

ICF-SW22

SERVICE MANUAL

AEP Model
UK Model
E Model
Tourist Model



SPECIFICATIONS

| | |
|----------------------|---|
| Frequency range | FM : 87.6-107.5 MHz (AEP, UK, Italian, Saudi Arabia Model) 76-108 MHz (E, Tourist Model) IF: 10.7 MHz SW1: 5.775-6.425 MHz SW2: 6.875-7.525 MHz SW3: 9.375-10.025 MHz SW4: 11.615-12.265 MHz SW5: 15.00-15.65 MHz SW6: 17.50-18.15 MHz SW7: 21.325-21.975 MHz 1st IF: 10.7 MHz 2nd IF: 455 kHz MW : 531-1602 kHz (AEP, UK, Italian, Saudi Arabia Model) 530-1710 kHz (E, Tourist Model) IF: 455 kHz |
| Speaker | Approx. ϕ 40 mm (1 5/8 inches) 7.2 Ω |
| Power output | 100 mW (at 10% harmonic distortion) |
| Output | Earphone jack (minijack) |
| Power requirements | 3 V DC, two R6 (size AA) batteries. |
| Battery life | Approx. 22 hours with Sony SUM-3 (NS) |
| Dimensions | Approx. 116.5 x 72.5 x 28 mm (w/h/d) (4 1/2 x 2 7/8 x 1 1/8 inches) |
| Mass | Approx. 200 g (7.1 oz) incl. batteries |
| Accessories supplied | Short wave guide (1) UK, E, Tourist, Italian, Saudi Arabia Model : Earphone, carrying case |

Design and specifications are subject to change without notice.

Features

- Handy FM/SW₁₋₇/MW 9 band receiver with high sensitivity and selectivity.
- Band spread system enables you to easily tune in SW stations.
- Dual conversion circuit effectively reduces SW bands interference from other SW stations.

FM/MW/SW₁₋₇
9 BAND RECEIVER

SONY®

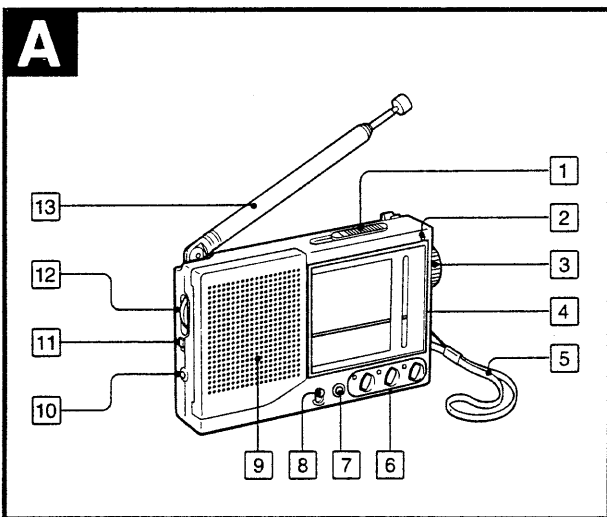


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SECTION 1 GENERAL

This section is extracted from instruction manual.

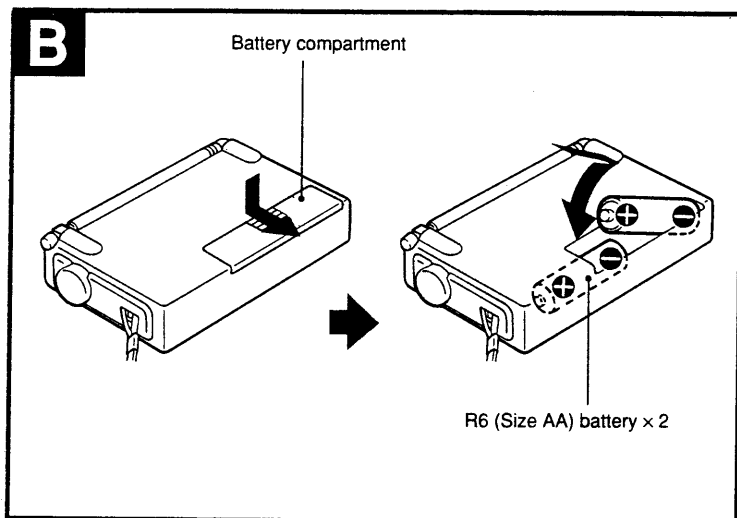


Location of Controls

See A .

- 1** SW BAND selector
- 2** TUNE (tuning indicator)
The indicator lights up when signal is received.
- 3** TUNING dial
- 4** Dial scales
- 5** Hand strap
- 6** Band selectors and indicators (FM/SW/MW)
The unit turned on with the band selectors.
- 7** OFF (power off) button
- 8** HOLD switch

- Set it to the direction of the arrow:
When listening, to avoid accidental change of the functions.
When not using, to prevent accidental pressing to turn the power on.
- 9** Speaker
 - 10** Ⓜ (earphone) jack
 - 11** TONE (MUSIC/NEWS) selector
MUSIC: for listening to the music
NEWS: for listening to news, etc.
 - 12** VOLUME dial
 - 13** Telescopic antenna



Installing the Batteries

See B .

Insert two R6 (size AA) batteries with correct polarity.

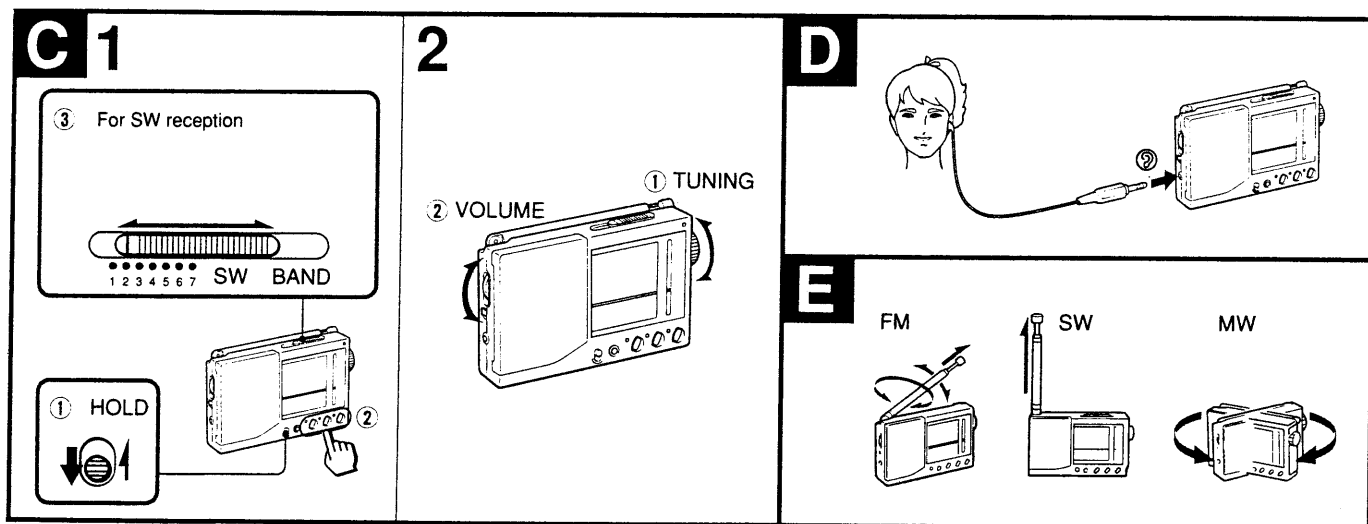
When to replace the batteries

When the batteries are weak, the band indicators will glow faintly and the sound will become distorted or unstable. In this case, replace both batteries with new ones.

