

ICF-34

SERVICE MANUAL

*US Model
Canadian Model*



SPECIFICATIONS

Frequency range: TV-H (high): channels 7-13
/WEATHER: 162.4-162.55 MHz
TV-L (low): channels 2-6
FM: 87.6 - 108 MHz
AM: 530 - 1,710 kHz

Speaker: Approx. 10 cm (4 inches) dia., 4 Ω
Power output: 400 mW (at 10% harmonic distortion)

Output: Headphones jack (stereo minijack)
Power requirements: 120 V AC, 60 Hz with the equipped AC power cord
6V DC with four size C (R14) batteries

Battery life:
TV/WEATHER: Approx. 64 hours
FM: Approx. 64 hours
AM: Approx. 70 hours
(for four hours a day at normal volume using Sony battery SUM-2(NS))

Dimensions:
Approx. 264 x 140 x 90 mm (w/h/d)
(10 1/2 x 5 5/8 x 3 5/8 inches) incl. projecting parts with the carrying handle pushed in.

Mass: Approx. 1190 g (2 lb 10 oz) incl. batteries

Design and specifications are subject to change without notice.

TV/WEATHER/FM/AM 4 BAND RADIO
SONY[®]

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Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

SAFETY CHECK-OUT

(US model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer: Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

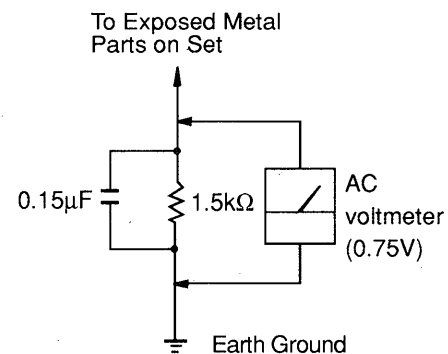


Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING !!

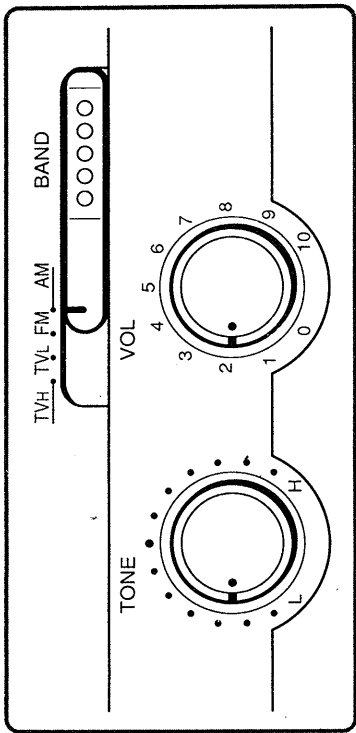
COMPONENTS IDENTIFIED BY SHADING AND MARK Δ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AUX COMPOSANTS RELATIFS Á LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MAPQUE Δ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIÉCES CONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY.

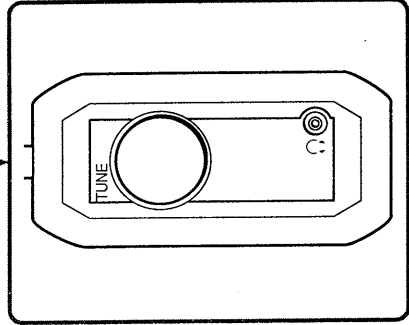
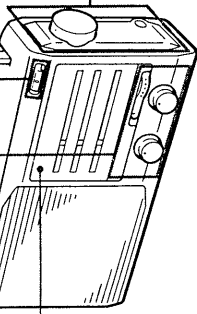
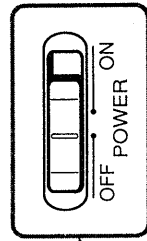
SECTION 1 GENERAL

This section is extracted from instruction manual.



Telescopic antenna

TUNE (tuning) indicator

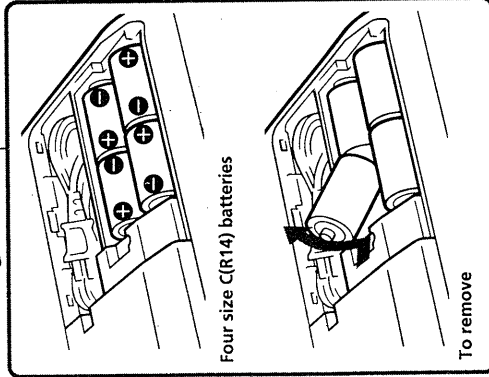
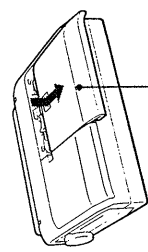


Installing the Batteries

For battery operation, this unit needs four size C (R14) batteries.

