SERVICE MANUAL

Ver 1.0 2000.03 With SUPPLEMENT-1 (9-959-641-82)



US Model Canadian Model AEP Model

SHOWER MATE

SPECIFICATIONS

Frequency range FM: 87.6 - 108 MHz, AM: 530 - 1,605 kHz Speaker Approx. 7.7 cm (3% inches) dia. Power output 250 mW (at 10% harmonic distortion) Power requirements 4.5 V DC, three size C (R14) batteries Auto power off Approx. 60 minutes Dimensions Approx. 205 x 134.5 x 61.7 mm (w/h/d) (8% x 5% x 2½ inches) Mass Approx. 575 g (1 lb. 4 oz), incl. batteries Supplied accessories Suction cup (1), Strap (1)

Design and specifications are subject to change without notice.





SECTION 1 SERVICE NOTE

• DRIP-PROOF TYPE

When removing cabinets or knobs on repairing, be sure to do followings.

Apply SONY grease SGL-505 (7-662-010-04) to all around the rib side of cabinet (rear) with a cotton swab or the like.

Apply the coating-sealant TSE-392W (7-432-950-03) to all around the rib side of cabinet ass'y and speaker.



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.

SECTION 2 GENERAL

Precautions

- To avoid electrical shock, do not open the unit. Refer servicing to qualified personnel only.
 The nameplate indicating operating voltage, etc. is located at the
- The nameplate indicating operating voltage, etc. is located at the rear.
- Avoid exposure to temperature extremes, excessive dust. Never leave in a car parked in the sun.
- Do not give a shock and strong vibration.
- Avoid leaving the unit for an extended period of time in a place subject to direct sunlight.
- Should any solid object or liquid fall into the unit, remove the batteries and have the unit checked by qualified personnel before operating it any further.
- Clean the unit with a soft cloth. Never use abrasive cleansers or chemical solvent, as they may damage the unit.

Battery Warning

When the unit will not be used for a long time, remove the batteries to avoid undue battery discharge and damage to the unit from battery leakage.

DO NOT IMMERSE IN WATER

This product is not meant to be immersed in water or come in continuous contact with water.

- Open the battery compartment lid with dry hands where water cannot fall into the unit.
- Do not pour running water onto the unit.
- Do not expose the unit to water that is warmer than 70°C (158°F) for long time.
- When the unit gets wet or if you accidentally drop the unit into the water, wipe it with a soft cloth.
- Do not touch the unit with hands wet with soapsuds.

If you have any question or problem concerning your unit, please consult your nearest Sony dealer.

Playing the Radio



- 1 Press POWER/AUTO OFF to turn on the radio.
- **2** Select band with FM/AM.
- **3** Tune in a station with the TUNE dial.
- When a station is tuned in, the tuning indicator lights up.
- 4 Adjust VOL (volume).

To Turn Off The Radio

Press POWER/AUTO OFF again.

When The Power Is Turned Off Automatically

The radio is turned off automatically in about 60 minutes to prevent unnecessary wear of the batteries. To listen to the radio continuously, press POWER/AUTO OFF. SECTION 3 DISASSEMBLY



Turn the shaft (TUNE)

in the arrow direction.

Ð

scratched line

belt (TUNE)

SECTION 4 ADJUSTMENTS





speaker terminal

• Repeat the procedures in each adjustment several times, and the

set

AM Section



T1

CTI

FM FREQUEN	NCY COVERAGE ADJUSTMENT
Adjust for	a maximum reading on VTVM.
L3	87.0 MHz
CT3	109.5 MHz

AM IF ADJUSTMENT Adjust for a maximum reading on VTVM.

455 kHz

1,400 kHz

FM TR	ACKING ADJUSTMENT
Adjust for a	a maximum reading on VTVM
L2	87.0 MHz
CT2	109.5 MHz

Adjustment Location :MAIN BOARD



IC1 CXA1019S



IC2 BU2305



Semiconductor Lead Layouts









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5-1. PRINTED WIRING BOARD • See page 6 for Semiconductor Lead Layouts.