Concerning the battery life, see "Specifications".

Note

When the unit is not to be used for a long period of time, remove the batteries to avoid damage caused by battery leakage and corrosion.



Operating the Radio

See C .

- 1 ① If the HOLD switch is set to arrow direction, release it.
- ② Select a desired band FM, SW or MW. The radio is turned on and the corresponding indicator lights up.
- ③ For SW reception, select a desired band with the SW BAND selector.
- 2 ① Turn the TUNING dial to tune a desired station.
- ② Adjust the volume with the VOLUME dial.

To improve receiving condition

See E .

FM: Extend the antenna for better reception.
 SW: Stand the antenna vertically.
 MW: Rotate the unit horizontally for optimum reception.
 A ferrite bar antenna is built into the unit.

To turn off the radio, press the OFF button.

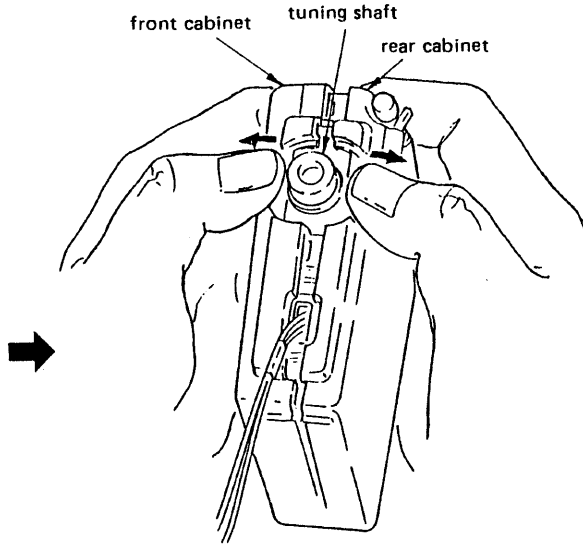
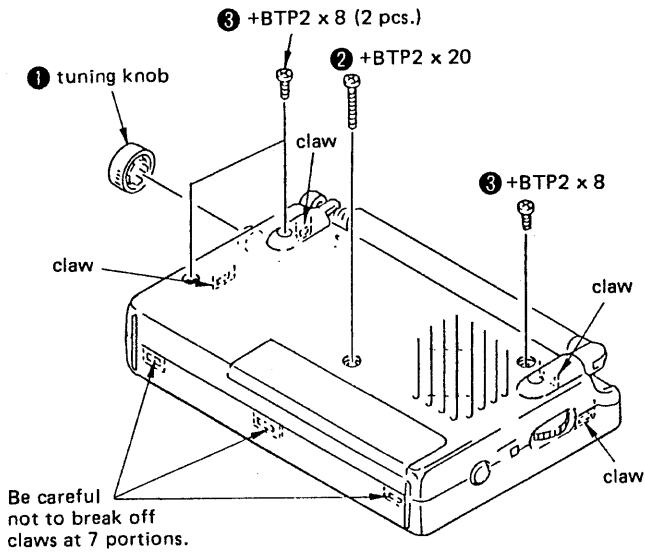
To listen with the supplied earphone

See D .

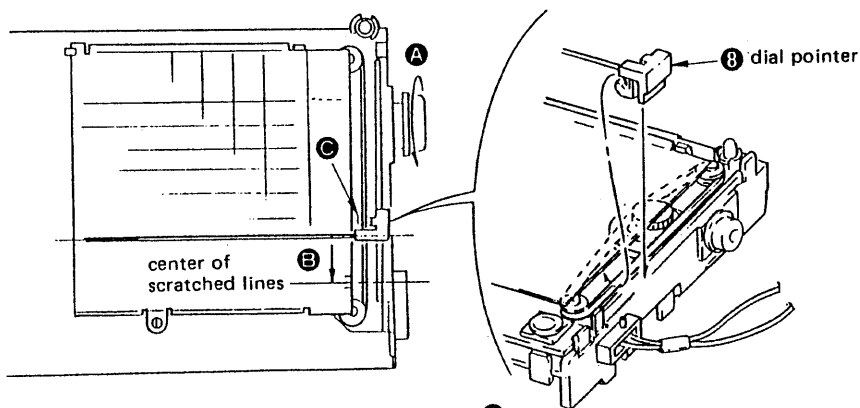
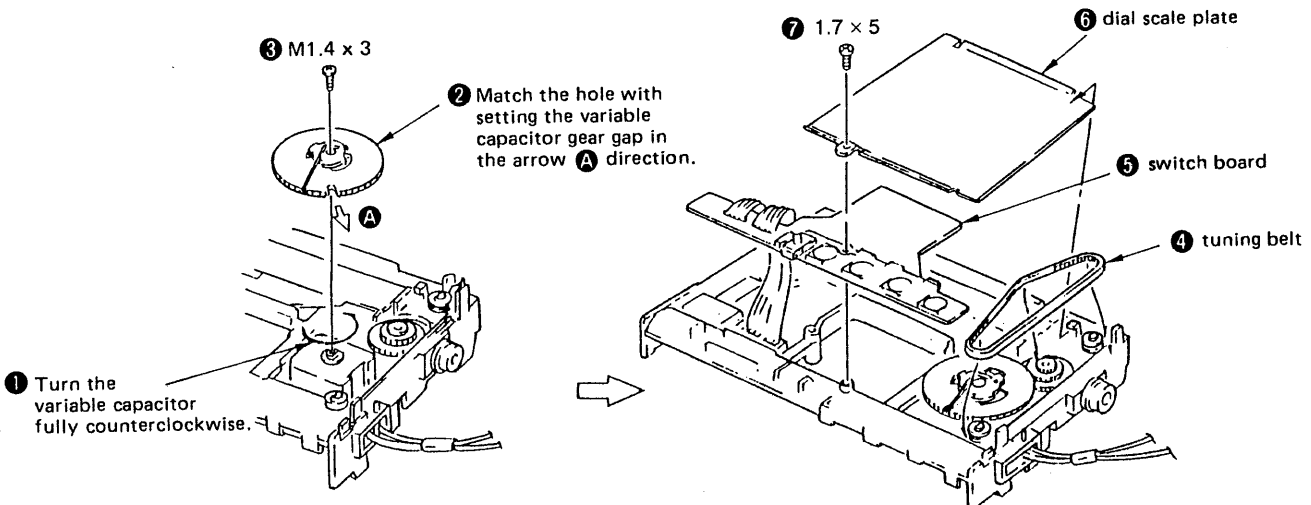
SECTION 2 DISASSEMBLY

FRONT AND REAR CABINET

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



DIAL POINTER SETTING



- 9 First, turn the tuning shaft fully in the arrow A direction. Move only the dial pointer in the arrow B direction and set it on the center of the scratched lines on the dial scale plate. Apply suitable locking compound to C portion.

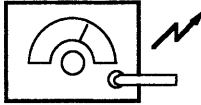
SECTION 3 ELECTRICAL ADJUSTMENTS

MW Section

procedure :

BAND switch : MW

AM RF signal generator



Put the lead-wire antenna close to the set.

