

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 $\frac{3}{8}$ (h) x 16 $\frac{1}{4}$ (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:	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 $\begin{matrix} +0 \\ -1 \end{matrix}$ dB
Residual Noise:	Less than 100 μ V (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

Inputs:

	PHONO 1, 2 (HEAD AMP selector)			TUNER, AUX, TAPE 1, 2
	PASS	40 Ω	3 Ω	
Sensitivity	2.5mV	0.125mV	0.125mV	150mV
Impedance	100 Ω – 100k Ω	100 Ω	33 Ω	50k Ω
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 k Ω
SPEAKER A, B
Accepts speakers of 8 – 16 Ω
HEADPHONES
Accepts low and high impedance
headphones.

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

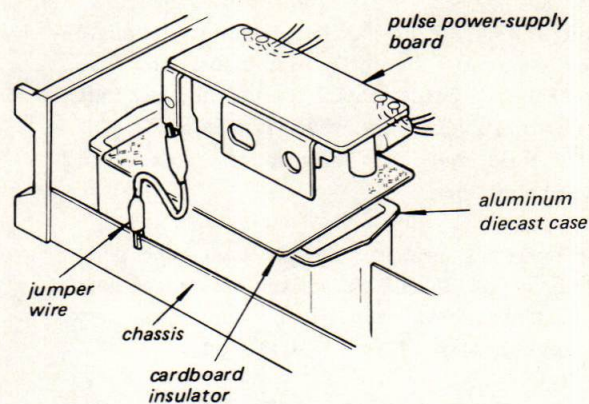
Low Filter: 12 dB/octave attenuation below 15 Hz
(operative only for phono input signals)

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.

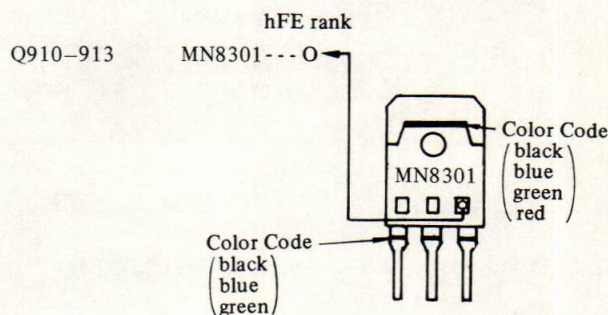
- To prevent unwanted radiation due to pulse signals in the pulse power-supply circuit, the pulse power-supply board is shielded by the aluminum diecast box.
- The negative circuit of the secondary rectifier in the pulse power-supply circuit is grounded by screws in the aluminum diecast box. When checking the pulse power-supply board out of the box, use a jumper wire and a cardboard insulator as shown on the right.



-
- Take care that electrolytic capacitor C704 which is used after the rectification of ac power source 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.

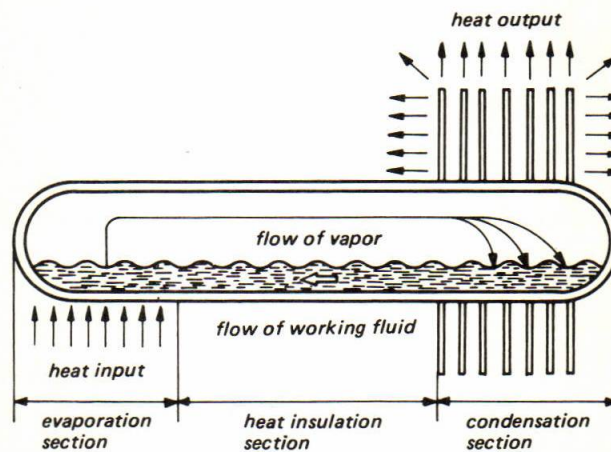


Fig. 1

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 terminals 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.

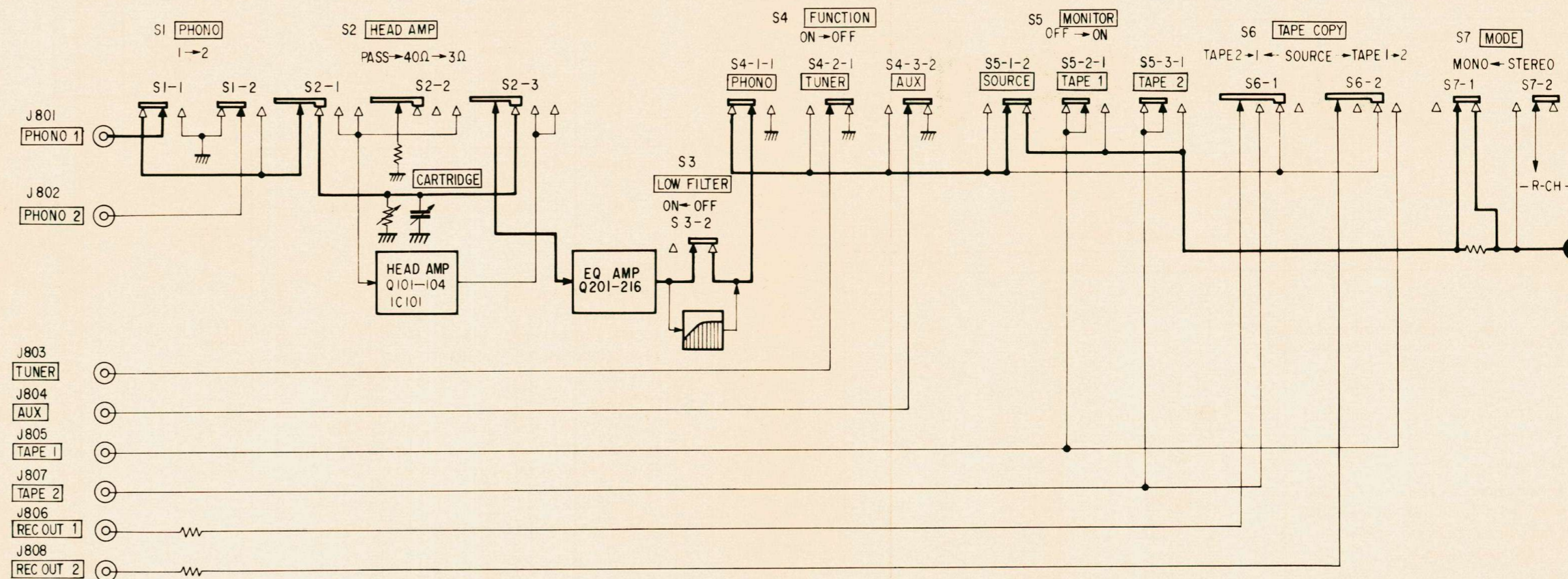
6. With the POWER switch turned on, the LED D823 (D873) which indicates the lowest output level is always lit because this cathode is grounded through the resistor.

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.

