



Set using ISO screws

CRF-5090

*GEP Model
General Export Model*



SPECIFICATIONS

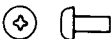
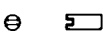
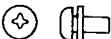




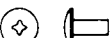
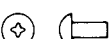

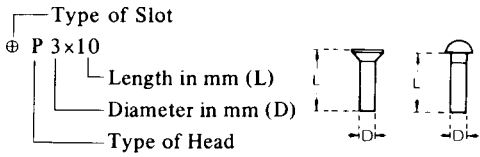
| | | | |
|--|---|--|---|
| Circuit System: | 13-transistor 10-diode superheterodyne 7-transistors for auxiliary circuit | Selectivity at ± 10 kHz off-resonance: | 35 dB at 1,400 kHz |
| Frequency Coverage: | AIR 108 – 136 MHz (2.78 – 2.2 m) FM 87.5 – 108 MHz (3.42 – 2.78 m) LW 150 – 400 kHz (2000 – 750 m) MW 530 – 1,605 kHz (566 – 187 m) SW1 1.6 – 3.5 MHz (187 – 86 m) SW2 3.5 – 9.0 MHz (86 – 33 m) SW3 9.0 – 14.0 MHz (33 – 21 m) SW4 14 – 21 MHz (21 – 14 m) SW5 21 – 26 MHz (14 – 11 m) | Power Output at 10 % distortion: maximum: | 1.8 W 2.7 W |
| Intermediate Frequency: | FM/AIR 10.7 MHz LW/MW/SW 455 kHz | Current Drain at zero signal: maximum: | FM 40 mA, MW 35 mA 320 mA |
| Antenna System: | FM/AIR telescopic antenna or external antenna (impedance 75Ω) LW/MW built-in ferrite bar antenna or external antenna (high impedance) SW telescopic antenna or external antenna (impedance 75Ω) | Power Requirement: | DC eight "D" size flashlight batteries 12 volts or car battery by using SONY car battery cord DCC-2AW AC house current 100 V, 120 V, 220 V or 240 VAC; 50/60 Hz |
| Sensitivity at 50 mW output, S/N 6 dB: | AIR $0.9 \mu\text{V}$ (–1 dB) FM $0.7 \mu\text{V}$ (–3 dB) LW $63 \mu\text{V/m}$ (36 dB/m) MW $24 \mu\text{V/m}$ (27 dB/m) SW1 $1.2 \mu\text{V}$ (1 dB) SW2 $1 \mu\text{V}$ (0 dB) SW3 $1 \mu\text{V}$ (0 dB) SW4 $1.2 \mu\text{V}$ (1 dB) SW5 $1.3 \mu\text{V}$ (2 dB) | Speaker: | 10 cm x 15 cm (4" x 6"), 8Ω |
| | | Dimensions: | 340 mm (W) x 230 mm (H) x 160 mm (D) (13 $\frac{3}{8}$ " x 9 $\frac{1}{16}$ " x 6 $\frac{5}{16}$ ") |
| | | Weight: | 6.6 kg (14 lb 9 oz) overall with batteries |

SONY®
SERVICE MANUAL

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Hardware Nomenclature

| | | | |
|---|---|--|---|
| P — Pan Head Screw |  | SC — Set Screw |  |
| PS — Pan Head Screw with Spring Washer |  | E — Retaining Ring (E Washer) |  |
| K — Flat Countersunk Head Screw |  | W — Washer | |
| B — Binding Head Screw |  | SW — Spring Washer | |
| RK — Oval Countersunk Head Screw |  | LW — Lock Washer | |
| T — Truss Head Screw |  | N — Nut | |
| R — Round Head Screw |  | — Example — | |
| F — Flat Fillister Head Screw |  | Type of Slot | |
| | |  | |

When ordering replacement parts, you should use PART NUMBER listed on the Parts List or shown in the EXPLODED VIEW. The reference number should not be used for ordering purposes.

**SECTION 1
OUTLINE**

1-1. BLOCK DIAGRAM

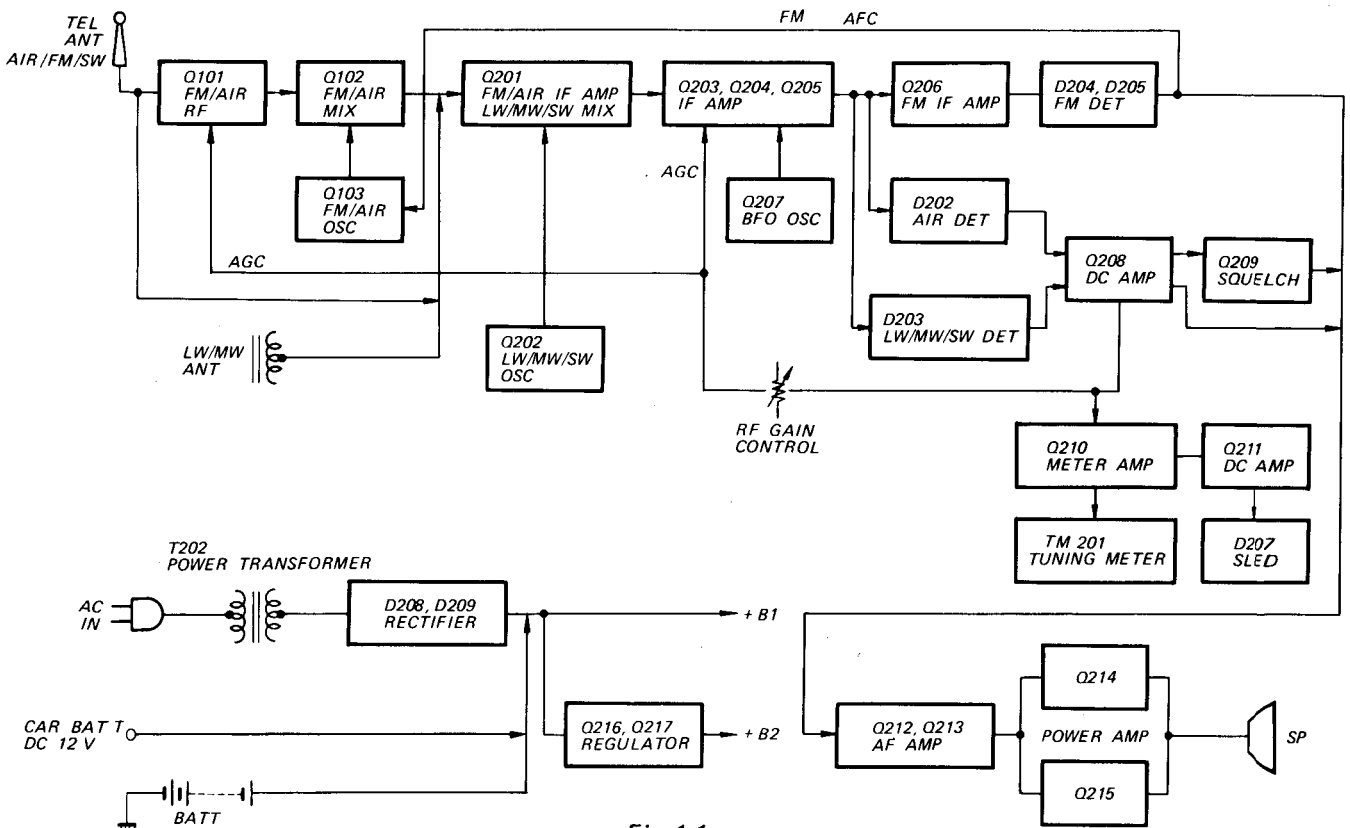
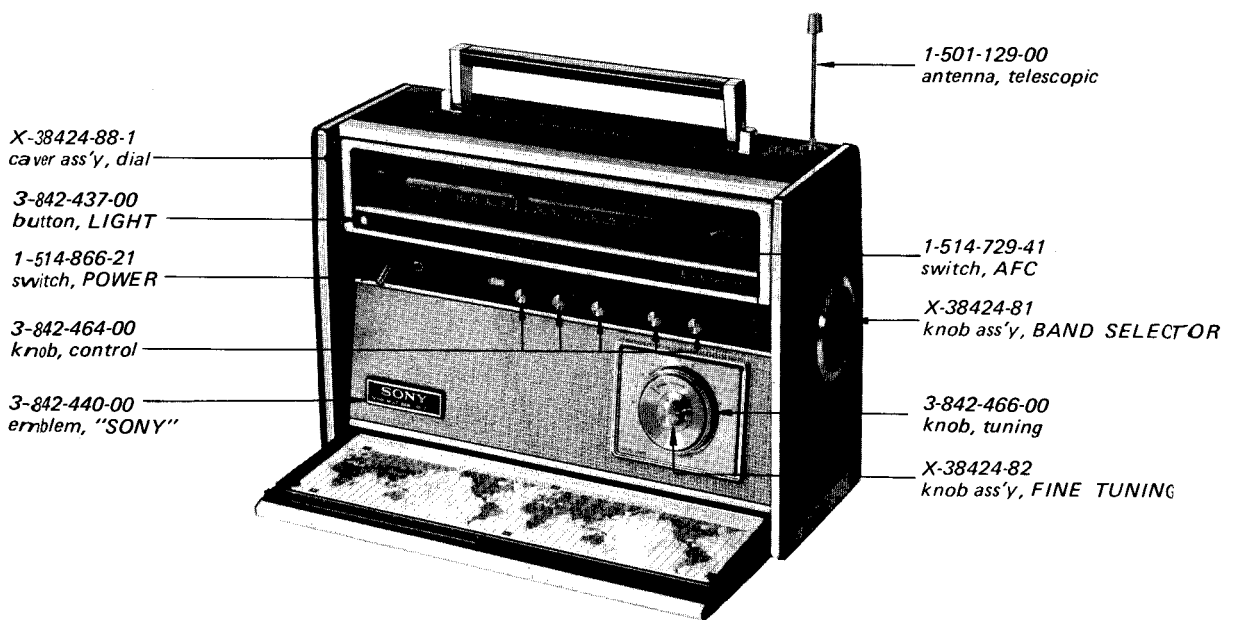


Fig. 1-1.