Rear

Battery and AC power cord compartment



Four size C (R14) batteries

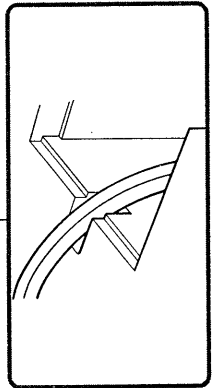
To remove

Knowing When to Replace the Batteries

When the sound becomes weak or distorted, replace all the batteries with new ones. Concerning battery life, see "Specifications".

Using the AC power cord

When you use the AC power cord, set it into the groove properly, then push the lid of the compartment and slide it in the direction of the arrow to close the compartment properly.



Playing the Radio

1. Slide **POWER** to ON to turn on the radio and adjust **VOL** (volume).
2. Select **TV, WEATHER, FM** or **AM**, and tune in to a station using **TUNE** (tuning).
3. Adjust **TONE** to your preference. Turn clockwise to increase the treble. Turn counterclockwise to increase the bass.

- To turn off the radio, slide **POWER** to **OFF**.
- To improve radio reception
- **TV/WEATHER/FM**: Extend the telescopic antenna and adjust the length, direction and angle for the best reception.
- **AM**: Rotate the unit horizontally for optimum reception. A ferrite bar antenna is built into the unit.

- (headphones) jack (right side of rear cabinet) When optional accessory headphones are plugged into the headphones jack, it automatically silences the radio speaker and the listener can enjoy complete privacy. The jack is designed to be used for the stereo headphones with your monaural radio, but reception will be heard in monaural only.

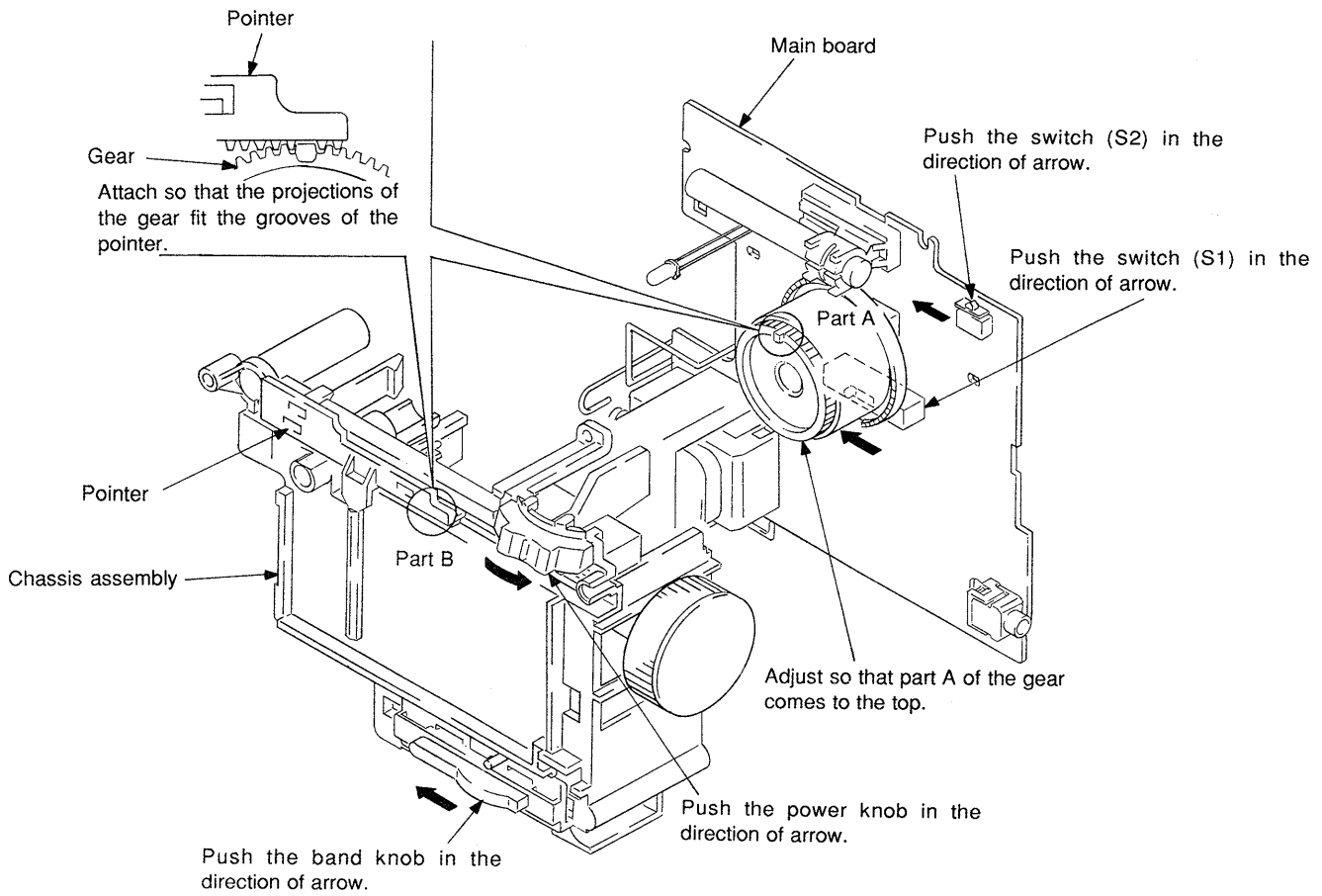
- **TUNE** (tuning) indicator The indicator lights up when a station is tuned in.

