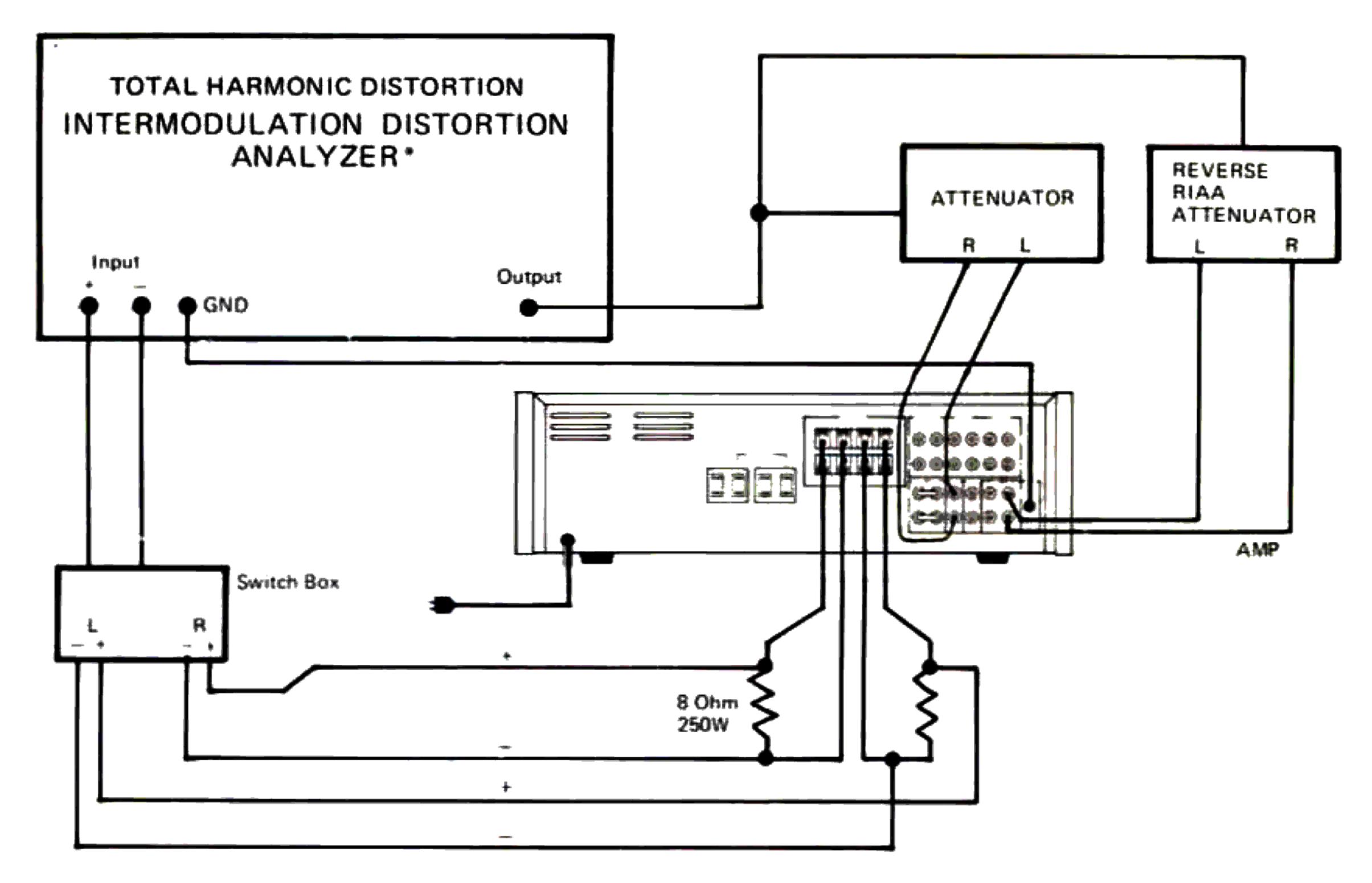
SERVICE MANUAL

A7,A7E

Integrated Amplifier



RECOMMENDED TEST HOOKUP



*Recommended Instruments: Sound Technology 1700B, Hewlett-Packard 339A or, BPI 300C

SPECIFICATIONS

70W
, , , ,
0.05%
0.05%
more than 74dB
more than 95dB
more than 150mV
more than 4V
±0.5dB
±0.5dB
+8dB
+6dB

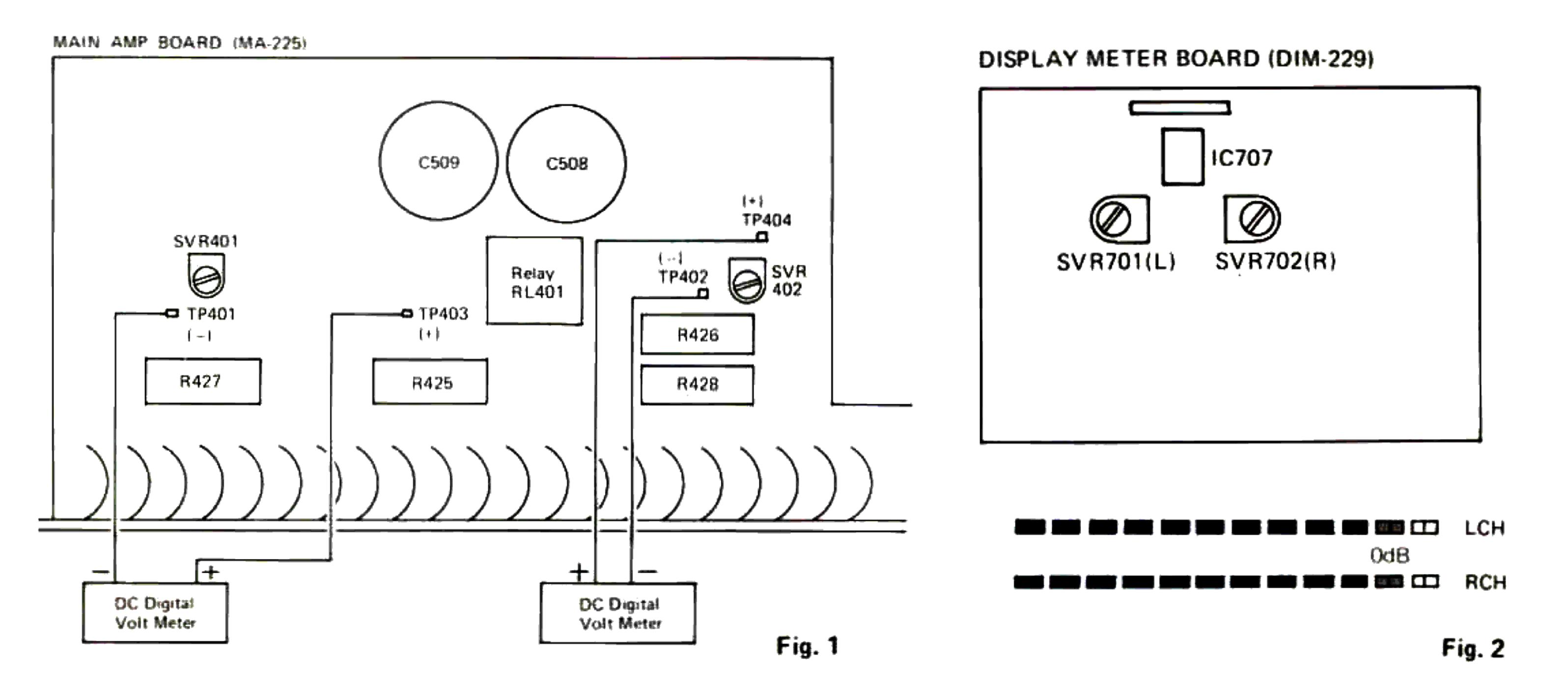
Sensitivity/Impedance (ref. 70W)
Phono	2.5mV/47Kohms
Aux, Tape	150mV/47Kohms
Rec Output	150mV
Tone Controls	
100Hz	±10dB
10kHz	±10dB
Low Filter	
30Hz	more than 3dB (6dB/oct)
Power Requirements	
120 VAC	400 watts A7
115/230 VAC	500 watts A7E
Net Weight	
23.5 lbs (10.5kg)	A7
22.4 lbs (10.0kg)	A7E

Product specifications are subject to change without notice. SAE TWO carries a three year limited warranty. (U.S.A. only)

BIAS CURRENT AND BAR GRAPH RANGE ADJUSTMENT

(1) BIAS CURRENT (TOP VIEW)

(2) BAR GRAPH RANGE (TOP VIEW)



(1) BIAS CURRENT

- 1. Turn the VOLUME control fully counter-clockwise.
- 2. Connect the DC Digital Volt Meter at TP403(+), TP401(-) and TP404(+), TP402(-) as shown in Fig. 1.
- Two minutes after turning on the POWER SW, adjust SVR401, 402 so that the DC Digital Volt Meter indicates 25mV.