1-2. EXTERNAL VIEW



**SECTION 2
DISASSEMBLY AND REASSEMBLY**

2-1. FRONT PANEL REMOVAL

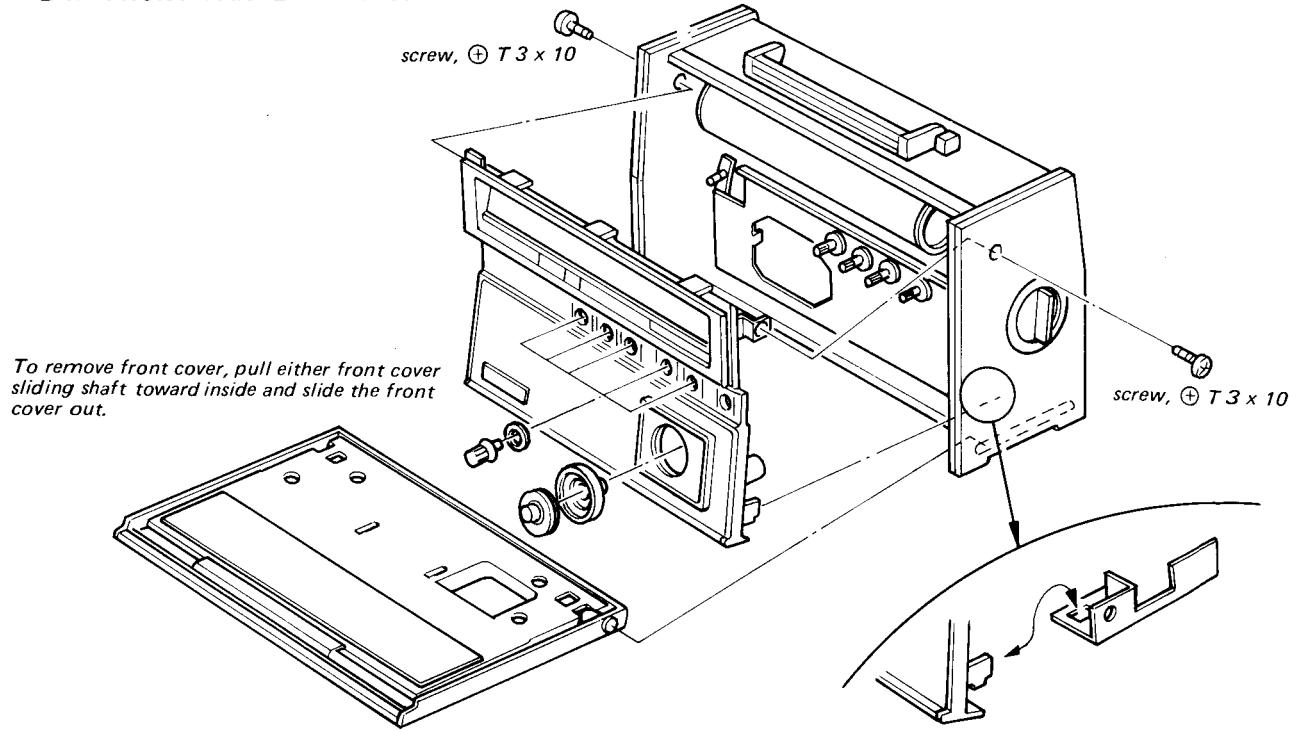


Fig. 2-1.

2-2. CHASSIS REMOVAL

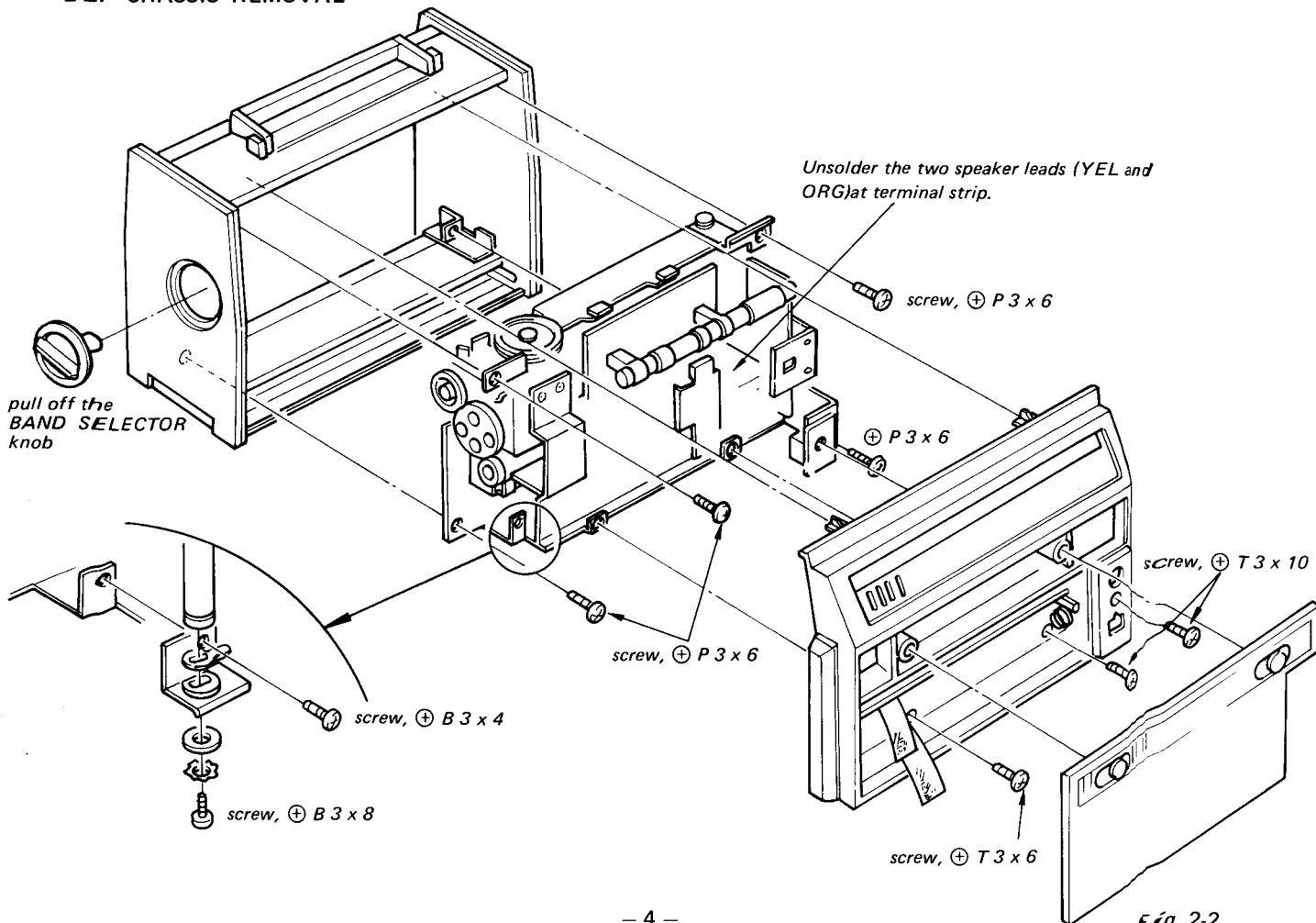


Fig. 2-2.

2-3. FM FRONT END REMOVAL

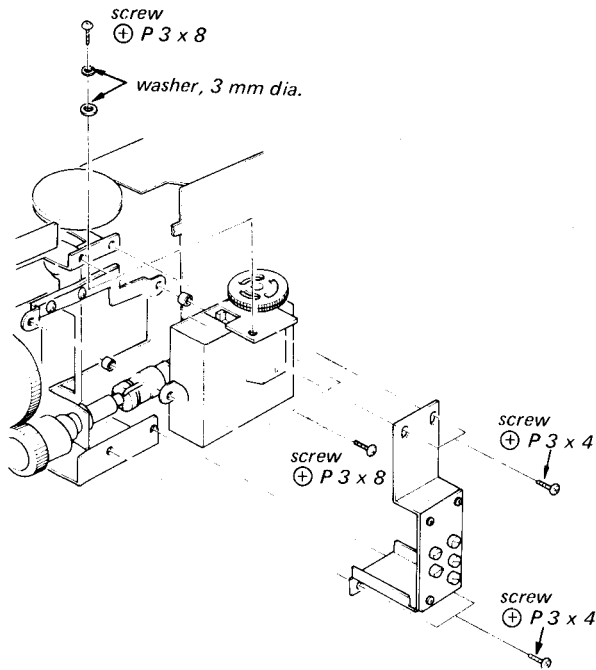


Fig. 2-3.

2-4. FM FRONT END REASSEMBLY

1. Rotate the dial drum fully clockwise and the double gear ass'y fully counterclockwise.
2. Attach the FM/AIR selector lever A on the FM/AIR selector switch.
3. Set the FM front end with three screws. See Fig. 2-3. above.

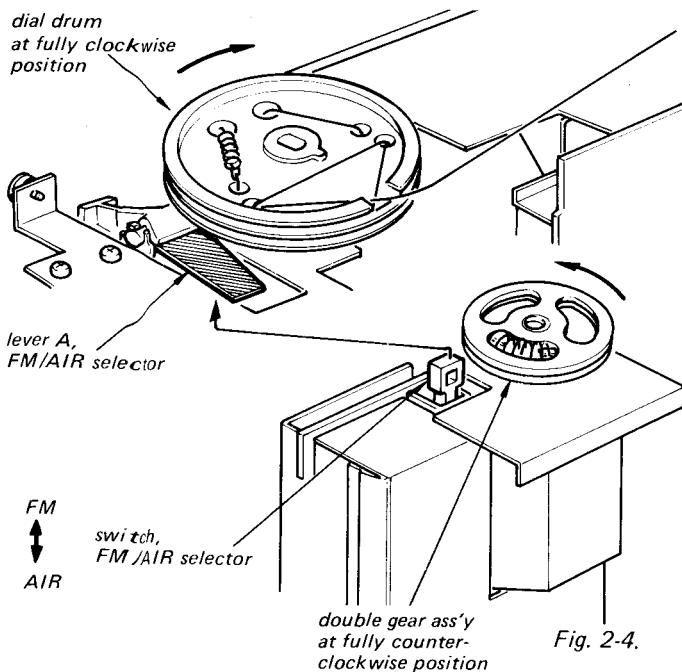


Fig. 2-4.

2-5. DIAL SCALE REASSEMBLY

1. Rotate the BAND SELECTOR knob fully clockwise.
2. Be sure that FM/AIR selector lever B is pushed upwards and that FM/AIR selector switch is pushed downwards. If not, remove the BAND SELECTOR knob and gear B and readjust the shaft of gear A by rotating idler.
3. Set the dial drum so that it shows AIR band and that the tip of the pointer is on the line of AIR band as shown in Fig. 2-6.

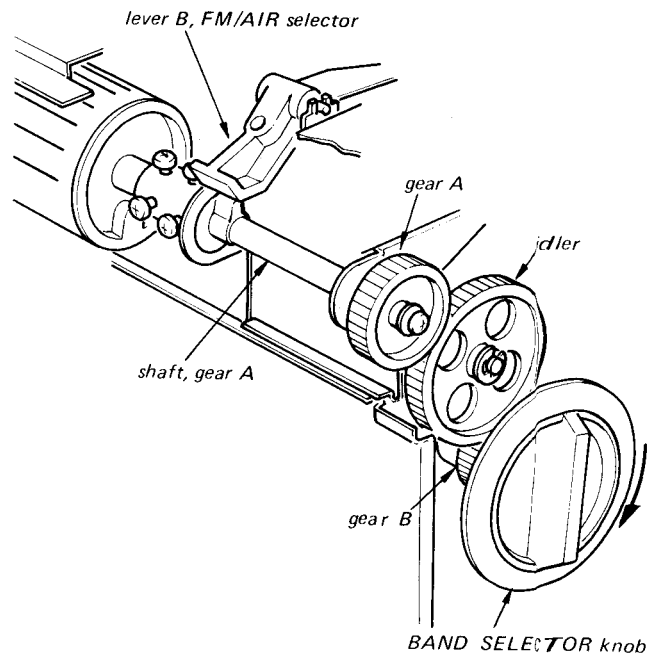


Fig. 2-5.

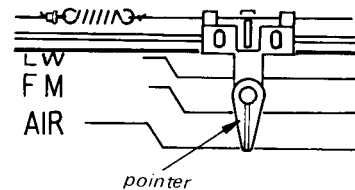


Fig. 2-6.

