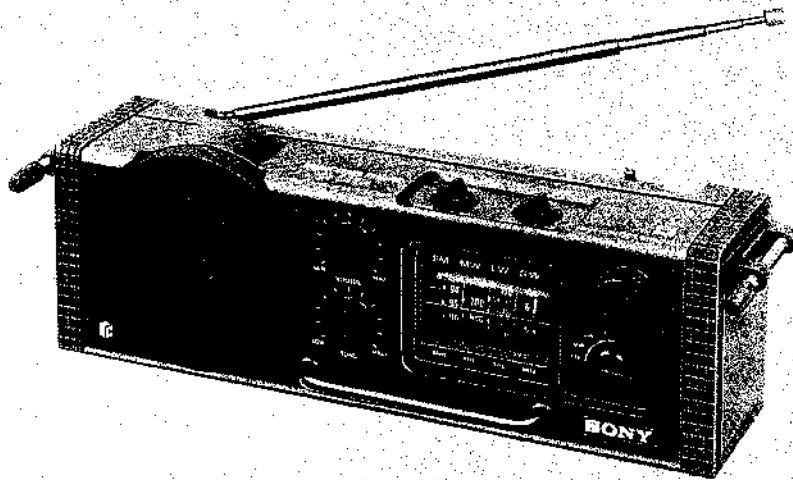


ICF-6000L

AEP Model



FM/AM 4 BAND RECEIVER

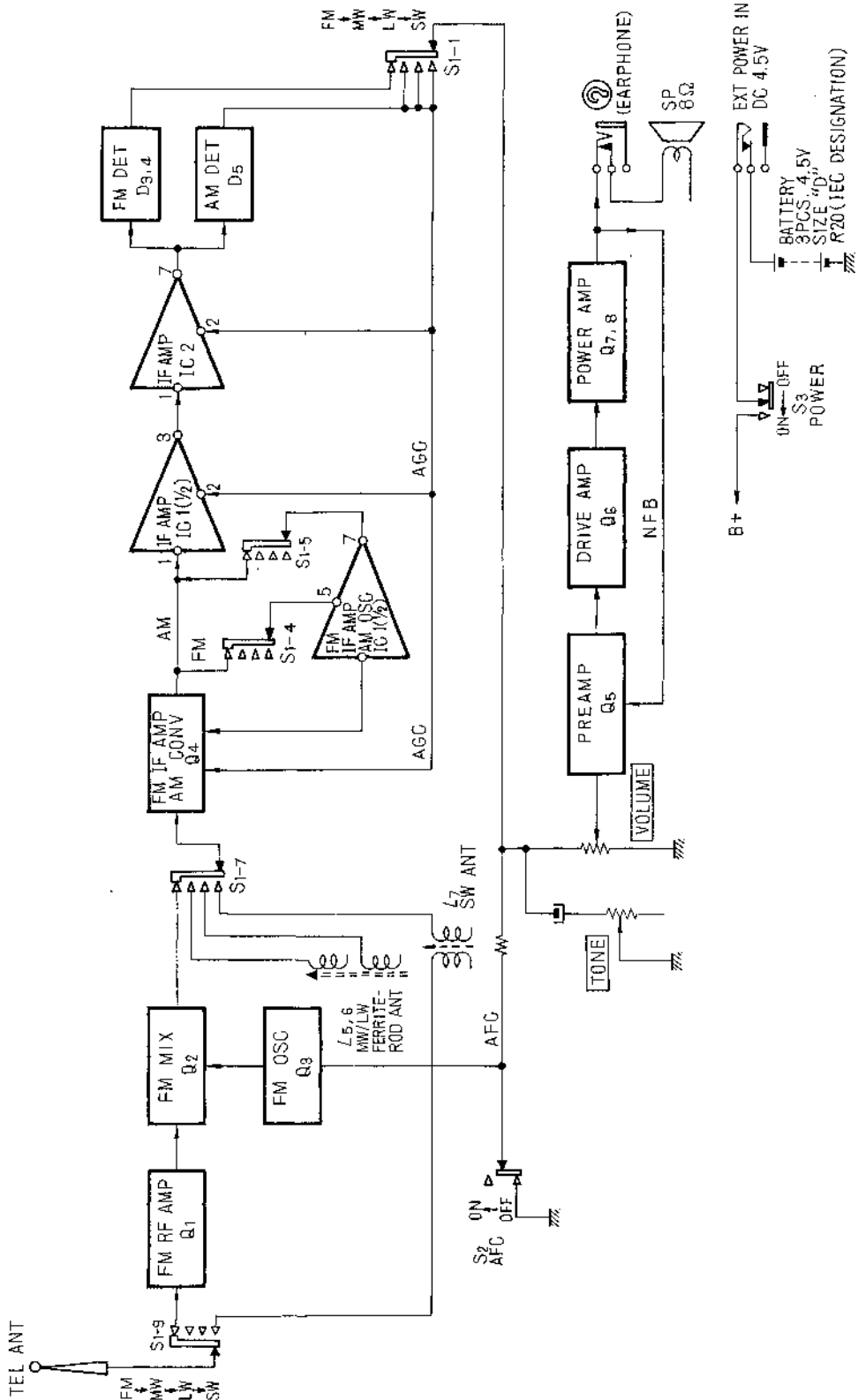
SPECIFICATIONS

| | |
|----------------------------------|--|
| Power Requirements: | 4.5V dc Battery size-D, 3 pcs (IEC designation R20) Car battery cord DCC-127H for 12V car battery AC power pack AC-456C for AC power supply (110 or 220V ac, 50/60 Hz) |
| Power Output: | 1900 mW, dc (Total Harmonic Distortion 10%) |
| Speaker: | 9.2 cm (3 ⁵ / ₈ inches) dia. |
| Dimensions: | Approx. 352 (w) x 110 (h) x 103 (d) mm 13 ⁷ / ₈ (w) x 4 ³ / ₈ (h) x 4 ¹ / ₈ (d) inches (including projecting parts and controls) |
| Weight: | Approx. 1.8 kg, 3 lb 15 oz with batteries |
| Antennas: | FM/SW telescopic antenna MW/LW ferrite-rod antenna |
| Frequency Ranges: | FM: 87.5–108 MHz (3.43–2.78 m) MW: 530–1,605 kHz (566–187 m) LW: 150–400 kHz (2,000–750 m) SW: 3.9–12 MHz (77–25 m) |
| Intermediate Frequencies: | FM: 10.7 MHz MW/LW/SW: 468 kHz |

