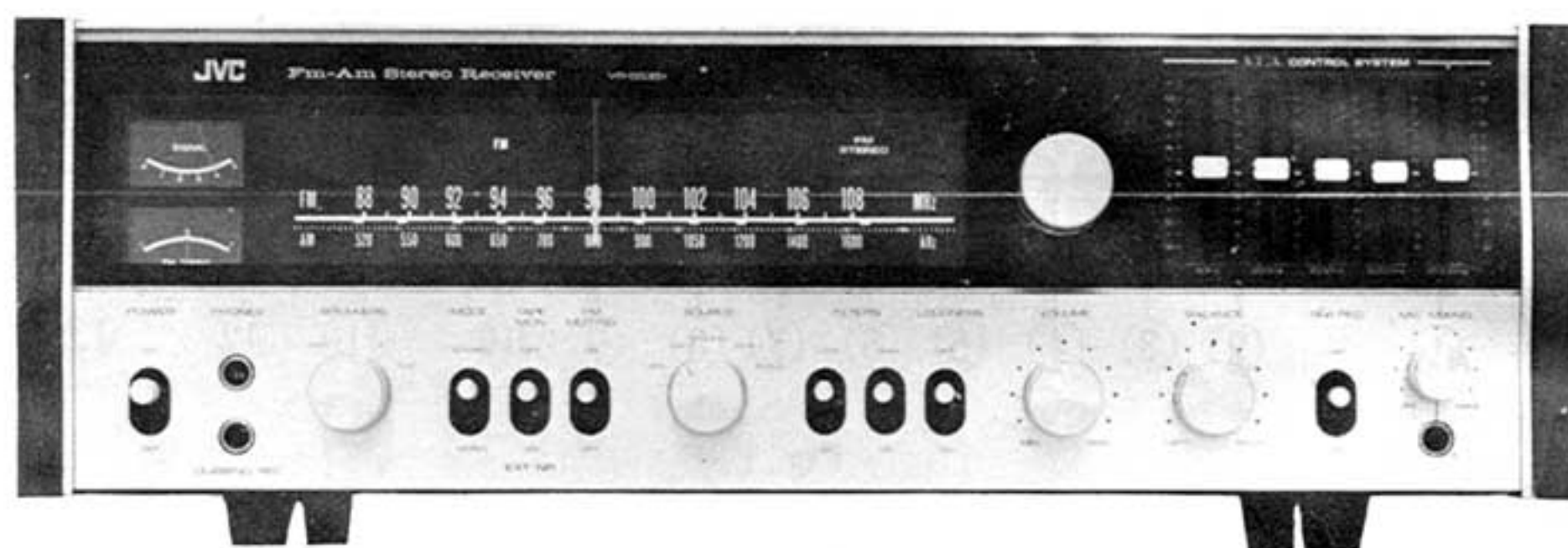


SERVICE MANUAL



MODEL VR-5535X

FM/AM STEREO RECEIVER

DIMENSIONS : H — 6-1/8" W — 18-5/8" D — 12-3/4" Weight : 25.3 lbs.
(15.5cm) (47.2cm) (32.4cm) (11.5kg)

SPECIFICATIONS

POWER AMPLIFIER SECTION

Circuit : Pure Complementary O.C.L.
RMS Power :
Both Channel Driven : 20Hz~20kHz Power Bandwidth
30W Per Channel at 8 ohm
32W Per Channel at 4 ohm
RMS Power at 1kHz : 72W (36W x 2) at 8 ohm
90W (45W x 2) at 4 ohm
Total Dynamic Power : 100W (50W x 2) at 8 ohm
(IHF) 150W (75W x 2) at 4 ohm
Load Impedance : 4~16Ω
Harmonic Distortion :
at Rated Power : 0.8%
IM Distortion :
at Rated Power : 0.8%
Damping Factor : 40 at 8Ω
Frequency Response : 10Hz~50kHz ±1dB
Crosstalk : 50dB at 1kHz

PREAMPLIFIER SECTION

Input Sensitivity for
Rated Output : PHONO 2.5mV
Mic 3mV
Aux-1 150mV
Aux-2 150mV
Tape Mon (Pin) 150mV
(DIN) 150mV
Recording Out : Tape Rec (Pin) 150mV
(DIN) 30mV
(Dubbing) 150mV
Equalizer : RIAA
S.E.A. Control Range : ±12dB
S.E.A. Center Frequency : 40,250,1k,5k,15kHz
Signal to Noise Ratio : Phono 65dB
Mic 70dB

Aux-1 70dB
Aux-2 70dB
Tape Play 70dB
Loudness : +12dB at 50Hz
+6dB at 10kHz
Low Cut Filter : -10dB at 50Hz
High Cut Filter : -10dB at 10kHz
Crosstalk : 50dB at 1kHz

FM TUNER SECTION

Tuning Range : 88MHz~108MHz
Usable Sensitivity : 2.0μV
IF Stage : 3 Mechanical Filters
Image Rejection : 55dB
T.H.D. : 0.5% (MONO)
0.8% (STEREO)
IF Rejection : 80dB
Capture Ratio : 2.0dB
Selectivity : 65dB
Signal to Noise Ratio : 65dB
AM Suppression : 50dB
Stereo Separation : 35dB
SUB Carrier Suppression : 45dB
SCA Carrier Suppression : 55dB

AM TUNER SECTION

Tuning Range : 525kHz~1605kHz
Usable Sensitivity : 30μV, 200μV/m
Image Rejection : 45dB
IF Rejection : 50dB
Selectivity : 30dB
Antenna : Built in Ferrite Core Antenna
Power Consumption : 182W (AC 120V 50/60Hz)

KNOB POSITION

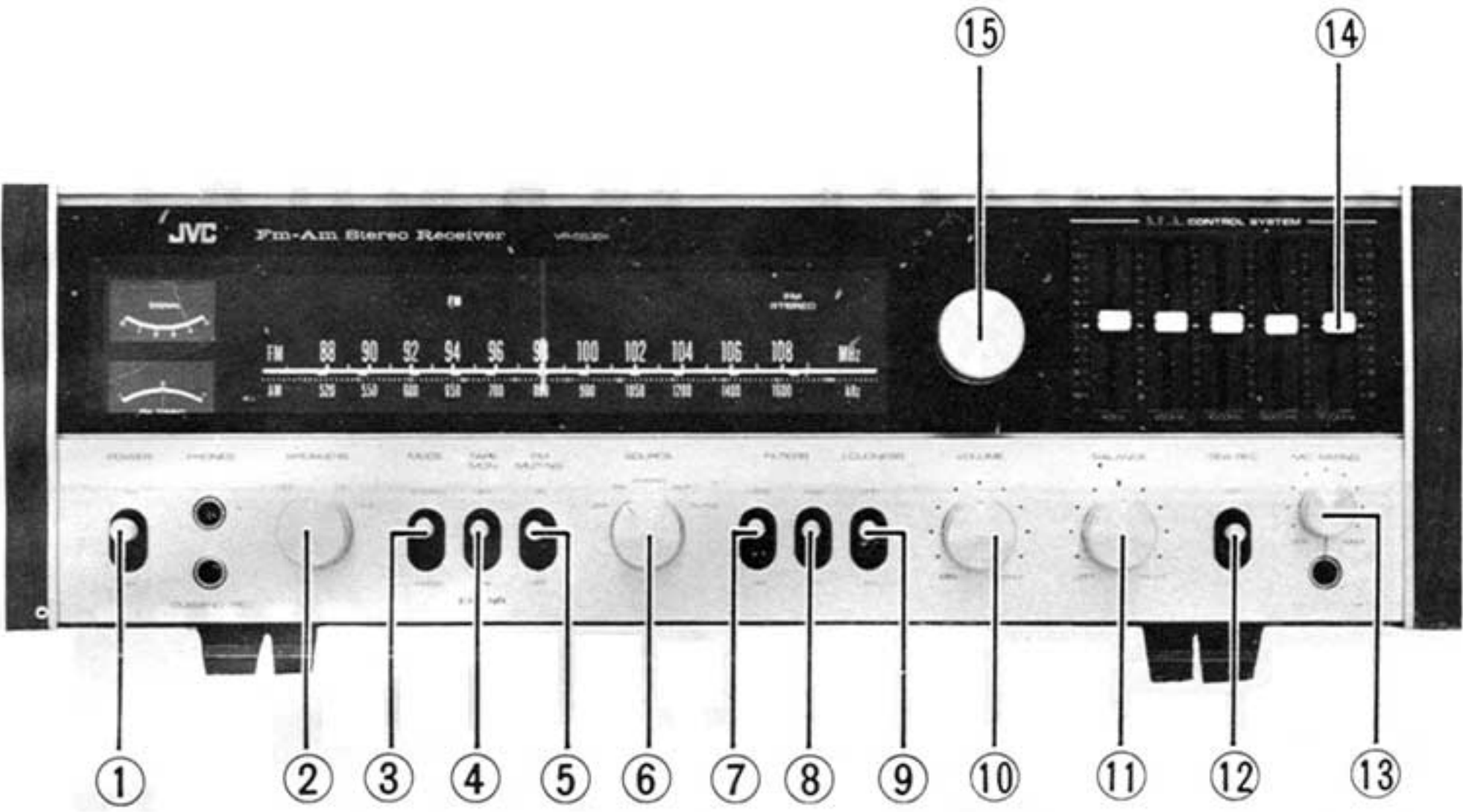


Fig. 1

No.	Knob Name	Position	No.	Knob Name	Position
1	Power Switch	OFF	9	LOUDNESS	OFF
2	Speaker Select Switch	1	10	Volume	MIN
3	Lever Switch (MODE)	STEREO	11	Balance Volume	CENTER
4	(TAPE MON)	OFF	12	SEA REC SW	OFF
5	(FM Muting)	ON	13	MIC MIXING VOLUME	OFF
6	Source Select Switch	FM	14	SEA Control Knob	FLAT
7	Lever Switch (LOW CUT)	OFF	15	Tuning Knob	
8	(High Cut)	"			

HOW TO FIT THE DIAL CORD

- 1. Set the variable capacitor on maximum capacity.
- 2. Be sure dial drum is firmly fixed to the shaft.
- 3. Fit the dial cord in accordance with arrow marks.
- 4. Wind the cord around the tuning shaft 4 turns and dial drum 3 turns.
- 5. Place the pointer on the rail and fix to the dial cord.

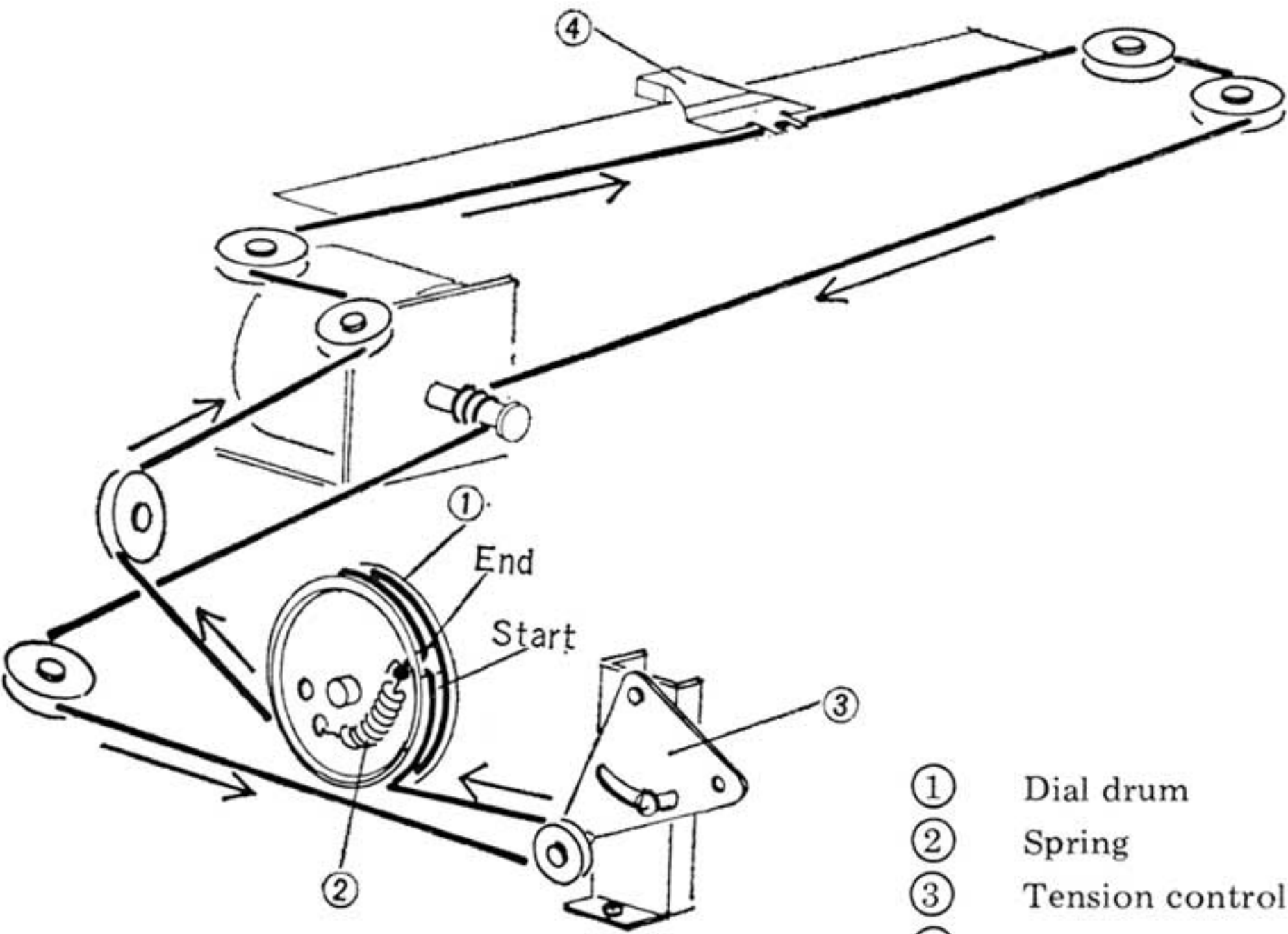


Fig. 2

①	Dial drum	QZD1205-002
②	Spring	E45679-001
③	Tension control	E46061-001S
④	Needle Ass'y	E33502-002

REMOVAL OF THE TOP COVER AND BOTTOM PLATE

- 1. Remove 4 screws through the both sides of the top cover.
- 2. Remove the top cover.
- 3. Remove screws from bottom plate and remove the bottom plate from the chassis.

