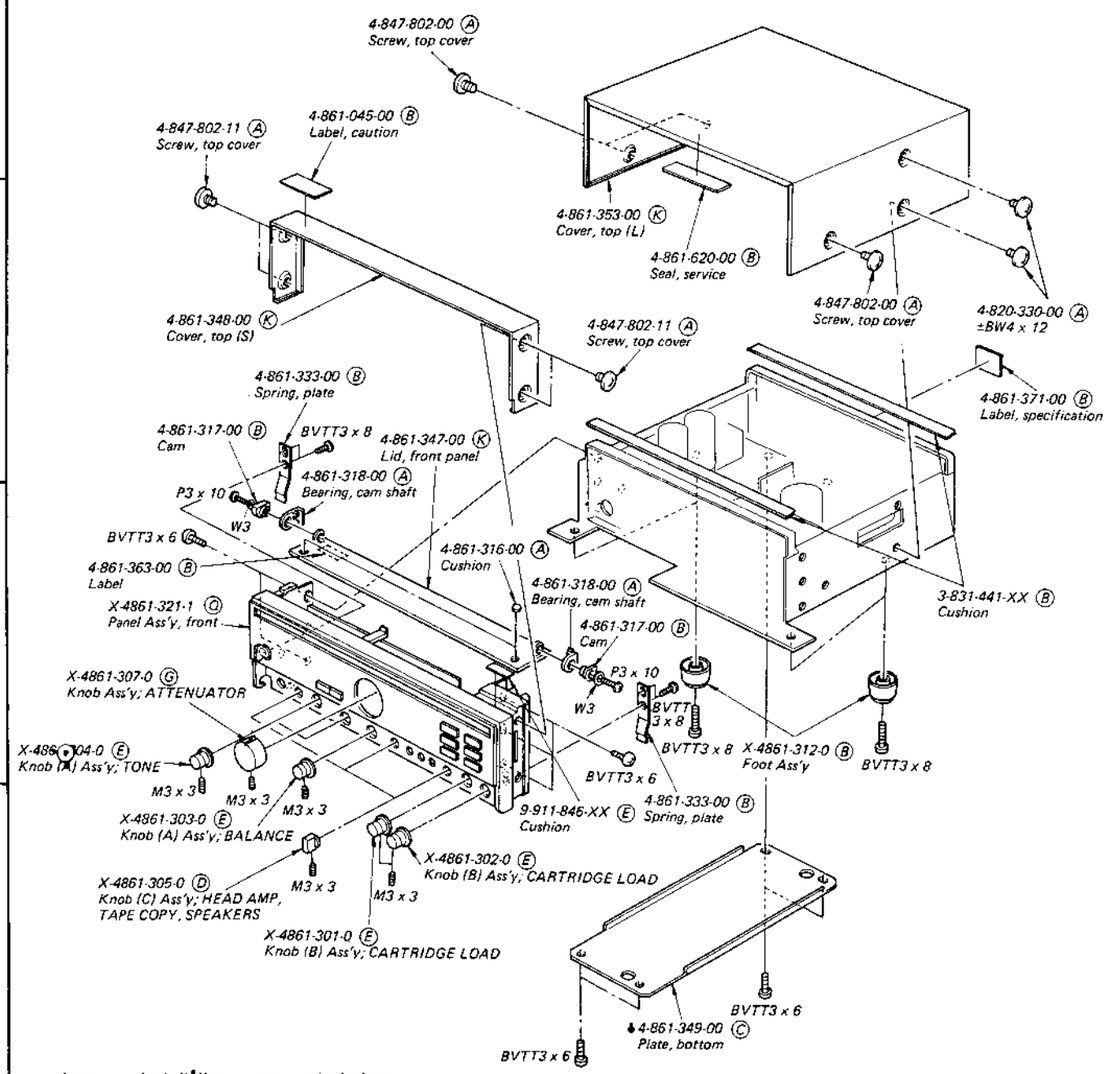
Ref. No.	Switch	Position
S1	PHONO	1
S2	HEAD AMP	40Ω
S3	LOW FILTER	OFF
S4	FUNCTION	PHONO ON
S5	MONITOR	SOURCE ON
S6	TAPE COPY	SOURCE
S7	MODE	STEREO
S8	TONE	OFF
S9	SPEAKERS	OFF
S10	POWER	OFF

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.


[POWER AMP BOARD]
[SWITCH BOARD]
SPEAKERS
Q624 2SC1775 TRANSISTOR PROTECTOR
IC601 HA12002 TRANSISTOR PROTECTOR
R-CH Ref. No. 601~
Q820, 870 2SA1015 SWITCHING
Q821, 871 2SD669 LED DRIVE
D823, 873 SEL8802
D821, 871 RD5.1E
IC820 μPC4558 A/D CONVERTER
IC821 MSA806 LED METER DRIVE
[LED METER BOARD]
[RELAY BOARD]
[HEADPHONE BOARD]
[EQ BOARD]
[PULSE POWER-SUPPLY BOARD]
Q910-913 MN8301 INVERTER
D905, 906 CTU22U
Q906, 907 2SA678 DIFF AMP
Q901, 902 MN8301 VOLT REG
Q904 2SA911 VOLT REG
Q908 2SA678
Q909 2SC1364 TRIGGER
Q903, 905 2SC1810 VOLT REG
[RECTIFIER BOARD]
D701 1S1555
D706 30D4FA
D707 SP1201 PHOTO COUPLER
D702-705 30D4FA RECT
S10 POWER
AC IN

