Service Manual

Panasonic

HI-FI COMPONENTS

Panasonic

FM/AM STEREO RECEIVER — MODEL SA-5200

TECHNICAL SPECIFICATIONS (Specifications are subject to change without notice.)

AUDIO SECTION

IHF Music Power :		46W (4Ω)
		37W (8Ω)
RMS Power :	(Each ch.)	16/16W (4Ω)
		14/14W (8Ω)
Harmonic Distortion :		0.8%
Intermodulation Distortion (60Hz+7kHz=4:1, SMPTE) :		1%
Power Bandwidth :		7Hz~30kHz, −3dB
Frequency Response :	PHONO RIAA Standard Curve	±1dB
	TAPE (PLAY BACK) 10Hz~50kHz,	$^{+1}_{-3}$ dB
Input Sensitivity & Impedance :	PHONO	3mV/47kΩ
	TAPE (PLAY BACK)	200mV/30kΩ
Residual Hum & Noise :		1mV
S/N (IHF, A) :	PHONO	70dB
	TAPE (PLAY BACK)	90dB
Tone Controls :	BASS +10dB, −12dB	(50Hz)
	TREBLE +10dB, −10dB	(10kHz)
Loudness Control :	+12dB	(50Hz)
	+5dB	(10kHz)
Damping Factor :		30 (8Ω)
Recording Output Level :		200mV
Load Impedance :		4~16Ω

FM TUNER SECTION

Frequency Range :	88~108MHz
Sensitivity (IHF) :	1.9μV
Harmonic Distortion (at 400Hz, 100% Mod.) :	0.4%
S/N :	65dB
Alternate Channel Selectivity :	400kHz, 60dB
Image Rejection (at 98MHz) :	40dB
Capture Ratio (IHF) :	2dB
Stereo Separation (at 1kHz) :	35dB

AM TUNER SECTION

Frequency Range :	520~1610kHz
Sensitivity :	20μV
Selectivity (at 1000kHz ±10kHz) :	20dB
Image Rejection (at 1000kHz) :	50dB

GENERAL

Power Consumption :	75W
Power Supply :	120V, 60Hz
Dimensions (W×H×D) :	16-1/8″×5-5/16″×14-3/32″
Weight :	17.6lbs.

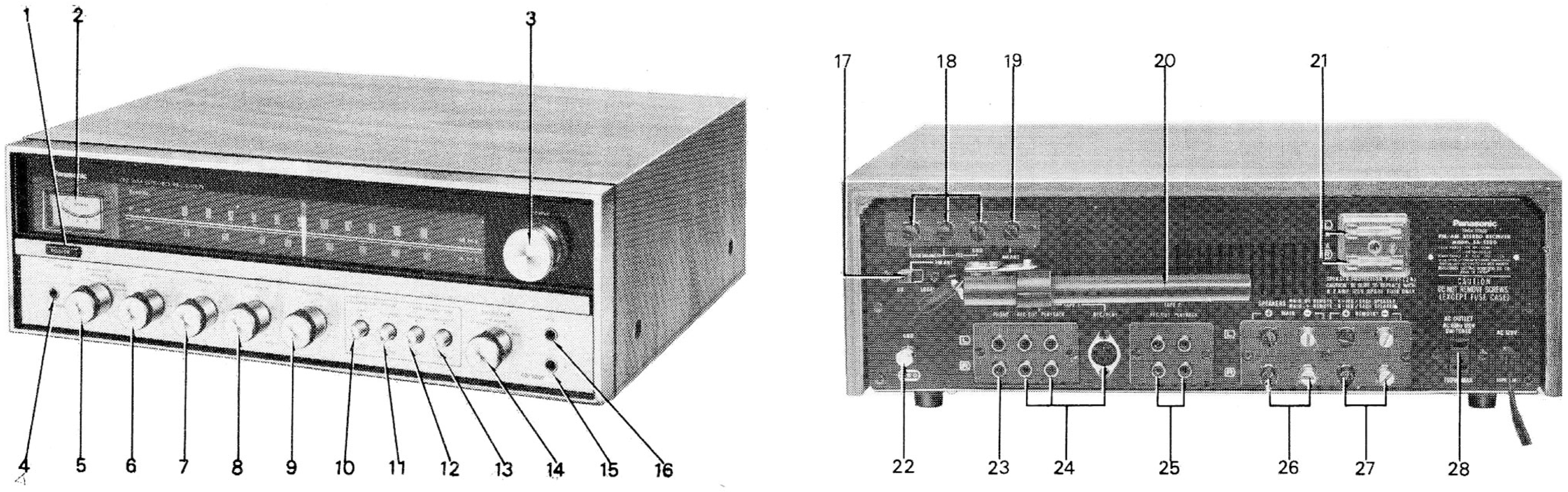
MATSUSHITA ELECTRIC CORP. OF AMERICA Pan-Am Bldg., 200 Park Ave. New York, N.Y. 10017

MATSUSHITA ELECTRIC OF HAWAII, INC. 320 Waiakamilo Road, Honolulu, Hawaii 96817

MATSUSHITA ELECTRIC OF CANADA LTD. 40 Ronson Drive, Rexdale, Ont.