SONY[®]
SERVICE MANUAL

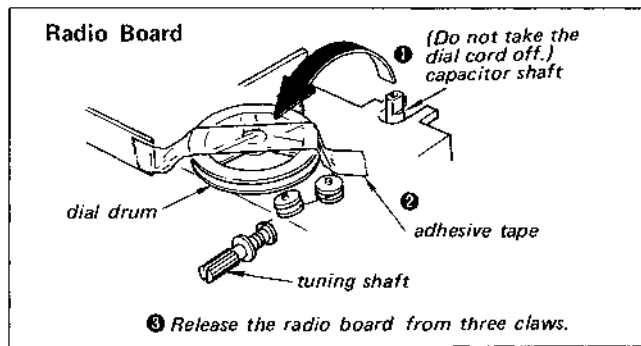
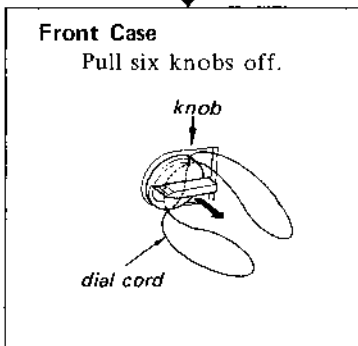
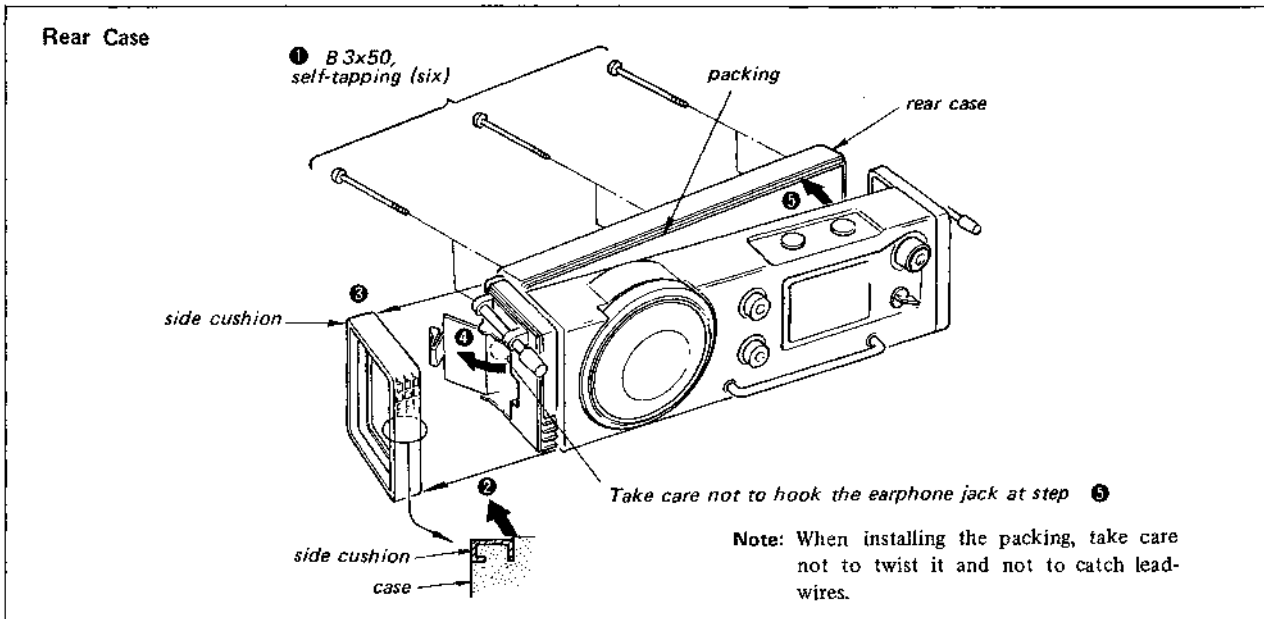
**SECTION 1
OUTLINE**

BLOCK DIAGRAM



SECTION 2 DISASSEMBLY

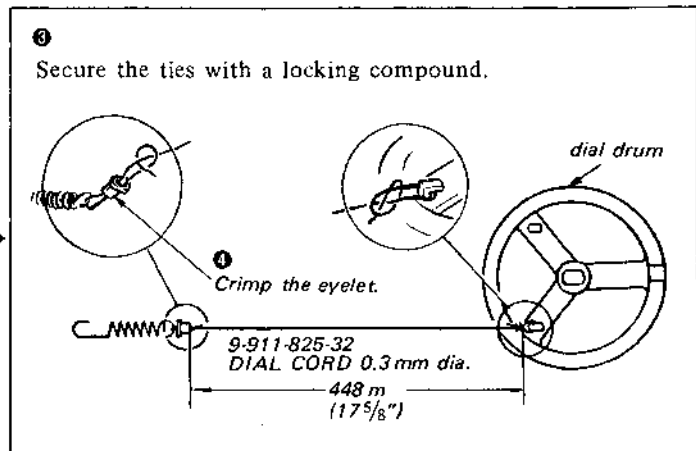
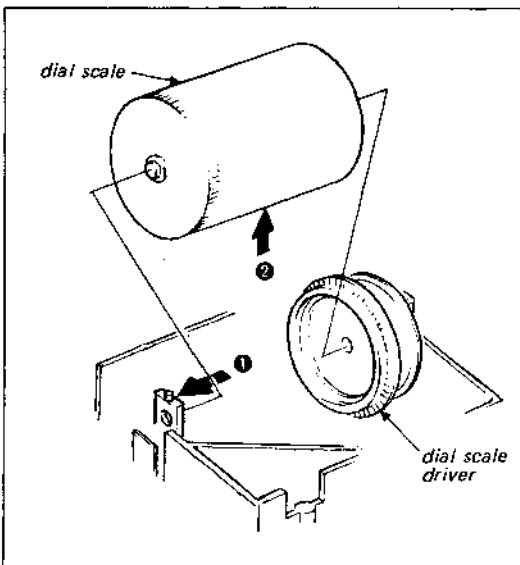
2-1. REMOVALS



