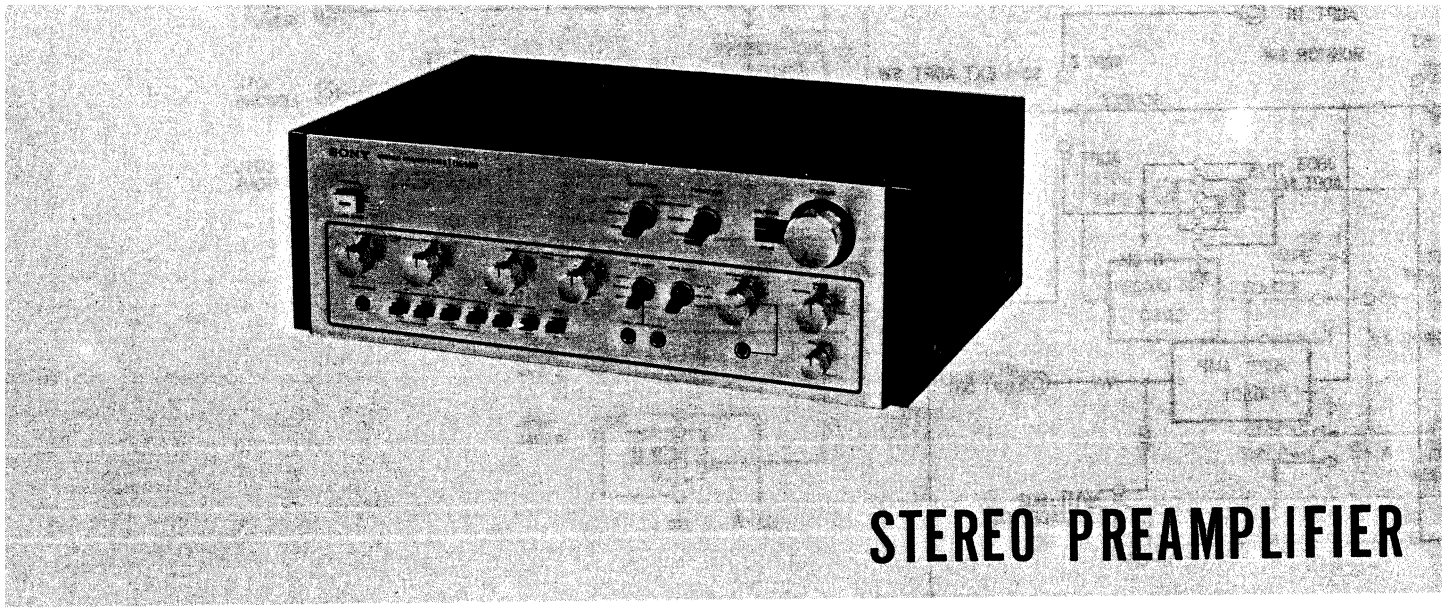
TAE-5450



STEREO PREAMPLIFIER

SPECIFICATIONS

Inputs:

	Sensitivity	Impedance	Maximum input capability (THD 0.1%)	S/N (weighting network, input level)
PHONO 1, 2	1.5 mV	50 kΩ	140 mV	70 dB (A, 1.5 mV)
TUNER AUX 1–3 TAPE 1, 2 EXT ADPT 1, 2	150 mV	50 kΩ	—	90 dB (A, 1.5 mV)

Outputs:

	Voltage	Impedance
REC OUT 1, 2	150 mV (max. 12 V)	1 kΩ
EXT ADPT 1, 2	150 mV (max. 12 V)	1 kΩ
HEADPHONE	0.3 V (8Ω headphones) 3 V (10 kΩ -headphones)	50 Ω
OUTPUT 1 2	1 V (max. 14 V)	1 kΩ 2 kΩ

Voltage amplification:
(at 1 kHz)

Output / Inputs	REC OUT 1, 2	EXT ADPT 1, 2	HEADPHONE	OUTPUT 1, 2
PHONO 1, 2	40 dB	40 dB	48 dB	58 dB
TUNER AUX 1–3 TAPE 1, 2 EXT ADPT 1, 2	0 dB	0 dB	8 dB	18 dB

Harmonic distortion: Less than 0.03% at rated output

Intermodulation (IM) distortion: (60 Hz: 7 kHz = 4:1) Less than 0.05% at rated output

Frequency response: PHONO 1, 2 RIAA equalization curve ±0.4 dB
TUNER, AUX 1–3, TAPE 1, 2, EXT ADPT 1, 2: 10 Hz–100 kHz $^{+0}_{-1}$ dB

Tone controls:
BASS
±10 dB at 50 Hz (TURNOVER 250 Hz)
±10 dB at 100 Hz (TURNOVER 500 Hz)
TREBLE
±10 dB at 10 kHz (TURNOVER 2.5 kHz)
±10 dB at 20 kHz (TURNOVER 5 kHz)

Filters:
LOW
12 dB/octave attenuation below 10 Hz or 40 Hz
HIGH
12 dB/octave attenuation above 9 kHz or 20 kHz

Residual noise: Less than 200 μV. 70 μV (at frequencies below 20 Hz)
(with VOLUME set to minimum, TONE canceled, FILTERs off)

GENERAL

Power requirements:
110, 127, 220 or 240 V ac adjustable, 50/60 Hz
100, 120, 220 or 240 V ac adjustable, 50/60 Hz

Power consumption: 9 watts

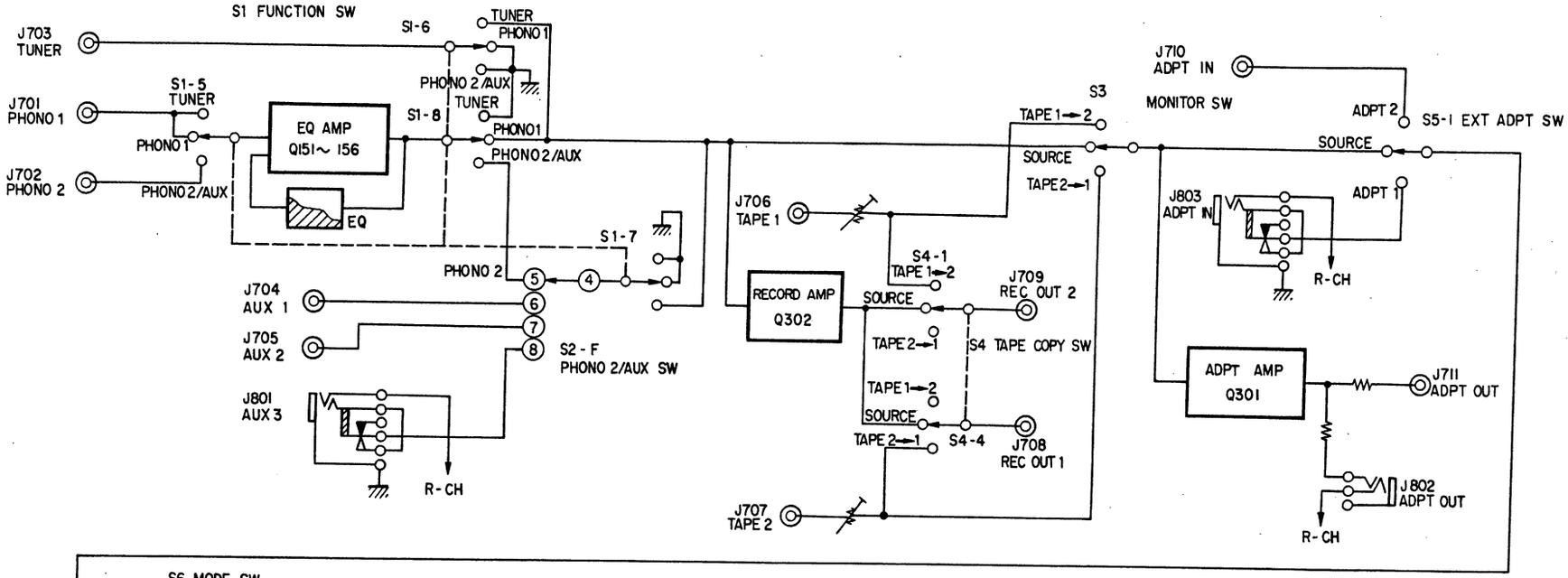
AC outlets: 2 switched 300 watts, 1 unswitched 200 watts

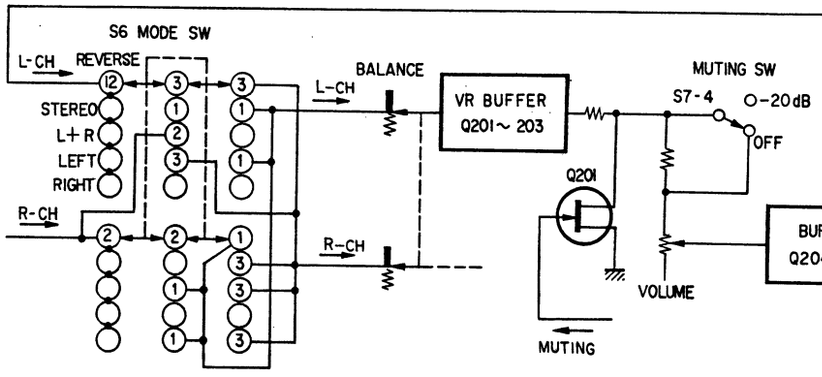
Dimensions: Approx. 460(w) x 168(h) x 323(d) mm
18 1/8 (w) x 6 5/8 (h) x 12 3/4 (d) inches
Including projecting parts and controls

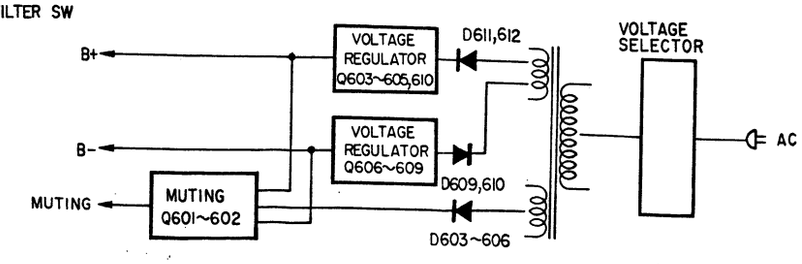
Weight: Approx. 9.2 kg (20 lb 5 oz) in net
11.6 kg (25 lb 9 oz) with shipping carton