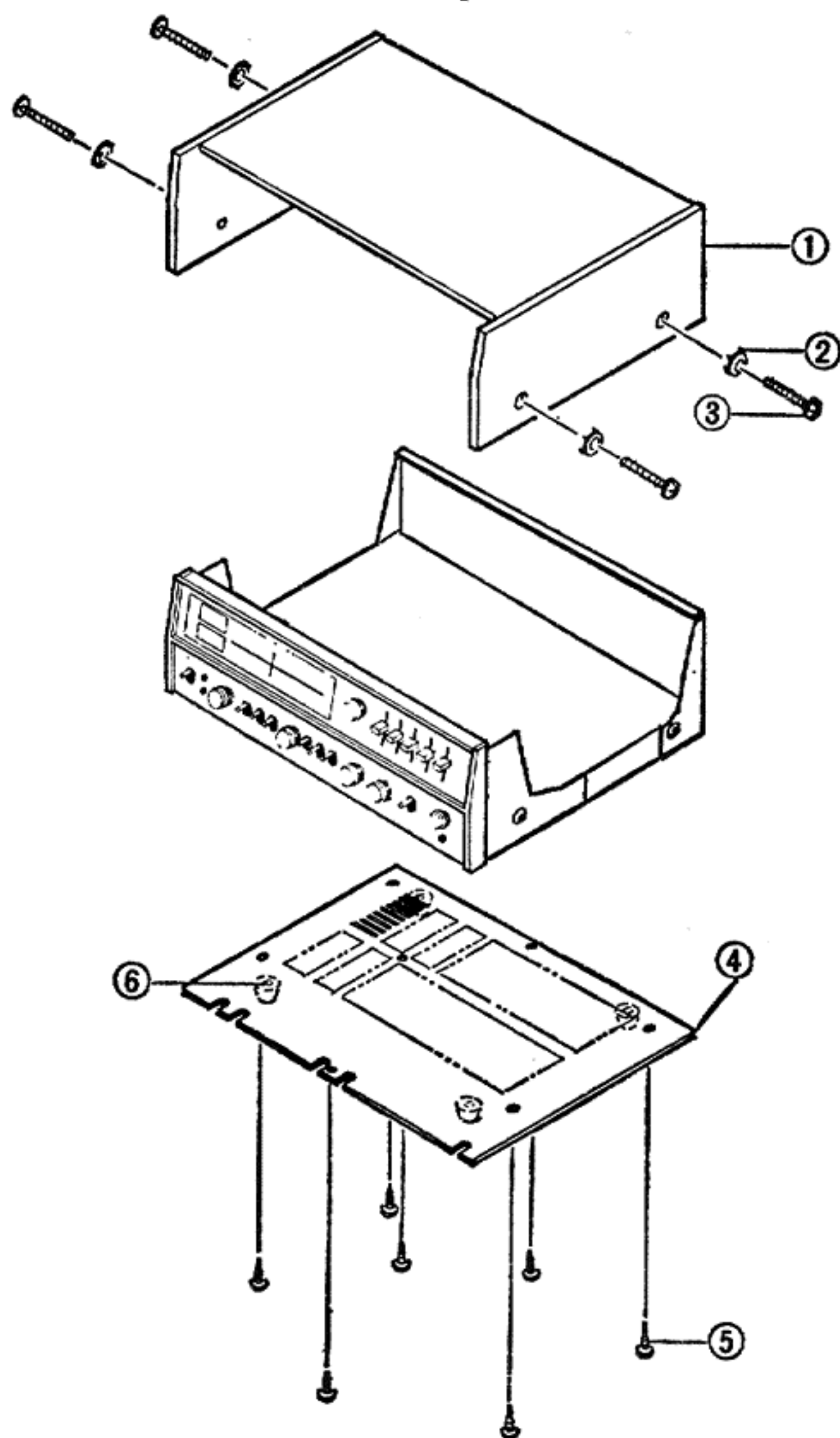


Fig. 3

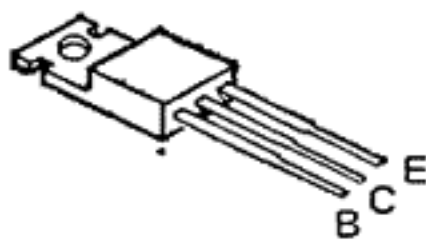
Dwg. No.	Parts No.	Parts Name	Qty
1	DL-ED92415	Wood Case	1
2	E48193-002	Washer	4
3	SDSP4035MS	Screw	4
4	E21415-004	Bottom Plate	1
5	SBSB3008N	Tapping Screw	7
6	E48599-001	Foot	4

TRANSISTOR AND IC LEADS

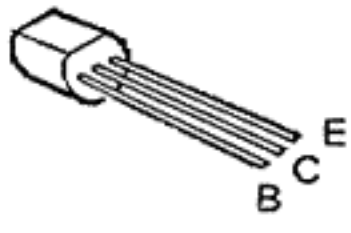
2SC1030B or C
2SA757B or C



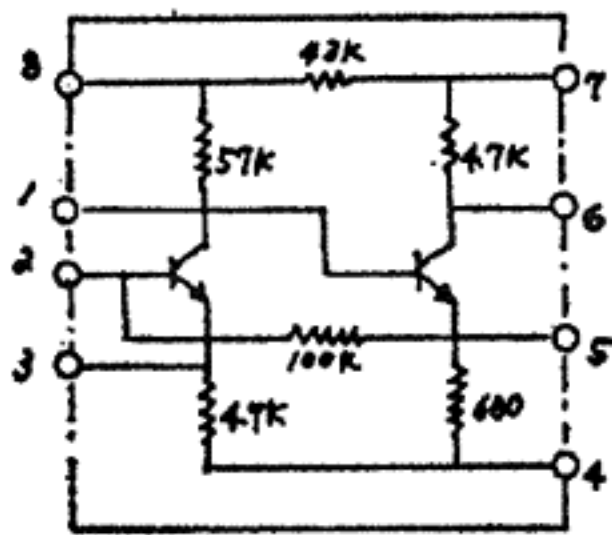
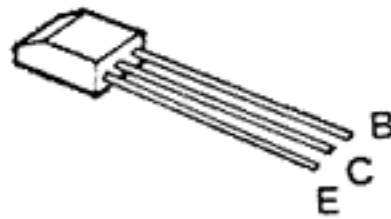
2SD325D



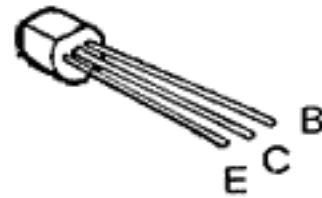
2SC710B or Cor D
2SC711E or F
2SA726F
2SA628E
2SC871E



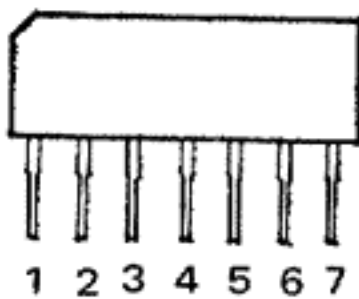
2SC458LGC
2SC458ALGC
2SC1166Y



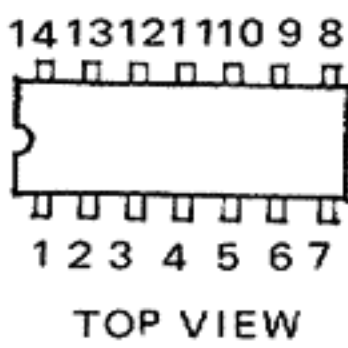
2SC829B



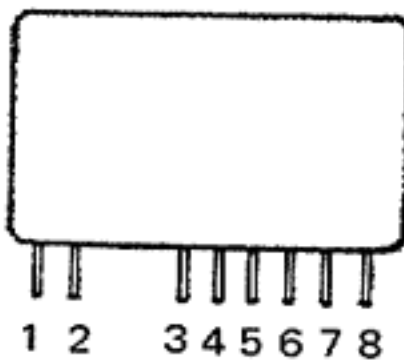
TA7061AP



LA3301



E03450-001



2SC1382O or Y
2SA682O or Y

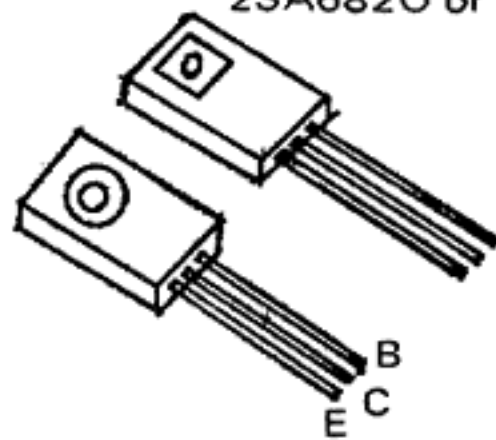


Fig. 4

MAIN PARTS ARRANGEMENT

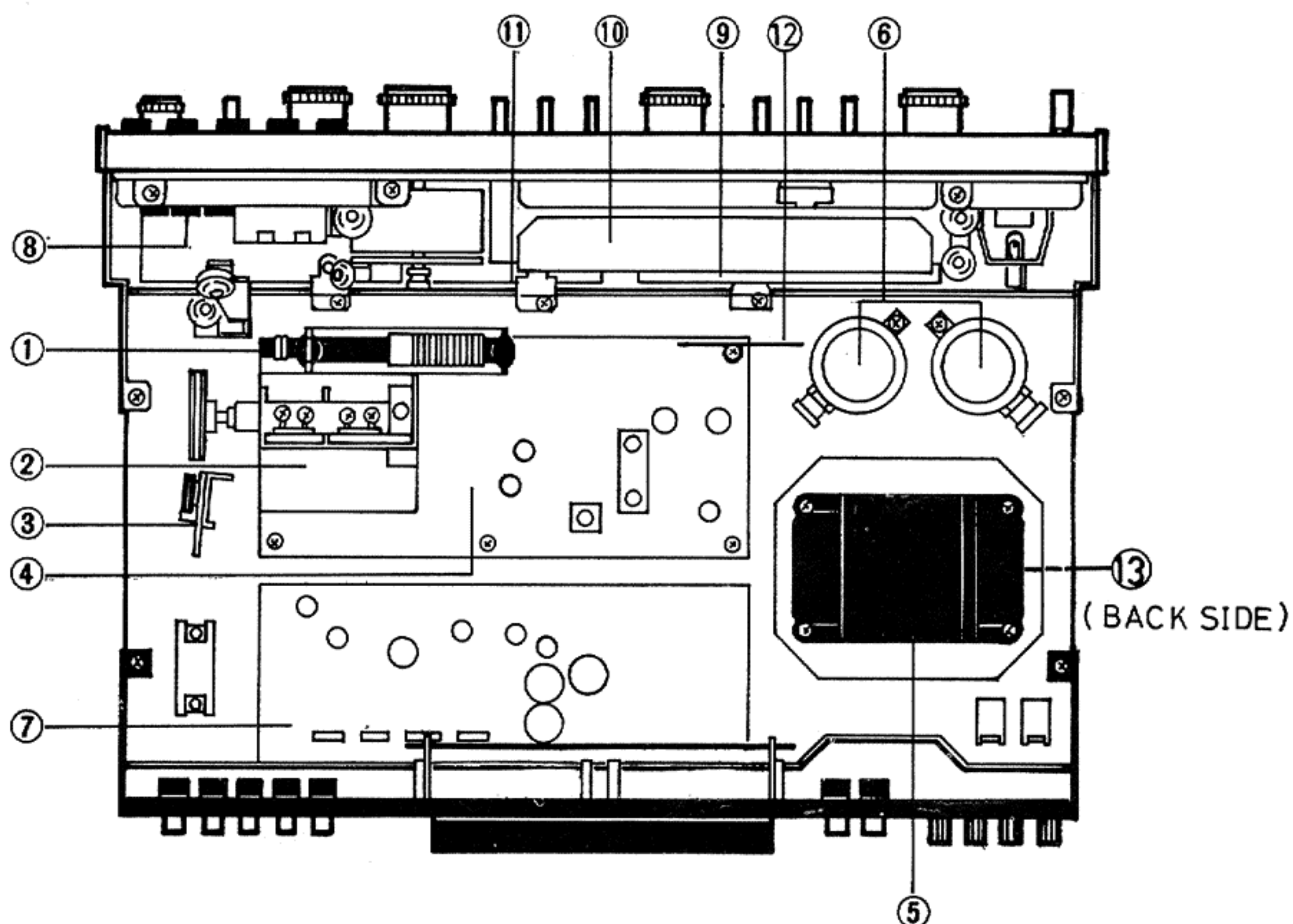


Fig. 5

PARTS LIST

Dwg. No.	Parts No.	Parts Name
1	E03145-027B	Bar Antenna Coil Ass'y
2	E03546-003	FM Front End Ass'y
3	E46061-001S	Tension Control Ass'y
* 4	TFM-207GUA	FM/AM Tuner Circuit Board Ass'y
5	E03077-5B	Power Trans Former
6	QEY5005-021	E. Capacitor (4700μ/50V)
7	TAD-137	Driver Circuit Board Ass'y
8	TAC-303B	S.E.A. Circuit Board Ass'y
9	TAP-217	Protector Circuit Board Ass'y
* 10	TAP-213B	LAMP Circuit Board Ass'y
11	TAE-90B	PRE AMP Circuit Board Ass'y
12	E49202-001	Wire Guide
13	TAP-214	Fuse Circuit Board

* NOTE

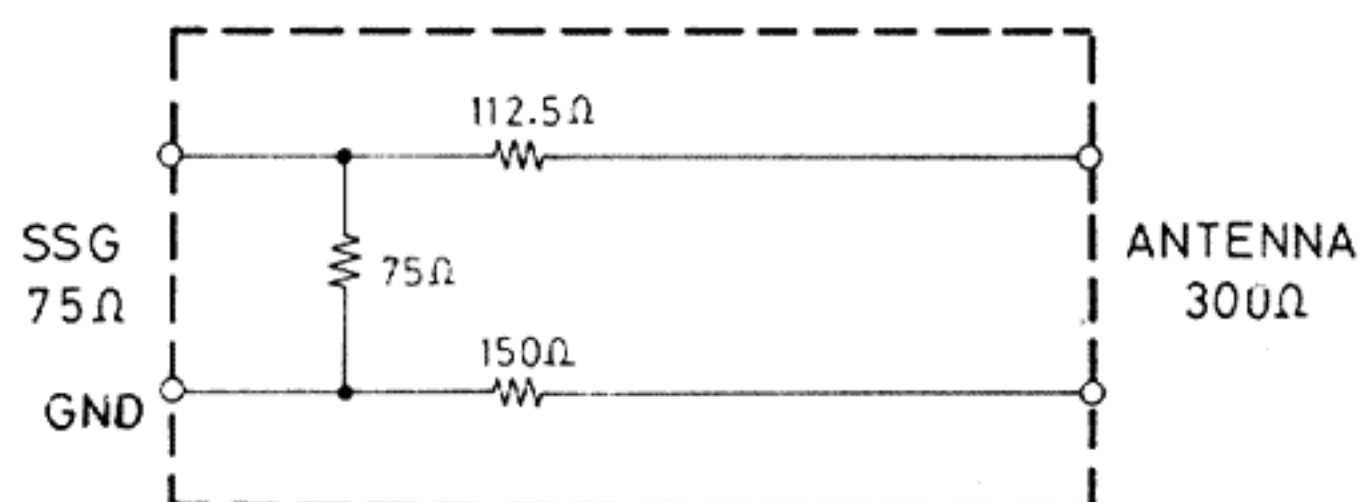
	for USA	for CANADA	for AUSTRALIA	for PACEX	for OTHER COUNTRY
TFM-207GUA	GUA-7	GUA-7	GUA-8	GUA-7	GUA-7
TAP-214	E	D	F	F	F

TUNER ALIGNMENT

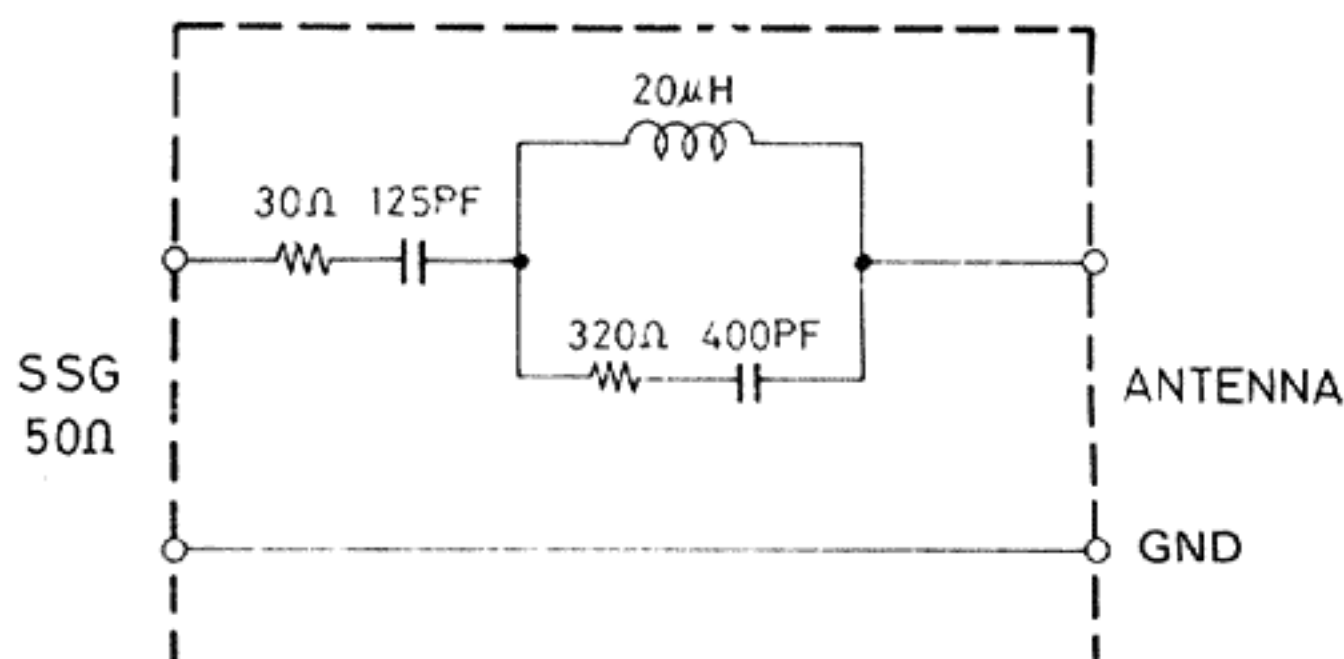
BEFORE ALIGNMENT

1. Tuning dial is set to the proper point corresponding to no radio station.
2. Connecting the RF generator to antenna terminal use the dummy antenna, refer to figure.
3. Use the insulated screw-driver adjusting the IFT.

