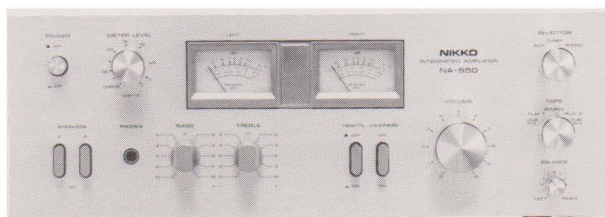


INTEGRATED AMPLIFIER

NA-550

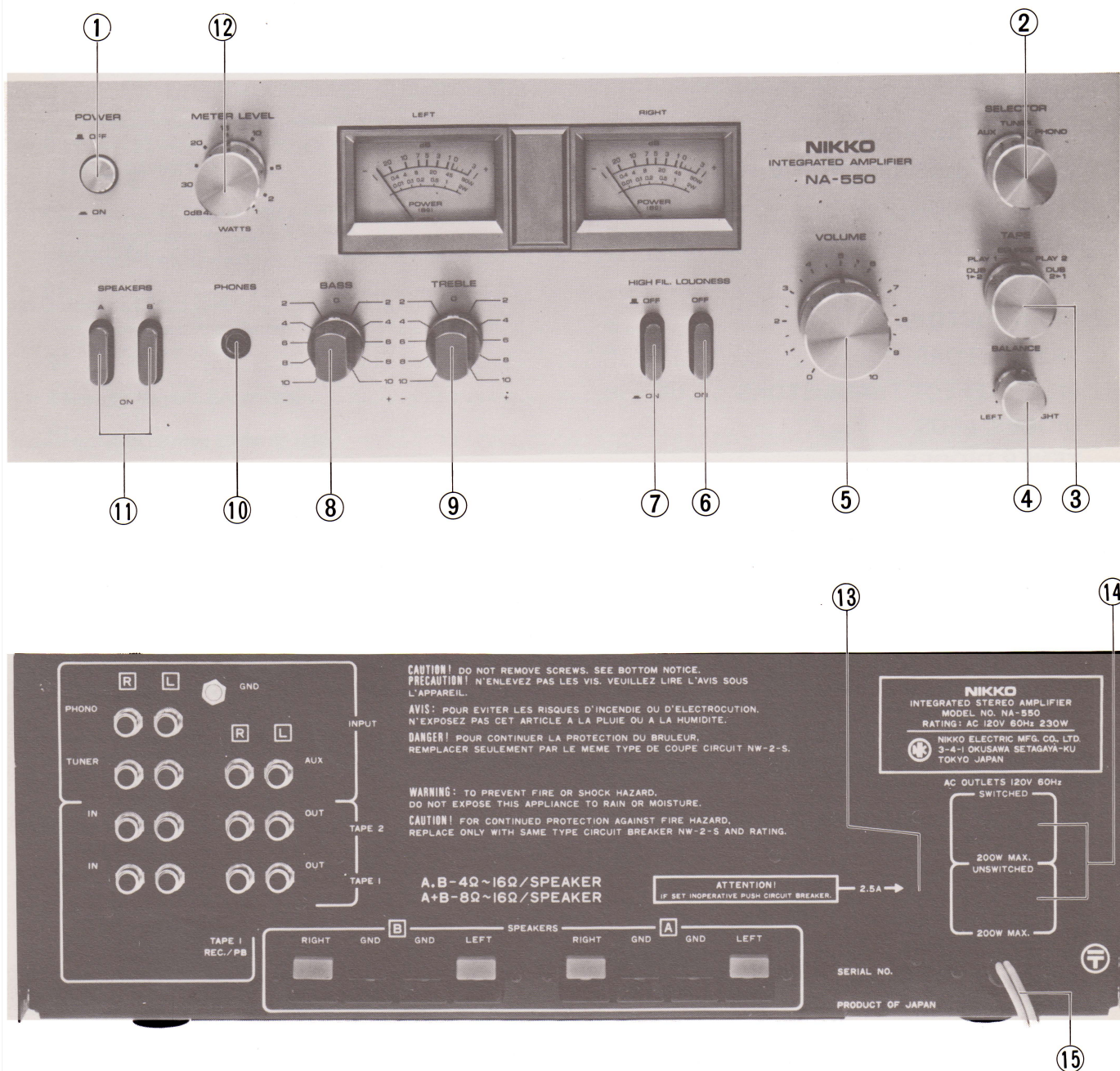


SERVICE MANUAL

TYPE AND VOLTAGE

W-TYPE UL and CSA type	120V AC
E-TYPE europe standard (universal) type	100 / 120 / 220 / 240V AC
N-TYPE DEMKO and SEMKO type	220 / 240V AC

NIKKO



- | | |
|--------------------|------------------------------|
| 1. POWER SWITCH | 9. TREBLE CONTROL |
| 2. SELECTOR SWITCH | 10. HEADPHONES JACK |
| 3. TAPE SWITCH | 11. SPEAKERS SELECTOR SWITCH |
| 4. BALANCE CONTROL | 12. METER LEVEL CONTROL |
| 5. VOLUME CONTROL | 13. CIRCUIT BREAKER |
| 6. LOUDNESS SWITCH | 14. AC OUTLETS |
| 7. HIGH CUT FILTER | 15. AC LINE CORD |
| 8. BASS CONTROL | |

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SPECIFICATIONS

	UNIT	NOMINAL	LIMIT
Continuous Power Output per channel, 8 ohm loads:			
20Hz – 20kHz @ 0.08%THD	.watts.	.50	.45
1kHz @ 0.08%THD.	.watts.	.53	.45
TH Distortion, 8 ohm loads, 20Hz – 20kHz:			
@ Continuous Power Output	..%		< 0.08
@ 1 watt Power Output.	..%		< 0.04
IM Distortion, 8 ohm loads:			
@ Continuous Power Output	..%		< 0.08
@ 1 watt Power Output.	..%		< 0.04
IHF Power Bandwidth, 8 ohm loads	.Hz – kHz.	.5 – 50.	10 – 30
Damping Factor, 8 ohm loads, @ 1kHz		.60	.40
Frequency Response, 8 ohm loads:			
PHONO → TAPE OUT (RIAA).	.dB @ Hz – kHz		< ±1 @ 30 – 15
AUX, TAPE IN → SP. TER.	.dB @ Hz – kHz		< ±2 @ 10 – 50
Input Sensitivity for 45 watts Power Output, @ 1kHz:			
PHONO.	.mV	.2.2	.2.2±2dB
TUNER, AUX, TAPE IN, DIN CONNECTOR.	.mV	.150.	150±2dB
Maximum Input before Overload Distortion, @ 1kHz:			
PHONO @ 0.1%THD	.mV	.190.	190±2dB
Output Level for 2.5mV Input, @ 1kHz:			
PHONO → TAPE OUT	.mV	.150.	150±2dB
PHONO → DIN CONNECTOR.	.mV	.30	30±2dB
Hum and Noise (IHF)			
PHONO.	.dB	.65	.60
TUNER, AUX, TAPE IN, DIN CONNECTOR.	.dB	.85	.80
Tone Control:			
BASS	.dB @ 70Hz	.±12	.±12±2dB
TREBLE	.dB @ 10kHz.	.±10	.±10±2dB
Loudness Control (VOLUME: –30dB)			
70Hz.	.dB @ 70Hz	.+8	.+8±2dB
10kHz.	.dB @ 10kHz.	.+6	.+6±2dB
High Cut Filter	.dB @ 10kHz.	.–6	.–6±2dB
Idling Current.	.mA	.20	.20 ⁺²⁰ _{–10} mA
Midpoint Voltage	.mV.	.0	.0±50mV
Power Switch Muting Delay Time.	.second.	.5	.5±3 second
Protect Circuit Input Sensitivity.	.DC, V	.±3	.±2

DISASSEMBLY

NOTE: Three digit numbers circled (○) in this chapter are represented by a (★) in the parts listing.

CABINET COVER REMOVAL

Remove seven tapping screws from the top and both sides of the metal cover as shown in photo 1. To reassemble, reverse the procedure.

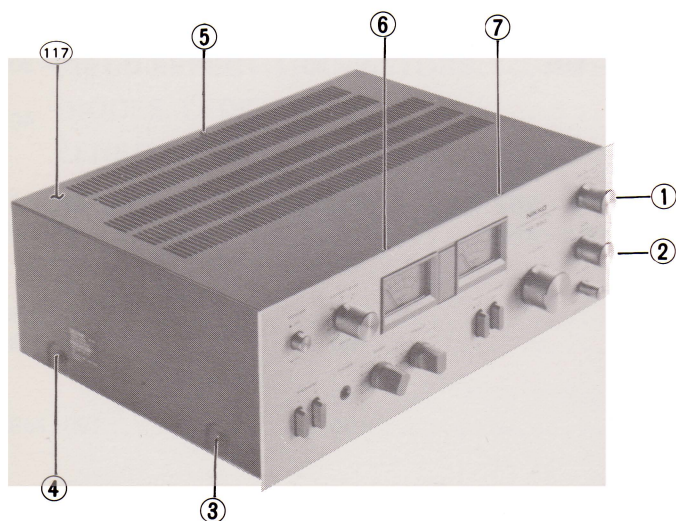


Photo 1

BOTTOM PLATE REMOVAL

Remove four tapping screws from the bottom of the unit and lift away.

FRONT PANEL REMOVAL

1. Remove seven knobs (VOLUME, SELECTOR, TAPE, METER LEVEL, BALANCE, BASS and TREBLE) from the front panel.
2. Remove three nuts (1-3) (photo 2) and three tapping screws (1-3) (photo 2) and lift the panel away from the unit.
—To reassemble, reverse the procedure.

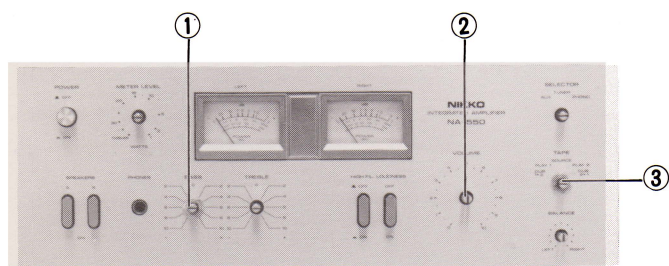


Photo 2

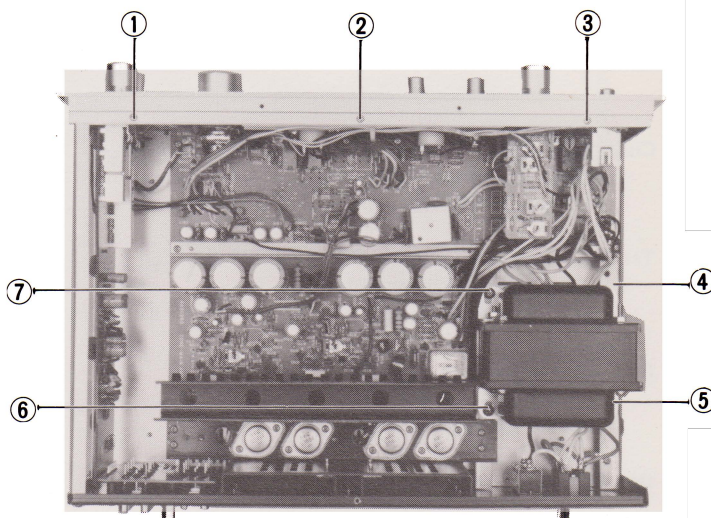


Photo 3

POWER TRANSFORMER REMOVAL

1. Remove four tapping screws (4-7) (photo 3).
2. Lift Power Transformer up and out of chassis.
—To reassemble, reverse the procedure.