SONY®
SERVICE MANUAL

1. BLOCK DIAGRAM



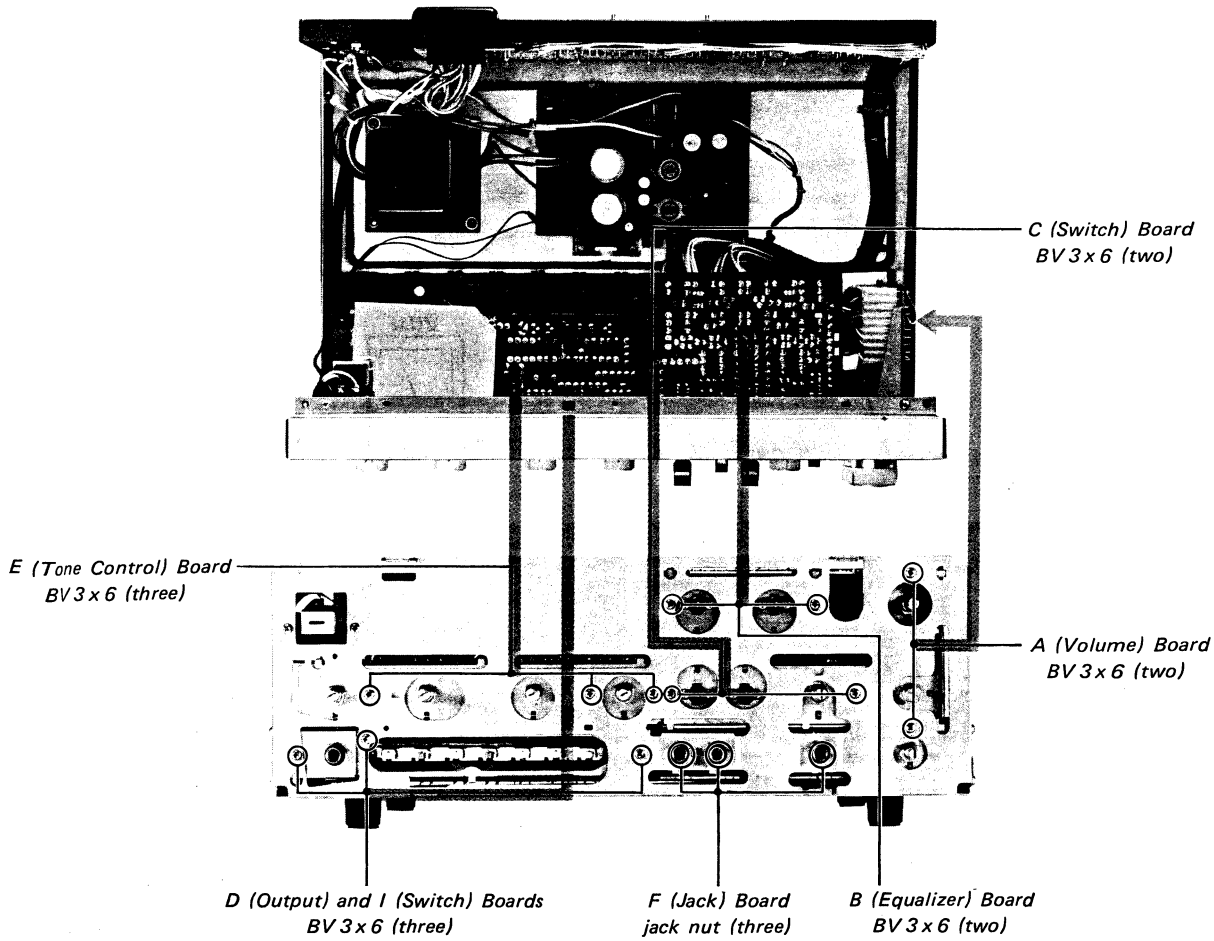




1-2. CIRCUIT BOARD REMOVAL

1. *Remove four screws (B 4 x 22, black) from both wooden side panels, and remove the side panels and top cover.*

2. *Remove the respective screws from the front subchassis and remove board(s).*

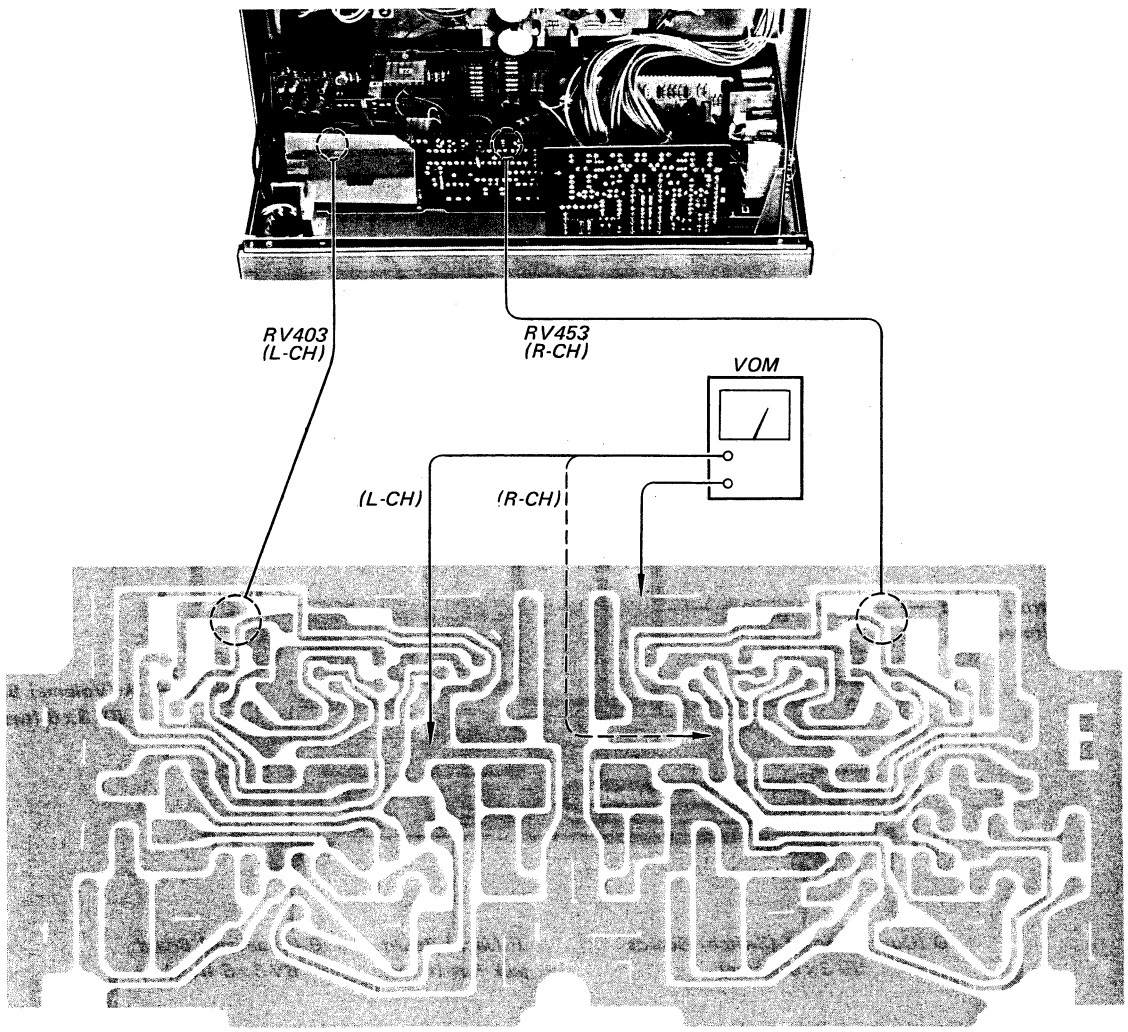


SECTION 2
ADJUSTMENTS

BALANCE ADJUSTMENT

Procedure:

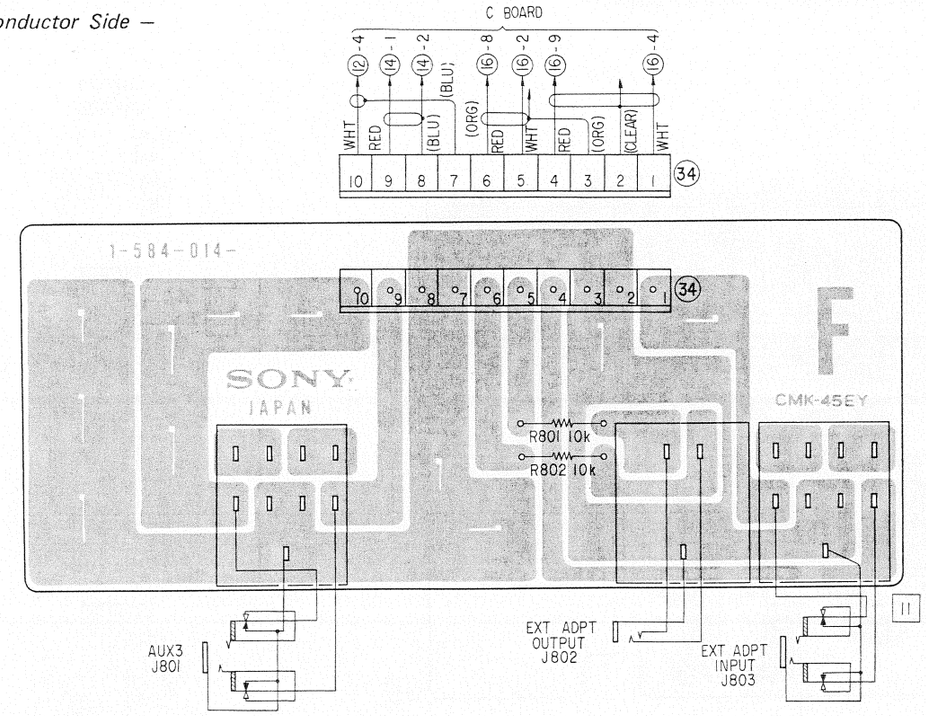
With no input signal, adjust RV403 (L-CH) and RV453 (R-CH) so that the source voltage of Q405 (L-CH) and Q455 (R-CH) becomes 0 V.