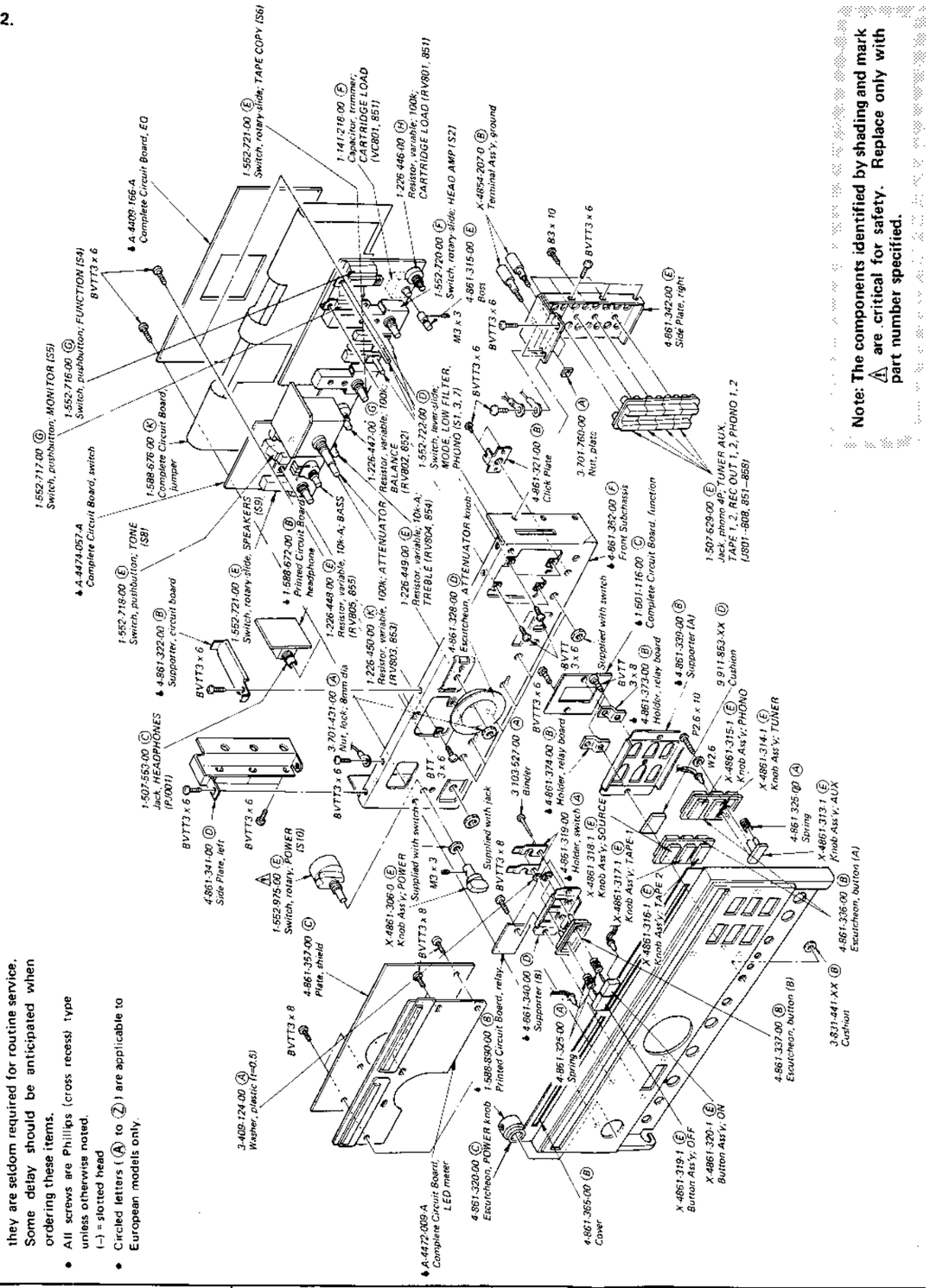
SECTION 5
EXPLODED VIEWS

5-1.



- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

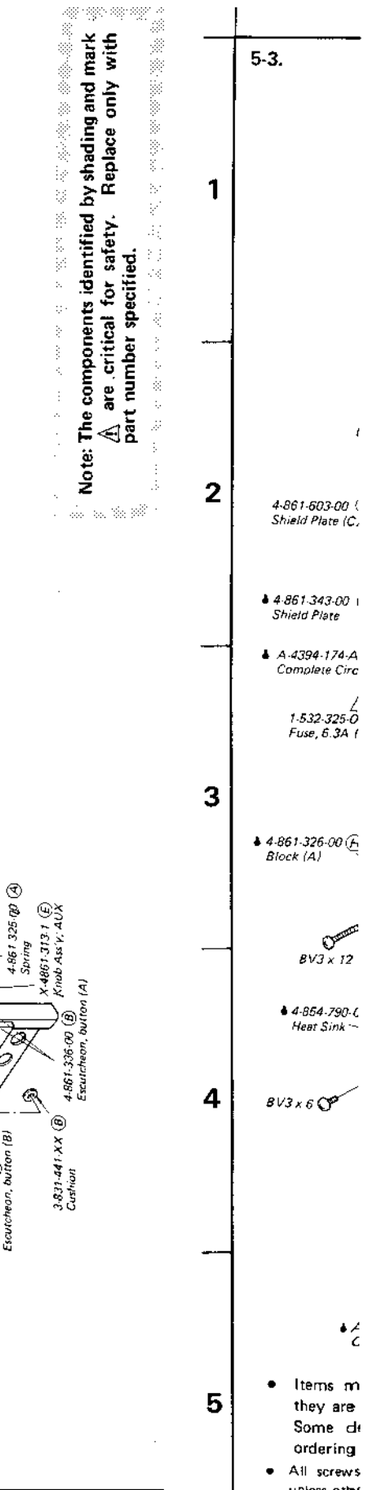
5-2.



- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

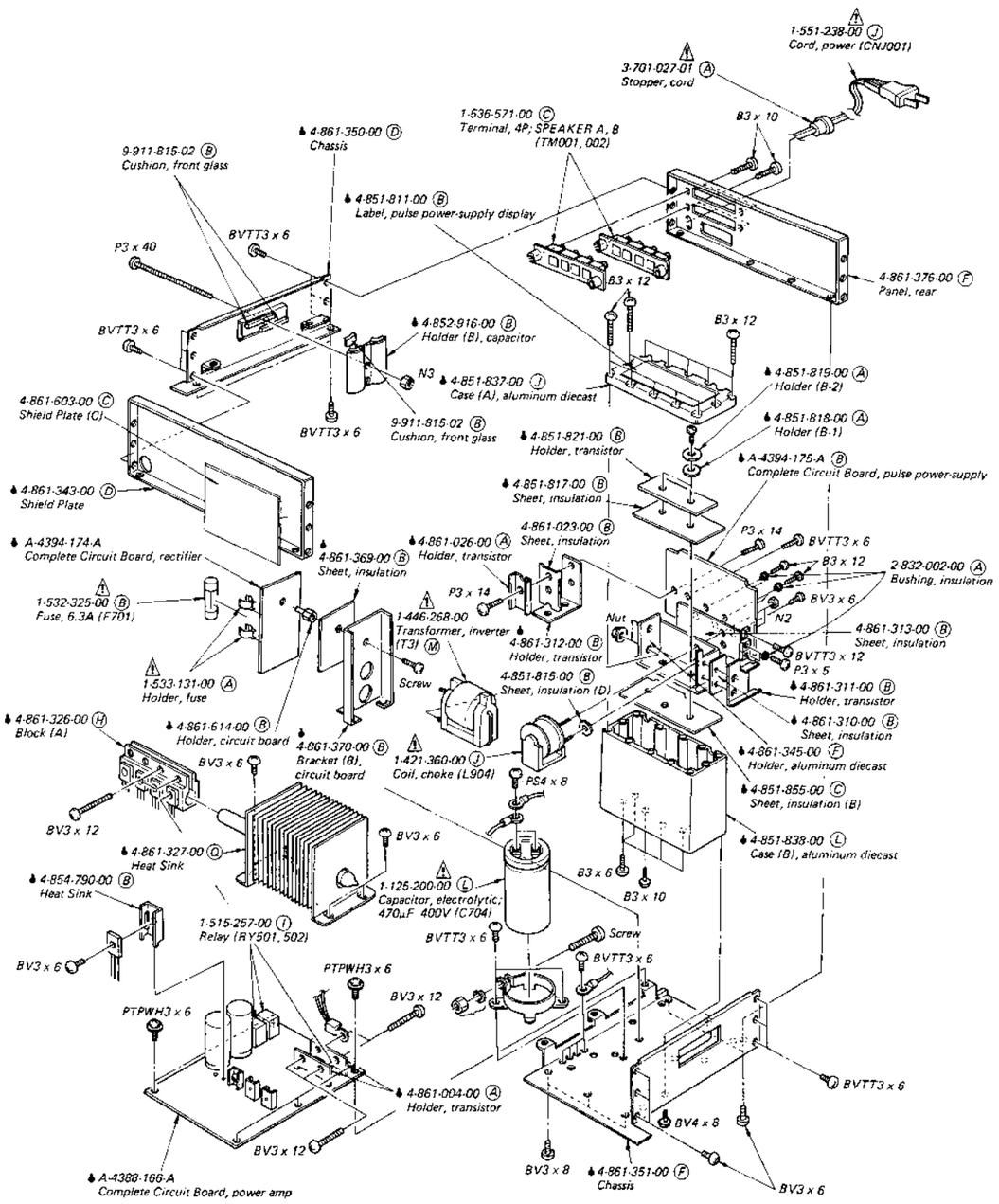
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

5-3.



- Items m
  they are
  Some de
  ordering
- All screws
  unless othe
  (-) = slotte
- Circled let
  European

5-3.



- Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head
- Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

SECTION 6
ELECTRICAL PARTS LIST

Note: Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	Part No.	Description
	SEMICONDUCTORS	
	Transistors	
Q101, 151 Q102, 152	8-765-493-00	Ⓒ 2SC2014
Q103, 153	8-729-300-62	Ⓑ 2SD666A
Q104, 154	8-729-377-58	Ⓑ 2SC1775
Q201, 251	8-765-342-10	Ⓕ 2SK97
Q202, 252 Q203, 253	8-729-377-58	Ⓑ 2SC1775
Q204, 254 Q205, 255	8-729-196-43	Ⓒ 2SA964A
Q206, 256 Q207, 257	8-729-387-27	Ⓑ 2SA872
Q208, 258 | | Q210, 260	8-729-377-58	Ⓑ 2SC1775
Q211, 261	8-729-122-43	Ⓒ 2SC2224A
Q212, 262	8-729-196-43	Ⓒ 2SA964A
Q213, 263 Q214, 264	8-729-387-27	Ⓑ 2SA872
Q215, 265 Q216, 266	8-729-377-58	Ⓑ 2SC1775
⇒ Q301, 351	8-729-215-12	Ⓔ 2SK150A
Q401, 402	8-729-377-58	Ⓑ 2SC1775
⇒ Q403	8-729-376-02	Ⓓ 2SD760
Q404	8-729-203-04	Ⓑ 2SK30A
Q405, 406	8-729-387-27	Ⓑ 2SA872
⇒ Q407	8-729-372-02	Ⓓ 2SB720
Q408	8-729-203-04	Ⓑ 2SK30A
⇒ Q409	8-729-306-92	Ⓒ 2SD669A
⇒ Q410	8-729-304-92	Ⓒ 2SB649A
⇒ Q411	8-729-306-92	Ⓒ 2SD669A
⇒ Q412	8-729-372-02	Ⓓ 2SB720
⇒ Q413	8-729-376-02	Ⓓ 2SD760
⇒ Q501, 601	8-729-215-12	Ⓔ 2SK150A
Q502, 602 | | Q504, 604	8-729-377-58	Ⓑ 2SC1775
⇒ Q505, 605 Q506, 606	8-729-612-77	Ⓑ 2SA1027R
Q507, 607 Q508, 608	8-729-196-43	Ⓒ 2SA964A
Q510, 610	8-729-377-58	Ⓑ 2SC1775
Q511, 611	8-729-122-43	Ⓒ 2SC2224A
⇒ Q512, 612	8-729-376-02	Ⓓ 2SD760
⇒ Q513, 613	8-729-372-02	Ⓓ 2SB720
⇒ Q514, 614	8-729-612-77	Ⓑ 2SA1027R
⇒ Q515, 615 | | ⇒ Q517, 617	8-729-663-47	Ⓑ 2SC1364
⇒ Q518, 618 ⇒ Q519, 619	8-729-612-77	Ⓑ 2SA1027R
Q520, 620	8-729-371-22	Ⓖ 2SC2571
Q521, 621	8-729-397-22	Ⓘ 2SA1097
Q522, 622	8-729-371-22	Ⓖ 2SC2571
Q523, 623	8-729-397-22	Ⓘ 2SA1097
Q624	8-729-377-58	Ⓑ 2SC1775
⇒ Q820, 870	8-729-612-77	Ⓑ 2SA1027R
⇒ Q821, 871	8-729-306-92	Ⓒ 2SD669A
Q901, 902	⚠ 8-729-383-31	Ⓕ MN8301
⇒ Q903	⚠ 8-729-372-30	Ⓒ 2SC1723
Q904	⚠ 8-765-141-00	Ⓘ 2SA911
⇒ Q905	⚠ 8-729-372-00	Ⓒ 2SC1723
⇒ Q906–908	⚠ 8-729-612-77	Ⓑ 2SA1027R
Q909	⚠ 8-729-663-47	Ⓑ 2SC1364
Q910–913	⚠ 8-729-383-31	Ⓕ MN8301
	ICs	
⇒ IC101	8-759-145-58	Ⓓ µPC4558C
IC301, 351	8-759-314-57	Ⓒ HA1457
IC601	8-759-320-02	Ⓓ HA12002
⇒ IC820	8-759-145-58	Ⓓ µPC4558C
IC821	8-759-986-00	Ⓛ MSA806

⇒: Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	*Part No.*	*Description*
		Diodes
D201, 251	8-719-910-40	Ⓑ MV104V
D202, 252, D203, 253	8-719-920-30	Ⓑ MV203V
⇒ D401, 402	8-719-910-23	Ⓑ HZ12A3L
⇒ D403, 404	8-719-901-63	Ⓑ HZ16-3L
⇒ D405, 406	8-719-910-23	Ⓑ HZ12A-3L
⇒ D501, 601, ⇒ D502, 602	8-719-910-23	Ⓑ HZ12A-3L
D503, 603	8-719-920-30	Ⓑ MV203V
D504, 604	8-719-300-11	Ⓒ SV04S
D505, 605 | | D508, 608	8-719-923-76	Ⓑ 1S2076A
⇒ D509, 609	8-719-910-63	Ⓑ HZ6A-3L
D510, 610	8-719-815-55	Ⓑ 1S1555
D511, 611	8-719-210-35	Ⓒ 10YG3.5
D514, D612, 613	8-719-815-55	Ⓑ 1S1555
D701	⚠8-719-815-55	Ⓑ 1S1555
⇒ D702–705	⚠8-719-911-55	Ⓒ U05G
⇒ D706	8-719-911-55	Ⓒ U05G
D707	8-719-902-01	Ⓓ SPI201
D708	8-719-815-55	Ⓑ 1S1555
D801–808	1-518-360-00	Ⓒ LED
D820	8-719-815-55	Ⓑ 1S1555
D821, 871	8-719-151-77	Ⓑ RD5.1E
D822, 872	8-719-815-55	Ⓑ 1S1555
D823, 873	8-719-388-02	Ⓚ SEL8802
D901	⚠8-719-303-41	Ⓓ S34
D902	⚠8-719-156-25	Ⓑ RD5.6E-B2Z
D903	⚠8-719-815-55	Ⓑ 1S1555
D905, 906	⚠8-719-300-22	Ⓓ CTU22U
		COILS AND TRANSFORMERS
L101, 151	1-409-519-00	Ⓑ Microinductor, 8μH
• L501, 601	1-420-862-00	Ⓑ Coil
L901	⚠1-421-340-00	Ⓔ Line Filter
L902	⚠1-421-329-00	Ⓑ Choke, 10μF
L903	⚠1-407-161-XX	Ⓑ Microinductor, 22μH
L904	⚠1-421-360-00	Ⓙ Choke
L905–908	⚠1-421-329-00	Ⓑ Choke, 10μH
T1	⚠1-446-269-00	Ⓛ Transformer
T3	⚠1-446-268-00	Ⓜ Transformer, inverter

CAPACITORS

All capacitors are in μF and ceramic unless otherwise noted. 50WV or less are not indicated except for electrolytics and tantalums. p : μμF, elect : electrolytic

