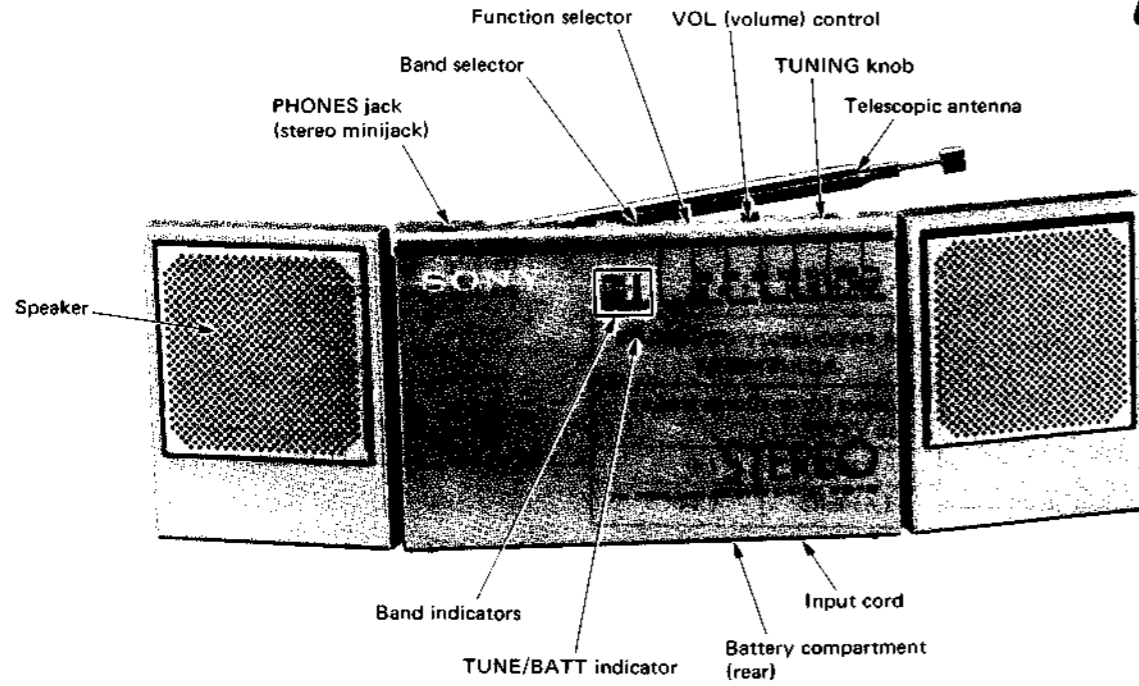


SRS-F20

SRS-F20

SERVICE MANUAL

AEP Model
UK Model
E Model



SPECIFICATIONS

Frequency range	FM: 87.5 - 108 MHz AM: 530 - 1,605 kHz (566 - 187 m)
Antennas	FM: Telescopic antenna Headphone cord antenna AM: Built-in ferrite bar antenna
Speakers	Two, approx. 50 mm (2 inches) dia.
Power output (at 10% harmonic distortion)	Headphones: 25mW + 25mW (at 32 ohm) Speakers: 150mW + 150mW (at 4 ohm)
Input	Input cord with stereo miniplug Cord length: approx. 45 cm (17 3/4 inches)
Output	Headphone jack (stereo minijack)
Power requirements	3V dc, two size AA batteries (IEC designation R6)
Dimensions	Approx. 108 x 70 x 19.5 mm (w/h/d) (4 1/8 x 2 7/8 x 25/32 inches) incl. projecting parts and controls with the speaker section closed
Weight	Approx. 150 g (5.3 oz) not incl. batteries Approx. 190 g (6.8 oz) incl. batteries