STANDARD DUMMY ANTENNA



FM
Fig. 6



AM
Fig. 7

AM ALIGEMENT

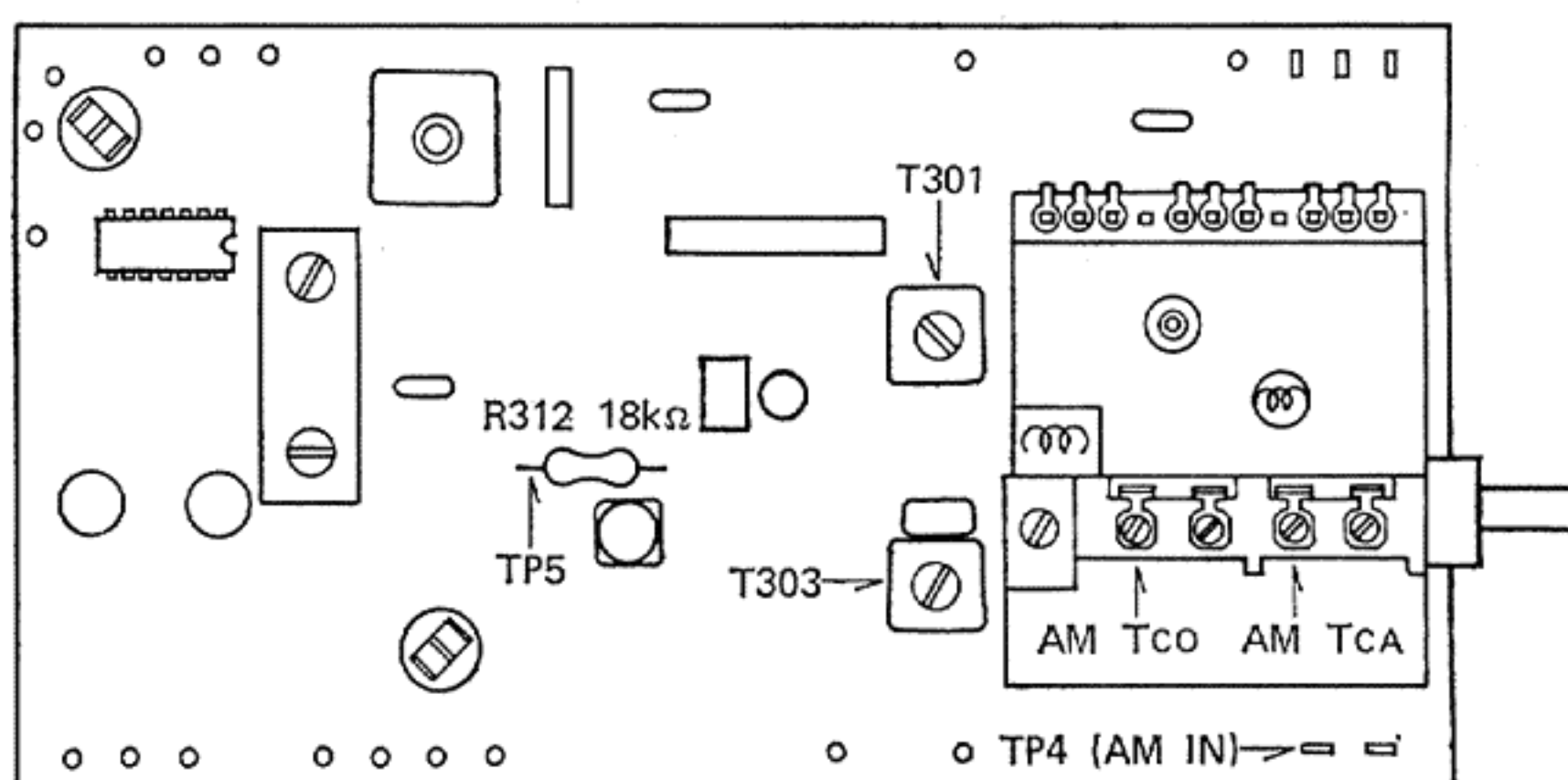


Fig. 8

ADJUSTING IF STAGE

1. Connect the output of sweep generator set to 455kHz to the AM INPUT (TP4) of Tuner Circuit Board Ass'y (TFM-207).
2. Connect the input of sweep generator to the (TP5).
3. Adjust the core of IFT T301 so that output is at max and symmetry as figure of right.

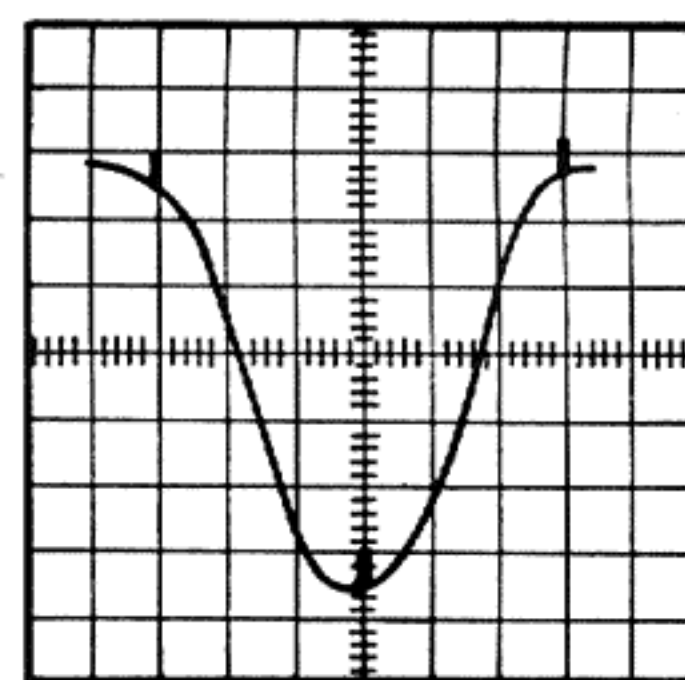


Fig. 9

ADJUSTING TRACKING & SENSITIVITY

LOW FREQUENCY

1. Connect the RF Generator set to 600kHz modulation of 30% at 400Hz to the antenna terminal of the rear panel.
2. Connect VTVM to REC jack or speaker terminal.
3. Set dial pointer to 600kHz on the dial calibrations.
4. Adjust the OSC-trans T303 and ferrite bar antenna so that output is at max.

HIGH FREQUENCY

1. Connect RF generator set to 1400kHz modulation of 30% at 400Hz to antenna terminal of the rear panel.
2. Connect VTVM to REC jack or speaker terminal.
3. Set dial pointer to 1400kHz on dial calibrations.
4. Adjust trimmer Tco AM and Tca AM of FRONT END so that output is at max.

FM ALIGNMENT

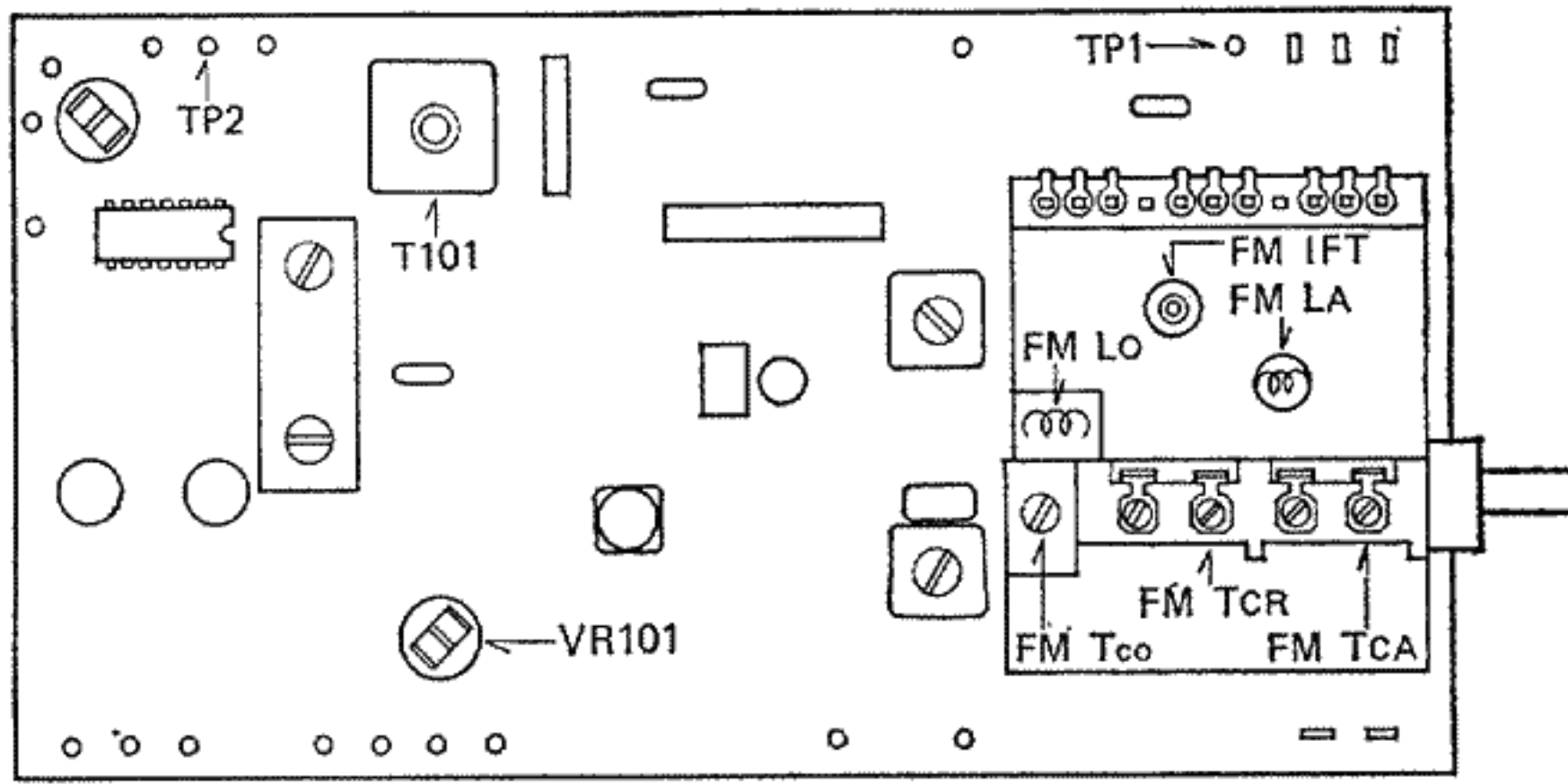


Fig. 10

ADJUSTING DISCRIMINATOR

1. Connect sweep generator set to 10.7MHz to FM test point (TP1) through resistor 33k Ω .
2. Connect oscilloscope to the FM DET OUT (TP2).
3. Adjust the primary and the secondary of T101 so that wave form to be "S" curve as figure of right and to be maximum gain.

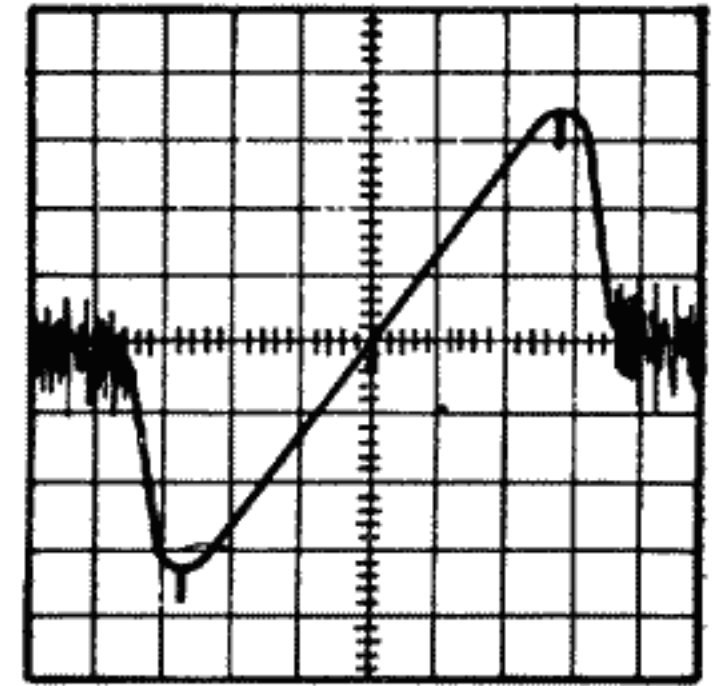


Fig. 11

ADJUSTING CENTER METER & DISTORTION

1. Connect RF generator the modulation of 400Hz, the deviation of 75kHz to the antenna terminal of the rear panel through the dummy antenna.
2. Connect the oscilloscope and distortion meter to REC jack or speaker terminal.
3. Set the dial pointer to the proper position so as not to be tuned.
4. Adjust the secondary of T101 so that the center meter indicates just 0.
5. Set the generator to 98MHz and output 60dB.
6. Set the dial pointer 98MHz just tuned.
7. Adjust the primary cord of T101 so that distortion is at minimum, less than 0.5%.

Caution : T101 Primary Cord is located at lower portion.

ADJUSTING TRACKING AND SENSITIVITY

LOW FREQUENCY

1. Connect RF generator to the antenna terminal of the rear panel through dummy antenna.
2. Set RF generator to 88MHz the modulation of 400Hz, the deviation of 75kHz and input 10 μ V.
3. Connect VTVM and oscilloscope to REC jack or speaker terminal.
4. Set dial pointer to 88MHz on dial calibrations.
5. Adjust coil LO and LA of front-end so that output is at max.

HIGH FREQUENCY

1. Set RF generator to 108MHz, the modulation of 400Hz, the deviation of 75kHz and the input of 10 μ V.
2. Set dial pointer to 108MHz on dial calibrations.
3. Adjust trimmer FM TCO and TCA of Front-end so that output is at max.

ADJUSTING MUTING LEVEL

1. Connect VTVM and oscilloscope to REC jack or speaker terminal.
2. Set RF generator to 98MHz modulation of 400Hz, deviation of 75kHz and output of 27dB.
3. Switch the source select to FM.
4. Turn VR101 clockwise so that muting does not operate and memorize output level.
5. Turn VR101 counter-clockwise slightly so that output level drops down by 1dB.
6. Reset RF generator output to 24dB and be sure muting operates.