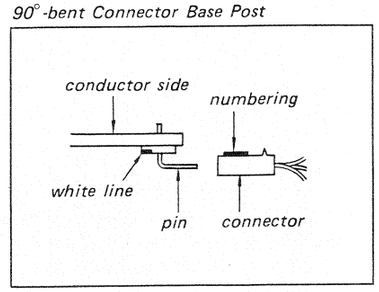
SECTION 3
DIAGRAMS

3-1. MOUNTING DIAGRAM – F (Jack) Board –

– Conductor Side –



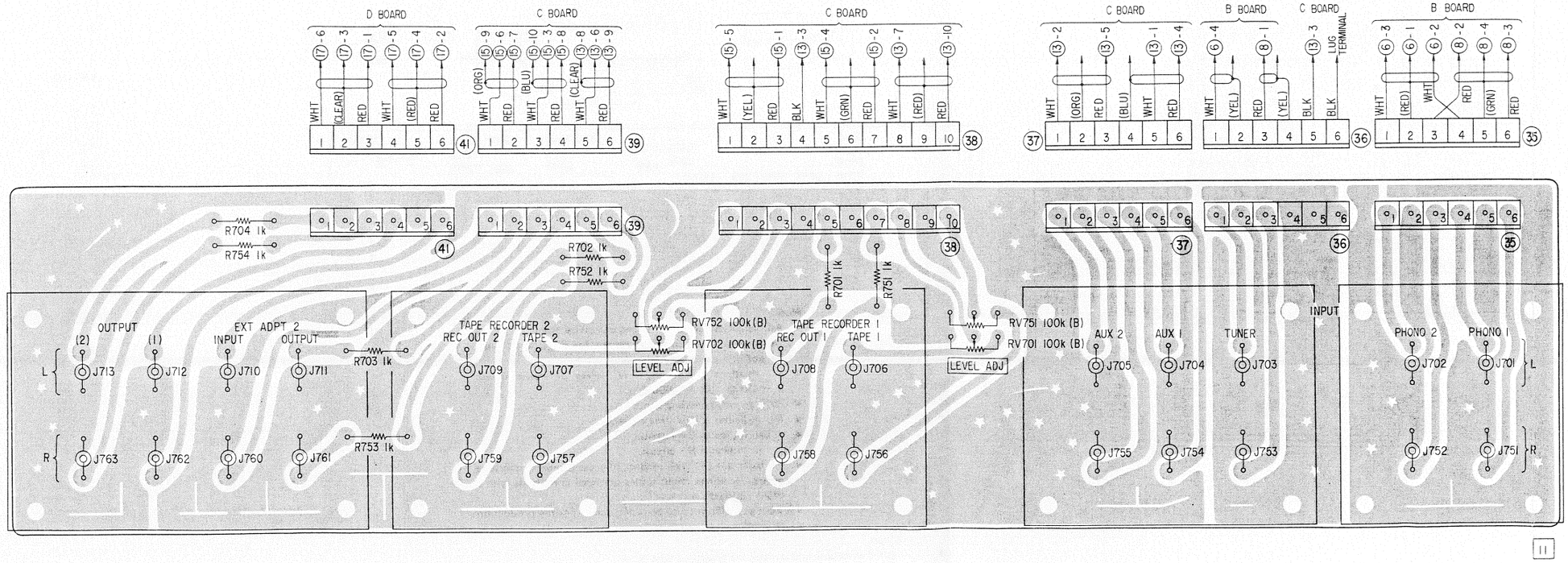
90°-bent Connector Base Post



Note: All resistors are in Ω, ¼ W.

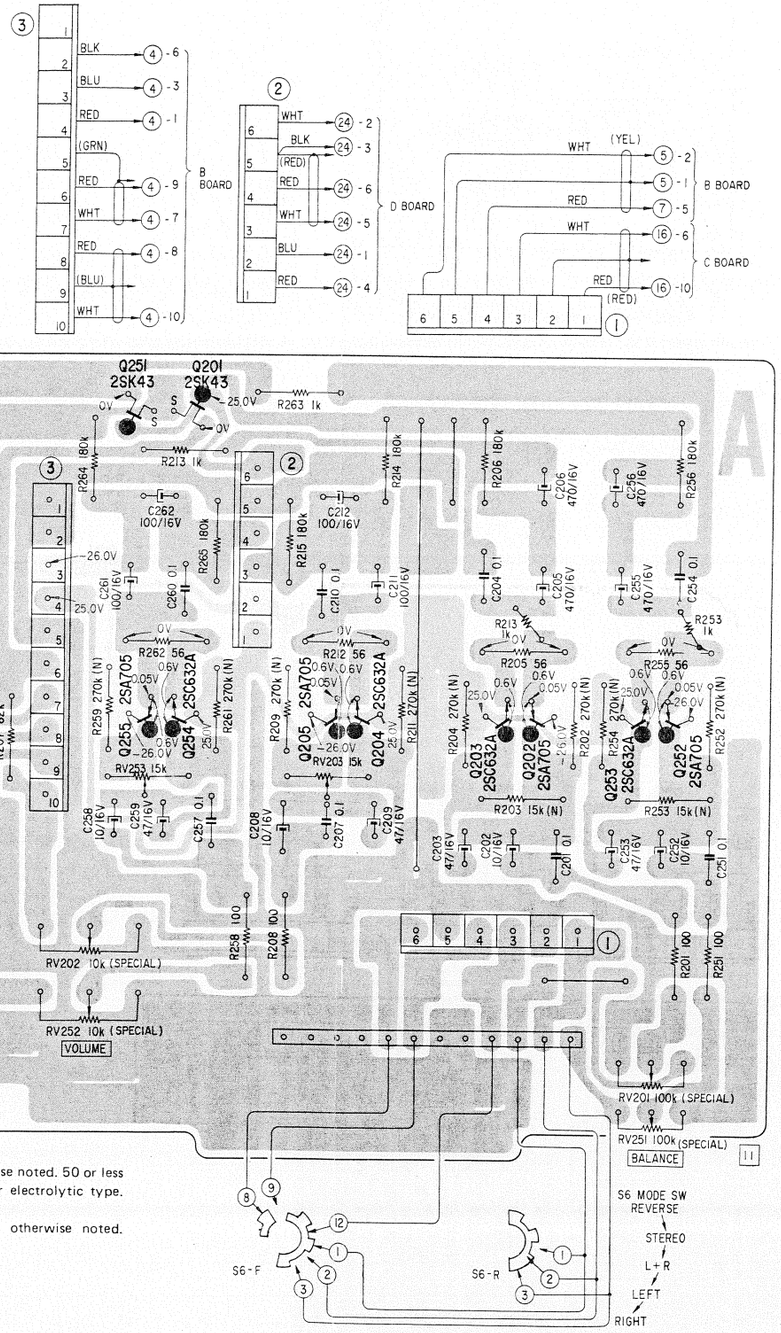
3-2. MOUNTING DIAGRAM – G (Jack) Board –

– Conductor Side –

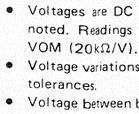


3-3. MOUNTING DIAGRAM – A (Volume) Board –

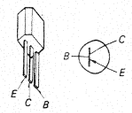
– Conductor Side –



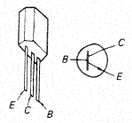
2SK43



2SA705



2SC632A

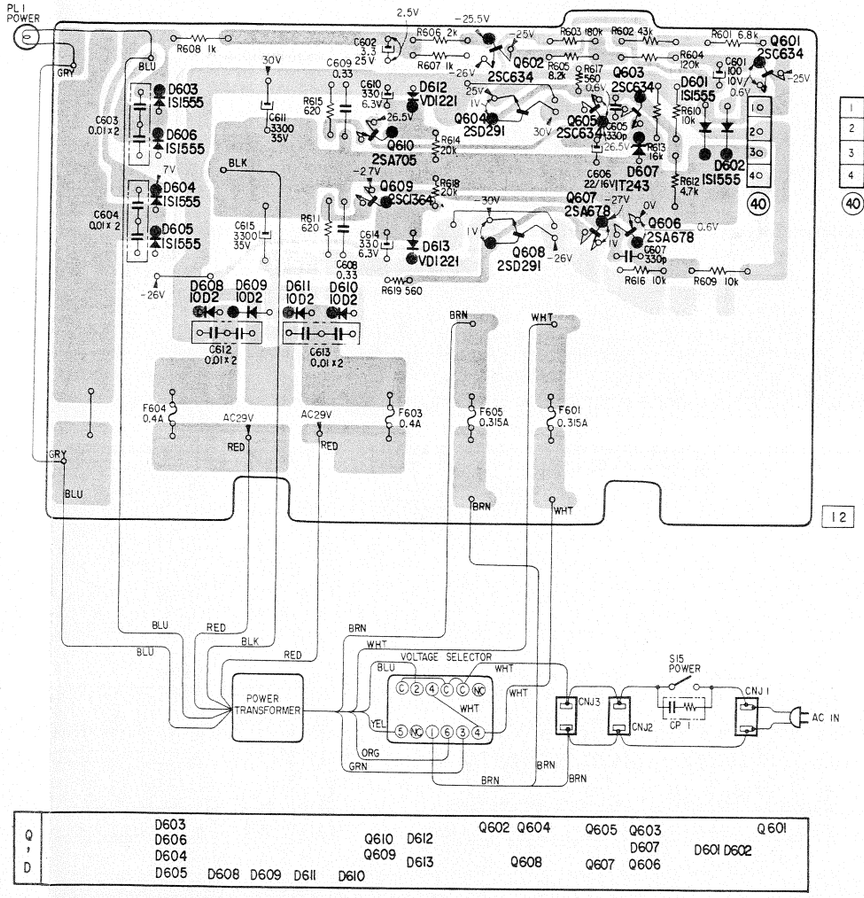


Note:

- All capacitors are in μF unless otherwise noted. 50 or less working volts are omitted except for electrolytic type. p = μμF
- All resistors are in Ω, ¼ W, unless otherwise noted. k = 1,000 M = 1,000 k
- ⏚ indicates chassis ground.
- (N) indicates a low-noise resistor.
- ▭ indicates B + circuit.
- ▭ indicates B – circuit.
- Voltages are DC with respect to ground unless otherwise noted. Readings taken under no-signal conditions with a VOM (20kΩ/V).
- Voltage variations may be noted due to normal production tolerances.
- Voltage between base and emitter are measured with 2.5 V range.