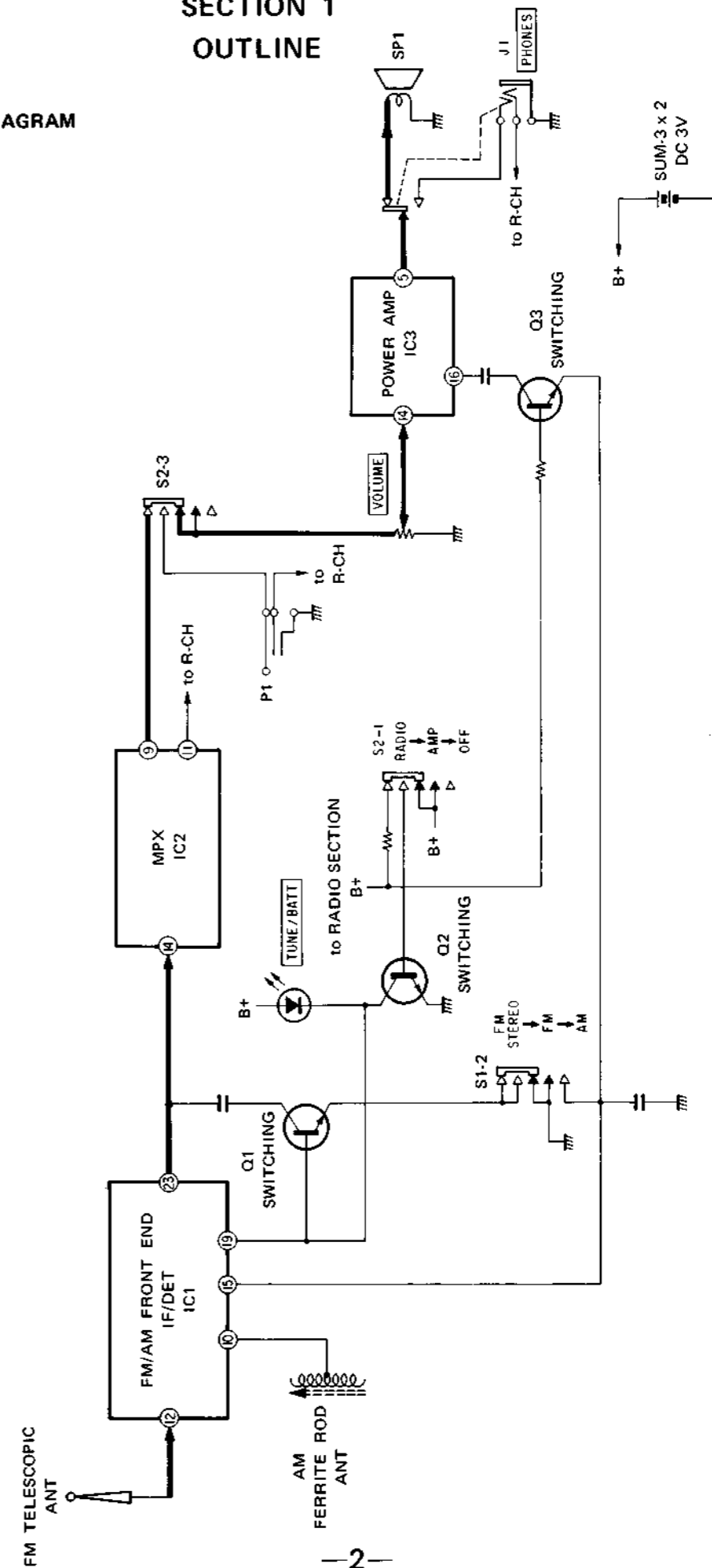
FM/AM STEREO RECEIVER SYSTEM

SONY

TR

SECTION 1 OUTLINE

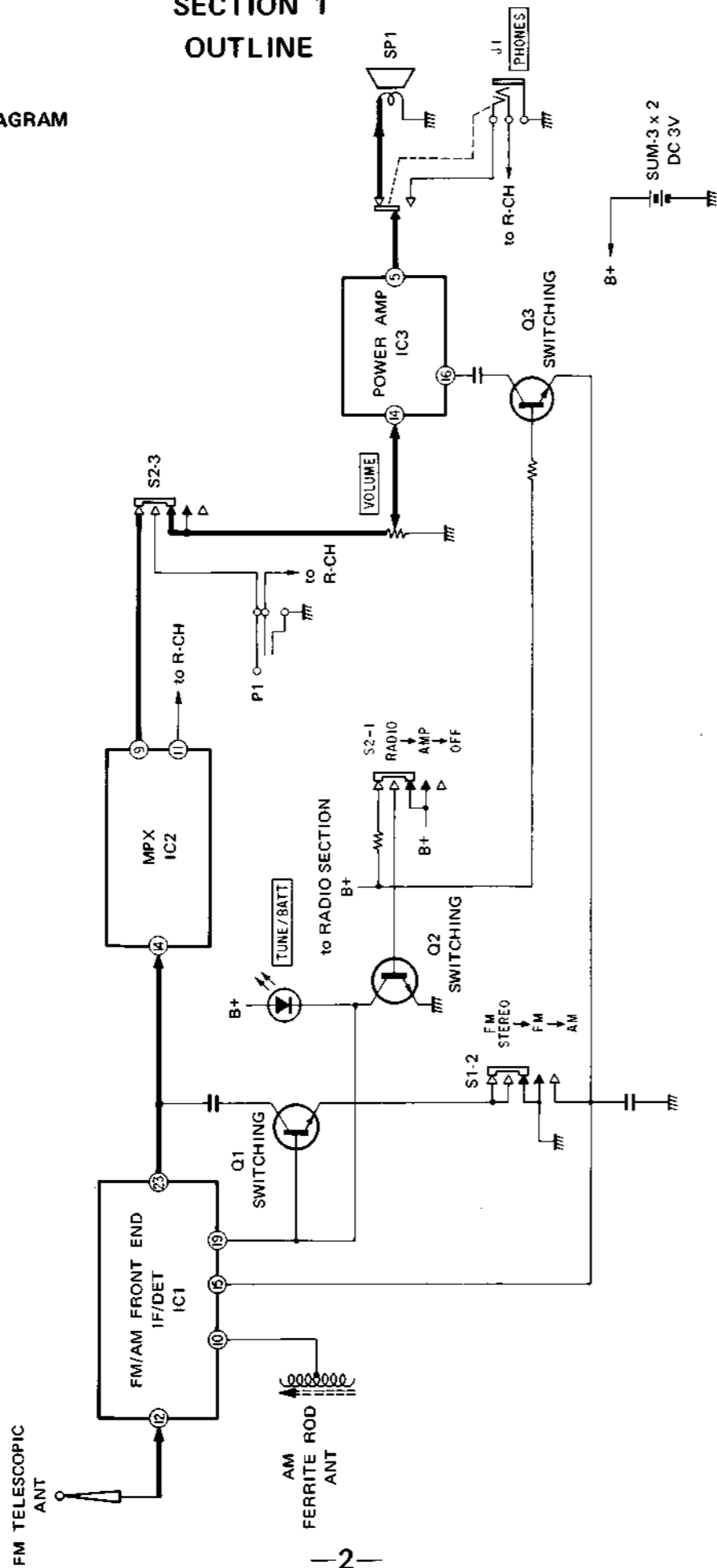
1-1. BLOCK DIAGRAM



Model
K Model
E Model

SECTION 1 OUTLINE

1-1. BLOCK DIAGRAM

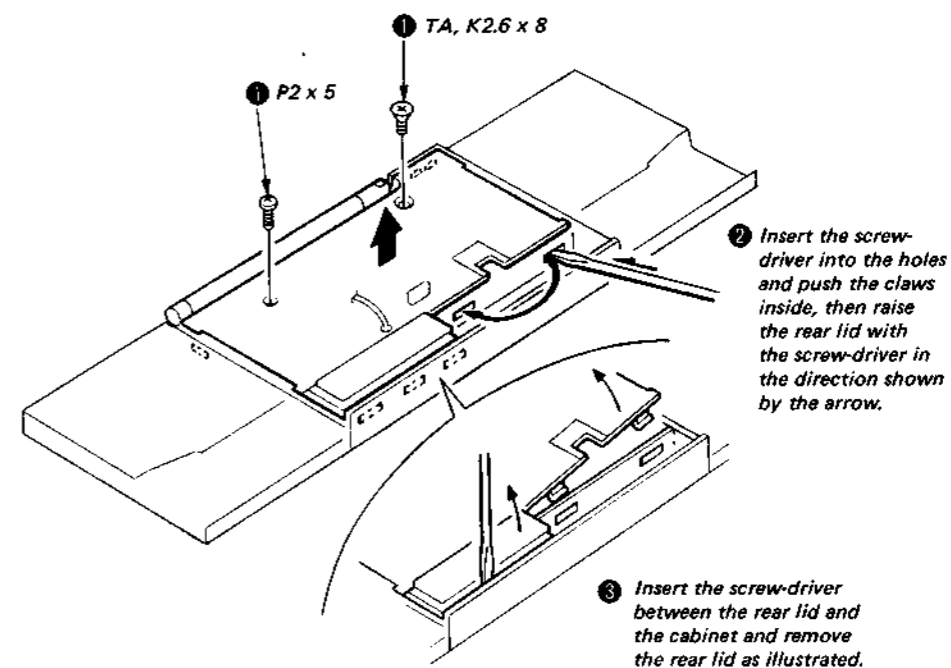