METER REMOVAL

1. Two meters are held by a "meter bracket". Remove the two tapping screws (1 and 4) (photo 4) from the bracket.
2. Disconnect all cables connecting to the meters before lifting them out.
—To reassemble, reverse the procedure.

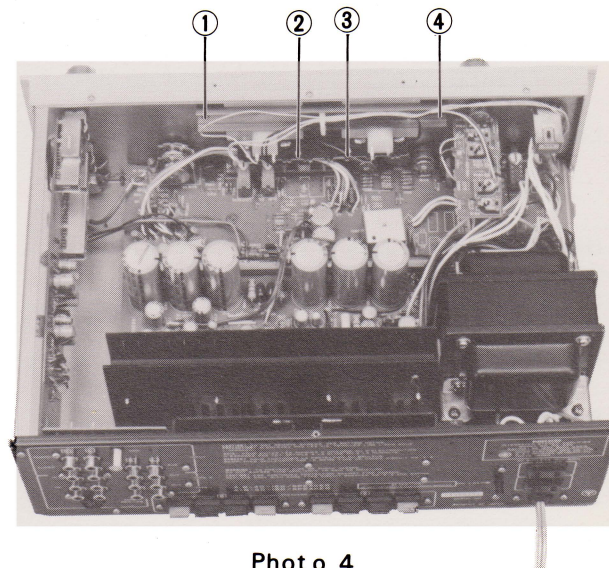


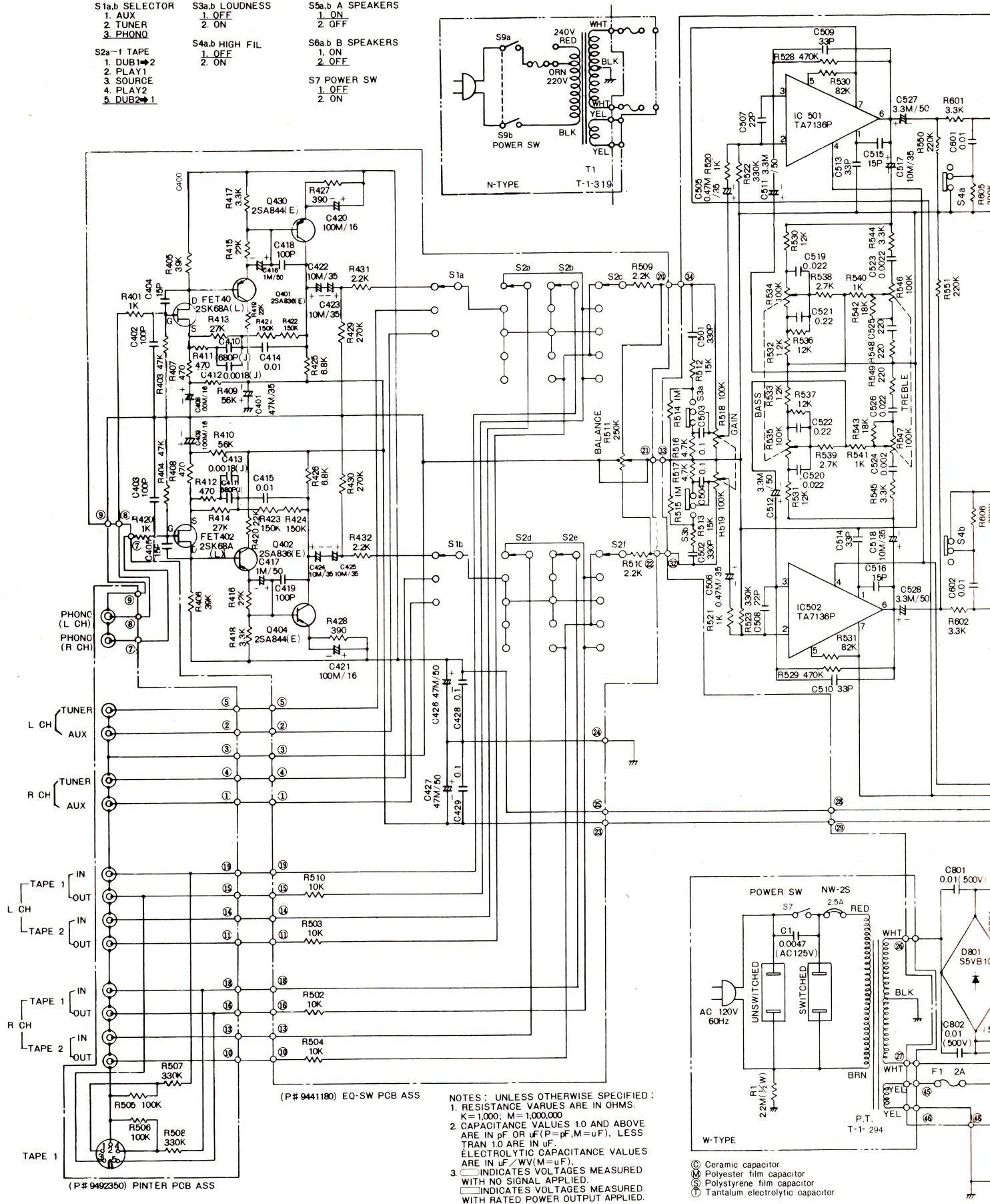
Photo 4

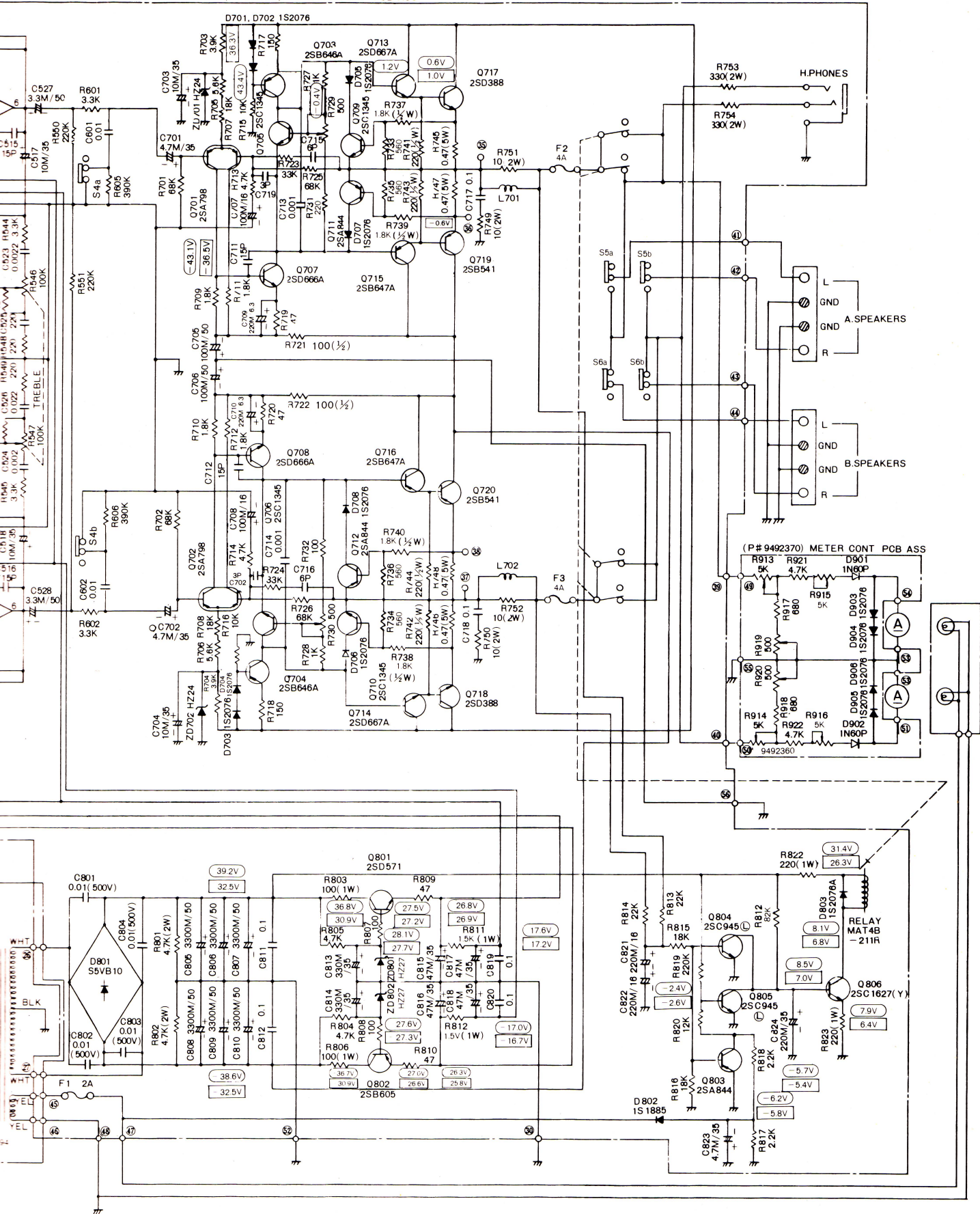
LAMP REPLACEMENT

1. Remove two tapping screws (2 and 3) (photo 4) and lift the lamp circuit board.
2. Use soldering iron to remove lamps.
—To reassemble, reverse the procedure.

