

# ICF-S10

## SERVICE MANUAL

Ver 1.1 2001.01

With SUPPLEMENT-1  
(9-923-892-81)

With SUPPLEMENT-2  
(9-923-892-82)

With SUPPLEMENT-3  
(9-923-892-83)



*US Model  
Canadian Model  
AEP Model  
UK Model  
E Model*

### SPECIFICATIONS

**Frequency range**

FM: 87.5–108 MHz  
AM: 526.5 – 1606.5 kHz (Italian model)  
530 – 1605 kHz (EXCEPT Italian model)

**Speaker**

Approx. 5.7 cm (2¼ inches) dia.

**Power output**

100mW (at 10 % harmonic distortion)

**Output**

Ⓜ jack (minijack)

**Power requirements**

3 V DC, two R6 (size AA) batteries

**Battery life**

Using Sony SUM-3 (NS)  
FM: Approx. 40 hours  
AM: Approx. 45 hours

**Dimensions**

Approx. 71 x 118.5 x 30 mm (w/h/d)  
(2⅞ x 4¼ x 1⅞ inches)

**Mass**

Approx. 202 g (7 oz.) incl. batteries

Design and specifications are subject to change without notice.



FM/AM RADIO  
**SONY**®

## SERVICING NOTES

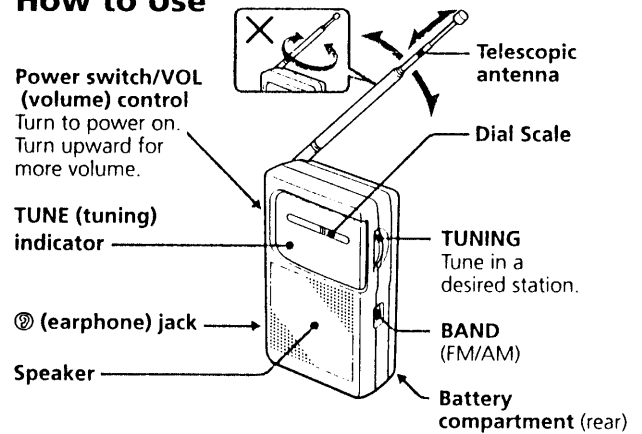
### Note on chip component replacement

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

This section is extracted from instruction manual.

## SECTION 1 GENERAL

### How to Use



### To turn off the radio

Turn the Power switch downward to OFF until a click is heard.

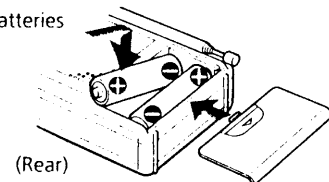
### For improved reception

**FM**: Extend the telescopic antenna and adjust its length, direction and angle for the best reception.

**AM**: Rotate the unit horizontally for optimum reception. A ferrite bar antenna is built in the unit.

### Installing the Batteries

Two R6 (size AA) batteries



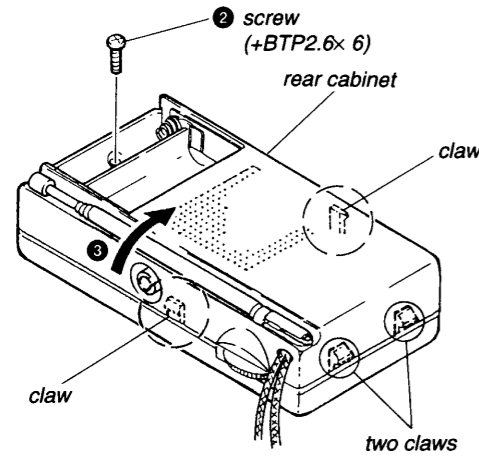
When the TUNE indicator glows faintly, replace all the batteries with new ones.