SECTION 2 DISASSEMBLY

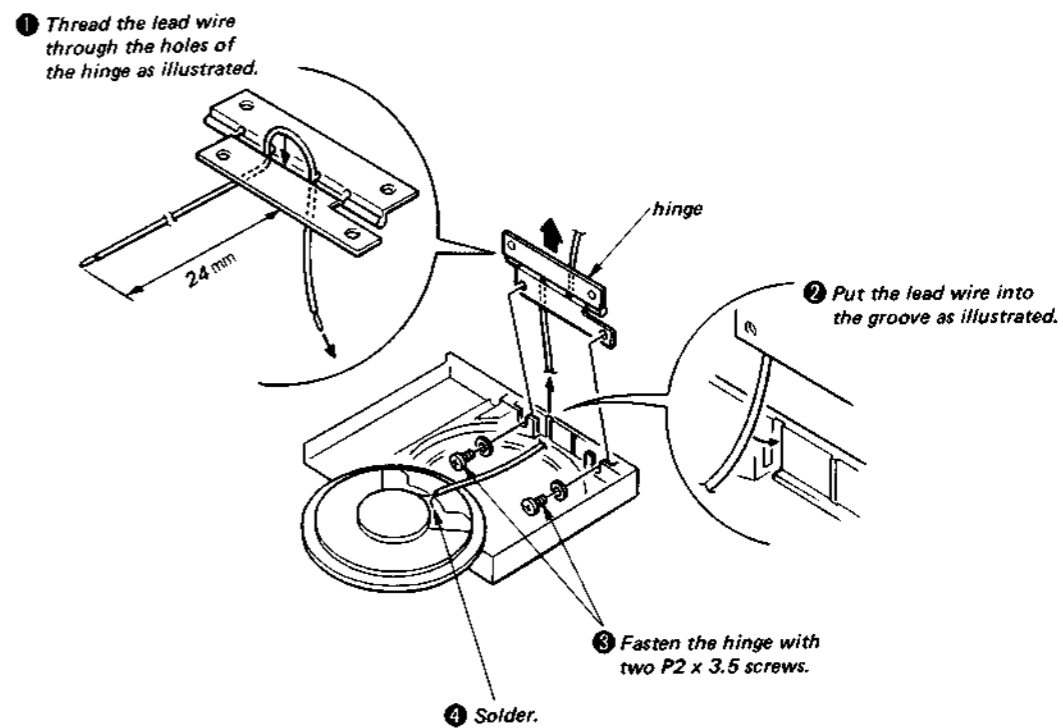
2-1. DISASSEMBLY

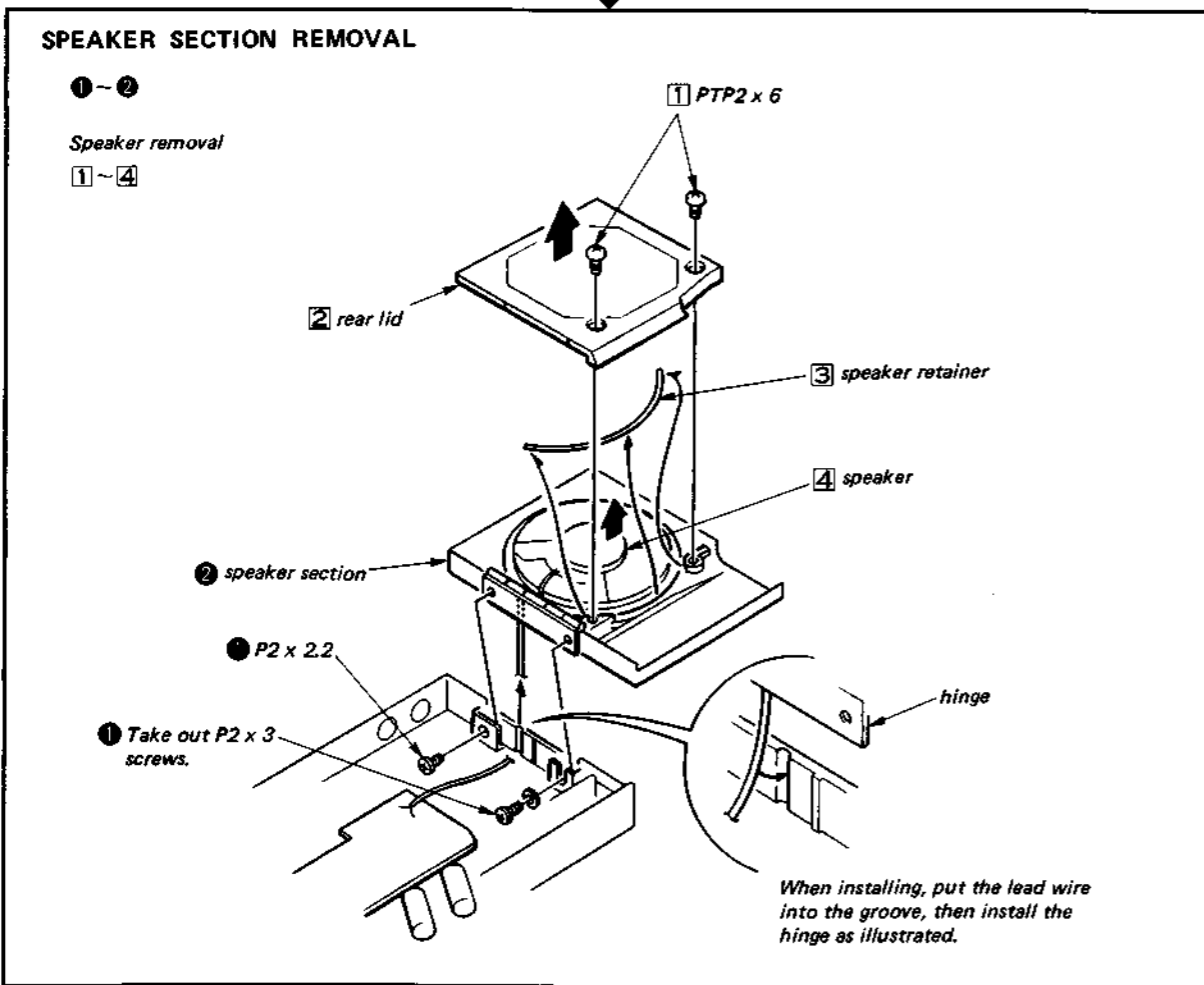
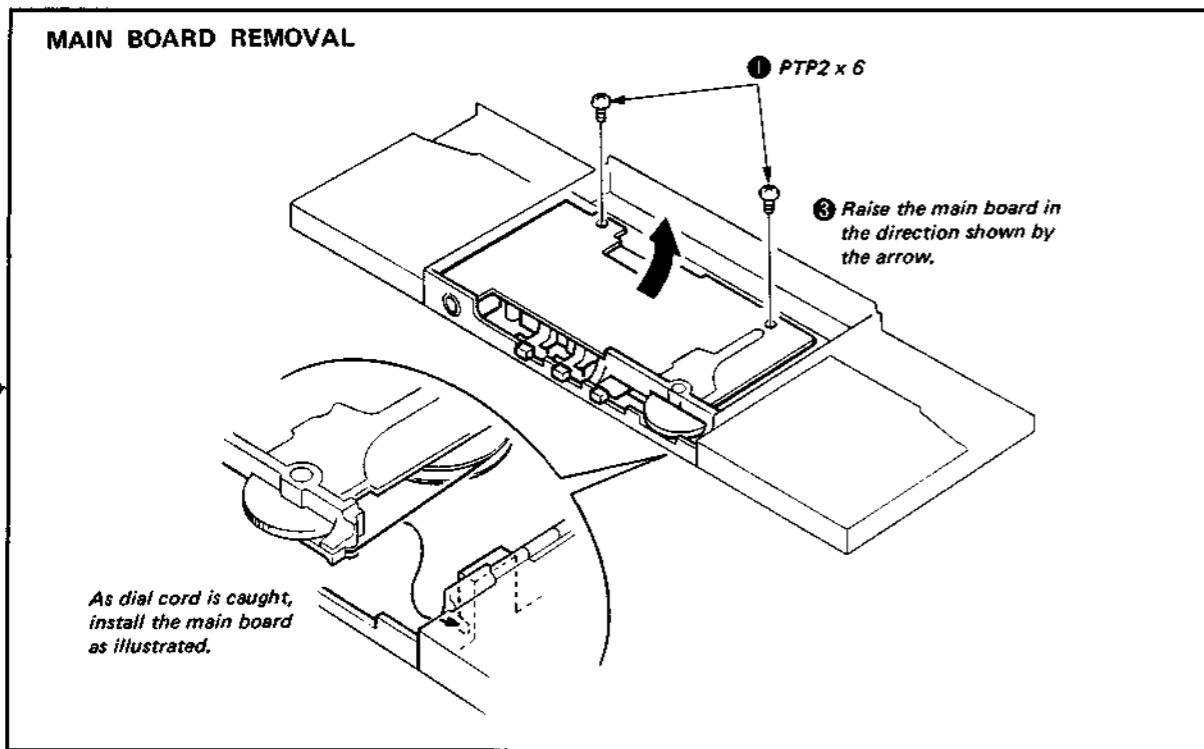
Note: Follow the disassembly procedure in the numerical order given.