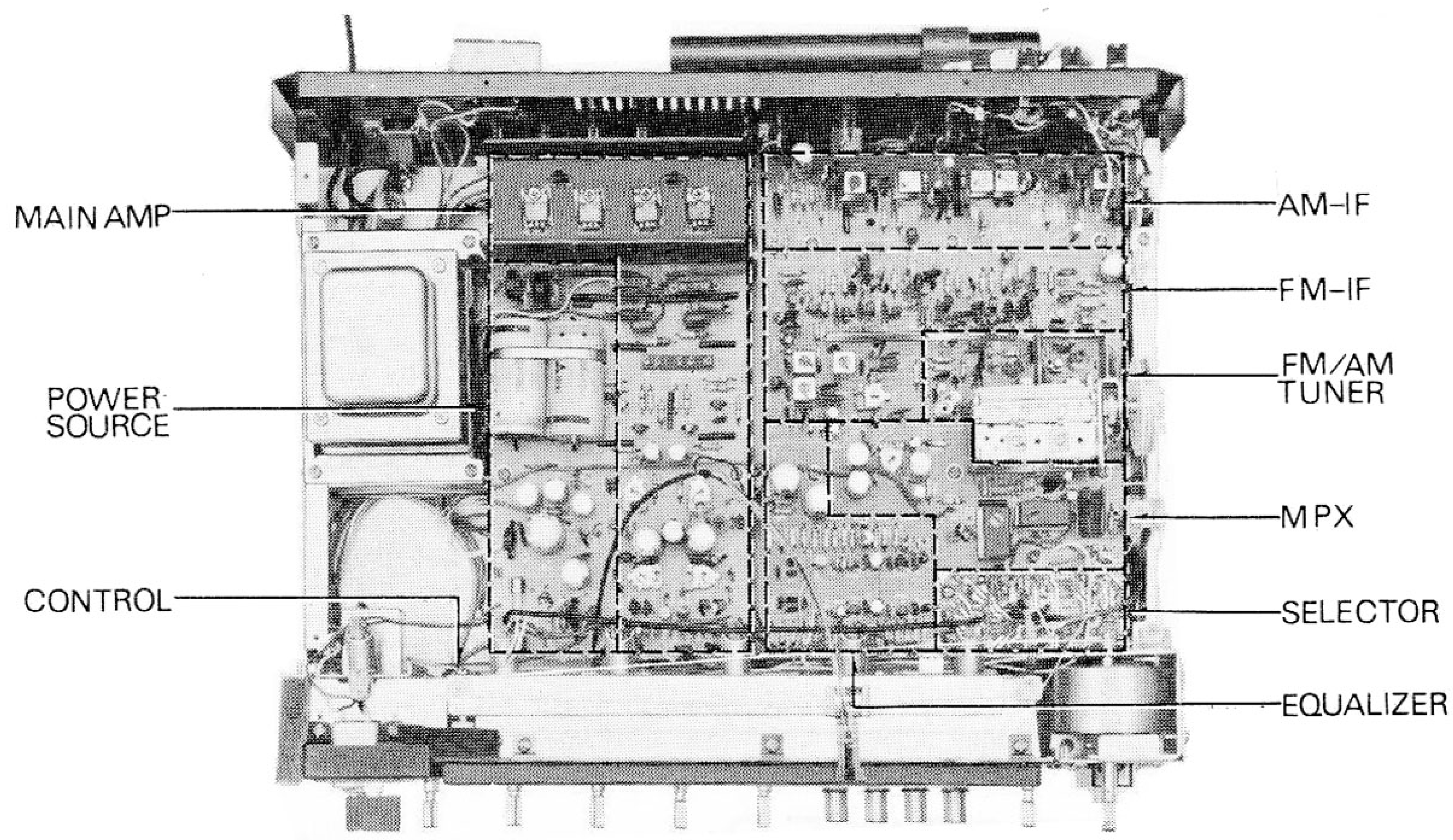
ORDER NO. AD-019

■ LOCATION OF CONTROLS



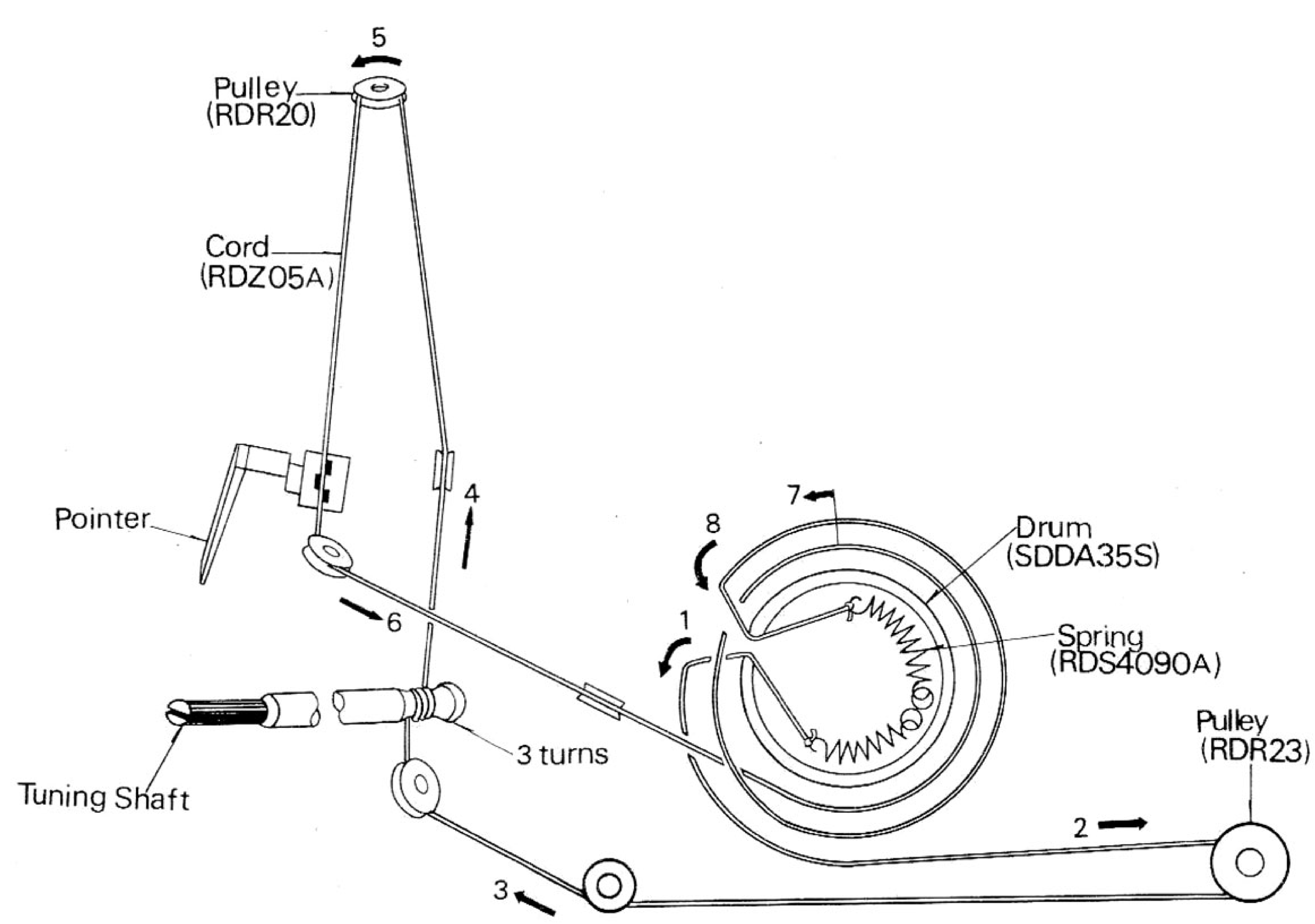
1. POWER SOURCE SWITCH
2. SIGNAL STRENGTH METER
3. TUNING CONTROL
4. HEADPHONES JACK
5. SPEAKERS SELECTOR SWITCH
6. BASS CONTROL
7. TREBLE CONTROL
8. BALANCE CONTROL
9. VOLUME CONTROL
10. LOUDNESS SWITCH
11. MODE SWITCH
12. TAPE MONITOR (TAPE 1) SWITCH
13. TAPE MONITOR (TAPE 2) SWITCH
14. SELECTOR SWITCH
15. MIC JACK [RIGHT]
16. MIC JACK [LEFT]
17. DX-LOCAL SWITCH FOR FM
18. FM ANTENNA TERMINALS
19. AM ANTENNA TERMINAL
20. AM ANTENNA COIL
21. SPEAKER PROTECTION FUSES
22. GROUND TERMINAL
23. INPUT TERMINALS (PHONO)
24. TAPE MONITOR TERMINALS (TAPE 1)
25. TAPE MONITOR TERMINALS (TAPE 2)
26. MAIN SPEAKER TERMINALS
27. REMOTE SPEAKER TERMINALS
28. SWITCHED AC OUTLET

■ LOCATION OF CIRCUIT



■ DIAL CORD INSTALLATION GUIDE

1. Dial cord length is 59 1/16″ (150cm).
2. Tuning gang is positioned at minimum capacity.



ALIGNMENT INSTRUCTIONS......READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

MAIN AMP ALIGNMENT

Notes :

1. Volume control .... Minimum
2. Speakers switch .... { MAIN (DC Unbalance) / OFF (ICQ)
3. Other controls .... Optional position
4. Maintain line voltage at 120 volts.
5. The adjustment should be started 5 minutes after setting the power switch to the ON position.
6. Before adjusting, ICQ and DC unbalance adjusting volumes (VR701, 702, 703 and 704) as shown in Alignment Point Location.

	CIRCUIT	DC VTVM CONNECTION	ADJUSTMENT	REMARKS
1	DC UNBALANCE	Connect VTVM to MAIN Speaker terminals.	VR701 (Left) VR702 (Right)	Make sure that VTVM become 0 mV.
2	ICQ	Connect VTVM to **TP717** ⊕, **TP716** ⊖ (left side) and **TP713** ⊕, **TP714** ⊖ (right side) terminals.	VR703 (Left) VR704 (Right)	Make adjustments so that the indication on VTVM becomes 7 mV.

AM ALIGNMENT

Notes :

1. Volume control .... { Minimum (AM-IF) / Maximum (AM-RF)
2. Selector switch .... AM
3. Speakers switch.. MAIN
4. Balance volume control .... Center
5. Mode switch .... STEREO
6. Maintain line voltage at 120 volts.
7. Output of signal generator should be no higher than necessary to obtain an output reading.

	SIGNAL GENERATOR or SWEEP GENERATOR		RCVR. DIAL SETTING	INDICATOR	ADJUSTMENT	REMARKS
	CONNECTION	FREQUENCY	[DISTANCE]	(VTVM or SCOPE)		
3	High side through 0.001μF to antenna terminal, Common to chassis.	455 kHz	Point of non-interference (on/about 600 kHz)	Connect vert. amp. of scope to **TP201**. Commom to TP202.	T201 (1st IFT) (P)* T202 (1st IFT) (S)** T203 (2nd IFT) T204 (3rd IFT)	Adjust for maximum output.
4	Fashion loop of several turns of wire and radiate signal into loop of receiver.	550 kHz (30% Mod. with 400 Hz)	550 kHz [19.3mm ($\frac{3}{4}$")]	Connect meter to Main speaker terminal of set.	L202 (OSC Coil) L201 (ANT Coil)	Adjust for maximum output. Adjust ferrite core of L201 by screw driver.
5	〃	1500 kHz (〃)	1500 kHz [160.7mm ($6\frac{11}{32}$")]	〃	CT202 (OSC Trimmer) CT201 (ANT Trimmer)	Adjust for maximum output. Repeat steps (4) and (5).

* Primary ** Secondary

FM-IF & FM-RF ALIGNMENT

Notes :

1. Selector switch .... FM AUTO
2. Volume control .... { Minimum (FM-IF) / Variable (FM-RF)
3. Speakers switch ....MAIN
4. Maintain line voltage at 120 volts.

6			Point of non-interference	Connect DC VTVM between **TP101** (⊕) and **TP102** (⊖).	T103 (DISCRI IFT) (S)	Make sure that VTVM become 0V.
7	Connect to FM antenna terminal through FM dummy antenna.	90 MHz (100% Mod. with 400 Hz)	90 MHz [21mm ($\frac{27}{32}$")]	Connect meter to Main Speaker terminals.	L5 (OSC Coil) • L2 (ANT Coil) L3 (DET Coil)	Adjust for maximum output.
8	〃	106 MHz (〃)	106 MHz [149.6mm ($5\frac{29}{32}$")]	〃	CT3 (OSC Trimmer) CT1 (ANT Trimmer) CT2 (DET Trimmer)	〃

• Use six cornered screw driver for aligning FM OSC coil. (L5)

FM-MONO DISTORTION & STEREO EYE SWITCHING IFT ALIGNMENT

9	Connect to FM antenna terminal through FM dummy antenna.	98 MHz (100% Mod. with 400 Hz) Output...60 dB	98 MHz	Conncet DC VTVM between **TP101** (⊕) and **TP102** (⊖).	Tuning dial of set.	Make sure that VTVM become 0V. Keep this position.
10				Connect distortion meter to Main speaker terminal.	T102 (DISCRI IFT) (P)	Adjust for minimum of distortion meter indication.
11	〃	98 MHz (〃) Output...60 dB	98 MHz	Connect DC VTVM between **TP103** (⊕) and **TP102** (⊖).	T101 (ST. Eye IFT)	Make adjustments so that the indication on VTVM becomes minimum voltage.

FM STEREO ALIGNMENT

Notes :

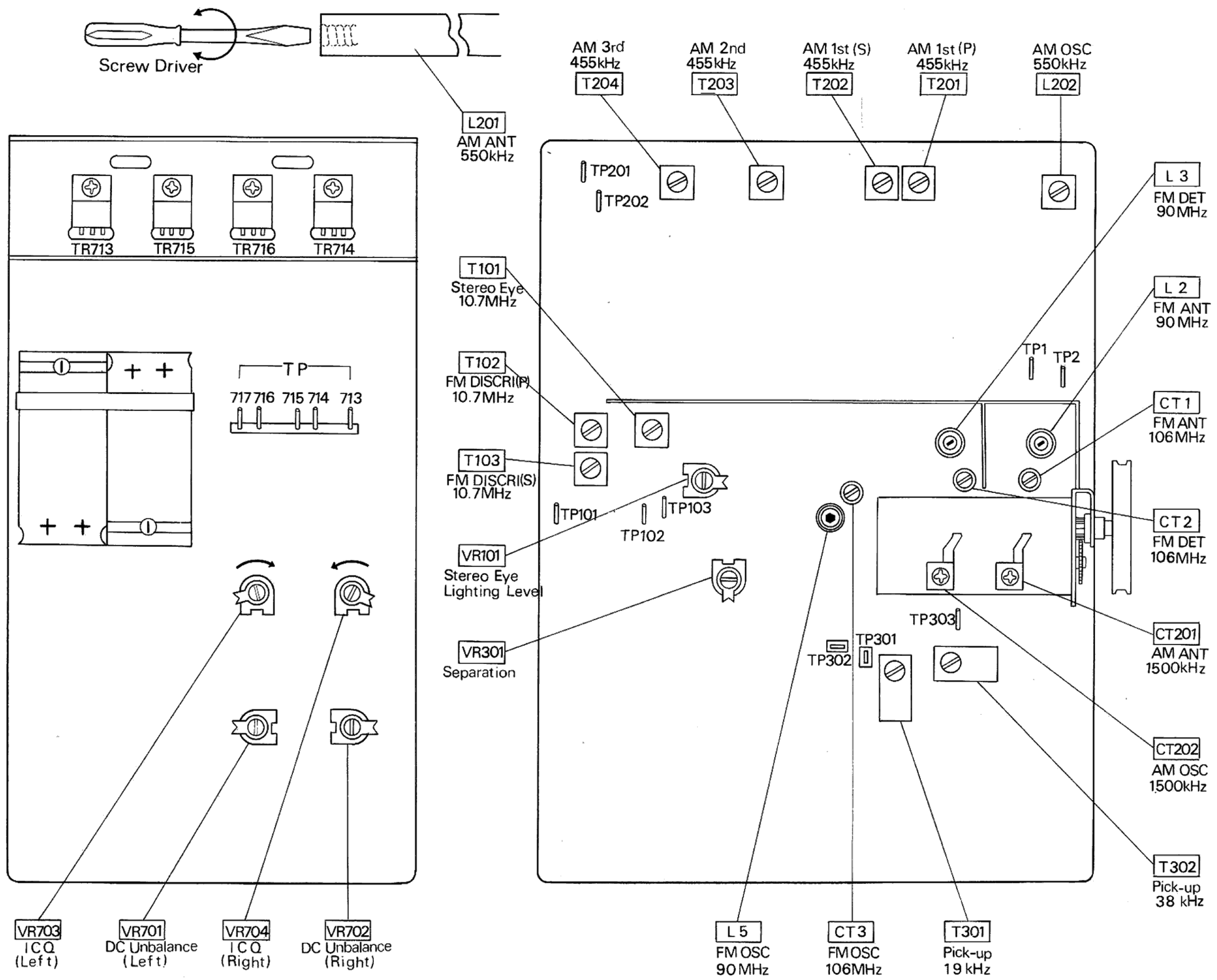
Stereo-modulator .... Connect stereo-modulator output to EXT. MOD. terminal of signal generator.
Internal OSC .... 1 kHz, Pilot signal modulation 10%

Signal generator .... Frequency approximately .... 98 MHz, Output level .... 60 dB, Modulation mode ....FM

1. Selector switch .... FM AUTO
2. Mode switch .... STEREO
3. Speakers switch ....MAIN
4. Maintain line voltage at 120 volts.