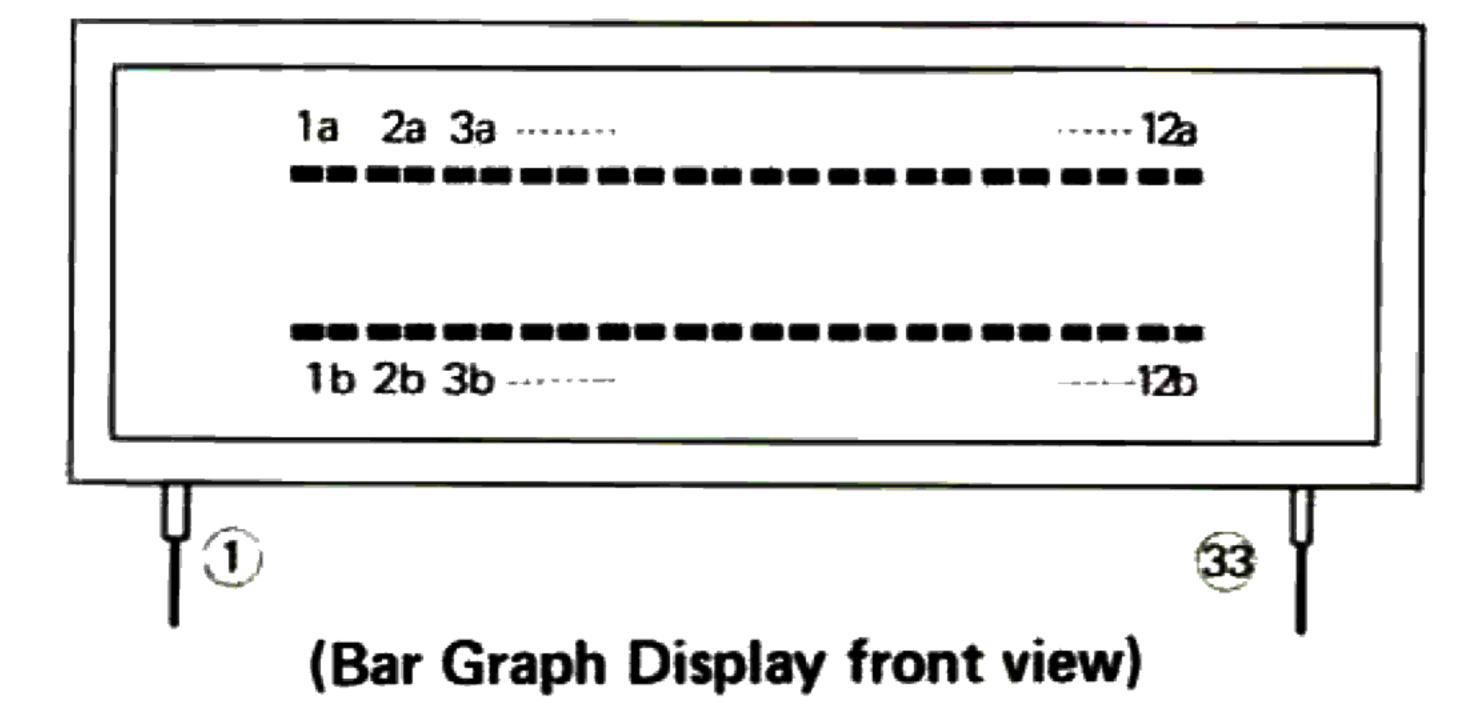
(2) BAR GRAPH RANGE

- 1. Connect the V.T.V.M. at TAPE 1 output terminals.
- 2. Apply signals (1KHz) to AUX input jacks.
- 3. Adjust output voltage from the audio generator so that the V.T.V.M. indicates 0.73V.
- Set the DISPLAY SW to TAPE, and then adjust SVR701, 702 so that the 0dB Bar Graph Display lights to half brightness.

NOTE:

The Bar Graph Display is Multi Anoded Triode.

Rating: Ef 3.0V, Eb 18V, Ec 18V



Pin Connection Table (See Fig. 3)

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30 3	31 3	2 33	
CONNECTION	F	Nρ	Sc	1a	G	2a	3a	4a	5a	6a	1b	2b	3b	4b	5b	6b	7b	G	8b	9b	10b	11b	1 2 0	7a	8a	9a	10a	11a	12a	Np N	lc N	p F	1

When Bar Graph Display (BG-10Z) is replaced, adjust RANGE (2) as indicted above.