2-6. CIRCUIT BOARD REMOVAL

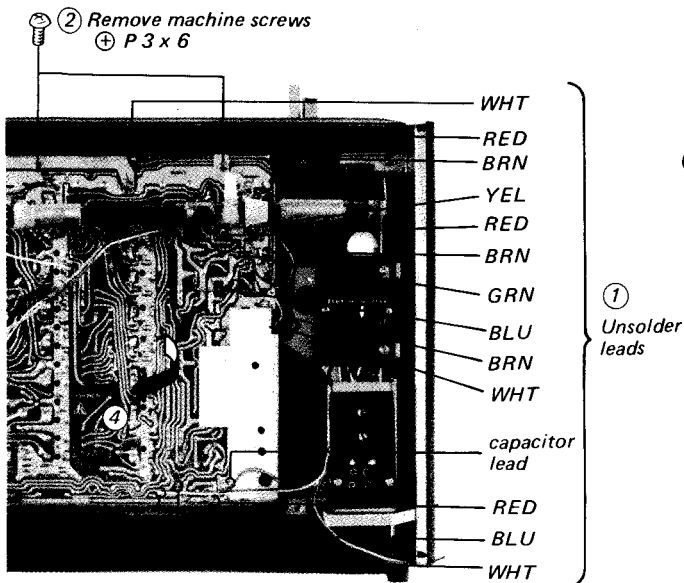
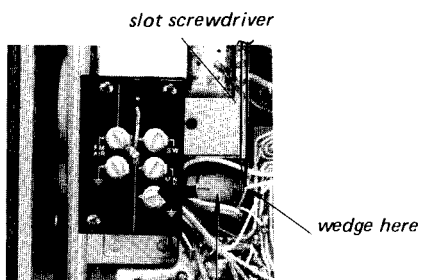


Fig. 2-7.



3-842-488
③ Remove connector A from band selector switch shaft by wedging.

Fig. 2-8.

2-7. DIAL CORD STRINGING

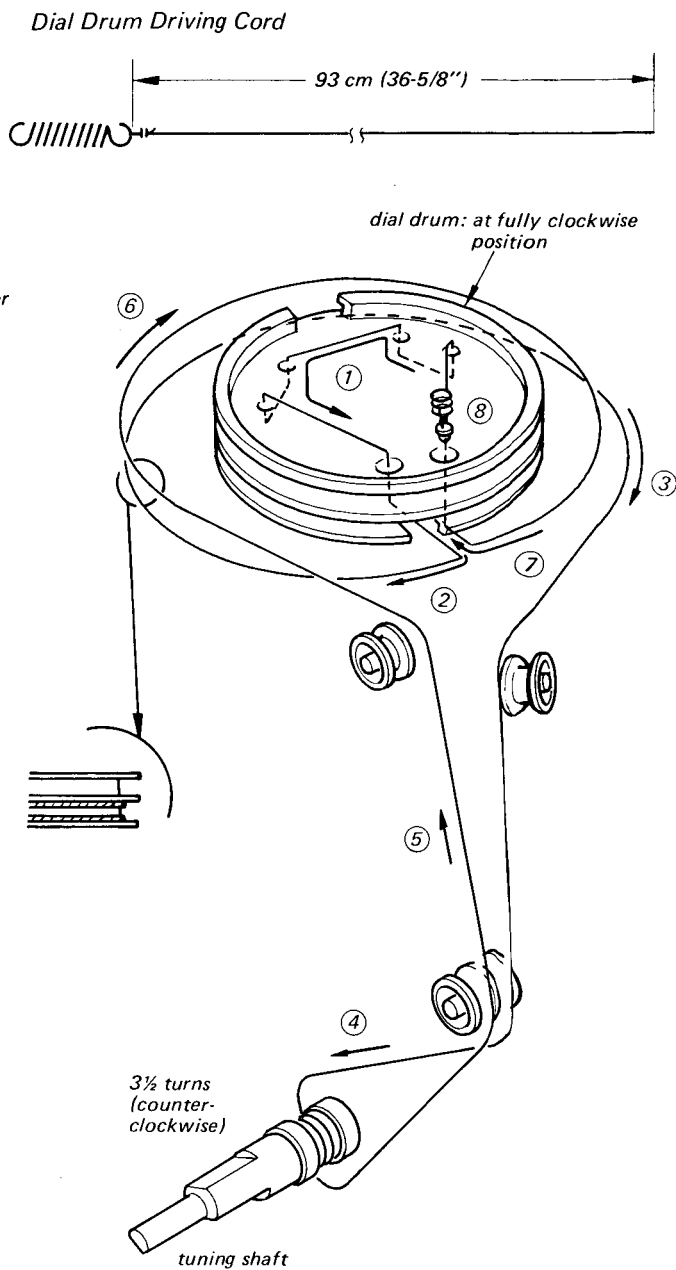


Fig. 2-9.

Pointer Driving Cord

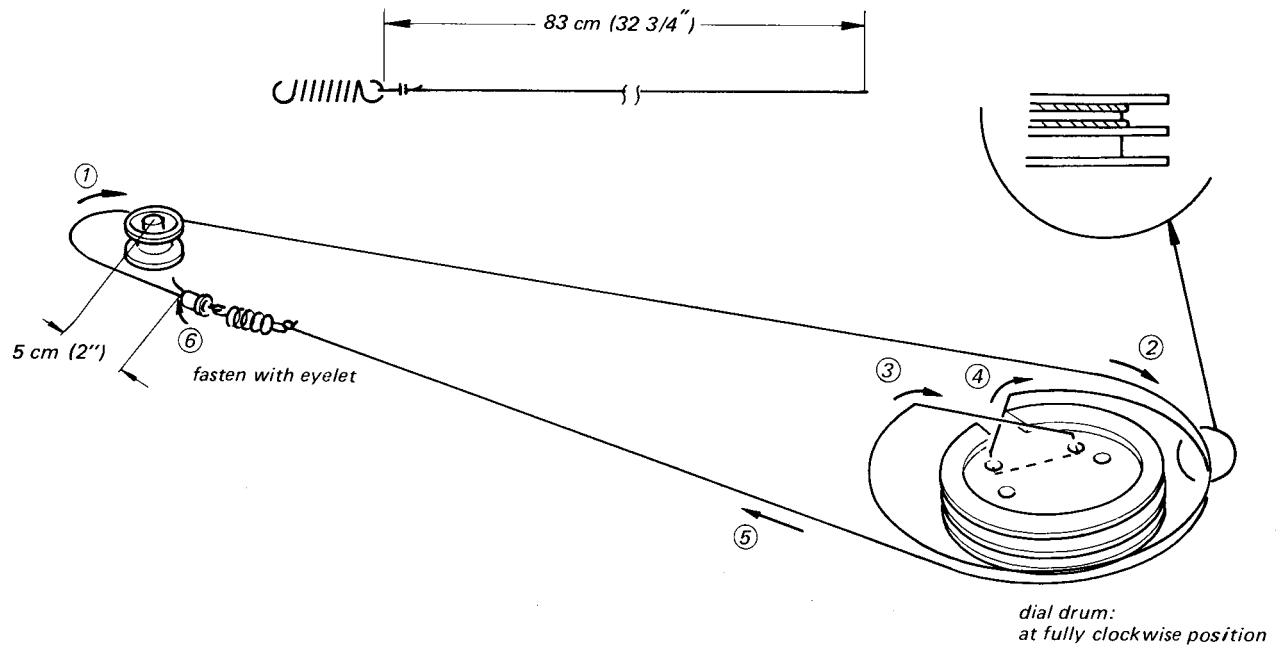


Fig. 2-10.

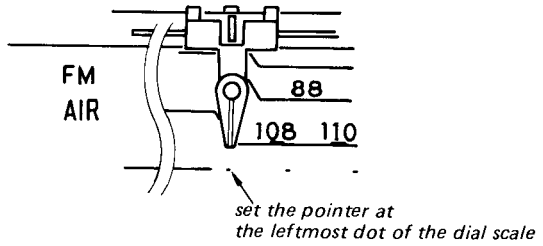


Fig. 2-11.

SECTION 3 CIRCUIT ADJUSTMENTS

Test Equipment/Tools Required:

- Rf signal generator (for FM and AM)
- Loop antenna
- VTVM
- 8 Ω resistor
- 0.01 μF ceramic capacitor
- Screwdriver for alignment

Modulation:

- FM 400 Hz, ±22.5 kHz frequency-modulated signal
- AM 400 Hz, 30% amplitude-modulated signal

Preparation

VTVM Connection:

To EARPHONE jack with 8 Ω load resistor in parallel

- VOLUME Control Setting: Mechanical mid position
- TONE Control Setting: Mechanical mid position
- AFC Switch: OFF
- BFO Control Setting: OFF
- RF Gain Control Setting: NORMAL
- SQUELCH Control Setting: Fully counterclockwise position

3-1. FM I-F ALIGNMENT

Setup is shown in Fig. 3-1.

Set the BAND SELECTOR to FM.

Connect the rf signal generator to the FM/AIR ext ant terminals after detaching antenna lug as shown in Fig. 3-2.

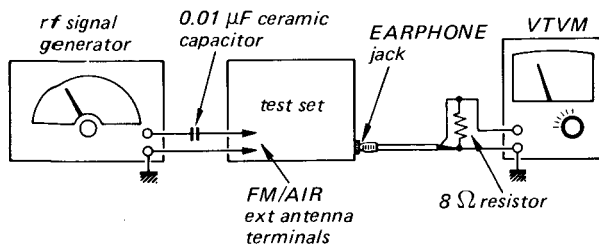


Fig. 3-1. FM/AIR i-f alignment, frequency coverage and tracking adjustment setup

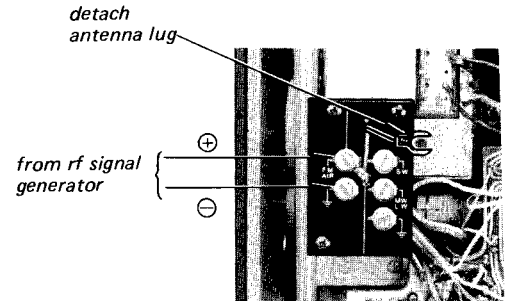


Fig. 3-2. Rf signal generator coupling

| Rf Signal Generator Frequency | Rf Signal Modulation | Adjust | Remarks |
|-------------------------------|---------------------------------|---|---|
| 10.7 MHz | 400 Hz, 30% AM modulation | IFT F-4 See Fig. 3-6. | Adjust for minimum meter reading ^(*1) . |
| 10.7 MHz | 400 Hz, ±22.5 kHz FM modulation | IFT F-1 IFT F-2 ^(*2) IFT F-3 See Fig. 3-4 and Fig. 3-6. | Set the tuning knob at the best signal position. Adjust for maximum meter reading. |

Note:*1. Minimum output will be observed at both extremes of the discriminator. The real null point will be obtained in the middle of the core thread length and maximum output will be obtained at both sides of the true null point. Slowly and carefully turn the core to obtain minimum output.

*2. IFT F-2 is unable to adjust from rear part of the set. Remove the front panel and adjust IFT F-2 from front part. (See Fig. 3-4).

3-2. AM I-F ALIGNMENT

AM i-f alignment can be eliminated except when necessary. The ceramic filter CFT is factory preset and i-f transformer IFT A1 is shielded by shield case. The intermediate frequency of the set is characterized by the ceramic filter because a ceramic filter has a peculiar vibrating frequency which depends on its size.