REAR LID REMOVAL



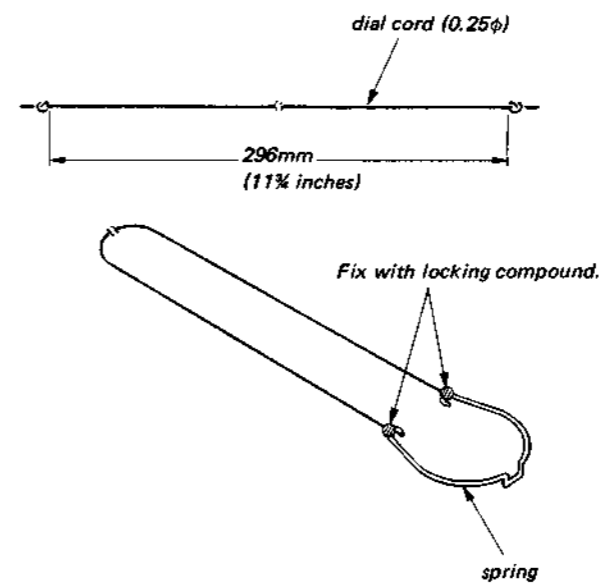
SPEAKER CORD REPLACEMENT





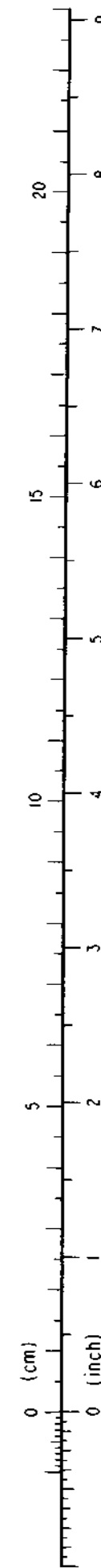
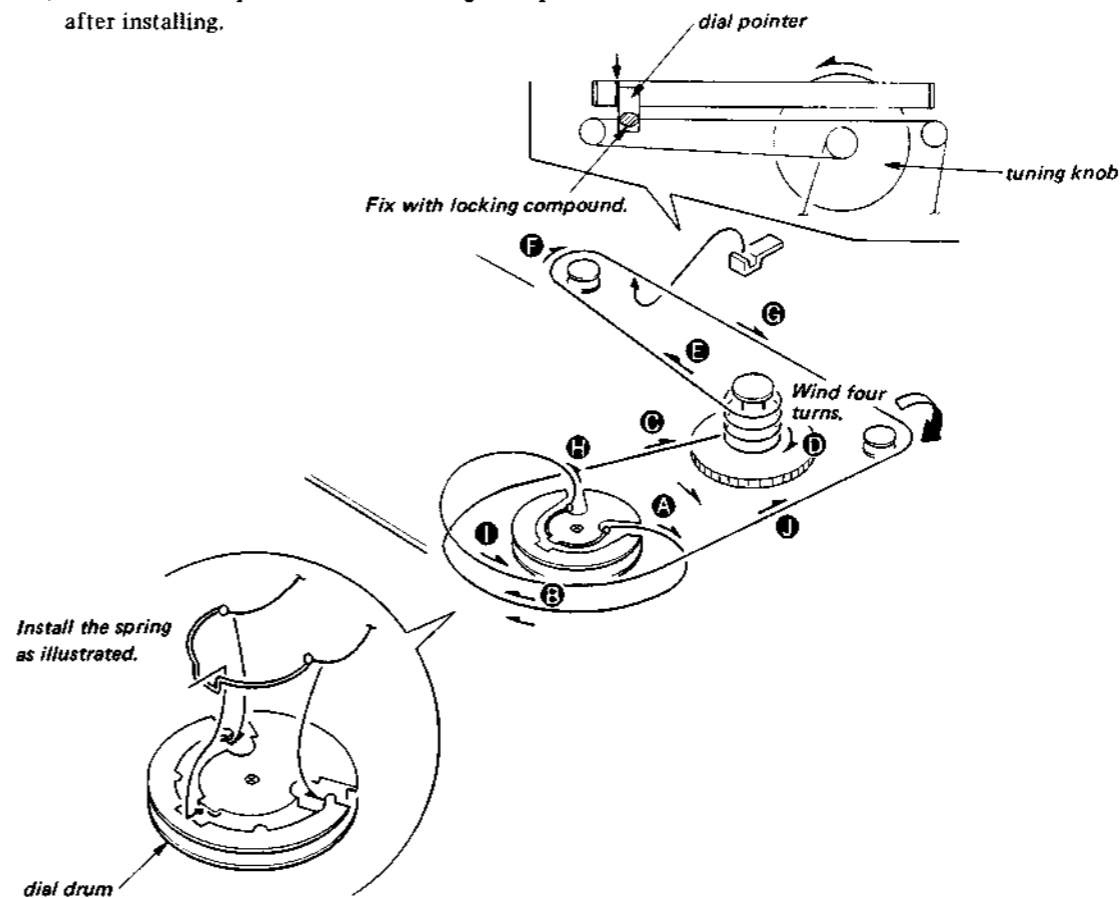
2-2. DIAL CORD STRINGING

1. Preparation



2. Stringing

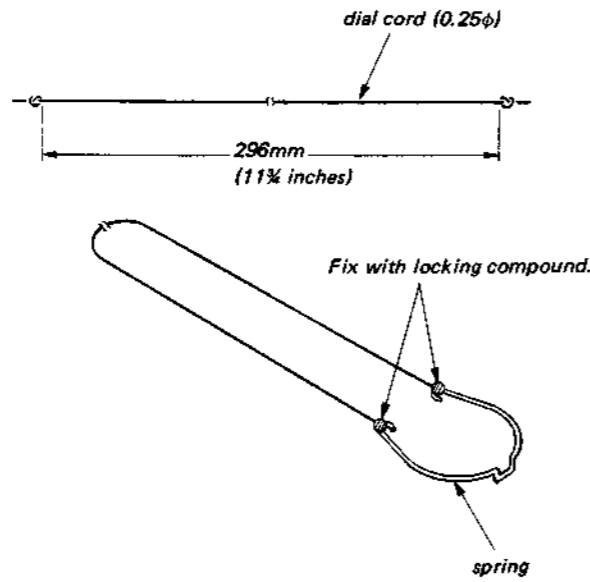
- 1) Install the spring to dial drum.
- 2) Turn the dial drum fully clockwise.
- 3) String the dial cord in the alphabetical order given.
- 4) Turn the tuning knob fully counterclockwise and install the dial pointer as illustrated.
- 5) Fix the dial pointer with locking compound after installing.



3-1. E
AM S

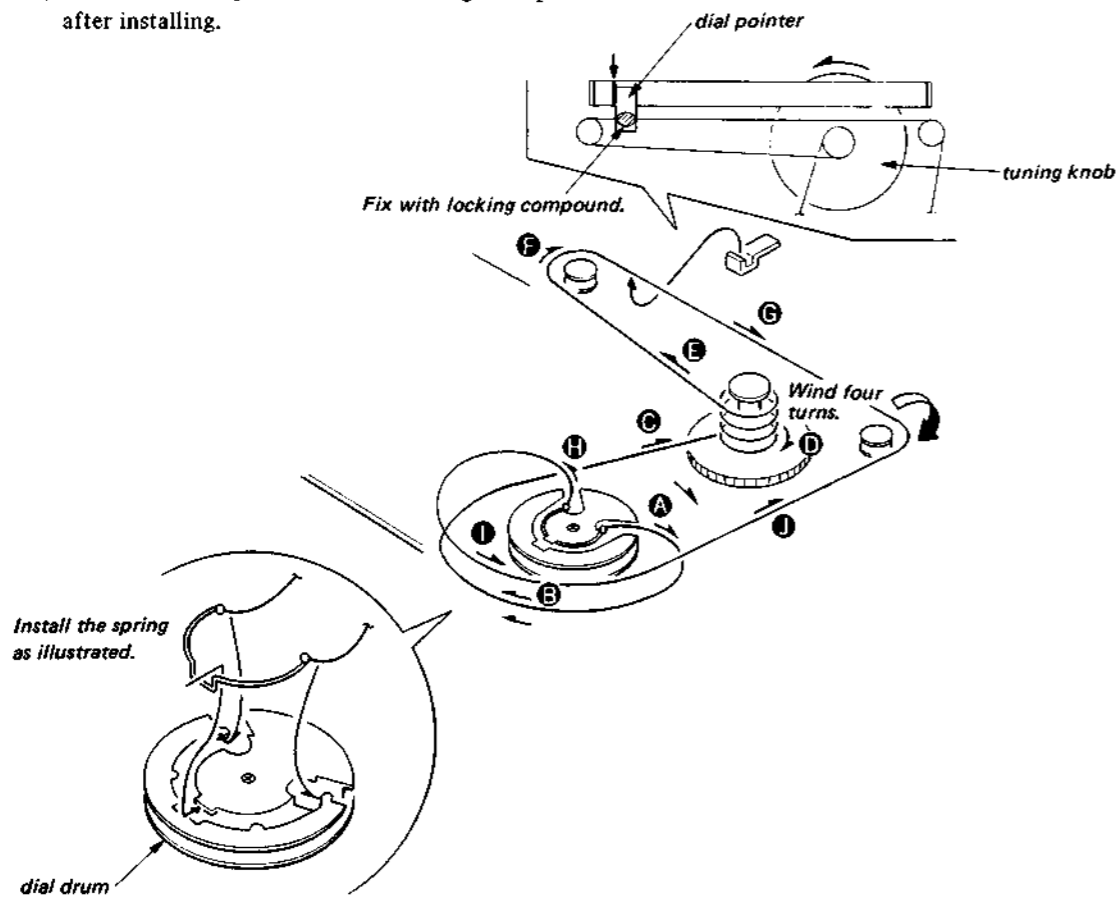
2-2. DIAL CORD STRINGING

1. Preparation



2. Stringing

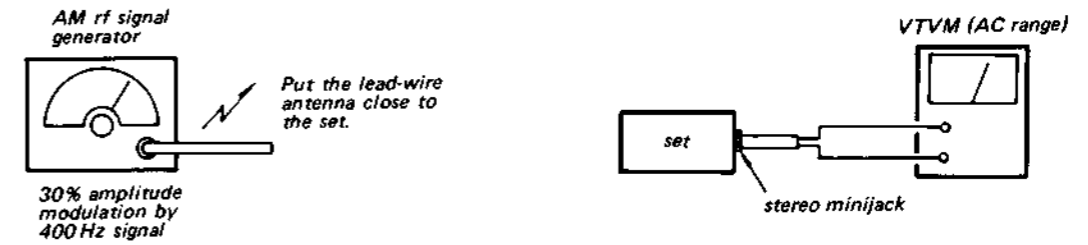
- 1) Install the spring to dial drum.
- 2) Turn the dial drum fully clockwise.
- 3) String the dial cord in the alphabetical order given.
- 4) Turn the tuning knob fully counterclockwise and install the dial pointer as illustrated.
- 5) Fix the dial pointer with locking compound after installing.