30% amplitude modulation by 400Hz signal.
Output level : as low as possible

SW Section

procedure :

BAND switch : SW

AM RF signal generator



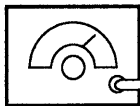
30% amplitude modulation by 400Hz signal.
Output level : as low as possible

FM Section

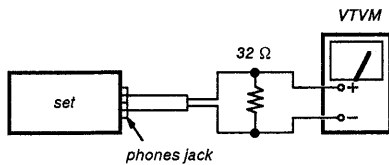
procedure :

BAND Switch : FM

FM RF signal generator



22.5kHz frequency deviation by 400Hz signal.
Output level : as low as possible



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.
- SW1 to 7 Tracking Adjustment frequencies are in a line on the scale.
Therefore, on adjusting, first SW 6.1MHz and after adjust SW2 to 7 Tracking without moving the dial pointer.

no mark : AEP, UK, Italian, Saudi Arabia model
() : E, Tourist model

| MW IF ADJUSTMENT | |
|---------------------------------------|--------|
| Adjust for a maximum reading on VTVM. | |
| T2 | 455kHz |

| MW FREQUENCY COVERAGE ADJUSTMENT | |
|---------------------------------------|---------------------|
| Adjust for a maximum reading on VTVM. | |
| L17 | 520kHz |
| CT11-3 | 1,650kHz (1,750kHz) |

| MW TRACKING ADJUSTMENT | |
|---------------------------------------|----------|
| Adjust for a maximum reading on VTVM. | |
| L14 | 620kHz |
| CT11-4 | 1,400kHz |

| SW IF (1) ADJUSTMENT | |
|---------------------------------------|---------|
| Adjust for a maximum reading on VTVM. | |
| T1 | 10.6MHz |

| SW IF (2) ADJUSTMENT | |
|---------------------------------------|--------|
| Adjust for a maximum reading on VTVM. | |
| T3 | 455kHz |

| SW1 FREQUENCY COVERAGE ADJUSTMENT | |
|---------------------------------------|---------|
| Adjust for a maximum reading on VTVM. | |
| T4 | 5.75MHz |
| CT1 | 6.45MHz |

| SW1 TRACKING ADJUSTMENT | |
|---------------------------------------|--------|
| Adjust for a maximum reading on VTVM. | |
| L1 | 6.1MHz |

| SW2 TRACKING ADJUSTMENT | |
|---------------------------------------|--------|
| Adjust for a maximum reading on VTVM. | |
| L2 | 7.2MHz |

| SW3 TRACKING ADJUSTMENT | |
|---------------------------------------|--------|
| Adjust for a maximum reading on VTVM. | |
| L3 | 9.7MHz |

| SW4 TRACKING ADJUSTMENT | |
|---------------------------------------|----------|
| Adjust for a maximum reading on VTVM. | |
| L4 | 11.94MHz |

| SW5 TRACKING ADJUSTMENT | |
|---------------------------------------|-----------|
| Adjust for a maximum reading on VTVM. | |
| L5 | 15.325MHz |

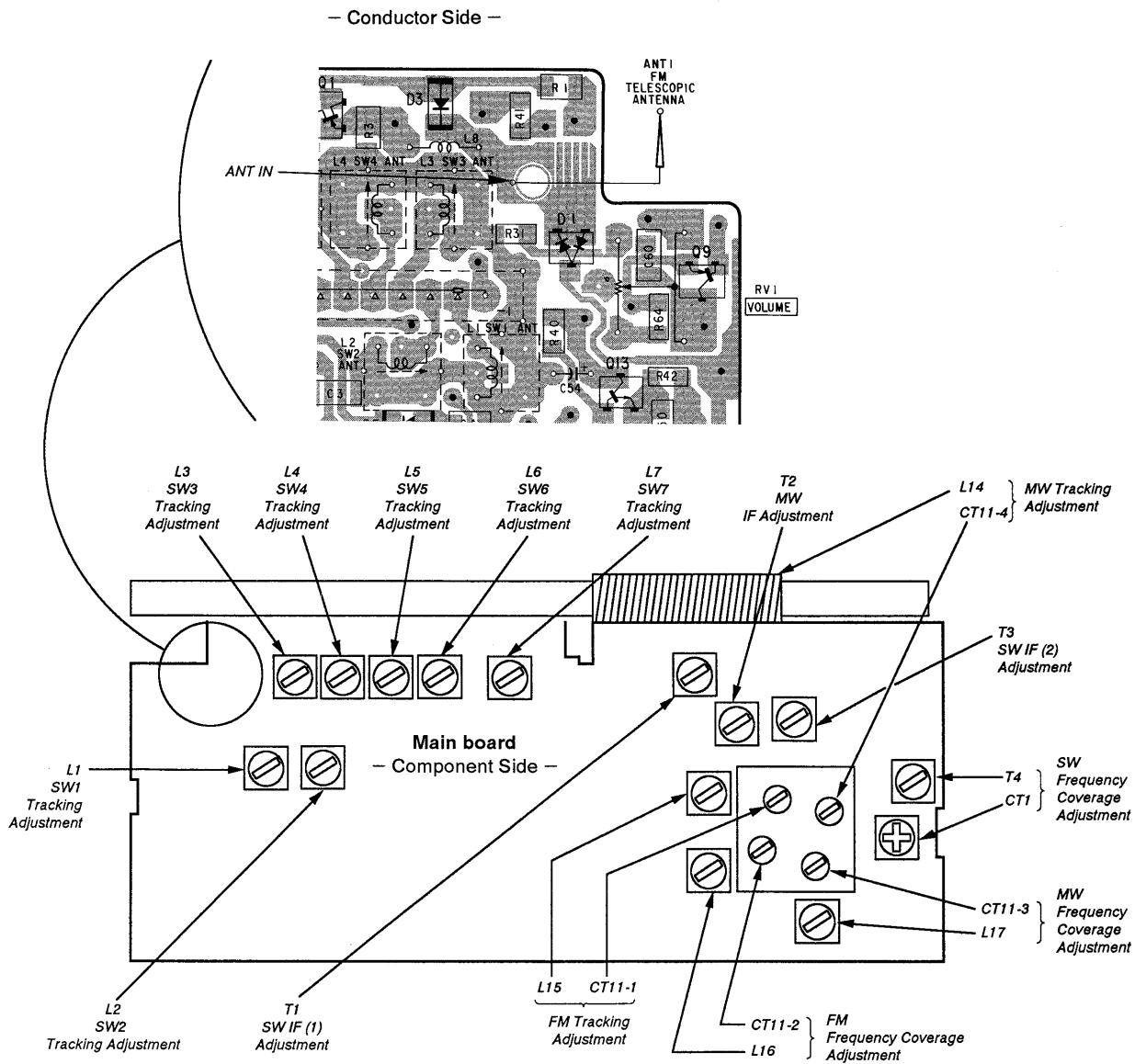
| SW6 TRACKING ADJUSTMENT | |
|---------------------------------------|-----------|
| Adjust for a maximum reading on VTVM. | |
| L6 | 17.825MHz |

| SW7 TRACKING ADJUSTMENT | |
|---------------------------------------|----------|
| Adjust for a maximum reading on VTVM. | |
| L7 | 21.65MHz |

| FM FREQUENCY COVERAGE ADJUSTMENT | |
|---------------------------------------|----------------------|
| Adjust for a maximum reading on VTVM. | |
| L16 | 87.35MHz (75.0MHz) |
| CT11-2 | 108.05MHz (109.5MHz) |

| FM TRACKING ADJUSTMENT | |
|---------------------------------------|--------------------|
| Adjust for a maximum reading on VTVM. | |
| L15 | 87.35MHz (80MHz) |
| CT11-1 | 108.05MHz (104MHz) |

