

ECM-T110

SERVICE MANUAL

*US Model
Canadian Model
AEP Model
E Model*



SPECIFICATION

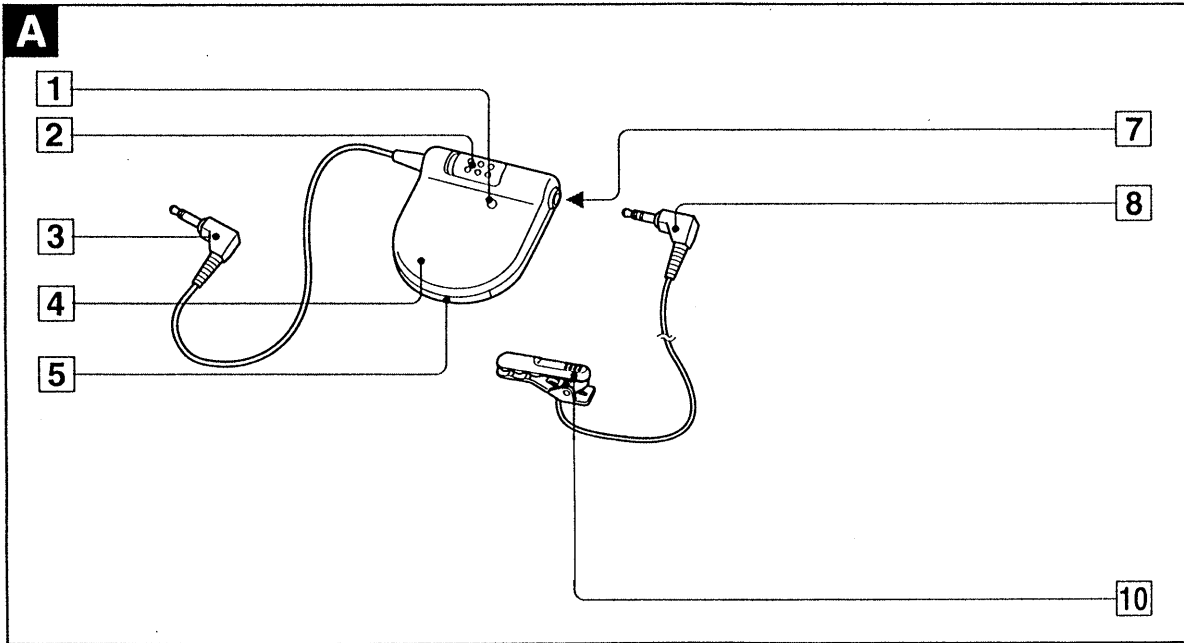
Type	Electret condenser microphone
Dimensions	Microphone Approx. 7.5 × 9.5 × 41 mm (w/h/d) (9/16 × 3/8 × 1 5/8 inches) Battery box Approx. 40 × 13 × 46 mm (w/h/d) (1 5/8 × 17/32 × 1 13/16 inches)
Mass	Microphone (including cord) Approx. 11 g (0.39 oz.) Battery box (including cord and battery) Approx. 18 g (0.63 oz.)
Cord	Microphone: Single core-shielded Length: Approx. 1 m (3.3 feet) 1.5 mm dia. Battery box: Single core-shielded Length: Approx. 0.3 m (1.1 feet) 2.2 mm dia.
Supplied accessories	Battery box (1)
Frequency response	50 – 15,000 Hz
Directivity	Omni-directional
Output impedance	2.7 kilohms ±20%
Sensitivity	Open circuit output voltage level -45±3 dB (0 dB = 1V/Pa, 1,000 Hz) 1 Pa = 10 μbar = 94 dB SPL Effective output level -55.3 ±3 dBm (0 dBm = 1 mW/Pa, 1,000 Hz)
Battery life	Approx. 330 hours with Sony lithium battery CR2025
Maximum sound pressure	input level (at 1,000 Hz, 1% distortion) More than 110 dB SPL 0 dB SPL = 2 × 10 ⁻⁵ Pa
Operating temperature	0°C – 40°C (32°F – 104°F)

Design and specifications are subject to change without notice.