C101	1-130-209-00	Ⓑ 0.0011	100V	film
C102	1-130-212-00	Ⓑ 0.022	100V	film
C103	1-123-452-00	Ⓑ 470	6.3V	elect
C104, 105	1-130-209-00	Ⓑ 0.0011	100V	film
C106	1-123-453-00	Ⓑ 4.7	35V	elect
C107	1-130-212-00	Ⓑ 0.022	100V	film
C108	1-121-426-00	Ⓑ 470	16V	elect
C151	1-130-209-00	Ⓑ 0.0011	100V	film
C152	1-130-212-00	Ⓑ 0.022	100V	film
C153	1-123-452-00	Ⓑ 470	6.3V	elect
C154, 155	1-130-209-00	Ⓑ 0.0011	100V	film
C156	1-123-453-00	Ⓑ 4.7	35V	elect
C157	1-130-212-00	Ⓑ 0.022	100V	film
C158	1-121-426-00	Ⓑ 470	16V	elect
C201	1-130-701-00	Ⓑ 100p		styrol
C202	1-130-731-00	Ⓑ 0.0018		styrol
C203, 204	1-109-673-00	Ⓑ 100p	500V	mica
C205	1-130-208-00	Ⓔ 2.2		polyethylene
C206	1-101-004-00	Ⓐ 0.01		(nonpolarized)
C207, 208	1-102-973-00	Ⓐ 100p		
C211	1-104-095-00	Ⓑ 0.0056		styrol
C251	1-103-701-00	Ⓑ 100p		styrol
C252	1-103-731-00	Ⓑ 0.0018		styrol
C253, 254	1-109-673-00	Ⓑ 100p	500V	mica
C255	1-130-208-00	Ⓔ 2.2		polyethylene
C256	1-101-004-00	Ⓐ 0.01		(nonpolarized)
C257, 258	1-102-973-00	Ⓐ 100p		
C261	1-104-095-00	Ⓑ 0.0056		styrol
C301	1-107-079-00	Ⓑ 56p		mica
C302	1-107-069-00	Ⓑ 22p		mica
C304	1-130-212-00	Ⓑ 0.022	100V	film

⇒ : Due to standardization, interchangeable replacements may be substituted for parts specified in the diagrams.

• Items marked "•" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Circled letters (Ⓐ to Ⓩ) are applicable to European models only.

Ref. No.	*Part No.*	*Description*			
C305	1-123-453-00	Ⓑ 4.7	35V	elect	
C306	1-102-117-00	Ⓐ 820p			
C307, 308	1-101-004-00	Ⓐ 0.01		(nonpolarized)	
C351	1-107-079-00	Ⓑ 56p		mica	
C352	1-107-069-00	Ⓑ 22p		mica	
C354	1-130-212-00	Ⓑ 0.022	100V	film	
C355	1-123-453-00	Ⓑ 4.7	35V	elect	
C356	1-102-117-00	Ⓐ 820p			
C357	1-101-004-00	Ⓐ 0.01		(nonpolarized)	
C401, 402	1-121-415-00	Ⓑ 100	16V	elect	
C403, 404	⚠1-121-417-00	Ⓑ 100	50V	elect	
C405, 406	1-161-271-00	Ⓐ 100p			
C407, 408	1-121-409-00	Ⓑ 47	16V	elect	
C409, 410	1-121-479-00	Ⓑ 22	16V	elect	
C411	1-123-385-00	Ⓑ 22	100V	elect	
C412	1-121-411-00	Ⓑ 47	50V	elect	
C501, 502	1-121-479-00	Ⓑ 22	16V	elect	
C503	1-107-104-00	Ⓐ 7p		mica	
C504	1-107-068-00	Ⓑ 20p		mica	
C505	1-107-104-00	Ⓐ 7p		mica	
C506	1-107-062-00	Ⓑ 11p		mica	
C507, 508	1-121-395-00	Ⓑ 4.7	25V	elect	
C509	1-107-068-00	Ⓑ 20p		mica	
C510	1-130-212-00	Ⓑ 0.022	100V	polyethylene	
C511	1-109-691-00	Ⓓ 560p	500V	mica	
C512	1-121-152-00	Ⓑ 22	50V	elect	
C511, 512	⚠1-125-187-00	Ⓚ 1000/1000	63V	elect	
C513, 514	1-123-262-00	Ⓑ 1000	63V	elect	
C515	1-104-129-00	Ⓒ 0.015	125V	styrol	
C530	1-130-213-00	Ⓑ 0.043	100V	film	
C531	1-107-169-00	Ⓑ 100p	500V	silvered mica	
C532	1-107-085-00	Ⓑ 100p		mica	
C601, 602	1-121-479-00	Ⓑ 22	16V	elect	
C603	1-107-104-00	Ⓐ 7p		mica	
C604	1-107-068-00	Ⓑ 20p		mica	
C605	1-107-104-00	Ⓐ 7p		mica	

Ref. No.	*Part No.*	*Description*			
C606	1-107-062-00	Ⓑ 11p		mica	
C607, 608	1-121-395-00	Ⓑ 4.7	25V	elect	
C609	1-107-068-00	Ⓑ 20p		mica	
C610	1-130-212-00	Ⓑ 0.022	100V	film	
C611	1-109-691-00	Ⓓ 560p	500V	mica	
C612	1-121-152-00	Ⓑ 22	50V	elect	
C613, 614	1-123-262-00	Ⓑ 1000	63V	elect	
C615	1-104-129-00	Ⓒ 0.015	125V	styrol	
C616, 617	1-121-420-00	Ⓑ 220	10V	elect	
C618	1-121-651-00	Ⓑ 10	16V	elect	
C620	1-121-126-00	Ⓑ 10	100V	elect	
C630	1-130-213-00	Ⓑ 0.043	100V	film	
C631	1-107-169-00	Ⓑ 100p	500V	silvered mica	
C632	1-107-085-00	Ⓑ 100p		mica	
C701	⚠1-130-342-00	Ⓒ 0.47	300V	film	
C702	⚠1-102-222-00	Ⓑ 0.001	250V		
C704	⚠1-125-200-00	Ⓛ 470	400V	elect	
C801, 802	1-130-086-00	Ⓑ 0.47	100V	film	
C803	1-130-210-00	Ⓑ 0.015	100V	film	
C804	1-130-213-00	Ⓑ 0.043	100V	film	
C805	1-130-085-00	Ⓑ 0.22	100V	film	
C806	1-130-220-00	Ⓒ 0.68	100V	film	
C820	1-121-726-00	Ⓑ 0.47	50V	elect	
C821	1-121-651-00	Ⓑ 10	16V	elect	
C822	1-131-213-00	Ⓑ 0.47	35V	tantalum	
C823, 824	1-102-074-00	Ⓐ 0.001			
C851, 852	1-130-086-00	Ⓑ 0.47	100V	film	
C853	1-130-210-00	Ⓑ 0.015	100V	film	
C854	1-130-213-00	Ⓑ 0.043	100V	film	
C855	1-130-085-00	Ⓑ 0.22	100V	film	
C856	1-130-220-00	Ⓒ 0.68	100V	film	
C870	1-121-726-00	Ⓑ 0.47	50V	elect	
C871	1-121-651-00	Ⓑ 10	16V	elect	
C901	⚠1-130-141-00	Ⓑ 0.01	630V	film	
C902, 903	⚠1-102-222-00	Ⓑ 0.001	250V		
C904	⚠1-123-402-00	Ⓒ 22	400V	elect	
C905	⚠1-130-141-00	Ⓑ 0.01	630V	film	

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Ref. No.	Part No.		Description		
C906	⚠1-161-438-00	Ⓑ	560p	500V	
C907	⚠1-121-726-00	Ⓑ	0.47	50V	elect
C908	⚠1-108-239-00	Ⓐ	0.01		mylar
C909	⚠1-121-352-00	Ⓑ	47	10V	elect
C910	⚠1-108-234-00	Ⓐ	0.0047		mylar
C911	⚠1-108-239-00	Ⓐ	0.01		mylar
C912	⚠1-123-280-00	Ⓒ	33	350V	elect
C913, 914	⚠1-123-539-00	Ⓔ	4.7	200V	elect
C915, 916	⚠1-123-376-00	Ⓒ	330	63V	elect
C917, 918	⚠1-123-374-00	Ⓑ	100	63V	elect

RESISTORS

All resistors are in ohms. Common ¼W carbon resistors are omitted. Check schematic diagram for their values.