Preparation:

- POWER switch : ON
- BAND SELECTOR : MW
- BFO switch : OFF
- Rf Signal Generator Coupling:
Loop antenna (See Fig. 3-3)
- Modulation:
400 Hz 30% amplitude-modulated signal

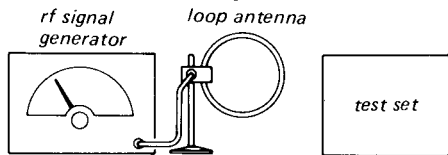


Fig. 3-3. AM i-f alignment and bfo osc coil adjustment setup

Modulate the rf signal with 400 Hz AM modulation. Vary the rf signal around 455 kHz to find i-f frequency of the set. The dial of the rf signal generator shows i-f frequency of the set when the output power of the speaker becomes maximum. If the peak of the output power is not found around 455 kHz, adjust the ceramic filter cores after removing front panel and dial drum as shown in Fig. 3-4.

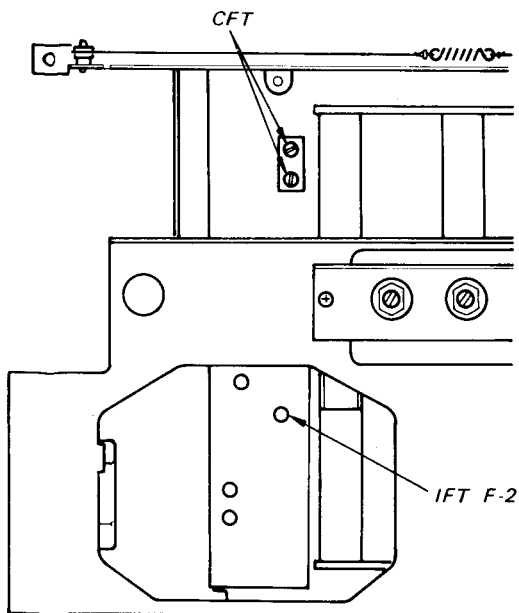


Fig. 3-4. Adjustment locations

3-3. BFO OSC COIL ADJUSTMENT

Preparation:

- POWER switch: ON
- BAND SELECTOR: MW
- BFO switch: ON
- BFO Control Setting:

Mechanical mid position as shown in Fig. 3-5.
Rf Signal Generator Coupling: Loop antenna
Setup: See Fig. 3-3.

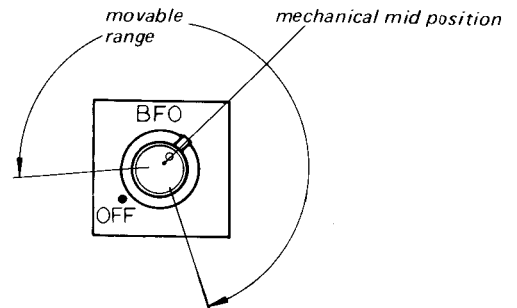


Fig. 3-5. BFO control setting

| Rf Signal Generator Frequency | Adjust | Remarks |
|--------------------------------|---------------------------------|--------------------------|
| 455 kHz unmodulated signal (*) | BFO osc coil L220 See Fig. 3-6. | Adjust for zero beating. |

Note: (*) Tune the rf signal generator frequency to the i-f frequency of the set which is found in AM I-F ALIGNMENT.

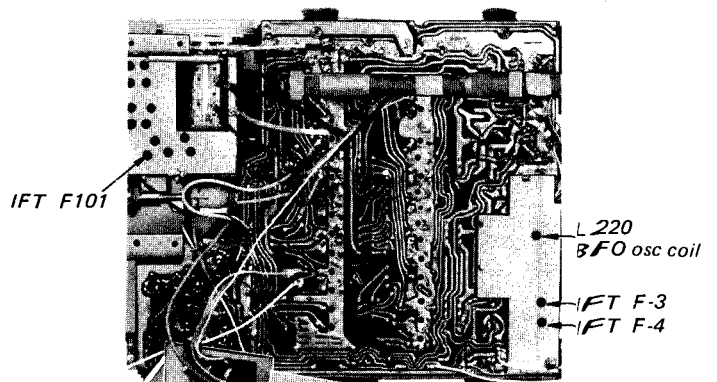


Fig. 3-6. Adjustment locations

3-4. FREQUENCY COVERAGE AND TRACKING ADJUSTMENT

Setup: FM/AIR See Fig. 3-1.
 LW/MW See Fig. 3-7.
 SW1 - 5 See Fig. 3-8.

Note: Fully telescope the telescopic antenna.

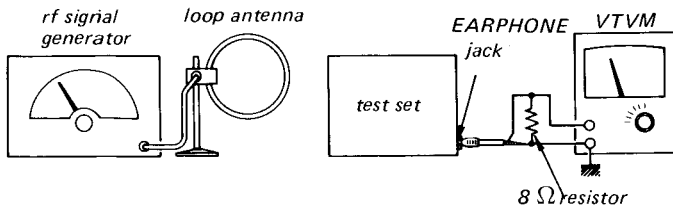


Fig. 3-7. LW/MW frequency coverage and tracking adjustment setup

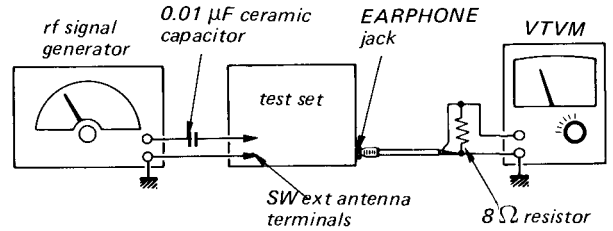


Fig. 3-8. SW1-5 frequency coverage and tracking adjustment setup

Note: In West Germany the FM frequency coverage should be within the range between 87.5 MHz and 108 MHz. Make the frequency coverage by adjusting osc coil L106 and osc trimmer CT105 with the intended frequency signal from the rf signal generator.

| Adjustment | Rf Signal Generator Coupling | Rf Signal Generator Frequency | Receiver Pointer Setting | Adjust | Remarks |
|------------------------|--|-------------------------------|--------------------------|---|--|
| FM Frequency Coverage | To FM/AIR ext ant terminal by detaching ant lug (See Fig. 3-2) | 86.5 MHz | Fully left | FM osc coil L106 | BAND SELECTOR : FM Adjust for maximum meter reading. |
| | | 109.5 MHz | Fully right | FM osc trimmer CT105 | |
| FM Tracking | | 86.5 MHz | Tune in 86.5 MHz signal | FM ant coil L101 FM rf coil L103 | |
| | | 109.5 MHz | Tune in 109.5-MHZ signal | FM ant trimmer CT101 FM rf trimmer CT103 | |
| AIR Frequency Coverage | - ditto - | 107 MHz | Fully left | AIR osc coil L107 | BAND SELECTOR : AIR Adjust for maximum meter reading. |
| | | 138 MHz | Fully right | AIR osc trimmer CT106 | |
| AIR Tracking | | 107 MHz | Tune in 107 MHz signal | AIR ant coil L102 AIR rf coil L104 | |
| | | 137.5 MHz | Tune in 137.5-MHz signal | AIR ant trimmer CT102 AIR rf trimmer CT104 | |
| MW Frequency Coverage | Loop antenna (See Fig. 3-7) | 520 kHz | Fully left | MW osc coil L202 | BAND SELECTOR : MW Adjust for maximum meter reading. |
| | | 1,680 kHz | Fully right | MW osc trimmer CT202 | |

| Adjustment | Rf Signal Generator Coupling | Rf Signal Generator Frequency | Receiver Pointer Setting | Adjust | Remarks |
|------------------------|---------------------------------------|-------------------------------|--------------------------|------------------------------|--|
| MW Tracking | Loop antenna | 620 kHz | Tune in 620 kHz signal | Position of MW ant coil L210 | BAND SELECTOR : MW Adjust for maximum meter reading |
| | | 1,400 kHz | Tune in 1,400-kHz signal | MW ant trimmer CT209 | |
| LW Frequency Coverage | Loop antenna | 145 kHz | Fully left | LW osc coil L201 | BAND SELECTOR : LW Adjust for maximum meter reading. |
| | | 410 kHz | Fully right | LW osc trimmer CT201 | |
| LW Tracking | | 160 kHz | Tune in 160 kHz signal | Position of LW ant coil L208 | |
| | | 360 kHz | Tune in 360 kHz signal | LW ant trimmer CT208 | |
| SW1 Frequency Coverage | To SW ext ant terminal (see Fig. 3-8) | 1.55 MHz | Fully left | SW1 osc coil L203 | BAND SELECTOR : SW1 Adjust for maximum meter reading. |
| | | 3.6 MHz | Fully right | SW1 osc trimmer CT203 | |
| SW1 Tracking | | 1.55 MHz | Tune in 1.55 MHz signal | SW1 ant coil L211 | |
| | | 3.6 MHz | Tune in 3.6 MHz signal | SW1 ant trimmer CT210 | |
| SW2 Frequency Coverage | - ditto - | 3.4 MHz | Fully left | SW2 osc coil L204 | BAND SELECTOR : SW2 Adjust for maximum meter reading. |
| | | 9.2 MHz | Fully right | SW2 osc trimmer CT204 | |
| SW2 Tracking | | 3.4 MHz | Tune in 3.4 MHz signal | SW2 ant coil L212 | |
| | | 9.2 MHz | Tune in 9.2 MHz signal | SW2 ant trimmer CT211 | |
| SW3 Frequency Coverage | - ditto - | 8.9 MHz | Fully left | SW3 osc coil L205 | BAND SELECTOR : SW3 Adjust for maximum meter reading. |
| | | 14.3 MHz | Fully right | SW3 osc trimmer CT205 | |
| SW3 Tracking | | 8.9 MHz | Tune in 8.9 kHz signal | SW3 antcoil L213 | |
| | | 14.3 MHz | Tune in 14.3 kHz signal | SW3 ant trimmer CT212 | |

| Adjustment | Rf Signal Generator Coupling | Rf Signal Generator Frequency | Receiver Pointer Setting | Adjust | Remarks |
|------------------------|------------------------------|-------------------------------|--------------------------|-----------------------|--|
| SW4 Frequency Coverage | - ditto - | 13.8 MHz | Fully left | SW4 osc coil L206 | BAND SELECTOR : SW4 Adjust for maximum meter reading. |
| | | 21.4 MHz | Fully right | SW4 osc trimmer CT206 | |
| SW4 Tracking | | 13.8 MHz | Tune in 13.8 MHz signal | SW4 ant coil L214 | |
| | | 21.4 MHz | Tune in 21.4 MHz signal | SW4 ant trimmer CT213 | |
| SW5 Frequency Coverage | - ditto - | 20.7 MHz | Fully left | SW5 ant coil L207 | BAND SELECTOR : SW5 Adjust for maximum meter reading. |
| | | 27.MHz | Fully right | SW5 osc trimmer CT207 | |
| SW5 Tracking | | 20.7 MHz | Tune in 20.7 MHz signal | SW5 ant coil L215 | |
| | | 27 MHz | Tune in 27 MHz signal | SW5 ant trimmer CT214 | |