[PARTS ARRANGEMENT DIAGRAM FOR ADJUSTMENT]



SECTION 4
DIAGRAMS

4-1. PRINTED WIRING BOARDS

Note:

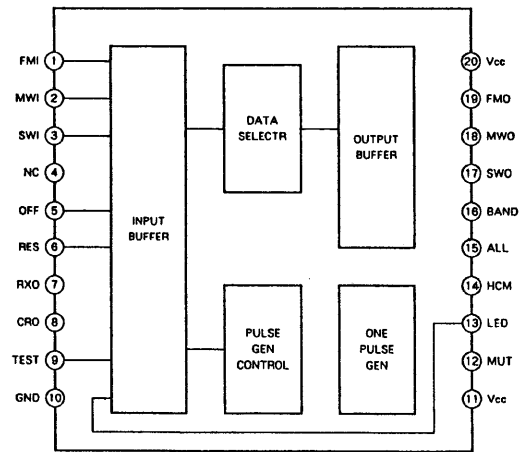
- : parts extracted from the component side.
- : parts extracted from the conductor side.
- : parts mounted on the conductor side.
- : Through hole.
- ▨ : Pattern on the side which is seen.
- ▩ : Pattern of the rear side.
- : Chip components extracted from the rear side.

● SEMICONDUCTOR LOCATION

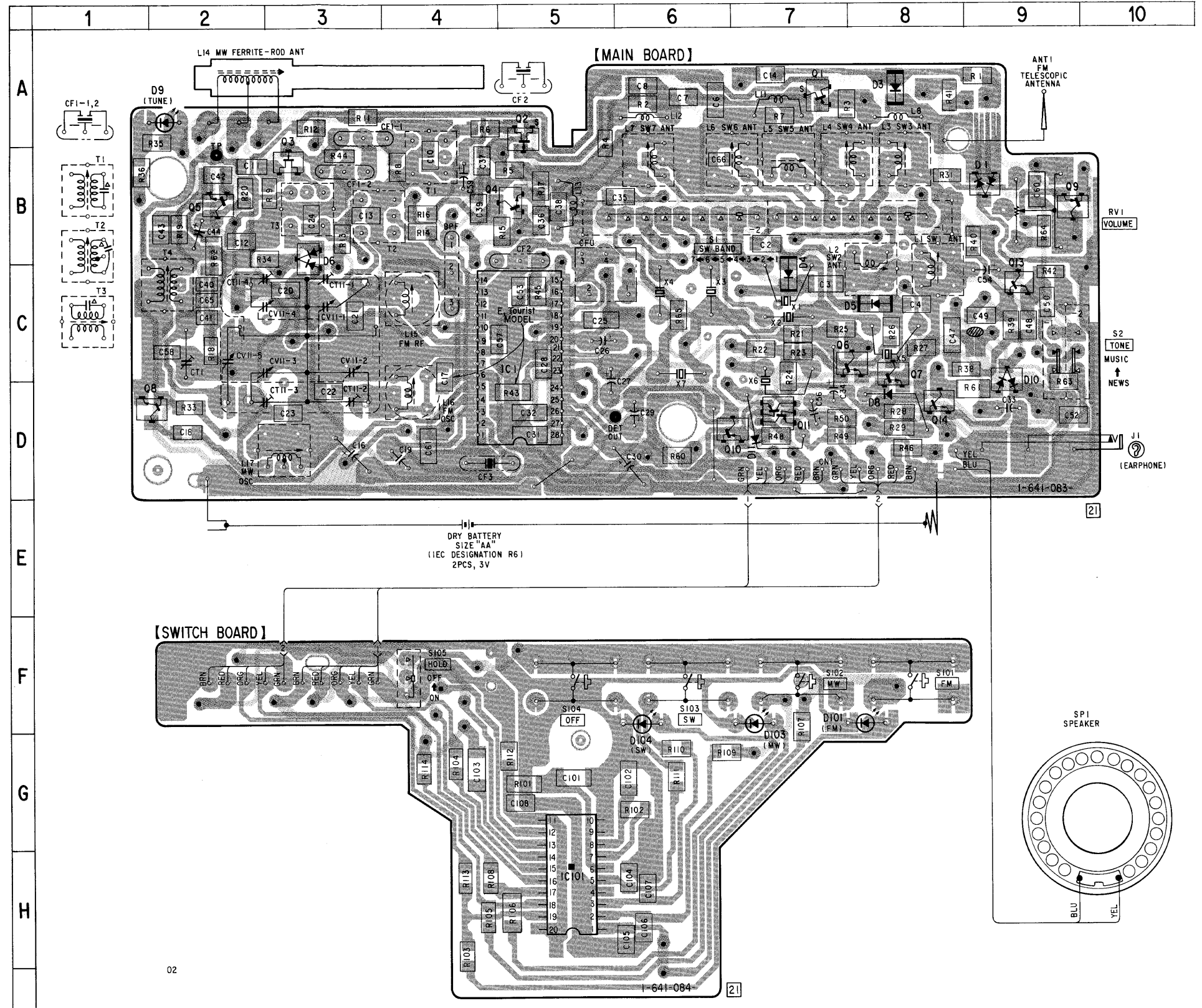
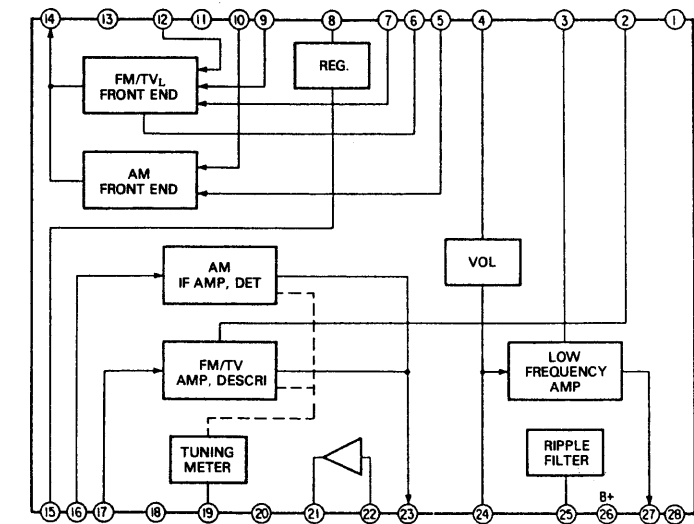
| Ref. No. | Location |
|----------|----------|
| D1 | B-9 |
| D3 | A-8 |
| D4 | C-7 |
| D5 | C-8 |
| D6 | B-3 |
| D8 | D-8 |
| D9 | A-2 |
| D10 | D-9 |
| D11 | D-7 |
| D101 | F-8 |
| D103 | F-7 |
| D104 | F-6 |
| IC1 | C-5 |
| IC101 | H-5 |
| Q1 | A-7 |
| Q2 | A-5 |
| Q3 | B-3 |
| Q4 | B-5 |
| Q5 | B-2 |
| Q6 | C-8 |
| Q7 | C-8 |
| Q8 | D-2 |
| Q9 | B-9 |
| Q10 | D-7 |
| Q11 | D-7 |
| Q13 | C-9 |
| Q14 | D-8 |