ADJUSTING OF MPX

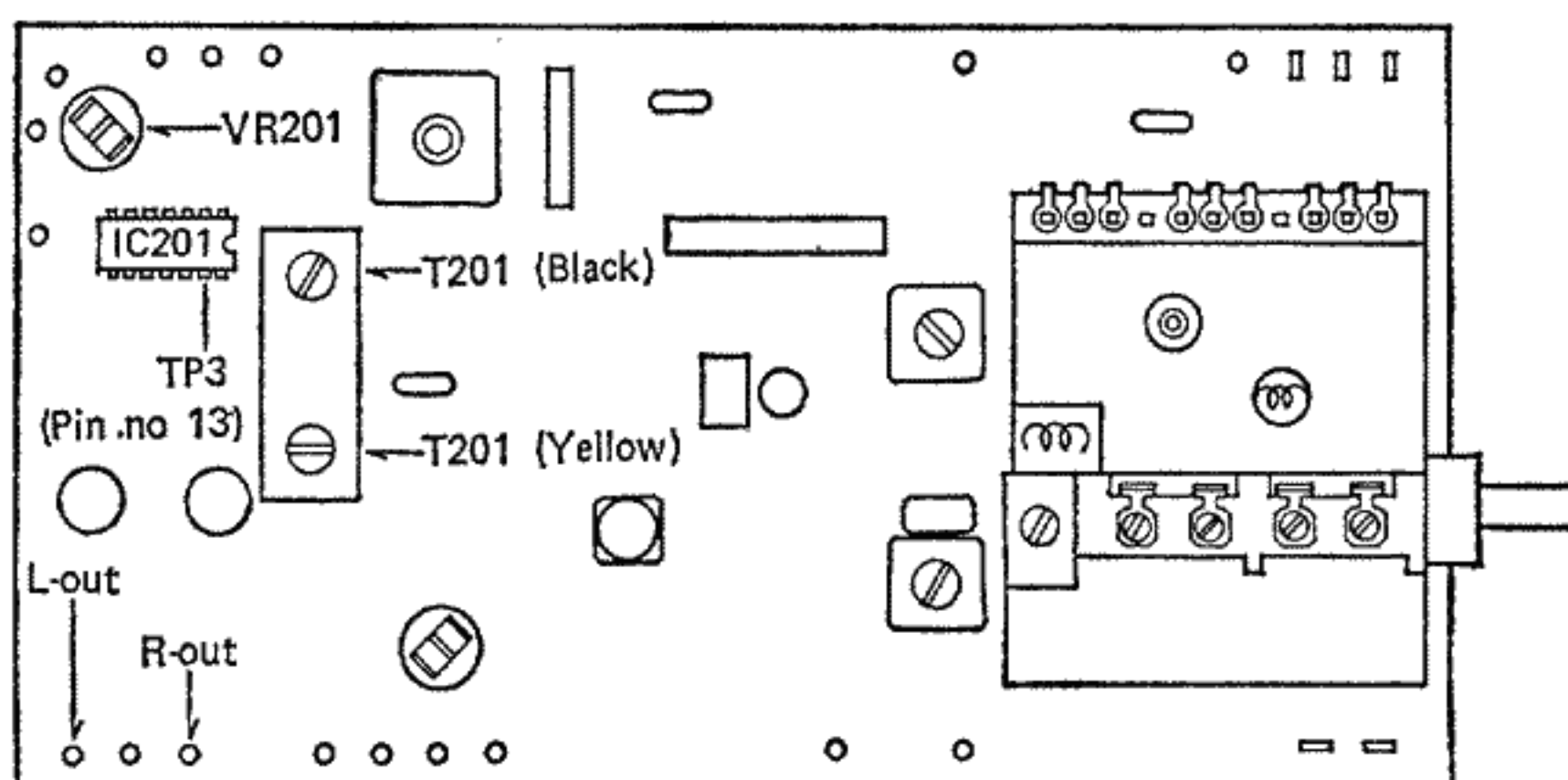


Fig. 12

1. Set stereo signal modulator to the following.
Modulation \rightarrow 1000Hz
Deviation Pilot only \rightarrow 7.5kHz
MAIN & SUB \rightarrow 67.5kHz
Output \rightarrow EXT jack of RF signal generator
2. Connect RF generator to the antenna terminal of the rear panel through dummy antenna.
3. Connect VTVM, Oscilloscope and distortion meter to REC jack or speaker terminal.
4. Set RF generator to 98MHz, and the input 60dB (1mV).
5. Set dial pointer to 98MHz on dial calibration.
6. Connect oscilloscope to TP3. (terminal of IC201 Pin No. 13)
7. Adjust T201 black core so that 19kHz level is at max.
8. Set stereo demodulator sub and pilot.
9. Adjust T201 yellow core so that L-channel or R-channel output is at maximum gain and at minimum distortion.

ADJUSTING SEPARATION

10. Switch selector of stereo modulator to LEFT.
11. Adjust VR201 so that RIGHT channel output is at min.
12. Switch selector of stereo modulator to RIGHT.
13. Adjust VR201 so that LEFT channel output is at min.
14. In case of difference between right and left, set VR201 to average.

AUDIO ALIGNMENT

ADJUSTING IDLING CURRENT

ADJUSTING WITH AMMETER

1. Connect DC ammeter to collector of power transistor X1 and +B.
2. Adjust R619 semi fixed volume so that ammeter reading is 20mA.
3. Repeat same procedure as another channel.

ADJUSTING WITH MILIVOLT METER

1. Connect DC millivoltmeter to both end of emitter resistor R629, that is to connect millivoltmeter to the Test point (609) of TAD-137 and speaker terminal corresponding to it.
2. Adjust R619 semi fixed volume so that millivoltmeter reading is 10mV.
3. Repeat same procedure as another channel.

Note : When you do it set volume to minimum and take loads away from speaker terminal.

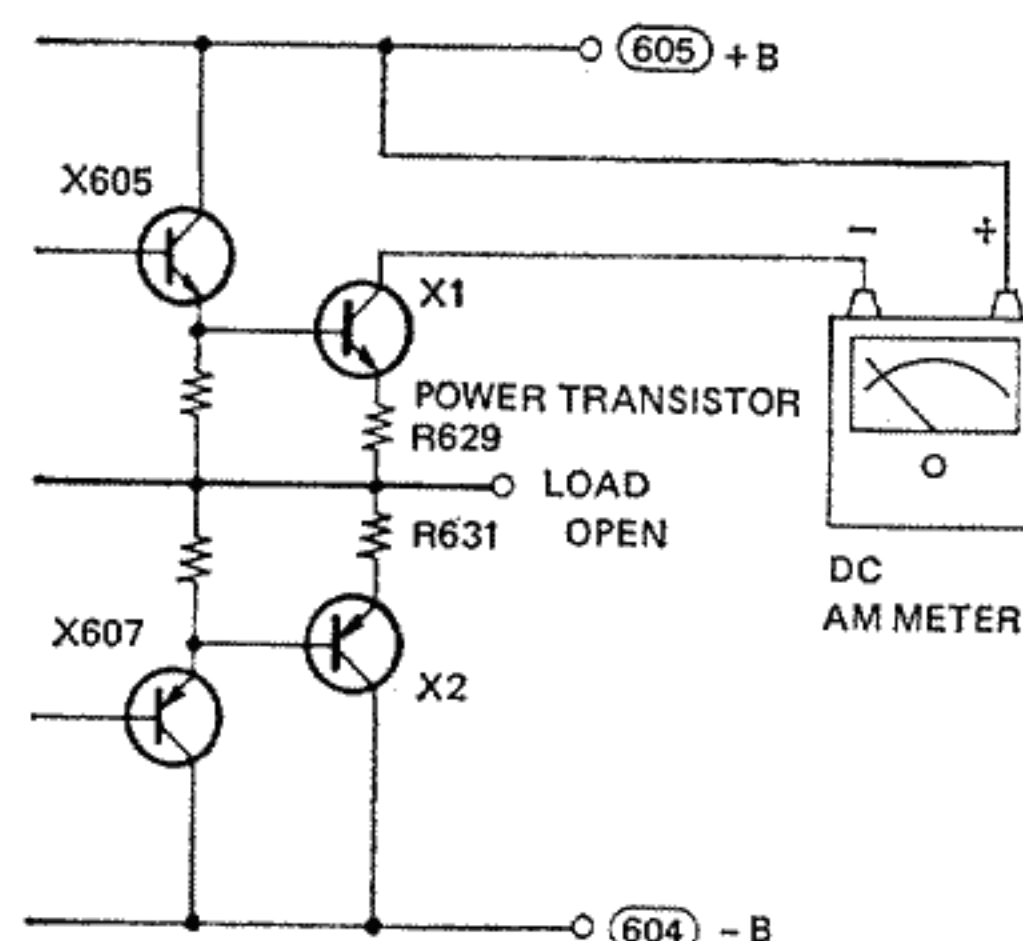


Fig. 13

THE LIST OF FRONT PANEL PARTS FOR REPLACEMENT

No.	Parts No.	Parts Name	Description	Qty
1	E1801-003	Front Panel Ass'y		1
2	E48935-002	Panel Holder	Front Panel Ass'y	2
3	E1796-001	Front Bracket Ass'y		1
* 6	QSU1222-001	Lever Switch	UL (TV-5)S1	1
7	QSL2235-008	"	S2,3,4,5,6,7	6
8	QSL4235-004	"	S8 (SEA REC)	1
9	E48927-001	Lever SW. Holder		2
10	E03468-002	Jack Ass'y	(DUBBING REC, PHONES)	2
11	QSR0060-001	Rotary Switch	S9 (SPEAKER)	1
12	E48902-002	MIC Bracket		1
13	E03468-003	Jack Ass'y	MIC	1
14	QVZ1703-001	Variable Resistor	100k Ω x 2 R10 (MIC MIXING)	1
15	E03457-001	Rotary Switch	5P-6C S10 (SOURCE)	1
16	E03176-011B	Tuning Indicator		1
17	E03176-014	Center Meter		1
18	E48962-001	Spring		2
19	E48963-001	Meter Holder		1
20	QLP1001-009	Pilot Lamp	(8V 300mA)	2
21	QLS1000-001	Lamp Socket		2
22	E33590-002	Reflector		1
23	TAP-213B	Lamp C.B. Ass'y		1
24	E33637-001	Wire Guide		1
25	QLP1001-009	Pilot Lamp	(8V 300mA)	4
26	E48586-001	Reflector		4
27	E48587-002	Mini screen	(RED)	1
28	E33511-003	Color Screen		1
29	E33502-002	Needle Ass'y	(6V 65mA)	1
30	E48932-001	Roller Bracket Ass'y	(Tuning)	1
31	E48504-002	Shield Plate		1
32	E48970-002	Shield Case	(REC JACK)	1
33	E32704-004	Tuning Shaft Ass'y		1
36	TAC-303B	SEA Coil C.B. Ass'y		1
37	QVZ5010-001	Slide Volume	R509~513 50k Ω (W)	5
38	E33444-002	SEA Bracket		1
39	TAE-90B	Pre Amp C.B. Ass'y		1
40	QVZ1209-007	V. Resistor	VOLUME R455,456 250k(B) x2	1
41	QVB8A2W-6F5	"	BALANCE R451 250k (W)	1
42	TAP-217	Protector C.B. Ass'y		1
43	E48600-001	Tuning Knob		1
44	E48753-001	Select Knob		4
45	E48601-001	Volume Knob	(MIC)	1
46	E48864-001	SEA Knob		5
47	SDSB3008N	Tapping Screw		26
48	SSSB3008N	"		6
49	E45979-010	Spacer		8
50	SSSP3008NS	Screw		14
51	WAS9000	Lock Washer		2
52	E33609-002	Dial Scale		4

NOTE

* QSY2220-004 Lever Switch For Australia

EXPLODED VIEW OF FRONT PANEL PARTS

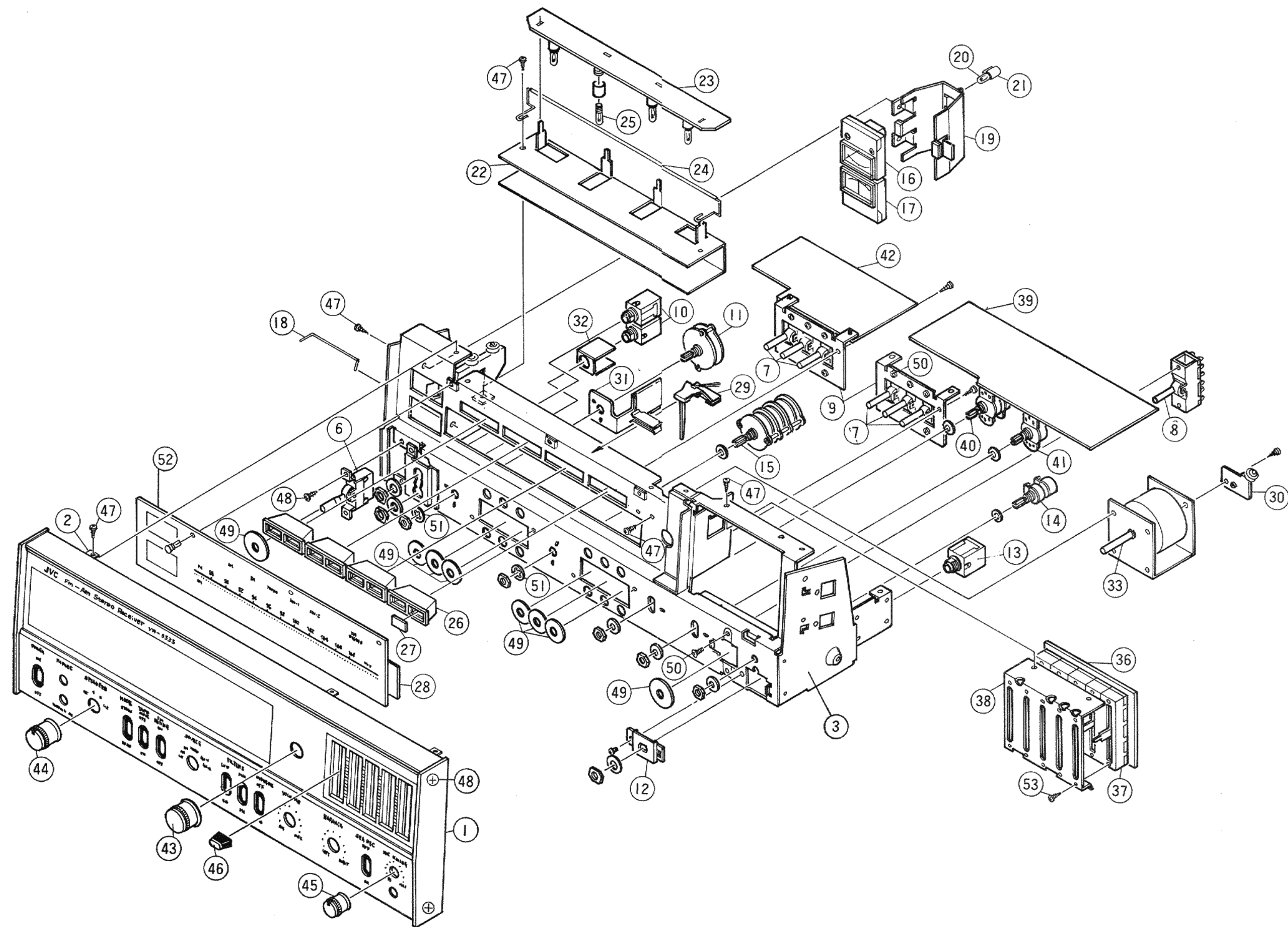


Fig. 14

EXPLODED VIEW OF REAR PANEL PARTS

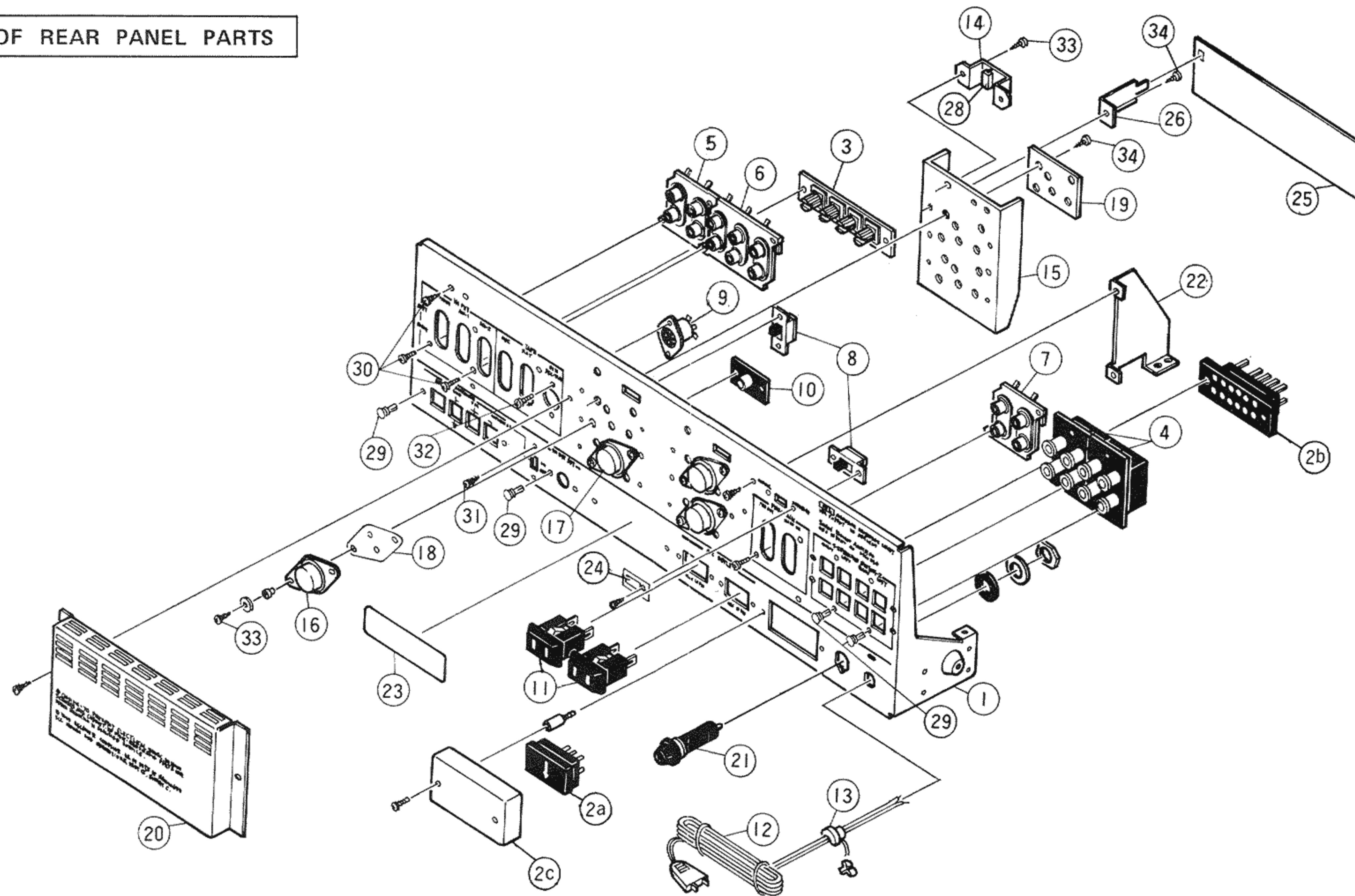


Fig. 15

THE LIST OF REAR PANEL PARTS FOR REPLACEMENT

No.	Parts No.	Parts Name	Description	Qty
1	E21425-003	Rear Panel		1
2a	QMC9005-001	Volt Select Plug	EXCEPT U.S.A. CANADA	
2b	QMC9004-001	Volt Select Socket	"	
2c	E46603-001	Cover	"	
	E47473-002	Plate	For U.S.A. CANADA	
3	E03572-002	Terminal Ass'y	4P ANT	1
4	E03592-001	"	SPK	2
5	E03591-40	Pin Jack Ass'y	4P (PH, AUX-1)	1
6	E03591-61	"	6P (AUX-2, TAPE)	1
7	E03591-41	"	4P (PRE MAIN)	1
8	QSS0021-002	Slide Switch	S11,12 (ANT, PRE MAIN)	2
9	E03571-001	DIN Socket Ass'y		1
10	E03043-10	Pin Jack Ass'y	1P (FM DET OUT)	1
11a	QMC0235-001	AC Socket	EXCEPT U.S.A	1
11b	QMC0234-001	"	FOR U.S.A	1
12	QMP1200-244	Power Cord with Plug	UL	1
13	E31704-003	Power Cord Stopper		1
14	E49004-001	Holder Ass'y		2
15	E48929-001	Heat Sink		2
16	2SC1030B or C	Power Transistor		2
17	2SA757 or C	"		2
18	E41542-2	Mica Film	WITH P. Transistor	4