## SECTION 2 DISASSEMBLY

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

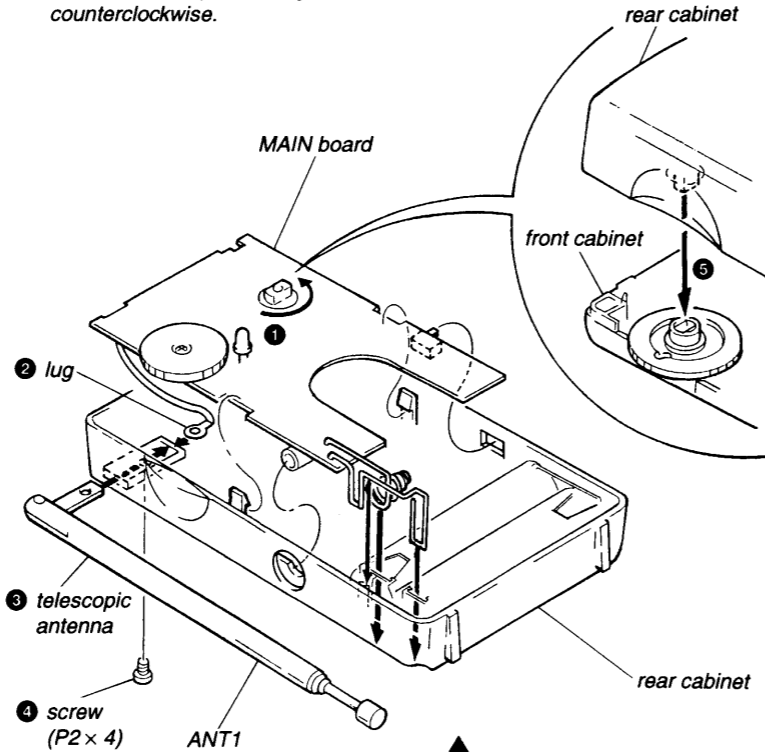
### REAR CABINET REMOVAL

- 1 Remove the battery case lid

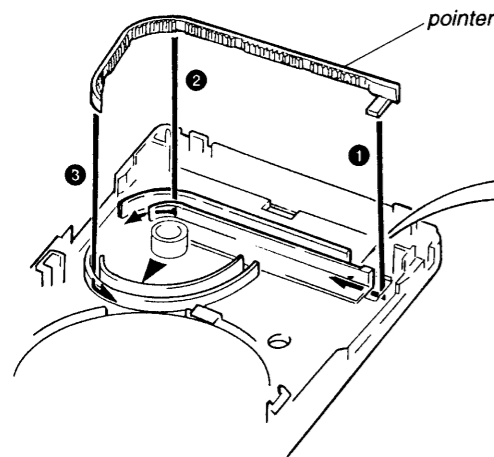


### MAIN BOARD MOUNTING

- 1 Turn variable capacitor fully counterclockwise.



### POINTER SETTING

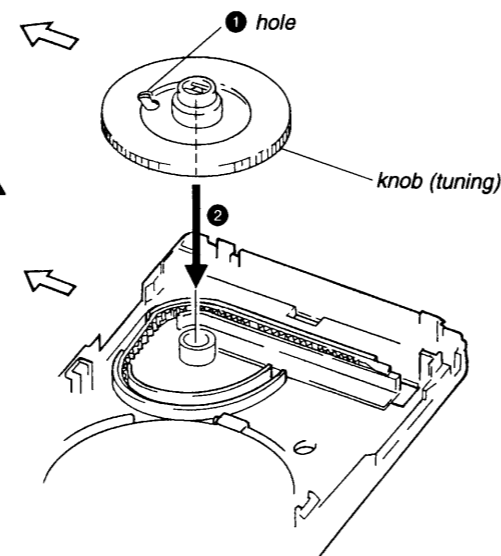


- 4 Slide the pointer to the "▼" marked position.

- 5 Return the pointer in the arrow direction to the stopper.

### KNOB (TUNING) INSERTION

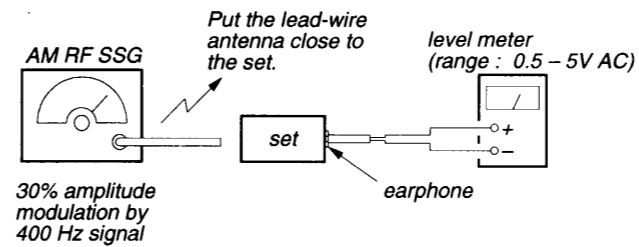
- 1 Turn the holed position of the knob (tuning) to the arrow direction and insert the knob (tuning) so as to engage with the pointer surely.



## SECTION 3 ADJUSTMENTS

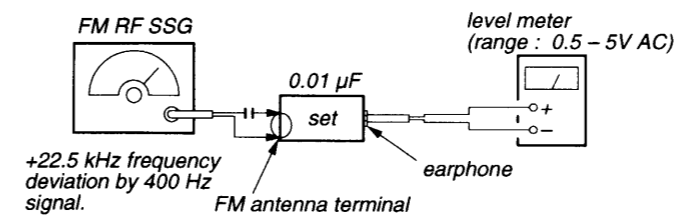
[AM]

Setting :  
BAND switch: AM



[FM]

Setting :  
BAND switch: FM



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

( ) : East European model

### FM FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.

L2	CT3
86.5 MHz (64 MHz)	109.5 MHz

### FM TRACKING ADJUSTMENT

Adjust for a maximum reading on level meter.

L3	CT2
frequency min. (68 MHz)	frequency max. (102 MHz)

### AM FREQUENCY COVERAGE ADJUSTMENT

Adjust for a maximum reading on level meter.

L4	CT4
520 kHz	1,650 kHz

### AM TRACKING ADJUSTMENT

Adjust for a maximum reading on level meter.