Notes

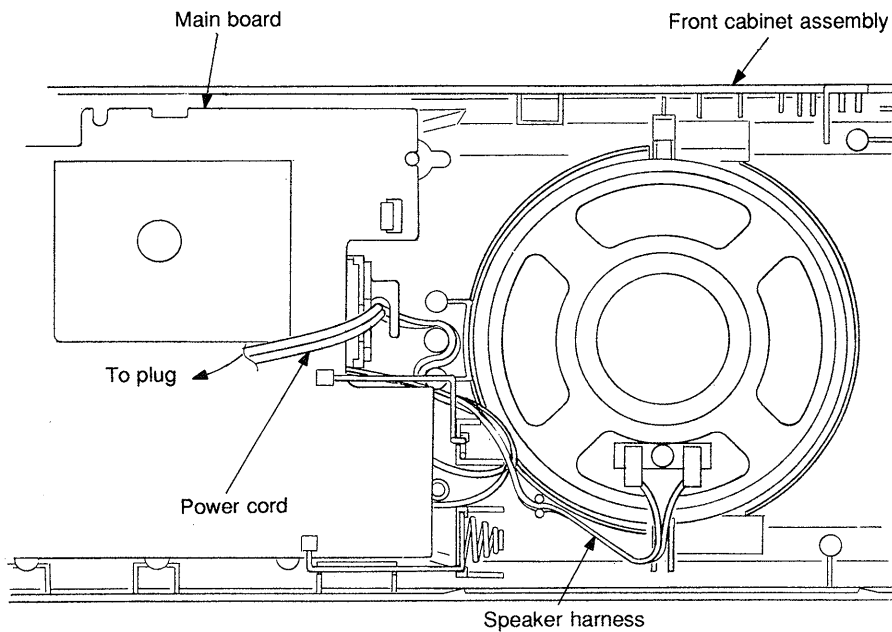
- In a vehicle or in a building, radio reception may be difficult or noisy. Try listening near a window.
- Keep the radio away from metallic objects.

SECTION 2 ASSEMBLY

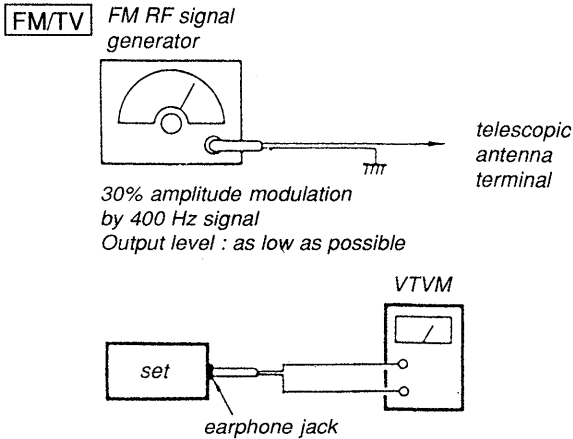
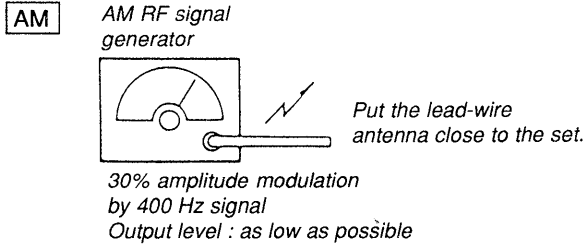
2-1. CHASSIS