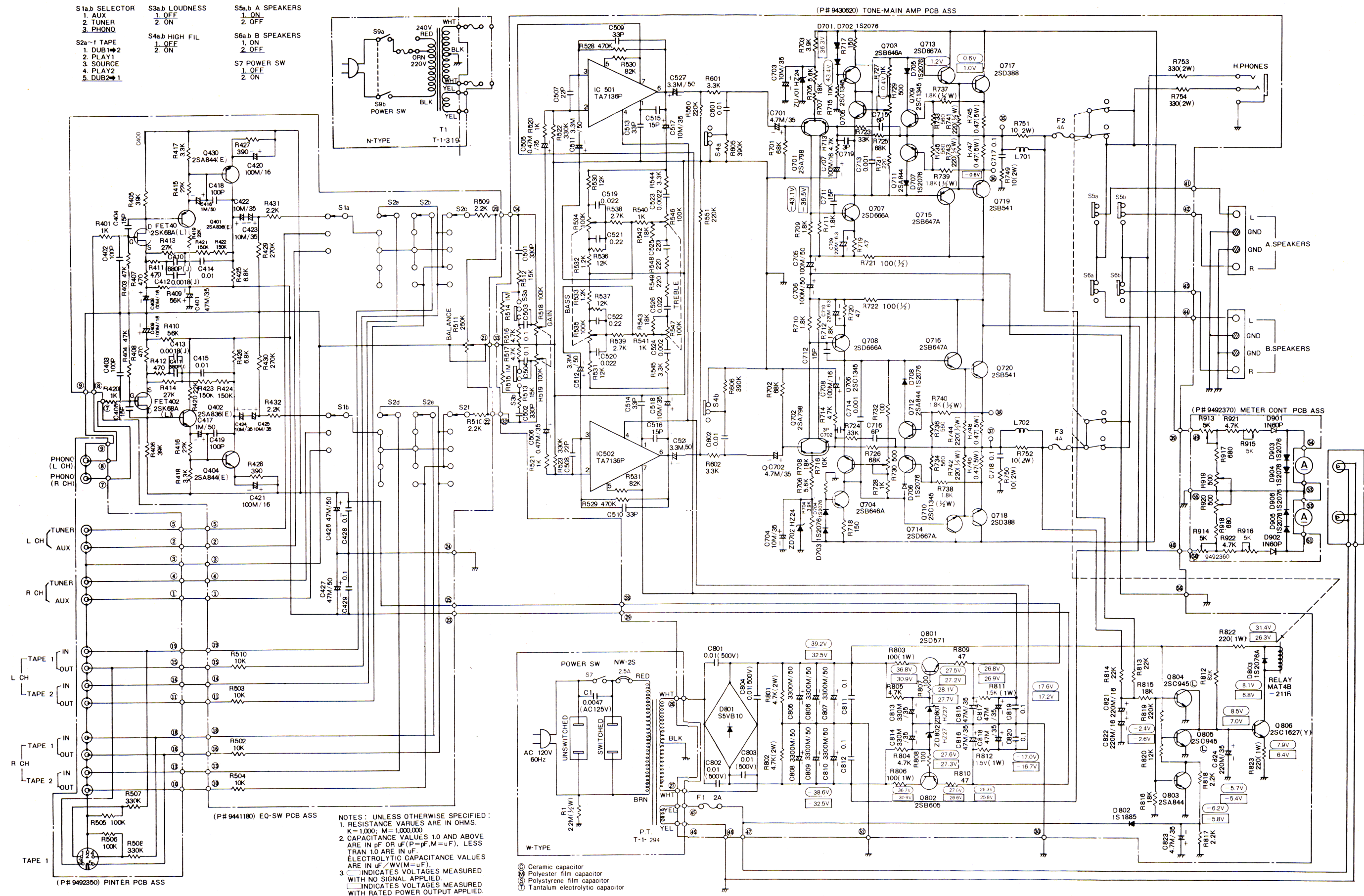
SCHEMATIC DIAGRAM

- S1a,b SELECTOR
1. AUX
2. TUNER
3. PHONO
- S2a-1 TAPE
1. DUB1→2
2. PLAY1
3. SOURCE
4. PLAY2
5. DUB2→1
- S3a,b LOUDNESS
1. OFF
2. ON
- S4a,b HIGH FIL
1. OFF
2. ON
- S5a,b A SPEAKERS
1. ON
2. OFF
- S6a,b B SPEAKERS
1. ON
2. OFF
- S7 POWER SW
1. OFF
2. ON