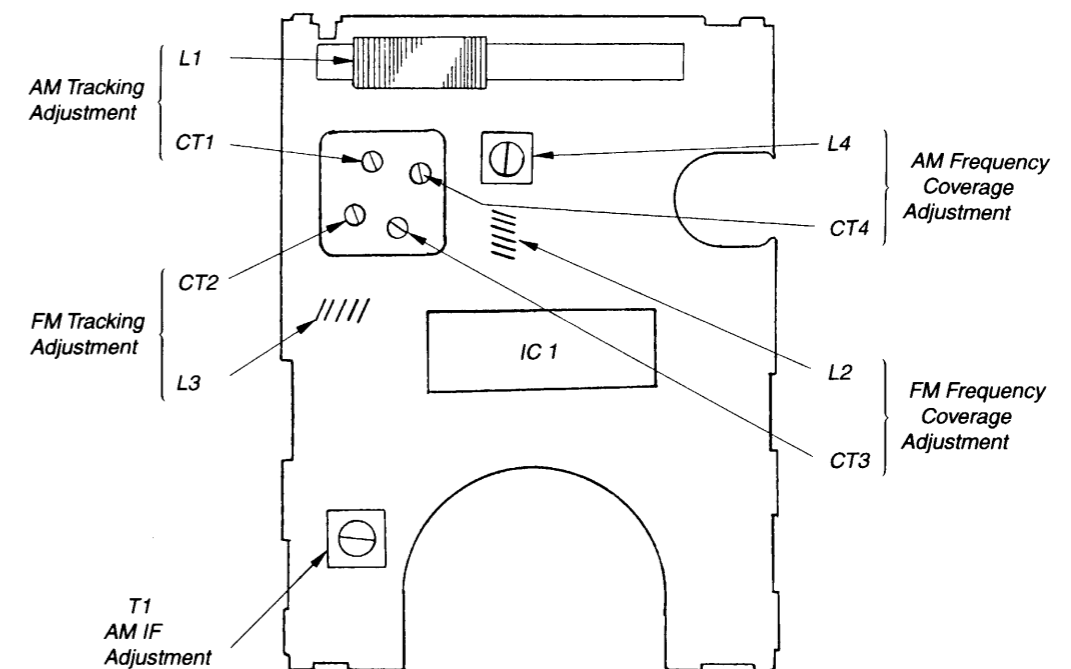
L1	CT1
620 kHz	1,400 kHz

### AM IF ADJUSTMENT

Adjust for a maximum reading on level meter.