2-2. DIAL CORD STRINGING

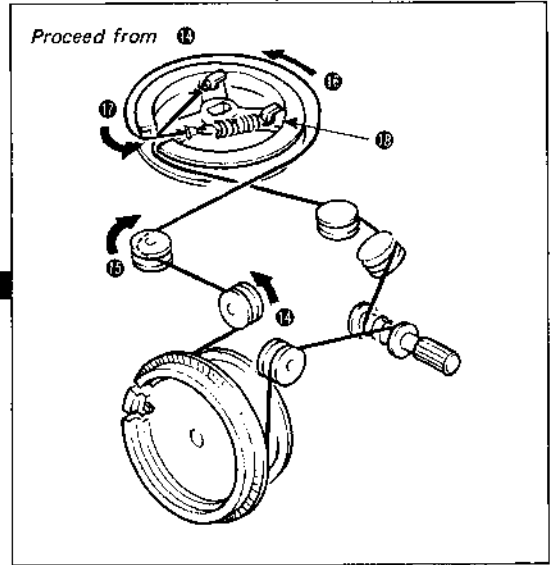
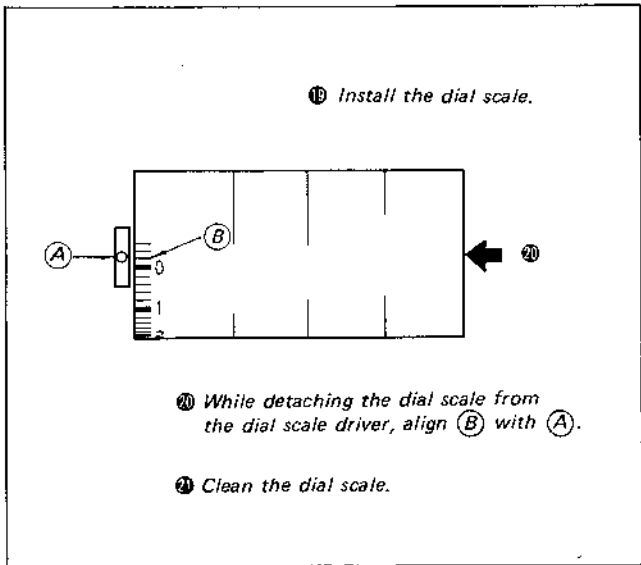
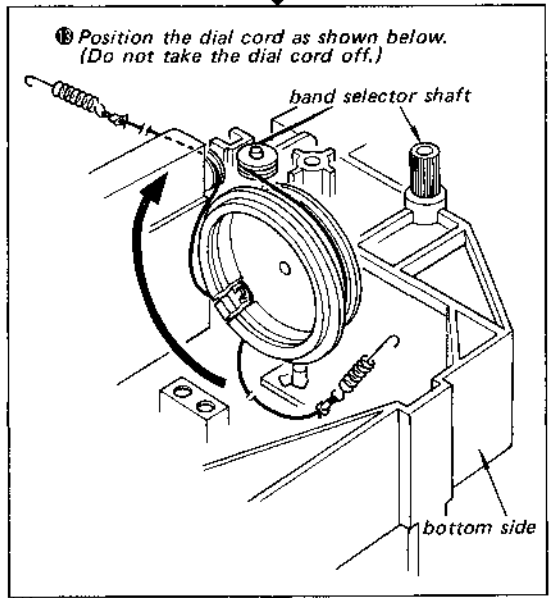
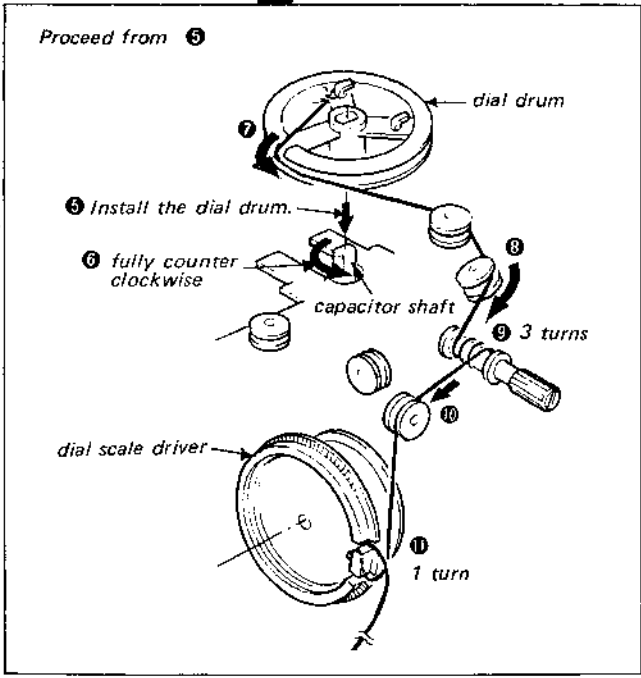
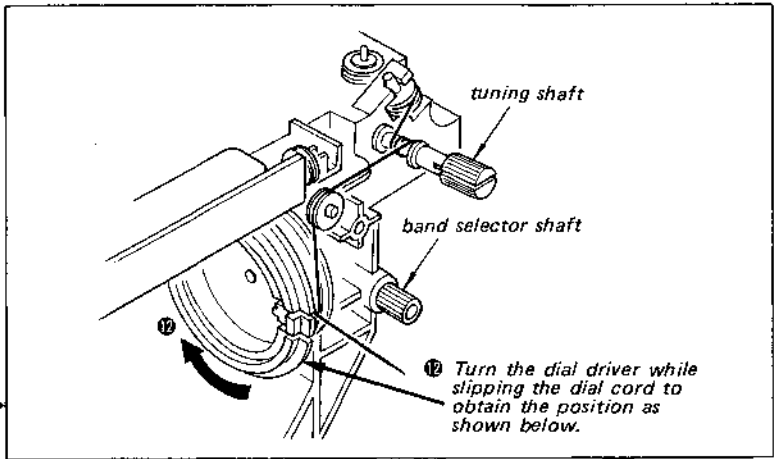
Repair: Audio Amp, Switch and Control Board

2-2. DIAL CORD STRINGING (String the dial cord according to the circled number on pages 3 and 4.)