SECTION 6 EXPLODED VIEWS



NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- 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.
- 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
1	X-3369-764-1	FRONT CABINET ASSY		18	3-917-352-01	KNOB (VOL)
2		SPRING (SP), PLUG .		19		SPRING, RING
3	3-917-362-01			20		RING (VOL), O
* 4		MAIN BOARD, COMPLETE		21		RING (BAND), 0
5		TERMINAL (+/-), BATTERY		22		KNOB (BAND) (FM/AM)
6	3-906-537-01	TERMINAL B (-), BATTERY		23	3-304-108-00	PULLEY
7	3-917-370-01	LID, BATTERY CASE		24	3-917-365-01	GEAR (A), MIDWAY
8	3-889-721-00	TERMINAL BOARD, POSITIVE		25	3-919-774-11	SCREW (M2. 6X5 LOCK ACE)
9	3-917-369-01	CABINET (REAR)		26	3-917-350-01	PACKING (TUNE)
10		FOOT, RUBBER		27	3-378-878-01	GEAR (TUNING CAPACITOR)
11	3-917-356-01	SUCKER		28	1-769-097-11	LEAD, ANTENNA
12	3-917-368-01	LEVER (BAND)		29	7-685-136-19	SCREW +BTP 2.6X12 TYPE 2 N-S
13	3-380-908-01	SHAFT (TUN)		30	7-624-104-04	STOP RING 2.0 TYPE -E
14		GEAR (B), MIDWAY		31	X-3369-280-1	POINTER ASSY
15		SPRING (B), CLICK		32	9-911-830-XX	CUSHION
16	3-900-151-01	SPRING, RING		33	3-701-439-11	WASHER
17	3-917-349-01	KNOB (TUNE)		34	3-917-361-13	BUTTON (POWER)
				SP1	1-504-918-11	



NOTE :

Remark

SECTION 7 ELECTRICAL PARTS LIST

- 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

•	Items marked "*" are not st
	they are seldom required fo
	Some delay should be antici
	when ordering these items.
•	SEMICONDUCTORS

- In each case, $u:\mu$, for example: uA..: μA.. uPA..: μPA.. uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS uF:μF • COILS
- uH: µH

Ref.No.	Part No.	Descript	ion			Remark	Ref. No.	
*	 A-3679-645-A	MAIN BOA	 RD, C(OMPLETE				
		******	*****	******				
							IC1	
		< CAPACI	TOR >				IC2	
C2	1-163-102-00	CERAMIC	CHIP	24PF	5%	50V		
C3	1-163-104-00	CERAMIC	CHIP	30PF	5%	50V		
C4	1~163-088-00	CERAMIC	CHIP	5PF		50V	JC1	
C5	1-124-234-00	ELECT		22uF	20%	16V	JC2	
C6	1-163-141-00	CERAMIC	CHIP	0. 001uF	5%	50V		
C9	1-124-902-00	ELECT		0. 47uF	20%	50V		
C10	1-164-232-11	CERAMIC	CHIP	0. 01uF		50V	L1	
C12	1-126-963-11			4. 7uF	20%	50V	* L2	
C13	1-126-963-11	ELECT		4. 7uF	20%	50V	* L3	
C14	1-124-907-11	ELECT		10uF	20%	50V	L4	
C15	1~164-005-11	CERAMIC	CHIP	0. 47uF		25V		
C16	1-163-037-11			0. 022uF	10%	25V		
C17	1-126-963-11			4. 7uF	20%	50V	Q1	
C18	1-164-346-11		CHIP	1uF		16V		
C19	1-124-442-00	ELECT		330uF	20%	6. 3V		
C20	1~164-346-11	CERAMIC	CHIP	1uF		16V	R1	
C21	1-124-442-00		••••	330uF	20%	6. 3V	R2	
C21	1~124-442-00			330uF	20%	6. 3V	R4	
C22	1-163-109-00	CERAMIC	CHIP	47PF	5%	50V	R6	
C23	1-163-017-00	CERAMIC	CHIP	0. 0047uF	5%	50V	R7	
C24	1~163-038-00	CERAMIC	CHIP	0. 1uF		25V		
							R9	
C25	1-164-005-11	CERAMIC	CHIP	0. 47uF		25V	R10	
		<					R11	
		< FILTER	>				R12	
CF1	1~567-097-61	CTITED (TRANT	c			R13	
CF2	1-567-097-61						DIA	
CF3	1~577-072-11						R14 R15	
UI J	1-3/7-072-11	rilien, v	ULNAMI	U			R15 R16	
		< VARIABI	LE CAP	ACITOR >				
CV1 CT1-4	1-141-523-11	CAP, VAR					RV1	