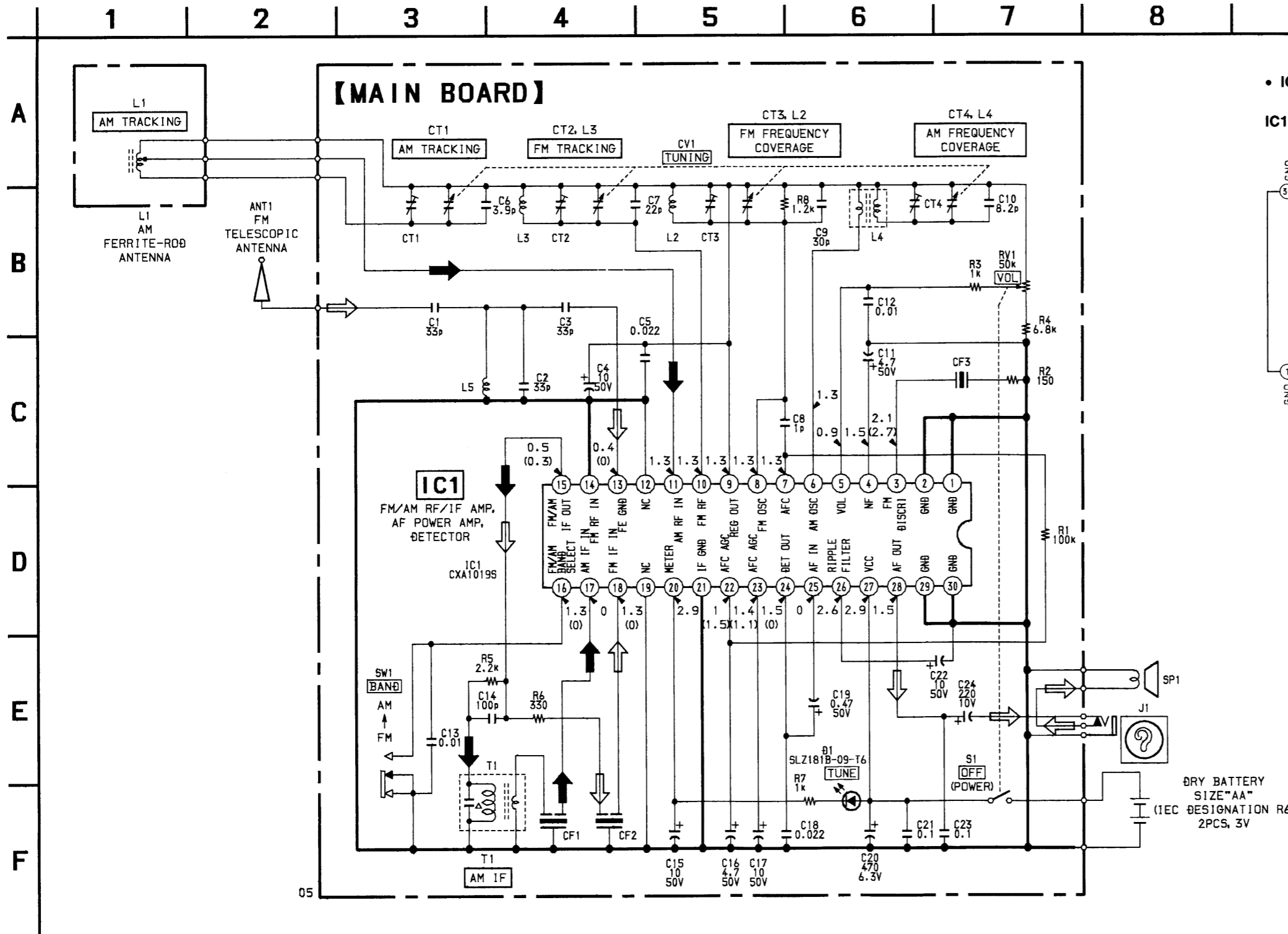
T1
455 kHz

### Adjustment Location

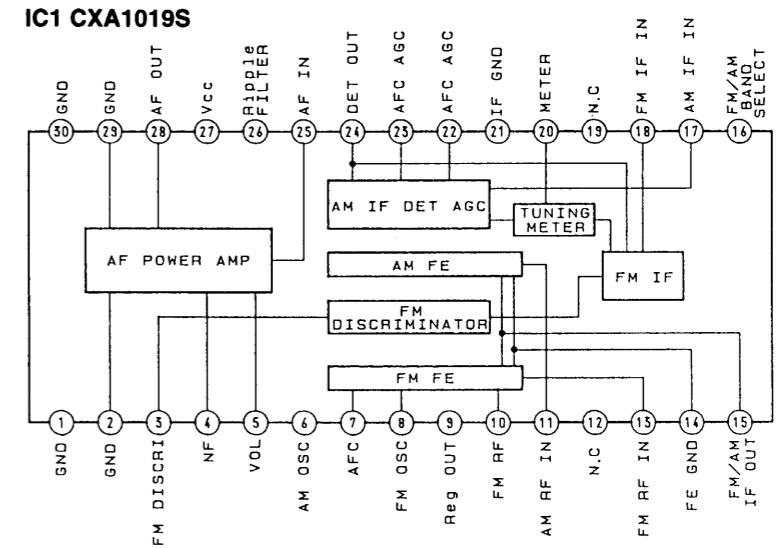


SECTION 4  
DIAGRAM

4-1. SCHEMATIC DIAGRAM



• IC Block Diagram

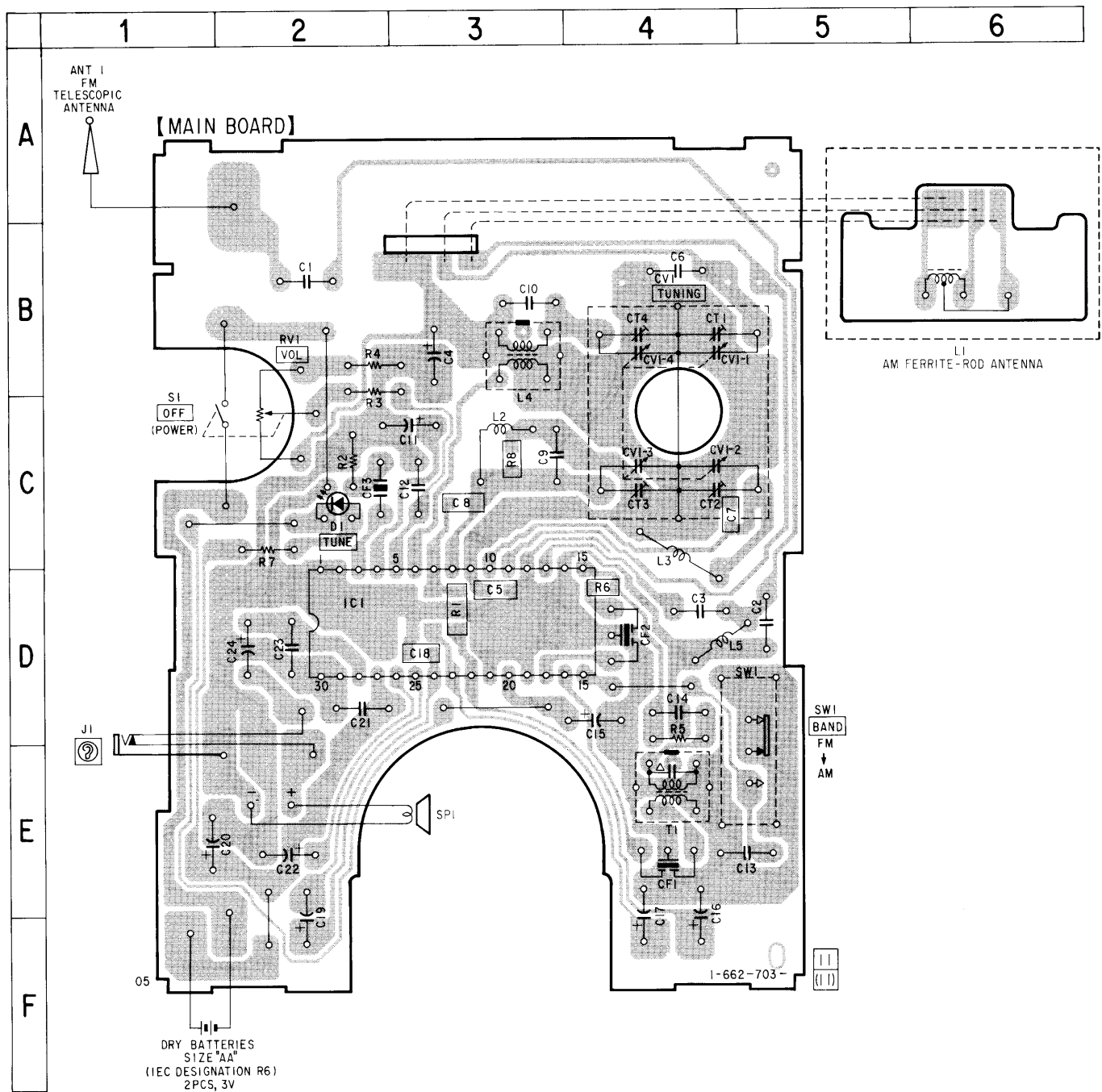


**Note on Schematic Diagram:**

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\text{F}$  50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $1/4\text{ W}$  or less unless otherwise specified.
- $\Delta$  : internal component.
- **B+** : B+ Line.
- : panel designation.
- : adjustment for repair.
- Power voltage is dc 3 V and fed with regulated dc power supply from battery terminal.
- Voltages are dc with respect to ground under no-signal (detuned) conditions.
- no mark : FM
- ( ) : AM
- Voltages are taken with a VOM (Input impedance 10  $\text{M}\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Signal path.