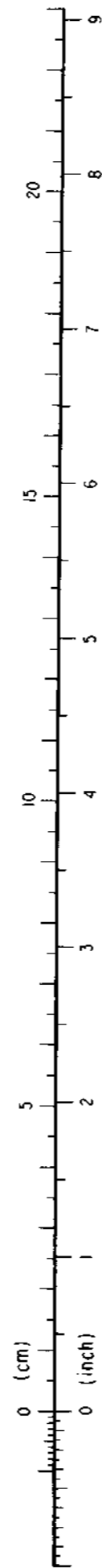
SECTION 3
ADJUSTMENTS

3-1. ELECTRICAL ADJUSTMENTS

AM SECTION



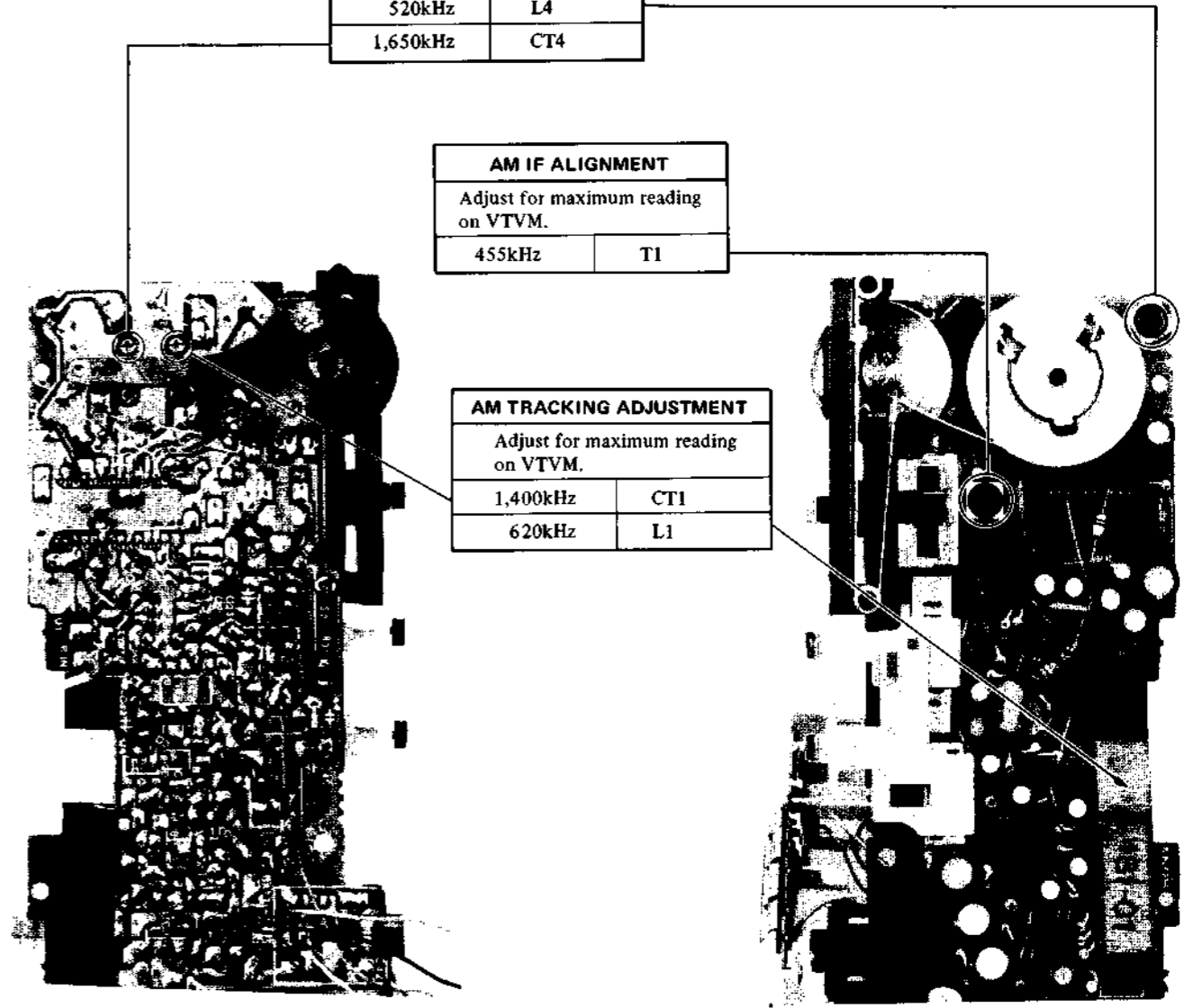
- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.



AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for maximum reading on VTVM.	
520kHz	L4
1,650kHz	CT4

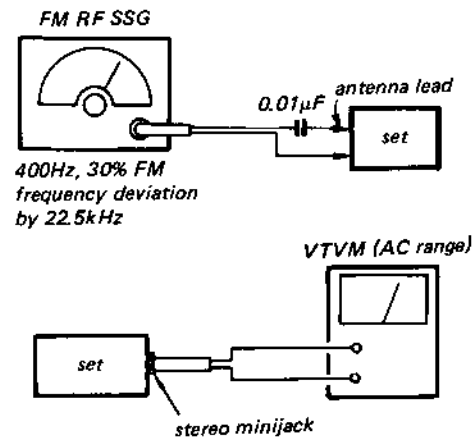
AM IF ALIGNMENT	
Adjust for maximum reading on VTVM.	
455kHz	T1

AM TRACKING ADJUSTMENT	
Adjust for maximum reading on VTVM.	
1,400kHz	CT1
620kHz	L1



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FM SECTION



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM TRACKING ADJUSTMENT

Adjust for maximum reading on VTVM.

108MHz	CT2
88MHz	L2

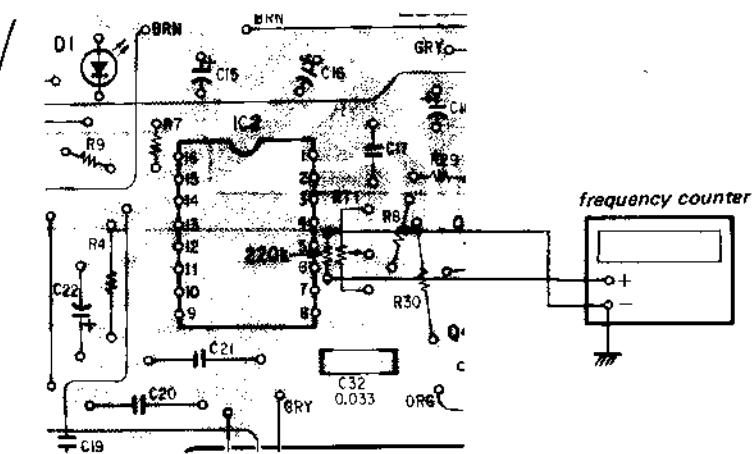
FM FREQUENCY COVERAGE ADJUSTMENT

Adjust for maximum reading on VTVM.