SCHEMATIC DIAGRAM



TONE/MAIN-LAMP-PIN TERMINAL CIRCUIT BOARDS

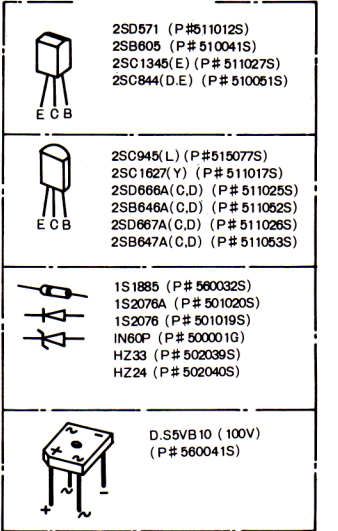


LOUDNESS

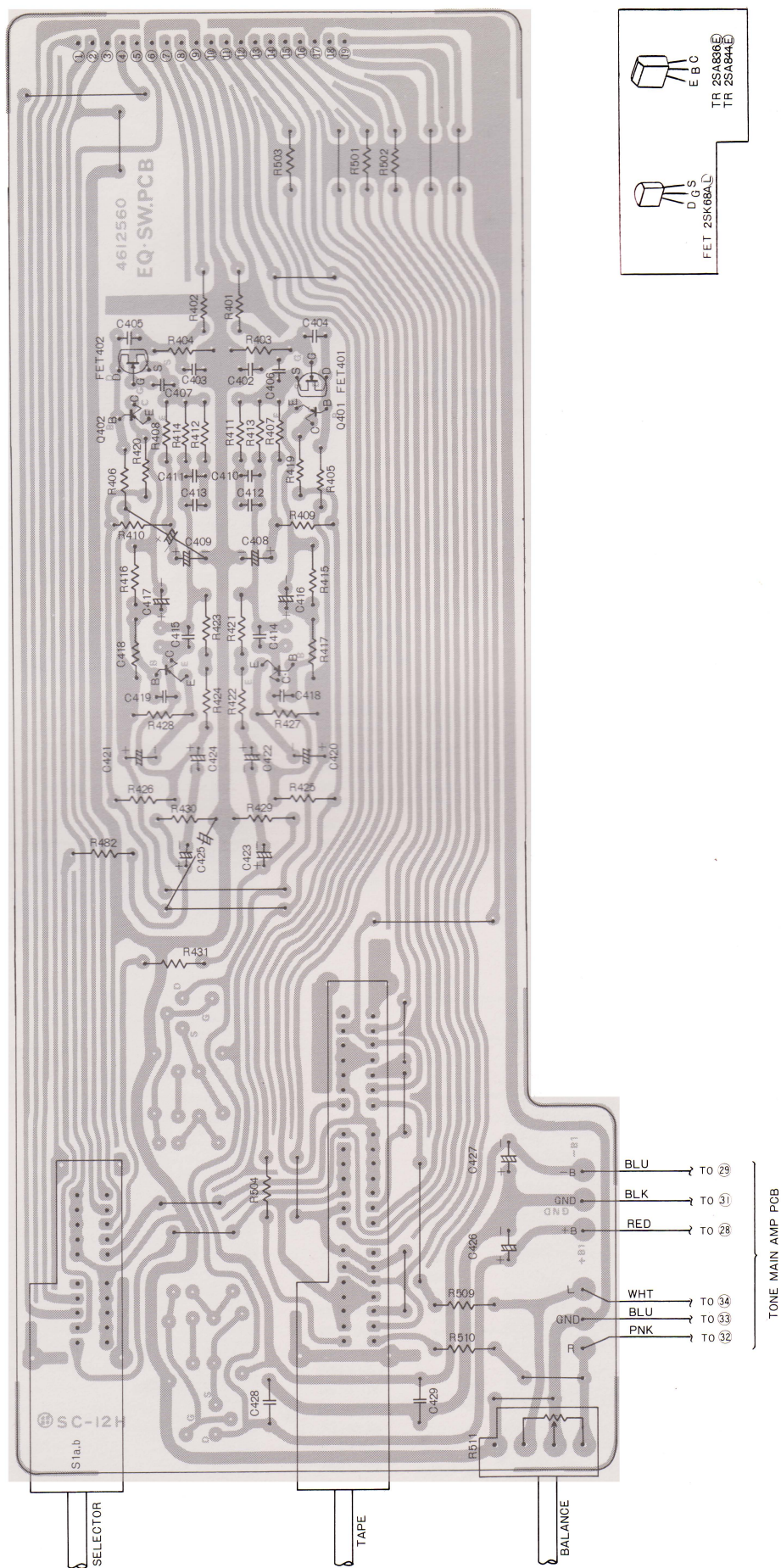
HIGH FILTER

TREBLE CONTROL

TONE/MAIN-LAMP-PIN TERMINAL CIRCUIT BOARDS



EQUALIZATION/SWITCH CIRCUIT BOARD



PARTS LOCATION

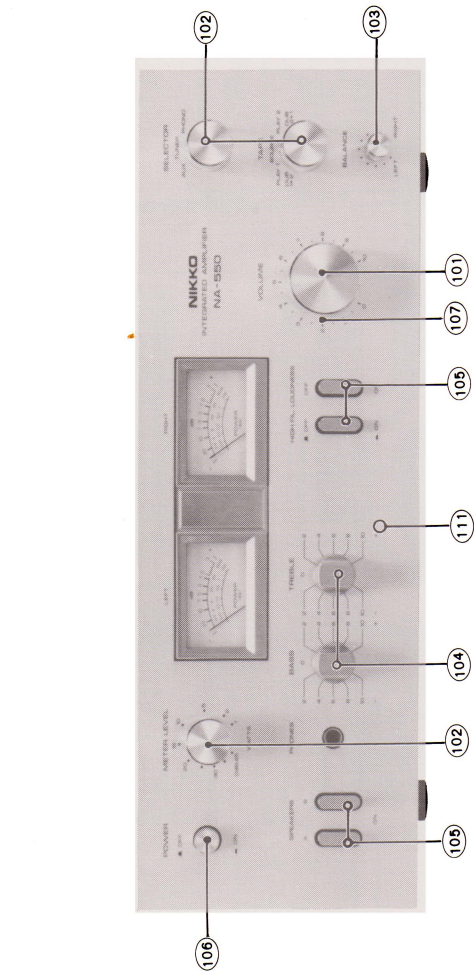


Photo 5

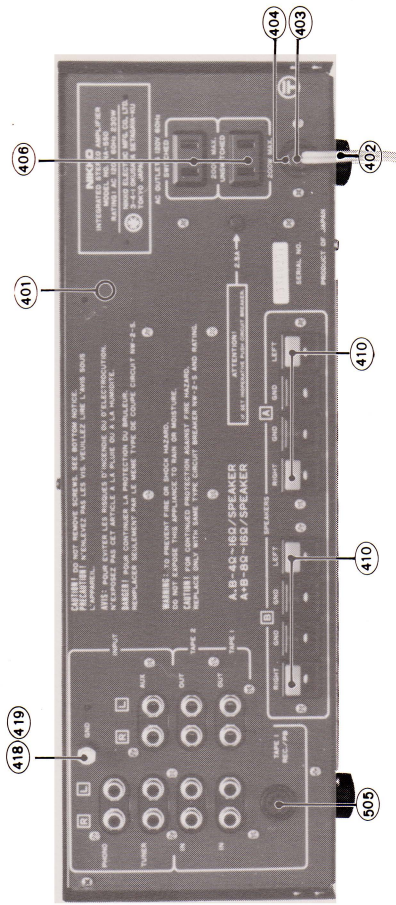


Photo 7

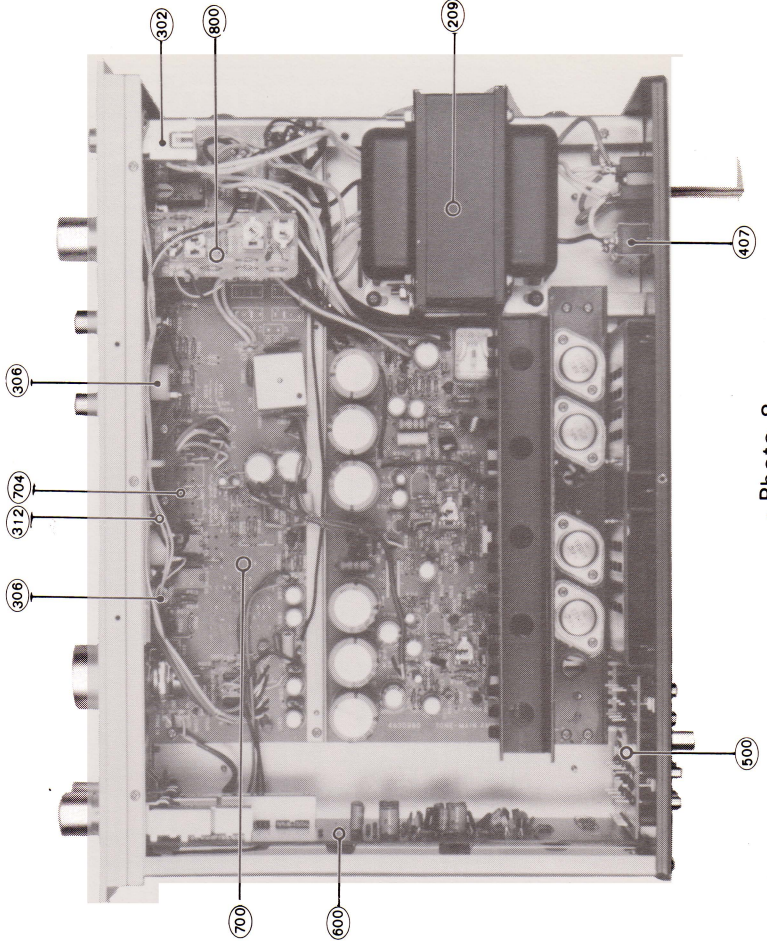


Photo 8

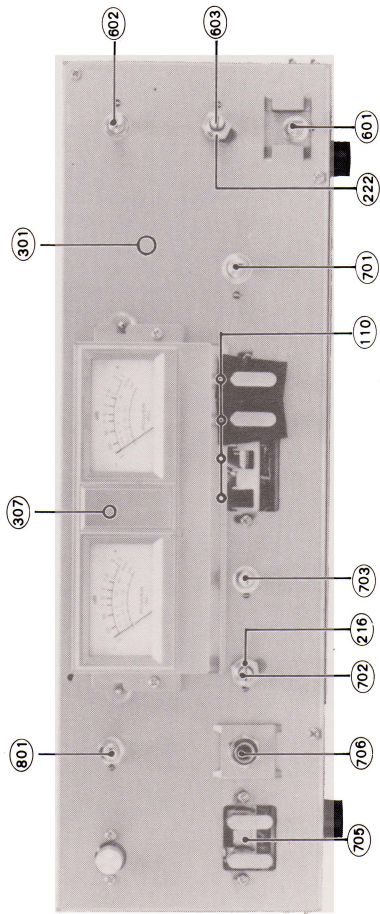


Photo 6

PARTS LIST

NOTES

- ★ The KEY NUMBER (#) marked with a (★) on parts list relate to numbers of three digits with a (○). (photo 1-8).
- + Numbers in file indicate the quantity of parts used in one type.
- ++ TR: Transistor
FET: Field effect transistor
IC: Integrated circuit
VR: Volume control (Variable resistor)
RES: Carbon film fixed resistor
MO-RES: Metal oxide film fixed resistor
CEM-RES: Cemented wire-wound fixed resistor
FP: Flame proof
C-CAP: Ceramic capacitor
E-CAP: Aluminium electrolytic capacitor
M-CAP: Polyester film capacitor

S-CAP: Polystyrene film capacitor
T-CAP: Tantalum electrolytic capacitor
BP-CAP: Bipolar electrolytic capacitor

E-CAP, T-CAP and BP-CAP values (1x10uF) are in (1)uF, (10)V.

- Assemblies and parts are subject to change without notice.
- Parts ordering procedure:
Include in any order
a. part number.
b. Part description.
c. Model number.
(any of the above lacking from an order may delay shipment of the order.)

KEY NO.	SYMBOL NO.	TYPE ⁺ W-type-u E-type-u N-type-d	DESCRIPTION ⁺⁺	PART NO.
PACKING MATERIALS & ACCESSORIES				
001	1 1 1		CARTON BOX	9825230
003	2 2 2		STYROL PAD	9840640
003	1 1 1		POLY SACK—vinyl cloth back	9640550
004	1 1 1		POLY SACK #13—vinyl cloth back	9640320
005a	1 —		INSTRUCTION MANUAL E	960197E
005b	—		INSTRUCTION MANUAL F	960212F
005c	— 1 1		INSTRUCTION MANUAL K	960190K
006	1 —		WARRANTY CARD (N)	967003A
007	1 1 1		POLISHING CLOTH	9690040
008	1 1 1		SILICA GEL—dryer	9690010
CABINET ASSEMBLY				
★101	1 1 1		KNOB R15GL-33D (volume)	7851600
★102	3 3 3		KNOB R15GL-22D (selector, tape, meter level)	7851610
★103	1 1 1		KNOB R15GL-12D (balance)	7851620
★104	2 2 2		KNOB 8GL-20LVD (bass, treble)	7851650
★105	6 6 6		PUSHBUTTON ABS (speakers, loudness, high filter) (subsonic, tone)	7851560
★106	1 1 1		PUSHBUTTON M12-GL 3.3SQ (power)	7850620
★110	2 2 2		DUST COVER (S)	7001880
★111	1 1 1		PNL NA-550—front panel	7883590
112	↑		PUSHBUTTON GUIDE (2)	7401210
113	↑		PUSHBUTTON GUIDE 12B	7400630
114	↑		PTS 3 φ x 8—screw	814308S
115	↑		SN 9 φ—nut	892249S
116	↑		W 9 φ—washer	893109S
★117	1 1 1		METAL COVER	7820770
★118	↑		PTS 3 φ x 8 BLK—screw	814308Q
★119	↑		TFTS 4 φ x 10 BLK—screw	887410W
★120	↑		W 5 φ BLK—screw	893105W
★121	1 1 1		BTM PLT—bottom plate	7324530
★122	↑		PTS 3 φ x 6—screw	814306S
123	↑		POLY FOOT 23 φ x 12—foot	7401080
124	↑		PTS 3 φ x 12—screw	814312S

KEY NO.	SYMBOL NO.	TYPE ⁺ W-type-u E-type-u N-type-d	DESCRIPTION ⁺⁺	PART NO.
CHASSIS ASSEMBLY				
201	1 1 1		CHASSIS (L)	7324540
202	1		EARTH LUG	4400000
203	1		TW(1) 3 φ—washer	893403U
204	1		PTS 3 φ x 6—screw	814306S
205	R1		RES 2.2mohm 10% 1/2W	315225K
206	1		EARTH LUG 4P WP	4400100
207	1		PTS 3 φ x 6—screw	814306S
208	1 1 1		WIRE CLIP 43	7401340
★209a	1 —		POWER TRANSFORMER T-1-294 120V	1102940
209b	— —		POWER TRANSFORMER T-1-317 100/120/220/240V	1103170
209c	— 1		POWER TRANSFORMER T-1-319 220/240V	1103190
210	4 4 4		BLTS 4 φ x 8—screw	874408S
211	1 1 1		CHASSIS (R) (FRONT PLATE ASSEMBLY)	7324550
212	6 6 6		PTS 3 φ x 6—screw (TONE/MAIN AMP PCB ASS)	814306S
213	4 4 4		PMS 3 φ x 5—screw	810305S
214	6 6 6		PTS 3 φ x 8—screw	814308S
215	1 1 1		W 3 φ—washer	893203D
★216	1 1 1		SPCR 765—spacer	7152210
217	1 1 1		PCB ANGLE	7226060
218	6 6 6		PTS 3 φ x 8—screw (BACK PLATE ASSEMBLY)	814308S
219	2 2 2		PTS 3 φ x 8—screw	814308S
220	6 6 6		BLTS 3 φ x 8—screw	874308S
221	4 4 4		PTS 3 φ x 10—screw (EQ/SW PCB ASS)	814310S
(600)	1 1 1		SPCR 765—spacer	7152210
★222	1 1 1		ANGLE	7226050
223	2 2 2		PTS 3 φ x 8—screw	814308S
224				
FRONT PLATE ASSEMBLY				
★301	1 1 1		FRONT PLATE (METER CONTROL PCB ASS)	7324560
(800)				
★302a	S9		PUSHBUTTON SWITCH SDG-1P (power)	4040820

PART ORDERING PROCEDURE Include in any order: A. Part number, B. Part description, C. Model number.
(any of the above lacking from an order may delay shipment of that order.)