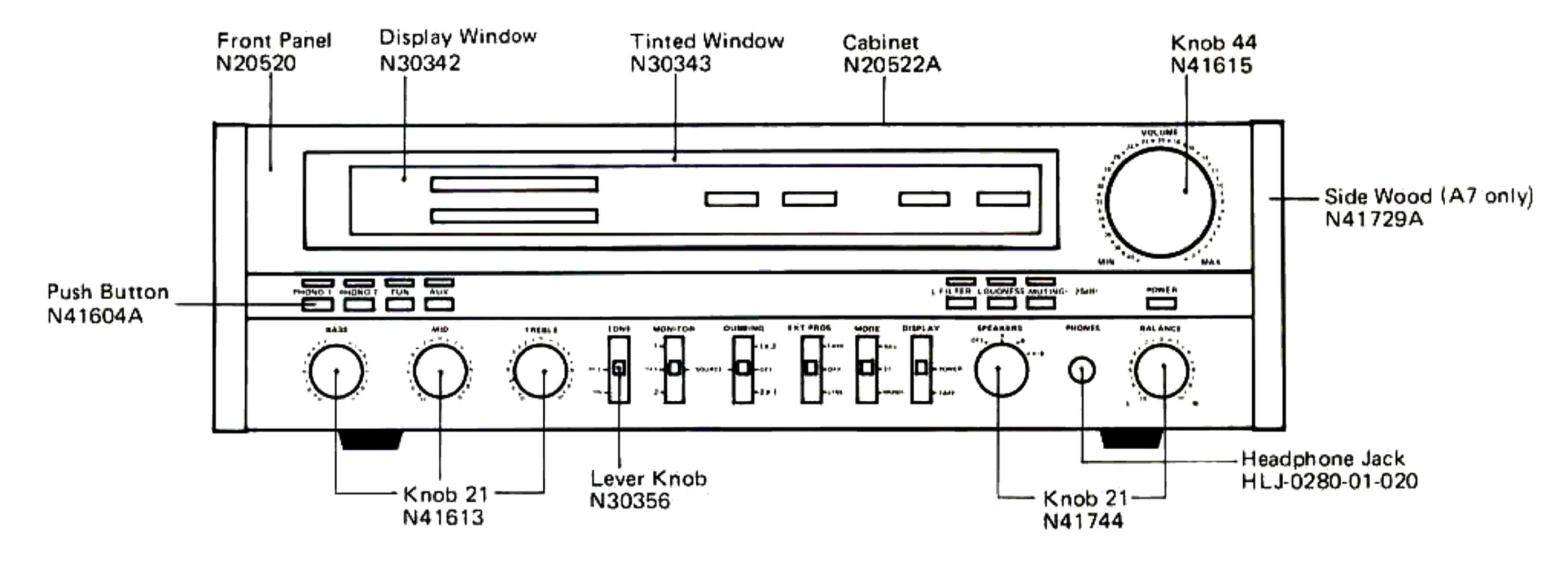
Fig. 3

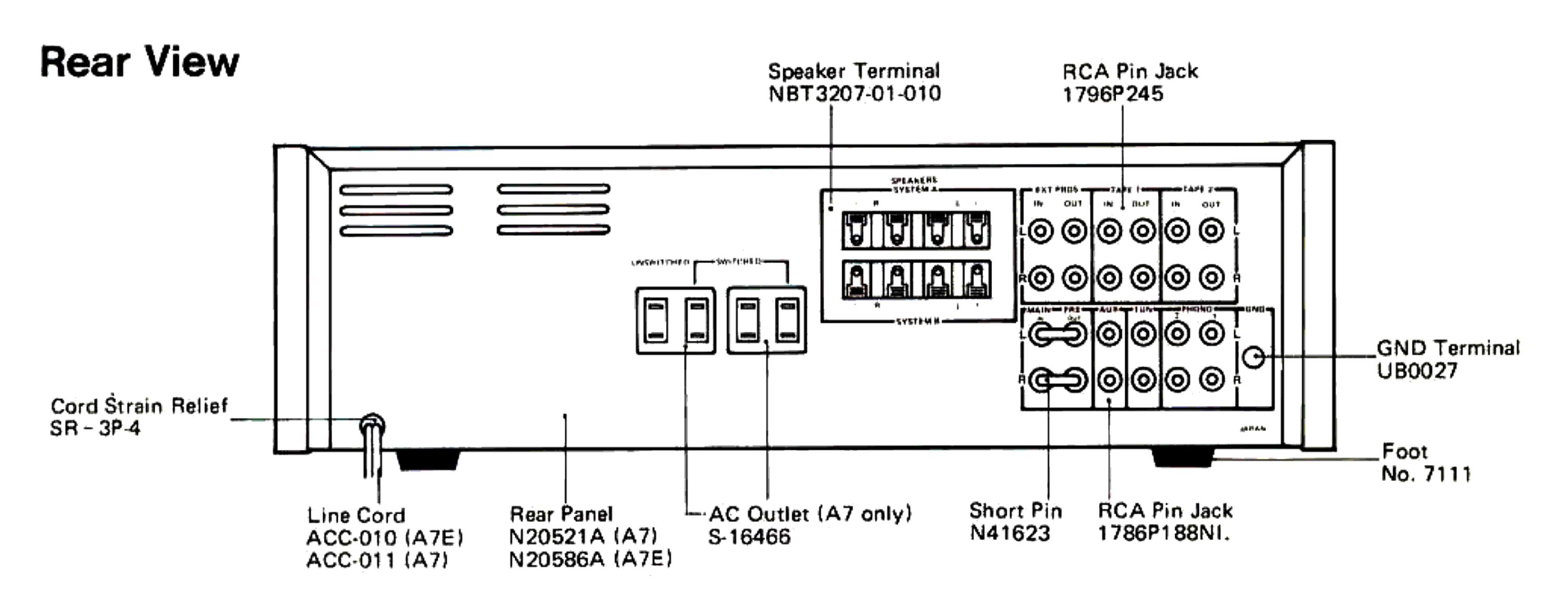
PARTS LIST (Front, Rear View)

Ref. No.	Part Number	Q'ty	Description								
	C'A	PACI	TORS								
C651	ECQ-U1A103ME	1	Polyester, 0.01µF, ±20%, 125V (A7 only)								
	CONTROLS & SWITCHES										
S15 S15	SDG-5PL18 SDG-5PEL18	1	Power Switch (A7 only) Power Switch (A7E only)								
	APPEA	RANG	CE PARTS								
	N20520 N20521A N20522A	1	Front Panel Rear Panel (A7 only) Cabinet								
	N20586A N30342	i 1	Rear Panel (A7E only) Display Window								
	N30343 N30356	6	Tinted Window Lever Knob								
	N41604A N41612 N41613	8 1 3	Push Button Filter, Bar Graph Knob 21								
	N41615 N41729A	1 2	Knob 44 Side Wood (A7 only)								
	N41744 N07111	2	Knob 21 Foot								
	MISCELL	ANE	OUS PARTS								
	NPT-0584S	Power Transformer (A7 only)									

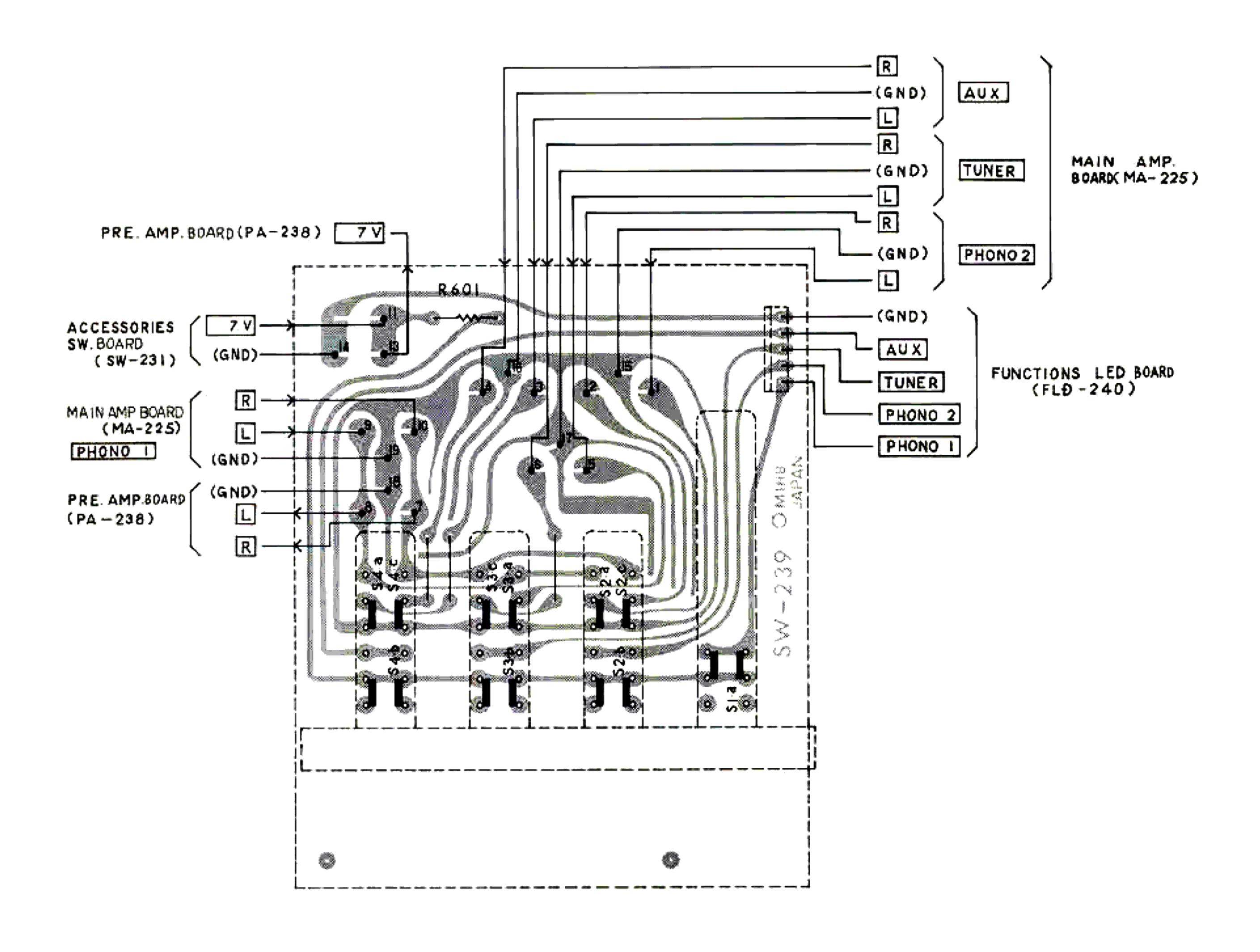
	Ref. No.	Part Number	Q′tγ	Description
		NPT-0585S	1	Power Transformer (A7E only)
		HLJ-0280-01-020	1	H.P. Jack
		S-16466	2	AC Outlet (A7 only)
		NBT3207-01-010	1	SP Terminal
		ACC-010	1	Line Cord (A7E only)
		ACC-011	1	Line Cord (A7 only)
		SR-3P-4	1	Cord Strain Relief
		UB-0027	1	GND Terminal
İ		N30231A	1	Bottom Cover
ļ		N41623	2	Short Pin
		N41624	1	Stud 31.5
		N41732	2	Stud 15
		N41864	2	Handle (A7E only)
		PACKI	NG N	IATERIAL
		OM-182	1	Instruction Manual
		N20515B	2	Pad. (A7 only)
		N20710	1	Pad. R (A7E only)
		N20711	1	Pad. L (A7E only)
		N40487	1	Polyethylene Bag
		N41318	1	Polyethylene Bag
		N41727	1	Inner Carton (A7 only)
		N41906	1	Pad. Top
		N42162	1	Inner Carton (A7E only)
		N42171	1	Polyethylene Bag for Handle
				(A7E only)