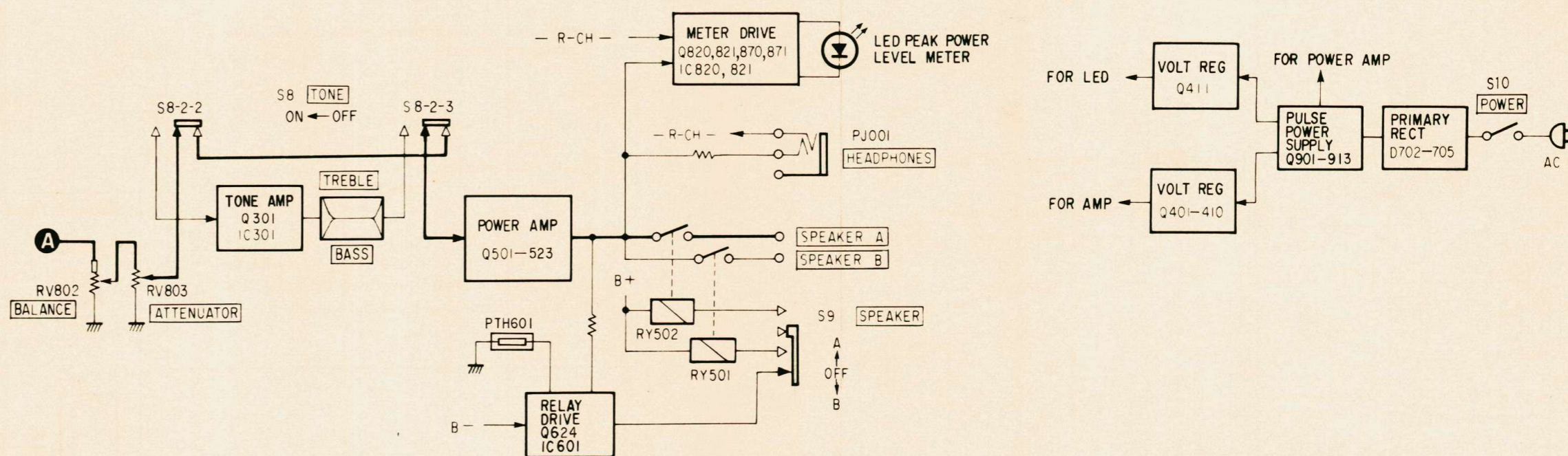
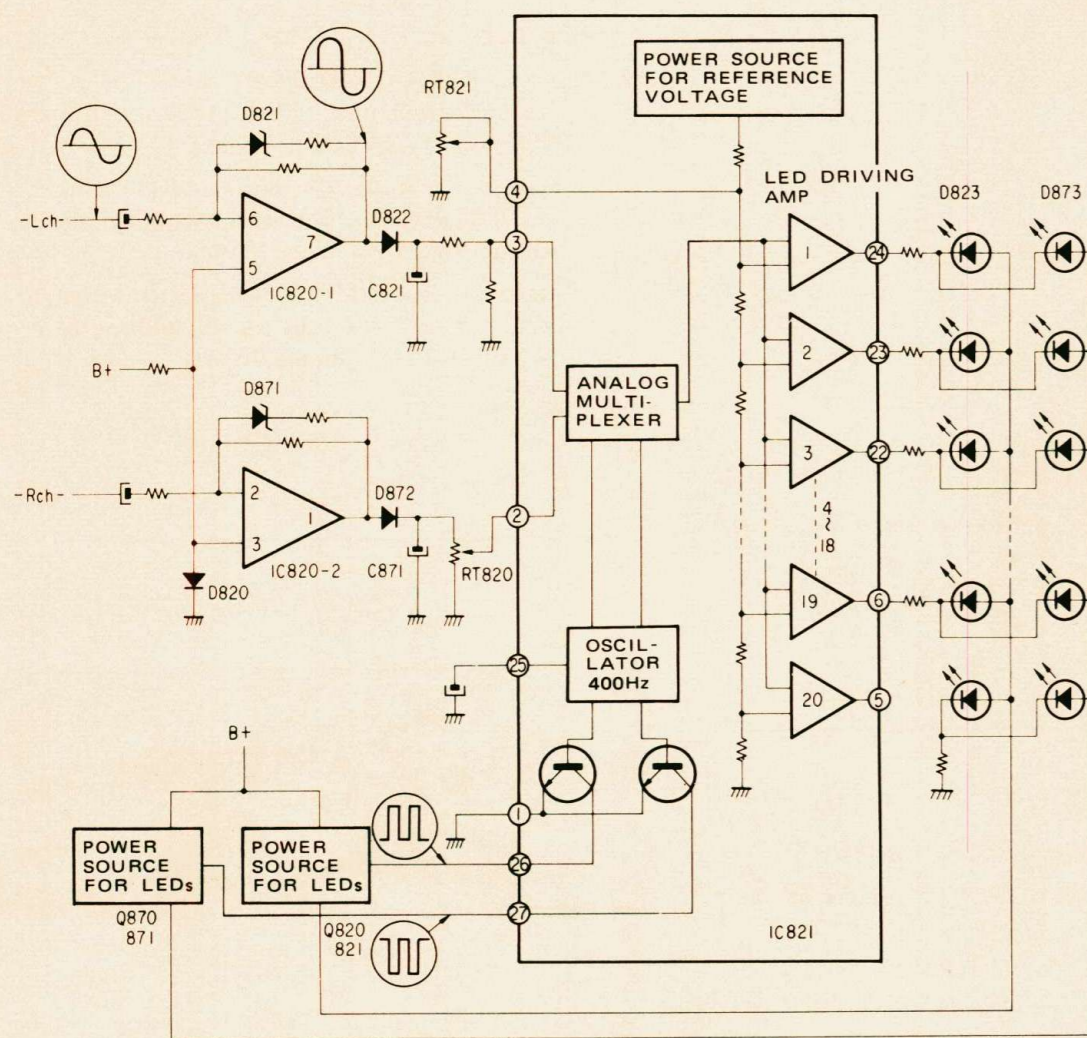
8. The digital signals are converted back into the analog signals by using 400 Hz signal generated in the internal oscillator at the analog multiplexer, and the signals are applied to the LED-driving amplifiers.

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



- J803 TUNER
- J804 AUX
- J805 TAPE 1
- J807 TAPE 2
- J806 REC OUT 1
- J808 REC OUT 2



• 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 1
- Top Cover (L) Removal 2, 3
- Bottom Plate Removal 4

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.

- 1 Remove two top covers (big one and small one).
- 2 Turn the set up side down.
- 3 Loosen the setscrews by using an L-shaped wrench from the bottom with the panel lid half-open and remove the knobs.
- 4 BVTT 3 x 6 L-shaped wrench (1.5 mm dia.)
- 5 BVTT 3 x 6
- 6 Lay down the front panel block in the direction shown by the arrow P with the two side plates slightly open.
- 7 Remove the five screws. (Be careful not to damage the flat cable board.)
- 8 Pull off the front panel from the front sub-chassis.
- 9 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 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.

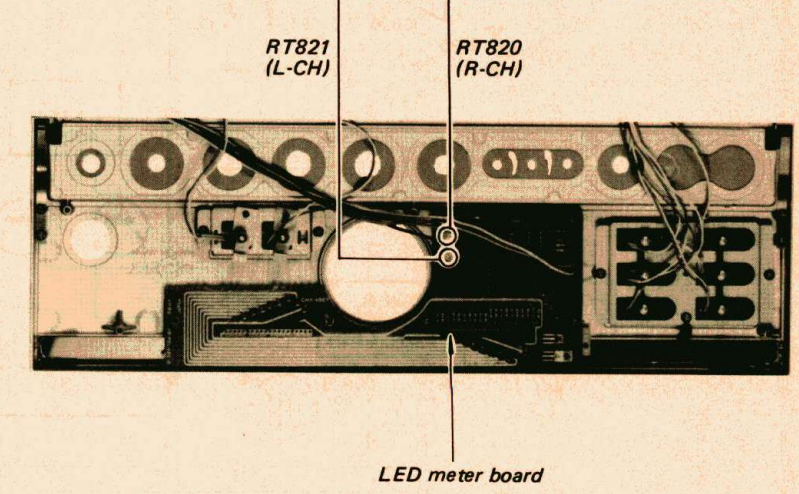
LED Meter Adjustment

Settings:

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

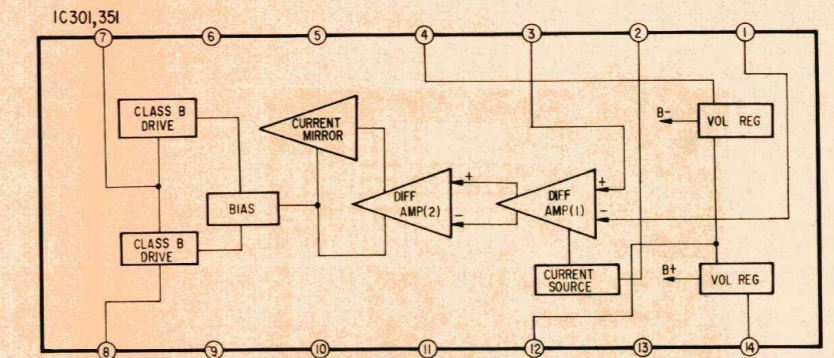
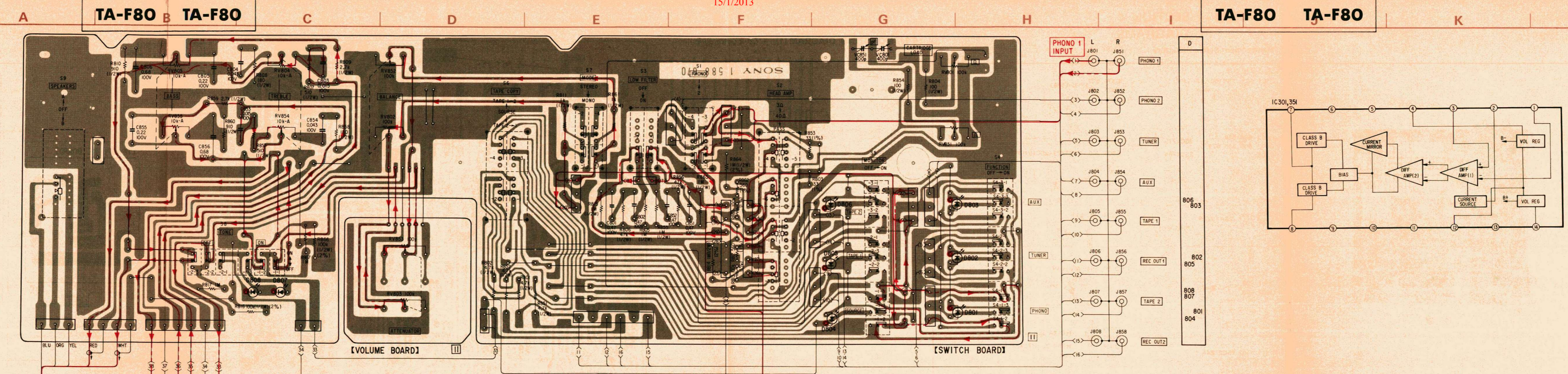
Procedure:

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 attenuator for 0.283 V on the VOM.

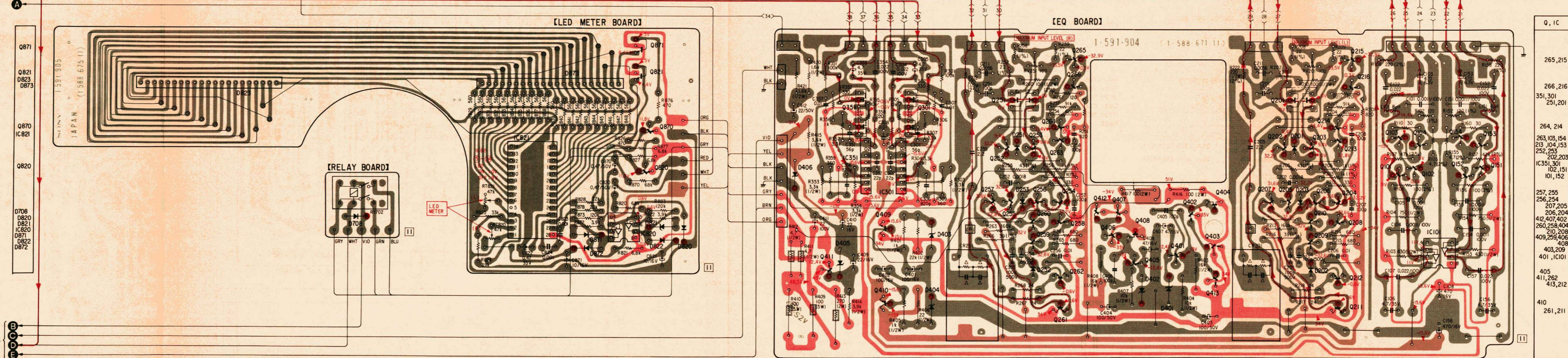


Replacement Semiconductors
 For replacement, use semiconductors except in ().

- Q101, 102 : 2SC2014
Q151, 152 : 2SC2014
- Q103, 153 : 2SD666A (2SD666)
- Q104, 154, 202, 203 : 2SC1775
Q208-210, 252, 253 : 2SC1775
Q258-260, 215, 216 : 2SC1775
Q265, 266, 401, 402 : 2SC1775
Q412 : 2SC1775
- Q201, 251 : 2SK67
Q301, 351 : 2SK150A (2SK150)
- Q204, 205, 212 : 2SA964A
Q254, 255, 262 : 2SA964A
- Q206, 207, 213 : 2SA872
Q256, 257, 263 : 2SA872
Q214, 264, 405 : 2SA872
Q406 : 2SA872
- Q211, 261 : 2SC2224A
- Q403, 413 : 2SD760 (2SD759)
- Q404, 408 : 2SK30A
- Q407, 412 : 2SB720 (2SB719)
- Q409, 411 : 2SD669A (2SD669)
Q821, 871 : 2SD669A (2SD669)
- Q410 : 2SB649A (2SB649)
- Q820, 870 : 2SA1027R (2SA1015)
- D202, 203 : MV203V
D252, 253 : MV203V
- D401, 402, 405, 406 : HZ12A-3L (HZ12A-2L)
D403, 404 : HZ16-3L (HZ16-2L)
- D504, 604 : SV04S
- D801-808 : D820, 822 : 1S1555
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.
 - : B- pattern.
 - : Signal Path
 - : L-CH
 - : R-CH
 - 1% indicates component tolerance.



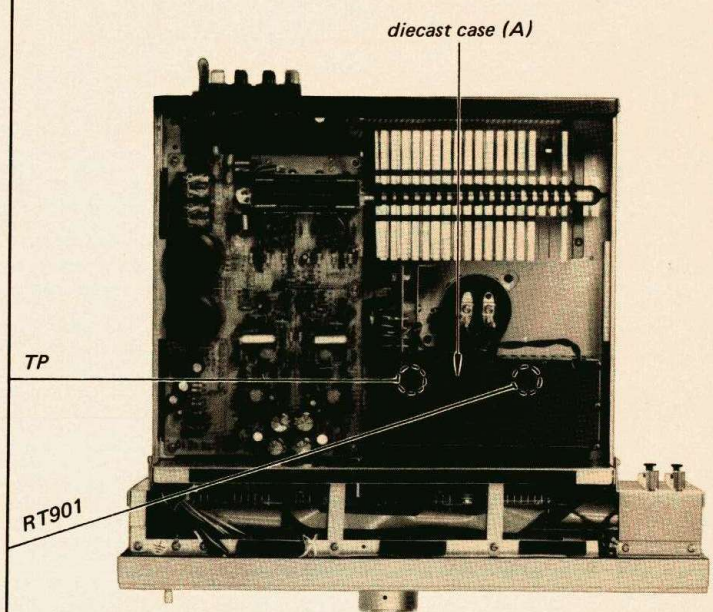
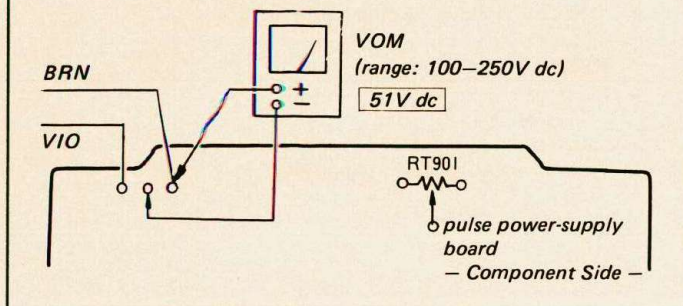
Q, IC	D
265, 215	
266, 216	
351, 301	
251, 201	
264, 214	
263, 103, 154	251, 201
213, 104, 153	
252, 253	
202, 203	
IC351, 301	406
102, 151	
101, 152	
257, 255	
256, 254	
207, 205	253, 203
206, 204	
412, 407, 402	403
260, 258, 404	
210, 208	
409, 259, 406	408
403, 209	
401, IC101	
405	405
411, 262	252, 202
413, 212	
410	402, 401
261, 211	404

TA-F80 TA-F80 SECTION 4 DIAGRAMS

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.