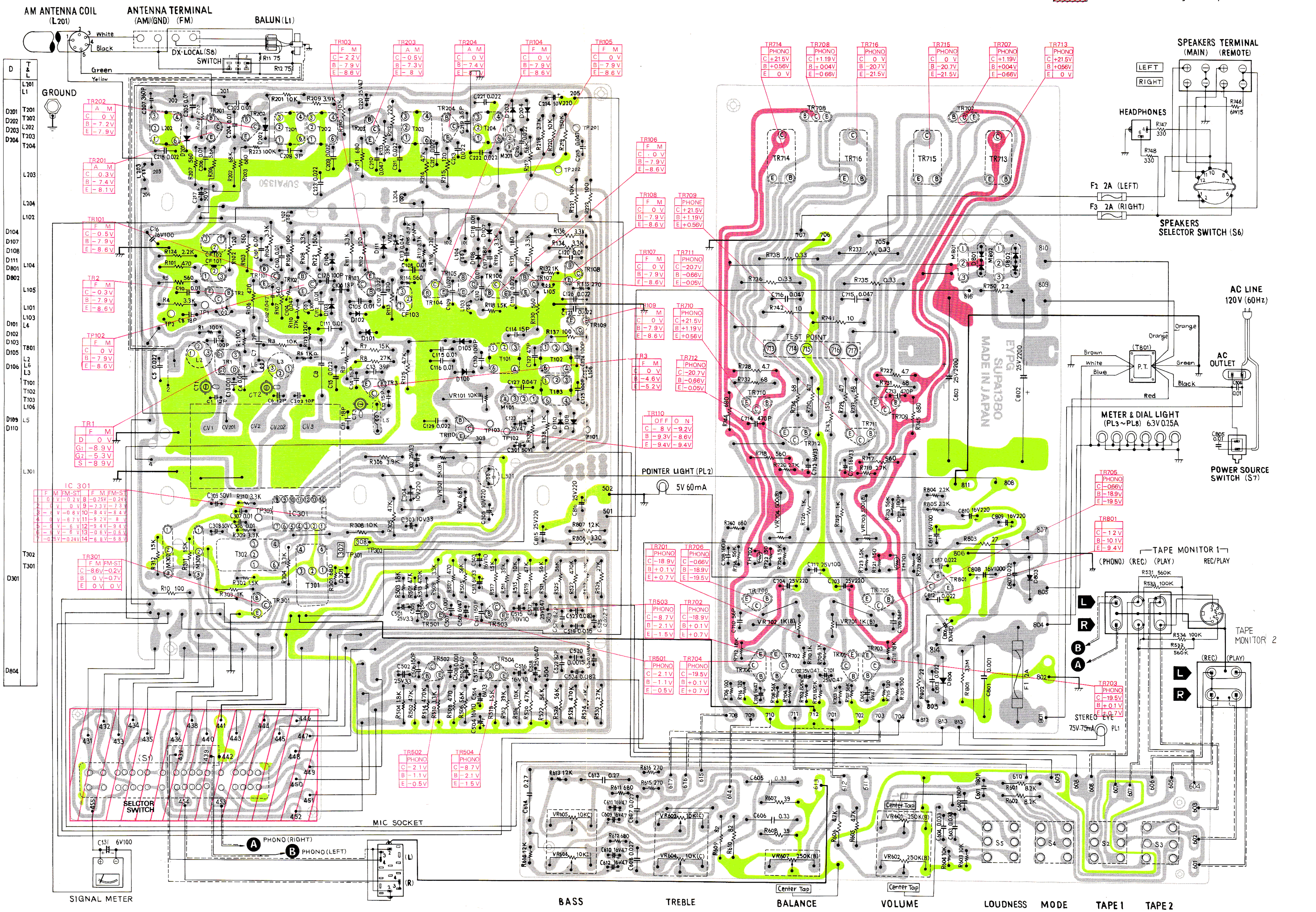
Step	SIGNAL GENERATOR CONNECTION	STEREO MODULATOR MODE and MOD. RATE	INDICATOR (VTVM or SCOPE)	ADJUSTMENT	REMARKS
	19 kHz, 38 kHz COIL & PHASE ALIGNMENT				
	Note : Before the adjustment, separation adjusting volume (VR301) should be turned to the right side completely.				
12	FM antenna terminal through dummy antenna.	Pilot signal to ON.	Connect scope to **TP 301**, Common to chassis.	T301 (19 kHz Coil)	Adjust for maximum output.
13	〃	〃	Connect scope to **TP 303**, Common to chassis.	T302 (38 kHz Coil)	〃
14	〃	〃 L − R 30% Mod.	Connect VTVM to speaker terminals.	T301 (19 kHz Coil)	〃 (Left and Right side)
	STEREO SEPARATION ALIGNMENT				
15	FM antenna terminal through dummy antenna.	L (and R) 30% Mod. Pilot signal to ON.	Output meter across speaker terminals through low pass filter.	VR301 (Separation)	Adjust for minimum right (and left) output.
	STEREO EYE LIGHTING LEVEL ALIGNMENT				
	Note : Before the adjustment, lighting level adjusting volume (VR101) should be turned to the left side completely.				
16	FM antenna terminal through dummy antenna. Output level .... 24 dB	L+R 100% Mod. Pilot signal to ON.	Stereo eye of set.	VR101 (Lighting Level)	Adjust volume control (VR101) lighting stereo eye.

Alignment Points



Circuit Board Wiring View Model SA-5200

Earth Line
Positive Voltage Line
Negative Voltage/Signal Line
Circuit board only is Top View



Schematic Diagram Model SA-5200

(This schematic diagram may be modified with development of technology)

⊖B Voltage Line ⊕B Voltage Line

Notes:
1. S_{1-1}..S_{1-6} Selector switch in "PHONO" position.
   PHONO↔FM AUTO↔AM↔MIC
2. S_{2-1}, S_{2-2} Tape 1 monitor switch in "SOURCE" position.
3. S_{3-1}, S_{3-2} Tape 2 monitor switch in "SOURCE" position.
4. S_{4-1}, S_{4-2} Mode switch in "STEREO" position.
5. S_{5-1}, S_{5-2} Loudness switch in "OFF" position.
6. S_{6-1}, S_{6-2} Speakers selector switch in "MAIN" position.
   OFF↔MAIN↔REMOTE↔MAIN+REMOTE↔Q'PLEX
7. S_7 Power source switch in "OFF" position.
8. S_{8-1}, S_{8-2} FM DX-LOCAL switch in "DX" position.
9. DC voltage measurements are taken with circuit tester from chassis ground.
   ☐ ······No signal condition.
   ( ) ······FM stereo signal reception.

Notes:
1. VR601.602 Volume Control
2. VR603.604 Treble Control
3. VR605.606 Bass Control
4. VR607 Balance Control
5. VR701.702 DC unbalance adjustment.
6. VR703.704 Icq adjustment
7. All the resistors other wise noticed are ¼ watt. ±5 %, carbom film resistors.
8. NO mark capacitors are ceramic capacitors.
9. ■ is metal film resistor.
10. ☒ is resim coated wire wound resistor.
11. △ is composition resistor.
12. Ⓟ is polyester capacitor.
13. Ⓣ is Tantalum electrolytic capacitor.
14. ○ is Hi-K ceramic capacitor.
15. ◎ is T.C ceramic capacitor.
16. Torerance J···· ±5%, K···· ±10%, M···· ±20%, C···· ±0.25PF, D···· ±0.5PF, P···· $^{+100}_{-0}$ %

■ TO REMOVE CABINET & BOTTOM BOARD

1. Remove four (4) cabinet mounting screws.
2. Remove cabinet from chassis.
3. Remove eight (8) bottom board mounting red screws, nos. ①～⑧, as illustrated in figure 1.
4. Remove bottom board from chassis.

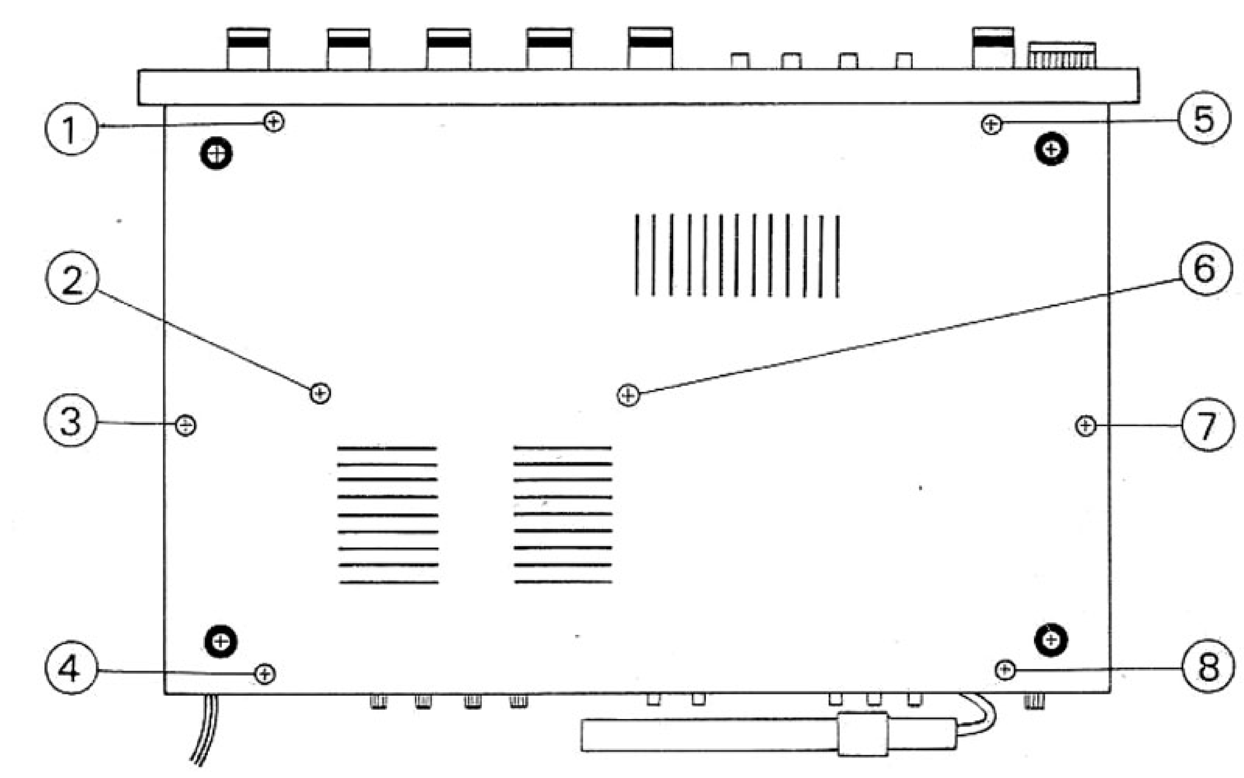


Fig. 1

■ TO REMOVE FRONT PANEL

1. Remove cabinet from chassis.
2. Remove seven (7) control knobs from set, as illustrated in figure 2. [a～g]
3. Remove eight (8) panel mounting black screws, nos. ①～⑧, as illustrated in figure 2 and figure 3.
4. Then remove number 9 chassis mounting black screw, as illustrated in figure 3.
5. Remove front panel from chassis.
6. To reassemble, reverse the above procedure.