Features

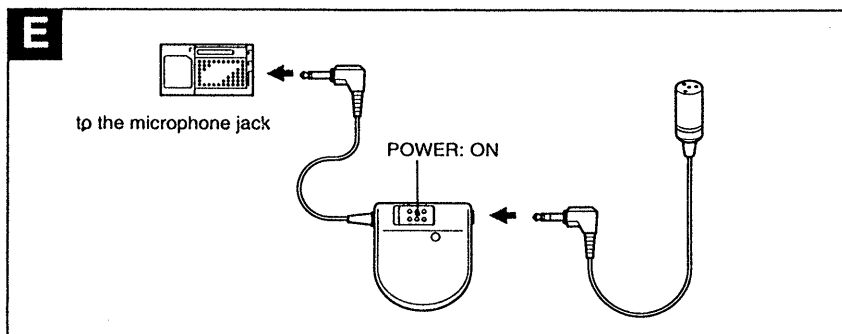
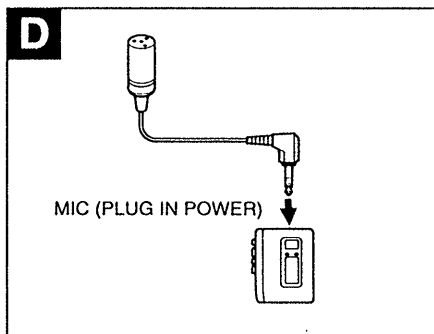
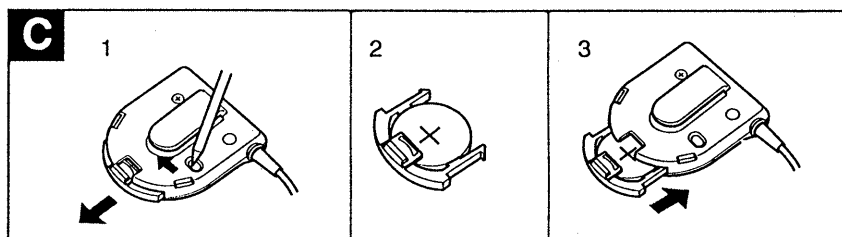
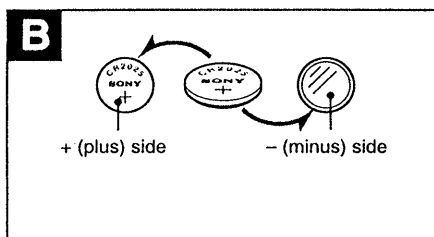
- Mini-sized tiepin type microphone which can be attached to your tie, around your collar or chest pocket.
- Two-way powering system to correspond to the tape recorder you use: supplied battery box or plug-in power system*.
- Power to the microphone is supplied directly from the connected tape recorder.

ELECTRET CONDENSER MICROPHONE
SONY®



Parts Identification See fig. A.

- 1** Battery check lamp
When the POWER switch is moved from OFF to ON, this lamp will light momentarily if the battery is in good condition.
- 2** POWER switch
- 3** Output plug (L-shaped 2-pole miniplug)
- 4** Battery box
Clip portion can be attached to the inside pocket or belt, etc.
- 5** Battery compartment
- 7** Microphone jack
- 8** Output plug (L-shaped 3-pole miniplug)
- 10** Microphone



Battery Installation

See fig. **B** and fig. **C**.

When you connect the microphone to a tape recorder without plug-in power system, install the Sony lithium battery CR2025 (not supplied) in the battery compartment.

Install the lithium battery with correct polarity. If the battery is installed with incorrect polarity, the microphone does not operate.

- 1 While pushing the tip inside with some pointed object, pull out the battery compartment.
- 2 Install the lithium battery in the battery compartment with the + side up.
- 3 Insert the battery compartment in the battery box.

When to replace the battery

You can use the microphone continuously for approx. 330 hours when using the Sony lithium battery CR2025. When the battery becomes weak, the lamp will light dimly or will not light at all. In this case, replace the battery with new one (Sony lithium battery CR2025).

To avoid battery wear or unit damage caused by battery corrosion, set the POWER switch to OFF after using the microphone.

Connections

To use with a plug-in power system tape recorder See fig. **D**

Connect the L-shaped 3-pole miniplug directly to the MIC (PLUG IN POWER) jack of the tape recorder such as Sony M-607V, TCM-77, etc.