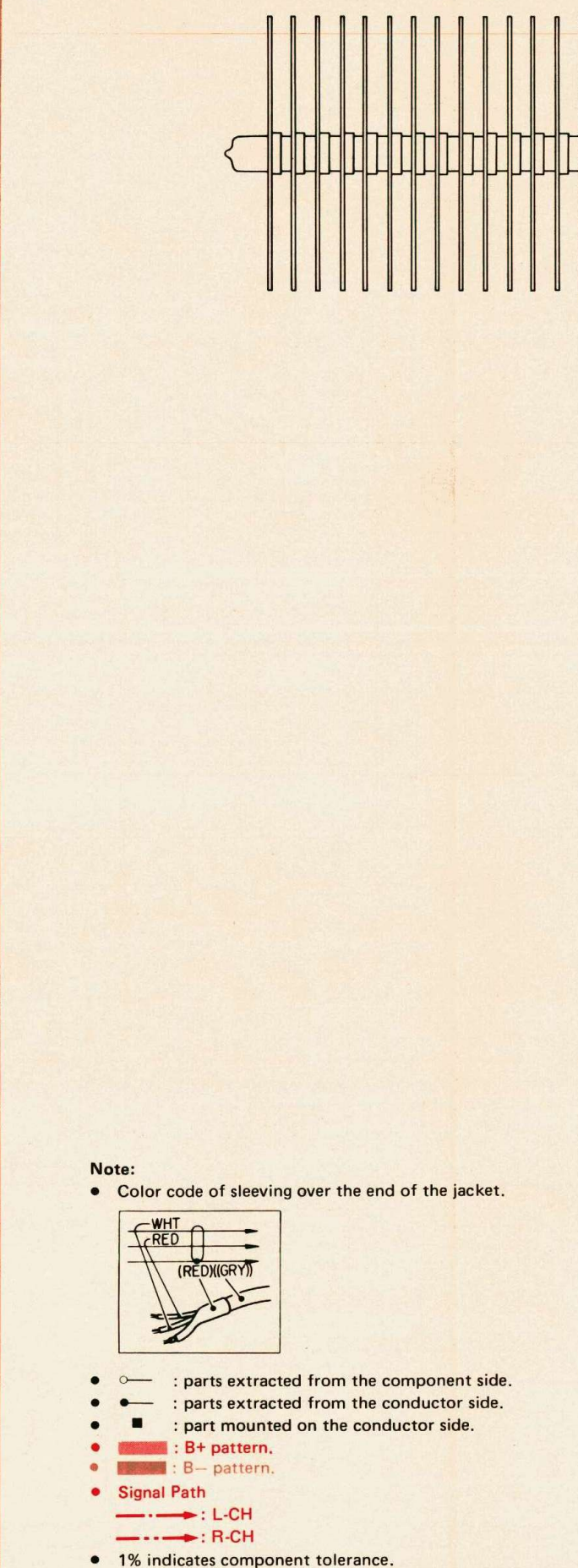


Replacement Semiconductors

For replacement, use semiconductors except in ().

Table listing replacement semiconductors for various components (Q501-517, Q601-617, Q901-913, D501-508, D601-608, D701-706, D901-906, IC601) with their respective part numbers and pin configurations.

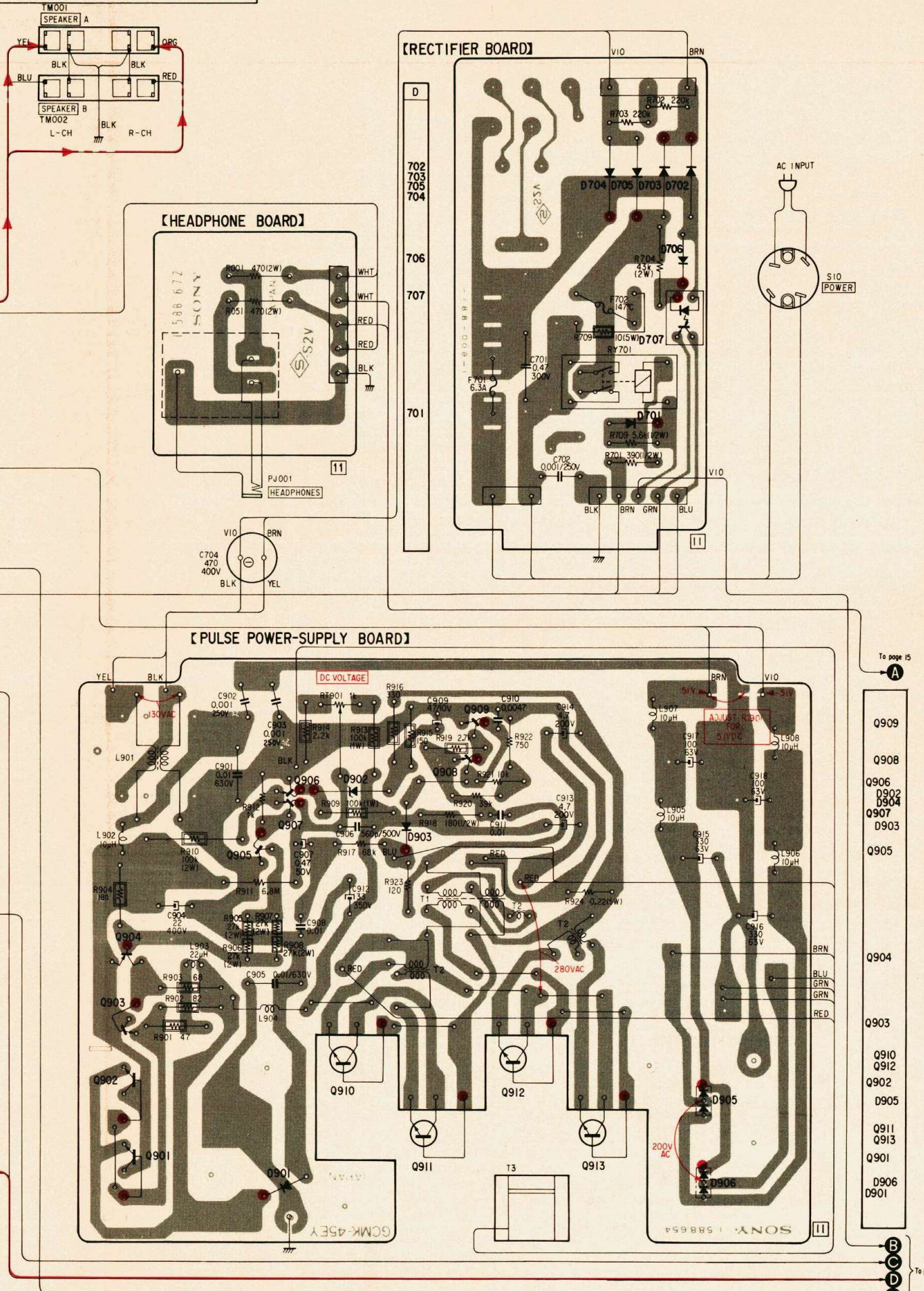
4-1. MOUNTING DIAGRAM (1) - Conductor Side -



- Note: Color code of sleeving over the end of the jacket. Legend for signal paths (L-CH, R-CH) and component extraction (parts from component side, conductor side, or mounted on conductor side).