● IC BLOCK DIAGRAMS

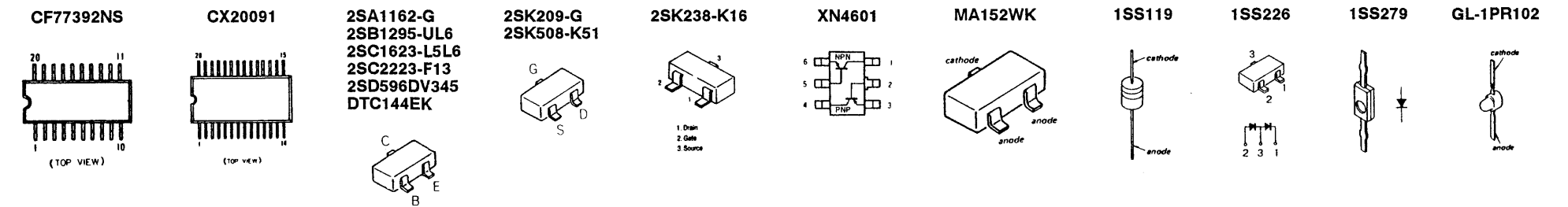
IC 101 CF77392NC

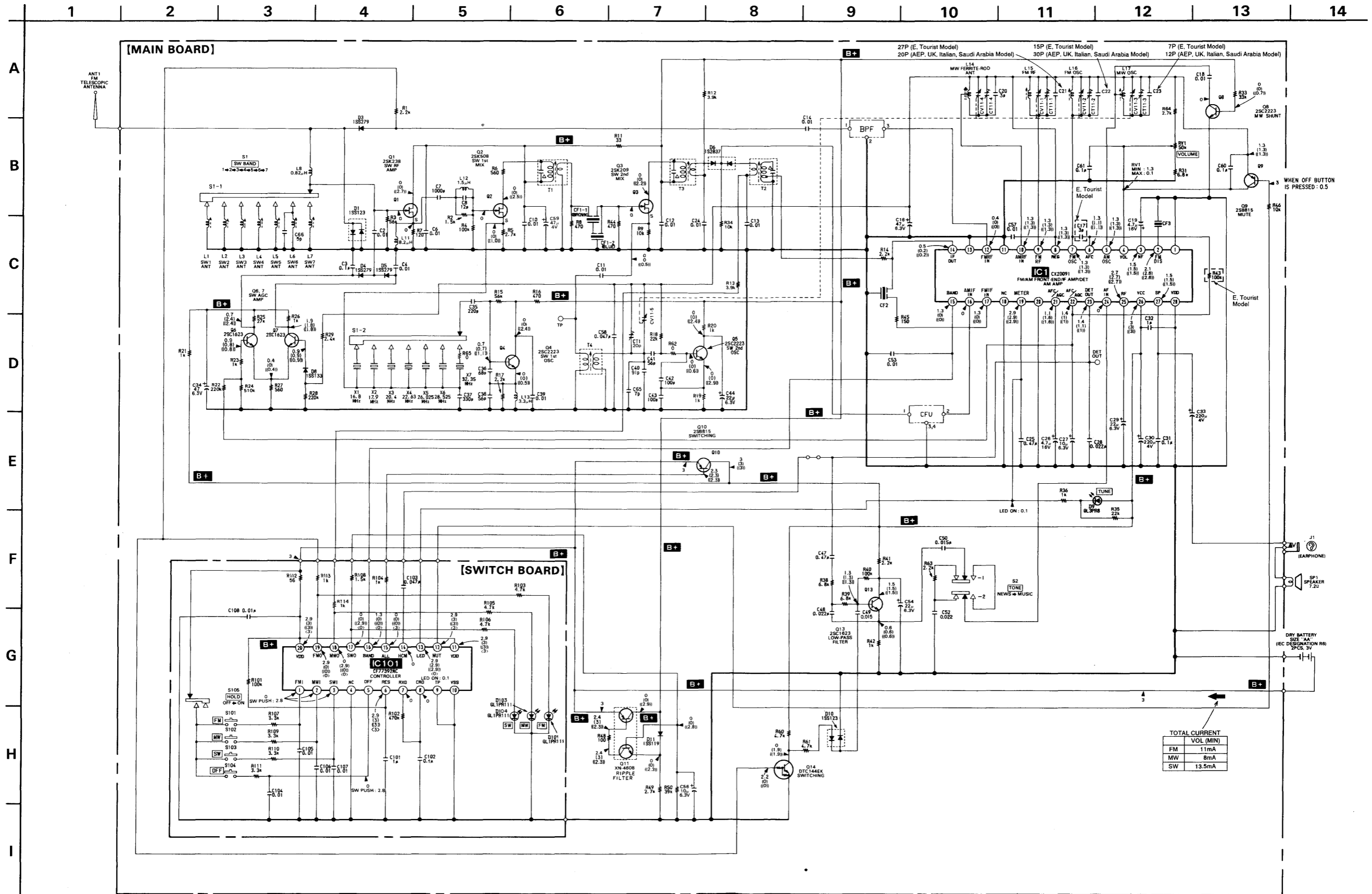


IC 1 CX20091



● SEMICONDUCTOR LEAD LAYOUTS





Note :

- All capacitors are in μ F unless otherwise noted. pF: μ μ F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}W$ or less unless otherwise specified.
- Δ : internal component.
- **B+** : B+ Line

- Power voltage is dc 3V and fed with regulated dc power supply from battery terminal.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
() : MW
(()) : SW
() : OFF

- Voltages are taken with a VOM (Input impedance 10M Ω). Voltage variations may be noted due to normal production tolerances.
- Signal path.
⇒ : FM

MAIN

SECTION 6 ELECTRICAL PARTS LIST

NOTE :

- 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.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms
METAL : Metal-film resistor
METAL OXIDE : Metal oxide-film resistor
F : nonflammable