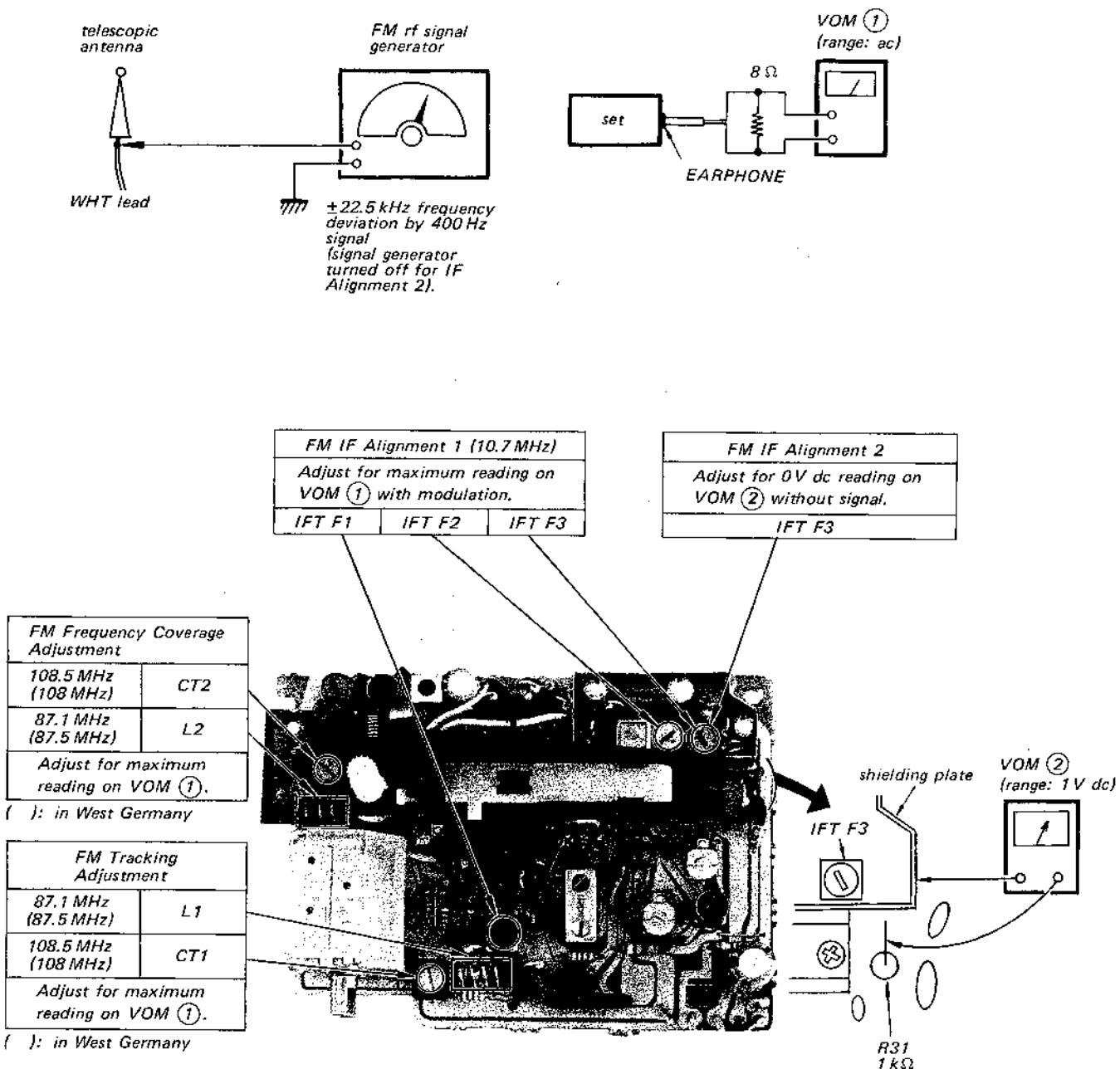
Continued on next page

- Continued from page 3 -



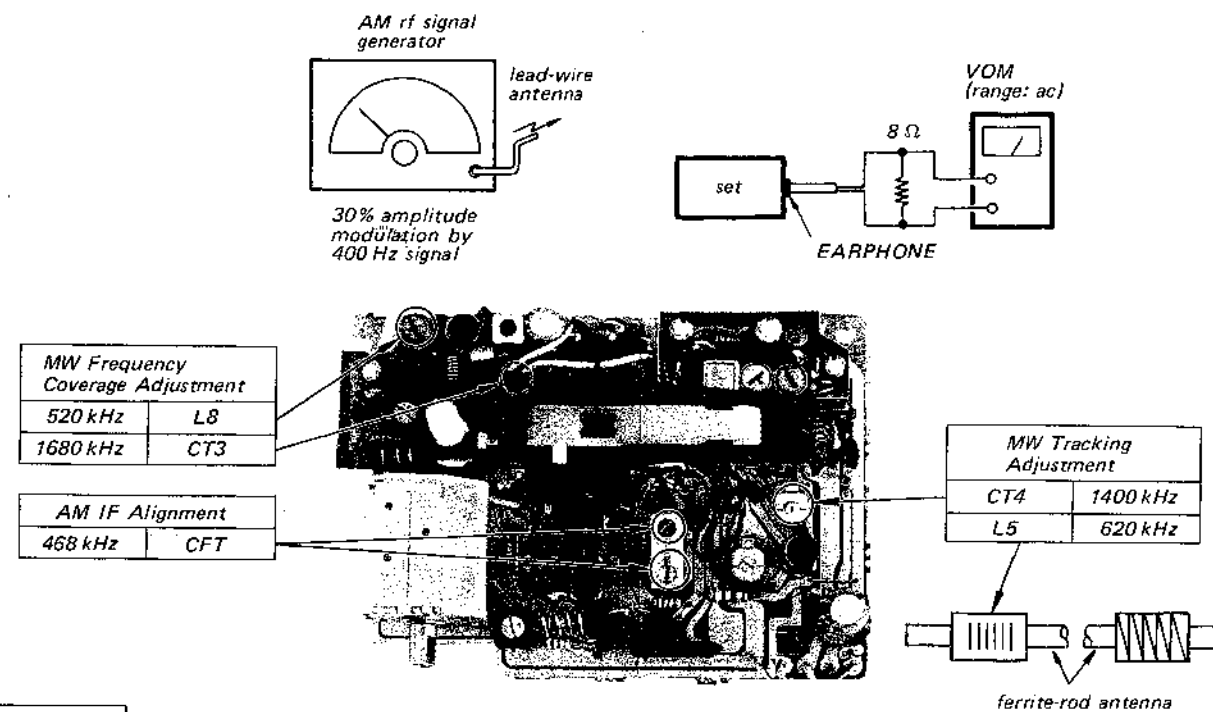
SECTION 3
ADJUSTMENTS

FM



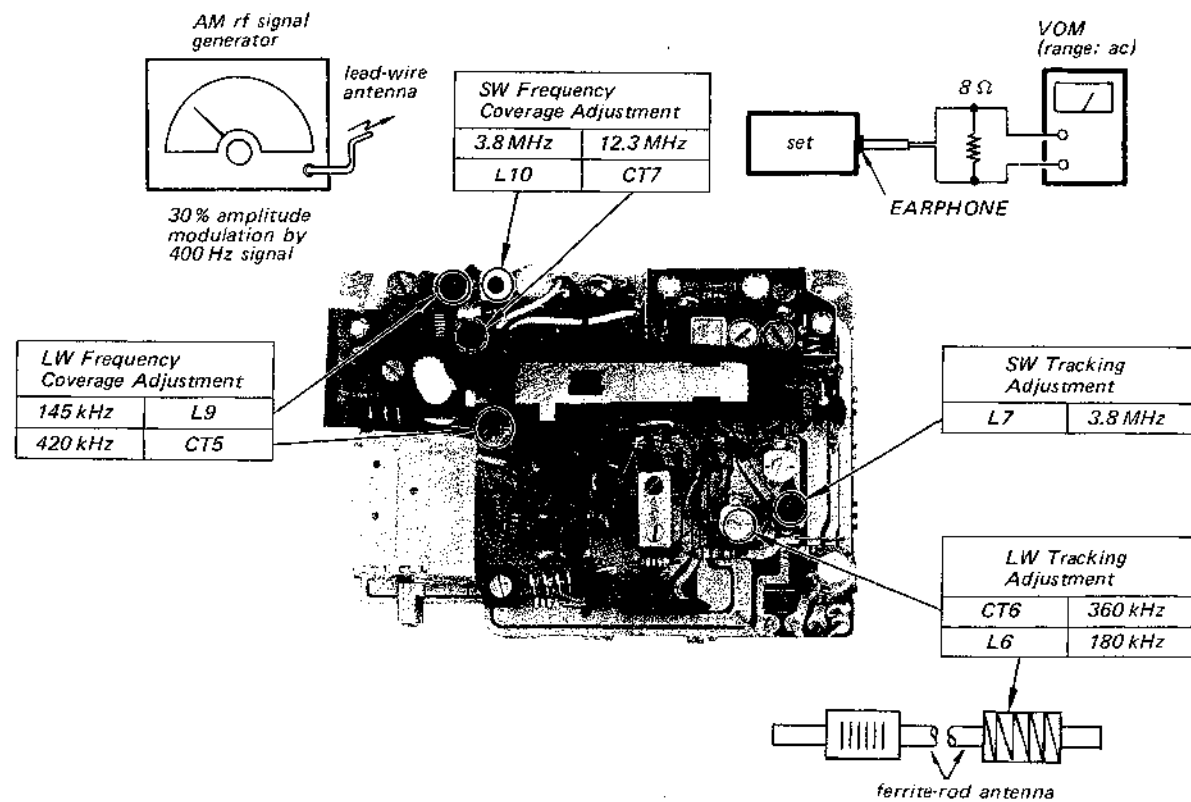
MW and AM IF ALIGNMENT

Adjust for maximum reading on VOM.



SW and LW

Adjust for maximum reading on VOM.