KEY NO.	SYMBOL NO.	TYPE ⁺ W-type-u E-type-u N-type-d	DESCRIPTION ⁺⁺	PART NO.	KEY NO.	SYMBOL NO.	TYPE ⁺ W-type-u E-type-u N-type-d	DESCRIPTION ⁺⁺	PART NO.
302b	S9	— 1	PUSHBUTTON SWITCH SDG- (power)	4040830	EQUALIZER/SWITCH CIRCUIT BOARD				
303	↑	2 2 2	PMS 3 ϕ x 5—screw	810305S	★600	1 1 1	EQ/SW PCB ASS—complete circuit board	9441180	
304a	C1	1 —	C—CAP 0.0047uF AC120V	239472C		C400	1 1 1	E—CAP 35R47uF	211425Q
304b	C1	— 1 2	C—CAP 0.0047uF AC250V	239472E		C401	1 1 1	E—CAP 35R47uF	211425Q
305	↑	— 1 2	C—CAP COVER (M) 23 ϕ	7400980		C402	1 1 1	C—CAP 100pF 10% 50V SL	232101K
★306		2 2 2	METER	4582100		C403	1 1 1	C—CAP 100pF 10% 50V SL	232101K
★307		1 1 1	METER GUIDE	7401280		C404	1 1 1	C—CAP 15pF 10% 50V SL	232150K
308	↑	2 2 2	PTS 3 ϕ x 8—screw	814308S		C405	1 1 1	C—CAP 15pF 10% 50V SL	232150K
309		1 1 1	METER BRACKET	7226230		C406	1 1 1	C—CAP 100pF 10% 50V SL	232101K
310	↑	2 2 2	PTS 3 ϕ x 8—screw	814308S		C407	1 1 1	C—CAP 100pF 10% 50V SL	232101K
311		1 1 1	WIRE CLIP 43	7401340		C408	1 1 1	E—CAP 16R100uF	211230Q
★312		1 1 1	LAMP PCB	4631010		C409	1 1 1	E—CAP 16R100uF	211230Q
313		2 2 2	LAMP PL-8 8V 0.25A	5808130		C410	1 1 1	S—CAP 680pF 5% 50V	223681V
314		2 2 2	PTS 3 ϕ x 8—screw	814308S		C411	1 1 1	S—CAP 680pF 5% 50V	223681V
315		1 1 1	SN 12 ϕ (headphone)—nut	7121080		C412	1 1 1	M—CAP 0.0018uF 5% 50V	222182J
BACK PLATE ASSEMBLY						C413	1 1 1	M—CAP 0.0018uF 5% 50V	222182J
★401a		1 —	BACK PLATE W	7081930	C414	1 1 1	M—CAP 0.01uF 5% 50V	222103J	
401b		— 1 1	BACK PLATE E.N	7081920	C415	1 1 1	M—CAP 0.01uF 5% 50V	222103J	
★402a		1 —	POWER SUPPLY CORD KP-2	606002J	C416	1 1 1	E—CAP 50R1uF	211510Q	
402b		— 1 1	POWER SUPPLY CORD CEE-2T	600506J	C417	1 1 1	E—CAP 50R1uF	211510Q	
402c		—	POWER SUPPLY CORD CEE-3T	601809A	C418	1 1 1	C—CAP 100pF 10% 50V SL	232101K	
★403a		1 —	CORD STOPPER SR-3P-4	7400620	C419	1 1 1	C—CAP 100pF 10% 50V =L	232101K	
403b		— 1 1	CORD STOPPER SR-4N-4	7400690	C420	1 1 1	E—CAP 16R100uF	211230Q	
403c		—	CORD STOPPER SR-6W-1	7400740	C421	1 1 1	E—CAP 16R100uF	211230Q	
★404a		1 —	CORD BRACKET (UL)	7029350	C422	1 1 1	E—CAP 35R10uF	211420L	
404b		— 1 1	CORD BRACKET (EH)	7029800	C423	1 1 1	E—CAP 35R10uF	211420L	
405	↑	2 2 2	PTS 3 ϕ x 8—screw	814308S	C424	1 1 1	E—CAP 35R10uF	211420L	
★406		2 2 2	AC SKT—AC outlet	4500160	C425	1 1 1	E—CAP 35R10uF	211420L	
★407		1 1	NW-2S 2.50A—circuit breaker	4900680	C426	1 1 1	E—CAP 35R47uF	211425Q	
408		1 1	BREAKER BRACKET 1P	7026050	C427	1 1 1	E—CAP 35R47uF	211425Q	
409		2 2	PTS 3 ϕ x 8—screw	814308S	C428	1 1 1	M—CAP 0.1uF 10% 50V	222104K	
★410		2 2 2	4P PUSH TERMINAL	4460480	C429	1 1 1	M—CAP 0.1uF 10% 50V	222104K	
411		4 4 4	PTS 3 ϕ x 10—screw	814310S	FET401	1 1 1	FET 2SK68A (L)	516023S	
412		—	VOLTAGE CHANGE SOCKET COVER	7400990	FET402	1 1 1	FET 25K68A (L)	516023S	
413		—	VOLTAGE CHANGE SOCKET	4530490	Q401	1 1 1	TR 2SA836 (E)	510050S	
414		—	VOLTAGE CHANGE PLUG	4530480	Q402	1 1 1	TR 2SA836 (E)	510050S	
415		—	PMS 3 ϕ x 10—screw	810310S	Q403	1 1 1	TR 2SA844 (D,E)	510051S	
416		—	IN 3 ϕ —nut	892013S	Q404	1 1	TR 2SA844 (D,E)	510051S	
417		—	TW(I) 3 ϕ —washer	893403U	R401	1 1 1	RES 1kohm 5% 1/4W	328102J	
★418		1 1 1	GROUND TERMINAL SHAFT MK-3	7152050	R402	1 1 1	RES 1kohm 5% 1/4W	328102J	
★419		1 1 1	GROUND TERMINAL NUT MK-2	7152060	R403	1 1 1	RES 47kohm 5% 1/4W	328473J	
420		1 1 1	W 3 ϕ —washer	893203D	R404	1 1 1	RES 47kohm 5% 1/4W	328473J	
421		1 1 1	IN 3 ϕ —nut	892013S	R405	1 1 1	RES 39kohm 5% 1/4W	328393J	
422		1 1 1	TW(II) 3 ϕ —washer	893403U	R406	1 1 1	RES 39kohm 5% 1/4W	328393J	
(500)			(PIN TER PCB ASS)		R407	1 1 1	RES 470ohm 5% 1/4W	328471J	
423		7 7 7	PTS 3 ϕ x 10—screw	814310S	R408	1 1 1	RES 470ohm 5% 1/4W	328471J	
PIN TERMINAL CIRCUIT BOARD					R411	1 1 1	RES 470ohm 5% 1/4W	328471J	
500		1 1 1	PIN TER PCB ASS—complete circuit board	9492340	R412	1 1 1	RES 470ohm 5% 1/4W	328471J	
501		1 1 1	PIN TER PCB	4630990	R413	1 1 1	RES 27kohm 5% 1/4W	328273J	
502		1 1 1	CB PIN TERMINAL 2P x 3	4446010	R414	1 1 1	RES 27kohm 5% 1/4W	328273J	
503		1 1 1	CB PIN TERMINAL 2P x 2	4444040	R415	1 1 1	RES 22kohm 5% 1/4W	328223J	
504		1 1 1	CB PIN TERMINAL 2P x 2D	4444050	R416	1 1 1	RES 22kohm 5% 1/4W	328223J	
★505		1 1 1	CONNECTOR 19PL	4582050	R417	1 1 1	RES 3.3kohm 5% 1/4W	328332J	
					R418	1 1 1	RES 3.3kohm 5% 1/4W	328332J	
R505		1 1 1	RES 100kohm 5% 1/4W	328104J	R419	1 1 1	RES 22kohm 5% 1/4W	328223J	
R506		1 1 1	RES 100kohm 5% 1/4W	328104J	R420	1 1 1	RES 22kohm 5% 1/4W	328223J	
R507		1 1 1	RES 330kohm 5% 1/4W	328334J	R421	1 1 1	RES 150kohm 5% 1/4W	328154J	
R508		1 1 1	RES 330kohm 5% 1/4W	328334J	R422	1 1 1	RES 150kohm 5% 1/4W	328154J	
					R423	1 1 1	RES 150kohm 5% 1/4W	328154J	

PART ORDERING PROCEDURE ----- Include in any order: A. Part number, B. Part description, C. Model number.
(any of the above lacking from an order may delay shipment of that order.)