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

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

| Ref. No. | Part No. | Description | Remark |
|----------|--------------|---|--|
| * | A-3661-854-A | MAIN BOARD, COMPLETE (AEP, UK, Italian, Saudi Arabia) ***** | |
| * | A-3661-856-A | MAIN BOARD, COMPLETE (E, Tourist) ***** | |
| | 3-892-318-00 | SCREW, SMALL | |
| | 3-900-150-01 | KNOB, VOL | |
| | | < FILTER > | |
| BPF1 | 1-235-170-00 | FILTER, BAND PASS (E, Tourist) | |
| BPF1 | 1-235-171-00 | FILTER, BAND PASS (AEP, UK, Italian, Saudi Arabia) | |
| | | < CAPACITOR > | |
| C2 | 1-164-232-11 | CERAMIC CHIP 0.01uF | 50V |
| C3 | 1-163-077-00 | CERAMIC CHIP 0.1uF | 10% 25V |
| C4 | 1-164-232-11 | CERAMIC CHIP 0.01uF | 50V |
| C6 | 1-163-059-00 | CERAMIC CHIP 0.01uF | 10% 50V |
| C7 | 1-163-009-11 | CERAMIC CHIP 0.001uF | 10% 50V |
| C8 | 1-163-095-00 | CERAMIC CHIP 12PF | 5% 50V |
| C10 | 1-164-232-11 | CERAMIC CHIP 0.01uF | 50V |
| C11 | 1-164-232-11 | CERAMIC CHIP 0.01uF | 50V |
| C12 | 1-164-232-11 | CERAMIC CHIP 0.01uF | 50V |
| C13 | 1-164-232-11 | CERAMIC CHIP 0.01uF | 50V |
| C14 | 1-164-232-11 | CERAMIC CHIP 0.01uF | 50V |
| C16 | 1-126-154-11 | ELECT 47uF | 20% 6.3V |
| C17 | 1-163-086-00 | CERAMIC CHIP 3PF | 50V (E, Tourist) |
| C18 | 1-164-232-11 | CERAMIC CHIP 0.01uF | 50V |
| C19 | 1-126-163-11 | ELECT 4.7uF | 20% 50V |
| C20 | 1-163-086-00 | CERAMIC CHIP 3PF | 50V |
| C21 | 1-163-100-00 | CERAMIC CHIP 20PF | 5% 50V (AEP, UK, Italian, Saudi Arabia) |
| C21 | 1-163-103-00 | CERAMIC CHIP 27PF | 5% 50V (E, Tourist) |

| Ref. No. | Part No. | Description | Remark |
|----------|--------------|----------------------|--|
| C22 | 1-163-097-00 | CERAMIC CHIP 15PF | 5% 50V (E, Tourist) |
| C22 | 1-163-104-00 | CERAMIC CHIP 30PF | 5% 50V (AEP, UK, Italian, Saudi Arabia) |
| C23 | 1-163-090-00 | CERAMIC CHIP 7PF | 50V (E, Tourist) |
| C23 | 1-163-095-00 | CERAMIC CHIP 12PF | 5% 50V (AEP, UK, Italian, Saudi Arabia) |
| C24 | 1-164-232-11 | CERAMIC CHIP 0.01uF | 50V |
| C25 | 1-162-637-11 | CERAMIC CHIP 0.47uF | 16V |
| C26 | 1-126-163-11 | ELECT 4.7uF | 20% 50V |
| C27 | 1-126-157-11 | ELECT 10uF | 20% 16V |
| C28 | 1-163-037-11 | CERAMIC CHIP 0.022uF | 10% 25V |
| C29 | 1-126-153-11 | ELECT 22uF | 20% 6.3V |
| C30 | 1-124-434-00 | ELECT 220uF | 20% 4V |
| C31 | 1-163-077-00 | CERAMIC CHIP 0.1uF | 10% 25V |
| C32 | 1-162-638-11 | CERAMIC CHIP 1uF | 16V |
| C33 | 1-124-434-00 | ELECT 220uF | 20% 4V |
| C34 | 1-126-154-11 | ELECT 47uF | 20% 6.3V |
| C35 | 1-163-001-11 | CERAMIC CHIP 220PF | 10% 50V |
| C36 | 1-163-113-00 | CERAMIC CHIP 68PF | 5% 50V |
| C37 | 1-163-003-11 | CERAMIC CHIP 330PF | 10% 50V |
| C38 | 1-163-111-00 | CERAMIC CHIP 56PF | 5% 50V |
| C39 | 1-164-232-11 | CERAMIC CHIP 0.01uF | 50V |
| C40 | 1-163-116-00 | CERAMIC CHIP 91PF | 5% 50V |
| C41 | 1-163-111-00 | CERAMIC CHIP 56PF | 5% 50V |
| C42 | 1-163-251-11 | CERAMIC CHIP 100PF | 5% 50V |
| C43 | 1-163-251-11 | CERAMIC CHIP 100PF | 5% 50V |
| C44 | 1-126-153-11 | ELECT 22uF | 20% 6.3V |
| C47 | 1-162-637-11 | CERAMIC CHIP 0.47uF | 16V |
| C48 | 1-163-037-11 | CERAMIC CHIP 0.022uF | 10% 25V |
| C49 | 1-163-023-00 | CERAMIC CHIP 0.015uF | 5% 50V |
| C50 | 1-163-023-00 | CERAMIC CHIP 0.015uF | 5% 50V |
| C52 | 1-163-037-11 | CERAMIC CHIP 0.022uF | 10% 25V |
| C53 | 1-164-232-11 | CERAMIC CHIP 0.01uF | 50V |
| C54 | 1-126-153-11 | ELECT 22uF | 20% 6.3V |

| Ref. No. | Part No. | Description | Remark |
|------------------|--------------|---|----------|
| C56 | 1-126-157-11 | ELECT 10uF | 20% 16V |
| C57 | 1-164-232-11 | CERAMIC CHIP 0.01uF | 50V |
| C58 | 1-163-809-11 | CERAMIC CHIP 0.047uF | 10% 25V |
| C59 | 1-126-154-11 | ELECT 47uF | 20% 6.3V |
| C60 | 1-164-004-11 | CERAMIC CHIP 0.1uF | 10% 25V |
| C61 | 1-163-077-00 | CERAMIC CHIP 0.1uF | 10% 25V |
| C65 | 1-163-090-00 | CERAMIC CHIP 7PF | 50V |
| C66 | 1-163-088-00 | CERAMIC CHIP 5PF | 50V |
| < FILTER > | | | |
| CF1 | 1-577-047-11 | FILTER, CERAMIC | |
| CF2 | 1-567-097-61 | FILTER, CERAMIC | |
| CF3 | 1-567-097-61 | FILTER, CERAMIC | |
| CFU1 | 1-577-177-11 | FILTER, CERAMIC | |
| < CONNECTOR > | | | |
| CN1 | 1-751-580-11 | CORD (WITH CONNECTOR) 10P | |
| CN2 | 1-751-581-11 | CORD (WITH CONNECTOR) 2P | |
| < TRIMMER > | | | |
| CT1 | 1-141-227-00 | CAP, TRIMMER 20PF | |
| CT11 } CV11 } | 1-151-649-11 | CAP, VARIABLE (AEP, UK, Italian, Saudi Arabia) | |
| CT11 } CV11 } | 1-151-650-11 | CAP, VARIABLE (E, Tourist) | |
| < DIODE > | | | |
| D1 | 8-719-800-76 | DIODE 1SS226 | |
| D3 | 8-719-123-79 | DIODE 1SS279 | |
| D4 | 8-719-123-79 | DIODE 1SS279 | |
| D5 | 8-719-123-79 | DIODE 1SS279 | |
| D6 | 8-719-400-18 | DIODE MA152WK | |
| D8 | 8-719-911-19 | DIODE 1SS119 | |
| D9 | 8-719-812-41 | LED TLR124(TUNE) | |
| D10 | 8-719-800-76 | DIODE 1SS226 | |
| D11 | 8-719-911-19 | DIODE 1SS119 | |
| < IC > | | | |
| IC1 | 8-752-009-10 | IC CX20091 | |
| < JACK > | | | |
| J1 | 1-507-562-00 | JACK (EARPHONE) | |
| < COIL > | | | |
| L1 | 1-402-334-11 | COIL (ANT) | |
| L2 | 1-402-332-11 | COIL (ANT) | |
| L3 | 1-402-432-11 | COIL (ANT) | |