⇨ : FM  
⇨ : AM

4-2. PRINTED WIRING BOARDS



**Note on Printed Wiring Board:**

- — : parts extracted from the component side.
- □ : indicates side identified with part number.
- Δ : internal component.

## SECTION 5 EXPLODED VIEW

**NOTE:**

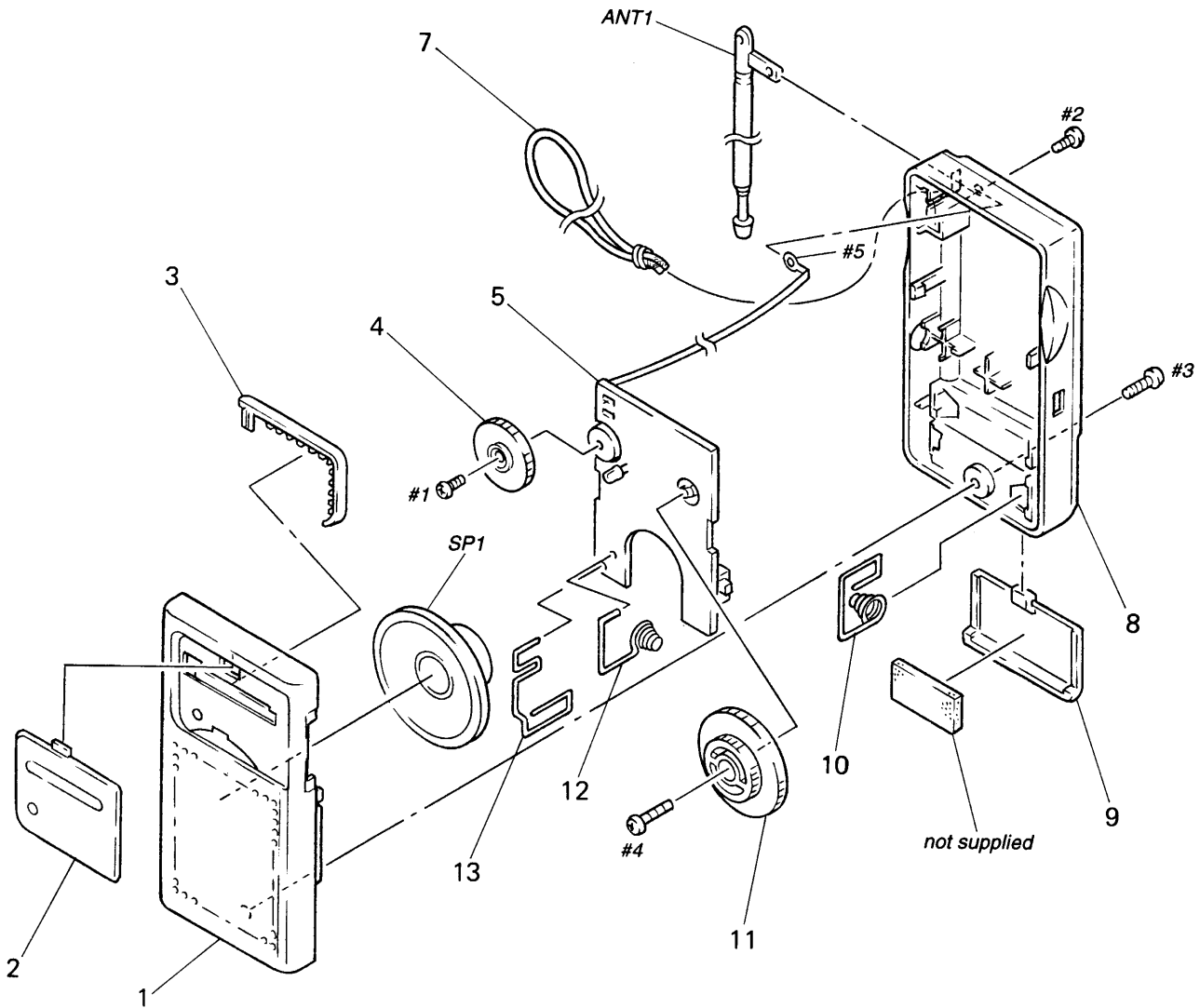
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts Example:  
 KNOB, BALANCE (WHITE) . . . (RED)

↑                      ↑  
 Parts Color    Cabinet's Color

**Abbreviation**

CND : Canadian    EE : East European  
 ES : Spanish        IT : Italian

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



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	3-938-879-01	CABINET, FRONT		8	3-938-883-01	CABINET, REAR (AEP, EE, ES, UK, E, IT)	
2	3-938-880-01	SCALE, DIAL (US, CND, AEP, ES, UK, E, IT)		8	3-938-883-21	CABINET, REAR (US, CND)	
2	3-938-880-21	SCALE, DIAL (EE)		9	3-938-886-01	LID, BATTERY CASE	
3	3-938-881-01	POINTER		10	3-903-414-01	TERMINAL, MIDWAY	
4	3-938-875-01	KNOB, VOLUME		11	3-938-874-01	KNOB, TUNING	
* 5	A-3662-597-A	MAIN BOARD, COMPLETE		12	3-364-778-01	SPRING, MINUS	
		(US, CND, AEP, ES, UK, E, IT)		13	3-903-415-01	TERMINAL, PLUS	
* 5	A-3662-633-A	MAIN BOARD, COMPLETE (EE)		ANT1	1-501-247-32	ANTENNA, TELESCOPIC	
7	3-893-381-01	STRAP, HAND		SP1	1-503-616-11	SPEAKER	