Front View





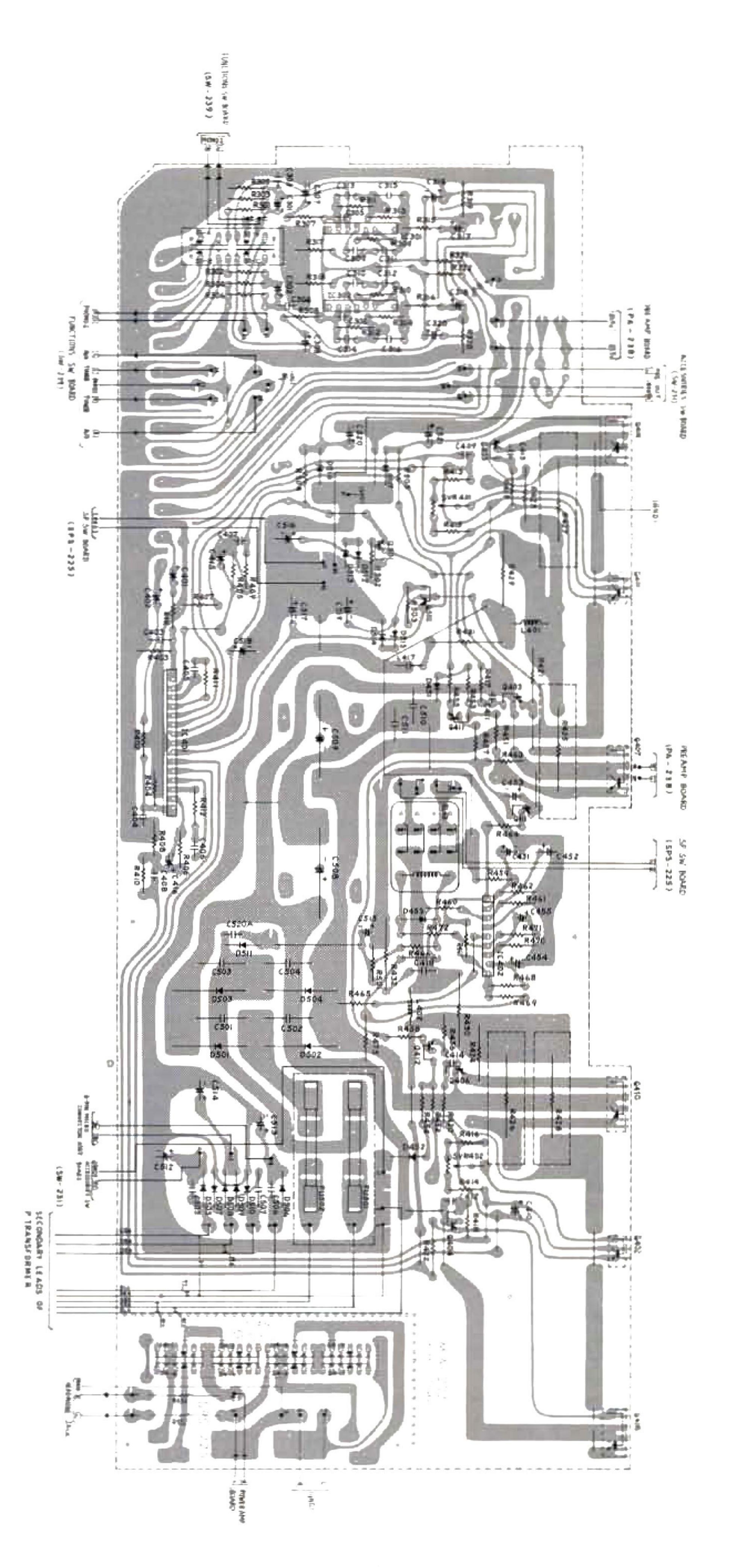
FUNCTIONS SW BOARD (SW-239)



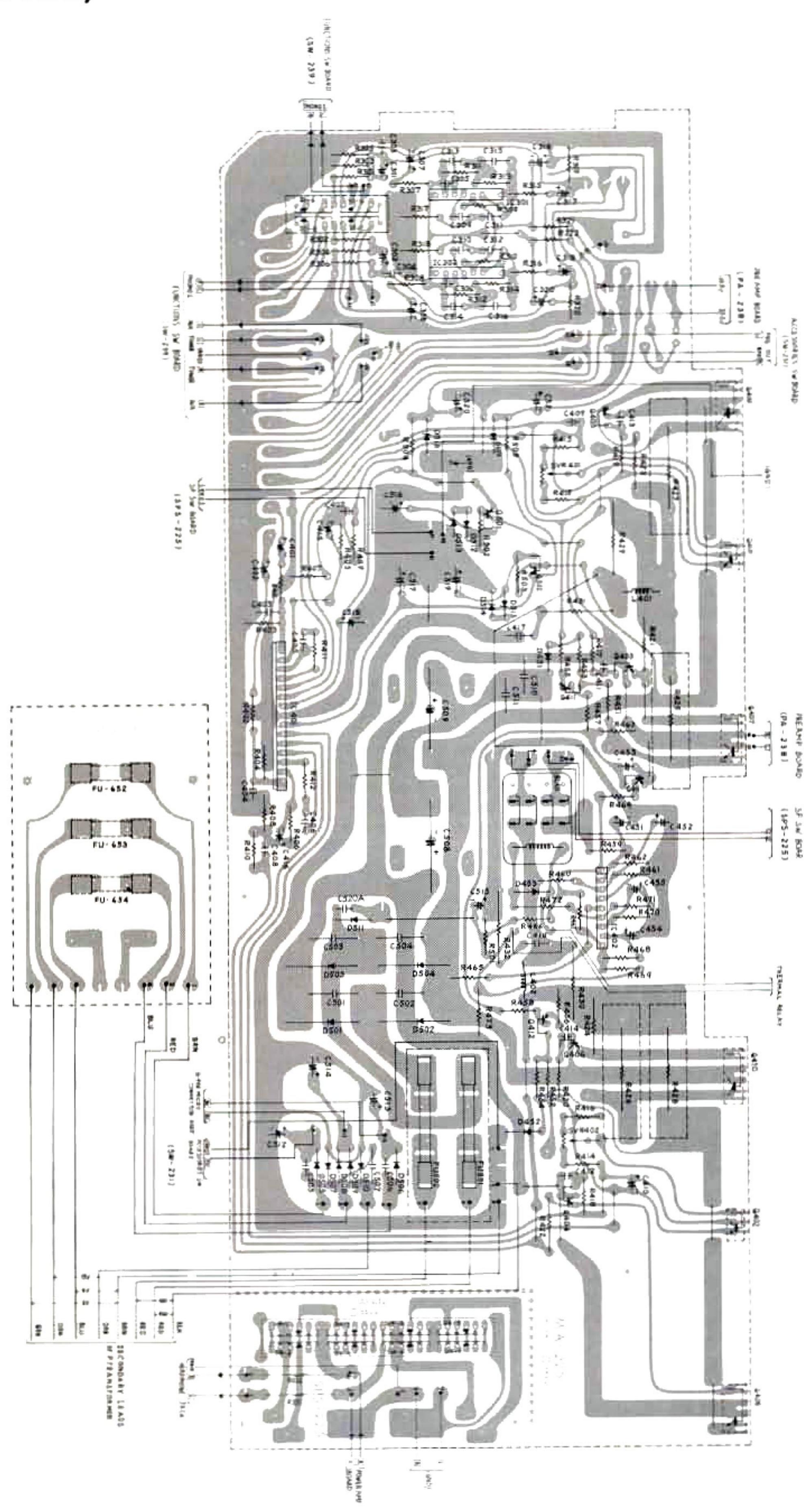
PARTS LIST (SW-239)

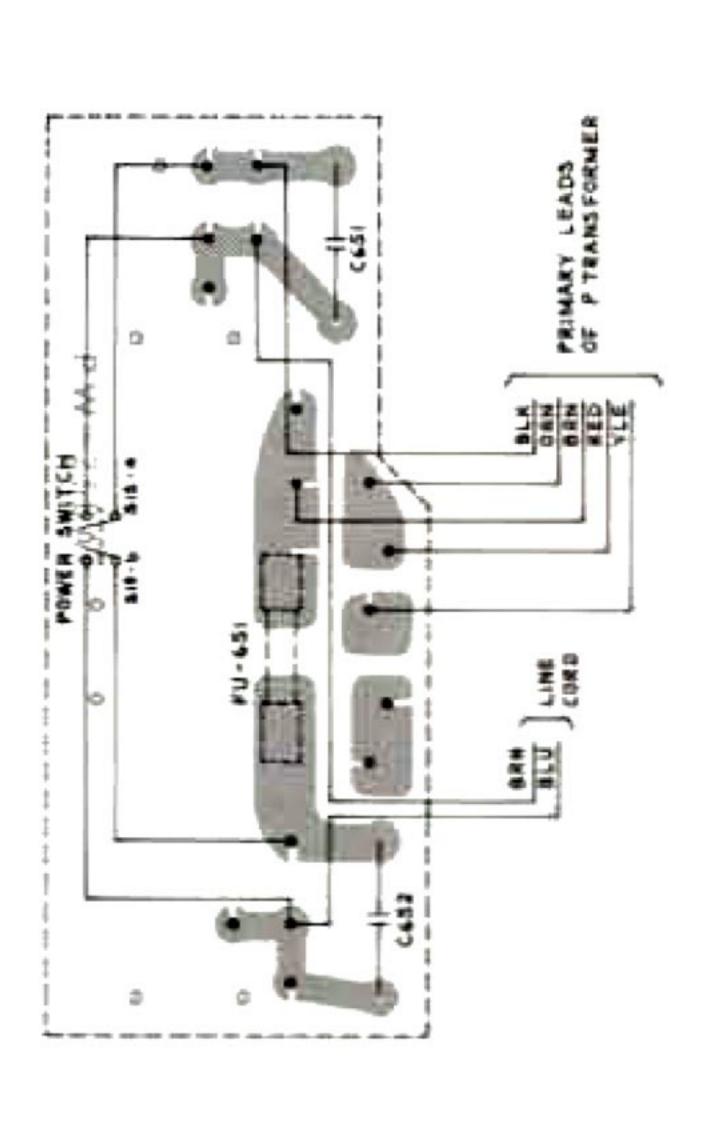
Ref. No.	Part Number	Q'ty	Description	Ref. No.	Part Number	Q'ty	Description			
	RES	SISTOF	RS	SEMICONDUCTORS						
R601	R1/4J 1KΩ	1	Carbon, ± 5%, 1/4W, 25S	LD654~	SLP-154B	4	LED			
	CONTROL	.S & SV	VITCHES	657						
S1~4	SW-1401030	1	4-key Switch	T	HARDW	ARE 8	MISC			
					171825-05 MB05-067	1	Plug 5-pin Connector Ass'y 5-hole			