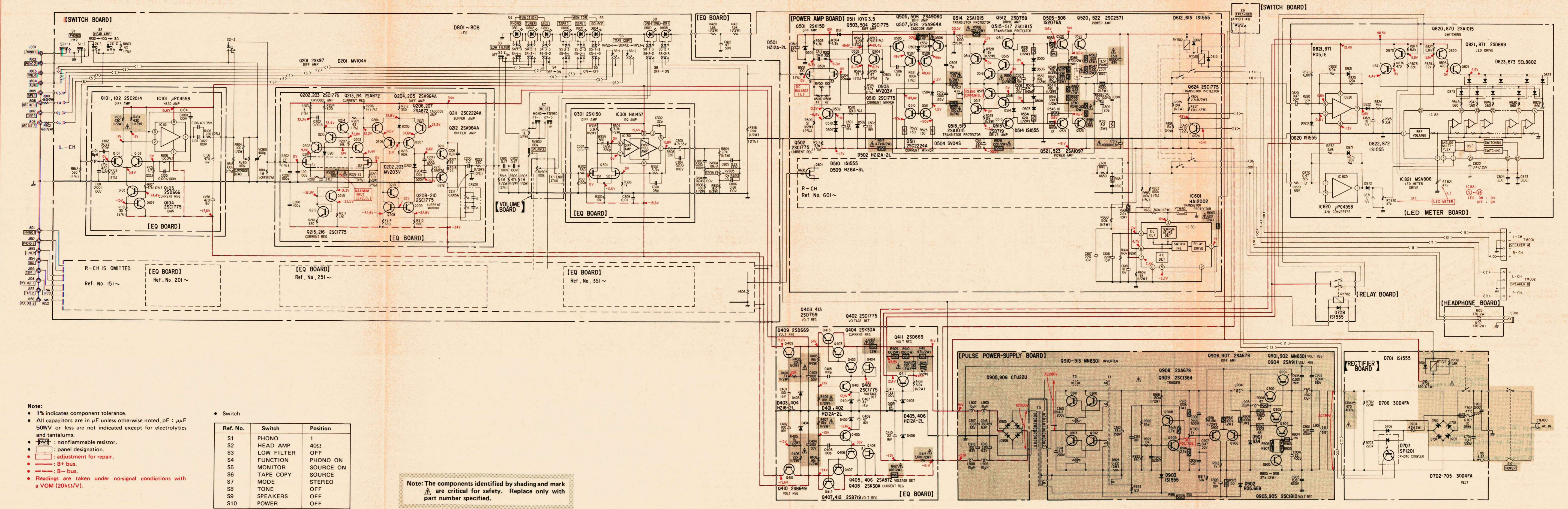
Component list table with columns for component type (Q, IC, D), part numbers, and IC601 pin numbers.

TA-F80 TA-F80



TA-F80 TA-F80 TA-F80 TA-F80

4.3. SCHEMATIC DIAGRAM



- Note:**
- 1% indicates component tolerance.
 - All capacitors are in μF unless otherwise noted. $\text{pF} = \mu\text{F} \cdot 10^{-6}$
 - **□** : nonflammable resistor.
 - **□** : panel designation.
 - **□** : adjustment for repair.
 - **+** : B+ bus.
 - **-** : B- bus.
 - Readings are taken under no-signal conditions with a VOM (20k Ω /V).

Ref. No.	Switch	Position
S1	PHONO	1
S2	HEAD AMP	40 Ω
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.