No.	Parts No.	Parts Name	Description	Qty
19	E04086-003	Transistor Socket		4
20	E33588-002	Transistor Cover		1
21a	QMG0201-001	Fuse Socket	FOR USA, NEX, PACEX AND OTHER COUNTRY	1
21b	QMG0102-001	"	FOR CANADA AUSTRARIA AND U.K	1
22	E49063-001	Stay Bracket		1
23a	E49198-036	Rating Plate		1
23b	E49198-037	"	FOR AUSTRARIA AND U.K	
23c	E49198-038	"	FOR PACEX, NEX	
23d	E49198-039	"	OTHER COUNTRY	
23e	E48761-025	"	FOR CANADA	
24	E48783-001	Stopper		1
25	E49065-001	Fiber		1
26	E49064-001	Bracket		1
28	SV-03	Varistor		2
29	E48729-001	Plastic Rivet		8
30	SPSD3008MS	Self Tap Screw		6
31	SPSP2006M	Screw		4
32	SPSP2605M	"		2
33	SDSB3008N	Tapping Screw		19
34	SPSP3012NS	Screw		8

CIRCUIT BOARD ASS'Y

TAE-90B (EQ. MIC. AMP)

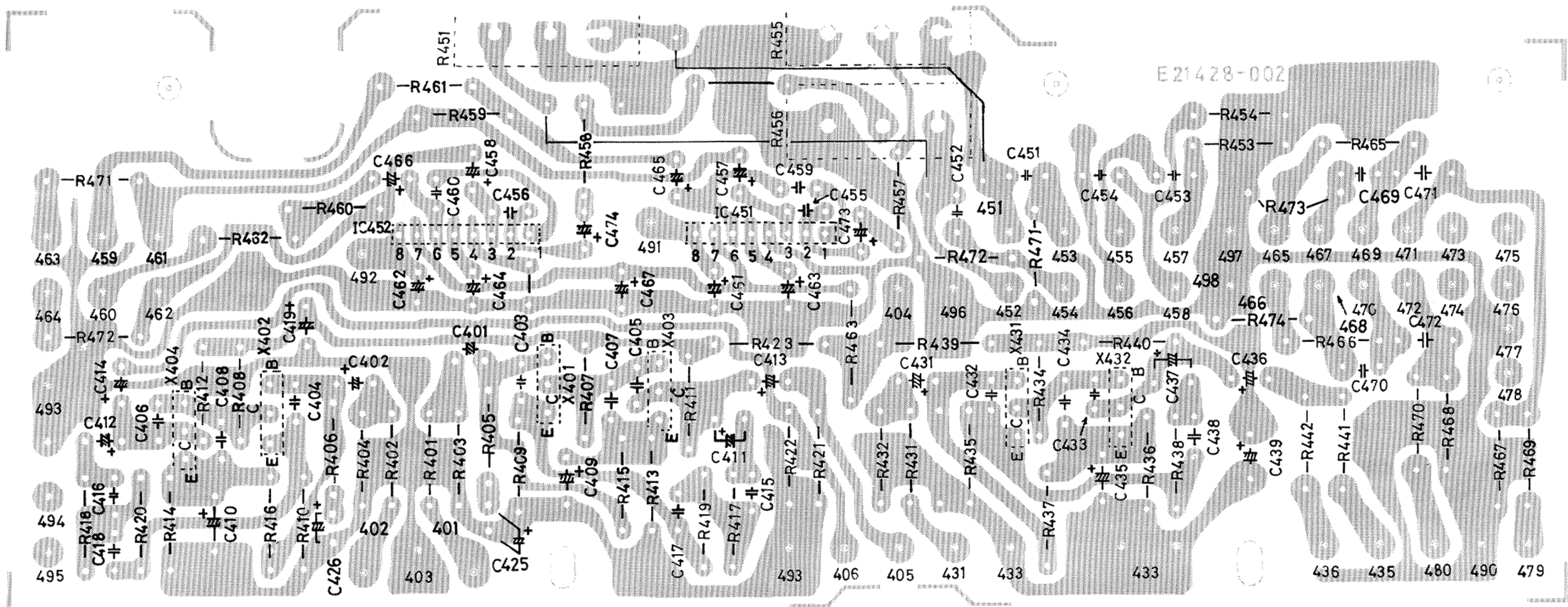


Fig. 16

TAE-90B (EQ. MIC. AMP) PARTS LIST

No.	Parts No.	Parts Name	Description	Qty
1	E21428-002	Circuit Board		1
2	QVZ1209-007	V. Resistor	VOLUME 250k(B) x2 R455,456	1
3	QVB8A2W-6F5	"	BALANCE 250k(W) R451	1
4	FA6012	IC	IC451,452	2
5	2SC458LGC	Transistor	X401,402,403,404	4
6	"	"	X431,432	2
7	QEW41AA-476	E. Capacitor	(47 μ /10V) C425,426	2
8	QEW41HA-105	"	(1 μ /50V) C401,402,413,414	4
9	QEW41EA-107	"	(100 μ /25V) C419	1
10	QEW41HA-106	"	(10 μ /50V) C411,412	2
11	QEW41AA-336	"	(33 μ /10V) C409,410	2
12	QEW41HA-105	"	(1 μ /50V) C431,436	2
13	QEW41EA-107	"	(100 μ /25V) C439	1
14	QEW41EA-106	"	(10 μ /25V) C437	1
15	QEW41AA-336	"	(33 μ /10V) C435	1
16	QEW41HA-105	"	(1 μ /50V) C473,474	2
17	QEW41EA-227	"	(220 μ /25V) C467	1

No.	Parts No.	Parts Name	Description	Qty
18	QEW41EA-336	E. Capacitor	(33 μ /25V) C465,466	2
19	QEW41HA-106	"	(10 μ /50V) C461,462	2
20	QEW41CA-336	"	(33 μ /16V) C457,458	2
21	QEW41AA-336	"	(33 μ /10V) C463,464	2
22	QCS11HJ-151	C. Capacitor	C407,408	2
23	QCS11HJ-101	"	C405,406	2
24	QCF11HP-102	"	C403,404	2
25	QCS11HJ-151	"	C434	1
26	QCS11HJ-560	"	C433,438	2
27	QCF11HP-102	"	C432	1
28	QCS11HJ-560	"	C459,460	2
29	QCF11HP-102	"	C455,456	2
30	QCS11HK-331	"	C451	1
31	QCS11HJ-331	"	C453,454	2
32	QFM41HK-103	M. Capacitor	C415,416	2
33	QFM41HK-332	"	C417,418	2
34	QFM41HK-153	"	C453,454,469,470	4

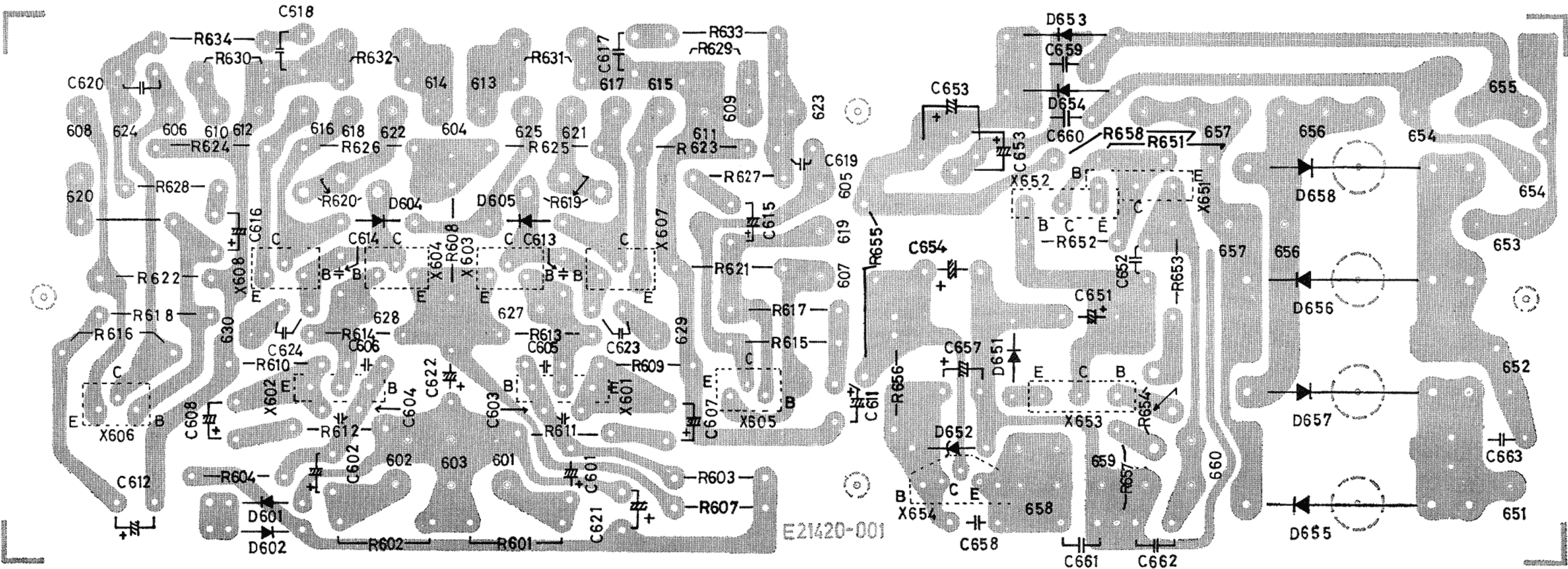


Fig. 17

TAD-137 (DRIVER POWER SUPPLY) PARTS LIST

No.	Parts No.	Parts Name	Description	Qty
1	QVP2A0B-022	V. Resistor	R619,620	2
2	QVP2A0B-014	"	R654	1
3	2SA726F	Transistor	X601,602	2
4	2SC1382O or Y	"	X603,604	2
5	2SA682O or Y	"	X607,608	2
6	2SC1382O or Y	"	X605,606	2
7	2SD325D or E	"	X654	1
8	2SC1166Y	"	X651	1
9	2SD711F	"	X652,653	2
10	1S2473	Si Diode	D602,603,604	3
11	DS-2P	"	D655~658	4
12	FR2-02	"	D653,654	2
13	1S990	"	D651	1
14	E0771-12	Z. Diode	D652	1
15	1S990	Varistor (Diode)	D601	1

No.	Parts No.	Parts Name	Description	Qty
16	QEW41HA-107	E. Capacitor	(100μ/50V) C622	1
17	QEW41HA-105	"	(1μ/50V) C601,602	2
18	QEW41HA-476	"	(47μ/50V) C611,612	2
19	QEW41CA-106	"	(10μ/16V) C621	1
20	QEW41JA-227	"	(220μ/6.3V) C607,608	2
21	QEW41HA-227	"	(220μ/50V) C651	1
22	QEW41EA-477	"	(470μ/25V) C653,654	2
23	QEW41CA-227	"	(220μ/16V) C657	1
24	QCS11HJ-120	C. Capacitor	C605,606	2
25	QCS11HJ-361	"	C603,604	2
26	QCF12HP-103	"	C663	1
27	QCF11HP-103	"	C658,659,660	3
28	QCF11HP-223	"	C652	1
29	QFM41HK-223	M. Capacitor	C617,618	2
30	QFM41HK-223	"	C471,472	2

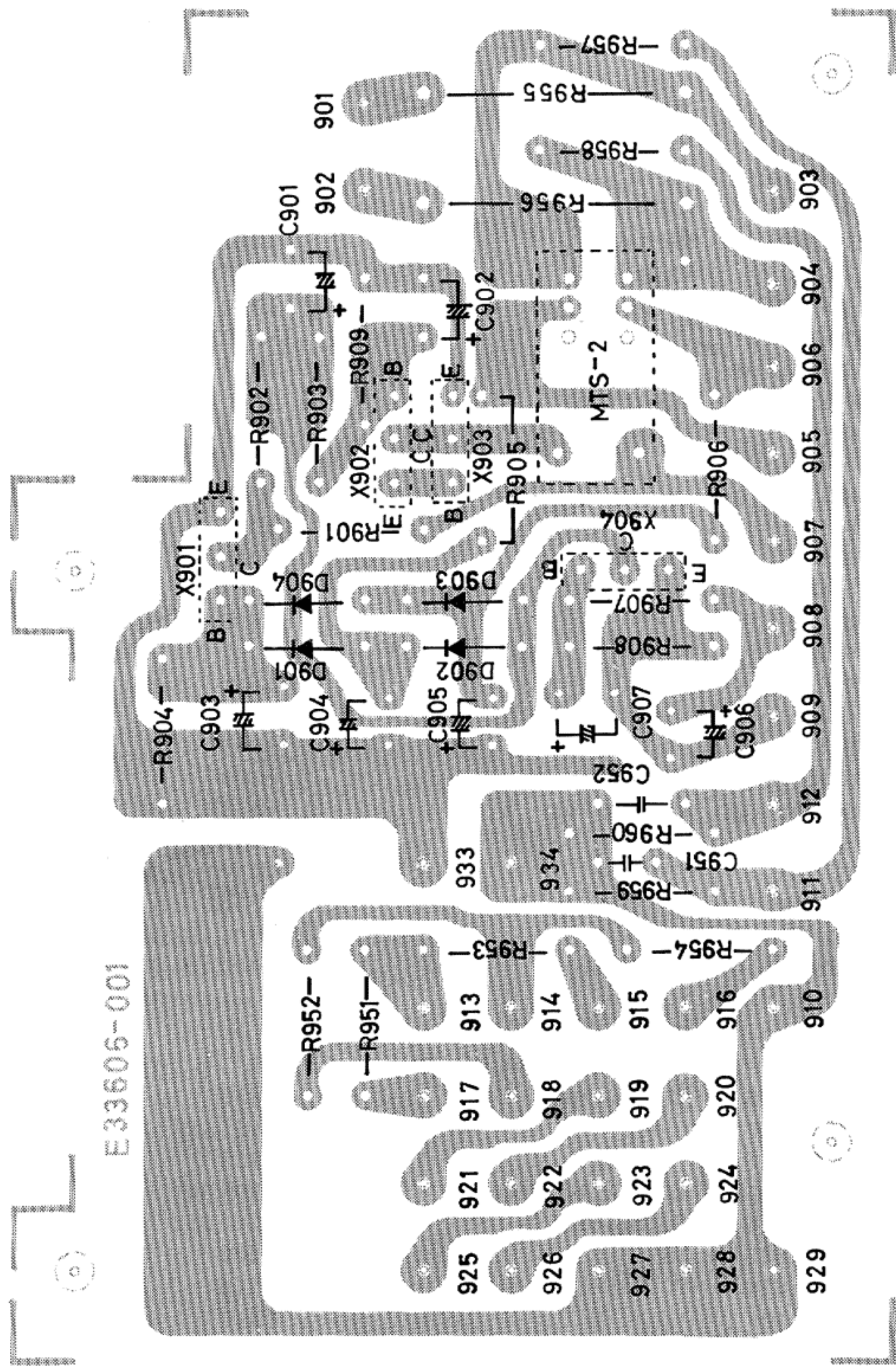


Fig. 18

TAP-217 (PROTECTOR) PARTS LIST

No.	Parts No.	Parts Name	Description	Qty
1	MTS-2NV	Relay		1
2	2SC1166Y	Transistor	X903	1
3	2SC458ALGC	"	X901,902,904	3
4	1S2473	Diode	D901~904	4
6	QEW41AA-227	E. Capacitor	(220μ/10V) C903	1
7	QEW40JA-477	"	(470μ/6.3V) C902	1
8	QEW41AA-107	"	(100μ/10V) C904,905	2
9	QEW41CA-336	"	(33μ/16V) C901	1
10	QEW41AA-336	"	(33μ/10V) C906,907	2