3-4. MOUNTING DIAGRAM – H (Power Supply) Board –

– Conductor Side –

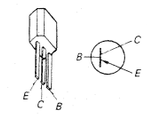


Q, D														
	D603 D606 D604 D605	D608	D609	D611	D610	Q610 Q609	D612 D613	Q602 Q604	Q608	Q605 Q603 Q607 Q606	D607	Q601 D601 D602		

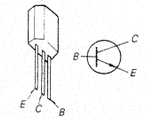
Note:

- All capacitors are in μF unless otherwise noted. 50 or less working volts are omitted except for electrolytic type. p = μμF
- All resistors are in Ω, ¼ W, unless otherwise noted. k = 1,000 M = 1,000 k
- ⏚ indicates chassis ground.
- (N) indicates a low-noise resistor.
- ▭ indicates B + circuit.
- ▭ indicates B – circuit.
- Voltages are DC with respect to ground unless otherwise noted. Readings taken under no-signal conditions with a VOM (20 kΩ/V).
- Voltage variations may be noted due to normal production tolerances.
- Voltage between base and emitter are measured with 2.5 V range.

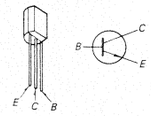
2SA678
2SA705



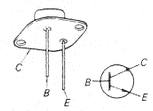
2SC634



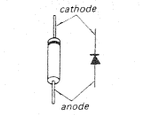
2SC1364



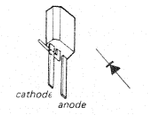
2SD291



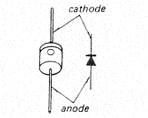
1S1555



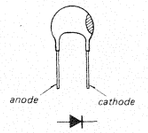
1T243



10D2

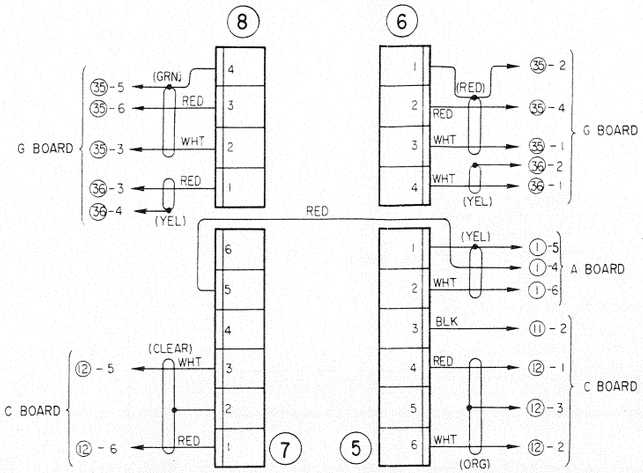


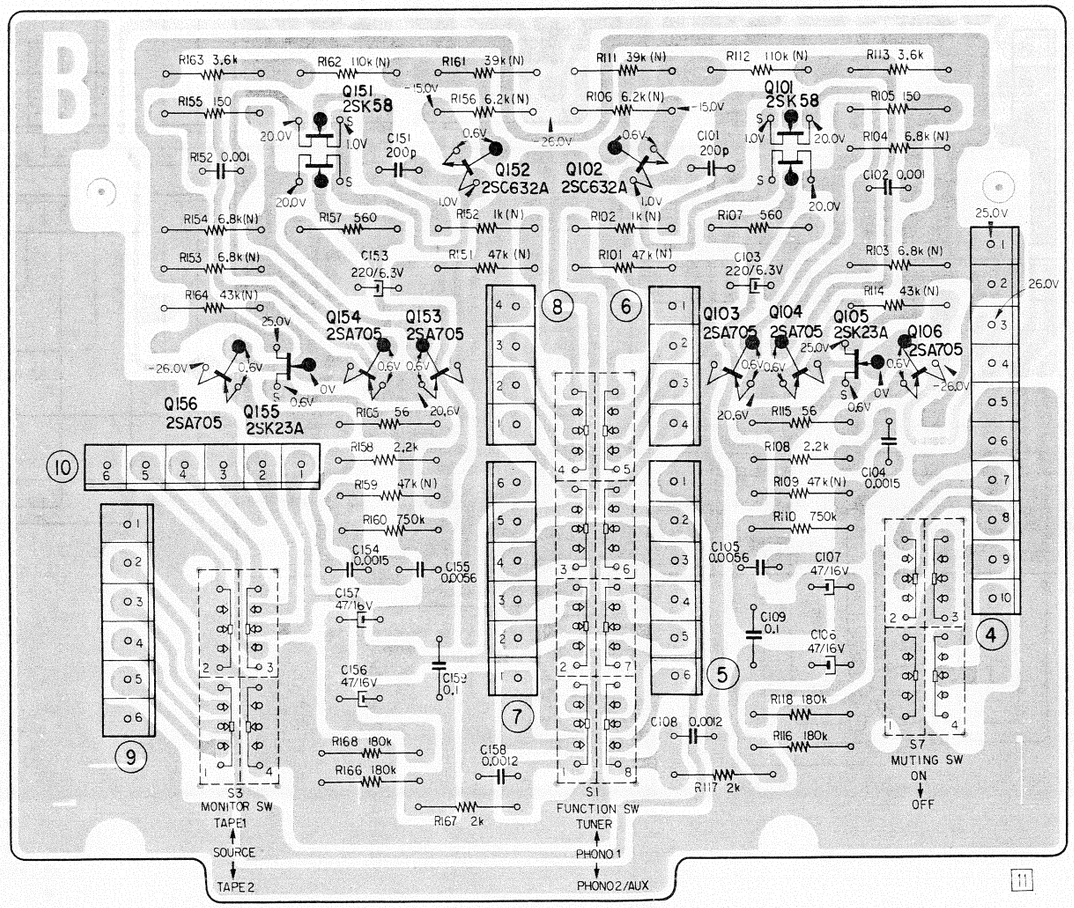
VD1221

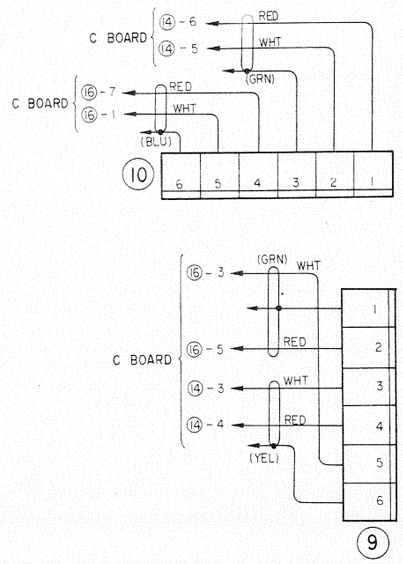


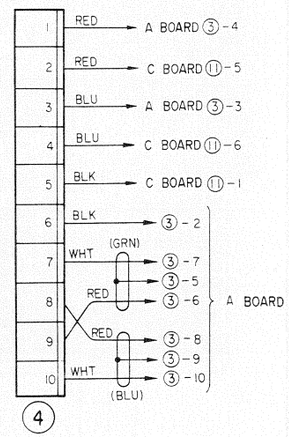
3-5. MOUNTING DIAGRAM — B (Equalizer) Board —

— Conductor Side —

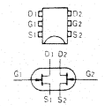




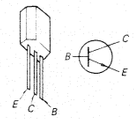




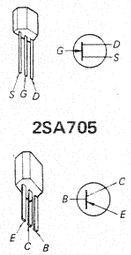
2SK58



2SC632A



2SK23A



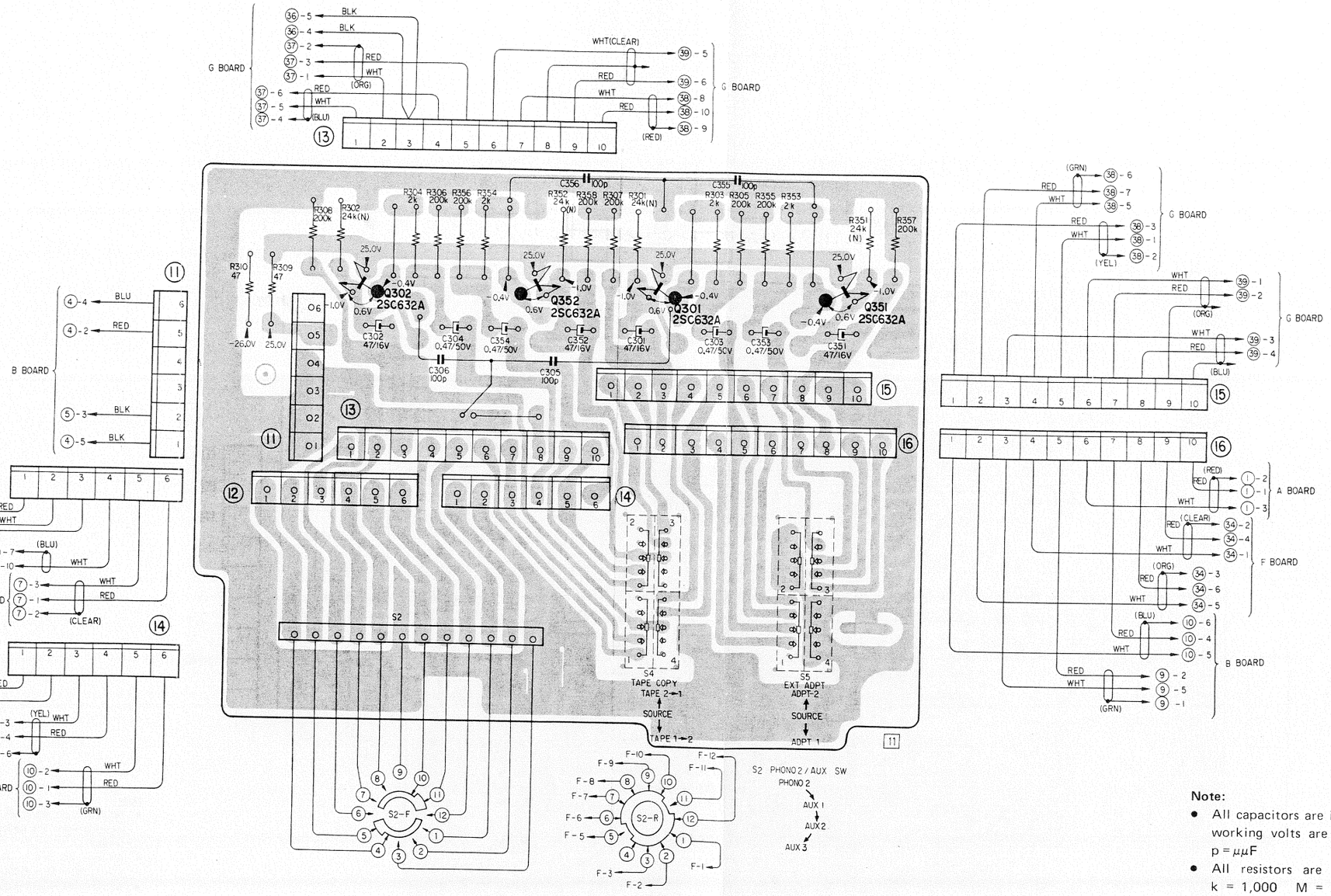
2SA705

Note:

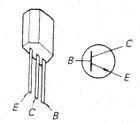
- All capacitors are in μF unless otherwise noted. 50 or less working volts are omitted except for electrolytic type. p = μμF
- All resistors are in Ω, ¼ W, unless otherwise noted. k = 1,000 M = 1,000 k
- ⏚ indicates chassis ground.
- (N) indicates a low-noise resistor.
- ▒▒ indicates B+ circuit.
- ▒▒ indicates B− circuit.
- Voltages are DC with respect to ground unless otherwise noted. Readings taken under no-signal conditions with a VOM (20 kΩ/V).
- Voltage variations may be noted due to normal production tolerances.
- Voltage between base and emitter are measured with 2.5 V range.

3-6. MOUNTING DIAGRAM — C (Switch) Board —

— Conductor Side —



2SC632A

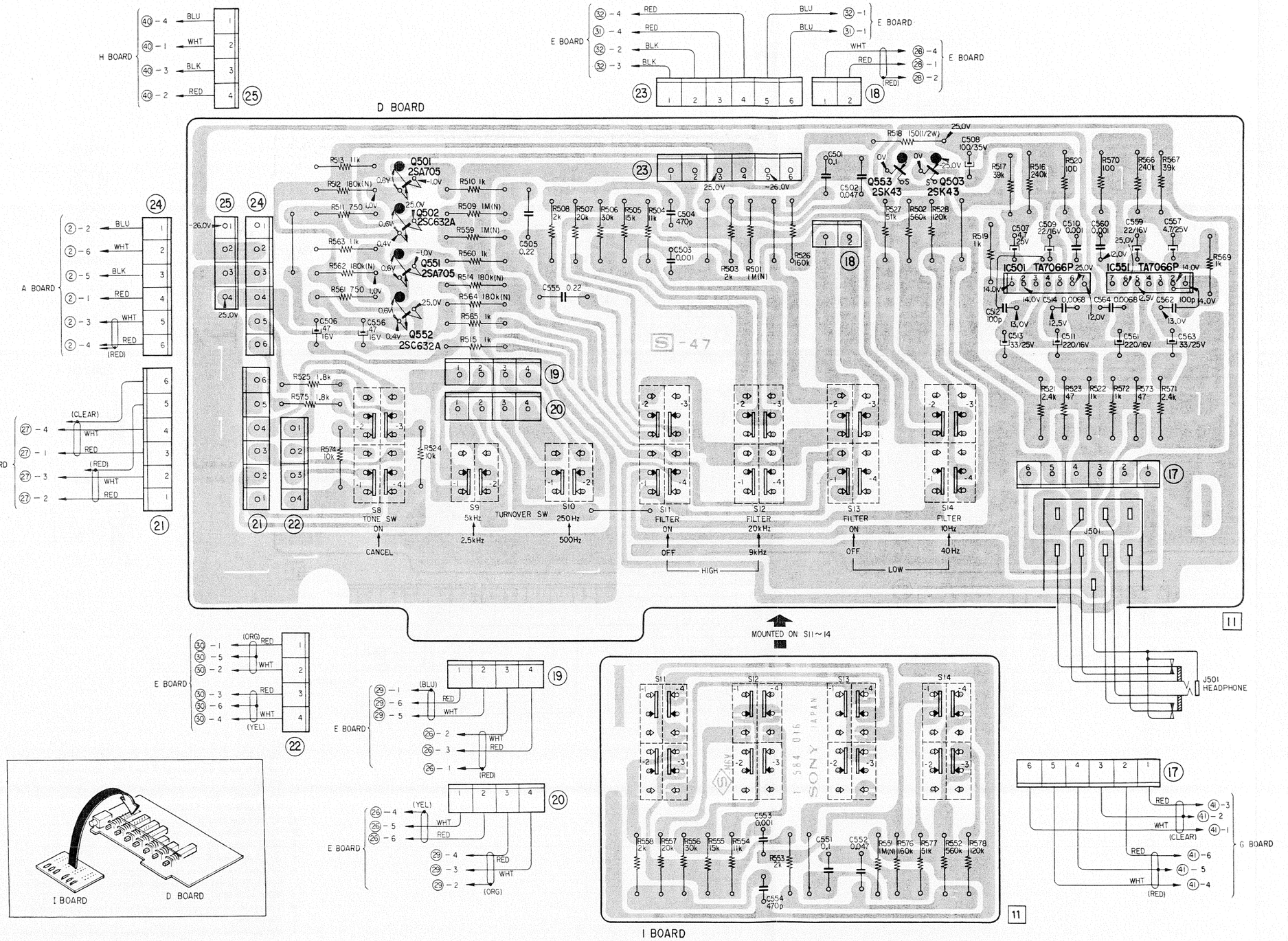


Note:

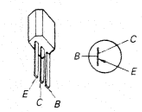
- All capacitors are in μF unless otherwise noted. 50 or less working volts are omitted except for electrolytic type. p = μμF
- All resistors are in Ω, ¼ W, unless otherwise noted. k = 1,000 M = 1,000 k
- ⏚ indicates chassis ground.
- (N) indicates a low-noise resistor.
- ▒ indicates B+ circuit.
- ▒ indicates B− circuit.
- Voltages are DC with respect to ground unless otherwise noted. Readings taken under no-signal conditions with a VOM (20 kΩ/V).
- Voltage variations may be noted due to normal production tolerances.
- Voltage between base and emitter are measured with 2.5 V range.

3-7. MOUNTING DIAGRAM — D (Output) Board —

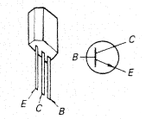
— Conductor Side —



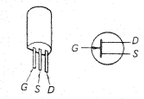
2SA705



2SC632A



2SK43

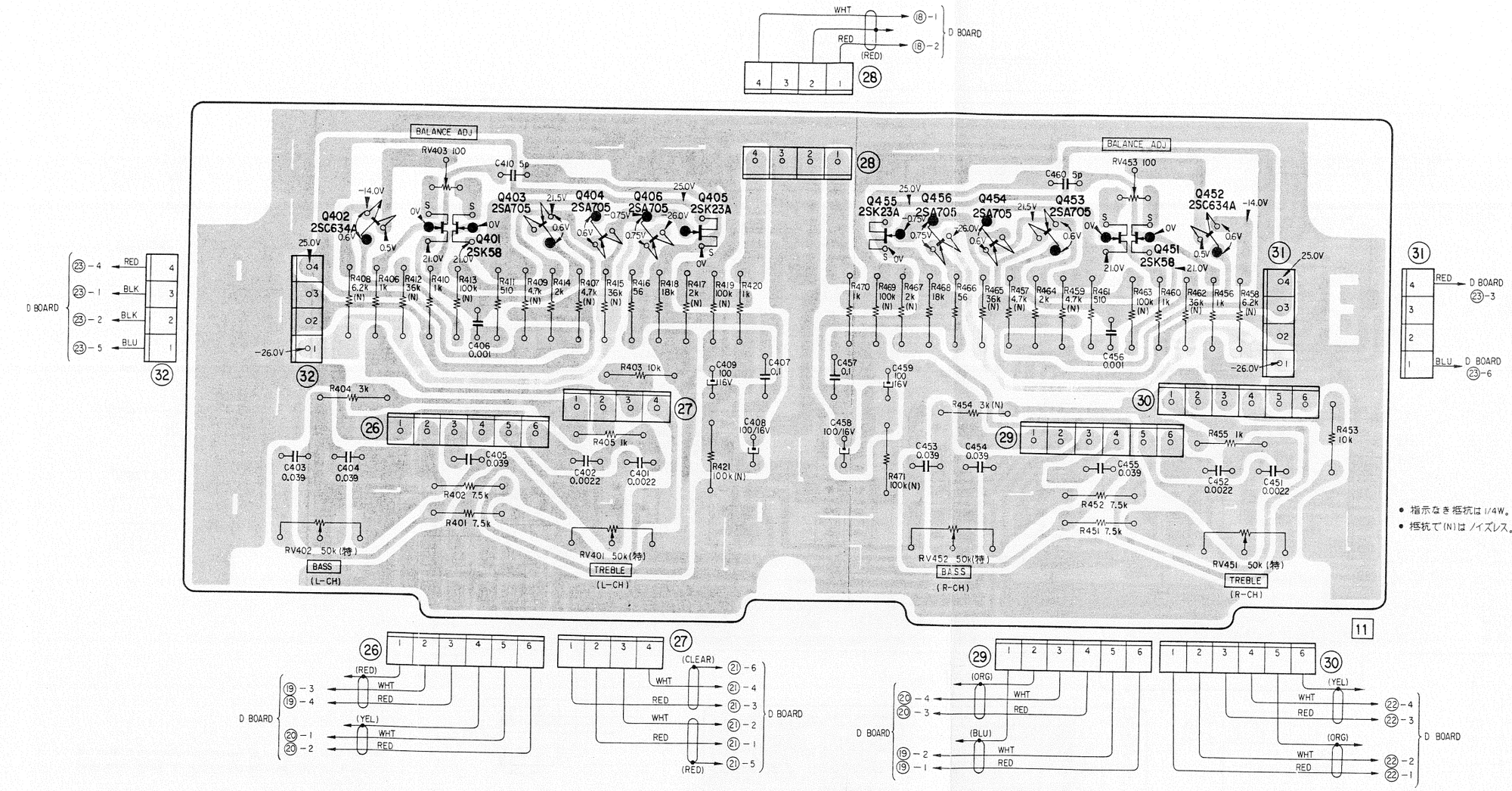


TA7066P

Note:

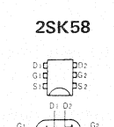
- All capacitors are in μF unless otherwise noted. 50 or less working volts are omitted except for electrolytic type. p = μμF
- All resistors are in Ω, ¼ W, unless otherwise noted. k = 1,000 M = 1,000 k
- ⏚ indicates chassis ground.
- (N) indicates a low-noise resistor.
- ▒ indicates B+ circuit.
- ▒ indicates B− circuit.
- Voltages are DC with respect to ground unless otherwise noted. Readings taken under no-signal conditions with a VOM (20 kΩ/V).
- Voltage variations may be noted due to normal production tolerances.
- Voltage between base and emitter are measured with 2.5 V range.