86.5MHz	L3
109.5MHz	CT3

VCO ADJUSTMENT

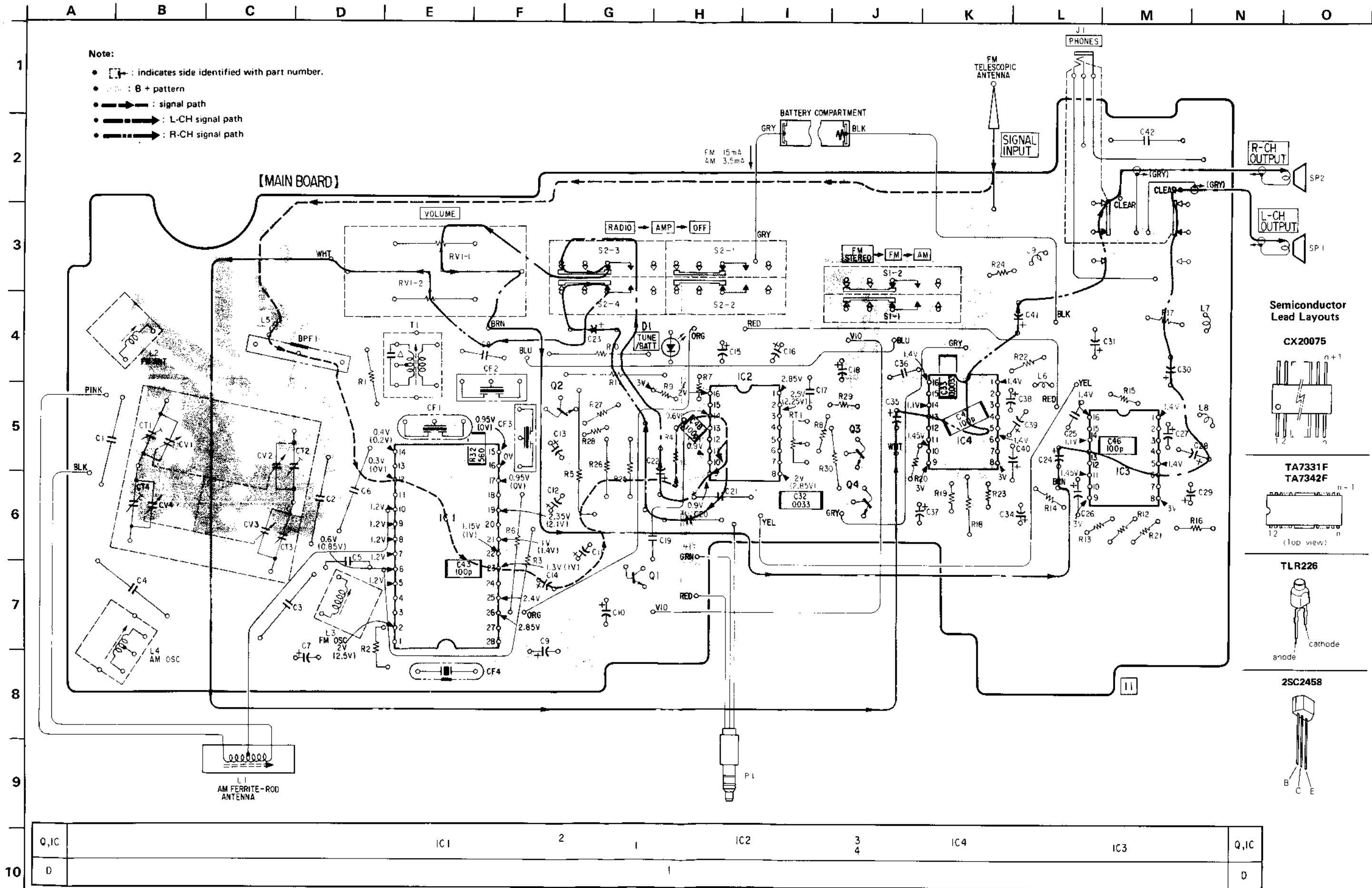
- Set the BAND SW FM.
- Solder a 1 μ F/50V capacitor between pins (14) of IC2 and ground on the conductor side.
- Solder a 220k Ω resistor between pins (17) of IC2 and ground on the conductor side, then connect the frequency counter across that resistor.
- Adjust RT1 for 76kHz \pm 70Hz reading on the frequency counter.
- After the adjustment, remove the capacitor and the resistor.



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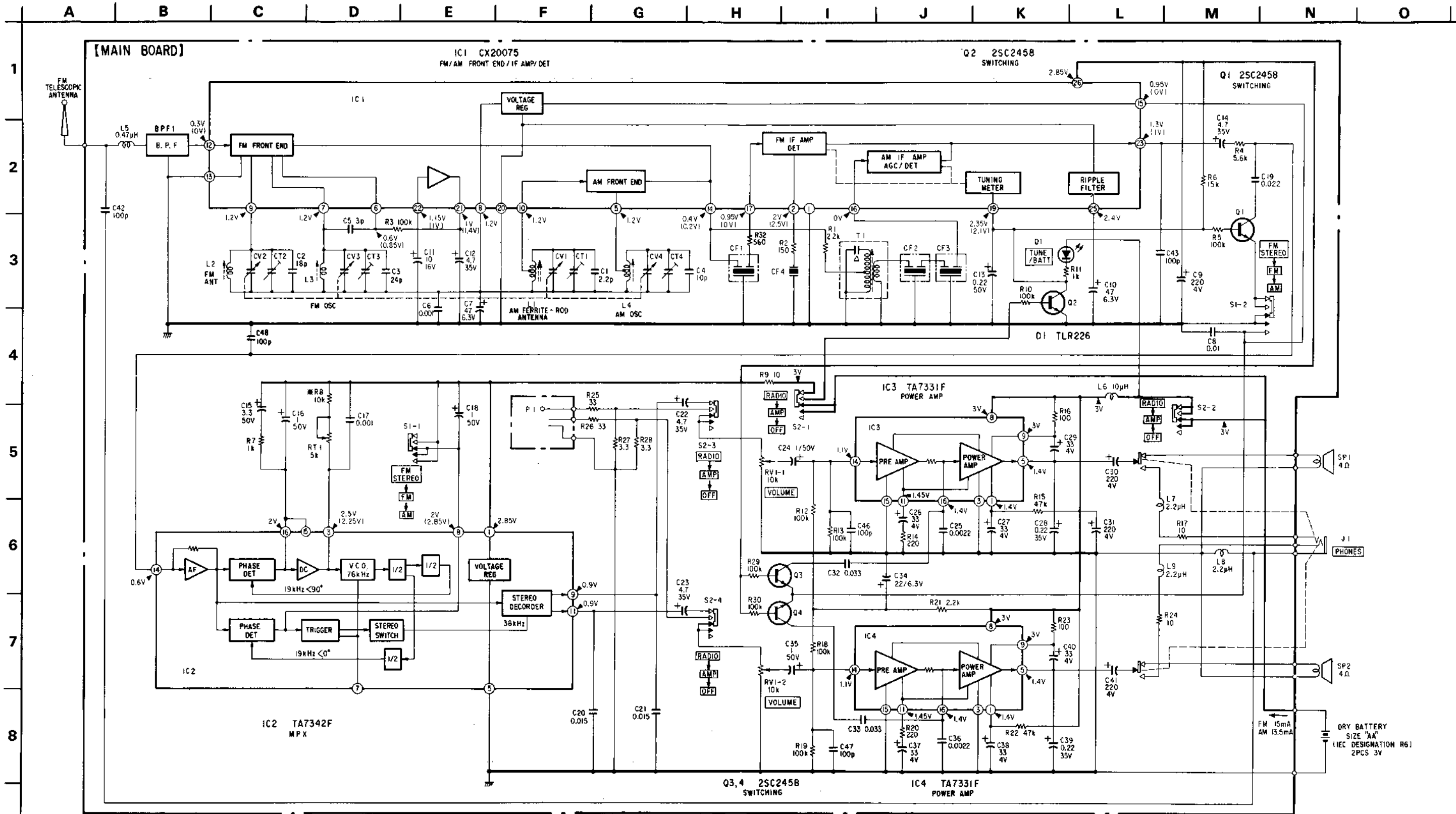
SECTION 4 DIAGRAMS

4-1. MOUNTING DIAGRAM



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4-2. SCHEMATIC DIAGRAM



Note:

- All capacitors are in μF unless otherwise noted. pF : μF 50WV or less are not indicated except for electrolytics and tantalums.
- Δ : internal component.
- * : selected to yield optimum performance. Adjust R8 (10k, 13k, 15k) when replacing IC2.
- : panel designation.

- Voltages are dc with respect to ground unless otherwise noted.
- Readings are taken under no-signal conditions with a VOM. () : AM
- Voltage variations may be noted due to normal production tolerances.
- Total current is measured with no signal.