2-2. POWER CORD AND SPEAKER HARNESS



SECTION 3 ELECTRICAL ADJUSTMENTS



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

| AM IF ADJUSTMENT | |
|---------------------------------------|---------|
| Adjust for a maximum reading on VTVM. | |
| T1 | 455 kHz |

| AM FREQUENCY COVERAGE ADJUSTMENT | |
|---------------------------------------|-----------|
| Adjust for a maximum reading on VTVM. | |
| CT8 | 1,750 kHz |
| L8 | 520 kHz |

| AM TRACKING ADJUSTMENT | |
|---------------------------------------|-----------|
| Adjust for a maximum reading on VTVM. | |
| CT5 | 1,400 kHz |
| L1 | 600 kHz |

| FM FREQUENCY COVERAGE ADJUSTMENT | |
|---------------------------------------|-----------|
| Adjust for a maximum reading on VTVM. | |
| CT4 | 109.5 MHz |
| L7 | 86.5 MHz |

| FM TRACKING ADJUSTMENT | |
|---------------------------------------|-----------|
| Adjust for a maximum reading on VTVM. | |
| CT2 | 109.5 MHz |
| L4 | 86.5 MHz |

| TV-L FREQUENCY COVERAGE ADJUSTMENT | |
|---------------------------------------|----------|
| Adjust for a maximum reading on VTVM. | |
| CT7 | 89.5 MHz |
| L6 | 58.5 MHz |

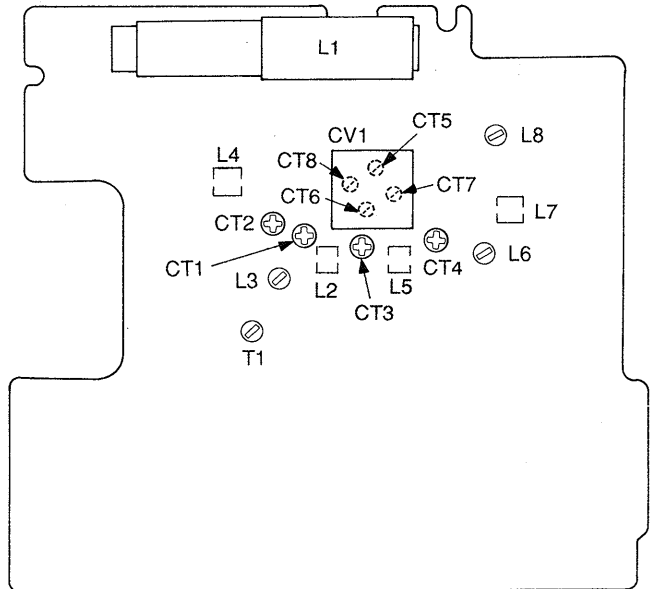
| TV-L TRACKING ADJUSTMENT | |
|---------------------------------------|----------|
| Adjust for a maximum reading on VTVM. | |
| CT6 | 89.5 MHz |
| L3 | 58.5 MHz |

| TV-H FREQUENCY COVERAGE ADJUSTMENT | |
|---------------------------------------|---------|
| Adjust for a maximum reading on VTVM. | |
| CT3 | 218 MHz |
| L5 | 158 MHz |

| TV-H TRACKING ADJUSTMENT | |
|---------------------------------------|---------|
| Adjust for a maximum reading on VTVM. | |
| CT1 | 218 MHz |
| L2 | 158 MHz |

Adjustment Location :