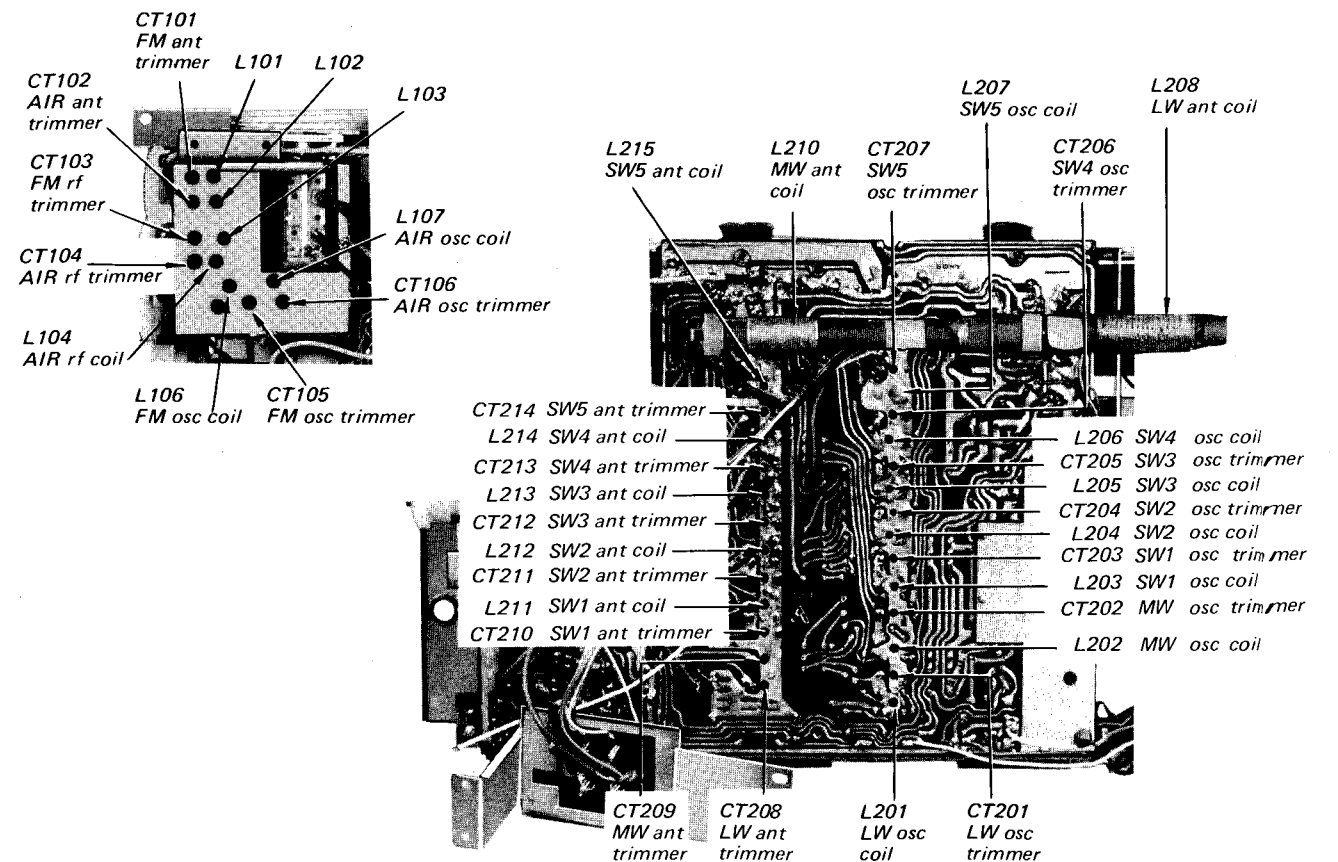
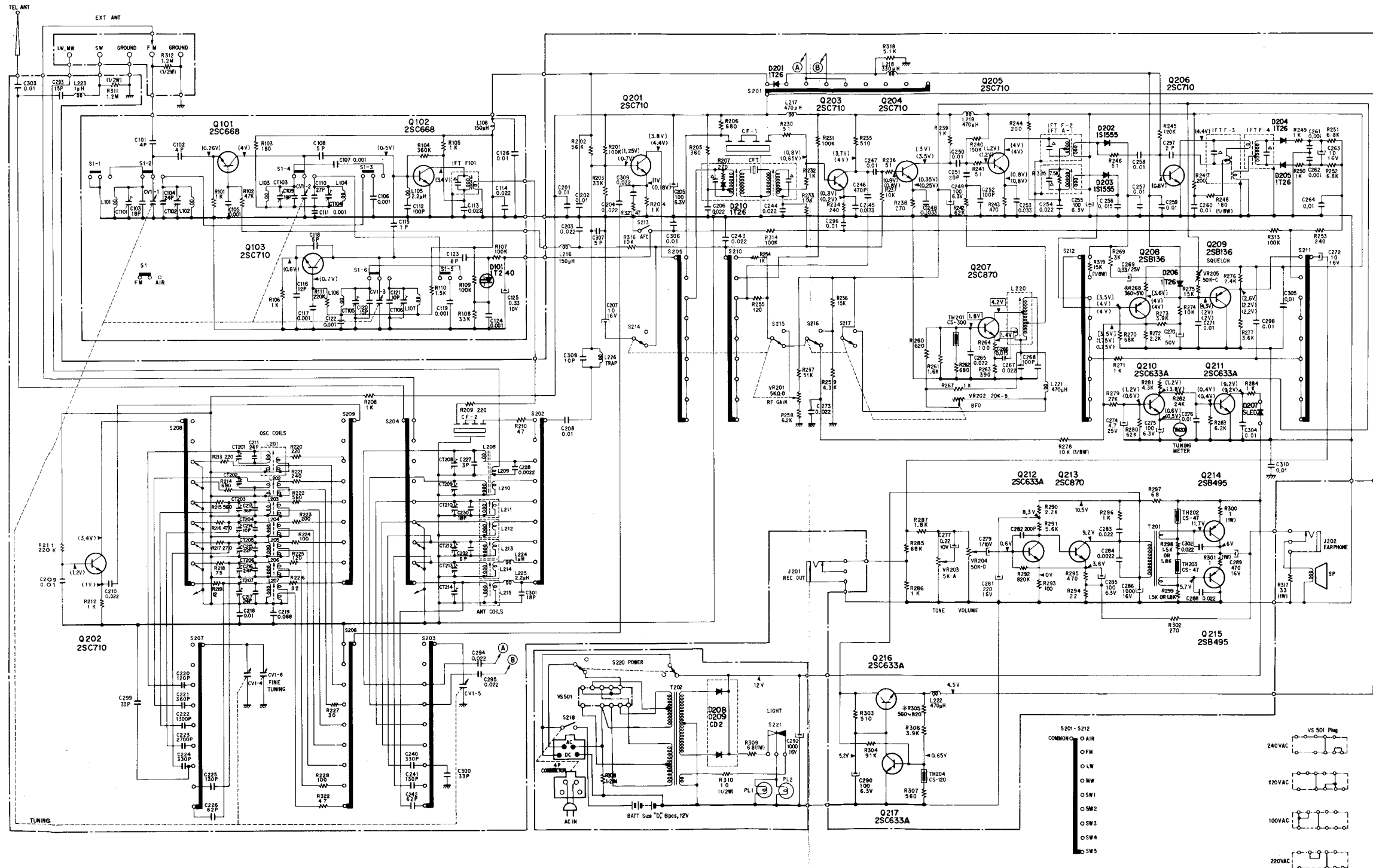


Fig. 3-9. Adjusting parts locations

SECTION 4
DIAGRAMS

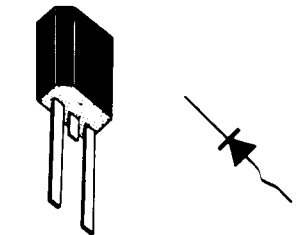
4-1. SCHEMATIC DIAGRAM



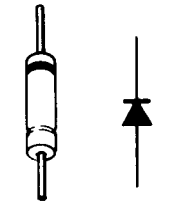
Notes:

1. All resistance values in Ω and all capacitance values in μF unless otherwise noted.
2. All voltages measured to ground circuit with a dc voltmeter with no signal received. Variations may be noted due to normal production tolerances.
3. The values in () measured with band selector set to FM, in < > MW, in [] AIR with SQUELCH control at fully counterclockwise position and in MW with BFO control set to ON.
4. Capacitors marked Δ built in i-f transformers and ceramic filter.

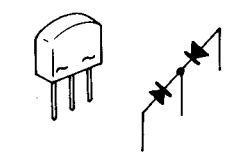
D101 : 1T240



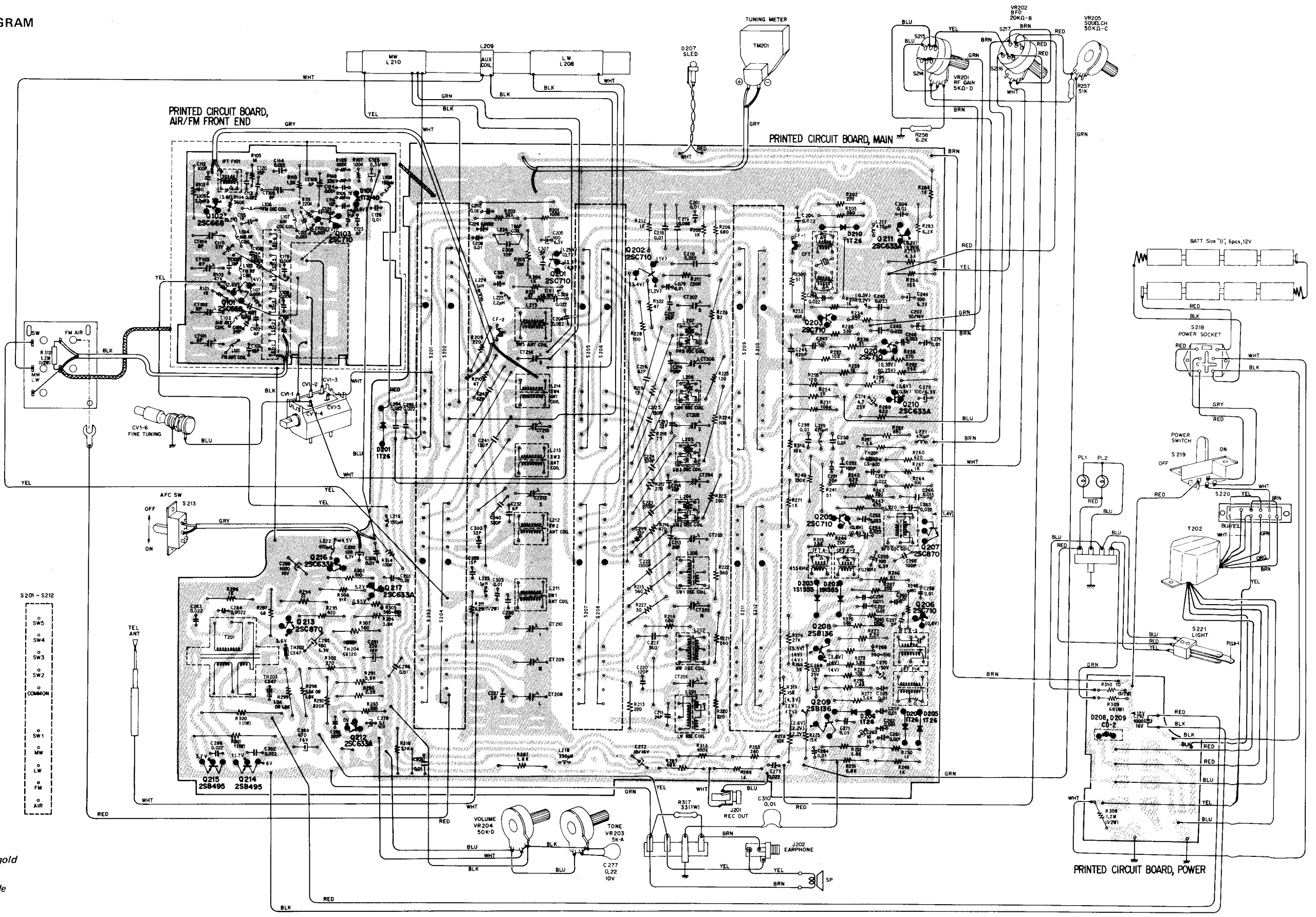
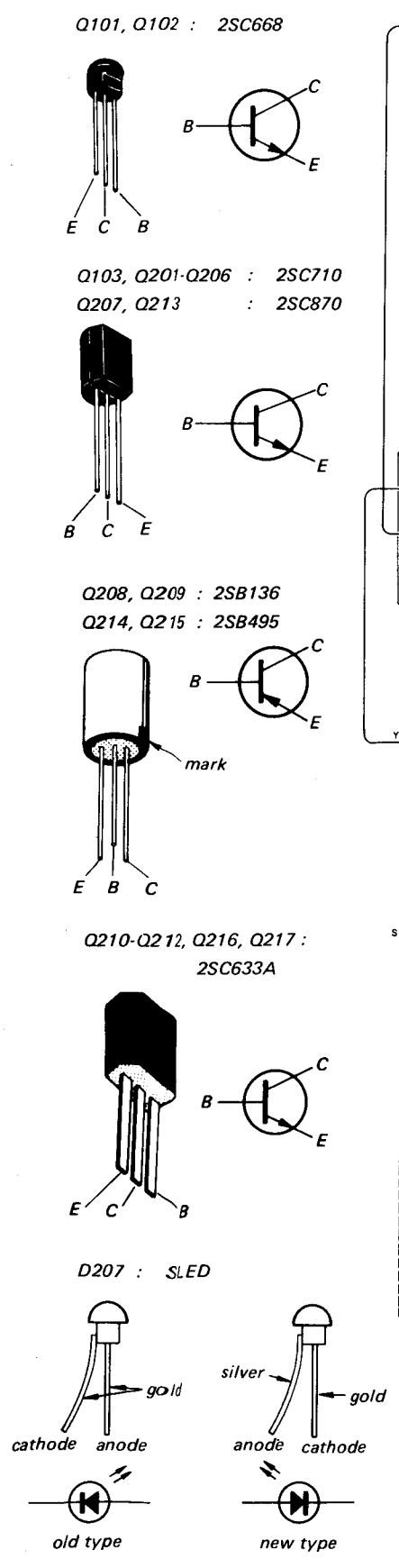
D201, D204~D206, D210 : 1T26
D202, D203 : 1S1555