< DIODE >

D2 8-719-812-41 LED TLR124 (TUNE) S1 S2

tocked since or routine service. ipated

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

Description Remark Part No. < IC >8-752-055-05 IC CXA1019S 8-759-044-56 IC BU2305F < JUMPER RESISTOR > 1-216-296-00 METAL CHIP 0 5% 1/8W 1-216-296-00 METAL CHIP 0 5% 1/8W < COIL > 1-402-566-11 ANTENNA, FERRITE-ROD (MW) 1-422-320-11 COIL, AIR-CORE 1-428-229-11 COIL, AIR-CORE 1-406-028-00 COIL, OSC (MW) < TRANSISTOR > 8-729-807-87 TRANSISTOR 2SB1295-UL6 < RESISTOR > 1-216-073-00 METAL, CHIP 10K 5% 1/10₩ 1-216-069-00 METAL. CHIP 6.8K 5% 1/10W 1-216-017-00 METAL, CHIP 47 5% 1/10W 1-216-057-00 METAL, CHIP 2.2K 5% 1/10W 1-216-065-00 METAL, CHIP 4.7K 5% 1/10W 1-216-093-00 METAL, CHIP 68K 5% 1/10W 1-216-121-00 METAL, CHIP 1M 5% 1/10W 1-216-113-00 METAL, CHIP 470K 5% 1/10₩ 1-216-049-00 METAL, CHIP 1K 5% 1/10W 1-216-057-00 METAL, CHIP 2.2K 5% 1/10₩ 1-216-089-00 METAL, CHIP 47K 5% 1/10W 1-216-073-00 METAL, CHIP 10K 5% 1/10W 1-216-073-00 METAL, CHIP 10K 5% 1/10₩

< VARIABLE RESISTOR >

1-223-738-11 RES, VAR (VOL)

< SWITCH >

1-552-370-00 SWITCH, SOLDE (AM/FM) 1-554-088-00 SWITCH, KEY BOARD (POWER (AUTO OFF))



Ref. No. Part No. Description

Remark

< TRANSFORMER >

T1 1-404-790-11 TRANSFORMER, IF

MISCELLANEOUS

- 28 1-769-097-11 LEAD, ANTENNA
- SP1 1-504-918-11 SPEAKER

ACCESSORIES & PACKING MATERIALS

3-759-209-21 MANUAL, INSTRUCTION (ENGLISH)(US) 3-759-209-31 MANUAL, INSTRUCTION (ENGLISH, FRENCH) (Canadian)

- 3-759-209-41 MANUAL, INSTRUCTION (GERMAN)(AEP)
- * 3-917-354-11 INDIVIDUAL CARTON (US)
- 3-917-354-21 INDIVIDUAL CARTON (Canadian, AEP) X-3897-401-1 STRAP ASSY

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9-959-641-12

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SONY. SERVICE MANUAL

US Model Canadian Model AEP Model

CORRECTION-2

Correct your service manual as shown below.