# SECTION 6 ELECTRICAL PARTS LIST

MAIN

**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 and -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
- Abbreviation  
CND: Canadian    EE: East European    ES: Spanish    IT: Italian

- 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:  $\mu$ , for example:  
uA.:  $\mu$ A.    uPA.:  $\mu$ PA.  
uPB.:  $\mu$ PB.    uPC.:  $\mu$ PC.    uPD.:  $\mu$ PD.
- CAPACITORS  
uF:  $\mu$ F
- COILS  
uH:  $\mu$ H

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

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-3662-597-A	MAIN BOARD, COMPLETE (US, CND, AEP, IT, ES, UK, E)				< FILTER >	
*	A-3662-633-A	MAIN BOARD, COMPLETE (EE) *****		CF1	1-577-072-11	FILTER, CERAMIC	
	3-938-875-01	KNOB, VOLUME		CF2	1-760-233-11	FILTER, CERAMIC	
	7-627-552-47	SCREW, PRECISION +P 1.7X4		CF3	1-760-234-11	DISCRIMINATOR, CERAMIC	
	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT				< VARIABLE CAPACITOR >	
		< CAPACITOR >		CT1-4	1-141-462-11	CAP, VAR (40PF) (TUNING) (EE)	
C1	1-162-211-31	CERAMIC 33PF	5% 50V	CT1-4	1-151-691-11	CAP, VAR (TUNING) (US, CND, AEP, IT, ES, UK, E)	
C2	1-162-211-31	CERAMIC 33PF	5% 50V	CV1	1-141-462-11	CAP, VAR (40PF) (TUNING) (EE)	
C3	1-162-211-31	CERAMIC 33PF	5% 50V	CV1	1-151-691-11	CAP, VAR (TUNING) (US, CND, AEP, IT, ES, UK, E)	
C4	1-124-907-11	ELECT 10uF	20% 50V			< DIODE >	
C5	1-163-037-11	CERAMIC CHIP 0.022uF	10% 50V	D1	8-719-051-27	DIODE SLZ181B-09-T6 (TUNE)	
C6	1-162-194-31	CERAMIC 3.9PF	10% 50V			< IC >	
C7	1-163-101-00	CERAMIC CHIP 22PF	5% 50V	IC1	8-752-055-05	IC CXA1019S	
C8	1-163-217-11	CERAMIC CHIP 1PF	0.25PF 50V			< JACK >	
C9	1-162-210-31	CERAMIC 30PF	5% 50V	J1	1-778-961-11	JACK (Ⓢ)	
C10	1-162-198-31	CERAMIC 8.2PF	10% 50V			< COIL >	
C11	1-126-963-11	ELECT 4.7uF	20% 50V	L1	1-402-545-11	ANTENNA, FERRITE-ROD (MW)	
C12	1-102-129-00	CERAMIC 0.01uF	10% 50V	* L2	1-428-274-11	COIL, AIR-CORE	
C13	1-102-129-00	CERAMIC 0.01uF	10% 50V	* L3	1-422-320-11	COIL, AIR-CORE (EE)	
C14	1-162-282-31	CERAMIC 100PF	10% 50V	L3	1-428-222-11	COIL, AIR-CORE (US, CND, AEP, IT, ES, UK, E)	
C15	1-124-907-11	ELECT 10uF	20% 50V	L4	1-406-028-00	COIL, OSC (MW)	
C16	1-126-963-11	ELECT 4.7uF	20% 50V	L5	1-428-222-11	COIL, AIR-CORE	
C17	1-124-907-11	ELECT 10uF	20% 50V			< RESISTOR >	
C18	1-163-037-11	CERAMIC CHIP 0.022uF	10% 50V	R1	1-216-246-00	METAL CHIP 100K 5% 1/8W	
C19	1-124-902-00	ELECT 0.47uF	20% 50V	R2	1-249-407-11	CARBON 150 5% 1/4W	
C20	1-126-941-11	ELECT 470uF	20% 25V	R3	1-249-417-11	CARBON 1K 5% 1/4W	
C21	1-136-165-00	FILM 0.1uF	5% 50V				
C22	1-124-907-11	ELECT 10uF	20% 50V				
C23	1-136-165-00	FILM 0.1uF	5% 50V				
C24	1-104-666-11	ELECT 220uF	20% 25V				

**MAIN**

Ref. No.	Part No.	Description	Remark
R4	1-249-427-11	CARBON 6.8K 5%	1/4W
R5	1-249-421-11	CARBON 2.2K 5%	1/4W
R6	1-216-037-00	METAL CHIP 330 5%	1/10W
R7	1-249-417-11	CARBON 1K 5%	1/4W
R8	1-216-051-00	METAL CHIP 1.2K 5%	1/10W

< VARIABLE RESISTOR >

RV1 1-241-542-11 RES, VAR, CARBON 50K (VOL)

< SWITCH >

S1 1-241-542-11 RES, VAR, CARBON 50K (OFF)

SW1 1-552-370-00 SWITCH, SLIDE (BAND)