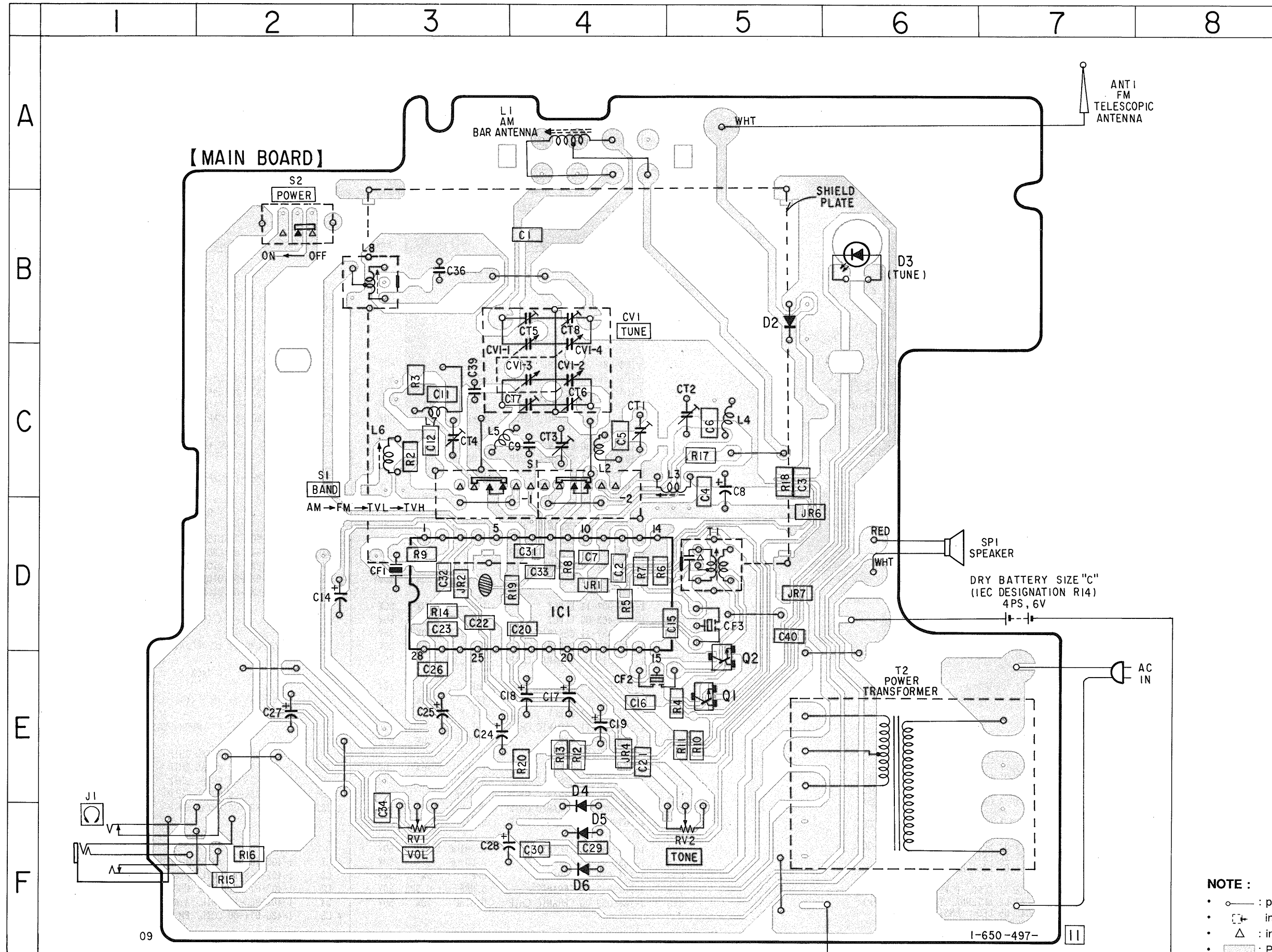
— MAIN BOARD — (Component Side)



Note : Perform the CT7 (TV-L frequency coverage) adjustment first, or a different value may be obtained.

4-3. PRINTED WIRING BOARD

• See page 6 for Semiconductor Lead Layouts.



• SEMICONDUCTOR LOCATION

| Ref. No. | Location |
|----------|----------|
| D2 | B-5 |
| D3 | B-6 |
| D4 | E-4 |
| D5 | F-4 |
| D6 | F-4 |
| IC1 | D-4 |
| Q1 | E-5 |
| Q2 | E-5 |

NOTE :

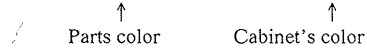
- : parts extracted from the conductor side.
- + : indicates side identified with part number.
- △ : internal component.
- ▨ : Pattern from the side which enable seeing.

SECTION 5 EXPLODED VIEW

NOTE:

- Items marked “ * ” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- Color Indication of Appearance Parts Example:
KNOB, BALANCE (WHITE) . . . (RED)



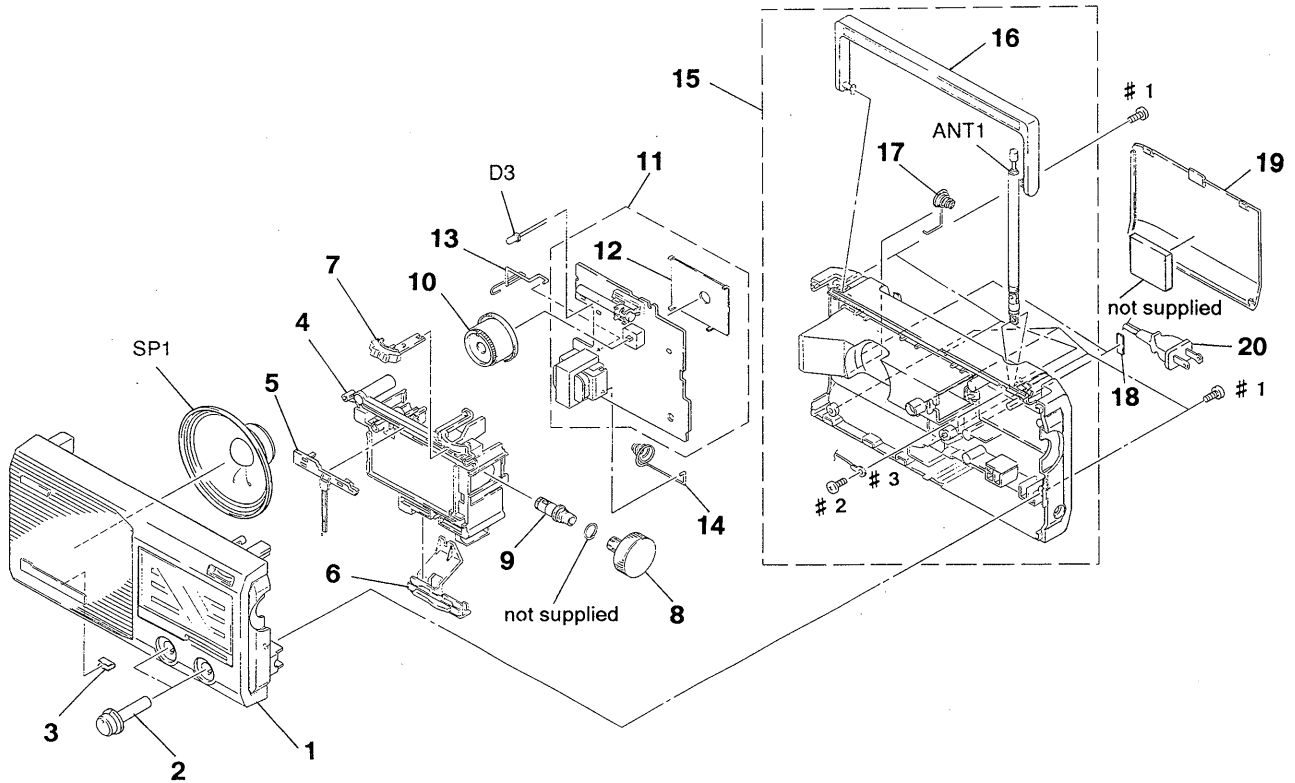
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- CND : Canadian model