KEY NO.	SYMBOL NO.	TYPE ⁺ W-type-u E-type-u N-type-d	DESCRIPTION ⁺⁺	PART NO.	KEY NO.	SYMBOL NO.	TYPE ⁺ W-type-u E-type-u N-type-d	DESCRIPTION ⁺⁺	PART NO.
	R424	1 1 1	RES 150kohm 5% 1/4W	328154J		IC501	1 1 1	IC TA3176P	518045S
	R425	1 1 1	RES 6.8kohm 5% 1/4W	328682J		IC502	1 1 1	IC TA3176P	518045S
	R426	1 1 1	RES 6.8kohm 5% 1/4W	328682J		R512	1 1 1	RES 15kohm 5% 1/4W	328153J
	R427	1 1 1	RES 390ohm 5% 1/4W	328391J		R513	1 1 1	RES 15kohm 5% 1/4W	328153J
	R428	1 1 1	RES 390ohm 5% 1/4W	328391J		R514	1 1 1	RES 1Mohm 5% 1/4W	328105J
	R429	1 1 1	RES 270ohm 5% 1/4W	328274J		R515	1 1 1	RES 1Mohm 5% 1/4W	328105J
	R430	1 1 1	RES 270kohm 5% 1/4W	328274J		R516	1 1 1	RES 4.7kohm 5% 1/4W	328472J
	R431	1 1 1	RES 2.2kohm 5% 1/4W	328222J		R517	1 1 1	RES 4.7kohm 5% 1/4W	328472J
	R432	1 1 1	RES 2.2kohm 5% 1/4W	328222J	★701	R518,			
	R501	1 1 1	RES 10kohm 5% 1/4W	328103J		R519	1 1 1	VR, V24L5G5PHN25KC15AL, 100kohm X2(41PC) (volume)	4320650
	R502	1 1 1	RES 10kohm 5% 1/4W	328103J		R520	1 1 1	RES 1kohm 5% 1/4W	328102J
	R503	1 1 1	RES 10kohm 5% 1/4W	328103J		R521	1 1 1	RES 1kohm 5% 1/4W	328102J
	R504	1 1 1	RES 10kohm 5% 1/4W	328103J		R522	1 1 1	RES 330kohm 5% 1/4W	328334J
	R509	1 1 1	RES 2.2kohm 5% 1/4W	328222J		R523	1 1 1	RES 330kohm 5% 1/4W	328334J
	R510	1 1 1	RES 2.2kohm 5% 1/4W	328222J		R528	1 1 1	RES 470kohm 5% 1/4W	328474J
★601	R511	1 1 1	VR V16L4(PH)N30KC5BM250K (C,C) 250kohm (balance)	4310510		R529	1 1 1	RES 470kohm 5% 1/4W	328474J
★602	Si	1 1 1	ROTARY SLIDE SWITCH (selector)	4055120		R530	1 1 1	RES 12kohm 5% 1/4W	328123J
★603	S2	1 1 1	ROTARY SLIDE SWITCH SRZ-V065N (tape)	4055060		R530	1 1 1	RES 82kohm 5% 1/4W	328823J
						R530	1 1 1	RES 12kohm 5% 1/4W	328123J
						R531	1 1 1	RES 82kohm 5% 1/4W	328823J
						R532	1 1 1	RES 1.2kohm 5% 1/4W	328122J
						R533	1 1 1	RES 1.2kohm 5% 1/4W	328122J
					★702	R534,			
						R535	1 1 1	VR, V16L4G3PHN25KC26Z, 100kohmX2(11PC) (bass)	4320660
700a		1 1 —	TONE/MAIN AMP PCB ASS W,E —complete circuit board	9430600		R536	1 1 1	RES 12kohm 5% 1/4W	328123J
700b		— 1	TONE/MAIN AMP PCB ASS N			R537	1 1 1	RES 12kohm 5% 1/4W	328123J
						R538	1 1 1	RES 2.7kohm 5% 1/4W	328272J
						R539	1 1 1	RES 2.7kohm 5% 1/4W	328272J
						R540	1 1 1	RES 1kohm 5% 1/4W	328102J
						R541	1 1 1	RES 1kohm 5% 1/4W	328102J
						R542	1 1 1	RES 18kohm 5% 1/4W	328183J
						R543	1 1 1	RES 18kohm 5% 1/4W	328183J
						R544	1 1 1	RES 3.3kohm 5% 1/4W	328332J
						R545	1 1 1	RES 3.3kohm 5% 1/4W	328332J
					★703	R546,			
						R547	1 1 1	VR, V16L4G3PHN25KC26Z, 100kohmX2(11PC) (treble)	4320660
	C501	1 1 1	S—CAP 330pF 10% 50V	223331W		R548	1 1 1	RES 220ohm 5% 1/4W	328221J
	C502	1 1	S—CAP 330pF 10% 50V	223331W		R549	1 1 1	RES 220ohm 5% 1/4W	328221J
	C503	1 1 1	M—CAP 0.1uF 10% 50V	222104K		R550	1 1 1	RES 220kohm 5% 1/4W	328224J
	C504	1 1 1	M—CAP 0.1uF 10% 50V	222104K		R551	1 1 1	RES 220kohm 5% 1/4W	328224J
	C505	1 1 1	T—CAP 35D0.47uF	252405M					
	C506	1 1 1	T—CAP 35D0.47uF	252405M					
	C507	1 1 1	C—CAP 22pF 10% 50V SL	232220K					
	C508	1 1 1	C—CAP 22pF 10% 50V SL	232220K					
	C509	1 1 1	C—CAP 33pF 10% 50V SL	232330K					
	C510	1 1 1	C—CAP 33pF 10% 50V SL	232330K					
	C511	1 1 1	E—CAP 50R3.3uF LC	211513L		R601	1 1 1	RES 3.3kohm 5% 1/4W	328332J
	C512	1 1 1	E—CAP 50R3.3uF LC	211513L		R602	1 1 1	RES 3.3kohm 5% 1/4W	328332J
	C513	1 1 1	C—CAP 33pF 10% 50V SL	232330K					
	C514	1 1 1	C—CAP 33pF 10% 50V SL	232330K		R605	1 1 1	RES 390kohm 5% 1/4W	328394J
	C515	1 1 1	C—CAP 15pF 10% 50V SL	232150K		R606	1 1 1	RES 390kohm 5% 1/4W	328394J
	C516	1 1 1	C—CAP 15pF 10% 50V SL	232150K	★704	S3 S4	1 1 1	TWIN PUSH SW SUE-23 (loudness, high-fil)—double pushbutton switch	4040950
	C517	1 1 1	E—CAP 35R10uF LC	211420L					
	C518	1 1 1	E—CAP 35R10uF LC	211420L	★705	S7,S8	1 1 1	TWIN PUSH SW (A speakers, B speakers) —double pushbutton switch	4040930
	C519	1 1 1	M—CAP 0.022uF 10% 50V	222223K					
	C520	1 1 1	M—CAP 0.022uF 10% 50V	222223K					
	C521	1 1 1	M—CAP 0.22uF 10% 50V	222224K					
	C522	1 1 1	M—CAP 0.22uF 10% 50V	222224K					
	C523	1 1 1	M—CAP 0.0022uF 10% 50V	222222K					
	C524	1 1 1	M—CAP 0.0022uF 10% 50V	222222K					
	C525	1 1 1	M—CAP 0.022uF 10% 50V	222223K					
	C526	1 1 1	M—CAP 0.022uF 10% 50V	222223K					
	C527	1 1 1	E—CAP 50R3.3uF LC	211513L					
	C528	1 1 1	E—CAP 50R3.3uF LC	211513L					
	C601	1 1 1	M—CAP 0.01uF 10% 50V	222103K		C701	1 1 1	E—CAP 35R4.7uF LC	211415L
	C602	1 1 1	M—CAP 0.01uF 10% 50V	222103K		C702	1 1 1	E—CAP 35R4.7uF LC	211415L
						C703	1 1 1	E—CAP 35R10uF	211420Q
						C704	1 1 1	E—CAP 35R10uF	211420Q
						C705	1 1 1	E—CAP 50R100uF	211530Q

(POWER AMP SECTION)

(any of the above lacking from an order may delay shipment of that order.)

KEY NO.	SYMBOL NO.	TYPE ⁺ W-type-u E-type-u N-type-d	DESCRIPTION ⁺⁺	PART NO.	KEY NO.	SYMBOL NO.	TYPE ⁺ W-type-u E-type-u N-type-d	DESCRIPTION ⁺⁺	PART NO.
C706		1 1 1	E—CAP 50R100uF	211530Q	R714		1 1 1	RES 4.7kohm 5% 1/4W	328472J
C707		1 1 1	E—CAP 16R100uF	211230Q	R715		1 1 1	RES 10kohm 5% 1/4W	328103J
C708		1 1 1	E—CAP 16R100uF	211230Q	R716		1 1 1	RES 10kohm 5% 1/4W	328103J
C709		1 1 1	E—CAP 6.3R220uF	211032Q	R717		1 1 1	RES 150ohm 5% 1/4W	328151J
C710		1 1 1	E—CAP 6.3R220uF	211032Q	R718		1 1 1	RES 150ohm 5% 1/4W	328151J
C711		1 1 1	C—CAP 15pF 10% 50V SL	232150K	R719		1 1 1	RES 47ohm 5% 1/4W	328470J
C712		1 1 1	C—CAP 15pF 10% 50V SL	232150K	R720		1 1 1	RES 47ohm 5% 1/4W	328470J
C713		1 1 1	M—CAP 0.001uF 10% 50V	222102K	R721		1 1 1	RES 100ohm 5% 1/4W	328101J
C714		1 1 1	M—CAP 0.001uF 10% 50V	222102K	R722		1 1 1	RES 100ohm 5% 1/4W	328101J
C715		1 1 1	C—CAP 6pF ±0.5pF 50V SL	232609D	R723		1 1 1	RES 33kohm 5% 1/4W	328333J
C716		1 1 1	C—CAP 6pF ±0.5pF 50V SL	232609D	R724		1 1 1	RES 33kohm 5% 1/4W	328333J
C717		1 1 1	M—CAP 0.1uF 10% 50V	222104K	R725		1 1 1	RES 68kohm 5% 1/4W	328683J
C718		1 1 1	M—CAP 0.1uF 10% 50V	222104K	R726		1 1 1	RES 68kohm 5% 1/4W	328683J
C719		1 1 1	C—CAP 3pF ±0.5pF 50V SL	232309D	R727		1 1 1	RES 1kohm 5% 1/4W	328102J
C720		1 1 1	C—CAP 3pF ±0.5pF 50V SL	232309D	R728		1 1 1	RES 1kohm 5% 1/4W	328102J
D701		1 1 1	DIODE 1S2076	501019S	R729		1 1 1	HVR EVL-S6A-A00-B52	
D702		1 1 1	DIODE 1S2076	501019S				500ohm—potentiometer	4300700
D703		1 1 1	DIODE 1S2076	501019S	R730		1 1 1	HVR EVL-S6A-A00-B52	
D704		1 1 1	DIODE 1S2076	501019S				500ohm—potentiometer	4300700
D705		1 1 1	DIODE 1S2076	501019S	R731		1 1 1	RES 100ohm 5% 1/4W	328101J
D706		1 1 1	DIODE 1S2076	501019S	R732		1 1 1	RES 100ohm 5% 1/4W	328101J
D707		1 1 1	DIODE 1S2076	501019S	R733		1 1 1	RES 560ohm 5% 1/4W	328561J
D708		1 1 1	DIODE 1S2076	501019S	R734		1 1 1	RES 560ohm 5% 1/4W	328561J
F2		1 1 —	FUSE 4A 250V MGC	4700550	R735		1 1 1	RES 560ohm 5% 1/4W	328561J
F3		1 1 —	FUSE 4A 250V MGC	4700550	R736		1 1 1	RES 560ohm 5% 1/4W	328561J
		4 4 —	FUSE HOLDER	7050420	R737		1 1 1	FP-MO-RES 1.8kohm 5% 1/2W	360182L
F2		— 1 1	MIDGET FUSE		R738		1 1 1	FP-MO-RES 1.8kohm 5% 1/2W	360182L
F3		— 1 1	MIDGET FUSE		R739		1 1 1	FP-MO-RES 1.8kohm 5% 1/2W	360182L
		— 4 —	MIDGET FUSE HOLDER	7050430	R740		1 1 1	FP-MO-RES 1.8kohm 5% 1/2W	360182L
L1		1 1 1	CHOKE COIL	1210830	R741		1 1 1	FP-MO-RES 220ohm 5% 1/2W	360221L
L2		1 1 1	CHOKE COIL	1210830	R742		1 1 1	FP-MO-RES 220ohm 5% 1/2W	360221L
Q701		1 1 1	TR 2SA798(F,G)	514086S	R743		1 1 1	FP-MO-RES 220ohm 5% 1/2W	360221L
Q702		1 1 1	TR 2SA798(F,G)	514086S	R744		1 1 1	FP-MO-RES 220ohm 5% 1/2W	360221L
Q703		1 1 1	TR 2SB646A(C,D)	510052S	R745		1 1 1	CEM-RES 0.47ohm 5W	384479W
Q704		1 1 1	TR 2SB646A(C,D)	510052S	R746		1 1 1	CEM-RES 0.47ohm 5W	384479W
Q705		1 1 1	TR 2SC1345(E)	511027S	R747		1 1 1	CEM-RES 0.47ohm 5W	384479W
Q706		1 1 1	TR 2SC1345(E)	511027S	R748		1 1 1	CEM-RES 0.47ohm 5W	384479W
Q707		1 1 1	TR 2SD66A(C,D)	511025S	R749		1 1 1	FP-MO-RES 10ohm 5% 2W	362100L
Q708		1 1 1	TR 2SD66A(C,D)	511025S	R750		1 1 1	FP-MO-RES 10ohm 5% 2W	362100L
Q709		1 1 1	TR 2SC1345(E)	511027S	R751		1 1 1	FP-MO-RES 10ohm 5% 2W	362100L
Q710		1 1 1	TR 2SC1345(E)	511027S	R752		1 1 1	FP-MO-RES 10ohm 5% 2W	362100L
Q711		1 1 1	TR 2SA844(D,E)	510051S	R753		1 1 1	FP-MO-RES 330ohm 5% 2W	362331L
Q712		1 1 1	TR 2SA844(D,E)	510051S	R754		1 1 1	FP-MO-RES 330ohm 5% 2W	362331L
Q713		1 1 1	TR 2SD667A(C,D)	511026S	ZD701		1 1 1	ZENER DIODE HZ24	502040S
Q714		1 1 1	TR 2SD667A(C,D)	511026S	ZD702		1 1 1	ZENER DIODE HZ24	502040S
Q715		1 1 1	TR 2SB647A(C,D)	511053S			1 1 1	HEATSINK (EX)	7081840
Q716		1 1 1	TR 2SB647A(C,D)	511053S			1 1 1	HEATSINK (B)	7081860
Q717		1 1 1	TR 2SD388(R,S)	513041S			1 1 1	HEATSINK (F)	7081960
Q718		1 1 1	TR 2SD388(R,S)	513041S			1 1 1	HEATSINK (S)	7081970
Q719		1 1 1	TR 2SB541(R,S)	513053S			8 8 8	PTS 3 φ x 8—screw	814308S
Q720		1 1 1	TR 2SB541(R,S)	513053S			8 8 8	PMS 3 φ x 14—screw	810314S
							8 8 8	TW(I) 3 φ—washer	893403U
							8 8 8	TW(I) 3 φ—washer	893403U
							8 8 8	IN 3 φ—nut	892013S
R701		1 1 1	RES 68kohm 5% 1/4W	328683J	★706		1 1 1	EAR JACK HLJ	4550220
R702		1 1 1	RES 68kohm 5% 1/4W	328683J				(POWER SUPPLY SECTION)	
R703		1 1 1	RES 3.9kohm 5% 1/4W	328392J					
R704		1 1 1	RES 3.9kohm 5% 1/4W	328392J					
R705		1 1 1	RES 5.6kohm 5% 1/4W	328562J					
R706		1 1 1	RES 5.6kohm 5% 1/4W	328562J					
R707		1 1 1	RES 18kohm 5% 1/4W	328183J					
R708		1 1 1	RES 18kohm 5% 1/4W	328183J					
R709		1 1 1	RES 1.8kohm 5% 1/4W	328182J					
R710		1 1 1	RES 1.8kohm 5% 1/4W	328182J					
R711		1 1 1	RES 1.8kohm 5% 1/4W	328182J					
R712		1 1 1	RES 1.8kohm 5% 1/4W	328182J					
R713		1 1 1	RES 4.7kohm 5% 1/4W	328472J					