< TRANSFORMER >

T1 1-404-790-11 TRANSFORMER, IF

\*\*\*\*\*

MISCELLANEOUS

\*\*\*\*\*

ANT1 1-501-247-32 ANTENNA, TELESCOPIC

SP1 1-503-616-11 SPEAKER

\*\*\*\*\*

\*\*\*\*\*

HARDWARE LIST

\*\*\*\*\*

- #1 7-627-552-47 SCREW, PRECISION +P 1.7X4
- #2 7-627-553-48 SCREW, PRECISION +P 2X4
- #3 7-685-533-19 SCREW +BTP 2.6X6 TYPE2 N-S
- #4 7-685-104-19 SCREW, PRECISION +P 2.6X6 TYPE 2 NON SLIT
- #5 7-623-505-01 LUG, 2

\*\*\*\*\*

ACCESSORIES & PACKING MATERIALS

\*\*\*\*\*

3-858-197-11 MANUAL, INSTRUCTION (FRENCH, GERMAN,  
SPANISH, DUTCH, ITALIAN, SWEDISH, PORTUGUESE,  
CHINESE) (CND, AEP, ES, UK, E, IT)

3-858-197-21 MANUAL, INSTRUCTION (POLISH, CZECK, MAGYAR,  
BULGARIAN, RUSSIAN) (EE)

\* 3-938-891-01 INDIVIDUAL CARTON (AEP, ES, E, IT)

\* 3-938-891-11 INDIVIDUAL CARTON (EE)

\* 3-939-990-01 INDIVIDUAL CARTON (CND)



# ICF-S10

SONY®

## SERVICE MANUAL

1997.11

US Model  
Canadian Model  
AEP Model  
UK Model  
E Model

## SUPPLEMENT-1

File this supplement with the service manual.

**Subject:**

1. Correction
2. Silver Type Addition

(ENG-97027)

### 1. CORRECTION

Page	INCORRECT				CORRECT			
	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
10	RV1	1-241-542-11	RES, VAR, CARBON	50K (VOL)	RV1	1-223-825-11	RES, VAR, CARBON (WITH S) 50K (VOL)	
	S1	1-241-542-11	RES, VAR, CARBON	50K (OFF)	S1	1-223-825-11	RES, VAR, CARBON (WITH S) 50K (OFF)	

### 2. SILVER TYPE ADDITION

 : Indicates added portion.

Page	FORMER				NEW			
	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
8	1	3-938-879-01	CABINET, FRONT		1	3-938-879-01	CABINET, FRONT (BLACK)	
					1	3-938-879-11	CABINET, FRONT (SILVER)	
	8	3-938-883-01	CABINET, REAR (AEP, EE, ES, UK, E, IT)		8	3-938-883-01	CABINET, REAR (AEP, EE, ES, UK, E, IT) (BLACK)	
					8	3-938-883-31	CABINET, REAR (AEP, ES, UK, E) (SILVER)	
	9	3-938-886-01	LID, BATTERY CASE		9	3-938-886-01	LID, BATTERY CASE (BLACK)	
					9	3-938-886-11	LID, BATTERY CASE (SILVER)	

- Abbreviation  
EE : East European  
ES : Spanish  
IT : Italian

# ICF-S10

**SONY®**

## SERVICE MANUAL

1998.12

*US Model  
Canadian Model  
AEP Model  
UK Model  
E Model  
Australian Model*

### SUPPLEMENT-2

File this supplement with the service manual.

**Subject:**

- 1. Addition of Australian Model**
- 2. Correction of Parts**

(ENG-98014)

#### **1. Addition of Australian Model**

Australian model has been added.

This is the same as other models except East European model.

Refer to ICF-S10 original service manual (9-923-892-000) for the other information.

## 2. Correction of Parts

### • SCHEMATIC DIAGRAM

✎ : Corrected portion

Page	Incorrect	Correct
5	<p>Location: A-C, 4-7</p>	<p>Location: A-C, 4-7</p> <p>*C7 18p (EXCEPT EE) 8p (EE)</p> <p>*C9 27p (EXCEPT EE) 12p (EE)</p>
5	<p>Location: D-F, 5-7</p>	<p>Location: D-F, 5-7</p>

Note:

- Abbreviation
- EE: East European

• PRINTED WIRING BOARD

☞ : Corrected portion

Page	Incorrect	Correct
7	<p>Location: B-E, 1-3</p>	<p>Location: B-E, 1-3</p>

• EXPLODED VIEW AND PARTS LIST

☞ : Indicates corrected portion

Page	Incorrect	Correct																																												
8																																														
	<table border="1"> <thead> <tr> <th>Ref. No.</th> <th>Part No.</th> <th>Description</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>* 5</td> <td>A-3662-597-A</td> <td>MAIN BOARD, COMPLETE (US, CND, AEP, ES, UK, E, IT)</td> <td></td> </tr> <tr> <td>* 5</td> <td>A-3662-633-A</td> <td>MAIN BOARD, COMPLETE (EE)</td> <td></td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Ref. No.	Part No.	Description	Remark	* 5	A-3662-597-A	MAIN BOARD, COMPLETE (US, CND, AEP, ES, UK, E, IT)		* 5	A-3662-633-A	MAIN BOARD, COMPLETE (EE)										<table border="1"> <thead> <tr> <th>Ref. No.</th> <th>Part No.</th> <th>Description</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>* 5</td> <td>A-3662-597-A</td> <td>MAIN BOARD, COMPLETE (EXCEPT EE)</td> <td></td> </tr> <tr> <td>* 5</td> <td>A-3662-633-A</td> <td>MAIN BOARD, COMPLETE (EE)</td> <td></td> </tr> <tr> <td>14</td> <td>3-318-203-71</td> <td>SCREW (B1.7X5), TAPPING</td> <td></td> </tr> <tr> <td>* 15</td> <td>3-009-415-01</td> <td>HOLDER, FERRITE-ROD ANTENNA</td> <td></td> </tr> <tr> <td>L1</td> <td>1-402-545-11</td> <td>ANTENNA, FERRITE-ROD (MW)</td> <td></td> </tr> </tbody> </table>	Ref. No.	Part No.	Description	Remark	* 5	A-3662-597-A	MAIN BOARD, COMPLETE (EXCEPT EE)		* 5	A-3662-633-A	MAIN BOARD, COMPLETE (EE)		14	3-318-203-71	SCREW (B1.7X5), TAPPING		* 15	3-009-415-01	HOLDER, FERRITE-ROD ANTENNA		L1	1-402-545-11	ANTENNA, FERRITE-ROD (MW)	
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Note:

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

## • ELECTRICAL PARTS LIST

Page	Incorrect						Correct					
	Ref. No.	Part No.	Description	Remark			Ref. No.	Part No.	Description	Remark		
9		3-938-875-01	KNOB, VOLUME					3-318-203-71	SCREW (B1.7X5), TAPPING			
		7-685-104-19	SCREW +P 2X6 TYPE NON-SLIT					7-623-420-07	LW2, TYPE B			
	C7	1-163-101-00	CERAMIC CHIP 22PF 5% 50V				C7	1-163-091-00	CERAMIC CHIP 8PF 50V(E)			
	C9	1-162-210-31	CERAMIC 30PF 5% 50V				C7	1-163-099-00	CERAMIC CHIP 18PF 5% 50V (EXCEPT EE)			
	C11	1-126-963-11	ELECT 4.7μF 20% 50V				C9	1-102-949-00	CERAMIC 12PF 5% 50V(E)			
	C12	1-102-129-00	CERAMIC 0.01μF 10% 50V				C9	1-102-961-00	CERAMIC 27PF 5% 50V (EXCEPT EE)			
	C13	1-102-129-00	CERAMIC 0.01μF 10% 50V				C11	1-124-903-11	ELECT 1μF 20% 50V			
	CF2	1-760-233-11	FILTER, CERAMIC				C12	1-162-306-11	CERAMIC 0.01μF 20% 16V			
	IC1	8-752-055-05	IC CXA1019S				C13	1-162-306-11	CERAMIC 0.01μF 20% 16V			
	* L2	1-428-274-11	COIL, AIR-CORE				CF2	1-760-233-71	FILTER, CERAMIC			
	* L3	1-422-320-11	COIL, AIR-CORE (EE)				IC1	8-752-037-02	IC CXA1019S			
	* L3	1-428-222-11	COIL, AIR-CORE (US, CND, AEP, IT, ES, UK, E)				L2	1-409-565-11	COIL (OSC) (EXCEPT EE)			
							* L2	1-422-320-11	COIL, AIR-CORE (EE)			
							* L3	1-411-285-11	COIL, AIR-CORE (EE)			
							L3	1-406-917-11	COIL, AIR-CORE (EXCEPT EE)			
	10	R8	1-216-051-00	METAL CHIP 1.2K 5% 1/10W				R8	1-216-061-00	METAL CHIP 3.3K 5% 1/10W		
#4		7-685-104-19	SCREW, PRECISION +P 2.6X6 TYPE2 NON-SLIT				R10	1-216-069-00	METAL CHIP 6.8K 5% 1/10W			
							#4	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT			
							#6	7-623-420-07	LW2, TYPE B			

## Note:

- Abbreviation  
CND : Canadian EE : East European ES : Spanish IT : Italian
- Items marked "\*" are not stocked since they are seldom required for routine service.  
Some delay should be anticipated when ordering these items.

# ICF-S10

SONY®

## SERVICE MANUAL

2001.01

US Model  
Canadian Model  
AEP Model  
UK Model  
E Model  
Australian Model

### SUPPLEMENT-3

File this supplement with the service manual.

Subject: Addition of Taiwan Model

(ENG-00022)

#### Addition of Taiwan Model

Taiwan Model has been added.

This is the same as E model which is not described in this supplement-3.

Refer to ICF-S10 original service manual (9-923-892-000) for other information.

#### • DIFFERENT PARTS LIST

Page	Before Change				After Change			
	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
8	2	3-938-880-01	SCALE, DIAL (US, CND, AEP, ES, UK, E, IT)		2	3-938-880-01	SCALE, DIAL (US, CND, AEP, UK, E, IT, ES, TW, AUS)	
	8	3-938-883-01	CABINET, REAR (AEP, EE, ES, UK, E, IT) (BLACK)		8	3-938-883-01	CABINET, REAR (AEP, UK, E, IT, ES, EE, TW, AUS) (BLACK)	
10	ACCESSORIES & PACKING MATERIALS *****				ACCESSORIES & PACKING MATERIALS *****			
		3-858-197-11	MANUAL, INSTRUCTION (FRENCH, GERMAN, SPANISH, DUTCH, ITALIAN, SWEDISH, PORTUGUESE, CHINESE) (CND, AEP, ES, UK, E, IT)			3-858-197-11	MANUAL, INSTRUCTION (FRENCH, GERMAN, SPANISH, DUTCH, ITALIAN, SWEDISH, PORTUGUESE, TRADITIONAL CHINESE) (CND, AEP, UK, E, IT, ES, TW, AUS)	

#### • Abbreviation

AUS : Australian model      ES : Spanish model  
CND : Canadian model      IT : Italian model  
EE : East European model      TW : Taiwan model