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SONY SERVICE MANUAL

US Model Canadian Model AEP Model

2000.03

SUPPLEMENT-1

File this supplement with the service manual.

Subject:

1. Correction

- 2. Main Board Modification
- 3. US Model Modification
- (Serial No. 209,331 and later)

(ECN-TR801641)

• NEW/FORMER TYPE DISCRIMINATION



- MAIN BOARD (Component Side) -

CORRECTION

Page			INCORRECT				CORRECT	
	Ref. No. 8 11 16 25 29	3-917-356-01 3-900-151-01 3-919-774-11	Description TERMINAL BOARD, POSITIVE SUCKER SPRING, RING SCREW (M2.6X5 LOCK ACE) SCREW +BTP 2.6X12 TYPE2 N-S	<u>Remark</u>	Ref. No. 8 11 16	3-040-605-01	<u>Description</u> TERMINAL BOARD, POSITIVE SUCKER SPRING, RING	<u>Remark</u>
	32	9-911-830-XX	CUSHION		32 36 37	3-025-103-01	CUSHION (BATTERY CASE LID) RETAINER, BELT SCREW (M1.7)	
11	4	33	29 33 29 33 29 33 29 30 25 27	- 8 9)	4	33	27	8 -9
	3				36	35		®#3

(2) ELECTRICAL PARTS LIST

Page			INCORRECT				CORRECT	
	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
			**************************************				**************************************	
					#1 #2 #3	7-685-536-19	SCREW +P 2.6X5 SCREW (+B 2.6X12) STOP RING 2.0 TYPE -E	
13			S & PACKING MATERIALS				& PACKING MATERIALS	
			MANUAL, INSTRUCTION (ENGLIS MANUAL, INSTRUCTION (ENGLISH, FRENCH) (, (,		3-810-421-21 3-810-421-31	MANUAL, INSTRUCTION (ENGLIS MANUAL, INSTRUCTION (ENGLISH, FRENCH) (,,,,
		3-759-209-41	MANUAL, INSTRUCTION (GERM)	AN) (AEP)		3-810-421-11	MANUAL, INSTRUCTION (ENGLISH, GERMAN, ITALIAN, S HUNGARI	
	*	3-917-354-11	INDIVIDUAL CARTON (US)			not supplied	HUNGAM	
	*	3-917-354-21	INDIVIDUAL CARTON (Canadian,	AEP)		not supplied		
						3-917-356-01	SUCKER	

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

• MAIN BOARD MODIFICATIONS

(1) EXPLODED VIEWS

Page	Page Former Type					New Type				
	<u>Ref. No.</u>	<u>Part No.</u>	Description	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>		
11	* 4	A-3679-645-A	MAIN BOARD, COMPLETE		* 4 * 4		MAIN BOARD, COMPLETE (EXCEP MAIN BOARD, COMPLETE (US)	PT US)		

(2) ELECTRICAL PARTS LIST

Page		Former Type				New Туре					
	<u>Ref. No.</u>	<u>Part No.</u>	Description		<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	Description			<u>Remark</u>
	*	A-3679-645-A	MAIN BOARD, COMPLETE			*		MAIN BOARD, MAIN BOARD,	COMPLETE	(US)	PT US)
12			******	·		C30	1-162-282-31	***************	100PF	10%	50V (US)
	D2		LED TLR124 (TUNE)	50/	4 (4 0) 14	D2		LED L-132XHI	()	= 0/	
	R16	1-216-073-00	METAL CHIP 10K	5%	1/10W	R16	1-216-059-00		2.7K	5%	1/10W (US)
						R16	1-216-073-00	METAL CHIP	10K	5% (EX	1/10W CEPT US)

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

• PRINTED WIRING BOARD

Changed portion



• \blacksquare : parts mounted on the conductor side.

• SCHEMATIC DIAGRAM

Changed portion.