| Ref. No. | Part No. | Description | Remark |
|----------------|--------------|---|--------|
| L4 | 1-402-331-11 | COIL (ANT) | |
| L5 | 1-406-261-11 | COIL (OSC) | |
| L5 | 1-406-206-11 | COIL (OSC) | |
| L6 | 1-402-433-11 | COIL (ANT) | |
| L7 | 1-402-330-11 | COIL (ANT) | |
| L8 | 1-414-021-11 | INDUCTOR 0.82uH | |
| L11 | 1-414-027-11 | INDUCTOR 8.2uH | |
| L12 | 1-410-966-11 | INDUCTOR 1.5uH | |
| L13 | 1-410-322-11 | INDUCTOR 3.3uH | |
| L15 | 1-459-982-11 | COIL (WITH CORE) | |
| L16 | 1-459-979-11 | COIL (WITH CORE) (FM OSC) (AEP, UK, Italian, Saudi Arabia) | |
| L16 | 1-459-436-00 | COIL (WITH CORE) (FM OSC) (E, Tourist) | |
| L17 | 1-406-255-11 | COIL (OSC) | |
| < TRANSISTOR > | | | |
| Q1 | 8-729-123-86 | TRANSISTOR 2SK238-K16 | |
| Q2 | 8-729-116-64 | TRANSISTOR 2SK508-K51 | |
| Q3 | 8-729-220-93 | TRANSISTOR 2SK209-G | |
| Q4 | 8-729-102-07 | TRANSISTOR 2SC2223-F13 | |
| Q5 | 8-729-102-07 | TRANSISTOR 2SC2223-F13 | |
| Q6 | 8-729-141-75 | TRANSISTOR 2SD596DV345 | |
| Q7 | 8-729-141-75 | TRANSISTOR 2SD596DV345 | |
| Q8 | 8-729-102-07 | TRANSISTOR 2SC2223-F13 | |
| Q9 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q10 | 8-729-807-87 | TRANSISTOR 2SB1295-UL6 | |
| Q11 | 8-729-402-84 | TRANSISTOR XN4601 | |
| Q13 | 8-729-120-28 | TRANSISTOR 2SC1623-L5L6 | |
| Q14 | 8-729-901-01 | TRANSISTOR DTC144EK | |
| < RESISTOR > | | | |
| R1 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R2 | 1-216-053-00 | METAL CHIP 1.5K 5% 1/10W | |
| R3 | 1-216-091-00 | METAL CHIP 56K 5% 1/10W | |
| R4 | 1-216-097-00 | METAL CHIP 100K 5% 1/10W | |
| R5 | 1-216-059-00 | METAL CHIP 2.7K 5% 1/10W | |
| R6 | 1-216-043-00 | METAL CHIP 560 5% 1/10W | |
| R7 | 1-216-027-00 | METAL CHIP 120 5% 1/10W | |
| R8 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R9 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R11 | 1-216-013-00 | METAL CHIP 33 5% 1/10W | |
| R12 | 1-216-063-00 | METAL CHIP 3.9K 5% 1/10W | |
| R13 | 1-216-063-00 | METAL CHIP 3.9K 5% 1/10W | |
| R14 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R15 | 1-216-091-00 | METAL CHIP 56K 5% 1/10W | |
| R16 | 1-216-041-00 | METAL CHIP 470 5% 1/10W | |
| R17 | 1-216-057-00 | METAL CHIP 2.2K 5% 1/10W | |
| R18 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R19 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |

MAIN SWITCH

| Ref. No. | Part No. | Description | Remark |
|-----------------------|--------------|-------------------------------|------------------------------|
| R20 | 1-216-049-00 | METAL CHIP | 1K 5% 1/10W |
| R21 | 1-216-049-00 | METAL CHIP | 1K 5% 1/10W |
| R22 | 1-216-105-00 | METAL CHIP | 220K 5% 1/10W |
| R23 | 1-216-049-00 | METAL CHIP | 1K 5% 1/10W |
| R24 | 1-216-114-00 | METAL GLAZE | 510K 5% 1/10W |
| R25 | 1-216-083-00 | METAL CHIP | 27K 5% 1/10W |
| R26 | 1-216-049-00 | METAL CHIP | 1K 5% 1/10W |
| R27 | 1-216-043-00 | METAL CHIP | 560 5% 1/10W |
| R28 | 1-216-105-00 | METAL CHIP | 220K 5% 1/10W |
| R29 | 1-216-058-00 | METAL GLAZE | 2.4K 5% 1/10W |
| R31 | 1-216-069-00 | METAL CHIP | 6.8K 5% 1/10W |
| R33 | 1-216-085-00 | METAL CHIP | 33K 5% 1/10W |
| R34 | 1-216-073-00 | METAL CHIP | 10K 5% 1/10W |
| R35 | 1-216-081-00 | METAL CHIP | 22K 5% 1/10W |
| R36 | 1-216-049-00 | METAL CHIP | 1K 5% 1/10W |
| R38 | 1-216-069-00 | METAL CHIP | 6.8K 5% 1/10W |
| R39 | 1-216-069-00 | METAL CHIP | 6.8K 5% 1/10W |
| R40 | 1-216-097-00 | METAL CHIP | 100K 5% 1/10W |
| R41 | 1-216-057-00 | METAL CHIP | 2.2K 5% 1/10W |
| R42 | 1-216-049-00 | METAL CHIP | 1K 5% 1/10W |
| R43 | 1-216-246-91 | METAL GLAZE | 100K 5% 1/8W (E, Tourist) |
| R44 | 1-216-041-00 | METAL CHIP | 470 5% 1/10W |
| R45 | 1-216-029-00 | METAL CHIP | 150 5% 1/10W |
| R46 | 1-216-073-00 | METAL CHIP | 10K 5% 1/10W |
| R48 | 1-216-025-00 | METAL CHIP | 100 5% 1/10W |
| R49 | 1-216-059-00 | METAL CHIP | 2.7K 5% 1/10W |
| R50 | 1-216-689-11 | METAL CHIP | 39K 0.5% 1/10W |
| R60 | 1-216-065-00 | METAL CHIP | 4.7K 5% 1/10W |
| R61 | 1-216-214-00 | METAL GLAZE | 4.7K 5% 1/8W |
| R62 | 1-216-296-91 | METAL GLAZE | 0 5% 1/8W |
| R63 | 1-216-057-00 | METAL CHIP | 2.2K 5% 1/10W |
| R64 | 1-216-059-00 | METAL CHIP | 2.7K 5% 1/10W |
| R65 | 1-216-295-00 | METAL CHIP | 0 5% 1/10W |
| < VARIABLE RESISTOR > | | | |
| RV1 | 1-238-562-11 | RES, VAR, CARBON 50K (VOLUME) | |
| < SWITCH > | | | |
| S1 | 1-554-979-11 | SWITCH, SLIDE (SW BAND) | |
| S2 | 1-554-123-00 | SWITCH, SLIDE (TONE) | |
| < TRANSFORMER > | | | |
| T1 | 1-404-764-11 | TRANSFORMER, IF | |
| T2 | 1-404-362-61 | TRANSFORMER, IF | |
| T3 | 1-404-362-61 | TRANSFORMER, IF | |
| T4 | 1-459-980-11 | COIL | |