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité.

Ne les remplacer que par une pièce portant le numéro spécifié.

5-1. CABINET ASSEMBLY



| Ref. No. | Part No. | Description |
|----------|--------------|--------------------------------|
| * 1 | X-3367-534-1 | CABINET (FRONT) ASSY |
| 2 | 3-908-127-01 | KNOB (VOL) |
| 3 | 3-831-441-XX | PAD, RESET BUTTON(6.5X4.5X0.3) |
| * 4 | 3-908-123-01 | CHASSIS |
| 5 | 3-908-124-01 | POINTER |
| 6 | 3-908-128-01 | KNOB (BAND) |
| 7 | 3-908-129-01 | KNOB (POWER) |
| 8 | 3-908-126-01 | KNOB (TUNE) |
| 9 | 3-363-375-01 | SHAFT (TUNING) |
| 10 | 3-908-125-01 | GEAR (TUNING CAPACITOR) |
| * 11 | A-3661-916-A | MAIN BOARD, COMPLETE |
| 12 | 3-908-267-01 | PLATE, SHIELD |

| Remark | Ref. No. | Part No. | Description | Remark |
|--------|-------------|--------------|----------------------------|--------|
| | * 13 | 3-908-133-01 | SPRING (+), BATTERY COIL | |
| | * 14 | 3-908-118-01 | SPRING (-), BATTERY COIL | |
| | * 15 | A-3635-980-A | CABINET (REAR) ASSY (US) | |
| | * 15 | A-3638-010-A | CABINET (REAR) ASSY (CND) | |
| | * 16 | 3-908-130-01 | HANDLE | |
| | * 17 | 3-908-119-01 | SPRING (+/-), BATTERY COIL | |
| | 18 | 9-911-837-XX | RETAINER, PC BOARD | |
| | 19 | 3-908-131-01 | LID, BATTERY CASE | |
| | Δ 20 | 1-696-008-11 | CORD, POWER | |
| | ANT1 | 1-501-222-62 | ANTENNA, TELESCOPIC (FM) | |
| | D3 | 8-719-042-69 | LED LN21RPL (TUNE) | |
| | SP1 | 1-504-467-11 | SPEAKER (10CM) | |

MAIN

SECTION 6 ELECTRICAL PARTS LIST

NOTE:

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts Example:
KNOB, BALANCE (WHITE) ... (RED)

↑
Parts color
↑
Cabinet's color
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

- RESISTORS
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F : nonflammable
- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A..., uPA...: μ PA...,
uPB...: μ PB..., uPC...: μ PC...,
uPD...: μ PD...
- CAPACITORS
uF : μ F
- COILS
uH : μ H
- CND : Canadian model