SECTION 5 EXPLODED VIEWS

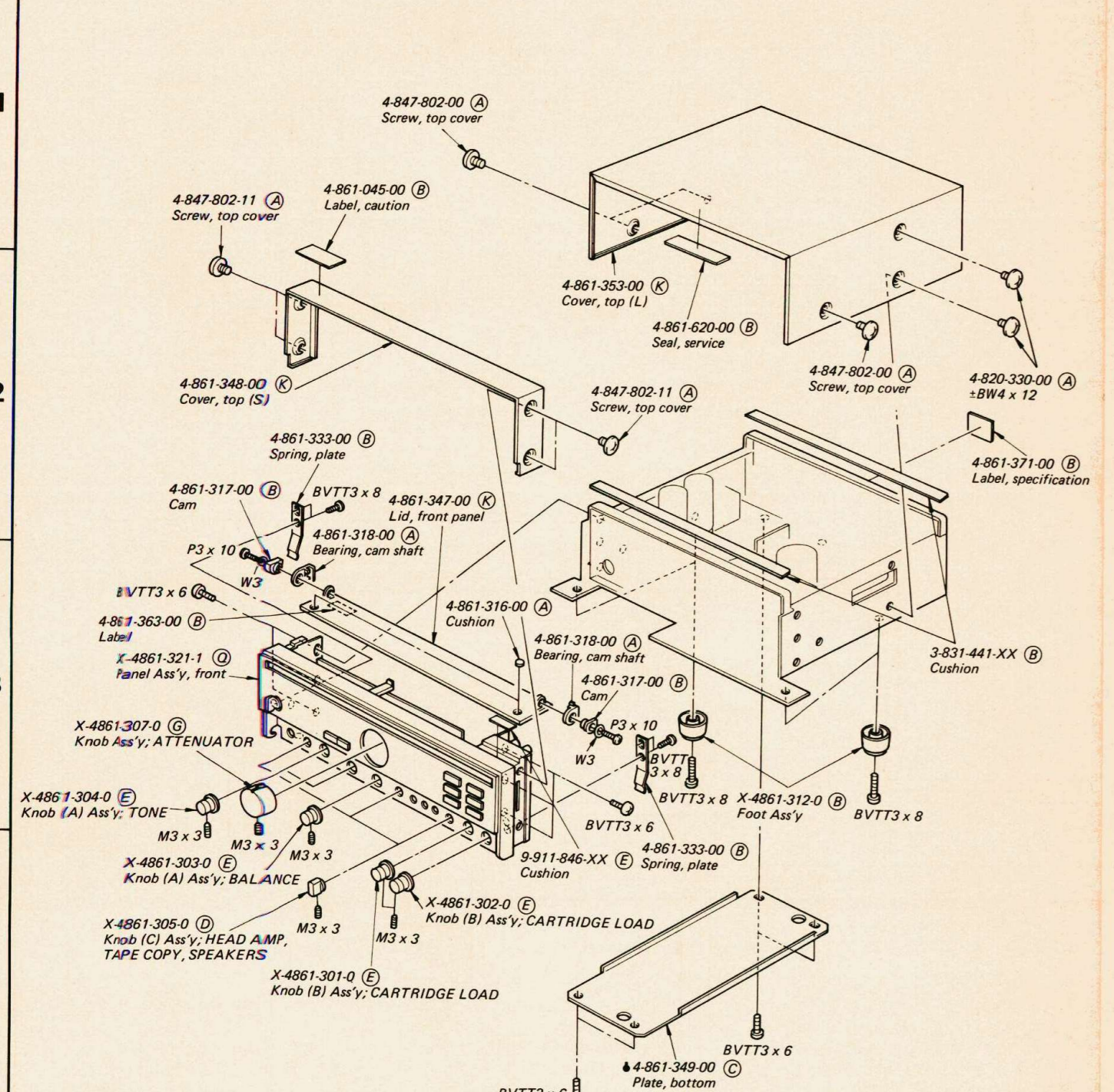
TA-F80 TA-F80

TA-F80 TA-F80

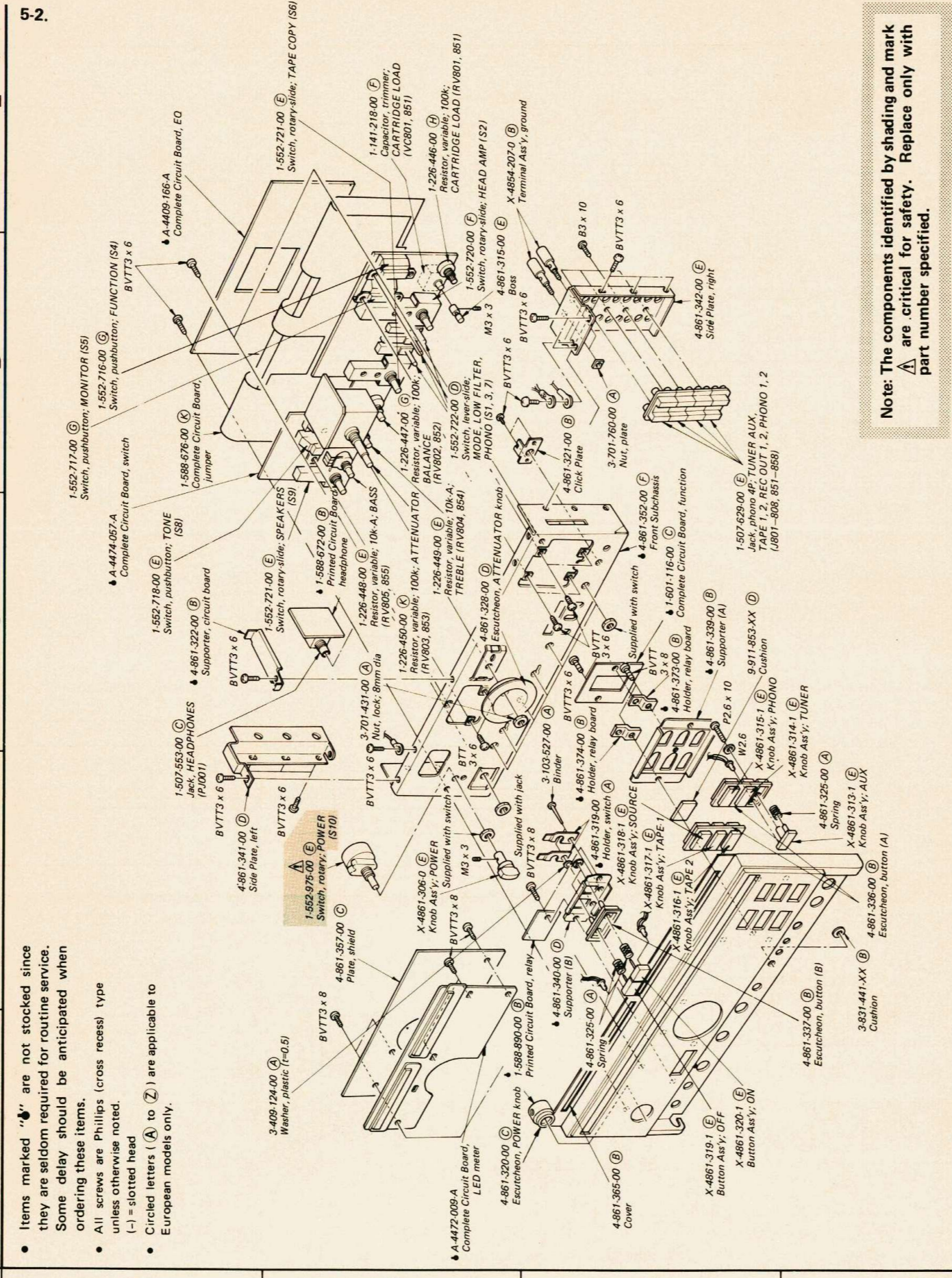
SECTION 6 ELECTRICAL PARTS LIST

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

5-1.



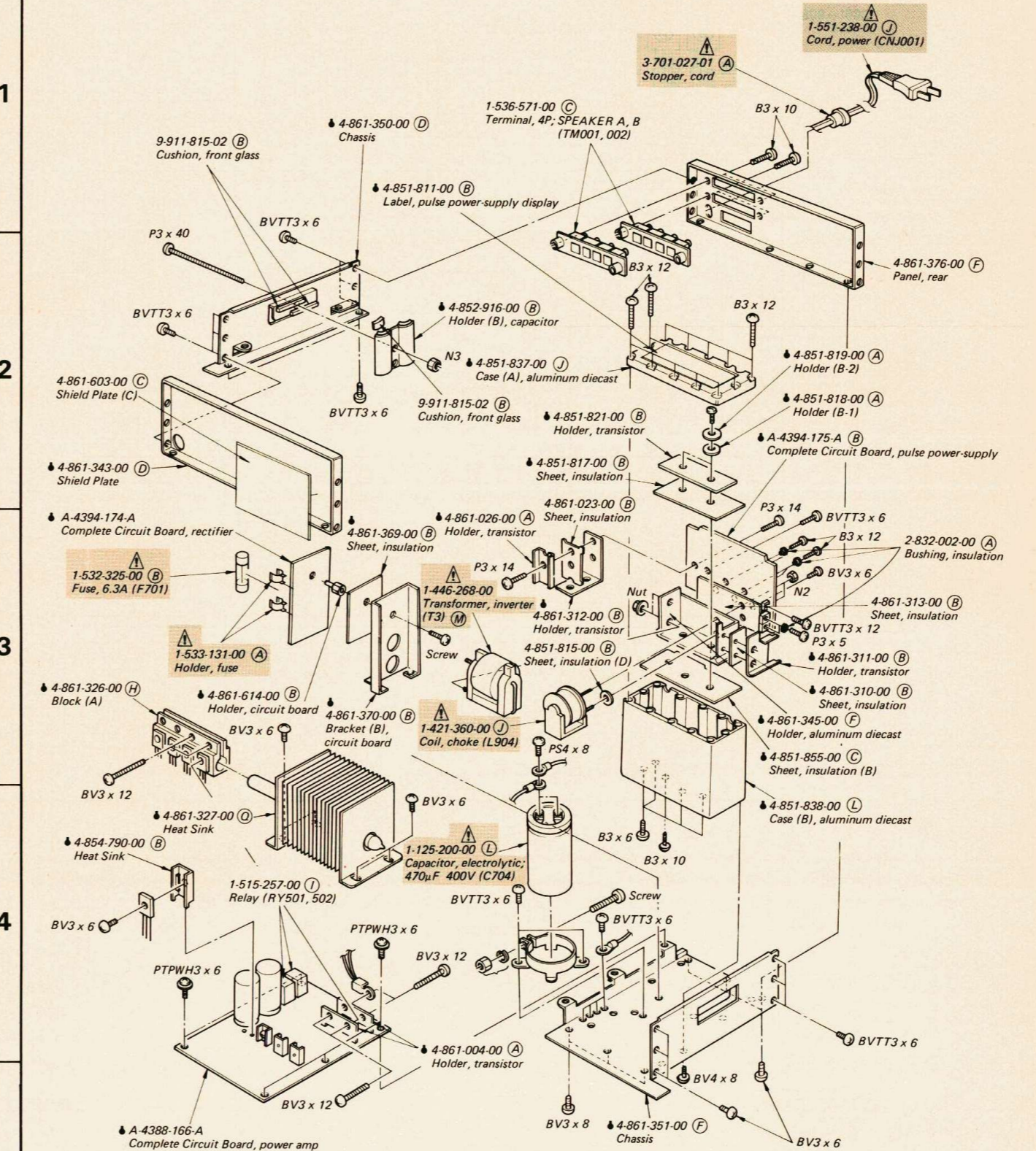
- Items marked "A" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
All screws are Phillips (cross recess) type unless otherwise noted. (-) = slotted head
Circled letters (A to Z) are applicable to European models only.



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

- Items marked "A" 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 (A to Z) are applicable to European models only.

5-3.



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

- Items marked "A" 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 (A to Z) are applicable to European models only.

Table with columns: Ref. No., Part No., Description, Ref. No., Part No., Description. Lists various electronic components like transistors, capacitors, and resistors.

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

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

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

Ref. No. Part No. Description

Diodes

D201, 251	8-719-910-40	(B) MV104V
D202, 252	8-719-920-30	(B) MV203V
D203, 253		
⇒ D401, 402	8-719-910-23	(B) HZ12A3L
⇒ D403, 404	8-719-901-63	(B) HZ16-3L
⇒ D405, 406	8-719-910-23	(B) HZ12A-3L
⇒ D501, 601	8-719-910-23	(B) HZ12A-3L
⇒ D502, 602		
D503, 603	8-719-920-30	(B) MV203V
D504, 604	8-719-300-11	(C) SV04S
D505, 605	8-719-923-76	(B) 1S2076A
D508, 608		
⇒ D509, 609	8-719-910-63	(B) HZ6A-3L
D510, 610	8-719-815-55	(B) 1S1555
D511, 611	8-719-210-35	(C) 10YG3.5
D514	8-719-815-55	(B) 1S1555
D612, 613		
D701	(A) 8-719-815-55	(B) 1S1555
⇒ D702-705	(A) 8-719-911-55	(C) U05G
⇒ D706	8-719-911-55	(C) U05G
D707	8-719-902-01	(D) SPI201
D708	8-719-815-55	(B) 1S1555
D801-808	1-518-360-00	(C) LED
D820	8-719-815-55	(B) 1S1555
D821, 871	8-719-151-77	(B) RD5.1E
D822, 872	8-719-815-55	(B) 1S1555
D823, 873	8-719-388-02	(K) SEL8802

D901	(A) 8-719-303-41	(D) S34
D902	(A) 8-719-156-25	(B) RD5.6E-B2Z
D903	(A) 8-719-815-55	(B) 1S1555
D905, 906	(A) 8-719-300-22	(D) CTU22U

COILS AND TRANSFORMERS

L101, 151	1-409-519-00	(B) Microinductor, 8μH
● L501, 601	1-420-862-00	(B) Coil
L901	(A) 1-421-340-00	(E) Line Filter
L902	(A) 1-421-329-00	(B) Choke, 10μF
L903	(A) 1-407-161-XX	(B) Microinductor, 22μH
L904	(A) 1-421-360-00	(J) Choke
L905-908	(A) 1-421-329-00	(B) Choke, 10μH

⇒: 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.