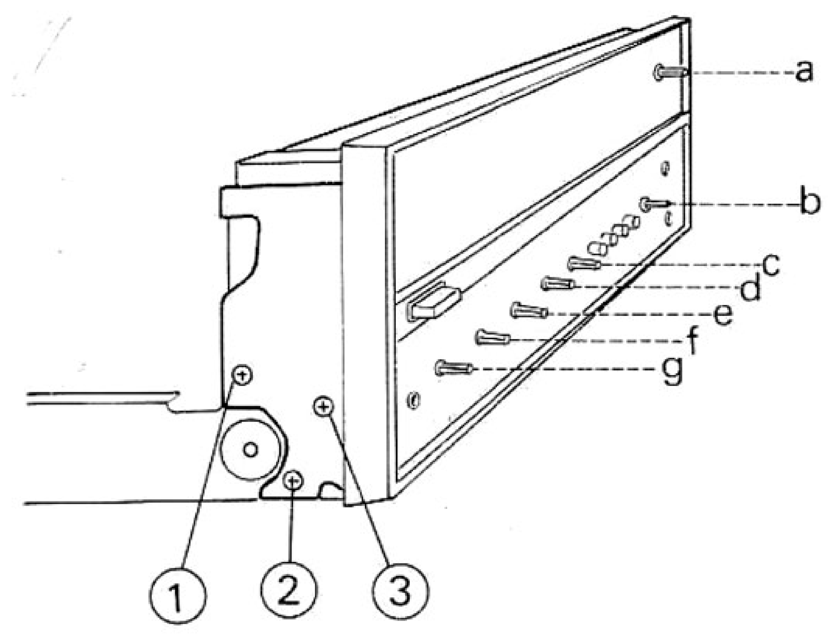


Fig. 2

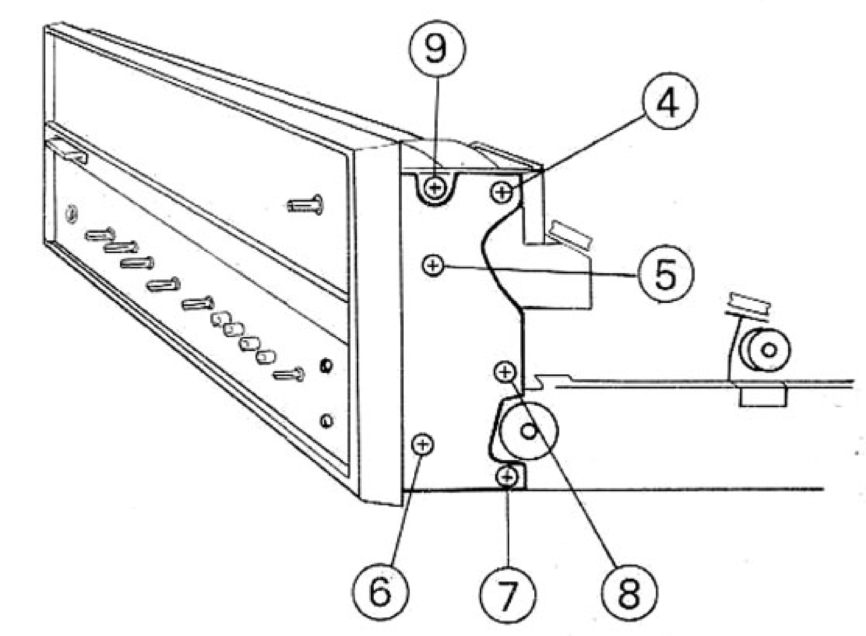


Fig. 3

■ TO REMOVE DIAL LIGHT

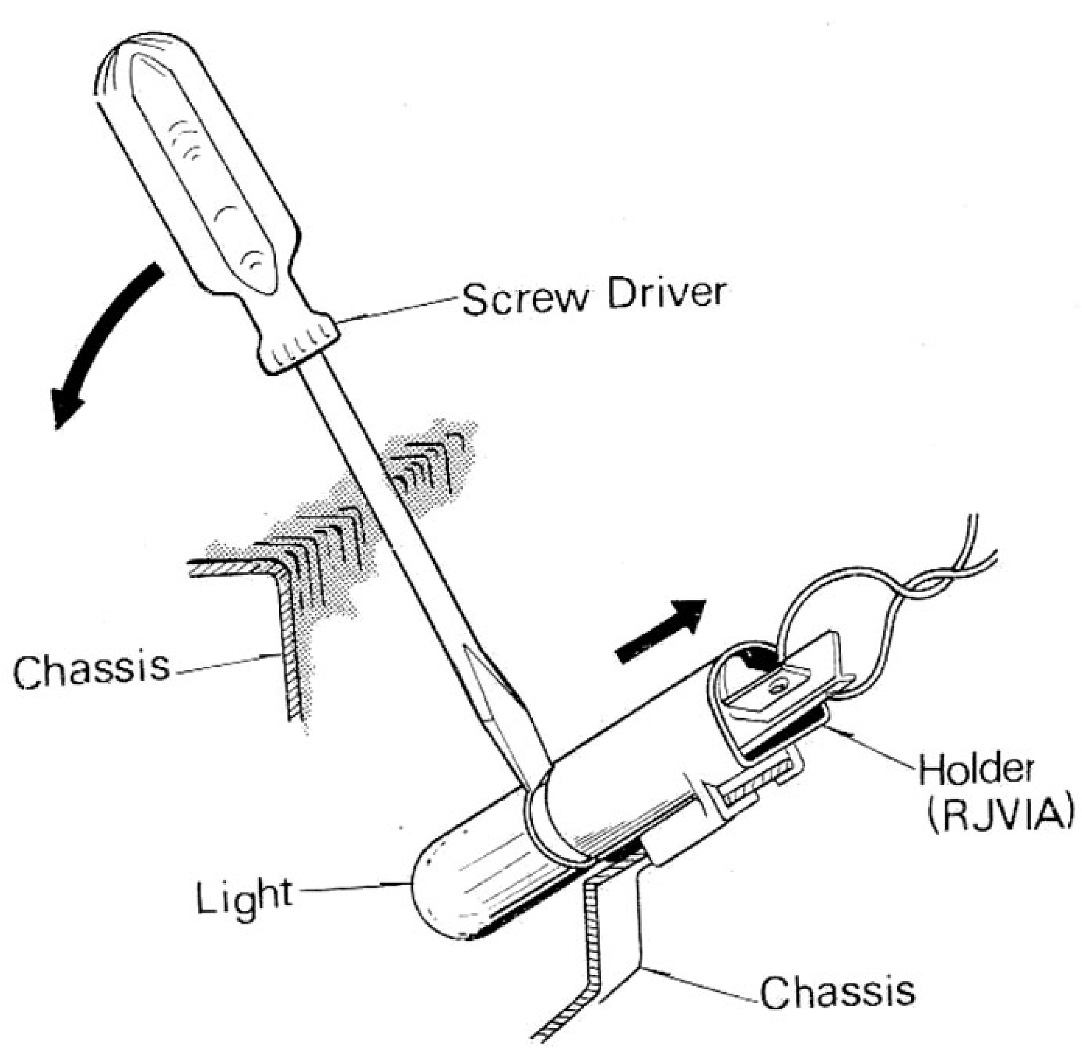
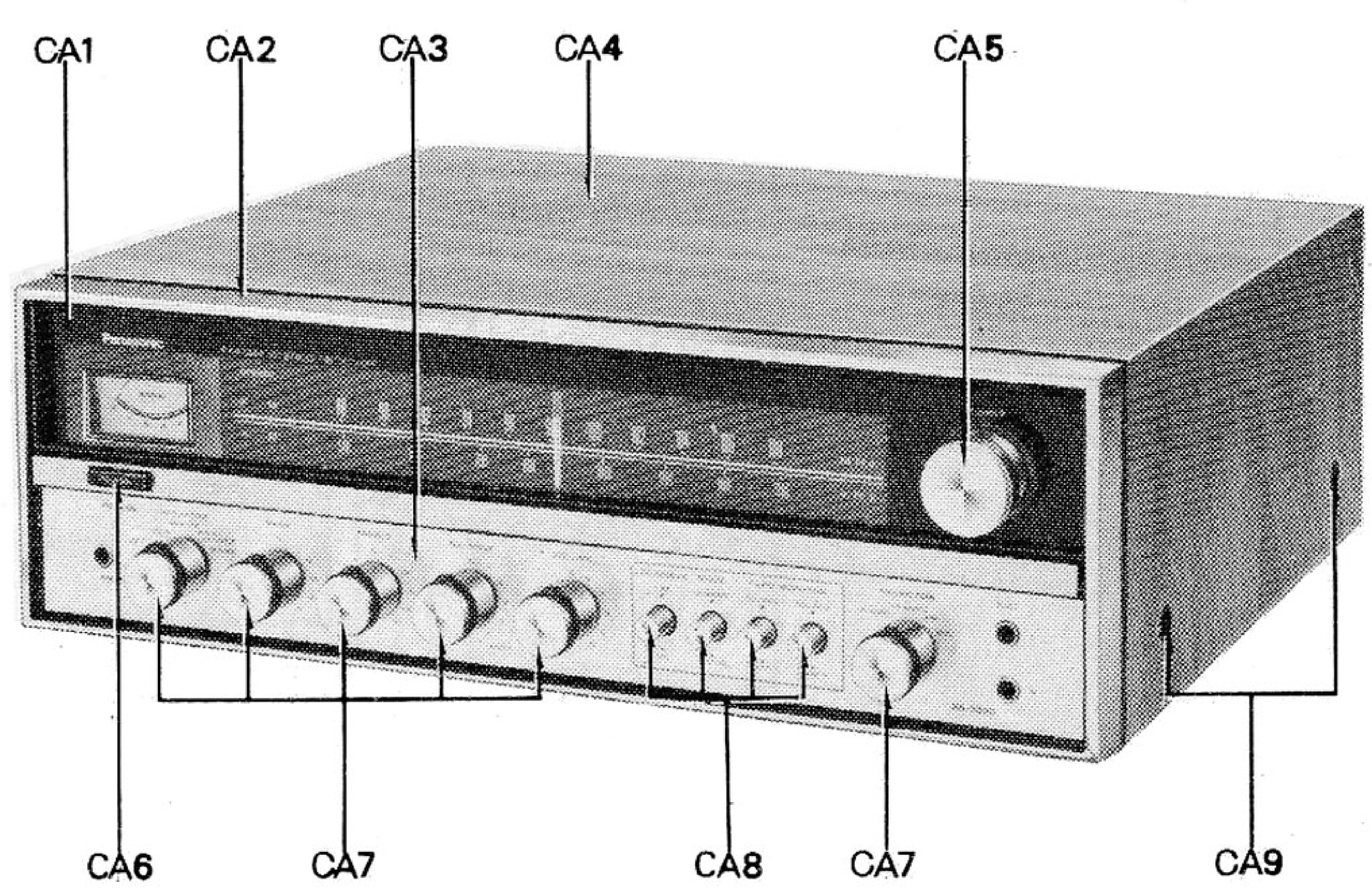
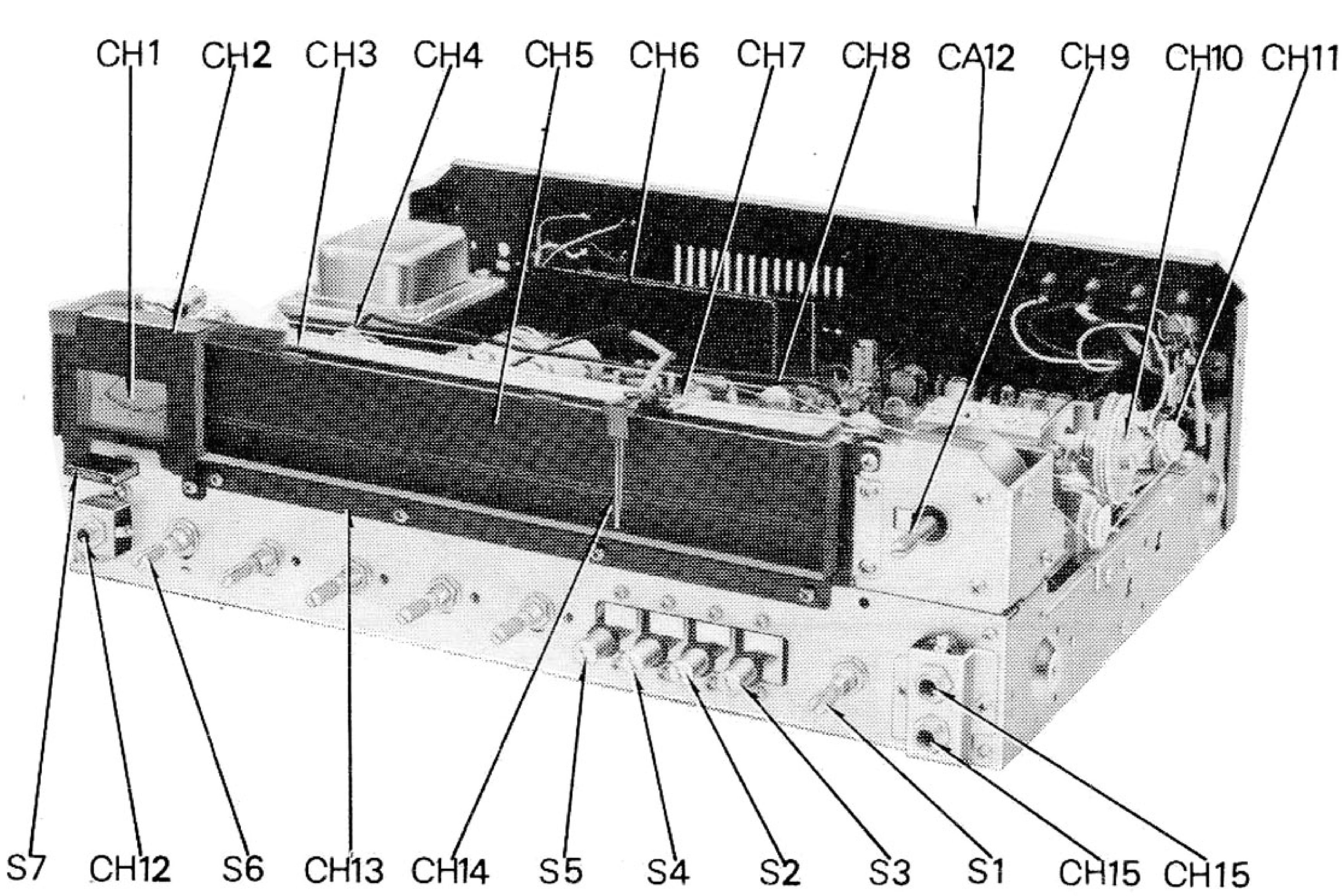