MAIN AMP & S.P. SW BOARD (MA-225,) (for A7)



(for A7E)





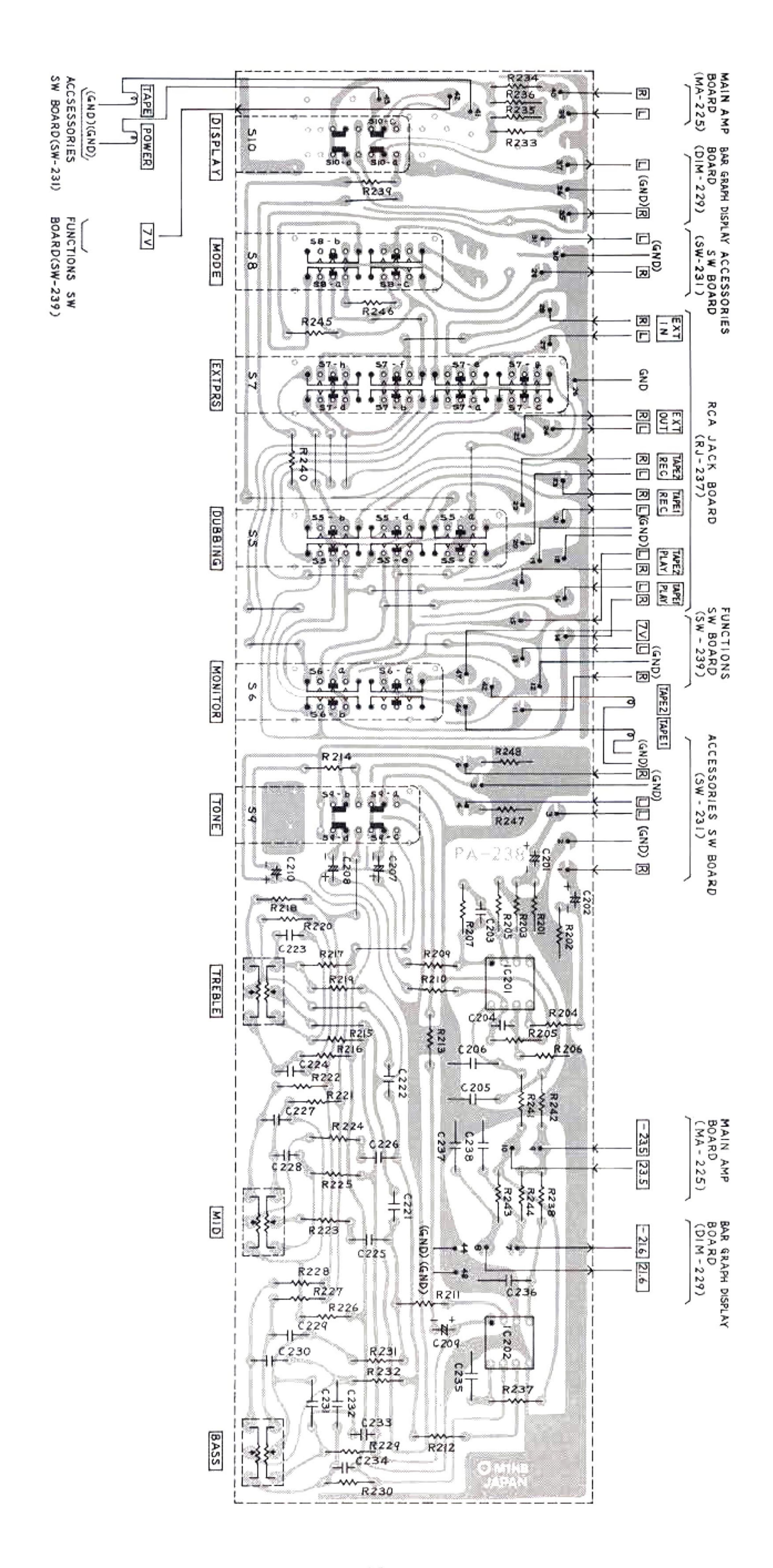
PARTS LIST (for MA-225, SPS-225, FUH-253, PW-258A)