ICF-6000L ICF-6000L

SECTION 4 DIAGRAMS

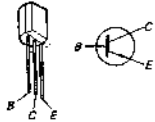
4-1. MOUNTING DIAGRAM

— Conductor Side —

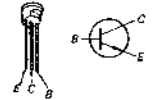
| | | | |
|---|------|---|---|
| Q | 7,8 | 6 | 5 |
| D | VDR1 | | |

| | | | | | |
|----|-----|---|-----|---|---|
| Q | IC2 | | IC1 | 2 | 3 |
| IC | 4 | 3 | 1,4 | 2 | 3 |
| D | 4 | 5 | 2 | 2 | 1 |

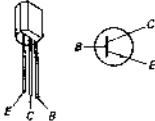
Q1, 2, 4: 2SC1908
D1: 2SC1908



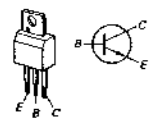
Q3: 2SC668



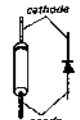
Q5, 6: 2SC1363



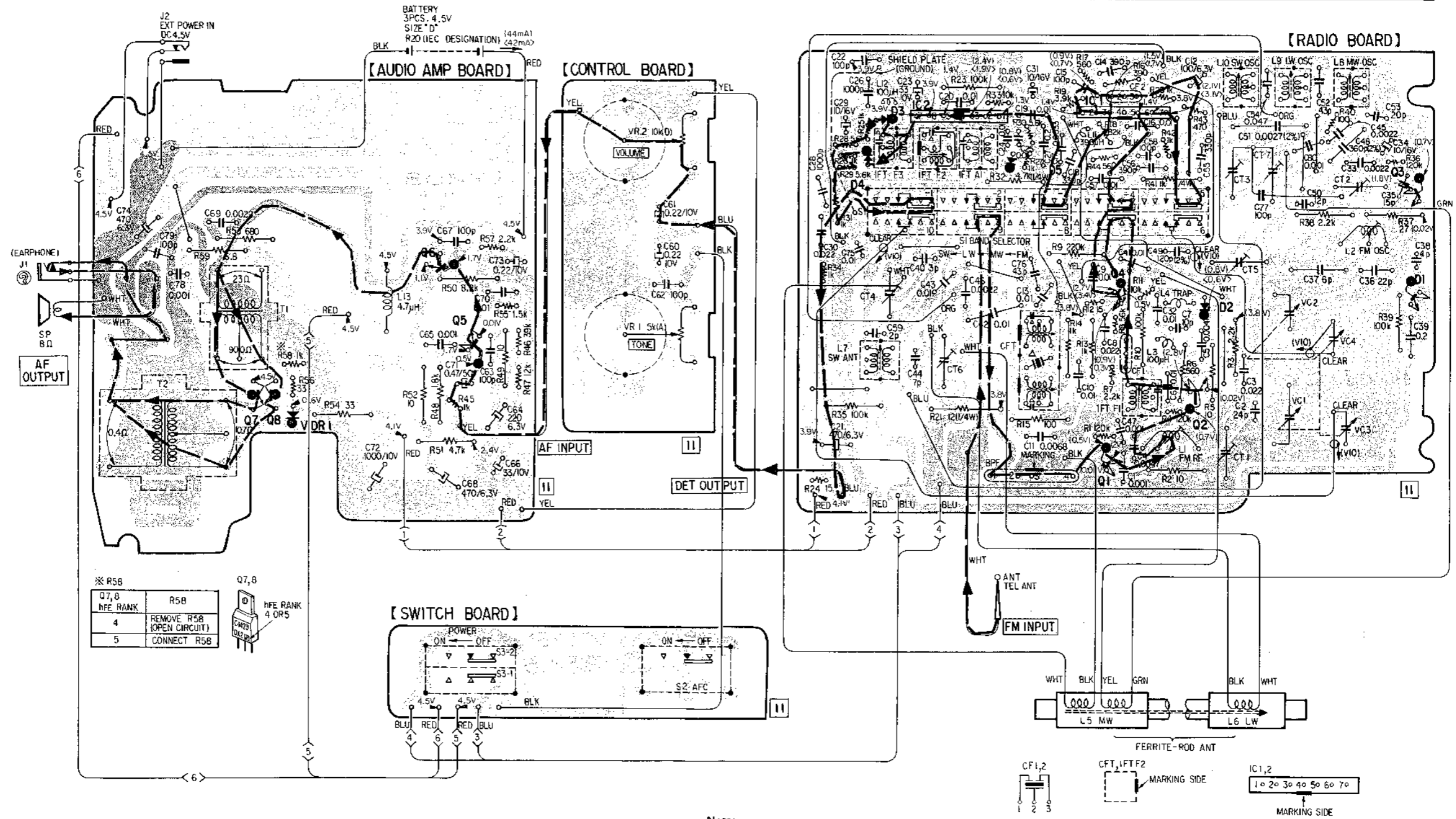
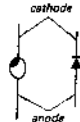
Q7, 8: 2SC1429



D2, 5: 1S1555
D3, 4: 1T22



VDR1: MV5L



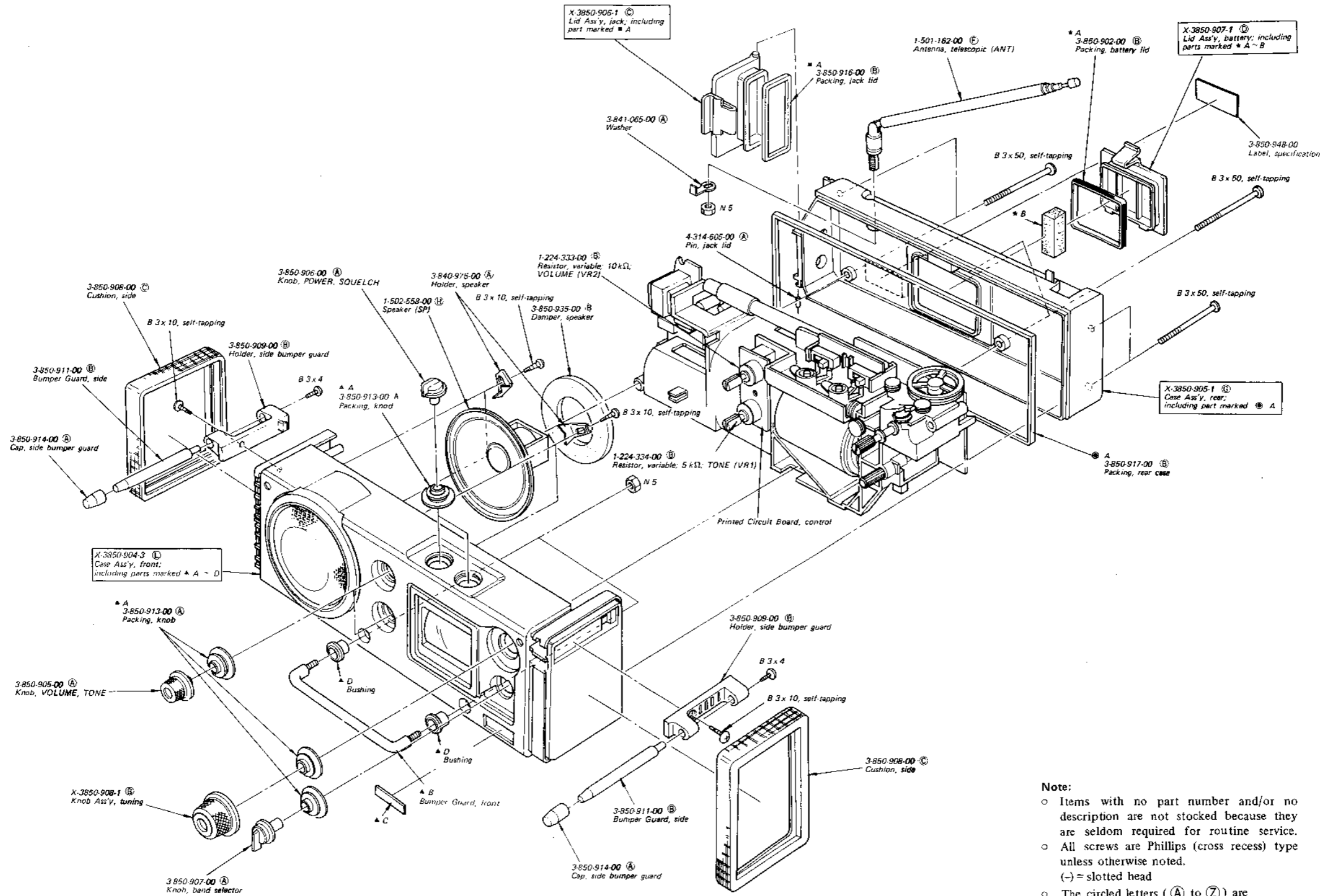
Notes:

- Color in () indicates color of sleeving over the end portion of shielded wire.
- B + pattern
- — signal path
- DC resistance of transformer is measured on the mounted board. The average value is indicated.

ICF-6000L ICF-6000L

SECTION 5 EXPLODED VIEW

5-1.

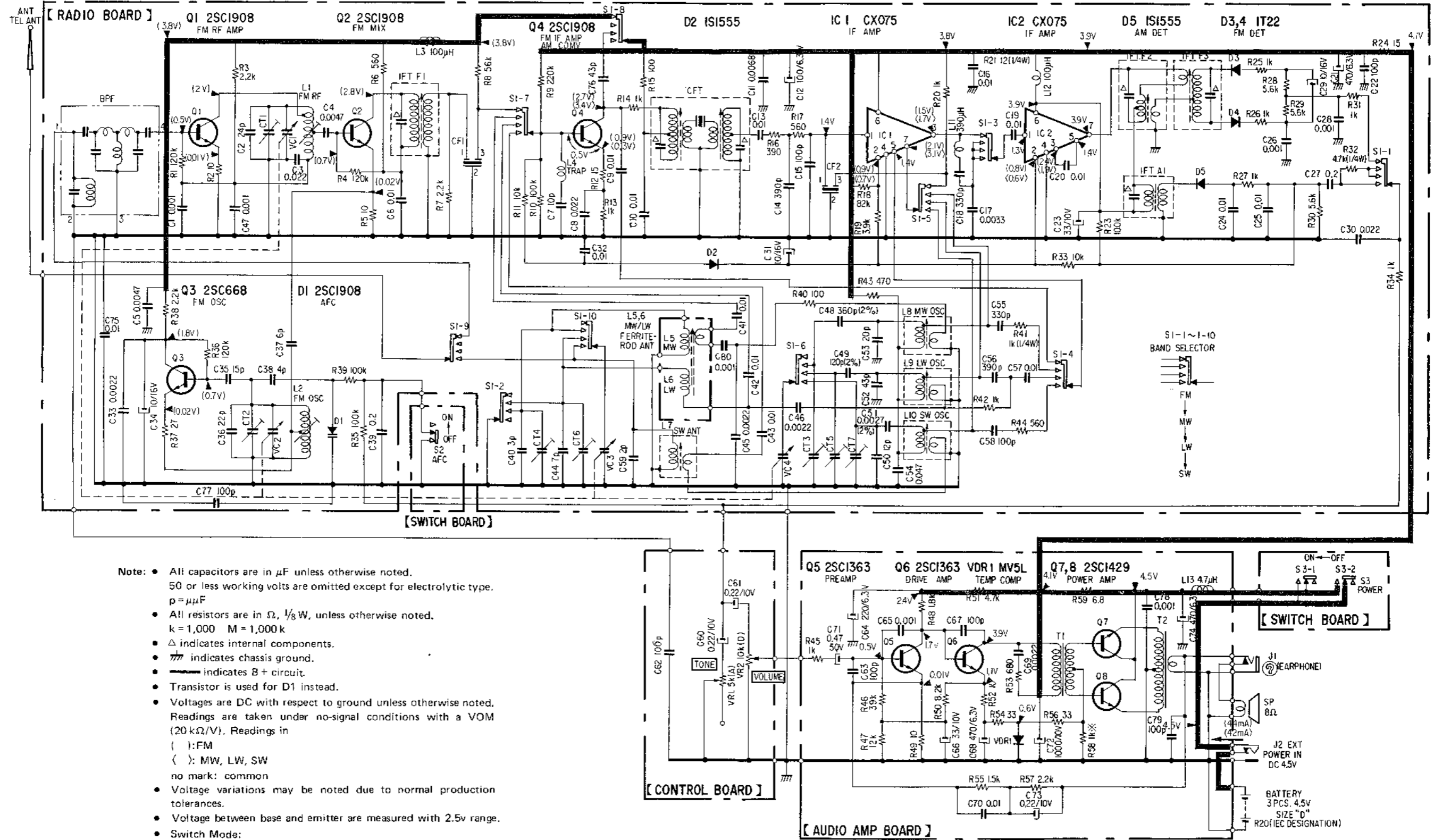


Note:

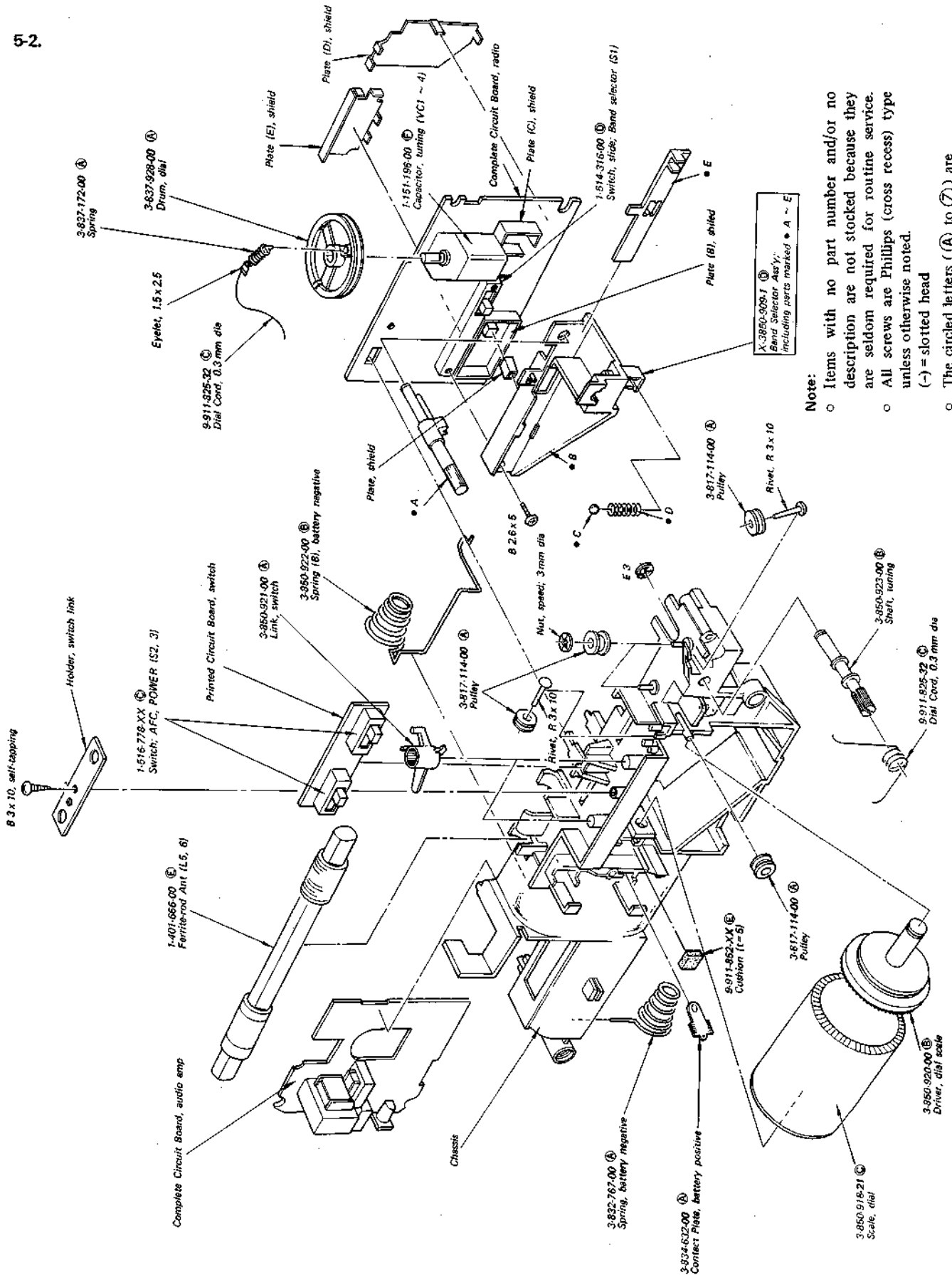
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted.
(-) = slotted head
- The circled letters (A) to (Z) are applicable for European model only.