D208, D209 : CD2



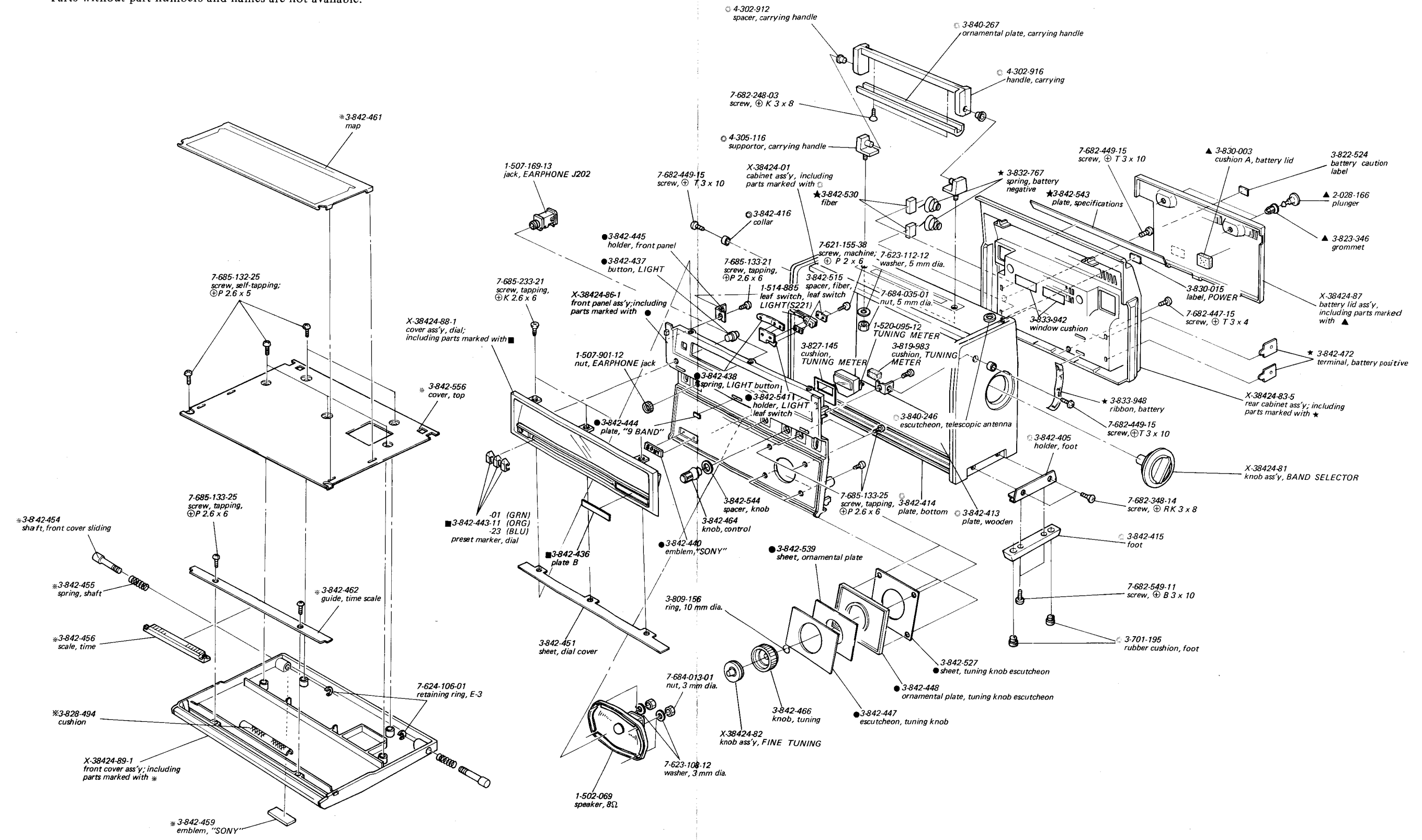
4-2. MOUNTING DIAGRAM



**SECTION 5
EXPLODED VIEW AND PACKING**

5-1. EXPLODED VIEW (1)

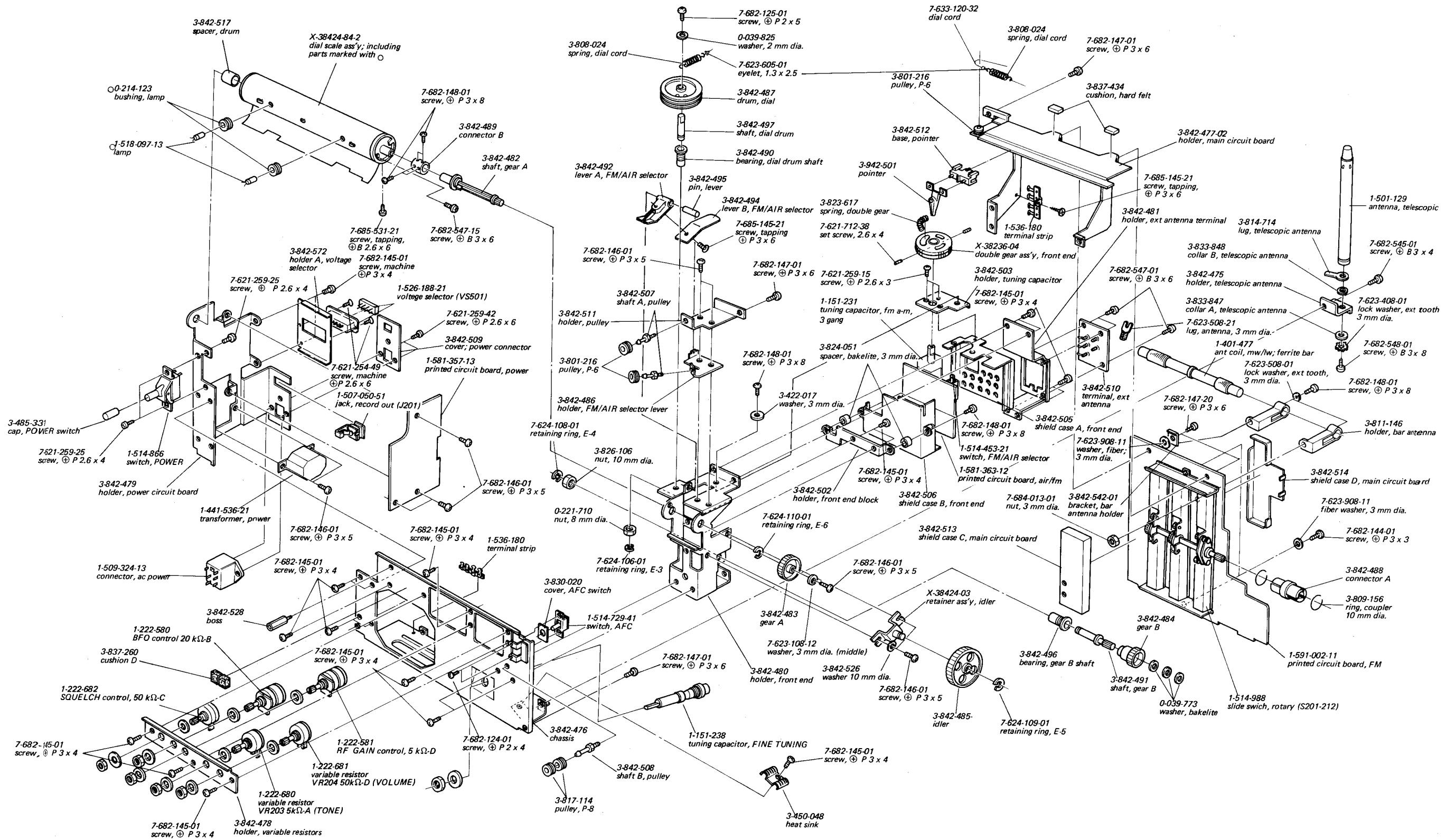
Parts without part numbers and names are not available.