TFM-207GUA (TUNER) PARTS LIST

No.	Parts No.	Parts Name	Description	Qty
1				
2	E03546-003	FM Front End Ass'y		1
3	QVP4A0B-473	V. Resistor	VR101	1
4	QVP4A0B-102	"	VR201	1
5	E03134-017	DET. Trans	T101	1
6	E03117-020	MPX Coil	T201	1
7	E03587-333	Choke Coil	L201,202	2
8	E03522-120K	"	L301	1
9	E03520-391	"	L302	1
10	E03079-13	AM OSC Coil	T303	1
11	E03062-31	AM IFT	T301	1
12	E03062-33	"	T302	1
13	E03450-005	IC	IC101 (W,R,B)	1
14	TA7061AP	"	IC102	1
15	LA3301	"	IC201	1
16	2SC710B	Transistor	X101	1
17	2SC710C	"	X102,103	2
18	2SA628E	"	X106	1
19	2SC871E	"	X201,202,105	3
20	2SC710C	"	X302	1
21	2SC711D	"	X301	1
22	2SC711E	"	X304	1
23	2SC829B	"	X303	1
24	E03357-002	Ceramic Filter	CF104	1
25	E03357-003	"	CF101,102 (W,R,B)	2
26	E03476-003	"	CF103 (W,R,B)	1
27	E03399-001	"	CF301	1
28	1S2473	Diode (Si)	D101,102,306	3
29	1S188FM	" (Ge)	D103,104,105,106	4
30	1S188FM	"	D301,302,303,304,305	5
31	E03448-122	CR Block (0.022 μ /1.2k)	BLK101	1
32	E03448-681	" (0.022 μ /680 Ω)	BLK102,103	2
33	QEW41AA-336	E. Capacitor	C115	1
34	QEW41CA-106	"	C111,112,123,124	4
35	QEW41CA-475	"	C122	1
36	QEB41EM-224	L.L.C.E. Capacitor	C203,204	2
37	QEW41HA-105	E. Capacitor	C211,212	2
38	QEW41HA-475	"	C202	1
39	QEW41CA-476	"	C215	1
40	QEW41CA-106	"	C315	1
41	QEW41AA-336	"	C325,335	2
42	QEW41CA-476	"	C324	1
43	QEW41CA-107	"	C333	1
44	QEW40JA-227	"	C309	1
45	QCF11HP-223A	Ceramic Capacitor	C117,118,119,120,102,104,105, 107,108,114	10
46	QCZ0107-473	"	C101	1
47	QCS11HJ-220	"	C109,110,116	3
48	QCS11HJ-470	"	C113	1
49	QCF11HP-223A	"	C316,323,326,328,303,304,305, 308,310	9
50	QCZ0107-473	"	C302,306,314,317,319	5
51	QCS11HJ-150	"	C332	1
52	QCS11HJ-331	"	C332	1
53	QCS11HJ-820	"	C327	1
54	QCS11HJ-121	"	C307	1
55	QCS11HJ-221	"	C329	1

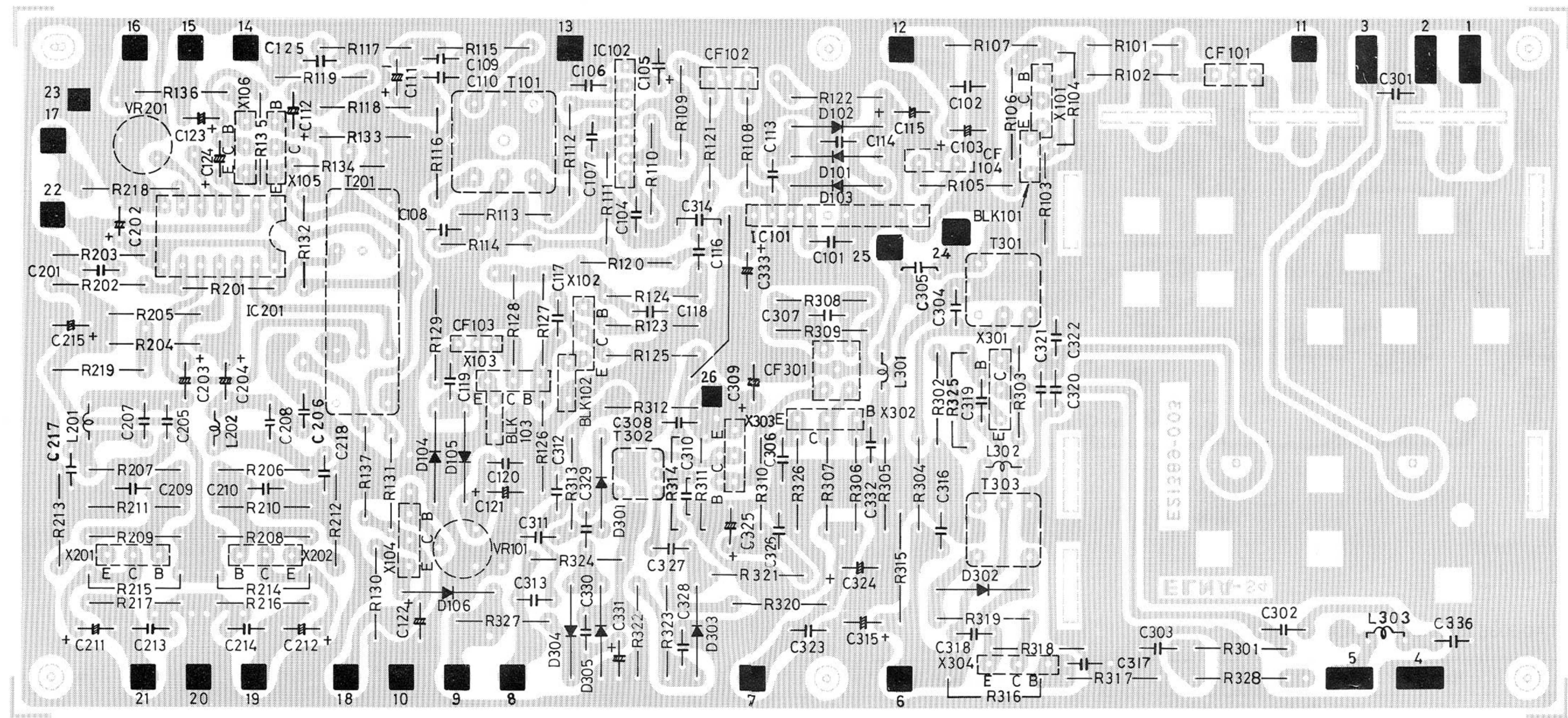


Fig. 19

TFM-207GUA (TUNER) PARTS LIST

No.	Parts No.	Parts Name	Description	Qty
56	QCS11HJ-361	Ceramic Capacitor	C321	1
57	QFM41HK-222	Mylar Capacitor	C207,208	2
58	QFM41HK-272	"	C201	1
* 59	QFM41HK-153	"	C209,210	2
60	QFM41HK-153	"	C205,206	2
* 61	QFM41HK-102	"	C311	1
62	QFM41HK-682	"	C318	1
63	QFM41HK-563	"	C313	1
64	QFM41HK-103	"	C312	1

* NOTE

No.	TFM-207GUA-7	TFM-207GUA-8	
—	QRD141J-0R0	QRC121K-181	R218
59	QFM41HK-153	QFM41HK-822	C209,210
61	QFM41HK-102	QFM41HK-223	C311
	for USA CANADA etc.	for AUSTRALIA	

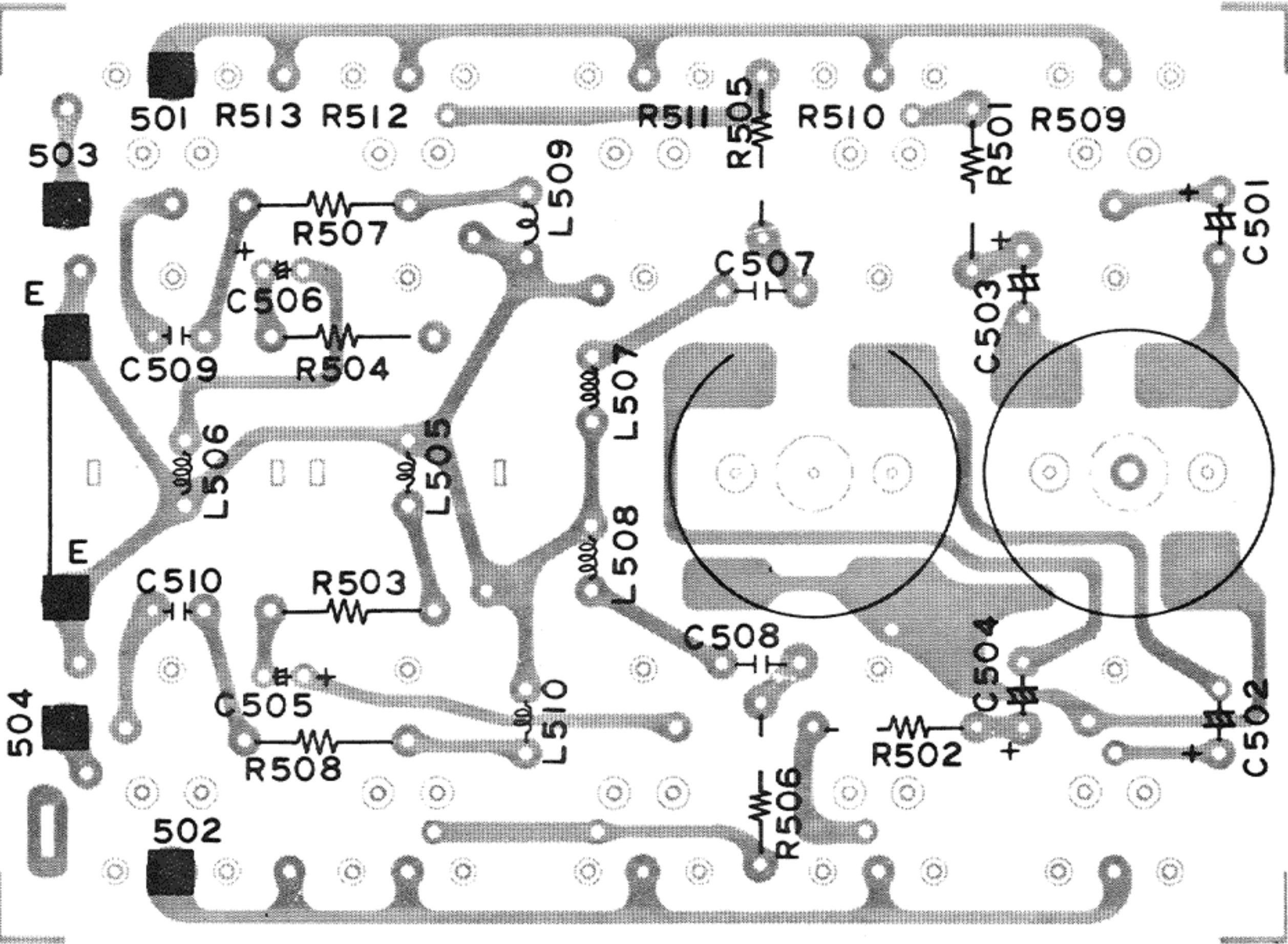


Fig. 20

TAC-303B (SEA CONTROL) PARTS LIST

No.	Parts No.	Parts Name	Description	Qty
1	QEB41EM-106	LLC. E. Capacitor	(10 μ /25V) C510,502	2
2	QEB41EM-684	"	(0.68 μ /25V) C503,504	2
3	QEB41EM-224	"	(0.22 μ /25V) C505,506	2
4	QFM41HK-473	M. Capacitor	(0.047 μ F) C507,508	2
5	QFM41HK-103	"	(0.01 μ F) C509,510	2
6	E03108-11A	Choke Coil	(2H + 0.6H) L501~504	4
7	E0747-11	Feni Inductor	(100mH) L505,506	2
8	E0747-12	"	(22mH) L507,508	2
9	E0747-9	"	(10mH) L509,510	2
10	QVZ5010-001	Slide Volume	50k R509~513	5

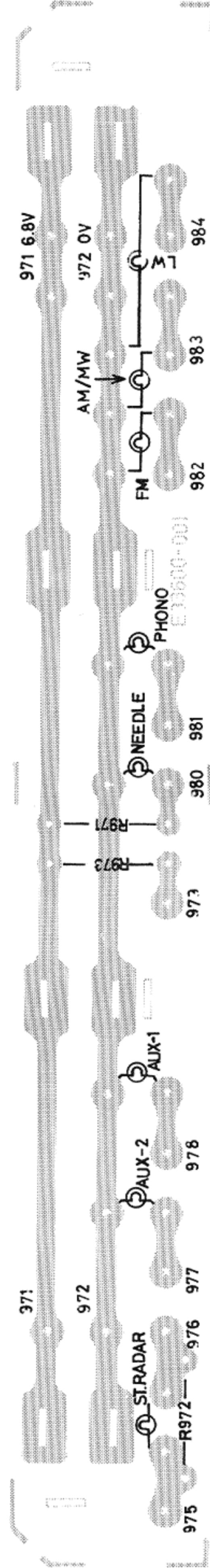


Fig. 21

TAP-213B (LAMP) PARTS LIST

No.	Parts No.	Parts Name	Description	Qty
1	E33600-001	Circuit Board		1
2	50689	Lamp Socket		4
3	QLP1001-009	Pilot Lamp		4
4	QLP3104-101	Mini Lamp	S.T. Radar	1
5	QLP3104-104	"	Source	5

TAP-214 (FUSE)