| Ref. No. | Part No. | Description | Remark |
|---------------|--------------|-------------------------------|----------------|
| < CRYSTAL > | | | |
| X1 | 1-577-447-11 | VIBRATOR, CERAMIC (16.8MHz) | |
| X2 | 1-577-448-11 | VIBRATOR, CERAMIC (17.9MHz) | |
| X3 | 1-577-449-11 | VIBRATOR, CERAMIC (20.4MHz) | |
| X4 | 1-577-445-11 | VIBRATOR, CERAMIC (22.63MHz) | |
| X5 | 1-577-453-11 | VIBRATOR, CERAMIC (26.025MHz) | |
| X6 | 1-577-454-11 | VIBRATOR, CERAMIC (28.525MHz) | |
| X7 | 1-577-452-11 | VIBRATOR, CERAMIC (32.35MHz) | |
| ***** | | | |
| * | 1-641-084-21 | SWITCH BOARD | |
| ***** | | | |
| < CAPACITOR > | | | |
| C101 | 1-162-638-11 | CERAMIC CHIP | 1uF 16V |
| C102 | 1-163-077-00 | CERAMIC CHIP | 0.1uF 10% 25V |
| C103 | 1-163-075-00 | CERAMIC CHIP | 0.047uF 50V |
| C104 | 1-164-232-11 | CERAMIC CHIP | 0.01uF 50V |
| C105 | 1-164-232-11 | CERAMIC CHIP | 0.01uF 50V |
| C106 | 1-164-232-11 | CERAMIC CHIP | 0.01uF 50V |
| C107 | 1-164-232-11 | CERAMIC CHIP | 0.01uF 50V |
| C108 | 1-164-232-11 | CERAMIC CHIP | 0.01uF 50V |
| < DIODE > | | | |
| D101 | 8-719-918-65 | LED | GL-1PR102 (FM) |
| D103 | 8-719-918-65 | LED | GL-1PR102 (MW) |
| D104 | 8-719-918-65 | LED | GL-1PR102 (SW) |
| < IC > | | | |
| IC101 | 8-759-979-91 | IC | CF77392NS |
| < RESISTOR > | | | |
| R101 | 1-216-246-91 | METAL GLAZE | 100K 5% 1/8W |
| R102 | 1-216-113-00 | METAL CHIP | 470K 5% 1/10W |
| R103 | 1-216-065-00 | METAL CHIP | 4.7K 5% 1/10W |
| R104 | 1-216-049-00 | METAL CHIP | 1K 5% 1/10W |
| R105 | 1-216-065-00 | METAL CHIP | 4.7K 5% 1/10W |
| R106 | 1-216-214-00 | METAL GLAZE | 4.7K 5% 1/8W |
| R107 | 1-216-061-00 | METAL CHIP | 3.3K 5% 1/10W |
| R108 | 1-216-053-00 | METAL CHIP | 1.5K 5% 1/10W |
| R109 | 1-216-061-00 | METAL CHIP | 3.3K 5% 1/10W |
| R110 | 1-216-061-00 | METAL CHIP | 3.3K 5% 1/10W |
| R111 | 1-216-061-00 | METAL CHIP | 3.3K 5% 1/10W |
| R112 | 1-216-019-00 | METAL CHIP | 56 5% 1/10W |
| R113 | 1-216-049-00 | METAL CHIP | 1K 5% 1/10W |
| R114 | 1-216-049-00 | METAL CHIP | 1K 5% 1/10W |

SWITCH

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | <u>Remark</u> |
|-----------------|-----------------|---|---------------|
| | | < SWITCH > | |
| S101 | 1-572-926-11 | SWITCH, KEY (FM) | |
| S102 | 1-572-926-11 | SWITCH, KEY (MW) | |
| S103 | 1-572-926-11 | SWITCH, KEY (SW) | |
| S104 | 1-572-926-11 | SWITCH, KEY (OFF) | |
| S105 | 1-570-675-11 | SWITCH, SLIDE (HOLD) | |
| ***** | | | |
| | | MISCELLANEOUS | |
| | | ***** | |
| ANT1 | 1-501-432-11 | ANTENNA, TELESCOPIC | |
| D9 | 8-719-812-41 | LED TLR124 (TUNE) | |
| L14 | 1-402-434-11 | ANTENNA, FERRITE-ROD (MW) | |
| SP1 | 1-504-318-11 | SPEAKER (4CM) | |
| ***** | | | |
| | | ACCESSORIES & PACKING MATERIALS | |
| | | ***** | |
| | 1-504-116-11 | EARPHONE | |
| | | (UK, E, Tourist, Italian, Saudi Arabia) | |
| | 3-757-183-01 | MANUAL, INSTRUCTION (Tourist) | |
| | 3-757-183-11 | MANUAL, INSTRUCTION (AEP, Italian) | |
| | | (GERMAN/DUTCH/SWEDISH/ITALIAN | |
| | | /PORTUGUESE) | |
| | 3-757-183-21 | MANUAL, INSTRUCTION | |
| | | (AEP, UK, E, Saudi Arabia) | |
| | | (ENGLISH/FRENCH/SPANISH/ARABIC) | |
| | 3-893-940-19 | GUIDE, SHORT WAVE | |
| | 3-900-168-01 | CASE, CARRYING | |
| | | (UK, E, Tourist, Italian, Saudi Arabia) | |
| * | 3-904-952-01 | INDIVIDUAL CARTON | |
| * | | (AEP, UK, Italian, Saudi Arabia) | |
| * | 3-904-953-01 | INDIVIDUAL CARTON (E, Tourist) | |
| ***** | | | |
| | | ***** | |
| | | HARDWARE LIST | |
| | | ***** | |
| #1 | 7-671-113-01 | STEAL, BALL 3 | |
| #2 | 7-627-556-37 | SCREW, PRECISION +P2. 6X4 TYPE 1 | |

ICF-SW22

SONY

SERVICE MANUAL

*AEP Model
UK Model
E Model
Chinese Model
Tourist Model*

SUPPLEMENT-1

File this supplement with the service manual.

Subject: Addition of Chinese Model

(ENG-99005)

Addition of Chinese Model

Chinese Model has been added.

This is the same as E model which is not described in this supplement-1.

Refer to ICF-SW22 original service manual (9-959-095-11) for other information.

• DIFFERENCE PARTS LIST (1)EXPLODED VIEWS

| Page | E model | | | | Chinese model | | | |
|------|----------|--------------|--------------------------|--------|---------------|--------------|--------------------------|--------|
| | Ref. No. | Part No. | Description | Remark | Ref. No. | Part No. | Description | Remark |
| 11 | L14 | 1-402-434-11 | ANTENNA, FERRITE-ROD(MW) | | L14 | 1-501-625-11 | ANTENNA, FERRITE-ROD(MW) | |

(2)ACCESSORIES & PACKING MATERIAL

| Page | E model | | | | Chinese model | | | |
|------|----------|--------------|---|--------|---------------|--------------|--|--------|
| | Ref. No. | Part No. | Description | Remark | Ref. No. | Part No. | Description | Remark |
| 15 | | 3-757-183-21 | MANUAL, INSTRUCTION (ENGLISH, FRENCH, SPANISH, ARABIC) (AEP, UK, E, Saudi Arabia) | | | 3-757-183-61 | MANUAL, INSTRUCTION (CHINESE) (Chinese) | |
| | | 3-893-940-19 | GUIDE, SHORT WAVE | | | 3-912-863-05 | GUIDE, SHORT WAVE | |