Notes

- When connecting a tape recorder whose microphone jack is also used as headphones jack such as Sony M-88V, M-909, etc., use the battery box even though that tape recorder is capable of powering a microphone (plug-in power system). When you connect the L-shaped 3-pole plug directly to the microphone jack, the tape recorder may not operate correctly.
- The signal from the microphone is supplied to both left and right channels when you connect the microphone to a stereo tape recorder with plug-in power system.

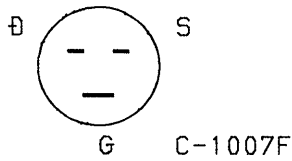
To use with a tape recorder without plug-in power system See fig. **E**

Use the battery box.

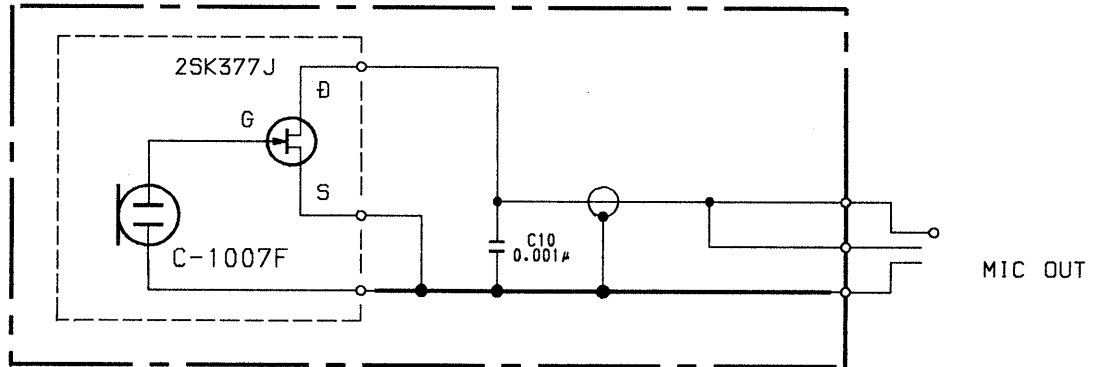
Connect the L-shaped 2-pole plug to the microphone jack of a tape recorder and connect the L-shaped 3-pole plug to the microphone jack of the battery box. Set the POWER switch on the battery box to ON.

SCHEMATIC DIAGRAM

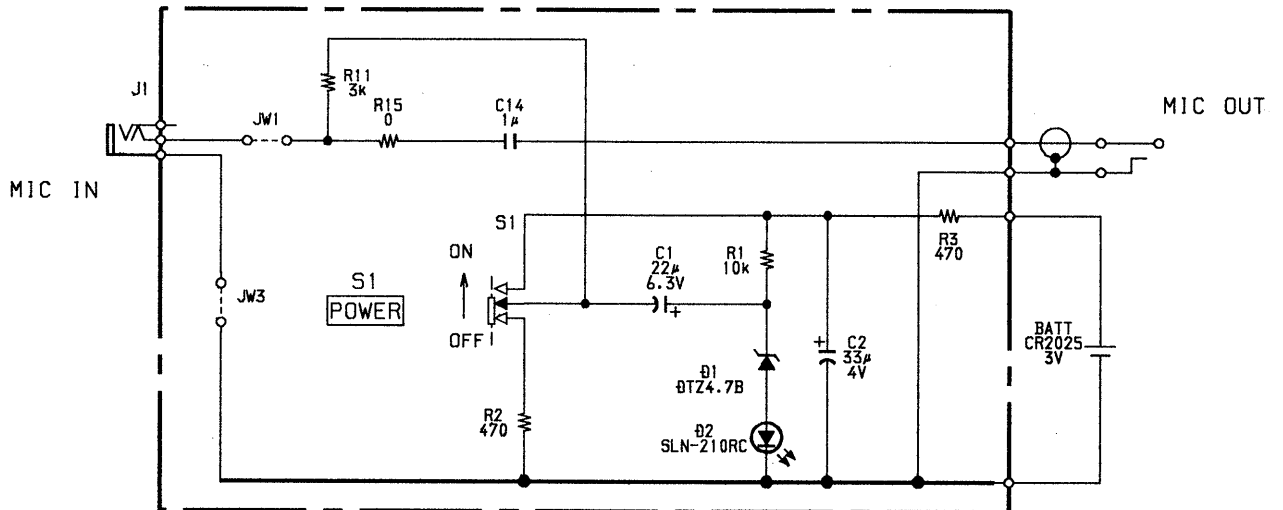
BOTTOM VIEW



MIC SECTION



BATTERY BOX SECTION



Note:

- All capacitors are in µF unless otherwise noted. pF: µµF
50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.