ICF-6000L ICF-6000L

4-2. SCHEMATIC DIAGRAM



5-2.



X-3850-908-J
Band Selector Assy.
Including parts marked A ~ E

- Note:**
- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
 - All screws are Phillips (cross recess) type unless otherwise noted.
 - (-) = slotted head
 - The circled letters (A) to (Z) are applicable for European model only.

SECTION 6 ELECTRICAL PARTS LIST

◦ The circled letters (A) to (Z) are applicable for European model only.

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> |
|-----------------------|-----------------|--------------------------------------|---|-----------------|-----------------------|
| SEMICONDUCTORS | | | | | |
| Transistors | | | | | |
| Q1 | (B) | 2SC1908 | IFT A1 | 1-403-960-00 | (B) AM IF |
| Q2 | (B) | 2SC1908 | IFT F1 | 1-403-872-00 | (B) FM IF |
| Q3 | (B) | 2SC668 | IFT F2 | 1-403-953-00 | (B) FM Discriminator |
| Q4 | (B) | 2SC1908 | IFT F3 | 1-403-959-00 | (B) FM Discriminator |
| Q5,6 | (B) | 2SC1363 | T1 | 1-423-204-XX | (C) Drive |
| Q7,8 | (C) | 2SC1429 | T2 | 1-427-306-XX | (C) Output |
| IC | | | | | |
| IC1,2 | (D) | CX-075A | FILTERS | | |
| Diodes | | | | | |
| D1 | (B) | 2SC1908 | BPF | 1-231-286-00 | (B) Band Pass |
| D2 | (B) | 1S1555 | CF1,2 | 1-527-184-XX | (B) Ceramic, 10.7 MHz |
| D3,4 | (B) | 1T26 | CAPACITORS | | |
| D5 | (B) | 1S1555 | All capacitors are in μF and of ceramic unless otherwise noted. ($\text{p} = \mu\mu\text{F}$) 50 and/or less working voltages are omitted except for electrolytic type. (elect = electrolytic) | | |
| VDR1 | (B) | MVSL | C1 | 1-102-074-11 | (A) 0.001 |
| COILS | | | | | |
| L1 | 1-425-791-00 | (A) FM RF | C2 | 1-102-960-11 | (A) 24 p |
| L2 | 1-425-792-00 | (A) FM Osc | C3 | 1-101-005-11 | (A) 0.022 |
| L3 | 1-407-169-XX | (A) Microinductor, 100 μH | C4,5 | 1-101-003-11 | (A) 0.0047 |
| L4 | 1-401-495-00 | (B) Trap | C6 | 1-101-004-11 | (A) 0.01 |
| L5,6 | 1-401-666-00 | (E) MW/LW Ferrite-rod Antenna | C7 | 1-102-947-11 | (A) 10 p |
| L7 | 1-401-496-00 | (B) SW Antenna | C8 | 1-101-005-11 | (A) 0.022 |
| L8 | 1-405-520-00 | (B) MW Osc | C9,10 | 1-101-004-11 | (A) 0.01 |
| L9 | 1-405-735-00 | (B) LW Osc | C11 | 1-102-103-11 | (A) 0.0068 |
| L10 | 1-405-672-00 | (B) SW Osc | C12 | 1-121-413-11 | (A) 100 6.3V elect |
| L11 | 1-407-176-XX | (A) Microinductor, 390 μH | C13 | 1-101-004-11 | (A) 0.01 |
| L12 | 1-407-169-XX | (A) Microinductor, 100 μH | C14 | 1-102-113-11 | (A) 390p |
| L13 | 1-407-591-00 | (B) Microinductor, 4.7 μH | C15 | 1-102-975-11 | (A) 100p |
| TRANSFORMERS | | | | | |
| CFT | 1-403-827-00 | (C) AM IF | C16 | 1-101-004-11 | (A) 0.01 |
| | | | C17 | 1-102-123-11 | (A) 0.0033 |
| | | | C18 | 1-102-112-11 | (A) 330p |
| | | | C19,20 | 1-101-004-11 | (A) 0.01 |
| | | | C21 | 1-121-424-11 | (B) 470 6.3V elect |
| | | | C22 | 1-102-975-11 | (A) 100p |
| | | | C23 | 1-121-402-11 | (A) 33 10V elect |

o The circled letters (A to Z) are applicable for European model only.