| Ref. No. | Part No. | Description | Remark | Ref. No. | Part No. | Description | Remark |
|----------|--------------|-------------------------------|-------------------|--------------------|--------------|--------------------------------------|--------|
| * | A-3661-916-A | MAIN BOARD, COMPLETE ***** | | | | < FILTER > | |
| | 3-908-267-01 | PLATE, SHIELD | | CF1 | 1-760-144-61 | FILTER, CERAMIC (10.7MHz) | |
| | | < CAPACITOR > | | CF2 | 1-577-072-11 | FILTER, CERAMIC (455kHz) | |
| C1 | 1-163-086-00 | CERAMIC CHIP | 3PF 50V | CF3 | 1-760-144-61 | FILTER, CERAMIC (10.7MHz) | |
| C2 | 1-163-165-00 | CERAMIC CHIP | 22PF 5% 50V | | | < TRIMMER > | |
| C3 | 1-163-150-00 | CERAMIC CHIP | 3PF 0.25PF 50V | CT1 | 1-141-441-91 | TRIMMER, CERAMIC 7PF | |
| C4 | 1-163-141-00 | CERAMIC CHIP | 0.001uF 5% 50V | CT2 | 1-141-304-21 | CAP, TRIMMER 10PF | |
| C5 | 1-163-101-00 | CERAMIC CHIP | 22PF 5% 50V | CT3 | 1-141-441-91 | TRIMMER, CERAMIC 7PF | |
| | | | | CT4 | 1-141-304-21 | CAP, TRIMMER 10PF | |
| C6 | 1-163-104-00 | CERAMIC CHIP | 30PF 5% 50V | | | < VARIABLE CAPACITOR > | |
| C7 | 1-163-141-00 | CERAMIC CHIP | 0.001uF 5% 50V | CV1-4 } CT5-8 } | 1-141-495-11 | CAP, VAR (TUNE) | |
| C8 | 1-124-907-11 | ELECT | 10uF 20% 50V | | | < DIODE > | |
| C9 | 1-164-039-11 | CERAMIC | 3PF 5% 50V | D2 | 8-719-901-33 | DIODE 1SS133 | |
| C11 | 1-163-103-00 | CERAMIC CHIP | 27PF 5% 50V | D3 | 8-719-042-69 | LED LN21RPL (TUNE) | |
| | | | | D4 | 8-719-031-85 | DIODE 1N4002L | |
| C12 | 1-163-141-00 | CERAMIC CHIP | 0.001uF 5% 50V | D5 | 8-719-031-85 | DIODE 1N4002L | |
| C14 | 1-124-927-11 | ELECT | 4.7uF 20% 100V | D6 | 8-719-031-85 | DIODE 1N4002L | |
| C15 | 1-163-031-11 | CERAMIC CHIP | 0.01uF 50V | | | < IC > | |
| C16 | 1-163-031-11 | CERAMIC CHIP | 0.01uF 50V | IC1 | 8-752-030-17 | IC CXA1019P | |
| C17 | 1-124-927-11 | ELECT | 4.7uF 20% 100V | | | < JACK > | |
| C18 | 1-124-907-11 | ELECT | 10uF 20% 50V | J1 | 1-566-891-21 | JACK (C) | |
| C19 | 1-124-463-00 | ELECT | 0.1uF 20% 50V | | | < JUMPER RESISTOR > | |
| C20 | 1-163-037-11 | CERAMIC CHIP | 0.022uF 10% 25V | JR1 | 1-216-296-00 | METAL CHIP 0 5% 1/8W | |
| C21 | 1-163-077-00 | CERAMIC CHIP | 0.1uF 10% 25V | JR2 | 1-216-296-00 | METAL CHIP 0 5% 1/8W | |
| C22 | 1-136-015-00 | CERAMIC CHIP | 0.0033uF 50V | JR4 | 1-216-296-00 | METAL CHIP 0 5% 1/8W | |
| | | | | JR6 | 1-216-296-00 | METAL CHIP 0 5% 1/8W | |
| C23 | 1-162-638-11 | CERAMIC CHIP | 1uF 16V | JR7 | 1-216-296-00 | METAL CHIP 0 5% 1/8W | |
| C24 | 1-124-126-00 | ELECT | 47uF 20% 10V | | | < COIL > | |
| C25 | 1-124-472-11 | ELECT | 470uF 20% 10V | L1 | 1-402-464-11 | ANTENNA, FERRITE-ROD (MW) | |
| C26 | 1-164-346-11 | CERAMIC CHIP | 1uF 16V | L2 | 1-403-698-11 | COIL, AIR-CORE (RF (TV H)) | |
| C27 | 1-124-471-00 | ELECT | 1000uF 20% 6.3V | L3 | 1-403-571-11 | COIL, OSCILLATION (RF (TV L)) | |
| | | | | L4 | 1-402-963-11 | COIL, AIR-CORE (RF (FM)) | |
| C28 | 1-124-473-11 | ELECT | 1000uF 20% 10V | * L5 | 1-426-074-00 | COIL, FM RF (A) (OSCILLATION (TV H)) | |
| C29 | 1-163-031-11 | CERAMIC CHIP | 0.01uF 50V | L6 | 1-403-572-11 | COIL, OSCILLATION ((TV L)) | |
| C30 | 1-163-031-11 | CERAMIC CHIP | 0.01uF 50V | | | | |
| C31 | 1-163-085-00 | CERAMIC CHIP | 2PF 50V | | | | |
| C32 | 1-163-031-11 | CERAMIC CHIP | 0.01uF 50V | | | | |
| C33 | 1-163-141-00 | CERAMIC CHIP | 0.001uF 5% 50V | | | | |
| C34 | 1-163-141-00 | CERAMIC CHIP | 0.001uF 5% 50V | | | | |
| C36 | 1-164-039-11 | CERAMIC | 3PF 5% 50V | | | | |
| C39 | 1-102-942-00 | CERAMIC | 5.0PF +-0.5PF 50V | | | | |
| C40 | 1-163-059-00 | CERAMIC CHIP | 0.01uF 10% 50V | | | | |