Service Note:

Thoroughly clean the cell surface with dry cloth, etc. before inserting the cell. (If there is notable dirt, a compound for metal grinding should be used.) Insufficient cleaning may cause noise.

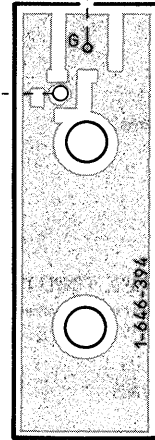
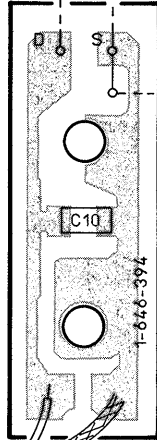
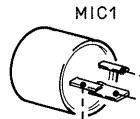
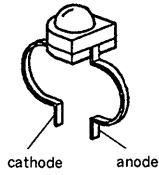
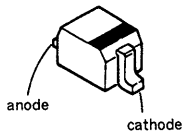
1 2 3 4 5 6 7

A
B
C
D
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I
J

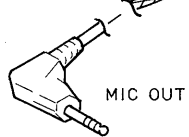
PRINTED WIRING BOARD

【UNIT BOARD】

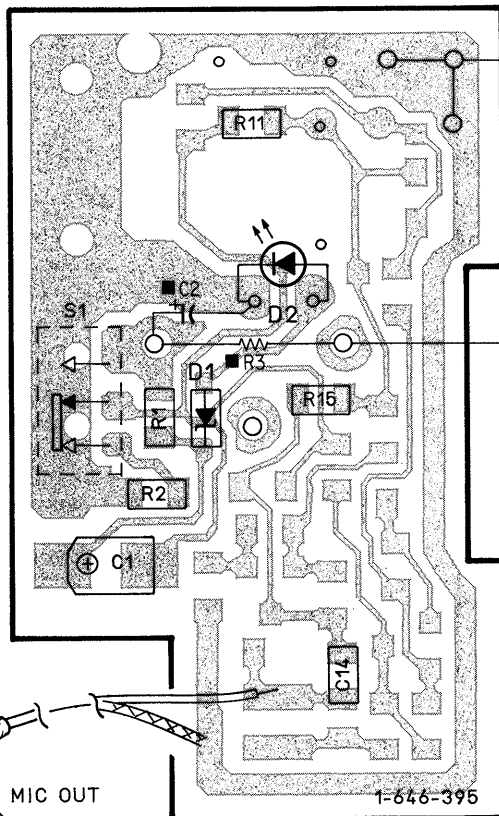
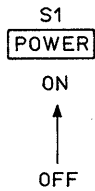
SEMICONDUCTOR LEAD LAYOUTS
DTZ4.7C SLN-210RC



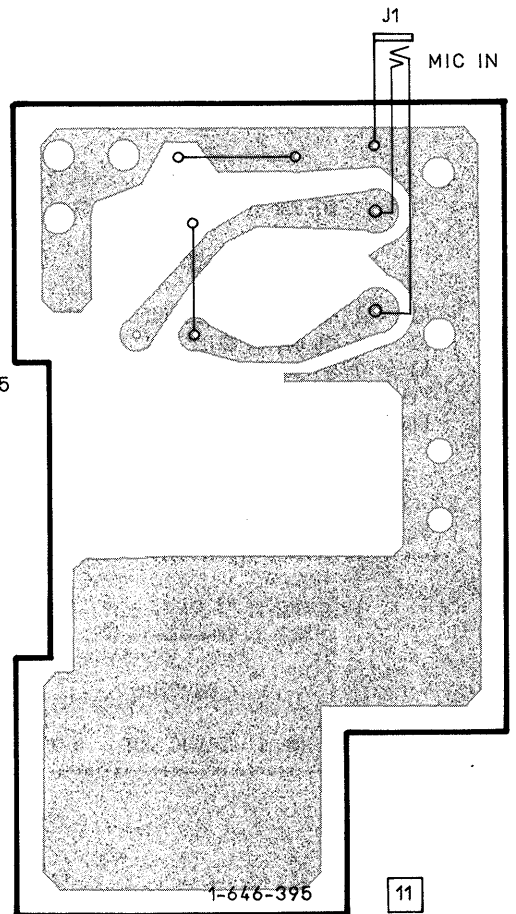
11



【AMP BOARD】



BATT
CR-2025
3V



11

Note:

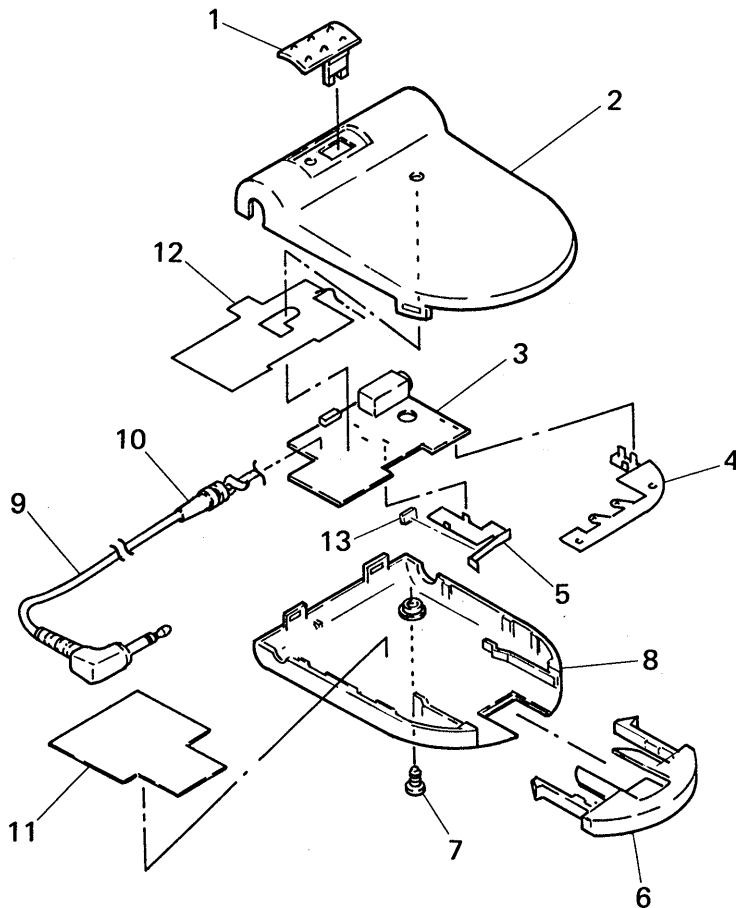
- — : parts extracted from the component side.
- — : parts extracted from the conductor side.
- ■ : parts mounted on the conductor side.

EXPLODED VIEWS

NOTE:

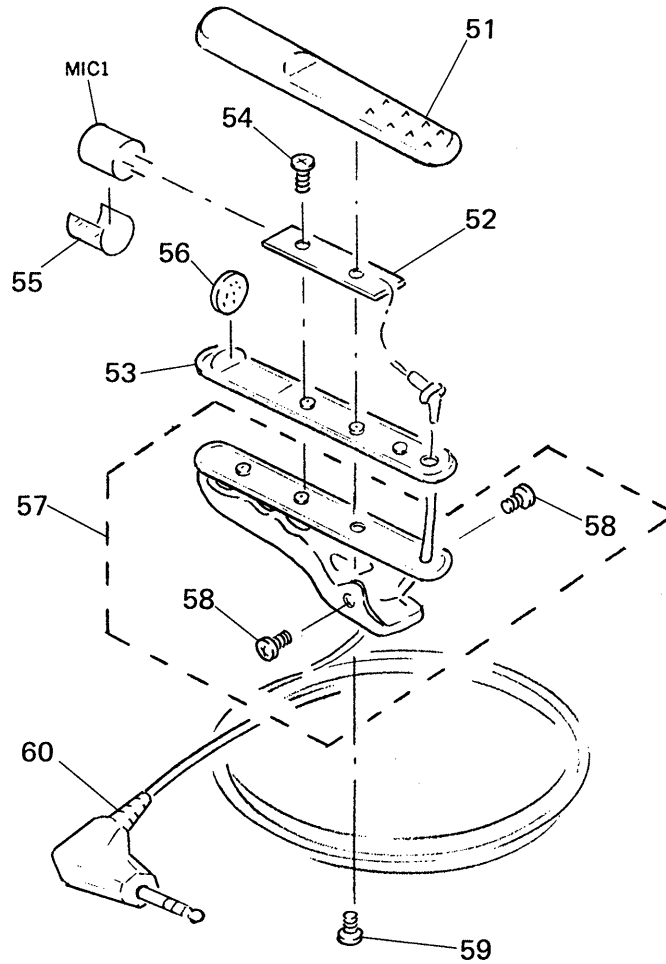
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.