Ref. No.	Part No.				
R001	1-206-656-00	Ⓑ	470	2W	metal oxide
R051	1-206-656-00	Ⓑ	470	2W	metal oxide
R102	1-214-110-00	Ⓐ	120	¼W	metal oxide
R103, 104	⚠1-244-864-00	Ⓐ	430	½W	carbon
R105	1-214-611-00	Ⓐ	4.7	¼W	metal oxide
R106	1-214-615-00	Ⓐ	100	¼W	metal oxide
R107	1-214-617-00	Ⓐ	47k	¼W	metal oxide
R108	1-214-116-00	Ⓐ	220	¼W	metal oxide
R110	1-214-612-00	Ⓐ	30	¼W	metal oxide
R152	1-214-110-00	Ⓐ	120	¼W	metal oxide
R153, 154	1-244-864-00	Ⓐ	430	½W	carbon
R155	1-214-611-00	Ⓐ	4.7	¼W	metal oxide
R156	1-214-615-00	Ⓐ	100	¼W	metal oxide
R157	1-214-617-00	Ⓐ	47k	¼W	metal oxide
R158	1-214-116-00	Ⓐ	220	¼W	metal oxide
R160	1-214-612-00	Ⓐ	30	¼W	metal oxide
R202	1-214-092-00	Ⓐ	22	¼W	metal oxide
R203	1-214-616-00	Ⓐ	1k	¼W	metal oxide
R205	1-214-614-00	Ⓐ	43	¼W	metal oxide
R206	1-214-616-00	Ⓐ	1k	¼W	metal oxide
R208, 209	1-214-092-00	Ⓐ	22	¼W	metal oxide
R210	1-214-621-00	Ⓑ	100	½W	metal oxide
R216	1-214-613-00	Ⓐ	39	¼W	metal oxide
R222	1-214-622-00	Ⓑ	220	½W	metal oxide
R252	1-214-092-00	Ⓐ	22	¼W	metal oxide
R253	1-214-616-00	Ⓐ	1k	¼W	metal oxide
R255	1-214-614-00	Ⓐ	43	¼W	metal oxide
R256	1-214-616-00	Ⓐ	1k	¼W	metal oxide
R258, 259	1-214-092-00	Ⓐ	22	¼W	metal oxide
R260	1-214-621-00	Ⓑ	100	½W	metal oxide
R266	1-214-613-00	Ⓐ	39	¼W	metal oxide
R272	1-214-622-00	Ⓑ	220	½W	metal oxide
R303, 304	1-244-885-00	Ⓐ	3.3k	½W	carbon
R353, 354	1-244-885-00	Ⓐ	3.3k	½W	carbon
R401	⚠1-244-873-00	Ⓐ	1k	½W	carbon
R402	⚠1-244-905-00	Ⓐ	22k	½W	carbon
R403	⚠1-244-902-00	Ⓐ	16k	½W	carbon
R404	⚠1-244-897-00	Ⓐ	10k	½W	carbon
R405	⚠1-244-873-00	Ⓐ	1k	½W	carbon
R406	⚠1-244-905-00	Ⓐ	22k	½W	carbon
R407	⚠1-244-897-00	Ⓐ	10k	½W	carbon
R408	⚠1-244-902-00	Ⓐ	16k	½W	carbon
R409, 410	⚠1-217-310-00	Ⓑ	100	5W	wirewound (nonflammable)
R411, 412	⚠1-247-188-00	Ⓐ	4.7	½W	carbon (nonflammable)
R413	⚠1-206-650-00	Ⓑ	270	2W	metal oxide (nonflammable)
R414	1-244-887-00	Ⓐ	3.9k	½W	carbon
R415	⚠1-244-886-00	Ⓐ	3.6k	½W	carbon
R416, 417	⚠1-206-640-00	Ⓑ	100	2W	metal oxide
R420, 421	1-244-878-00	Ⓐ	1.6k	½W	carbon
R502	1-214-108-00	Ⓐ	100	¼W	metal oxide
R503, 504	1-214-147-00	Ⓐ	4.3k	¼W	metal oxide
R505	1-214-115-00	Ⓐ	200	¼W	metal oxide
R506	⚠1-247-200-00	Ⓐ	22	½W	carbon (nonflammable)
R507, 508	1-214-100-00	Ⓐ	47	¼W	metal oxide

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Ref. No.	Part No.	Description		
R509	1-214-619-00	Ⓑ 51	½W	metal oxide
R510	1-214-158-00	Ⓐ 12k	¼W	metal oxide
R511	1-214-146-00	Ⓐ 3.9k	¼W	metal oxide
R512, 513	1-214-131-00	Ⓐ 910	¼W	metal oxide
R514, 515	1-214-100-00	Ⓐ 47	¼W	metal oxide
R561	1-214-142-00	Ⓐ 2.7k	¼W	metal oxide
R517	⚠1-247-256-00	Ⓐ 4.7k	½W	carbon (nonflammable)
R519	⚠1-247-099-00	Ⓐ 47	¼W	carbon (nonflammable)
R521	1-214-180-00	Ⓐ 100k	¼W	metal oxide
R522, 523	1-247-110-00	Ⓐ 130	¼W	carbon (nonflammable)
R524	⚠1-247-216-00	Ⓐ 100	½W	carbon (nonflammable)
R526	⚠1-247-200-00	Ⓐ 22	½W	carbon (nonflammable)
R527	⚠1-247-216-00	Ⓐ 100	½W	carbon (nonflammable)
R528, 529	1-244-899-00	Ⓐ 12k	½W	carbon
R530	⚠1-247-216-00	Ⓐ 100	½W	carbon (nonflammable)
R531	1-247-235-00	Ⓐ 620	½W	carbon (nonflammable)
R532, 533	1-244-897-00	Ⓐ 10k	½W	carbon
R534	1-247-235-00	Ⓐ 620	½W	carbon (nonflammable)
R535	1-247-083-00	Ⓐ 10	¼W	carbon (nonflammable)
R536, 537	⚠1-214-610-00	Ⓑ 0.22	2W	metal oxide (nonflammable)
R538, 539	1-247-083-00	Ⓐ 10	¼W	carbon (nonflammable)
R540, 541	1-244-863-00	Ⓐ 390	½W	carbon
R543, 544	1-244-855-00	Ⓐ 180	½W	carbon
R546	1-247-083-00	Ⓐ 10	¼W	carbon (nonflammable)
R547, 548	⚠1-214-610-00	Ⓑ 0.22	2W	metal oxide
R549	1-214-206-00	Ⓑ 10k	½W	metal oxide
R550	1-206-446-00	Ⓑ 2	2W	metal oxide
R551	1-206-461-00	Ⓑ 8.2	2W	metal oxide (nonflammable)
R553	1-214-180-00	Ⓐ 100k	¼W	metal oxide
R566	1-244-865-00	Ⓐ 470	½W	carbon
R581–584	⚠1-214-610-00	Ⓑ 0.22	2W	metal oxide (nonflammable)
R602	1-214-108-00	Ⓐ 100	¼W	metal oxide
R603, 604	1-214-147-00	Ⓐ 4.3k	¼W	metal oxide
R605	1-214-115-00	Ⓐ 200	¼W	metal oxide
R606	1-247-200-00	Ⓐ 22	½W	carbon (nonflammable)
R607, 608	1-214-100-00	Ⓐ 47	¼W	metal oxide
R609	1-214-619-00	Ⓑ 51	½W	metal oxide
R610	1-214-158-00	Ⓐ 12k	¼W	metal oxide
R611	1-214-146-00	Ⓐ 3.9k	¼W	metal oxide
R612, 613	1-214-131-00	Ⓐ 910	¼W	metal oxide
R614, 615	1-214-100-00	Ⓐ 47	¼W	metal oxide (nonflammable)
R616	1-214-142-00	Ⓐ 2.7k	¼W	metal oxide
R617	1-247-256-00	Ⓐ 4.7k	½W	metal oxide (nonflammable)
R619	1-247-099-00	Ⓐ 47	¼W	metal oxide (nonflammable)
R621	1-214-180-00	Ⓐ 100k	¼W	metal oxide
R622, 623	1-247-110-00	Ⓐ 130	¼W	carbon (nonflammable)
R624	1-247-216-00	Ⓐ 100	½W	carbon (nonflammable)
R626	1-247-200-00	Ⓐ 22	½W	carbon (nonflammable)
R627	1-247-216-00	Ⓐ 100	½W	carbon (nonflammable)
R628, 629	1-244-899-00	Ⓐ 12k	½W	carbon
R630	1-247-216-00	Ⓐ 100	½W	carbon (nonflammable)
R631	1-247-235-00	Ⓐ 620	½W	carbon (nonflammable)
R632, 633	1-244-897-00	Ⓐ 10k	½W	carbon
R634	1-247-256-00	Ⓐ 620	½W	carbon (nonflammable)
R635	1-247-083-00	Ⓐ 10	¼W	carbon (nonflammable)