PART ORDERING PROCEDURE ----- Include in any order: A. Part number, B. Part description, C. Model number.
(any of the above lacking from an order may delay shipment of that order.)

KEY NO.	SYMBOL NO.	TYPE ⁺ W-type-u E-type-u N-type-d	DESCRIPTION ⁺⁺	PART NO.	KEY NO.	SYMBOL NO.	TYPE ⁺ W-type-u E-type-u N-type-d	DESCRIPTION ⁺⁺	PART NO.
C807			E—CAP 50L3300uF	212543P		D803	1 1 1	DIODE 1S2076A	501020S
C808			E—CAP 50L3300uF	212543P		Q803	1 1 1	TR 2SA844 (D,E)	510051S
C809			E—CAP 50L3300uF	212543P		Q804	1 1 1	TR 2SC945 Ⓢ (P,Q)	515077S
C810			E—CAP 50L3300uF	212543P		Q805	1 1 1	TR 2SC945 Ⓢ (P,Q)	515077S
C811			M—CAP 0.1uF 10% 50V	222104K		Q806	1 1 1	TR 2SC1627 (O,Y)	511017S
C812			M—CAP 0.1uF 10% 50V	222104K					
C813			E—CAP 35R330uF	211433Q		R813	1 1 1	RES 22kohm 5% 1/4W	328223J
C814			E—CAP 35R330uF	211433Q		R814	1 1 1	RES 22kohm 5% 1/4W	328223J
C815			E—CAP 35R47uF	211425Q		R815	1 1 1	RES 18kohm 5% 1/4W	328183J
C816			E—CAP 35R47uF	211425Q		R816	1 1 1	RES 18kohm 5% 1/4W	328183J
C817			E—CAP 35R47uF	211425Q		R817	1 1 1	RES 2.2kohm 5% 1/4W	328222J
C818			E—CAP 35R47uF	211425Q		R818	1 1 1	RES 2.2kohm 5% 1/4W	328222J
C819			M—CAP 0.1uF 10% 50V	222104K		R819	1 1 1	RES 220kohm 5% 1/4W	328224J
C820			M—CAP 0.1uF 10% 50V	222104K		R820	1 1 1	RES 12kohm 5% 1/4W	328123J
						R821	1 1 1	RES 82kohm 5% 1/4W	328823J
D801	1 1 1		DIODE 5SVB10	560041S		R822	1 1 1	FP-MO-RES 220ohm 5% 1W	361221L
↑	1 1 1		HEATSINK (D)	7081950		R823	1 1 1	FP-MO-RES 220ohm 5% 1W	361221L
↑	1 1 1		PTS 3 ϕ x 12—screw	814312S			1 1 1	RELAY MAT4B-211R (DC 24V)	1700210
Q801	1 1 1		TR 2SD571 (L,M)	511012S					
Q802	1 1 1		TR 2SB605 (L,M)	510041S					
R801	1 1 1		FP-MO-RES 4.7kohm 5% 2W	362472L					
R802	1 1 1		FP-MO-RES 4.7kohm 5% 2W	362472L					
R803	1 1 1		FP-MO-RES 100ohm 5% 1W	361101L	★800	1 1 1		METER CONTROL PCB ASS— complete circuit board	9492360
R804	1 1 1		RES 4.7kohm 5% 1/4W	328472J					
R805	1 1 1		RES 4.7kohm 5% 1/4W	328472J					
R806	1 1 1		FP-MO-RES 100ohm 5% 1W	361101L					
R807	1 1 1		RES 100ohm 5% 1/4W	328101J		D901	1 1 1	DIODE 1N60P	500001G
R808	1 1 1		RES 100ohm 5% 1/4W	328101J		D902	1 1 1	DIODE 1N60P	500001G
R809	1 1 1		RES 47ohm 5% 1/4W	328470J		D903	1 1 1	DIODE 1S2076	501019S
R810	1 1 1		RES 47ohm 5% 1/4W	328470J		D904	1 1 1	DIODE 1S2076	501019S
R811	1 1 1		FP-MO-RES 2.2kohm 5% 1W	361222L		D905	1 1 1	DIODE 1S2076	501019S
R812	1 1 1		FP-MO-RES 2.2kohm 5% 1W	361222L		D906	1 1 1	DIODE 1S2076	501019S
ZD801	1 1 1		ZENER DIODE HZ27	502041S	★801	R913,			
ZD802	1 1 1		ZENER DIODE HZ27	502041S		R914	1 1 1	VR, V16L4G3-1PHN25KC, B5kohmX2(meter level)	4320670
						R915	1 1 1	HVR, EVL-S6A-A00-B53, B5kohm —potentiometer	4300690
						R916	1 1 1	HVR, EVL-S6A-A00-B53, B5kohm —potentiometer	4300690
						R917	1 1 1	RES 680ohm 5% 1/4W	328681J
						R918	1 1 1	RES 680ohm 5% 1/4W	328681J
						R919	1 1 1	HVR, EVL-S6A-A00-B52, B500ohm —potentiometer	4300700
						R920	1 1 1	HVR, EVL-S6A-A00-B52, B500ohm —potentiometer	4300700

ALIGNMENT

TEST EQUIPMENT

Allow a minimum of 10 minutes warm-up for test equipment and the amplifier to be tested.

Maintain rated line voltage.

Generator—Audio Frequency

DC Voltmeter—High Sensitivity

Vacuum Tube Voltmeter

(Oscilloscope)

Connect 8 ohm dummy loads to both L and R channel speaker terminals of the amplifier.

MIDPOINT VOLTAGE

(See Tone/Main Amp Circuit Board)

Left Channel: Apply no signal to the amplifier input.

Using DC Voltmeter, see that the voltage drop across the dummy load is 0 ± 20 millivolts.

Right Channel: The same procedure as the left channel.

IDLING CURRENT ADJUSTMENT (See Tone/Main Amp Circuit Board)

Left Channel. Apply no signal to the amplifier input.

Using DC Voltmeter, adjust potentiometer R729 so that the voltage drop at TP35 to TP36 is 9.4 (or 4.7 to 18.8) millivolts.

Right Channel: Similarly, adjust Potentiometer R730 so that the voltage drop at across TP37

to TP38 is 9.4 (or 4.7 to 18.8) millivolts.

METER LEVEL ADJUSTMENT (See Meter Control Circuit Board)

Connect Generator to "AUX" of the amplifier.

Set potentiometers R915, R916, R919 and R920 to mid-range.

Left Channel:

1. Set "METER LEVEL" fully clockwise. Set Generator and "VOLUME" to obtain 1.0 watts power output. Adjust potentiometer R915 so that power meter reads 0dB.
2. Set "METER LEVEL" fully counter-clockwise. Set Generator and "VOLUME" to obtain 45 watts power output. Adjust potentiometer R919 so that the power meter reads 0dB.
3. Repeat steps 1 and 2 two or three times.

Right Channel:

1. Set "METER LEVEL" fully clockwise. Set Generator and "VOLUME" to obtain 1.0 watts power output. Adjust potentiometer R916 so that power meter reads 0dB.
2. Set "METER LEVEL" fully counter-clockwise. Set Generator and "VOLUME" to obtain 45 watts power output. Adjust potentiometer R920 so that the power meter reads 0dB.
3. Repeat steps 1 and 2 two or three times.