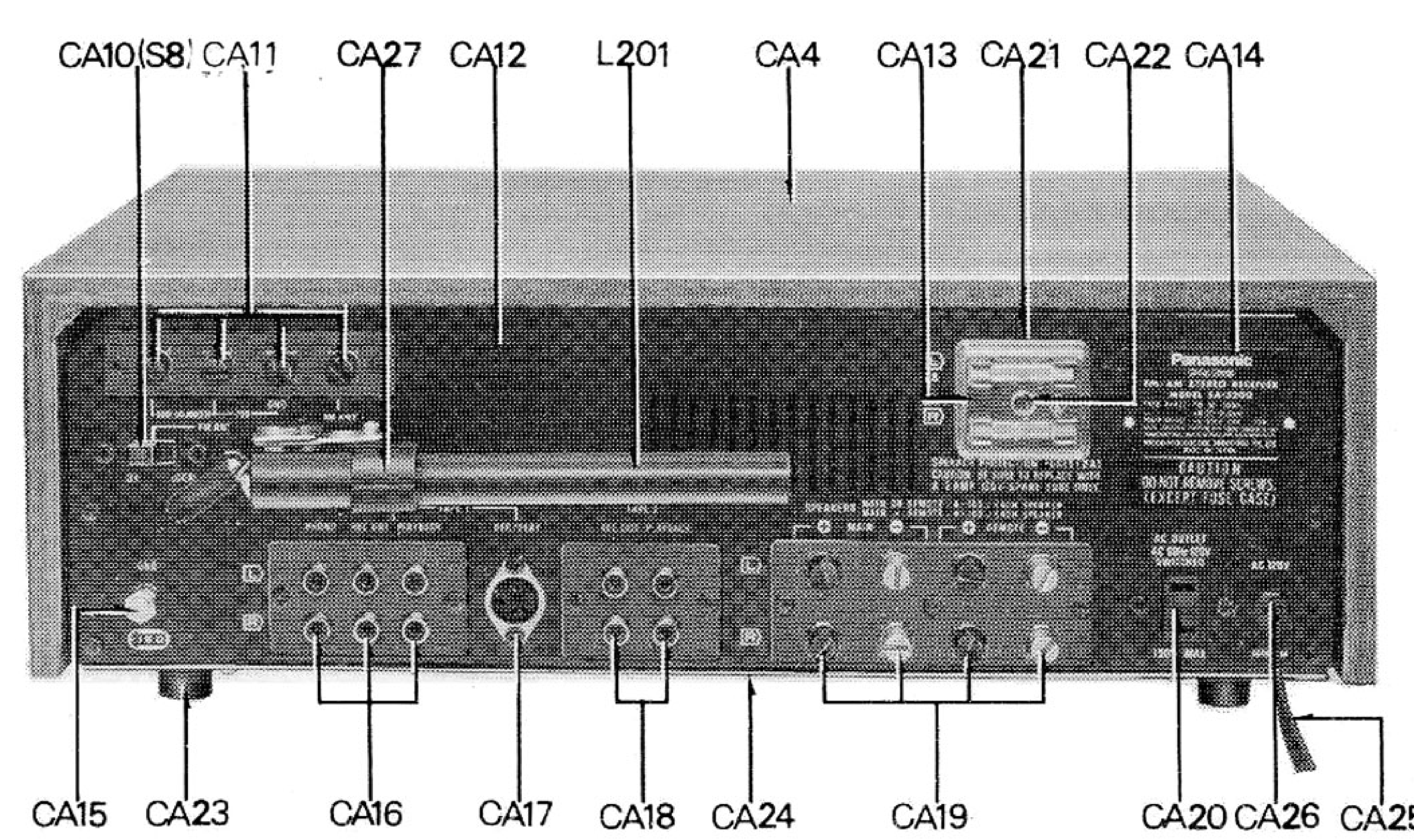
Fig. 4

1. Remove light holder by driver as shown in figure 4.
2. Cement male screw of light.

■ CABINET PARTS LOCATION







■ REPLACEMENT PARTS LIST

NOTES :

1. Part numbers are indicated on most mechanical parts.
   Please use this part number, for parts orders.
2. Ⓝ indicates the New Parts.
3. **A～C** rank **A** rank parts will cover 80% of repair needs.
   A＋B rank parts will cover 95% of repair needs.
   C rank parts are less necessary.

SA-5200

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
		IC, TRANSISTORS and DIODES		
IC301	AN211A, B	FM MPX Circuit	1	A
TR1	3SK39Q	FM RF Amplifier	1	A
TR2, 3, 202	2SC920Q	FM Mix., Osc, & AM Mix.	3	A
TR101,102,103 104,105,106 107,108,109 201,203,204	2SC829C	FM IF Amplifier & AM Osc., AM IF Amplifier	12	A
TR110,707,708	2SC828Q, R	Muting Switching, Thermo Compensation	3	A
TR301, 801	2SA642S, W	Stereo Eye Switching, Ripple Filter	2	A
TR501, 502	2SA666Ⓣ-R, S	Equalizer Amplifier	2	A
TR503, 504	2SA666P, Q	Equalizer Amplifier	2	A
TR701, 702, 703, 704	2SA666A-AD1～5	Differential Amplifier (Use with pair)	4	A
TR705, 706, 709, 710	2SC1318R, Q	Pre Driver & Driver Amplifier	4	Ⓝ A
TR711, 712	2SA720R, Q	Driver Amplifier	2	Ⓝ A
TR713, 714, 715, 716	2SD318Q, P	Power Amplifier (Use with pair)	4	Ⓝ A
D101,102,103 104,105,106 107,108,201 202,203,204 301	OA79	FM Limitter, AGC, St, Eye Lighting & Meter Detector, AM AGC, Detector & AOC	13	A
D109, 110	2-OA79	FM Retio Detector	1 Pair	A
D111	1S1211	AOC	1	A
D801	RVD10DC1	Rectifier	1	A
D802	RVD10DC1R	Rectifier	1	A
D803, 804	RVDSD-1Y	Rectifier	2	A
		COILS and TRANSFORMERS		
L1	SLAA4W1	Balun Coil	1	A
L2, 3	SLAA4N7	FM Antenna & Detector Coil	2	A
L4, 203	RLQY15G5	FM IF Trap Coil & RFC	2	A
L5	SLOA4N9	FM OSC Coil	1	A
L6	RLQY15S5	RFC	1	B
L101,102,103 104,105,106 204	SLQX151-1Y	RFC	7	B
L201	SLFA2E11-0	AM Antenna Coil	1	Ⓝ A
L202	SLOA2C5	AM OSC Coil	1	Ⓝ A
L301	SLMA1X2-K	SCA Trap Coil	1	A
T101	SLIA4C24	St. Eye Lighting IF Transformer	1	A
T102	SLIA4C54	FM Discriminator IFT (P)	1	A
T103	SLIA4C56	FM Discriminator IFT (S)	1	A
T201, 202	RLI2C157-M	AM 1st IFT (P) & (S)	2	A
T203	RLI2C257-M	AM 2nd IFT	1	A
T204	RLI2C450-M	AM 3rd IFT	1	A
T301	SLMA1D1-K	19 kHz Coil	1	A
T302	SLMA1D2-K	38 kHz Coil	1	A
T801	SLTA5N1S-W	Power Transformer	1	Ⓝ A
		CERAMIC FILTERS and VARIATITE		
CF101,102,103	RVFCF10M12CG, B, R, W, Y	FM IF Circuit, 10.7 MHz (Use with pair)	3	A
V101	EYV320D1R2J3	Variatite, AOC	1	A
		RESISTORS		
R607, 608	ERD14TJ390	39Ω, ¼W, ±5%, Carbon	2	B
R11, 12	ERD14TJ750	75Ω, ¼W, ±5%, Carbon	2	B
R609, 610	ERD14TJ820	82Ω, ¼W, ±5%, Carbon	2	B
R10, 109, 137 222	ERD14TJ101	100Ω, ¼W, ±5%. Carbon	4	B