Ref. No. Part No. Description

T1	(A) 1-446-269-00	(L) Transformer
T3	(A) 1-446-268-00	(M) 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	(B) 0.0011	100V	film
C102	1-130-212-00	(B) 0.022	100V	film
C103	1-123-452-00	(B) 470	6.3V	elect
C104, 105	1-130-209-00	(B) 0.0011	100V	film
C106	1-123-453-00	(B) 4.7	35V	elect
C107	1-130-212-00	(B) 0.022	100V	film
C108	1-121-426-00	(B) 470	16V	elect
C151	1-130-209-00	(B) 0.0011	100V	film
C152	1-130-212-00	(B) 0.022	100V	film
C153	1-123-452-00	(B) 470	6.3V	elect
C154, 155	1-130-209-00	(B) 0.0011	100V	film
C156	1-123-453-00	(B) 4.7	35V	elect
C157	1-130-212-00	(B) 0.022	100V	film
C158	1-121-426-00	(B) 470	16V	elect
C201	1-130-701-00	(B) 100p		styrol
C202	1-130-731-00	(B) 0.0018		styrol
C203, 204	1-109-673-00	(B) 100p	500V	mica
C205	1-130-208-00	(E) 2.2		polyethylene
C206	1-101-004-00	(A) 0.01		(nonpolarized)
C207, 208	1-102-973-00	(A) 100p		
C211	1-104-095-00	(B) 0.0056		styrol
C251	1-103-701-00	(B) 100p		styrol
C252	1-103-731-00	(B) 0.0018		styrol
C253, 254	1-109-673-00	(B) 100p	500V	mica
C255	1-130-208-00	(E) 2.2		polyethylene
C256	1-101-004-00	(A) 0.01		(nonpolarized)
C257, 258	1-102-973-00	(A) 100p		
C261	1-104-095-00	(B) 0.0056		styrol
C301	1-107-079-00	(B) 56p		mica
C302	1-107-069-00	(B) 22p		mica
C304	1-130-212-00	(B) 0.022	100V	film

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

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

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
C305	1-123-453-00	(B) 4.7 35V elect	C606	1-107-062-00	(B) 11p mica
C306	1-102-117-00	(A) 820p	C607, 608	1-121-395-00	(B) 4.7 25V elect
C307, 308	1-101-004-00	(A) 0.01 (nonpolarized)	C609	1-107-068-00	(B) 20p mica
C351	1-107-079-00	(B) 56p mica	C610	1-130-212-00	(B) 0.022 100V film
C352	1-107-069-00	(B) 22p mica	C611	1-109-691-00	(D) 560p 500V mica
C354	1-130-212-00	(B) 0.022 100V film	C612	1-121-152-00	(B) 22 50V elect
C355	1-123-453-00	(B) 4.7 35V elect	C613, 614	1-123-262-00	(B) 1000 63V elect
C356	1-102-117-00	(A) 820p	C615	1-104-129-00	(C) 0.015 125V styrol
C357	1-101-004-00	(A) 0.01 (nonpolarized)	C616, 617	1-121-420-00	(B) 220 10V elect
C401, 402	1-121-415-00	(B) 100 16V elect	C618	1-121-651-00	(B) 10 16V elect
C403, 404	(A) 1-121-417-00	(B) 100 50V elect	C620	1-121-126-00	(B) 10 100V elect
C405, 406	1-161-271-00	(A) 100p	C630	1-130-213-00	(B) 0.043 100V film
C407, 408	1-121-409-00	(B) 47 16V elect	C631	1-107-169-00	(B) 100p 500V silvered mica
C409, 410	1-121-479-00	(B) 22 16V elect	C632	1-107-085-00	(B) 100p mica
C411	1-123-385-00	(B) 22 100V elect	C701	(A) 1-130-342-00	(C) 0.47 300V film
C412	1-121-411-00	(B) 47 50V elect	C702	(A) 1-102-222-00	(B) 0.001 250V
C501, 502	1-121-479-00	(B) 22 16V elect	C704	(A) 1-125-200-00	(L) 470 400V elect
C503	1-107-104-00	(A) 7p mica	C801, 802	1-130-086-00	(B) 0.47 100V film
C504	1-107-068-00	(B) 20p mica	C803	1-130-210-00	(B) 0.015 100V film
C505	1-107-104-00	(A) 7p mica	C804	1-130-213-00	(B) 0.043 100V film
C506	1-107-062-00	(B) 11p mica	C805	1-130-085-00	(B) 0.22 100V film
C507, 508	1-121-395-00	(B) 4.7 25V elect	C806	1-130-220-00	(C) 0.68 100V film
C509	1-107-068-00	(B) 20p mica	C820	1-121-726-00	(B) 0.47 50V elect
C510	1-130-212-00	(B) 0.022 100V polyethylene	C821	1-121-651-00	(B) 10 16V elect
C511	1-109-691-00	(D) 560p 500V mica	C822	1-131-213-00	(B) 0.47 35V tantalum
C512	1-121-152-00	(B) 22 50V elect	C823, 824	1-102-074-00	(A) 0.001
C511, 512	(A) 1-125-187-00	(K) 1000/1000 63V elect	C851, 852	1-130-086-00	(B) 0.47 100V film
C513, 514	1-123-262-00	(B) 1000 63V elect	C853	1-130-210-00	(B) 0.015 100V film
C515	1-104-129-00	(C) 0.015 125V styrol	C854	1-130-213-00	(B) 0.043 100V film
C530	1-130-213-00	(B) 0.043 100V film	C855	1-130-085-00	(B) 0.22 100V film
C531	1-107-169-00	(B) 100p 500V silvered mica	C856	1-130-220-00	(C) 0.68 100V film
C532	1-107-085-00	(B) 100p mica	C870	1-121-726-00	(B) 0.47 50V elect
C601, 602	1-121-479-00	(B) 22 16V elect	C871	1-121-651-00	(B) 10 16V elect
C603	1-107-104-00	(A) 7p mica	C901	(A) 1-130-141-00	(B) 0.01 630V film
C604	1-107-068-00	(B) 20p mica	C902, 903	(A) 1-102-222-00	(B) 0.001 250V
C605	1-107-104-00	(A) 7p mica	C904	(A) 1-123-402-00	(C) 22 400V elect
			C905	(A) 1-130-141-00	(B) 0.01 630V film

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

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

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

RESISTORS

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

R001	1-206-656-00 (B) 470	2W metal oxide
R051	1-206-656-00 (B) 470	2W metal oxide
R102	1-214-110-00 (A) 120	¼W metal oxide
R103, 104	⚠1-244-864-00 (A) 430	½W carbon
R105	1-214-611-00 (A) 4.7	¼W metal oxide
R106	1-214-615-00 (A) 100	¼W metal oxide
R107	1-214-617-00 (A) 47k	¼W metal oxide
R108	1-214-116-00 (A) 220	¼W metal oxide
R110	1-214-612-00 (A) 30	¼W metal oxide
R152	1-214-110-00 (A) 120	¼W metal oxide
R153, 154	1-244-864-00 (A) 430	½W carbon
R155	1-214-611-00 (A) 4.7	¼W metal oxide
R156	1-214-615-00 (A) 100	¼W metal oxide
R157	1-214-617-00 (A) 47k	¼W metal oxide
R158	1-214-116-00 (A) 220	¼W metal oxide
R160	1-214-612-00 (A) 30	¼W metal oxide
R202	1-214-092-00 (A) 22	¼W metal oxide
R203	1-214-616-00 (A) 1k	¼W metal oxide
R205	1-214-614-00 (A) 43	¼W metal oxide
R206	1-214-616-00 (A) 1k	¼W metal oxide
R208, 209	1-214-092-00 (A) 22	¼W metal oxide