3-8. MOUNTING DIAGRAM — E (Tone Control) Board —

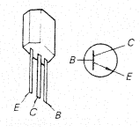


- 指示なき抵抗は 1/4W。
- 抵抗で(N)は ノイズレス。

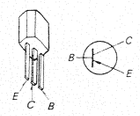
2SK58



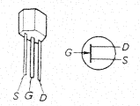
2SC634A



2SA705



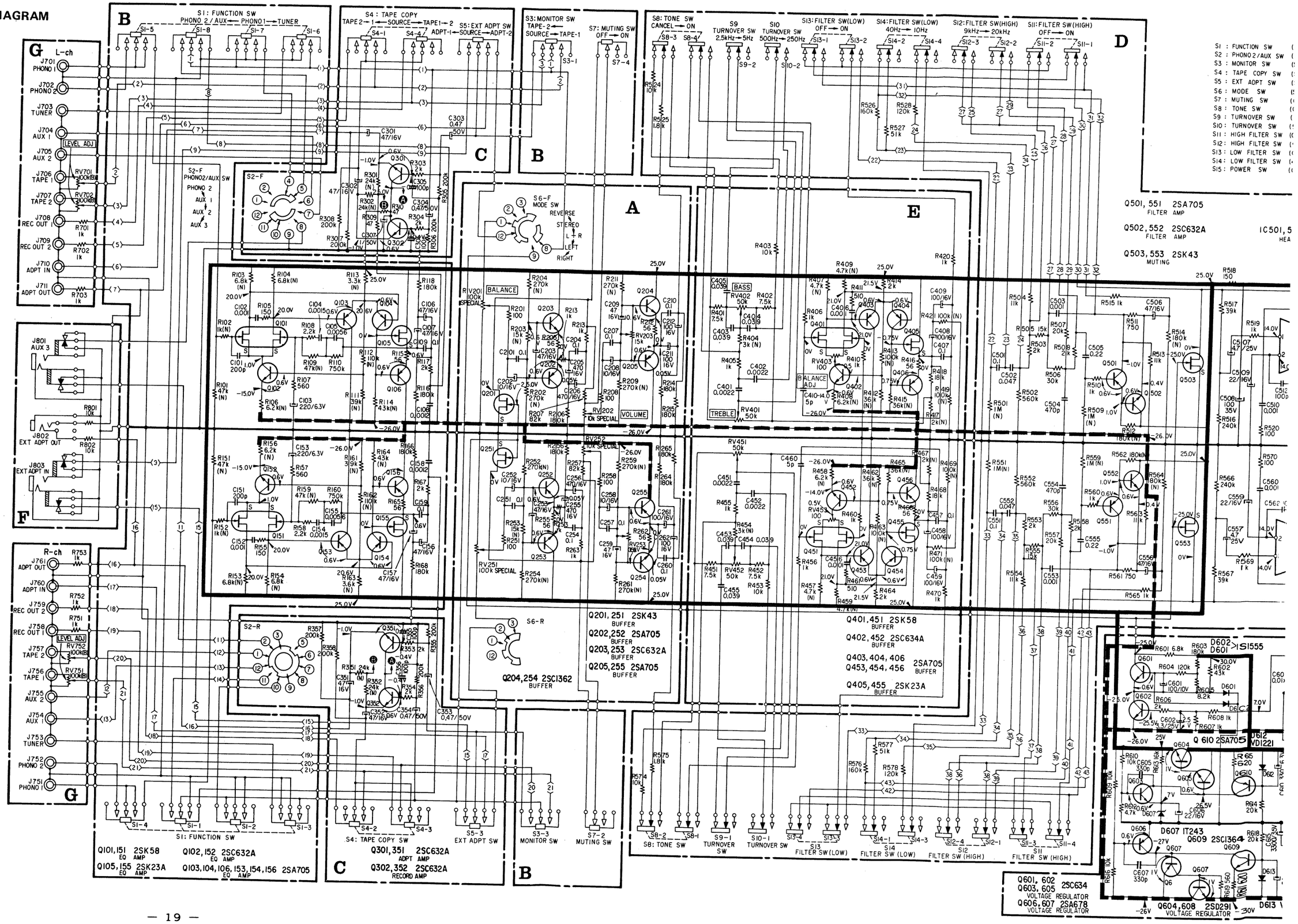
2SK23A

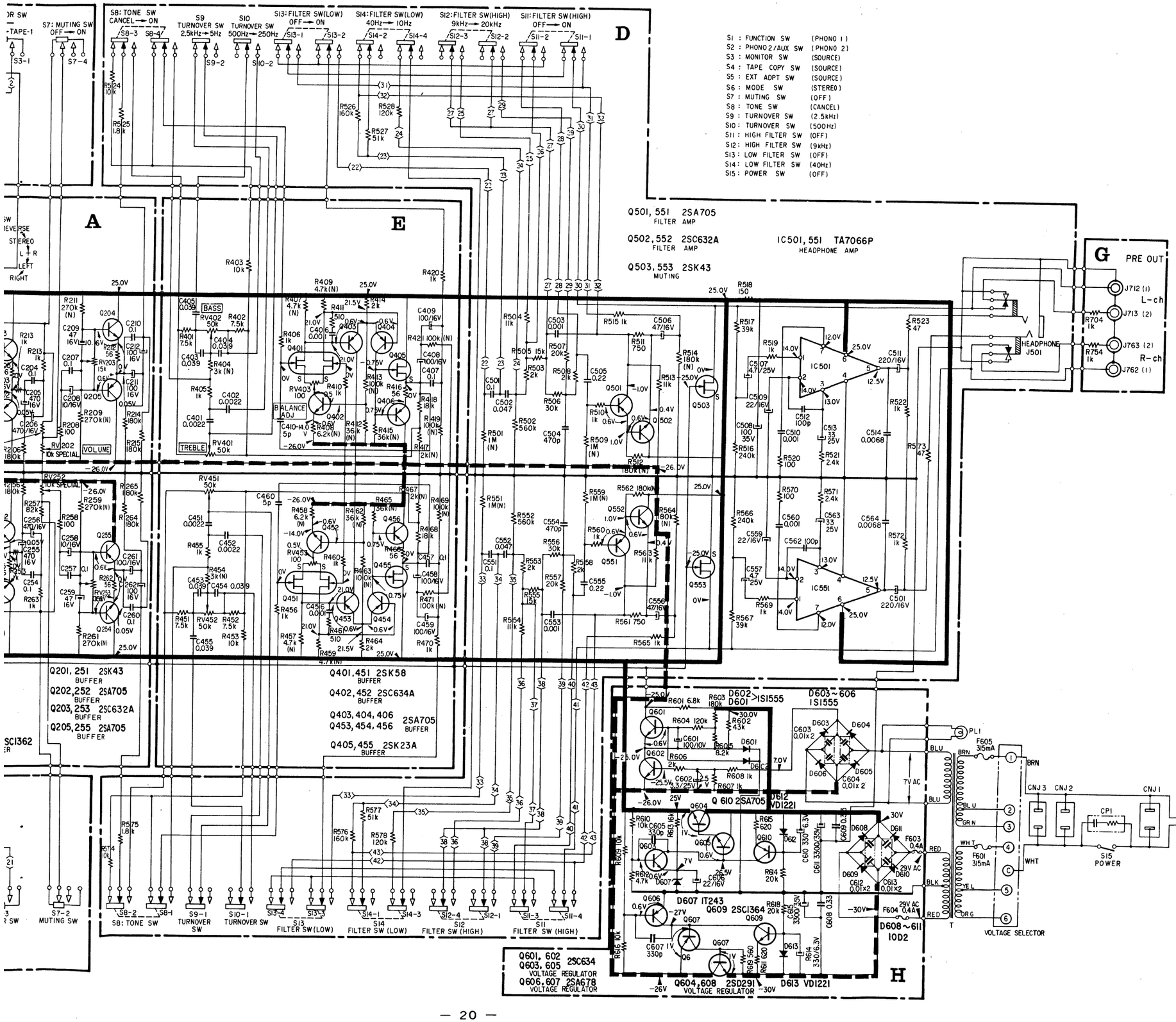


Note:

- All capacitors are in μF unless otherwise noted. 50 or less working volts are omitted except for electrolytic type. p = μμF
- All resistors are in Ω, ¼ W, unless otherwise noted. k = 1,000 M = 1,000 k
- ⏚ indicates chassis ground.
- (N) indicates a low-noise resistor.
- ▒▒ indicates B + circuit.
- ▒▒ indicates B − circuit.
- Voltages are DC with respect to ground unless otherwise noted. Readings taken under no-signal conditions with a VOM (20 kΩ/V).
- Voltage variations may be noted due to normal production tolerances.
- Voltage between base and emitter are measured with 2.5 V range.