CRF-5090 CRF-5090

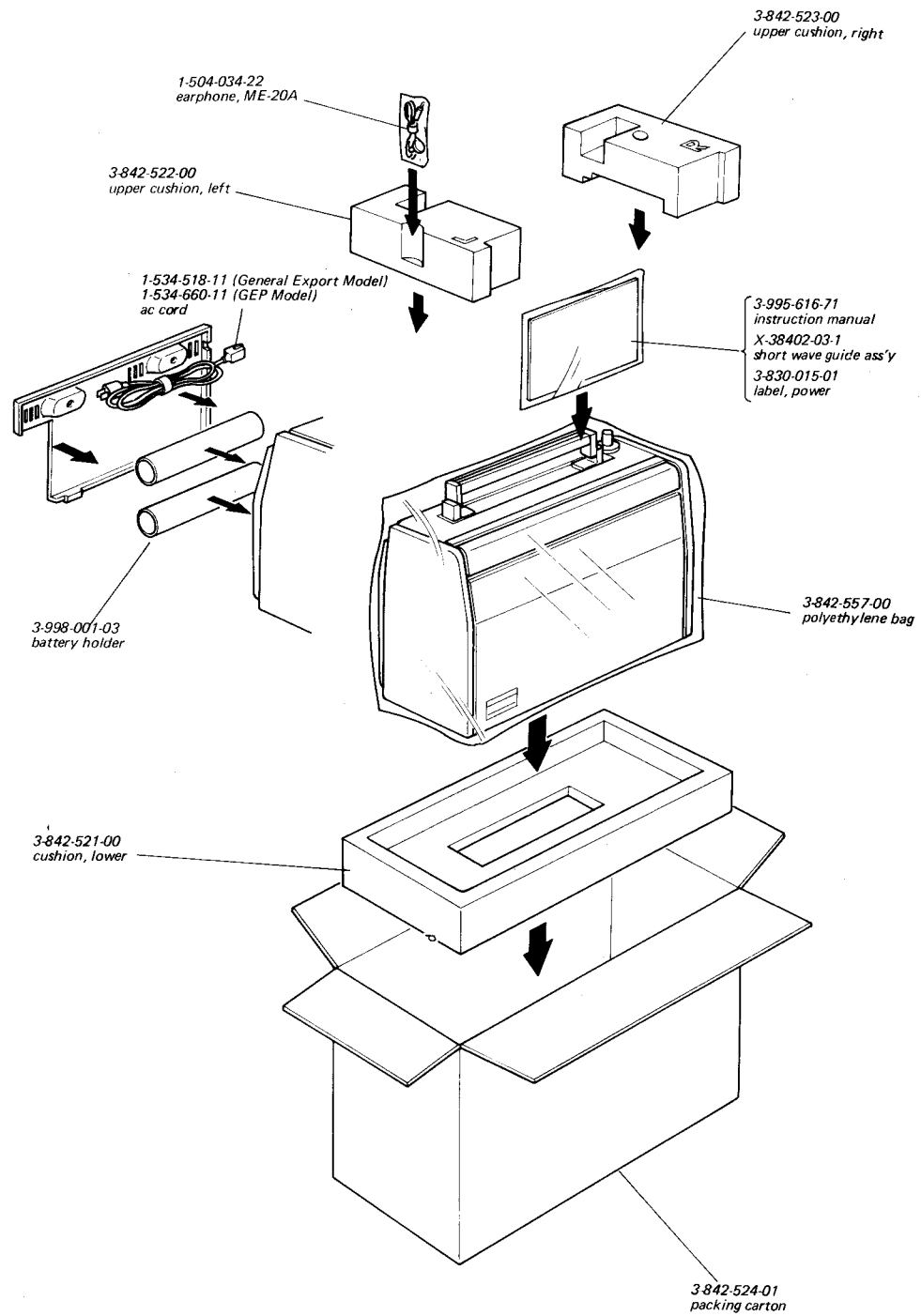
5-2. EXPLODED VIEW (2)

Parts without part numbers and names are not available.



**SECTION 6
ELECTRICAL PARTS LIST**

5-3. PACKING



Ref. No. Part No. Description Ref. No. Part No. Description

SEMICONDUCTORS

| | | |
|-----------|------------|---------|
| Q101 | transistor | 2SC668 |
| Q102 | transistor | 2SC668 |
| Q103 | transistor | 2SC710 |
| Q201 | transistor | 2SC710 |
| Q202 | transistor | 2SC710 |
| Q203 | transistor | 2SC710 |
| Q204 | transistor | 2SC710 |
| Q205 | transistor | 2SC710 |
| Q206 | transistor | 2SC710 |
| Q207 | transistor | 2SC870 |
| Q208 | transistor | 2SB136 |
| Q209 | transistor | 2SB136 |
| Q210 | transistor | 2SC633A |
| Q211 | transistor | 2SC633A |
| Q212 | transistor | 2SC633A |
| Q213 | transistor | 2SC870 |
| Q214 | transistor | 2SB495 |
| Q215 | transistor | 2SB495 |
| Q216 | transistor | 2SC633A |
| Q217 | transistor | 2SC633A |
| D101 | diode | 1T240 |
| D201 | diode | 1T26 |
| D202 | diode | 1S1555 |
| D203 | diode | 1S1555 |
| D204 | diode | 1T26 |
| D205 | diode | 1T26 |
| D206 | diode | 1T26 |
| D207 | diode | SLED |
| D208-D209 | diode | CD-2 |
| D210 | diode | 1T26 |
| TH201 | thermistor | CS300 |
| TH202 | thermistor | CS47 |
| TH203 | thermistor | CS47 |
| TH204 | thermistor | CS120 |

COILS AND TRANSFORMERS

| | | | |
|------|-----------|--------------|----------------|
| L101 | 1-425-350 | ant coil, | FM |
| L102 | 1-405-503 | ant coil, | AIR |
| L103 | 1-425-350 | rf coil, | FM |
| L104 | 1-405-503 | rf coil, | AIR |
| L105 | 1-407-182 | 2.2 μ H, | micro inductor |
| L106 | 1-405-503 | osc coil, | FM |
| L107 | 1-405-503 | osc coil, | AIR |
| L108 | 1-407-171 | 150 μ H, | micro inductor |
| L201 | 1-405-497 | osc coil, | LW |
| L202 | 1-405-399 | osc coil, | MW |
| L203 | 1-405-451 | osc coil, | SW1 |
| L204 | 1-405-498 | osc coil, | SW2 |

| | | | |
|----------|--------------|-----------------|-----------------------------|
| L205 | 1-405-499 | osc coil, | SW3 |
| L206 | 1-405-500 | osc coil, | SW4 |
| L207 | 1-405-501 | osc coil, | SW5 |
| L208 | | | |
| L209 | 1-401-477 | ant coil, | LW/MW; ferrite bar |
| L210 | | | |
| L211 | 1-401-373 | ant coil, | SW1 |
| L212 | 1-401-478 | ant coil, | SW2 |
| L213 | 1-401-479 | ant coil, | SW3 |
| L214 | 1-401-480 | ant coil, | SW4 |
| L215 | 1-401-481 | ant coil, | SW5 |
| L216 | 1-407-171 | 150 μ H, | micro inductor |
| L217 | 1-407-177 | 470 μ H, | micro inductor |
| L218 | 1-407-175 | 330 μ H, | micro inductor |
| L219 | 1-407-177 | 470 μ H, | micro inductor |
| L220 | 1-405-502 | osc coil, | bfo |
| L221 | 1-407-177 | 470 μ H, | micro inductor |
| L222 | 1-407-177 | 470 μ H, | micro inductor |
| L223 | 1-407-178 | 1 μ H, | micro inductor |
| L224 | 1-407-178 | 1 μ H, | micro inductor |
| L225 | 1-407-182 | 2.2 μ H, | micro inductor |
| L226 | 1-401-201 | trap coil | |
| IFT F101 | 1-403-242-15 | transformer, | FM i-f |
| IFT F-2 | 1-403-555 | transformer, | FM i-f |
| IFT F-3 | 1-403-287-11 | transformer, | FM discriminator; primary |
| IFT F-4 | 1-403-287-21 | transformer, | FM discriminator; secondary |
| IFT A-1 | 1-403-174 | transformer, | AM i-f |
| CF1 | 1-527-184-11 | | ceramic filter, FM i-f |
| | 1-527-184-15 | | |
| CF2 | 1-527-184-11 | | ceramic filter, FM i-f |
| | 1-527-184-15 | | |
| CFT | 1-403-165-21 | ceramic filter, | AM i-f |
| T201 | 1-423-140 | transformer, | driver |
| T202 | 1-441-536-21 | transformer, | power |

CAPACITORS

All fixed capacitors are in μ F unless otherwise specified.

| | | | |
|---------|--------------|-------------------|--------------|
| CV1-1~5 | 1-151-231 | tuning capacitor, | FM/AM 3-gang |
| CV1-6 | 1-151-238 | tuning capacitor, | FINE TUNING |
| CT101 | 1-141-097-21 | capacitor, | trimmer |
| CT102 | 1-141-097-21 | capacitor, | trimmer |
| CT103 | 1-141-097-21 | capacitor, | trimmer |
| CT104 | 1-141-097-21 | capacitor, | trimmer |
| CT105 | 1-141-097-21 | capacitor, | trimmer |
| CT106 | 1-141-097-21 | capacitor, | trimmer |
| C101 | 1-102-937 | 4 pF | ceramic |
| C102 | i-102-937 | 4 pF | ceramic |
| C103 | 1-102-953 | 18 pF | ceramic |
| C104 | 1-102-960 | 24 pF | ceramic |