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Ref. No.	Part No.	Description		
R636, 637	1-214-610-00	Ⓑ 0.22	2W	metal oxide (nonflammable)
R638, 639	1-247-083-00	Ⓐ 10	¼W	carbon (nonflammable)
R640, 641	1-244-863-00	Ⓐ 390	½W	carbon
R643, 644	1-244-855-00	Ⓐ 180	½W	carbon
R646	1-247-083-00	Ⓐ 10	¼W	carbon (nonflammable)
R647, 648	1-214-610-00	Ⓑ 0.22	2W	metal oxide (nonflammable)
R649	1-214-206-00	Ⓑ 10k	½W	metal oxide
R650	1-206-446-00	Ⓑ 2	2W	metal oxide (nonflammable)
R651	1-206-461-00	Ⓑ 8.2	2W	metal oxide (nonflammable)
R653	1-214-180-00	Ⓐ 100k	¼W	metal oxide
R655	1-244-906-00	Ⓐ 24k	½W	carbon
R656	1-244-883-00	Ⓐ 2.7k	½W	carbon
R657, 658	1-244-900-00	Ⓐ 13k	½W	carbon
R659	1-244-903-00	Ⓐ 18k	½W	carbon
R660	1-244-925-00	Ⓐ 150k	½W	carbon
R661	1-206-673-00	Ⓑ 2.4k	2W	metal oxide
R662	1-244-934-00	Ⓐ 360k	½W	carbon
R663	⚠1-206-662-00	Ⓑ 820	2W	metal oxide
R664	1-244-926-00	Ⓐ 160k	½W	carbon
R666	1-244-865-00	Ⓐ 470	½W	carbon
R681–684	1-214-610-00	Ⓑ 0.22	2W	metal oxide (nonflammable)
R701	⚠1-244-863-00	Ⓐ 390	½W	carbon
R702, 703	1-246-529-00	Ⓐ 220k	¼W	carbon
R704	⚠1-214-602-00	Ⓐ 43k	2W	metal oxide (nonflammable)
R707	⚠1-207-678-00	Ⓑ 10	5W	wirewound (nonflammable)
R709	⚠1-244-891-00	Ⓐ 5.6k	½W	carbon
R801, 802	1-244-889-00	Ⓐ 4.7k	½W	carbon
R803	1-214-103-00	Ⓐ 62	¼W	metal oxide
R804	1-214-621-00	Ⓑ 100	½W	metal oxide
R805	1-244-945-00	Ⓐ 1M	½W	carbon
R806	1-244-913-00	Ⓐ 47k	½W	carbon
R808	1-244-855-00	Ⓐ 180	½W	carbon
R809	1-244-883-00	Ⓐ 2.7k	½W	carbon
R810	1-244-872-00	Ⓐ 910	½W	carbon
R811	1-244-873-00	Ⓐ 1k	½W	carbon
R812	1-214-126-00	Ⓐ 560	¼W	metal oxide
R813	1-214-180-00	Ⓐ 100k	¼W	metal oxide
R814, 815	1-214-627-00	Ⓑ 1M	½W	metal oxide
R816	1-214-208-00	Ⓑ 100k	½W	metal oxide
R851, 852	1-244-889-00	Ⓐ 4.7k	½W	carbon
R853	1-214-103-00	Ⓐ 62	¼W	metal oxide
R854	1-214-621-00	Ⓑ 100	½W	metal oxide
R855	1-244-945-00	Ⓐ 1M	½W	carbon
R856	1-244-913-00	Ⓐ 47k	½W	carbon
R858	1-244-855-00	Ⓐ 180	½W	carbon
R859	1-244-883-00	Ⓐ 2.7k	½W	carbon
R860	1-244-872-00	Ⓐ 910	½W	carbon
R861	1-244-873-00	Ⓐ 1k	½W	carbon
R862	1-214-126-00	Ⓐ 560	¼W	metal oxide
R863	1-214-180-00	Ⓐ 100k	¼W	metal oxide
R864, 865	1-214-627-00	Ⓑ 1M	½W	metal oxide
R866	1-214-208-00	Ⓑ 100k	½W	metal oxide
R901	⚠1-211-514-00	Ⓐ 47	¼W	carbon (nonflammable)
R902	⚠1-211-520-00	Ⓐ 82	¼W	carbon (nonflammable)
R903	⚠1-211-518-00	Ⓐ 68	¼W	carbon (nonflammable)
R904	⚠1-211-528-00	Ⓐ 180	¼W	carbon (nonflammable)
R905–908	⚠1-206-698-00	Ⓑ 27k	2W	metal oxide (nonflammable)
R909	⚠1-214-595-00	Ⓐ 100k	1W	metal oxide (nonflammable)
R910	⚠1-214-597-00	Ⓑ 100k	2W	metal oxide (nonflammable)
R911	⚠1-202-729-00	Ⓐ 6.8M	½W	composition
R913	⚠1-214-595-00	Ⓐ 100k	1W	metal oxide (nonflammable)
R914	⚠1-211-945-00	Ⓐ 2.2k	¼W	carbon (nonflammable)
R915	⚠1-211-526-00	Ⓐ 150	¼W	carbon (nonflammable)
R916	⚠1-211-534-00	Ⓐ 330	¼W	carbon (nonflammable)
R918	⚠1-244-927-00	Ⓐ 180k	½W	carbon
R919	⚠1-211-553-00	Ⓐ 2.7k	¼W	carbon (nonflammable)
R924	⚠1-217-156-00	Ⓑ 0.22	5W	wirewound
RT820,821	1-224-254-XX	Ⓑ 47k, adjustable; LED METER		
RT901	⚠1-224-642-XX	Ⓑ 1k, adjustable; DC VOLTAGE		
RV201	⚠1-224-247-XX	Ⓑ 100k, adjustable; MAXIMUM INPUT LEVEL (L)		
RV251	1-224-247-XX	Ⓑ 100k, adjustable; MAXIMUM INPUT LEVEL (R)		
RV501, 601	1-224-247-11	Ⓑ 100k, adjustable; DC BALANCE		
RV502, 602	1-224-251-11	Ⓑ 4.7k, adjustable; IDLING CURRENT		