3-9. SCHEMATIC DIAGRAM





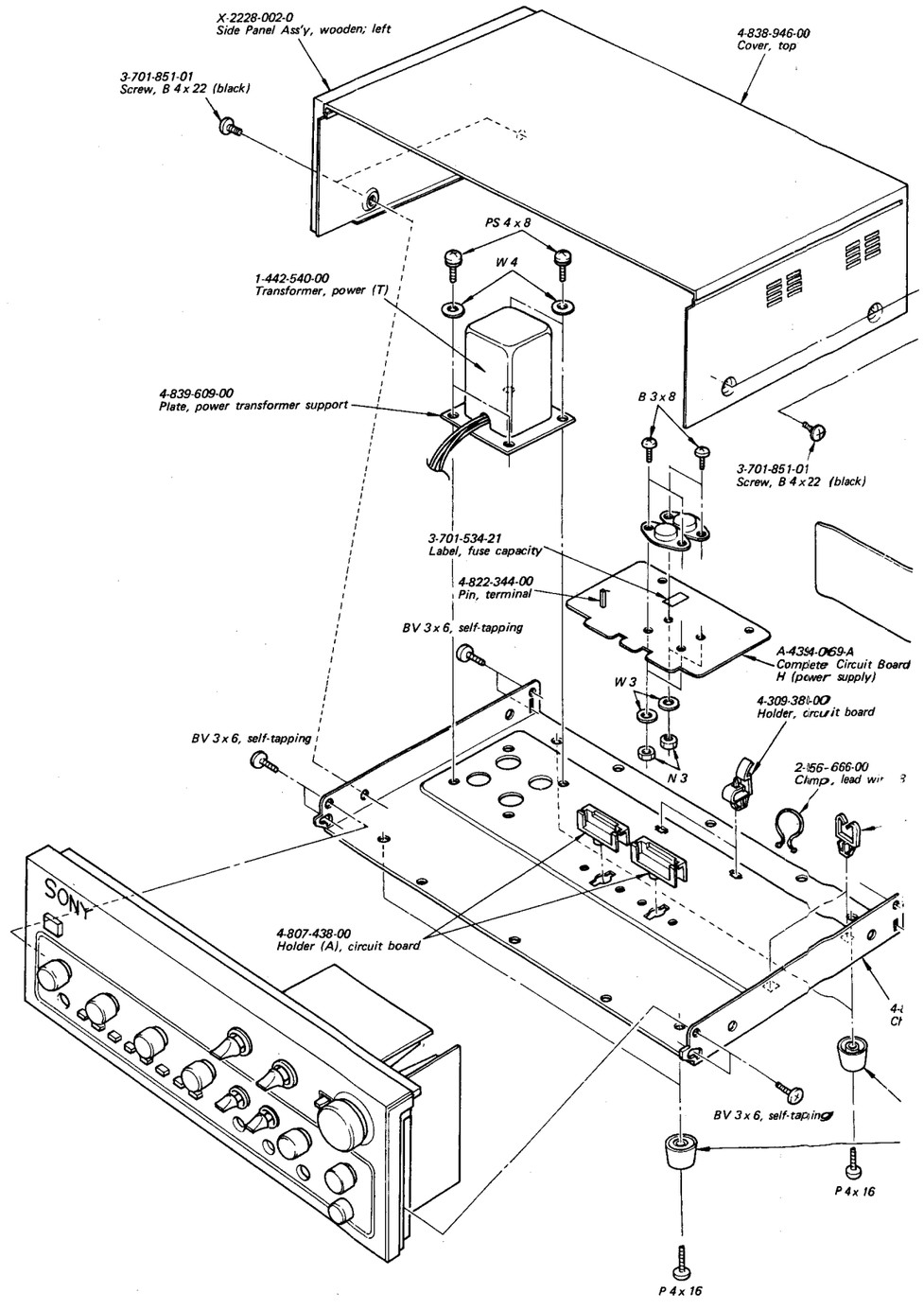
Note:

- All capacitors are in μF unless otherwise noted. 50 or less working volts are omitted except for electrolytic type. p = μμF
- All resistors are in Ω, ¼ W, unless otherwise noted. k = 1,000 M = 1,000 k
- ⏚ indicates chassis ground.
- (N) indicates a low-noise resistor.
- ——— indicates B+ circuit.
- - - - indicates B- circuit.
- Voltages are DC with respect to ground unless otherwise noted. Readings taken under no-signal conditions with a VOM (20 kΩ/V).
- Voltage variations may be noted due to normal production tolerances.
- Voltage between base and emitter are measured with 2.5 V range.

MEMO

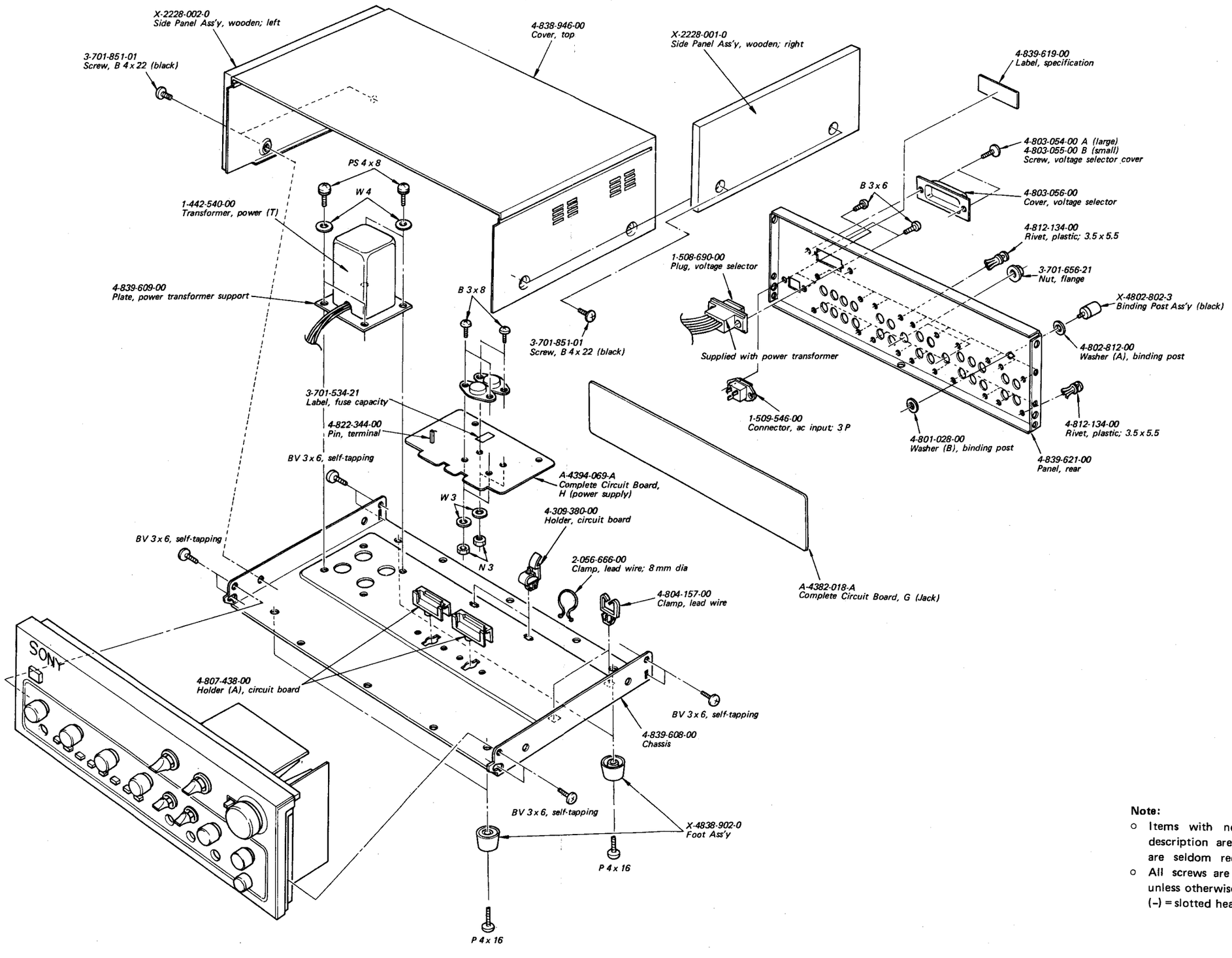
SECTION 4
EXPLODED VIEWS

4-1. EXPLODED VIEW (1)



SECTION 4
EXPLODED VIEWS

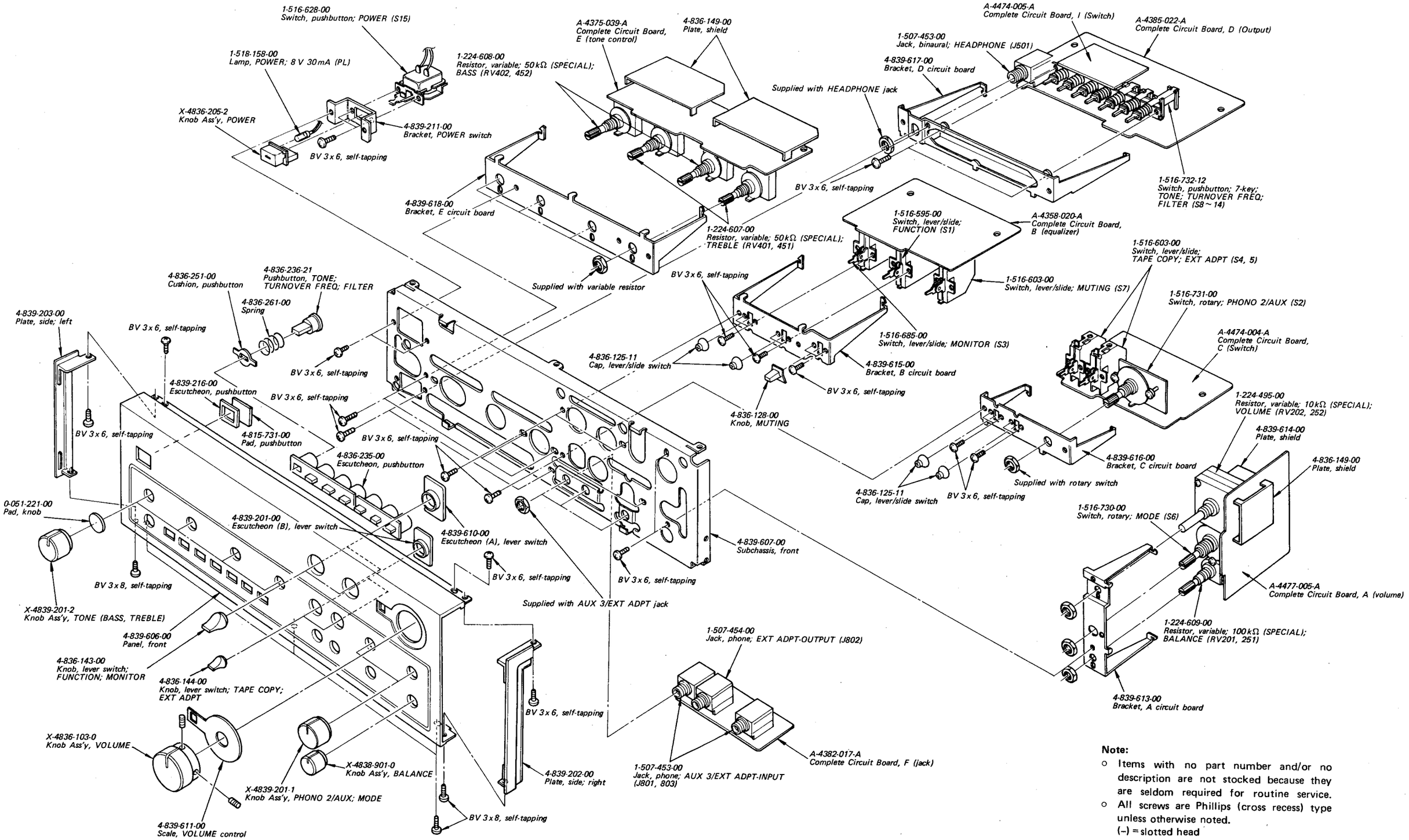
4-1. EXPLODED VIEW (1)



Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (-) = slotted head

4-2. EXPLODED VIEW (2)



Note:

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

SECTION 5
ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description
	COMPLETE CIRCUIT BOARDS	
	A-4477-005-A	A (Volume)
	A-4358-020-A	B (Equalizer)
	A-4474-004-A	C (Switch)
	A-4385-022-A	D (output)
	A-4375-039-A	E (Tone Control)
	A-4382-017-A	F (Jack)
	A-4382-018-A	G (Jack)
	A-4394-069-A	H (Power Supply)
	A-4474-005-A	I (Switch)
	SEMICONDUCTORS	
	Transistors	
Q101,151		2SK58 (FET)
Q102,152		2SC632A
Q103,153		2SA705
Q104,154		2SA705
Q105,155		2SK23A (FET)
Q106,156		2SA705
Q201,251		2SK43 (FET)
Q202,252		2SA705
Q203,253		2SC632A
Q204,254		2SC1362
Q205,255		2SA705
Q301,351		2SC632A
Q302,352		2SC632A
Q401,451		2SK58 (FET)
Q402,452		2SC634A
Q403,453		2SA705
Q404,454		2SA705
Q405,455		2SK23A (FET)
Q406,456		2SA705
Q501,551		2SA705
Q502,552		2SC632A
Q503,553		2SK43 (FET)
Q601~603		2SC634
Q604		2SD291
Q605		2SC634
Q606,607		2SA678
Q608		2SD291
Q609		2SC1364
Q610		2SA705
	ICs	
IC501,551		TA7066P
	Diodes	
D601~606		1S1555
D607		1T243
D608~611		10D2

CAPACITORS

All capacitors are in μF and of electrolytic unless otherwise noted. (p = μμF) 50 or less working volts are omitted except for electrolytic type.

C101,151	1-102-978-11	220 p		ceramic
C102,152	1-105-821-12	0.001		mylar
C103,153	1-121-605-11	220	6.3 V	
C104,154	1-105-503-12	0.0015		mylar
C105,155	1-105-510-12	0.0056		mylar
C106,156	1-123-055-11	47	16 V	
C107,157	1-123-055-11	47	16 V	
C108,158	1-105-502-12	0.0012		mylar
C109,159	1-105-845-12	0.1		mylar
C201,251	1-105-845-12	0.1		mylar
C202,252	1-121-916-11	10	16 V	
C203,253	1-121-409-11	47	16 V	
C204,254	1-105-845-12	0.1		mylar
C207,257	1-105-845-12	0.1		mylar
C208,258	1-121-916-11	10	16 V	
C209,259	1-121-409-11	47	16 V	
C210,260	1-105-845-12	0.1		mylar
C211,261	1-123-139-11	100	16 V	
C212,262	1-123-139-11	100	16 V	
C250	1-105-845-12	0.1		mylar
C205,255	1-121-426-11	470	16 V	
C206,256	1-121-426-11	470	16 V	
C301,351	1-121-409-11	47	16 V	
C302,352	1-121-409-11	47	16 V	
C303,353	1-121-726-11	0.47	50 V	
C304,354	1-121-726-11	0.47	50 V	
C305,355 / C306,356	1-102-973-11	100 p		ceramic
C307	1-121-409-11	1	50 V	
C401,451	1-105-505-12	0.0022		mylar
C402,452	1-105-505-12	0.0022		mylar
C403,453	1-105-520-12	0.039		mylar
C404,454	1-105-520-12	0.039		mylar
C405,455	1-105-520-12	0.039		mylar
C406,456	1-105-661-12	0.001		mylar
C407,457	1-105-845-12	0.1		mylar
C410,460	1-102-807-11	5 p		ceramic
C408,458	1-121-415-11	100	16 V	
C409,459	1-121-415-11	100	16 V	
C501,551	1-105-525-12	0.1		mylar
C502,552	1-105-521-12	0.047		mylar
C503,553	1-105-501-12	0.001		mylar
C504,554	1-102-824-11	470 p		ceramic
C505,555	1-105-689-12	0.22		mylar
C506,556	1-121-409-11	47	16 V	
C507,557	1-121-395-11	4.7	25 V	
C508	1-121-357-11	100	35 V	
C509,559	1-121-479-11	22	16 V	
C510,560	1-105-501-12	0.001		mylar
C511,561	1-121-421-11	220	16 V	
C512,562	1-102-973-11	100 p		ceramic
C513,563	1-121-404-11	33	25 V	
C514,564	1-105-671-12	0.0068		mylar
C601	1-121-414-11	100	10 V	
C602	1-121-392-11	3.3	25 V	
C603,604	1-102-355-11	0.01	500 V	ceramic
C605	1-102-112-11	330 p		ceramic
C606	1-121-479-11	22	16 V	
C607	1-102-112-11	330 p		ceramic
C608,609	1-108-873-12	0.33		mylar
C610	1-121-751-11	330	6.3 V	
C611	1-123-118-11	3300	35 V	
C612,613	1-102-355-11	0.01	500 V	ceramic
C615	1-123-118-11	3300	35 V	

RESISTORS

All resistors are in Ω. Regular-type ¼ W carbon and composition resistors are omitted. Check schematic diagram for resistance values. k = 1000, M = 1000 k

R518	1-202-553-11	150	½ W	composition
RV203,253	1-222-982-00	15 k, adjustable		
RV201,251	1-224-609-00	100 k (SPECIAL), variable; BALANCE		
RV202,252	1-224-495-00	10 k (SPECIAL), variable; VOLUME		
RV401,451	1-224-607-00	50 k (SPECIAL), variable; TREBLE		
RV402,452	1-224-608-00	50 k (SPECIAL), variable; BASS		
RV403,453	1-224-486-00	100, adjustable; balance		
RV701,751 / RV702,752	1-224-498-00	100 k, adjustable; level		

SWITCHES

S1	1-516-699-00	Lever/Slide, FUNCTION
S2	1-516-731-00	Rotary, PHONO 2/AUX
S3	1-516-685-00	Lever/Slide, MONITOR
S4,5	1-516-603-00	Lever/Slide, TAPE COPY: EXT ADAPT
S6	1-516-730-00	Rotary, MODE
S7	1-516-603-00	Lever/Slide, MUTING
S8~14	1-516-732-12	Pushbutton, 7-key; TONE/ TURNOVER FREQ; FILTER
S15	1-516-628-00	Pushbutton, POWER

Ref. No.	*Part No.*	*Description*
	FUSES	
F601,605	1-532-235-00	315 mA
F603,604	1-532-066-00	0.4 A
	JACKS	
J501	1-507-453-00	Binaural; HEADPHONE
J701,702 J706~709 J751,752 J756~759	1-507-416-00	Phono, 4 p
J703~705 J753~755	1-507-386-00	Phono, 6 p
J710~713 J760~763	1-507-387-00	Phono, 8 p
J801,803	1-507-453-00	AUX 3/EXT ADPT-INPUT
J802	1-507-454-00	EXT ADPT-OUTPUT

Ref. No.	*Part No.*	*Description*
	MISCELLANEOUS	
CP1	1-101-534-00	Encapsulated Component
PL	1-518-158-00	Lamp, POWER 8 V 30 mA
T	1-442-540-00	Transformer, power
	1-508-690-00	Plug, voltage selector
	1-509-546-00	Connector, ac input; 3 p
	CONNECTOR PINS	
	1-508-692-31	6 p
	1-508-692-41	10 p
	1-508-746-00	2 p
	1-508-747-00	4 p
	1-508-748-00	6 p
	1-508-750-00	10 p

Part No.	*Description*
ACCESSORIES	
1-506-113-00	Plug, shorting
1-534-049-51	Cord, connection; RK-74H
1-534-514-13	Cord, connection; RK-81H
1-534-514-22	Cord, connection; RK-81H
3-780-567-21	Manual, instruction

SECTION 6
HARDWARE

HARDWARE

Part No.	*Description*
	Screws
	All screws are Phillips (cross recess) type unless otherwise noted.
7-682-165-01	P 4 x 16
7-682-547-05	B 3 x 6
7-682-548-01	B 3 x 8
7-682-661-01	PS 4 x 8
7-685-802-01	BV 3 x 6, self-tapping
7-685-546-05	BV 3 x 8, self-tapping
	Washers
7-623-108-11	3
7-623-110-12	4

Sony Corporation

9-958-091-01

5H0628-1
Printed in Japan