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
R102,112,215	ERD14TJ121	120Ω, ¼W, ±5%, Carbon	3	B
R131	ERD14TJ181	180Ω, ¼W, ±5%, Carbon	1	B
R116, 212	ERD14TJ221	220Ω, ¼W, ±5%, Carbon	2	B
R208	ERD14TJ271	270Ω, ¼W, ±5%, Carbon	1	B
R806	ERD14TJ331	330Ω, ¼W, ±5%, Carbon	1	B
R213	ERD14TJ391	390Ω, ¼W, ±5%, Carbon	1	B
R101,106,113 507,508	ERD14TJ471	470Ω, ¼W, ±5%, Carbon	5	B
R5,103,107,130 207,	ERD14TJ561	560Ω, ¼W, ±5%, Carbon	5	B
R203, 211	ERD14TJ681	680Ω, ¼W, ±5%, Carbon	2	B
R9, 138, 139, 303,725,726	ERD14TJ102	1 kΩ, ¼W, ±5%, Carbon	6	B
R807	ERD14TJ122	1.2kΩ, ¼W, ±5%, Carbon	1	B
R517, 518	ERD14TJ152	1.5kΩ, ¼W, ±5%, Carbon	2	B
R504	ERD14TJ182	1.8kΩ, ¼W, ±5%, Carbon	1	B
R124	ERD14TJ222	2.2kΩ, ¼W, ±5%, Carbon	1	B
R218,	ERD14TJ272	2,7kΩ, ¼W, ±5%, Carbon	1	B
R4,104,108, 111,119,121 134,136,304 509,510,523,524	ERD14TJ332	3.3kΩ, ¼W, ±5%, Carbon	13	B
R209, 306	ERD14TJ392	3. 9kΩ, ¼W, ±5%, Carbon	2	B
R125,214,605 606	ERD14TJ472	4. 7kΩ, ¼W, ±5%, Carbon	4	B
R206, 217	ERD14TJ562	5. 6kΩ, ¼W, ±5%, Carbon	2	B
R601, 602	ERD14TJ822	8. 2kΩ, ¼W, ±5%, Carbon	2	B
R3,201,210, 220,221,308 515,516	ERD14TJ103	10kΩ, ¼W, ±5%, Carbon	8	B
R7,311,312	ERD14TJ153	15kΩ, ¼W, ±5%, Carbon	3	B
R8, 529, 530	ERD14TJ273	27kΩ, ¼W, ±5%, Carbon	3	B
R511, 512	ERD14TJ393	39kΩ, ¼W, ±5%, Carbon	2	B
R305, 502, 519, 520	ERD14TJ473	47kΩ, ¼W, ±5%, Carbon	4	B
R505,506,521 522,525,526	ERD14TJ563	56kΩ, ¼W, ±5%, Carbon	6	B
R202	ERD14TJ683	68kΩ, ¼W, ±5%, Carbon	1	B
R223,533, 534	ERD14TJ104	100kΩ, ¼W, ±5%, Carbon	3	B
R122, 219	ERD14TJ154	150kΩ, ¼W, ±5%, Carbon	2	B
R514,527,528	ERD14TJ474	470kΩ, ¼W, ±5%, Carbon	3	B
R531,532	ERD14TJ564	560kΩ, ¼W, ±5%, Carbon	2	B
R2	ERD14VJ101	100Ω, ¼W, ±5%, Carbon	1	B
R715, 716	ERD14VJ121	120Ω, ¼W, ±5%, Carbon	2	B
R721, 722	ERD14VJ151	150Ω, ¼W, ±5%, Carbon	2	B
R114	ERD14VJ561	560Ω, ¼W, ±5%, Carbon	1	B
R301,611,612	ERD14VJ681	680Ω, ¼W, ±5%, Carbon	3	B
R135,615,616	ERD14VJ271	270Ω, ¼W, ±5%, Carbon	3	B
R6,132,703, 704,709,710	ERD14VJ102	1kΩ, ¼W, ±5%, Carbon	6	B
R118, 302, 723, 724	ERD14VJ152	1. 5kΩ, ¼W, ±5%, Carbon	4	B
R503	ERD14VJ182	1. 8kΩ, ¼W, ±5%, Carbon	1	B
R804, 805	ERD14VJ222	2. 2kΩ, ¼W, ±5%, Carbon	2	B
R110,719,720	ERD14VJ272	2. 7kΩ, ¼W, ±5%, Carbon	3	B
R115, 117, 309, 310	ERD14VJ332	3. 3kΩ, ¼W, ±5%, Carbon	4	B
R307	ERD14VJ682	6. 8kΩ, ¼W, ±5%, Carbon	1	B
R603, 604	ERD14VJ103	10kΩ, ¼W, ±5%, Carbon	2	B
R613, 614	ERD14VJ123	12kΩ, ¼W, ±5%, Carbon	2	B
R711, 712	ERD14VJ183	18kΩ, ¼W, ±5%, Carbon	2	B
R501	ERD14VJ473	47kΩ, ¼W, ±5%, Carbon	1	B
R707, 708, 713, 714	ERD14VJ563	56kΩ, ¼W, ±5%, Carbon	4	B
R1	ERD14VJ104	100kΩ, ¼W, ±5%, Carbon	1	B
R123	ERD14VJ224	220kΩ, ¼W, ±5%, Carbon	1	B
R513	ERD14VJ474	470kΩ, ¼W, ±5%, Carbon	1	B
R701, 702	ERD14VJ824	820kΩ, ¼W, ±5%, Carbon	2	B
R741, 742	ERD12TJ100	10Ω, ½W, ±5%, Carbon	2	B
R747, 748	ERD12TJ331	330Ω, ½W, ±5%, Carbon	2	B
R802	ERD12TK220	22Ω, ½W, ±10%, Carbon	1	B
R803	ERD12TK270	27Ω, ½W, ±10%, Carbon	1	B

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
R801	ERC12GK335Z	3.3MΩ, ½W, ±10%, Solid	1	C
R727, 728, 729, 730	ERD14FJ4R7	4.7Ω, ¼W, ± 5%, Carbon	4	B
R731, 732, 733, 734	ERD14FJ680	68Ω, ¼W, ± 5%, Carbon	4	B
R705, 706	ERD14FJ101	100Ω, ¼W, ± 5%, Carbon	2	B
R743	ERD14FJ151	150Ω, ¼W, ± 5%, Carbon	1	B
R717, 718	ERD14FJ561	560Ω, ¼W, ± 5%, Carbon	2	B
R739, 740, 744, 745	ERD14FJ681	680Ω, ¼W, ± 5%, Carbon	4	Ⓝ B
R750	ERD18FJ2R2	2.2Ω, ⅛W, ± 5%, Carbon	1	B
R735, 736, 737, 738	ERX2ANKR33	0.33Ω, 2W, ±10%, Metallic	4	Ⓝ B
R746	ERM6P150	15Ω, 6W, ± 5%, Wire	1	Ⓝ B

VARIABLE RESISTORS

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
VR101	EVLS3AA00B14	St. Eye Lighting Level Adj. 10KΩ (B)	1	A
VR301	EVLS3AA00B53	Separation Adjustment 5KΩ (B)	1	A
VR601, 602	EVGNVAU30BF5	Volume Control 250KΩ (B)	1	A
VR603, 604, 605, 606	EVFNTAU30C14	Treble, Bass Control 10KΩ (C)	2	Ⓝ A
VR607	EVE24AU30G25	Balance- Control 200KΩ (G)	1	Ⓝ A
VR701, 702	EVLS3AA00B13	DC Unbalance Adjustment 1KΩ (B)	2	A
VR703, 704	EVLS3AA00B52	Icq Adjustment 500Ω (B)	2	A