1. BATTERY BOX SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
1	2-543-381-01	KNOB, SWITCH		8	2-543-378-01	CASE (LOWER)	
2	2-543-377-01	CASE (UPPER)		9	1-751-202-11	CORD, MICROPHONE (1 CORE)	
3	A-4542-120-A	AMPLIFIER BOARD, COMPLETE		10	2-284-602-11	BUSHING	
4	2-543-383-01	TERMINAL, MINUS		11	2-543-436-01	SHEET, BLIND	
5	2-543-382-01	TERMINAL, PLUS		12	2-543-441-01	SHEET, SHIELD	
6	2-543-380-01	HOLDER, BATTERY		13	9-911-839-XX	CUSHION	
7	7-685-104-19	SCREW +P 2X6 TYPE2 NON-SLIT					

2. MIC SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	2-543-387-01	COVER, MICROPHONE		57	X-2542-079-1	CLIP ASSY	
* 52	1-646-394-11	PC BOARD, UNIT		58	3-704-197-12	SCREW (M1.4X2.0), LOCKING	
53	2-543-388-01	BASE, MICROPHONE		59	3-704-197-82	SCREW (M1.4X5.0), LOCKING	
54	3-704-197-72	SCREW (M1.4X4.5), LOCKING		60	1-558-694-21	CORD, MICROPHONE (1 CORE)	
55	2-532-810-00	CUSHION, 15X5X0.3		MIC1	8-814-223-00	MICROPHONE C-1007F	
56	2-543-437-01	REGISTER					

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 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 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-4542-120-A	AMPLIFIER BOARD, COMPLETE *****	
	2-543-382-01	TERMINAL, PLUS	
	2-543-383-01	TERMINAL, MINUS	
		< CAPACITOR >	
C1	1-124-778-00	ELECT CHIP 22uF	20% 6.3V
C2	1-124-431-00	ELECT 33uF	20% 4V
C14	1-164-346-11	CERAMIC CHIP 1uF	16V
		< DIODE >	
D1	8-719-976-96	DIODE DTZ4.7C	
D2	8-719-027-54	DIODE SLN-210RC	
		< JACK >	
J1	1-507-950-41	JACK (SMALL TYPE)	
		< RESISTOR >	
R1	1-216-073-00	METAL CHIP 10K 5%	1/10W
R2	1-216-041-00	METAL CHIP 470 5%	1/10W
R3	1-249-413-11	CARBON 470 5%	1/4W
R11	1-216-060-00	METAL GLAZE 3K 5%	1/10W
R15	1-216-295-00	METAL CHIP 0 5%	1/10W
		< SWITCH >	
S1	1-571-275-31	SWITCH, SLIDE (POWER)	

*	1-646-394-11	PC BOARD, UNIT *****	
		< CAPACITOR >	
C10	1-163-009-11	CERAMIC CHIP 0.001uF	10% 50V

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS *****	
9	1-751-202-11	CORD, MICROPHONE (1 CORE)	
60	1-558-694-21	CORD, MICROPHONE (1 CORE)	
MIC1	8-814-223-00	MICROPHONE C-1007F	

		ACCESSORIES & PACKING MATERIALS *****	
	3-756-288-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, DUTCH, SPANISH, GERMAN, SWEDISH, PORTUGUESE, ITALIAN)	