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | |
|-----------------|-----------------|--------------------|--------------------|
| C24,25 | 1-161-032-11 | (A) 0.01 | boundary layer |
| C26 | 1-101-074-11 | (A) 0.001 | |
| C27 | 1-101-798-11 | (A) 0.2 | |
| C28 | 1-102-074-11 | (A) 0.001 | |
| C29 | 1-121-651-11 | (A) 10 | 16V elect |
| C30 | 1-161-034-11 | (A) 0.022 | boundary layer |
| C31 | 1-121-651-11 | (A) 10 | 16V elect |
| C32 | 1-101-001-11 | (A) 0.01 | |
| C33 | 1-102-110-11 | (A) 0.0022 | |
| C34 | 1-121-651-11 | (A) 10 | 16V elect |
| C35 | 1-102-951-11 | (A) 15p | |
| C36 | 1-102-805-11 | (A) 22p | |
| C37 | 1-102-943-11 | (A) 6p | |
| C38 | 1-102-941-11 | (A) 4p | |
| C39 | 1-101-798-11 | (A) 0.2 | boundary layer |
| C40 | 1-102-940-11 | (A) 3p | |
| C41~43 | 1-101-004-11 | (A) 0.01 | |
| C44 | 1-102-944-11 | (A) 7p | |
| C45,46 | 1-102-121-11 | (A) 0.0022 | |
| C47 | 1-102-074-11 | (A) 0.001 | |
| C48 | 1-107-231-11 | (A) 360p | silvered mica |
| C49 | 1-107-087-11 | (A) 120p | 2% silvered mica |
| C50 | 1-102-288-11 | (A) 12p | |
| C51 | 1-103-735-11 | (A) 0.0027 | 2% styrol |
| C52 | 1-102-727-11 | (A) 43p | |
| C53 | 1-102-958-11 | (A) 20p | |
| C54 | 1-161-036-11 | (A) 0.047 | 25V boundary layer |
| C55 | 1-102-832-11 | (A) 330p | |
| C56 | 1-102-834-11 | (A) 390p | |
| C57 | 1-101-004-11 | (A) 0.01 | |
| C58 | 1-102-975-11 | (A) 100p | |
| C59 | 1-102-939-11 | (A) 2p | |
| C60,61 | 1-127-020-11 | (B) 0.22 | 10V solid aluminum |
| C62,63 | 1-102-975-11 | (A) 100p | |
| C64 | 1-121-419-11 | (B) 220 | 6.3V elect |
| C65 | 1-102-074-11 | (A) 0.001 | |
| C66 | 1-121-402-11 | (A) 33 | 10V elect |
| C67 | 1-102-975-11 | (A) 100p | |
| C68 | 1-121-424-11 | (B) 470 | 6.3V elect |
| C69 | 1-102-100-11 | (A) 0.0022 | |
| C70 | 1-101-118-11 | (A) 0.01 | |

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | |
|-----------------|-----------------|--------------------|--------------------|
| C71 | 1-121-726-11 | (A) 0.47 | 50V elect |
| C72 | 1-121-736-11 | (B) 1000 | 10V elect |
| C73 | 1-127-020-11 | (B) 0.22 | 10V solid aluminum |
| C74 | 1-121-424-11 | (B) 470 | 6.3V elect |
| C75 | 1-161-032-11 | (A) 0.01 | 25V boundary layer |
| C76 | 1-102-966-11 | (A) 43p | |
| C77 | 1-102-975-11 | (A) 100p | |
| C78 | 1-102-074-11 | (A) 0.001 | |
| C79 | 1-102-975-11 | (A) 100p | |
| C80 | 1-102-074-11 | (A) 0.001 | |
| CT1,2 | 1-141-138-XX | (B) Trimer | |
| CT3,7 | 1-141-146-XX | (B) Trimer | |
| CT4~6 | 1-141-138-XX | (B) Trimer | |
| VC1~4 | 1-151-196-00 | (F) Tuning | |

RESISTORS

All resistors are in Ω , $\frac{1}{8}W$ and of carbon unless otherwise noted. Regular-type $\frac{1}{4}W$ carbon resistors are omitted. Check the schematic diagram for the resistance values. (k=1000)

| | | |
|--------|--------------|-----------|
| R1 | 1-246-523-11 | (A) 120 k |
| R2 | 1-246-425-11 | (A) 10 |
| R3 | 1-246-481-11 | (A) 2.2 k |
| R4 | 1-246-523-11 | (A) 120 k |
| R5 | 1-246-425-11 | (A) 10 |
| R6 | 1-246-467-11 | (A) 560 |
| R7 | 1-246-481-11 | (A) 2.2 k |
| R8 | 1-246-515-11 | (A) 56 k |
| R9 | 1-246-529-11 | (A) 220 k |
| R10 | 1-246-521-11 | (A) 100 k |
| R11 | 1-246-497-11 | (A) 10 k |
| R12 | 1-246-429-11 | (A) 15 |
| R13,14 | 1-246-473-11 | (A) 1 k |
| R15 | 1-246-449-11 | (A) 100 |
| R16 | 1-246-463-11 | (A) 390 |
| R17 | 1-246-467-11 | (A) 560 |
| R18 | 1-246-519-11 | (A) 82 k |
| R19 | 1-246-487-11 | (A) 3.9 k |
| R20 | 1-246-473-11 | (A) 1 k |
| R23 | 1-246-521-11 | (A) 100 k |
| R24 | 1-246-429-11 | (A) 15 |

◦ The circled letters (A to Z) are applicable for European model only.

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> |
|-----------------|-----------------|---------------------------------------|
| R25~27 | 1-246-473-11 | (A) 1 k |
| R28~30 | 1-246-491-11 | (A) 5.6 k |
| R31 | 1-246-473-11 | (A) 1 k |
| R33 | 1-246-497-11 | (A) 10 k |
| R34 | 1-246-473-11 | (A) 1 k |
| R35 | 1-246-521-11 | (A) 100 k |
| R36 | 1-246-523-11 | (A) 120 k |
| R37 | 1-246-435-11 | (A) 27 |
| R38 | 1-246-481-11 | (A) 2.2 k |
| R39 | 1-246-521-11 | (A) 100 k |
| R40 | 1-246-449-11 | (A) 100 |
| R42 | 1-246-473-11 | (A) 1 k |
| R43 | 1-246-465-11 | (A) 470 |
| R44 | 1-246-467-11 | (A) 560 |
| R45 | 1-246-473-11 | (A) 1 k |
| R46 | 1-246-511-11 | (A) 39 k |
| R47 | 1-246-499-11 | (A) 12 k |
| R48 | 1-246-479-11 | (A) 1.8 k |
| R49 | 1-246-425-11 | (A) 10 |
| R50 | 1-246-495-11 | (A) 8.2 k |
| R51 | 1-246-489-11 | (A) 4.7 k |
| R52 | 1-246-425-11 | (A) 10 |
| R53 | 1-246-469-11 | (A) 680 |
| R54 | 1-246-437-11 | (A) 33 |
| R55 | 1-246-477-11 | (A) 1.5 k |
| R56 | 1-246-437-11 | (A) 33 |
| R57 | 1-246-481-11 | (A) 2.2 k |
| R58 | 1-246-473-11 | (A) 1 k |
| R59 | 1-246-421-11 | (A) 6.8 |
| VR1 | 1-224-334-00 | (B) Resistor, variable; 5 kΩ; TONE |
| VR2 | 1-224-333-00 | (B) Resistor, variable; 10 kΩ; VOLUME |

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> |
|-----------------|-----------------|------------------------|
| SWITCHES | | |
| S1 | 1-514-316-00 | (D) Slide, band select |
| S2,3 | 1-516-778-XX | (C) Slide, AFC; POWER |

| JACKS | | |
|--------------|--------------|--------------------------|
| J1 | 1-507-398-00 | (B) EARPHONE |
| J2 | 1-507-459-00 | (B) EXT POWER IN DC 4.5V |

| MISCELLANEOUS | | |
|----------------------|--------------|-------------------------|
| ANT | 1-501-162-00 | (F) Antenna, telescopic |
| SP | 1-502-558-00 | (H) Speaker |

| ACCESSORIES | |
|--------------------|--------------------------|
| <u>Part No.</u> | <u>Description</u> |
| X-3850-903-0 | (F) Shoulder Strap Ass'y |
| 1-504-059-00 | (C) Earphone, ME-20H |
| 3-995-746-11 | (B) Manual, instruction |