CAPACITORS

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
C9	ECCD05010CC	1pF, 50WV, ±0.25pF, Ceramic	1	C
C208	ECCD05030CC	3pF, 50WV, ±0.25pF, Ceramic	1	C
C219	ECCD053R5CC	3.5pF, 50WV, ±0.25pF, Ceramic	1	C
C7	ECCD05070DC	7pF, 50WV, ±0.5pF, Ceramic	1	C
C202	ECCD05100KC	10pF, 50WV, ±10%, Ceramic	1	C
C1, 6	ECCD05120KC	12pF, 50WV, ±10%, Ceramic	2	C
C12, 14, 114	ECCD05150KC	15pF, 50WV, ±10%, Ceramic	3	C
C106, 117	ECCD05180KC	18pF, 50WV, ±10%, Ceramic	2	C
C11	ECCD05180KS	18pF, 50WV, ±10%, Ceramic	1	C
C13	ECCD05390KC	39pF, 50WV, ±10%, Ceramic	1	C
C122	ECCD05470KU	47pF, 50WV, ±10%, Ceramic	1	C
C709, 710	ECCD05560K	56pF, 50WV, ±10%, Ceramic	2	C
C521, 522	ECCD05820K	82pF, 50WV, ±10%, Ceramic	2	C
C2, 124, 125, 128, 130	ECCD05101K	100pF, 50WV, ±10%, Ceramic	5	C
C505, 506, 511, 512	ECCD05151K	150pF, 50WV, ±10%, Ceramic	4	C
C8, 601, 602, 707, 708	ECCD05181K	180pF, 50WV, ±10%, Ceramic	5	C
C713, 714	ECKD5471K	470pF, 500WV, ±10%, Ceramic	2	C
C3, 507, 508	ECKD05102P	0.001μF, 50WV, $^{+100}_{-0}$%, Ceramic	3	C
C4, 10, 101, 103, 105, 108, 110, 111, 112, 115, 116, 118, 120, 203	ECKE05103P	0.01μF, 50WV, $^{+100}_{-0}$%, Ceramic	14	C
C204, 205, 206	ECKE05103MY	0.01μF, 50WV, ±20%, Ceramic	3	C
C5, 15, 107, 109, 119, 121, 129, 209, 211, 212, 216, 218, 221, 222, 223, 807, 812, 813, 817	ECKE05223P	0.022μF, 50WV, $^{+100}_{-0}$% Ceramic	19	C
C519, 520	ECQG05152KZN	0.0015μF, 50WV, ±10%, Polyester	2	C
C525, 526	ECQG05272JZN	0.0027μF, 50WV, ±5%, Polyester	2	C
C523, 524	ECQG05822JZN	0.0082μF, 50WV, ±5%, Polyester	2	C
C306, 307	ECQG05103JZN	0.01μF, 50WV, ±5%, Polyester	2	Ⓝ C
C126, 213	ECQG05223KZN	0.022μF, 50WV, ±10%, Polyester	2	C
C102, 104, 113, 127, 210, 215	ECQG05473KZN	0.047μF, 50WV, ±10%, Polyester	6	C
C607, 608	ECQM05273KZ	0.027μF, 50WV, ±10%, Polyester	2	C
C603, 604	ECQM05333KZ	0.033μF, 50WV, ±10%, Polyester	2	C
C715, 716	ECQM05473KZ	0.047μF, 50WV, ±10%, Polyester	2	C
C613, 614	ECQM05274KZ	0.27μF, 50WV, ±10%, Polyester	2	C
C605, 606	ECQM05334KZ	0.33μF, 50WV, ±10%, Polyester	2	C
C207	ECQS1361JZ	360pF, 125WV, ±5%, Styrol	1	C
C517, 518, 701, 702	ECAG25ER47	0.47μF, 25WV, Electrolytic	4	B
C501, 502	ECSZ25EF3R3	3.3μF, 25WV, Electrolytic	2	Ⓝ B
C609, 610, 611, 612,	ECSZ16EF4R7M	4.7μF, 16WV, Electrolytic	4	Ⓝ B
C509, 510, 705, 706	ECEA6V47	47μF, 6.3WV, Electrolytic	4	B
C513, 514	ECEA6V33	33μF, 6.3WV, Electrolytic	2	B
C131,	ECEA6V100	100μF, 6.3WV, Electrolytic	1	B
C303	ECEA10V33	33μF, 10WV, Electrolytic	1	B
C214, 304, 305	ECEA10V220	220μF, 10WV, Electrolytic	3	B
C806	ECEA10V470	470μF, 10WV, Electrolytic	1	B
C503, 504, 515, 516	ECEA16V10	10μF, 16WV, Electrolytic	4	B
C711, 712	ECEA16V33	33μF, 16WV, Electrolytic	2	B
C16, 811	ECEA16V100	100μF, 16WV, Electrolytic	2	B
C809, 810	ECEA16V220	220μF, 16WV, Electrolytic	2	B
C808	ECEA16V1000	1000μF, 16WV, Electrolytic	1	B
C302	ECEA25V3R3	3.3μF, 25WV, Electrolytic	1	B
C123, 220	ECEA25V4R7	4.7μF, 25WV, Electrolytic	2	B
C717	ECEA25V100	100μF, 25WV, Electrolytic	1	B
C703, 704, 815, 816	ECEA25V220	220μF, 25WV, Electrolytic	4	B
C217, 301, 308, 309	ECEA50V1	1μF, 50WV, Electrolytic	4	B
C802, 803	ECEB25V2200	2200μF, 25WV, Electrolytic	2	B
C801	ECNU4A102M	0.001μF, 450WV, ±20%, Paper	1	C
C805	ECNU4A103M	0.01μF, 450WV, ±20%, Paper	1	C
C804	ECNU8A103M	0.01μF, 800WV, ±20%, Paper	1	C

VARIABLE CAPACITORS

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
CT1, 2, 3	ECV1ZW10P32	Ceramic Trimmer, FM ANT, DET, OSC	3	A
CV1, 2, 3, 201, 202 (CT201, 202)	ECV5MD34X~~236~~ 319	Tuning Gang, FM & AM (Trimmer, AM ANT & OSC)	1	Ⓝ A

THERMISTORS and COMPONENT COMBINATION

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
TH701, 702	RRT251	Thermistor, Driver Amplifier	2	B
M101	EXA5DL04C	FM Discriminator	1	B
M201	EXAF203Z471	AM Detector Circuit	1	B
M301, 302	EXAM505F	38 kHz Trap Circuit	2	B
M801, 802	RXAF103P22HD	Hum Canceler, Rectifier, 0.01 F, 500WV	2	B

SWITCHES

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
S1-1～S1-6	SSRA20	Selector Switch	1	Ⓝ A
S2-1, S2-2 S3-1, S3-2	SSHA19S	Tape Monitor 1 & 2 Switch	2	Ⓝ A
S4-1, S4-2 S5-1, S5-2	SSHA13S	Mode & Loudness Switch	2	A
S6-1, S6-2	ESRC135L30AS	Speakers Switch	1	Ⓝ B
S7	SSHA14S	Power Source Switch	1	A
S8-1, S8-2 (CA10)	SSSA3S	FM Antenna Switch	1	Ⓝ A

FUSES and LIGHTS

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
F1	XBAS1B2001U	Fuse, Power Source (2 Amp.)	1	A
F2, 3	XBAS1A2001	Fuse, Speakers (2 Amp.)	2	Ⓝ A
PL1	XAM37T150	Light, Stereo Eye (7.5V 75mA)	1	A
PL2	XAMR18K300	Light, Pointer (5V 60mA)	1	Ⓝ A
PL3～8	XAM35K	Light, Meter & Dial (6.3V 0.25A)	6	A

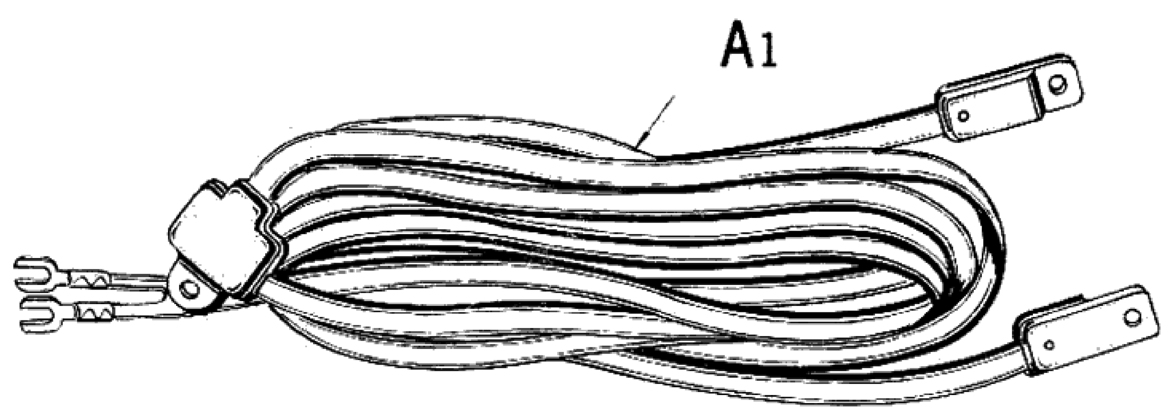
CABINETS

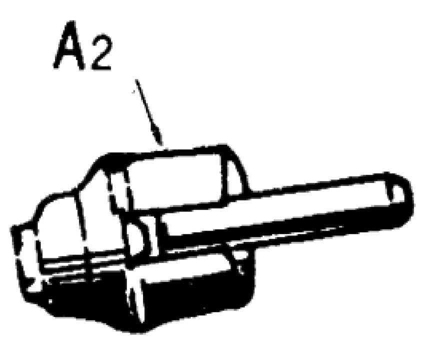
Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
CA1	SDEA34	Panel, Dial	1	Ⓝ B
	→SYEA30	Panel (Complete)	1	Ⓝ B
CA2	SGWA760	Panel	(1)	Ⓝ C
CA3	SGWA750	Plate, Indicator	(1)	Ⓝ C
	SGXA33	Sleeve, Power Source Switch	(1)	Ⓝ C
CA4	SKAA450	Cabinet	1	Ⓝ B
CA5	SBNA76	Knob, Tuning	1	Ⓝ A
CA6	SBCA36	Button, Power Source Switch	1	Ⓝ A
CA7	SBNA75	Knob, Speakers Switch, Bass, Treble, Balance, Volume Control & Selector Switch	6	Ⓝ A
CA8	SBNA56	Button, Loudness, Mode, Tape-Monitor 1 & 2 Switch	4	C
CA9	XSB4+12BVCS	Screw, Cabinet M'tg.	4	C
	→SYPA50AS	Rear Panel (Complete)	1	Ⓝ B
CA10(S8)	SSSA3S	Switch, Antenna Selector	(1)	Ⓝ A
CA11	SJFA4401	Terminal, Antenna	(1)	C

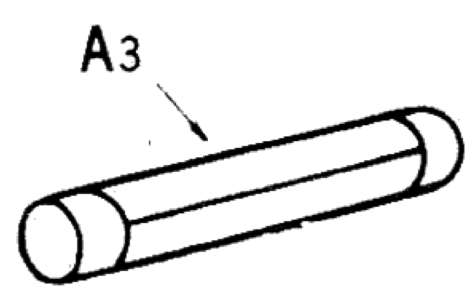
Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
CA12	SGPA170A	Rear Panel	(1)	Ⓝ C
CA13	SJFA5201	Holder, Fuse	(1)	Ⓝ C
CA14	SGTA1040	Name Plate	(1)	Ⓝ C
CA15	SNEA404	Nut, Ground	(1)	C
	SNEA204S	Volt, Ground	(1)	C
CA16	SJFA3603	Terminal, Phono & Tape Monitor 1	(1)	Ⓝ C
CA17	RJS31-1	DIN Socket, Tape Monitor 1	(1)	C
CA18	SJFA3407	Terminal, Tape Monitor 2	(1)	C
CA19	SJFA4803	Terminal, Speakers	(1)	C
CA20	SJSA1	AC Outlet	(1)	C
CA21	SJFA5202	Cap, Speakers Fuse Holder	1	Ⓝ C
CA22	XSN26+12	Screw, Fuse Holder, Cap, M'tg.	1	C
	SYUA40AS	Bottom Board (Complete)	1	Ⓝ C
CA23	SHRA202	Leg	(4)	C
CA24	SKUA250	Bottom Board Only	(1)	Ⓝ C
CA25	RJA34	AC Cord	1	B
CA26	RHR111	Bushing, AC Cord & AM Antenna Coil	2	C
CA27	SMAA6-2	Band, AM Antenna Coil	1	C
	XTV3D8CR	Screw, Bottom Board M'tg	8	C
CHASSIS				
CH1	SSMA15	Meter, Signal Strength	1	Ⓝ A
CH2	SMNA173	Mounting, Signal Meter	1	Ⓝ C
CH3	SUWA217	Mounting, Dial Scale	3	Ⓝ C
CH4	RJV1A	Holder, Meter & Dial Light	6	C
CH5	SKDA250	Scale, Dial	1	Ⓝ B
CH6	SMYA21	Heat Sink	1	Ⓝ C
CH7	SDAA5	Mounting, Dial Pointer	1	Ⓝ B
CH8	RDR20	Pulley, Dial Cord	6	C