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Ref. No.	Part No.	Description
RV801,851	1-226-446-00	Ⓗ 100k, variable; CARTRIDGE LOAD
RV802,852	1-226-447-00	Ⓖ 100k, variable; BALANCE
RV803,853	1-226-450-00	Ⓚ 100k, variable; ATTENUATOR
RV804,854	1-226-449-00	Ⓔ 10k-A, variable; TREBLE
RV805,855	1-226-448-00	Ⓔ 10k-A, variable; BASS
		SWITCHES
S1	1-552-722-00	Ⓓ Lever-slide, PHONO
S2	1-552-720-00	Ⓕ Rotary-slide, HEAD AMP
S3	1-552-722-00	Ⓓ Lever-slide, LOW FILTER
S4	1-552-716-00	Ⓖ Pushbutton, FUNCTION
S5	1-552-717-00	Ⓖ Pushbutton, MONITOR
S6	1-552-721-00	Ⓔ Rotary-slide, TAPE COPY
S7	1-552-722-00	Ⓓ Lever-slide, MODE
S8	1-552-718-00	Ⓔ Pushbutton, TONE
S9	1-552-721-00	Ⓔ Rotary-slide, SPEAKERS
S10	⚠1-552-975-00	Ⓔ Rotary, POWER
		MISCELLANEOUS
CNJ001	⚠1-551-238-00	Ⓙ Cord, power
CR201,251	1-231-418-00	Ⓐ Encapsulated Component
F701	⚠1-532-325-00	Ⓑ Fuse, 6.3A
F702	⚠1-532-556-00	Ⓑ 147°C, thermal
J801–808, J851–858	1-507-629-00	Ⓔ Jack, phono 4P; TUNER, AUX, TAPE 1, 2, REC OUT 1, 2 PHONO 1, 2
PJ001	1-507-553-00	Ⓒ Jack, HEADPHONES
RY501,502	1-515-257-00	Ⓘ Relay
RY701	⚠1-515-347-00	Ⓕ Relay
RY702	1-515-328-00	Ⓖ Relay
TH601	1-800-427-00	Ⓑ Thermistor, positive
TM001,002	1-536-571-00	Ⓒ Terminal, 4P; SPEAKER A, B
VC801,851	1-141-218-00	Ⓕ Capacitor, trimmer; CARTRIDGE LOAD pF
	⚠1-533-131-00	Ⓐ Holder, fuse
	⚠1-543-098-00	Ⓑ Core (for T2)
	⚠1-543-100-00	Ⓑ Core (for T2)

Part No.	Description
♦ A-4388-166-A	Complete Circuit Board, power amp
♦ A-4394-174-A	Complete Circuit Board, rectifier
♦ A-4394-175-A	Ⓑ Complete Circuit Board, pulse power-supply
♦ A-4409-166-A	Complete Circuit Board, EQ
♦ A-4472-009-A	Complete Circuit Board, LED meter
♦ A-4474-057-A	Complete Circuit Board, switch
♦ 1-588-654-00	Ⓔ Printed Circuit Board, pulse power-supply
♦ 1-588-670-00	Ⓙ Printed Circuit Board, switch
♦ 1-588-671-00	Ⓗ Printed Circuit Board, EQ
♦ 1-588-672-00	Ⓑ Printed Circuit Board, headphone
♦ 1-588-673-00	Ⓝ Printed Circuit Board, power amp
♦ 1-588-675-00	Ⓔ Printed Circuit Board, LED meter
♦ 1-588-676-00	Ⓚ Printed Circuit Board, jumper
♦ 1-588-890-00	Ⓑ Printed Circuit Board, relay
♦ 1-600-172-00	Ⓒ Printed Circuit Board A, shield plate
♦ 1-600-173-00	Ⓑ Printed Circuit Board B, shield plate
♦ 1-600-881-00	Ⓓ Printed Circuit Board, rectifier
♦ 1-601-116-00	Ⓒ Printed Circuit Board, function

ACCESSORIES AND PACKING MATERIALS

Part No.	Description
1-506-113-00	Ⓑ Plug, shorting
2-260-606-00	Ⓑ Bag, plastic; protection
3-701-630-00	Ⓐ Bag, plastic
3-770-687-11	Manual, instruction
4-848-648-01	Ⓒ Bag, plastic
4-861-338-00	Ⓖ Protector
4-861-375-00	Ⓔ Carton
4-861-605-00	Ⓓ Cushion, left
4-861-606-00	Ⓓ Cushion, right
4-861-607-00	Ⓐ Sheet, protection

• Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

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Sony Corporation

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Ref. No.	Part No.		Description		
R636, 637	1-214-610-00	Ⓑ	0.22	2W	metal oxide (nonflammable)
R638, 639	1-247-083-00	Ⓐ	10	¼W	carbon (nonflammable)
R640, 641	1-244-863-00	Ⓐ	390	½W	carbon
R643, 644	1-244-855-00	Ⓐ	180	½W	carbon
R646	1-247-083-00	Ⓐ	10	¼W	carbon (nonflammable)
R647, 648	1-214-610-00	Ⓑ	0.22	2W	metal oxide (nonflammable)
R649	1-214-206-00	Ⓑ	10k	½W	metal oxide
R650	1-206-446-00	Ⓑ	2	2W	metal oxide (nonflammable)
R651	1-206-461-00	Ⓑ	8.2	2W	metal oxide (nonflammable)
R653	1-214-180-00	Ⓐ	100k	¼W	metal oxide
R655	1-244-906-00	Ⓐ	24k	½W	carbon
R656	1-244-883-00	Ⓐ	2.7k	½W	carbon
R657, 658	1-244-900-00	Ⓐ	13k	½W	carbon
R659	1-244-903-00	Ⓐ	18k	½W	carbon
R660	1-244-925-00	Ⓐ	150k	½W	carbon
R661	1-206-673-00	Ⓑ	2.4k	2W	metal oxide
R662	1-244-934-00	Ⓐ	360k	½W	carbon
R663	⚠1-206-662-00	Ⓑ	820	2W	metal oxide
R664	1-244-926-00	Ⓐ	160k	½W	carbon
R666	1-244-865-00	Ⓐ	470	½W	carbon
R681–684	1-214-610-00	Ⓑ	0.22	2W	metal oxide (nonflammable)
R701	⚠1-244-863-00	Ⓐ	390	½W	carbon
R702, 703	1-246-529-00	Ⓐ	220k	¼W	carbon
R704	⚠1-214-602-00	Ⓐ	43k	2W	metal oxide (nonflammable)
R707	⚠1-207-678-00	Ⓑ	10	5W	wirewound (nonflammable)
R709	⚠1-244-891-00	Ⓐ	5.6k	½W	carbon
R801, 802	1-244-889-00	Ⓐ	4.7k	½W	carbon
R803	1-214-103-00	Ⓐ	62	¼W	metal oxide
R804	1-214-621-00	Ⓑ	100	½W	metal oxide
R805	1-244-945-00	Ⓐ	1M	½W	carbon
R806	1-244-913-00	Ⓐ	47k	½W	carbon
R808	1-244-855-00	Ⓐ	180	½W	carbon
R809	1-244-883-00	Ⓐ	2.7k	½W	carbon
R810	1-244-872-00	Ⓐ	910	½W	carbon
R811	1-244-873-00	Ⓐ	1k	½W	carbon
R812	1-214-126-00	Ⓐ	560	¼W	metal oxide
R813	1-214-180-00	Ⓐ	100k	¼W	metal oxide
R814, 815	1-214-627-00	Ⓑ	1M	½W	metal oxide
R816	1-214-208-00	Ⓑ	100k	½W	metal oxide
R851, 852	1-244-889-00	Ⓐ	4.7k	½W	carbon
R853	1-214-103-00	Ⓐ	62	¼W	metal oxide
R854	1-214-621-00	Ⓑ	100	½W	metal oxide
R855	1-244-945-00	Ⓐ	1M	½W	carbon
R856	1-244-913-00	Ⓐ	47k	½W	carbon
R858	1-244-855-00	Ⓐ	180	½W	carbon
R859	1-244-883-00	Ⓐ	2.7k	½W	carbon
R860	1-244-872-00	Ⓐ	910	½W	carbon
R861	1-244-873-00	Ⓐ	1k	½W	carbon
R862	1-214-126-00	Ⓐ	560	¼W	metal oxide
R863	1-214-180-00	Ⓐ	100k	¼W	metal oxide
R864, 865	1-214-627-00	Ⓑ	1M	½W	metal oxide
R866	1-214-208-00	Ⓑ	100k	½W	metal oxide
R901	⚠1-211-514-00	Ⓐ	47	¼W	carbon (nonflammable)
R902	⚠1-211-520-00	Ⓐ	82	¼W	carbon (nonflammable)
R903	⚠1-211-518-00	Ⓐ	68	¼W	carbon (nonflammable)
R904	⚠1-211-528-00	Ⓐ	180	¼W	carbon (nonflammable)
R905–908	⚠1-206-698-00	Ⓑ	27k	2W	metal oxide (nonflammable)
R909	⚠1-214-595-00	Ⓐ	100k	1W	metal oxide (nonflammable)
R910	⚠1-214-597-00	Ⓑ	100k	2W	metal oxide (nonflammable)
R911	⚠1-202-729-00	Ⓐ	6.8M	½W	composition
R913	⚠1-214-595-00	Ⓐ	100k	1W	metal oxide (nonflammable)
R914	⚠1-211-945-00	Ⓐ	2.2k	¼W	carbon (nonflammable)
R915	⚠1-211-526-00	Ⓐ	150	¼W	carbon (nonflammable)
R916	⚠1-211-534-00	Ⓐ	330	¼W	carbon (nonflammable)
R918	⚠1-244-927-00	Ⓐ	180k	½W	carbon
R919	⚠1-211-553-00	Ⓐ	2.7k	¼W	carbon (nonflammable)
R924	⚠1-217-156-00	Ⓑ	0.22	5W	wirewound
RT820,821	1-224-254-XX	Ⓑ	47k, adjustable; LED METER		
RT901	⚠1-224-642-XX	Ⓑ	1k, adjustable; DC VOLTAGE		
RV201	⚠1-224-247-XX	Ⓑ	100k, adjustable; MAXIMUM INPUT LEVEL (L)		
RV251	1-224-247-XX	Ⓑ	100k, adjustable; MAXIMUM INPUT LEVEL (R)		
RV501, 601	1-224-247-11	Ⓑ	100k, adjustable; DC BALANCE		
RV502, 602	1-224-251-11	Ⓑ	4.7k, adjustable; IDLING CURRENT		

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Ref. No.	Part No.	Description
RV801,851	1-226-446-00	Ⓗ 100k, variable; CARTRIDGE LOAD
RV802,852	1-226-447-00	Ⓖ 100k, variable; BALANCE
RV803,853	1-226-450-00	Ⓚ 100k, variable; ATTENUATOR
RV804,854	1-226-449-00	Ⓔ 10k-A, variable; TREBLE
RV805,855	1-226-448-00	Ⓔ 10k-A, variable; BASS

SWITCHES

S1	1-552-722-00	Ⓓ Lever-slide, PHONO
S2	1-552-720-00	Ⓕ Rotary-slide, HEAD AMP
S3	1-552-722-00	Ⓓ Lever-slide, LOW FILTER
S4	1-552-716-00	Ⓖ Pushbutton, FUNCTION
S5	1-552-717-00	Ⓖ Pushbutton, MONITOR
S6	1-552-721-00	Ⓔ Rotary-slide, TAPE COPY
S7	1-552-722-00	Ⓓ Lever-slide, MODE
S8	1-552-718-00	Ⓔ Pushbutton, TONE
S9	1-552-721-00	Ⓔ Rotary-slide, SPEAKERS
S10	⚠1-552-975-00	Ⓔ Rotary, POWER

MISCELLANEOUS

CNJ001	⚠1-551-238-00	Ⓙ Cord, power
CR201,251	1-231-418-00	Ⓐ Encapsulated Component
F701	⚠1-532-325-00	Ⓑ Fuse, 6.3A
F702	⚠1-532-556-00	Ⓑ 147°C, thermal
J801–808, J851–858	1-507-629-00	Ⓔ Jack, phono 4P; TUNER, AUX, TAPE 1, 2, REC OUT 1, 2 PHONO 1, 2
PJ001	1-507-553-00	Ⓒ Jack, HEADPHONES
RY501,502	1-515-257-00	Ⓘ Relay
RY701	⚠1-515-347-00	Ⓕ Relay
RY702	1-515-328-00	Ⓖ Relay
TH601	1-800-427-00	Ⓑ Thermistor, positive
TM001,002	1-536-571-00	Ⓒ Terminal, 4P; SPEAKER A, B
VC801,851	1-141-218-00	Ⓕ Capacitor, trimmer; CARTRIDGE LOAD pF
	⚠1-533-131-00	Ⓐ Holder, fuse
	⚠1-543-098-00	Ⓑ Core (for T2)
	⚠1-543-100-00	Ⓑ Core (for T2)

Part No.	Description
♦ A-4388-166-A	Complete Circuit Board, power amp
♦ A-4394-174-A	Complete Circuit Board, rectifier
♦ A-4394-175-A	Ⓑ Complete Circuit Board, pulse power-supply
♦ A-4409-166-A	Complete Circuit Board, EQ
♦ A-4472-009-A	Complete Circuit Board, LED meter
♦ A-4474-057-A	Complete Circuit Board, switch
♦ 1-588-654-00	Ⓔ Printed Circuit Board, pulse power-supply
♦ 1-588-670-00	Ⓙ Printed Circuit Board, switch
♦ 1-588-671-00	Ⓗ Printed Circuit Board, EQ
♦ 1-588-672-00	Ⓑ Printed Circuit Board, headphone
♦ 1-588-673-00	Ⓝ Printed Circuit Board, power amp
♦ 1-588-675-00	Ⓔ Printed Circuit Board, LED meter
♦ 1-588-676-00	Ⓚ Printed Circuit Board, jumper
♦ 1-588-890-00	Ⓑ Printed Circuit Board, relay
♦ 1-600-172-00	Ⓒ Printed Circuit Board A, shield plate
♦ 1-600-173-00	Ⓑ Printed Circuit Board B, shield plate
♦ 1-600-881-00	Ⓓ Printed Circuit Board, rectifier
♦ 1-601-116-00	Ⓒ Printed Circuit Board, function

ACCESSORIES AND PACKING MATERIALS

Part No.	Description
1-506-113-00	Ⓑ Plug, shorting
2-260-606-00	Ⓑ Bag, plastic; protection
3-701-630-00	Ⓐ Bag, plastic
3-770-687-11	Manual, instruction
4-848-648-01	Ⓒ Bag, plastic
4-861-338-00	Ⓖ Protector
4-861-375-00	Ⓔ Carton
4-861-605-00	Ⓓ Cushion, left
4-861-606-00	Ⓓ Cushion, right
4-861-607-00	Ⓐ Sheet, protection

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