• Switch

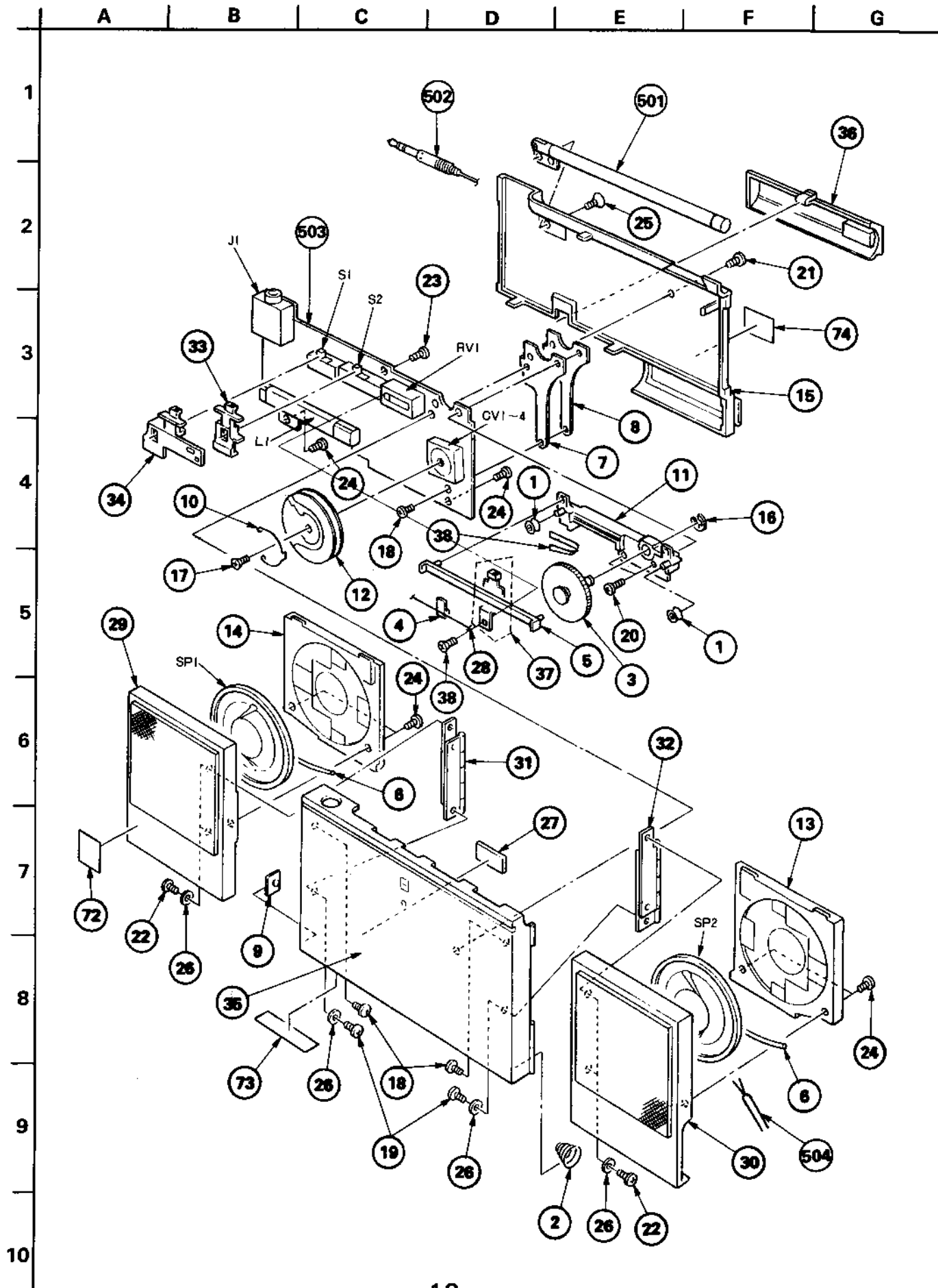
Ref. No.	Switch	Position
S1	BAND FUNCTION	FM STEREO
S2	FUNCTION	RADIO
S3	Speaker ON/OFF	ON

Note: Voltages are measured with a VOM (50k Ω /V).

SECTION 5
EXPLODED VIEW AND PARTS LIST

SRS-F20

SRS-F20



GENERAL SECTION		
No.	Part No.	Description
1	3-562-207-00	PULLEY, DIAL CORD
2	3-830-957-00	SPRING
3	3-892-403-00	KNOB, TUNING
4	3-892-404-00	POINTER
5	3-892-405-00	TABLE POINTER
6	3-892-406-00	RETAINER, SPEAKER
7	3-892-407-00	SHEET, INSULATING
8	3-892-408-00	REINFORCEMENT
9	3-892-409-00	TERMINAL, BATTERY
10	3-892-415-00	SPRING
11	X-3892-413-1	CHASSIS ASSY
12	3-892-424-00	DRUM, DIAL
13	3-892-426-00	LID, (RIGHT) (SPEAKER), REAR
14	3-892-428-00	LID (LEFT) (SPEAKER), REAR
15	3-892-429-00	LID (MAIN), REAR
16	7-624-105-04	STOP RING 2.3, TYPE -E
17	7-627-450-58	SCREW, PRECISION -K 1.7X3
18	7-627-554-07	SCREW, PRECISION +P 2X2
19	7-627-553-37	SCREW, PRECISION +P 2X3
20	7-627-553-47	SCREW, PRECISION +P 2X4
21	7-627-553-67	SCREW, PRECISION +P 2X5
22	7-627-554-17	SCREW, PRECISION +P 2X3.5
23	7-685-102-19	SCREW +P 2X4 TYPE2 NON-SLIT
24	7-685-104-14	SCREW +P 2X6 TYPE2 NON-SLIT
25	7-685-234-14	SCREW +KTP 2.6X8 TYPE2NON-SLIT
26	7-688-001-01	W 2, SMALL
27	9-911-815-03	CUSHION
28	9-911-825-52	STRING, DIAL
29	A-4524-006-A	CABINET (LEFT) (SPEAKER) ASSY
30	A-4524-007-A	CABINET (RIGHT) (SPEAKER) ASSY
31	X-3892-401-0	HINGE (LEFT) ASSY
32	X-3892-402-0	HINGE (RIGHT) ASSY
33	X-3892-403-0	KNOB ASSY, POWER
34	X-3892-404-0	KNOB ASSY, SELECTION
35	X-3892-409-0	STRIP ASSY, ORNAMENTAL, CABINET
36	X-3892-411-1	BATTERY LID ASSY
37	X-3892-410-1	KNOB ASSY, VOLUME
38	3-892-462-01	SCREW, +KTP 1.4X3 TYPE2 NON-SLIT

ACCESSORY & PACKING MATERIAL		
No.	Part No.	Description
71	3-527-213-00	LABEL, SERIAL NUMBER
72	3-703-710-01	STICKER, SONY SYMBOL (12)
73	3-892-439-00	LABEL, MODEL NUMBER
74	3-892-441-00	LABEL, CORD ANCHOR CAUTION
75	3-795-748-21	SAFETY INSTRUCTIONS, HEADPHONE
76	X-3892-412-1	CUSHION & GUARDCHIP ASSY
77	3-892-457-01	INDIVIDUAL CARTON
78	3-892-455-00	HOLDER
79	3-995-980-11	MANUAL, INSTRUCTION

GENERAL SECTION					
Ref.No.	Part No.	Description			
501	1-501-293-00	ANTENNA, TELESCOPIC (SW/FM)			
502	1-557-090-00	CORD (WITH PLUG)			
503	A-4518-190-A	MOUNTED PCB, PC BOARD			
504	1-557-245-11	CORD, SPEAKER			
BPF1	1-235-171-00	FILTER, BAND PASS			
C1	1-162-005-00	CERAMIC	2.2PF	10%	50V
C2	1-162-019-00	CERAMIC	18PF	5%	50V
C3	1-162-073-00	CERAMIC	24PF	5%	50V
C4	1-162-044-00	CERAMIC	10PF	5%	50V
C5	1-102-936-00	CERAMIC	3PF	0.25PF	50V
C6	1-162-110-00	CERAMIC	0.001MF	10%	50V
C7	1-124-224-00	ELECT	47MF	20%	6.3V
C8	1-161-013-00	CERAMIC	0.01MF	10%	25V
C9	1-124-434-00	ELECT	220MF	20%	4V
C10	1-124-224-00	ELECT	47MF	20%	6.3V
C11	1-124-233-00	ELECT	10MF	20%	16V
C12	1-124-245-00	ELECT	4.7MF	20%	35V
C13	1-124-251-00	ELECT	0.22MF	20%	50V
C14	1-124-245-00	ELECT	4.7MF	20%	35V
C15	1-124-258-00	ELECT	3.3MF	20%	50V
C16	1-124-255-00	ELECT	1MF	20%	50V
C17	1-130-651-00	FILM	0.001MF	5%	100V
C18	1-124-255-00	ELECT	1MF	20%	50V
C19	1-161-494-00	CERAMIC	0.022MF	30%	25V
C20	1-161-015-00	CERAMIC	0.015MF	10%	25V
C21	1-161-015-00	CERAMIC	0.015MF	10%	25V
C22	1-124-245-00	ELECT	4.7MF	20%	35V
C23	1-124-245-00	ELECT	4.7MF	20%	35V
C24	1-124-255-00	ELECT	1MF	20%	50V
C25	1-162-111-00	CERAMIC	0.0022MF	30%	25V