| Ref.No. | Part No. | Description | Remark |
|------------------------|--------------|-----------------------------------|--------|
| L7 | 1-428-222-11 | COIL, AIR-CORE (OSCILLATION (FM)) | |
| L8 | 1-406-028-00 | COIL, OSC (MW) | |
| < TRANSISTOR > | | | |
| Q1 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q2 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| < RESISTOR > | | | |
| R2 | 1-216-063-00 | METAL CHIP 3.9K 5% 1/10W | |
| R3 | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W | |
| R4 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| R5 | 1-216-121-00 | METAL CHIP 1M 5% 1/10W | |
| R6 | 1-216-198-91 | METAL GLAZE 1K 5% 1/8W | |
| R7 | 1-216-186-00 | METAL GLAZE 330 5% 1/8W | |
| R8 | 1-216-246-91 | METAL GLAZE 100K 5% 1/8W | |
| R9 | 1-216-037-00 | METAL CHIP 330 5% 1/10W | |
| R10 | 1-216-063-00 | METAL CHIP 3.9K 5% 1/10W | |
| R11 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R12 | 1-216-059-00 | METAL CHIP 2.7K 5% 1/10W | |
| R13 | 1-216-059-00 | METAL CHIP 2.7K 5% 1/10W | |
| R14 | 1-216-109-00 | METAL CHIP 330K 5% 1/10W | |
| R15 | 1-216-017-00 | METAL CHIP 47 5% 1/10W | |
| R16 | 1-216-166-00 | METAL GLAZE 47 5% 1/8W | |
| R17 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R18 | 1-216-186-00 | METAL GLAZE 330 5% 1/8W | |
| R19 | 1-216-250-00 | METAL GLAZE 150K 5% 1/8W | |
| R20 | 1-216-061-00 | METAL CHIP 3.3K 5% 1/10W | |
| < VARIABLE RESISTOR > | | | |
| RV1 | 1-241-586-11 | RES, VAR, CARBON 50K (VOL) | |
| RV2 | 1-223-572-11 | RES, VAR, CARBON 10K (TONE) | |
| < SWITCH > | | | |
| S1 | 1-692-799-11 | SWITCH, SLIDE (BAND) | |
| S2 | 1-571-478-11 | SWITCH, SLIDE (POWER) | |
| < TRANSFORMER > | | | |
| T1 | 1-404-790-11 | TRANSFORMER, IF | |
| △T2 | 1-423-878-11 | TRANSFORMER, POWER | |
| ***** | | | |
| MISCELLANEOUS ***** | | | |
| △20 | 1-696-008-11 | CORD, POWER | |
| ANT1 | 1-501-222-62 | ANTENNA, TELESCOPIC (FM) | |
| D3 | 8-719-042-69 | LED LN21RPL (TUNE) | |
| SP1 | 1-504-467-11 | SPEAKER (10CM) | |
| ***** | | | |

| Ref.No. | Part No. | Description | Remark |
|--|--------------|---|--------|
| ACCESSORIES & PACKING MATERIALS ***** | | | |
| | 3-757-964-21 | MANUAL, INSTRUCTION (ENGLISH) (US) | |
| | 3-757-964-31 | MANUAL, INSTRUCTION (ENGLISH, FRENCH) (CND) | |
| * | 3-909-029-01 | INDIVIDUAL CARTON (US) | |
| * | 3-909-031-01 | CUSHION | |
| * | 3-910-164-01 | INDIVIDUAL CARTON (CND) | |
| ***** | | | |
| ***** HARDWARE LIST ***** | | | |
| #1 | 7-685-549-11 | SCREW +BTP 3X14 TYPE2 N-S | |
| #2 | 7-685-134-19 | SCREW +P 2.6X8 TYPE2 NON-SLIT | |
| #3 | 7-623-508-01 | LUG, 3 | |

| | |
|---|--|
| <p>The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.</p> | <p>Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.</p> |
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