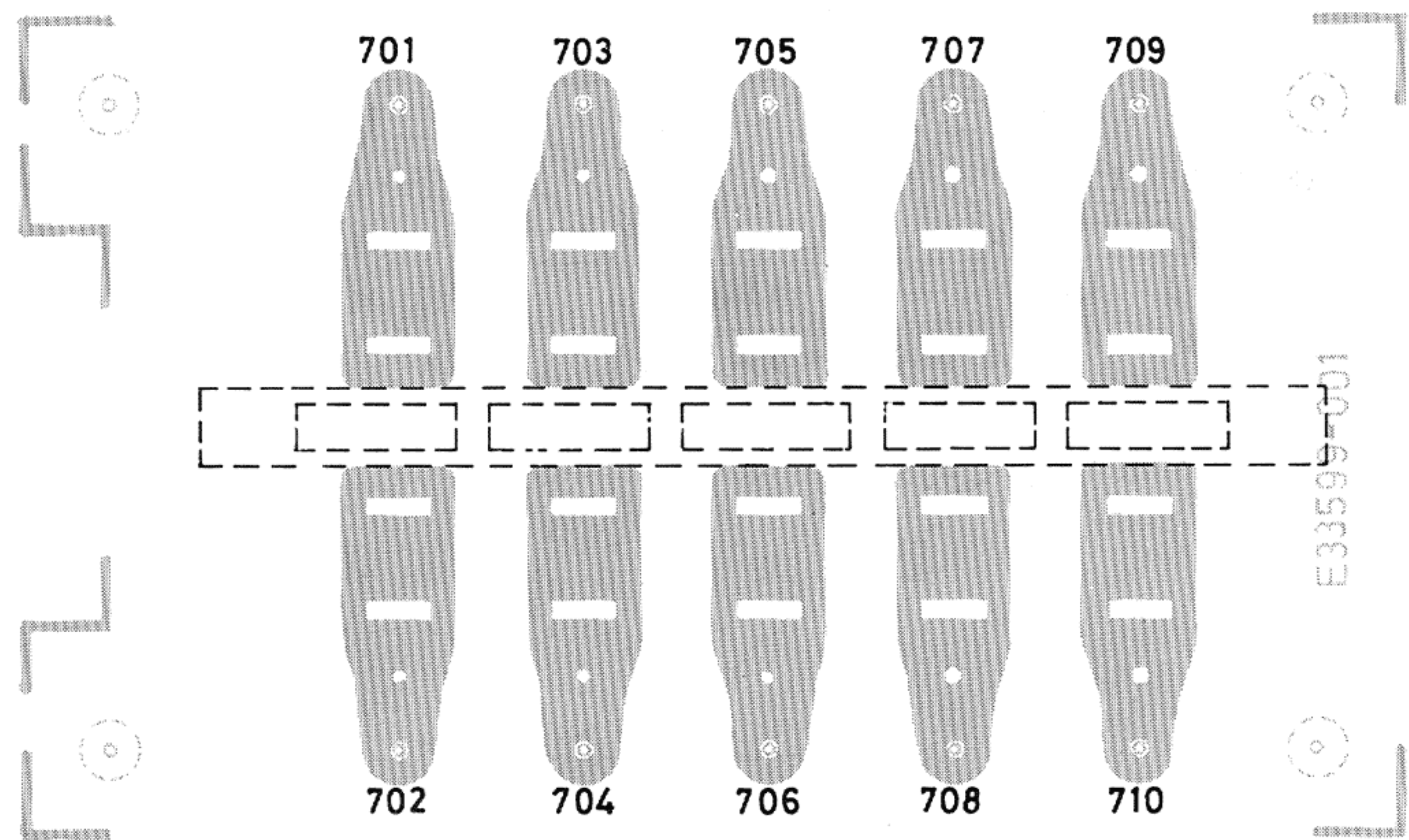


Fig. 22

TAP-214 (FUSE) PARTS LIST

No.	Parts No.	Parts Name	Description	Qty
1	E33599-001	Circuit Board		1
2	QFM66U2-R50	Fuse	0.5A FOR U.S.A	2
3	QFM66U1-2R0		0.2A FOR U.S.A	1
4	QFM63R1-R50		0.5A EXCEPT U.S.A	2
5	QFM63R1-1R8		1.8A EXCEPT U.S.A	1
6	QFM63R1-4R0		4.0A FOR CANADA ONLY	2

PACKING ILLUSTRATION

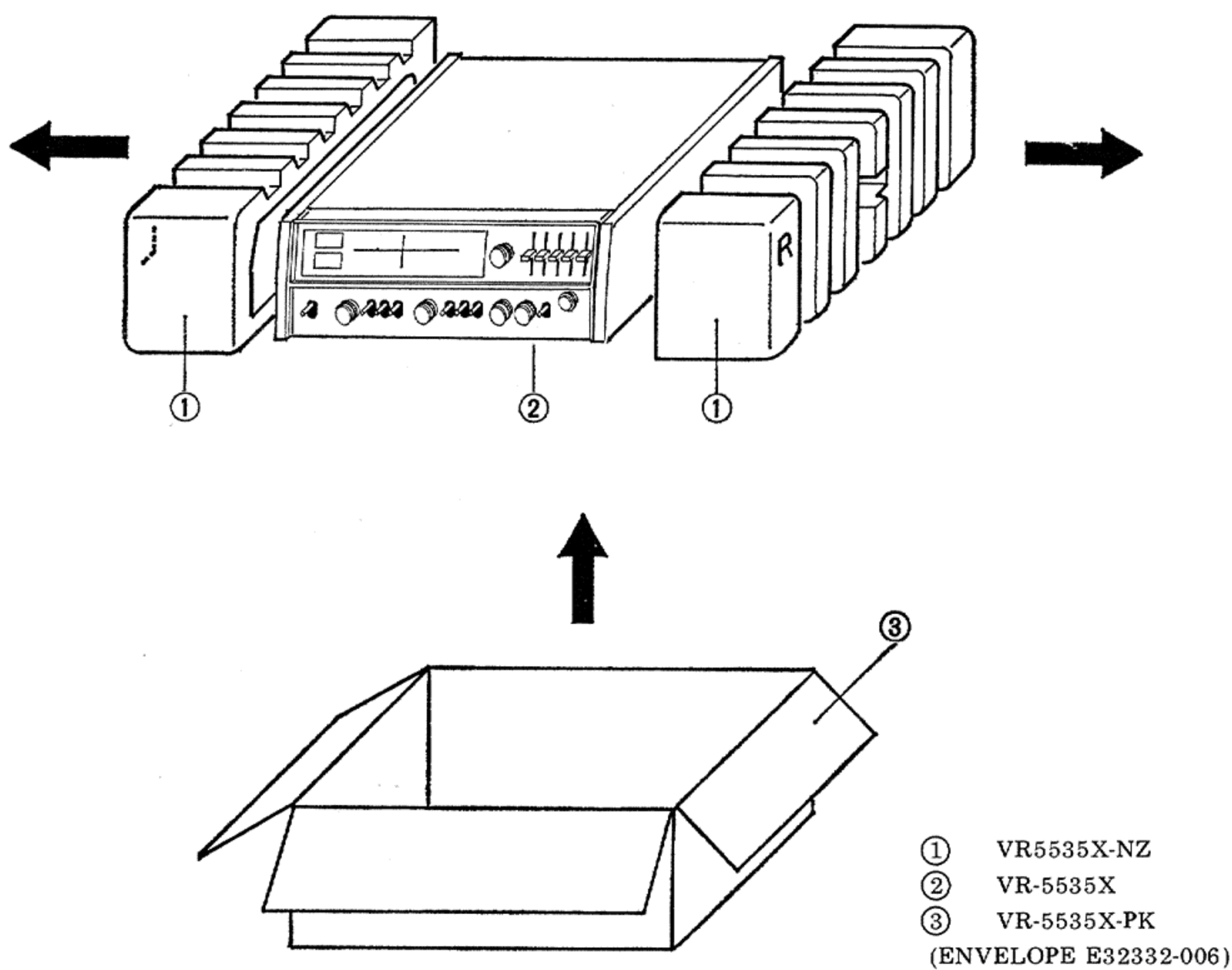


Fig. 23

ACCESSORY

No.	Parts No.	Parts Name
1	E30580-453A	INSTRUCTION BOOK
2	E64207-002	ENVELOPE (INST)
3	E32332-006	ENVELOPE (SET)
4	E30539-426A	SCHEMATIC DIAGRAM
5	E64103-001	POLISHING CLOTH

LEVEL DIAGRAM

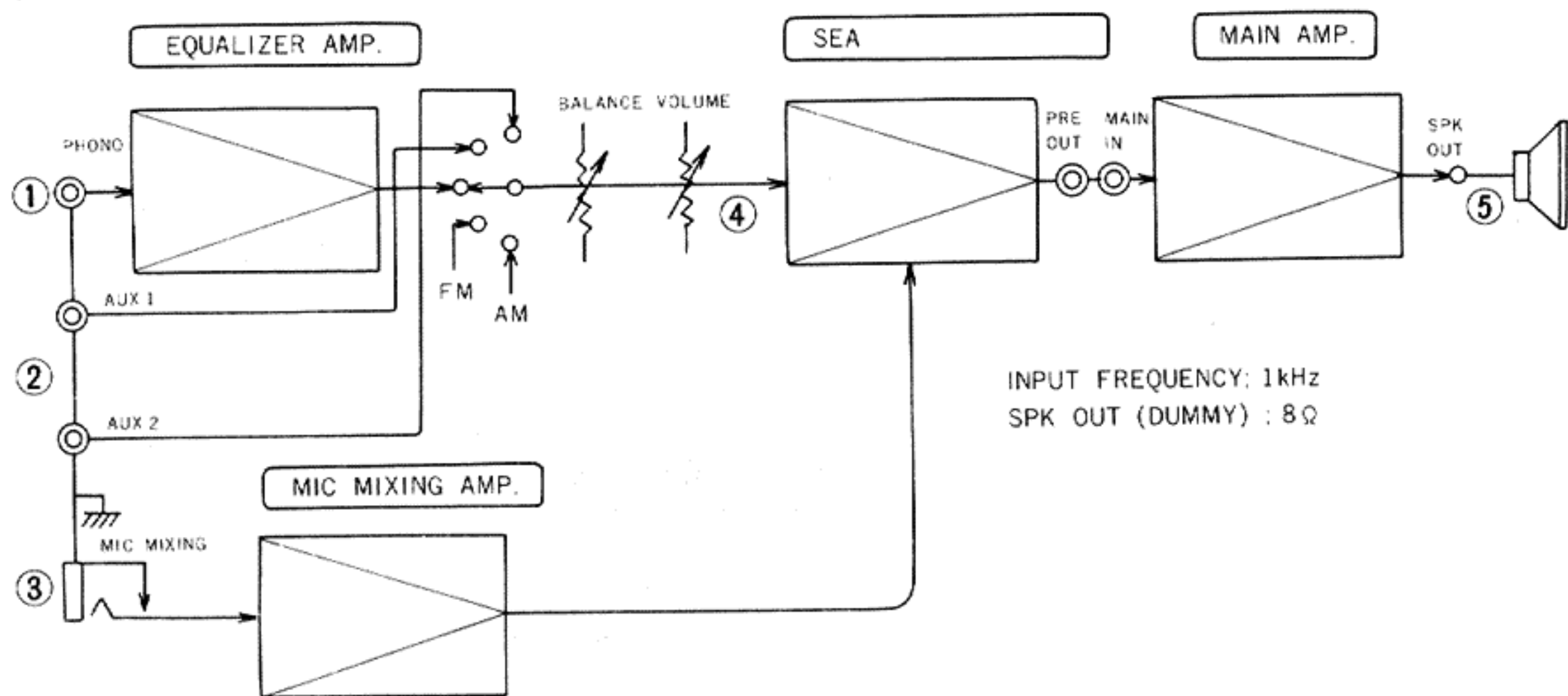


Fig. 24

0dB=0.775V

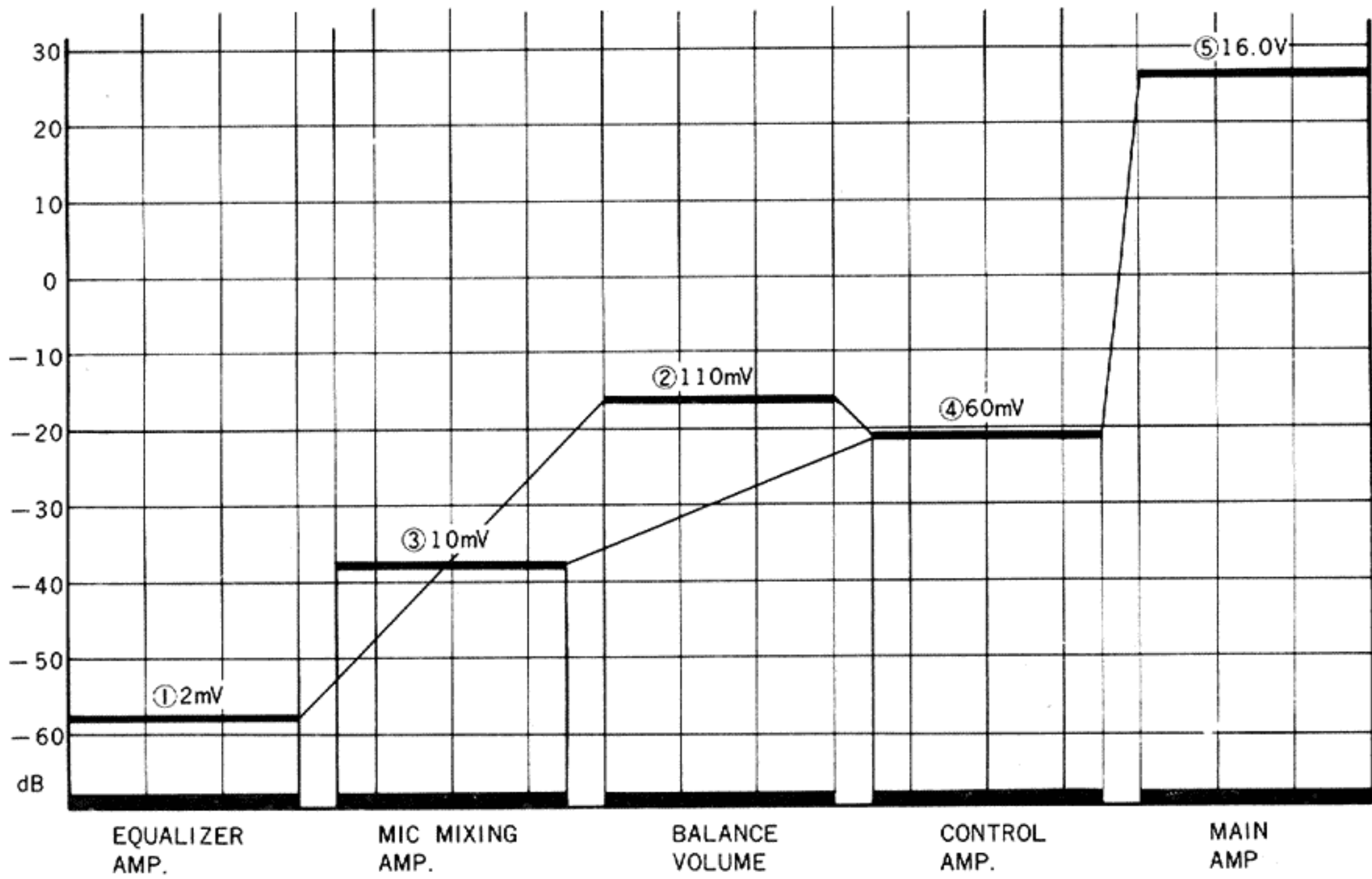


Fig. 25

NOTE : A sort of Resistor's Parts Number shown below.

Parts No.	Sort of Resistor
QRD141J	Carbon Resistor ¼W
QRC121K	Composition Resistor ½W

When you order Resistor, write required Resistor value in addition to the right-hand of hyphen.

For example : QRD141J-102 = Carbon Resistor 1kΩ ¼W
 QRD141J-472 = Carbon Resistor 4.7kΩ ¼W
 QRC121K-562 = Composition Resistor 5.6kΩ ½W

MAKER'S NAME OF TRANSISTOR, IC AND DIODE

2SC1030	Transistor	Hitachi
2SA757	"	Toshiba
2SD325	"	Sanyo
2SC1166	"	Toshiba
2SA682	"	"
2SC710	"	Mitsubishi
2SC711	"	"
2SA726	"	"
2SA628	"	"
2SC1382	"	Toshiba
2SC535	"	Hitachi
2SC458	"	"
2SC829	"	Matsushita

1S188	Diode	Sanyo
1S2473	"	Toyo
DS-2P	"	Fuji
SV-03	"	Sanken
FR2-02	"	Fuji
1S426GFM	"	Sanyo
1S990	"	JRC
FA6012	IC	Hitachi
TA7061AP	"	Toshiba
LA3301	"	Sanyo
E03450-005	"	Taiyo

CHECK POINT AFTER REPAIR

Please be sure of the following corresponds when repair is complete.