Ref. No.	Part N	umber	Q'ty	Description	Ref. No.	Part Number	Q'ty	Description
		RESIS			C507	HM15SJYD103M	1	-20%, 50V Ceramic, 0.01µF, ±20%,
R301, 302	R1/4J	220Ω	2	Carbon, ±5%, 1/4W, 25S	Arno roo	COTIN COCC E		500V
R303~306 R307, 308	R1/4J R1/4J	100KΩ 160Ω	2	Carbon, ±5%, 1/4W, 25S Carbon, ±5%, 1/4W, 25S	C508, 509 C508, 509	63TW 8200µF 80TW 8200µF	2	Electrolytic (A7 only)
R309, 310	R1/4J	47KΩ	2	Carbon, ±5%, 1/4W, 25S Carbon, ±5%, 1/4W, 25S	C506, 509 C510, 511	ECQ-M1104MZ	2	Electrolytic (A7E only)
R311, 312	R1/4J	7.5KΩ	2	Carbon, ±5%, 1/4W, 25S	0310, 311	ECC-WITTOHIVE	2	Polyester, 0.1 µF, ±20%, 100V
R313, 314	R1/4J	100ΚΩ	2	Carbon, ±5%, 1/4W, 25S	C512	F بر1000 TOTW	1	Electrolytic
R315, 316	R 1/4J	560Ω	2	Carbon, ±5%, 1/4W, 25S	C513	10TW 220µF	i	Electrolytic
R317, 318	R1/4J	1.5ΚΩ	2	Carbon, ±5%, 1/4W, 25S	C514	25TW 470µF	i	Electrolytic
R319, 320	R1/4J	100KΩ	2	Carbon, ±5%, 1/4W, 25S	C515	50TW 1µF	1	Electrolytic
R321, 322	R1/4J.	470Ω	2	Carbon, ±5%, 1/4W, 25S	C516, 517	50TW 100µF	2	Electrolytic
R401, 402	R1/4J	220Ω	2	Carbon, ±5%, 1/4W, 25S	C518, 519	50TW 220µF	2	Electrolytic
R403, 404	R1/4J	47KΩ	2	Carbon, ±5%, 1/4W, 25S	C520A	HE70SJYF103Z	1	Ceramic, 0.01µF, +80%,
R405, 406	R1/4J	43ΚΩ	2	Carbon, ±5%, 1/4W, 25S	0500 501	AFT. 1. AAA F		-20%, 50V
R407, 408 R409, 410	R 1/4J R 1/4J	2.7KΩ 68KΩ	2 2	Carbon, ±5%, 1/4W, 25S	C520, 521	25TW 220µF	2	Electrolytic
R411, 412		560Ω	2	Carbon, ±5%, 1/4W, 25S Carbon, ±5%, 1/4W, 25S	C651, 652	ECQ-E2A103MCS	2	Polyester, 0.01µF, ±20%,
R413, 414	R1/4J	2,7ΚΩ	2	Carbon, ±5%, 1/4W, 25S				125V (A7E only)
R415, 416	-		2	Carbon, ±5%, 1/4W, 25S		SEMICON	NDUC	TORS
R417~420	_	100Ω	4	Carbon, ±5%, 1/4W, 25S	IC301, 302	HA12017	2	1C
R421~424	•	150Ω	4	Carbon, ±10%, 1W	IC401	STK-3042	ī	ic
R425~428			4	Wire-wound, ±10%, 7W	IC402	TA7317P	1	IC
		17 0.47Ω			Q401, 402	2SC1685(Q, R)	2	Transistor
R429~432		10Ω	4	Carbon, ±10%, 2W	Q403, 404	2SD667A(C, D)	2	Transistor
R451, 452	R1/4J	1KΩ	2	Carbon, ±5%, 1/4W, 25S	Q405, 406	2SB647A(C, D)	2	Transistor
R453, 454	R 1/4J	5.6KΩ	2	Carbon, ±5%, 1/4W, 25S	Q407, 408	2SD745(Q, R)	2	Transistor
R455, 456	R1/4J	330Ω	2	Carbon, ±5%, 1/4W, 25S	Q409, 410	2SB705(Q, R)	2	Transistor
R457, 458	R1/4J	12KΩ	2	Carbon, ±5%, 1/4W, 25S	Q411, 412	2SC1980(S, T)	2	Transistor
R459, 460 R461, 462	R1/4J R1/4J	120KΩ 47KΩ	2	Carbon, ±5%, 1/4W, 25S Carbon, ±5%, 1/4W, 25S	Q413	2SA921(S, T)	;	Transistor
R463	R 1/4J	1KΩ	1	Carbon, ±5%, 1/4W, 25\$	Q501 Q502	2SC2209(Q, R) 2SA963(Q, R)	;	Transistor Transistor
R464	R1/4J	47ΚΩ	i	Carbon, ±5%, 1/4W, 25S	D451, 452	1S1553	;	Diode Silicon
R465	R1/4J	18ΚΩ	1	Carbon, ±5%, 1/4W, 25S	D453	1N4002	ī	Diode Silicon
R466	R1/4J	270ΚΩ	1	Carbon, ±5%, 1/4W, 25S	D501~504	GP-30DL	4	Diode Silicon
R467	R1/4J	47ΚΩ	1	Carbon, ±5%, 1/4W, 25S	D505~511	1N4002	7	Diode Silicon
R468	R1/4J	150ΚΩ	1	Carbon, ±5%, 1/4W, 25S	D512	XZ-200	1	Diode Zener
R469	R1/4J	22ΚΩ	1	Carbon, ±5%, 1/4W, 25S	D513	XZ-225	1	Diode Zener
R470, 471	R1/4J	56KΩ	2	Carbon, ±5%, 1/4W, 25S	D514	XZ-200	1	Diode Zener
R472	RIK	560Ω	!	Carbon, ±10%, 1W, 33	D515	XZ-225	1	Diode Zener
R473 R501	R1K R1/4J	100Ω 15KΩ	;	Carbon, ±10%, 1W, 33	D516, 517	XZ-235	1	Diode Zener
R502, 503	R1/4J	1.5ΚΩ	2	Carbon, ±5%, 1/4W, 25S Carbon, ±5%, 1/4W, 25S		CC	DILS	
R504	RIK	680Ω	1	Carbon, ±3%, 1/4W, 255 Carbon, ±10%, 1W, 33	L401, 402	104001	2	Inductor
R505	RIK	820Ω	i	Carbon, ±10%, 1W, 33	L401, 402			
R551,552	R2K	330Ω	2	Carbon, ±10%, 1W	SVR401,	CONTROLS 1 KΩ(B)	& SV 2	VITCHES Carbon Trimmer 8φ
		CAPA	CITO	RS	402	1 (22 (12)		Carbon Frinner by
C301, 302		μF(MRS)		Electrolytic, Low Leak	S1	SW-5420031	1	PH Selector Switch
C303, 304	HE40SJS		2	Ceramic, 51pF, ±10%, 50V		SWR-1210	1	PH Selector Switch
C305, 306	HE50SJS	. 1	2	Ceramic, 100pF,±10%,50V	S14	SW-584032	1	SP Selector Switch
C307, 308	25TW 10	٠ .	2	Coromic 100nE + 10% 50V		SRZWM4	!	SP Selector Switch
C309, 310 C311, 312	HE50SJS		2	Ceramic, 100pF,±10%,50V Ceramic, 510pF,±10%,50V		SWR-5462	1	SP Selector Switch
C313, 314	ECQ-M1		2	Polyester, 0.01µF,±5%,50V		HARDWA	RE &	MISC
C315, 316	ECQ-M1		2	Polyester, 0.033µF, ±5%		S-N5051	4	Fuse Holder (A7 only)
	•			50V	FU501,502		2	Fuse 6A (A7 only)
C317, 318	25TW4.7	/μF(MRS)	2	Electrolytic, Low Leak		S-N5053	12	Fuse Holder (A7E only)
C319, 320	25TW 10	- 1	2	Electrolytic	FU501,502	FU-526325T	2	Fuse 6.3A (A7E only)
C401.402		μF(MRS)	_	Electrolytic, Low Leak	FU651	FU-522025T	1	Fuse 2A (A7E only)
C403, 404	HE90SJS	I	2	Ceramic, 510pF,±10%,50V	FU652	FU-522515T	1	Fuse 250mA (A7E only)
C405, 406	HE70SJS		2	Ceramic, 200pF,±10%,50V	FU653	FU-521025T	1	Fuse 1A (A7E only)
C407, 408	HE40SJS	1	2	Ceramic, 5pF, ±10%, 50V	FU654	FU-522515T	1	Fuse 250mA (A7E only)
C409, 410 C411~414	50TW 14		7	Electrolytic Coramio 68nE + 10% 50V		N30334	1	Heat Sink
C411~414 C415, 416	HE40SJS 41 50TW		4 2	Ceramic,68pF,±10%,50V Electrolytic	RL401	N0.37 FRL264-D024-	[]	Heat Sink
C417,418	•	H473MZ	2	Polyester, 0.047µF, ±20%,	1	04AL-01	'	Relay
0454 450	April 1	,		50V		T-2C704L514-	1	Thermal Relay
C451, 452	25TW 47	, I	2	Electrolytic		5385L217-4,1	,	14: f 0407 440
C453 C454	25TW 10	•		Electrolytic Electrolytic		S-27	4	Mica for Q407~410
C454	50TW 0.4	T 1	;	Electrolytic				
C501~504		YD103M	4	Ceramic, 0.01 µF, ±20%,				
C505, 506	HE70SJY	/F103Z	2	500V Ceramic, 0.01µF, + 80%,				

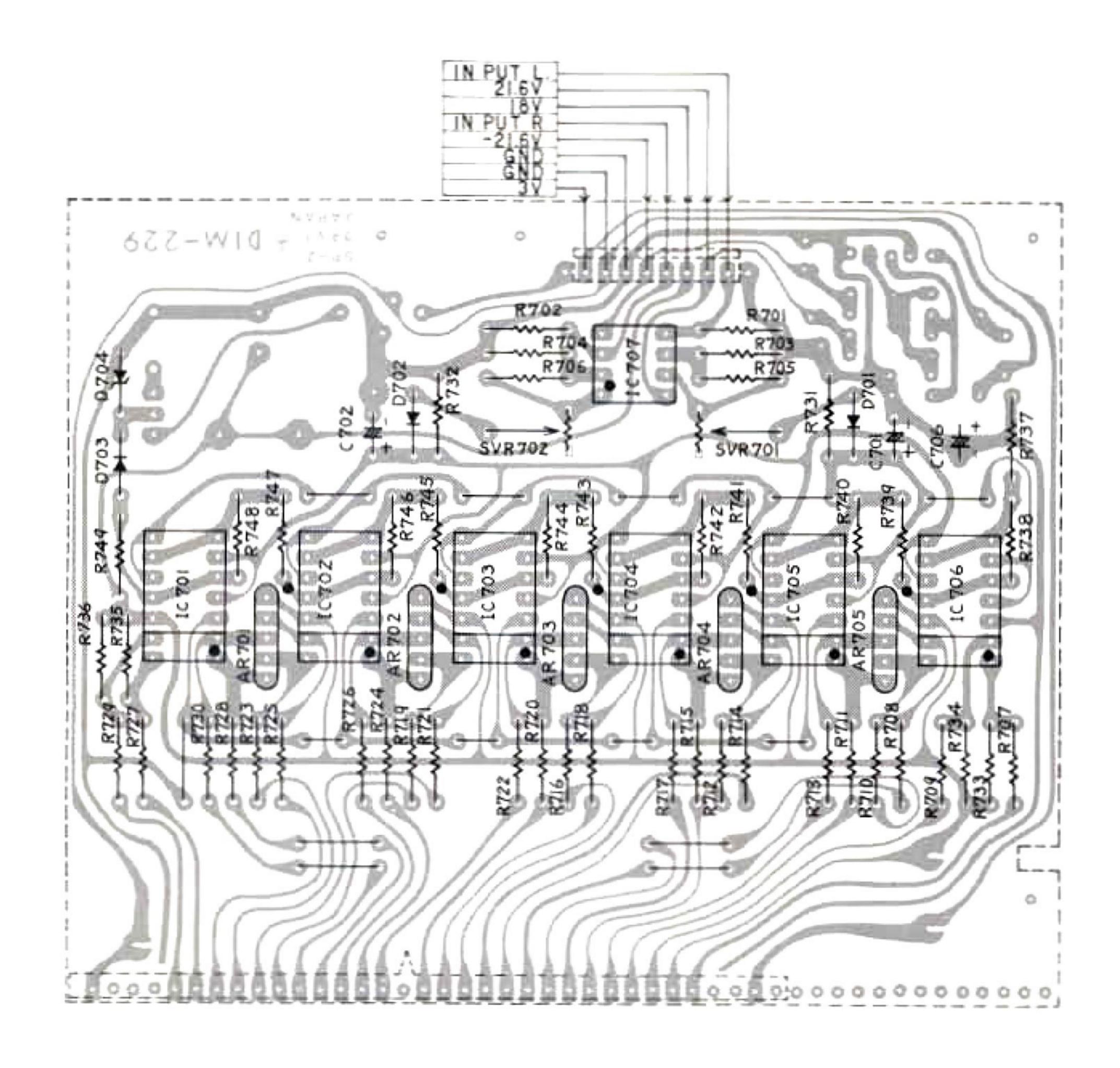
PARTS LIST (PA-238)