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
	SDTA5511S	Shaft, Tuning (Complete)	1	Ⓝ B
CH9	SDXA8	Shaft Only	(1)	Ⓝ C
CH10	SDDA35S	Drum, Dial	1	B
	RDS4090A	Spring, Dial Cord	2	A
	RDZ05A	Dial Cord (150cm)	59 1/16"	B
	XXAR3H6S	Screw, Drum, M'tg.	2	C
CH11	RDR23	Pulley, Dial Cord	1	C
CH12	SJJA8	Jack, Headphones	1	B
CH13	SUWA221	Mounting, Dial Scale	1	Ⓝ C
	SDPA1010	Pointer, Dial (Complete)	1	B
CH14	SDPA5012	Pointer Only	(1)	B
	SDPA5011	Case, Pointer Light	(1)	C
CH15	SJJA10	Jack, Mic	2	B
	XTV3D8CK	Screw, Panel M'tg.	9	C
ACCESSORIES				
A1	SSAA1	Cord, FM Antenna	1	B
A2	RJP5	Pin Plug	4	B
A3	XBAS1A2001	Fuse, Speaker Protection (2 Amp.)	2	A
PACKINGS				
P1	SPPA20	Soft Cover	1	C
P2	SPHA6004	Polyethylene Sheet	1	C
P3	SPSA9	Pad (Upper)	1	Ⓝ C
P4	SPSA8	Pad (Lower)	1	Ⓝ C
P5	SPGA20A	Carton Box	1	Ⓝ C
P6	SQFA103	Printed Matter (Complete)	1	Ⓝ B

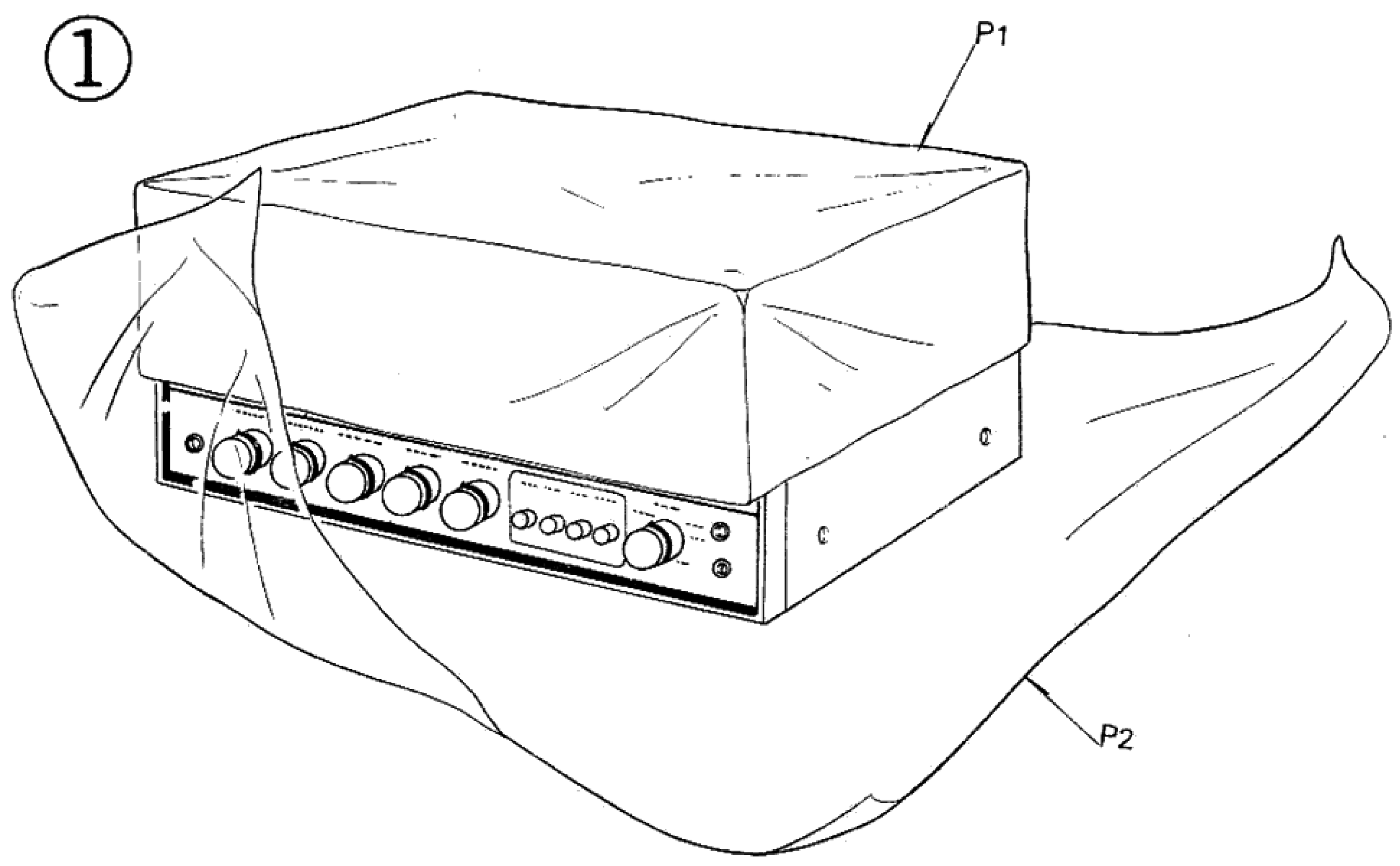
■ ACCESSORIES

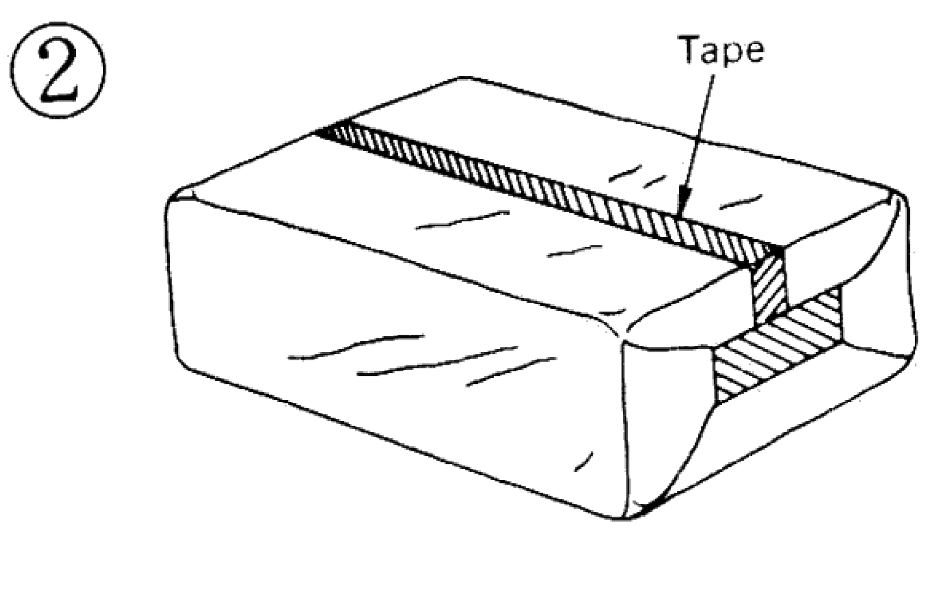


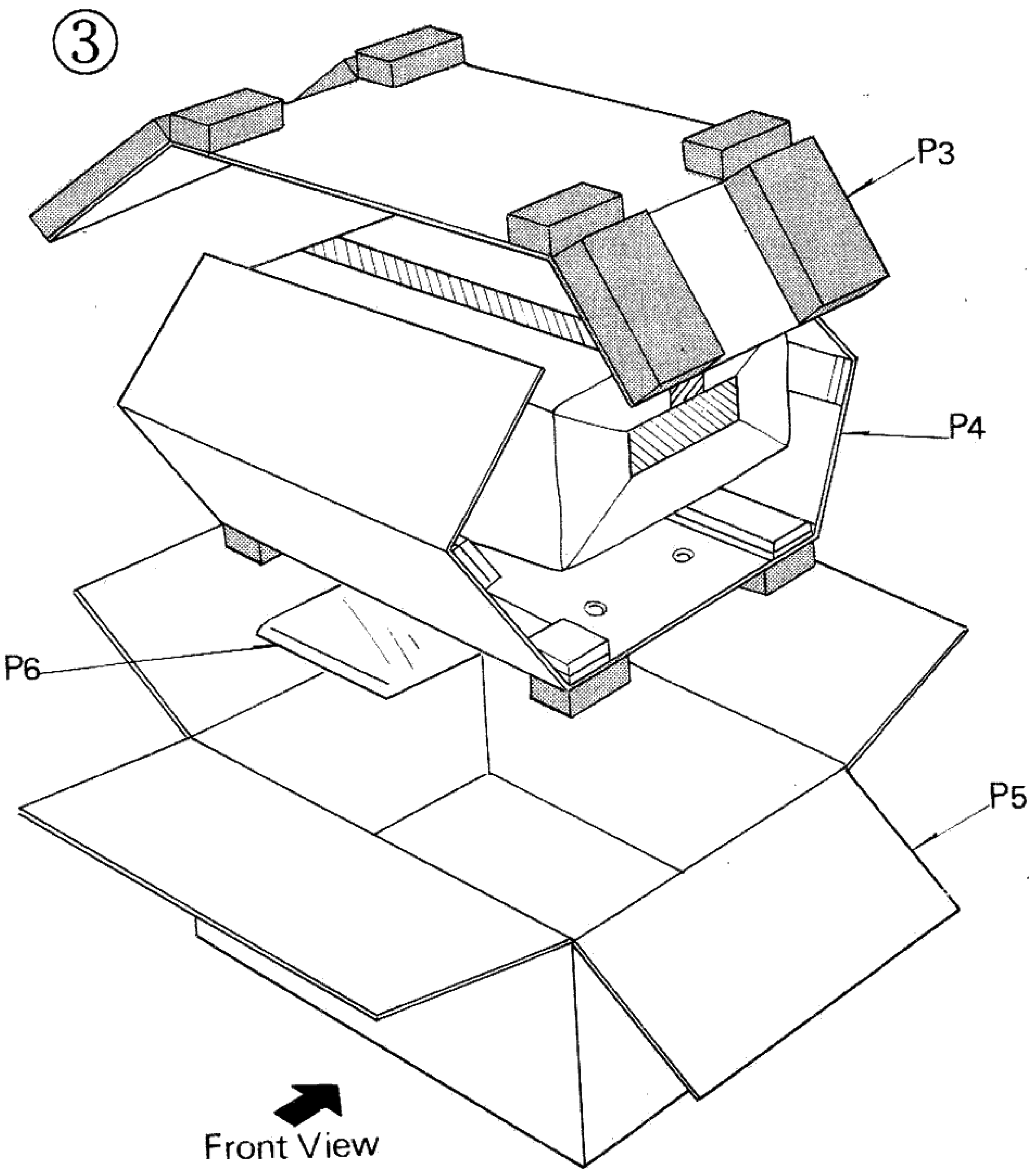




■ PACKING PARTS LOCATION







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