- 1. Each broadcasting frequency accords with dial scale accurately.
- 2. No abnormal oscillations occur in FM & AM reception.
- 3. Modulation hum in practically unappreciable.
- 4. Normal gain and output are obtained.
- 5. Both high and low range of audio frequency are not decreased exceptionally.
- 6. Tone Controls operate normally.
- 7. Normal fuse used :

100V~120V	3.3A	QMF60R1-3R3
220V~240V	1.8A	QMF60R1-1R8
120V (UL)	3A For U.S.A. CANADA	QMF61U1-3R0

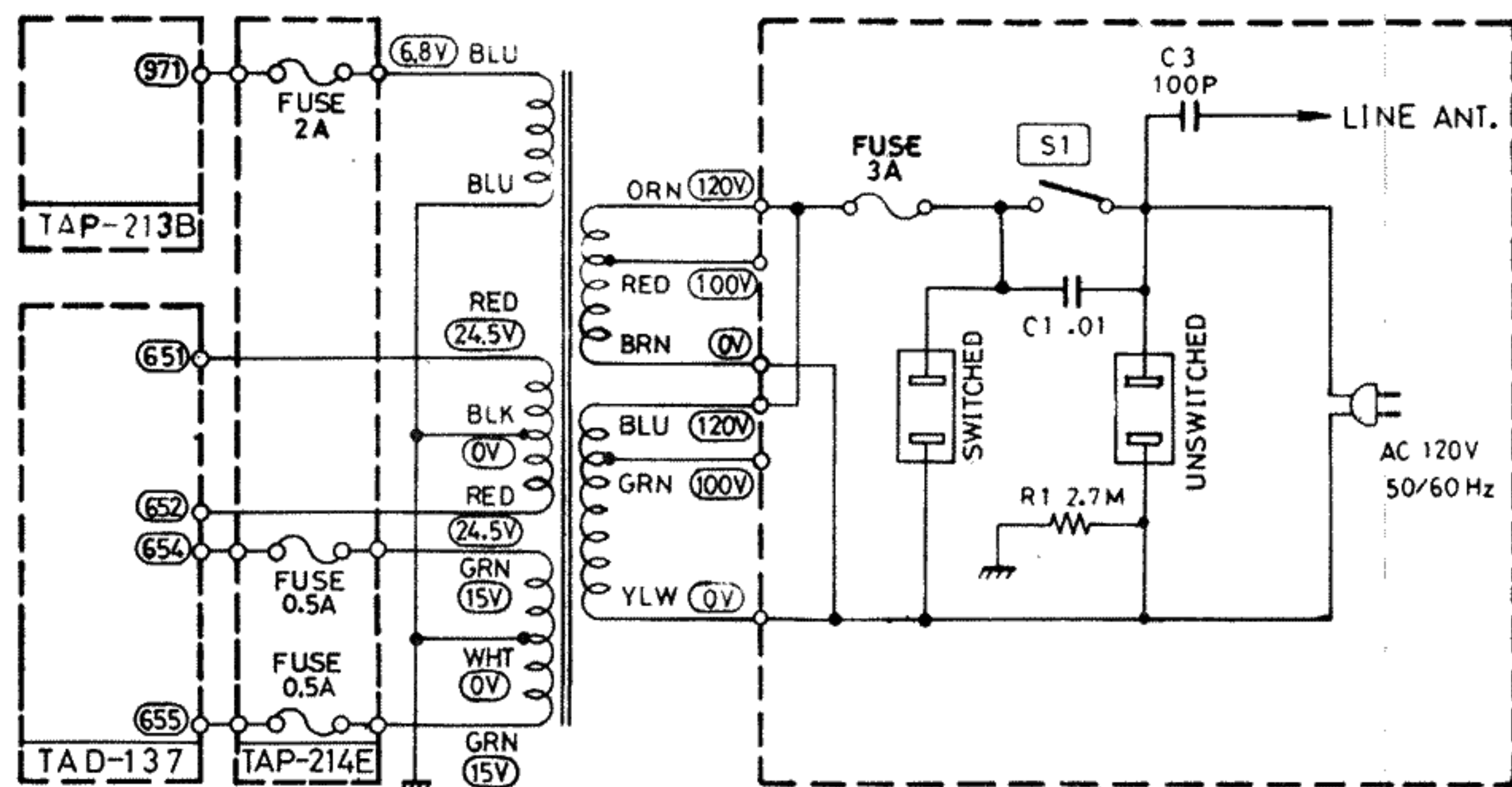
Requirement to Customers

For the purpose of prompt supply of service parts, inscribe parts number, parts name and model name correctly when you order.

If possible please give an order for spare cabinet in early opportunity since it is very difficult to remanufacture cabinet after production of the set was discontinued.

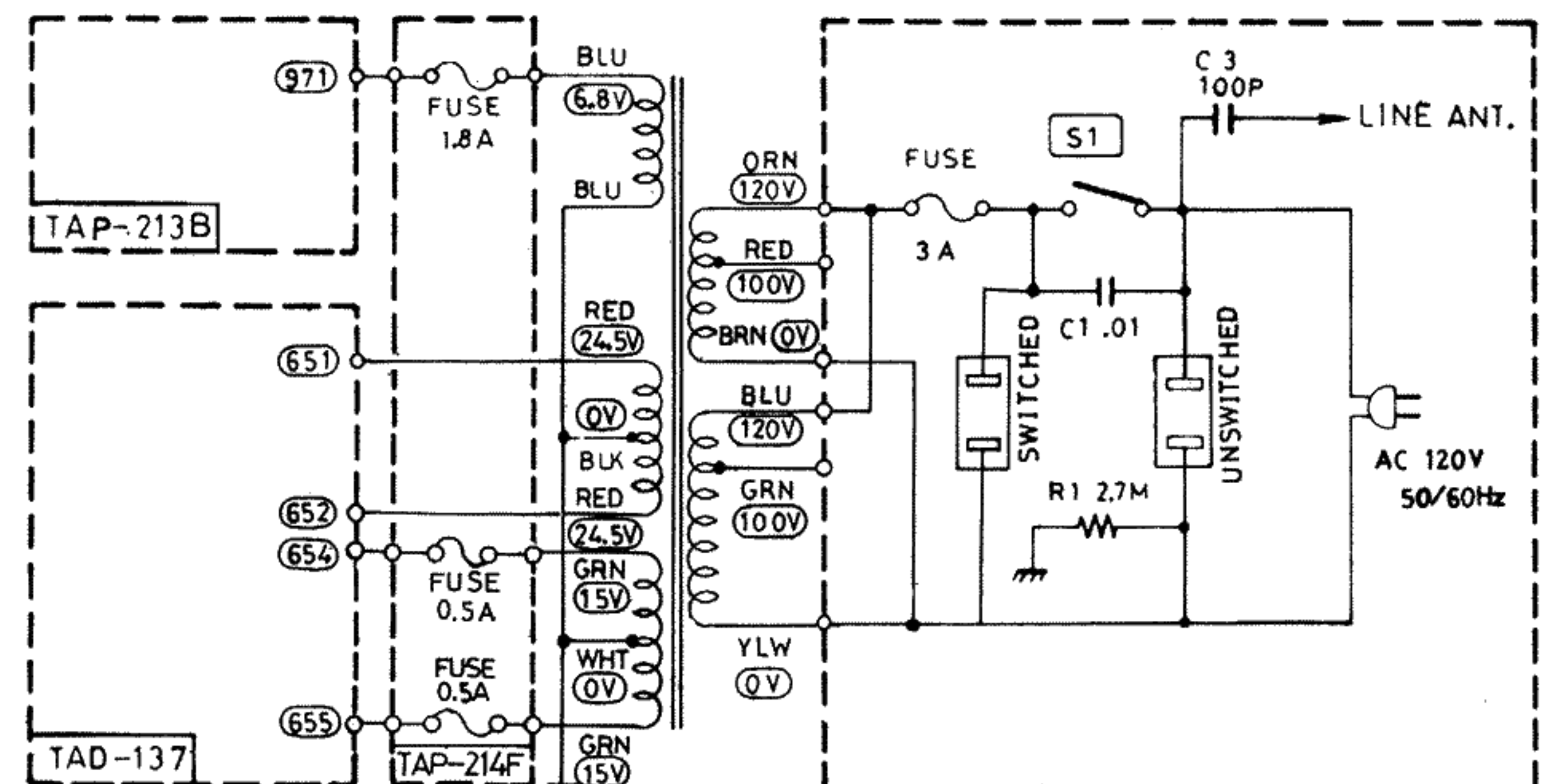
[J] FOR USA

■ PRIMARY CIRCUIT (AC 120V 50/60 Hz)



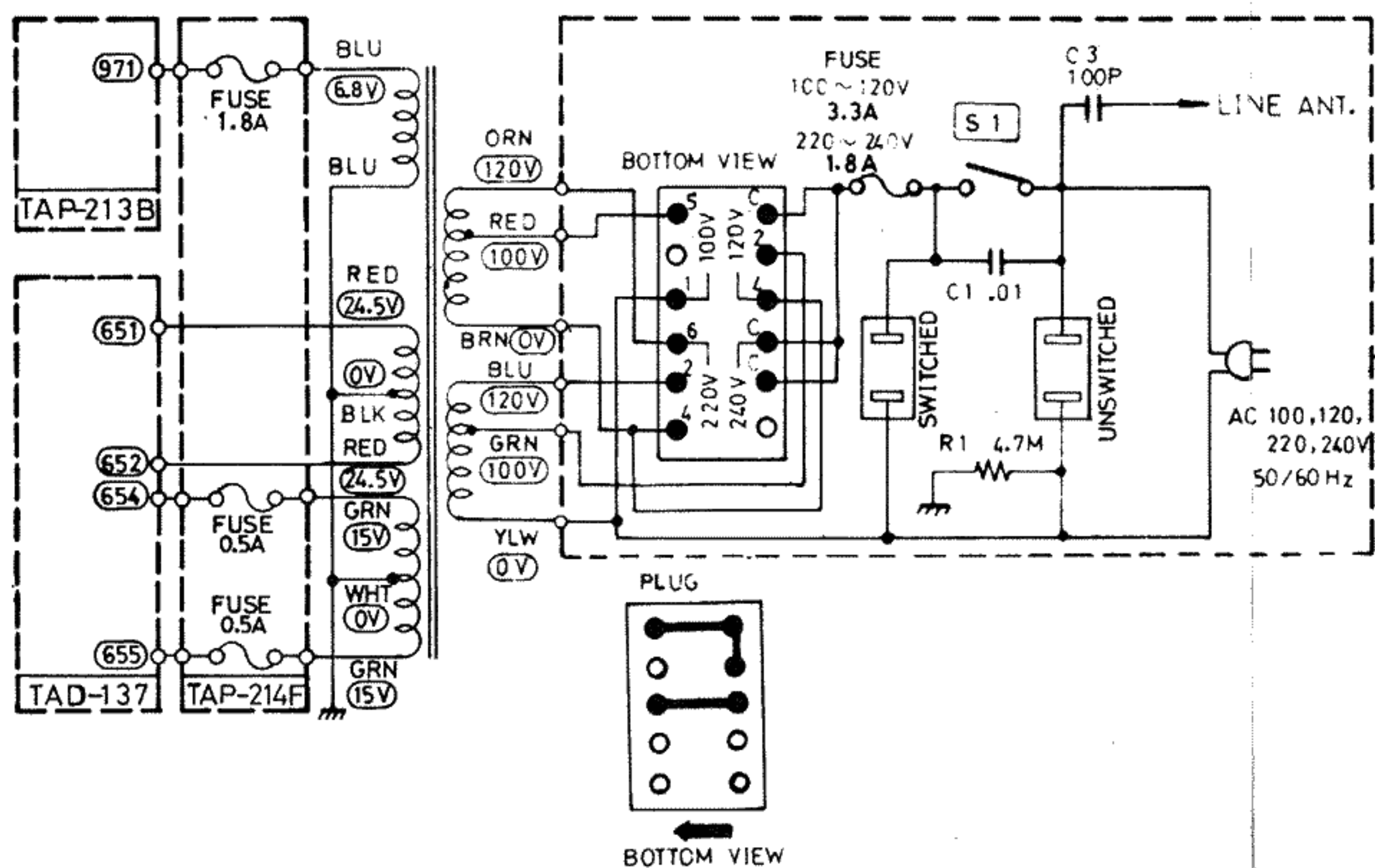
[M] FOR CANADA

■ PRIMARY CIRCUIT (AC 120V 50/60Hz)



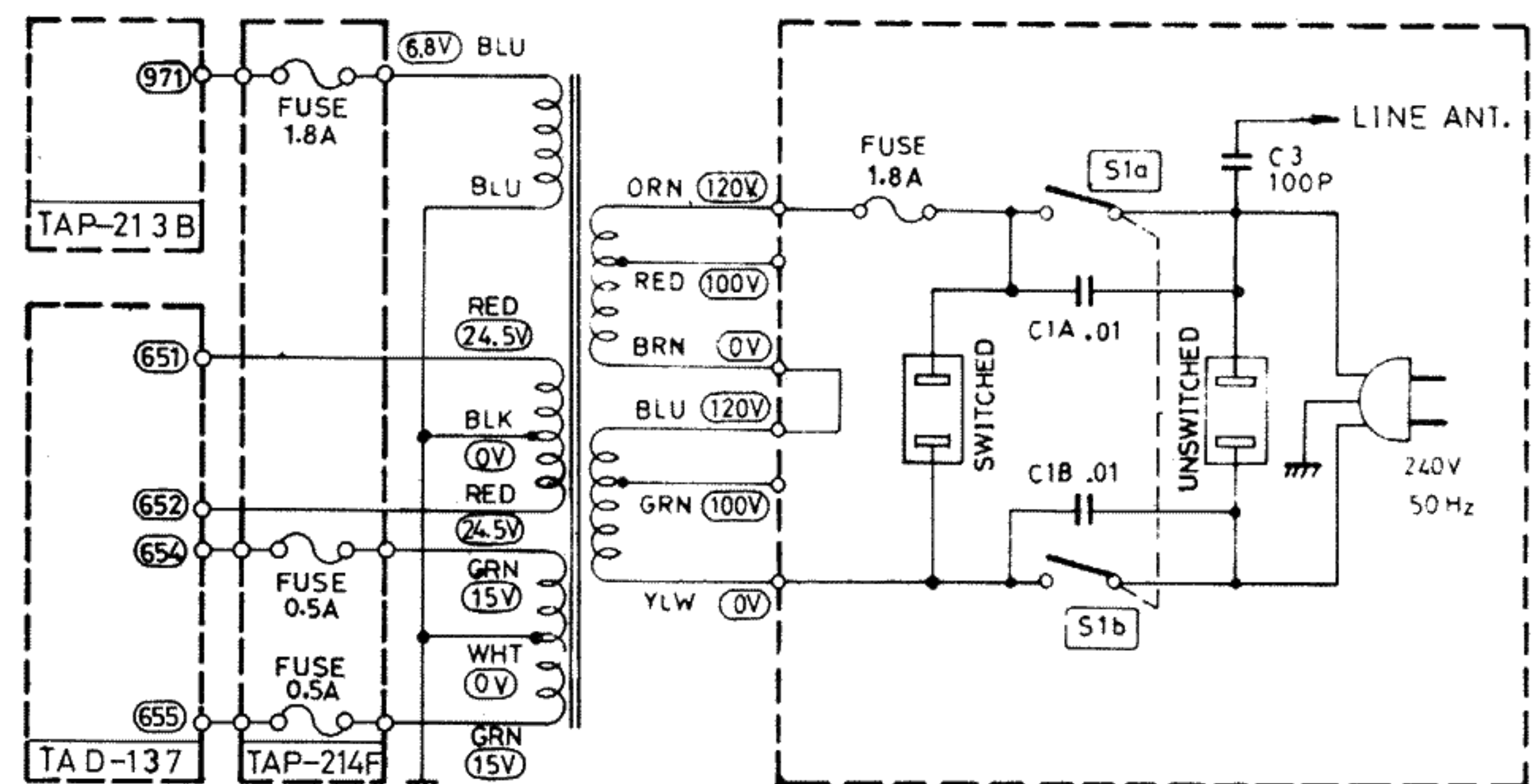
[P].(U) FOR PACEX, NEX AND OTHER COUNTRIES

■ PRIMARY CIRCUIT (AC 100, 120, 220, 240V 50/60 Hz)

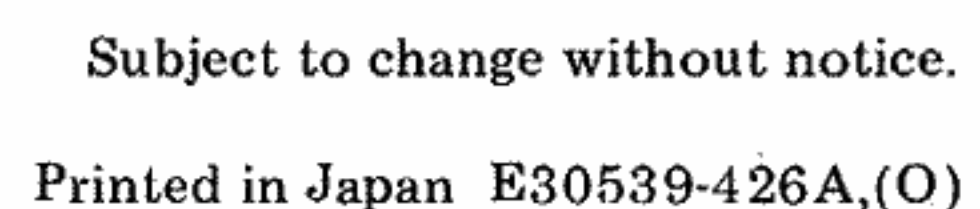


[A] FOR AUSTRARIA AND U.K.

■ PRIMARY CIRCUIT (240V 50Hz~)



Note: The primary circuit is slightly different, therefore please see the schematic diagrams shown on the back page.



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