NOTE:
 • Items with no part number and no description are not stocked because they are seldom required for routine service.
 • Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
 • Due to standardization, parts with part numbers (Δ-ΔΔΔ-ΔΔΔ-XX or Δ-ΔΔΔΔ-ΔΔΔ-X) may be different from those used in the set.
 • If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS:
 MF:μF, PF:μPF.
 RESISTORS
 • All resistors are in ohms.
 • F : nonflammable
 COILS
 • MMH : mH, UH : μH
 SEMICONDUCTORS
 In each case, U : μ, for example:
 UA...: μA..., UPA...: μPA..., UPC...: μPC,
 UPD...: μPD...

GENERAL SECTION

Ref.No.	Part No.	Description
C26	1-124-220-00	ELECT 33MF 20% 4V
C27	1-124-220-00	ELECT 33MF 20% 4V
C2	1-131-343-00	TANTALUM 0.22MF 20% 35V
C29	1-124-220-00	ELECT 33MF 20% 4V
C30	1-124-434-00	ELECT 220MF 20% 4V
C31	1-124-434-00	ELECT 220MF 20% 4V
C32	1-163-074-00	CERAMIC CHIP 0.033MF 50V
C33	1-163-074-00	CERAMIC CHIP 0.033MF 50V
C34	1-124-222-00	ELECT 22MF 20% 6.3V
C35	1-124-255-00	ELECT 1MF 20% 50V
C36	1-162-111-00	CERAMIC 0.0022MF 30% 25V
C37	1-124-220-00	ELECT 33MF 20% 4V
C38	1-124-220-00	ELECT 33MF 20% 4V
C39	1-131-343-00	TANTALUM 0.22MF 20% 35V
C40	1-124-220-00	ELECT 33MF 20% 4V
C41	1-124-434-00	ELECT 220MF 20% 4V
C42	1-162-037-00	CERAMIC 100PF 5% 50V
C43	1-163-181-00	CERAMIC CHIP 100PF 5% 50V
C44	1-163-047-00	CERAMIC CHIP 0.001MF 5% 50V
C45	1-163-976-00	CERAMIC CHIP 560PF 5% 50V
C46	1-163-181-00	CERAMIC CHIP 100PF 5% 50V
C47	1-163-181-00	CERAMIC CHIP 100PF 5% 50V
C48	1-163-181-00	CERAMIC CHIP 100PF 5% 50V
CF1	1-567-097-61	FILTER, CERAMIC
CF2	1-567-090-00	FILTER, CERAMIC
CF3	1-567-090-00	FILTER, CERAMIC
CF4	1-567-097-61	FILTER, CERAMIC
CT1	1-151-453-00	CAP, TUNING, POLYETHYLENE
CT2	1-151-453-00	CAP, TUNING, POLYETHYLENE
CT3	1-151-453-00	CAP, TUNING, POLYETHYLENE
CT4	1-151-453-00	CAP, TUNING, POLYETHYLENE
CV1	1-151-453-00	CAP, TUNING, POLYETHYLENE
CV2	1-151-453-00	CAP, TUNING, POLYETHYLENE
CV3	1-151-453-00	CAP, TUNING, POLYETHYLENE
CV4	1-151-453-00	CAP, TUNING, POLYETHYLENE
D1	8-719-812-26	DIODE TLR226
IC1	8-752-007-50	IC CX20075
IC2	8-759-200-94	IC TA7342F
IC3	8-759-273-31	IC TA7331F
IC4	8-759-273-31	IC TA7331F
J1	1-507-794-00	JACK, SMALL TYPE
L1	1-402-053-00	ANTENNA, FERRITE-ROD (MW)
L2	1-459-435-00	COIL (WITH CORE)
L3	1-459-418-00	COIL (WITH CORE)
L4	1-405-989-00	COIL, OSC
L5	1-408-995-00	MICRO INDUCTOR 0.47UH
L6	1-408-998-00	MICRO INDUCTOR 10UH

GENERAL SECTION

Ref.No.	Part No.	Description
L7	1-408-997-00	MICRO INDUCTOR 2.2UH
L8	1-408-997-00	MICRO INDUCTOR 2.2UH
L9	1-408-997-00	MICRO INDUCTOR 2.2UH
Q1	8-729-245-83	TRANSISTOR 2SC2458
Q2	8-729-245-83	TRANSISTOR 2SC2458
Q3	8-729-245-83	TRANSISTOR 2SC2458
Q4	8-729-245-83	TRANSISTOR 2SC2458
R1	1-247-839-00	CARBON 2.2K 5% 1/6W
R2	1-247-811-00	CARBON 150 5% 1/6W
R3	1-247-879-00	CARBON 100K 5% 1/6W
R4	1-247-849-00	CARBON 5.6K 5% 1/6W
R5	1-247-879-00	CARBON 100K 5% 1/6W
R6	1-247-859-00	CARBON 15K 5% 1/6W
R7	1-247-831-00	CARBON 1K 5% 1/6W
R8	1-247-855-00	CARBON 10K 5% 1/6W
R8	1-247-858-00	CARBON 13K 5% 1/6W
R8	1-247-859-00	CARBON 15K 5% 1/6W
R9	1-247-783-00	CARBON 10 5% 1/6W
R10	1-247-879-00	CARBON 100K 5% 1/6W
R11	1-247-831-00	CARBON 1K 5% 1/6W
R12	1-247-879-00	CARBON 100K 5% 1/6W
R13	1-247-879-00	CARBON 100K 5% 1/6W
R14	1-247-815-00	CARBON 220 5% 1/6W
R15	1-247-871-00	CARBON 47K 5% 1/6W
R16	1-247-807-00	CARBON 100 5% 1/6W
R17	1-247-783-00	CARBON 10 5% 1/6W
R18	1-247-879-00	CARBON 100K 5% 1/6W
R19	1-247-879-00	CARBON 100K 5% 1/6W
R20	1-247-815-00	CARBON 220 5% 1/6W
R21	1-247-839-00	CARBON 2.2K 5% 1/6W
R22	1-247-871-00	CARBON 47K 5% 1/6W
R23	1-247-807-00	CARBON 100 5% 1/6W
R24	1-247-783-00	CARBON 10 5% 1/6W
R25	1-247-795-00	CARBON 33 5% 1/6W
R26	1-247-795-00	CARBON 33 5% 1/6W
R27	1-247-771-00	CARBON 3.3 5% 1/6W
R28	1-247-771-00	CARBON 3.3 5% 1/6W
R29	1-247-879-00	CARBON 100K 5% 1/6W
R30	1-247-879-00	CARBON 100K 5% 1/6W
R31	1-216-150-00	METAL CHIP 10 5% 1/8W
R32	1-216-192-00	METAL CHIP 560 5% 1/8W
RT1	1-226-488-00	RES, ADJ, METAL GLAZE 5K
RV1	1-230-246-00	RES, VAR, SLIDE 10K/10K
S1	1-554-061-00	SWITCH, SLIDE (AM/FM)
S2	1-554-509-21	SWITCH, SLIDE (OFF/AMP/RADIO)
SP1	1-503-282-00	SPEAKER (050F010)
SP	1-503-282-00	SPEAKER (050F010)
T1	1-404-444-00	TRANSFORMER, IF 455KHZ

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CAPACITORS:

MF:μF, PF:μμF.

RESISTORS

- All resistors are in ohms.
- F : nonflammable

COILS

MMH : mH, UH : μH

SEMICONDUCTORS

In each case, U : μ, for example:

UA... : μA..., UPA... : μPA..., UPC... : μPC,

UPD... : μPD...