Ref. No.	Part N	umber	Q'ty	Description	Ref. No.	Part Number	Q'ty	Description		
		RESI	STOF	RS	C225, 226	ECQ-M1H103JZ	2	Polyester, 0.01µF, ±5%, 50V		
R201, 202 R203, 204	R1/4J R1/4J	56KΩ 220Ω	2	Carbon, ±5%, 1/4W, 25S Carbon, ±5%, 1/4W, 25S	C227, 228	ECQ-M1H682JZ	2	Polyester, 0.0068µF, ±5%, 50V		
R205, 206	R1/4J	1.8ΚΩ	2	Carbon, ±5%, 1/4W, 25S	C229~232	ECQ-M1H393JZ	4	Polyester, 0.039µF, ±5%,		
R207, 208 R209, 210	R1/4J R1/4J	10KΩ 470Ω	2 2	Carbon, ±5%, 1/4W, 25S Carbon, ±5%, 1/4W, 25S	C233, 234	HE40SJSL100K	9	50V Ceramic, 10pF, ±10%, 50V		
R211, 212		2.7ΚΩ	2	Carbon, ±5%, 1/4W, 25S	C235~238	ECQ-M1H104MZ	4	Polyester, 0.1µF, ±20%,		
R213, 214	l '.	470Ω	- 1	Carbon, ±5%, 1/4W, 25S	Ç233°-236	LCQ-WITTIOHWZ	"	50V		
R215, 216	R1/4J	3.3KΩ	2	Carbon, ±5%, 1/4W, 25S	C239, 240	HE40SJSL050K	2	Ceramic, 5pF , ±10%, 50V		
R217, 218	R1/4J	1.5ΚΩ	2	Carbon, ±5%, 1/4W, 25S	0200, 240					
R219, 220	R1/4J	100ΚΩ	2	Carbon, ±5%, 1/4W, 25S		SEMICON	IDUC	TORS		
R221, 222	R1/4J	1.5ΚΩ	2	Carbon, ±5%, 1/4W, 25S	IC201	NJM4559DX	1	IC		
R223, 224	R1/4J	8.2ΚΩ	"	Carbon, ±5%, 1/4W, 25S	IC202	NJM4558D	i	ic		
R225, 226	R1/4J	2.2ΚΩ	2	Carbon, ±5%, 1/4W, 25S			-			
R227~230	· .	6,8ΚΩ	4	Carbon, ±5%, 1/4W, 25S	CONTROLS & SWITCHES					
R231, 232	R1/4J	27ΚΩ	2	Carbon, ±5%, 1/4W, 25S	S5	SLR563N	1	Lever Switch (DUBBING)		
R233, 234	R1/4J	3.3 K Ω	2	Carbon, ±5%, 1/4W, 25S	S6	SLR543N	1	Lever Switch (MONITOR)		
R235, 236	R1/4J	100Ω	2	Carbon, ±5%, 1/4W, 25S	S7	SLR583N	1	Lever Switch (EXT PROS)		
R237, 238	R1/4J	2.2ΚΩ	2	Carbon, ±5%, 1/4W, 25S	S8	SLR543N	1	Lever Switch (MODE)		
R239, 240	R1/4J	1ΚΩ	2	Carbon, ±5%, 1/4W, 25S	S9	SLR542S	†	Lever Switch (TONE)		
R241, 242	R1/4J	1.5 K Ω	2	Carbon, ±5%, 1/4W, 25S	S10	SLR542N	1	Lever Switch (DISPLAY)		
R243, 244	R1/4J	820Ω	2	Carbon, ±5%, 1/4W, 25S	VR3~5	EWK-G4A323B54	3	Potentiometer 50KΩB		
R245, 246	R1/4J	4.7 K Ω	2	Carbon, ±5%, 1/4W, 25S				(TONE)		
R247, 248	R1/4J	47ΚΩ	2	Carbon, ±5%, 1/4W, 25S		HARDWA	RE &	MISC		
		CAPA	CITO	RS		MB08-066	1	Connector Ass'y 8-hole		
C201, 202	25TW4.7	μF(MSR)	2	Electrolytic, Low Leak						
C203, 204	HE40SJS	SL510K	2	Ceramic, 51pF, ±10%, 50V	LA601	PL-63404007D	1	Lamp (with Holder)		
C205, 206	ECQ-M1	H104MZ	2	Polyester, 0.1µF, ±20%,	LA602	PL-63404007Y	1	Lamp (with Holder)		
				50V	LA603	PL-63404007T	1	Lamp (with Holder)		
C207, 208	25TW 10	JuF(MSR)	2	Electrolytic, Low Leak	LA604	PL-63404007R	1	Lamp (with Holder)		
C209, 210	25TW 22	•	2	Electrolytic		1796P245	2	RCA Pin Jack		
C221, 222	ECQ-M1	H182JZ	2	Polyester, 0.0018µF, ±5%,				(Lead Type 6-pin)		
				50V		1786P188NI	2	RCA Pin Jack		
C223, 224	HE90SJS	SL511K	2	Ceramic, 510pF, ±10%, 50V				(P.C.B. Type 6-pin)		

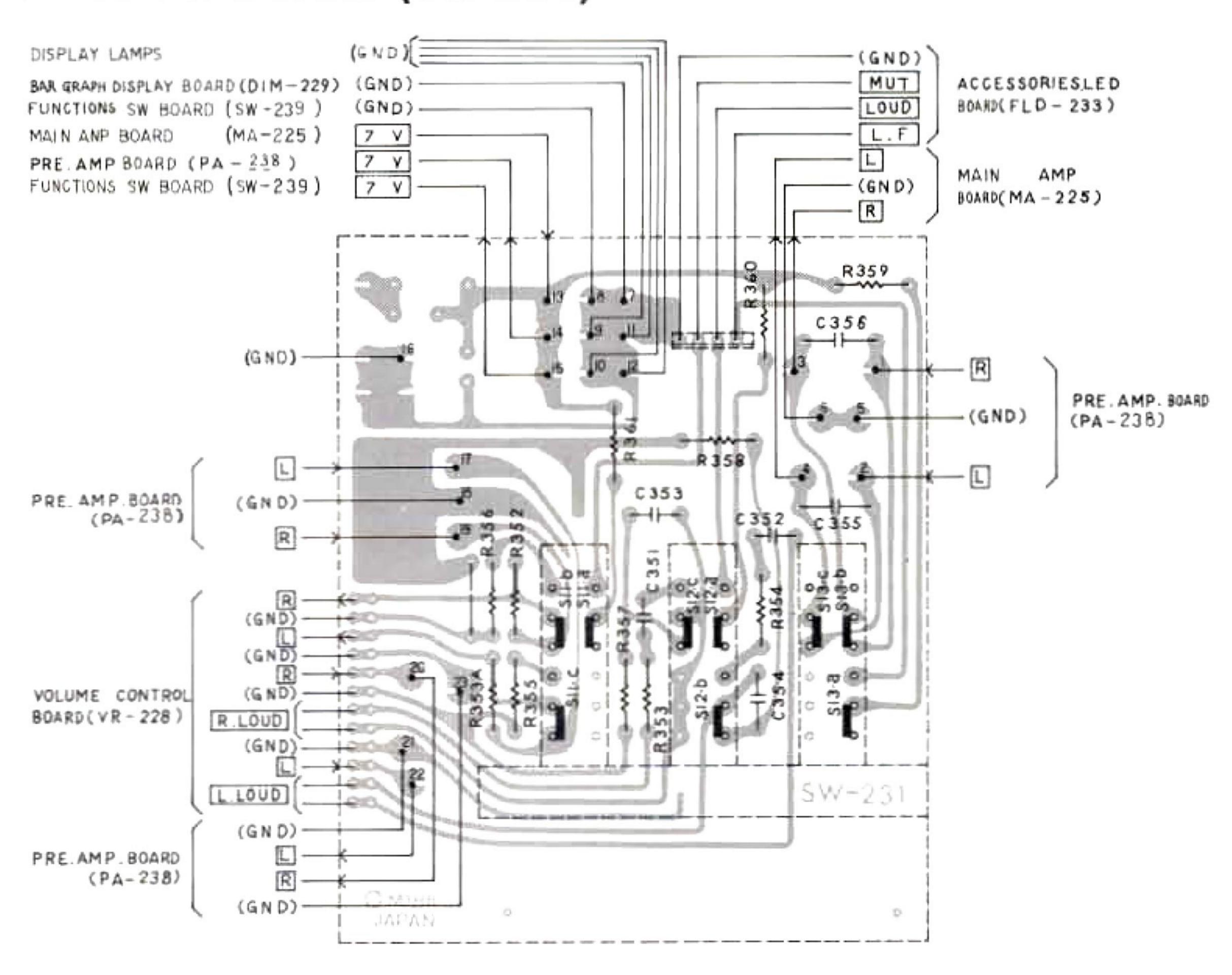
PRE AMP BOARD (PA-238)