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | |
|-----------------|-----------------|--------------------|--------------------------|-----------------|-----------------|--------------------|--------------------------|
| C105 | 1-102-918 | 0.001 | ceramic | C218 | 1-105-673-12 | 0.01 | mylar |
| C106 | 1-102-918 | 0.001 | ceramic | C219 | 1-105-683-12 | 0.068 | mylar |
| C107 | 1-102-918 | 0.001 | ceramic | C220 | 1-107-087 | 120 pF | silvered mica |
| C108 | 1-102-942 | 5 pF | ceramic | C221 | 1-107-182 | 370 pF | silvered mica |
| C109 | 1-102-953 | 18 pF | ceramic | C222 | 1-103-728 | 1300 pF | styrol |
| C110 | 1-102-961 | 27 pF | ceramic | C223 | 1-103-735 | 2700 pF | styrol |
| C111 | 1-105-661-12 | 0.001 | mylar | C224 | 1-107-097 | 330 pF | silvered mica |
| C112 | 1-107-085 | 100 pF | mica | C225 | 1-107-088 | 130 pF | silvered mica |
| C113 | 1-102-924 | 0.022 | ceramic | C226 | 1-107-080 | 62 pF | silvered mica |
| C114 | 1-102-924 | 0.022 | ceramic | C227 | 1-102-940 | 3 pF | ceramic |
| C115 | 1-102-934 | 1 pF | ceramic | C228 | 1-105-665-12 | 0.0022 | mylar |
| C116 | 1-102-510 | 12 pF | ceramic | C229 |  | ..... |  |
| C117 | 1-102-918 | 0.001 | ceramic | C230 | 1-102-953 | 18 pF | ceramic |
| C118 | 1-102-864 | 5 pF | ceramic | C231 |  | ..... |  |
| C119 | 1-102-918 | 0.001 | ceramic | C232 | 1-102-943 | 6 pF | ceramic |
| C120 | 1-102-880 | 15 pF | ceramic | C233 |  | ..... |  |
| C121 | 1-101-999 | 10 pF | ceramic | C234 |  | ..... |  |
| C122 | 1-105-661-12 | 0.001 | mylar | C235 |  | ..... |  |
| C123 | 1-102-865 | 8 pF | ceramic | C236 |  | ..... |  |
| C124 | 1-105-661-12 | 0.001 | mylar | C237 |  | ..... |  |
| C125 | 1-127-021 | 0.33 | 10 V electrolytic (alox) | C238 |  | ..... |  |
| C126 | 1-105-673-12 | 0.01 | mylar | C239 |  | ..... |  |
| CT201 | 1-141-140 | capacitor, | trimmer | C240 | 1-107-097 | 330 pF | silvered mica |
| CT202 | 1-141-140 | capacitor, | trimmer | C241 | 1-107-088 | 130 pF | silvered mica |
| CT203 | 1-141-140 | capacitor, | trimmer | C242 | 1-107-080 | 62 pF | silvered mica |
| CT204 | 1-141-140 | capacitor, | trimmer | C243 | 1-105-677-12 | 0.022 | mylar |
| CT205 | 1-141-140 | capacitor, | trimmer | C244 | 1-105-677-12 | 0.022 | mylar |
| CT206 | 1-141-140 | capacitor, | trimmer | C245 | 1-105-679-12 | 0.033 | mylar |
| CT207 | 1-141-140 | capacitor, | trimmer | C246 | 1-107-185 | 470 pF | silvered mica |
| CT208 | 1-141-140 | capacitor, | trimmer | C247 | 1-105-673-12 | 0.01 | mylar |
| CT209 | 1-141-140 | capacitor, | trimmer | C248 | 1-105-679-12 | 0.033 | mylar |
| CT210 | 1-141-140 | capacitor, | trimmer | C249 | 1-121-491 | 100 | 6.3 V electrolytic |
| CT211 |  | ..... |  | C250 | 1-105-673-12 | 0.01 | mylar |
| CT212 | 1-141-140 | capacitor, | trimmer | C251 | 1-107-068 | 20 pF | silvered mica |
| CT213 | 1-141-140 | capacitor, | trimmer | C252 | 1-107-085 | 100 pF | silvered mica |
| CT214 | 1-141-140 | capacitor, | trimmer | C253 | 1-105-679-12 | 0.033 | mylar |
| C201 | 1-105-673-12 | 0.01 | mylar | C254 | 1-105-677-12 | 0.022 | mylar |
| C202 | 1-105-673-12 | 0.01 | mylar | C255 | 1-121-491 | 100 | 6.3 V electrolytic |
| C203 | 1-101-924 | 0.022 | ceramic | C256 | 1-105-675-12 | 0.015 | mylar |
| C204 | 1-105-677-12 | 0.022 | mylar | C257 | 1-105-673-12 | 0.01 | mylar |
| C205 | 1-121-491 | 100 | 6.3 V electrolytic | C258 | 1-105-673-12 | 0.01 | mylar |
| C206 | 1-101-924 | 0.022 | ceramic | C259 | 1-105-673-12 | 0.01 | mylar |
| C207 | 1-121-471 | 10 | 16 V electrolytic | C260 | 1-105-673-12 | 0.01 | mylar |
| C208 | 1-105-673-12 | 0.01 | mylar | C261 | 1-105-661-12 | 0.001 | mylar |
| C209 | 1-105-673-12 | 0.01 | mylar | C262 | 1-105-661-12 | 0.001 | mylar |
| C210 | 1-105-677-12 | 0.022 | mylar | C263 | 1-121-471 | 10 | 16 V electrolytic |
| C211 | 1-102-960 | 24 pF | ceramic | C264 | 1-105-673-12 | 0.01 | mylar |
| C212 |  | ..... |  | C265 | 1-105-677-12 | 0.022 | mylar |
| C213 | 1-102-964 | 36 pF | ceramic | C266 | 1-105-675-12 | 0.015 | mylar |
| C214 | 1-102-947 | 10 pF | ceramic | C267 | 1-105-677-12 | 0.022 | mylar |
| C215 | 1-102-959 | 22 pF | ceramic | C268 | 1-102-734 | 100 pF | ceramic |
| C216 | 1-102-960 | 24 pF | ceramic | C269 | 1-127-082 | 0.33 | 10 V electrolytic (alox) |
| C217 | 1-102-960 | 24 pF | ceramic | C270 | 1-121-442 | 1 | 50 V electrolytic |

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | | <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> |
|-----------------|-----------------|--------------------|--------------------------|-----------------|-----------------|--------------------|
| C271 | 1-105-673-12 | 0.01 | mylar | R104 | 1-244-734 | 360 k |
| C272 | 1-121-471 | 10 | 16 V electrolytic | R105 | 1-242-673 | 1 k |
| C273 | 1-105-677-12 | 0.022 | mylar | R106 | 1-242-673 | 1 k |
| C274 | 1-121-464 | 4.7 | 25 V electrolytic | R107 | 1-242-721 | 100 k |
| C275 | 1-121-491 | 100 | 6.3 V electrolytic | R108 | 1-242-709 | 33 k |
| C276 | 1-105-673-12 | 0.01 | mylar | R109 | 1-242-721 | 100 k |
| C277 | 1-127-046 | 0.22 | 10 V electrolytic (alox) | R110 | 1-242-677 | 1.5 k |
| C278 | ..... |  |  | R111 | 1-242-729 | 220 k |
| C279 | 1-127-045 | 0.1 | 10 V electrolytic (alox) | R201 | 1-244-721 | 100 k |
| C280 | ..... |  |  | R202 | 1-244-715 | 56 k |
| C281 | 1-121-421 | 220 | 16 V electrolytic | R203 | 1-244-709 | 33 k |
| C282 | 1-102-098 | 470 pF | ceramic | R204 | 1-244-673 | 1 k |
| C283 | 1-105-677-12 | 0.022 | mylar | R205 | 1-244-662 | 360 |
| C284 | 1-105-665-12 | 0.0022 | mylar | R206 | 1-244-669 | 680 |
| C285 | 1-121-491 | 100 | 6.3 V electrolytic | R207 | 1-244-659 | 270 |
| C286 | 1-121-186 | 1000 | 16 V electrolytic | R208 | 1-244-673 | 1 k |
| C287 | ..... |  |  | R209 | 1-244-657 | 220 |
| C288 | 1-105-677-12 | 0.022 | mylar | R210 | 1-244-641 | 47 |
| C289 | 1-121-426 | 470 | 16 V electrolytic | R211 | 1-244-729 | 220 k |
| C290 | 1-121-491 | 100 | 6.3 V electrolytic | R212 | 1-244-673 | 1 k |
| C291 | ..... |  |  | R213 | 1-244-657 | 220 |
| C292 | 1-121-186 | 1000 | 16 V electrolytic | R214 | 1-244-669 | 680 |
| C293 | 1-102-951 | 15 pF | ceramic | R215 | 1-244-667 | 560 |
| C294 | 1-101-924 | 0.022 | ceramic | R216 | 1-244-665 | 470 |
| C295 | 1-101-924 | 0.022 | ceramic | R217 | 1-244-659 | 270 |
| C296 | 1-105-673-12 | 0.01 | mylar | R218 | 1-244-646 | 75 |
| C297 | 1-102-939 | 2 pF | ceramic | R219 | 1-244-627 | 12 |
| C298 | 1-105-673-12 | 0.01 | mylar | R220 | 1-244-657 | 220 |
| C299 | 1-102-963 | 33 pF | ceramic | R221 | 1-244-658 | 240 |
| C300 | 1-102-963 | 33 pF | ceramic | R222 | 1-244-667 | 560 |
| C301 | 1-102-953 | 18 pF | ceramic | R223 | 1-244-656 | 200 |
| C302 | 1-105-677-12 | 0.022 | mylar | R224 | 1-244-649 | 100 |
| C303 | 1-101-923 | 0.01 | ceramic | R225 | 1-244-651 | 120 |
| C304 | 1-101-923 | 0.01 | ceramic | R226 | 1-244-647 | 82 |
| C305 | 1-105-673-12 | 0.01 | mylar | R227 | 1-244-636 | 30 |
| C306 | 1-101-923 | 0.01 | ceramic | R228 | 1-244-649 | 100 |
| C307 | 1-102-942 | 5 pF | ceramic | R229 | ..... |  |
| C308 | 1-102-947 | 10 pF | ceramic | R230 | 1-244-642 | 51 |
| C309 | 1-105-677-12 | 0.022 | mylar | R231 | 1-244-721 | 100 k |
| C310 | 1-101-923 | 0.01 | ceramic | R232 | 1-244-673 | 1 k |

RESISTORS

All fixed resistors are in Ω , $\frac{1}{4}W$, $\pm 5\%$, carbon film type unless otherwise noted.

| | | | |
|--------|-----------|-----------------|-----------------|
| VR 201 | 1-222-581 | RF GAIN control | 5 k Ω D |
| VR 202 | 1-222-580 | BFO control | 20 k Ω B |
| VR 203 | 1-222-680 | TONE control | 5 k Ω A |
| VR 204 | 1-222-681 | VOLUME control | 50 k Ω D |
| VR 205 | 1-222-682 | SQUELCH control | 50 k Ω C |
| R101 | 1-242-673 | 1 k | |
| R102 | 1-242-713 | 47 k | |
| R103 | 1-244-655 | 180 | |

| | | |
|------|-----------|-------|
| R104 | 1-244-734 | 360 k |
| R105 | 1-242-673 | 1 k |
| R106 | 1-242-673 | 1 k |
| R107 | 1-242-721 | 100 k |
| R108 | 1-242-709 | 33 k |
| R109 | 1-242-721 | 100 k |
| R110 | 1-242-677 | 1.5 k |
| R111 | 1-242-729 | 220 k |
| R201 | 1-244-721 | 100 k |
| R202 | 1-244-715 | 56 k |
| R203 | 1-244-709 | 33 k |
| R204 | 1-244-673 | 1 k |
| R205 | 1-244-662 | 360 |
| R206 | 1-244-669 | 680 |
| R207 | 1-244-659 | 270 |
| R208 | 1-244-673 | 1 k |
| R209 | 1-244-657 | 220 |
| R210 | 1-244-641 | 47 |
| R211 | 1-244-729 | 220 k |
| R212 | 1-244-673 | 1 k |
| R213 | 1-244-657 | 220 |
| R214 | 1-244-669 | 680 |
| R215 | 1-244-667 | 560 |
| R216 | 1-244-665 | 470 |
| R217 | 1-244-659 | 270 |
| R218 | 1-244-646 | 75 |
| R219 | 1-244-627 | 12 |
| R220 | 1-244-657 | 220 |
| R221 | 1-244-658 | 240 |
| R222 | 1-244-667 | 560 |
| R223 | 1-244-656 | 200 |
| R224 | 1-244-649 | 100 |
| R225 | 1-244-651 | 120 |
| R226 | 1-244-647 | 82 |
| R227 | 1-244-636 | 30 |
| R228 | 1-244-649 | 100 |
| R229 | ..... |  |
| R230 | 1-244-642 | 51 |
| R231 | 1-244-721 | 100 k |
| R232 | 1-244-673 | 1 k |
| R233 | 1-244-697 | 10 k |
| R234 | 1-244-658 | 240 |
| R235 | 1-244-666 | 510 |
| R236 | 1-244-642 | 51 |
| R237 | 1-244-697 | 10 k |
| R238 | 1-244-659 | 270 |
| R239 | 1-244-673 | 1 k |
| R240 | 1-244-725 | 150 k |
| R241 | 1-244-642 | 51 |
| R242 | 1-244-716 | 62 k |
| R243 | 1-244-665 | 470 |
| R244 | 1-244-656 | 200 |
| R245 | 1-244-723 | 120 k |
| R246 | 1-244-642 | 51 |
| R247 | 1-244-656 | 200 |

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