Ref. No.	Part No.	Description
R210	1-214-621-00 (B) 100	½W metal oxide
R216	1-214-613-00 (A) 39	¼W metal oxide
R222	1-214-622-00 (B) 220	½W metal oxide
R252	1-214-092-00 (A) 22	¼W metal oxide
R253	1-214-616-00 (A) 1k	¼W metal oxide
R255	1-214-614-00 (A) 43	¼W metal oxide
R256	1-214-616-00 (A) 1k	¼W metal oxide
R258, 259	1-214-092-00 (A) 22	¼W metal oxide
R260	1-214-621-00 (B) 100	½W metal oxide
R266	1-214-613-00 (A) 39	¼W metal oxide
R272	1-214-622-00 (B) 220	½W metal oxide
R303, 304	1-244-885-00 (A) 3.3k	½W carbon
R353, 354	1-244-885-00 (A) 3.3k	½W carbon
R401	⚠1-244-873-00 (A) 1k	½W carbon
R402	⚠1-244-905-00 (A) 22k	½W carbon
R403	⚠1-244-902-00 (A) 16k	½W carbon
R404	⚠1-244-897-00 (A) 10k	½W carbon
R405	⚠1-244-873-00 (A) 1k	½W carbon
R406	⚠1-244-905-00 (A) 22k	½W carbon
R407	⚠1-244-897-00 (A) 10k	½W carbon
R408	⚠1-244-902-00 (A) 16k	½W carbon
R409, 410	⚠1-217-310-00 (B) 100	5W wirewound (nonflammable)
R411, 412	⚠1-247-188-00 (A) 4.7	½W carbon (nonflammable)
R413	⚠1-206-650-00 (B) 270	2W metal oxide (nonflammable)
R414	1-244-887-00 (A) 3.9k	½W carbon
R415	⚠1-244-886-00 (A) 3.6k	½W carbon
R416, 417	⚠1-206-640-00 (B) 100	2W metal oxide
R420, 421	1-244-878-00 (A) 1.6k	½W carbon
R502	1-214-108-00 (A) 100	¼W metal oxide
R503, 504	1-214-147-00 (A) 4.3k	¼W metal oxide
R505	1-214-115-00 (A) 200	¼W metal oxide
R506	⚠1-247-200-00 (A) 22	½W carbon (nonflammable)
R507, 508	1-214-100-00 (A) 47	¼W metal oxide

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

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

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

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

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

Ref. No.	Part No.	Description
R636, 637	1-214-610-00 (B) 0.22 2W	metal oxide (nonflammable)
R638, 639	1-247-083-00 (A) 10 ¼W	carbon (nonflammable)
R640, 641	1-244-863-00 (A) 390 ½W	carbon
R643, 644	1-244-855-00 (A) 180 ½W	carbon
R646	1-247-083-00 (A) 10 ¼W	carbon (nonflammable)
R647, 648	1-214-610-00 (B) 0.22 2W	metal oxide (nonflammable)
R649	1-214-206-00 (B) 10k ½W	metal oxide
R650	1-206-446-00 (B) 2 2W	metal oxide (nonflammable)
R651	1-206-461-00 (B) 8.2 2W	metal oxide (nonflammable)
R653	1-214-180-00 (A) 100k ¼W	metal oxide
R655	1-244-906-00 (A) 24k ½W	carbon
R656	1-244-883-00 (A) 2.7k ½W	carbon
R657, 658	1-244-900-00 (A) 13k ½W	carbon
R659	1-244-903-00 (A) 18k ½W	carbon
R660	1-244-925-00 (A) 150k ½W	carbon
R661	1-206-673-00 (B) 2.4k 2W	metal oxide
R662	1-244-934-00 (A) 360k ½W	carbon
R663	1-206-662-00 (B) 820 2W	metal oxide
R664	1-244-926-00 (A) 160k ½W	carbon
R666	1-244-865-00 (A) 470 ½W	carbon
R681-684	1-214-610-00 (B) 0.22 2W	metal oxide (nonflammable)
R701	1-244-863-00 (A) 390 ½W	carbon
R702, 703	1-246-529-00 (A) 220k ¼W	carbon
R704	1-214-602-00 (A) 43k 2W	metal oxide (nonflammable)
R707	1-207-678-00 (B) 10 5W	wirewound (nonflammable)
R709	1-244-891-00 (A) 5.6k ½W	carbon
R801, 802	1-244-889-00 (A) 4.7k ½W	carbon
R803	1-214-103-00 (A) 62 ¼W	metal oxide
R804	1-214-621-00 (B) 100 ½W	metal oxide
R805	1-244-945-00 (A) 1M ½W	carbon
R806	1-244-913-00 (A) 47k ½W	carbon
R808	1-244-855-00 (A) 180 ½W	carbon
R809	1-244-883-00 (A) 2.7k ½W	carbon
R810	1-244-872-00 (A) 910 ½W	carbon
R811	1-244-873-00 (A) 1k ½W	carbon
R812	1-214-126-00 (A) 560 ¼W	metal oxide
R813	1-214-180-00 (A) 100k ¼W	metal oxide
R814, 815	1-214-627-00 (B) 1M ½W	metal oxide
R816	1-214-208-00 (B) 100k ½W	metal oxide

Ref. No.	Part No.	Description
R851, 852	1-244-889-00 (A) 4.7k ½W	carbon
R853	1-214-103-00 (A) 62 ¼W	metal oxide
R854	1-214-621-00 (B) 100 ½W	metal oxide
R855	1-244-945-00 (A) 1M ½W	carbon
R856	1-244-913-00 (A) 47k ½W	carbon
R858	1-244-855-00 (A) 180 ½W	carbon
R859	1-244-883-00 (A) 2.7k ½W	carbon
R860	1-244-872-00 (A) 910 ½W	carbon
R861	1-244-873-00 (A) 1k ½W	carbon
R862	1-214-126-00 (A) 560 ¼W	metal oxide
R863	1-214-180-00 (A) 100k ¼W	metal oxide
R864, 865	1-214-627-00 (B) 1M ½W	metal oxide
R866	1-214-208-00 (B) 100k ½W	metal oxide
R901	1-211-514-00 (A) 47 ¼W	carbon (nonflammable)
R902	1-211-520-00 (A) 82 ¼W	carbon (nonflammable)
R903	1-211-518-00 (A) 68 ¼W	carbon (nonflammable)
R904	1-211-528-00 (A) 180 ¼W	carbon (nonflammable)
R905-908	1-206-698-00 (B) 27k 2W	metal oxide (nonflammable)
R909	1-214-595-00 (A) 100k 1W	metal oxide (nonflammable)
R910	1-214-597-00 (B) 100k 2W	metal oxide (nonflammable)
R911	1-202-729-00 (A) 6.8M ½W	composition
R913	1-214-595-00 (A) 100k 1W	metal oxide (nonflammable)
R914	1-211-945-00 (A) 2.2k ¼W	carbon (nonflammable)
R915	1-211-526-00 (A) 150 ¼W	carbon (nonflammable)
R916	1-211-534-00 (A) 330 ¼W	carbon (nonflammable)
R918	1-244-927-00 (A) 180k ½W	carbon
R919	1-211-553-00 (A) 2.7k ¼W	carbon (nonflammable)
R924	1-217-156-00 (B) 0.22 5W	wirewound

RT820,821 1-224-254-XX (B) 47k, adjustable; LED METER


RT901 1-224-642-XX (B) 1k, adjustable; DC VOLTAGE

RV201 1-224-247-XX (B) 100k, adjustable; MAXIMUM INPUT LEVEL (L)

RV251 1-224-247-XX (B) 100k, adjustable; MAXIMUM INPUT LEVEL (R)

RV501, 601 1-224-247-11 (B) 100k, adjustable; DC BALANCE

RV502, 602 1-224-251-11 (B) 4.7k, adjustable; IDLING CURRENT

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

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

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

SWITCHES

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

MISCELLANEOUS

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

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

ACCESSORIES AND PACKING MATERIALS

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

- Items marked "A" 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 **A** are critical for safety. Replace only with part number specified.

Sony Corporation

© 1979

-32-