BAR GRAPH DISPLAY BOARD (DIM-229)



ACCESSORIES SW BOARD (SW-231)



PARTS LIST (DIM-229)

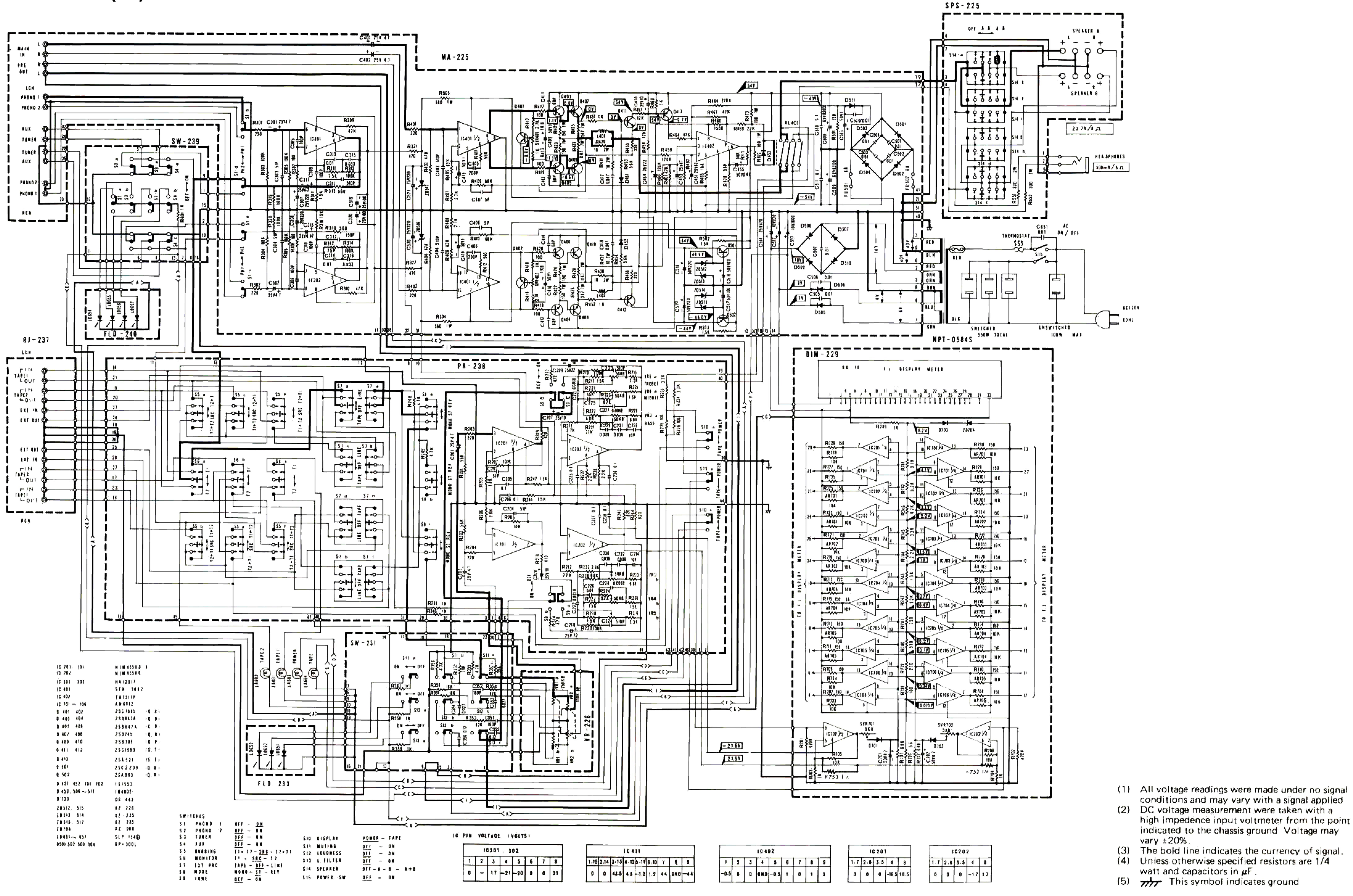
Ref. No.	Part N	lumber	Q'ty	Description
		RESI	STOF	RS.
R701, 702	B 1/4J	470ΚΩ	2	Carbon, ±5%, 1/4W, 25S
R703, 704	R1/4J	1KΩ	2	Carbon, ±5%, 1/4W, 25S
R 705, 706	R1/4J	10KΩ	2	Carbon, ±5%, 1/4W, 25S
R707~730	R1/4J	150Ω	24	Carbon, ±5%, 1/4W, 25S
R731, 732	R1/4J	$6.8 ext{K}\Omega$	2	Carbon, ±5%, 1/4W, 25S
R733~736	R1/4J	10ΚΩ	4	Carbon, ±5%, 1/4W, 25S
R737	R1/4J	56Ω	1	Carbon, ±5%, 1/4W, 25S
R738	R1/4J	100Ω	1	Carbon, ±5%, 1/4W, 25S
R739	R1/4J	270Ω	1	Carbon, ±5%, 1/4W, 25S
R740	R1/4J	510Ω	1	Carbon, ±5%, 1/4W, 25S
R741	R1/4J	750Ω	1 1	Carbon, ±5%, 1/4W, 25S
R742	R1/4J	1.2 K Ω	1	Carbon, ±5%, 1/4W, 25S
R743	R1/4J	$1.5 K\Omega$	1	Carbon, ±5%, 1/4W, 25S
R744	R1/4J	2.2 K Ω	1	Carbon, ±5%, 1/4W, 25S
R745	R1/4J	3.3 K Ω	1	Carbon, ±5%, 1/4W, 25S
R746	R1/4J	$4.7 K\Omega$	1	Carbon, ±5%, 1/4W, 25S
R747	R1/4J	6.2KΩ	1	Carbon, ±5%, 1/4W, 25S
R748	R1/4J	9.1ΚΩ	1	Carbon, ±5%, 1/4W, 25S

Ref. No.	Part Number	Q'ty	Description								
R749 AR701~ 705	R1/4J 1KΩ EXB-P84103K	1 5	Carbon, 5%, 1/4W, 25S Resistor Network								
CAPACITORS											
C701, 702	50TW 4.7µF	2	Electrolytic								
SEMICONDUCTORS											
IC701~706 IC707 D701, 702 D703 D704	AN6912 NJM4559DS IS1553 DS442 XZ-060	6 1 2 1	IC IC Diode Silicon Diode Silicon Diode Zener								
	СО	NTR	OLS								
SVR702	5KΩ(B)	2	Carbon Trimmer 8 ϕ								
	HARDWA	RE 8	MISC								
	BG-10Z 171825-8	1	Lever Meter Plug 8-pin								


PARTS LIST (SW-231)

Ref. No.	Part N	lumber	Q'ty	Description							
RESISTORS											
R352, 353A	R1/4J	39ΚΩ	2	Carbon, ± 5%, 1/4W, 25S							
R353, 354 R355, 356 R357, 358 R359~361	R1/4J R1/4J R1/4J R1/4J	47ΚΩ 4.7ΚΩ 18ΚΩ 1ΚΩ	2 2 2 3	Carbon, ±5%, 1/4W, 25S Carbon, ±5%, 1/4W, 25S Carbon, ±5%, 1/4W, 25S Carbon, ±5%, 1/4W, 25S							
		CAPA	СІТО	RS							
C351, 352 C353, 354 C355, 356	•	SL181J H273JZ H124JZ	2 2	Ceramic, 180pF, ±5%,50V Polyester, 0.027µF, ±5%, 50V Polyester, 0.12µF, ±5%, 50V							

Ref. No.	Part Number	Q'ty	Description									
	CONTROLS & SWITCHES											
S11~13	SW-1301029	3	3 Key Switch									
VR1	EWF-	1	Potentiometer									
	MDAP25BF5											
VR2	EWK-EJA323375	1	Potentiometer									
	HARDWARE & MISC											
	171825-4	1	Plug 4 pin									
	1-163740-1	1	Zip Strip									
	1-163681-1	1	Connector									
	N41196	1	Shield Board									
	MB04-061	1	Connector Ass'y									
	SEMICONDUCTORS											
LD651~ 653	SLP-154B	3	LED									



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BLOCK DIAGRAM