SEMICONDUCTOR DATA

† NOTES

A : Alloy
B : Base
D : Diffused
Si : Silicon

Df : Drift-field
E : Epitaxial
G : Grown
J : Junction

M : Mesa
P : Planer
Pc : Point-contact
Td : Triple-diffused

TRANSISTORS

DEVICE TYPE	APPLICATIONS	STRUCTURE†	MAXIMUM RATINGS Absolute-Maximum Values: (TA = 25°C unless otherwise specified)					ELECTRICAL CHARACTERISTICS Typical Values: (TA = 25°C unless otherwise specified)														MANUFACTURE
			Collector-to-Base Voltage VCBO	Emitter-to-Base Voltage VEBO	Collector Current IC	Collector Dissipation PC	Junction Temperature Tj	Collector Cutoff Current		Static Forward-Current Transfer Ratio			Collector-Emitter Saturation Voltage			Gain-Bandwidth Product		Base Spreading Resistance			Output Capacitance Cob	
			(V)	(V)	(mA)	(mW)	(°C)	ICBO (μA)	VCB (V)	hFE (V)	VCE (V)	IC (mA)	VCE(sat) (V)	IC (mA)	IB (mA)	fT fMHz	VCE VCB* (V)	IE IC* (mA)	hbb/ie(real)* (Ω)	VCE VCB* (V)	IE (mA)	
2SA798(F,G)	AF	PNP Dual Si-EP	-70	-5	-100	200	125	-0.1	-35	250 800	-6	-1	-0.6 max	-10	-1	100	-6	1			3	MITSUBISHI
2SA836(E)	AF,Low noise	PNP Si-E	-55	-5	-100	200	125	-0.1	-18	400 800	-12	-2	-0.5 max	-10	-1	200	-12	2			1.8	HITACHI
2SA844(D,E)	AF,Power	PNP Si-E	-55	-5	-100	300	125	-0.1	-18	250 800	-12	-2	-0.5 max	-10	-1	200	-12	2			1.8	HITACHI
2SB541(R,S)	AF	PNP Si-TdM	-110	-6	-8A	80W (Tc=25°C)	150	-100	-100	40 120	-5	-1A	2 max	-5	-1	7	-10	200			320	NEC
2SB646(A,C,D)	AF,Prdriver	PNP Si-E	-120	-5	-50	900	150	-10	-100	60 320	-5	-10	-1 max	-30	-3	140	-10	10			4	HITACHI
2SB647(C,D)	AF,Driver	PNP Si-E	-120	-5	-1A	900	150	-10	-100	60 320	-5	-150	-1 max	-500	-50	140	-5	10			20	HITACHI
2SB605(L,M)	AF,Driver	PNP Si-E	-60	-5	-700	800	150	-0.1 max	-60	90 270	-1	-100	-0.6 max	-500	-50	120	-6	10				NEC
2SC945 L (P,Q)	AF,Low noise general	NPN Si-E	60	5	100	250	125	100	60	135 400	6	1	0.15	100	10	250	6	-10			3.5	NEC
2SC1345 (E)	AF,Low noise	NPN Si-E,LTP	55	5	100	200	125	0.5 max	18	70 120	12	2	0.5 max	10	1	230	12	-2			1.8	HITACHI
2SC1627(O,Y)	AF,Voltage amp., Driver	NPN Si-E	80	5	300	600	150	0.1	50	40 240	12	50	0.5	200	10	100	10	-10			10	TOSHIBA
2SD388(R,S)	AF,Power	NPN Si-TdM	150	100	8A	80W (Tc=25°C)	150	100	100	40 120	5	1A	2max	5	1	9	10	-200			190	NEC
2SD571(L,M)	AF,Driver	NPN Si-E	60	5	700	800	150	0.1 max	60	90 270	1	100	0.6 max	500	50	110	6	-10				NEC
2SD666(A,C,D)	AF,Prdriver	NPN Si-E	120	5	50	900	150	10	100	60 320	5	10	2max	30	3	140	10	10*			3	HITACHI
2SD667A (C,D)	AF,Driver AF,Driver	NPN Si-E	120	5	1A	900	150	10	100	60 320	5	150	1max	500	50	140	5	150*			12	HITACHI

FIELD EFFECT TRANSISTORS

DEVICE TYPE	APPLICATIONS	STRUCTURE†	MAXIMUM RATINGS Absolute-Maximum Values: (TA = 25°C unless otherwise specified)						ELECTRICAL CHARACTERISTICS Typical Values: (TA = 25°C unless otherwise specified)												MANUFACTURE				
			Gate-to-Drain Voltage	Gate-to-Source Voltage	Gate Current	Drain Current	Total Power Dissipation	Junction Temperature	Drain Leakage Current		Gate-to-Drain Breakdown Voltage		Drain Current		Gate-to-Source Cutoff Voltage		Forward Transfer Admittance		Feed back Capacitance			Power Gain (Common source)		Noise Figure	
			VGDO	BGSO	IG	ID	Tj	Tj	Test Conditions	IGSS	Test Conditions	V(BR) GDO (V)	Test Conditions	IDSS	Test Conditions	VGS	Test Conditions	yfs	Test Conditions	CRSS		Test Conditions	GPS	Test Conditions	NF
			(V)	(V)	(mA)	(mA)	(mW)	(°C)		(nA)		(V)		(mA)		(V)			(pF)			(dB)		(dB)	
2SK68A (L,M)	AF, Low noise	N-channel Junction FET	-50	-50	10	20	250	125	VGS = -20V VDS = 0	-1.0 max			VDS = 10V VGS = 0	0.5 min 3.0 typ 12 max	VDS = 10V ID = 10uA	VDS = 10V ID = 0.5mA f = 1KHz	5.2	VDS = 10V VGS = 0 f = 1MHz	2.6			VDS = 10 max VGS = 0 RG = 1Kohm	10 max (10Hz) 1.5 max (1KHz)	NEC	

DIODES, LEDS

DEVICE TYPE	APPLICATIONS	STRUCTURE†	MAXIMUM RATINGS Absolute-Maximum Values: (TA = 25°C unless otherwise specified)								ELECTRICAL CHARACTERISTICS Typical Values: (TA = 25°C unless otherwise specified)								MANUFACTURE
			Reverse Surge Voltage VR surge	Peak Reverse Voltage VRM	Reverse Voltage VR	Peak Forward Voltage VFM	Peak Forward Current IFM	Average Rectified Current I	Forward Surge Current IF surge	Junction Temperature Tj	Total Power Dissipation PD	Forward Current IF min	Forward Voltage VF	Reverse Current IR max	Test Condition	Test Condition	Test Condition	Test Condition	
			(V)	(V)	(V)	(V)	(mA)	(mA)	(A)	(°C)	(mW)	(mA)	(V)	(uA)	(V)	(V)	(V)	(V)	
5SVB10	Rectifier		-100					6A	200 (Tc=25°C)	150			1.05	3A	10				SHINDENGEN
1N60P	FM detector	Ge-P	-35	-25	500	150	IF = 50 (1 sec)	0.5		70		4	1		75	-10			HITACHI
1S1885	Rectifier	Si-A	-100		70		1A (Ta=65°C)	60					1.2	1.5A	10	-100			TOSHIBA
1S2076	Various detector, Modulator, Demodulator	Si-EP	-35	-30		450	150	1	175	250			0.8	10	1	-30			HITACHI
1S2076A	Various detector, Modulator, Demodulator	Si-EP	-70	-60		450	150	1	175	250			0.8	10	1	-30			HITACHI

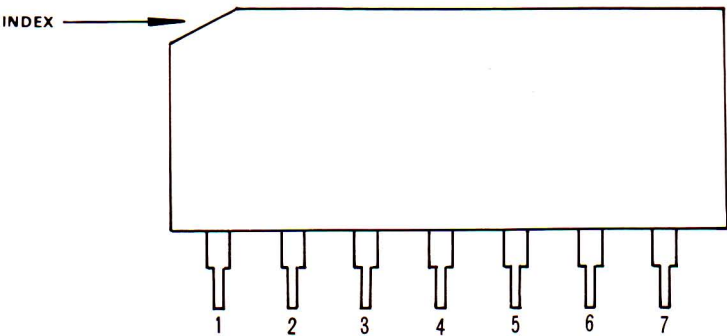
ZENER DIODES

DEVICE TYPE	APPLICATIONS	STRUC-TURE†	MAXIMUM RATINGS Absolute —Maximum Values: (TA = 25 °C unless otherwise specified)			ELECTRICAL CHARACTERISTICS Typical Values: (TA = 25° C unless otherwise specified)													MANUFACTURE
			Total Power Dissipation Pd (mW)	Zener Current IZ (A)	Junction Temperature Tj Tj (C)	Zener Voltage			Differential Resistance			Temperature Coefficient		Reverse Current					
						VZ	Test Condition	rd	Test Condition	γZ	Test Condition	IR	Test Condition						
														MIN (V)	TYP (V)	MAX (V)	IZ (mA)	TYP (Ω)	
HZ24	Stabilized power supply	Si—EP	400		175	—22.8	—23.6	—25.6	—2	62	70	—2		20.3 mV/ C	—2	1	—19	HITACHI	
HZ33	Stabilized power supply	Si—EP	400		175	—31.0	—32.8	—35.0	—2	79	120	—2		30.4 mB/ C	—2	1	—25	HITACHI	

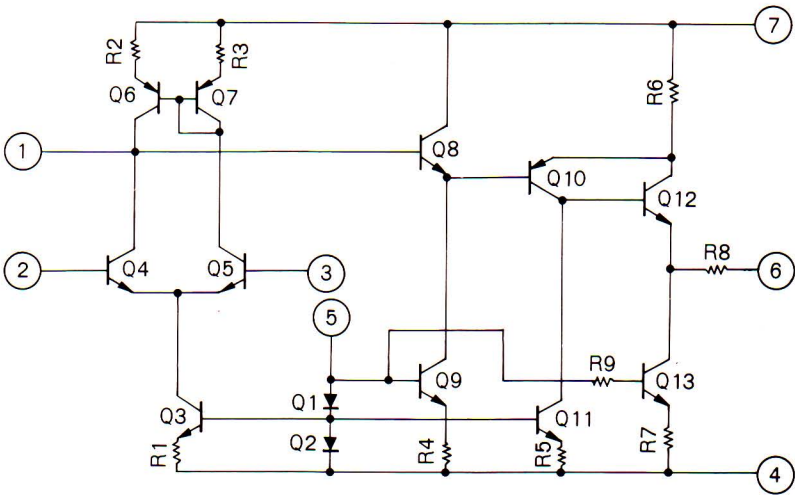
INTEGRATED CIRCUIT (TA7136P)

DEVICE TYPE	APPLICATION	ABSOLUTE MAXIMUM RATINGS (T _A = 25 °C)				ELECTRICAL CHARACTERISTICS(T _A =25 °C) Typical Values				Manufacture
		Supply Voltage	Power Dissipation	Operating Temperature Range	Storage Temperature Range	Supply Current	Voltage Gain (Open Loop)	Maximum Output Voltage	Equivalent Input Noise Voltage	
		(V)	(mW)	(°C)	(°C)	(mA)	(dB)	(Vrms)	(μ Vrms)	
TA7136P	Preamplifier	40	400	−25 ~75	−55 ~125	3.1	92	7.0	1.0	TOSHIBA

Terminal Guide (Side View)



Schematic Diagram



NIKKO ELECTRIC CORP. OF AMERICA

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218 SHERWOOD AVENUE, FARMINGDALE, NEW YORK 11735 U.S.A.

NIKKO ELECTRIC MFG. CO., LTD

HEAD OFFICE: 4-1, OKUSAWA 3-CHOME,
SETAGAYA-KU, TOKYO, JAPAN

SALES OFFICE: MITSUBISHI BANK BLDG., 3-2, DOGENZAKA 1-CHOME,
SHIBUYA-KU, TOKYO, JAPAN